

# POWERTOOLS

EN



Automotive | Construction | Industry | Assembly | Offshore

2020

INTRODUCTION..... 3

ACCESSORIES..... 125

POWERTOOLS..... 3

Brands..... 4

ASSEMBLY TOOLS..... 9

Ibt, Att & Epr..... 9

Selection Guide..... 10

YOKOTA IMPULSE WRENCHES..... 14

Pneumatic Shut-Off..... 28

Pneumatic Non Shut-Off..... 29

Pneumatic System Wrenches..... 16

Electric System Wrenches..... 20

Cordless System Wrenches..... 22

Cordless Impulse Wrenches..... 24

Poka Yoke+ System..... 26

RED ROOSTER ASSEMBLY TOOLS..... 32

Pneumatic Impulse Wrenches..... 34

Custom Made Products..... 41

Cordless Impulse Wrenches..... 42

Pneumatic Shut-Off Screwdrivers..... 46

Cordless Screwdrivers..... 50

CORDLESS WRENCHES..... 53

Angle wrenches..... 54

Impact wrenches..... 57

Riveters..... 58

ACCESSORIES FOR ASSEMBLY TOOLS..... 61

INDUSTRIAL AIRTOOLS..... 69

Full program overview..... 70

Impact wrenches..... 72

Ratchet wrenches..... 79

Drills..... 83

Grinders..... 86

Vibration reduction..... 96

Hammers..... 87

Balancers..... 126

Blow guns..... 128

Spiral air hoses..... 129

Oil, Regulator, Swivel joints..... 130

AIR CHAIN HOISTS & TROLLEYS..... 137

TCR, TCS, TMH Series..... 138

Air Trolleys..... 140

AIR TREATMENT EQUIPMENT..... 140

IMPACT SOCKETS..... 160

Contents..... 160

Hex Drive For Screwdrivers..... 161

Square Drive..... 162

Adaptors..... 192

Sleeve Drive Sockets..... 197

Sets..... 204

SERVICE..... 210

Maintenance and warranty..... 211

Training..... 212

Support..... 213

INDEX..... 214

POWERTOOLS

Rami Yokota is a family owned trading business from the Netherlands, founded in 1896 and is now managed by the fourth generation. From selling bicycles, sewing machines and later on automotive and motor parts in the early 1900’s, the company moved on to importing high quality air tools from Japan in the early 60’s. Through continuous development, innovation and attention to service and building of technical skills, Rami Yokota grew to become a highly valued air tool supplier in Western Europe. Today the focus also includes Eastern Europe as well as Scandinavia. From industrial assembly tools to industrial air tools and air hoists, Rami Yokota caters for a large number of requirements in a large variety of industries.

CONTINUITY

We have been providing service and quality for over 120 years always aiming to help our customers achieve the highest productivity in the most cost effective way. Our strong network of suppliers and distributors, combined with our knowledge and expertise, means we are able to support end-users in finding the most effective solution in any given environment, thus guaranteeing a problem free, continuous operation for our users.

RELIABILITY

Every application requires a different solution, whether you require a heavy industrial tool, an electric, cordless or air assembly tool, we can help you to make the best choice. We do this by demonstrating and testing the tool with both our customers and our distributors. In our well-equipped service

workshop we carry out the maintenance of all our tools, we have trained our partners to carry out maintenance for you and can also offer training to your own staff at our purposely built training facility in Amsterdam or at your own works. Our highly trained team are able to offer advice to ensure that you get the best performance out of your equipment.

CERTAINTY

The brands Yokota and Toku are known for their high Japanese standards and quality products. The precision in the production process guarantees the long lifetime of the equipment. Red Rooster is Rami Yokota’s own brand of tools and hoists, developed in cooperation with our technical team and leading industrial manufacturers. We hold extensive stock in our large warehouses in Belgium and the Netherlands and

can be certain to deliver Europe-wide within 24-48 hours.

PRODUCTIVITY

Rami Yokota will help you to increase the efficiency of your production processes. Our assembly tools are known for their accuracy and speed. The impulse technology that characterizes the majority of our tools, ensures better bolt connections and higher productivity. Improved ergonomics, low vibration and no kick-back enable long periods of stress-free continuous operation for your employees. Our air chain hoists are the fastest on the market and due to the 100% duty rating, your production process can be far more efficient.



# BRANDS



### PRODUCTIVITY AND ERGONOMICS

Yokota industrial and Yokota assembly tools are of the highest quality standards imaginable. Yokota's tools are manufactured to last a lifetime with a specific focus on high productivity and ergonomics. Yokota impulse wrenches are used all over the world for tightening applications where accuracy, quality and speed are required. Yokota offers its impulse tools in air, battery and electric versions. A connection to all varieties of communication protocols is also available.



### MAKING THE RIGHT IMPACT

Toku delivers high quality air tools for construction and demolition, material handling, automotive and industrial applications. Toku's focus lies on developing the most powerful, reliable and durable air power tools available in the market. With their powerful impact wrenches, hammers, breakers and other air tools you can be assured of the right impact with a Toku tool.



### OPTIMAL AIR QUALITY

SMC is the world's leading manufacturer of air treatment equipment and pneumatic components. Improper conditioning of compressed air leads to costly production failures, higher maintenance costs and an unnecessarily shorter lifetime of your tool. With an, often, reasonable investment in obtaining good air quality (according to ISO standards), SMC's air treatment equipment can make a large difference.



### INDUSTRIAL TOOLS

Red Rooster industrial tools, recognizable by a black logo, have been developed to deliver the highest quality and precision. Their durability and the ability to perform under continuous operation, makes these tools ideal for industrial settings. The Red Rooster line of impulse wrenches is highly regarded and recognized as such by a large variety of (car and truck) manufacturers in Europe.



# BRANDS



### SERVICE TOOLS

Red Rooster is Rami Yokota's brand of high quality service tools. This powerful range of air tools with a red logo is ideal for use in car workshops, shipyards, or any kind of environment where strong and durable tools are required.



### RELIABLE LIFTING POWER

Red Rooster is one of the market leaders in air chain hoists and trolleys. With capacities ranging between 125kg and 100 tonne Red Rooster hoists are ideal for industrial and offshore applications. In extreme conditions, explosion prone or very moist areas, the use of Red Rooster hoists is highly recommended. With tailor-made solutions from our factory in the UK we can respond to most requirements in the market.



### INDUSTRIAL IMPACT SOCKETS

Action is the world's largest manufacturer of impact sockets. It's impact sockets are durable, of high quality and competitively priced. According to the European EN/ISO 11148-6 standard it is compulsory to use impact sockets on power tools. Action impact sockets can be used for air, electric, hydraulic and battery power tools in a large variety of industries.







# ASSEMBLY TOOLS





# ASSEMBLY TOOLS

In this catalogue we combine the best of both worlds. Yokota Industrial and Red Rooster Assembly offer you a full range of assembly tools. From 100% accuracy and traceability for a ‘Zero FaultProduction’, to plain and simple solutions that accurately tighten threaded fasteners. Time efficient and with maximum ergonomic benefits; we offer you a perfectly fitting solution!

**EFFICIENT ASSEMBLY SOLUTIONS**

**ASK FOR YOUR SOLUTION**

CUSTOMISED

MAINTENANCE

DURABILITY

PRODUCTIVITY

**EFFICIENT ASSEMBLY SOLUTIONS**  
Reliability, speed and durability are essential for any assembly line. According to our Efficient Assembly Solutions concept, we focus on the best tool, both for the job and for your environment. This EAS concept combines the choice of power - battery, electrical or air - with design and ergonomic features up to cost and time efficient maintenance.

Together with our specialists you can be certain that your production is efficient, reliable and durable. In the end, we are convinced that our customers are able to assemble according to the highest standards required, with the lowest possible costs and lowest environmental footprint.

**IBT**  
Intelligent Bolting Technology

**INTELLIGENT BOLTING TECHNOLOGY**  
The Intelligent Bolting Technology makes it possible to program your Assembly tool to the specific application. By programming the tool, the operator is assured that speed, torque and assembly time is correct.

- Adjustable speed
- Slow start function (BA-series)
- Programmable direction for error free starting
- Reverse can be blocked
- LED Signal for OK of NOK
- Early trigger release judgement

**ATT**  
Advanced Torque Technology

**ADVANCED TORQUE TECHNOLOGY**  
The Red Rooster Battery Impuls tools are equipped with Advanced Torque Technology. This feature makes it possible to adjust torque time needed for the application. The number of impulses can be programmed in 9 steps, depending how hard of soft the joint is. This assures the operator that an optimum clampforce is reached, with the lowest relaxation.

- Hard joints: Steps 1-3
- Middle soft joints: Steps 4-6
- Soft joints: Steps 7-9

**EPR**  
Efficient Power Regulation

**EFFICIENT POWER REGULATION**  
Efficient Power Regulation optimizes battery life by:

- Early battery warning
- Battery discharge warning
- Battery shut off, when battery discharged



# SELECTION GUIDE

Guideline values for tightening torques

The below guidelines for relations between bolt size, strength class and required torque levels are meant for guidance only.

| VDI 2230*        |                           | STEEL     |           |           |           | STAINLESS STEEL |           |           |
|------------------|---------------------------|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|
| Strength classes |                           | 5.8       | 8.8       | 10.9      | 12.9      | 50              | 70        | 80        |
| Bolt             | Dimension of bolt head mm | Torque Nm | Torque Nm | Torque Nm | Torque Nm | Torque Nm       | Torque Nm | Torque Nm |
| M1.6             | -                         | 0,11      | 0,17      | 0,24      | 0,29      | 0,10            | 0,20      | -         |
| M2               | -                         | 0,22      | 0,35      | 0,49      | 0,58      | 0,25            | 0,30      | -         |
| M2.2             | -                         | 0,29      | 0,46      | 0,64      | 0,77      | -               | -         | -         |
| M2.5             | -                         | 0,44      | 0,70      | 0,98      | 1,20      | 0,45            | 0,60      | -         |
| M3               | -                         | 0,77      | 1,20      | 1,70      | 2,10      | 1,00            | 1,10      | -         |
| M3.5             | -                         | 1,20      | 1,90      | 2,70      | 3,30      | -               | -         | -         |
| M4               | 7                         | 1,9       | 2,9       | 4,1       | 4,9       | 0,9             | 2         | 2,7       |
| M5               | 8                         | 3,7       | 6         | 8,5       | 10        | 2               | 4         | 5,3       |
| M6               | 10                        | 6,4       | 10        | 14        | 17        | 3,2             | 7         | 9         |
| M8               | 13                        | 16        | 25        | 35        | 41        | 8               | 17        | 23        |
| M10              | 17/16                     | 31        | 49        | 69        | 83        | 16              | 33        | 45        |
| M12              | 19/18                     | 54        | 86        | 120       | 145       | 27              | 58        | 77        |
| M14              | 22/21                     | 86        | 135       | 190       | 230       | 43              | 93        | 124       |
| M16              | 24                        | 130       | 210       | 295       | 355       | 66              | 142       | 190       |
| M18              | 27                        | 180       | 290       | 405       | 485       | 93              | 198       | 265       |
| M20              | 30                        | 255       | 410       | 580       | 690       | 130             | 278       | 371       |
| M22              | 32                        | 345       | 550       | 780       | 930       | 174             | 374       | 499       |
| M24              | 36                        | 440       | 710       | 1000      | 1200      | 224             | 480       | 640       |
| M27              | 41                        | 650       | 1050      | 1500      | 1800      | 331             | 708       | -         |
| M30              | 46                        | 880       | 1450      | 2000      | 2400      | 450             | 964       | -         |
| M33              | 50                        | 1200      | 1900      | 2700      | 3250      | 609             | -         | -         |
| M36              | 55                        | 1550      | 2450      | 3450      | 4150      | 782             | -         | -         |
| M39              | 60                        | 2.000     | 3.200     | 4.500     | 5.400     | 1.013           | -         | -         |
| M42              | 65                        | 2.450     | 3.950     | 5.550     | 6.650     | -               | -         | -         |
| M45              | 70                        | 3.100     | 4.950     | 6.950     | 8.350     | -               | -         | -         |
| M48              | 75                        | 3.750     | 5.950     | 8.400     | 10.100    | -               | -         | -         |
| M52              | 80                        | 4.800     | 7.650     | 10.800    | 12.900    | -               | -         | -         |
| M56              | 85                        | 5.950     | 9.550     | 13.400    | 16.100    | -               | -         | -         |
| M60              | 90                        | 7.400     | 11.900    | 16.700    | 20.000    | -               | -         | -         |
| M64              | 95                        | 8.950     | 14.300    | 20.100    | 24.100    | -               | -         | -         |
| M68              | 100                       | 10.800    | 17.300    | 24.300    | 29.100    | -               | -         | -         |

\* These torque values are only guide lines and are calculated with friction factor 0,125.

# SELECTION GUIDE

Guideline values for tightening torques

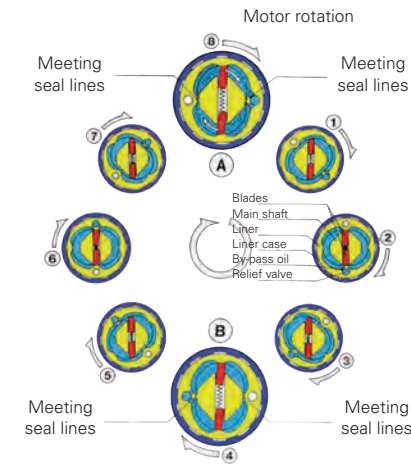
|                                                               | M1,6 | M2   | M2,2 | M2,5 | M3   | M3,5 | M4  | M5 | M6 | M8 | M10                | M12 | M14 | M16 | M18                 | M20               | M22 | M24 | M27    |
|---------------------------------------------------------------|------|------|------|------|------|------|-----|----|----|----|--------------------|-----|-----|-----|---------------------|-------------------|-----|-----|--------|
|                                                               | 0,17 | 0,35 | 0,46 | 0,70 | 1,20 | 1,90 | 2,9 | 6  | 10 | 25 | 49                 | 86  | 135 | 210 | 290                 | 410               | 550 | 710 | 1050Nm |
| Yokota air impulse wrenches shut-off                          |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 4,5 – 210 (PAGE 28) |                   |     |     |        |
| Yokota Air impulse wrenches non shut-off                      |      |      |      |      |      |      |     |    |    |    |                    |     |     |     |                     | 6 – 490 (PAGE 29) |     |     |        |
| Yokota Air impulse wrenches Poka Yoke                         |      |      |      |      |      |      |     |    |    |    |                    |     |     |     |                     | 6 – 47 (PAGE 26)  |     |     |        |
| Yokota Cordless impulse wrench shut-off                       |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 5 – 60 (PAGE 24)    |                   |     |     |        |
| Yokota Cordless impulse wrench non shut-off                   |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 8 – 65 (PAGE 25)    |                   |     |     |        |
| Yokota Cordless system wrench torque control angle monitoring |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 7 – 60 (PAGE 22)    |                   |     |     |        |
| Yokota Electric system wrench torque control angle monitoring |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 3 - 90 (PAGE 20)    |                   |     |     |        |
| Yokota Air system wrench torque control                       |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 4,3 - 600 (PAGE 18) |                   |     |     |        |
| Yokota Air system wrench torque control angle monitoring      |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 11 – 220 (PAGE 17)  |                   |     |     |        |
| Red Rooster Cordless impact wrenches Shut-off                 |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 6 – 120 (PAGE 57)   |                   |     |     |        |
| Red Rooster Air impulse wrenches Shut-off                     |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 6 – 450 (PAGE 35)   |                   |     |     |        |
| Red Rooster Air impulse wrenches Non shut-off                 |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 6 – 390 (PAGE 38)   |                   |     |     |        |
| Red Rooster Cordless impulse wrenches Shut-off                |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 7 – 65 (PAGE 42)    |                   |     |     |        |
| Red Rooster Air shut-off screw driver Straight/pistol/angle   |      |      |      |      |      |      |     |    |    |    | 0,4 – 10 (PAGE 46) |     |     |     |                     |                   |     |     |        |
| Red Rooster Cordless screw driver Shut-off                    |      |      |      |      |      |      |     |    |    |    | 0,8 – 12 (PAGE 50) |     |     |     |                     |                   |     |     |        |
| Red Rooster cordless Shut-off angle wrenches                  |      |      |      |      |      |      |     |    |    |    |                    |     |     |     | 3 – 90 (PAGE 54)    |                   |     |     |        |



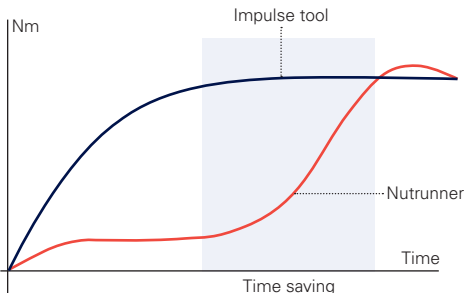
# SELECTION GUIDE

## Specified torques ranges

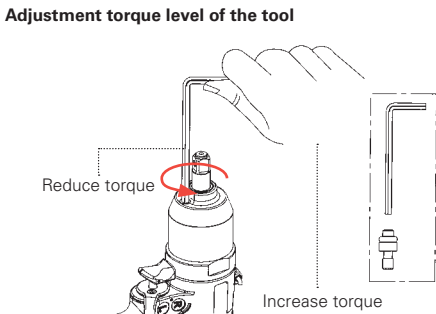
With an impulse wrench, you bring optimal clamp force into the bolt connection which helps to reduce assembly time to a minimum. When it comes to accurate and fast assembly to the highest ergonomic standards, impulse technology is indispensable in the automotive industry, in the production of transport equipment and mechanical and plant engineering. The tools are quiet, lightweight and responsive.



**HIGH ACCURACY**  
Impulse wrenches have a twin blade impulse mechanism for sealing oil which gives a high repeatability. The mechanism is designed so that the liner, rotated by the air motor gives an equal torque on both blades and instant rotation torque on the mainshaft (see figure above).  
A by-pass is designed in the liner so that the oil can escape from the area of high pressure to the area of low pressure at the moment of creating a pulse and the amount of oil flow can be adjusted by the relief valve to control the torque output. Depending on model and setting, the impulse wrenches give 10 - 40 impulses per second. The power is transmitted by oil pressure and therefore the impulse wrenches have a very low noise and vibration level.



**SAVETIME - SAVE MONEY**  
Because of the principal of using hydraulics to reach a certain torque, impulse tools can run at a high RPM. The required torque is reached in a split second. All YOKOTA and RED ROOSTER impulse wrenches can be used for hard and soft joints, and give a high accuracy/ repeatability and a low relaxation.



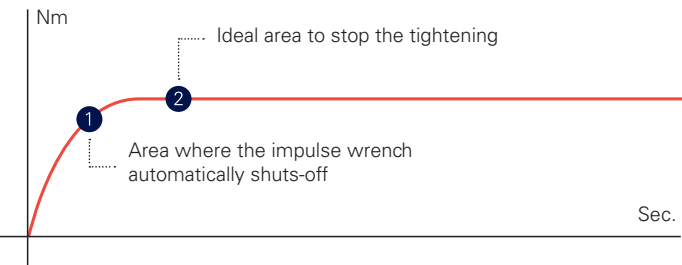
**SPECIFIED TORQUE RANGE**  
The torque ranges are specified at a dynamic air pressure of 0,6 MPa, lower air pressure will result in lower torque. Please take note that these impulse wrenches are developed for a dynamic air pressure of 0,63 MPa maximum.

**NOTE**  
The specified torque range is measured in the laboratory under ideal conditions. Therefore these torque figures are only to be used as a guideline. The actual torque range depends on a variety of working conditions, eg: air pressure, joint hardness, used accessory.

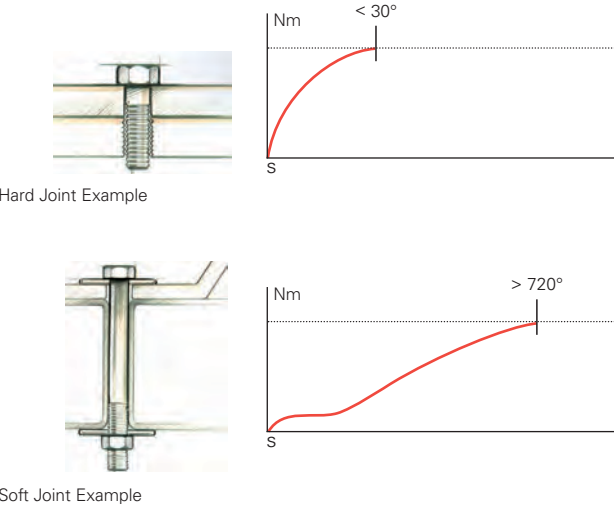
# SELECTION GUIDE

## Specified torques ranges

*Impulse wrenches with and without shutt-off*



*Hard joint and soft joint*



- IMPULSE WRENCHES WITHOUT SHUT-OFF ②**  
Impulse wrenches achieve the highest quality joint if the tightening is finished in this area (horizontal part of the torque curve):
- Highest clampforce with smallest tolerances
  - Smallest torque tolerances
- IMPULSE WRENCHES WITH MECHANICAL SHUT-OFF ①**
- Shorter operating time
  - Operator knows when the tightening is finished
  - Highest clamp force with smallest tolerances
  - Smallest torque tolerances

- IMPULSE WRENCHES WITH POKA YOKE+ SYSTEM ②**  
**IMPULSE WRENCHES WITH CONTROLLED SHUT-OFF:**
- Highest clamp force with smallest tolerances
  - Smallest torque tolerances
  - Shortest optimum operating time
  - Operator knows when the tightening is finished
  - Operator is informed about OK-NOK of the tightening
  - OK joints are counted, no missed tightenings

- IMPULSE WRENCHES WITH INTEGRATED TORQUE TRANSDUCER ②**
- Highest clamp force with smallest tolerances
  - Smallest torque tolerances
  - Shortest optimum operating time
  - Operator knows when the tightening is finished
  - Operator is informed about OK-NOK of the tightening
  - OK joints are counted, no missed tightenings
  - Actual tightening torque is measured
  - Full documentation
  - Zero fault production

We advise to use the impulse wrench up to 80% of its capacity for the highest productivity, accuracy and durability.

- SHUT-OFF IMPULSE WRENCHES SELECTION:**
- Hard joint: torque levels up to 95% of the specified torque range
  - Soft joint: torque levels up to 85% of the specified torque range
- NON SHUT-OFF IMPULSE WRENCHES SELECTION:**
- Hard joint: torque levels up to 100% of the specified torque range
  - Soft joint: torque levels up to 90% of the specified torque range

**ACCESSORIES**  
The size and shape of impact sockets influence the torque result. Extension bars, depending on the length, can lower the torque range with 5-30% inner torx and inner hexagon can lower the torque range with 5-20%.

- FOR THE BEST RESULT OF THE IMPULSE WRENCH, USE:**
- Constant stabilized air pressure
  - Sleeve drive sockets, impact quality (see pages 197 - 203)
  - Impact quality accessories with the correct dimensions
  - Accessories in good condition
  - Correct inner diameter and length hose
  - Lubricated air



# YOKOTA IMPULSE WRENCHES

Speed · Precision · Quality



PNEUMATIC  
SYSTEM &  
IMPULSE  
WRENCHES

SYSTEM WRENCHES PAGE 16-19  
IMPULSE WRENCHES PAGE 26-31



CORDLESS  
SYSTEM &  
IMPULSE  
WRENCHES

PAGE 22-25



ELECTRIC  
SYSTEM  
WRENCHES

PAGE 20-21

# YOKOTA IMPULSE WRENCHES

Intelligent Assembly Solutions

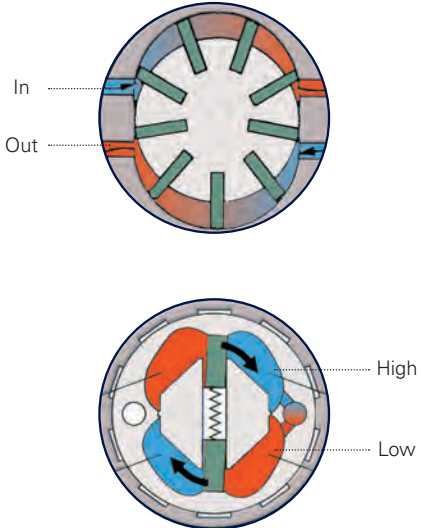
Yokota International is a leading manufacturer of impulse based assembly tools for high-end production facilities. Yokota developed the first impulse air tools over 45 years ago and the benefits of impulse based assembly tools are well-known all over the world these days: fast, light and with the highest clamping force, free from reaction forces. As an expert in the development, design and manufacturing of assembly tools, Yokota also embraces the opportunities of battery technology and has developed a wide range of intelligent electrical and battery system wrenches with Torque & Angle Control.

### FASTER

YOKOTA impulse wrenches are widely used for tightening jobs in the assembly industry, where accurate torque tolerances are necessary. Impulse tools are light, powerful, small and very importantly, have no kick-back. The YOKOTA range of impulse tools is increasing fast, starting at 6 Nm to tighten small joints, and goes up to 600 Nm. Evaluation of tightening processes in car assembly shows that tightening joints uses 10% of the total assembly time. Working with faster tools therefore can speed up assembly lines substantially.

### DOUBLE CHAMBER AIR MOTOR

The YOKOTA Y, YLa, YLT, YED and TKa Series impulse wrenches with double chamber air motor reach the required torque very quickly. The tools have a high number of impulses per second, and therefore very accurate torques can be realized, resulting in increased production speed. The twin blade impulse unit is patented. YOKOTA's unique impulse mechanism reduces noise and vibration!





# SYSTEM WRENCHES

## Control Units

Yokota developed its first system wrench more than 30 years ago. The purpose being the tightening of threaded fasteners at a high speed and accuracy, with the possibility of counting bolts in a group, detecting errors during tightening and interacting with the production line control systems, including the exchange of tightening data for traceability purposes. The latest developments are not only with a torque transducer on the main shaft but also with an angle encoder. By controlling the torque and monitoring angle, all errors that can occur during tightening are detected and can be acted upon.

### OPTIONAL ON TKA SYSTEM WRENCHES:



Red = NOK  
Visible from every angle: left, right, from the top and behind.

Green= OK

### HIGH ACCURACY

Product liability is essential to car manufacture. All tightened joints have to be correct. For this reason critical joints must be counted, documented and, of course, tightened with the right clamp force. In order to do this, you need an impulse wrench (with a built-in transducer) connected to a controller. This system ensures that only OK joints are counted resulting in “Zero Fault Production”. This fail-safe system fits perfectly in the Poka Yoke strategy.

### CHARACTERISTICS

- Easy to program, according to application specifications
- Torque calculation over several impulses
- Compensation impulses to compensate the relaxation (soft joint)
- Poka Yoke proof, line management
- 2-step tightening optional
- 8 setting programs
- 2-way communication through RS-232
- Automatic program change (sequence programmable)
- Build-in timer for group control
- Several input signals
- Several output signals
- Statistics inside CP / CPK
- Memory for 10.000 cycles
- Transducer integrated, direct measurement
- Compact angle encoder
- Torque transducer non - contact type
- Torque and angle curve on PC
- Easy torque adjustment on the tool
- LED or acoustic signal on the tool
- High efficiency air motor
- Shut-off by external solenoid valve



### TRANSDUCER FOR THE YEX, YED AND TKa SERIES



### TRANSDUCER FOR THE YEX, YED AND TKa SERIES

The strain gauges are positioned on the main shaft, picking up the twisting torque on the main shaft at each impulse as close as possible to the socket. The electric signals are transmitted by induction through the internal and external coils. Due to this principle the YOKOTA transducer is very reliable, accurate and without wear. The angle sensor is also mounted on the main shaft.

### POSSIBLE ERROR DETECTIONS

- Detection insufficient torque and over torque
- Detection friction out of tolerances
- Detection of too long / too short bolt
- Detection of cross threaded threads
- Detection of crooked threads
- Detection of damaged threads
- Detection of double tightening
- Detection of blind holes

# SYSTEM WRENCHES

## TKa Series: Electronic torque control & Angle monitoring



| Type    | Square / Hex drive | Bolt capacity mm | RPM   | Torque Nm* | Load aircons. l/s | No-load aircons. l/s | Weight kg | Dimensions A mm | B mm | Vibration m/s2 | Noise-level dB(A) |
|---------|--------------------|------------------|-------|------------|-------------------|----------------------|-----------|-----------------|------|----------------|-------------------|
| TKa600A | 1/4" Hex           | 6                | 6.000 | 11 - 16    | 4,5               | 5,1                  | 1,34      | 189             | 21   | 2,1            | 71                |
| TKa600  | 3/8" Sq.           | 6                | 6.000 | 14 - 20    | 4,5               | 5,1                  | 1,34      | 189             | 21   | 2,1            | 71                |
| TKa700A | 1/4" Hex           | 6-8              | 7.000 | 24 - 33    | 5,3               | 6,9                  | 1,34      | 189             | 21   | 2,1            | 75                |
| TKa700  | 3/8" Sq.           | 6-8              | 7.000 | 24 - 33    | 5,3               | 6,9                  | 1,34      | 189             | 21   | 2,1            | 75                |
| TKa800  | 3/8" Sq.           | 8                | 7.000 | 32 - 46    | 5,3               | 7,1                  | 1,34      | 196             | 22   | 2,1            | 75                |
| TKa900  | 3/8" Sq.           | 8-10             | 6.500 | 47 - 60    | 6,8               | 10,5                 | 1,50      | 204             | 23   | 2,1            | 78                |
| TKa1110 | 1/2" Sq.           | 10-12            | 5.500 | 65 - 95    | 8,8               | 13,5                 | 1,97      | 220             | 25,5 | 2,2            | 80                |
| TKa1200 | 1/2" Sq.           | 12               | 5.900 | 85 - 130   | 10                | 17,2                 | 2,4       | 223             | 28   | 2,2            | 82                |
| TKa1400 | 1/2" Sq.           | 14               | 5.200 | 100 - 160  | 13                | 19                   | 3,00      | 246             | 29   | 2,2            | 84                |
| TKa1500 | 1/2" Sq.           | 14-16            | 4.200 | 150 - 220  | 13,2              | 18,1                 | 3,4       | 242             | 32   | 2,4            | 84                |

### SYSTEMCONFIGURATION



#### YETC-230ER

- Torque control
- Angle monitoring version
- One channel controller
- LAN version optional



#### YETC-330ER2-L

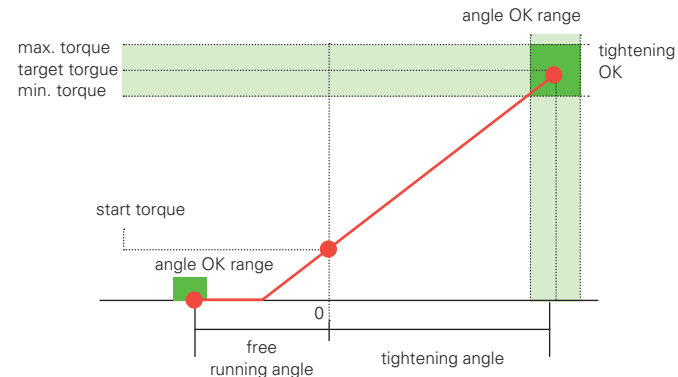
- Torque control
- Angle monitoring version
- Two channel controller
- Two tools can be operated simultaneous
- LAN standard, two IP addresses



### ANALYSING SOFTWARE

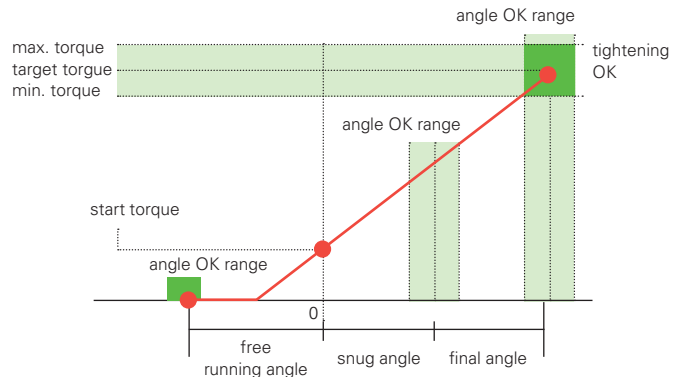
#### YETC-230ER

Torque control & angle monitoring



#### YETC-330ER2-L

Torque control & angle monitoring (including snug torque)





SYSTEM WRENCHES

TKa/YED Series: Torque controlled



Pistol type



| Type    | Square / Hex drive | Bolt capacity mm | RPM   | Torque Nm* | Load aircons. l/s | No-load aircons. l/s | Weight kg | Inlet thread | Hose diameter mm | Dimensions A mm B mm | Vibration m/s2 | Noise-level dB(A) |
|---------|--------------------|------------------|-------|------------|-------------------|----------------------|-----------|--------------|------------------|----------------------|----------------|-------------------|
| TKa60A  | 1/4" Hex           | 6                | 6.000 | 11 - 16    | 4,5               | 5,1                  | 1,3       | PT 1/4"      | 6,5              | 179 22               | 2,1            | 71                |
| TKa70A  | 1/4" Hex           | 6 - 8            | 7.000 | 20 - 27    | 5,3               | 6,9                  | 1,3       | PT 1/4"      | 6,5              | 179 22               | 2,1            | 75                |
| TKa80A  | 1/4" Hex           | 8                | 7.000 | 24 - 33    | 5,3               | 7,1                  | 1,3       | PT 1/4"      | 6,5              | 186 22               | 2,1            | 73                |
| TKa60   | 3/8" Sq.           | 6                | 6.000 | 14 - 20    | 4,5               | 5,1                  | 1,3       | PT 1/4"      | 6,5              | 179 22               | 2,1            | 71                |
| TKa70   | 3/8" Sq.           | 6 - 8            | 7.000 | 20 - 35    | 5,3               | 6,9                  | 1,3       | PT 1/4"      | 6,5              | 179 22               | 2,1            | 75                |
| TKa80   | 3/8" Sq.           | 8                | 7.000 | 32 - 46    | 5,3               | 7,1                  | 1,3       | PT 1/4"      | 6,5              | 186 22               | 2,1            | 73                |
| TKa90   | 3/8" Sq.           | 8 - 10           | 6.500 | 47 - 70    | 6,8               | 10,5                 | 1,5       | PT 1/4"      | 9,5              | 195 24               | 2,1            | 78                |
| TKa111  | 1/2" Sq.           | 10 - 12          | 6.000 | 65 - 105   | 8,8               | 13,5                 | 1,9       | PT 1/4"      | 9,5              | 210 26               | 2,2            | 80                |
| TKa120  | 1/2" Sq.           | 12               | 5.900 | 85 - 130   | 10,0              | 17,2                 | 2,4       | PT 1/4"      | 9,5              | 223 28               | 2,2            | 82                |
| TKa140  | 1/2" Sq.           | 14               | 5.200 | 100 - 160  | 13,0              | 19,0                 | 2,9       | PT 1/4"      | 9,5              | 235 30               | 2,2            | 84                |
| TKa150  | 1/2" Sq.           | 14 - 16          | 4.200 | 150 - 220  | 13,2              | 18,1                 | 3,4       | PT 1/4"      | 9,5              | 242 32               | 2,4            | 84                |
| YED-200 | 3/4" Sq.           | 20               | 3.400 | 155 - 360  | 18,3              | 32,2                 | 6,8       | PT 1/2"      | 12,7             | 309 40               | 4,2            | 86                |

Straight type



| Type     | Square / Hex drive | Bolt capacity mm | RPM   | Torque Nm* | Load aircons. l/s | No-load aircons. l/s | Weight kg | Inlet thread | Hose diameter mm | Dimensions A mm B mm | Vibration m/s² | Noise-level dB(A) |
|----------|--------------------|------------------|-------|------------|-------------------|----------------------|-----------|--------------|------------------|----------------------|----------------|-------------------|
| YED-240S | 1" Sq.             | 24               | 3,000 | 250-600    | 28,3              | 52,2                 | 11,2      | PT 1/2"      | 12,7             | 452 52,5             | 15,0           | 92                |

\* Torque specifications  
All specified torques are measured on the YOKOTA testers, Series YET, at a dynamic airpressure of 0.63MPa. The YOKOTA testers have a static transducer, the specified torques are therefore to be used as a guidance only. In general the torque range will be lower in case of using lower airpressure, extension bars, torx or hexagon inset sockets, soft joints, etc.

MULTI FASTENING CONTROLLER FOR THE TKA, YED, YEX SERIES



- YETC-230EA**  
One channel controller
- YETC-230EA4**  
Four channel controller, several tools can be used at one time
- YETC-330EA2**  
Two channel controller, two tools can be operated simultaneously

SYSTEM WRENCHES

YEX Series: Torque controlled



Pistol type



| Type     | Square / Hex drive | Bolt capacity mm | RPM   | Torque Nm* | Load aircons. l/s | No-load aircons. l/s | Weight kg | Inlet thread | Hose diameter mm | Dimensions A mm B mm | Vibration m/s² | Noise-level dB(A) |
|----------|--------------------|------------------|-------|------------|-------------------|----------------------|-----------|--------------|------------------|----------------------|----------------|-------------------|
| YEX-120  | 3/8" Sq.           | 4 - 5            | 9.000 | 13 - 17    | 4,2               | 5                    | 1,43      | PT 1/4"      | 6,5              | 222 23               | 3              | 72                |
| YEX-120A | 1/4" Hex           | 4 - 5            | 9.000 | 11 - 15    | 4,2               | 5                    | 1,43      | PT 1/4"      | 6,5              | 223 23               | 3              | 72                |
| YEX-150  | 3/8" Sq.           | 5 - 6            | 9.000 | 19 - 27    | 4,2               | 7,8                  | 1,43      | PT 1/4"      | 6,5              | 222 23               | 3              | 72                |
| YEX-150A | 1/4" Hex           | 5 - 6            | 9.000 | 14 - 22    | 4,2               | 7,8                  | 1,43      | PT 1/4"      | 6,5              | 223 23               | 3              | 72                |
| YEX-501  | 3/8" Sq.           | 6 - 8            | 8.200 | 25 - 52    | 5,3               | 9,6                  | 2,0       | PT 1/4"      | 9,5              | 234 26,5             | 1,6            | 68                |
| YEX-501A | 1/4" Hex           | 6 - 8            | 8.200 | 23 - 49    | 5,3               | 9,6                  | 2,0       | PT 1/4"      | 9,5              | 227 26,5             | 1,6            | 68                |
| YEX-701  | 3/8" Sq.           | 8 - 10           | 8.000 | 45 - 75    | 6,7               | 13,5                 | 2,2       | PT 1/4"      | 9,5              | 246 26,5             | 1,6            | 71                |
| YEX-901  | 1/2" Sq.           | 10               | 6.100 | 61 - 104   | 6,7               | 12,5                 | 2,7       | PT 1/4"      | 9,5              | 257 33,5             | 2,3            | 73                |
| YEX-1400 | 1/2" Sq.           | 10 - 12          | 5.900 | 92 - 142   | 8,3               | 16,5                 | 3,5       | PT 1/4"      | 9,5              | 266 34               | 3              | 80                |
| YEX-1900 | 1/2" Sq.           | 12               | 5.800 | 115 - 183  | 8,3               | 16,5                 | 4,1       | PT 1/4"      | 9,5              | 277 39               | 3              | 80                |
| YEX-3000 | 3/4" Sq.           | 16               | 4.000 | 186 - 284  | 10,0              | 20,5                 | 6,4       | PT 1/4"      | 12,7             | 309 40               | 4              | 82                |

Straight type



| Type      | Square / Hex drive | Bolt capacity mm | RPM   | Torque Nm* | Load aircons. l/s | No-load aircons. l/s | Weight kg | Inlet thread | Hose diameter mm | Dimensions A mm B mm | Vibration m/s² | Noise-level dB(A) |
|-----------|--------------------|------------------|-------|------------|-------------------|----------------------|-----------|--------------|------------------|----------------------|----------------|-------------------|
| YEX-100SA | 1/4" Hex           | 5                | 8.000 | 4,3 - 12   | 3,6               | 4,4                  | 1,2       | PT 1/4"      | 6,5              | 285 23               | 3              | 77                |
| YEX-120SA | 1/4" Hex           | 4 - 5            | 7.000 | 11 - 15    | 4,2               | 5                    | 1,38      | PT 1/4"      | 6,5              | 279 23               | 3              | 72                |
| YEX-150S  | 3/8" Sq.           | 5 - 6            | 8.000 | 19 - 27    | 4,2               | 7,8                  | 1,35      | PT 1/4"      | 6,5              | 275 23               | 3,3            | 73                |
| YEX-150SA | 1/4" Hex           | 5 - 6            | 8.000 | 14 - 22    | 4,2               | 7,8                  | 1,35      | PT 1/4"      | 6,5              | 276 23               | 3,3            | 73                |
| YEX-300S  | 3/8" Sq.           | 6                | 8.000 | 25 - 33    | 5,0               | 9,1                  | 1,8       | PT 1/4"      | 6,5              | 312 27               | 5,3            | 71                |
| YEX-300SA | 1/4" Hex           | 6                | 8.000 | 21 - 29    | 5,0               | 9,1                  | 1,8       | PT 1/4"      | 6,5              | 313 27               | 5,3            | 71                |
| YEX-500S  | 3/8" Sq.           | 6 - 8            | 7.800 | 23 - 49    | 5,0               | 9,1                  | 2,1       | PT 1/4"      | 9,5              | 333 27               | 6,6            | 71                |
| YEX-500SA | 1/4" Hex           | 6 - 8            | 7.800 | 21 - 47    | 5,0               | 9,1                  | 2,1       | PT 1/4"      | 9,5              | 334 27               | 6,6            | 71                |
| YEX-700S  | 3/8" Sq.           | 8                | 7.500 | 33 - 61    | 5,8               | 11,2                 | 2,3       | PT 1/4"      | 9,5              | 333 27               | 6,6            | 72                |

\* Torque specifications: All specified torques are measured on the YOKOTA testers, Series YET, at a dynamic airpressure of 0.63MPa. The YOKOTA testers have a static transducer, the specified torques are therefore to be used as a guidance only. In general the torque range will be lower in case of using lower airpressure, extension bars, torx or hexagon inset sockets, soft joints, etc.

FOR A SYSTEM YEX, YED OR TKA YOU NEED:  
1 x Controller YETC-230 or YETC-330, 1 x Impulse wrench YEX, YED or TKA [ & 1 Solenoid valve YETC-2 SVD and 1 Tool cable which you can find on pages 18 and 63]



# SYSTEM WRENCHES

## E-M Series, Electric



The YOKOTA electric system wrenches with integrated torque transducer and angle sensor offer a large reduction of energy consumption, a high degree of speed, accuracy and fantastic work efficiency.

### ELECTRIC DRIVE

- Reduction of energy consumption Lean and Green.
- No need for pneumatic installation with compressor, air piping, hose and solenoid valves.
- No need for lubrication of the tool. Good for the working environment, especially near paint shops.
- Due to the newly developed outer rotor servo motor and the composite body, the YOKOTA system e-wrench has the lightest weight in its class.

### RELIABLE AND ACCURATE TIGHTENING

- Faulty tightening detection with maximum accuracy due to the use of an integrated torque transducer and also an integrated angle sensor.
- During the tightening process, four different variables are measured and monitored:  
Torque - Angle - Time - N°. of Impulses.
- Torque transducer and angle sensor located directly at the front of the main shaft, giving the best accuracy of measurement.
- Torque transducer measures directly and transmits the signals contactless.
- The angle sensor is an extremely compact (PAT) rotary encoder that detects both angle as well as direction by 1 degree, signal transmission contactless.
- Detects cross threads, double hits, contamination, etc.

### DURABILITY

- The impulse unit is supported on both ends by ball bearings (PAT.P).
- The impulse unit has a check valve mechanism (PAT.P) to reduce the oil pressure on the main shaft.
- For heat suppression of the impulse unit it is equipped with a separate cooling fan.
- For heat suppression of the motor it is equipped with a cooling fan that reduces motor size (and weight at the same time).

| Type    | Square / Hex drive | Bolt capacity mm | RPM       | Torque Nm | Weight kg | Noise level dB(A) | Dimensions |      |
|---------|--------------------|------------------|-----------|-----------|-----------|-------------------|------------|------|
|         |                    |                  |           |           |           |                   | A mm       | B mm |
| E-M500  | 3/8" Sq.           | M5 - M6          | 300-4.800 | 3 - 10    | 2,10      | 75                | 236        | 32,5 |
| E-M700  | 3/8" Sq.           | M6 - M8          | 300-4.800 | 7,5 - 35  | 2,18      | 75                | 236        | 32,5 |
| E-M900  | 3/8" Sq.           | M8 - M10         | 300-4.800 | 30 - 60   | 2,25      | 78                | 236        | 32,5 |
| E-M1100 | 1/2" Sq.           | M10 - M12        | 300-4.800 | 50 - 90   | 2,52      | 80                | 248        | 32,5 |

### OPERATOR COMFORTABILITY

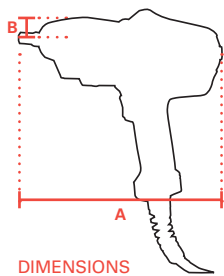
- The reaction forces are close to zero due to the use of the oil impulse mechanism, even at high torque bolt tightening. Compared with older models, the number of bolt tightening is improved to 20 bolts/minute.
- Special feature to prevent cross threaded tightening: reversely rotating a bolt to a preset angle at the start of tightening.
- High speeds: Free speed (bolt run down) of 4800 RPM.
- High intensity LED light to project on the bolt.
- Combinations of buzzers and LED (Green / Red) for operator feedback on OK / NOK tightenings.
- Motor speed freely adjustable in the controller.  
For three different speed stages:  
Start of trigger / Run down / Final tightening.

### CONTROLLER FEATURES

- 20 different parameter settings possible, for a variety of different work pieces.
- Touch screen LCD color display, showing graphs, torque, angle, impulses and more.
- Group management function (counting).
- Result of tightening output through various interfaces: USB, RS-232C, I/O and Ethernet connector.
- Simultaneous use of two tools on one controller is possible.



New developed outer rotor motor



DIMENSIONS

# SYSTEM WRENCHES

## YETC-500 controller



For electric system wrenches with built-in angle and torque sensor. Also available with **open protocol**, **profinet** and **ethernet-IP** communication and others upon request. Please contact us for details.



**CONTROLLER**  
One channel controller



**CONTROLLER FRONT PANEL**  
1 Touch panel type LCD  
2 RS-232C serial connector  
3 USB connector



**CONTROLLER BACK PANEL**  
1. Ethernet connector (option)  
2. I/O terminal board  
3. Tool connector 1  
4. Tool connector 2

### CONTROLLER

| Description          | Order number  |
|----------------------|---------------|
| LAN Ethernet-Version | YETC-500-10SL |
| Serial communication | YETC-500-10SO |

### AMPLIFIER

| Order number |  |
|--------------|--|
| E-PDA-4      |  |

### EXTENSION TOOLCABLE

| Length | Order number    |
|--------|-----------------|
| 5m     | 7906-1591-00-01 |
| 10m    | 7906-1591-00-02 |

### CONTROLLER LINK UP CABLE

| Length | Order number    |
|--------|-----------------|
| 30cm   | 7906-1592-00-01 |



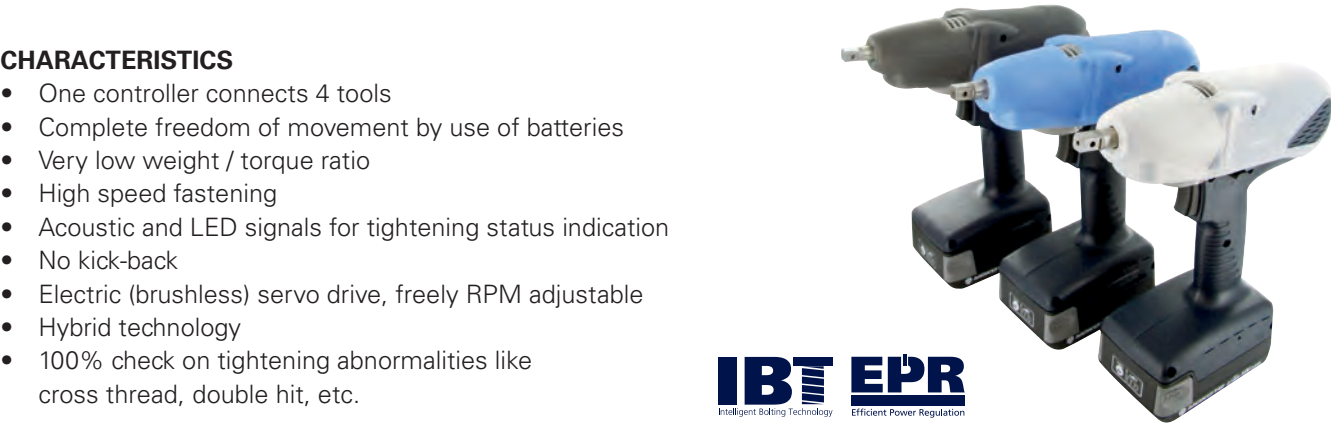
SYSTEM WRENCHES

YS-e Series: cordless

Yokota cordless impulse wrenches are powerful, very accurate and have no kick-back. With a battery power source the tool allows for the highest operational flexibility. This cordless impulse wrench has a built-in torque transducer and angle-sensor on the main shaft and a wireless connection to its controller. Each controller can connect with up to 4 operating cordless system wrenches. The Yokota cordless system wrench is the perfect solution for applications where cables or hoses are disruptive yet still all tightening data requires documentation and traceability.

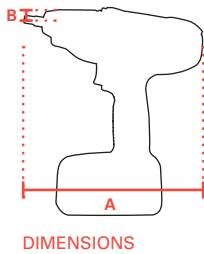
CHARACTERISTICS

- One controller connects 4 tools
- Complete freedom of movement by use of batteries
- Very low weight / torque ratio
- High speed fastening
- Acoustic and LED signals for tightening status indication
- No kick-back
- Electric (brushless) servo drive, freely RPM adjustable
- Hybrid technology
- 100% check on tightening abnormalities like cross thread, double hit, etc.



| Type    | Volt. V | Battery type | Square / Hex drive | Bolt capacity mm | RPM         | Torque Nm | Weight (inclu. battery) kg | Vibration m/s2 | Noise level dB(A) | Dimensions A mm | B mm |
|---------|---------|--------------|--------------------|------------------|-------------|-----------|----------------------------|----------------|-------------------|-----------------|------|
| YS-e600 | 18 V    | Li-ion 2 AH  | 3/8" Sq.           | 6                | 1.200-4.800 | 7- 20     | 1,75                       | <2,5           | 72                | 214             | 26   |
| YS-e800 | 18 V    | Li-ion 2 AH  | 3/8" Sq.           | 8                | 1.200-4.800 | 15- 35    | 1,80                       | <2,5           | 76                | 214             | 26   |
| YS-e900 | 18 V    | Li-ion 2 AH  | 3/8" Sq.           | 8- 10            | 1.200-4.800 | 30 -50    | 1,90                       | <2,5           | 78                | 226             | 26   |
| YS-e950 | 18 V    | Li-ion 2 AH  | 3/8" Sq.           | 10               | 1.200-4.800 | 40 -60    | 1,94                       | <2,5           | 78                | 226             | 26   |

\* Battery and charger have to be ordered seperately.



ACCESSORIES



| Type                              |          |
|-----------------------------------|----------|
| Wireless unit                     | WU-1     |
| Display                           | DS-1     |
| Programming console               | PC-1     |
| Li-Ion-Battery (0,41 kg) 18V 2 Ah | BPL-1820 |
| Charger 18 Volt (40 Min.)         | BC0075G  |

Rubber protection covers

YOKOTA rubber protection covers that are supplied as standard but can also be ordered separately.

| Rubber protection cover |             |                 |
|-------------------------|-------------|-----------------|
|                         | YS-e600     | 0444-0029-00-00 |
|                         | YS-e800     | 0445-0029-00-00 |
|                         | YS-e900     | 0446-0029-00-00 |
|                         | YS-e950     | 0447-0029-00-00 |
|                         | for battery | 0446-0029-00-01 |

SYSTEM WRENCHES

YS-e Series: cordless

SYSTEM CONFIGURATION

- Possible to connect 4 tools with the wireless unit
- WLAN communication between tool and controller
- Poka Yoke compatible
- Traceability tightening data
- LAN and RS 232 interface
- I/O terminal for input and output signals



WIRELESS UNIT WU-1

- Parameter input with PC-1 or computer
- USB: setting data back up and restore, memory read out.
- Memory for 10.000 cycles per tool
- Tightening results on DS-1 and/or PC-1
- 4 display connection
- Optional: open protocol



DISPLAY DS-1

- Display shows: tool number, program, torque, OK/NOK, angle, number of pulses, remaining tightenings.



Upper row:  
tool number/Program/Torque  
Lower row:  
tightening angle

Lower row:  
free run angle

Lower row:  
tightening number and number of  
impulses

PROGRAMMING CONSOL PC-1

- Display shows: tool number, program, torque, OK/NOK, angle, number of pulses, remaining tightenings.



Parameters

Tightening OK

Tightening NOK



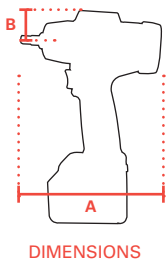
# SHUT OFF IMPULSE WRENCHES

YZ-T Series: cordless

YOKOTA YZ-T cordless impulse wrenches with shut-off are powerful, very accurate and most important, have no kick-back. The very compact design offers great accessibility to the joint. Tightening bolts with torque levels up to 60 Nm with very high speed and remarkably low reaction forces. Adjusting the tool settings for the specific bolted joint is done by Programming Console PC-1-YZ-T and cable CC-1. Auditory and visual feedback on the result of the screwing process.

CHARACTERISTICS

- With built-in retention in the square drive
- No kickback
- High speed fastening
- Hybrid technology
- Servo drive brushless motor



| Type     | Square Drive / Hexagon | Bolt capacity mm | Speed 1 RPM <sup>(1)</sup> | Speed 2 RPM <sup>(2)</sup> | Speed 3 RPM <sup>(3)</sup> | Torque Nm | Weight with battery | Dimensions A mm B mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|----------|------------------------|------------------|----------------------------|----------------------------|----------------------------|-----------|---------------------|----------------------|----------------------------|-------------------|
| YZ-T600A | 1/4" Hex               | 6                | 1.200 - 1.500              | 1.500 - 3.000              | 1.500 - 4.800              | 5 - 18    | 1,4                 | 161 29,5             | <2,5                       | 67                |
| YZ-T600E | 3/8" Sq.               | 6                | 1.200 - 1.500              | 1.500 - 3.000              | 2.000 - 4.800              | 7 - 20    | 1,4                 | 161 29,5             | <2,5                       | 67                |
| YZ-T800A | 1/4" Hex               | 6 - 8            | 1.200 - 1.500              | 1.500 - 3.000              | 2.000 - 4.800              | 10 - 30   | 1,5                 | 166 29,5             | <2,5                       | 68                |
| YZ-T600E | 3/8" Sq.               | 6 - 8            | 1.200 - 1.500              | 1.500 - 3.000              | 2.000 - 4.800              | 15 - 35   | 1,5                 | 166 29,5             | <2,5                       | 68                |
| YZ-T900E | 3/8" Sq.               | 8 - 10           | 1.200 - 1.500              | 1.500 - 3.000              | 2.000 - 4.800              | 30 - 50   | 1,6                 | 173 29,5             | <2,5                       | 69                |
| YZ-T950E | 3/8" Sq.               | 8 - 10           | 1.200 - 1.500              | 1.500 - 3.000              | 2.000 - 4.800              | 40 - 60   | 1,65                | 173 29,5             | <2,5                       | 70                |

<sup>(1)</sup> From the first stage of the trigger <sup>(2)</sup> From the second stage of the trigger <sup>(3)</sup> From shifting level

ACCESSORIES

Delivery is including battery and excluding charger



| Type                              | Order number |
|-----------------------------------|--------------|
| Li-Ion-Battery (0,41 kg) 18V 2 Ah | BPL-1820     |
| Charger 18 Volt (40 Min.)         | BC0075G      |

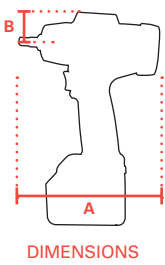
# NON SHUT OFF IMPULSE WRENCHES

YZ-N Series: cordless

YOKOTA cordless non shut-off impulse wrenches are powerful, very accurate and most important, have no kick-back. The very compact design offers great accessibility to the joint. Tightening bolts M6 up to M10 with torque levels up to 65 Nm with very high speed and remarkably low reaction forces. The combination of adjustment of the relief valve and speed setting of the motor gives a great fit-for-purpose adaptation to the specific bolted joint.

CHARACTERISTICS

- No kick-back
- High speed fastening
- Hybrid technology
- Servo drive brushless motor
- Torque adjustment
- Mechanical relief valve adjustment
- 4 RPM settings, 2000/3000/4000/
- 4800 RPM, to be set according application/joint conditions



\*Battery and charger have to be ordered separately

| Type     | Volt. V | Battery type | Square / Hex drive | Bolt capacity mm | RPM        | Torque Nm | Weight kg without battery with battery | Vibration m/s <sup>2</sup> | Noise level dB(A) | Dimensions A mm B mm |
|----------|---------|--------------|--------------------|------------------|------------|-----------|----------------------------------------|----------------------------|-------------------|----------------------|
| YZ-N600A | 18 V    | Li-ion 2 AH  | 1/4 Hex            | 6                | 2000-4.800 | 7-20      | 1 1,41                                 | <2,5                       | 72                | 152 29,5             |
| YZ-N600E | 18 V    | Li-ion 2 AH  | 3/8" Sq.           | 6                | 2000-4.800 | 8-25      | 1 1,41                                 | <2,5                       | 72                | 152 29,5             |
| YZ-N800A | 18 V    | Li-ion 2 AH  | 1/4 Hex            | 6-8              | 2000-4.800 | 7-30      | 1,05 1,46                              | <2,5                       | 75                | 157 29,5             |
| YZ-N800E | 18 V    | Li-ion 2 AH  | 3/8" Sq.           | 6-8              | 2000-4.800 | 9-35      | 1,05 1,46                              | <2,5                       | 75                | 157 29,5             |
| YZ-N900E | 18 V    | Li-ion 2 AH  | 3/8" Sq.           | 8-10             | 2000-4.800 | 16-60     | 1,20 1,61                              | <2,5                       | 77                | 164 29,5             |
| YZ-N950E | 18 V    | Li-ion 2 AH  | 3/8" Sq.           | 8-10             | 2000-4.800 | 20-65     | 1,25 1,66                              | <2,5                       | 78                | 164 29,5             |

ACCESSORIES



| Type                              | Order number |
|-----------------------------------|--------------|
| Li-Ion-Battery (0,41 kg) 18V 2 Ah | BPL-1820     |
| Charger 18 Volt (40 Min.)         | BC0075G      |

RUBBER PROTECTION COVERS

YOKOTA offers a seamless integration in the 'anti-scratch' policy with rubber protection covers that are supplied as standard but can also be ordered separately.

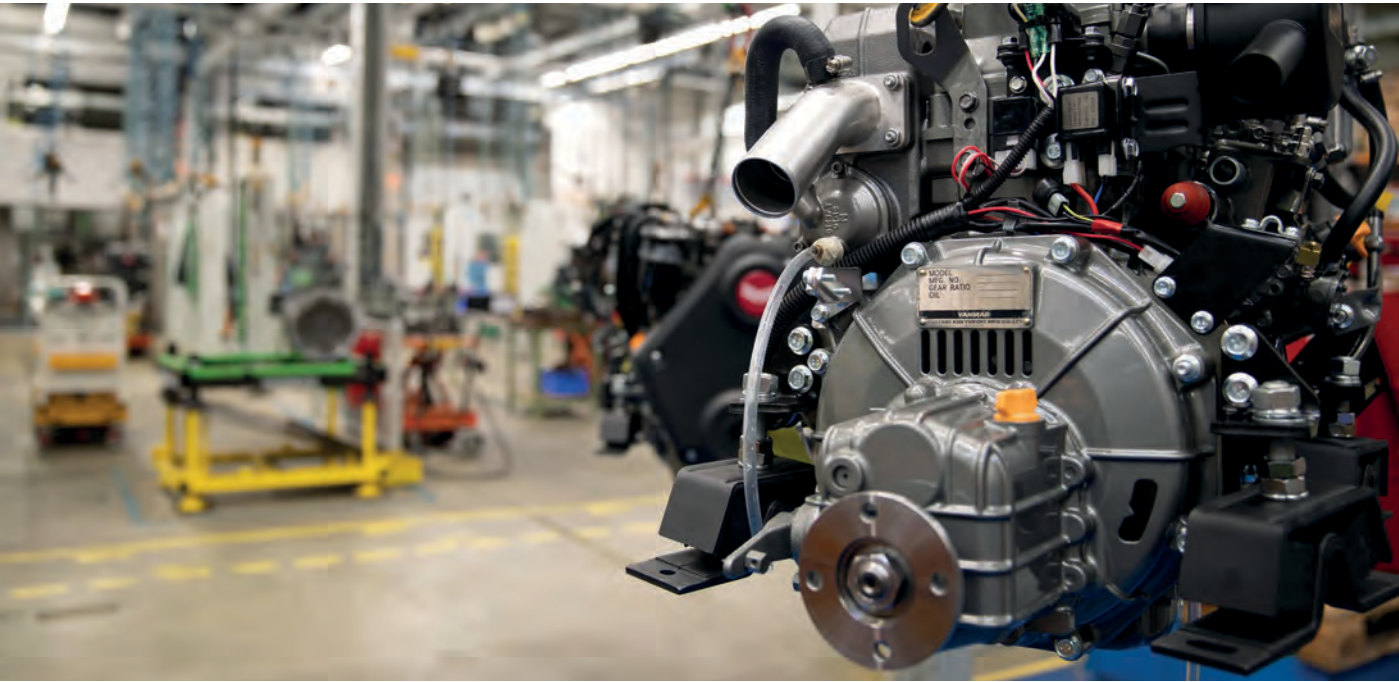
| Type     | Order number    |
|----------|-----------------|
| YZ-N600A | 0454-0029-00-00 |
| YZ-N600  | 0454-0029-00-00 |
| YZ-N800A | 0455-0029-00-00 |
| YZ-N800  | 0455-0029-00-00 |
| YZ-N900  | 0456-0029-00-00 |
| YZ-N950  | 0457-0029-00-00 |





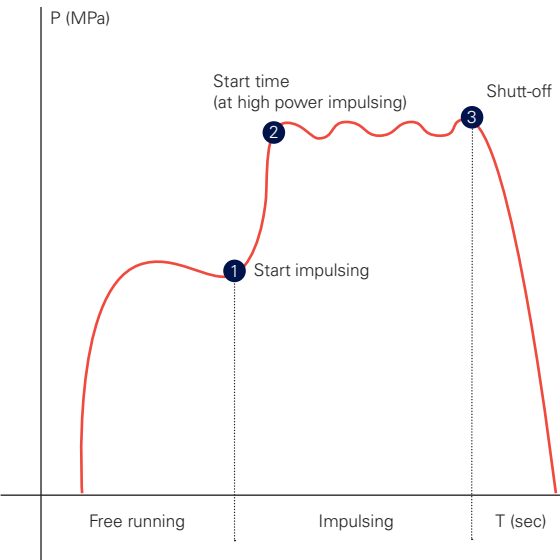
# POKA YOKE+SYSTEM

YLa-JQ & Y-JQ Series



### POKA YOKE+: FUNCTIONING PRINCIPLE

The system is controlled by measuring the air pressure at the inlet side of the air motor. This air pressure varies from free running to impulsing. By this measured air pressure the controller detects contact of the bolt head (point 2). Upon contact, the adjustable timer gives the shut-off signal (point 3). Adjustability of the timer takes care of adoption to either hard or soft joints. Similar, the controller detects double hits and trigger release before shut-off.



The system is more accurate than shut-off or standard impulse wrenches.

### SUPERIOR CLAMP FORCES

In conventional shut-off tools point 2 is the shut-off point. Due to the above mentioned principle of the Poka Yoke+ controller, the relaxation is minimized and the correct torque and clampforce are achieved. This system is more accurate than shut-off or standard impuls wrenches. The torque is adjusted at the impulse mechanism. In combination with the parameters in the controller YTC-3, the most reliable shut-off is achieved.

#### CONTROLLER YTC-3



- Power supply: 100 - 240V AC
- Input: 8
- Relay output: 4 opening and shutting capacity: Max. DC-48W, AC-220VA)
- Output for solenoid valve: 1(DC24V 2W)

#### SYSTEM FEATURES



- Group control
- Controlled shut-off
- Double tightening detection
- Interlock with assembly line
- Error judgement on trigger release
- Teach-in mode for programming
- Oil deterioration indication

# POKA YOKE+SYSTEM

YLa - JQ & Y-JQ Series



### Lightweight YLa-JQ series



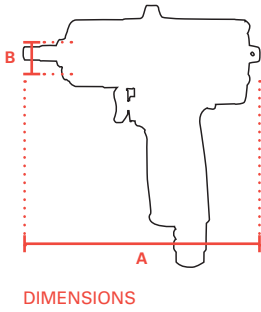
| Type       | Square/Hex drive | Bolt capacity mm | RPM   | Torque Nm* | Load aircons. l/s | No-load aircons. l/s | Weight kg | Inlet thread | Hose diameter mm | Dimensions A mm | B mm | Vibration m/s² | Noise-level dB(A) |
|------------|------------------|------------------|-------|------------|-------------------|----------------------|-----------|--------------|------------------|-----------------|------|----------------|-------------------|
| YLa60A-JQ  | 1/4" Hex         | 6                | 4.000 | 11-20      | 5,0               | 5,5                  | 0,78      | PT 1/4"      | 6,5              | 130             | 22   | 1,4            | 71                |
| YLa60E-JQ  | 3/8" Sq.         | 6                | 4.000 | 13-22      | 5,0               | 5,5                  | 0,78      | PT 1/4"      | 6,6              | 130             | 22   | 1,4            | 71                |
| YLa70A-JQ  | 1/4" Hex         | 6 - 8            | 7.000 | 20-28      | 5,5               | 6,1                  | 0,80      | PT 1/4"      | 6,5              | 132             | 22   | 1,4            | 74                |
| YLa70E-JQ  | 3/8" Sq.         | 6 - 8            | 7.000 | 20-35      | 5,5               | 6,1                  | 0,80      | PT 1/4"      | 6,5              | 132             | 22   | 1,4            | 74                |
| YLa80A-JQ  | 1/4" Hex         | 8                | 7.000 | 24-35      | 5,8               | 9,0                  | 0,90      | PT 1/4"      | 6,5              | 139             | 22   | 1,2            | 75                |
| YLa80E-JQ  | 3/8" Sq.         | 8                | 7.000 | 33-50      | 5,8               | 9,0                  | 0,90      | PT 1/4"      | 6,5              | 139             | 22   | 1,2            | 75                |
| YLa90E-JQ  | 3/8" Sq.         | 8 - 10           | 6.500 | 47-70      | 6,7               | 11,8                 | 1,00      | PT 1/4"      | 10               | 148             | 24   | 1,2            | 78                |
| YLa110E-JQ | 1/2" Sq.         | 10 - 12          | 6.000 | 65-105     | 9,6               | 13,1                 | 1,40      | PT 1/4"      | 10               | 164             | 26   | 1,8            | 81                |
| YLa120E-JQ | 1/2" Sq.         | 12               | 6.600 | 80-130     | 10,0              | 15,6                 | 1,80      | PT 1/4"      | 10               | 172             | 28   | 2,2            | 82                |
| YLa140E-JQ | 1/2" Sq.         | 14               | 6.000 | 100-160    | 13,0              | 18,9                 | 2,20      | PT 1/4"      | 10               | 190             | 30   | 2,4            | 84                |

### YJQ SERIES

| Type    | Square/Hex drive | Bolt capacity mm | RPM   | Torque Nm* | Load aircons. l/s | No-load aircons. l/s | Weight kg | Inlet thread | Hose diameter mm | Dimensions A mm | B mm | Vibration m/s² | Noise-level dB(A) |
|---------|------------------|------------------|-------|------------|-------------------|----------------------|-----------|--------------|------------------|-----------------|------|----------------|-------------------|
| Y41A-JQ | 1/4" Hex         | 4 - 6            | 9.300 | 6-12       | 5,0               | 8,8                  | 0,73      | PT 1/4"      | 6,5              | 141             | 17   | 2,1            | 72                |
| Y46E-JQ | 3/8" Sq.         | 5 - 6            | 8.000 | 16-30      | 5,8               | 9,6                  | 0,87      | PT 1/4"      | 6,5              | 158             | 18   | 1,0            | 80                |
| Y140JQ  | 3/4" Sq.         | 16               | 3.300 | 160-270    | 13,1              | 18,4                 | 3,20      | PT 1/4"      | 13               | 226             | 36   | 3,3            | 82                |

\* Torque specifications: All specified torques are measured on the YOKOTA testers, Series YET, at a dynamic airpressure of 0.63MPa. The YOKOTA testers have a static transducer, the specified torques are therefore to be used as a guidance only. In general the torque range will be lower in case of using lower airpressure, extension bars, torx or hexagon inset sockets, soft joints, etc.

Rubber protection covers for YLa-JQ and Y-JQ impulse wrenches are included in the box. Accessories for impulse wrenches on pages 61-65.





# SHUT OFF IMPULSE WRENCHES

YLTX-Series



0,5-0,6 MPA SERIES

| Type     | Square/<br>hex drive | Bolt<br>capacity<br>mm | RPM   | Torque<br>Nm*<br>0,5-0,6 MPA | Load<br>aircons.<br>l/s | No-load<br>aircons.<br>l/s | Inlet-<br>thread | Weight<br>kg | Hose<br>diameter<br>mm | Dimensions<br>A mm<br>B mm | Vibration<br>m/s² | Noise<br>level<br>dB(A) |
|----------|----------------------|------------------------|-------|------------------------------|-------------------------|----------------------------|------------------|--------------|------------------------|----------------------------|-------------------|-------------------------|
| YLTX50A  | 1/4" Hex             | 5                      | 4.300 | 4,5-8                        | 4,2                     | 4,6                        | PT 1/4"          | 0,95         | 6,5                    | 164 22,5                   | 1,1               | 70                      |
| YLTX60A  | 1/4" Hex             | 6                      | 5.300 | 6-13                         | 5,5                     | 5,6                        | PT 1/4"          | 0,95         | 6,5                    | 164 22,5                   | 1,4               | 72                      |
| YLTX70A  | 1/4" Hex             | 6-8                    | 6.800 | 13-28                        | 6,0                     | 8,8                        | PT 1/4"          | 1,01         | 6,5                    | 177 23                     | 1,8               | 74                      |
| YLTX50E  | 3/8" Sq.             | 5                      | 4.300 | 4,5-8                        | 4,2                     | 4,6                        | PT 1/4"          | 0,95         | 6,5                    | 164 22,5                   | 1,1               | 72                      |
| YLTX60E  | 3/8" Sq.             | 6                      | 5.300 | 7-15,5                       | 5,5                     | 5,6                        | PT 1/4"          | 0,95         | 6,5                    | 164 22,5                   | 1,4               | 72                      |
| YLTX70E  | 3/8" Sq.             | 6-8                    | 6.800 | 15-32                        | 6,0                     | 8,8                        | PT 1/4"          | 1,01         | 6,5                    | 177 23                     | 1,8               | 74                      |
| YLTX80E  | 3/8" Sq.             | 8                      | 6.800 | 30-55                        | 7,3                     | 9,2                        | PT 1/4"          | 1,12         | 9,5                    | 187 24,5                   | 1,9               | 78                      |
| YLTX110E | 1/2" Sq.             | 10-12                  | 5.800 | 50-85                        | 8,3                     | 13,5                       | PT 1/4"          | 1,51         | 9,5                    | 194 28,5                   | 1,8               | 81                      |
| YLTX120E | 1/2" Sq.             | 12                     | 5.400 | 70-115                       | 8,6                     | 14,6                       | PT 1/4"          | 1,79         | 9,5                    | 201 31                     | 2,2               | 83                      |
| YLTX140E | 1/2" Sq.             | 14                     | 5.200 | 110-150                      | 11,8                    | 16,6                       | PT 1/4"          | 2,08         | 9,5                    | 214 32,5                   | 5,2               | 85                      |
| YLTX150  | 3/4" Sq.             | 16                     | 4.400 | 140-210                      | 11,8                    | 17                         | PT 1/4"          | 2,95         | 9,5                    | 237 38,5                   | 5,3               | 84                      |

0,4-0,5 MPA SERIES

| Type     | Square/<br>hex drive | Bolt<br>capacity<br>mm | RPM   | Torque<br>Nm*<br>0,4-0,5 MPA | Load<br>aircons.<br>l/s | No-load<br>aircons.<br>l/s | Inlet-<br>thread | Weight<br>kg | Hose<br>diameter<br>mm | Dimensions<br>A mm<br>B mm | Vibration<br>m/s² | Noise<br>level<br>dB(A) |
|----------|----------------------|------------------------|-------|------------------------------|-------------------------|----------------------------|------------------|--------------|------------------------|----------------------------|-------------------|-------------------------|
| YLT60AL  | 1/4" Hex             | 6                      | 4.500 | 5-11,5                       | 5,5                     | 4,8                        | PT 1/4"          | 0,95         | 6,5                    | 164 22,5                   | 1,4               | 72                      |
| YLT70AL  | 1/4" Hex             | 6-8                    | 6.300 | 11-25                        | 6,0                     | 7,8                        | PT 1/4"          | 1,01         | 6,5                    | 177 23                     | 1,8               | 74                      |
| YLT60EL  | 3/8" Sq.             | 6                      | 4.500 | 6-13,5                       | 5,5                     | 4,8                        | PT 1/4"          | 0,95         | 6,5                    | 164 22,5                   | 1,4               | 72                      |
| YLT70EL  | 3/8" Sq.             | 6-8                    | 6.300 | 13-28                        | 6,0                     | 7,8                        | PT 1/4"          | 1,01         | 6,5                    | 177 23                     | 1,8               | 74                      |
| YLT80EL  | 3/8" Sq.             | 8                      | 6.600 | 25-48                        | 7,3                     | 8                          | PT 1/4"          | 1,12         | 9,5                    | 187 24,5                   | 1,9               | 78                      |
| YLT110EL | 1/2" Sq.             | 10-12                  | 5.600 | 45-75                        | 8,3                     | 11,8                       | PT 1/4"          | 1,51         | 9,5                    | 194 28,5                   | 1,8               | 81                      |
| YLT120EL | 1/2" Sq.             | 12                     | 5.200 | 60-100                       | 8,6                     | 12,3                       | PT 1/4"          | 1,79         | 9,5                    | 201 31                     | 2,2               | 83                      |
| YLT140EL | 1/2" Sq.             | 14                     | 4.900 | 80-125                       | 11,8                    | 14,1                       | PT 1/4"          | 2,08         | 9,5                    | 214 32,5                   | 5,2               | 85                      |

\* Note: Torque values are to be used as guidance only.

FEATURES

- Maximum accuracy: extremely accurate and fast
- Maximum ergonomics: ergo touch / ergo grip / ergo trigger / low noise / low vibration
- Minimal environmental impact: reduction of CO2 emission
- Double chamber air motor: compact high efficiency
- Oil-free: can be used with non lubricated air

\* Rubber protection covers for all YLT-series impulse wrenches are included in the box.

YLTX-J



All YLTX models are also available as J-version: signal hose for detecting shut-off, to connect to counting systems (PLC), line control etc.

# NON SHUT OFF IMPULSE WRENCHES

YLa-Series



| Type    | Square/<br>Hex drive | Bolt<br>capacity<br>mm | RPM   | Torque<br>Nm* | Load<br>aircons.<br>l/s | No-load<br>aircons.<br>l/s | Weight<br>kg | Inlet<br>thread | Hose<br>diameter<br>mm | Dimensions<br>A mm<br>B mm | Vibration<br>m/s² | Noise-<br>level<br>dB(A) |
|---------|----------------------|------------------------|-------|---------------|-------------------------|----------------------------|--------------|-----------------|------------------------|----------------------------|-------------------|--------------------------|
| YLa60A  | 1/4" Hex             | 6                      | 4.000 | 9-20          | 5                       | 5,5                        | 0,78         | PT 1/4"         | 6,5                    | 130 22                     | 1,4               | 71                       |
| YLa70A  | 1/4" Hex             | 6 - 8                  | 7.000 | 20-28         | 5,5                     | 6,1                        | 0,8          | PT 1/4"         | 6,5                    | 132 22                     | 1,4               | 74                       |
| YLa80A  | 1/4" Hex             | 8                      | 7.000 | 24-35         | 5,8                     | 9                          | 0,9          | PT 1/4"         | 6,5                    | 139 22                     | 1,2               | 75                       |
| YLa60E  | 3/8" Sq.             | 6                      | 4.000 | 13-22         | 5                       | 5,5                        | 0,78         | PT 1/4"         | 6,5                    | 130 22                     | 1,4               | 71                       |
| YLa70E  | 3/8" Sq.             | 6 - 8                  | 7.000 | 20-35         | 5,5                     | 6,1                        | 0,8          | PT 1/4"         | 6,5                    | 132 22                     | 1,4               | 74                       |
| YLa80E  | 3/8" Sq.             | 8                      | 7.000 | 33-50         | 5,8                     | 9                          | 0,9          | PT 1/4"         | 6,5                    | 139 22                     | 1,2               | 75                       |
| YLa90E  | 3/8" Sq.             | 8 - 10                 | 6.500 | 47-70         | 6,7                     | 11,8                       | 1,0          | PT 1/4"         | 9,5                    | 148 24                     | 1,2               | 78                       |
| YLa110E | 1/2" Sq.             | 10 - 12                | 6.000 | 65-105        | 9,6                     | 13,1                       | 1,4          | PT 1/4"         | 9,5                    | 164 26                     | 1,8               | 81                       |
| YLa120E | 1/2" Sq.             | 12                     | 6.600 | 80-130        | 10                      | 15,6                       | 1,8          | PT 1/4"         | 9,5                    | 172 28                     | 2,2               | 82                       |
| YLa140E | 1/2" Sq.             | 14                     | 6.000 | 100-160       | 13                      | 18,9                       | 2,2          | PT 1/4"         | 9,5                    | 190 30                     | 2,4               | 84                       |

\* Note: Torque values are to be used as guidance only.

FEATURES

- Maximum accuracy: extremely accurate and fast
- Maximum ergonomics: ergo touch / ergo grip / ergo trigger / low noise / low vibration
- Minimal environmental impact: reduction of CO2 emission
- Double chamber air motor: compact high efficiency
- Oil-free: can be used with non lubricated air

\* Rubber protection covers for all YLa-series impulse wrenches are included in the box.

CUSTOM MADE IMPULSE WRENCHES



For any application where access to the joint is difficult, we are able to provide tailor made impulse wrenches.

Contact us for more information.



# NON SHUT OFF IMPULSE WRENCHES

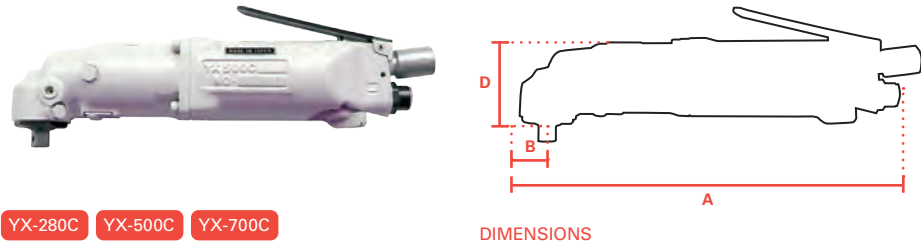
Y-Series, YX-Series



| Type                 | Square/<br>hex drive | Bolt<br>capacity<br>mm | RPM    | Torque<br>Nm* | Load<br>aircons.<br>l/s | No-load<br>aircons.<br>l/s | Weight<br>kg | Inlet-<br>thread | Hose<br>diameter<br>mm | Dimensions |         | Vibration<br>m/s² | Noise<br>level<br>dB(A) |
|----------------------|----------------------|------------------------|--------|---------------|-------------------------|----------------------------|--------------|------------------|------------------------|------------|---------|-------------------|-------------------------|
|                      |                      |                        |        |               |                         |                            |              |                  |                        | A<br>mm    | B<br>mm |                   |                         |
| Y-40SA <sup>1)</sup> | 1/4" Hex             | 4 - 6                  | 10.000 | 6 - 12        | 5,0                     | 7,6                        | 0,84         | PT 1/4"          | 6,5                    | 229        | 17      | 4,6               | 69                      |
| Y-41A                | 1/4" Hex             | 4 - 6                  | 9.300  | 6 - 12        | 5,0                     | 8,8                        | 0,73         | PT 1/4"          | 6,5                    | 141        | 17      | 2,1               | 72                      |
| Y-46E                | 3/8" Sq.             | 5 - 6                  | 8.000  | 16 - 30       | 5,8                     | 9,6                        | 0,87         | PT 1/4"          | 6,5                    | 158        | 18      | 1,0               | 80                      |
| Y-46A                | 1/4" Hex             | 5 - 6                  | 8.000  | 16 - 26       | 5,8                     | 9,6                        | 0,87         | PT 1/4"          | 6,5                    | 158        | 18      | 1,0               | 80                      |
| Y-140                | 3/4" Sq.             | 16                     | 3.300  | 160 - 270     | 13,1                    | 18,4                       | 3,20         | PT 1/4"          | 12,7                   | 226        | 36      | 3,3               | 82                      |

1) The Y-40SA is a straight model, all other types are pistol models.

\* Torque specifications  
All specified torques are measured on the YOKOTA testers, Series YET, at a dynamic airpressure of 0.63MPa. The YOKOTA testers have a static transducer, the specified torques are therefore to be used as a guidance only. In general the torque range will be lower in case of using lower airpressure, extension bars, torx or hexagon inset sockets, soft joints, etc.



## ANGLE MODELS

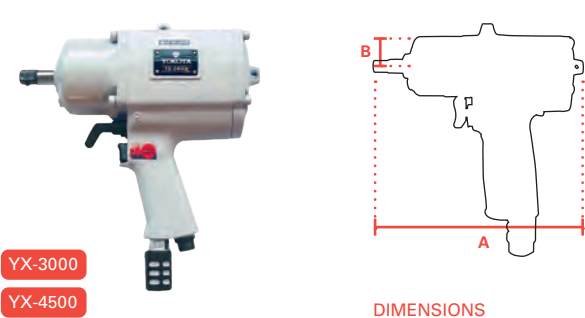
| Type    | Square /<br>Hex<br>drive | Bolt<br>capacity<br>mm | RPM    | Torque<br>Nm* | Load<br>aircons.<br>l/s | No-load<br>aircons.<br>l/s | Weight<br>kg | Inlet<br>thread | Hose<br>diameter<br>mm | Dimensions |         |         | Vibration<br>m/s² | Noise-<br>level<br>dB(A) |
|---------|--------------------------|------------------------|--------|---------------|-------------------------|----------------------------|--------------|-----------------|------------------------|------------|---------|---------|-------------------|--------------------------|
|         |                          |                        |        |               |                         |                            |              |                 |                        | A<br>mm    | B<br>mm | D<br>mm |                   |                          |
| YX-280C | 3/8" Hex                 | 4 - 6                  | 10.000 | 15 - 24       | 5,0                     | 7,8                        | 1,40         | PT 1/4"         | 6,5                    | 257        | 16      | 50      | 4                 | 83                       |
| YX-500C | 3/8" Hex                 | 6 - 8                  | 7.500  | 30 - 45       | 5,0                     | 8,6                        | 1,50         | PT 1/4"         | 6,5                    | 266        | 18      | 66      | 10                | 73                       |
| YX-700C | 3/8" Hex                 | 8 - 10                 | 5.000  | 36 - 50       | 5,8                     | 10,8                       | 1,80         | PT 1/4"         | 6,5                    | 289        | 18      | 70      | 8,6               | 72                       |

\* Torque specifications  
All specified torques are measured on the YOKOTA testers, Series YET, at a dynamic airpressure of 0.63MPa. The YOKOTA testers have a static transducer, the specified torques are therefore to be used as a guidance only. In general the torque range will be lower in case of using lower airpressure, extension bars, torx or hexagon inset sockets, soft joints, etc.



# NON SHUT OFF IMPULSE WRENCHES

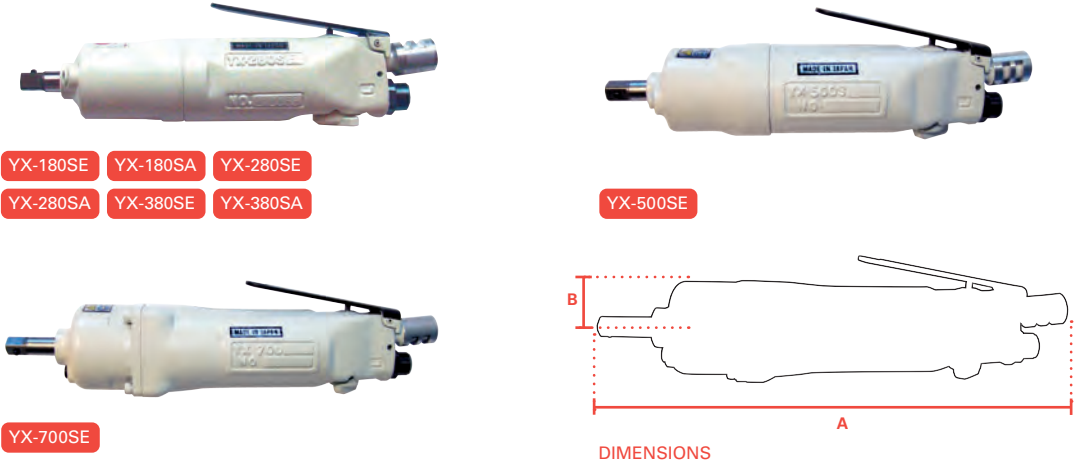
YX-Series



## PISTOL MODELS

| Type    | Square/<br>Hex drive | Bolt<br>capacity<br>mm | RPM   | Torque<br>Nm* | Load<br>aircons.<br>l/s | No-load<br>aircons.<br>l/s | Weight<br>kg | Inlet<br>thread | Hose<br>diameter<br>mm | Dimensions |         | Vibration<br>m/s² | Noise-<br>level<br>dB(A) |
|---------|----------------------|------------------------|-------|---------------|-------------------------|----------------------------|--------------|-----------------|------------------------|------------|---------|-------------------|--------------------------|
|         |                      |                        |       |               |                         |                            |              |                 |                        | A<br>mm    | B<br>mm |                   |                          |
| YX-3000 | 3/4" Sq.             | 16 - 18                | 4.700 | 200 - 304     | 10,0                    | 20,5                       | 4,60         | PT 1/4"         | 12,7                   | 246        | 40,0    | 3,9               | 80                       |
| YX-4500 | 3/4" Sq.             | 18 - 20                | 3.400 | 392 - 490     | 11,6                    | 24,0                       | 9,80         | PT 3/8"         | 12,7                   | 300        | 65,0    | 3,9               | 87                       |

\* Torque specifications  
All specified torques are measured on the YOKOTA testers, Series YET, at a dynamic airpressure of 0.63MPa. The YOKOTA testers have a static transducer, the specified torques are therefore to be used as a guidance only. In general the torque range will be lower in case of using lower airpressure, extension bars, torx or hexagon inset sockets, soft joints, etc.



## STRAIGHT MODELS

| Type     | Square/<br>Hex<br>drive | Bolt<br>capacity<br>mm | RPM    | Torque<br>Nm* | Load<br>aircons.<br>l/s | No-load<br>aircons.<br>l/s | Weight<br>kg | Inlet<br>thread | Hose<br>diameter<br>mm | Dimensions |         | Vibration<br>m/s² | Noise-<br>level<br>dB(A) |
|----------|-------------------------|------------------------|--------|---------------|-------------------------|----------------------------|--------------|-----------------|------------------------|------------|---------|-------------------|--------------------------|
|          |                         |                        |        |               |                         |                            |              |                 |                        | A<br>mm    | B<br>mm |                   |                          |
| YX-180SE | 3/8" Sq.                | 4 - 6                  | 10.500 | 19 - 31       | 4,2                     | 7,8                        | 0,96         | PT 1/4"         | 6,5                    | 220        | 23      | 3,3               | 73                       |
| YX-180SA | 1/4" Hex                | 4 - 6                  | 10.500 | 18 - 30       | 4,2                     | 7,8                        | 0,96         | PT 1/4"         | 6,5                    | 220        | 23      | 3,3               | 73                       |
| YX-280SE | 3/8" Sq.                | 6 - 8                  | 10.500 | 25 - 38       | 5,0                     | 9,1                        | 1,02         | PT 1/4"         | 6,5                    | 232        | 23      | 4                 | 73                       |
| YX-280SA | 1/4" Hex                | 6                      | 10.500 | 20 - 34       | 5,0                     | 9,1                        | 1,02         | PT 1/4"         | 6,5                    | 232        | 23      | 4                 | 73                       |
| YX-380SE | 3/8" Sq.                | 8                      | 10.000 | 32 - 47       | 5,0                     | 9,1                        | 1,18         | PT 1/4"         | 6,5                    | 232        | 25,5    | 3,3               | 75                       |
| YX-380SA | 1/4" Hex                | 6 - 8                  | 10.000 | 29 - 44       | 5,0                     | 9,1                        | 1,18         | PT 1/4"         | 6,5                    | 232        | 25,5    | 3,3               | 75                       |
| YX-500SE | 3/8" Sq.                | 8 - 10                 | 7.500  | 31 - 55       | 5,0                     | 11,2                       | 1,25         | PT 1/4"         | 6,5                    | 241        | 25,5    | 6,6               | 74                       |
| YX-700SE | 3/8" Sq.                | 8 - 10                 | 5.000  | 35 - 62       | 5,8                     | 13,5                       | 1,50         | PT 1/4"         | 6,5                    | 262        | 26,5    | 6,6               | 72                       |

\* Torque specifications  
All specified torques are measured on the YOKOTA testers, Series YET, at a dynamic airpressure of 0.63MPa. The YOKOTA testers have a static transducer, the specified torques are therefore to be used as a guidance only. In general the torque range will be lower in case of using lower airpressure, extension bars, torx or hexagon inset sockets, soft joints, etc.



# RED ROOSTER ASSEMBLY TOOLS

Productivity · Flexibility · Accuracy



- 

PNEUMATIC  
IMPULSE  
WRENCHES
- 

CORDLESS  
IMPULSE  
WRENCHES
- 

PNEUMATIC  
SCREW-  
DRIVERS
- 

CORDLESS  
SCREW-  
DRIVERS
- 

CORDLESS  
WRENCHES
- 

PNEUMATIC  
RIVETERS

# RED ROOSTER ASSEMBLY TOOLS

Productivity · Flexibility · Accuracy

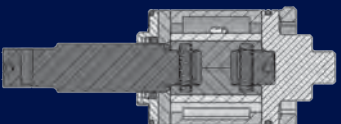
Red Rooster Assembly offers you a full range of high quality assembly tools. With years of experience in the assembly industry and through intensive cooperation with our customers, we have developed an extensive and complete range with specific attention for ergonomics, efficiency and durability. The assortment of Red Rooster Assembly tools is often complemented when new developments take place. The possibilities offered by improved battery technology have resulted in an extensive cordless range of tools. The combination of cordless tools and air tools offers the customer the opportunity to implement the most optimal solution. Whether a sustainable set up for a permanent workplace is required, or more flexibility for the operator, your productivity matters to us.



# PNEUMATIC IMPULSE WRENCHES

## Main Features

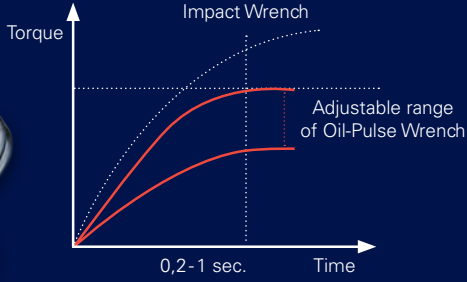




X-Shape Sealing improves durability.



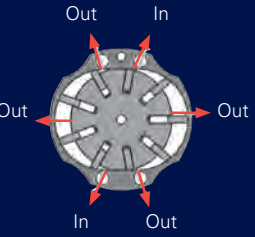
Twin drive roller blades reduce noise, vibration and improve impulse efficiency.



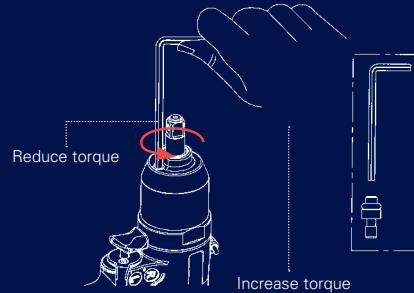
Conventional Impact Wrench  
Adjustable range of Oil-Pulse Wrench  
0,2-1 sec. Time



1 Piece design front end plate and cylinder improves motor efficiency.

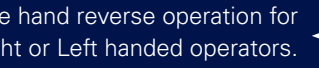


**DOUBLE CHAMBER AIR MOTOR**  
9 Vanes motor design for smallest dimensions with highest power and acceleration results in a short time to reach the set torque and highest productivity.

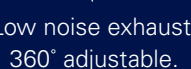


**EASY TORQUE ADJUSTMENT**  
The required torque can be easily adjusted by turning the adjust screw.

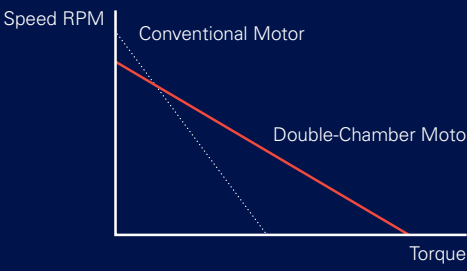
Reduce torque  
Increase torque



One hand reverse operation for Right or Left handed operators.



Low noise exhaust, 360° adjustable.



Speed RPM  
Conventional Motor  
Double-Chamber Motor  
Torque



# SHUT OFF IMPULSE WRENCHES

## RRI-T Series: Pistol Models



### 1/4" Hexdrive

| Type     | Square / Hex drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|----------|--------------------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-30AT | 1/4" Hex           | 6                | 4.600 | 6 - 12,5        | 3,7                   | 0,89      | PT 1/4"      | 6,5              | 78                |
| RRI-40AT | 1/4" Hex           | 6-8              | 4.600 | 10 - 18         | 3,7                   | 0,92      | PT 1/4"      | 6,5              | 78                |
| RRI-50AT | 1/4" Hex           | 8                | 7.200 | 16 - 26         | 5,3                   | 0,92      | PT 1/4"      | 6,5              | 80                |
| RRI-60AT | 1/4" Hex           | 8                | 6.200 | 20 - 30         | 6,2                   | 1,0       | PT 1/4"      | 8                | 82                |
| RRI-70AT | 1/4" Hex           | 10               | 7.200 | 32 - 47         | 7                     | 1,35      | PT 1/4"      | 8                | 82                |



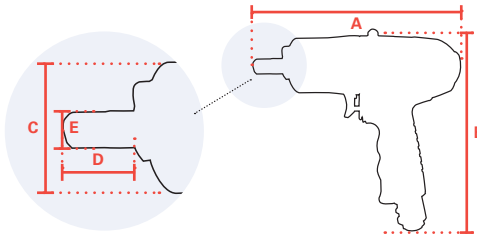
### 3/8"-1/2"- 3/4" Squaredrive

| Type     | Square / Hex drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|----------|--------------------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-30T  | 3/8" Square        | 6                | 4.600 | 7 - 12,5        | 3,7                   | 0,89      | PT 1/4"      | 6,5              | 78                |
| RRI-40T  | 3/8" Square        | 6-8              | 4.600 | 11 - 19         | 3,7                   | 0,92      | PT 1/4"      | 6,5              | 78                |
| RRI-50T  | 3/8" Square        | 8                | 7.200 | 16 - 27         | 5,3                   | 0,92      | PT 1/4"      | 6,5              | 80                |
| RRI-60T  | 3/8" Square        | 8-10             | 6.200 | 22 - 35         | 6,2                   | 1         | PT 1/4"      | 8                | 82                |
| RRI-70T  | 3/8" Square        | 10               | 7.200 | 37 - 57         | 7                     | 1,35      | PT 1/4"      | 8                | 82                |
| RRI-80T  | 3/8" Square        | 10-12            | 5.100 | 40 - 68         | 9,3                   | 1,21      | PT 1/4"      | 8                | 82                |
| RRI-90T  | 1/2" Square        | 12               | 5.400 | 64 - 90         | 8,3                   | 1,55      | PT 1/4"      | 8                | 83                |
| RRI-100T | 1/2" Square        | 12-14            | 5.300 | 85 - 120        | 8,7                   | 1,87      | PT 1/4"      | 8                | 84                |
| RRI-130T | 1/2" Square        | 14-16            | 3.600 | 123 - 148       | 11,6                  | 2,26      | PT 1/4"      | 11               | 86                |
| RRI-150T | 3/4" Square        | 16               | 3.700 | 165 - 210       | 11,6                  | 3,10      | PT 1/4"      | 11               | 86                |
| RRI-180T | 3/4" Square        | 16-18            | 2.700 | 180 - 255       | 12,2                  | 3,8       | PT 1/4"      | 11               | 86                |
| RRI-200T | 3/4" Square        | 18-20            | 3.000 | 230 - 450       | 26                    | 4,25      | PT 3/8"      | 12,7             | 88                |

### DIMENSIONS

| Type     | A mm | B mm | C mm  | D mm | E mm  |
|----------|------|------|-------|------|-------|
| RRI-30AT | 163  | 168  | Ø46   | 21   | Ø17,5 |
| RRI-40AT | 170  | 168  | Ø46   | 27   | Ø17,5 |
| RRI-50AT | 170  | 168  | Ø46   | 27   | Ø17,5 |
| RRI-60AT | 181  | 168  | Ø46   | 27   | Ø17,5 |
| RRI-70AT | 194  | 172  | Ø53,5 | 28   | Ø17,5 |
| RRI-30T  | 163  | 168  | Ø46   | 24   | Ø12   |
| RRI-40T  | 167  | 168  | Ø46   | 24   | Ø12   |
| RRI-50T  | 167  | 168  | Ø46   | 24   | Ø12   |
| RRI-60T  | 178  | 168  | Ø46   | 24   | Ø12   |
| RRI-70T  | 194  | 172  | Ø53,5 | 25   | Ø12   |
| RRI-80T  | 194  | 170  | Ø53,5 | 25   | Ø12   |
| RRI-90T  | 200  | 192  | Ø53,5 | 31   | Ø16   |

| Type     | A mm | B mm | C mm | D mm | E mm |
|----------|------|------|------|------|------|
| RRI-100T | 209  | 195  | Ø59  | 32   | Ø16  |
| RRI-130T | 216  | 204  | Ø64  | 31   | Ø16  |
| RRI-150T | 239  | 215  | Ø72  | 40   | Ø25  |
| RRI-180T | 263  | 232  | Ø78  | 41   | Ø25  |
| RRI-200T | 250  | 239  | Ø80  | 41   | Ø25  |





# SHUT OFF IMPULSE WRENCHES



## RRI-T Series: Straight Models



### 1/4" Hexdrive

| Type      | Hex drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|-----------|-----------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-30STA | 1/4"      | 6                | 4.200 | 6 - 11,5        | 3,7                   | 0,77      | PT 1/4"      | 6,5              | 78                |
| RRI-40STA | 1/4"      | 6-8              | 4.200 | 10 - 17         | 3,7                   | 0,8       | PT 1/4"      | 6,5              | 78                |
| RRI-50STA | 1/4"      | 8                | 6.800 | 15 - 25         | 5,3                   | 0,8       | PT 1/4"      | 6,5              | 80                |
| RRI-60STA | 1/4"      | 8                | 6.000 | 20 - 30         | 6,2                   | 0,86      | PT 1/4"      | 8                | 80                |
| RRI-70STA | 1/4"      | 8-10             | 5.000 | 28 - 40         | 6,2                   | 0,97      | PT 1/4"      | 8                | 80                |

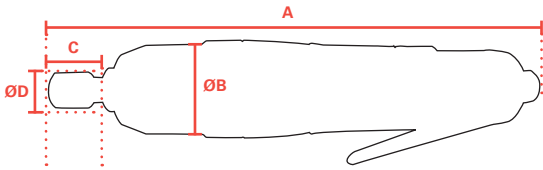


### 3/8" Square drive

| Type     | Square drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|----------|--------------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-30ST | 3/8"         | 6                | 4.200 | 7 - 12,5        | 3,7                   | 0,8       | PT 1/4"      | 6,5              | 78                |
| RRI-40ST | 3/8"         | 6-8              | 4.200 | 11 - 19         | 3,7                   | 0,8       | PT 1/4"      | 6,5              | 78                |
| RRI-50ST | 3/8"         | 8                | 6.800 | 16 - 27         | 5,3                   | 0,8       | PT 1/4"      | 6,5              | 80                |
| RRI-60ST | 3/8"         | 8-10             | 6.000 | 22 - 35         | 6,2                   | 0,86      | PT 1/4"      | 8                | 80                |
| RRI-70ST | 3/8"         | 10               | 5.000 | 31 - 47         | 6,2                   | 0,97      | PT 1/4"      | 8                | 80                |
| RRI-80ST | 3/8"         | 10-12            | 6.100 | 40 - 68         | 9,3                   | 1,15      | PT 1/4"      | 8                | 82                |

### DIMENSIONS

| Type      | A mm | B mm  | C mm | D mm  |
|-----------|------|-------|------|-------|
| RRI-30STA | 219  | Ø46   | 21   | Ø17,5 |
| RRI-40STA | 224  | Ø46   | 27   | Ø17,5 |
| RRI-50STA | 224  | Ø46   | 27   | Ø17,5 |
| RRI-60STA | 225  | Ø46   | 27   | Ø17,5 |
| RRI-70STA | 244  | Ø48   | 27   | Ø17,5 |
| RRI-30ST  | 219  | Ø46   | 24   | Ø12   |
| RRI-40ST  | 221  | Ø46   | 24   | Ø12   |
| RRI-50ST  | 221  | Ø46   | 24   | Ø12   |
| RRI-60ST  | 231  | Ø46   | 24   | Ø12   |
| RRI-70ST  | 244  | Ø48   | 25   | Ø12   |
| RRI-80ST  | 244  | Ø53,5 | 25   | Ø12   |



# SHUT OFF IMPULSE WRENCHES



## RRI-T Series: Angle Models



### 1/4" Hexdrive

| Type      | Hex drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|-----------|-----------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-50RTA | 1/4"      | 6-8              | 4.300 | 9,5 - 16        | 4,8                   | 1,2       | PT 1/4"      | 6,5              | 80                |
| RRI-60RTA | 1/4"      | 8                | 4.700 | 15 - 22         | 6,2                   | 1,3       | PT 1/4"      | 8                | 80                |
| RRI-70RTA | 1/4"      | 8                | 4.500 | 20 - 29         | 6,2                   | 1,4       | PT 1/4"      | 8                | 80                |

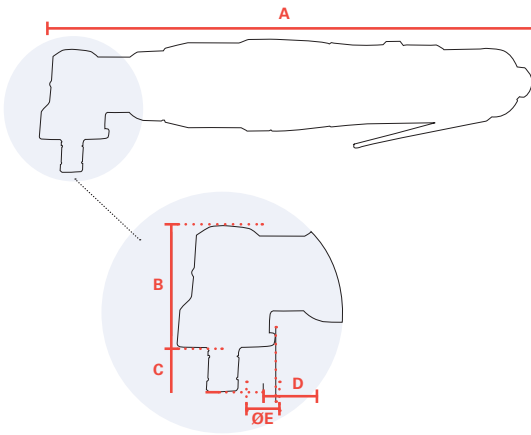


### 3/8" Square drive

| Type      | Square drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|-----------|--------------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-50RT  | 3/8"         | 6-8              | 4.300 | 10,5 - 17       | 4,8                   | 1,2       | PT 1/4"      | 6,5              | 80                |
| RRI-60RT  | 3/8"         | 8                | 4.700 | 16 - 24         | 6,2                   | 1,3       | PT 1/4"      | 8                | 80                |
| RRI-70RT  | 3/8"         | 8-10             | 4.500 | 22 - 31         | 6,2                   | 1,4       | PT 1/4"      | 8                | 80                |
| RRI-70RGT | 3/8"         | 10               | 2.000 | 32 - 45         | 6,2                   | 1,6       | PT 1/4"      | 8                | 82                |
| RRI-70RHT | 3/8"         | 10-12            | 2.200 | 46 - 60         | 6,2                   | 1,6       | PT 1/4"      | 8                | 82                |
| RRI-80RHT | 3/8"         | 10-12            | 2.800 | 50 - 70         | 9,3                   | 1,7       | PT 1/4"      | 8                | 82                |

### DIMENSIONS

| Type      | A mm | B mm | C mm | D mm | E mm |
|-----------|------|------|------|------|------|
| RRI-50RTA | 253  | 45   | 16   | 16   | Ø11  |
| RRI-60RTA | 264  | 45   | 16   | 16   | Ø11  |
| RRI-70RTA | 272  | 45   | 16   | 16   | Ø11  |
| RRI-50RT  | 253  | 45   | 14   | 16   | Ø12  |
| RRI-60RT  | 264  | 45   | 14   | 16   | Ø12  |
| RRI-70RT  | 272  | 45   | 14   | 16   | Ø12  |
| RRI-70RGT | 281  | 47   | 14   | 21   | Ø16  |
| RRI-70RHT | 281  | 47   | 21   | 21   | Ø16  |
| RRI-80RHT | 281  | 47   | 21   | 21   | Ø16  |



# NON SHUT OFF IMPULSE WRENCHES



RRI Series: Pistol Models

## 1/4"Hexdrive



| Type     | Hex drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|----------|-----------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-30A  | 1/4"      | 6                | 4.600 | 6 - 12,5        | 3,7                   | 0,87      | PT 1/4"      | 6,5              | 78                |
| RRI-40AX | 1/4"      | 6-8              | 4.600 | 10 - 18         | 3,7                   | 0,74      | PT 1/4"      | 6,5              | 78                |
| RRI-50AX | 1/4"      | 8                | 7.200 | 16 - 26         | 5,3                   | 0,9       | PT 1/4"      | 6,5              | 80                |
| RRI-60AX | 1/4"      | 8                | 6.200 | 20 - 30         | 6,2                   | 0,81      | PT 1/4"      | 8                | 82                |
| RRI-70A  | 1/4"      | 10               | 7.200 | 32 - 47         | 7                     | 1,33      | PT 1/4"      | 8                | 82                |

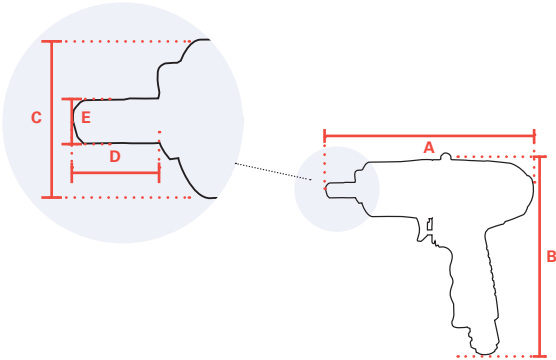


## 3/8" - 1/2" - 3"Square drive

| Type    | Square drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|---------|--------------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-30  | 3/8"         | 6                | 4.600 | 7 - 12,5        | 3,7                   | 0,87      | PT 1/4"      | 6,5              | 78                |
| RRI-40X | 3/8"         | 6-8              | 4.600 | 11 - 19         | 3,7                   | 0,74      | PT 1/4"      | 6,5              | 78                |
| RRI-50X | 3/8"         | 8                | 7.200 | 16 - 27         | 5,3                   | 0,74      | PT 1/4"      | 6,5              | 80                |
| RRI-60X | 3/8"         | 8-10             | 6.200 | 22 - 35         | 6,2                   | 0,81      | PT 1/4"      | 8                | 82                |
| RRI-70  | 3/8"         | 10               | 7.200 | 37 - 57         | 7                     | 1,33      | PT 1/4"      | 8                | 82                |
| RRI-80  | 3/8"         | 10-12            | 5.100 | 40 - 70         | 9,3                   | 1,19      | PT 1/4"      | 8                | 82                |
| RRI-90  | 1/2"         | 12               | 5.400 | 64 - 90         | 8,3                   | 1,53      | PT 1/4"      | 8                | 83                |
| RRI-100 | 1/2"         | 12-14            | 5.300 | 85 - 120        | 8,7                   | 1,85      | PT 1/4"      | 8                | 84                |
| RRI-130 | 1/2"         | 14-16            | 3.600 | 123 - 148       | 11,6                  | 2,22      | PT 1/4"      | 11               | 86                |
| RRI-150 | 3/4"         | 16               | 3.700 | 165 - 210       | 11,6                  | 3,05      | PT 1/4"      | 11               | 86                |
| RRI-180 | 3/4"         | 16-18            | 2.700 | 180 - 255       | 12,2                  | 3,8       | PT 1/4"      | 11               | 86                |
| RRI-200 | 3/4"         | 18-20            | 3.000 | 220 - 390       | 26                    | 4,25      | PT 3/8"      | 13               | 88                |

### DIMENSIONS

| Type         | A mm | B mm | C mm  | D mm | E mm |
|--------------|------|------|-------|------|------|
| RRI-30/30A   | 167  | 168  | Ø46   | 24   | Ø12  |
| RRI-40X/40AX | 147  | 168  | Ø46   | 24   | Ø12  |
| RRI-50X/50A  | 147  | 168  | Ø46   | 24   | Ø12  |
| RRI-60X/60AX | 158  | 168  | Ø46   | 24   | Ø12  |
| RRI-70/70A   | 194  | 192  | Ø53,5 | 25   | Ø12  |
| RRI-80       | 194  | 170  | Ø53,5 | 25   | Ø12  |
| RRI-90       | 200  | 192  | Ø53,5 | 31   | Ø16  |
| RRI-100      | 209  | 195  | Ø59   | 32   | Ø16  |
| RRI-130      | 216  | 204  | Ø64   | 31   | Ø16  |
| RRI-150      | 238  | 215  | Ø72   | 40   | Ø25  |
| RRI-180      | 263  | 232  | Ø78   | 41   | Ø25  |
| RRI-200      | 250  | 239  | Ø80   | 41   | Ø25  |



# NON SHUT OFF IMPULSE WRENCHES



RRI Series: Straight Models

## 1/4" Hexdrive



| Type     | Hex drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|----------|-----------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-30SA | 1/4"      | 6                | 4.200 | 6 - 11,5        | 3,7                   | 0,77      | PT 1/4"      | 6,5              | 78                |
| RRI-40SA | 1/4"      | 6-8              | 4.200 | 10 - 17         | 3,7                   | 0,8       | PT 1/4"      | 6,5              | 78                |
| RRI-50SA | 1/4"      | 8                | 6.800 | 15 - 25         | 5,3                   | 0,8       | PT 1/4"      | 6,5              | 80                |
| RRI-60SA | 1/4"      | 8                | 6.000 | 20 - 30         | 6,2                   | 0,86      | PT 1/4"      | 8                | 80                |
| RRI-70SA | 1/4"      | 8-10             | 5.000 | 28 - 40         | 6,2                   | 0,97      | PT 1/4"      | 8                | 80                |



## 1/4" Squaredrive

| Type    | Square drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|---------|--------------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-30S | 3/8"         | 6                | 4.200 | 7 - 12,5        | 3,7                   | 0,8       | PT 1/4"      | 6,5              | 78                |
| RRI-40S | 3/8"         | 6-8              | 4.200 | 11 - 19         | 3,7                   | 0,8       | PT 1/4"      | 6,5              | 78                |
| RRI-50S | 3/8"         | 8                | 6.800 | 16 - 27         | 5,3                   | 0,8       | PT 1/4"      | 6,5              | 80                |
| RRI-60S | 3/8"         | 8-10             | 6.000 | 22 - 35         | 6,2                   | 0,86      | PT 1/4"      | 8                | 80                |
| RRI-70S | 3/8"         | 10               | 5.000 | 31 - 47         | 6,2                   | 0,97      | PT 1/4"      | 8                | 80                |

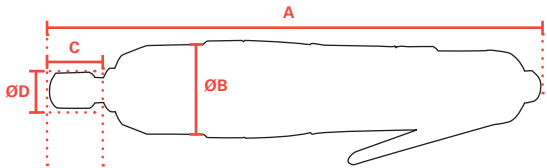


### CUSTOM MADE PRODUCTS

See page 41 for impulse wrenches tailored to your specific needs.

### DIMENSIONS

| Type     | A mm | B mm | C mm | D mm  |
|----------|------|------|------|-------|
| RRI-30SA | 219  | Ø46  | 21   | Ø17,5 |
| RRI-40SA | 224  | Ø46  | 27   | Ø17,5 |
| RRI-50SA | 224  | Ø46  | 27   | Ø17,5 |
| RRI-60SA | 235  | Ø46  | 27   | Ø17,5 |
| RRI-70SA | 244  | Ø48  | 27   | Ø17,5 |
| RRI-30S  | 219  | Ø46  | 24   | Ø12   |
| RRI-40S  | 221  | Ø46  | 24   | Ø12   |
| RRI-50S  | 221  | Ø46  | 24   | Ø12   |
| RRI-60S  | 221  | Ø46  | 24   | Ø12   |
| RRI-70S  | 244  | Ø48  | 25   | Ø12   |





# NON SHUT OFF IMPULSE WRENCHES



## RRI Series: Angle Models



### 1/4" Hex drive

| Type     | Hex drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|----------|-----------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-50RA | 1/4"      | 6-8              | 4.300 | 9,5 - 16        | 4,8                   | 1,2       | PT 1/4"      | 6,5              | 80                |
| RRI-60RA | 1/4"      | 8                | 4.700 | 15 - 22         | 6,2                   | 1,3       | PT 1/4"      | 8                | 80                |
| RRI-70RA | 1/4"      | 8                | 4.500 | 20 - 29         | 6,2                   | 1,4       | PT 1/4"      | 8                | 80                |



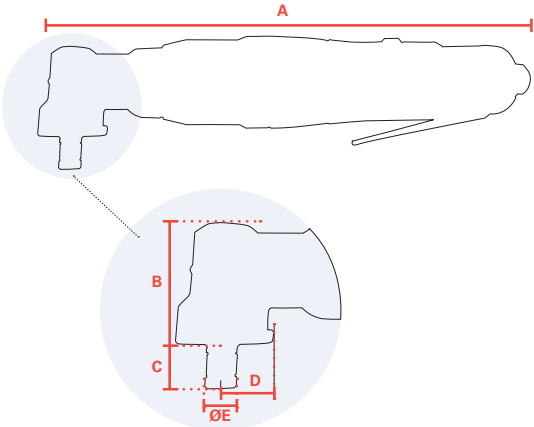
### 1/2" - 3/8" Squaredrive

| Type     | Square drive | Bolt capacity mm | RPM   | Torque range Nm | Air consumption l/sec | Weight kg | Inlet-thread | Hose diameter mm | Noise-level dB(A) |
|----------|--------------|------------------|-------|-----------------|-----------------------|-----------|--------------|------------------|-------------------|
| RRI-50R  | 3/8"         | 6-8              | 4.300 | 10,5 - 17       | 4,8                   | 1,2       | PT 1/4"      | 6,5              | 80                |
| RRI-60R  | 3/8"         | 8                | 4.700 | 16 - 24         | 6,2                   | 1,3       | PT 1/4"      | 8                | 80                |
| RRI-70R  | 3/8"         | 8-10             | 4.500 | 22 - 31         | 6,2                   | 1,4       | PT 1/4"      | 8                | 80                |
| RRI-70RG | 3/8"         | 10               | 2.000 | 34 - 50         | 6,2                   | 1,6       | PT 1/4"      | 8                | 82                |
| RRI-70RH | 1/2"         | 10 - 12          | 2.200 | 46 - 60         | 6,2                   | 1,6       | PT 1/4"      | 8                | 82                |



**CUSTOM MADE PRODUCTS**  
See page 41 for impulse wrenches tailored to your specific needs.

| DIMENSIONS |      |      |      |      |      |
|------------|------|------|------|------|------|
| Type       | A mm | B mm | C mm | D mm | E mm |
| RRI-50RA   | 253  | 45   | 16   | 16   | Ø11  |
| RRI-60RA   | 264  | 45   | 16   | 16   | Ø11  |
| RRI-70RA   | 272  | 45   | 16   | 16   | Ø11  |
| RRI-50R    | 253  | 45   | 14   | 16   | Ø12  |
| RRI-60R    | 264  | 45   | 14   | 16   | Ø12  |
| RRI-70R    | 272  | 45   | 14   | 16   | Ø12  |
| RRI-70RG   | 281  | 47   | 14   | 21   | Ø12  |
| RRI-70RH   | 281  | 47   | 21   | 21   | Ø16  |



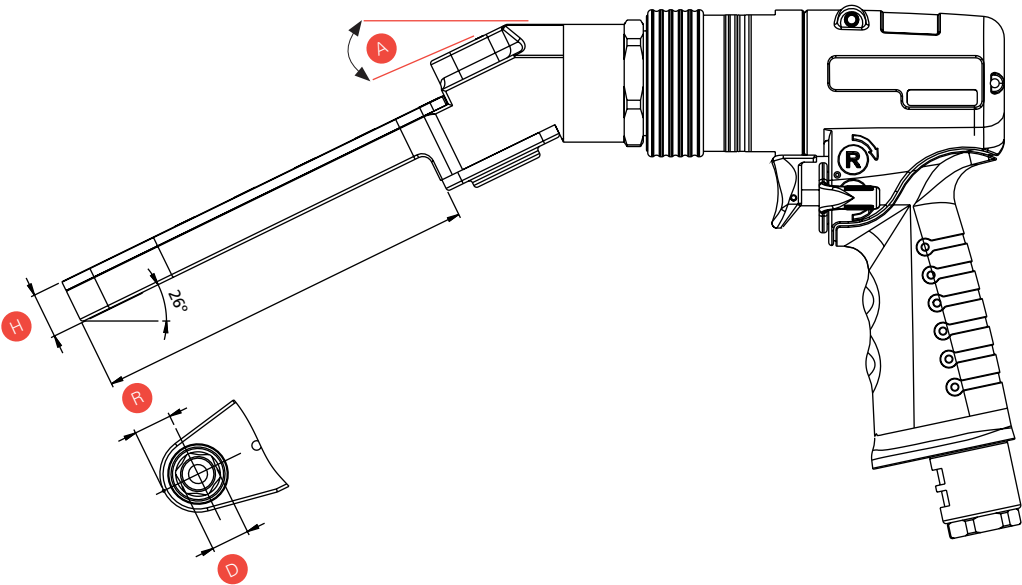
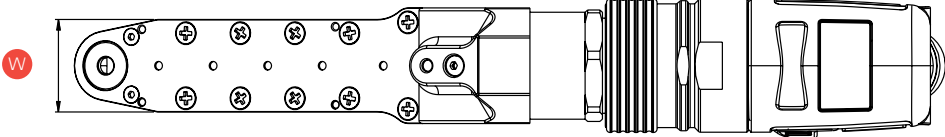
# IMPULSE WRENCHES



## Custom Made Products

For narrow space applications we offer geared offset tools with a torque range of 6-300 Nm.

- Installation in places where access is restricted.
- Flat output with non shut-off impulse wrench



Please fill this form and contact us with your request for a tailor-made solution

| Torque Nm | Pistol model<br>Straight model<br>Angle model                                                          | W*       | A                                                                                           | D*<br>Hexagon<br>dimension | H*       | L*       | R*       |
|-----------|--------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------|----------------------------|----------|----------|----------|
|           | <input type="checkbox"/> Pistol<br><input type="checkbox"/> Straight<br><input type="checkbox"/> Angle | ..... mm | <input type="checkbox"/> 0°<br><input type="checkbox"/> 26°<br><input type="checkbox"/> 90° | ○ ..... mm                 | ..... mm | ..... mm | ..... mm |

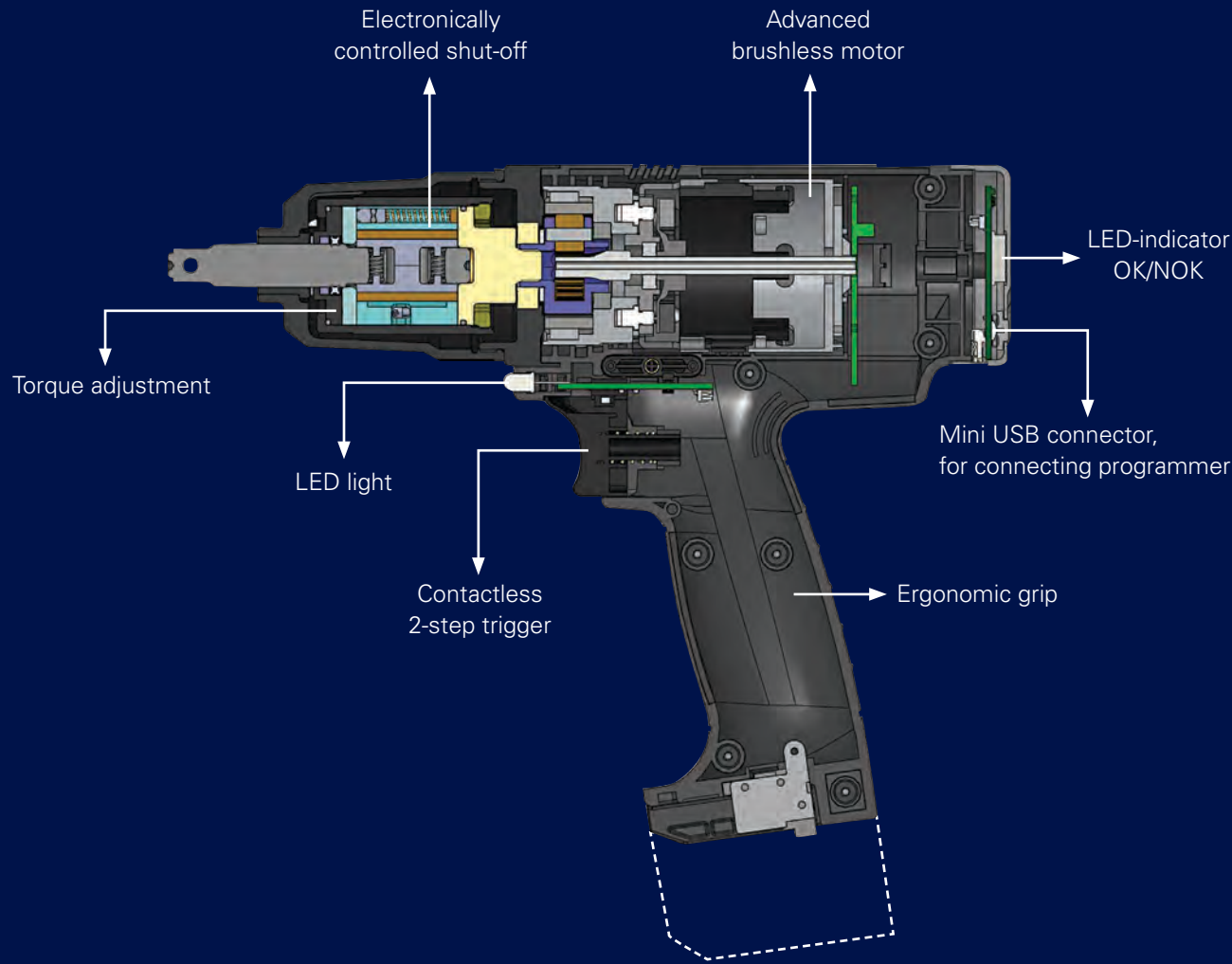
\* Maximum dimensions

## EXAMPLES



# CORDLESS IMPULSE WRENCHES

## Main Features



# SHUT OFF IMPULSE WRENCHES

## RRI-BIM Series: Cordless

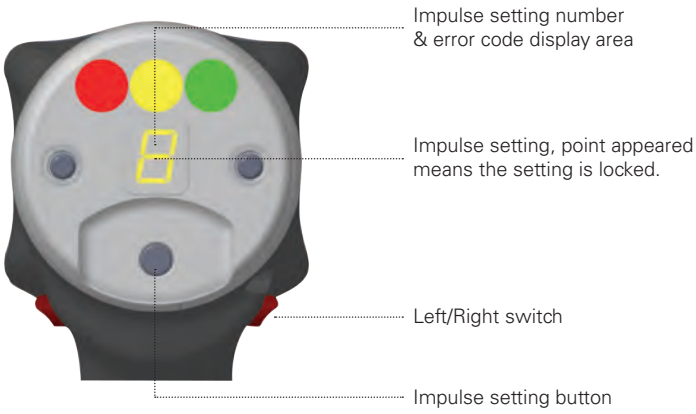
### LED INDICATOR OK/NOK

#### BLOCKING ADJUSTMENT OF THE SHUT-OFF

- Remove battery
- Mount battery and simultaneously push trigger and L/R
- Switch until sound signal (5 seconds), then release trigger and L/R Switch.
- Deblocking = same

#### BLOCKING UN-TIGHTENING

- Remove battery
- Mount battery and simultaneously push trigger and L/R
- Switch until sound signal (5 seconds)
- Deblocking = same



FLASHING YELLOW + FLASHING GREEN reverse operation



GREEN tightening OK



RED tightening NOK



FLASHING YELLOW low battery warning

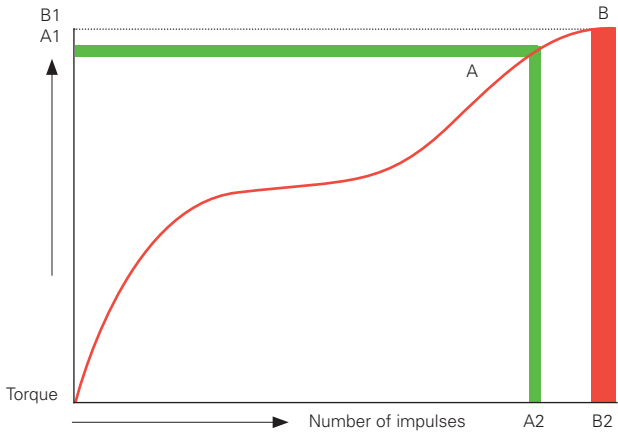


YELLOW change battery



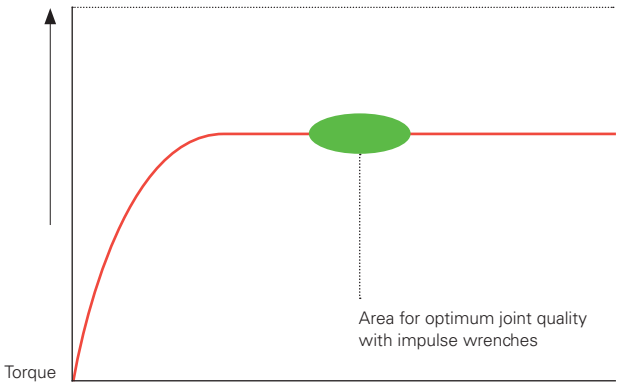
ALUMINIUM COVER FOR EXTRA PROTECTION See accessoires on page 30.

### MECHANICAL SHUT-OFF OR ELECTRONIC CONTROLLED SHUT-OFF IMPULSE WRENCHES



A: shut-off area of mechanical shut-off impulse wrenches  
B: shut-off area of electronic controlled shut-off impulse wrenches. Optimum tension with lower relaxation.

### JOINT QUALITY



For hard joints: numerical setting: (2-3-4)  
For middle soft joints: numerical setting: (4-5-6)  
For soft joints: numerical setting: (6-7-8-9)



# SHUT OFF IMPULSE WRENCHES

## RRI-BIM Series: Cordless

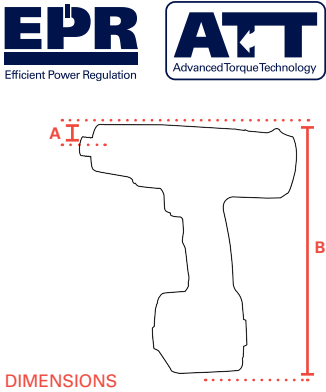
These cordless shut-off impulse wrenches combine high tightening speeds with high accuracy and no reaction force. The no tightening functionality when the battery charge is low improves the process safety. Very well suited for areas where cables and hoses impede handling flexibility of tools, such as interiors of cars, coaches and trains.

**CHARACTERISTICS**

- Brushless motor
- 18 Volt Lithium-Ion battery (choice for 2,0 Ah or 4,0 Ah capacity)
- LED status indicates: Reverse, OK, NOK, Battery low
- Torque adjustable
- Fine-tuning on hardness of the joint, electronically
- Non-contact trigger with 2 steps
- Run-down speed up to 4.500 RPM

Battery, charger, programmer and power cord have to be ordered separately. See page 52.

| Type        | Square/Hex drive | Torque Nm | RPM   | Weight kg | Dimensions A mm | B mm |
|-------------|------------------|-----------|-------|-----------|-----------------|------|
| RRI-BIM15AT | 1/4" Hex         | 7 - 15    | 4.500 | 1,16      | 29              | 227  |
| RRI-BIM15T  | 3/8" Square      | 8 - 15    | 4.500 | 1,16      | 29              | 224  |
| RRI-BIM25AT | 1/4" Hex         | 14 - 23   | 4.500 | 1,18      | 29              | 237  |
| RRI-BIM25T  | 3/8" Square      | 15 - 25   | 4.500 | 1,18      | 29              | 234  |
| RRI-BIM35T  | 3/8" Square      | 22 - 35   | 3.500 | 1,36      | 29              | 234  |
| RRI-BIM45T  | 3/8" Square      | 32 - 45   | 3.500 | 1,42      | 29              | 244  |
| RRI-BIM65T  | 1/2" Square      | 45 - 65   | 3.200 | 1,90      | 29              | 244  |



**CHARACTERISTICS**



**ACCESSORIES**

|  |  |  |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Rubber protection cover                                                             | Aluminium cover                                                                       | Service Kit                                                                           |
| Rubber protection cover                                                             |                                                                                       | Order number                                                                          |
| RRI-BIM15T (AT)                                                                     |                                                                                       | C16PW-15                                                                              |
| RRI-BIM25T (AT)                                                                     |                                                                                       | C16PW-25                                                                              |
| RRI-BIM35T                                                                          |                                                                                       | C16PW-25                                                                              |
| RRI-BIM45T                                                                          |                                                                                       | C16PW-45                                                                              |
| RRI-BIM65T                                                                          |                                                                                       | C16PW65                                                                               |
| Aluminium cover                                                                     |                                                                                       | Order number                                                                          |
| RRI-BIM serie                                                                       |                                                                                       | B10PW15                                                                               |
| Service Kits:                                                                       |                                                                                       | Order number                                                                          |
| RRI-BIM15T (AT)                                                                     |                                                                                       | I40RK                                                                                 |
| RRI-BIM25T (AT)                                                                     |                                                                                       | I70RK                                                                                 |
| RRI-BIM35T                                                                          |                                                                                       | I70RK                                                                                 |
| RRI-BIM45T                                                                          |                                                                                       | I80RK-YO                                                                              |
| RRI-BIM65T                                                                          |                                                                                       | 32399-001                                                                             |

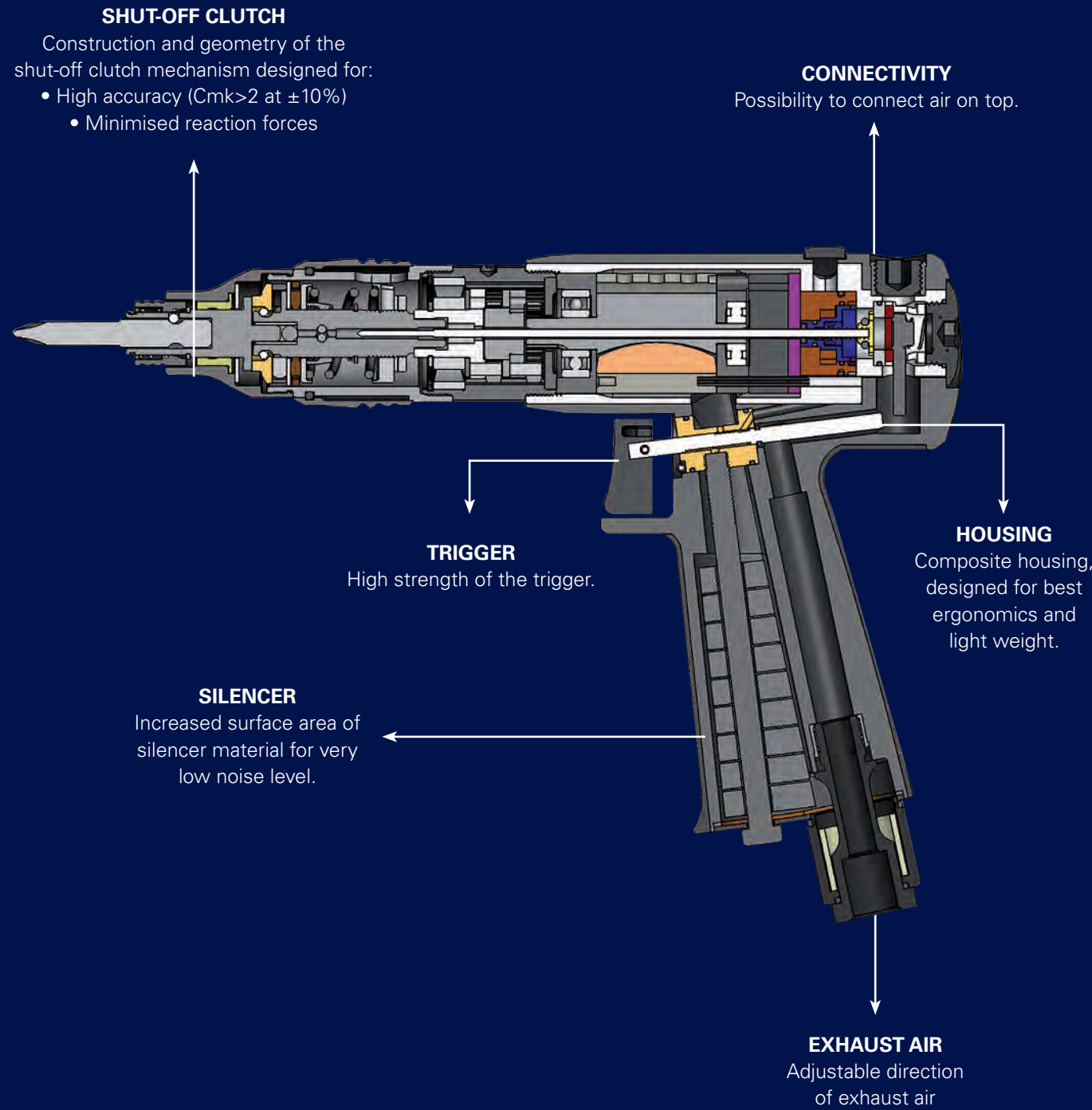




# PNEUMATIC SCREWDRIVERS



## Main features



# SHUT OFF SCREWDRIVERS



## RRI-S Series: Pistol Models

These RED ROOSTER shut-off screwdrivers have a large torque-range, are highly accurate, have a low vibration and noise level and a very ergonomic design. The special design of the clutch combines low reaction forces with a high repeatability of the torque. This air tool is designed for the assembly industry, where threaded fasteners are used. The wide range of different speeds always allows the best choice for the application. Low speed for plastics and hose clamps, high speeds for machined screws.



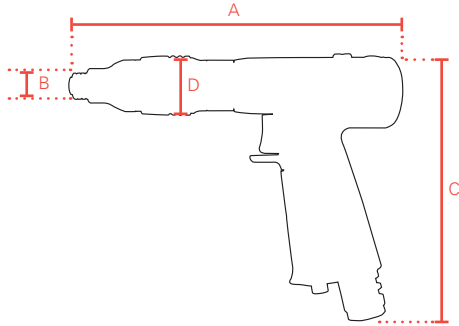
- CHARACTERISTICS**
- Composite housing
  - Reversible
  - Rear-exhaust, silenced
  - Ergonomic grip, trigger start
  - Easily adjustable
  - Pistol model air on top
  - Large torque range
  - Delivery includes hanger
  - Side grip delivered with size 3 tools

| Type        | Brand | Hex drive | Bolt capacity mm | RPM   | Torque Nm | Air-cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise level dB(A) |
|-------------|-------|-----------|------------------|-------|-----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-SP10502 | RRI   | 1/4" Hex  | 4                | 550   | 1,0 - 2,5 | 8             | 0,77      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SP11602 | RRI   | 1/4" Hex  | 4                | 1.600 | 0,4 - 1,8 | 8             | 0,77      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SP10902 | RRI   | 1/4" Hex  | 4                | 900   | 0,4 - 2,2 | 8             | 0,77      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SP21704 | RRI   | 1/4" Hex  | 4                | 1.700 | 1 - 3,5   | 10            | 0,98      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SP21104 | RRI   | 1/4" Hex  | 4                | 1.100 | 1,5 - 4   | 10            | 0,98      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SP20705 | RRI   | 1/4" Hex  | 4                | 700   | 1,5 - 4,5 | 10            | 0,98      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SP31706 | RRI   | 1/4" Hex  | 5                | 1.700 | 3,5 - 5,2 | 12            | 1,1       | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SP31108 | RRI   | 1/4" Hex  | 5                | 1.100 | 3,5 - 6,3 | 12            | 1,1       | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SP30710 | RRI   | 1/4" Hex  | 6                | 700   | 3,5 - 8,2 | 12            | 1,1       | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SP30511 | RRI   | 1/4" Hex  | 6                | 550   | 3,5 - 10  | 12            | 1,1       | 1/4"         | 6,5              | <2,5           | 72                |

\* The indicated torque levels are measured on hard joints.

### DIMENSIONS

| Type        | A mm | B mm | C mm | Ø D mm | Size |
|-------------|------|------|------|--------|------|
| RRI-SP10502 | 198  | 16   | 157  | 31     | 1    |
| RRI-SP11602 | 198  | 16   | 157  | 31     | 1    |
| RRI-SP10902 | 198  | 16   | 157  | 31     | 1    |
| RRI-SP21704 | 209  | 18   | 157  | 34,5   | 2    |
| RRI-SP21104 | 209  | 18   | 157  | 34,5   | 2    |
| RRI-SP20705 | 209  | 18   | 157  | 34,5   | 2    |
| RRI-SP31706 | 238  | 18   | 156  | 34,5   | 3    |
| RRI-SP31108 | 238  | 18   | 157  | 34,5   | 3    |
| RRI-SP30710 | 238  | 18   | 157  | 34,5   | 3    |
| RRI-SP30511 | 238  | 18   | 157  | 34,5   | 3    |



### ACCESSORIES



Side grip for Size 2 & 3 tools  
Order number: 766-027\*  
\* At size 3 supplied as standard



Torque adjustment key  
Order number: 00-4507\*  
\* Supplied as standard



Tool holder  
Order number: 61022-TH001



# SHUT OFF SCREWDRIVERS



## RRI-S Series: Straight Models

CHARACTERISTICS

- New straight design with soft grip
- Reversible
- Rear-exhaust, silenced
- Ergonomic grip, lever start or push start
- Easily adjustable
- Delivery includes hanger
- Large torque range
- Side grip delivered with size 3 tools



SHUT-OFF SCREWDRIVERS PUSH START TYPE

| Type        | Brand | Hex drive | Bolt capacity mm | RPM   | Torque Nm | Air-cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise level dB(A) |
|-------------|-------|-----------|------------------|-------|-----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-SD11602 | RRI   | 1/4" Hex  | 4                | 1.600 | 0,4 - 1,8 | 8             | 0,54      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SD10902 | RRI   | 1/4" Hex  | 4                | 900   | 0,4 - 2,2 | 8             | 0,54      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SD21704 | RRI   | 1/4" Hex  | 4                | 1.700 | 1 - 3,5   | 10            | 0,77      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SD21104 | RRI   | 1/4" Hex  | 4                | 1.100 | 1,5 - 4   | 10            | 0,77      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SD20705 | RRI   | 1/4" Hex  | 4                | 700   | 1,5 - 4,5 | 10            | 0,77      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SD31706 | RRI   | 1/4" Hex  | 5                | 1.700 | 3,5 - 5,2 | 12            | 0,89      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SD31108 | RRI   | 1/4" Hex  | 5                | 1.100 | 3,5 - 6,3 | 12            | 0,89      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SD30710 | RRI   | 1/4" Hex  | 6                | 700   | 3,5 - 8,2 | 12            | 0,89      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SD30511 | RRI   | 1/4" Hex  | 6                | 550   | 3,5 - 10  | 12            | 0,89      | 1/4"         | 6,5              | <2,5           | 72                |

SHUT-OFF SCREWDRIVERS LEVER START TYPE

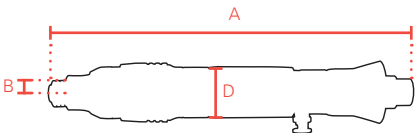
| Type        | Brand | Hex drive | Bolt capacity mm | RPM   | Torque Nm | Air-cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise level dB(A) |
|-------------|-------|-----------|------------------|-------|-----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-SL11602 | RRI   | 1/4" Hex  | 4                | 1.600 | 0,4 - 1,8 | 8             | 0,59      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SL10902 | RRI   | 1/4" Hex  | 4                | 900   | 0,4 - 2,2 | 8             | 0,59      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SL21704 | RRI   | 1/4" Hex  | 4                | 1.700 | 1 - 3,5   | 10            | 0,84      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SL21104 | RRI   | 1/4" Hex  | 4                | 1.100 | 1,5 - 4   | 10            | 0,84      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SL20705 | RRI   | 1/4" Hex  | 4                | 700   | 1,5 - 4,5 | 10            | 0,84      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SL31706 | RRI   | 1/4" Hex  | 5                | 1.700 | 3,5 - 5,2 | 12            | 0,93      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SL31108 | RRI   | 1/4" Hex  | 5                | 1.100 | 3,5 - 6,3 | 12            | 0,93      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SL30710 | RRI   | 1/4" Hex  | 6                | 700   | 3,5 - 8,2 | 12            | 0,93      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SL30511 | RRI   | 1/4" Hex  | 6                | 550   | 3,5 - 10  | 12            | 0,93      | 1/4"         | 6,5              | <2,5           | 72                |

\* The indicated torque levels are measured on hard joints.

DIMENSIONS

| Type        | A mm | B mm | Ø D mm | Size |
|-------------|------|------|--------|------|
| RRI-SD11602 | 228  | 16   | 31     | 1    |
| RRI-SD10902 | 228  | 16   | 31     | 1    |
| RRI-SD21704 | 244  | 18   | 34,5   | 2    |
| RRI-SD21104 | 244  | 18   | 34,5   | 2    |
| RRI-SD20705 | 244  | 18   | 34,5   | 2    |
| RRI-SD31706 | 276  | 18   | 34,5   | 3    |
| RRI-SD31108 | 276  | 18   | 34,5   | 3    |
| RRI-SD30710 | 276  | 18   | 34,5   | 3    |
| RRI-SD30511 | 276  | 18   | 34,5   | 3    |

| Type        | A mm | B mm | Ø D mm | Size |
|-------------|------|------|--------|------|
| RRI-SL11602 | 244  | 16   | 31     | 1    |
| RRI-SL10902 | 244  | 16   | 31     | 1    |
| RRI-SL21704 | 263  | 18   | 34,5   | 2    |
| RRI-SL21104 | 263  | 18   | 34,5   | 2    |
| RRI-SL20705 | 263  | 18   | 34,5   | 2    |
| RRI-SL31706 | 263  | 18   | 34,5   | 3    |
| RRI-SL31108 | 309  | 18   | 34,5   | 3    |
| RRI-SL30710 | 309  | 18   | 34,5   | 3    |
| RRI-SL30511 | 309  | 18   | 34,5   | 3    |



For torque adjustment key and side grip for screwdrivers with size 3 see page 47.

# SHUT OFF SCREWDRIVERS



## RRI-S Series: Angle Models

CHARACTERISTICS

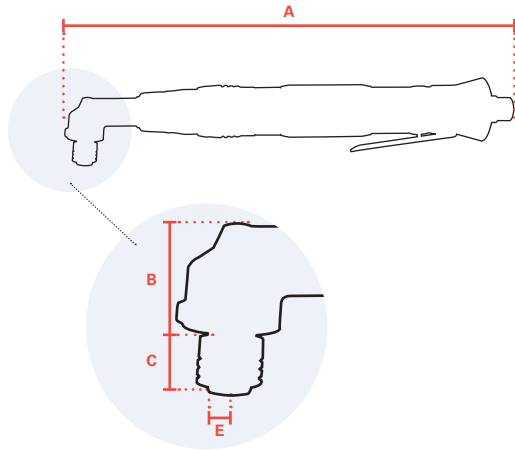
- New angled body-design with soft grip
- Reversible
- Rear-exhaust, silenced
- Ergonomic grip, lever start
- Easily adjustable
- Delivery includes hanger
- Large torque range



| Type         | Brand | Square/ Hex drive | Bolt capacity mm | RPM   | Torque Nm | Air-cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise level dB(A) |
|--------------|-------|-------------------|------------------|-------|-----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-SA11602  | RRI   | 1/4" Hex          | 4                | 1.600 | 0,4 - 1,8 | 8             | 0,82      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SA10902  | RRI   | 1/4" Hex          | 4                | 900   | 0,4 - 2,2 | 8             | 0,82      | 1/4"         | 6,5              | <2,5           | 68                |
| RRI-SA21704  | RRI   | 1/4" Hex          | 4                | 1.700 | 1 - 3,5   | 10            | 1,02      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SA21104  | RRI   | 1/4" Hex          | 4                | 1.100 | 1,5 - 4   | 10            | 1,02      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SA20705  | RRI   | 1/4" Hex          | 4                | 700   | 1,5 - 4,5 | 10            | 1,02      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SA31108  | RRI   | 1/4" Hex          | 5                | 1.100 | 3,5 - 6,3 | 12            | 1,36      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SA30710  | RRI   | 1/4" Hex          | 6                | 700   | 3,5 - 7,2 | 12            | 1,36      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SA30511  | RRI   | 1/4" Hex          | 6                | 550   | 3,5 - 10  | 12            | 1,36      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SA31108W | RRI   | 3/8" Square       | 5                | 1.100 | 3,5 - 6,3 | 12            | 1,36      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SA30710W | RRI   | 3/8" Square       | 6                | 700   | 3,5 - 8,2 | 12            | 1,36      | 1/4"         | 6,5              | <2,5           | 72                |
| RRI-SA30511W | RRI   | 3/8" Square       | 6                | 550   | 3,5 - 10  | 12            | 1,36      | 1/4"         | 6,5              | <2,5           | 72                |

DIMENSIONS

| Type         | A mm | B mm | C mm | E mm |
|--------------|------|------|------|------|
| RRI-SA11602  | 294  | 29   | 16,1 | 12   |
| RRI-SA10902  | 294  | 29   | 16,1 | 12   |
| RRI-SA21704  | 314  | 29   | 16,1 | 12   |
| RRI-SA21104  | 314  | 29   | 16,1 | 12   |
| RRI-SA20705  | 314  | 30,5 | 15,8 | 13,5 |
| RRI-SA31108  | 350  | 30,5 | 15,8 | 13,5 |
| RRI-SA30710  | 350  | 30,5 | 15,8 | 13,5 |
| RRI-SA30511  | 350  | 30,5 | 15,8 | 13,5 |
| RRI-SA31108W | 350  | 30,5 | 15,8 | 13,5 |
| RRI-SA30710W | 350  | 30,5 | 15,8 | 13,5 |
| RRI-SA30511W | 350  | 30,5 | 15,8 | 13,5 |



ACCESSORIES

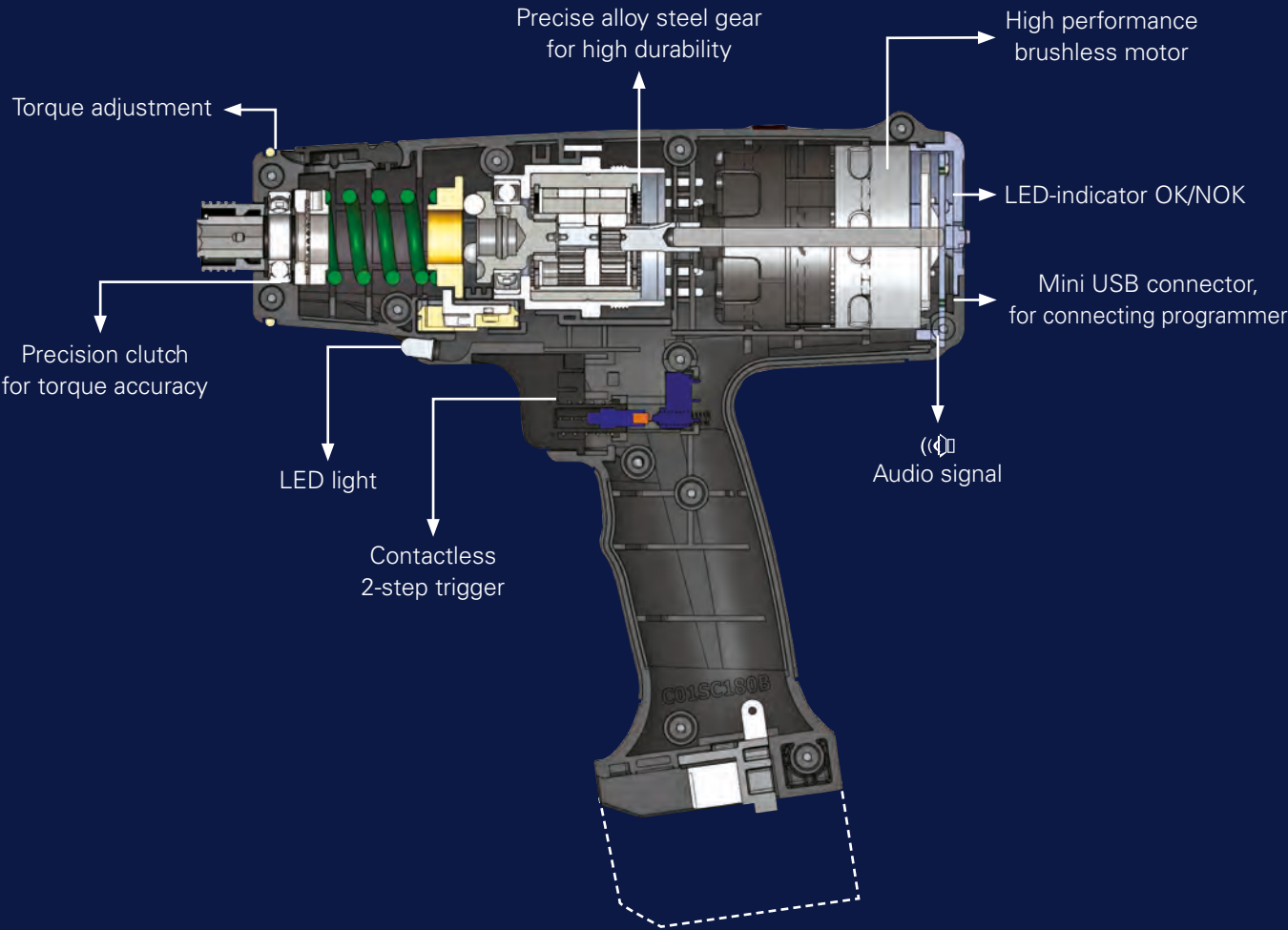


Torque adjustment tool  
Order number: 00-4507\*  
\* Supplied as standard

# CORDLESS SCREWDRIVERS



## Main features



# SHUT OFF SCREWDRIVERS



## RRI-BS Series: Cordless

The Red Rooster cordless shut-off screwdriver is very well suited for assembly applications with a need for good torque accuracy. Especially in areas where cables and hoses impede handling flexibility, such as interiors of cars, coaches and trains.

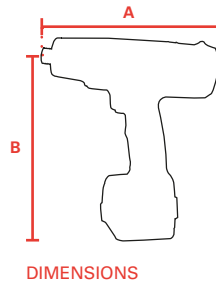
### CHARACTERISTICS

- Torque accuracy: meet ISO 5393 Cmk>2 at  $\pm 10\%$  tolerance.
- Precision clutch with low reaction forces.
- Trigger repeat protection avoids "double hits".
- Brushless motor: ensures low maintenance.
- Highly durable gear: ensures low maintenance.
- Precision shut-off clutch: ensures quality in tightening.
- Ergonomic rubber grip: ensures operator performance.
- Delivery includes hanger bracket.



| Type     | Volt V | Drive size | Screw size mm | Torque range Nm | RPM      | Weight (w/o battery) kg | Dimensions A mm | B mm |
|----------|--------|------------|---------------|-----------------|----------|-------------------------|-----------------|------|
| RRI-BS3  | 18 V   | 1/4" Hex   | M3 - M4       | 0,8-3           | 500-1550 | 0,95                    | 203             | 238  |
| RRI-BS6  | 18 V   | 1/4" Hex   | M3 - M5       | 1-6             | 300-900  | 0,95                    | 203             | 238  |
| RRI-BS9  | 18 V   | 1/4" Hex   | M3 - M5       | 1,5-9           | 300-700  | 0,95                    | 203             | 238  |
| RRI-BS12 | 18 V   | 1/4" Hex   | M4 - M6       | 2-12            | 250-550  | 0,95                    | 203             | 238  |

Battery, charger, programmer and power cord have to be ordered separately, see page 52.



### PROGRAMMER



### FEATURES

- One programmer fits all RRI-BS series tools
- Easy to set the tool speed:
  - high speed for metallic assemblies
  - medium speed for plastic assemblies
  - low speed for special assemblies
- Total used time memory function
- Total count memory function
- Operation count memory function
- Tool identification number

- A green light tells the operator that the preset torque is reached and the tightening is OK.
- A red light and one long "beep" sound tells the operator that the preset torque is not reached, tightening must be performed again.
- A flashing yellow light and five short "beep" sounds give an early warning when it is time to recharge the battery.
- A yellow light and one long "beep" sound means the battery is empty and the tool can't operate. A fully charged battery should be placed to continue working.

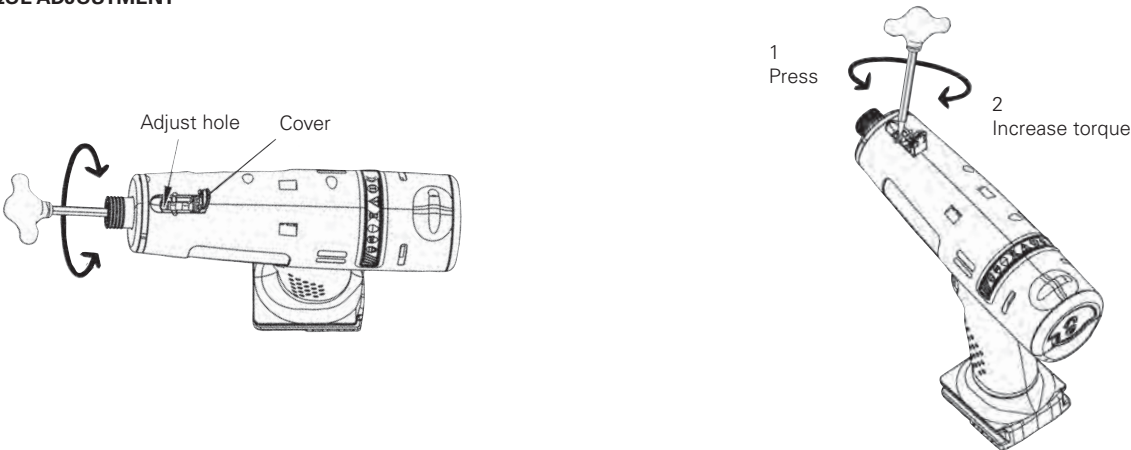


# SHUT OFF SCREWDRIVERS

RRI-BS Series: Cordless



TORQUE ADJUSTMENT



1. Lift the torque adjustment over. Take the torque adjust tool and insert it to the quick change holder and turn until the adjust hole shows up.
2. Use the torque adjust tool to turn clockwise to increase torque and turn counter clockwise to decrease torque.

**NOTE**  
To avoid danger during the adjustment process, the battery pack must be removed before adjusting the torque.

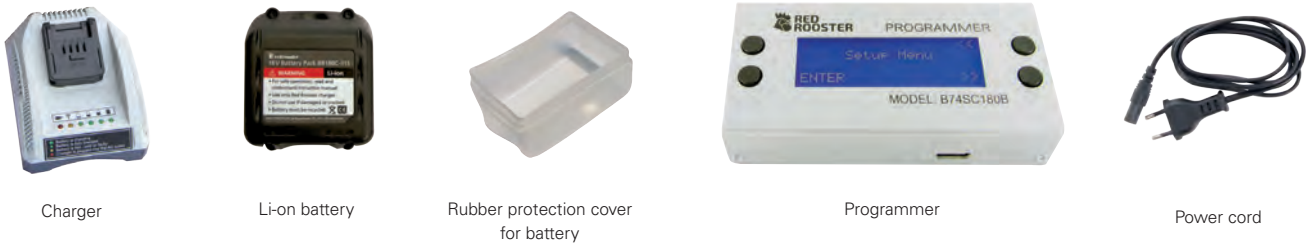
APPLICATIONS

- Assembly applications where torque accuracy is required.
- Areas where pneumatic or electric tools are impractical to use due to hoses/cables.
- Especially used on car interior assembly.
- Attaching components to the dashboard.
- Hose clips on turbo chargers and air intakes, heating and climate systems and coolant circuits.
- Assembly of components in switch cabinets.

ACCESSORIES



LI-ION BATTERY, CHARGER, PROGRAMMER, POWER CORD & RUBBER PROTECTION COVER FOR BATTERY



| Type                                         | Order number |
|----------------------------------------------|--------------|
| Charger (40 min.)                            | B84192B      |
| Li-Ion battery 18V 2 Ah                      | BB180C-320   |
| Li-Ion battery 18V 4 Ah                      | BB180C-340   |
| Rubber protection cover for battery 18V 2 Ah | C16180C-20   |
| Rubber protection cover for battery 18V 4 Ah | C16180C-40   |

# CORDLESS WRENCHES



Main Features



# SHUT OFF ANGLE WRENCHES



RRI-BA Series: Cordless

These RED ROOSTER cordless angle wrenches with automatic shut-off are very well suited for assembly applications with a need of good torque accuracy. Especially for applications in areas where cables and hoses impede handling flexibility, such as interiors of cars, coaches and trains.



CHARACTERISTICS

- Brushless motor
- 18 Volt Lithium-Ion battery
- LED status indicates  
OK - NOK - REVERSE - BATTERY LOW
- Adjustable torque
- Speed 90 to 1000 RPM
- Compact and light weight
- Color ring for torque setting indication

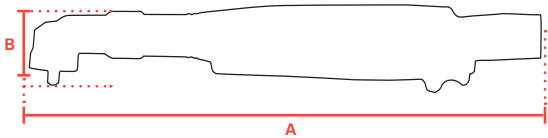


Custom made angle wrenches  
See page 55 for cordless angle wrenches tailored to your specific needs.

| Type       | Battery voltage | Battery type       | Square drive | Bolt capacity mm | RPM       | Torque Nm | Weight kg | Vibration m/s² | Noise level dB(A) |
|------------|-----------------|--------------------|--------------|------------------|-----------|-----------|-----------|----------------|-------------------|
| RRI-BA10S3 | 18 V            | Li-Ion 2 AH / 4 AH | 3/8"         | 4-5              | 400-1.000 | 3-12      | 1,50      | <2,5           | <75               |
| RRI-BA16S3 | 18 V            | Li-Ion 2 AH / 4 AH | 3/8"         | 5-6              | 300-600   | 5-18      | 1,50      | <2,5           | <75               |
| RRI-BA30S3 | 18 V            | Li-Ion 2 AH / 4 AH | 3/8"         | 6-8              | 250-450   | 8-30      | 1,50      | <2,5           | <75               |
| RRI-BA35S3 | 18 V            | Li-Ion 2 AH / 4 AH | 3/8"         | 6-8              | 200-350   | 10-35     | 1,60      | <2,5           | <75               |
| RRI-BA50S3 | 18 V            | Li-Ion 2 AH / 4 AH | 3/8"         | 6-10             | 200       | 10-50     | 2,00      | <2,5           | <75               |
| RRI-BA70S3 | 18 V            | Li-Ion 2 AH / 4 AH | 3/8"         | 8-12             | 170       | 20-70     | 2,50      | <2,5           | <75               |
| RRI-BA90S4 | 18 V            | Li-Ion 2 AH / 4 AH | 1/2"         | 8-12             | 90        | 30 - 90   | 2,50      | <2,5           | <75               |

Battery, charger, programmer and power cord have to be ordered separately, see page 52.

| DIMENSIONS        |      |      |
|-------------------|------|------|
| Type              | A mm | B mm |
| RRI-BA10S3        | 441  | 76   |
| RRI-BA16S3        | 441  | 76   |
| RRI-BA30S3        | 446  | 76   |
| RRI-BA35S3        | 446  | 76   |
| RRI-BA50S3        | 521  | 76,3 |
| RRI-BA70S3 / 90S4 | 535  | 76,3 |



# SHUT OFF ANGLE WRENCHES



Custom Made Products, Cordless, Angle Model

Angle Wrench with geared offset heads



Angle model closed



Angle model open

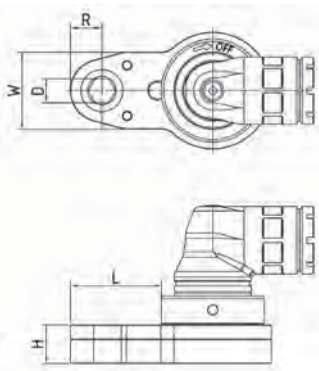


ANGLE MODEL

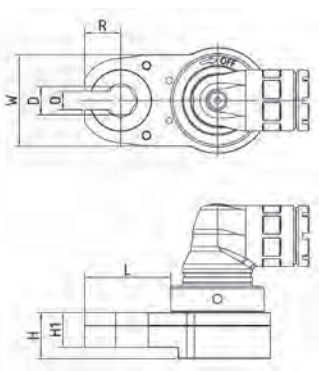
| Type        | Type   | Volt. V | Hex Dimension Max (mm) | Weight kg | Vibration m/s² | Noise level dB(A) | RPM | Torque range |
|-------------|--------|---------|------------------------|-----------|----------------|-------------------|-----|--------------|
| RRI-BA10BCA | closed | 18      | 12                     | 2         | <2.5           | <75               | 950 | 3-8          |
| RRI-BA16BCA | closed | 18      | 12                     | 2         | <2.5           | <75               | 600 | 5-13         |
| RRI-BA30BCA | closed | 18      | 12                     | 2         | <2.5           | <75               | 450 | 8-18         |
| RRI-BA35BCA | closed | 18      | 12                     | 2         | <2.5           | <75               | 350 | 10-24        |
| RRI-BA10BOA | open   | 18      | 19                     | 2,1       | <2.5           | <75               | 950 | 3-7          |
| RRI-BA16BOA | open   | 18      | 19                     | 2,1       | <2.5           | <75               | 600 | 5-12         |
| RRI-BA30BOA | open   | 18      | 19                     | 2,1       | <2.5           | <75               | 450 | 8-17         |
| RRI-BA35BOA | open   | 18      | 19                     | 2,1       | <2.5           | <75               | 350 | 10-23        |

Battery, charger, programmer and power cord have to be ordered separately, see page 52.

BC (closed)



BO (open)



Please specify your Hex dimension when ordering

| DIMENSIONS |    |    |      |      |      |    |    |
|------------|----|----|------|------|------|----|----|
| Model      | W  | D  | O    | R    | L    | H  | H1 |
| BC         | 32 | 11 | -    | 13,1 | 37,7 | 16 | -  |
| BO         | 40 | 13 | 10,2 | 17   | 40   | 21 | 16 |

CUSTOM MADE PRODUCTS

Please fill in the below form and contact us for your desired geared offset heads type power tool

| Model                       | Torque range Nm | W | D | O | R | L | L1 | H | H1 |
|-----------------------------|-----------------|---|---|---|---|---|----|---|----|
| <input type="checkbox"/> BC |                 |   |   |   |   |   |    |   |    |
| <input type="checkbox"/> BO |                 |   |   |   |   |   |    |   |    |



# SHUT OFF ANGLE WRENCHES



Custom made products, Cordless, In-line Model

Angle Wrench with geared offset heads



In-line model closed



In-line model open



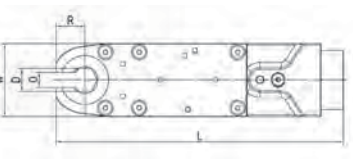
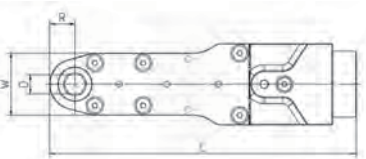
IN-LINE MODEL

| Type        | Type   | Volt V | Hex Dimension Max (mm) | Torque range Nm | RPM | Weight w/o Batt. kg | Vibration m/s2 | Noise level dB(A) |
|-------------|--------|--------|------------------------|-----------------|-----|---------------------|----------------|-------------------|
| RRI-BA10ICA | closed | 18     | 12                     | 5 ~ 11          | 620 | 2,2                 | <2,5           | <75               |
| RRI-BA16ICA | closed | 18     | 12                     | 8 ~ 17          | 380 | 2,2                 | <2,5           | <75               |
| RRI-BA30ICA | closed | 18     | 12                     | 11 ~ 23         | 300 | 2,2                 | <2,5           | <75               |
| RRI-BA35ICA | closed | 18     | 12                     | 14 ~ 31         | 220 | 2,2                 | <2,5           | <75               |
| RRI-BA10IOA | open   | 18     | 19                     | 7 ~ 13          | 420 | 2,3                 | <2,5           | <75               |
| RRI-BA16IOA | open   | 18     | 19                     | 10 ~ 22         | 270 | 2,3                 | <2,5           | <75               |
| RRI-BA30IOA | open   | 18     | 19                     | 13 ~ 28         | 200 | 2,3                 | <2,5           | <75               |
| RRI-BA35IOA | open   | 18     | 19                     | 16 ~ 38         | 160 | 2,3                 | <2,5           | <75               |

Battery, charger, programmer and power cord have to be ordered separately, see page 52.

IC (closed)

IO (open)



Please specify your Hex dimension when ordering

DIMENSIONS

| Model | W  | D  | O    | R    | L     | L1   | H  | H1 |
|-------|----|----|------|------|-------|------|----|----|
| IO    | 40 | 13 | 10,2 | 17   | 166,7 | 98,7 | 20 | 16 |
| IC    | 32 | 10 | -    | 13,1 | 159   | 91   | 16 | -  |

CUSTOM MADE PRODUCTS

Please fill in the below form and contact us for your desired geared offset heads type power tool

| Model                       | Torque range Nm | W | D | O | R | L | L1 | H | H1 |
|-----------------------------|-----------------|---|---|---|---|---|----|---|----|
| <input type="checkbox"/> IC |                 |   |   |   |   |   |    |   |    |
| <input type="checkbox"/> IO |                 |   |   |   |   |   |    |   |    |

# SHUT OFF IMPACT WRENCHES



RRI-BI Series: Cordless

The Red Rooster cordless impact wrench with electronic adjustable shut-off is very well suited for assembly applications with a need of good torque accuracy. Especially in areas where cables and hoses impede handling flexibility.

CHARACTERISTICS

- Brushless motor
- 20 Volt Lithium-Ion battery
- Dynapact impact mechanism
- LED status indicates OK - NOK - REVERSE - BATTERY LOW
- Adjustable torque (50 steps)
- Two step trigger
- Adjustable speed 1500 - 2000 - 2400 RPM
- Compact and light weight



50 programmable stage settings



| Type       | Battery voltage | Battery type | Square drive | Bolt capacity mm | Max. RPM | Torque Nm | Weight kg | Vibration m/s2 | Noise level dB(A) |
|------------|-----------------|--------------|--------------|------------------|----------|-----------|-----------|----------------|-------------------|
| RRI-BI32T  | 20 V            | Li-ion 2 AH  | 3/8" Square  | 6                | 2.400    | 6-32      | 1,0       | 7,8            | 93                |
| RRI-BI55T  | 20 V            | Li-ion 2 AH  | 3/8" Square  | 8                | 2.400    | 15-55     | 1,1       | 10,5           | 94                |
| RRI-BI100T | 20 V            | Li-ion 2 AH  | 1/2" Square  | 8-10             | 2.400    | 25-100    | 1,1       | 16,4           | 94                |
| RRI-BI120T | 20 V            | Li-ion 2 AH  | 1/2" Square  | 8-12             | 2.400    | 30-120    | 1,3       | 13,9           | 90                |

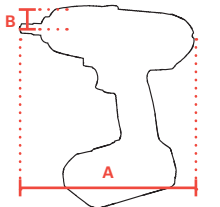
\*Battery and charger have to be ordered separately

CHARACTERISTICS



DIMENSIONS

| Type       | A mm | B mm |
|------------|------|------|
| RRI-BI32T  | 193  | 29   |
| RRI-BI55T  | 193  | 29   |
| RRI-BI100T | 198  | 29   |
| RRI-BI120T | 198  | 29   |



ACCESSORIES



| Type                            | Order number   |
|---------------------------------|----------------|
| Charger (40 min.)               | 31084-200E     |
| Li-Ion battery 20V 2.0Ah        | BB200E-320     |
| Li-Ion battery 20V 4.0Ah        | BB200E-340     |
| Protection cover RRI-BI serie   | 3116-IWCP-01   |
| Protection cover battery 2.0 Ah | 33116-B180E-01 |
| Protection cover battery 4.0 Ah | 33116-B180E-02 |

# RIVETERS

## Main Features



Pneumatic Riveters



# RIVETERS

## RRI Series



Pneumatic Riveters



RRI-PR40740



RRI-PR40948



RRI-PR41764



RRI-4010



RRI-4011

### CHARACTERISTICS

- Fast and powerful
- Low air consumption
- Ergonomic and lightweight
- Nose pieces for 4.0 and 4.8 mm
- With vacuum for vertical work
- Including keys, oiler, and rubber stand

## Rivet Nut Setter



RRI-PRN41612M

### CHARACTERISTICS

- fast and powerful
- low air consumption
- ergonomic and lightweight
- adapters for M4, M5, M6, M8, M10 and M12
- Including case, keys, oiler and rubber stand



RIVETERS

RRI Series

PNEUMATIC-HYDRAULIC RIVETERS WITH COLLECTOR

| Type        | Brand | Traction (kg) | Capacity rivets diameter | Air cons. l/stroke | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s2 | Noise level dB(A) |
|-------------|-------|---------------|--------------------------|--------------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-PR40740 | RRI   | 700           | 4,0                      | 1,50               | 1,7       | PT 1/4"      | 9,5              | 1,0            | 83                |
| RRI-PR40948 | RRI   | 920           | 4,8*                     | 1,2                | 1,9       | PT 1/4"      | 9,5              | 1,0            | 82                |
| RRI-PR41764 | RRI   | 1.700         | 6,4*                     | 1,6                | 2,5       | PT 1/4"      | 9,5              | 1,0            | 82                |
| RRI-4010    | RRI   | 900           | until 4,8                | 1,15               | 1,5       | PT 1/4"      | 6,5              | 1,5            | 76                |
| RRI-4011    | RRI   | 1.045         | until 6,4                | 1,80               | 2         | PT 1/4"      | 6,5              | 0,4            | 76                |

\* all materials

PNEUMATIC-HYDRAULIC RIVET NUT SETTER

| Type          | Brand | Traction (kg) | Capacity rivets diameter | Air cons. l/stroke | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s2 | Noise level dB(A) |
|---------------|-------|---------------|--------------------------|--------------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-PRN41612M | RRI   | 1.600         | M4-M12 (M12 at 7 bar)    | 1,5                | 2,2       | PT 1/4"      | 10               | 1,0            | 82                |

ACCESSORIES

RRI-PR40740

| Accessory       | Order number |
|-----------------|--------------|
| Nose piece for: |              |
| 3/32 (2,4mm)    | CP612703     |
| 3/16 (3,2mm)    | CP612704     |
| 5/32 (4,0mm)    | CP612705     |
| Service kit     | CP0715SK     |

RRI-PR41764

| Accessory         | Order number |
|-------------------|--------------|
| Nose piece for:   |              |
| 4,8 mm            | CP612706 *   |
| 6,4 mm            | CP612708 *   |
| 4,8 mm (Monobolt) | CP612746 *   |
| 6,4 mm (Monobolt) | CP612748 *   |
| Backen            | CP819303 *   |

RRI-4011

| Accessory                        | Order number |
|----------------------------------|--------------|
| Nose piece for:                  | 14463 *      |
| 2,4 mm                           | 14464 *      |
| 3,2 mm                           | 14465 *      |
| 4,0 mm                           | 14466 *      |
| 4,8 mm                           | 14468 *      |
| 6,4 mm                           | 612716 *     |
| 4,8 mm T-Rivet Female inlet body | 922A18 *     |
| Rivet deflector                  | 14470 *      |
| Multi-wrench A                   | 612904 *     |
| Set key B                        | 918905 *     |

\* Supplied as standard

RRI-PR40948

| Accessory         | Order number |
|-------------------|--------------|
| Nose piece for:   |              |
| 4,0 mm            | CP612705 *   |
| 4,8 mm            | CP612706 *   |
| 4,8 mm (Monobolt) | CP612746 *   |
| Backen            | CP12303 *    |

RRI-4010

| Accessory        | Order number |
|------------------|--------------|
| Nose piece for:  |              |
| - 3,2 mm         | 10416-1 *    |
| - 4,0 mm         | 10416-2 *    |
| - 4,8 mm         | 10416-3 *    |
| Bottle for spent |              |
| Rivets           | 10448 *      |
| Wrench           | 10447 *      |

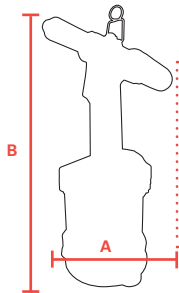
RRI-PRN41612M

| Accessory | Order number |
|-----------|--------------|
| Bolt M4:  | CP258A12 *   |
| Bolt M5:  | CP258A13 *   |
| Bolt M6:  | CP258A14 *   |
| Bolt M8:  | CP258A15 *   |
| Bolt M10: | CP258A16 *   |
| Bolt M12: | CP258A17 *   |

\* Supplied as standard

DIMENSIONS

| Type          | A mm | B mm |
|---------------|------|------|
| RRI-PR40740   | 301  | 274  |
| RRI-PR40948   | 290  | 320  |
| RRI-PR41764   | 329  | 350  |
| RRI-PRN41612M | 298  | 345  |
| RRI-4010      | 159  | 299  |
| RRI-4011      | 198  | 315  |



ACCESSORIES

Rubber protection covers & Service sets



RUBBER PROTECTION COVERS

| Type    | Order number |         |          |              |
|---------|--------------|---------|----------|--------------|
| RRI-30  | RRI-30T      | RRI-30A | RRI-30AT | I40-109-A05  |
| RRI-40  | RRI-40T      | RRI-40A | RRI-40AT |              |
| RRI-50  | RRI-50T      | RRI-50A | RRI-50AT |              |
| RRI-40X | RRI-40X      | RRI-50X | RRI-50AX | I40X-109     |
| RRI-60X | RRI-60AX     |         |          | I60X-109     |
| RRI-60  | RRI-60T      | RRI-60A | RRI-60AT | I60-109-A05  |
| RRI-70  | RRI-70T      |         |          | I70-109-A05  |
| RRI-80  | RRI-80T      |         |          | I80-109      |
| RRI-90  | RRI-90T      |         |          | I90-109-A05  |
| RRI-100 | RRI-100T     |         |          | I100-109-A05 |
| RRI-130 | RRI-130T     |         |          | I130-109-A05 |
| RRI-150 | RRI-150T     |         |          | I150-109-A05 |
| RRI-180 | RRI-180T     |         |          | I180-109-A05 |
| RRI-200 | RRI-200T     |         |          | I200-109     |

SERVICE SETS

You will need service sets with spare parts if you are going to change the oil. For quick service we advise you to use a vacuum pump (Y EVP-1\*) and oil tank (Y EVP-1T\*)

Always use oil with the right specifications when changing oil. Only then you will have a optimal tool power and a minimum oil consumption. We recommend RED ROOSTER oil for impulse wrenches: 01-0507. (p.130)

SERVICE SETS CONTAINING

O-rings, back up rings and springs for impulse mechanisms for oil change

SERVICE SETS

| Type      | Order number | Type       | Order number | Type     | Order number |
|-----------|--------------|------------|--------------|----------|--------------|
| RRI-30(X) | I30RK        | RRI-30A(X) | I30RK        | RRI-30T  | IS30RK       |
| RRI-40(X) | I40RK        | RRI-40A(X) | I40DRK       | RRI-40T  | IS40RK       |
| RRI-50(X) | I50RK        | RRI-50A(X) | I50DRK       | RRI-50T  | IS50RK       |
| RRI-60(X) | I60RK        | RRI-60A(X) | I60DRK       | RRI-60T  | IS60RK       |
| RRI-70    | I70RK        | RRI-70A    | I70DRK       | RRI-70T  | IS70RK       |
| RRI-80    | I80RK        | RRI-30SA   | I30SDRK      | RRI-80T  | IS80RK       |
| RRI-90    | I90RK        | RRI-40SA   | I40SDRK      | RRI-90T  | IS90RK       |
| RRI-100   | I100RK       | RRI-50SA   | I50SDRK      | RRI-100T | IS100RK      |
| RRI-130   | I130RK       | RRI-60SA   | I60SDRK      | RRI-130T | IS130RK      |
| RRI-150   | I150RK       | RRI-70SA   | I70SDRK      | RRI-150T | IS150RK      |
| RRI-180   | I180RK       | RRI-50R    | I50RRK       | RRI-180T | IS180RK      |
| RRI-200   | I200RK       | RRI-60R    | I60RRK       | RRI-200T | IS200RK      |
| RRI-30S   | I30SRK       | RRI-70R    | I70RRK       | RRI-30ST | IS30SRK      |
| RRI-40S   | I40SRK       | RRI-70RG   | I70RGRK      | RRI-40ST | IS40SRK      |
| RRI-50S   | I50SRK       | RRI-70RH   | I70RHRK      | RRI-50ST | IS50SRK      |
| RRI-60S   | I60SRK       | RRI-80RH   | I80RHRK      | RRI-60ST | IS60SRK      |
| RRI-70S   | I70SRK       | RRI-50RA   | I50RDRK      | RRI-70ST | IS70SRK      |
|           |              | RRI-60RA   | I60RDRK      | RRI-80ST | IS80SRK      |
|           |              | RRI-70RA   | I70RDRK      |          |              |

ACCESSORIES

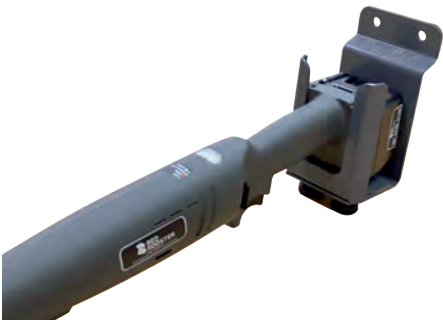
Tool Holder



| Order number | Ø     | For type                                                                                                                                                                                                                                                                                                                                     |
|--------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 61022-TH001  | 42 mm | RRI-SP11602, RRI-SP10902, RRI-SP21704, RRI-SP21104, RRI-SP20705, RRI-SP31706, RRI-SP31108, RRI-SP30710, RRI-SP30511, Y-41A(JQ), Y-46A(E)(JQ), Y-56A(E)(JQ), Y-61A(E)                                                                                                                                                                         |
| 61022-TH002  | 47 mm | YS-E600, YS-E800, YS-E900, YS-E950, Tka60(A), Tka70(A), Tka80(A), YEX120(A), YEX150(A), RRI-30T(AT), RRI-40T(AT), RRI-50T(AT), RRI-60T(AT), RRI-30(A), RRI-40X(AX), RRI-50X(A), RRI-60(AX), YLTX50A, YLTX60A, YLTX50E, YLTX60E, YLT60AL(EL), YLTx70A(E), YLT70AL(EL), YLa60A(JQ), YLa70A(JQ), YLa80A(JQ), YLa60E(JQ), YLa70E(JQ), YLa80E(JQ) |
| 61022-TH003  | 58 mm | RRI-BS3, RRI-BS6, RRI-BS9, RRI-BI32T, RRI-BI55T, RRI-BI100T RRI-BI120T, Tka600(A), Tka700(A), Tka800, Tka900, Tka90, Tka110, Tka120, RRI-70T(AT), RRI-80T, RRI-90T, RRI-70(A)/80/90, YLTX80E, YLT80EL, YLTX110E, YLT110EL, YLa90E, YLa110E, YLa120E, Y70E(JQ)                                                                                |
| 61022-TH004  | 73 mm | E-M500, E-M700, E-M900, E-M1100, Tka1110, Tka1200, Tka1400, Tka1500, Tka150, YEX-1400, RRI-100T, RRI-130T, RRI-150T, YLTX120E, YLT120EL, YLTX140E, YLT140EL, YLa140E, Y-140(JQ)                                                                                                                                                              |



| Order number | For type                                                          |
|--------------|-------------------------------------------------------------------|
| 61022-TH005  | RRI-BIM series<br>RRI-BS series<br>RRI-BI series<br>RRI-BA series |



ACCESSORIES

ACCESSORIES

For YZ-N and YZ-T series cordless tools



Li-ion-battery  
18 V/2.0 Ah



Charger  
AC100~240 Volt ±10%  
50/60Hz

| Type                              | Order number |
|-----------------------------------|--------------|
| Li-Ion-Battery (0,41 kg) 18V 2 Ah | BPL-1820     |
| Charger 18 Volt (40 Min.)         | BC0075G      |

Programming accessories for YZ-T series cordless tools



Programming console



Cable

| Type                | Order number |
|---------------------|--------------|
| Programming console | PC-1-YZ-T    |
| Cable (2mtr)        | CC-1         |

YOKOTA TORQUE MEASURING EQUIPMENT

YOKOTA torque measuring equipment (YET Series) is especially designed to check and test the functioning and performance of impulse wrenches. All specified torque figures in this brochure are measured on a YOKOTA torque tester (YET series), with 0,63 MPa air pressure (dynamic). This is a static torque tester. Torque values may differ with other measuring equipment and/ or joints (hard/soft).

| For type  | Range      |
|-----------|------------|
| YET-501C  | 5-50 Nm    |
| YET-2001C | 20-200 Nm  |
| YET-5001C | 100-500 Nm |



VALVES FOR SYSTEM WRENCHES

| Description | Order number    |
|-------------|-----------------|
| 3/8" NC     | VP542-5Y01-03FA |
| 3/8" NO     | VP542-5Y01-03FB |
| 1/2" NC     | VP742-5Y01-04FA |
| 1/2" NO     | VP742-5Y01-04FA |



2 STEP VALVE SET

| Description | Order number   |
|-------------|----------------|
| 3/8" NC     | YETC-2 SVD 3/8 |
| 1/2" NC     | YETC-2SVD 1/2  |



ELECTRONIC VALVE FOR TWO STEP TIGHTENING

| Description | Order number       |
|-------------|--------------------|
| 1/2" NC     | ITV3050-404BS3-CPL |



TOOL CABLE FOR YOKOTA SYSTEM WRENCHES

| Tool cable                     | Order number      |
|--------------------------------|-------------------|
| 7 meter, 2 connectors, female  | 7802 - 1581-00-06 |
| 10 meter, 2 connectors, female | 7802 - 1581-00-08 |
| 12 meter, 2 connector, female  | 7802 - 1581-00-09 |
| 15 meter, 2 connector, female  | 7802 - 1581-00-10 |
| 10 meter extension cable (f/m) | 7802 - 1580-00-09 |
| Connection cable, 50 cm        | 7802 - 1579-00-01 |

SPECIAL JOINT FOR YTC-3 CONTROLLER

| For type                                 | Order number    |
|------------------------------------------|-----------------|
| Special joint for 3/8" tool              | 7671-0077-00-97 |
| Special joint for 1/4" bigger size tool  | 7671-0077-00-98 |
| Special joint for 1/4" smaller size tool | 7671-0077-00-99 |





ACCESSORIES

Rubber Protection Cover for impulse- & system wrenches



| For type | Order number    |
|----------|-----------------|
| E-M500   | 0368-0029-00-01 |
| E-M700   | 0368-0029-00-01 |
| E-M900   | 0368-0029-00-01 |
| E-M1100  | 0378-0029-00-01 |

|         |                 |
|---------|-----------------|
| TKa60   | 0186-0029-00-00 |
| TKa70   | 0186-0029-00-00 |
| TKa80   | 0193-0029-00-00 |
| TKa90   | 0181-0029-00-00 |
| TKa110  | 0187-0029-00-00 |
| TKa120  | 0342-0029-00-00 |
| TKa140  | 0341-0029-00-00 |
| TKa150  | 0343-0029-00-00 |
| TKa600  | 0358-0029-00-00 |
| TKa700  | 0358-0029-00-00 |
| TKa800  | 0360-0029-00-00 |
| TKa900  | 0355-0029-00-00 |
| TKa1110 | 0356-0029-00-00 |
| TKa1200 | 0388-0029-00-00 |
| TKa1400 | 0357-0029-00-00 |
| TKa1500 | 0384-0029-00-00 |

|       |                 |
|-------|-----------------|
| Y-41  | 0161-0029-00-00 |
| Y-46  | 0160-0029-00-00 |
| Y-56  | 0159-0029-00-00 |
| Y-61  | 0158-0029-00-00 |
| Y-70  | 0135-0029-00-00 |
| Y-90  | 0141-0029-00-00 |
| Y-100 | 0334-0029-00-00 |
| Y-130 | 0335-0029-00-00 |
| Y-140 | 0412-0029-00-00 |
| Y-T40 | 0169-0029-00-00 |
| Y-T45 | 0164-0029-00-00 |
| Y-T55 | 0164-0029-00-00 |
| Y-T70 | 0166-0029-00-00 |
| Y-T90 | 0167-0029-00-00 |

|          |                 |
|----------|-----------------|
| YBX-50   | 0928-0029-00-00 |
| YBX-600T | 0351-0029-00-00 |
| YBX-800T | 0352-0029-00-00 |

| For type | Order number     |
|----------|------------------|
| YED-200  | 0409-0029-00-00  |
| YEX-120  | 0093-0029-00-00  |
| YEX-150  | 0093-0029-00-00  |
| YEX-501  | 0260-0029-00-w00 |
| YEX-701  | 0143-0029-00-00  |
| YEX-901  | 0261-0029-00-00  |

|          |                 |
|----------|-----------------|
| YEX-1400 | 0323-0029-00-00 |
| YEX-1900 | 0321-0029-00-00 |
| YEX-3000 | 0407-0029-00-00 |

|        |                 |
|--------|-----------------|
| YLa60  | 0189-0029-00-00 |
| YLa70  | 0189-0029-00-00 |
| YLa80  | 0191-0029-00-00 |
| YLa90  | 0188-0029-00-00 |
| YLa110 | 0190-0029-00-00 |
| YLa120 | 0345-0029-00-00 |
| YLa140 | 0346-0029-00-00 |

|        |                 |
|--------|-----------------|
| YLT50  | 0371-0029-00-00 |
| YLT60  | 0371-0029-00-00 |
| YLT70  | 0372-0029-00-00 |
| YLT80  | 0373-0029-00-00 |
| YLT110 | 0379-0029-00-00 |
| YLT120 | 0380-0029-00-00 |
| YLT140 | 0381-0029-00-00 |
| YLT150 | 0382-0029-00-00 |

|         |                 |
|---------|-----------------|
| YS-e600 | 0444-0029-00-00 |
| YS-e800 | 0445-0029-00-00 |
| YS-e900 | 0446-0029-00-00 |
| YS-e950 | 0447-0029-00-00 |

|         |                 |
|---------|-----------------|
| YX-180  | 0089-0029-00-00 |
| YX-280  | 0081-0029-00-00 |
| YX-380  | 0086-0029-00-00 |
| YX-500  | 0077-0029-00-01 |
| YX-700  | 0129-0029-00-01 |
| YX-900  | 0237-0029-00-01 |
| YX-1100 | 0241-0029-00-00 |
| YX-1400 | 0322-0029-00-00 |
| YX-1900 | 0320-0029-00-01 |
| YX-2400 | 0406-0029-00-01 |
| YX-3000 | 0405-0029-00-00 |

| For type | Order number    |
|----------|-----------------|
| YZ-N600A | 0454-0029-00-00 |
| YZ-N600E | 0454-0029-00-00 |
| YZ-N800A | 0455-0029-00-00 |
| YZ-N800E | 0455-0029-00-00 |
| YZ-N900E | 0456-0029-00-00 |
| YZ-N950E | 0457-0029-00-00 |

|          |                 |
|----------|-----------------|
| YZ-T600A | 0458-0029-00-00 |
| YZ-T600E | 0458-0029-00-00 |
| YZ-T800A | 0459-0029-00-00 |
| YZ-T800E | 0459-0029-00-00 |
| YZ-T900E | 0460-0029-00-00 |
| YZ-T900E | 0461-0029-00-00 |

ACCESSORIES

Service Set

You will need these service sets with spare parts if you are going to change the oil. For quick service we advise you to use a vacuum pump (Y EVP-1\*) and oil tank (Y EVP-1T\*)



Service sets containing: O-rings, back up rings and springs for impulse mechanisms for oil change.

**PLEASE NOTE!**  
Always use oil with the right specifications when changing oil. Only then you will have an optimal tool power and a minimum oil consumption. We recommend NOBP oil for the impulse unit.

| For type | Order number    |
|----------|-----------------|
| E-M500   | 0377-0991-00-99 |
| E-M700   | 0377-0991-00-99 |
| E-M900   | 0368-0991-00-99 |
| E-M1100  | 0378-0991-00-99 |

|          |                 |
|----------|-----------------|
| TKa-60   | 0186-0991-00-99 |
| TKa-600  | 0186-0991-00-99 |
| TKa-70   | 0186-0991-00-99 |
| TKa-700  | 0186-0991-00-99 |
| TKa-80   | 0193-0991-00-99 |
| TKa-800  | 0193-0991-00-99 |
| TKa-90   | 0181-0991-00-99 |
| TKa-900  | 0181-0991-00-99 |
| TKa-110  | 0187-0991-00-99 |
| TKa-1110 | 0187-0991-00-99 |
| TKa-120  | 0342-0991-00-99 |
| TKa-140  | 0341-0991-00-99 |
| TKa-1400 | 0341-0991-00-99 |
| TKa-150  | 0343-0991-00-99 |
| TKa-1500 | 0343-0991-00-99 |

|       |                  |
|-------|------------------|
| Y-41  | 0095-0991-00-99  |
| Y-46  | 0273-0991-01-99  |
| Y-56  | 0158-0991-01-99  |
| Y-61  | 0158-0991-0ç1-99 |
| Y-70  | 0135-0991-03-99  |
| Y-90  | 0141-0991-01-99  |
| Y-100 | 0334-0991-01-99  |
| Y-130 | 0335-0991-00-99  |
| Y-140 | 0412-0991-02-09  |

|          |                 |
|----------|-----------------|
| YBX-1    | 0158-0991-01-99 |
| YBX-50   | 0158-0991-01-99 |
| YBX-600T | 0189-0991-00-99 |
| YBX-800T | 0191-0991-00-99 |

|          |                 |
|----------|-----------------|
| YED-200  | 0409-0991-00-99 |
| YED-240S | 0411-0991-02-99 |

| For type | Order number    |
|----------|-----------------|
| YEX-120  | 0089-0991-01-99 |
| YEX-150  | 0089-0991-01-99 |
| YEX-300S | 0086-0991-01-99 |
| YEX-500S | 0077-0991-02-99 |
| YEX-701  | 0143-0991-00-99 |
| YEX-901  | 0237-0991-01-99 |
| YEX-1400 | 0323-0991-00-99 |
| YEX-1900 | 0320-0991-00-99 |
| YEX-3000 | 0405-0991-00-99 |

|        |                 |
|--------|-----------------|
| YLa60  | 0199-0991-01-99 |
| YLa70  | 0189-0991-00-99 |
| YLa80  | 0191-0991-00-99 |
| YLa90  | 0188-0991-00-99 |
| YLa110 | 0190-0991-00-99 |
| YLa120 | 0345-0991-00-99 |
| YLa140 | 0346-0991-00-99 |

|        |                 |
|--------|-----------------|
| YLT50  | 0383-0991-01-99 |
| YLT60  | 0371-0991-01-99 |
| YLT70  | 0372-0991-01-99 |
| YLT80  | 0373-0991-01-99 |
| YLT110 | 0379-0991-01-99 |
| YLT120 | 0380-0991-01-99 |
| YLT140 | 0381-0991-01-99 |
| YLT150 | 0382-0991-01-99 |

|         |                 |
|---------|-----------------|
| YLTX50  | 0389-0991-00-99 |
| YLTX60  | 0390-0991-00-99 |
| YLTX70  | 0391-0991-00-99 |
| YLTX80  | 0392-0991-00-99 |
| YLTX110 | 0395-0991-00-99 |
| YLTX120 | 0396-0991-00-99 |
| YLTX140 | 0398-0991-00-99 |
| YLTX150 | 0399-0991-00-99 |

|         |                 |
|---------|-----------------|
| YS-e600 | 0193-0991-00-99 |
| YS-e800 | 0193-0991-00-99 |
| YS-e900 | 0181-0991-00-99 |
| YS-e950 | 0181-0991-00-99 |

| For type    | Order number    |
|-------------|-----------------|
| YX-80       | 0095-0991-00-99 |
| YX-180      | 0089-0991-01-99 |
| YX-280      | 0089-0991-01-99 |
| YX-380      | 0086-0991-01-99 |
| YX-500S (C) | 0086-0991-01-99 |
| YX-500      | 0077-0991-02-99 |
| YX-700 (S)  | 0129-0991-00-99 |
| YX-700C     | 0281-0991-01-99 |
| YX-900      | 0237-0991-01-99 |
| YX-1100     | 0237-0991-01-99 |
| YX-1400     | 0322-0991-00-99 |
| YX-1900     | 0320-0991-00-99 |
| YX-2400     | 0320-0991-00-99 |
| YX-3000     | 0405-0991-00-99 |
| YX-4500     | 0722-0991-00-99 |

|          |                 |
|----------|-----------------|
| YZ-N600A | 0193-0991-00-99 |
| YZ-N600E | 0193-0991-00-99 |
| YZ-N800A | 0193-0991-00-99 |
| YZ-N800E | 0193-0991-00-99 |
| YZ-N900E | 0181-0991-00-99 |
| YZ-N950E | 0181-0991-00-99 |

|          |                 |
|----------|-----------------|
| YZ-T600A | 0193-0991-00-99 |
| YZ-T600E | 0193-0991-00-99 |
| YZ-T800A | 0193-0991-00-99 |
| YZ-T800E | 0193-0991-00-99 |
| YZ-T900E | 0181-0991-00-99 |
| YZ-T950E | 0181-0991-00-99 |





# INDUSTRIAL AIRTOOLS



# INDUSTRIAL AIR TOOLS

The Industrial air tool program we offer consists of three quality brands; Yokota, Toku and Red Rooster. Yokota and Toku are both Japanese brands of the highest, most durable quality. Red Rooster black is a high quality series that have optimal ergonomic characteristics and are suitable for highly intensive use, accompanied by a black Red Rooster logo. The Red series, recognizable by a red logo, are for general applications and situations where the intensity of work is lower yet quality is required. The combination of these three brands offer the user the security of finding the right tool for each application. With a sharp focus on ergonomics, productivity, sustainability and reliability of both your tools and processes.

The assortment of Industrial Air Tools varies from a large variety of impact wrenches to ratchet wrenches, drills, breaking hammers, long needle scalers to saws, grinders and sanders. Air tools are very sustainable due to their robustness, extremely long lifetime and easy maintenance.

In order to maintain the long lifetime of the tools and full operational capacity it is crucial to ensure clean and sufficient air. The right air quality determines the lifetime and stable performance of the tool. We advise SMC air treatment components. Please refer to pages 144-145 for the full range of SMC Air Treatment equipment.





# INDUSTRIAL AIR TOOLS



**IMPACT WRENCHES**  
An impact wrench is the most used and known compressed air tool. It is used almost everywhere there is a need to tighten and loosen bolts and nuts. In car and truck workshops, construction, shipyards, the petrochemical industry to name but a few. Our impact wrenches are available in a variety of shapes and sizes. Pistol, straight and angle, starting with a square drive of 3/8" up to 2 1/2". On the following pages more information can be found regarding the various operating mechanisms.

PAGE 72-78



**RATCHET WRENCHES**  
Our Red Rooster and Toku ratchet wrenches are used for light workshop applications to assemble or disassemble bolts and nuts in limited spaces. The Yokota ratchet wrenches are used for industrial assembly, where accurate torque is required while accessibility is limited. By turning the wrench 180 degrees the joint can be loosened.

PAGE 79-80



**SCREWDRIVERS**  
Our screwdrivers are available in 1-hammer, 2-hammer, direct drive and clutch mechanisms. The 1-hammer system makes 1 impact per rotation which causes a higher energy per blow. The 2-hammer system makes 2 impacts per rotation and has a higher frequency at less force per blow. The direct drive screwdrivers are suitable for self-tapping screws and wood screws. Screwdrivers with a clutch type mechanism, with adjustable torque, are used for general applications. When the torque is reached, the mechanism slips.

PAGE 81-82



**DRILLS**  
Our drills are suitable for a large number of applications. Both for use in the industry, steel and aluminium processing, car/truck manufacturing, but also the general workshop-use is covered. Yokota drills are executed with a 2-step trigger. The first step is used for placing the drill correctly in the workpiece, the second step is used for drilling at high speed. The silencers can be turned 360 degrees. Please take care to choose the right capacity drill. Capacity and RPM of these tools are matched.

PAGE 83-84



**TAPPING MACHINE**  
The Red Rooster universal tapping machine has been developed for thread tapping with a hand-held tool. The direction of rotation and speed are easily adjusted with the rocker switch. An ergonomically developed tool that fits well in the hand. Thanks to the quick-change holder, different sizes of tap holders can be changed quickly and easily.

PAGE 85



**GRINDERS AND SANDERS**  
We offer a large variety of grinders in straight, angle and vertical versions. Our grinders are suitable for numerous grinding, fettling and finishing applications. Most are equipped with a safety handle, lever and silencer. Our Sanders are suitable for metal finishing and woodworking applications and also equipped with a silencer. All belt sanders are equipped with an adjustable silencer and safety lever. They are suitable for nearly all materials.

PAGE 86-95



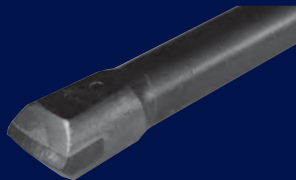
**AIR HAMMERS**  
Air hammers are extremely strong and compact tools. Due to the simple construction these lightweight tools offer power and high impact force. They can be used safely and continuously in places where electric hammers should not be used. Various possible applications: cleaning of welding seam, finishing of castings, removal of tiles or breaking of concrete.

PAGE 97-98



**BREAKERS & ROCK DRILLS**  
Our breakers and rock drills have been developed for a wide range of heavy duty applications. Breaking or removing concrete, drilling in concrete or natural stone and opening up asphalted streets are some of the most common applications. The power and high impact force is unbeatable, and they are highly useful in areas where electric tools are unsafe or not strong enough.

PAGE 99-100



**CHISELS AND DRILLS FOR HAMMERS**  
We offer a sizeable range of chisels and drills in numerous shank sizes and versions. We largely focus on our own range of pneumatic hammers but we also have a program of chisels and drills for (electric) hammers of other brands.

PAGE 101-107



**NEEDLE AND LONG REACH SCALERS**  
Our program of needle scalers consists of straight and pistol versions. We also offer sets that include a chisel holder and anvil and a vibration-reduced model. The needle scalers can be used to remove rust, old paint-layers or concrete from horizontal and vertical surfaces or the removal of welding flux from a welding seam. We also have a range of long needle scalers that offer great ergonomics.

PAGE 108-110



**SAWS**  
Our program contains three different types of saws. Our lightweight reciprocating saws are suitable for use in metal sheet work, but also for other materials like aluminium, plastics, wood and steel. Our pipe saw is ideal for heavy industrial use and for cutting pipes up to a diameter of 530mm. Our chain saw can be used to saw embankments and when electric or petrol engines are not suitable for the working environment.

PAGE 111-112



**ENGRAVING PEN**  
The Red Rooster engraving pen enables you to write smoothly on various materials, such as steel, bronze, alloy and copper, through its high frequency. It can also be used on stainless steel, as the tip is tungsten carbide. Three sizes of tips are available with medium size delivered as standard. With the engraving pen you can mark your tools and produce nameplates.

PAGE 113



**POWER CUTTERS**  
Power cutters for round materials have simplified the process of cutting and pressing in mass production. Versatile applications of the power cutter by selecting suitable blades, make it possible to increase production. We offer a large variety of different types of blades. These power cutters operate at a pressure of 0,4-0,5 MPa.

PAGE 114-115



**TIP DRESSERS & HOG RINGERS**  
Yokota tip dressers are used for reshaping spot-welding electrodes. Blades for these tip dressers are separately available and can be custom made according to tip specifications. Yokota hog ringers are used to clamp upholstery on mesh with the help of C-shaped rings.

PAGE 116



**DOWELL PIN PULLERS**  
The Yokota dowel pin puller is used in matrix, casting and press-moulding industries, for setting and removing dowel pins in moulds or presses. The dowel pin puller is an easily operated air tool that simplifies the pulling or hammering operation of threaded dowel pins, saving time and improving work efficiency.

PAGE 117



**MULTICUTTER**  
Our Red Rooster multi cutter with sawblade is ideal for cutting steel plate. If needed, the cutting can be started in the middle of the plate. The multi cutter can also be used for the removal of urethane bonded windows and as a sander with a triangle sanding pad.

PAGE 118



**BARREL AND SUMP PUMPS**  
The Yokota YP pumps are high quality sump pumps for use on board of ships. The pumps are made of bronze and especially suitable to use in acid environments. The Yokota barrel pump is developed to pump liquids from barrels such as fuel, oil, water or chemicals.

PAGE 119



# IMPACT WRENCHES

### THE RIGHT CHOICE!

Most makes of impact wrenches look very similar. Prices may however differ. This is mostly due to the quality of the impact mechanism. If the tool is only used sporadically, then it is advisable to buy a low cost model, if the tool is going to be used frequently then the industrial quality models become interesting. Manufactured with stronger materials and better quality impact mechanisms, they guarantee a longer, more durable and trouble free lifetime. Low cost tools are mostly executed with the single hammer impact mechanism. The industrial ones however, have a pin-clutch (Dynapact) or twin hammer system. Noise, vibration and weight also influence the price. An industrial wrench has a better silencer and less vibration. In tyre workshops where impact wrenches are used continuously, these are the most important factors. Nowadays modern impact wrenches are executed with a rear exhaust (outgoing airflow through the hand grip), while many of the conventional wrenches have an exhaust situated at the front of the tool. This can cause brake dust in the face of the operator during the process of untightening wheel nuts. Highly uncomfortable!

### TORQUE

Often people think that the specified torque level of an impact wrench equals the performance of the tool, this is not correct. Impact wrenches can not be compared on the specified torque only, as there is no standard for measuring the torque. The specified torque depends on various influences: the impact mechanism, weight, air consumption and quality.

### CAUTION WHEN TIGHTENING!

Impact wrenches are designed to disassemble bolts and nuts. In practice they are also used for tightening nuts and bolts. But be aware that bolts and nuts can easily be damaged by the high power of an impact wrench. This could have serious consequences when it comes to the legal product responsibility regulations and the ISO certification. The tightening of nuts and bolts should be done by torque adjustable tools (see chapter one: assembly tools).

### AIR CONSUMPTION

To choose the right compressor one needs to know how much air l/min a tool uses and how the tool will be used, continuously or intermittently. There are 2 ways to estimate the air consumption of air tools:

#### Method 1

Measure air consumption with continuous operation

#### Method 2

Measure with intermittent operation

### CONTINUOUS OPERATION

The total consumption when the trigger is pulled for a period of one minute (this is what you will find in this catalogue). If you use our tool like this you need a compressor with the capacity stated.

### INTERMITTENT OPERATION

The air consumption is measured when the trigger is pulled intermittently for say 25% of a minute, which gives 25% intermittence. If you use your tool like this you need a compressor with 25% of the capacity stated.

### INTERMITTENCE

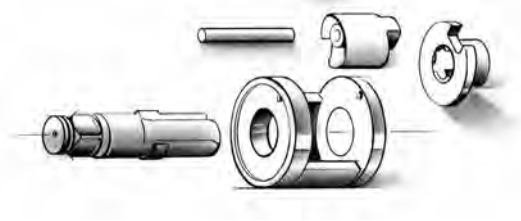
The average time that a tool is calculated to be used during a normal working cycle (1 min.). Intermittence varies between different types of tools, for example a grinding tool is normally in use for a long period and therefore has a high intermittence. An impact wrench is normally used in short bursts and therefore has a lower intermittence.

### EXAMPLE

If at 100% intermittence, the air consumption is 800 l/min then at 25% intermittence the air consumption would be 200 l/min i.e. 25% of 800 l/min.

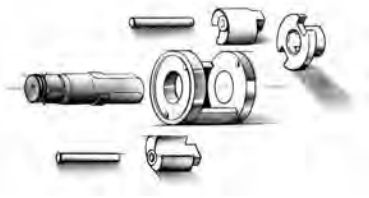
# IMPACT WRENCHES

## Mechanisms



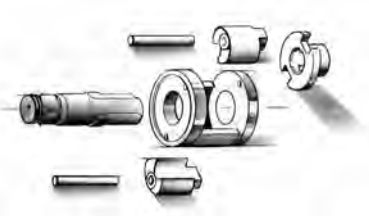
### 1-HAMMER SYSTEM

The 1-hammer system makes 1 impact per rotation at 1 side of the anvil. This causes a higher energy per blow. The impact wrenches with the 1-hammer system are especially suitable for disassembly jobs.



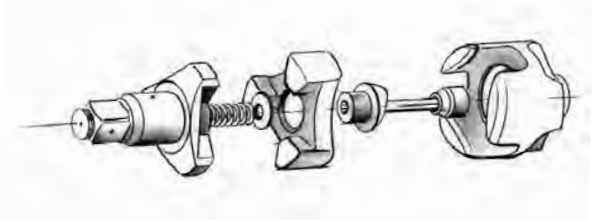
### 2-HAMMER SYSTEM

The 2-hammer system makes 2 impacts per rotation at both sides of the anvil.



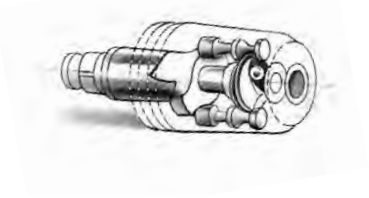
### 2-HAMMER SYSTEM

The twin-hammer system makes 2 impacts per rotation at both sides of the anvil. Same principal as the 2-hammer system, manufactured differently.



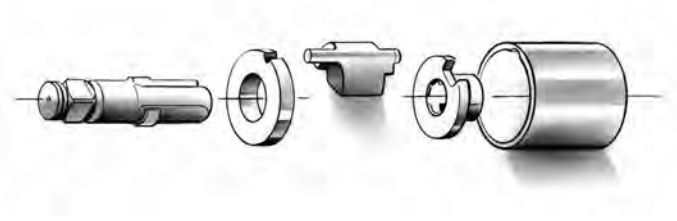
### 3-JAW SYSTEM

The 3-jaw system gives, per rotation, one impact on all 3 jaws of the anvil. This gives a high torque output. Impact wrenches with the 3-jaw system are only suitable for hard joints.



### DYNAPACT IMPACT SYSTEM

The Dynapact impact system has two pins hammering on the anvil, making 1 impact per rotation at both sides of the anvil at the same time. This system give high torque output and is well balanced.



### CLOSED HAMMER SYSTEM

The closed hammer system. This construction, without loose hammerpin, will prevent breakage. The working principle is based on the 1-hammer system.

IMPACT WRENCHES

Angle and pistol models

Red Rooster

MAX. 610 Nm



RRI-14

MAX. 610 Nm



RRI-17

MAX. 1.750 Nm



RRI-21

MAX. 2.550 Nm



RRI-25S



RRI-25



RR-16N



RR-18N



RR-18NT



RR-24N



RR-160H



RR-15A



RR-20PN



RR-15P

Toku



MI-12



MI-14S 1/2



MI-16M

MAX. 1.900 Nm



MI-17C



MI-17MG



MI-20S



MI-20PG



MI-3800PR



MI-3800PR

Yokota



YD-670E-RF



V-160P



YW-6CL

IMPACT WRENCHES

Angle and pistol models

PISTOL MODEL

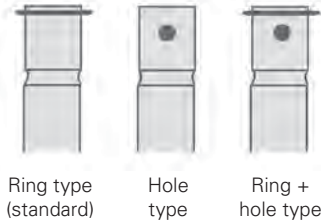
| Type                      | Brand  | Square drive | Type <sup>4)</sup> | Bolt capacity mm | Impact-mechanism | RPM    | Torque Nm | Power adjustment <sup>5)</sup> | Air cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|---------------------------|--------|--------------|--------------------|------------------|------------------|--------|-----------|--------------------------------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| YD-670E-RF                | YOKOTA | 3/8"         | E                  | 6                | Twin-hammer      | 7.500  | 90        | R/L 4 levels                   | 6,1           | 0,98      | PT 1/4"      | 6,5              | 1,5                        | 75                |
| MI-12                     | TOKU   | 3/8"         | R                  | 12               | Twin-hammer      | 9.500  | 160       | R/L 4 levels                   | 5,3           | 1,2       | PT 1/4"      | 6,5              | 9,9                        | 82                |
| MI-16M3/8                 | TOKU   | 3/8"         | R                  | 12               | Twin-hammer      | 6.200  | 270       | R/L 4 levels                   | 9,3           | 1,5       | PT 1/4"      | 6,5              | 4,6                        | 87                |
| RR-16N 3/8                | RR     | 3/8"         | R                  | 12               | Twin-hammer      | 11.000 | 340       | R/L 3 levels                   | 8,7           | 1,3       | PT 1/4"      | 6,5              | 4,6                        | 83                |
| MI-16M1/2                 | TOKU   | 1/2"         | R                  | 12               | Twin-hammer      | 6.200  | 310       | R/L 4 levels                   | 9,3           | 1,5       | PT 1/4"      | 6,5              | 4,6                        | 87                |
| RR-16N 1/2                | RR     | 1/2"         | R                  | 14               | Twin-hammer      | 11.000 | 405       | R/L 3 levels                   | 8,7           | 1,2       | PT 1/4"      | 6,5              | 4,6                        | 83                |
| RR-15P                    | RR     | 1/2"         | R                  | 14               | 1-Hammer         | 6.900  | 430       | R/L 4 levels                   | 8             | 2,4       | PT 1/4"      | 10               | 11                         | 82                |
| RRI-14 <sup>2a)</sup>     | RRI    | 1/2"         | R                  | 14               | Twin-hammer      | 9.000  | 440       | R 2 levels                     | 8,5           | 1,1       | PT 1/4"      | 6,5              | 5,8                        | 89                |
| MI-14S 1/2                | TOKU   | 1/2"         | R+H                | 16               | Twin-hammer      | 11.700 | 390       | R/L 4 pos                      | 6             | 1,15      | PT 1/4"      | 10               | 8                          | 88                |
| RRI-17 1/2 <sup>2b)</sup> | RRI    | 1/2"         | R                  | 16               | Twin-hammer      | 10.000 | 450       | R 3 levels <sup>6)</sup>       | 10,8          | 1,3       | PT 1/4"      | 10               | 6,8                        | 89                |
| RRI-17 3/8 <sup>2b)</sup> | RRI    | 3/8"         | R                  | 16               | Twin-hammer      | 10.000 | 390       | R 3 levels <sup>6)</sup>       | 10,8          | 1,3       | PT 1/4"      | 10               | 6,8                        | 89                |
| RR-18N                    | RR     | 1/2"         | R                  | 16               | Twin-hammer      | 7.000  | 815       | R/L 3 levels                   | 12,1          | 2         | PT 1/4"      | 10               | 4,8                        | 83                |
| RR-18N T                  | RR     | 1/2"         | R                  | 16               | Twin-hammer      | 7.000  | 815       | 90 Nm <sup>1)</sup>            | 12,1          | 2         | PT 1/4"      | 10               | 3,1                        | 83                |
| RR-160H                   | RR     | 1/2"         | R                  | 16               | Dynapact         | 8.000  | 580       | R/L 4 levels                   | 7             | 2,3       | PT 1/4"      | 10               | 11                         | 82                |
| V-160P                    | YOKOTA | 1/2"         | R                  | 16               | 1-Hammer         | 6.500  | 580       | R/L 4 levels                   | 12,6          | 2,8       | PT 1/4"      | 10               | 13                         | 84                |
| MI-17MG                   | TOKU   | 1/2"         | R                  | 16               | Twin-hammer      | 5.500  | 650       | R/L 4 levels                   | 8,8           | 2,4       | PT 1/4"      | 10               | 7,4                        | 88                |
| MI-17C <sup>2c)</sup>     | TOKU   | 1/2"         | R                  | 16               | Twin-hammer      | 8.800  | 650       | R3/L2 levels                   | 13,3          | 1,84      | PT 1/4"      | 10               | 5,7                        | 85                |
| RRI-21 <sup>2d)</sup>     | RRI    | 1/2"         | R                  | 20               | Twin-hammer      | 7.500  | 900       | R 3 levels <sup>6)</sup>       | 12,6          | 2         | PT 1/4"      | 10               | 3,4                        | 86                |
| MI-20S                    | TOKU   | 3/4"         | R+H                | 20               | Twin-hammer      | 4.500  | 900       | R/L 4 pos                      | 15            | 3,25      | PT 3/8"      | 10               | 8,3                        | 90                |
| RR-20PN                   | RR     | 3/4"         | R+H                | 20               | 1-Hammer         | 4.800  | 720       | R/L levels                     | 10,5          | 4,6       | PT 1/4"      | 10               | 4                          | 87                |
| RRI-25S                   | RRI    | 3/4"         | R+H                | 24               | Twin-hammer      | 5.500  | 1.300     | R 2 pos                        | 9             | 2,85      | PT 3/8"      | 10               | 10,8                       | 95                |
| MI-20PG                   | TOKU   | 3/4"         | R+H                | 24               | Twin-hammer      | 5.000  | 1.000     | R/L 4 levels                   | 15            | 3,9       | PT 3/8"      | 10               | 4,6                        | 92                |
| MI-20PL                   | TOKU   | 3/4"         | R+H                | 24               | Twin-hammer      | 5.000  | 1.000     | R/L 4 levels                   | 15            | 4         | PT 3/8"      | 10               | 4,6                        | 92                |
| RR-24N                    | RR     | 3/4"         | R+H                | 24               | Twin-hammer      | 5.500  | 1.625     | R 3 levels <sup>6)</sup>       | 16            | 3,4       | PT 3/8"      | 10               | 4,8                        | 90                |
| RRI-25 <sup>2e)</sup>     | RRI    | 3/4"         | R+H                | 24               | Twin-hammer      | 5.000  | 1.800     | R 3 levels <sup>6)</sup>       | 17            | 3,7       | PT 3/8"      | 10               | 7,6                        | 87                |
| RR-24N 1                  | RR     | 1"           | R+H                | 24               | Twin-hammer      | 5.500  | 1.900     | R 3 levels <sup>6)</sup>       | 16            | 3,7       | PT 3/8"      | 10               | 4,8                        | 90                |
| MI-3800PR                 | TOKU   | 1"           | R+H                | 36               | Closed hammer    | 4.500  | 2.100     | R/L 4 levels                   | 15            | 9,3       | PT 1/2"      | 13               | 8                          | 84                |
| MI-3800PLR <sup>3)</sup>  | TOKU   | 1"           | R+H                | 36               | Closed hammer    | 4.500  | 2.000     | R/L 4 levels                   | 15            | 9,9       | PT 1/2"      | 13               | 8                          | 84                |

ANGLE MODEL

| Type   | Brand  | Square drive | Type <sup>4)</sup> | Bolt capacity mm | Impact-mechanism | RPM   | Torque Nm | Power adjustment <sup>5)</sup> | Air cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|--------|--------|--------------|--------------------|------------------|------------------|-------|-----------|--------------------------------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| YW-6CL | YOKOTA | 3/8"         | H                  | 6                | 1-Hamer          | 6.500 | 145       | -                              | 4,2           | 1,6       | PT 1/4"      | 6,5              | 18                         | 81                |
| RR-15A | RR     | 1/2"         | R                  | 14               | Jumbo-Hammer     | 7.000 | 310       | R 2 levels                     | 5,3           | 1,8       | PT 1/4"      | 9,5              | 5,8                        | 89                |

1) RR-18NT: maximum tightening torque 90NM, full power in untightening  
2a) Max. break loose torque RRI-14: 610Nm  
2b) Max. break loose torque RRI-17: 610Nm  
2c) Max. break loose torque MI-17C: 1.900Nm  
2d) Max. break loose torque RRI-21: 1.750Nm  
2e) Max. break loose torque RRI-25: 2.550Nm  
3) L = long anvil  
4) Versions: R = ring type / H = hole type / R + H = ring + hole type  
5)R3 levels means: 3 positions clockwise and counterclockwise full power  
6)The air consumption of the impact wrenches is measured under load

TYPE





IMPACT WRENCHES

Straight models



| Type                     | Brand | Square drive | Type <sup>1)</sup> | Bolt capacity mm | Impact-mechanism | RPM   | Torque Nm | Power adjustment | Air cons. l/s <sup>4)</sup> | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|--------------------------|-------|--------------|--------------------|------------------|------------------|-------|-----------|------------------|-----------------------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRI-37E                  | RRI   | 1"           | R+H                | 36               | Twin-Hammer      | 6.000 | 2.200     | R/L 3 levels     | 15                          | 8,75      | PT 1/2"      | 13               | 17                         | 99                |
| MI-38ESR                 | TOKU  | 1"           | R+H                | 36               | Twin-Hammer      | 3.700 | 1.850     | R/L 4 levels     | 11,7                        | 7,75      | PT 1/2"      | 13               | 8,7                        | 93                |
| MI-38ELR <sup>2)</sup>   | TOKU  | 1"           | R+H                | 36               | Twin-Hammer      | 3.700 | 1.800     | R/L 4 levels     | 11,7                        | 7,95      | PT 1/2"      | 13               | 8,7                        | 93                |
| MI-590TR <sup>3)</sup>   | TOKU  | 1"           | R+H                | 36               | Dynapact         | 3.800 | 1.850     | 450-700 Nm       | 11,7                        | 10,9      | PT 1/2"      | 13               | 9,1                        | 93                |
| MI-3800ESR               | TOKU  | 1"           | R+H                | 36               | Closed hammer    | 4.500 | 2.100     | R/L 4 levels     | 15                          | 9,3       | PT 1/2"      | 13               | 8                          | 84                |
| MI-3800ELR <sup>2)</sup> | TOKU  | 1"           | R+H                | 36               | Closed hammer    | 4.500 | 2.000     | R/L 4 levels     | 15                          | 9,9       | PT 1/2"      | 13               | 8                          | 84                |
| MI-42ESR                 | TOKU  | 1"           | R+H                | 42               | Twin-Hammer      | 3.900 | 2.850     | R/L 4 levels     | 23                          | 9,4       | PT 1/2"      | 13               | 7,6                        | 99                |
| MI-42ELR <sup>2)</sup>   | TOKU  | 1"           | R+H                | 42               | Twin-Hammer      | 3.900 | 2.800     | R/L 4 levels     | 23                          | 10,6      | PT 1/2"      | 13               | 7,6                        | 99                |
| MI-4500ESR               | TOKU  | 1"           | R+H                | 45               | Closed hammer    | 3.700 | 2.900     | R/L 4 levels     | 23                          | 13,4      | PT 1/2"      | 13               | 7                          | 84                |
| MI-4500ELR <sup>2)</sup> | TOKU  | 1"           | R+H                | 45               | Closed hammer    | 3.700 | 2.900     | R/L 4 levels     | 23                          | 14,5      | PT 1/2"      | 13               | 7                          | 84                |
| MI-5500ES                | TOKU  | 1½"          | H                  | 52               | Dynapact         | 2.800 | 5.500     | R/L 4 levels     | 15                          | 18,1      | PT 1/2"      | 13               | 14,3                       | 109               |
| RRI-1061                 | RRI   | 1½"          | H                  | 52               | 3-claw           | 3.200 | 4.500     | -                | 27                          | 16,0      | PT 1/2"      | 19               | 5                          | 97                |

<sup>1)</sup> Type: H = Hole type, R + H = Ring + Hole Type / <sup>2)</sup> L = Long spindle / <sup>3)</sup> Impact wrench with shut-off in forward (450-700 Nm) / <sup>4)</sup> Airconsumption of impact wrenches is measured under load

BOLT CLEANER SET MBC-30S



- One handheld airtool, 1800 rpm with 1/4" Hex chuck
- Four boltcleanercups with inner wirebrush, for M20, M24 and M30 bolts
- Three hole brushes, for M20, M24 and M30 nuts and holes
- One hole buff

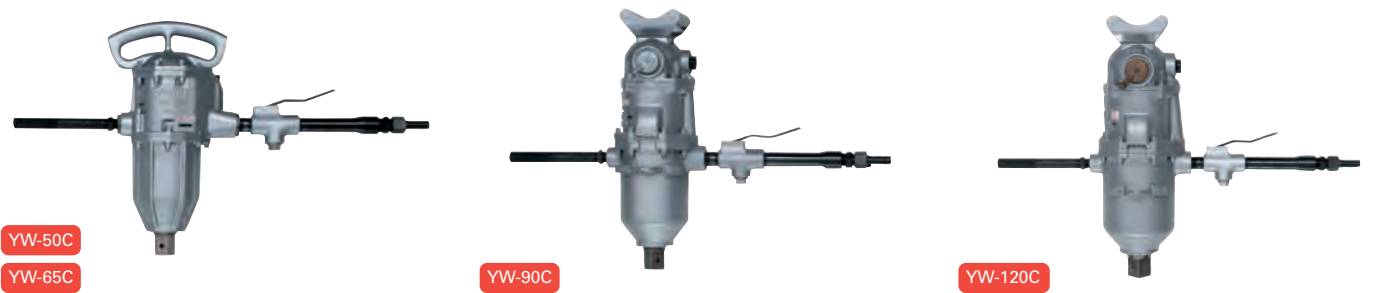
TYPE



Ring type (standard)      Hole type      Ring + hole type

IMPACT WRENCHES

Heavy duty models



| Type                 | Brand  | Square drive | Type <sup>1)</sup> | Bolt capacity mm | Impact-mechanism | RPM   | Torque Nm | Air cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|----------------------|--------|--------------|--------------------|------------------|------------------|-------|-----------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| YW-50C               | YOKOTA | 1½"          | H                  | 52               | 2-Hammer         | 3.000 | 4.500     | 30            | 27        | PT 1"        | 19               | 2,3                        | 90                |
| YW-65C               | YOKOTA | 1½"          | H                  | 64               | 2-Hammer         | 2.100 | 6.600     | 30            | 45        | PT 1"        | 19               | 2,3                        | 92                |
| YW-90C <sup>3)</sup> | YOKOTA | 1¾"          | H                  | 90               | 2-Hammer         | 1.700 | 16.500    | 41            | 62        | PT 1"        | 19               | 2,3                        | 94                |
| YW-120C              | YOKOTA | 2½"          | H                  | 130              | 2-Hammer         | 1.800 | 33.000    | 68            | 115       | PT 1"        | 25               | 5                          | 93                |

<sup>1)</sup> Type: H = Hole type / <sup>2)</sup> The air consumption of the impact wrenches has been measured under working conditions / <sup>3)</sup> 1½" square drive on request

IMPACT WRENCH SETS



- RR-18N/SETSTD**
- Impact wrench RR-18N
  - 5 x 1/2" Impact sockets (A/F 17-19-21-22-24)
  - Extension bar 100 mm



- RR-18N/SETLNG**
- Impact wrench RR-18N
  - 5 x 1/2" Impact sockets (A/F 17-19-21-22-24 deep)
  - Extension bar 100 mm



- RRI-21/SETSTD**
- Impact wrench RRI-21
  - 5 x 1/2" Impact sockets (A/F 17-19-21-22-24)
  - Extension bar 100 mm



- RRI-21/SETLNG**
- Impact wrench RRI-21
  - 5 x 1/2" Impact sockets (A/F 17-19-21-22-24 deep)
  - Extension bar 100 mm



- MI-17MG-SK**
- Impact wrench MI-17MG
  - 5 x 1/2" Impact sockets (A/F 17-19-21-22-24)
  - Extension bar 100 mm



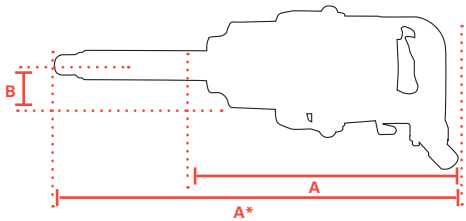
- MI-17MG-SL**
- Impact wrench MI-17MG
  - 5 x 1/2" Impact sockets (A/F 17-19-21-22-24 deep)
  - Extension bar 100 mm

IMPACT WRENCHES

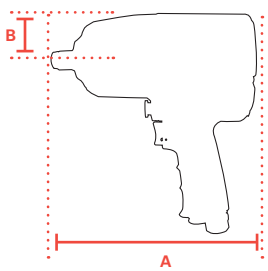
Dimensions, parts, accessories

| DIMENSIONS |      |       |      |      |      |         |
|------------|------|-------|------|------|------|---------|
| Type       | A mm | A* mm | B mm | C mm | D mm | Drawing |
| MI-12      | 150  | -     | 24   | -    | -    | 3       |
| MI-14S     | 100  | -     | 30   | -    | -    | 3       |
| MI-16      | 170  | -     | 27   | -    | -    | 3       |
| MI-17C     | 181  | -     | 31   | -    | -    | 3       |
| MI-17MG    | 178  | -     | 31   | -    | -    | 3       |
| MI-20P     | 215  | -     | 38   | -    | -    | 3       |
| MI-20PL    | 335  | -     | 38   | -    | -    | 3       |
| MI-38ESR   | 337  | -     | 50   | -    | -    | 2       |
| MI-38ELR   | -    | 515   | 50   | -    | -    | 2       |
| MI-42ESR   | 370  | -     | 60   | -    | -    | 2       |
| MI-42ELR   | -    | 517   | 60   | -    | -    | 2       |
| MI-590TR   | 570  | -     | 50   | -    | -    | 2       |
| MI-3800PR  | 281  | -     | 55   | -    | -    | 3       |
| MI-3800PLR | -    | 430   | 55   | -    | -    | 3       |
| MI-3800ESR | 355  | -     | 55   | -    | -    | 2       |
| MI-3800ELR | -    | 504   | 55   | -    | -    | 2       |
| MI-4500ESR | 460  | -     | 60   | -    | -    | 2       |
| MI-4500ELR | -    | 584   | 60   | -    | -    | 2       |
| MI-5500ES  | 553  | -     | 63   | -    | -    | 2       |
| RR-15A     | 340  | -     | 32   | 67   | -    | 1       |
| RR-15P     | 180  | -     | 30   | -    | -    | 3       |
| RR-20PN    | 239  | -     | 38   | -    | -    | 3       |
| RR-160H    | 185  | -     | 30   | -    | -    | 3       |
| RR-16N     | 150  | -     | 30   | -    | -    | 3       |
| RR-18N     | 185  | -     | 30   | -    | -    | 3       |
| RR-18NT    | 185  | -     | 30   | -    | -    | 3       |
| RR-24N     | 210  | -     | 50   | -    | -    | 3       |
| RRI-14     | 120  | -     | 32   | -    | -    | 3       |
| RRI-17     | 172  | -     | 29   | -    | -    | 3       |
| RRI-21     | 190  | -     | 35   | -    | -    | 3       |
| RRI-25     | 234  | -     | 43   | -    | -    | 3       |
| RRI-37E    | -    | 515   | 52   | -    | -    | 2       |
| RRI-1061   | 400  | -     | 78   | -    | -    | 2       |
| V-160P     | 182  | -     | 34   | -    | -    | 3       |
| YW-6CL     | 215  | -     | 14   | 50   | 63   | 1       |
| YW-50C     | 535  | -     | 355  | 448  | 160  | 4       |
| YW-65C     | 606  | -     | 344  | 434  | 162  | 4       |
| YW-90C     | 674  | -     | 358  | 448  | 186  | 4       |
| YW-120C    | 827  | -     | 527  | 461  | 226  | 4       |

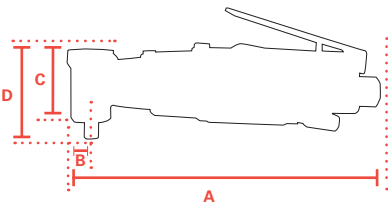
Drawing 1



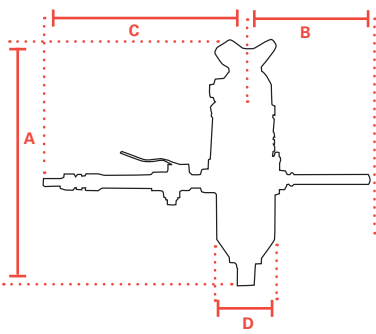
Drawing 2



Drawing 3



Drawing 4



SPARE PARTS – SPRING RING FOR IMPACT SOCKETS

| Type          | Part number Spring Ring | Part number O-Ring |
|---------------|-------------------------|--------------------|
| TOKU 3/8"     | 13-08-05-092            | 9010-1004-00-00    |
| TOKU 1/2"     | 13-08-05-006            | 13-11-17-108       |
| TOKU 3/4"     | 13-08-03-113            | 9010-1012-00-00    |
| TOKU 1"       | 13-08-03-144            | 13-11-05-013       |
| V-160P        | 0208-0416-00-00         | 13-11-05-006       |
| RR-15P        | 40303                   | 13-11-05-006       |
| RR-20PN       | 280-016                 | 9010-1012-00-00    |
| RR-16N/18N(T) | 40303                   | 13-11-05-006       |
| RRI-21        | 250-033                 | 00-4103            |
| RR-24N        | 45-405112               | OR01000305         |
| RR-160H       | 250-033                 | 00-4103            |
| RRI-17 3/8"   | 242-026                 | 00-4144            |
| RRI-17 1/2"   | 250-033                 | 00-4103            |
| RRI-25        | 280-028                 | 00-4175            |

ACCESSORIES

RUBBER PROTECTION COVER

| Part number | For type           |
|-------------|--------------------|
| AH0001020   | MI-17MG / MI-17HEG |
| AH0001030   | MI-20P             |

HOSE SET SILENCER

| Part number   | For type                     |
|---------------|------------------------------|
| EH-43-4033SUB | RR-16N/18N/18NT<br>RRI-17/21 |
| EH-454051P    | RR-24N                       |

RATCHET WRENCHES



RATCHET WRENCHES 1/4" + 3/8" + 1/2"

| Type     | Brand | Square-drive | Bolt capacity mm | RPM | Torque Nm | Air cons. l/sec | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise-level dB(A) |
|----------|-------|--------------|------------------|-----|-----------|-----------------|-----------|--------------|------------------|----------------|-------------------|
| RRW-2202 | RR    | 1/4"         | 8                | 200 | 32        | 5,0             | 0,5       | PT 1/4"      | 6,5              | 4,3            | 85                |
| MR-2207C | TOKU  | 1/4"         | 8                | 250 | 28        | 5,0             | 0,5       | PT 1/4"      | 6,5              | 2,7            | 81                |
| RRW-2203 | RR    | 3/8"         | 10               | 200 | 32        | 5,0             | 0,5       | PT 1/4"      | 6,5              | 4,3            | 85                |
| MR-2209C | TOKU  | 3/8"         | 10               | 250 | 28        | 5,0             | 0,5       | PT 1/4"      | 6,5              | 2,7            | 81                |
| RRW-2403 | RR    | 3/8"         | 12               | 150 | 68        | 6,0             | 1,2       | PT 1/4"      | 6,5              | 5,8            | 85                |
| MR-2310B | TOKU  | 3/8"         | 12               | 175 | 78        | 6,0             | 1,2       | PT 1/4"      | 6,5              | 3              | 85                |
| RRW-2404 | RR    | 1/2"         | 12               | 150 | 68        | 6,0             | 1,2       | PT 1/4"      | 6,5              | 5,8            | 85                |
| MR-2410B | TOKU  | 1/2"         | 12               | 175 | 78        | 6,0             | 1,2       | PT 1/4"      | 6,5              | 1,3            | 81                |
| RRW-121  | RR    | 1/2"         | 12               | 150 | 120       | 8,0             | 1,9       | PT 1/4"      | 10               | 2,3            | 88                |

REACTIONLESS RATCHET WRENCHES

| Type     | Brand | Square-drive | Bolt capacity mm | RPM | Torque Nm | Air cons. l/sec | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise-level dB(A) |
|----------|-------|--------------|------------------|-----|-----------|-----------------|-----------|--------------|------------------|----------------|-------------------|
| RRW-3403 | RR    | 3/8"         | 12               | 500 | 95        | 6,0             | 1,28      | PT 1/4"      | 6,5              | 4,5            | 91                |
| RRW-3404 | RR    | 1/2"         | 12               | 500 | 95        | 6,0             | 1,28      | PT 1/4"      | 6,5              | 4,5            | 91                |

RATCHET WRENCHES FOR THE ASSEMBLY INDUSTRY

| Type    | Brand  | Square-drive     | Bolt capacity mm | RPM | Torque Nm | Air cons. l/sec | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise-level dB(A) |
|---------|--------|------------------|------------------|-----|-----------|-----------------|-----------|--------------|------------------|----------------|-------------------|
| YRW-6   | YOKOTA | 8, 9, 10 *       | 6                | 200 | 13        | 4,6             | 1,15      | PT 1/4"      | 6,5              | 2,5            | 81                |
| YRW-8NS | YOKOTA | 10, 12, 13, 14 * | 8                | 250 | 30        | 8,3             | 2,00      | PT 1/4"      | 10               | 2,5            | 82                |
| YRW-10N | YOKOTA | 14, 17 *         | 10               | 140 | 45        | 11,6            | 2,65      | PT 1/4"      | 10               | 2,5            | 84                |

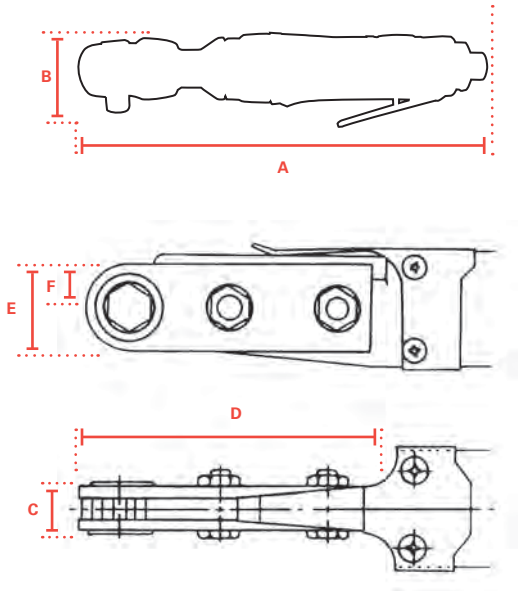
\* Socket size in mm (Please state socket size in your order).



RATCHET WRENCHES

Dimensions

| Type     | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm |
|----------|---------|---------|---------|---------|---------|---------|
| MR-2207C | 165     | 33      | -       | -       | -       | -       |
| MR-2209C | 165     | 33      | -       | -       | -       | -       |
| MR-2310B | 255     | 44      | -       | -       | -       | -       |
| MR-2410B | 255     | 50      | -       | -       | -       | -       |
| RRW-121  | 357     | 57      | -       | -       | -       | -       |
| RRW-2202 | 180     | 32      | -       | -       | -       | -       |
| RRW-2203 | 180     | 32      | -       | -       | -       | -       |
| RRW-2403 | 250     | 40      | -       | -       | -       | -       |
| RRW-2404 | 250     | 45      | -       | -       | -       | -       |
| RRW-3403 | 280     | 40      | -       | -       | -       | -       |
| RRW-3404 | 280     | 45      | -       | -       | -       | -       |
| YRW-6    | 320     | 13      | 13      | 88      | 20      | 10      |
| YRW-8NS  | 350     | 18      | 13      | 105     | 25      | 12,5    |
| YRW-10N  | 388     | 18      | 18      | 108     | 33      | 16,5    |



SCREWDRIVERS

Hammermechanism & Direct drive



1-HAMMER

| Type                | Brand  | Square<br>hex drive | Bolt<br>capacity<br>mm | Model | RPM    | Torque<br>Nm | Air-<br>cons.<br>l/s | Weight<br>kg | Inlet-<br>thread | Hose-<br>diameter<br>mm | Vibration<br>m/s <sup>2</sup> | Noise-<br>level<br>dB(A) |
|---------------------|--------|---------------------|------------------------|-------|--------|--------------|----------------------|--------------|------------------|-------------------------|-------------------------------|--------------------------|
| YD-3A <sup>1)</sup> | YOKOTA | 1/4" Hex            | 4                      | Recht | 12.000 | 7,5          | 1,6                  | 0,50         | PT 1/8"          | 6,5                     | 2,3                           | 82                       |
| YD-4A <sup>1)</sup> | YOKOTA | 1/4" Hex            | 5                      | Recht | 11.000 | 12           | 2,3                  | 0,60         | PT 1/8"          | 6,5                     | 2                             | 90                       |
| YD-5A <sup>1)</sup> | YOKOTA | 1/4" Hex            | 6                      | Recht | 10.000 | 15,5         | 3,2                  | 0,85         | PT 1/8"          | 6,5                     | 2,5                           | 90                       |

2-HAMMER

| Type                     | Brand  | Square<br>hex drive | Bolt<br>capacity<br>mm | Model  | RPM    | Torque<br>Nm | Air-<br>cons.<br>l/s | Weight<br>kg | Inlet-<br>thread | Hose-<br>diameter<br>mm | Vibration<br>m/s <sup>2</sup> | Noise-<br>level<br>dB(A) |
|--------------------------|--------|---------------------|------------------------|--------|--------|--------------|----------------------|--------------|------------------|-------------------------|-------------------------------|--------------------------|
| MID-600 <sup>2)</sup>    | TOKU   | 1/4" Hex            | 3-5                    | Pistol | 9.500  | 90           | 5,0                  | 0,9          | PT 1/4"          | 6,5                     | 3,6                           | 82                       |
| YD-40PZ                  | YOKOTA | 1/4" Hex            | 4                      | Pistol | 14.000 | 15           | 1,6                  | 0,52         | PT 1/4"          | 6,5                     | 4                             | 80                       |
| YD-600SZ <sup>2)</sup>   | YOKOTA | 1/4" Hex            | 6                      | Recht  | 7.500  | 37           | 5,0                  | 0,95         | PT 1/4"          | 6,5                     | 1,6                           | 77                       |
| YD-670A-RF <sup>3)</sup> | YOKOTA | 1/4" Hex            | 6                      | Pistol | 7.500  | 90           | 6,1                  | 0,98         | PT 1/4"          | 6,5                     | 1,5                           | 75                       |

DIRECT DRIVE

| Type      | Brand | Square<br>hex drive | Bolt<br>capacity<br>mm | Model  | RPM   | Torque<br>Nm | Air-<br>cons.<br>l/s | Weight<br>kg | Inlet-<br>thread | Hose-<br>diameter<br>mm | Vibration<br>m/s <sup>2</sup> | Noise-<br>level<br>dB(A) |
|-----------|-------|---------------------|------------------------|--------|-------|--------------|----------------------|--------------|------------------|-------------------------|-------------------------------|--------------------------|
| RR-0800DD | RR    | 1/4" Hex            | 6                      | Pistol | 800   | 10,5         | 9,8                  | 1,0          | PT 1/4"          | 10                      | 3,5                           | 83                       |
| RR-1800DD | RR    | 1/4" Hex            | 6                      | Pistol | 1.800 | 7,5          | 9,8                  | 1,0          | PT 1/4"          | 10                      | 3,5                           | 83                       |

1) Delivered with regulator / 2) 4 settings power adjustment / 3) Delivered with rubber protection cover

SELECTION GUIDE: TYPE OF SCREWDRIVER PER APPLICATION

| Type                 | Machine<br>screw 4.8 | Machine<br>screw 8.8 | Self tapping<br>screw-M | Self tapping<br>screw-ST | Self tapping<br>screw-ST,<br>for plastic | Self-drilling/<br>Self-tapping<br>Screw-S | Wood screw |
|----------------------|----------------------|----------------------|-------------------------|--------------------------|------------------------------------------|-------------------------------------------|------------|
| Impact               |                      |                      |                         |                          |                                          |                                           |            |
| Direct drive         |                      |                      |                         |                          |                                          |                                           |            |
| Clutchtype mechanism |                      |                      |                         |                          |                                          |                                           |            |
| Shut-off mecanism    |                      |                      |                         |                          |                                          |                                           |            |

Recommended OK not OK  
For suitable impact sockets please refer to chapter on impact sockets.

SCREWDRIVERS

Clutch type mechanism (adjustable)



YD-400SCA



RR-02SC   RR-06SC



YD-5PHCA



RR-02SP   RR-06SP

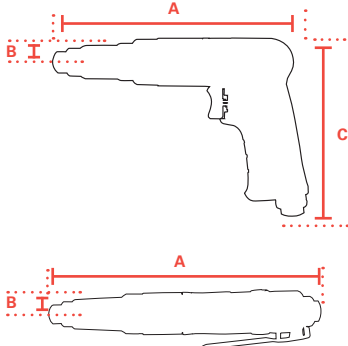
| Type      | Brand  | Square hex drive | Bolt capacity mm | Model  | RPM   | Torque Nm |   |     | Air-cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s <sup>2</sup> | Noise-level dB(A) |
|-----------|--------|------------------|------------------|--------|-------|-----------|---|-----|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| YD-400SCA | YOKOTA | 1/4" Hex         | 4                | Recht  | 1.700 | 1         | - | 3,2 | 2,5           | 0,56      | PT 1/8"      | 6,5              | 4                          | 77                |
| RR-02SC   | RR     | 1/4" Hex         | 5                | Recht  | 1.800 | 1         | - | 6   | 10,0          | 1,2       | PT 1/4"      | 10               | 1,6                        | 85                |
| RR-06SC   | RR     | 1/4" Hex         | 6                | Recht  | 800   | 5         | - | 16  | 10,0          | 1,4       | PT 1/4"      | 10               | 1,6                        | 85                |
| YD-5PHCA  | YOKOTA | 1/4" Hex         | 5                | Pistol | 1.650 | 1         | - | 6,6 | 5,8           | 1,2       | PT 1/4"      | 6,5              | 2                          | 77                |
| RR-02SP   | RR     | 1/4" Hex         | 5                | Pistol | 1.800 | 1         | - | 6   | 10,0          | 1,3       | PT 1/4"      | 10               | 1,6                        | 85                |
| RR-06SP   | RR     | 1/4" Hex         | 6                | Pistol | 800   | 5         | - | 16  | 10,0          | 1,4       | PT 1/4"      | 10               | 3,5                        | 83                |

DIMENSIONS

| Type             | A mm | B mm | C mm |
|------------------|------|------|------|
| YD-3A            | 168  | 13,5 | -    |
| YD-4A            | 180  | 16   | -    |
| YD-5A            | 200  | 19   | -    |
| YD-5PHCA         | 217  | 20   | 154  |
| YD-40PZ          | 107  | 18   | 125  |
| YD-400SCA        | 209  | 16,5 | -    |
| YD-600SZ         | 206  | 23   | -    |
| YD-670A-RF (3/8) | 149  | 22   | 167  |

All screwdrivers adapt 1/4" standard type hexagon \ insert bits and are reversible.

| Type              | A mm | B mm | C mm |
|-------------------|------|------|------|
| MID-600           | 149  | 22   | 161  |
| RR-02SP / RR-06SP | 214  | 21   | 155  |
| RR-06SC           | 227  | 21   | -    |
| RR-02SC           | 260  | 21   | -    |
| RR-0800DD         | 190  | 21   | 165  |
| RR-1800DD         | 175  | 21   | 165  |



CONTROL

| 1-Hammer |            |
|----------|------------|
| YD-3A    | Push start |
| YD-4A    | Push start |
| YD-5A    | Push start |

| 2-Hammer         |                |
|------------------|----------------|
| MID-600          | Trigger start  |
| YD-40PZ          | 2-step trigger |
| YD-600SZ         | Lever start    |
| YD-670A-RF (3/8) | 2-step trigger |

| Direct drive |               |
|--------------|---------------|
| RR-0800DD    | Trigger start |
| RR-1800DD    | Trigger start |

| Slipping clutch (adjustable) |                |
|------------------------------|----------------|
| YD-400SCA                    | Trigger start  |
| YD-5PHCA                     | 2-step trigger |
| RR-02SP/RR-06SP              | Lever start    |
| RR-02SC/RR-06SC              | 2-step trigger |

SIDE HANDLES

| Type    | Order Number               |
|---------|----------------------------|
| RR-06SP | 75-725139-0001S<br>+822340 |

\* Supplied as standard

SILENCER HOSE SET

| Type      | Order Number |
|-----------|--------------|
| RR-0800DD | EH-701SUB    |
| RR-1800DD |              |
| RR-02SP   |              |
| RR-06SP   |              |



TORQUE SPRINGS

Automotive models RR-02SP/SC and RR-06SP/SC are supplied with 2 torque springs.

SCREW SPANNER

The YD-400SCA and YD-5PHCA are supplied with screw spanner 2201-0243-00-00.

SPRING BALANCERS

Use a spring balancer for the tools to become "weightless" thus greatly reducing operator fatigue.

DRILLS



RRI-2006



RRI-2206/28



RRI-2206/40



YRD-6NBK



YRD-8NBK



RR-10DP



YRD-10NBK



YRD-13N BK



RR-13DP



RRI-2116P



MD-3312B



10RDS-2500



10RDS-4000

PISTOL MODELS

| Type                    | Brand  | Capacity steel mm | Spindle size  | Rotation direction | RPM               | Power kW | Air cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|-------------------------|--------|-------------------|---------------|--------------------|-------------------|----------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRI-2006                | RRI    | 6,5               | 3/8" x 24 UNF | R                  | 5.000             | 0,21     | 10,8          | 0,65      | PT 1/4"      | 10               | 3                          | 79                |
| RRI-2206/28             | RRI    | 6,5               | 3/8" x 24 UNF | R                  | 2.800             | 0,26     | 7,6           | 0,60      | PT 1/4"      | 10               | 0,4                        | 84                |
| RRI-2206/40             | RRI    | 6,5               | 3/8" x 24 UNF | R                  | 4.000             | 0,26     | 7,6           | 0,60      | PT 1/4"      | 10               | 0,6                        | 86                |
| YRD-6NBK                | YOKOTA | 6-8               | 3/8" x 24 UNF | R                  | 2.800             | 0,33     | 8,3           | 0,90      | PT 1/4"      | 10               | 3                          | 76                |
| YRD-8NBK                | YOKOTA | 8-10              | 3/8" x 24 UNF | R                  | 1.900             | 0,38     | 10            | 1,30      | PT 1/4"      | 10               | 3                          | 75                |
| RR-10DP                 | RR     | 10                | 3/8" x 24 UNF | L/R                | 1.800             | 0,35     | 8             | 1,1       | PT 1/4"      | 10               | 4                          | 83                |
| YRD-10NBK               | YOKOTA | 10-13             | 1/2" x 20 UNF | R                  | 1.000             | 0,44     | 10            | 1,50      | PT 1/4"      | 10               | 1,3                        | 80                |
| YRD-13NBK               | YOKOTA | 13                | 1/2" x 20 UNF | R                  | 700               | 0,50     | 13,3          | 1,6       | PT 1/4"      | 10               | 0,8                        | 79                |
| RR-13DP                 | RR     | 13                | 3/8" x 24 UNF | L/R                | 800               | 0,35     | 8             | 1,3       | PT 1/4"      | 10               | 4                          | 83                |
| RRI-2116P <sup>1)</sup> | RRI    | 16                | 1/2" x 20 UNF | R                  | 950 <sup>2)</sup> | 0,50     | 11            | 2,4       | PT 1/4"      | 10               | 1,8                        | 82                |

<sup>1)</sup> Supplied with hose set silencer / <sup>2)</sup> Remove gears with needle bearings

ANGLE MODEL

| Type     | Brand | Capacity steel mm | Spindle size  | Rotation direction | RPM   | Power kW | Air cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|----------|-------|-------------------|---------------|--------------------|-------|----------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| MD-3312B | TOKU  | 10                | 3/8" x 24 UNF | L/R                | 1.900 | 0,38     | 6             | 0,91      | PT 1/4"      | 6,5              | 2,3                        | 77                |

STRAIGHT MODEL

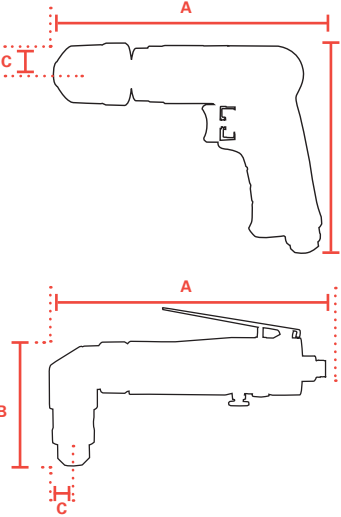
| Type       | Brand | Capacity steel mm | Spindle size  | Rotation direction | RPM   | Power kW | Air cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|------------|-------|-------------------|---------------|--------------------|-------|----------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| 10RDS-2500 | RR    | 10                | 3/8" x 24 UNF | R                  | 2.500 | 0,37     | 3,5           | 1,1       | PT 1/4"      | 6,5              | 0,4                        | 79                |
| 10RDS-4000 | RR    | 10                | 3/8" x 24 UNF | R                  | 4.000 | 0,37     | 3,5           | 1,1       | PT 1/4"      | 6,5              | 0,4                        | 79                |



# DRILLS

## Dimensions & accessories

| DIMENSIONS  |      |      |      |
|-------------|------|------|------|
| Type        | A mm | B mm | C mm |
| RR-10DP     | 185  | 165  | -    |
| RR-13DP     | 218  | 165  | -    |
| 10RDS-2500  | 250  | -    | 22   |
| 10RDS-4000  | 250  | -    | 25   |
| MD-3312B    | 205  | 93   | 20   |
| RRI-2006    | 192  | 138  | 14   |
| RRI-2206/28 | 128  | 116  | 14   |
| RRI-2206/40 | 128  | 116  | 14   |
| RRI-2116P   | 270  | 168  | 28   |
| YRD-6NBK    | 151  | 140  | 21   |
| YRD-8NBK    | 176  | 150  | 25   |
| YRD-10NBK   | 209  | 150  | 25   |
| YRD-13NBK   | 218  | 145  | 25   |



| ACCESSORIES   |                   |
|---------------|-------------------|
| DRILL CHUCKS  |                   |
| Type          | Order Number      |
| MD-3312B *    | 10MM-3/8 x 24NF   |
| RRI-2206/28 * | 6MM-3/8 x 24NF    |
| RRI-2206/40 * | 6MM-3/8 x 24NF    |
| RRI-2006 *    | 6MM-3/8 x 24NF    |
| RRI-2116P *   | BHP-16 1/2 x 20NF |
| 10RDS-4000 *  | 10MM-3/8 x 24NF   |

\* Supplied as standard

| QUICKCHANGE DRILL CHUCKS |              |
|--------------------------|--------------|
| Type                     | Order Number |
| RR-10DP *                | 10035-14     |
| 10RDS-2500 *             | 10035-14     |
| YRD-6NBK *               | BHS-10MM     |
| YRD-8NBK *               | BHS-10MM     |
| YRD-10NBK *              | BHS-13MM     |
| YRD-13NBK *              | BHS-13MM     |
| RR-13DP *                | 10033-14     |

\* Supplied as standard



| SILENCER HOSE SET |              |
|-------------------|--------------|
| Type              | Order Number |
| RR-10DP           | EH-701SUB    |
| RR-13DP           |              |

# TAPPING MACHINE



**RRI-T330M12**

The RED ROOSTER universal tapping machine RRI-T330M12 has been developed for manual thread tapping. The direction of rotation and speed are easily adjusted with the rocker switch. It is an ergonomically developed tool that fits well in the hand. Exhaust through grip, sound muffled. Thanks to the quick-change holder, different sizes of tap holders can be changed quickly and easily.



- CHARACTERISTICS**
- Can be used both left and right handed
  - Side handle included for extra stability
  - Low air consumption
  - Low in vibrations
  - Can be used for M6 to M12 taps
  - With quick-change holder for quick switch of tap holders
  - Exhaust through grip, sound muffled

## Tap holders RRI-T330M12 (order separately )

| M6                                                                                    | M8                                                                                    | M10                                                                                   | M12                                                                                   |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| 775-0309                                                                              | 775-03010                                                                             | 775-0312                                                                              | 775-0311                                                                              |

| Type        | Brand | Capacity steel | Spindle size | Rotation direction | RPM | Power kW | Air cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise level dB(A) |
|-------------|-------|----------------|--------------|--------------------|-----|----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-T330M12 | RRI   | M6-M12         | B12          | L - R              | 330 | 0,39     | 15            | 1,63      | PT 1/4"      | 10               | 4              | 82                |

GRINDERS

Die grinders



| Type        | Brand  | Wheel size mm | RPM     | Power kW | Collet chuck mm     | Air-cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|-------------|--------|---------------|---------|----------|---------------------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRI-34100   | RRI    | 6             | 100.000 | 0,09     | 3                   | 3,3           | 0,20      | PT 1/4"      | 6,5              | <2,5                       | 73                |
| RRI-3445    | RRI    | 20            | 45.000  | 0,30     | 3 / 6               | 7,5           | 0,40      | PT 1/4"      | 10               | 2,4                        | 79                |
| MG-OA       | YOKOTA | 20            | 25.000  | 0,30     | 6                   | 6,2           | 0,45      | PT 1/4"      | 6,5              | 5                          | 78                |
| RRI-3430    | RRI    | 20            | 30.000  | 0,23     | 3 / 6               | 7,5           | 0,40      | PT 1/4"      | 10               | 2,2                        | 81                |
| MG-7206B*   | TOKU   | 25            | 23.000  | 0,38     | 6                   | 5             | 0,56      | PT 1/4"      | 6,5              | 2,3                        | 81                |
| MG-OC       | YOKOTA | 25            | 33.000  | 0,13     | 6                   | 3             | 0,39      | PT 1/4"      | 6,5              | 3                          | 78                |
| RRG-200RE*  | RR     | 35            | 25.000  | 0,25     | 6                   | 4             | 0,56      | PT 1/4"      | 6,5              | 2,5                        | 83                |
| RRG-200REL  | RR     | 35            | 25.000  | 0,25     | 6                   | 4             | 0,86      | PT 1/4"      | 6,5              | 1,5                        | 83                |
| RRG-500RE   | RR     | 35            | 20.000  | 0,37     | 6                   | 4,6           | 0,7       | PT 1/4"      | 6,5              | 1,68                       | 79                |
| RRG-500REL  | RR     | 35            | 20.000  | 0,37     | 6                   | 4,6           | 1,4       | PT 1/4"      | 6,5              | 1,68                       | 79                |
| RRG-1000RE  | RR     | 35            | 22.000  | 0,74     | 6 (8) <sup>2)</sup> | 11            | 0,8       | PT 1/4"      | 10               | 2,9                        | 89                |
| RRG-1000REL | RR     | 35            | 22.000  | 0,74     | 6 (8) <sup>2)</sup> | 11            | 1,2       | PT 1/4"      | 10               | 2,9                        | 89                |
| RRI-3425    | RRI    | 35            | 25.000  | 0,50     | 3 / 6               | 12,3          | 0,8       | PT 1/4"      | 10               | 2                          | 80,2              |
| RRI-3425L   | RRI    | 35            | 20.000  | 0,50     | 3 / 6               | 12,3          | 0,8       | PT 1/4"      | 10               | 2,5                        | 80,2              |
| RRI-3425EL  | RRI    | 35            | 20.000  | 0,50     | 3 / 6               | 12,3          | 0,95      | PT 1/4"      | 10               | 2,5                        | 80,6              |
| MG-1B       | TOKU   | 45            | 18.000  | 0,28     | 6                   | 8             | 0,55      | PT 1/4"      | 10               | 1,3                        | 77                |
| RRI-3407    | RRI    | 35            | 7000    | 0,70     | 6 (8) <sup>3)</sup> | 4             | 1,15      | PT 1/4"      | 6,5              | <2,5                       | 84                |
| RRG-60160   | RR     | 50            | 15.000  | 0,3      | 6                   | 4,9           | 0,56      | PT 1/4"      | 10               | 0,74                       | 80                |
| RRG-515RE   | RR     | 50            | 15.000  | 0,52     | 6                   | 17            | 0,74      | PT 1/4"      | 10               | 2,6                        | 80                |

1) 8 mm collet chuck also available: 50-500228-18 / 2) 8 mm collet chuck also available: 315073  
Shaftlength: RRG-200REL: 116 mm / RRG-500REL: 180 mm / RRI-3425: 30 mm / RRI-3425L: 130 mm / RRI-3425EL: 215 mm

NOTE:  
MG-7206B and RRG-200RE are also available in set (including assortment abrasives).

Collet chucks for die grinders are supplied with the tool.

For collet chucks and adaptors see page 92.

GRINDERS

Angle models turbo grinders and sets

Angle grinders



| Type     | Brand | Wheel size mm | RPM    | Power kW | Collet chuck mm | Air-cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|----------|-------|---------------|--------|----------|-----------------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRG-2090 | RR    | 35            | 20.000 | 0,23     | 6               | 4,0           | 0,56      | PT 1/4"      | 6,5              | 2,4                        | 84                |
| RRI-3506 | RRI   | 40            | 20.000 | 0,22     | 6               | 4,9           | 0,55      | PT 1/4"      | 6,5              | 1                          | 80                |
| MG-7236B | TOKU  | 40            | 20.000 | 0,20     | 6               | 5,0           | 0,45      | PT 1/4"      | 6,5              | 2                          | 85                |

Air turbine grinders



These RED ROOSTER Air turbine grinders with high RPM are specifically designed for grinding with carbide cutters, The Turbine motor ensures a very steady speed of the axle, with and without load. The turbine motor can operate without lubricated air.

| Type      | Brand | Wheel size mm | RPM    | Power kW | Collet chuck mm | Air-cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|-----------|-------|---------------|--------|----------|-----------------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRI-T1565 | RRI   | 9             | 65.000 | 0,15     | 3               | 3,7           | 0,135     | PT 1/4"      | 6,5              | <2,5                       | 75                |
| RRI-T4065 | RRI   | 9             | 65.000 | 0,4      | 3               | 5,6           | 0,2       | PT 1/4"      | 6,5              | <2,5                       | 75                |
| RRI-T1550 | RRI   | 20            | 50.000 | 0,15     | 3               | 3,7           | 0,135     | PT 1/4"      | 6,5              | <2,5                       | 75                |
| RRI-T3340 | RRI   | 20            | 40.000 | 0,33     | 6               | 5,6           | 0,4       | PT 1/4"      | 6,5              | <2,5                       | 75                |
| RRI-T1135 | RRI   | 20            | 35.000 | 0,11     | 3               | 3,7           | 0,135     | PT 1/4"      | 6,5              | <2,5                       | 75                |
| RRI-T3335 | RRI   | 20            | 35.000 | 0,33     | 3               | 5,6           | 0,2       | PT 1/4"      | 6,5              | <2,5                       | 75                |

Die grinder set



| Type     | Brand | Wheel size mm | RPM    | Power kW | Collet chuck mm | Air-cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|----------|-------|---------------|--------|----------|-----------------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRI-3007 | RRI   | 9             | 70.000 | 0,08     | 3               | 1,6           | 0,35      | PT 1/4"      | 6,5              | 1,2                        | 77                |
| RRI-3006 | RRI   | 12            | 58.000 | 0,10     | 3               | 1,6           | 0,35      | PT 1/4"      | 6,5              | 0,8                        | 80                |



GRINDERS

Straight models

Straight grinders



| GS-2EFS |        | TSG-3L          |        | TSG-4L   |           | TSG-5L        |           | TSG-6L       |                  |                |                   |
|---------|--------|-----------------|--------|----------|-----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| Type    | Brand  | Wheel size mm   | RPM    | Power kW | Spindle   | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
| GS-2EFS | YOKOTA | 65 x 13 x 9,5   | 14.000 | 0,45     | 3/8" x 16 | 10,0          | 1,3       | PT 1/4"      | 10               | 3              | 84                |
| TSG-3L  | TOKU   | 75 x 13 x 9,5   | 11.500 | 0,53     | 3/8"      | 8,3           | 1,6       | PT 3/8"      | 10               | 0,8            | 73                |
| TSG-4L  | TOKU   | 100 x 19 x 15,9 | 7600   | 1,05     | 5/8"      | 16,6          | 3         | PT 3/8"      | 13               | 1,1            | 83                |
| TSG-5L  | TOKU   | 125 x 19 x 12,7 | 7600   | 1,05     | 5/8"      | 16,6          | 3         | PT 3/8"      | 13               | 1,5            | 79                |
| TSG-6L  | TOKU   | 150 x 25 x 15,9 | 6.000  | 1,58     | 5/8"      | 20,0          | 4,2       | PT 3/8"      | 13               | 0,8            | 80                |

Vertical grinders



| 7VC-6500FS  |        | 7VC-8500FS    |       |          |         |               |           |              |                  |                |                   |
|-------------|--------|---------------|-------|----------|---------|---------------|-----------|--------------|------------------|----------------|-------------------|
| Type        | Brand  | Wheel size mm | RPM   | Power kW | Spindle | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
| 7VC-6500FS* | YOKOTA | 230 x 6 x 22  | 6.500 | 1,74     | 5/8"    | 23,0          | 4,2       | PT 3/8"      | 13               | 3              | 82                |
| 7VC-8500FS* | YOKOTA | 180 x 6 x 22  | 8.500 | 1,74     | 5/8"    | 23,0          | 4,1       | PT 3/8"      | 13               | 2,1            | 83                |

\* Noise reduced

ACCESSORIES



Grinding disc for GS-2EFS

| Order number    | Dimensions    |
|-----------------|---------------|
| 9300-0005-00-01 | 65 x 13 x 9,5 |

All vertical and straight grinders have a governor wheel for regulating the right speed of the grinding wheel. This reduces the risk of overspeeding and assures the best material removal.

Both YOKOTA and TOKU straight grinders have double bearings for a longer lifetime.

GRINDERS

Angle models



| Type        | Brand  | Wheel size mm        | RPM    | Power kW | Spindle   | Air cons. l/s | Weight kg | Inlet-thread | Hose-diameter mm | Vibration m/s² | Noise level dB(A) |
|-------------|--------|----------------------|--------|----------|-----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRG-1046AL  | RR     | 100 x (0,8-1,0) x 16 | 14.000 | 0,76     | M6        | 14            | 1,7       | PT 1/4"      | 10               | 2,5            | 83                |
| G-40SRF     | YOKOTA | 100 x (0,8-6) x 16   | 13.000 | 0,39     | M8 x 1,25 | 7,5           | 0,90      | PT 1/4"      | 10               | 6,6            | 79                |
| RRG-2134*   | RR     | 100 x (0,8-6) x 16   | 12.000 | 1,04     | M10 x 1,5 | 17,4          | 1,90      | PT 3/8"      | 13               | 6,6            | 88                |
| TAG-40FLH*  | TOKU   | 100 x (0,8-6) x 16   | 13.000 | 0,55     | M8        | 10,8          | 1,70      | PT 3/8"      | 10               | 2,6            | 83                |
| RRG-2144*   | RR     | 115 x (0,8-7) x 22,2 | 12.000 | 1,04     | M14x2     | 17,4          | 1,90      | PT 3/8"      | 10               | 2,4            | 88                |
| G-40EF*     | YOKOTA | 115 x (0,8-7) x 22,2 | 13.000 | 0,60     | 7/16"     | 10,8          | 1,40      | PT 1/4"      | 13               | 6,6            | 79                |
| TAG-45MLH*  | TOKU   | 115 x (0,8-7) x 22,2 | 13.000 | 0,67     | M14x2     | 10,8          | 1,80      | PT 3/8"      | 10               | 2,7            | 83                |
| RRG-2155*   | RR     | 125 x (0,8-7) x 22,2 | 12.000 | 1,04     | M14x2     | 17,4          | 1,90      | PT 3/8"      | 13               | 6,6            | 88                |
| G-50EF*     | YOKOTA | 125 x (0,8-7) x 22,2 | 12.000 | 0,60     | 7/16"     | 10,8          | 1,50      | PT 1/4"      | 10               | 4              | 77                |
| TAG-50MLH*  | TOKU   | 125 x (0,8-7) x 22,2 | 12.000 | 0,67     | M14x2     | 10,8          | 1,80      | PT 3/8"      | 10               | 2,7            | 83                |
| RRI-G50HP*  | RRI    | 125 x (0,8-7) x 22,2 | 12.000 | 1,32     | M14x2     | 17            | 1,8       | PT 3/8"      | 13               | <2,5           | 94                |
| RRI-G70*    | RRI    | 180 x (1,6-8) x 22,2 | 8.500  | 2        | M14x2     | 33            | 4,1       | PT 3/8"      | 16               | 2,4            | 83                |
| G-70EF*     | YOKOTA | 180 x (1,6-8) x 22,2 | 8.500  | 1,12     | 5/8"      | 16,7          | 2,90      | PT 3/8"      | 13               | 2,3            | 82                |
| TAG-700QJL* | TOKU   | 180 x (1,6-8) x 22,2 | 8.500  | 1,10     | -         | 16,6          | 3,10      | PT 3/8"      | 13               | 2,6            | 82                |
| TAG-900QJL* | TOKU   | 230 x (1,9-8) x 22,2 | 6.500  | 1,10     | -         | 16,6          | 3,10      | PT 3/8"      | 13               | 3,6            | 82                |

\* Vibration reduced side handle

ACCESSORIES



Grinding disc for RRG-1046AL

| Order number | Dimensions     |
|--------------|----------------|
| 5L-222893    | 100 x 1,0 x 16 |

VIBRATION REDUCED



The transfer of vibration to the user is greatly limited by the solid performance of the rubber handle. See page 96 for more information.

All angle grinders (except RRG-1046AL) are supplied with regulator for optimal safety and the correct RPM for best material removal.

Flanges for cup wheels and a tool service set for mounting the flanges are supplied with all grinders. Flanges for flat, thin discs for mounting on the YOKOTA grinders are optional.

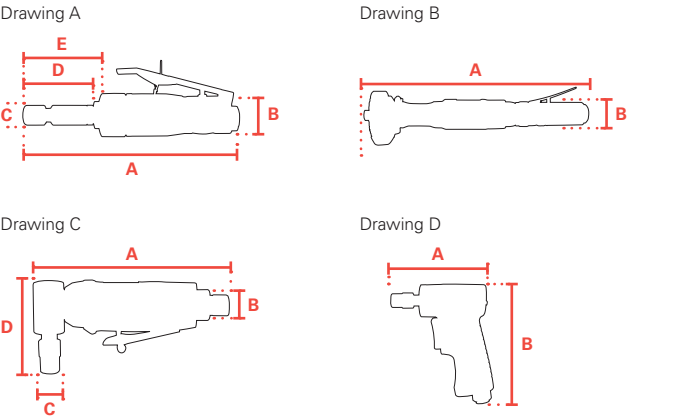
The RRG-1046AL, RRG-2134, RRG-2144, RRG-2155, TAG-45 MLH, TAG-50 MLH, RRI-G50HP and RRI-G70 have a spindle lock for increased ease of changing the wheel.

GRINDERS

Dimensions & side handles

| DIMENSIONS  |      |      |      |      |      |         |
|-------------|------|------|------|------|------|---------|
| Type        | A mm | B mm | C mm | D mm | E mm | Drawing |
| MG-OA       | 170  | 29   | 15   | 55   | 62   | A       |
| MG-OC       | 197  | 33   | 20   | 50   | 56   | A       |
| MG-1B       | 162  | 43   | 19   | 46   | 48   | A       |
| MG-7206B    | 164  | 40   | -    | -    | -    | A       |
| RRG-200RE   | 162  | 40   | 18   | 30   | 34   | A       |
| RRG-200REL  | 258  | 40   | 18   | 116  | 135  | A       |
| RRG-500RE   | 190  | 45   | 22   | 30   | -    | A       |
| RRG-500REL  | 350  | 45   | 22   | 180  | 190  | A       |
| RRG-515RE   | 200  | 43   | 21   | 50   | -    | A       |
| RRG-1000RE  | 200  | 46   | 21   | 41   | 50   | A       |
| RRG-1000REL | 330  | 46   | 21   | 171  | 50   | A       |
| RRI-3006    | 151  | 16   | 10   | -    | -    | A       |
| RRI-3007    | 151  | 16   | 10   | -    | -    | A       |
| RRI-3407    | 280  | 45   | 28   | 38   | 80   | A       |
| RRI-3425    | 215  | 40   | 12   | 30   | 43   | A       |
| RRI-3425L   | 310  | 40   | 12   | 130  | 130  | A       |
| RRI-3425EL  | 390  | 40   | 12   | 215  | 215  | A       |
| RRI-3430    | 190  | 34   | 14   | 16   | 22   | A       |
| RRI-3445    | 190  | 34   | 14   | 16   | 22   | A       |
| RRI-34100   | 140  | 29   | 10   | 15   | 21   | A       |
|             |      |      |      |      |      |         |
| GS-2EFS     | 350  | 51   | -    | -    | -    | B       |
| TSG-3L      | 365  | 51   | -    | -    | -    | B       |
| TSG-4L      | 460  | 65   | -    | -    | -    | B       |
| TSG-5L      | 460  | 65   | -    | -    | -    | B       |
| TSG-6L      | 490  | 80   | -    | -    | -    | B       |
|             |      |      |      |      |      |         |
| RRG-2090    | 167  | 75   | -    | 42   | -    | C       |
| RRI-3506    | 150  | 80   | -    | 40   | -    | C       |
| MG-7236B    | 124  | 72   | -    | 32   | -    | C       |
|             |      |      |      |      |      |         |
| RRG-60160   | 121  | 140  | -    | -    | -    | D       |
|             |      |      |      |      |      |         |
| HS-4        |      | 125  | 102  |      |      | D       |
| MS-4125B    |      | 150  | 110  |      |      | D       |

All angle grinders are equipped with flanges to adapt flat and depressed grinding wheels.

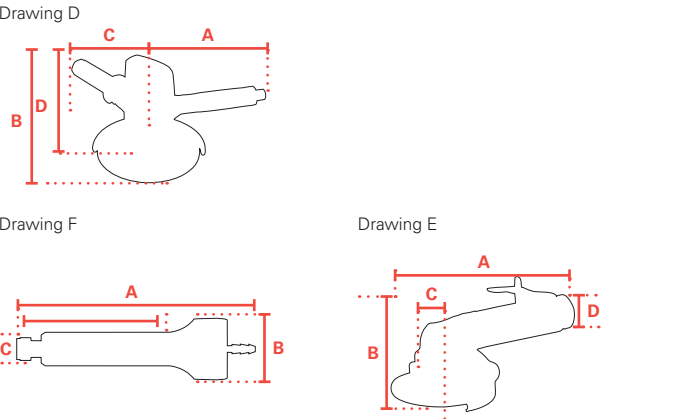


| Type       | A mm | B mm | C mm | D mm | E mm | Drawing |
|------------|------|------|------|------|------|---------|
| 7VC-6500FS | 195  | 180  | 180  | 160  | -    | D       |
| 7VC-8500FS | 195  | 180  | 180  | 165  | -    | D       |
|            |      |      |      |      |      |         |
| G-40EF     | 299  | 88   | 29   | 50   | -    | E       |
| G-40SRF    | 196  | 65   | 25   | 40   | -    | E       |
| G-50EF     | 299  | 88   | 29   | 50   | -    | E       |
| G-70EF     | 341  | 107  | 37   | 60   | -    | E       |
| RRG-1046AL | 377  | 42   | 22   | 45   | -    | E       |
| RRG-2134   | 215  | 95   | 25   | 50   | -    | E       |
| RRG-2144   | 215  | 95   | 25   | 50   | -    | E       |
| RRG-2155   | 215  | 95   | 25   | 50   | -    | E       |
| RRI-G50    | 255  | 55   | 32   | 45   | -    | E       |
| RRI-G70    | 351  | 110  | 45   | -    | -    | E       |
| TAG-40FLH  | 267  | 85   | 33   | 50   | -    | E       |
| TAG-45MLH  | 267  | 85   | 33   | 50   | -    | E       |
| TAG-50MLH  | 267  | 85   | 33   | 50   | -    | E       |
| TAG-700QJL | 307  | 103  | 36   | 62   | -    | E       |
| TAG-900QJL | 307  | 103  | 36   | 62   | -    | E       |
|            |      |      |      |      |      |         |
| RRI-T1565  | 156  | 31   | 13   | 120  | -    | F       |
| RRI-T4065  | 172  | 43   | 13   | 134  | -    | F       |
| RRI-T1550  | 156  | 31   | 13   | 120  | -    | F       |
| RRI-T3340  | 196  | 43   | 15,5 | 145  | -    | F       |
| RRI-T1135  | 156  | 31   | 13   | 120  | -    | F       |
| RRI-T3335  | 172  | 43   | 13   | 134  | -    | F       |

SIDE HANDLES FOR GRINDERS & SANDERS

| Side handle        | Order number     |
|--------------------|------------------|
| HS-4               | 1203-0013-0011 * |
| G-40/50            | 2400-046-11 *    |
| TAG-40/45/50       |                  |
| TAG-700/900        |                  |
| RRI-G50-HP/G70     |                  |
| RRG-2134/2144/2155 |                  |
| G-70               | 1407-0013-0011 * |

\* Supplied as standard



GRINDERS

Accessories

RUBBER PADS

| Type      | Order number    | Diameter    |
|-----------|-----------------|-------------|
| RRG-2134  | 9310-3008-00-00 | 100 x 16 mm |
| RRG-2144  | 9310-3003-00-00 | 110 x 22 mm |
| TAG-45MLH | 9310-3004-00-00 | 120 x 22 mm |
| RRG-2155  |                 |             |
| G-50EF/RF |                 |             |
| TAG-50MLH |                 |             |
| RRI-G70   | 9310-3006-00-00 | 175 x 22 mm |
| G-70EF    |                 |             |

FLANGES FOR FOR RUBBER PADS

| Type      | Order number    | Description  |
|-----------|-----------------|--------------|
| RRG-2144  | 1508-0654-05-05 | Outer flange |
| TAG-45MLH |                 |              |
| RRG-2155  | 1508-0654-05-05 | Lock nut     |
| G-50EF/RF | 1120-0655-00-01 | Outer flange |
| TAG-50MLH | 1120-0655-00-05 |              |
| RRI-G70   | 1508-0654-05-05 |              |
| G-70EF    | 1422-0653-00-99 | Inner flange |

STANDARD FLANGES AND OUTER WHEEL SCREWS

| Type       | Order number    | Description                           |
|------------|-----------------|---------------------------------------|
| G-40EF/RF  | 9310-3003-00-99 | Disc 110 x 16 mm<br>Paper 115 x 22 mm |
| G-50EF     | 9310-3004-00-99 | Disc 120 x 16 mm<br>Paper 125 x 22 mm |
| G-70EF     | 9310-3006-00-99 | Disc 175 x 22 mm                      |
| 7VC-6500FS | G70-0531-99     | Paper 180 x 22 mm                     |
| 7VC-8500FS |                 | Paper 180 x 22 mm                     |
| RRI-G70    |                 | Disc 175 x 22 mm<br>Paper 180 x 22 mm |

| Type       | Order number    | Description  |
|------------|-----------------|--------------|
| G-70EF     | 1508-0653-00-03 | Inner flange |
| 7VC-6500FS | 1508-0654-00-02 | Outer flange |
| 7VC-8500FS |                 |              |
| G-70EF     |                 |              |
| 7VC-6500FS |                 |              |
| 7VC-8500FS |                 |              |

STANDARD FLANGES AND OUTER WHEEL SCREWS

| Type          | Order number    | Description         |
|---------------|-----------------|---------------------|
| TAG-40FLH     | 42-05-77-171    | * Outer flange      |
|               | 13-17-08-020    | * Outer wheel screw |
| TAG-45MLH     | 42-05-80-H00    | * Outer flange      |
| TAG-50MLH     | 42-05-80-H00    | * Outer flange      |
| TAG-700 QJL   | 2700-040-00     | * Outer flange      |
| TAG-900 QJL   | 2700-041-00     | * Outer wheel screw |
| G-40SRF       | 1105-0654-02-02 | * Outer flange      |
|               | 1105-0656-02-00 | * Outer wheel screw |
| G-70EF        | 1422-0653-00-99 | * Inner flange      |
| 7VC-6500/8500 | 1508-0654-00-01 | * Outer flange      |
|               | 1508-0655-00-00 | * Outer wheel screw |
| RRG-2134      | 61938A          | * Inner flange      |
|               | 61938A          | * Outer flange      |
| RRG-2144      | 5D-619239       | * Inner flange      |
| RRG-2155      | 5D-619240       | * Outer flange      |

\* Supplied as standard

ACCESSORIES FOR CUP STONES / CUP BRUSHES

| Type       | Order number    | Description        |
|------------|-----------------|--------------------|
| 7VC-6500FS | 1508-0653-01-02 | Inner flange       |
| 7VC-8500FS |                 |                    |
| 7VC-6500FS | 8100-4003-00-01 | Angle spanner      |
| 7VC-8500FS |                 |                    |
| 7VC-6500FS | 8100-5001-00-00 | Double key spanner |
| 7VC-8500FS |                 |                    |

ACCESSORIES FOR GRINDING WHEELS

| Type         | Order number    | Description                         |
|--------------|-----------------|-------------------------------------|
| G-40/G-50 EF | 1117-0653-00-01 | Inner flange 16 mm                  |
| G-40/G-50 EF | 1117-0654-00-01 | Outer flange 16 mm                  |
| G-40/G-50 EF | 1117-0653-00-02 | * Inner flange 22 mm                |
| G-40/G-50 EF | 1117-0654-00-02 | * Outer flange 22 mm                |
| G-40/G-50 EF | 1126-0655-00-00 | * Outer wheel screw for 22 mm flens |

\* Supplied as standard

PADS

| Sanding pads | Order number    | Description        |
|--------------|-----------------|--------------------|
| HS-4         | 9350-1002-00-00 | Fiber, 115 x 22 mm |
| MS-4125B     |                 |                    |



GRINDERS

Accessories

COLLET CHUCKS

| Type           | Order number    | Description |      |
|----------------|-----------------|-------------|------|
| MG-OA          | 1013-0661-01-99 | *           | 6 mm |
| MG-OC          | 1011-0661-00-00 | *           | 6 mm |
| MG-1B          | 42-04-90-K10    | *           | 6 mm |
| MG-7206B       | NVK-A10         | *           | 3 mm |
|                | T5-07-10-270    | *           | 6 mm |
|                | T5-07-10-27A    | *           | 1/4" |
| MG-7236B       | 3003-035-00     | *           | 6 mm |
| GS-2EFS/TSG-3L | 1104-0661-01-99 | -           | 6 mm |
| RRG-200RE(L)   | 51224           | *           | 6 mm |
| RRG-500RE(L)   | 51224           | *           | 6 mm |
| RRG-1000RE(L)  | 50-500228       | *           | 6 mm |
| RRG-1000RE(L)  | 50-500228-18    | -           | 8 mm |
| RRI-3407       | 315018          | *           | 6 mm |
|                | 315073          | -           | 8 mm |

\* Supplied as standard

TOOLS FOR MOUNTING GRINDING  
WHEELS AND SANDING PADS

| Type        | Order number    | Description |                       |
|-------------|-----------------|-------------|-----------------------|
| HS-4        | 8081-0021-00-00 | *           | Spanner H36           |
| HS-4        | 8100-2001-00-00 | *           | Forked wrench         |
| G-40 / G-50 | 8100-1003-00-00 | *           | Bar wrench            |
| G-40 / G-50 | 8100-2001-00-00 | *           | Forked wrench         |
| G-40 / G-50 | 8100-3001-00-00 | *           | L - wrench            |
| G-70EF      | 8100-5002-00-00 | *           | Twin wrench           |
| 7VC6500FS   |                 |             |                       |
| 7VC8500FS   |                 |             |                       |
| G-70EF      | 8081-0020-00-00 | *           | Spanner H32           |
| 7VC6500FS   |                 | *           |                       |
| 7VC8500FS   |                 |             |                       |
| TAG-40FLH   | 13-40-01-006    |             |                       |
| TAG-40FLH   | 42-05-71-G90    | *           | Wheel ring washer     |
| TAG-40FLH   | 13-40-04-014    | *           | Combi spanner 14 x 19 |
| TAG-45MLH   |                 |             |                       |
| TAG-50MLH   |                 |             |                       |
| TAG-45MLH   | 13-08-02-147    | *           | Socket bar            |
| TAG-50MLH   |                 | *           |                       |
| TAG-700QJL  | 8081-0022-00-00 |             |                       |
| TAG-900QJL  |                 |             |                       |
| TAG-40FLH   | 9610-1010-00-00 | *           | Hex wrench H10        |
| TAG-45MLH   |                 |             |                       |
| TAG-50MLH   |                 |             |                       |
| TAG-700QJL  |                 | *           |                       |
| TAG-900QJL  |                 |             |                       |
| RRI-G50     | G50-900-99      | *           | Forked wrench         |
| RRI-G70     |                 |             |                       |

\* Supplied as standard

M14X2 QUICK NUT

| Type      | Order number |
|-----------|--------------|
| RRG-2144  | QN-M14       |
| RRG-2155  |              |
| RRI-G50   |              |
| RRI-G70   |              |
| TAG-45MLH |              |
| TAG-50MLH |              |

ADAPTERS

| Type                             | Order number    |
|----------------------------------|-----------------|
| MG-OA / MG-OC / MG-1B            | 1001-0659-00-01 |
| RRI-3425(L/EL)/ RRG-500RE(L)     |                 |
| RRG-200RE(L) / RRG-2090          |                 |
| RRI-3506                         |                 |
| RRI-T3340 / RRI-T5625 / RRI-3407 |                 |

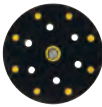
EXHAUST HOSE/SILENCER KIT

| Type     | Order number |
|----------|--------------|
| RRG-2134 | 5D-619249    |
| RRG-2144 |              |
| RRG-2155 |              |

HOOK & LOOP PADS FOR SANDERS

| Type          | Order number | Description             |
|---------------|--------------|-------------------------|
| RRI-5125-2NV  | 65-613342*   | Pad 125 mm              |
| RRI-5125-5NV  |              |                         |
| RRI-5125-2CV  | 65-6133C42*  | Pad 125 mm              |
| RRI-5125-5CV  |              |                         |
| RRI-5125-2SV  | 50LVJOSY-P   | Pad 125 mm, multi hole  |
| RRI-5125-5SV  |              |                         |
| RRI-6150-2NV  | 610227V-61*  | Pad 150 mm              |
| RRI-6150-5NV  |              |                         |
| RRI-T6250-5NV |              |                         |
| RRI-6150-2CV  | 66-613A43    | Pad 150 mm,<br>15 holes |
| RRI-6150-5CV  |              |                         |
| RRI-6150-2SV  |              |                         |
| RRI-6150-5SV  |              |                         |
| RRI-T6250-5CV |              |                         |

\* Supplied as standard

| Order number                    |                                                                                      | Order number                      |
|---------------------------------|--------------------------------------------------------------------------------------|-----------------------------------|
| 66-613A43<br>150 mm<br>15 holes |  | 50LVJOSY-P<br>125mm<br>Multi hole |

SANDERS



HS-4



MS-4125B

RRI-5125-2SV

RRI-5125-5SV

RRI-6150-2SV

RRI-6150-5SV



RRI-5125-2CV

RRI-6150-2CV

RRI-5125-5CV

RRI-6150-5CV

RRI-5125-2NV

RRI-6150-2NV

RRI-5125-5NV

RRI-6150-5NV

RRI-T6250-5NV

RRI-T6250-5CV



RRB-280

| Type     | Brand  | Pad size mm | Stroke mm | RPM    | Power kW | Spindle    | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|----------|--------|-------------|-----------|--------|----------|------------|---------------|-----------|--------------|------------------|----------------|-------------------|
| HS-4     | YOKOTA | 127 x 22    | -         | 12.000 | 0,5      | 7/16" x 20 | 9,2           | 1,1       | PT 1/4"      | 10               | 2              | 79                |
| MS-4125B | TOKU   | 125 x 22    | -         | 20.000 | 0,5      | 7/16" UNF  | 8,3           | 1,0       | PT 1/4"      | 10               | 2,3            | 90                |

PALM ORBITAL SANDERS

| Type          | Brand | Pad size mm | Stroke mm | RPM    | Power kW | Spindle   | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|---------------|-------|-------------|-----------|--------|----------|-----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-5125-2NV  | RRI   | 125         | 2,5       | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,6       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-5125-2CV  | RRI   | 125         | 2,5       | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,7       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-5125-2SV  | RRI   | 125         | 2,5       | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,7       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-5125-5NV  | RRI   | 125         | 5         | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,6       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-5125-5CV  | RRI   | 125         | 5         | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,7       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-5125-5SV  | RRI   | 125         | 5         | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,7       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-6150-2NV  | RRI   | 150         | 2,5       | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,6       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-6150-2CV  | RRI   | 150         | 2,5       | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,7       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-6150-2SV  | RRI   | 150         | 2,5       | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,7       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-6150-5NV  | RRI   | 150         | 5         | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,6       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-6150-5CV  | RRI   | 150         | 5         | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,7       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-6150-5SV  | RRI   | 150         | 5         | 12.000 | 0,3      | 5/16" UNF | 4,9           | 0,7       | PT 1/4"      | 6,5              | <2,5           | 73                |
| RRI-T6250-5NV | RRI   | 150         | 5         | 12.000 | 0,3      | 5/16" UNF | 4,9           | 1         | PT 1/4"      | 6,5              | 3,65           | 73                |
| RRI-T6250-5CV | RRI   | 150         | 5         | 12.000 | 0,3      | 5/16" UNF | 4,9           | 1         | PT 1/4"      | 6,5              | 3,65           | 73                |

\*) Standard delivered with Hook & Loop pad. NV = No dust extraction / CV = For connection to central dust extraction / SV = Self created Vacuum for dust extraction

WIRE BRUSH SANDER

| Type    | Brand | Pad size mm      | Stroke mm | RPM   | Power kW | Spindle               | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|---------|-------|------------------|-----------|-------|----------|-----------------------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRB-280 | RRI   | 80 <sup>1)</sup> | -         | 8.000 | 0,45     | M14 x 2 <sup>2)</sup> | 9,6           | 1,5       | PT 1/4"      | 10               | 9              | 80                |

1) Size wire brush (supplied without wire brushes) / 2) Spindle stainless steel

MINI-SANDERS



| Type                    | Brand | Pad size mm | RPM    | Power kW | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|-------------------------|-------|-------------|--------|----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRS-60152 <sup>1)</sup> | RR    | 50          | 15.000 | 0,3      | 4,9           | 0,54      | PT 1/4"      | 10               | 0,74           | 80                |
| RRS-60153 <sup>2)</sup> | RR    | 75          | 15.000 | 0,3      | 4,9           | 0,54      | PT 1/4"      | 10               | 0,74           | 80                |
| RRS-60323 <sup>3)</sup> | RR    | 75          | 3.200  | 0,3      | 4,9           | 0,75      | PT 1/4"      | 10               | 0,74           | 80                |

<sup>1)</sup> RRS-60152 = mini sander Ø50 mm (Roloc™-Pad) / <sup>2)</sup> RRS-60153 = mini sander Ø75 mm (Roloc™-Pad) / <sup>3)</sup> RRS-60323 = mini polisher Ø75 mm (Velcro Pad)

The RRI mini sanders can be ordered as separate tool or as set (K) with sanding and/or polishing discs. The RRS-60323K is only available as set.

The RRI mini sanders RRS-60152K and RRS-60153K come in a plastic case containing the following sanding pads: 10 x grain 80, 10 x grain 100 and 10 x grain 120. The RRS-60323K comes with 2 polishing pads and 1 polishing bonnet.

The ROLOC™ system ensures quick and safe changing of the pads.

ACCESSORIES



Polishing discs



Pad RRS-60323



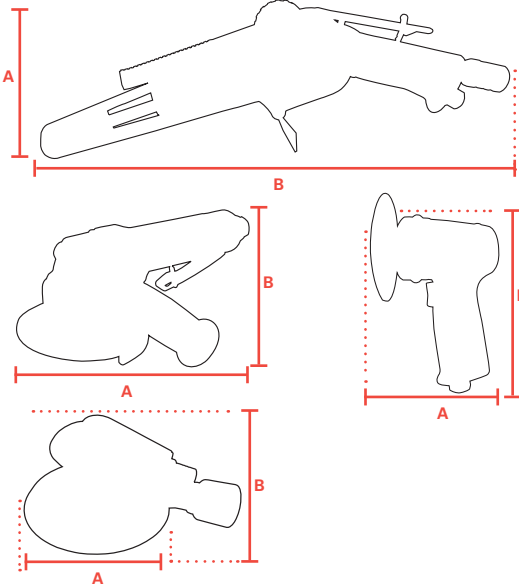
Roloc™ Pad

| Type                   | Order number | Description          |
|------------------------|--------------|----------------------|
| RRS-60043K & RRS-60323 | SA-75543VC*  | Yellow sponge 3½"    |
| RRS-60043K & RRS-60323 | SA-75653VC*  | White sponge 3½"     |
| RRS-60043K & RRS-60323 | SA-77213*    | Polishing bonnet 3½" |

\* Supplied as standard

DIMENSIONS

| Type              | A mm | B mm | C mm | D mm |
|-------------------|------|------|------|------|
| RRB-280           | 225  | 85   | 28   | 50   |
| RRG-3611          | 50   | 265  | -    | -    |
| RRG-3617K         | 50   | 265  | -    | -    |
| RRG-3621          | 60   | 420  | -    | -    |
| RRG-3630          | 60   | 490  | -    | -    |
| RRI-5125-2NV/5NV  | 163  | 104  | -    | -    |
| RRI-6150-2NV/5NV  | 163  | 104  | -    | -    |
| RRI-5125-2CV/5CV  | 213  | 104  | -    | -    |
| RRI-6150-2CV/5CV  | 213  | 104  | -    | -    |
| RRI-5125-2SV/5SV  | 213  | 104  | -    | -    |
| RRI-6150-2SV/5SV  | 213  | 104  | -    | -    |
| RRI-T6250-5NV/5CV | 262  | 104  | -    | -    |
| RRS-60323         | 116  | 150  | -    | -    |
| RRS-60152         | 116  | 140  | -    | -    |
| RRS-60153         | 116  | 140  | -    | -    |



BELT SANDERS



| Type      | Brand | Belt size mm | RPM    | Power kW | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|-----------|-------|--------------|--------|----------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRG-3617K | RRI   | 6/10 x 330   | 20.000 | 0,28     | 6,7           | 0,75      | PT 1/4"      | 10               | 0,6            | 80                |
| RRG-3611  | RRI   | 10 x 330     | 20.000 | 0,28     | 6,7           | 0,75      | PT 1/4"      | 10               | 0,6            | 80                |
| RRG-3621  | RRI   | 20 x 520     | 18.000 | 0,34     | 8,7           | 1,40      | PT 1/4"      | 10               | 2,5            | 79                |
| RRG-3630  | RRI   | 30 x 540     | 12.000 | 0,52     | 10,3          | 2,20      | PT 1/4"      | 10               | 2              | 79                |

The RRG-3617K is the same as model RRG-3611 however supplied as set. This set contains a sanding arm 6 x 330 and a sanding arm 10 x 330 mm (1 tool, 2 applications).

The RED ROOSTER belt sanders are suitable for nearly all materials, e.g. steel, aluminium, plastics and wood and for use as a de-burring method in difficult access applications. All belt sanders are executed with safety handle and adjustable silencer and a regulator screw to reduce the RPM when handling sensitive materials.

ACCESSORIES



Sanding belts

| Sanding belt for 6 mm sanding arm |            |            |
|-----------------------------------|------------|------------|
| SSB60660                          | 6 x 330 mm | Korrel 60  |
| SSB60680                          | 6 x 330 mm | Korrel 80  |
| SSB606100                         | 6 x 330 mm | Korrel 100 |
| SSB606120                         | 6 x 330 mm | Korrel 120 |
| SSB606150                         | 6 x 330 mm | Korrel 150 |

| Sanding belt for 20 mm sanding arm |             |            |
|------------------------------------|-------------|------------|
| SSB62060                           | 20 x 520 mm | Korrel 60  |
| SSB62080                           | 20 x 520 mm | Korrel 80  |
| SSB620100                          | 20 x 520 mm | Korrel 100 |
| SSB620120                          | 20 x 520 mm | Korrel 120 |
| SSB620150                          | 20 x 520 mm | Korrel 150 |

| Sanding belt for 10 mm sanding arm |             |            |
|------------------------------------|-------------|------------|
| SSB61060                           | 10 x 330 mm | Korrel 60  |
| SSB61080                           | 10 x 330 mm | Korrel 80  |
| SSB610100                          | 10 x 330 mm | Korrel 100 |
| SSB610120                          | 10 x 330 mm | Korrel 120 |
| SSB610150                          | 10 x 330 mm | Korrel 150 |

| Sanding belt for 30 mm sanding arm |             |            |
|------------------------------------|-------------|------------|
| SSB63060                           | 30 x 540 mm | Korrel 60  |
| SSB63080                           | 30 x 540 mm | Korrel 80  |
| SSB630100                          | 30 x 540 mm | Korrel 100 |
| SSB630120                          | 30 x 540 mm | Korrel 120 |
| SSB630150                          | 30 x 540 mm | Korrel 150 |



VIBRATION REDUCTION

Raynauds phenomenon, RSI

Vibration of hand held tools, in particular heavier tools such as grinders and hammers, may pose serious health risks for the operators of the tools. When working for long periods of time, and on a daily basis, one can be subject to several severe conditions. To prevent these adverse effects we offer a selection of our product range with reduced vibration.

RAYNAUDS PHENOMENON

This condition is more commonly known as “white finger disease” and can be caused by workplace exposure. Occupationally, it is most commonly associated with “hand-arm vibration syndrome”. It is important to know the signs and symptoms and the workplace hazards that cause it. Awareness and intervention, through the reduction of vibration exposure, can help prevent the disorder from progressing to a serious stage. If not detected in the early stages, the disorder can permanently impair blood circulation in the fingers.

RSI

Another potential condition the operator is subjected to is “repetitive strain injury”, commonly known as RSI. It covers many types of soft tissue injuries, including carpal tunnel syndrome and tendinitis. A mixture of poor posture, stress, repetitive motion and bad ergonomics are the most common causes.

HOW TO AVOID THESE CONDITIONS:

- A well-balanced power to weight ratio
- Rubber handgrip to dampen vibrations
- Active vibration reduction
- Good quality tools and accessories
- Replace wear parts frequently

VIBRATION REDUCED



Red Rooster and TOKU have developed numerous vibration reduced models that lower the vibration of the tool to an acceptable and manageable level. When possible, always choose pneumatic tools with an active vibration reduction. Please see the tables in this catalogue for the vibration level and look out for the vibration reduced icon.



AIR HAMMERS

TFC-200F

F-25

RR-0315

TFC-257H

RRI-4021/4

RRH-2000

AA-0BR(H)

BRH-6

RRH-4312K

RRH-4309K

AA-1.3BR(H)19x50

AA-1.3BR(H)17.5

THA-2BRH19x50

THA-3BRH19x50

THA-4BRH19x50

RRI-4006VL & RRI-4007VL

\* Used as hammer and needle scaler. See page 108

| Type                           | Brand  | Shank size mm      | Bore diameter mm | Stroke mm | Blows p/min | J/Blow | Air cons. l/s | Weight kg | Inlet thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|--------------------------------|--------|--------------------|------------------|-----------|-------------|--------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| TFC-200F                       | TOKU   | □ 12,7             | 20               | 10        | 12.000      | 1,5    | 4,1           | 1,1       | PT 1/4"      | 6,5              | 14,3                       | 91                |
| F-25 <sup>1)</sup>             | YOKOTA | □ 12,7 x 16 x 28   | 25               | 22        | 4.000       | 5,1    | 6             | 1,8       | PT 1/4"      | 6,5              | 12                         | 91                |
| RR-0315                        | RR     | □ 12,7 x 16 x 28   | 25               | 32        | 4.000       | 7,4    | 3             | 2,6       | PT 1/4"      | 6,5              | 9,4                        | 93                |
| TFC-257H                       | TOKU   | □ 12,7             | 25               | 34        | 4.000       | 7,9    | 6,7           | 1,73      | PT 1/4"      | 10               | 14                         | 92                |
| RRI-4021/4 <sup>1)</sup>       | RRI    | ○ 11 x ○ 12,7 x 40 | 18               | 30        | 4.500       | 3,5    | 10            | 2,2       | PT 1/4"      | 10               | 3,5                        | 88                |
| RRH-2000                       | RR     | ○ 11 x ○ 12,7 x 40 | 17,4             | 42        | 5.000       | 4,5    | 8,4           | 1,5       | PT 1/4"      | 10               | 8                          | 88                |
| AA-0BR(H)                      | TOKU   | ○ 12,7 x ○ 15 x 53 | 20               | 50        | 3.600       | 7,5    | 5,8           | 2,6       | PT 3/8"      | 6,5              | 12                         | 89                |
| BRH-6                          | YOKOTA | ○ 10,2 x 40        | 20               | 60        | 3.500       | 9,0    | 6,6           | 1,4       | PT 1/4"      | 10               | 17                         | 95                |
| RRH-4309K                      | RR     | ○ 11 x ○ 12,7 x 40 | 19               | 67        | 3.200       | 9,0    | 7,1           | 1,7       | PT 1/4"      | 10               | 2,2                        | 95                |
| RRH-4312K                      | RR     | ○ 11 x ○ 12,7 x 40 | 19               | 89        | 2.100       | 12,0   | 7,1           | 1,8       | PT 1/4"      | 10               | 2,6                        | 95                |
| AA-1.3BR(H)19x50 <sup>2)</sup> | TOKU   | ○ 19 x 50          | 24               | 58        | 2.800       | 12,7   | 7,5           | 4,5       | PT 3/8"      | 10               | 10                         | 93                |

For chisels overview see pages 101-104 / 1) For suction casings see page 100 / 2) Also available with shank size ○ 17,5 mm

HAMMER SETS

**RRH-4309KSET1  
RRH-4312KSET1**

- Hammer
- 5 chisels for metal
- Quick change retainer

**RRH-4309KSET2  
RRH-4312KSET2**

- Hammer
- 4 chisels for concrete or stone
- Quick change retainer

\*Chisels are also available separately see pages 101-104.

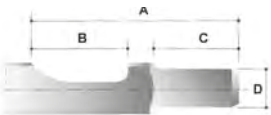
AIR HAMMERS



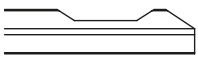
| Type          | Brand | Shank size mm | Bore diameter mm | Stroke mm | Blows p/min | J/Blow | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|---------------|-------|---------------|------------------|-----------|-------------|--------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| THA-2BRH19x50 | TOKU  | ⌀ 19 x 50     | 28,5             | 51        | 2.300       | 15,7   | 14,2          | 6,8       | PT 3/8"      | 13               | 11,6                       | 93                |
| THA-3BRH19x50 | TOKU  | ⌀ 19 x 50     | 28,5             | 64        | 2.200       | 19,9   | 15            | 7,2       | PT 3/8"      | 13               | 8                          | 93                |
| THA-4BRH19x50 | TOKU  | ⌀ 19 x 50     | 28,5             | 102       | 1.800       | 31,8   | 15,8          | 7,8       | PT 3/8"      | 13               | 11,6                       | 93                |
| RRI-4596/1    | RRI   | ⌀ 22 x 82     | 34               | 114       | 1.590       | 51,6   | 15,0          | 10,7      | PT 3/4"      | 13               | 16                         | 101               |
| RRI-4596R     | RRI   | ⌀ 25 x 75     | 34               | 114       | 1.590       | 51,6   | 15,0          | 9,7       | PT 3/4"      | 13               | 16                         | 101               |
| RRI-4612K VL  | RRI   | ⌀ 22 x 82     | 35               | 170       | 1.290       | 81,2   | 16,6          | 14,3      | PT 3/4"      | 16               | 3,8                        | 105               |
| RRI-4612R VL  | RRI   | ⌀ 25 x 75     | 35               | 170       | 1.290       | 81,2   | 16,6          | 12,9      | PT 3/4"      | 16               | 3,8                        | 105               |
| TCD-20        | TOKU  | ⌀ 22 x 82     | 43               | 60        | 2.000       | 42,4   | 18            | 11,4      | PT 1/2"      | 13               | 16                         | 106               |

For overview chisels see pages 101-104.

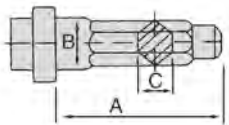
SHANK SIZE



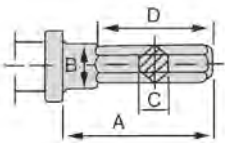
| Type     | A  | B  | C  | D   |
|----------|----|----|----|-----|
| TFC-200F | 51 | 23 | 21 | 9,5 |



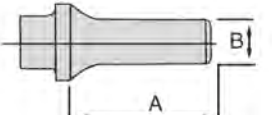
| Type     | A  | B    | C  |
|----------|----|------|----|
| F-25     | 16 | 12,7 | 28 |
| RR-0315  | 16 | 12,7 | 28 |
| TFC-257H | 13 | 12,7 | 27 |



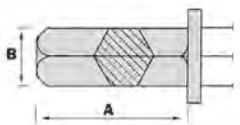
| Type       | A  | B    | C  |
|------------|----|------|----|
| RRH-2000   | 40 | 12,7 | 11 |
| RRH-4309K  | 40 | 12,7 | 11 |
| RRH-4312K  | 40 | 12,7 | 11 |
| RRI-4021/4 | 40 | 12,7 | 11 |



| Type       | A  | B  | C    |
|------------|----|----|------|
| AA-OB3R(H) | 53 | 15 | 12,7 |



| Type         | A  | B    |
|--------------|----|------|
| BRH-6        | 40 | 10,2 |
| RRI-4596R    | 75 | 25   |
| RRI-4612R VL | 75 | 25   |



| Type             | A  | B  |
|------------------|----|----|
| RRI-4596/1       | 82 | 22 |
| AA-1.3BR(H)19x50 | 50 | 19 |
| AA-3BR(H) 19x50  | 50 | 19 |
| RRI-4612K VL     | 82 | 22 |
| TCD-20           | 82 | 22 |
| THA-2BRH 19x50   | 50 | 19 |
| THA-3BRH 19x50   | 50 | 19 |
| THA-4BRH 19x50   | 50 | 19 |



**VIBRATION REDUCED**  
Vibration reduction in the hammers, breakers and drills enables longer working hours. For further information please refer to page 96.

BREAKERS & ROCK DRILLS

Paving Breakers



| Type                    | Brand | Shank size mm | Bore diameter mm | Stroke mm | Blows p/min | J/Blow | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|-------------------------|-------|---------------|------------------|-----------|-------------|--------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| TPB-40                  | TOKU  | ⌀ 25 x 108    | 44               | 146       | 1.400       | 110    | 26            | 19        | PT 3/4"      | 19               | 19,1                       | 106               |
| TPB-40SV <sup>1)</sup>  | TOKU  | ⌀ 25 x 108    | 40               | 146       | 1.050       | 110    | 26            | 19,5      | PT 3/4"      | 19               | 5,5                        | 106               |
| TPB-501SV <sup>1)</sup> | TOKU  | ⌀ 32 x 160    | 50               | 156       | 1.250       | 151    | 25            | 28,1      | PT 3/4"      | 19               | 5,3                        | 107               |
| TPB-60                  | TOKU  | ⌀ 32 x 160    | 57               | 100       | 1.400       | 125    | 27            | 30        | PT 3/4"      | 19               | 9,7                        | 110               |

<sup>1)</sup> Vibration reduced / For chisels please refer to pages 101-104.

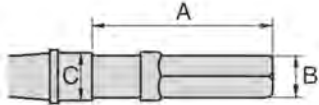
Rock Drills



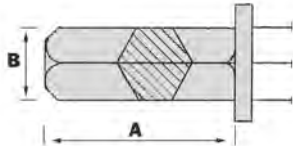
| Type                      | Brand | Shank size mm      | Bore diameter mm | Stroke mm | Blows p/min | RPM | J/Blow | Air cons l/sec | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|---------------------------|-------|--------------------|------------------|-----------|-------------|-----|--------|----------------|-----------|--------------|------------------|----------------------------|-------------------|
| TH-5S <sup>1)</sup>       | TOKU  | ⌀ 19 x ⌀ 14,8 x 89 | 38               | 31        | 3.400       | 420 | 17     | 14             | 5,8       | PT 3/8"      | 13               | 14                         | 95                |
| TJ-15SBS                  | TOKU  | ⌀ 22 x 82          | 54               | 45        | 2.450       | 250 | 44,7   | 26             | 17,4      | PT 3/4"      | 19               | 30                         | 99                |
| TJ-15SV LBS <sup>1)</sup> | TOKU  | ⌀ 22 x 108         | 54               | 45        | 2.450       | 250 | 44,7   | 26             | 17,7      | PT 3/4"      | 19               | 7                          | 99                |
| TJ-15SV SBS <sup>1)</sup> | TOKU  | ⌀ 22 x 82          | 54               | 45        | 2.450       | 250 | 44,7   | 26             | 17,4      | PT 3/4"      | 19               | 7                          | 99                |
| TJ-20SV LBS <sup>1)</sup> | TOKU  | ⌀ 22 x 108         | 68               | 49        | 2.400       | 200 | 72     | 41             | 19        | PT 3/4"      | 19               | 10,8                       | 100               |
| TJ-20SV SBS <sup>1)</sup> | TOKU  | ⌀ 22 x 82          | 68               | 49        | 2.400       | 200 | 72     | 41             | 19        | PT 3/4"      | 19               | 10,8                       | 100               |

<sup>1)</sup> Vibration reduced. For drills please refer to page 105.

SHANK SIZE



| Type  | A  | B    | C  |
|-------|----|------|----|
| TH-55 | 89 | 14,8 | 19 |



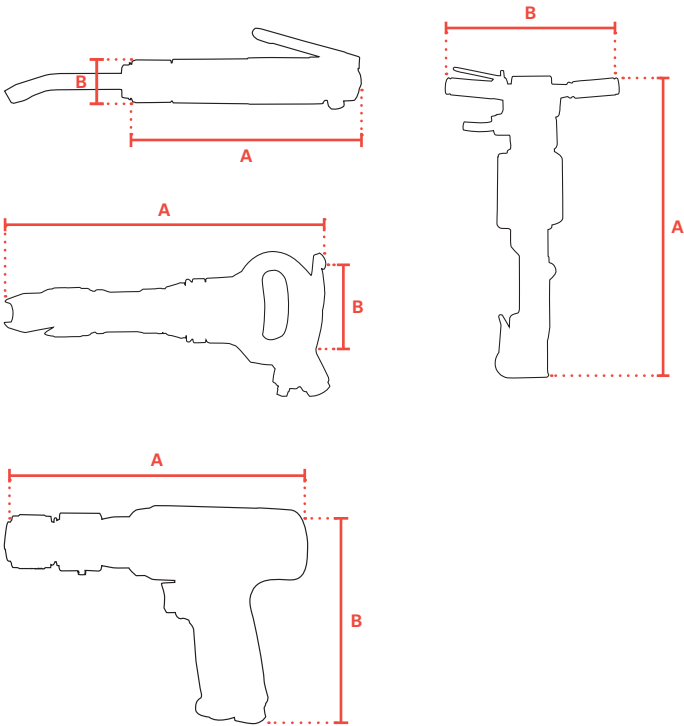
| Type          | A      | B  |
|---------------|--------|----|
| TPB-40/40SV   | 108    | 25 |
| TPB-50N/501SV | 160    | 32 |
| TPB-60        | 160    | 32 |
| TJ-15LBS/SBS  | 108/82 | 22 |
| TJ-20LBS/SBS  | 108/82 | 22 |



# AIR HAMMERS BREAKERS & ROCK DRILLS

## Dimensions & Accessories

| DIMENSIONS    |      |      |
|---------------|------|------|
| Type          | A mm | B mm |
| AA-OBR(H)     | 245  | 95   |
| AA-1.3BR(H)   | 300  | 76   |
| BRH-6         | 200  | 149  |
| F-25          | 310  | 43   |
| RR-0315       | 320  | 43   |
| RRH-2000      | 165  | 140  |
| RRH-4309K     | 223  | 173  |
| RRH-4312K     | 267  | 173  |
| RRI-4021/4    | 255  | 100  |
| RRI-4596/1    | 480  | 118  |
| RRI-4596 R    | 480  | 118  |
| RRI-4612k VL  | 645  | 120  |
| RRI-4612R VL  | 645  | 120  |
| TCD-20        | 520  | 100  |
| TFC-200F      | 189  | 40   |
| TFC-257H      | 330  | 43   |
| TH-5S         | 425  | 250  |
| THA-2BRH19x50 | 350  | 87   |
| THA-3BRH19x50 | 422  | 87   |
| THA-4BRH19x50 | 430  | 87   |
| TJ-15         | 468  | 340  |
| TJ-20         | 385  | 585  |
| TPB-40        | 670  | 350  |
| TPB-40SV      | 649  | 390  |
| TPB-501SV     | 714  | 390  |
| TPB-60        | 645  | 400  |



### ACCESSORIES

For dust extraction of the models RRI-4021/4 and F25.  
For other hammers ask for the most suitable solution.



DC6622



DC6078

### SUCTION CASINGS FOR AIR HAMMERS

| For hammer | Type   | Tool connection<br>Ø D (in/mm) | Hose connection<br>(in/mm) | Height mm |
|------------|--------|--------------------------------|----------------------------|-----------|
| F25        | DC6622 | 43                             | 38                         | 158       |
| RRI-4021/4 | DC6078 | 61                             | 38                         | 178       |

### QUICK CHANGE CHISEL RETAINER

| Hammer    | Order number |  |
|-----------|--------------|--|
| BRH-6     | PT-2311      |  |
| RRH-2000* | PT-2311      |  |
| RRH-4309  | TJI-202A     |  |
| RRH-4312  | TJI-202A     |  |

### CHISEL HOLDER

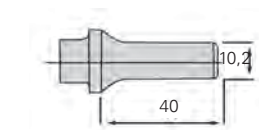
| Hammer   | Order number |  |
|----------|--------------|--|
| RRH-4309 | TJI-202C     |  |
| RRH-4312 | TJI-202C     |  |

### RETAINER SPRING

| Hammer   | Order number |  |
|----------|--------------|--|
| RRH-4309 | TJI-207      |  |
| RRH-4312 | TJI-207      |  |

\* Supplied as standard

# CHISELS FOR AIR HAMMERS

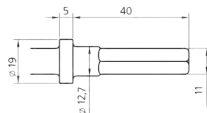


### FOR HAMMERS

- YOKOTA BRH-6
- RED ROOSTER RRH-4210

SHANK SIZE Ø 10,2 MM X 40 MM

| Order number | Description            | L (mm)<br>total | B (mm) |
|--------------|------------------------|-----------------|--------|
| BE101002     | Cutting chisel         | 122             | 20     |
| BE101003     | Sheet metal trimmer    | 135             | 16     |
| BE101005     | Muffler cutter         | 115             | 15     |
| BE101006     | Bushing splitter       | 132             | 12     |
| BE101007     | Spot-weld breaker bent | 79              | 15     |
| BE101008     | Bushing driver         | 63              | Ø 23   |
| BE101010     | Flat chisel            | 120             | 33     |
| BE101011     | Double edged cutter    | 110             | 22     |
| BE101012     | Shear bent             | 132             | 12     |
| BE101016     | Straight punch         | 120             | Ø 12   |
| BE101017     | Spot-weld breaker      | 117             | 19     |
| BE101018     | Scraper                | 137             | 33     |
| BE101019     | Tail pipe cutter       | 119             | 29     |
| BE101020     | Concave scraping       | 130             | 34     |
| BE101021     | Wide cutting           | 129             | 44     |
| BE101022     | Diamond point          | 161             | -      |
| BE101024     | Flat, bent             | 106             | 15     |
| BE101025     | River cutter           | 109             | 23     |
| BE101027     | Center punch chisel    | 106             | Ø 9    |
| BE101028     | Pin punch              | 134             | Ø 8    |

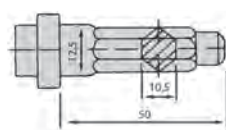


### FOR HAMMERS

- RED ROOSTER RRH-2000
- RED ROOSTER RRH-4309K
- RED ROOSTER RRH-4312K
- RED ROOSTER RRI-4021/4

SHANK SIZE 11 MM HEX / Ø 12,7 MM X 40 MM

| Order number | Description                       | L (mm)<br>total | B (mm) |
|--------------|-----------------------------------|-----------------|--------|
| CB51102190   | Wide Cuttingchisbent              | 190             | 32     |
| CB51103185   | 45mm Wide hisel,L=185mm           | 185             | 45     |
| CB51103250   | Flat Chisel                       | 235             | 40     |
| CB51104190   | Wide flat bent chisel             | 190             | 33     |
| CB51109165   | Flat Chisel                       | 165             | 18     |
| CB51109180   | Flat Chisel                       | 180             | 18     |
| CB51109250   | Flat Chisel                       | 250             | 18     |
| CB51109350   | Flat Chisel                       | 350             | 20     |
| CB51112180   | Flat Chisel                       | 180             | 33     |
| CB51112250   | Flat Chisel                       | 250             | 33     |
| CB51114180   | Double Bladepanelcutter           | 178             | 22     |
| CB51115180   | Moil point chisel                 | 180             | -      |
| CB51115250   | Moil Point                        | 250             | -      |
| CB51116180   | Chisel                            | 175             | 26     |
| CB51117180   | Spotweld Breaker                  | 179             | 20     |
| CB51123180   | Claw Ripper/PannelCutter          | 176             | 16     |
| CB51193180   | Slotting Tool W.Carbide Tip L=180 | 180             | 38     |
| CB51193180-4 | Slotting Tool W.Carbide Tip L=180 | 180             | 38     |
| CB51193180-6 | Slotting Tool W.Carbide Tip L=180 | 180             | 38     |

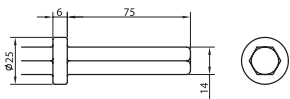


### FOR HAMMERS

- RED ROOSTER RRH-4210K

SHANK SIZE 10,5 MM HEX X Ø 12,5 MM X 50 MM

| Order number | Description                    | L (mm)<br>total | B (mm) |
|--------------|--------------------------------|-----------------|--------|
| BE151002     | Cutting chisel                 | 122             | 20     |
| BE151003     | Sheet metal trimmer            | 135             | 16     |
| BE151004     | Panel cutter                   | 131             | 15     |
| BE151005     | Muffler cutter                 | 115             | 15     |
| BE151007     | Spot-weld breaker bent         | 79              | 15     |
| BE151008     | Bushing driver                 | 63              | Ø 23   |
| BE151009     | Tapered punch                  | 132             | Ø 3    |
| BE151010     | Flat chisel                    | 120             | 33     |
| BE151011     | Double edged cutter            | 110             | 22     |
| BE151012     | Shear bent                     | 132             | 12     |
| BE151014     | Double blade panel cutter      | 136             | 18     |
| BE151015     | Wide cutting, bent             | 130             | 33     |
| BE151016     | Straight punch                 | 120             | Ø 12   |
| BE151017     | Spot-weld breaker              | 117             | 19     |
| BE151018     | Scraper                        | 137             | 33     |
| BE151019     | Tail pipe cutter               | 119             | 29     |
| BE151020     | Concave scraping               | 130             | 34     |
| BE151021     | Wide cutting                   | 129             | 44     |
| BE151022     | Diamond point                  | 161             | -      |
| BE151024     | Flat, bent                     | 106             | 15     |
| BE151026     | Round nose panel cutter        | 90              | 21     |
| BE151027     | Center punch chisel            | 106             | Ø 9    |
| BE151028     | Pin punch                      | 134             | Ø 8    |
| BE152001     | Slotting tool with carbide tip | 155             | 30     |



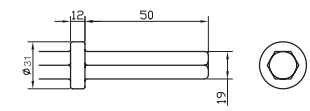
### FOR HAMMERS

- Von Arx

SHANK SIZE 13,8 MM 6-KT X 75 MM

| Order number | Description                    | L (mm)<br>total | B (mm) |
|--------------|--------------------------------|-----------------|--------|
| CB5100105/3  | Moil point                     | 180             | -      |
| CB5100102/3  | Flat chisel                    | 110             | 24     |
| CB5100104/3  | Flat chisel                    | 180             | 24     |
| CB5100103/3  | Wide flat chisel               | 180             | 40     |
| CB5100107/3S | Wide flat chisel               | 180             | 60     |
| CB5100115/3  | Wide flat chisel               | 180             | 100    |
| CBMCOVAXS    | Slotting tool with carbide tip | 120             | 35     |

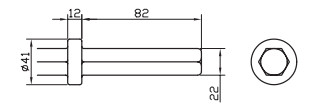
CHISELS FOR AIR HAMMERS



- FOR HAMMERS**
- TOKU AA-1.3BR(H) 19x50
  - TOKU THA-Series

SHANK SIZE 19 MM 6-HEX X 50 MM

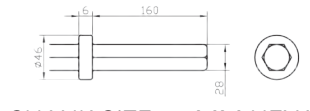
| Order number | Description           | L (mm)<br>under<br>the collar | B (mm) |
|--------------|-----------------------|-------------------------------|--------|
| MP5          | Moil point            | 250                           | -      |
| MP5-350      | Moil point            | 350                           | -      |
| MP5-450      | Moil point            | 450                           | -      |
| NC5          | Flat chisel           | 250                           | 25     |
| NC5-350      | Flat chisel           | 340                           | 25     |
| NC5-450      | Flat chisel           | 440                           | 25     |
| CB5          | Wide flat chisel      | 250                           | 60     |
| CB5-G        | Wide flat bent chisel | 250                           | 60     |



- FOR HAMMERS**
- TOKU TCD-20
  - RED ROOSTER RRI-4596/1
  - RED ROOSTER RRI-4612K VL

SHANK SIZE 22 MM HEX X 82,5 MM

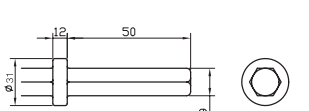
| Order number | Description      | L (mm)<br>under<br>the collar | B (mm) |
|--------------|------------------|-------------------------------|--------|
| MP4          | Moil point       | 380                           | -      |
| MP4-450      | Moil point       | 450                           | -      |
| MP4-1000     | Moil point       | 1.000                         | -      |
| MP4-1500     | Moil point       | 1.400                         | -      |
| MP4-2000     | Moil point       | 1.900                         | -      |
| NC4          | Flat chisel      | 380                           | 28     |
| NC4-450      | Flat chisel      | 450                           | 28     |
| NC4-1000     | Flat chisel      | 1.000                         | 27     |
| NC4-1500     | Flat chisel      | 1.500                         | 28     |
| NC4-2000     | Flat chisel      | 2.000                         | 27     |
| NC4-2500     | Flat chisel      | 2.500                         | 27     |
| CB4          | Wide flat chisel | 380                           | 75     |
| DC4          | Asphalt chisel   | 400                           | 75     |
| AC4          | Asphalt cutter   | 350                           | 100    |



- FOR HAMMERS**
- TOKU TPB-50N
  - TOKU TPB-501SV
  - TOKU TPB-60

SHANK SIZE 32 MM HEX X 160 MM

| Order number | Description           | L (mm)<br>under<br>the collar | B (mm) |
|--------------|-----------------------|-------------------------------|--------|
| MP1A         | Moil point            | 380                           | -      |
| MP1          | Moil point            | 450                           | -      |
| MP1-900      | Moil point            | 900                           | -      |
| MP1-1500     | Moil point            | 1.500                         | -      |
| NC1A         | Flat chisel           | 380                           | 35     |
| NC1          | Flat chisel           | 450                           | 35     |
| CB1A         | Wide flat chisel      | 380                           | 75     |
| DC1          | Digging chisel        | 400                           | 75     |
| AC1          | Heavyt asphalt cutter | 270                           | 115    |
| CB5019       | Asphalt cutter        | 280                           | 125    |

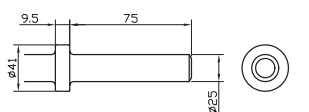


- FOR HAMMERS**
- TOKU TPB-40
  - TOKU TPB-40SV

SHANK SIZE 25 MM HEX X 108 MM

| Order number | Description      | L (mm)<br>under<br>the collar | B (mm) |
|--------------|------------------|-------------------------------|--------|
| MP3          | Moil point       | 380                           | -      |
| MP3-450      | Moil point       | 450                           | -      |
| MP3-1000     | Moil point       | 1.000                         | -      |
| MP3-1500     | Moil point       | 1.500                         | -      |
| MP3-2000     | Moil point       | 2.000                         | -      |
| NC3          | Flat chisel      | 380                           | 25     |
| NC3-450      | Flat chisel      | 450                           | 25     |
| CB3          | Wide flat chisel | 360                           | 75     |
| DC3          | Digging chisel   | 400                           | 75     |
| AC3          | Asphalt cutter   | 400                           | 125    |
| AC3-PF*      | Asphalt cutter   | 400                           | 125    |

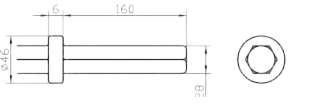
\* When the chisel lies flat the position of the tip of the hex faces upwards



- FOR HAMMERS**
- RED ROOSTER RRI-4596/R
  - RED ROOSTER RRI-4612R VL

SHANK SIZE Ø 25 MM X 75 MM,  
ROUND COLLAR 42 MM

| Order number | Description | L (mm)<br>under<br>the collar | B (mm) |
|--------------|-------------|-------------------------------|--------|
| B350MP       | Moil point  | 350                           | -      |
| B450MP       | Moil point  | 450                           | -      |
| B600MP       | Moil point  | 600                           | -      |
| B1000MP      | Moil point  | 1.000                         | -      |
| B1500MP      | Moil point  | 1.500                         | -      |
| B2000MP      | Moil point  | 2.000                         | -      |
| B350NC       | Flat chisel | 350                           | 24     |
| B450NC       | Flat chisel | 450                           | 24     |
| B600NC       | Flat chisel | 600                           | 24     |
| B1000NC      | Flat chisel | 1.000                         | 24     |
| B1500NC      | Flat chisel | 1.500                         | 24     |

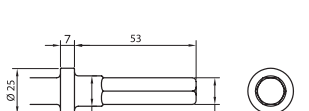


- FOR HAMMERS**
- TOKU TPB-40
  - TOKU TPB-40SV

SHANK SIZE 28 MM HEX X 160 MM

| Order number | Description      | L (mm)<br>under<br>the collar | B (mm) |
|--------------|------------------|-------------------------------|--------|
| MP2A         | Moil point       | 380                           | -      |
| MP2          | Moil point       | 450                           | -      |
| NC2A         | Flat chisel      | 380                           | 35     |
| NC2          | Flat chisel      | 450                           | 35     |
| CB2A         | Wide flat chisel | 380                           | 75     |
| DC2          | Wide flat chisel | 400                           | 75     |
| CB5819       | Asphalt cutter   | 350                           | 125    |

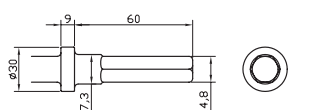
CHISELS FOR AIR HAMMERS



- FOR HAMMERS**
- TOKU AA-OB
  - TOKU AA-OB(RH)

SHANK SIZE 12,7MM HEX / Ø 15MM X 53MM

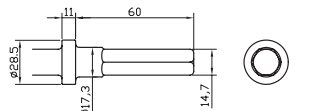
| Order number     | Description      | L (mm)<br>total | B (mm) |
|------------------|------------------|-----------------|--------|
| BEAA-OB-01       | Flat chisel      | 220             | 16     |
| BEAA-OB-01 400MM | Flat chisel      | 400             | 16     |
| BEAA-OB-02       | Diamond point    | 220             | -      |
| BEAA-OB-02 400MM | Diamond point    | 400             | -      |
| BEAA-OB-03       | Flat chisel      | 220             | 25     |
| BEAA-OB-04       | Flat chisel      | 220             | 49     |
| BEAA-OB-04 540MM | Flat chisel      | 540             | 49     |
| BEAA-OB-05       | Flat chisel      | 220             | 97     |
| BEAA-OB-06       | Flat chisel bent | 220             | 50     |



- FOR HAMMERS**
- TOKU AA-1.3B, AA-3B (old series)

SHANK SIZE 14,8MM HEX / Ø 17,3MM X 60MM

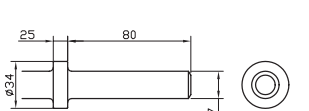
| Order number | Description            | L (mm)<br>total | B (mm) |
|--------------|------------------------|-----------------|--------|
| CB3210260    | Moil point             | 280             | -      |
| CB3210450    | Moil point             | 530             | -      |
| CB418        | Round nose             | 210             | -      |
| CB420        | Diamond point          | 160             | -      |
| CB3211260    | Flat chisel            | 380             | 22     |
| CB424        | Flat chisel            | 190             | 50     |
| CB426        | Flat chisel            | 137             | 38     |
| CB3218200    | Wide flat chisel       | 190             | 50     |
| CB3217210G   | Wide flat chisel, bent | 200             | 95     |
| CB3211450    | Flat chisel, bent      | 510             | 22     |



- FOR HAMMERS**
- TOKU THH-2BH
  - TOKU THH-3BH
  - TOKU THH-4BH

SHANK SIZE 14,7 MM HEX / Ø 17,3MM X 60MM,  
OVAL COLLAR

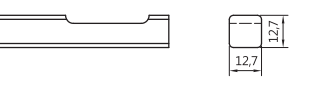
| Order number | Description      | L (mm)<br>total | B (mm) |
|--------------|------------------|-----------------|--------|
| HS2-OC       | Flat chisel      | 200             | 24     |
| CB304        | Flat chisel      | 158             | 24     |
| CB304-12     | Flat chisel      | 234             | 24     |
| CB304-18     | Flat chisel      | 386             | 24     |
| CB324-24     | Flat chisel      | 610             | 50     |
| HS2-32-OC    | Wide flat chisel | 200             | 32     |
| HS2-50-OC    | Wide flat chisel | 200             | 50     |
| HS6-OC       | Moil point       | 200             | -      |



- FOR HAMMERS**
- RED ROOSTER RRH-4210K

SHANK SIZE 27 MM X 80 MM, COLLAR 34 MM SQUARE

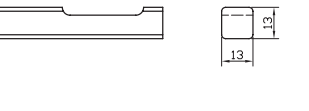
| Order number | Description | L (mm)<br>total | B (mm) |
|--------------|-------------|-----------------|--------|
| CB1362010045 | Moil point  | 400             | -      |
| CB1362011045 | Flat chisel | 400             | 27     |



- FOR HAMMERS**
- AC RRC-12

SHANK SIZE 13 MM SQUARE, WITH RRC RECESS

| Order number | Description            | L (mm)<br>total | B (mm) |
|--------------|------------------------|-----------------|--------|
| CB3251       | Flat chisel            | 180             | 19     |
| CB3251-300   | Flat chisel            | 300             | 19     |
| CB3251-450   | Flat chisel            | 450             | 19     |
| CB3252       | Wide flat chisel       | 155             | 34     |
| CB3252-300   | Wide flat chisel       | 240             | 34     |
| CB3253       | Wide flat chisel, bent | 178             | 34     |



- FOR HAMMERS**
- AC RRC

SHANK SIZE 13 MM SQUARE, WITH RRC RECESS

| Order number    | Description                          | L (mm)<br>total | B (mm) |
|-----------------|--------------------------------------|-----------------|--------|
| CB4221          | Flat chisel                          | 180             | 19     |
| CB4222          | Wide flat chisel                     | 153             | 38     |
| CBMCCORRC13.2   | Slotting tool with carbide tip (d=8) | 150             | 36     |
| CBMCCORRC13.0-4 | Slotting tool with carbide tip (d=4) | 150             | 36     |
| CBMCCORRC13.0-6 | Slotting tool with carbide tip (d=6) | 150             | 36     |
| CBMCO422180-1   | Slotting tool with carbide tip(d=8)  | 180             | 36     |
| CBMCO422180-2   | Slotting tool with carbide tip (d=4) | 180             | 36     |
| CBMCO422180-3   | Slotting tool with carbide tip (d=6) | 180             | 35     |



CHISELS FOR AIR HAMMERS

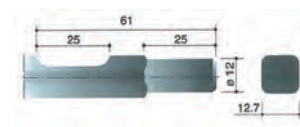


**FOR HAMMERS**

- YOKOTA F-25
- RED ROOSTER RR-0315

SHANK SIZE 12,7 MM SQUARE, WITH RECESS

| Order number    | Description                          | L (mm)<br>total | B (mm) |
|-----------------|--------------------------------------|-----------------|--------|
| BE15/1B         | Flat, bent                           | 112             | 20     |
| BE15/1F         | Flat chisel                          | 115             | 20     |
| BE15/1G         | Wide flat chisel, bent               | 114             | 34     |
| BE15/1W         | Wide flat chisel                     | 115             | 34     |
| 8160-1002-00-00 | Flat, bent                           | 115             | 25     |
| CBMCOF25-150    | Slotting tool with carbide tip       | 103             | 33     |
| CBMCOF25-180    | Slotting tool with carbide tip (d=8) | 180             | 35     |
| CBMCOF25-180-4  | Slotting tool with carbide tip(d=4)  | 180             | 35     |
| CBMCOF25-180-6  | Slotting tool with carbide tip (d=6) | 180             | 35     |



**FOR HAMMERS**

- TOKU TFC-200F

SHANK SIZE 12,7 MM SQUARE, WITH RECESS

| Order number | Description            | L (mm)<br>total | B (mm) |
|--------------|------------------------|-----------------|--------|
| CB40901180   | Moil point             | 180             | -      |
| CB40902180   | Flat chisel            | 180             | 19     |
| CB40903180   | Wide flat chisel, bent | 180             | 35     |
| CB40904180   | Wide flat chisel, bent | 180             | 35     |
| CB40905180   | Wide flat chisel       | 180             | 50     |
| CB40906180   | Wide flat chisel, bent | 180             | 50     |



**FOR HAMMERS**

- RED ROOSTER RRI-4006VL
- RED ROOSTER RRI-4007VL

SHANK SIZE 12,7 MM SQUARE WITH RECESS

| Order number | Description                 | L (mm)<br>total | B (mm) |
|--------------|-----------------------------|-----------------|--------|
| 704.3101     | Moil point                  | 178             | 19     |
| 704.3103     | Wide flat chisel            | 178             | 64     |
| 704.3107     | Flat chisel                 | 254             | 19     |
| 704.3110     | Wide flat chisel spark free | 178             | 50     |
| 704.3205     | Flat bent chisel            | 178             | 35     |

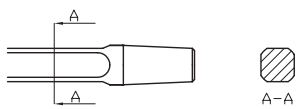


**FOR HAMMERS**

- TOKU TFC-257H

SHANK SIZE 12,7 MM SQUARE, WITH RECESS

| Order number | Description                          | L (mm)<br>total | B (mm) |
|--------------|--------------------------------------|-----------------|--------|
| CB382        | Flat chisel                          | 178             | 19     |
| CB382-12     | Flat chisel                          | 300             | 19     |
| CB382-18     | Flat chisel                          | 455             | 19     |
| CB383        | Wide flat chisel                     | 178             | 35     |
| CB383-12     | Wide flat chisel                     | 300             | 35     |
| CB383-18     | Wide flat chisel                     | 450             | 35     |
| CB384        | Wide flat chisel, bent               | 178             | 35     |
| CB384/12     | Wide flat chisel, bent               | 300             | 35     |
| CB380        | Wide flat chisel                     | 178             | 50     |
| CB380-3      | Wide flat chisel                     | 200             | 75     |
| CBMCOIR180   | Slotting tool with carbide tip       | 200             | 35     |
| CBMCOIR180-4 | Slotting tool with carbide tip (d=4) | 200             | 35     |
| CBMCOIR180-6 | Slotting tool with carbide tip (d=6) | 200             | 35     |



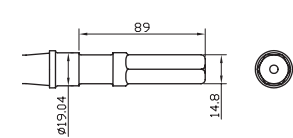
**FOR HAMMERS**

- IR9001 (e.g.)

SHANK SIZE JUMBO SQUARE

| Order number | Description | L (mm)<br>total | B (mm) | Ø  |
|--------------|-------------|-----------------|--------|----|
| CB296        | Moil point  | 250             | -      |    |
| CB297        | Moil point  | 300             | -      |    |
| CB276        | Flat chisel | 250             | 24     |    |
| CB276-12     | Flat chisel | 300             | 24     |    |
| CB276-18     | Flat chisel | 450             | 24     |    |
| CB278        | Punch       | 250             | -      | 10 |
| CB279        | Punch       | 250             | -      | 13 |
| CB280        | Punch       | 250             | -      | 16 |
| CB281        | Punch       | 250             | -      | 19 |
| CB282        | Punch       | 250             | -      | 22 |
| CB283        | Punch       | 250             | -      | 25 |
| CB284        | Punch       | 250             | -      | 28 |

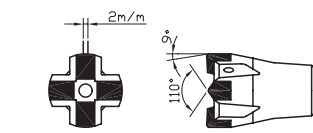
DRILLS FOR AIR HAMMERS





MONOBLOC-DRILLS SHANK 14.8 MM HEX X 89 MM COMBI FOR HAMMERS - TOKU TH-5S

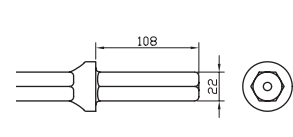
| Order number | L (mm)<br>total | Ø (mm) |
|--------------|-----------------|--------|
| CB9F25013    | 330             | 13     |
| CB9F25014    | 330             | 14     |
| CB9F25016    | 330             | 16     |
| CB9F25019    | 330             | 19     |
| CB9F25022    | 330             | 22     |
| CB9F35014    | 430             | 14     |
| CB9F35016    | 430             | 16     |
| CB9F35019    | 430             | 19     |
| CB9F35022    | 430             | 22     |





DRILL BIT CROSSHEADS, KONUS II

| Order number | L (mm)<br>total | Ø (mm) |
|--------------|-----------------|--------|
| CB6126300030 | -               | 30     |
| CB6126300032 | -               | 32     |
| CB6126300034 | -               | 34     |
| CB6126300036 | -               | 36     |
| CB6126300038 | -               | 38     |
| CB6126300040 | -               | 40     |
| CB6126300045 | -               | 45     |
| CB6126300050 | -               | 50     |
| CB6126300055 | -               | 55     |

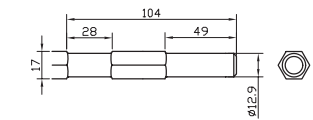




DRILL BARS SHANK 22 MM HEX X 108 MM KONUS II FOR HAMMERS - TOKU TJ-15LBS /TJ-20LBS

| Order number | L (mm)<br>total | Ø (mm) |
|--------------|-----------------|--------|
| CB2261510500 | 500             | -      |
| CB2261510800 | 800             | -      |
| CB2261511000 | 1.000           | -      |
| CB2261511400 | 1.400           | -      |
| CB2261512000 | 2.000           | -      |
| CB2261512400 | 2.400           | -      |

CHISELS FOR ELECTRIC HAMMERS

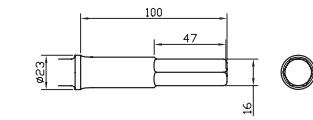


FOR HAMMERS

- Makita 0810, 8035

SHANK SIZE Ø 12,9MM X 77 MM

| Order number | Description      | L (mm) total | B (mm) |
|--------------|------------------|--------------|--------|
| CB2453       | Flat chisel      | 280          | 20     |
| CB2455       | Wide flat chisel | 280          | 40     |

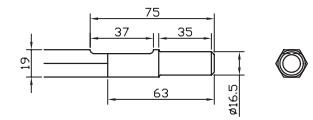


FOR HAMMERS

- Duss PK35, PK40, PK45, PK75

SHANK SIZE 16MM HEX X 100 MM

| Order number | Description | L (mm) total | B (mm) |
|--------------|-------------|--------------|--------|
| CB2291       | Moil point  | 400          | -      |
| CB2293       | flat chisel | 400          | 24     |

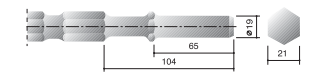


FOR HAMMERS

- Bosch USH6, UBH6,11206

SHANK SIZE Ø 16,3MM X 19MM

| Order number | Description      | L (mm) total | B (mm) |
|--------------|------------------|--------------|--------|
| CB2061       | Moil point       | 300          | -      |
| CB2066       | Flat chisel      | 300          | 24     |
| CB2072       | Wide flat chisel | 400          | 50     |

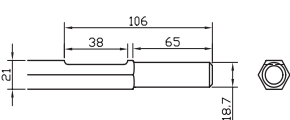


FOR HAMMERS

- Kangoo 900/950

SHANK SIZE Ø 19 MM X 65 MM

| Order number | Description              | L (mm) total | B (mm) |
|--------------|--------------------------|--------------|--------|
| CB2381       | Wide flat chisel         | 300          | 50     |
| CB2381-L     | Wide flat chisel         | 380          | 50     |
| CB2382       | Wide flat chisel         | 300          | 75     |
| CB944484     | Adaptor for floorscraper | 450          | -      |

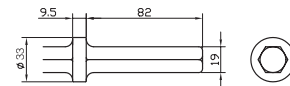


FOR HAMMERS

- Kangoo 900/950

SHANK SIZE Ø 19 MM X 65 MM

| Order number  | Description                     | L (mm) total | B (mm) |
|---------------|---------------------------------|--------------|--------|
| CB2362        | Moil point                      | 380          | -      |
| CB2363        | Moil point                      | 450          | -      |
| CB2366        | Flat chisel                     | 380          | 24     |
| CB2367        | Flat chisel                     | 450          | 24     |
| CB100134      | Floorscraper                    | 270          | 150    |
| CB100156      | Blade for floorscraper M10      | -            | 150    |
| CB100156-M12  | Blade for floorscraper M12      | -            | 150    |
| CBB61040K     | Repair kit for floorscraper M10 | -            | -      |
| CBB61040K-M12 | Repair kit for floorscraper M12 | -            | -      |

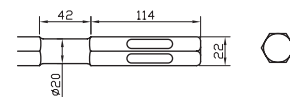


FOR HAMMERS

- Wacker

SHANK SIZE 19 MM HEX X 82,5MM

| Order number | Description      | L (mm) total | B (mm) |
|--------------|------------------|--------------|--------|
| CB2904       | Flat chisel      | 330          | 24     |
| CB2906       | Flat chisel      | 500          | 24     |
| CB2907       | Wide flat chisel | 330          | 65     |



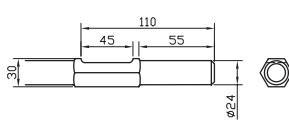
FOR HAMMERS

- Duss PK160, PK300

SHANK SIZE 22 MM HEX WITH RECESS

| Order number | Description      | L (mm) total | B (mm) |
|--------------|------------------|--------------|--------|
| CB100526     | Moil point       | 400          | -      |
| CB100533     | Moil point       | 500          | -      |
| CB100534     | Flat chisel      | 500          | 28     |
| CB100535     | Wide flat chisel | 500          | 50     |

CHISELS FOR ELECTRIC HAMMERS



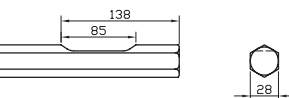
FOR HAMMERS

- Makita
- Hitachi

SHANK SIZE Ø 24MM X 55MM

| Order number | Description      | L (mm) total | B (mm) |
|--------------|------------------|--------------|--------|
| CB3021       | Moil point       | 400          | -      |
| CB3022A *    | Flat chisel      | 400          | 32     |
| CB3022B *    | Flat chisel      | 400          | 32     |
| CB3023A *    | Wide flat chisel | 400          | 75     |
| CB3023B *    | Wide flat chisel | 400          | 75     |
| CB3024A *    | Asphalt cutter   | 400          | 125    |

\* Type A: recess parallel on flat side of the spade, type B: crosswise

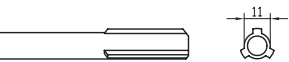


FOR HAMMERS

- Bosch USH27, 11304

SHANK SIZE 28MM HEX WITH RECESS

| Order number | Description      | L (mm) total | B (mm) |
|--------------|------------------|--------------|--------|
| CB2001       | Moil point       | 400          | -      |
| CB2003       | Flat chisel      | 400          | 35     |
| CB2005       | Wide flat chisel | 400          | 75     |

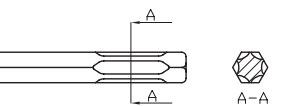


FOR HAMMERS

- Impex EH25

SHANK SIZE 11 MM

| Order number | Description                    | L (mm) total | B (mm) |
|--------------|--------------------------------|--------------|--------|
| CBMCOEH25    | Slotting tool with carbide tip | 250          | 35     |

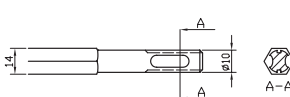


FOR HAMMERS

- Hilti TE805, TE905
- TE-1000-AVR & TE-2000-AVR

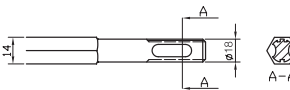
SHANK SIZE HILTI TE805 AND TE905

| Order number | Description      | L (mm) total | B (mm) |
|--------------|------------------|--------------|--------|
| CB914972     | Moil point       | 360          | -      |
| CB914974     | Moil point       | 500          | -      |
| CB914982     | Flat chisel      | 360          | 30     |
| CB914992     | Wide flat chisel | 360          | 50     |
| CB914995     | Wide flat chisel | 360          | 75     |



SDS PLUS

| Order number    | Description                    | L (mm) total | B (mm) |
|-----------------|--------------------------------|--------------|--------|
| CB2101          | Moil point                     | 250          | -      |
| CB2102V         | Flat chisel                    | 250          | 20     |
| CB2103          | Wide flat chisel               | 250          | 40     |
| CBMCOSDPLUSKORT | Slotting tool with carbide tip | 158          | 35     |
| CBMCOSDPLUSLANG | Slotting tool with carbide tip | 250          | 35     |



SDS MAX

| Order number  | Description                     | L (mm) total | B (mm) |
|---------------|---------------------------------|--------------|--------|
| CB04001       | Moil point                      | 280          | -      |
| CB04002       | Moil point                      | 400          | -      |
| CB04003       | Moil point                      | 600          | -      |
| CB04004       | Flat chisel                     | 280          | 25     |
| CB04005       | Flat chisel                     | 400          | 25     |
| CB04006       | Flat chisel                     | 600          | 25     |
| CB04007       | Hollow gouge                    | 300          | 26     |
| CB04007-33    | Hollow gouge                    | 300          | 33     |
| CB04009       | Wide flat chisel                | 400          | 50     |
| CB04010       | Wide flat chisel                | 300          | 80     |
| CB04013       | Wide flat chisel                | 350          | 115    |
| CB04011       | Wide flat chisel, bent          | 300          | 50     |
| CB04012       | Wide flat chisel, bent          | 300          | 80     |
| CBMCOMAX      | Slotting tool with carbide tip  | 280          | -      |
| CB914978      | Adaptor for floorscraper        | 450          | -      |
| CB100134      | Floorscraper                    | 270          | 150    |
| CB100156      | Blade for floorscraper          | -            | 150    |
| CB100156-M12  | Blade for floorscraper M12      | -            | 150    |
| CBB61040K     | Repair kit for floorscraper     | -            | -      |
| CBB61040K-M12 | Repair kit for floorscraper M12 | -            | -      |



# NEEDLE SCALERS

## Straight & Pistol Models



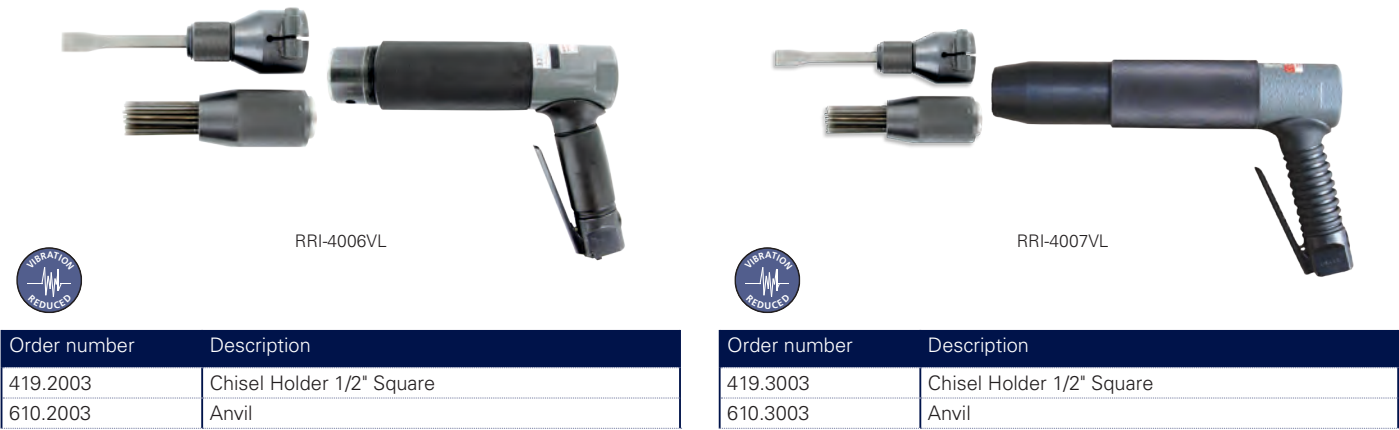
| Type                        | Brand  | Bore diameter mm | Stroke mm | Blows p/min | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|-----------------------------|--------|------------------|-----------|-------------|---------------|-----------|--------------|------------------|----------------|-------------------|
| YK-2 <sup>1)</sup>          | YOKOTA | 24               | 33        | 8.000       | 6             | 2,5       | PT 3/8"      | 6,5              | 5,6            | 85                |
| TFC-N200                    | TOKU   | 20               | 10        | 12.000      | 4,1           | 1,2       | PT 1/4"      | 6,5              | 14,3           | 91                |
| F-25N                       | YOKOTA | 25               | 22        | 4.000       | 6             | 2,3       | PT 1/4"      | 6,5              | 10             | 78                |
| RR-0315NS                   | RR     | 25               | 32        | 4.000       | 6,6           | 2,6       | PT 1/4"      | 6,5              | 9,4            | 93                |
| RR-2110NS                   | RR     | 23,5             | 33        | 3.000       | 6,6           | 2,5       | PT 1/4"      | 6,5              | 20             | 96                |
| RRI-4006                    | RRI    | 23,5             | 34        | 3.000       | 2,6           | 2,6       | PT 1/4"      | 6,5              | 17             | 90                |
| RRI-4006VL <sup>2) 3)</sup> | RRI    | 23,5             | 34        | 2.400       | 1,9           | 2,7       | PT 1/4"      | 6,5              | 2,7            | 90                |
| RRI-4007                    | RRI    | 30,5             | 30,5      | 2.500       | 3,3           | 4,3       | PT 1/4"      | 6,5              | 12             | 91                |
| RRI-4007VL <sup>2) 3)</sup> | RRI    | 34,4             | 30,5      | 3.000       | 2,6           | 3,4       | PT 1/4"      | 6,5              | 1,9            | 95                |

<sup>1)</sup> Scaler/scabler / <sup>2)</sup> Vibration reduced / <sup>3)</sup> Can also be used as air hammer, see below

**NOTE**  
All needle scalers are supplied with 3mm needles

### NEEDLE SCALER SETS

Chisel holder and anvil also separately available.



Conversion kits for RRI-4006VL vibration reduced needle scaler.

# NEEDLE SCALERS

## Accessories & Dimensions

| NEEDLEHOLDERS |              |                  |          | NUMBER OF NEEDLES |             |             |             |
|---------------|--------------|------------------|----------|-------------------|-------------|-------------|-------------|
| Type          | 2 mm         | 3 mm             | 4 mm     | Needle for type   | Amount 2 mm | Amount 2 mm | Amount 4 mm |
| TFC-N200      | Y3-06-12-220 | Y3-06-12-200*    | -        | TFC-N200          | 21          | 12          | -           |
| F-25N         | -            | 6203-0829-02-00* | -        | F-25N             | -           | 19          | -           |
| RR-0315NS     | -            | SG-0315NS-25*    | -        | RR-0315NS         | -           | 19          | -           |
| RR-2110NS     | SG-2110NS-24 | SG-2110NS-17*    | -        | RR-2110NS         | 29          | 19          | -           |
| RRI-4006      | 218          | 217*             | -        | RRI-4006          | 51          | 19          | -           |
| RRI-4006VL    | 601.2020     | 601.2030*        | -        | RRI-4006VL        | 51          | 19          | -           |
| RRI-4007      | 330          | 314*             | 353      | RRI-4007          | 65          | 28          | 19          |
| RRI-4007VL    | 601.3020     | 601.3030*        | 601.3040 | RRI-5007VL        | 65          | 28          | 19          |

\* Supplied as standard

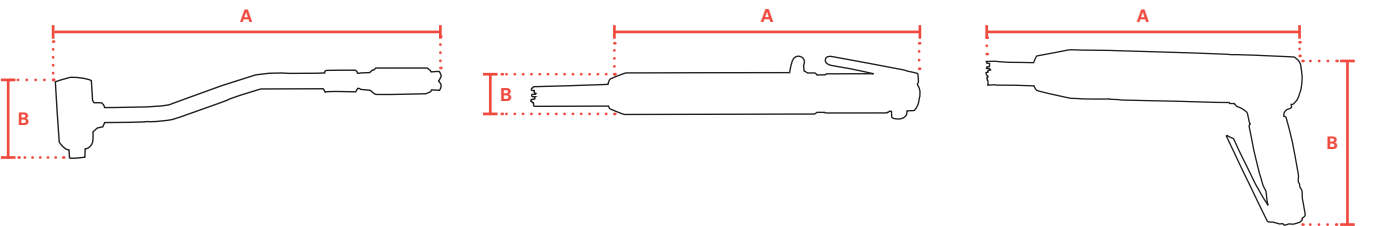
All needle scalers are supplied as standard with 3 mm needles, except RRI-4008 which is supplied with 4 mm needles.

| NEEDLE |                              |        |                   |
|--------|------------------------------|--------|-------------------|
| Ø      | Version                      | Length | Order Number      |
| 2 mm   | Blunt, hardened steel        | 178 mm | 6203-0827-02-01   |
| 3 mm   | Blunt, hardened steel        | 178 mm | 6203-0827-03-01 * |
| 3 mm   | Chisel point, hardened steel | 178 mm | 6203-0827-03-02   |
| 3 mm   | Copper-beryllium             | 178 mm | 6203-0827-03-03   |
| 4 mm   | Blunt, hardened steel        | 178 mm | 6203-0827-04-01   |
| Ø      | Version                      | Length | Order Number      |
| 3 mm   | TFC-N200                     | 125 mm | Y3-06-12-210      |

\* Supplied as standard

### DIMENSIONS

| Type       | A mm | B mm |
|------------|------|------|
| YK-2       | 489  | 126  |
| F-25N      | 412  | 43   |
| RR-0315NS  | 415  | 45   |
| RR-2110NS  | 340  | 175  |
| RRI-4006   | 330  | 48   |
| RRI-4006VL | 340  | 48   |
| RRI-4007   | 460  | 57   |
| RRI-4007VL | 330  | 48   |
| TFC-N200   | 273  | 36   |



# LONG REACH SCALERS

## RRJ 4000 series

This tool is intended to ergonomically clean a surface.  
It functions just like a needle scaler / hammer.

**CAN BE USED FOR APPLICATIONS SUCH AS**

- Removal of floor coverings, adhesive layers, tiles and tarpaulin
- Remove rust or paint layers
- Removal of slag in, for example, a laser plasma cutting machine
- Facade cleaning



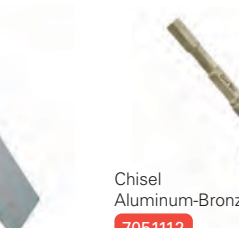
Li-Ion-battery  
18 V/2.0 Ah  
7051100



Chisel 4"  
7051102



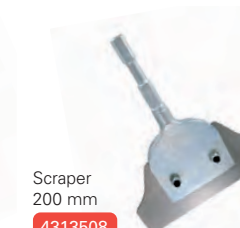
Chisel 2"  
7051106



Chisel  
Aluminum-Bronze  
7051112



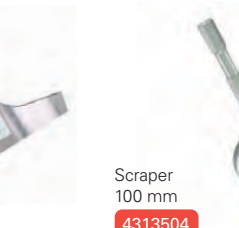
Chisel, bent  
7052102



Scraper  
200 mm  
4313508



Scraper  
300 mm  
4313512



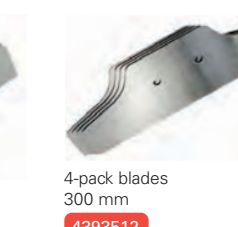
Scraper  
100 mm  
4313504



5-pack blades  
200 mm  
4393504



4-pack blades  
200 mm  
4393508



4-pack blades  
300 mm  
4393512



RRI-4007LR4-  
Length: 122 cm  
RRI-4007LR5  
Length: 152 cm  
RRI-4007LR6  
Length: 183 cm

| Type             | Brand | Shank size mm | Bore diameter mm | Stroke mm | Blows p/min | J/Blow | Air-cons. l/s | Weight kg | Inlet thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|------------------|-------|---------------|------------------|-----------|-------------|--------|---------------|-----------|--------------|------------------|----------------|-------------------|
| RRI-4007LR4-LITE | RRI   | 15,88         | 28,6             | 39        | 2.200       | 15,55  | 2,1           | 3,7       | PT 1/4"      | 10               | 13             | 85,8              |
| RRI-4007LR5      | RRI   | 15,88         | 28,6             | 39        | 2.200       | 15,55  | 2,1           | 6,25      | PT 1/4"      | 10               | 11,4           | 82,4              |
| RRI-4007LR6      | RRI   | 15,88         | 28,6             | 39        | 2.200       | 15,55  | 2,1           | 6,9       | PT 1/4"      | 10               | 7,7            | 84,3              |

# SAWS

## RRJ, RRI

### Reciprocating Saws



RRJ-8205



RRJ-8210

| Type      | Brand | Capacity steel mm | Capacity aluminium mm | Strokes min <sup>-1</sup> | Stroke mm | Power kW | Air cons l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|-----------|-------|-------------------|-----------------------|---------------------------|-----------|----------|--------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRJ-8205* | RR    | 10                | 12                    | 5.000                     | 25        | 0,25     | 2,8          | 0,96      | PT 1/4"      | 6,5              | 3,5                        | 79                |
| RRJ-8210* | RR    | 3,1               | 3,9                   | 9.500                     | 10        | 0,25     | 2,8          | 0,51      | PT 1/4"      | 6,5              | 3,5                        | 78                |

\*Includes sawblades and rotating clutch. See the next page for accessories.

**CHARACTERISTICS**

- Vibration reduced and lightweight.
  - Both tools are delivered with a swivel joint that allows flexibility.
  - The sawing tools are delivered in a blow molded case, including an assortment of saw-blades.
  - The RRJ-8210 has a full composite body; the RRJ-8205 has a plastic layer over its housing, offering good thermal isolation.
- For thin (sheet-) material, the RRJ-8210 is the best choice of tool, whilst the RRJ-8205 is better for heavier sawing-jobs.
  - Files in different shapes, sawblades and other accesories are available on request.

### Pipe Saw



RRJ-8460

This Red Rooster pipesaw is intended for heavy industrial use.



Always use the tube spanner and chain for fixation of the tool!

| Type     | Brand | Capacity steel Ø mm | Strokes p/min | Stroke mm | Power kW | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|----------|-------|---------------------|---------------|-----------|----------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRJ-8460 | RRI   | 45-530              | 300           | 65        | 1,1      | 20            | 8         | BSP 3/4"     | 19               | 1,7                        | 82                |

Saw is utilized for all the available standard blades on the market. The pipe clamps are optional. / See accessories for saws on the next page.

### Chain Saw



RRI-8560



| Type     | Brand | Length sawblade inch | Max capacity mm | RPM <sup>-1</sup> | Power kW | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|----------|-------|----------------------|-----------------|-------------------|----------|---------------|-----------|--------------|------------------|----------------------------|-------------------|
| RRI-8560 | RRI   | 14"                  | 340             | 18.000            | 1,5      | 50            | 7,6       | BSP 3/4"     | 19               | < 2,5 m/s <sup>2</sup>     | 98                |

Saw comes with an Oregon sawblade and chain. / Accessories for saws on the next page.



SAWS

Accessories & Dimensions

ACCESSORIES



SAWBLADES FOR THE RRJ-8205

| Description                        | Order number | Teeth    |
|------------------------------------|--------------|----------|
| 5-pack sawblades<br>length: 140 mm | 8205-518-00  | 18-teeth |
|                                    | 8205-524-00  | 24-teeth |



SAWBLADES FOR THE RRJ-8210

| Description                    | Order number | Teeth                                                             |
|--------------------------------|--------------|-------------------------------------------------------------------|
| 5-pack sawblades: 74 mm        | 31418-5      | 18 teeth/inch St37, V2A, wood, plastics, metal plate up to 2,5 mm |
| 5-pack sawblades: 74 mm        | 31442-5      | 24 teeth/inch St37, V2A, aluminium, metal plate up to 2 mm        |
| 5-pack sawblades: 74 mm        | 31432-5      | 32 teeth/inch, St37, V2A, aluminium, metal plate up to 1 mm       |
| Files<br>5 mm<br>length: 74 mm | 8210-501-00  | 5 mm, square                                                      |
|                                | 8210-502-00  | 5 mm, round                                                       |
|                                | 8210-503-00  | 5 mm, half-round                                                  |
|                                | 8210-504-00  | 5 mm, triangle                                                    |



SAWBLADE AND CHAIN FOR THE RRI-8560

| Description | Order number  | Brand  |
|-------------|---------------|--------|
| Sawblade    | 140SPET041 DZ | Oregon |
| Chain       | 91VLX         | Oregon |

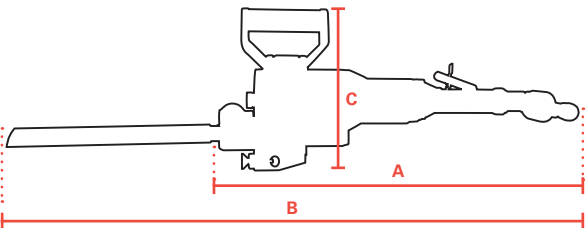
SAWBLADE AND CHAIN FOR THE RRI-8550\*

| Description | Order number | Brand   |
|-------------|--------------|---------|
| Sawblade    | 140SPEA041   | Sandvik |
| Chain       | 91VG-52E     | Sandvik |

\* The RRI-8550 is no longer available.

DIMENSIONS

| Type     | A mm | B mm | C mm | D mm |
|----------|------|------|------|------|
| RRJ-8205 | 367  | 65   | -    | -    |
| RRJ-8210 | 365  | 80   | -    | -    |
| RRI-8460 | 460  | 537  | 240  | -    |
| RRI-8560 | 340  | 650  | 20   | 200  |



PIPE CLAMPS & SAWBLADES FOR THE RRI-8460

| Description                              | Order number | Dimensions     | Teeth         |
|------------------------------------------|--------------|----------------|---------------|
| Extension chain                          | 8460-201-50  |                |               |
| HSS-sawblades                            | Z22-10       | 200 x 25 x 1,5 | 16 teeth/inch |
|                                          | Z22-6        | 300 x 25 x 1,5 | 16 teeth/inch |
|                                          | Z22-7        | 400 x 25 x 1,5 | 16 teeth/inch |
|                                          | Z22-72       | 500 x 28 x 2   | 14 teeth/inch |
|                                          | Z22-73       | 600 x 28 x 2   | 14 teeth/inch |
|                                          | Z22-75       | 770 x 28 x 2   | 12 teeth/inch |
|                                          | Z22-31       | 300 x 25 x 1,5 | 12 teeth/inch |
|                                          | Z22-30       | 530 x 28 x 1,5 | 12 teeth/inch |
|                                          | Z22-37       | 940 x 32 x 2   | 12 teeth/inch |
|                                          | Z22-9        | 200 x 25 x 1,5 | 8 teeth/inch  |
|                                          | Z22-29       | 400 x 25 x 1,5 | 8 teeth/inch  |
|                                          | Z22-74       | 600 x 28 x 2   | 8 teeth/inch  |
| HSS-sawblade                             | Z22CT-06     | 300 x 25 x 2   | 16 teeth/inch |
| Sawblades<br>tungsten carbide<br>coating | 2CT-72       | 500 x 32 x 2,5 | -             |
|                                          | 2CT-73       | 600 x 32 x 2,5 | -             |



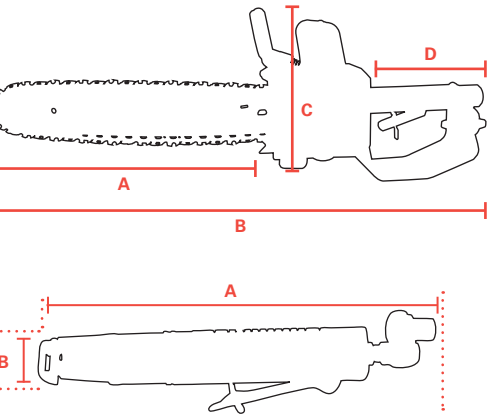
PIPE CLAMPS FOR THE RRI-8460

| Type            | Order number | Dimensions |
|-----------------|--------------|------------|
| Pipe clamps 6"  | 8460-200-00  | 6"         |
| Pipe clamps 12" | 8460-201-01  | 12"        |
| Pipe clamps 20" | 8460-205-00  | 20"        |



SWIVEL JOINT FOR THE RRJ-8205 & RRJ-8210

| Description                 | Order number |
|-----------------------------|--------------|
| Universal Swivel Joint 1/4" | 922A18       |



ENGRAVING PEN



RRI-9010

| Type     | Brand | Needle diameter mm | Strokes p/min | Air cons. l/sec | Weight kg | Inletthread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|----------|-------|--------------------|---------------|-----------------|-----------|-------------|------------------|----------------|-------------------|
| RRI-9010 | RRI   | 1,7                | 36.000        | 0,5             | 0,25      | R 1/4"      | 4                | 0,7            | 62                |

ACCESSORIES

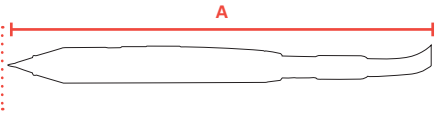
FOR RRI-9010

| Accessory                | Order number |
|--------------------------|--------------|
| Engraving needle, fine   | 2-01-011-90  |
| Engraving needle, medium | 2-01-011-91  |
| Engraving needle, coarse | 2-01-011-92  |

\* Supplied as standard

DIMENSIONS

| Type     | A mm | B mm |
|----------|------|------|
| RRI-9010 | 160  | -    |



POWERCUTTERS

Cutting and Pressing

RRI-8002

RRI-8003

RRI-8004

RRI-8011

RRI-8031

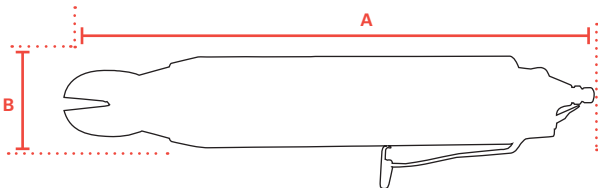
RRI-8032

| Type     | Brand | Capacity copper mm | Capacity steel* mm | Capacity plastics mm | Capacity crimping mm | Power midway on blade kg | Air cons. l/stroke | Weight kg** | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|----------|-------|--------------------|--------------------|----------------------|----------------------|--------------------------|--------------------|-------------|--------------|------------------|----------------|-------------------|
| RRI-8002 | RRI   | 1                  | 0,5                | -                    | -                    | 40                       | 0,064              | 0,13        | PT 1/4"      | 6,5              | 0,2            | 71                |
| RRI-8003 | RRI   | 1,6                | 1                  | 4                    | -                    | 60                       | 0,116              | 0,20        | PT 1/4"      | 6,5              | 0,4            | 72                |
| RRI-8004 | RRI   | 2,6                | 2                  | 7                    | -                    | 140                      | 0,23               | 0,34        | PT 1/4"      | 6,5              | 0,3            | 73                |
| RRI-8011 | RRI   | 3,3                | 2,8                | 10                   | 2                    | 280                      | 0,584              | 0,52        | PT 1/4"      | 6,5              | 1              | 76                |
| RRI-8031 | RRI   | 4,8                | 4                  | 13                   | 5,5                  | 450                      | 0,956              | 0,83        | PT 1/4"      | 6,5              | 1              | 75                |
| RRI-8032 | RRI   | 7                  | 6                  | -                    | -                    | 790                      | 2,7                | 2           | PT 1/4"      | 6,5              | 1,5            | 78                |

\* Steel FE 370 / \*\*Without blades (power cutters are supplied without blade, for blades see the next page) / Working pressure 0,4-0,5 MPa

DIMENSIONS

| Type     | A mm | B mm |
|----------|------|------|
| RRI-8002 | 30   | 104  |
| RRI-8003 | 36   | 124  |
| RRI-8004 | 45   | 156  |
| RRI-8011 | 56   | 192  |
| RRI-8031 | 56   | 280  |
| RRI-8032 | 75   | 390  |



POWERCUTTERS

Accessories: Blades

CR-120

P-120R23

F-9P

FD-9P

CR-8P

A-8P

EP-10P

Z-8P

P-8P

ZCR-8P

P-6

CR-6

EP-6

Z-6

FD-5

F-5

S-5

S-7P

S-4

Z-4

F-3

S-26

CUTTING CAPACITY OF THE BLADES

| Type     | Copper mm | steel FE 370 mm | Piano-wire mm | Plastics mm | Crimping mm | Blade type                        |
|----------|-----------|-----------------|---------------|-------------|-------------|-----------------------------------|
| RRI-8002 | 1         | 0,5             | -             | -           | -           | S-26                              |
| RRI-8003 | 1,6       | 1               | -             | -           | -           | S-4                               |
| RRI-8004 | 1,6       | 1               | 0,5           | -           | -           | Z-4                               |
|          | -         | -               | -             | 4           | -           | F-3                               |
|          | 2,6       | 2               | -             | -           | -           | P-6, CR-6, EP-6, S-5              |
|          | 2,6       | 2               | 1             | -           | -           | Z-6 (carbide tip)                 |
| RRI-8011 | -         | -               | -             | 7           | -           | F-5, FD-5                         |
|          | 3,3       | 2,8             | -             | -           | -           | P-8P, CR-8P, EP-10P, S-7P         |
|          | 3,3       | 2,8             | 1,2           | -           | -           | Z-8P (carbide tip), ZCR-8P        |
|          | -         | -               | -             | 10          | -           | F-9P, FD-9P                       |
| RRI-8031 | -         | -               | -             | -           | 2           | A-8P                              |
|          | 4,8       | 4               | -             | -           | -           | P-8P, ZCR-8P, CR-8P, EP-10P, S-7P |
|          | -         | -               | -             | 13          | -           | F-9P, FD-9P                       |
|          | -         | -               | -             | -           | 5,5         | A-8P                              |
| RRI-8032 | 7         | 6               | -             | -           | -           | P-120R23, CR-120                  |

S-Type  
Common use

P-Type  
Heavy Duty

CR-Type  
Clippet type

EP-Type  
End cutting type

Z-Type  
Carbide type

F-Type  
Plastic cutting

FD-Type  
Plastic cutting

A-Type  
Plastic cutting

Power cutters are supplied without blade, please order separately from the list above.



TIP DRESSERS & HOG RINGERS



TIP DRESSERS

| Type    | Brand  | Tip capacity mm | RPM   | Rotation L/R | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|---------|--------|-----------------|-------|--------------|---------------|-----------|--------------|------------------|----------------|-------------------|
| YNR-8F* | YOKOTA | 16              | 1.400 | right        | 6,7           | 1,2       | PT 1/4"      | 9,5              | < 2,5          | 5                 |

\* Hand model  
Blades for tip dressers are separately available and will be custom made on tip specifications. On request we can supply you with detailed information.

HOG RINGERS

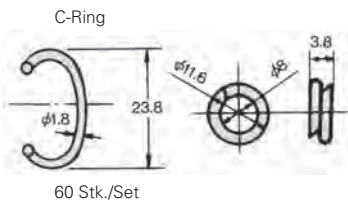
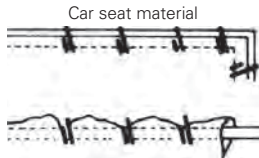
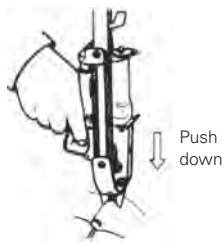
| Type     | Brand  | Max. number of rings | Ring size mm | Trigger-pressure kg | Stroke trigger mm | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s² | Noise level dB(A) |
|----------|--------|----------------------|--------------|---------------------|-------------------|---------------|-----------|--------------|------------------|----------------|-------------------|
| YHR-33   | YOKOTA | 120                  | 8            | 0,6                 | 7                 | 0,8           | 1,5       | PT 1/4"      | 6                | 1,66           | 79                |
| YHR-33L* | YOKOTA | 120                  | 8            | 0,6                 | 7                 | 0,8           | 1,5       | PT 1/4"      | 6                | 1,66           | 79                |

\* Extended nose

FUNCTIONING OF THE YHR-33(L)



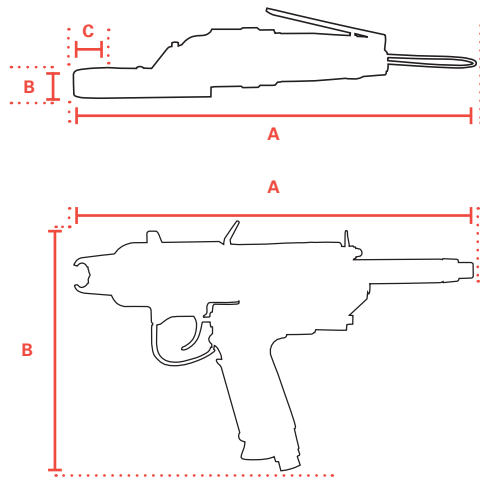
Pull the trigger and clamp. The work is completed when the trigger is released.



YHR-33/33L  
Dimensions after clamping

DIMENSIONS

| Type    | A mm | B mm | B* mm | C mm |
|---------|------|------|-------|------|
| YNR-8F  | 257  | 19,5 | -     | 24   |
| YHR-33  | 346  | 188  | -     | -    |
| YHR-33L | 361  | 188  | -     | -    |

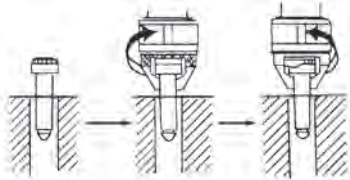


DOWELL PIN PULLERS



| Type   | Brand  | Capacity pin mm | Stroke mm | Blows min <sup>1</sup> | Air cons. l/s | Weight kg | Inlet-thread | Hose diameter mm |
|--------|--------|-----------------|-----------|------------------------|---------------|-----------|--------------|------------------|
| YDP-13 | YOKOTA | 13              | 30 x 25   | 5.000                  | 3,3           | 1,35      | PT 1/4"      | 6,5              |
| YDP-20 | YOKOTA | 20              | 36 x 33   | 2.700                  | 4,3           | 2,10      | PT 1/4"      | 6,5              |

PULLING & HAMERING OPERATION



PULLING OPERATION

1. Screw hanger bolt to threaded pin.
2. Fit dowel pin to guide hole.
3. Lock hanger bolt.
4. Operate the tool and pull.



Pull it out

HAMMERING OPERATION

1. Screw hanger bolt to threaded pin.
2. Fit dowel pin to guide hole.
3. Place the tool reversed on dowel pin.
4. Operate the tool to hammer dowel pin.



Hammering in

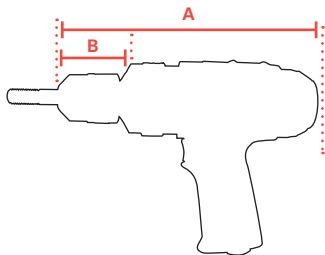
ACCESSORIES

| Hanger bolts for YDP-13 | Order number    |
|-------------------------|-----------------|
| M8 x 29L                | 6502-0022-00-01 |
| M6 x 23L                | 6502-0022-00-02 |
| M5 x 21L                | 6502-0022-00-03 |
| M4 x 21L                | 6502-0022-00-04 |
| M8 x 50L                | 6502-0022-00-05 |
| M8 x 100L               | 6502-0022-00-06 |
| M8 x 150L               | 6502-0022-00-07 |
| M8 x 200L               | 6502-0022-00-08 |
| M6 x 50L                | 6502-0022-00-09 |
| M6 x 100L               | 6502-0022-00-10 |
| M6 x 150L               | 6502-0022-00-11 |
| M6 x 200L               | 6502-0022-00-12 |
| M5 x 50L                | 6502-0022-00-13 |
| M5 x 100L               | 6502-0022-00-14 |
| M5 x 150L               | 6502-0022-00-15 |
| M5 x 200L               | 6502-0022-00-16 |
| M4 x 50L                | 6502-0022-00-17 |
| M4 x 100L               | 6502-0022-00-18 |
| M4 x 150L               | 6502-0022-00-19 |
| M4 x 200L               | 6502-0022-00-20 |

| Hanger bolts for YDP-20 | Order number    |
|-------------------------|-----------------|
| M12 x 36L               | 6503-0022-00-01 |
| M10 x 33L               | 6503-0022-00-02 |
| M8 x 32L                | 6503-0022-00-03 |
| M8 x 100L               | 6503-0022-00-04 |
| M8 x 150L               | 6503-0022-00-05 |
| M8 x 200L               | 6503-0022-00-06 |
| M10 x 100L              | 6503-0022-00-07 |
| M10 x 150L              | 6503-0022-00-08 |
| M10 x 200L              | 6503-0022-00-09 |
| M12 x 100L              | 6503-0022-00-10 |
| M12 x 150L              | 6503-0022-00-11 |
| M12 x 200L              | 6503-0022-00-12 |
| M8 x 50L                | 6503-0022-00-13 |
| M10 x 50L               | 6503-0022-00-14 |
| M12 x 50L               | 6503-0022-00-15 |
| M6 x 50L                | 6503-0022-00-16 |

L = Length  
\* Supplied as standard

DIMENSIONS



| Type   | A mm | B mm |
|--------|------|------|
| YDP-13 | 162  | 75   |
| YDP-20 | 195  | 82   |

MULTI-CUTTER

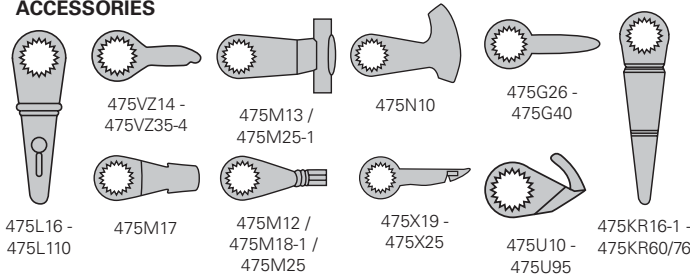


TYPE RR-476 CAN BE USED AS:

- Saw (with sawblade)
- For cutting
- Urethane-bonded windows (with various blades)
- As a sander (with triangle sanding pad)

| Type   | Brand | Sawing capacity mm | Movements p/min | Air cons. l/stroke | Weight kg | Inlet-thread | Hose diameter mm | Vibration m/s <sup>2</sup> | Noise level dB(A) |
|--------|-------|--------------------|-----------------|--------------------|-----------|--------------|------------------|----------------------------|-------------------|
| RR-476 | RR    | 1                  | 0 - 22.000      | 6,5                | 1,1       | PT 1/4"      | 6,5              | 2,6                        | 90                |

ACCESSORIES



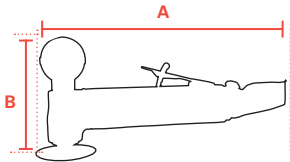
WINDOW CUTTER

| Order number | Type           | Dimension |
|--------------|----------------|-----------|
| 475L16       | 639-03-122-011 | 16 mm     |
| 475LR16      | 639-03-099-010 | 16 mm     |
| 475L23       | 639-03-173-010 | 23 mm     |
| 475L25       | 639-03-124-013 | 25 mm     |
| 475L27       | 639-03-174-018 | 27 mm     |
| 475L45       | 639-03-168-018 | 45 mm     |
| 475LR54      | 639-03-160-015 | 54 mm     |
| 475LR58      | 639-03-097-018 | 58 mm     |
| 475L55       | 639-03-123-015 | 55/32 mm  |
| 475L80       | 639-03-171-013 | 80/70 mm  |
| 475L85       | 639-03-081-013 | 85/60 mm  |
| 475L85-1     | 639-03-125-017 | 85/70 mm  |
| 475L110      | 639-03-194-016 | 110 mm    |
| 475VZ14      | 639-03-120-019 | 14 mm     |
| 475VZ35      | 639-03-103-017 | 35 mm     |
| 475VZ35-1    | 639-03-104-015 | 35 mm     |
| 475VZ35-2    | 639-03-109-018 | 35 mm     |
| 475VZ35-3    | 639-03-164-019 | 35 mm     |
| 475VZ35-4    | 639-03-172-016 | 35 mm     |
| 475M12       | 639-03-129-050 | 12 mm     |
| 475M13       | 639-03-113-016 | 13 mm     |
| 475M17       | 639-03-144-011 | 17 mm     |
| 475M18-1     | 639-03-146-018 | 18 mm     |
| 475M25       | 639-03-105-019 | 25 mm     |
| 475M25-1     | 639-03-131-017 | 25 mm     |
| 475N10       | 639-03-132-010 | -         |
| 475X19       | 639-03-208-010 | 19 mm     |
| 475X24       | 639-03-153-012 | 24 mm     |
| 475X25       | 639-03-207-012 | 25,4 mm   |
| 475G26       | 639-03-121-018 | 56/26 mm  |
| 475G35       | 639-03-073-011 | 56/35 mm  |
| 475G40       | 639-03-176-015 | 74/40 mm  |

| Order number | Type           | Dimension |
|--------------|----------------|-----------|
| 475KR16-1    | 639-03-133-014 | 16 mm     |
| 475KR16/35   | 639-03-143-013 | 16/35 mm  |
| 475KR18/39   | 639-03-170-014 | 18/39 mm  |
| 475KR32/42   | 639-03-195-010 | 32/46 mm  |
| 475KR39      | 639-03-152-018 | 39 mm     |
| 475KR42/60   | 639-03-182-015 | 42/60 mm  |
| 475K45       | 639-03-072-017 | 45 mm     |
| 475KR60/76   | 639-03-169-012 | 60/72 mm  |
| 475U10       | 639-03-083-010 | 10 mm     |
| 475U16-2     | 639-03-108-014 | 16 mm     |
| 475U18       | 639-03-087-019 | 18 mm     |
| 475U18-1     | 639-03-127-014 | 18 mm     |
| 475U19       | 639-03-118-013 | 19,5 mm   |
| 475U22       | 639-03-115-018 | 22 mm     |
| 475U24       | 639-03-076-016 | 24 mm     |
| 475U28       | 639-03-163-011 | 28 mm     |
| 475U32       | 639-03-114-014 | 32 mm     |
| 475U32-1     | 639-03-147-012 | 32 mm     |
| 475U32-2     | 639-03-191-011 | 32 mm     |
| 475U36       | 639-03-079-012 | 36 mm     |
| 475U40       | 639-03-110-010 | 40 mm     |
| 475U40-1     | 639-03-156-017 | 40 mm     |
| 475U45       | 639-03-154-010 | 45 mm     |
| 475U52       | 639-03-153-012 | 52 mm     |
| 475U60       | 639-03-101-010 | 60 mm     |
| 475U60-2     | 639-03-107-016 | 60 mm     |
| 475U60-3     | 639-03-157-011 | 60 mm     |
| 475U70       | 639-03-155-014 | 70 mm     |
| 475U95       | 639-03-111-019 | 95 mm     |

| Type          | Order number | Type           | Dimension            |
|---------------|--------------|----------------|----------------------|
| Sawblade      | 475101       | 635-02-102-016 | ø 63 mm - Staal 1 mm |
| Sawblade      | 475801       | 635-02-103-010 | ø 80 mm - HSS        |
| Sanding paper | 475380       | 637-17-083-043 | Korrel 80            |
| Sanding paper | 4753150      | 637-17-087-042 | Korrel 150           |
| Sanding paper | 4753240      | 637-17-090-046 | Korrel 240           |
| Pad           | 476/TP       | -              | 3-hoekig             |

| Type   | A mm | B mm |
|--------|------|------|
| RR-476 | 195  | 79   |



BARREL & SUMP PUMPS



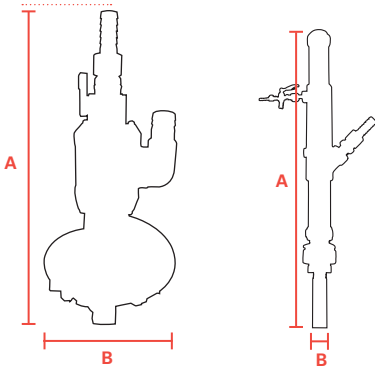
| Type   | Brand  | Description      | Max. capacity | Max. capacity m | Air-cons. l/s | Weight kg | Air hose Ø mm | Outlet hose Ø mm | Air return hose Ø mm |
|--------|--------|------------------|---------------|-----------------|---------------|-----------|---------------|------------------|----------------------|
| YPP-1* | YOKOTA | Barrel pump      | 65 l/min      | 40              | 7,5           | 8,8       | 10            | 19               | -                    |
| YP-18  | YOKOTA | Bronze sump pump | 55 t/h        | 25              | 33            | 19        | 19            | 65               | 25                   |
| YP-35  | YOKOTA | Bronze sump pump | 80 t/h        | 41              | 73            | 32        | 25            | 65               | 38                   |

\*YPP-1: Connection thread PT 1 1/2" / Inlet thread PT 1/4" / Outlet thread PT 3/4"

DIMENSIONS

| Teflon packing for the YPP-1 | Order number    |
|------------------------------|-----------------|
| Piston packing               | 7003-1009-11-11 |
| Case packing                 | 7003-1014-11-11 |
| Fa-packing 48 x 54 x 1,5     | 8010-3015-11-11 |
| O-ring P-35                  | 9010-1026-11-11 |

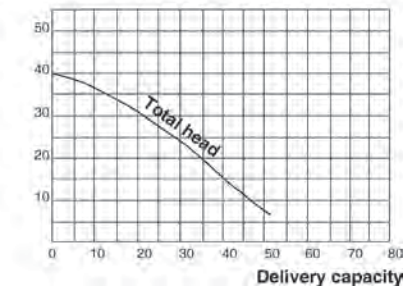
| Type  | A mm | B mm | C mm |
|-------|------|------|------|
| YPP-1 | 606  | 68   | -    |
| YP-18 | 525  | 189  | 250  |
| YP-35 | 550  | 270  | 320  |



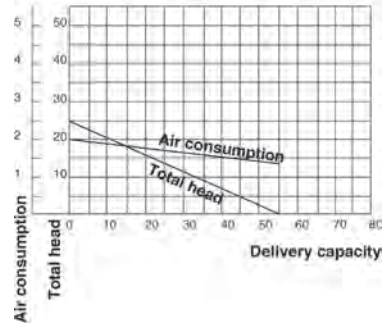
PERFORMANCE CURVE

Type YPP-1 has been developed for pumping liquids from drums. The pump fits on standard oil-drums with a normal 1½" pipe thread opening. The models YP-18 and YP-35 are made of bronze and are suitable to pump aggressive liquids and acids. For a full overview please contact us.

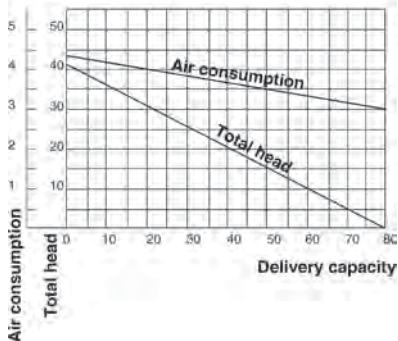
Performance curve YPP-1



Performance curve YP-18



Performance curve YP-35





# CAULKING GUN



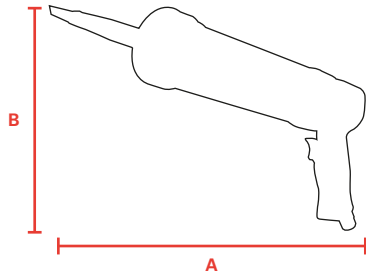
RRP-203

| Type    | Brand | Tube<br>Ø x mm            | Working<br>pressure<br>bar | Weight<br>kg | Inlet-<br>thread | Hose<br>diameter<br>mm |
|---------|-------|---------------------------|----------------------------|--------------|------------------|------------------------|
| RRP-203 | RR    | Ø 50 x 215 (for 400 ml) * | 2-4                        | 1,1          | PT 1/4"          | 6,5                    |

\*The Red Rooster caulking gun is suitable for 400 ml cartridges

## DIMENSIONS

| Type    | A mm | B mm |
|---------|------|------|
| RRP-203 | 268  | 135  |

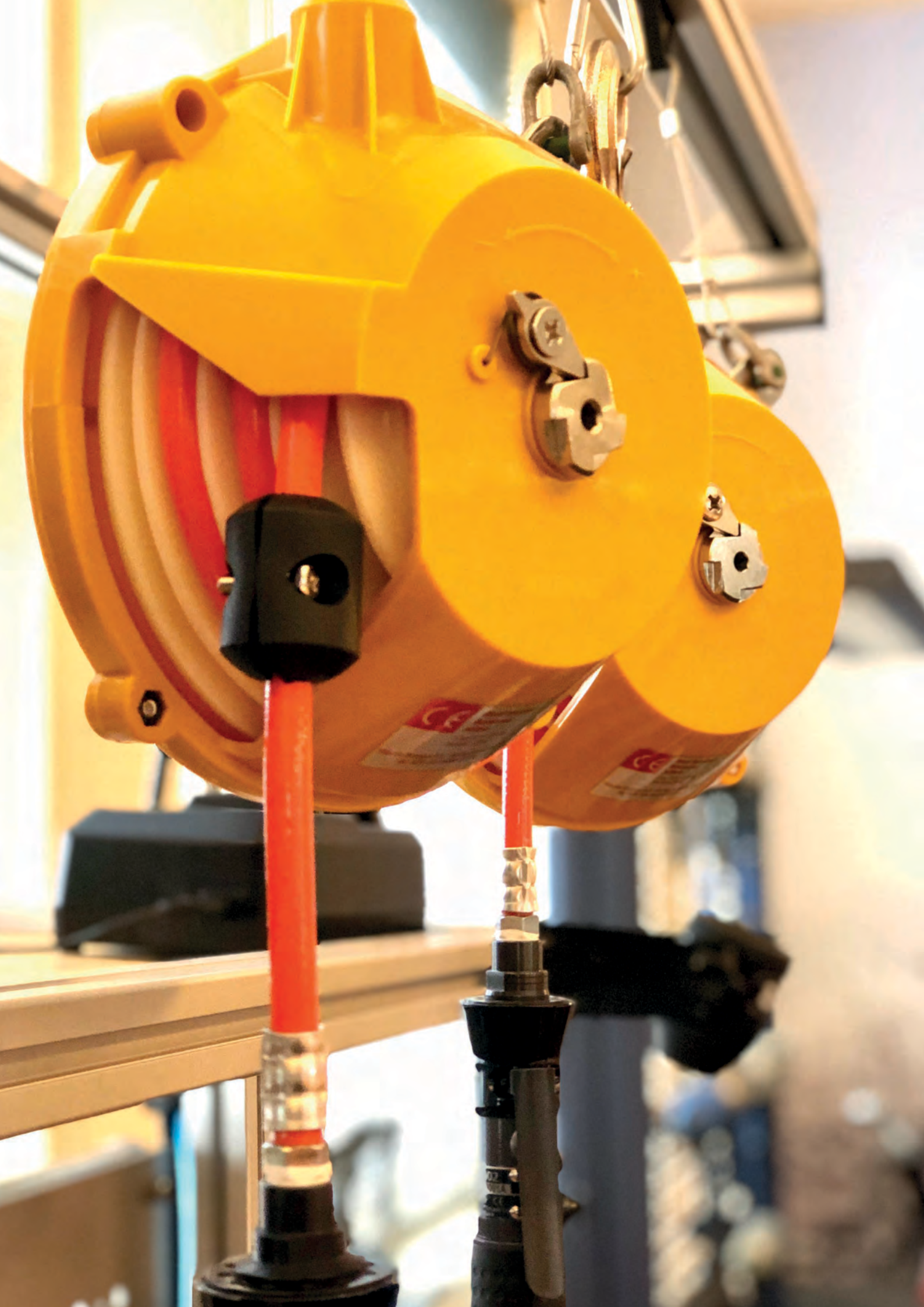






# ACCESSORIES





# ACCESSORIES

The proper choice of tools is not the only element to take into consideration when you aim to improve productivity. Accessories that enable an operator more flexibility and avoid physical burden, can make a big difference and will increase the operators efficiency as well as decrease the occurrence of injuries. When an operator is supported through the use of a balancer, it is possible to work for longer hours with less stress. Moving around the workplace through the use of spiral hoses and swivel joints increase flexibility while the use of the right lubricant avoids premature maintenance and risk of costly failures. Rami Yokota can assist you in choosing the adequate accessories that suit your tools and workplace. Resulting in less downtime on the production line and more safety and satisfaction among employees.

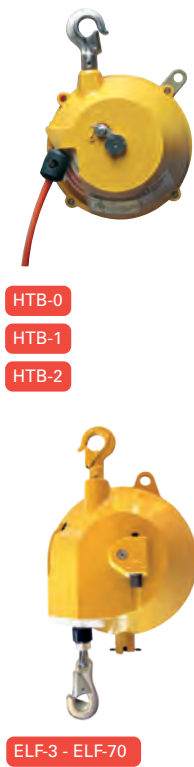


## Types

| Type       | Brand | Capacity<br>kg | Cable length<br>m | Weight<br>kg |
|------------|-------|----------------|-------------------|--------------|
| RRI-9001/1 | RRI   | 0,5 - 1,5      | 2                 | 0,5          |
| RRI-9003/1 | RRI   | 1 - 3          | 2                 | 0,7          |
| RRI-9005/1 | RRI   | 2,5 - 5        | 2                 | 0,9          |
| EK-0       | RRI   | 0,5 - 1,5      | 1                 | 0,5          |
| TW-3       | RRI   | 1 - 3          | 1,3               | 1,4          |
| TW-5       | RRI   | 2,5 - 5        | 1,3               | 1,5          |
| TW-9       | RRI   | 4,5 - 9        | 1,3               | 3,4          |
| TW-15      | RRI   | 9 - 15         | 1,3               | 3,8          |
| TW-22      | RRI   | 15 - 22        | 1,5               | 7,2          |
| TW-30      | RRI   | 22 - 30        | 1,5               | 7,6          |
| TW-40      | RRI   | 30 - 40        | 1,5               | 9,8          |
| TW-50      | RRI   | 40 - 50        | 1,5               | 10,4         |
| TW-60      | RRI   | 50 - 60        | 1,5               | 11,6         |
| TW-70      | RRI   | 60 - 70        | 1,5               | 11,8         |
| ETP-14     | RRI   | 120 - 140      | 1,2               | 24,1         |
| ETP-15     | RRI   | 140 - 170      | 1,2               | 28,7         |
| ETP-16     | RRI   | 170 - 200      | 1,2               | 29,7         |

| Type  | Brand | Capacity<br>kg | Cable length<br>m | Weight<br>kg | Hose<br>diameter<br>mm | Air<br>cons.<br>l/min | Inlet-<br>thread |
|-------|-------|----------------|-------------------|--------------|------------------------|-----------------------|------------------|
| HTB-0 | RRI   | 0,5 - 1,5      | 1,3               | 1,58         | 6,5                    | 700                   | PT 1/4"          |
| HTB-1 | RRI   | 1,5 - 3        | 1,3               | 1,66         | 6,5                    | 700                   | PT 1/4"          |
| HTB-2 | RRI   | 3 - 5          | 1,3               | 1,73         | 6,5                    | 700                   | PT 1/4"          |

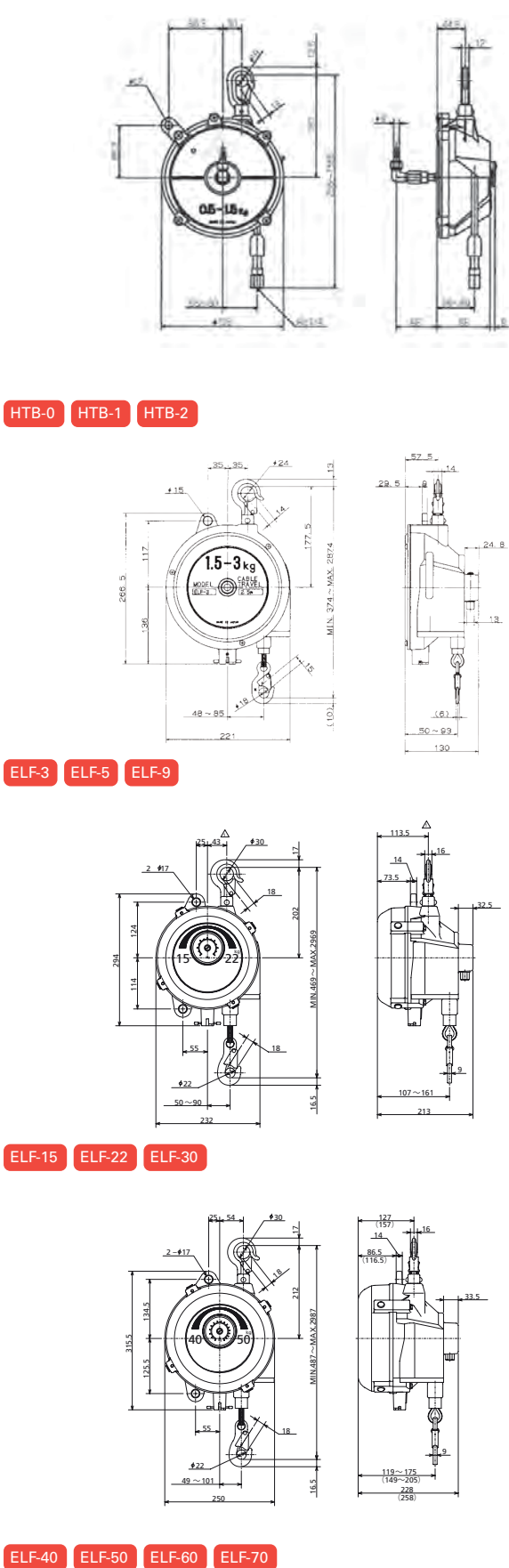
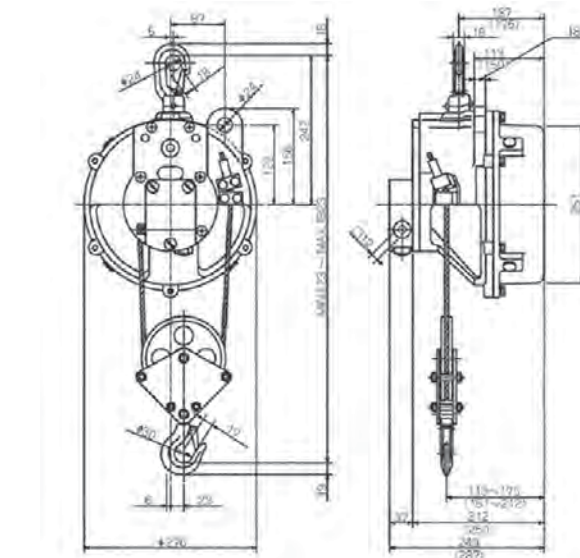
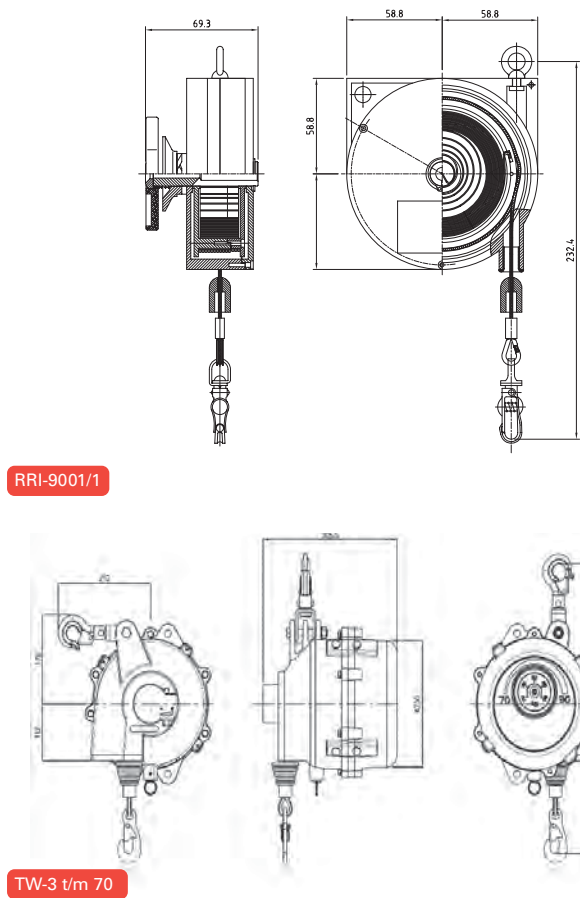
| Type   | Brand | Capacity<br>kg | Cable length<br>m | Weight<br>kg |
|--------|-------|----------------|-------------------|--------------|
| ELF-3  | RRI   | 1,5 - 3        | 2,5               | 4,1          |
| ELF-5  | RRI   | 3 - 5          | 2,5               | 4,2          |
| ELF-9  | RRI   | 5 - 9          | 2,5               | 4,7          |
| ELF-15 | RRI   | 9 - 15         | 2,5               | 10           |
| ELF-22 | RRI   | 15 - 22        | 2,5               | 10,2         |
| ELF-30 | RRI   | 22 - 30        | 2,5               | 11           |
| ELF-40 | RRI   | 30 - 40        | 2,5               | 14           |
| ELF-50 | RRI   | 40 - 50        | 2,5               | 14,5         |
| ELF-60 | RRI   | 50 - 60        | 2,5               | 17           |
| ELF-70 | RRI   | 60 - 70        | 2,5               | 18           |



The models ELF and TW from TW-9 upwards have a safety mechanism which activates in case of spring breakage.

You can find the dimensions of our spring balances on our website.

## Dimensions





# BLOW GUNS



RRI-21930

VMG11W-F02

| Type       | Brand | Air cons.<br>l/sec | Weight<br>kg | Inlet-<br>thread | Hose<br>diameter<br>mm |
|------------|-------|--------------------|--------------|------------------|------------------------|
| RRI-21930  | RRI   | 5                  | 0,2          | PT 1/4"          | 6,5                    |
| VMG11W-F02 | SMC   | 1-6 *              | 0,2          | PT 1/4"          | 6,5                    |

\* Depending on nozzle size, to be ordered seperately, see below.

## ACCESSORIES

FOR VMG11WF02

| Accessory       | Order number |
|-----------------|--------------|
| Nozzle Ø 1 mm   | KN-R02-100   |
| Nozzle Ø 1,5 mm | KN-R02-150   |
| Nozzle Ø 2 mm   | KN-R02-200   |
| Nozzle Ø 2,5 mm | KN-R02-250   |

## DIMENSIONS

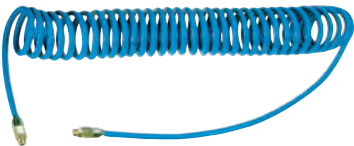
| Type      | A mm | B mm |
|-----------|------|------|
| VMG       | 140  | 164  |
| RRI 21930 | 80   | 250  |

# POLYURETHANE SPIRAL AIR HOSES

| Type       | Brand | Working length<br>m | Total length<br>m | Inside diameter<br>mm | Outside diameter<br>mm | Joint connection |
|------------|-------|---------------------|-------------------|-----------------------|------------------------|------------------|
| PT-02510SJ | RR    | 2                   | 2,5               | 6,5                   | 9,5                    | 1/4"             |
| PT-02525SJ | RR    | 4                   | 5                 | 6,5                   | 9,5                    | 1/4"             |
| PT-02550SJ | RR    | 9                   | 10                | 6,5                   | 9,5                    | 1/4"             |
| PT-03525SJ | RR    | 4                   | 5                 | 8                     | 12                     | 1/4"             |
| PT-03550SJ | RR    | 9                   | 10                | 8                     | 12                     | 1/4"             |
| PT-04525SJ | RR    | 4,2                 | 4,7               | 9,5                   | 13,5                   | 3/8"             |
| PT-04550SJ | RR    | 9                   | 10                | 9,5                   | 13,5                   | 3/8"             |

## FEATURES

- Both ends executed with universal swivel-joints
- Provided with straight ends of 10 and 50 cm
- Increased flexibility, no kinks after bending
- Max. pressure 8 bar
- Oil and petrol resistant
- Temperature -20°C. up to +60°C
- Swivel executed with ballbearings
- Can be used in combination with balancers



Polyurethane air hoses





# OIL, REGULATOR, SWIVEL JOINT

## Oil

ATLUB is the perfect lubricant especially developed to meet the lubrication requirements of pneumatic tools. ATLUB is based on a water soluble synthetic lubricant, containing a well balanced choice of additives to obtain the following properties:

- Very good protection against wear, corrosion and oxidation
- No forming of ice in pneumatic tools and machinery
- A good protection against deposit in the pneumatic system
- Good cleaning properties
- Compatibility with seal and gaskets made from synthetic material

ATLUB can be used in an air-line or microfog lubricator for lubrication of hammers, pile-drivers drills, grinders, pumps, hoists, clamps and vices. ATLUB will not mix with other mineral oils.

With ATLUB as the lubricant it is possible to work at very low temperatures, even at - 25°C, without freezing of the pneumatic system.

| Type         | Brand     | Description                                     | Litre |
|--------------|-----------|-------------------------------------------------|-------|
| ATLUB        | RR        | Lubricating oil                                 | 1     |
| NOBP         | YOKOTA    | Oil for YOKOTA impulsewrenches                  | 1     |
| 01-0508      | RR        | Oil for RED ROOSTER impulsewrenches             | 0,1   |
| 01-0508C     | RR        | Oil for RED ROOSTER impulsewrenches RRI-200(T)  | 0,1   |
| 01-0507      | RR        | Oil for RED ROOSTER impulse-wrenches            | 1     |
| 01-0507C     | RRI       | Oil for RED ROOSTER impulse-wrenches RRI-200(T) | 1     |
| Innotec-1101 | Nutriflon | Oil for food industry                           | 5     |



## Regulator

### FEATURES

- Can be easily inserted in the inlet of any air tool
- Reduces the flow of air and the power speed of the air tool



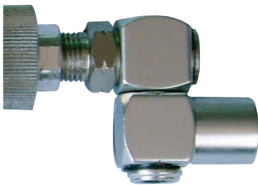
8130-1001-00-00

| Type            | Brand  | Description       | Inlet-thread |
|-----------------|--------|-------------------|--------------|
| 8130-1001-00-00 | Yokota | Regulator         | PT 1/8"      |
| 8130-1002-00-00 | Yokota | Regulator         | PT 1/4"      |
| 8130-1003-00-00 | Yokota | 10 step regulator | PT 1/4"      |

## Universal swivel joint

### FEATURES

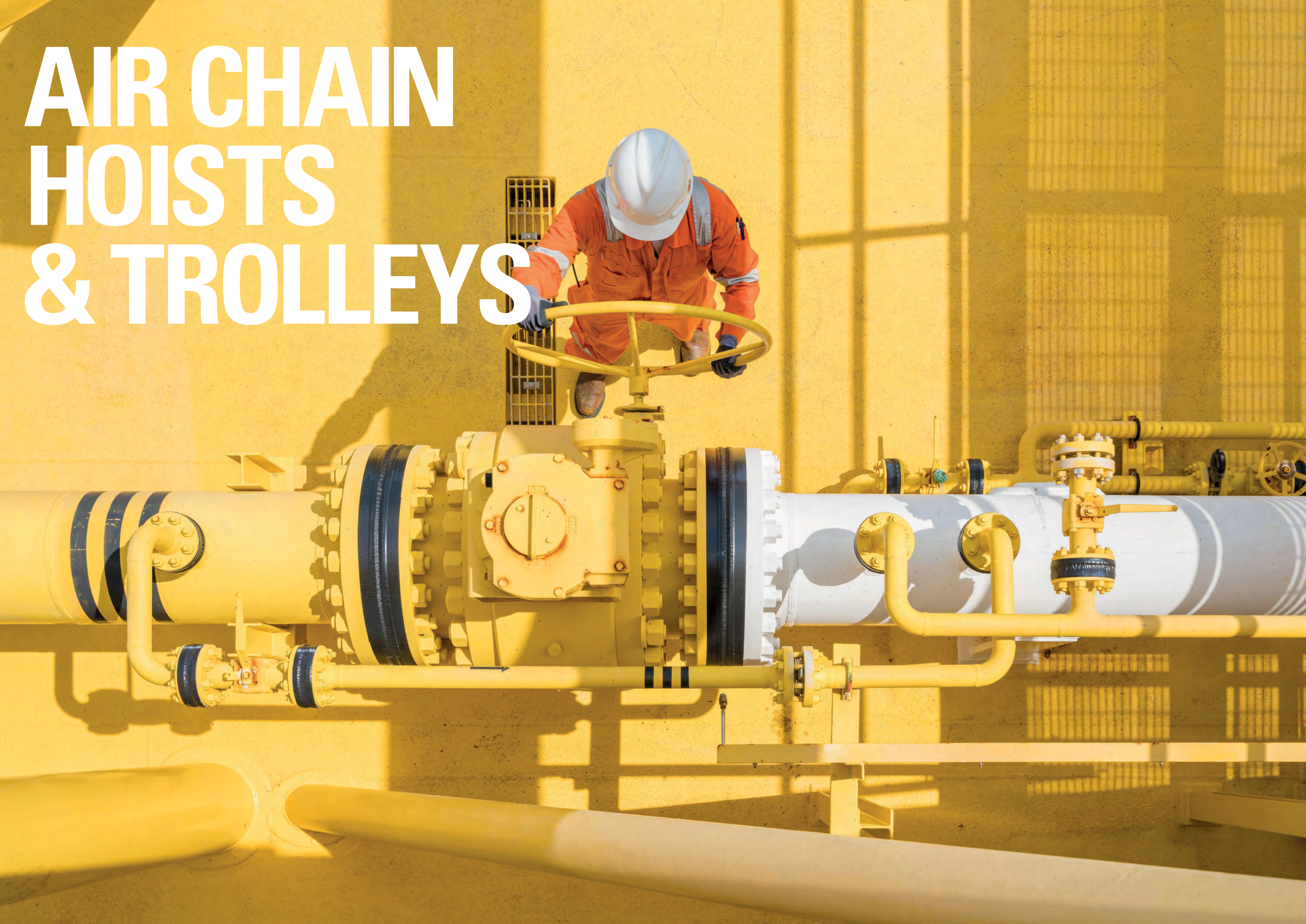
- Optimal ergonomics
- Swivels in all directions
- Increases flexibility of air tool use



| Type                        | Order number |
|-----------------------------|--------------|
| Universal Swivel Joint 1/4" | 922A18       |
| Universal Swivel Joint 3/8" | 933A19       |
| Universal Swivel Joint 1/2" | 944A         |







# AIR CHAIN HOISTS & TROLLEYS



# AIR CHAIN HOISTS & TROLLEYS

Red Rooster specializes in the sale, rental and repair of air powered hoists, trolleys and winches. Our pneumatic hoists with safe working loads range from 125kg to 100 tonne and are conform to the EC Machinery Directive and the European Standard for hoists BS EN 14492-2. All of our hoist parts are manufactured in Japan and Europe, controlled under the ISO 9001:2008 quality control system. Our lifting equipment can be used in industries such as the (offshore) oil and gas industry, assembly lines, power plants, refineries, chemical plants, mechanical engineering, shipyards, foundries, oil storage and many others.

## BROCHURE

### RED ROOSTER AIR CHAIN HOISTS



For a complete overview of the Red Rooster Air Chain Hoists & Trolleys ask for the special brochure Red Rooster AIR CHAIN HOISTS or visit our website: [www.rami-yokota.com](http://www.rami-yokota.com)

## ATEX



The Red Rooster ATEX classified, spark resistant air chain hoists, are suitable for use in explosion-prone areas. Air does not generate sparks and an air chain hoist can be used continuously without the danger of overheating, in contrast to electric hoists and the danger of using electricity in highly flammable or explosive environments.



# AIR CHAIN HOISTS

## Overview



### PNEUMATIC HOISTS

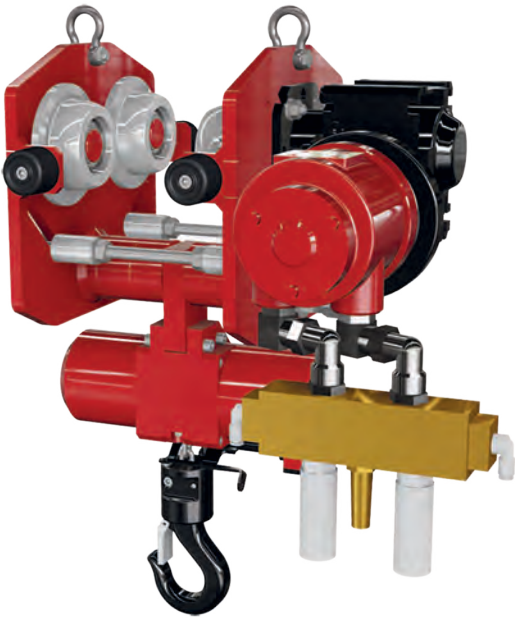
The Red Rooster TMM, TCR, TCS and TMH series pneumatic hoists offer a comprehensive range of hoists suited for all types of industrial and marine environments. For use in areas where there is a risk of explosion due to flammable gases or dust, we can offer a range of ATEX classifications to suit your requirements. With safety the number one priority, Red Rooster hoists have been used and tested for the past 25 years. Where engineers and operators require a hoist fit for purpose, easily controlled and maintained, with readily available spare parts, you'll find Red Rooster hoists. We have the perfect lifting solution for where the duty is high, or where a robust hoist is required to withstand harsh conditions. As standard, Red Rooster hoists are able to work within a temperature range of -10°C to +70°C, with some slight modifications suitable to use at -20°C.

### FEATURES

- TOKU high quality vane motor and planetary, gearbox with long life grease
- Overload protection
- High strength cast steel housing for durability
- Compact and lightweight for easy handling
- Extended duty cycles and frequent reversals
- Variable speed for raising and lowering accurately
- Alloy steel hooks with safety catches (Bottom hook fitted with thrust bearing for easy operation)
- Adjustable load limiter (Not for TMM, TCR Mini or TCS)
- Failsafe automatic disk brake (fully enclosed) ensures the load cannot fall if power is lost
- Emergency stop
- Mechanical upper and lower hoist limits
- Lifting heights to meet your need
- Choice of cord, pendant control or control systems
- Low noise level down to 80 dB (Silencer and filter easily changed)
- Low air consumption (TCR and TMH model)
- Air pressure from 4,5 to 6 Bar (7 Bar maximum)
- Durable in harsh environments
- Self cooling air motor with the exhaust over the motor
- Low maintenance
- Easily available spares at the right conditions
- Hoist body manufactured in Japan, all other parts in Europe
- High quality calibrated load chain of European/Japanese manufacture with 5:1 FOS
- High speed (TCS model)
- Ex classification to EC directive 94/9/EC (ATEX models)
- Various paint specifications and colours

# TROLLEYS & OPTIONAL FEATURES

## Overview



### TROLLEYS

The Red Rooster range of trolleys is designed to match our range of pneumatic hoists, with capacities from 250 kg to 50 tonne, but they are easily adapted to be used with other manufacturers hoists. The trolleys are designed to work on a wide range of beam sizes and beam types, with parallel or tapered flanges. The trolley can either have a lifting lug to hook in the hoist or be built in using a link plate. The versatile design and interchangeable parts can be used on a range of geared, low headroom, articulated and overhead crane units.

Besides pneumatic trolleys we also offer geared and push trolleys.

### OPTIONAL FEATURES

- (Ultra) and low headroom
- Marine Specification/Corrosion resistant
- Paint systems from C2 - Industrial to C5 - Offshore specification (Red finish as standard. Other RAL colours available on request)
- Choice of pendants/control systems
- Radio control pendant for electro pneumatic controls
- Chain collectors (PVC, galvanised or stainless steel)
- Various types of hook or clevis available
- Air supply systems and valves
- Piped away exhaust air
- In house design for "specials"
- Festoon systems
- Main air shut off valve



Festoon system

# AIR CHAIN HOISTS

TCR, TCS, TMH Series

COMPACT HOISTS FOR “MATERIAL-HANDLING”

The Red Rooster compact hoists are suitable for “material-handling”. The pendant control is positioned directly on the lower hook, so the operator can control and position the load easily with one hand. The perfect solution for horizontal movements is to combine the hoist with a push trolley.

MINI AIR CHAIN HOISTS LIGHT, STRONG & COMPACT

The Red Rooster mini air chain hoists are suitable for industrial use and material handling. Due to their low weight these hoists are also very suitable for service applications.

TCS HIGH SPEED AIR CHAIN HOISTS

These series Red Rooster air chain hoists are especially developed for the material handling industry such as warehousing and packaging. These hoists have very high lifting and lowering speeds and are therefore suitable for applications with long lifting heights.

AIR CHAIN HOISTS TCR SERIES 0,25 - 2 TONNE

These Red Rooster air chain hoists are especially developed for heavy industrial use. With a robust cast steel body and load limiter.

TMH SERIES AIR CHAIN HOISTS 3 - 100 TONNE

The new Red Rooster TMH series air chain hoists have the highest lifting speed and lowest headroom on the market.



TMM-140AE



TCR-250ME



TCS-500



TMH-3000



TMH-25

|  | Capacity<br>kg | Lifting speed<br>full load<br>m/min | Lowering speed<br>full load<br>m/min | Lifting speed<br>without load<br>m/min | Lowering speed<br>without load<br>m/min | Number<br>of chain<br>falls | Air<br>consumption<br>full load<br>l/s | Inlet<br>thread | Hose<br>diameter<br>mm | Weight kg<br>incl. 3 m<br>lift | Chain weight kg<br>per meter lift | Load<br>limiter | Air<br>trolley | 4-button pendant<br>with emergency<br>stop<br>(42-02-35-VRD) | Chain size<br>mm | Chain bag/<br>chain bucket |
|--|----------------|-------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------|----------------------------------------|-----------------|------------------------|--------------------------------|-----------------------------------|-----------------|----------------|--------------------------------------------------------------|------------------|----------------------------|
|--|----------------|-------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------|----------------------------------------|-----------------|------------------------|--------------------------------|-----------------------------------|-----------------|----------------|--------------------------------------------------------------|------------------|----------------------------|

COMPACT HOIST FOR - „MATERIAL-HANDLING“

|           |     |      |      |      |      |           |      |         |    |    |      |   |   |   |                 |   |
|-----------|-----|------|------|------|------|-----------|------|---------|----|----|------|---|---|---|-----------------|---|
| TMM-140AE | 140 | 12,5 | 20,1 | 20,2 | 17   | 1 (cable) | 10,5 | PT 3/8" | 13 | 10 | -    | - | + | - | 4 mm staalkabel | - |
| TCR-250ME | 250 | 8    | 16,5 | 16,7 | 12,4 | 1         | 11,7 | PT 3/8" | 13 | 11 | 0,35 | - | + | - | 4 x 12          | * |

RED ROOSTER MINI AIR CHAIN HOISTS

|                  |     |           |           |           |     |   |      |         |    |         |      |   |   |   |        |   |
|------------------|-----|-----------|-----------|-----------|-----|---|------|---------|----|---------|------|---|---|---|--------|---|
| TCR-125C /DPE    | 125 | 14 / 12,8 | 16 / 14,8 | 19 / 17,2 | 13  | 1 | 13,3 | PT 3/8" | 13 | 7 / 8,6 | 0,35 | - | + | + | 4 x 12 | + |
| TCR-250C /DPE    | 250 | 9,5 / 8,1 | 17 / 15,9 | 19 / 17,2 | 13  | 1 | 13,3 | PT 3/8" | 13 | 7 / 8,6 | 0,35 | - | + | + | 4 x 12 | + |
| TCR-500/C2 / DPE | 500 | 4,8 / 4   | 8 / 6,5   | 9,5 / 8,6 | 6,5 | 2 | 13,3 | PT 3/8" | 13 | 8,5     | 0,7  | - | + | + | 4 x 12 | + |

TCS AIR CHAIN HOISTS HIGH SPEED

|                |     |     |    |      |     |   |      |         |    |      |     |   |   |   |          |   |
|----------------|-----|-----|----|------|-----|---|------|---------|----|------|-----|---|---|---|----------|---|
| TCS-500 C/PE   | 500 | 17  | 34 | 33   | 19  | 1 | 28,3 | PT 1/2" | 13 | 15,9 | 0,9 | - | + | + | 6,3x19,1 | + |
| TCS-980/2 C/PE | 980 | 8,5 | 17 | 16,5 | 9,5 | 2 | 28,3 | PT 1/2" | 13 | 16,8 | 1,8 | - | + | + | 6,3x19,1 | + |

RED ROOSTER AIR CHAIN HOISTS TCR SERIES 0,25 - 6 TONNES

|                |      |     |     |      |     |   |      |         |    |    |     |   |   |   |          |   |
|----------------|------|-----|-----|------|-----|---|------|---------|----|----|-----|---|---|---|----------|---|
| TCR-600250 C/P | 250  | 10  | 16  | 19   | 13  | 1 | 23,3 | PT 1/2" | 13 | 31 | 0,9 | * | + | + | 6,3x19,1 | + |
| TCR-500 C/P    | 500  | 10  | 16  | 19   | 13  | 1 | 23,3 | PT 1/2" | 13 | 31 | 0,9 | * | + | + | 6,3x19,1 | + |
| TCR-1000/2 C/P | 1000 | 8   | 8   | 9,5  | 6,5 | 2 | 23,3 | PT 1/2" | 13 | 34 | 1,8 | * | + | + | 6,3x19,1 | + |
| TCR-1000 C/P   | 1000 | 5,8 | 4,3 | 10,5 | 6,5 | 1 | 23,3 | PT 1/2" | 13 | 35 | 1,1 | * | + | + | 7,1x21   | + |
| TCR-2000/2 C/P | 2000 | 2,9 | 4,7 | 5,3  | 3,3 | 2 | 23,3 | PT 1/2" | 13 | 40 | 2,2 | * | + | + | 7,1x21   | + |

NEW RED ROOSTER TMH SERIES AIR CHAIN HOISTS: “The highest lifting speed with the lowest headroom on the hoist market”

|               |        |     |      |      |     |   |      |        |      |     |      |   |   |   |           |   |
|---------------|--------|-----|------|------|-----|---|------|--------|------|-----|------|---|---|---|-----------|---|
| TMH-3000 C/PE | 3000   | 5,4 | 10,5 | 10,7 | 6,4 | 1 | 58,3 | PT 1"  | 19   | 99  | 3,8  | * | + | + | 13x36     | + |
| TMH-6000 C/PE | 6000   | 2,8 | 5,1  | 5,4  | 3,6 | 2 | 58,3 | PT 1"  | 19   | 103 | 7,6  | * | + | + | 13x36     | + |
| TMH-10 C/PE   | 10.000 | 1,6 | 3,2  | 3,3  | 1,9 | 2 | 58,3 | PT 1"  | 25,4 | 206 | 11,4 | * | + | + | 16x45     | + |
| TMH-25        | 25.000 | 1,4 | 3    | 2,7  | 2   | 2 | 108  | PT 1½" | 38   | 581 | 24,2 | * | * | * | 23,5 x 66 | + |

Technical specifications at 0,63 MPa (dynamic airpressure at 6,3 Bar) | Please contact us for all hoists above 30 TONNE

\* = standard integrated / + = optional / - = not available

# AIR CHAIN HOISTS



# AIR TROLLEYS

*Standard and special versions*

Standard air trolley



Ultra low head



Ultra low head articulated



Air trolley with beam brake



Air trolley extended frame



Air trolley articulated



Red Rooster offers a complete program of pneumatic trolleys. From the most simple versions where the upper hook of the hoist is replaced by a link plate to mount on the trolley, to low headroom trolleys where minimum space only allows for minimum building height. Whether the use is industrial, shipping or off-shore, Red Rooster can offer you a fitting solution.

With our team of designers and production facilities, semi-standard solutions supplement a large variety of custom-made units that incorporate your requirements.

Big bag handling, ultra low headroom, articulated trolleys and different sizes of beams belong to the wide range of possibilities. Even complete BOP handling units are developed and manufactured on demand. Options such as pneumatic trolleys with rack and pinion and beam brake are also available.

For more details and a full overview of all possibilities please refer to our full catalogue of air chain hoists and trolleys (available languages; English, German, French, Polish and Spanish).







# AIR TREATMENT EQUIPMENT



# AIR TREATMENT EQUIPMENT



**COMBINATION SETS**  
Air treatment combination sets can consist of and AF (filter) + AR (regulator) + AL (lubricator) or AW (filter/regulator) + AL (lubricator).

PAGE 146



**REGULATORS**  
SMC regulators guarantee a constant secondary pressure, even when the in port pressure or pressure in general, fluctuates.

PAGE 149



**FILTERS**  
The SMC filters allow for an exceptionally large air flow and a high grade of filtration. The filters guarantee an adequate level of air quality, due to the separation of condensate by their centrifugal working, and the filtration of polluted particles.

PAGE 148-149



**LUBRICATORS**  
For precise lubrication of machine components. From series 3.000 oil can be filled under pressure. Easy and accurate adjustment. Lubricates with minimal airflow.

PAGE 150-151



**WATER SEPARATORS & BOOSTERS**  
With the SMC AMG water separators you can easily and cheaply remove 99% of all water from your compressed air. These compact and light weight water separators are available with port sizes from 1/8" up to 2". They are suitable for compressors from 1-75kW and are standard equipped with automatic drain for long term jobs. SMC boosters can increase pressure by 4 times without separate energy supply and without additional cooling.

PAGE 147



**REFRIGERATED AIR DRYERS**  
The SMC refrigerated air dryer series IDFA removes humidity from your compressed air system, thereby extending the life span of all of your airtools.

PAGE 154-155

# AIR TREATMENT EQUIPMENT

Low quality of your compressed air can lead to costly malfunctioning of your tools and your production process. It will also increase maintenance costs, decrease the lifetime of your tools and lead to larger expenditure in general. Investing in air quality will pay off. Sufficient air and air quality are paramount to a trouble-free production process. SMC pneumatics is the worlds largest manufacturer of pneumatic components and compressed air treatment equipment. SMC products are known for their high unquestionable quality and will ensure a long lifetime for all of your air tools and air hoists.



**AIR QUALITY**  
Good air quality is crucial for the trouble-free use of your tools. When your system consists of clean and dry air, the lifetime of your tools will greatly increase. This leads to more sustainability and also to a reduction of costs.

- LOW PRESSURE MAY OCCUR IF:**
- The compressor capacity is insufficient
  - The air piping has been pitched incorrectly
  - There is air leakage
  - The air treatment equipment is incorrectly pitched, not functioning properly
  - The wrong hose size, nipples or quick couplers are applied
  - The tank is too small

**SUFFICIENT AIR**  
In order to ensure the proper functioning of your tools the air pressure needs to be just right. If the pressure is too low the tool will show less performance and less precision, resulting in slow starting and less productivity. 1 bar pressure reduction can imply 25% air motor power loss.

# COMBINATION SETS

## AC-B Series

The AC-B series of SMC consists of modular sets of filters, regulators and lubricators, with which the air quality and pressure of your installation can be optimized.

**BENEFITS**

- Transparent bowl: clearly visible liquid level
- Quick interchanging of filter elements and simple to add oil
- Bowl with bajonet connection: simple control, quick and easy maintenance
- Nylon bowl: chemical and other corrosive substances resistant
- Metal bowl: robust and shock and chemical resistant
- In-built pressure gauge: solid construction without protruding parts

AC-SERIES - COMBINATION OF AF (FILTER), AR (REGULATOR), AL (LUBRICATOR) AND PRESSURE GAUGE

| Type        | Port size | NI/min | Filter micron | Working pres. (MPa) | Bowl          | Bowl with bajonet connection |
|-------------|-----------|--------|---------------|---------------------|---------------|------------------------------|
| AC20-F02E-B | 1/4"      | 300    | 5             | 0,05 - 0,85         | Polycarbonate | o                            |
| AC30-F03E-B | 3/8"      | 1.500  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |
| AC40-F03E-B | 3/8"      | 1.800  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |
| AC40-F04E-B | 1/2"      | 2.200  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |
| AC40-F06E-B | 3/4"      | 2.500  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |
| AC50-F06E-B | 3/4"      | 3.000  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |
| AC50-F10E-B | 1"        | 3.500  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |
| AC60-F10E-B | 1"        | 4.000  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |

o = optional, s = standard / Max. supply pressure: 1,5 MPa / Max. working pressure: 0,7 MPa / Temperature working area: -5 to 60° C.

AC-SERIES - COMBINATION OF AW (FILTER, REGULATOR COMBINATION), AL (LUBRICATOR) AND PRESSURE GAUGE

| Type         | Port size | NI/min | Filter micron | Working pres. (MPa) | Bowl          | Bowl with bajonet connection |
|--------------|-----------|--------|---------------|---------------------|---------------|------------------------------|
| AC20A-F02E-B | 1/4"      | 300    | 5             | 0,05 - 0,85         | Polycarbonate | o                            |
| AC30A-F03E-B | 3/8"      | 1.500  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |
| AC40A-F04E-B | 1/2"      | 2.000  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |
| AC50A-F06E-B | 3/4"      | 3.000  | 5             | 0,05 - 0,85         | Polycarbonate | s                            |

o = optional, s = standard / Max. supply pressure: 1,5 MPa / Max. working pressure: 0,7 MPa / Temperature working area: -5 to 60 °C.

**FEATURES**

- Other combinations
- Automatic drain, normally opened (add DE for E in order number). For good functioning, the drain line should have min. 8 mm diam. and should not be longer than 5 m
- Filtration 2, 10, 20, 40, 70, 100 μ
- For metal or nylon bowls see page 152

**APPLICATIONS**

All equipment for air treatment can be used in any sector where pneumatic applications exist. Important industrial sectors: automotive, facilities, machine building.

**FEATURES**

- Transparent double-layered polycarbonate bowl protection. 360 degree visibility, light weight, corrosion proof
- Interchangeable with existing AC-series through panel mounting
- Element construction integrated in bowl, element and bowl form a whole. Choice of in-built pressure gauge and switch: square in-built pressure gauge, mounted round pressure gauge, digital pressure switch.
- Choice of bowl material: Polycarbonate (standard), metal (with or without level indication), Nylon



AC



AC..A

Polycarbonate bowls may be damaged and could possibly fail if they are exposed to synthetic oils, thinner solvents, trichloorethylene, kerosene and other aromatics hydrocarbons. If used in above atmosphere, please use a metal bowl.

# WATER SEPARATORS & BOOSTERS

## AMG-Series, VBA & VBAT Seriest

AMG SERIES WATER SEPARATORS

| Type         | Compressor kW | NI/min | Port size Rc | Weight kg | Mounting brackets | Filter elements |
|--------------|---------------|--------|--------------|-----------|-------------------|-----------------|
| AMG150C-F02C | 2,2           | 300    | 1/4"         | 0,38      | AM-BM101          | AMG-EL150       |
| AMG250C-F03D | 5,5           | 700    | 3/8"         | 0,55      | AM-BM102          | AMG-EL250       |
| AMG350C-F04D | 11            | 1.300  | 1/2"         | 0,9       | AM-BM103          | AMG-EL350       |
| AMG450C-F06D | 15            | 2.200  | 3/4"         | 1,4       | AM-BM104          | AMG-EL450       |
| AMG550C-F10D | 22            | 3.300  | 1"           | 2,1       | AM-BM105          | AMG-EL550       |
| AMG650-F14D  | 37            | 6.000  | 1 ½"         | 4,2       | BM56              | AMG-EL650       |
| AMG850-F20D  | 75            | 12.000 | 2"           | 10,5      | BM57              | AMG-EL850       |

Working pressure: 1,5 - 1,0 MPa bar / Temperature working area: -5 tot 60°C. Accessories like mounting brackets and filter elements available on request.



AMG

**FEATURES**

- Easy and cheap removal 99% water from air
- Compact and light weight
- Port sizes from 1/4" to 2"
- Standard automatic drain for long term jobs
- Long life due to the special hardened resin grid with large mesh to reduce clogging
- Suitable for compressors of 2,2-75KW



Booster

VBA SERIES PRESSURE BOOSTERS

| Type       | Working pressure MPa | NI/min | Connection | Pressure   |
|------------|----------------------|--------|------------|------------|
| VBA11A-F02 | 0,2 - 2,0            | 70     | G 1/4      | max. 4 : 1 |
| VBA10A-F02 | 0,2 - 2,0            | 230    | G 1/4      | max. 2 : 1 |
| VBA20A-F03 | 0,2 - 1,0            | 1.000  | G 3/8      | max. 2 : 1 |
| VBA40A-F04 | 0,2 - 1,0            | 1.900  | G 1/2      | max. 2 : 1 |
| VBA43A-F04 | 0,2 - 1,6            | 1.600  | G 1/2      | max. 2 : 1 |

**FEATURES**

- Incoming pressure 0,1-1MPa
- Increases incoming pressure x4
- Cooling not required
- Simple installation
- No separate energy supply needed
- Horizontal mounting bracket

**APPLICATIONS**

- Where air does not need to be 100% dry
  - Where refrigerated air dryers cannot be used
  - Where an affordable alternative is needed
- Warning:  
Place water separator at large enough distance from compressor.



Air tank with booster

VBAT SERIES AIR TANK

| Type           | Max. working pressure MPa | Content L |
|----------------|---------------------------|-----------|
| VBAT05A F-SV-Q | 2,0                       | 5         |
| VBAT10A F-SV-Q | 2,0                       | 10        |
| VBAT20A F-RV-Q | 1,0                       | 20        |
| VBAT38A F-RV-Q | 1,0                       | 38        |

**APPLICATIONS**

Ideal in combination with pressure booster. This air tank can be easily connected to the pressure booster with the assembly set that is included as standard. Optional: combination with a larger air tank on request.



FILTERS

AF Series, AFM & AFD Series (modular)

AF SERIES FILTERS

| Type       | Connection | NI/min | Filter micron | Bowl          | Bowl protection with bajonet connection <sup>1)</sup> | Mounting brackets |
|------------|------------|--------|---------------|---------------|-------------------------------------------------------|-------------------|
| AF20-F02-A | 1/4"       | 1.100  | 5             | Polycarbonate | s                                                     | AF22P-050AS       |
| AF30-F02-A | 1/4"       | 2.200  | 5             | Polycarbonate | s                                                     | AF32P-050AS       |
| AF30-F03-A | 3/8"       | 2.600  | 5             | Polycarbonate | s                                                     | AF32P-050AS       |
| AF40-F03-A | 3/8"       | 4.000  | 5             | Polycarbonate | s                                                     | AF42P-050AS       |
| AF40-F04-A | 1/2"       | 4.300  | 5             | Polycarbonate | s                                                     | AF42P-050AS       |
| AF40-F06-A | 3/4"       | 5.000  | 5             | Polycarbonate | s                                                     | AF42P-070AS       |
| AF50-F06-A | 3/4"       | 7.000  | 5             | Polycarbonate | s                                                     | AF52P-050AS       |
| AF50-F10-A | 1"         | 7.000  | 5             | Polycarbonate | s                                                     | AF52P-050AS       |
| AF60-F10-A | 1"         | 8.500  | 5             | Polycarbonate | s                                                     | AF52P-050AS       |
| AF800-12   | 1¼"        | 12.000 | 5             | Polycarbonate | s                                                     | -                 |
| AF800-14   | 1½"        | 12.000 | 5             | Polycarbonate | s                                                     | -                 |
| AF900-20   | 2"         | 16.000 | 5             | Polycarbonate | s                                                     | -                 |

1) o = option s = standard / Max. testing pressure 1,2 MPa / Max. working pressure: 1,0 MPa / Temperature range: -5 to 60 degrees

ON REQUEST

- Other combinations
- Automatic drain, normally opened (add DE for E in order number). For proper functioning the drain line should have min. 8 mm diam. and should not be longer than 5 m.
- Filtration standard 5 micron, others upon request
- Metal or nylon bowls (see page 152)

Polycarbonate bowls may be damaged and could possibly fail if they are exposed to synthetic oils, thinner solvents, trichloorethylene, kerosene and other aromatic hydrocarbons. If used in above described atmosphere, please use a metal bowl (see page.152)



AFM SERIES MICROFILTERS

| Type        | Connection | NI/min | Filter micron | Bowl          | Bowl protection with bajonet connection <sup>1)</sup> | Mounting brackets |
|-------------|------------|--------|---------------|---------------|-------------------------------------------------------|-------------------|
| AFM20-F02-A | 1/4"       | 200    | 0,3           | Polycarbonate | o                                                     | AF22P-050AS       |
| AFM30-F02-A | 1/4"       | 400    | 0,3           | Polycarbonate | s                                                     | AF32P-050AS       |
| AFM30-F03-A | 3/8"       | 400    | 0,3           | Polycarbonate | s                                                     | AF32P-050AS       |
| AFM40-F03-A | 3/8"       | 900    | 0,3           | Polycarbonate | s                                                     | AF42P-050AS       |
| AFM40-F04-A | 1/2"       | 1.000  | 0,3           | Polycarbonate | s                                                     | AF42P-050AS       |
| AFM40-F06-A | 3/4"       | 1.000  | 0,3           | Polycarbonate | s                                                     | AF42P-070AS       |

1) o = option s = standard / Max. testing pressure 1,2 MPa / Max. working pressure: 1,0 MPa / Temperature range: -5 to 60 degrees

AFD SERIE - SUBMICROFILTERS

| Type        | Connection | NI/min | Filter micron | Bowl          | Bowl protection with bajonet connection <sup>1)</sup> | Mounting brackets |
|-------------|------------|--------|---------------|---------------|-------------------------------------------------------|-------------------|
| AFD20-F02-A | 1/4"       | 120    | 0,01          | Polycarbonate | o                                                     | AF22P-050AS       |
| AFD30-F02-A | 1/4"       | 270    | 0,01          | Polycarbonate | s                                                     | AF32P-050AS       |
| AFD30-F03-A | 3/8"       | 270    | 0,01          | Polycarbonate | s                                                     | AF32P-050AS       |
| AFD40-F03-A | 3/8"       | 600    | 0,01          | Polycarbonate | s                                                     | AF42P-050AS       |
| AFD40-F04-A | 1/2"       | 600    | 0,01          | Polycarbonate | s                                                     | AF42P-050AS       |
| AFD40-F06-A | 3/4"       | 600    | 0,01          | Polycarbonate | s                                                     | AF42P-070AS       |

1) o = option s = standard / Max. testing pressure 1,2 MPa / Max. working pressure: 1,0 MPa / Temperature range: -5 to 60 degrees

ON REQUEST

- Automatic drain (add D to order number). For proper functioning the drain line should have min. 8 mm diam. and should not be longer than 5 m.
- Metal or nylon bowl

The microfilters have an extremely large flow and a high degree of filtration. Works optimal in combination with standard filters. More than 99,9% of oil is removed. The filter should be replaced when the loss of pressure is larger than 0,1 MPa.



FILTERS & REGULATORS

AW-Series & AR-Series (modular)



AW SERIES FILTERS & REGULATORS

| Type        | Connection | NI/min | Connection pressure gauge | Working pressure MPa | Filter micron | Bowl          | Mounting nuts | Bowl protection with bajonet connection <sup>3)</sup> | Mounting brackets          |
|-------------|------------|--------|---------------------------|----------------------|---------------|---------------|---------------|-------------------------------------------------------|----------------------------|
| AW20-F02E-B | 1/4"       | 500    | Geintegr.                 | 0,05 - 0,85          | 5             | Polycarbonate | AR23P-260S    | o                                                     | AW23P-270AS <sup>1)</sup>  |
| AW30-F03E-B | 3/8"       | 1.300  | Geintegr.                 | 0,05 - 0,85          | 5             | Polycarbonate | AR33P-260S    | s                                                     | AR33P-270AS <sup>1)</sup>  |
| AW40-F04E-B | 1/2"       | 1.900  | Geintegr.                 | 0,05 - 0,85          | 5             | Polycarbonate | AR43P-260S    | s                                                     | AR43P-270AS <sup>1)</sup>  |
| AW40-F06E-B | 3/4"       | 2.500  | Geintegr.                 | 0,05 - 0,85          | 5             | Polycarbonate | AR43P-260S    | s                                                     | AR43P-270AS <sup>1)</sup>  |
| AW60-F10E-B | 1"         | 8.000  | Geintegr.                 | 0,05 - 0,85          | 5             | Polycarbonate | -             | s                                                     | AW62P-270 AS <sup>2)</sup> |

1) Delivery with mounting nuts / 2) Delivery with mounting bolts / 3) o = option s = standard  
Max. testing pressure 1,5 MPa / Max. working pressure: 1,0 MPa / Temperature range: -5 to 60 degrees

ON REQUEST

- Automatic drain, normally opened (add DE for E in order number). For proper functioning the drain line should have min. 8 mm diam. and should not be longer than 5 m.
- Filtration standard 5 µ , others upon request
- Metal or nylon bowls (see page 152)

AR SERIES REGULATORS

| Type        | Connection | NI/min | Connection pressure gauge | Working pressure MPa | Mounting nuts | Mounting brackets |
|-------------|------------|--------|---------------------------|----------------------|---------------|-------------------|
| AR20-F02E-B | 1/4"       | 650    | Integrated                | 0,05 - 0,85          | AR23P-260S    | AR23P-270AS*      |
| AR30-F03E-B | 3/8"       | 1.500  | Integrated                | 0,05 - 0,85          | AR33P-260S    | AR33P-270AS*      |
| AR40-F03E-B | 3/8"       | 2.500  | Integrated                | 0,05 - 0,85          | AR43P-260S    | AR43P-270AS*      |
| AR40-F04E-B | 1/2"       | 3.000  | Integrated                | 0,05 - 0,85          | AR43P-260S    | AR43P-270AS*      |
| AR40-F06E-B | 3/4"       | 5.000  | Integrated                | 0,05 - 0,85          | AR43P-260S    | AR43P-270AS*      |
| AR50-F06E-B | 3/4"       | 4.000  | Integrated                | 0,05 - 0,85          | -             | AR52P-270AS**     |
| AR50-F10E-B | 1"         | 4.000  | Integrated                | 0,05 - 0,85          | -             | AR52P-270AS**     |
| AR60-F10E-B | 1"         | 5.000  | Integrated                | 0,05 - 0,85          | -             | AR52P-270AS**     |
| AR825-12    | 1¼"        | 14.000 | 1/4"                      | 0,05 - 0,85          | -             | -                 |
| AR825-14    | 1½"        | 14.000 | 1/4"                      | 0,05 - 0,85          | -             | -                 |
| AR925-20    | 2"         | 17000  | 1/4"                      | 0,05 - 0,85          | -             | -                 |

\* Delivery with mounting nuts / \*\* Delivery with mounting bolts  
Max. testing pressure 1,5 MPa / Max. working pressure: 1,0 MPa / Temperature range: -5 to 60 degrees

AR SERIES HIGH PRESSURE REGULATORS

| Type          | Connection | NI/min | Connection pressure gauge | Working pressure MPa | Mounting nuts | Mounting brackets |
|---------------|------------|--------|---------------------------|----------------------|---------------|-------------------|
| AR40-F03-X425 | 3/8"       | 3.000  | 1/4"                      | 0,05 - 1,6           | AR40P-260S    | AR40P-270AS*      |
| AR40-F04-X425 | 1/2"       | 3.300  | 1/4"                      | 0,05 - 1,6           | AR40P-260S    | AR40P-270AS*      |
| AR60-F10-X425 | 1"         | 5.000  | 1/4"                      | 0,05 - 1,6           | -             | AR50P-270AS**     |

\* Delivery with mounting nuts / \*\* Delivery with mounting bolts  
Max. testing pressure 3,0 MPa / Max. working pressure: 2,0 MPa / Temperature range: -5 to 60 degrees

# LUBRICATORS

## AL & ALDU-Series (modular)

SMC lubricators (AL-Series) are used for precise lubrication of the air tools and air chain hoists. From building height 30 the oil supply can be added under pressure through simple and precise tuning. Lubrication takes place even with low levels of air flow. For the optimal functioning of the lubricator the length of the hose between the lubricator and the tool should not exceed 8 meters. Longer hoses or the use of a hose reel will impede the functioning of the lubricator.

Auto-feed lubrication ensures both frequency of lubrication as well as volume thus saving your expenditure on oil. Other benefits are; less maintenance to your air tool or air chain hoist, increased safety in the working environment and less pollution.

The ALDU-series of SMC is a centralized lubricator with an oil mist range of up to 200 meters. Using the ALDU series, only one lubricator can service multiple air chain hoists or tools. This means; less maintenance and it reduces errors and oil-consumption by 80 to 90%. The use of hose-reels and FESTOON systems is possible when by using the ALDU series.

### AL-SERIES LUBRICATORS

| Type       | Connection | Flow NI/ min | Lubricates from NI/min | Level glass | Bowl          | Bowl protection with bajonet connection | Mounting brackets |
|------------|------------|--------------|------------------------|-------------|---------------|-----------------------------------------|-------------------|
| AL20-F02-A | 1/4"       | 2.400        | 15                     | AL20P-080AS | Polycarbonate | s                                       | AF22P-050AS       |
| AL30-F03-A | 3/8"       | 4.500        | 30                     | AL20P-080AS | Polycarbonate | s                                       | AF32P-050AS       |
| AL40-F03-A | 3/8"       | 6.000        | 40                     | AL20P-080AS | Polycarbonate | s                                       | AF42P-050AS       |
| AL40-F04-A | 1/2"       | 5.800        | 40                     | AL20P-080AS | Polycarbonate | s                                       | AF42P-050AS       |
| AL40-F06-A | 3/4"       | 6.000        | 40                     | AL20P-080AS | Polycarbonate | s                                       | AF42P-070AS       |
| AL50-F06-A | 3/4"       | 7.500        | 190                    | AL20P-080AS | Polycarbonate | s                                       | AF52P-050AS       |
| AL50-F10-A | 1"         | 7.500        | 190                    | AL20P-080AS | Polycarbonate | s                                       | AF52P-050AS       |
| AL60-F10-A | 1"         | 10.500       | 220                    | AL20P-080AS | Polycarbonate | s                                       | AF52P-050AS       |
| AL800-12   | 1 ¼"       | 13.000       | 460                    | 12316       | Polycarbonate | s                                       | -                 |
| AL800-14   | 1 ½"       | 13.000       | 650                    | 12316       | Polycarbonate | s                                       | -                 |
| AL900-20   | 2"         | 20.000       | 1.800                  | 12316       | Polycarbonate | s                                       | -                 |

1) o = option s = standard  
Max. testing pressure 1,5 MPa / Max. working pressure: 1,0 MPa / Temperature range: -5 to 60 degrees / Recommended oil norm: ISO VG32

### ALDU-SERIES

| Type        | Brand | Connection | Max. NI/min | Filter micron | Working pressure MPa | Bowl capacity cm³ |
|-------------|-------|------------|-------------|---------------|----------------------|-------------------|
| EALDU600-10 | SMC   | 1"         | 6.000       | 5             | 0,15 - 1,0           | 2.000             |
| EALDU900-20 | SMC   | 2"         | 15.000      | 5             | 0,15 - 1,0           | 5.000             |

Max. testing pressure 1,5 MPa / Max. working pressure: 1,0 MPa / Temperature range: -5 to 60 degrees

**NOTE**  
Also refer to the SMC-AC-series filters and -regulators for the correct compressed air conditioning. The correct choice of SMC combinations should be based on air consumption of your tools or hoists. See technical specifications: NI/min (normal litres per minute). Take into consideration the parallel use of multiple tools or hoists.



ALA



EALDU900E

# LUBRICATORS

## ALF & ALT-Series (modular & mobile units)

Do you have a lubricator in an area that is difficult to reach; for example high at the top hook of an air chain hoist? In such cases we advise the use of the SMC ALF/ALT-Series. The ALF-lubricator is automatically refilled from the ALT-Oil tank.

### ALF-SERIES AUTO FEED LUBE

| Type       | Connection | Max. working pressure MPa | Lubricates from (NI/min (ANR)) | Bowl capacity cm³ | Bowl          | Weight kg |
|------------|------------|---------------------------|--------------------------------|-------------------|---------------|-----------|
| ALF400-F04 | 1/2"       | 0,7                       | 100                            | -                 | Polycarbonate | 0,85      |
| ALF900-F20 | 2"         | 0,7                       | 1.800                          | -                 | Polycarbonate | 1,9       |



ALF

### ALT-SERIES AUTO FEED TANK

| Type        | Connection        | Max. working pressure MPa | Lubricates from NI/min | Tankl cm³ | Bowl  | Weight kg |
|-------------|-------------------|---------------------------|------------------------|-----------|-------|-----------|
| ALT-5       | Air 1/4"/Oil 3/8" | 1,0                       | -                      | 5.000     | Metal | 12,6      |
| ALT-5-IS-1* | Air 1/4"/Oil 3/8" | 1,0                       | -                      | 5.000     | Metal | 13,2      |
| ALT-9       | Air 1/4"/Oil 3/8" | 1,0                       | -                      | 9.000     | Metal | 26,0      |
| ALT-9-IS-1* | Air 1/4"/Oil 3/8" | 1,0                       | -                      | 9.000     | Metal | 26,6      |

\*With level switch  
Temperature range: -5 to 60 degrees / Recommended oil norm: ISO VG32



ALT

## Mobile air treatment units

When working on location it is possible to use one of our mobile solutions to extend the lifetime of your equipment. With this unit the air is filtered, lubricated and the air pressure is regulated. Water and dirt cannot enter the air motor and the capacity of your air tool or hoist is maintained.



KIT-AC

### FOR OPTIMAL ADJUSTMENT YOU NEED TO TAKE INTO CONSIDERATION

- The dynamic air pressure (with an operating tool) of 0,63MPa
- Maximum hose length of 8 meters after the oil lubricator
- The kits are provided with claw couplings and a stainless steel frame

| Type         | Connection | Max. working pressure MPa | NI/min | Working pressure MPa | Filter (micron) |
|--------------|------------|---------------------------|--------|----------------------|-----------------|
| KIT-AC40F04E | 1/2"       | 1                         | 2.200  | 0,05 - 0,85          | 5               |
| KIT-AC50F06E | 3/4"       | 1                         | 3.000  | 0,05 - 0,85          | 5               |
| KIT-AC50F10E | 1"         | 1                         | 3.500  | 0,05 - 0,85          | 5               |



BOWLS

FRL-Series

| For series | Bowl for lubricator | Bowl for filter |                                    |          |          | O-ring for lubricator or filter |
|------------|---------------------|-----------------|------------------------------------|----------|----------|---------------------------------|
|            |                     | Polycarbonate   | Polycarbonate with automatic drain | Nylon    | Metal    |                                 |
| 20         | C2SL-A              | C2SF-A          | AD27-C-A                           | C2SF-6-A | C2SF-2-A | C2SFP-260S                      |
| 30         | C3SL-A              | C3SF-A          | AD37-A                             | C3SF-6-A | C3SF-2-A | C32FP-260S                      |
| 40         | C4SL-A              | C4SF-A          | AD47-A                             | C4SF-6-A | C4SF-2-A | C42FP-260S                      |
| 50         | C4SL-A              | C4SF-A          | AD47-A                             | C4SF-6-A | C4SF-2-A | C42SFP-260S                     |
| 60         | C4SL-A              | C4SF-A          | AD47-A                             | C4SF-6-A | C4SF-2-A | C42SFP-260S                     |

Polycarbonate bowls may be damaged and could possibly fail if they are exposed to synthetic oils, thinner solvents, trichloorethylene, kerosene and other aromatic hydrocarbons. If used in above described atmosphere, please use a metal bowl.



C2SF-A

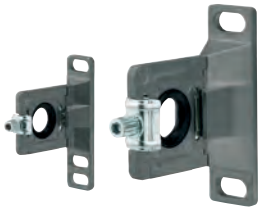
Accessories for modular assembly versions

Spacer



Y200-A

Spacer with bracket



Y200T-A

Tinterface



Y210-F02-A

Piping adaptor



E200-F02-A

| For series | Connection | Spacer | Spacer with bracket | T-interface | Piping adaptor |
|------------|------------|--------|---------------------|-------------|----------------|
| 20         | 1/4"       | Y200-A | Y200T-A             | Y210-F02-A  | E200-F02-A     |
| 30         | 3/8"       | Y300-A | Y300T-A             | Y310-F02-A  | E300-F03-A     |
| 40         | 1/2"       | Y400-A | Y400T-A             | Y410-F03-A  | E400-F04-A     |
| 40         | 3/4"       | Y500-A | Y500T-A             | Y50-F03-A   | E500-F06-A     |
| 50         | 3/4"       | Y600-A | Y600T-A             | Y610-F04-A  | E600-F06       |
| 50         | 1"         | Y600-A | Y600T-A             | Y610-F04-A  | E600-F10       |
| 60         | 3/4"       | Y600-A | Y600T-A             | Y610-F04-A  | E600-F06       |
| 60         | 1"         | Y600-A | Y600T-A             | Y610-F04-A  | E600-F10       |

Piping adaptors for easy installation and maintenance. / Spacers for mounting the combination without wall connection. / T-type bracket for wall mounting. / Mounting brackets for the attachment of separate components in the corresponding product series.

EAD-SERIES: AUTOMATIC CONDENSATE DRAINS

| Type         | For series | Connection | Control         | NI/min | Silencer | Working pressure MPa | Diameter mm |
|--------------|------------|------------|-----------------|--------|----------|----------------------|-------------|
| AD402-F02C-A | -          | 1/4"       | Pneumatic       | -      | -        | -                    | -           |
| AD402-F03D-A | -          | 3/8"       | Pneumatic       | -      | -        | -                    | -           |
| AD402-F04D-A | -          | 1/2"       | Pneumatic       | -      | -        | -                    | -           |
| EAD600-F10   | -          | 1"         | Pneumatic       | -      | -        | -                    | -           |
| ADM200-045   | -          | 1/2"       | Electric (220V) | -      | -        | -                    | -           |



EAD

VARIOUS PRODUCTS

AKM-SERIES: T-TYPE SPACERS WITH CHECK VALVE

| Type          | For series | Connection | Control | NI/min | Silencer | Working pressure MPa | Diameter mm |
|---------------|------------|------------|---------|--------|----------|----------------------|-------------|
| AKM2000-F02-A | 20         | 1/4"       | -       | 750    | -        | -                    | -           |
| AKM3000-F02-A | 30         | 3/8"       | -       | 1.700  | -        | -                    | -           |
| AKM4000-F03-A | 40         | 1/2"       | -       | 3.150  | -        | -                    | -           |



AKM

VHS-SERIES: SHUT-OFF VALVES

| Type        | For series | Connection | Control | NI/min | Silencer | Working pressure MPa | Diameter mm |
|-------------|------------|------------|---------|--------|----------|----------------------|-------------|
| VHS20-F02-A | 20         | 1/4"       | -       | 750    | AN103-01 | -                    | -           |
| VHS30-F03-A | 30         | 3/8"       | -       | 1.700  | AN200-02 | -                    | -           |
| VHS40-F04-A | 40         | 1/2"       | -       | 3.150  | AN300-03 | -                    | -           |



VHS



K serie

K-SERIES: PRESSURE GAUGES EXTERNAL

| Type     | For series | Connection | Control | NI/min | Silencer | Working pressure MPa | Diameter mm |
|----------|------------|------------|---------|--------|----------|----------------------|-------------|
| K8-10-40 | 20/30      | 1/8"       | -       | -      | -        | 0 - 1                | 40          |
| K4-10-50 | 40/50/60   | 1/4"       | -       | -      | -        | 0 - 1                | 50          |



GC serie



ISE35

GC-SERIES: PRESSURE GAUGES INTERNAL

| Type      | For series     | Connection | Control | NI/min | Silencer | Working pressure MPa | Diameter mm |
|-----------|----------------|------------|---------|--------|----------|----------------------|-------------|
| G27-10-R1 | 10             | 1/16"      | -       | -      | -        | 0 - 1                | 26          |
| GC3-10AS  | 20/30/40/50/60 | -          | -       | -      | -        | 0 - 1                | 24          |

ISE35-SERIES: INTEGRATED PRESSURE GAUGES WITH PRESSURE SWITCH AND CABLE

| Type          | For series     | Power supply | Cable length m | Protection degree | Display       | Set pressure range MPa | Output |
|---------------|----------------|--------------|----------------|-------------------|---------------|------------------------|--------|
| ISE35-N-65-LA | 20/30/40/50/60 | 12 - 24V DC  | 2              | IP40              | LED 2 kleuren | -0,01 - 1              | PNP    |
| ISE35-N-25-LA | 20/30/40/50/60 | 12 - 24V DC  | 2              | IP40              | LED 2 kleuren | -0,01 - 1              | NPN    |



AN#00



AN#0

AN-SERIES: SILENCERS

| Type     | Connection |
|----------|------------|
| AN10-01  | 1/8"       |
| AN20-02  | 1/4"       |
| AN30-03  | 3/8"       |
| AN40-04  | 1/2"       |
| AN500-06 | 3/4"       |
| AN600-10 | 1"         |
| AN700-12 | 1 ¼"       |
| AN800-14 | 1 ½"       |

Note: Noise reduction 30dB(A)

AMC-SERIES: ENVIRONMENTAL PROTECTION FILTERS

| Type        | Connection | NI/min | Weight kg | Working pressure MPa |
|-------------|------------|--------|-----------|----------------------|
| AMC310-03   | 3/8"       | 300    | 0,2       | < 0,1                |
| AMC310-F03  | G 3/8"     | 300    | 0,2       | < 0,1                |
| AMC320-03   | 3/8"       | 300    | 0,2       | < 0,1                |
| AMC510-06   | 3/4"       | 1.000  | 0,5       | < 0,1                |
| AMC520-F04  | G 1/2"     | 1.000  | 0,5       | < 0,1                |
| AMC520-F04B | G 1/2"     | 1.000  | 0,5       | < 0,1                |
| AMC520-F06  | G 3/4"     | 1.000  | 0,5       | < 0,1                |
| AMC610-10   | 1"         | 3.000  | 0,7       | < 0,1                |
| AMC810-14   | 1-1/2"     | 6.000  | 1,2       | < 0,1                |
| AMC910-20   | 2"         | 10.000 | 1,7       | < 0,1                |

AM#10 = male / AM#20 = female | Secures clean air for the work environment | Reduces noise pollution with more than 35dB(A) | More than 99% oil removal



AMC#10 serie



AMC#20 serie

SEPARATE FILTER ELEMENTS FOR THE AF/AW-SERIES

| Type | Standard 5 μ |
|------|--------------|
| 20   | AF20P-060S   |
| 30   | AF30P-060S   |
| 40   | AF40P-060S   |
| 50   | AF50P-060S   |
| 60   | AF60P-060S   |

# REFRIGERATED AIR DRYERS

## IDFA serie

The SMC IDFA Series of refrigerated air dryers are the result of over 40 years of experience combined with the latest compressed air and refrigeration technology. Built according to international standards and recognized by SMC’s BS EN ISO 9001 quality certification. The IDFA Series has thirteen standard models with nominal capacities ranging from 12 – 1.340 m3/h.

FEATURES

- Innovative design ensures a constant +3 degrees °C pressure dew point
- High efficiency heat exchanger
- Environmentally ozone friendly refrigerants
- Conforms to stringent ISO8573-1 standard
- Simple control system with easy to read evaporator gauge
- Compact design for easy installation
- High performance, reliable and trouble-free

DIMENSIONS IDFA SERIES

| Type         | A   | B     | C     |
|--------------|-----|-------|-------|
| IDFA3E-23    | 226 | 410   | 437   |
| IDFA4E-23    | 270 | 453   | 498   |
| IDFA6E-23-K  | 270 | 455   | 498   |
| IDFA8E-23-K  | 270 | 485   | 568   |
| IDFA11E-23-K | 270 | 485   | 568   |
| IDFA15E-23-K | 300 | 603   | 578   |
| IDFA22E-23-K | 290 | 775   | 623   |
| IDFA37E-23-K | 290 | 855   | 623   |
| IDFA55E-23-L | 470 | 855   | 800   |
| IDFA75E-23-L | 470 | 855   | 900   |
| IDFA100F-40  | 670 | 1.120 | 1.276 |
| IDFA125F-40  | 700 | 1.120 | 1.276 |
| IDFA150F-40  | 950 | 1.290 | 1.332 |

IDFA SERIES: STANDARD TECHNICAL SPECIFICATIONS

| Type         | Inlet air pressure MPa<br>Inlet air | Temperature °C | Ambient temperature °C | Power supply voltage      | Power consumption W | Air port connection | Refrigerant | Weight kg |
|--------------|-------------------------------------|----------------|------------------------|---------------------------|---------------------|---------------------|-------------|-----------|
| IDFA3E-23    | 0,15 - 1                            | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz/60Hz | 180                 | Rc 3/8              | R134a       | 18        |
| IDFA4E-23    | 0,15 - 1                            | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz/60Hz | 180                 | Rc 1/2              | R134a       | 22        |
| IDFA6E-23-K  | 0,15 - 1,6                          | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz/60Hz | 180                 | Rc 3/4              | R134a       | 23        |
| IDFA8E-23-K  | 0,15 - 1,6                          | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz/60Hz | 208                 | Rc 3/4              | R134a       | 27        |
| IDFA11E-23-K | 0,15 - 1,6                          | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz/60Hz | 385                 | Rc 3/4              | R134a       | 28        |
| IDFA15E-23-K | 0,15 - 1,6                          | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz      | 470                 | Rc 1                | R134a       | 46        |
| IDFA22E-23-K | 0,15 - 1,6                          | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz      | 760                 | R 1                 | R407C       | 54        |
| IDFA37E-23-K | 0,15 - 1,6                          | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz      | 760                 | R 1½                | R407C       | 62        |
| IDFA55E-23-L | 0,15 - 1,6                          | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz      | 1.130               | R 2                 | R407C       | 100       |
| IDFA75E-23-L | 0,15 - 1,6                          | 5 - 50         | 2 - 40                 | 1 Phase 230V AC 50Hz      | 1.700               | R 2                 | R407C       | 116       |
| IDFA100F-40  | 0,15 - 1*                           | 5 - 60         | 2 - 45                 | 3 Phase 400V AC 50Hz      | 2.500               | R 2                 | R407C       | 245       |
| IDFA125F-40  | 0,15 - 1*                           | 5 - 60         | 2 - 45                 | 3 Phase 400V AC 50Hz      | 2.700               | R 2½                | R407C       | 270       |
| IDFA150F-40  | 0,15 - 1*                           | 5 - 60         | 2 - 45                 | 3 Phase 400V AC 50Hz      | 2.700               | DIN 80              | R407C       | 350       |

\* Also available in 0,15-1,6 MPa  
Note: Thread adaptors to convert from Rc thread to R thread are included from IDFA3E to IDFA15E

# REFRIGERATED AIR DRYERS

## Operating principle / correction factors

**DIMENSIONS IDFA SERIES**

**BANISH MOISTURE IN YOUR COMPRESSED AIR**

Tests carried out by SMC, the world leader in pneumatic technology, have indicated that in certain atmospheric conditions the moisture in compressed air using a 75Kw compressor after on day of operation, could be equivalent to a 113 liters of water.

Any compressed air system containing this volume of air moisture will suffer dramatically reduced valve and air cylinder performance. Armed with this knowledge, SMC’s R&D department have produced the perfect answer with the IDFA Series.

Designed specifically for the European market, with both CE accreditation and 230V AC (50Hz) voltage requirements, the IDFA Series effectively removes water vapour through a highly efficient stainless steel, corrosion resistant, heat exchanger. With 13 flow rate size options ranging from 12 to 1.340 M3/h (ANR), these air dryers use ozone friendly HFC refrigerants R134a/R407C and emit outlet air at 3 C point as per ISO8573-1 standard.

Thanks to an evaporation temperature gauge it is simple to confirm correct operation. The IDFA Series is also highly efficient due to minimal pressure drop during operation, which improves energy saving.

Saturated compressed air enters the air-to-air heat exchanger. The incoming air is cooled by the cold air exiting the dryer. The air passes through the evaporator, where it is further cooled to 3 °C dew point. As the air cools, the water condenses to liquid which is removed by the automatic drain. The dry air is then passed back through the air-to-air heat exchanger where it is reheated before leaving the dryer.

CORRECTION FACTORS IDFA3E-23 UP TO IDFA75E-23-L

| Inlet air temp. C      |                   |      | 5-25° | 30°  | 35°  | 40°  | 45°  | 50°  |      |      |      |      |      |      |      |  |
|------------------------|-------------------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| Correction factor A    |                   |      | 1,30  | 1,25 | 1,00 | 0,83 | 0,70 | 0,60 |      |      |      |      |      |      |      |  |
| Ambient temp.(°C)      |                   | 20°  | 25°   | 30°  | 35°  | 40°  |      |      |      |      |      |      |      |      |      |  |
| Correction factor B    | IDFA3E - IDFA11E  | 1,10 | 1,00  | 0,91 | 0,83 | 0,79 |      |      |      |      |      |      |      |      |      |  |
|                        | IDFA15E - IDFA37E | 1,10 | 1     | 0,97 | 0,89 | 0,77 |      |      |      |      |      |      |      |      |      |  |
| Inlet air pressure MPa |                   | 0,3  | 0,4   | 0,5  | 0,6  | 0,7  | 0,8  | 0,9  | 1,0  | 1,1  | 1,2  | 1,3  | 1,4  | 1,5  | 1,6  |  |
| Correction factor C    | IDFA3E - IDFA11E  | 0,80 | 0,87  | 0,92 | 0,96 | 1,00 | 1,04 | 1,07 | 1,10 | 1,13 | 1,16 | 1,18 | 1,21 | 1,23 | 1,25 |  |
|                        | IDFA15E - IDFA37E | 0,72 | 0,81  | 0,88 | 0,95 | 1,00 | 1,06 | 1,11 | 1,16 | 1,19 | 1,21 | 1,23 | 1,25 | 1,26 | 1,27 |  |

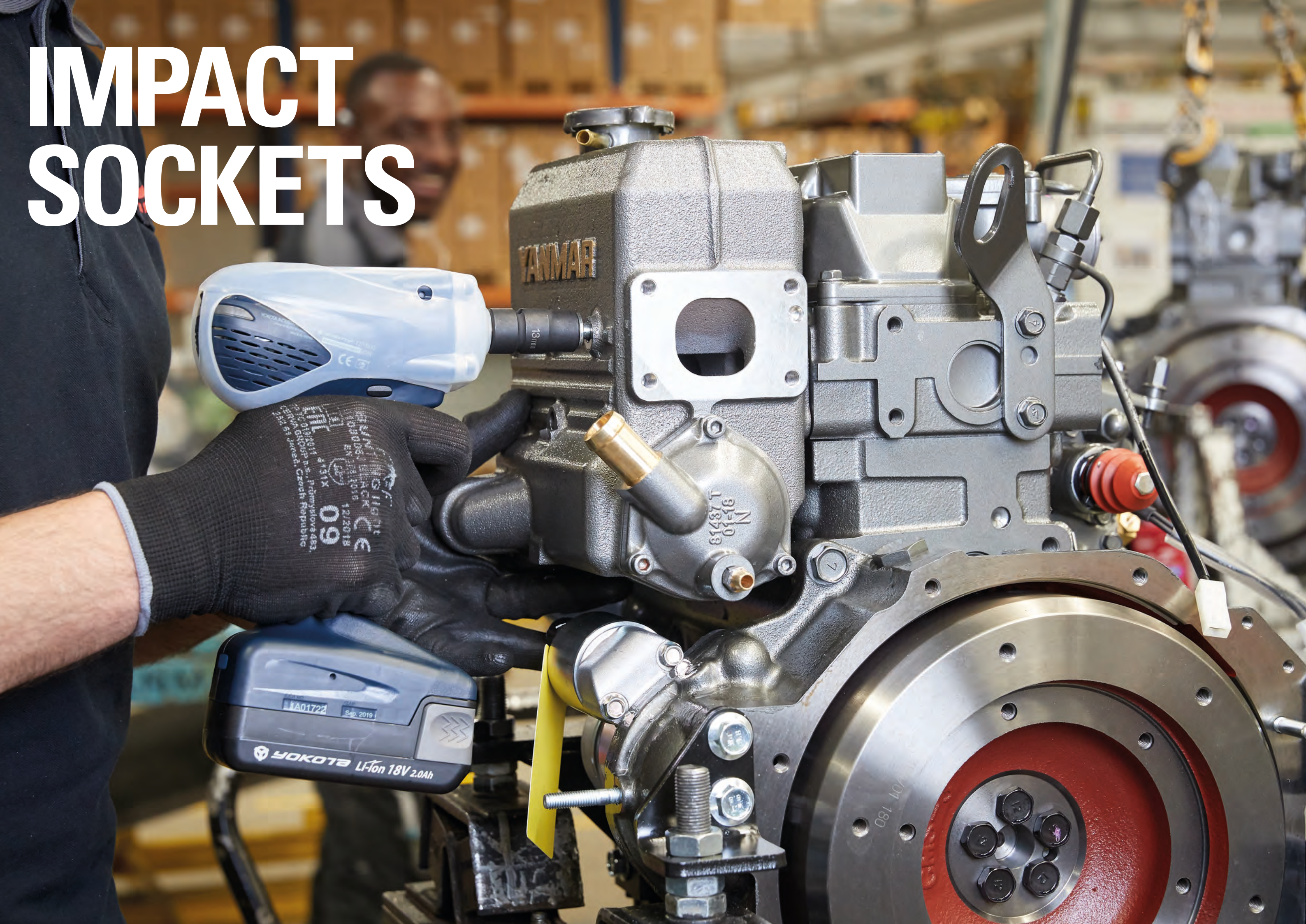
Corrected air flow rate [m3/h] =Customers air flow rate / (factor A x factor B x factor C)

CORRECTION FACTORS IDFA100F-40 UP TO IDFA150F-40

| Correction factor A |                   | Correction factor B |                   | Correction factor C     |                   | Correction factor D    |                   |
|---------------------|-------------------|---------------------|-------------------|-------------------------|-------------------|------------------------|-------------------|
| Inlet temp. (°C)    | Correction factor | Ambient temp. (°C)  | Correction factor | Pressure dew point (°C) | Correction factor | Pressure inlet air MPa | Correction factor |
| 5 up to 30          | 1,41              | 2 up to 25          | -                 | 3                       | 0,7               | 0,2                    | 0,84              |
| 35                  | 1,21              | 30                  | -                 | 5                       | 0,75              | 0,3                    | 0,87              |
| 40                  | 1                 | 32                  | 1                 | 10                      | 1                 | 0,4                    | 0,9               |
| 45                  | 0,92              | 35                  | 1                 | 15                      | 1,4               | 0,5                    | 0,93              |
| 50                  | 0,75              | 40                  | 0,99              |                         |                   | 0,6                    | 0,96              |
| 55                  | 0,63              | 45                  | 0,92              |                         |                   | 0,7                    | 1                 |
| 60                  | 0,53              |                     |                   |                         |                   | 0,8                    | 0,99              |
|                     |                   |                     |                   |                         |                   | 0,9                    | 0,92              |
|                     |                   |                     |                   |                         |                   | 1 up to 1,6            |                   |

Corrected air flow rate [m3/h] = air flow rate of the customer / (factor A x factor B x factor C x factor D)



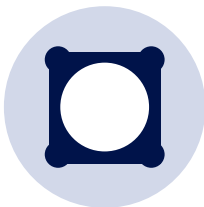


# IMPACT SOCKETS



# IMPACT SOCKETS

ACTION is the worlds‘ largest manufacturer of impact sockets. Its impact sockets are durable, of high quality and competitively priced and manufactured from the best materials (chrom-molybdenum alloy steel). The ACTION impact sockets can be used for any kind of power tools; air, electric, hydraulic or battery, and for any kind of application ranging from car repair shops to the car industry. At Rami Yokota we have a very large continuous stock available, ranging from 1/4“ drive to 2 1/2“ drive.



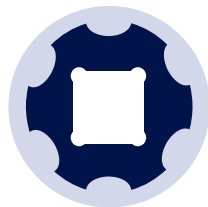
### SQUARE DRIVE

ACTION impact sockets are available for square drives of 1/4“ up to 2 1/2“. The shape of the square drive of these sockets is characterized by rounded off corners, so the square drive of the power tool has the best possible fit. This means that the torque is transmitted on a large area, not only the corners of the socket. This results in good endurance of the sockets and a long lifetime.



### 6-POINT SOCKETS

The 6-point sockets manufactured by ACTION also have rounded off corners. The rounded corners allow some space for the points of the bolt head, so the torque is transmitted on the flanks of the bolt head, giving you better results. Driving the flanks also means that the wear on the points of the bolt head or nut is reduced. For 12 point sockets, a similar geometry is used.



### SURFACE DRIVE SOCKETS

Surface drive sockets are designed to drive only the center of the flank of a bolt head or nut. The surface drive sockets should be recommended for use on nuts with points that have worn off, but also for nuts of softer materials and polished nuts and bolt heads.



### WARNING

The European regulation, directive of machinery 2006/42/EG and EN/ISO 11148-6 states that only IMPACT SOCKETS are to be used on power tools. All Action impact sockets are manufactured according to DIN 3121 and DIN 3129. Universal joints, reducing adaptors and thin wall sockets are supplied without warranty. Always wear safety goggles when using impact equipment. Do not hold the socket while in use.

NOTE: If you can't find the proper dimensions please contact us.



CONTENTS

1/4" Impact sockets for screwdrivers  
6-point & tap holding sockets ..... 161

1/4" **IMPACT SOCKETS**  
6-point normal..... 162  
6-point deep..... 162  
Torx® ..... 163  
Surface drive ..... 164  
Universal joint sockets..... 164

3/8" 6-point normal..... 165  
6-point deep.....165-166  
12-point normal..... 166  
12-point deep..... 166  
Surface drive ..... 167  
Torx® ..... 167-168  
Triple square ..... 170  
Universal joints ..... 169-170  
Ribe driver ..... 171  
Tap holding sockets ..... 171

1/2" 4-point / double square..... 171  
6-point normal..... 172  
6-point deep.....172-173  
12-point normal..... 175  
12-point deep..... 175  
Surface drive ..... 176  
Torx® ..... 176-177  
Universal joints ..... 178  
Triple square ..... 179  
Ribe driver ..... 179  
Tap holding sockets ..... 179  
Stud bolt setters ..... 180

3/4" 4-point..... 182  
6-point normal..... 182  
6-point deep..... 183  
Stud bolt setters ..... 182  
8-point..... 184  
12-point normal..... 184  
12-point deep..... 185  
Torx® ..... 185

1" 4-point normal..... 186  
6-point normal..... 186  
6-point deep..... 187  
8-point normal..... 188  
12-point normal..... 188  
12 point deep..... 189

HEX DRIVER SOCKET..... 189

1 1/2" 6-point normal..... 190  
6-point deep..... 190  
Hex driver socket..... 190

2 1/2" 6-point normal..... 191

**ADAPTORS**  
Extension bars .....192-193  
Lock pin retainer..... 192  
Universal joints ..... 193  
Impact bit holder..... 195  
Hex drivers and triple square.....194  
Quick-change adaptors ..... 195  
Pin & Ring..... 196

3/8" **SLEEVE DRIVE**  
6-point normal.....198-199  
6-point long.....198-199  
6-point deep..... 199  
Torx® ..... 199  
Hex driver socket..... 199

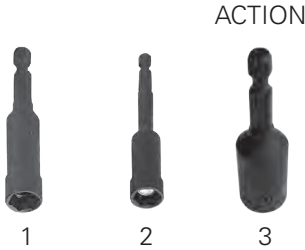
1/2" 6-point normal.....200  
6-point long.....200  
6-point deep..... 201  
Torx® ..... 201  
Hex driver socket..... 201  
Stud bolt setters ..... 201

3/4" 6-point normal.....202  
Hex driver socket..... 202  
Torx® ..... 202  
Extensions ..... 202  
Quickchange adaptors ..... 203  
Bit holders ..... 203

**IMPACT SOCKETS SETS**  
Impact Socket Sets..... 204-205  
Torque sockets & specials ..... 206

IMPACT SOCKETS

1/4" HEX DRIVE FOR SCREWDRIVERS



6-POINT NORMAL 1

| Type       |  | Drawing | D1 mm | L mm | L1 mm | - |
|------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                     |         |       |      |       |   |
| DO697B0S04 | 4                                                                                   | A       | 8     | 55   | 4,5   | - |
| DO697B0S06 | 6                                                                                   | A       | 10    | 55   | 4,5   | - |
| DO697B0S07 | 7                                                                                   | A       | 11    | 55   | 5     | - |
| DO697B0S08 | 8                                                                                   | A       | 12    | 55   | 5     | - |
| DO697B0S10 | 10                                                                                  | A       | 14    | 55   | 6,5   | - |
| DO697B0T06 | 6                                                                                   | A       | 10    | 75   | 4,5   | - |
| DO697B0T07 | 7                                                                                   | A       | 11    | 75   | 4,5   | - |
| DO697B0T08 | 8                                                                                   | A       | 12    | 75   | 4,5   | - |
| DO697B0T10 | 10                                                                                  | A       | 14    | 75   | 5,5   | - |
| DO697B0T12 | 12                                                                                  | A       | 17    | 75   | 5,5   | - |
| DO697B0T13 | 13                                                                                  | A       | 18    | 75   | 5,5   | - |
| DO697B0T14 | 14                                                                                  | A       | 19    | 75   | 5,5   | - |
| DO697B0W12 | 12                                                                                  | A       | 17    | 200  | 5,5   | - |
| DO697B0W14 | 14                                                                                  | A       | 19    | 200  | 5,5   | - |

6-POINT MAGNETIC 2

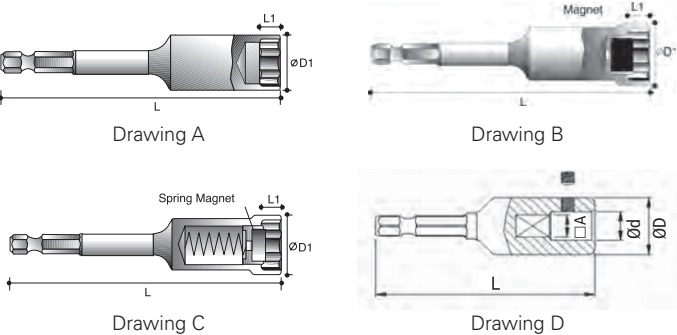
| Type       |  | Drawing | D1 mm | L mm | L1 mm | - |
|------------|---------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                       |         |       |      |       |   |
| DO697B0M06 | 6                                                                                     | B       | 10    | 55   | 4,5   | - |
| DO697B0M07 | 7                                                                                     | B       | 11    | 55   | 4,5   | - |
| DO697B0M08 | 8                                                                                     | B       | 12    | 55   | 4,5   | - |
| DO697B0M10 | 10                                                                                    | B       | 14    | 55   | 5,5   | - |
| DO697B0M11 | 11                                                                                    | B       | 16    | 55   | 5,5   | - |
| DO697B0M12 | 12                                                                                    | B       | 17    | 55   | 5,5   | - |
| DO697B0M13 | 13                                                                                    | B       | 18    | 55   | 5,5   | - |
| DO697B0M14 | 14                                                                                    | B       | 19    | 55   | 5,5   | - |
| DO697B0N10 | 10                                                                                    | B       | 14    | 75   | 5,5   | - |
| DO697B0N12 | 12                                                                                    | B       | 17    | 75   | 5,5   | - |
| DO697B0P06 | 6                                                                                     | B       | 10    | 100  | 4,5   | - |
| DO697B0P07 | 7                                                                                     | B       | 11    | 100  | 4,5   | - |
| DO697B0P08 | 8                                                                                     | B       | 12    | 100  | 4,5   | - |
| DO697B0P10 | 10                                                                                    | B       | 14    | 100  | 5,5   | - |
| DO697B0P12 | 12                                                                                    | B       | 17    | 100  | 5,5   | - |
| DO697B0P13 | 13                                                                                    | B       | 18    | 100  | 5,5   | - |
| DO697B0P14 | 14                                                                                    | B       | 19    | 100  | 5,5   | - |
| DO697B0P17 | 17                                                                                    | B       | 23    | 100  | 5,5   | - |
| DO697B0Q10 | 10                                                                                    | B       | 14    | 150  | 5,5   | - |
| DO697B0R07 | 7                                                                                     | B       | 11    | 200  | 4,5   | - |
| DO697B0R10 | 10                                                                                    | B       | 14    | 200  | 5,5   | - |

6-POINT DEEP MAGNETIC 2

| Type       |  | Drawing | D1 mm | L mm | L1 mm | - |
|------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                     |         |       |      |       |   |
| DO697B6006 | 6                                                                                   | C       | 10    | 75   | 4,5   | - |
| DO697B7006 | 6                                                                                   | C       | 10    | 100  | 4,5   | - |
| DO697B7008 | 8                                                                                   | C       | 12    | 100  | 4,5   | - |
| DO697B7010 | 10                                                                                  | C       | 14    | 100  | 5,5   | - |
| DO697B7012 | 12                                                                                  | C       | 17    | 100  | 5,5   | - |
| DO697B7013 | 13                                                                                  | C       | 18    | 100  | 5,5   | - |
| DO697B7014 | 14                                                                                  | C       | 19    | 100  | 5,5   | - |
| DO697B8006 | 6                                                                                   | C       | 10    | 150  | 4,5   | - |
| DO697B8008 | 8                                                                                   | C       | 12    | 150  | 4,5   | - |
| DO697B8010 | 10                                                                                  | C       | 14    | 150  | 5,5   | - |
| DO697B8012 | 12                                                                                  | C       | 17    | 150  | 5,5   | - |
| DO697B8013 | 13                                                                                  | C       | 18    | 150  | 5,5   | - |
| DO697B8014 | 14                                                                                  | C       | 19    | 150  | 5,5   | - |
| DO697B9006 | 6                                                                                   | C       | 10    | 200  | 4,5   | - |
| DO697B9008 | 8                                                                                   | C       | 12    | 200  | 4,5   | - |
| DO697B9010 | 10                                                                                  | C       | 14    | 200  | 5,5   | - |
| DO697B9012 | 12                                                                                  | C       | 17    | 200  | 5,5   | - |
| DO697B9013 | 13                                                                                  | C       | 18    | 200  | 5,5   | - |
| DO697B9014 | 14                                                                                  | C       | 19    | 200  | 5,5   | - |

TAP HOLDERS 3

| Type       |  | A mm | Drawing | Ø d mm | Ø D mm | L mm | - |
|------------|---------------------------------------------------------------------------------------|------|---------|--------|--------|------|---|
| Metric     |                                                                                       |      |         |        |        |      |   |
| DO63A65001 | 3,4                                                                                   | D    | 4,5     | 14     | 55     | -    | - |
| DO63A65002 | 4,9                                                                                   | D    | 6       | 15     | 55     | -    | - |
| DO63A65003 | 5,5                                                                                   | D    | 7       | 16     | 55     | -    | - |
| DO63A65004 | 6,2                                                                                   | D    | 8       | 17     | 60     | -    | - |
| DO63A65005 | 7                                                                                     | D    | 9       | 18     | 70     | -    | - |
| DO63A65006 | 8                                                                                     | D    | 10      | 19     | 70     | -    | - |
| DO63A65007 | 9                                                                                     | D    | 11      | 20     | 70     | -    | - |
| DO63A65008 | 9                                                                                     | D    | 12      | 21     | 70     | -    | - |
| DO63A65009 | 11                                                                                    | D    | 14      | 23     | 75     | -    | - |



1/4" SQUARE DRIVE



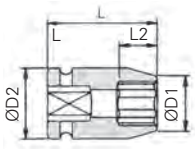
| 6-POINT NORMAL1 |                                                                                   |         |       |      |       |   |
|-----------------|-----------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type            |  | Drawing | D1 mm | L mm | L1 mm | - |
| Metric          |                                                                                   |         |       |      |       |   |
| DO0014-0-004    | 4                                                                                 | A       | 7,6   | 13   | 23    | 4 |
| DO0014-0-0045   | 4,5                                                                               | A       | 8,2   | 13   | 23    | 5 |
| DO0014-0-005    | 5                                                                                 | A       | 8,8   | 13   | 23    | 5 |
| DO0014-0-0055   | 5,5                                                                               | A       | 9,5   | 13   | 23    | 5 |
| DO0014-0-006    | 6                                                                                 | A       | 10    | 13   | 23    | 6 |
| DO0014-0-007    | 7                                                                                 | A       | 11,3  | 13   | 23    | 6 |
| DO0014-0-008    | 8                                                                                 | A       | 12,5  | 13   | 23    | 7 |
| DO0014-0-009    | 9                                                                                 | A       | 13,8  | 13   | 23    | 7 |
| DO0014-0-010    | 10                                                                                | C       | 15    | 13   | 23    | 7 |
| DO0014-0-011    | 11                                                                                | C       | 16,3  | 13   | 23    | 8 |
| DO0014-0-012    | 12                                                                                | C       | 17    | 13   | 23    | 8 |
| DO0014-0-013    | 13                                                                                | C       | 18,8  | 13   | 23    | 8 |
| DO0014-0-014    | 14                                                                                | C       | 20    | 13   | 23    | 8 |
| DO0014-0-015    | 15                                                                                | C       | 21    | 13   | 23    | 8 |

| 6-POINT NORMAL1 |                                                                                     |         |       |      |       |   |
|-----------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type            |  | Drawing | D1 mm | L mm | L1 mm | - |
| Inch            |                                                                                     |         |       |      |       |   |
| DO0014-0-3/16   | 3/16"                                                                               | A       | 8,5   | 13   | 23    | 5 |
| DO0014-0-1/4    | 1/4"                                                                                | A       | 10,3  | 13   | 23    | 6 |
| DO0014-0-5/16   | 5/16"                                                                               | A       | 12,5  | 13   | 23    | 7 |
| DO0014-0-3/8    | 3/8"                                                                                | C       | 15    | 13   | 23    | 7 |
| DO0014-0-7/16   | 7/16"                                                                               | C       | 16,3  | 13   | 23    | 8 |
| DO0014-0-1/2    | 1/2"                                                                                | C       | 18,8  | 13   | 23    | 8 |

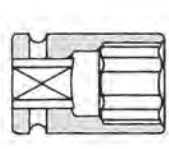
| 6-POINT DEEP2 |                                                                                     |         |       |      |       |   |
|---------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type          |  | Drawing | D1 mm | L mm | L1 mm | - |
| Metric        |                                                                                     |         |       |      |       |   |
| DO0014-1-004  | 4                                                                                   | A       | 7,6   | 13   | 50    | 4 |
| DO0014-1-045  | 4,5                                                                                 | A       | 8,2   | 13   | 50    | 6 |
| DO0014-1-005  | 5                                                                                   | A       | 8,8   | 13   | 50    | 6 |
| DO0014-1-006  | 6                                                                                   | A       | 10    | 13   | 50    | 7 |
| DO0014-1-007  | 7                                                                                   | A       | 11,3  | 13   | 50    | 7 |
| DO0014-1-008  | 8                                                                                   | A       | 12,5  | 13   | 50    | 9 |
| DO0014-1-009  | 9                                                                                   | C       | 13,8  | 13   | 50    | 9 |
| DO0014-1-010  | 10                                                                                  | C       | 15    | 13   | 50    | 9 |
| DO0014-1-011  | 11                                                                                  | C       | 16,3  | 13   | 50    | 9 |
| DO0014-1-012  | 12                                                                                  | C       | 17    | 13   | 50    | 9 |
| DO0014-1-013  | 13                                                                                  | C       | 18,8  | 13   | 50    | 9 |
| DO0014-1-014  | 14                                                                                  | C       | 20    | 13   | 50    | 9 |
| DO0014-1-015  | 15                                                                                  | C       | 21    | 13   | 50    | 9 |

| 6-POINT NORMAL MAGNETIC3 |                                                                                   |         |       |      |       |   |
|--------------------------|-----------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type                     |  | Drawing | D1 mm | L mm | L1 mm | - |
| Metric                   |                                                                                   |         |       |      |       |   |
| DO6050P050               | 5                                                                                 | A       | 8,8   | 13   | 23    | 3 |
| DO6050P055               | 5,5                                                                               | A       | 9,5   | 13   | 23    | 3 |
| DO6050P060               | 6                                                                                 | A       | 10    | 13   | 23    | 3 |
| DO6050P070               | 7                                                                                 | A       | 11,3  | 13   | 23    | 3 |
| DO6050P080               | 8                                                                                 | A       | 12,5  | 13   | 23    | 3 |
| DO6050P090               | 9                                                                                 | C       | 13,8  | 13   | 23    | 4 |
| DO6050P100               | 10                                                                                | C       | 15    | 13   | 23    | 4 |
| DO6050P110               | 11                                                                                | C       | 16,3  | 13   | 23    | 5 |
| DO6050P120               | 12                                                                                | C       | 17    | 13   | 23    | 5 |
| DO6050P130               | 13                                                                                | C       | 18,8  | 13   | 23    | 5 |
| DO6050P140               | 14                                                                                | C       | 20    | 13   | 23    | 6 |
| DO6050P150               | 15                                                                                | C       | 21    | 13   | 23    | 6 |
| DO0014-1-015             | 15                                                                                | C       | 21    | 13   | 50    | 9 |

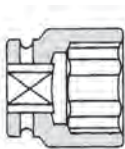
| DEEP MAGNETIC4 |                                                                                    |         |       |      |       |   |
|----------------|------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type           |  | Drawing | D1 mm | L mm | L1 mm | - |
| Metric         |                                                                                    |         |       |      |       |   |
| DO6050R050     | 5                                                                                  | A       | 8,8   | 13   | 50    | 3 |
| DO6050R055     | 5,5                                                                                | A       | 9,5   | 13   | 50    | 3 |
| DO6050R060     | 6                                                                                  | A       | 10    | 13   | 50    | 3 |
| DO6050R070     | 7                                                                                  | A       | 11,3  | 13   | 50    | 3 |
| DO6050R080     | 8                                                                                  | A       | 12,5  | 13   | 50    | 3 |
| DO6050R090     | 9                                                                                  | C       | 13,8  | 13   | 50    | 4 |
| DO6050R100     | 10                                                                                 | C       | 15    | 13   | 50    | 4 |
| DO6050R110     | 11                                                                                 | C       | 16,3  | 13   | 50    | 5 |
| DO6050R120     | 12                                                                                 | C       | 17    | 13   | 50    | 5 |
| DO6050R130     | 13                                                                                 | C       | 18,8  | 13   | 50    | 5 |
| DO6050R140     | 14                                                                                 | C       | 20    | 13   | 50    | 6 |
| DO6050R150     | 15                                                                                 | C       | 21    | 13   | 50    | 6 |



Drawing A



Drawing B



Drawing C

1/4" SQUARE DRIVE



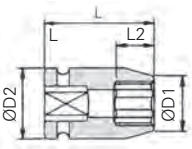
| HEX DRIVER1 |                                                                                     |         |       |      |       |   |
|-------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type        |  | Drawing | D1 mm | L mm | L1 mm | - |
| Metric      |                                                                                     |         |       |      |       |   |
| DO64805025  | 2,5                                                                                 | D       | 13    | 35   | 4     | - |
| DO64805030  | 3                                                                                   | D       | 13    | 35   | 6     | - |
| DO64805040  | 4                                                                                   | D       | 13    | 35   | 6     | - |
| DO64805050  | 5                                                                                   | D       | 13    | 35   | 6     | - |
| DO64805060  | 6                                                                                   | D       | 13    | 35   | 8     | - |
| DO64805070  | 7                                                                                   | D       | 13    | 35   | 8     | - |
| DO64805080  | 8                                                                                   | D       | 13    | 35   | 8     | - |
| DO64805090  | 9                                                                                   | D       | 13    | 35   | 10    | - |
| DO64805100  | 10                                                                                  | D       | 13    | 35   | 10    | - |

| TORX INTERNAL2 |                                                                                     |         |       |      |       |   |
|----------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type           |  | Drawing | D1 mm | L mm | L1 mm | - |
| Metric         |                                                                                     |         |       |      |       |   |
| DO64701005     | T5                                                                                  | F       | 13    | 2    | 35    | - |
| DO64701006     | T6                                                                                  | F       | 13    | 2    | 35    | - |
| DO64701007     | T7                                                                                  | F       | 13    | 2    | 35    | - |
| DO64701008     | T8                                                                                  | F       | 13    | 2    | 35    | - |
| DO64701009     | T9                                                                                  | F       | 13    | 2    | 35    | - |
| DO64701010     | T10                                                                                 | F       | 13    | 2,8  | 35    | - |
| DO64701015     | T15                                                                                 | F       | 13    | 2,8  | 35    | - |
| DO64701020     | T20                                                                                 | F       | 13    | 2,8  | 35    | - |
| DO64701025     | T25                                                                                 | F       | 13    | 3    | 35    | - |
| DO64701027     | T27                                                                                 | F       | 13    | 3    | 35    | - |
| DO64701030     | T30                                                                                 | F       | 13    | 3,8  | 35    | - |

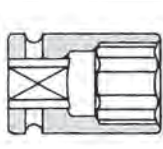
Torx® is a trademark of Textron

| TORX® TAMPER RESISTANT INTERNAL2 |                                                                                       |         |       |      |       |   |
|----------------------------------|---------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type                             |  | Drawing | D2 mm | L mm | L1 mm | - |
| DO64706008                       | T8                                                                                    | F       | 13    | 2,0  | 35    | - |
| DO64706009                       | T9                                                                                    | F       | 13    | 2,0  | 35    | - |
| DO64706010                       | T10                                                                                   | F       | 13    | 2,8  | 35    | - |
| DO64706015                       | T15                                                                                   | F       | 13    | 2,8  | 35    | - |
| DO64706020                       | T20                                                                                   | F       | 13    | 2,8  | 35    | - |
| DO64706025                       | T25                                                                                   | F       | 13    | 3,0  | 35    | - |
| DO64706027                       | T27                                                                                   | F       | 13    | 3,0  | 35    | - |
| DO64706030                       | T30                                                                                   | F       | 13    | 3,8  | 35    | - |

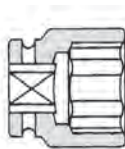
Torx® is a trademark of Textron



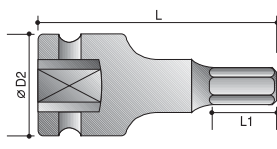
Drawing A



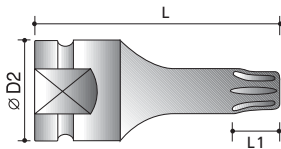
Drawing B



Drawing C



Drawing D



Drawing F

| TORX® EXTERNAL3 |                                                                                     |         |       |       |      |       |
|-----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| DO63300004      | E4                                                                                  | A       | 7,2   | 13    | 25   | 4     |
| DO63300005      | E5                                                                                  | A       | 8     | 13    | 25   | 4,5   |
| DO63300006      | E6                                                                                  | A       | 9     | 13    | 25   | 5     |
| DO63300007      | E7                                                                                  | A       | 9,5   | 13    | 25   | 6     |
| DO63300008      | E8                                                                                  | A       | 10    | 13    | 25   | 6     |
| DO63300010      | E10                                                                                 | A       | 12,5  | 13    | 25   | 7,5   |
| DO63300011      | E11                                                                                 | B       | 13    | 13    | 25   | 8     |
| DO63300012      | E12                                                                                 | B       | 14,5  | 14,5  | 25   | 8,5   |

Torx® is a trademark of Textron

| TORX THIN WALL EXTERNAL4 |                                                                                     |         |       |       |      |       |
|--------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                     |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| DO63305004               | E4                                                                                  | A       | 6,5   | 13    | 25   | 4     |
| DO63305005               | E5                                                                                  | A       | 7,5   | 13    | 25   | 4,5   |
| DO63305006               | E6                                                                                  | A       | 8,5   | 13    | 25   | 5     |
| DO63305007               | E7                                                                                  | A       | 9     | 13    | 25   | 6     |
| DO63305008               | E8                                                                                  | A       | 9,8   | 13    | 25   | 6     |
| DO63305010               | E10                                                                                 | A       | 12    | 13    | 25   | 6,5   |
| DO63305011               | E11                                                                                 | A       | 12,7  | 13    | 25   | 8     |
| DO63305012               | E12                                                                                 | A       | 14    | 14,5  | 25   | 8,5   |

Thin wall sockets are not covered by the Action warranty.  
Torx® is a trademark of Textron

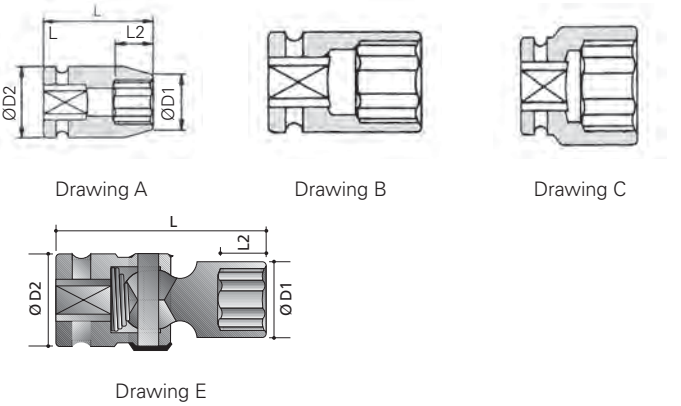


1/4" SQUARE DRIVE



| SURFACE DRIVE NORMAL1 |     |         |       |       |      |       |
|-----------------------|-----|---------|-------|-------|------|-------|
| Type                  | mm  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                |     |         |       |       |      |       |
| DO63405040            | 4   | A       | 7,6   | 13    | 23   | 4     |
| DO63405045            | 4,5 | A       | 8,2   | 13    | 23   | 5     |
| DO63405050            | 5   | A       | 8,8   | 13    | 23   | 5     |
| DO63405055            | 5,5 | A       | 9,5   | 13    | 23   | 5     |
| DO63405060            | 6   | A       | 10    | 13    | 23   | 6     |
| DO63405070            | 7   | A       | 11,3  | 13    | 23   | 6     |
| DO63405080            | 8   | A       | 12,5  | 13    | 23   | 7     |
| DO63405090            | 9   | C       | 13,8  | 13    | 23   | 7     |
| DO63405100            | 10  | C       | 15    | 13    | 23   | 7     |
| DO63405110            | 11  | C       | 16,3  | 13    | 23   | 8     |
| DO63405120            | 12  | C       | 17    | 13    | 23   | 8     |
| DO63405130            | 13  | C       | 18,8  | 13    | 23   | 8     |
| DO63405140            | 14  | C       | 20    | 13    | 23   | 8     |
| DO63405150            | 15  | C       | 21    | 13    | 23   | 8     |

| SURFACE DRIVE DEEP2 |     |         |       |       |      |       |
|---------------------|-----|---------|-------|-------|------|-------|
| Type                | mm  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric              |     |         |       |       |      |       |
| DO63407040          | 4   | A       | 7,6   | 13    | 50   | 4     |
| DO63407045          | 4,5 | A       | 8,2   | 13    | 50   | 6     |
| DO63407050          | 5   | A       | 8,8   | 13    | 50   | 6     |
| DO63407055          | 5,5 | A       | 9,5   | 13    | 50   | 6     |
| DO63407060          | 6   | A       | 10    | 13    | 50   | 7     |
| DO63407070          | 7   | A       | 11,3  | 13    | 50   | 7     |
| DO63407080          | 8   | A       | 12,5  | 13    | 50   | 9     |
| DO63407090          | 9   | C       | 13,8  | 13    | 50   | 9     |
| DO63407100          | 10  | C       | 15    | 13    | 50   | 9     |
| DO63407110          | 11  | C       | 16,3  | 13    | 50   | 9     |
| DO63407120          | 12  | C       | 17    | 13    | 50   | 9     |
| DO63407130          | 13  | C       | 18,8  | 13    | 50   | 9     |
| DO63407140          | 14  | C       | 20    | 13    | 50   | 9     |
| DO63407150          | 15  | C       | 21    | 13    | 50   | 9     |

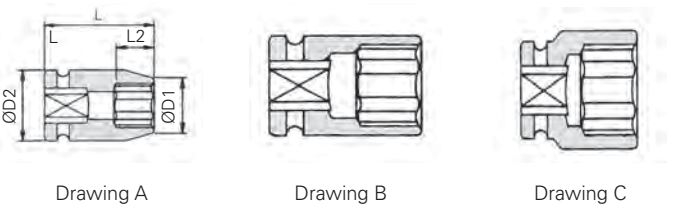


3/8" SQUARE DRIVE



| 6-POINT NORMAL1 |    |         |       |       |      |       |
|-----------------|----|---------|-------|-------|------|-------|
| Type            | mm | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric          |    |         |       |       |      |       |
| DO1038-0-006    | 6  | A       | 11    | 19    | 30   | 4     |
| DO1038-0-007    | 7  | A       | 12,5  | 19    | 30   | 8     |
| DO1038-0-008    | 8  | A       | 14    | 19    | 30   | 8     |
| DO1038-0-009    | 9  | A       | 15    | 19    | 30   | 8     |
| DO1038-0-010    | 10 | A       | 16    | 19    | 30   | 8     |
| DO1038-0-011    | 11 | A       | 17,5  | 19    | 30   | 9     |
| DO1038-0-012    | 12 | B       | 19    | 19    | 30   | 9     |
| DO1038-0-013    | 13 | A       | 20    | 22    | 30   | 9     |
| DO1038-0-014    | 14 | A       | 21    | 22    | 30   | 9     |
| DO1038-0-015    | 15 | B       | 22    | 22    | 30   | 11    |
| DO1038-0-016    | 16 | C       | 24    | 22    | 30   | 11    |
| DO1038-0-017    | 17 | C       | 25    | 22    | 30   | 11    |
| DO1038-0-018    | 18 | C       | 26    | 22    | 30   | 11    |
| DO1038-0-019    | 19 | C       | 27,5  | 22    | 30   | 11    |
| DO1038-0-020    | 20 | C       | 28    | 22    | 30   | 12    |
| DO1038-0-021    | 21 | C       | 30    | 22    | 30   | 13    |
| DO1038-0-022    | 22 | C       | 32    | 23    | 30   | 13    |
| DO1038-0-024    | 24 | C       | 34    | 23    | 30   | 13    |

| 6-POINT NORMAL2 |        |         |       |       |      |       |
|-----------------|--------|---------|-------|-------|------|-------|
| Type            |        | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Inch            |        |         |       |       |      |       |
| DO1038-0-5/16   | 5/16"  | A       | 12,5  | 19    | 30   | 8     |
| DO1038-0-3/8    | 3/8"   | A       | 14,5  | 19    | 30   | 8     |
| DO1038-0-7/16   | 7/16"  | A       | 17    | 19    | 30   | 9     |
| DO1038-0-1/2    | 1/2"   | B       | 19    | 19    | 30   | 9     |
| DO1038-0-9/16   | 9/16"  | B       | 20    | 20    | 30   | 9     |
| DO1038-0-5/8    | 5/8"   | B       | 24    | 24    | 30   | 11    |
| DO1038-0-11/16  | 11/16" | B       | 24    | 24    | 30   | 11    |



| 6-POINT NORMAL MAGNETIC3 |    |         |       |       |      |       |
|--------------------------|----|---------|-------|-------|------|-------|
| Type                     | mm | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                   |    |         |       |       |      |       |
| DO6051P006               | 6  | A       | 11,5  | 19    | 30   | 3     |
| DO6051P007               | 7  | A       | 12,5  | 19    | 30   | 3     |
| DO6051P008               | 8  | A       | 14    | 19    | 30   | 3     |
| DO6051P009               | 9  | A       | 15    | 19    | 30   | 4     |
| DO6051P010               | 10 | A       | 16,5  | 19    | 30   | 4     |
| DO6051P011               | 11 | A       | 17,5  | 19    | 30   | 5     |
| DO6051P012               | 12 | B       | 19    | 19    | 30   | 5     |
| DO6051P013               | 13 | A       | 20    | 22    | 30   | 5     |
| DO6051P014               | 14 | A       | 21,5  | 22    | 30   | 6     |
| DO6051P015               | 15 | B       | 22    | 22    | 30   | 6     |
| DO6051P016               | 16 | C       | 24    | 22    | 30   | 6     |
| DO6051P017               | 17 | C       | 25    | 22    | 30   | 6     |
| DO6051P018               | 18 | C       | 26    | 22    | 30   | 7     |
| DO6051P019               | 19 | C       | 27,5  | 22    | 30   | 7     |

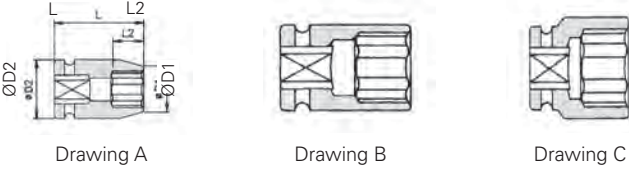
| 6-POINT DEEP MAGNETIC4 |    |         |       |       |      |       |
|------------------------|----|---------|-------|-------|------|-------|
| Type                   | mm | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                 |    |         |       |       |      |       |
| DO6051R006             | 6  | A       | 11,5  | 19    | 55   | 3     |
| DO6051R007             | 7  | A       | 12,5  | 19    | 55   | 3     |
| DO6051R008             | 8  | A       | 14    | 19    | 55   | 3     |
| DO6051R009             | 9  | A       | 15    | 19    | 55   | 4     |
| DO6051R010             | 10 | A       | 16,5  | 19    | 55   | 4     |
| DO6051R011             | 11 | A       | 17,5  | 19    | 55   | 5     |
| DO6051R012             | 12 | B       | 19    | 19    | 55   | 5     |
| DO6051R013             | 13 | A       | 20    | 22    | 55   | 5     |
| DO6051R014             | 14 | A       | 21,5  | 22    | 55   | 6     |
| DO6051R015             | 15 | B       | 22    | 22    | 55   | 6     |
| DO6051R016             | 16 | C       | 24    | 22    | 55   | 6     |
| DO6051R017             | 17 | C       | 25    | 22    | 55   | 6     |
| DO6051R018             | 18 | C       | 26    | 22    | 55   | 7     |
| DO6051R019             | 19 | C       | 27,5  | 22    | 55   | 7     |

3/8" SQUARE DRIVE



| 6-POINT DEEP1 |                                                                                   |         |       |       |      |       |
|---------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type          |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric        |                                                                                   |         |       |       |      |       |
| DO1038-1-006  | 6                                                                                 | A       | 11    | 19    | 63   | 12    |
| DO1038-1-007  | 7                                                                                 | A       | 12,5  | 19    | 63   | 12    |
| DO1038-1-008  | 8                                                                                 | A       | 13,8  | 19    | 63   | 12    |
| DO1038-1-009  | 9                                                                                 | A       | 15    | 19    | 65   | 12    |
| DO1038-1-010  | 10                                                                                | A       | 16    | 19    | 65   | 12    |
| DO1038-1-011  | 11                                                                                | A       | 17,5  | 19    | 65   | 25    |
| DO1038-1-012  | 12                                                                                | B       | 19    | 19    | 65   | 25    |
| DO1038-1-013  | 13                                                                                | A       | 20    | 22    | 65   | 25    |
| DO1038-1-014  | 14                                                                                | A       | 21    | 22    | 65   | 25    |
| DO1038-1-015  | 15                                                                                | B       | 22    | 22    | 65   | 25    |
| DO1038-1-016  | 16                                                                                | C       | 24    | 22    | 65   | 25    |
| DO1038-1-017  | 17                                                                                | C       | 25    | 22    | 65   | 25    |
| DO1038-1-018  | 18                                                                                | C       | 26    | 22    | 65   | 25    |
| DO1038-1-019  | 19                                                                                | C       | 27,5  | 22    | 65   | 25    |
| DO1038-1-020  | 20                                                                                | C       | 28    | 22    | 65   | 25    |
| DO1038-1-021  | 21                                                                                | C       | 30    | 22    | 65   | 25    |
| DO1038-1-022  | 22                                                                                | C       | 32    | 23    | 65   | 25    |
| DO1038-1-024  | 24                                                                                | C       | 34    | 23    | 65   | 25    |

| 12-POINT NORMAL2 |                                                                                     |         |       |       |      |       |
|------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type             |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric           |                                                                                     |         |       |       |      |       |
| DO65815006       | 6                                                                                   | A       | 11    | 19    | 30   | 5     |
| DO65815007       | 7                                                                                   | A       | 12    | 19    | 30   | 8     |
| DO65815008       | 8                                                                                   | A       | 13    | 19    | 30   | 8     |
| DO65815009       | 9                                                                                   | A       | 15    | 19    | 30   | 8     |
| DO65815010       | 10                                                                                  | A       | 16    | 19    | 30   | 8     |
| DO65815011       | 11                                                                                  | A       | 17,5  | 19    | 30   | 9     |
| DO65815012       | 12                                                                                  | A       | 18,5  | 19    | 30   | 9     |
| DO65815013       | 13                                                                                  | A       | 20    | 22    | 30   | 10    |
| DO65815014       | 14                                                                                  | A       | 21    | 22    | 32   | 11    |
| DO65815015       | 15                                                                                  | B       | 22    | 22    | 32   | 12    |
| DO65815016       | 16                                                                                  | C       | 24    | 22    | 32   | 12    |
| DO65815017       | 17                                                                                  | C       | 25    | 22    | 34   | 12    |
| DO65815018       | 18                                                                                  | C       | 26    | 22    | 34   | 13    |
| DO65815019       | 19                                                                                  | C       | 27    | 22    | 34   | 13    |
| DO65815020       | 20                                                                                  | C       | 28    | 22    | 34   | 13    |
| DO65815021       | 21                                                                                  | C       | 30    | 22    | 34   | 14    |
| DO65815022       | 22                                                                                  | C       | 31    | 23    | 34   | 15    |
| DO65815023       | 23                                                                                  | C       | 32    | 23    | 34   | 15    |
| DO65815024       | 24                                                                                  | C       | 34    | 23    | 34   | 16    |
| DO65815025       | 25                                                                                  | C       | 35    | 23    | 36   | 16    |
| DO65815026       | 26                                                                                  | C       | 36    | 23    | 36   | 16    |



| 12-POINT DEEP3 |                                                                                   |         |       |       |      |       |
|----------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                                                                   |         |       |       |      |       |
| DO65817006     | 6                                                                                 | A       | 11    | 19    | 63   | 5     |
| DO65817007     | 7                                                                                 | A       | 12    | 19    | 63   | 5     |
| DO65817008     | 8                                                                                 | A       | 13    | 19    | 63   | 6     |
| DO65817009     | 9                                                                                 | A       | 15    | 19    | 65   | 6     |
| DO65817010     | 10                                                                                | A       | 16    | 19    | 65   | 7     |
| DO65817011     | 11                                                                                | A       | 17,5  | 19    | 65   | 8     |
| DO65817012     | 12                                                                                | A       | 18,5  | 19    | 65   | 9     |
| DO65817013     | 13                                                                                | A       | 20    | 22    | 65   | 9     |
| DO65817014     | 14                                                                                | A       | 21    | 22    | 65   | 11    |
| DO65817015     | 15                                                                                | B       | 22    | 22    | 65   | 11    |
| DO65817016     | 16                                                                                | C       | 24    | 22    | 65   | 11    |
| DO65817017     | 17                                                                                | C       | 25    | 22    | 65   | 11    |
| DO65817018     | 18                                                                                | C       | 26    | 22    | 65   | 13    |
| DO65817019     | 19                                                                                | C       | 27    | 22    | 65   | 13    |
| DO65817020     | 20                                                                                | C       | 28    | 22    | 65   | 13    |
| DO65817021     | 21                                                                                | C       | 30    | 22    | 65   | 15    |
| DO65817022     | 22                                                                                | C       | 31    | 23    | 65   | 15    |
| DO65817023     | 23                                                                                | C       | 32    | 23    | 65   | 15    |
| DO65817024     | 24                                                                                | C       | 34    | 23    | 65   | 16    |
| DO65817025     | 25                                                                                | C       | 35    | 23    | 65   | 16    |
| DO65817026     | 26                                                                                | C       | 36    | 23    | 65   | 16    |

ACCESSORIES  
STUD BOLT SETTERS

| Type       | Size     | D1 mm | D2 mm | L mm |
|------------|----------|-------|-------|------|
| DO69781050 | M5×0,8   | 12    | 22    | 50   |
| DO69781053 | M6×1,0   | 12,5  | 22    | 50   |
| DO69781056 | M7×1,0   | 13    | 22    | 50   |
| DO69781059 | M8×1,0   | 15    | 22    | 50   |
| DO69781060 | M8×1,25  | 14,5  | 22    | 50   |
| DO69781062 | M10×1,25 | 18    | 22    | 50   |
| DO69781063 | M10×1,5  | 17    | 22    | 50   |
| DO69781066 | M12×1,75 | 19    | 22    | 50   |



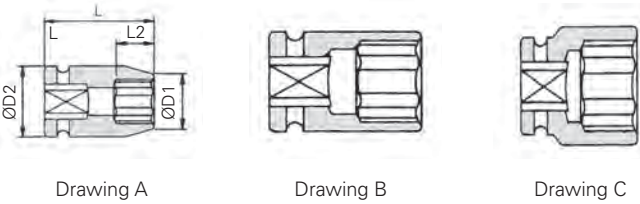
3/8" SQUARE DRIVE



| 6-POINT L=1501 |                                                                                     |         |       |       |      |       |
|----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                                                                     |         |       |       |      |       |
| DO60715006     | 6                                                                                   | G       | 11    | 19    | 150  | 4     |
| DO60715008     | 8                                                                                   | G       | 13    | 19    | 150  | 8     |
| DO60715010     | 10                                                                                  | G       | 16    | 19    | 150  | 8     |
| DO60715012     | 12                                                                                  | G       | 18,5  | 19    | 150  | 9     |
| DO60715013     | 13                                                                                  | G       | 20    | 22    | 150  | 9     |
| DO60715014     | 14                                                                                  | G       | 21    | 22    | 150  | 9     |
| DO60715015     | 15                                                                                  | G       | 22    | 22    | 150  | 11    |
| DO60715016     | 16                                                                                  | G       | 24    | 22    | 150  | 11    |
| DO60715017     | 17                                                                                  | G       | 25    | 22    | 150  | 11    |
| DO60715018     | 18                                                                                  | G       | 26    | 22    | 150  | 12    |

| 6-POINT L=2002 |                                                                                     |         |       |       |      |       |
|----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                                                                     |         |       |       |      |       |
| DO60716006     | 6                                                                                   | G       | 11    | 19    | 200  | 4     |
| DO60716008     | 8                                                                                   | G       | 13    | 19    | 200  | 8     |
| DO60716010     | 10                                                                                  | G       | 16    | 19    | 200  | 8     |
| DO60716012     | 12                                                                                  | G       | 18,5  | 19    | 200  | 9     |
| DO60716013     | 13                                                                                  | G       | 20    | 22    | 200  | 9     |
| DO60716014     | 14                                                                                  | G       | 21    | 22    | 200  | 9     |
| DO60716015     | 15                                                                                  | G       | 22    | 22    | 200  | 11    |
| DO60716016     | 16                                                                                  | G       | 24    | 22    | 200  | 11    |
| DO60716017     | 17                                                                                  | G       | 25    | 22    | 200  | 11    |

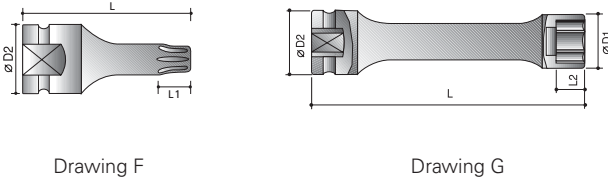
| 6-POINT L=2503 |                                                                                       |         |       |       |      |       |
|----------------|---------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                                                                       |         |       |       |      |       |
| DO60717006     | 6                                                                                     | G       | 11    | 19    | 250  | 4     |
| DO60717008     | 8                                                                                     | G       | 13    | 19    | 250  | 8     |
| DO60717010     | 10                                                                                    | G       | 16    | 19    | 250  | 8     |
| DO60717012     | 12                                                                                    | G       | 18,5  | 19    | 250  | 9     |
| DO60717013     | 13                                                                                    | G       | 20    | 22    | 250  | 9     |
| DO60717014     | 14                                                                                    | G       | 21    | 22    | 250  | 9     |
| DO60717015     | 15                                                                                    | G       | 22    | 22    | 250  | 11    |
| DO60717016     | 16                                                                                    | G       | 24    | 22    | 250  | 11    |
| DO60717017     | 17                                                                                    | G       | 25    | 22    | 250  | 11    |



| SURFACE DRIVE NORMAL4 |                                                                                     |         |       |       |      |       |
|-----------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                  |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                |                                                                                     |         |       |       |      |       |
| DO63415008            | 8                                                                                   | A       | 13,8  | 19    | 32   | 8     |
| DO63415009            | 9                                                                                   | A       | 15    | 19    | 32   | 8     |
| DO63415010            | 10                                                                                  | A       | 16    | 19    | 32   | 8     |
| DO63415011            | 11                                                                                  | A       | 17,5  | 19    | 32   | 9     |
| DO63415012            | 12                                                                                  | B       | 19    | 19    | 32   | 9     |
| DO63415013            | 13                                                                                  | A       | 20    | 22    | 32   | 9     |
| DO63415014            | 14                                                                                  | B       | 22    | 22    | 32   | 9     |
| DO63415015            | 15                                                                                  | B       | 22    | 22    | 32   | 11    |
| DO63415016            | 16                                                                                  | C       | 24    | 22    | 32   | 11    |
| DO63415017            | 17                                                                                  | C       | 25    | 22    | 32   | 11    |
| DO63415018            | 18                                                                                  | C       | 26    | 22    | 32   | 11    |
| DO63415019            | 19                                                                                  | C       | 28    | 22    | 32   | 11    |

| SURFACE DRIVE NORMAL4 |                                                                                     |         |       |       |      |       |
|-----------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                  |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Inch                  |                                                                                     |         |       |       |      |       |
| DO63410008            | 1/4"                                                                                | A       | 11,5  | 19    | 32   | 4     |
| DO63410010            | 5/16"                                                                               | A       | 13,8  | 19    | 32   | 8     |
| DO63410012            | 3/8"                                                                                | A       | 15,5  | 19    | 32   | 8     |
| DO63410014            | 7/16"                                                                               | A       | 17,5  | 19    | 32   | 9     |
| DO63410016            | 1/2"                                                                                | A       | 20    | 22    | 32   | 9     |
| DO63410018            | 9/16"                                                                               | B       | 22    | 22    | 32   | 11    |
| DO63410020            | 5/8"                                                                                | C       | 24    | 22    | 32   | 11    |
| DO63410022            | 11/16"                                                                              | C       | 26    | 22    | 32   | 11    |
| DO63410024            | 3/4"                                                                                | C       | 28    | 22    | 32   | 11    |

| TORX® INTERNAL5 |                                                                                       |         |       |       |      |       |
|-----------------|---------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| DO64711009      | T9                                                                                    | F       | 19    | 2,8   | 50   | -     |
| DO64711010      | T10                                                                                   | F       | 19    | 2,8   | 50   | -     |
| DO64711015      | T15                                                                                   | F       | 19    | 2,8   | 50   | -     |
| DO64711020      | T20                                                                                   | F       | 19    | 3,0   | 50   | -     |
| DO64711025      | T25                                                                                   | F       | 19    | 3,0   | 50   | -     |
| DO64711027      | T27                                                                                   | F       | 19    | 3,8   | 50   | -     |
| DO64711030      | T30                                                                                   | F       | 19    | 3,8   | 50   | -     |
| DO64711040      | T40                                                                                   | F       | 19    | 4,3   | 50   | -     |
| DO64711045      | T45                                                                                   | F       | 19    | 5,0   | 50   | -     |
| DO64711047      | T47                                                                                   | F       | 19    | 5,0   | 50   | -     |
| DO64711050      | T50                                                                                   | F       | 19    | 5,5   | 50   | -     |





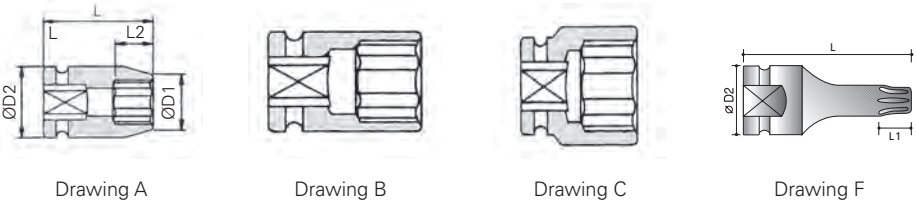
3/8" SQUARE DRIVE



| SURFACE DRIVE DEEP1 |                                                                                   |         |       |       |      |       |
|---------------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric              |                                                                                   |         |       |       |      |       |
| DO63417008          | 8                                                                                 | A       | 13,8  | 19    | 80   | 12    |
| DO63417009          | 9                                                                                 | A       | 15    | 19    | 80   | 12    |
| DO63417010          | 10                                                                                | A       | 16    | 19    | 80   | 12    |
| DO63417011          | 11                                                                                | A       | 17,5  | 19    | 80   | 25    |
| DO63417012          | 12                                                                                | B       | 19    | 19    | 80   | 25    |
| DO63417013          | 13                                                                                | A       | 20    | 22    | 80   | 25    |
| DO63417014          | 14                                                                                | B       | 22    | 22    | 80   | 25    |
| DO63417015          | 15                                                                                | B       | 22    | 22    | 80   | 25    |
| DO63417016          | 16                                                                                | C       | 24    | 22    | 80   | 25    |
| DO63417017          | 17                                                                                | C       | 25    | 22    | 80   | 25    |
| DO63417018          | 18                                                                                | C       | 26    | 22    | 80   | 25    |
| DO63417019          | 19                                                                                | C       | 28    | 22    | 80   | 25    |

| SURFACE DRIVE DEEP1 |                                                                                   |         |       |       |      |       |
|---------------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Inch                |                                                                                   |         |       |       |      |       |
| DO63412010          | 5/16"                                                                             | A       | 13,8  | 19    | 80   | 12    |
| DO63412012          | 3/8"                                                                              | A       | 15,5  | 19    | 80   | 12    |
| DO63412014          | 7/16"                                                                             | A       | 17,5  | 19    | 80   | 25    |
| DO63412016          | 1/2"                                                                              | A       | 20    | 22    | 80   | 25    |
| DO63412018          | 9/16"                                                                             | B       | 22    | 22    | 80   | 25    |
| DO63412020          | 5/8"                                                                              | C       | 24    | 22    | 80   | 25    |
| DO63412022          | 11/16"                                                                            | C       | 26    | 22    | 80   | 25    |
| DO63412024          | 3/4"                                                                              | C       | 28    | 22    | 80   | 25    |

| TORX® TAMPER RESISTANT INTERNAL2 |                                                                                     |         |       |       |      |   |
|----------------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|---|
| Type                             |  | Drawing | D2 mm | L1 mm | L mm | - |
| DO64716020                       | T20                                                                                 | F       | 19    | 3,0   | 50   | - |
| DO64716025                       | T25                                                                                 | F       | 19    | 3,0   | 50   | - |
| DO64716027                       | T27                                                                                 | F       | 19    | 3,8   | 50   | - |
| DO64716030                       | T30                                                                                 | F       | 19    | 3,8   | 50   | - |
| DO64716040                       | T40                                                                                 | F       | 19    | 4,3   | 50   | - |
| DO64716045                       | T45                                                                                 | F       | 19    | 5,0   | 50   | - |
| DO64716047                       | T47                                                                                 | F       | 19    | 5,0   | 50   | - |
| DO64716050                       | T50                                                                                 | F       | 19    | 5,5   | 50   | - |
| DO64716055                       | T55                                                                                 | F       | 19    | 5,5   | 50   | - |



3/8" SQUARE DRIVE

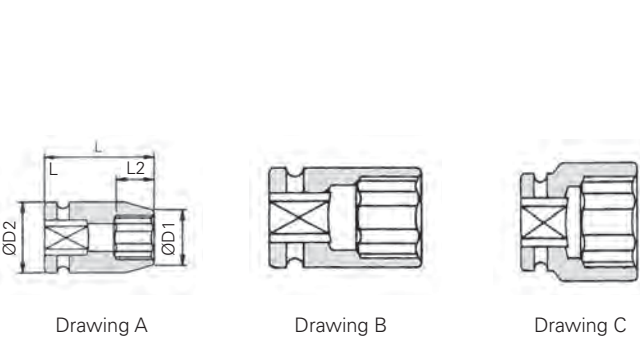


| 6-POINT THIN WALL NORMAL1 |                                                                                     |         |       |       |      |       |
|---------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                      |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                    |                                                                                     |         |       |       |      |       |
| DO61110006                | 6                                                                                   | A       | 10,5  | 19    | 30   | 4     |
| DO61110007                | 7                                                                                   | A       | 11,5  | 19    | 30   | 8     |
| DO61110008                | 8                                                                                   | A       | 12,5  | 19    | 30   | 8     |
| DO61110009                | 9                                                                                   | A       | 14    | 19    | 30   | 8     |
| DO61110010                | 10                                                                                  | A       | 15    | 19    | 30   | 8     |
| DO61110011                | 11                                                                                  | A       | 17    | 19    | 30   | 9     |
| DO61110012                | 12                                                                                  | A       | 17,5  | 19    | 30   | 9     |
| DO61110013                | 13                                                                                  | B       | 19    | 19    | 30   | 9     |
| DO61110014                | 14                                                                                  | B       | 20    | 20    | 30   | 9     |

Thin wall sockets are not covered by the Action warranty

| 6-POINT THIN WALL MAGNETIC2 |                                                                                     |         |       |       |      |       |
|-----------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                        |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                      |                                                                                     |         |       |       |      |       |
| DO61112007                  | 7                                                                                   | A       | 11,5  | 19    | 65   | 12    |
| DO61112008                  | 8                                                                                   | A       | 12,5  | 19    | 65   | 12    |
| DO61112009                  | 9                                                                                   | A       | 14    | 19    | 65   | 12    |
| DO61112010                  | 10                                                                                  | A       | 15    | 19    | 65   | 25    |
| DO61112011                  | 11                                                                                  | A       | 17    | 19    | 65   | 25    |
| DO61112012                  | 12                                                                                  | A       | 17,5  | 19    | 65   | 25    |
| DO61112013                  | 13                                                                                  | B       | 19    | 19    | 65   | 25    |
| DO61112014                  | 14                                                                                  | B       | 20    | 20    | 65   | 25    |
| DO61112015                  | 15                                                                                  | A       | 21    | 22    | 65   | 25    |
| DO61112016                  | 16                                                                                  | C       | 22,5  | 22    | 65   | 25    |
| DO61112017                  | 17                                                                                  | C       | 24    | 22    | 65   | 25    |
| DO61112018                  | 18                                                                                  | C       | 25    | 22    | 65   | 25    |
| DO61112019                  | 19                                                                                  | C       | 26    | 22    | 65   | 25    |
| DO61112020                  | 20                                                                                  | C       | 27    | 22    | 65   | 25    |
| DO61112021                  | 21                                                                                  | C       | 28    | 22    | 65   | 25    |
| DO61112022                  | 22                                                                                  | C       | 30    | 23    | 65   | 25    |

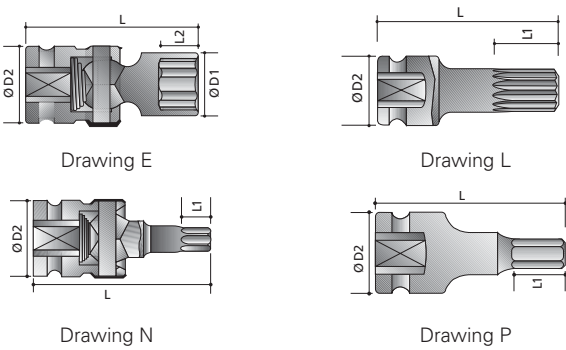
Thin wall sockets are not covered by the Action warranty.



| 6-POINT UNIVERSAL JOINT3 |                                                                                     |         |       |       |      |       |
|--------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                     |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                   |                                                                                     |         |       |       |      |       |
| DO1038-2-009             | 9                                                                                   | E       | 15    | 24    | 53   | 9     |
| DO1038-2-010             | 10                                                                                  | E       | 15    | 24    | 53   | 9     |
| DO1038-2-011             | 11                                                                                  | E       | 17    | 24    | 53   | 9     |
| DO1038-2-012             | 12                                                                                  | E       | 19    | 24    | 53   | 12    |
| DO1038-2-013             | 13                                                                                  | E       | 19    | 24    | 53   | 13    |
| DO1038-2-014             | 14                                                                                  | E       | 21    | 24    | 53   | 13    |
| DO1038-2-015             | 15                                                                                  | E       | 22    | 24    | 53   | 13    |
| DO1038-2-016             | 16                                                                                  | E       | 23    | 24    | 53   | 13    |
| DO1038-2-017             | 17                                                                                  | E       | 25    | 24    | 53   | 13    |
| DO1038-2-018             | 18                                                                                  | E       | 25    | 24    | 53   | 13    |
| DO1038-2-019             | 19                                                                                  | E       | 27    | 24    | 53   | 13    |
| DO1038-2-020             | 20                                                                                  | E       | 30    | 24    | 53   | 13    |
| DO1038-2-021             | 21                                                                                  | E       | 30    | 24    | 53   | 13    |
| DO1038-2-022             | 22                                                                                  | E       | 32    | 24    | 53   | 13    |

| 6-POINT UNIVERSAL JOINT DEEP4 |                                                                                       |         |       |       |      |       |
|-------------------------------|---------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                          |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                        |                                                                                       |         |       |       |      |       |
| DO1038-4-009                  | 9                                                                                     | E       | 15    | 24    | 78   | 20    |
| DO1038-4-010                  | 10                                                                                    | E       | 15    | 24    | 78   | 20    |
| DO1038-4-011                  | 11                                                                                    | E       | 17    | 24    | 80   | 20    |
| DO1038-4-012                  | 12                                                                                    | E       | 19    | 24    | 80   | 20    |
| DO1038-4-013                  | 13                                                                                    | E       | 19    | 24    | 80   | 20    |
| DO1038-4-014                  | 14                                                                                    | E       | 21    | 24    | 80   | 20    |
| DO1038-4-015                  | 15                                                                                    | E       | 22    | 24    | 80   | 20    |
| DO1038-4-016                  | 16                                                                                    | E       | 23    | 24    | 80   | 20    |
| DO1038-4-017                  | 17                                                                                    | E       | 25    | 24    | 80   | 20    |
| DO1038-4-018                  | 18                                                                                    | E       | 25    | 24    | 80   | 20    |
| DO1038-4-019                  | 19                                                                                    | E       | 27    | 24    | 80   | 25    |
| DO1038-4-020                  | 20                                                                                    | E       | 30    | 24    | 80   | 25    |
| DO1038-4-021                  | 21                                                                                    | E       | 30    | 24    | 80   | 25    |
| DO1038-4-022                  | 22                                                                                    | E       | 32    | 24    | 80   | 25    |

Universal joint sockets are not included in the Action warranty



3/8" SQUARE DRIVE



| HEX DRIVER SOCKETS1 |                                                                                   |         |       |       |      |       |
|---------------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric              |                                                                                   |         |       |       |      |       |
| DO696203A           | 3                                                                                 | P       | 19    | 50    | 16   | -     |
| DO696204A           | 4                                                                                 | P       | 19    | 50    | 16   | -     |
| DO696205A           | 5                                                                                 | P       | 19    | 50    | 16   | -     |
| DO696206A           | 6                                                                                 | P       | 19    | 50    | 16   | -     |
| DO696207A           | 7                                                                                 | P       | 19    | 50    | 16   | -     |
| DO696208A           | 8                                                                                 | P       | 19    | 50    | 16   | -     |
| DO696209A           | 9                                                                                 | P       | 19    | 50    | 16   | -     |
| DO696210A           | 10                                                                                | P       | 19    | 50    | 16   | -     |
| DO696211A           | 11                                                                                | P       | 19    | 50    | 16   | -     |
| DO696212A           | 12                                                                                | P       | 19    | 50    | 16   | -     |
| DO696213A           | 13                                                                                | P       | 19    | 50    | 16   | -     |
| DO696214A           | 14                                                                                | P       | 19    | 50    | 16   | -     |
| DO696215A           | 15                                                                                | P       | 19    | 50    | 16   | -     |
| DO696216A           | 16                                                                                | P       | 19    | 50    | 16   | -     |

| TRIPLE SQUARE2 |                                                                                     |         |       |      |       |   |
|----------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type           |  | Drawing | D2 mm | L mm | L1 mm | - |
| Metric         |                                                                                     |         |       |      |       |   |
| DO65216005     | M5                                                                                  | L       | 19    | 50   | 7     | - |
| DO65216006     | M6                                                                                  | L       | 19    | 50   | 7     | - |
| DO65216008     | M8                                                                                  | L       | 19    | 50   | 9     | - |
| DO65216010     | M10                                                                                 | L       | 19    | 50   | 9     | - |
| DO65216012     | M12                                                                                 | L       | 19    | 50   | 11    | - |
| DO65216014     | M14                                                                                 | L       | 19    | 50   | 11    | - |
| DO65216016     | M16                                                                                 | L       | 19    | 50   | 13    | - |

| TRIPLE SQUARE LONG3 |                                                                                     |         |       |      |       |   |
|---------------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type                |  | Drawing | D2 mm | L mm | L1 mm | - |
| Metric              |                                                                                     |         |       |      |       |   |
| DO65217005          | M5                                                                                  | L       | 19    | 100  | 7     | - |
| DO65217006          | M6                                                                                  | L       | 19    | 100  | 7     | - |
| DO65217008          | M8                                                                                  | L       | 19    | 100  | 9     | - |
| DO65217010          | M10                                                                                 | L       | 19    | 100  | 9     | - |
| DO65217012          | M12                                                                                 | L       | 19    | 100  | 11    | - |
| DO65217014          | M14                                                                                 | L       | 19    | 100  | 11    | - |
| DO65217016          | M16                                                                                 | L       | 19    | 100  | 13    | - |
| DO65218005          | M5                                                                                  | L       | 19    | 120  | 7     | - |
| DO65218006          | M6                                                                                  | L       | 19    | 120  | 7     | - |
| DO65218008          | M8                                                                                  | L       | 19    | 120  | 9     | - |
| DO65218010          | M10                                                                                 | L       | 19    | 120  | 9     | - |
| DO65218012          | M12                                                                                 | L       | 19    | 120  | 11    | - |
| DO65218014          | M14                                                                                 | L       | 19    | 120  | 11    | - |
| DO65218016          | M14                                                                                 | L       | 19    | 120  | 13    | - |

| HEX DRIVER UNIVERSAL JOINT4 |                                                                                   |         |       |      |       |   |
|-----------------------------|-----------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type                        |  | Drawing | D1 mm | L mm | L2 mm | - |
| Metric                      |                                                                                   |         |       |      |       |   |
| DO65110005                  | 5                                                                                 | N       | 24    | 60   | 11    | - |
| DO65110006                  | 6                                                                                 | N       | 24    | 60   | 11    | - |
| DO65110007                  | 7                                                                                 | N       | 24    | 60   | 15    | - |
| DO65110008                  | 8                                                                                 | N       | 24    | 60   | 15    | - |
| DO65110009                  | 9                                                                                 | N       | 24    | 60   | 15    | - |
| DO65110010                  | 10                                                                                | N       | 24    | 60   | 15    | - |
| DO65110011                  | 11                                                                                | N       | 24    | 60   | 15    | - |
| DO65110012                  | 12                                                                                | N       | 24    | 60   | 15    | - |
| DO65110013                  | 13                                                                                | N       | 24    | 60   | 15    | - |
| DO65110014                  | 14                                                                                | N       | 24    | 60   | 15    | - |
| DO65110015                  | 15                                                                                | N       | 24    | 60   | 15    | - |
| DO65110016                  | 16                                                                                | N       | 24    | 60   | 15    | - |

Universal joint sockets are not included in the Action warranty

| UNIVERSAL JOINT FOR TORX® INTERNAL5 |                                                                                    |         |       |      |       |   |
|-------------------------------------|------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type                                |  | Drawing | D2 mm | L mm | L1 mm | - |
| Metric                              |                                                                                    |         |       |      |       |   |
| DO64910020                          | T20                                                                                | N       | 24    | 60   | -     | - |
| DO64910025                          | T25                                                                                | N       | 24    | 60   | -     | - |
| DO64910027                          | T27                                                                                | N       | 24    | 60   | -     | - |
| DO64910030                          | T30                                                                                | N       | 24    | 60   | -     | - |
| DO64910040                          | T40                                                                                | N       | 24    | 60   | -     | - |
| DO64910045                          | T45                                                                                | N       | 24    | 60   | -     | - |
| DO64910047                          | T47                                                                                | N       | 24    | 60   | -     | - |
| DO64910050                          | T50                                                                                | N       | 24    | 60   | -     | - |
| DO64910055                          | T55                                                                                | N       | 24    | 60   | -     | - |

Universal joint sockets are not included in the Action warranty

| UNIVERSAL JOINT FOR TORX® EXTERNAL6 |                                                                                     |         |       |      |       |   |
|-------------------------------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type                                |  | Drawing | D2 mm | L mm | L1 mm | - |
| Metric                              |                                                                                     |         |       |      |       |   |
| DO68710005                          | E5                                                                                  | E       | 24    | 50   | 4,5   | - |
| DO68710006                          | E6                                                                                  | E       | 24    | 50   | 5     | - |
| DO68710007                          | E7                                                                                  | E       | 24    | 50   | 6     | - |
| DO68710008                          | E8                                                                                  | E       | 24    | 50   | 6     | - |
| DO68710010                          | E10                                                                                 | E       | 24    | 50   | 7,5   | - |
| DO68710012                          | E12                                                                                 | E       | 24    | 50   | 8,5   | - |
| DO68710014                          | E14                                                                                 | E       | 24    | 50   | 10    | - |
| DO68710016                          | E16                                                                                 | E       | 24    | 50   | 11    | - |

Universal joint sockets are not included in the Action warranty

PIN AND RING

| Type         |
|--------------|
| DO1014-0-000 |



3/8" & 1/2" SQUARE DRIVE



3/8" Drive

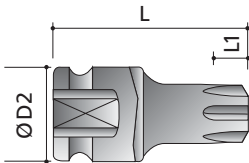
| RIBE DRIVER1 |                                                                                     |         |       |      |       |   |
|--------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type         |  | Drawing | D1 mm | L mm | L2 mm | - |
| Metric       |                                                                                     |         |       |      |       |   |
| DO65315005   | M5                                                                                  | H       | 19    | 50   | 4,5   | - |
| DO65315006   | M6                                                                                  | H       | 19    | 50   | 5     | - |
| DO65315007   | M7                                                                                  | H       | 19    | 50   | 6,5   | - |
| DO65315008   | M8                                                                                  | H       | 19    | 50   | 7,5   | - |
| DO65315010   | M10                                                                                 | H       | 19    | 50   | 9     | - |
| DO65315012   | M12                                                                                 | H       | 19    | 50   | 10    | - |
| DO65315014   | M14                                                                                 | H       | 19    | 50   | 12    | - |
| DO65315016   | M16                                                                                 | H       | 19    | 50   | 14    | - |

| TAP HOLDER2 |                                                                                     |         |         |         |        |      |
|-------------|-------------------------------------------------------------------------------------|---------|---------|---------|--------|------|
| Type        |  | Drawing | Ø D1 mm | Ø D2 mm | Ø d mm | L mm |
| Metric      |                                                                                     |         |         |         |        |      |
| DO65315005  | M5                                                                                  | H       | 19      | 50      | 4,5    | -    |
| DO65315006  | M6                                                                                  | H       | 19      | 50      | 5      | -    |
| DO65315007  | M7                                                                                  | H       | 19      | 50      | 6,5    | -    |
| DO65315008  | M8                                                                                  | H       | 19      | 50      | 7,5    | -    |
| DO65315010  | M10                                                                                 | H       | 19      | 50      | 9      | -    |
| DO65315012  | M12                                                                                 | H       | 19      | 50      | 10     | -    |
| DO65315014  | M14                                                                                 | H       | 19      | 50      | 12     | -    |
| DO65315016  | M16                                                                                 | H       | 19      | 50      | 14     | -    |

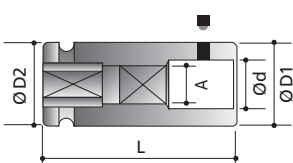
1/2" Drive

| 4-POINT NORMAL3 |                                                                                     |         |       |       |      |       |
|-----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric          |                                                                                     |         |       |       |      |       |
| DO63125007      | 7                                                                                   | A       | 17,5  | 25    | 40   | 8     |
| DO63125008      | 8                                                                                   | A       | 19    | 25    | 40   | 9     |
| DO63125010      | 10                                                                                  | A       | 21,5  | 25    | 40   | 10    |
| DO63125011      | 11                                                                                  | A       | 23    | 25    | 40   | 11    |
| DO63125012      | 12                                                                                  | A       | 24    | 25    | 40   | 12    |
| DO63125013      | 13                                                                                  | A       | 26    | 30    | 40   | 12    |
| DO63125014      | 14                                                                                  | A       | 27,5  | 30    | 40   | 20    |
| DO63125016      | 16                                                                                  | B       | 30    | 30    | 40   | 20    |
| DO63125017      | 17                                                                                  | C       | 32    | 30    | 40   | 20    |
| DO63125019      | 19                                                                                  | C       | 36    | 30    | 45   | 20    |
| DO63125021      | 21                                                                                  | C       | 40    | 30    | 45   | 20    |
| DO63125022      | 22                                                                                  | C       | 42    | 30    | 45   | 20    |
| DO63125024      | 24                                                                                  | C       | 44    | 30    | 50   | 22    |
| DO63125030      | 30                                                                                  | C       | 53    | 30    | 50   | 22    |
| DO63125032      | 32                                                                                  | C       | 56    | 30    | 50   | 22    |

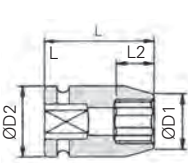
| 8-POINT4     |                                                                                       |         |       |       |      |       |
|--------------|---------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type         |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric       |                                                                                       |         |       |       |      |       |
| DO2012-8-010 | 10                                                                                    | A       | 20    | 22    | 38   | 7     |
| DO2012-8-014 | 14                                                                                    | B       | 26    | 26    | 38   | 11    |
| DO2012-8-017 | 17                                                                                    | B       | 30    | 30    | 38   | 11    |
| DO2012-8-019 | 19                                                                                    | B       | 34    | 34    | 40   | 13    |
| DO2012-8-022 | 22                                                                                    | B       | 38    | 38    | 40   | 15    |
| DO2012-8-024 | 24                                                                                    | B       | 42    | 38    | 45   | 18    |
| DO2012-8-027 | 27                                                                                    | B       | 46,5  | 46,5  | 50   | 19    |
| DO2012-8-028 | 28                                                                                    | B       | 49    | 49    | 50   | 19    |



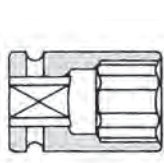
Drawing H



Drawing J



Drawing A



Drawing B



Drawing C



1/2" SQUARE DRIVE



| 6-POINT NORMAL1 |                                                                                   |         |       |       |      |       |
|-----------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric          |                                                                                   |         |       |       |      |       |
| DO2012-0-008    | 8                                                                                 | A       | 14,5  | 25    | 38   | 9     |
| DO2012-0-009    | 9                                                                                 | A       | 16    | 25    | 38   | 12    |
| DO2012-0-010    | 10                                                                                | A       | 17    | 25    | 38   | 12    |
| DO2012-0-011    | 11                                                                                | A       | 19    | 25    | 38   | 12    |
| DO2012-0-012    | 12                                                                                | A       | 20    | 24    | 38   | 12    |
| DO2012-0-013    | 13                                                                                | A       | 21    | 25    | 38   | 12    |
| DO2012-0-014    | 14                                                                                | A       | 22    | 25    | 38   | 12    |
| DO2012-0-015    | 15                                                                                | A       | 24    | 30    | 38   | 12    |
| DO2012-0-016    | 16                                                                                | A       | 25    | 30    | 38   | 12    |
| DO2012-0-017    | 17                                                                                | A       | 26    | 30    | 38   | 13    |
| DO2012-0-018    | 18                                                                                | A       | 27,5  | 30    | 38   | 13    |
| DO2012-0-019    | 19                                                                                | A       | 29    | 30    | 38   | 13    |
| DO2012-0-020    | 20                                                                                | B       | 30    | 30    | 38   | 13    |
| DO2012-0-021    | 21                                                                                | B       | 32    | 30    | 38   | 13    |
| DO2012-0-022    | 22                                                                                | C       | 32    | 30    | 38   | 13    |
| DO2012-0-023    | 23                                                                                | C       | 32,5  | 30    | 38   | 13    |
| DO2012-0-024    | 24                                                                                | C       | 35    | 30    | 45   | 20    |
| DO2012-0-025    | 25                                                                                | C       | 36    | 30    | 45   | 20    |
| DO2012-0-026    | 26                                                                                | C       | 37,5  | 30    | 45   | 22    |
| DO2012-0-027    | 27                                                                                | C       | 39    | 30    | 50   | 22    |
| DO2012-0-028    | 28                                                                                | C       | 40    | 30    | 50   | 22    |
| DO2012-0-029    | 29                                                                                | C       | 41    | 30    | 50   | 22    |
| DO2012-0-030    | 30                                                                                | C       | 42,5  | 30    | 50   | 22    |
| DO2012-0-032    | 32                                                                                | C       | 44    | 30    | 50   | 28    |
| DO2012-0-034    | 34                                                                                | C       | 45    | 30    | 50   | 28    |
| DO2012-0-036    | 36                                                                                | C       | 48    | 30    | 50   | 28    |
| DO2012-0-038    | 38                                                                                | C       | 53    | 38    | 50   | 24    |
| DO2012-0-041    | 41                                                                                | C       | 58    | 44    | 60   | 27    |
| DO2012-0-046    | 46                                                                                | C       | 65    | 44    | 70   | 30    |
| DO2012-0-050    | 50                                                                                | C       | 70    | 52    | 70   | 32    |

| 6-POINT NORMAL1 |                                                                                     |         |       |       |      |       |
|-----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Inch            |                                                                                     |         |       |       |      |       |
| DO2012-0-3/8    | 3/8"                                                                                | A       | 16    | 22    | 38   | 12    |
| DO2012-0-7/16   | 7/16"                                                                               | A       | 18    | 22    | 38   | 12    |
| DO2012-0-1/2    | 1/2"                                                                                | A       | 20    | 22    | 38   | 12    |
| DO2012-0-9/16   | 9/16"                                                                               | A       | 22    | 24    | 38   | 12    |
| DO2012-0-5/8    | 5/8"                                                                                | B       | 25    | 25    | 38   | 12    |
| DO2012-0-11/16  | 11/16"                                                                              | B       | 26    | 26    | 38   | 13    |
| DO2012-0-3/4    | 3/4"                                                                                | B       | 28    | 28    | 38   | 13    |
| DO2012-0-13/16  | 13/16"                                                                              | B       | 30    | 30    | 38   | 13    |
| DO2012-0-7/8    | 7/8"                                                                                | B       | 32    | 32    | 38   | 13    |
| DO2012-0-15/16  | 15/16"                                                                              | B       | 34    | 34    | 38   | 13    |
| DO2012-0-1      | 1"                                                                                  | B       | 36    | 36    | 38   | 14    |
| DO2012-0-1 1/16 | 1 1/16"                                                                             | B       | 38    | 38    | 40   | 16    |
| DO2012-0-1 1/8  | 1 1/8"                                                                              | C       | 40    | 38    | 40   | 16    |
| DO2012-0-1 3/16 | 1 3/16"                                                                             | C       | 42    | 38    | 40   | 16    |
| DO2012-0-1 1/4  | 1 1/4"                                                                              | C       | 44    | 38    | 40   | 18    |
| DO2012-0-1 3/8  | 1 3/8"                                                                              | C       | 48,5  | 38    | 50   | 26    |
| DO2012-0-1 7/16 | 1 7/16"                                                                             | C       | 50,5  | 38    | 50   | 26    |
| DO2012-0-1 1/2  | 1 1/2"                                                                              | C       | 52,5  | 38    | 50   | 26    |

| 6-POINT NORMAL MAGNETIC2 |                                                                                   |         |       |       |      |       |
|--------------------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                     |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                   |                                                                                   |         |       |       |      |       |
| DO6052P008               | 8                                                                                 | A       | 15    | 25    | 38   | 3     |
| DO6052P009               | 9                                                                                 | A       | 16    | 25    | 38   | 4     |
| DO6052P010               | 10                                                                                | A       | 17,5  | 25    | 38   | 4     |
| DO6052P011               | 11                                                                                | A       | 18,5  | 25    | 38   | 5     |
| DO6052P012               | 12                                                                                | A       | 20    | 25    | 38   | 5     |
| DO6052P013               | 13                                                                                | A       | 21    | 25    | 38   | 5     |
| DO6052P014               | 14                                                                                | A       | 22,5  | 25    | 38   | 6     |
| DO6052P015               | 15                                                                                | A       | 23,7  | 30    | 38   | 6     |
| DO6052P016               | 16                                                                                | A       | 25    | 30    | 38   | 6     |
| DO6052P017               | 17                                                                                | A       | 26,5  | 30    | 38   | 6     |
| DO6052P018               | 18                                                                                | A       | 27,5  | 30    | 38   | 7     |
| DO6052P019               | 19                                                                                | A       | 29    | 30    | 38   | 7     |
| DO6052P020               | 20                                                                                | B       | 30    | 30    | 38   | 7     |
| DO6052P021               | 21                                                                                | C       | 31    | 30    | 38   | 8     |
| DO6052P022               | 22                                                                                | C       | 32,5  | 30    | 38   | 8     |
| DO6052P024               | 24                                                                                | C       | 35    | 30    | 45   | 10    |

| 6-POINT DEEP3 |                                                                                    |         |       |       |      |       |
|---------------|------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type          |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric        |                                                                                    |         |       |       |      |       |
| DO2012-1-008  | 8                                                                                  | A       | 14,5  | 25    | 78   | 13    |
| DO2012-1-009  | 9                                                                                  | A       | 16    | 25    | 78   | 14    |
| DO2012-1-010  | 10                                                                                 | A       | 17    | 25    | 78   | 14    |
| DO2012-1-011  | 11                                                                                 | A       | 18    | 25    | 78   | 14    |
| DO2012-1-012  | 12                                                                                 | A       | 19,5  | 25    | 78   | 14    |
| DO2012-1-013  | 13                                                                                 | A       | 21    | 25    | 78   | 14    |
| DO2012-1-014  | 14                                                                                 | A       | 22    | 25    | 78   | 17    |
| DO2012-1-015  | 15                                                                                 | A       | 23,5  | 30    | 78   | 17    |
| DO2012-1-016  | 16                                                                                 | A       | 23,5  | 30    | 78   | 17    |
| DO2012-1-017  | 17                                                                                 | A       | 26    | 30    | 78   | 17    |
| DO2012-1-018  | 18                                                                                 | A       | 26    | 30    | 78   | 17    |
| DO2012-1-019  | 19                                                                                 | A       | 28    | 30    | 78   | 19    |
| DO2012-1-020  | 20                                                                                 | B       | 30,5  | 30    | 78   | 19    |
| DO2012-1-021  | 21                                                                                 | B       | 31    | 30    | 78   | 24    |
| DO2012-1-022  | 22                                                                                 | C       | 32,5  | 30    | 78   | 24    |
| DO2012-1-023  | 23                                                                                 | C       | 32,5  | 30    | 78   | 24    |
| DO2012-1-024  | 24                                                                                 | C       | 35    | 30    | 78   | 24    |
| DO2012-1-025  | 25                                                                                 | C       | 36    | 30    | 78   | 24    |
| DO2012-1-026  | 26                                                                                 | C       | 37,5  | 30    | 78   | 24    |
| DO2012-1-027  | 27                                                                                 | C       | 38    | 30    | 78   | 24    |
| DO2012-1-028  | 28                                                                                 | C       | 40    | 30    | 78   | 24    |
| DO2012-1-029  | 29                                                                                 | C       | 40    | 30    | 78   | 24    |
| DO2012-1-030  | 30                                                                                 | C       | 42    | 30    | 78   | 24    |
| DO2012-1-031  | 31                                                                                 | C       | 43    | 30    | 78   | 24    |
| DO2012-1-032  | 32                                                                                 | C       | 45    | 30    | 78   | 24    |
| DO2012-1-033  | 33                                                                                 | C       | 45    | 30    | 90   | 24    |
| DO2012-1-034  | 34                                                                                 | C       | 45    | 30    | 90   | 24    |
| DO2012-1-035  | 35                                                                                 | C       | 47    | 30    | 90   | 24    |
| DO2012-1-036  | 36                                                                                 | C       | 49    | 30    | 90   | 24    |
| DO2012-1-041  | 41                                                                                 | C       | 48    | 44    | 93   | 58    |
| DO2012-1-046  | 46                                                                                 | C       | 65    | 44    | 93   | 58    |

1/2" SQUARE DRIVE



| 6-POINT DEEP1  |                                                                                     |         |       |       |      |       |
|----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Inch           |                                                                                     |         |       |       |      |       |
| DO2012-1-3/8   | 7/16"                                                                               | A       | 16    | 22    | 78   | 14    |
| DO2012-1-7/16  | 7/16"                                                                               | A       | 18    | 22    | 78   | 14    |
| DO2012-1-1/2   | 1/2"                                                                                | A       | 20    | 22    | 78   | 14    |
| DO2012-1-9/16  | 9/16"                                                                               | A       | 22    | 24    | 78   | 17    |
| DO2012-1-5/8   | 5/8"                                                                                | B       | 26    | 26    | 78   | 17    |
| DO2012-1-11/16 | 11/16"                                                                              | B       | 26    | 26    | 78   | 17    |
| DO2012-1-3/4   | 3/4"                                                                                | B       | 28    | 28    | 78   | 19    |
| DO2012-1-13/16 | 13/16"                                                                              | B       | 30    | 30    | 78   | 24    |
| DO2012-1-7/8   | 7/8"                                                                                | B       | 32    | 32    | 78   | 24    |
| DO2012-1-15/16 | 15/16"                                                                              | B       | 28    | 28    | 78   | 19    |
| DO2012-1-1     | 1"                                                                                  | B       | 36    | 36    | 78   | 24    |
| DO2012-1-1/16  | 1-1/16"                                                                             | B       | 38    | 38    | 78   | 24    |
| DO2012-1-1/8   | 1-1/8"                                                                              | C       | 38    | 38    | 78   | 24    |
| DO2012-1-3/16  | 1-3/16"                                                                             | C       | 42    | 38    | 78   | 24    |
| DO2012-1-1/4   | 1-1/4"                                                                              | C       | 44    | 38    | 78   | 24    |
| DO2012-1-5/16  | 1-5/16"                                                                             | C       | 45    | 38    | 78   | 24    |
| DO2012-1-3/8   | 1-3/8"                                                                              | C       | 48,5  | 38    | 78   | 24    |
| DO2012-1-7/16  | 1-7/16"                                                                             | C       | 50,5  | 38    | 78   | 24    |
| DO2012-1-1/2   | 1-1/2"                                                                              | C       | 52,5  | 38    | 78   | 24    |

| 6-POINT DEEP MAGNETIC2 |                                                                                       |         |       |       |      |       |
|------------------------|---------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                   |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                 |                                                                                       |         |       |       |      |       |
| DO6052R008             | 8                                                                                     | A       | 15    | 25    | 78   | 3     |
| DO6052R009             | 9                                                                                     | A       | 16    | 25    | 78   | 4     |
| DO6052R010             | 10                                                                                    | A       | 17,5  | 25    | 78   | 4     |
| DO6052R011             | 11                                                                                    | A       | 18,5  | 25    | 78   | 5     |
| DO6052R012             | 12                                                                                    | A       | 20    | 25    | 78   | 5     |
| DO6052R013             | 13                                                                                    | A       | 21    | 25    | 78   | 5     |
| DO6052R014             | 14                                                                                    | A       | 22,5  | 25    | 78   | 6     |
| DO6052R015             | 15                                                                                    | A       | 23,7  | 30    | 78   | 6     |
| DO6052R016             | 16                                                                                    | A       | 25    | 30    | 78   | 6     |
| DO6052R017             | 17                                                                                    | A       | 26,5  | 30    | 78   | 6     |
| DO6052R018             | 18                                                                                    | A       | 27,5  | 30    | 78   | 7     |
| DO6052R019             | 19                                                                                    | A       | 29    | 30    | 78   | 7     |
| DO6052R020             | 20                                                                                    | B       | 30    | 30    | 78   | 7     |
| DO6052R021             | 21                                                                                    | C       | 31    | 30    | 78   | 8     |
| DO6052R022             | 22                                                                                    | C       | 32,5  | 30    | 78   | 8     |
| DO6052R024             | 24                                                                                    | C       | 35    | 30    | 78   | 10    |

| 6-POINT THIN WALL NORMAL3 |                                                                                     |         |       |       |      |       |
|---------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                      |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Inch                      |                                                                                     |         |       |       |      |       |
| DO61120008                | 8                                                                                   | A       | 13    | 25    | 38   | 6     |
| DO61120009                | 9                                                                                   | A       | 14,5  | 25    | 38   | 6     |
| DO61120010                | 10                                                                                  | A       | 15,5  | 25    | 38   | 7     |
| DO61120011                | 11                                                                                  | A       | 16,7  | 25    | 38   | 8     |
| DO61120012                | 12                                                                                  | A       | 18    | 25    | 38   | 9     |
| DO61120013                | 13                                                                                  | A       | 19,2  | 25    | 38   | 9     |
| DO61120014                | 14                                                                                  | A       | 21    | 25    | 38   | 11    |
| DO61120015                | 15                                                                                  | A       | 21,7  | 30    | 38   | 11    |
| DO61120016                | 16                                                                                  | A       | 23    | 30    | 38   | 11    |
| DO61120017                | 17                                                                                  | B       | 24    | 30    | 38   | 11    |
| DO61120018                | 18                                                                                  | B       | 25    | 30    | 38   | 13    |
| DO61120019                | 19                                                                                  | B       | 26    | 30    | 38   | 13    |
| DO61120020                | 20                                                                                  | B       | 27,5  | 30    | 38   | 13    |
| DO61120021                | 21                                                                                  | B       | 28    | 30    | 38   | 15    |
| DO61120022                | 22                                                                                  | B       | 29,5  | 30    | 38   | 15    |
| DO61120023                | 23                                                                                  | C       | 30,5  | 30    | 38   | 15    |
| DO61120024                | 24                                                                                  | C       | 32    | 30    | 45   | 18    |
| DO61120030                | 30                                                                                  | C       | 40    | 30    | 50   | 21    |

Thin wall sockets are not included in the Action warranty

| 6-POINT THIN WALL DEEP |                                                                                       |         |          |          |         | 4        |
|------------------------|---------------------------------------------------------------------------------------|---------|----------|----------|---------|----------|
| Type                   |  | Drawing | D1<br>mm | D2<br>mm | L<br>mm | L2<br>mm |
| Metric                 |                                                                                       |         |          |          |         |          |
| DO61122008             | 8                                                                                     | A       | 14       | 22       | 78      | 13       |
| DO61122009             | 9                                                                                     | A       | 14,5     | 22       | 78      | 14       |
| DO61122010             | 10                                                                                    | A       | 15,5     | 22       | 78      | 14       |
| DO61122011             | 11                                                                                    | A       | 16,7     | 22       | 78      | 14       |
| DO61122012             | 12                                                                                    | A       | 18       | 22       | 78      | 14       |
| DO61122013             | 13                                                                                    | A       | 19,2     | 24       | 78      | 14       |
| DO61122014             | 14                                                                                    | A       | 21       | 24       | 78      | 17       |
| DO61122015             | 15                                                                                    | A       | 21,7     | 24       | 78      | 17       |
| DO61122016             | 16                                                                                    | A       | 23       | 24       | 78      | 17       |
| DO61122017             | 17                                                                                    | B       | 24       | 24       | 78      | 17       |
| DO61122018             | 18                                                                                    | B       | 25       | 25       | 78      | 17       |
| DO61122019             | 19                                                                                    | B       | 26       | 26       | 78      | 19       |
| DO61122020             | 20                                                                                    | B       | 27,5     | 27,5     | 78      | 19       |
| DO61122021             | 21                                                                                    | B       | 28       | 28       | 78      | 24       |
| DO61122022             | 22                                                                                    | B       | 29,5     | 29,5     | 78      | 24       |
| DO61122023             | 23                                                                                    | B       | 30,5     | 30,5     | 78      | 24       |
| DO61122024             | 24                                                                                    | B       | 32       | 32       | 78      | 24       |
| DO61122025             | 25                                                                                    | B       | 33       | 33       | 78      | 24       |
| DO61122026             | 26                                                                                    | B       | 35       | 35       | 78      | 24       |
| DO61122027             | 27                                                                                    | B       | 36       | 36       | 78      | 24       |
| DO61122028             | 28                                                                                    | B       | 37,5     | 37,5     | 78      | 24       |
| DO61122030             | 30                                                                                    | C       | 40       | 38       | 78      | 24       |
| DO61122031             | 31                                                                                    | C       | 41       | 38       | 78      | 24       |
| DO61122032             | 32                                                                                    | C       | 42       | 38       | 78      | 24       |

1/2" SQUARE DRIVE



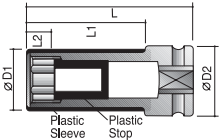
| 6-POINT L=1501 |                                                                                   |         |       |       |      |       |
|----------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                                                                   |         |       |       |      |       |
| DO60725008     | 8                                                                                 | G       | 15    | 25    | 150  | 10    |
| DO60725010     | 10                                                                                | G       | 17,5  | 25    | 150  | 12    |
| DO60725012     | 12                                                                                | G       | 19,5  | 25    | 150  | 12    |
| DO60725013     | 13                                                                                | G       | 21    | 25    | 150  | 12    |
| DO60725014     | 14                                                                                | G       | 22,5  | 25    | 150  | 12    |
| DO60725015     | 15                                                                                | G       | 23,5  | 30    | 150  | 12    |
| DO60725017     | 17                                                                                | G       | 26    | 30    | 150  | 13    |
| DO60725019     | 19                                                                                | G       | 28,5  | 30    | 150  | 13    |
| DO60725020     | 20                                                                                | G       | 30    | 30    | 150  | 13    |
| DO60725021     | 21                                                                                | G       | 31    | 30    | 150  | 13    |
| DO60725022     | 22                                                                                | G       | 32    | 30    | 150  | 14    |
| DO60725024     | 24                                                                                | G       | 34    | 30    | 150  | 14    |
| DO60725025     | 25                                                                                | G       | 36    | 30    | 150  | 15    |

| 6-POINT L=2002 |                                                                                   |         |       |       |      |       |
|----------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                                                                   |         |       |       |      |       |
| DO60726008     | 8                                                                                 | G       | 15    | 25    | 200  | 10    |
| DO60726010     | 10                                                                                | G       | 17,5  | 25    | 200  | 12    |
| DO60726012     | 12                                                                                | G       | 20    | 25    | 200  | 12    |
| DO60726013     | 13                                                                                | G       | 20    | 25    | 200  | 12    |
| DO60726014     | 14                                                                                | G       | 21    | 25    | 200  | 12    |
| DO60726015     | 15                                                                                | G       | 23,5  | 30    | 200  | 12    |
| DO60726017     | 17                                                                                | G       | 26    | 30    | 200  | 13    |
| DO60726019     | 19                                                                                | G       | 28,5  | 30    | 200  | 13    |
| DO60726020     | 20                                                                                | G       | 30    | 30    | 200  | 13    |
| DO60726021     | 21                                                                                | G       | 31    | 30    | 200  | 13    |

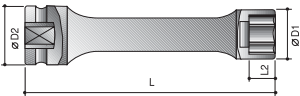
| 6-POINT L=2503 |                                                                                     |         |       |       |      |       |
|----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                                                                     |         |       |       |      |       |
| DO60727008     | 8                                                                                   | G       | 15    | 25    | 250  | 10    |
| DO60727010     | 10                                                                                  | G       | 17,5  | 25    | 250  | 12    |
| DO60727012     | 12                                                                                  | G       | 20    | 25    | 250  | 12    |
| DO60727013     | 13                                                                                  | G       | 20,5  | 25    | 250  | 12    |
| DO60727014     | 14                                                                                  | G       | 22,5  | 25    | 250  | 12    |
| DO60727015     | 15                                                                                  | G       | 23,5  | 30    | 250  | 12    |
| DO60727017     | 17                                                                                  | G       | 26    | 30    | 250  | 13    |
| DO60727019     | 19                                                                                  | G       | 28,5  | 30    | 250  | 13    |
| DO60727020     | 20                                                                                  | G       | 30    | 30    | 250  | 13    |
| DO60727021     | 21                                                                                  | G       | 31    | 30    | 250  | 13    |
| DO60727022     | 22                                                                                  | G       | 32    | 30    | 250  | 14    |

| 6-POINT THIN WALL DEEP WITH PLASTIC STOP AND SLEEVE 3 |                                                                                   |         |       |       |      |       |  |
|-------------------------------------------------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|--|
| Type                                                  |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |  |
| Metric                                                |                                                                                   |         |       |       |      |       |  |
| DO61126015 (wit)                                      | 15                                                                                | H       | 22    | 30    | 85   | 13    |  |
| DO61126017 (blauw)                                    | 17                                                                                | H       | 27    | 30    | 85   | 14    |  |
| DO61126019 (geel)                                     | 19                                                                                | H       | 29    | 30    | 85   | 15    |  |
| DO61126021 (rood)                                     | 21                                                                                | H       | 31    | 30    | 85   | 17    |  |
| DO61126022 (groen)                                    | 22                                                                                | H       | 32,5  | 30    | 85   | 18    |  |
|                                                       |                                                                                   |         |       |       |      |       |  |
| DO6112J017 (blauw)                                    | 17                                                                                | H       | 27    | 25    | 130  | 24    |  |
| DO6112J019 (geel)                                     | 19                                                                                | H       | 29    | 30    | 130  | 24    |  |
| DO6112J021 (rood)                                     | 21                                                                                | H       | 31    | 30    | 130  | 24    |  |
| DO6112J022 (groen)                                    | 22                                                                                | H       | 32,5  | 30    | 130  | 24    |  |

Thin wall sockets are not included in the Action warranty



Drawing H

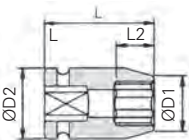


Drawing G

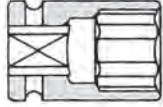
1/2" SQUARE DRIVE



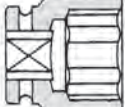
| 12-POINT NORMAL1 |                                                                                     |         |       |       |      |       |
|------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type             |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric           |                                                                                     |         |       |       |      |       |
| DO63825006       | 6                                                                                   | A       | 13    | 25    | 38   | 5     |
| DO63825008       | 8                                                                                   | A       | 14    | 25    | 38   | 6     |
| DO63825009       | 9                                                                                   | A       | 16    | 25    | 38   | 6     |
| DO63825010       | 10                                                                                  | A       | 17,5  | 25    | 38   | 7     |
| DO63825011       | 11                                                                                  | A       | 19    | 25    | 38   | 8     |
| DO63825012       | 12                                                                                  | A       | 20    | 25    | 38   | 9     |
| DO63825013       | 13                                                                                  | A       | 21    | 25    | 38   | 9     |
| DO63825014       | 14                                                                                  | A       | 22,5  | 25    | 38   | 11    |
| DO63825015       | 15                                                                                  | A       | 23,5  | 30    | 38   | 11    |
| DO63825016       | 16                                                                                  | A       | 25    | 30    | 38   | 11    |
| DO63825017       | 17                                                                                  | A       | 26,5  | 30    | 40   | 11    |
| DO63825018       | 18                                                                                  | A       | 27,5  | 30    | 40   | 13    |
| DO63825019       | 19                                                                                  | A       | 29    | 30    | 40   | 13    |
| DO63825020       | 20                                                                                  | B       | 30    | 30    | 40   | 13    |
| DO63825021       | 21                                                                                  | C       | 31    | 30    | 40   | 15    |
| DO63825022       | 22                                                                                  | C       | 32,5  | 30    | 40   | 15    |
| DO63825023       | 23                                                                                  | C       | 34    | 30    | 40   | 15    |
| DO63825024       | 24                                                                                  | C       | 35    | 30    | 45   | 18    |
| DO63825025       | 25                                                                                  | C       | 36    | 30    | 45   | 18    |
| DO63825026       | 26                                                                                  | C       | 38    | 30    | 50   | 18    |
| DO63825027       | 27                                                                                  | C       | 39    | 30    | 50   | 19    |
| DO63825028       | 28                                                                                  | C       | 40    | 30    | 50   | 19    |
| DO63825029       | 29                                                                                  | C       | 41    | 30    | 50   | 19    |
| DO63825030       | 30                                                                                  | C       | 42,5  | 30    | 50   | 21    |
| DO63825032       | 32                                                                                  | C       | 44    | 30    | 50   | 22    |
| DO63825033       | 33                                                                                  | C       | 46,5  | 30    | 50   | 22    |
| DO63825036       | 36                                                                                  | C       | 50,5  | 30    | 50   | 24    |
| DO63825041       | 41                                                                                  | C       | 58,5  | 44    | 60   | 27    |
| DO63825046       | 46                                                                                  | C       | 65    | 44    | 70   | 30    |



Drawing A



Drawing B



Drawing C

| 12-POINT DEEP2 |                                                                                     |         |       |       |      |       |
|----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type           |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                                                                     |         |       |       |      |       |
| DO65827006     | 6                                                                                   | A       | 13    | 25    | 83   | 5     |
| DO65827007     | 7                                                                                   | A       | 14    | 25    | 83   | 5     |
| DO65827008     | 8                                                                                   | A       | 15    | 25    | 83   | 6     |
| DO65827009     | 9                                                                                   | A       | 16    | 25    | 83   | 6     |
| DO65827010     | 10                                                                                  | A       | 17,5  | 25    | 83   | 7     |
| DO65827011     | 11                                                                                  | A       | 19    | 25    | 83   | 8     |
| DO65827012     | 12                                                                                  | A       | 20    | 25    | 83   | 9     |
| DO65827013     | 13                                                                                  | A       | 21    | 25    | 83   | 9     |
| DO65827014     | 14                                                                                  | A       | 22,5  | 25    | 83   | 11    |
| DO65827015     | 15                                                                                  | A       | 23,5  | 30    | 83   | 11    |
| DO65827016     | 16                                                                                  | A       | 25    | 30    | 83   | 11    |
| DO65827017     | 17                                                                                  | A       | 26,5  | 30    | 83   | 11    |
| DO65827018     | 18                                                                                  | A       | 27,5  | 30    | 83   | 13    |
| DO65827019     | 19                                                                                  | A       | 29    | 30    | 83   | 13    |
| DO65827020     | 20                                                                                  | B       | 30    | 30    | 83   | 13    |
| DO65827021     | 21                                                                                  | C       | 31    | 30    | 83   | 15    |
| DO65827022     | 22                                                                                  | C       | 32,5  | 30    | 90   | 15    |
| DO65827023     | 23                                                                                  | C       | 34    | 30    | 90   | 15    |
| DO65827024     | 24                                                                                  | C       | 35    | 30    | 90   | 18    |
| DO65827025     | 25                                                                                  | C       | 36    | 30    | 90   | 18    |
| DO65827026     | 26                                                                                  | C       | 38    | 30    | 90   | 18    |
| DO65827027     | 27                                                                                  | C       | 39    | 30    | 90   | 19    |
| DO65827028     | 28                                                                                  | C       | 40    | 30    | 90   | 19    |
| DO65827029     | 29                                                                                  | C       | 41    | 30    | 90   | 19    |
| DO65827030     | 30                                                                                  | C       | 42,5  | 30    | 90   | 21    |
| DO65827031     | 31                                                                                  | C       | 44    | 30    | 90   | 21    |
| DO65827032     | 32                                                                                  | C       | 45    | 30    | 90   | 22    |
| DO65827033     | 33                                                                                  | C       | 46,5  | 30    | 90   | 22    |
| DO65827034     | 34                                                                                  | C       | 48    | 30    | 90   | 22    |
| DO65827035     | 35                                                                                  | C       | 49,5  | 30    | 90   | 22    |
| DO65827036     | 36                                                                                  | C       | 50,5  | 30    | 90   | 24    |
| DO65827038     | 38                                                                                  | C       | 53    | 38    | 90   | 24    |
| DO65827039     | 39                                                                                  | C       | 54,5  | 44    | 93   | 24    |
| DO65827040     | 40                                                                                  | C       | 56    | 44    | 93   | 58    |
| DO65827041     | 41                                                                                  | C       | 58    | 44    | 93   | 58    |
| DO65827042     | 42                                                                                  | C       | 60    | 44    | 93   | 58    |
| DO65827043     | 43                                                                                  | C       | 61    | 44    | 93   | 58    |
| DO65827044     | 44                                                                                  | C       | 63    | 44    | 93   | 58    |
| DO65827045     | 45                                                                                  | C       | 64    | 44    | 93   | 58    |
| DO65827046     | 46                                                                                  | C       | 65    | 44    | 93   | 58    |
| DO65827047     | 47                                                                                  | C       | 66,5  | 44    | 93   | 58    |
| DO65827048     | 48                                                                                  | C       | 68    | 44    | 93   | 58    |
| DO65827049     | 49                                                                                  | C       | 69    | 44    | 93   | 58    |
| DO65827050     | 50                                                                                  | C       | 70    | 52    | 93   | 58    |
| DO65827052     | 52                                                                                  | C       | 72,5  | 52    | 93   | 58    |
| DO65827054     | 54                                                                                  | C       | 75    | 52    | 93   | 58    |
| DO65827056     | 56                                                                                  | C       | 77    | 52    | 93   | 58    |
| DO65827057     | 57                                                                                  | C       | 78    | 52    | 93   | 58    |
| DO65827058     | 58                                                                                  | C       | 79    | 52    | 93   | 58    |



1/2" SQUARE DRIVE

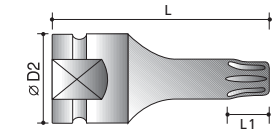


| SURFACE DRIVE NORMAL1 |                                                                                   |         |       |       |      |       |
|-----------------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                  |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                |                                                                                   |         |       |       |      |       |
| DO63425010            | 10                                                                                | A       | 17,5  | 25    | 38   | 12    |
| DO63425011            | 11                                                                                | A       | 18,7  | 25    | 38   | 12    |
| DO63425012            | 12                                                                                | A       | 20    | 25    | 38   | 12    |
| DO63425013            | 13                                                                                | A       | 21    | 25    | 38   | 12    |
| DO63425014            | 14                                                                                | A       | 22,5  | 25    | 38   | 12    |
| DO63425015            | 15                                                                                | A       | 23,7  | 30    | 38   | 12    |
| DO63425016            | 16                                                                                | A       | 25    | 30    | 38   | 12    |
| DO63425017            | 17                                                                                | A       | 26    | 30    | 38   | 13    |
| DO63425018            | 18                                                                                | A       | 27,5  | 30    | 38   | 13    |
| DO63425019            | 19                                                                                | A       | 28,7  | 30    | 38   | 13    |
| DO63425020            | 20                                                                                | B       | 30    | 30    | 38   | 13    |
| DO63425021            | 21                                                                                | B       | 30    | 30    | 38   | 13    |
| DO63425022            | 22                                                                                | C       | 32    | 30    | 38   | 13    |
| DO63425023            | 23                                                                                | C       | 32    | 30    | 38   | 13    |
| DO63425024            | 24                                                                                | C       | 35    | 30    | 45   | 20    |
| DO63425026            | 26                                                                                | C       | 38    | 30    | 50   | 22    |
| DO63425027            | 27                                                                                | C       | 38,7  | 30    | 50   | 22    |
| DO63425029            | 29                                                                                | C       | 40    | 30    | 50   | 22    |
| DO63425030            | 30                                                                                | C       | 42    | 30    | 50   | 22    |
| DO63425032            | 32                                                                                | C       | 44    | 30    | 50   | 22    |

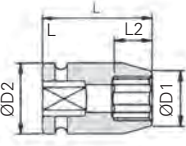
| SURFACE DRIVE DEEP2 |                                                                                     |         |       |       |      |       |
|---------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric              |                                                                                     |         |       |       |      |       |
| DO63427010          | 10                                                                                  | A       | 17,5  | 25    | 83   | 14    |
| DO63427011          | 11                                                                                  | A       | 18,7  | 25    | 83   | 14    |
| DO63427012          | 12                                                                                  | A       | 20    | 25    | 83   | 14    |
| DO63427013          | 13                                                                                  | A       | 21    | 25    | 83   | 14    |
| DO63427014          | 14                                                                                  | A       | 22,5  | 25    | 83   | 17    |
| DO63427015          | 15                                                                                  | A       | 23,7  | 30    | 83   | 17    |
| DO63427016          | 16                                                                                  | A       | 25    | 30    | 83   | 17    |
| DO63427017          | 17                                                                                  | A       | 26    | 30    | 83   | 17    |
| DO63427018          | 18                                                                                  | A       | 27,5  | 30    | 83   | 17    |
| DO63427019          | 19                                                                                  | A       | 28,7  | 30    | 83   | 19    |
| DO63427020          | 20                                                                                  | B       | 30    | 30    | 83   | 19    |
| DO63427021          | 21                                                                                  | B       | 30    | 30    | 83   | 24    |
| DO63427022          | 22                                                                                  | C       | 32    | 30    | 90   | 24    |
| DO63427023          | 23                                                                                  | C       | 32    | 30    | 90   | 24    |
| DO63427024          | 24                                                                                  | C       | 35    | 30    | 90   | 24    |
| DO63427026          | 26                                                                                  | C       | 38    | 30    | 90   | 24    |
| DO63427027          | 27                                                                                  | C       | 38,7  | 30    | 90   | 24    |
| DO63427029          | 29                                                                                  | C       | 40    | 30    | 90   | 24    |
| DO63427030          | 30                                                                                  | C       | 42    | 30    | 90   | 24    |
| DO63427032          | 32                                                                                  | C       | 44    | 30    | 90   | 24    |

| TORX® INTERNAL3 |                                                                                   |         |       |      |       |   |
|-----------------|-----------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type            |  | Drawing | D2 mm | L mm | L1 mm | - |
| Metric          |                                                                                   |         |       |      |       |   |
| DO64721020      | T20                                                                               | F       | 25    | 2,8  | 55    | - |
| DO64721025      | T25                                                                               | F       | 25    | 3,0  | 55    | - |
| DO64721027      | T27                                                                               | F       | 25    | 3,0  | 55    | - |
| DO64721030      | T30                                                                               | F       | 25    | 3,8  | 55    | - |
| DO64721040      | T40                                                                               | F       | 25    | 3,8  | 55    | - |
| DO64721045      | T45                                                                               | F       | 25    | 4,3  | 55    | - |
| DO64721047      | T47                                                                               | F       | 25    | 5,0  | 55    | - |
| DO64721050      | T50                                                                               | F       | 25    | 5,0  | 55    | - |
| DO64721055      | T55                                                                               | F       | 25    | 5,5  | 55    | - |
| DO64721060      | T60                                                                               | F       | 25    | 8,0  | 55    | - |
| DO64721070      | T70                                                                               | F       | 25    | 9,4  | 55    | - |

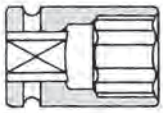
| TORX® INTERNAL LONG4 |                                                                                   |         |       |      |       |   |
|----------------------|-----------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Type                 |  | Drawing | D2 mm | L mm | L1 mm | - |
| Metric               |                                                                                   |         |       |      |       |   |
| DO64722020           | T20                                                                               | F       | 25    | 2,8  | 75    | - |
| DO64722025           | T25                                                                               | F       | 25    | 3,0  | 75    | - |
| DO64722027           | T27                                                                               | F       | 25    | 3,0  | 75    | - |
| DO64722030           | T30                                                                               | F       | 25    | 3,8  | 75    | - |
| DO64722040           | T40                                                                               | F       | 25    | 3,8  | 75    | - |
| DO64722045           | T45                                                                               | F       | 25    | 4,3  | 75    | - |
| DO64722047           | T47                                                                               | F       | 25    | 5,0  | 75    | - |
| DO64722050           | T50                                                                               | F       | 25    | 5,0  | 75    | - |
| DO64722055           | T55                                                                               | F       | 25    | 5,5  | 75    | - |
| DO64722060           | T60                                                                               | F       | 25    | 8,0  | 75    | - |
| DO64722070           | T70                                                                               | F       | 25    | 9,4  | 75    | - |
| DO64725025           | T25                                                                               | F       | 25    | 3,0  | 150   | - |
| DO64725027           | T27                                                                               | F       | 25    | 3,0  | 150   | - |
| DO64725030           | T30                                                                               | F       | 25    | 3,8  | 150   | - |
| DO64725040           | T40                                                                               | F       | 25    | 3,8  | 150   | - |
| DO64725045           | T45                                                                               | F       | 25    | 4,3  | 150   | - |



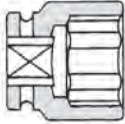
Drawing F



Drawing A



Drawing B



Drawing C

1/2" SQUARE DRIVE



| TORX® TAMPER RESISTANT INTERNAL1 |                                                                                     |         |       |       |      |   |
|----------------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|---|
| Type                             |  | Drawing | D2 mm | L1 mm | L mm | - |
| DO64726020                       | T20                                                                                 | F       | 25    | 2,8   | 55   | - |
| DO64726025                       | T25                                                                                 | F       | 25    | 3,0   | 55   | - |
| DO64726027                       | T27                                                                                 | F       | 25    | 3,0   | 55   | - |
| DO64726030                       | T30                                                                                 | F       | 25    | 3,8   | 55   | - |
| DO64726040                       | T40                                                                                 | F       | 25    | 3,8   | 55   | - |
| DO64726045                       | T45                                                                                 | F       | 25    | 4,3   | 55   | - |
| DO64726047                       | T47                                                                                 | F       | 25    | 5,0   | 55   | - |
| DO64726050                       | T50                                                                                 | F       | 25    | 5,0   | 55   | - |
| DO64726055                       | T55                                                                                 | F       | 25    | 5,5   | 55   | - |
| DO64726060                       | T60                                                                                 | F       | 25    | 8,0   | 55   | - |
| DO64726070                       | T70                                                                                 | F       | 25    | 9,4   | 55   | - |

| TORX® TAMPER RESISTANT INTERNAL LONG2 |                                                                                     |         |       |       |      |   |
|---------------------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|---|
| Type                                  |  | Drawing | D2 mm | L1 mm | L mm | - |
| DO64727020                            | T20                                                                                 | F       | 25    | 2,8   | 75   | - |
| DO64727025                            | T25                                                                                 | F       | 25    | 3,0   | 75   | - |
| DO64727027                            | T27                                                                                 | F       | 25    | 3,0   | 75   | - |
| DO64727030                            | T30                                                                                 | F       | 25    | 3,8   | 75   | - |
| DO64727040                            | T40                                                                                 | F       | 25    | 3,8   | 75   | - |
| DO64727045                            | T45                                                                                 | F       | 25    | 4,3   | 75   | - |
| DO64727047                            | T47                                                                                 | F       | 25    | 5,0   | 75   | - |
| DO64727050                            | T50                                                                                 | F       | 25    | 5,0   | 75   | - |
| DO64727055                            | T55                                                                                 | F       | 25    | 5,5   | 75   | - |
| DO64727060                            | T60                                                                                 | F       | 25    | 8,0   | 75   | - |
| DO64727070                            | T70                                                                                 | F       | 25    | 9,4   | 75   | - |

| TORX® EXTERNAL3 |                                                                                       |         |       |       |      |       |
|-----------------|---------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| DO63320010      | E10                                                                                   | A       | 15    | 25    | 38   | 7,5   |
| DO63320011      | E11                                                                                   | A       | 15,5  | 25    | 38   | 8     |
| DO63320012      | E12                                                                                   | A       | 16    | 25    | 38   | 8,5   |
| DO63320014      | E14                                                                                   | A       | 18,5  | 25    | 38   | 10    |
| DO63320016      | E16                                                                                   | A       | 20    | 25    | 38   | 11    |
| DO63320018      | E18                                                                                   | A       | 22    | 25    | 38   | 12    |
| DO63320020      | E20                                                                                   | A       | 25    | 30    | 38   | 13,5  |
| DO63320022      | E22                                                                                   | A       | 26,5  | 30    | 45   | 18    |
| DO63320024      | E24                                                                                   | A       | 28,5  | 30    | 45   | 18    |

| TORX® THIN WALL EXTERNAL4 |                                                                                     |         |       |       |      |       |
|---------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                      |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| DO63325010                | E10                                                                                 | A       | 13    | 25    | 38   | 7,5   |
| DO63325011                | E11                                                                                 | A       | 14    | 25    | 38   | 8     |
| DO63325012                | E12                                                                                 | A       | 15    | 25    | 38   | 8,5   |
| DO63325014                | E14                                                                                 | A       | 17    | 25    | 38   | 10    |
| DO63325016                | E16                                                                                 | A       | 18,5  | 25    | 38   | 11    |
| DO63325018                | E18                                                                                 | A       | 20,5  | 25    | 38   | 12    |
| DO63325020                | E20                                                                                 | A       | 22,5  | 30    | 38   | 13,5  |
| DO63325022                | E22                                                                                 | A       | 24,5  | 30    | 45   | 18    |
| DO63325024                | E24                                                                                 | A       | 26,5  | 30    | 45   | 18    |

Thin wall sockets are not included in the Action warranty

| TORX® EXTERNAL MAGNETIC5 |                                                                                     |         |       |       |      |       |
|--------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                     |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                   |                                                                                     |         |       |       |      |       |
| DO6332N010               | E10                                                                                 | A       | 14,5  | 25    | 38   | 5     |
| DO6332N011               | E11                                                                                 | A       | 15    | 25    | 38   | 5     |
| DO6332N012               | E12                                                                                 | A       | 16    | 25    | 38   | 6     |
| DO6332N014               | E14                                                                                 | A       | 18    | 25    | 38   | 8     |
| DO6332N016               | E16                                                                                 | A       | 20    | 25    | 38   | 9     |
| DO6332N018               | E18                                                                                 | A       | 22    | 25    | 38   | 9     |
| DO6332N020               | E20                                                                                 | A       | 25    | 30    | 38   | 10    |
| DO6332N022               | E22                                                                                 | A       | 27    | 30    | 45   | 10    |
| DO6332N024               | E24                                                                                 | A       | 29    | 30    | 45   | 11    |

Torx® is a trademark of Textron



1/2" SQUARE DRIVE



6-POINT UNIVERSAL JOINT NORMAL

1

| Type         |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|--------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric       |                                                                                   |         |       |       |      |       |
| DO2012-2-010 | 10                                                                                | E       | 15    | 28    | 65   | 14    |
| DO2012-2-011 | 11                                                                                | E       | 17    | 28    | 65   | 14    |
| DO2012-2-012 | 12                                                                                | E       | 19    | 28    | 65   | 14    |
| DO2012-2-013 | 13                                                                                | E       | 20    | 28    | 65   | 14    |
| DO2012-2-014 | 14                                                                                | E       | 22    | 28    | 65   | 14    |
| DO2012-2-015 | 15                                                                                | E       | 23    | 28    | 65   | 14    |
| DO2012-2-016 | 16                                                                                | E       | 23    | 28    | 65   | 14    |
| DO2012-2-017 | 17                                                                                | E       | 26    | 32    | 65   | 14    |
| DO2012-2-018 | 18                                                                                | E       | 26    | 32    | 65   | 14    |
| DO2012-2-019 | 19                                                                                | E       | 28    | 32    | 65   | 14    |
| DO2012-2-020 | 20                                                                                | E       | 30    | 32    | 65   | 14    |
| DO2012-2-021 | 21                                                                                | E       | 30    | 32    | 65   | 14    |
| DO2012-2-022 | 22                                                                                | E       | 32    | 32    | 65   | 14    |
| DO2012-2-023 | 23                                                                                | E       | 32    | 32    | 65   | 14    |
| DO2012-2-024 | 24                                                                                | E       | 34    | 32    | 65   | 14    |

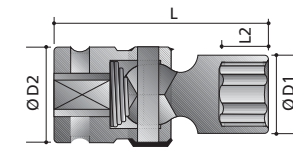
Universal joints sockets are not included in the Action warranty

6-POINT UNIVERSAL JOINT DEEP

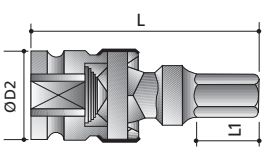
2

| Type         |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|--------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric       |                                                                                     |         |       |       |      |       |
| DO2012-4-010 | 10                                                                                  | E       | 15    | 28    | 90   | 14    |
| DO2012-4-011 | 11                                                                                  | E       | 17    | 28    | 90   | 20    |
| DO2012-4-012 | 12                                                                                  | E       | 19    | 28    | 90   | 20    |
| DO2012-4-013 | 13                                                                                  | E       | 20    | 28    | 90   | 20    |
| DO2012-4-014 | 14                                                                                  | E       | 22    | 28    | 90   | 20    |
| DO2012-4-015 | 15                                                                                  | E       | 23    | 28    | 90   | 20    |
| DO2012-4-016 | 16                                                                                  | E       | 23    | 28    | 90   | 20    |
| DO2012-4-017 | 17                                                                                  | E       | 26    | 32    | 90   | 20    |
| DO2012-4-018 | 18                                                                                  | E       | 26    | 32    | 90   | 20    |
| DO2012-4-019 | 19                                                                                  | E       | 28    | 32    | 90   | 25    |
| DO2012-4-020 | 20                                                                                  | E       | 30    | 32    | 90   | 25    |
| DO2012-4-021 | 21                                                                                  | E       | 30    | 32    | 90   | 25    |
| DO2012-4-022 | 22                                                                                  | E       | 32    | 32    | 90   | 25    |
| DO2012-4-023 | 23                                                                                  | E       | 32    | 32    | 90   | 25    |
| DO2012-4-024 | 24                                                                                  | E       | 34    | 32    | 90   | 25    |

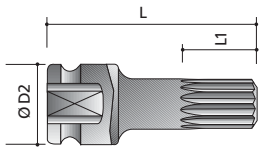
Universal joints sockets are not included in the Action warranty



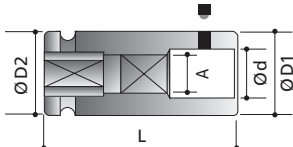
Drawing E



Drawing M



Drawing L



Drawing P

1/2" SQUARE DRIVE



HEX DRIVER

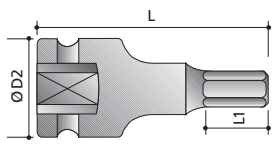
1

| Type       |  | Drawing | D2 mm | L mm | L1 mm | - |
|------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                     |         |       |      |       |   |
| DO696304A  | 4                                                                                   | K       | 25    | 75   | 11    | - |
| DO696305A  | 5                                                                                   | K       | 25    | 75   | 15    | - |
| DO696306A  | 6                                                                                   | K       | 25    | 75   | 15    | - |
| DO696307A  | 7                                                                                   | K       | 25    | 75   | 15    | - |
| DO696308A  | 8                                                                                   | K       | 25    | 75   | 16    | - |
| DO696309A  | 9                                                                                   | K       | 25    | 75   | 16    | - |
| DO696310A  | 10                                                                                  | K       | 25    | 75   | 16    | - |
| DO696311A  | 11                                                                                  | K       | 25    | 75   | 16    | - |
| DO696312A  | 12                                                                                  | K       | 25    | 75   | 16    | - |
| DO696313A  | 13                                                                                  | K       | 25    | 75   | 16    | - |
| DO696314A  | 14                                                                                  | K       | 25    | 75   | 16    | - |
| DO696315A  | 15                                                                                  | K       | 25    | 75   | 16    | - |
| DO696316A  | 16                                                                                  | K       | 25    | 75   | 16    | - |
| DO696317A  | 17                                                                                  | K       | 30    | 75   | 16    | - |
| DO696319A  | 19                                                                                  | K       | 30    | 75   | 16    | - |
| DO696321A  | 21                                                                                  | K       | 30    | 75   | 16    | - |
| DO696322A  | 22                                                                                  | K       | 30    | 75   | 16    | - |
| DO696324A  | 24                                                                                  | K       | 30    | 75   | 16    | - |
| DO64827006 | 6                                                                                   | K       | 25    | 100  | 15    | - |
| DO64828006 | 6                                                                                   | K       | 25    | 125  | 15    | - |
| DO64827008 | 8                                                                                   | K       | 25    | 100  | 16    | - |
| DO64828008 | 8                                                                                   | K       | 25    | 125  | 16    | - |
| DO64827010 | 10                                                                                  | K       | 25    | 100  | 16    | - |
| DO64828010 | 10                                                                                  | K       | 25    | 125  | 16    | - |
| DO64827012 | 12                                                                                  | K       | 25    | 100  | 16    | - |
| DO64827014 | 14                                                                                  | K       | 25    | 100  | 16    | - |

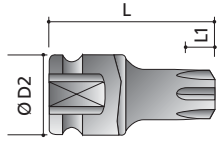
TAP HOLDER

2

| Type       |  | A mm | IMG | Ø D1 mm | Ø D2 mm | Ø d mm | L mm |
|------------|---------------------------------------------------------------------------------------|------|-----|---------|---------|--------|------|
| Metric     |                                                                                       |      |     |         |         |        |      |
| DO6322B001 | 3,4                                                                                   | P    |     | 22      | 22      | 4,5    | 40   |
| DO6322B002 | 4,9                                                                                   | P    |     | 22      | 22      | 6,0    | 45   |
| DO6322B003 | 5,5                                                                                   | P    |     | 22      | 22      | 7,0    | 45   |
| DO6322B004 | 6,2                                                                                   | P    |     | 22      | 22      | 8,0    | 45   |
| DO6322B005 | 7,0                                                                                   | P    |     | 22      | 22      | 9,0    | 45   |
| DO6322B006 | 8,0                                                                                   | P    |     | 22      | 22      | 10,0   | 45   |
| DO6322B007 | 9,0                                                                                   | P    |     | 22      | 22      | 11,0   | 45   |
| DO6322B008 | 9,0                                                                                   | P    |     | 22      | 22      | 12,0   | 50   |
| DO6322B009 | 11,0                                                                                  | P    |     | 22      | 22      | 14,0   | 52   |



Drawing K



Drawing H

TRIPLE SQUARE BIT NORMAL

3

| Type       |  | Drawing | D2 mm | L mm | L1 mm | - |
|------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                     |         |       |      |       |   |
| DO65226005 | M5                                                                                  | L       | 25    | 55   | 7     | - |
| DO65226006 | M6                                                                                  | L       | 25    | 55   | 7     | - |
| DO65226008 | M8                                                                                  | L       | 25    | 55   | 9     | - |
| DO65226010 | M10                                                                                 | L       | 25    | 55   | 9     | - |
| DO65226012 | M12                                                                                 | L       | 25    | 55   | 11    | - |
| DO65226014 | M14                                                                                 | L       | 25    | 55   | 11    | - |
| DO65226016 | M16                                                                                 | L       | 25    | 55   | 13    | - |

TRIPLE SQUARE BIT LONG

4

| Type       |  | Drawing | D2 mm | L mm | L1 mm | - |
|------------|-------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                     |         |       |      |       |   |
| DO65227005 | M5                                                                                  | L       | 25    | 100  | 7     | - |
| DO65227006 | M6                                                                                  | L       | 25    | 100  | 7     | - |
| DO65227008 | M8                                                                                  | L       | 25    | 100  | 9     | - |
| DO65227010 | M10                                                                                 | L       | 25    | 100  | 9     | - |
| DO65227012 | M12                                                                                 | L       | 25    | 100  | 11    | - |
| DO65227014 | M14                                                                                 | L       | 25    | 100  | 11    | - |
| DO65227016 | M16                                                                                 | L       | 25    | 100  | 13    | - |
| DO65227018 | M18                                                                                 | L       | 25    | 100  | 13    | - |

TRIPLE SQUARE BIT EXTRA LONG

4

| Type       |  | Drawing | D2 mm | L mm | L1 mm | - |
|------------|---------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                       |         |       |      |       |   |
| DO65228008 | M8                                                                                    | L       | 25    | 120  | 9     | - |
| DO65228010 | M10                                                                                   | L       | 25    | 120  | 9     | - |
| DO65228012 | M12                                                                                   | L       | 25    | 120  | 11    | - |
| DO65228018 | M18                                                                                   | L       | 25    | 120  | 14    | - |

RIBE DRIVER

5

| Type       |  | Drawing | D2 mm | L mm | L1 mm | - |
|------------|---------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                       |         |       |      |       |   |
| DO65326006 | M6                                                                                    | H       | 25    | 55   | 5     | - |
| DO65326007 | M7                                                                                    | H       | 25    | 55   | 6,5   | - |
| DO65326008 | M8                                                                                    | H       | 25    | 55   | 7,5   | - |
| DO65326010 | M10                                                                                   | H       | 25    | 55   | 9     | - |
| DO65326012 | M12                                                                                   | H       | 25    | 55   | 10    | - |
| DO65326014 | M14                                                                                   | H       | 25    | 55   | 12    | - |
| DO65326016 | M16                                                                                   | H       | 25    | 55   | 14    | - |
| DO65326018 | M18                                                                                   | H       | 25    | 55   | 16    | - |



# 1/2" SQUARE DRIVE



## HEX DRIVER WITH UNIVERSAL JOINT 1

| Type       |  | Drawing | D2 mm | L mm | L1 mm | - |
|------------|-----------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                   |         |       |      |       |   |
| DO65121006 | 6                                                                                 | M       | 28    | 75   | 13    | - |
| DO65121007 | 7                                                                                 | M       | 28    | 75   | 13    | - |
| DO65121008 | 8                                                                                 | M       | 28    | 75   | 20    | - |
| DO65121009 | 9                                                                                 | M       | 28    | 75   | 20    | - |
| DO65121010 | 10                                                                                | M       | 28    | 75   | 20    | - |
| DO65121011 | 11                                                                                | M       | 28    | 75   | 20    | - |
| DO65121012 | 12                                                                                | M       | 28    | 75   | 20    | - |
| DO65121013 | 13                                                                                | M       | 28    | 75   | 20    | - |
| DO65121014 | 14                                                                                | M       | 28    | 75   | 20    | - |
| DO65121015 | 15                                                                                | M       | 28    | 75   | 20    | - |
| DO65121016 | 16                                                                                | M       | 28    | 75   | 20    | - |
| DO65121017 | 17                                                                                | M       | 28    | 75   | 20    | - |
| DO65121018 | 18                                                                                | M       | 28    | 75   | 20    | - |
| DO65121019 | 19                                                                                | M       | 28    | 75   | 20    | - |

## STUD BOLT SETTERS

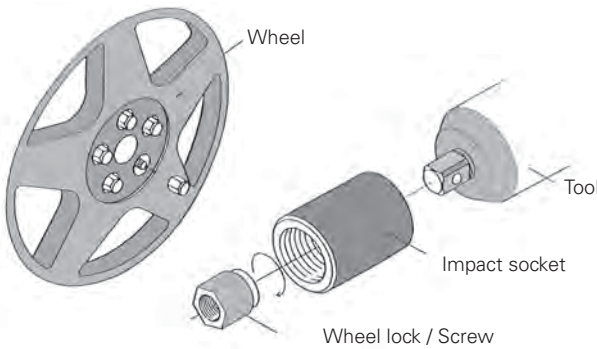
| Type       | SW         | D1 mm | D2 mm | L mm |
|------------|------------|-------|-------|------|
| DO69782010 | M6 x 1,0   | 13    | 25    | 55   |
| DO69782017 | M8 x 1,0   | 15    | 25    | 55   |
| DO69782018 | M8 x 1,25  | 15    | 25    | 55   |
| DO69782020 | M10 x 1,0  | 18    | 25    | 55   |
| DO69782021 | M10 x 1,25 | 18    | 25    | 55   |
| DO69782022 | M10 x 1,5  | 17    | 25    | 55   |
| DO69782025 | M12 x 1,25 | 19    | 25    | 55   |
| DO69782026 | M12 x 1,5  | 19    | 25    | 55   |
| DO69782027 | M12 x 1,75 | 19    | 25    | 55   |
| DO69782030 | M14 x 1,5  | 23    | 25    | 55   |
| DO69782031 | M14 x 2,0  | 22    | 25    | 55   |
| DO69782034 | M16 x 1,5  | 28    | 30    | 75   |
| DO69782035 | M16 x 2,0  | 27    | 30    | 75   |
| DO69782036 | M18 x 1,5  | 29,5  | 30    | 75   |
| DO69782038 | M18 x 2,5  | 29    | 30    | 75   |
| DO69782040 | M20 x 1,5  | 30    | 30    | 75   |
| DO69782041 | M20 x 2,5  | 30    | 30    | 75   |



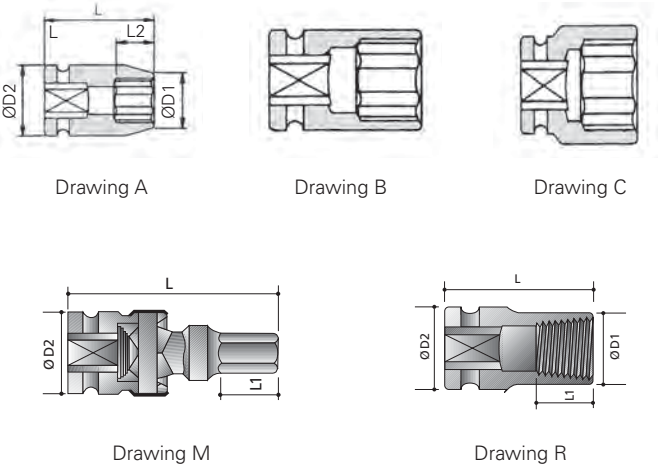
## WHEEL LUG NUT REMOVER SOCKETS 2

| Type       |  | Drawing | D1 mm | D2 mm | L mm | L1 mm |
|------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| DO69782090 | 17                                                                                | R       | 24    | 24    | 38   | 17    |
| DO69782091 | 18,5                                                                              | R       | 25    | 25    | 38   | 17    |
| DO69782092 | 20                                                                                | R       | 26    | 26    | 38   | 22    |
| DO69782093 | 21,5                                                                              | R       | 28,5  | 28,5  | 38   | 22    |
| DO69782094 | 23                                                                                | R       | 30    | 30    | 38   | 22    |
| DO69782095 | 24,5                                                                              | R       | 31    | 31    | 38   | 22    |
| DO69782096 | 26                                                                                | R       | 32    | 32    | 38   | 22    |

## APPLICATION WHEEL LUG NUT REMOVER SOCKETS



This wheel lug nut remover is used when it is discovered that the original key to remove your car wheel is lost. In order to remove the lock and the wheel, these sockets can be used. Proper use of the socket is to have at least three windings of thread of the socket gripping over the lock. In case any of the first three windings are already gripping, the next bigger size of socket should be chosen. When the correct size of socket is chosen, it can unlock up to four bolts.



## ACCESSORIES

| Pin and ring |
|--------------|
| DO1014-0-000 |





3/4" SQUARE DRIVE



4-POINT NORMAL1

| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                   |         |       |       |      |       |
| DO63045016 | 16                                                                                | B       | 40    | 40    | 52   | 24    |
| DO63045017 | 17                                                                                | B       | 40    | 40    | 52   | 24    |
| DO63045019 | 19                                                                                | B       | 40    | 40    | 52   | 24    |
| DO63045020 | 20                                                                                | B       | 42    | 42    | 52   | 24    |
| DO63045021 | 21                                                                                | B       | 42    | 42    | 52   | 24    |
| DO63045022 | 22                                                                                | B       | 44    | 44    | 52   | 24    |
| DO63045024 | 24                                                                                | C       | 47    | 44    | 52   | 24    |

6-POINT NORMAL2

| Type         |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|--------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric       |                                                                                   |         |       |       |      |       |
| DO3034-0-013 | 13                                                                                | A       | 25    | 44    | 50   | 9     |
| DO3034-0-014 | 14                                                                                | A       | 25    | 44    | 50   | 11    |
| DO3034-0-015 | 15                                                                                | A       | 26    | 44    | 50   | 11    |
| DO3034-0-016 | 16                                                                                | A       | 27    | 44    | 50   | 11    |
| DO3034-0-017 | 17                                                                                | A       | 31    | 44    | 50   | 12    |
| DO3034-0-018 | 18                                                                                | A       | 32    | 44    | 50   | 13    |
| DO3034-0-019 | 19                                                                                | A       | 33    | 44    | 50   | 13    |
| DO3034-0-020 | 20                                                                                | A       | 34    | 44    | 50   | 14    |
| DO3034-0-021 | 21                                                                                | A       | 35    | 44    | 50   | 15    |
| DO3034-0-022 | 22                                                                                | A       | 37    | 44    | 50   | 15    |
| DO3034-0-023 | 23                                                                                | A       | 38    | 44    | 50   | 16    |
| DO3034-0-024 | 24                                                                                | A       | 40    | 44    | 50   | 16    |
| DO3034-0-025 | 25                                                                                | A       | 40    | 44    | 50   | 16    |
| DO3034-0-026 | 26                                                                                | A       | 41    | 44    | 50   | 16    |
| DO3034-0-027 | 27                                                                                | A       | 43    | 44    | 54   | 19    |
| DO3034-0-028 | 28                                                                                | B       | 44    | 44    | 54   | 19    |
| DO3034-0-029 | 29                                                                                | C       | 45    | 44    | 54   | 21    |
| DO3034-0-030 | 30                                                                                | C       | 47    | 44    | 54   | 21    |
| DO3034-0-031 | 31                                                                                | C       | 48    | 44    | 56   | 21    |
| DO3034-0-032 | 32                                                                                | C       | 49    | 44    | 56   | 22    |
| DO3034-0-033 | 33                                                                                | C       | 51    | 44    | 56   | 22    |
| DO3034-0-034 | 34                                                                                | C       | 52    | 44    | 56   | 22    |
| DO3034-0-035 | 35                                                                                | C       | 53    | 44    | 56   | 22    |
| DO3034-0-036 | 36                                                                                | C       | 54    | 44    | 56   | 25    |
| DO3034-0-037 | 37                                                                                | C       | 56    | 44    | 58   | 25    |
| DO3034-0-038 | 38                                                                                | C       | 57    | 44    | 58   | 25    |
| DO3034-0-039 | 39                                                                                | C       | 58    | 44    | 58   | 25    |
| DO3034-0-040 | 40                                                                                | C       | 58    | 44    | 58   | 25    |
| DO3034-0-041 | 41                                                                                | C       | 60    | 44    | 58   | 27    |
| DO3034-0-042 | 42                                                                                | C       | 62    | 44    | 58   | 27    |
| DO3034-0-043 | 43                                                                                | C       | 63    | 44    | 63   | 27    |
| DO3034-0-044 | 44                                                                                | C       | 65    | 44    | 63   | 27    |
| DO3034-0-045 | 45                                                                                | C       | 66    | 44    | 63   | 27    |
| DO3034-0-046 | 46                                                                                | C       | 67    | 44    | 63   | 30    |
| DO3034-0-047 | 47                                                                                | C       | 68    | 44    | 68   | 30    |
| DO3034-0-049 | 49                                                                                | C       | 70    | 44    | 70   | 30    |
| DO3034-0-050 | 50                                                                                | C       | 71    | 54    | 72   | 32    |
| DO3034-0-055 | 55                                                                                | C       | 77    | 54    | 74   | 35    |

6-POINT NORMAL (CONTINUED)2

| Type         |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|--------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric       |                                                                                   |         |       |       |      |       |
| DO3034-0-056 | 56                                                                                | C       | 80    | 54    | 74   | 35    |
| DO3034-0-057 | 57                                                                                | C       | 84    | 54    | 74   | 35    |
| DO3034-0-060 | 60                                                                                | C       | 84    | 54    | 75   | 37    |
| DO3034-0-063 | 63                                                                                | C       | 86    | 54    | 75   | 37    |
| DO3034-0-065 | 65                                                                                | C       | 88    | 54    | 78   | 40    |
| DO3034-0-067 | 67                                                                                | C       | 90    | 54    | 80   | 40    |
| DO3034-0-070 | 70                                                                                | C       | 96    | 54    | 80   | 40    |
| DO3034-0-075 | 75                                                                                | C       | 102   | 64    | 83   | 42    |

6-POINT NORMAL3

| Type             |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Inch             |                                                                                   |         |       |       |      |       |
| DO3034-0-11/16   | 11/16"                                                                            | A       | 29    | 38    | 50   | 12    |
| DO3034-0-3/4     | 3/4"                                                                              | A       | 30    | 38    | 50   | 14    |
| DO3034-0-13/16   | 13/16"                                                                            | A       | 32    | 38    | 52   | 16    |
| DO3034-0-7/8     | 7/8"                                                                              | A       | 34    | 38    | 52   | 16    |
| DO3034-0-15/16   | 15/16"                                                                            | A       | 36    | 38    | 52   | 16    |
| DO3034-0-1 1/8   | 1 1/8"                                                                            | B       | 42    | 42    | 52   | 20    |
| DO3034-0-1 3/16  | 1 3/16"                                                                           | B       | 44    | 44    | 52   | 20    |
| DO3034-0-1 1/4   | 1 1/4"                                                                            | B       | 44    | 44    | 52   | 20    |
| DO3034-0-1       | 1"                                                                                | C       | 40    | 38    | 52   | 16    |
| DO3034-0-1 1/16  | 1 1/16"                                                                           | C       | 40    | 38    | 52   | 16    |
| DO3034-0-1 5/16  | 1 5/16"                                                                           | C       | 47    | 44    | 56   | 23    |
| DO3034-0-1 3/8   | 1 3/8"                                                                            | C       | 50    | 44    | 56   | 23    |
| DO3034-0-1 7/16  | 1 7/16"                                                                           | C       | 51    | 44    | 56   | 23    |
| DO3034-0-1 1/2   | 1 1/2"                                                                            | C       | 53    | 44    | 56   | 23    |
| DO3034-0-1 3/4   | 1 3/4"                                                                            | C       | 65    | 44    | 62   | 27    |
| DO3034-0-1 13/16 | 1 13/16"                                                                          | C       | 67    | 44    | 56   | 32    |

STUD BOLT SETTERS

| Type       | SW        | D1 mm | D2 mm | L mm |
|------------|-----------|-------|-------|------|
| DO69784162 | M16 x 2   | 29    | 44    | 100  |
| DO69784203 | M20 x 2,5 | 35    | 44    | 100  |
| DO69784241 | M24 x 1,5 | 37    | 44    | 100  |
| DO69784244 | M24 x 3   | 37    | 44    | 100  |
| DO69784285 | M28 x 3,5 | 42    | 44    | 100  |
| DO69784305 | M30 x 3,5 | 43    | 44    | 100  |



3/4" SQUARE DRIVE



6-POINT DEEP1

| Type         |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|--------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric       |                                                                                     |         |       |       |      |       |
| DO3034-1-013 | 13                                                                                  | A       | 25    | 44    | 95   | 13    |
| DO3034-1-014 | 14                                                                                  | A       | 25    | 44    | 95   | 14    |
| DO3034-1-015 | 15                                                                                  | A       | 26    | 44    | 95   | 15    |
| DO3034-1-017 | 17                                                                                  | A       | 31    | 44    | 95   | 17    |
| DO3034-1-018 | 18                                                                                  | A       | 32    | 44    | 95   | 18    |
| DO3034-1-019 | 19                                                                                  | A       | 33    | 44    | 95   | 19    |
| DO3034-1-020 | 20                                                                                  | A       | 34    | 44    | 95   | 20    |
| DO3034-1-021 | 21                                                                                  | A       | 35    | 44    | 95   | 21    |
| DO3034-1-022 | 22                                                                                  | A       | 37    | 44    | 95   | 22    |
| DO3034-1-023 | 23                                                                                  | A       | 38    | 44    | 95   | 23    |
| DO3034-1-024 | 24                                                                                  | A       | 39,5  | 44    | 95   | 24    |
| DO3034-1-025 | 25                                                                                  | A       | 40    | 44    | 95   | 25    |
| DO3034-1-026 | 26                                                                                  | A       | 41    | 44    | 95   | 26    |
| DO3034-1-027 | 27                                                                                  | A       | 43    | 44    | 95   | 27    |
| DO3034-1-028 | 28                                                                                  | B       | 44    | 44    | 95   | 28    |
| DO3034-1-029 | 29                                                                                  | C       | 45    | 44    | 95   | 29    |
| DO3034-1-030 | 30                                                                                  | C       | 47    | 44    | 95   | 30    |
| DO3034-1-031 | 31                                                                                  | C       | 48    | 44    | 95   | 31    |
| DO3034-1-032 | 32                                                                                  | C       | 49    | 44    | 95   | 32    |
| DO3034-1-033 | 33                                                                                  | C       | 51    | 44    | 95   | 33    |
| DO3034-1-034 | 34                                                                                  | C       | 52    | 44    | 95   | 34    |
| DO3034-1-035 | 35                                                                                  | C       | 53    | 44    | 95   | 35    |
| DO3034-1-036 | 36                                                                                  | C       | 54    | 44    | 95   | 36    |
| DO3034-1-037 | 37                                                                                  | C       | 56    | 44    | 95   | 37    |
| DO3034-1-038 | 38                                                                                  | C       | 57    | 44    | 95   | 38    |
| DO3034-1-039 | 39                                                                                  | C       | 58    | 44    | 95   | 38    |
| DO3034-1-040 | 40                                                                                  | C       | 58    | 44    | 95   | 38    |
| DO3034-1-041 | 41                                                                                  | C       | 60    | 44    | 95   | 38    |
| DO3034-1-042 | 42                                                                                  | C       | 62    | 44    | 95   | 38    |
| DO3034-1-043 | 43                                                                                  | C       | 63    | 44    | 95   | 38    |
| DO3034-1-044 | 44                                                                                  | C       | 65    | 44    | 95   | 38    |
| DO3034-1-046 | 46                                                                                  | C       | 67    | 44    | 95   | 38    |
| DO3034-1-047 | 47                                                                                  | C       | 68    | 44    | 95   | 38    |
| DO3034-1-048 | 48                                                                                  | C       | 69    | 44    | 95   | 38    |
| DO3034-1-049 | 49                                                                                  | C       | 70    | 44    | 95   | 38    |
| DO3034-1-050 | 50                                                                                  | C       | 71    | 54    | 95   | 38    |
| DO3034-1-052 | 52                                                                                  | C       | 74    | 54    | 95   | 40    |
| DO3034-1-055 | 55                                                                                  | C       | 77    | 54    | 100  | 40    |
| DO3034-1-060 | 60                                                                                  | C       | 84    | 54    | 105  | 42    |
| DO3034-1-065 | 65                                                                                  | C       | 88    | 54    | 105  | 66    |

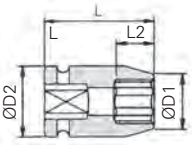
6-POINT DEEP1

| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|-----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Inch            |                                                                                     |         |       |       |      |       |
| DO3034-1-13/16  | 13/16"                                                                              | A       | 32    | 38    | 85   | 23    |
| DO3034-1-7/8    | 7/8"                                                                                | A       | 34    | 38    | 85   | 23    |
| DO3034-1-15/16  | 15/16"                                                                              | A       | 36    | 38    | 85   | 41    |
| DO3034-1-1      | 1"                                                                                  | C       | 40    | 38    | 85   | 41    |
| DO3034-1-1 1/8  | 1 1/8"                                                                              | B       | 42    | 42    | 85   | 52    |
| DO3034-1-1 3/16 | 1 3/16"                                                                             | B       | 44    | 44    | 85   | 52    |
| DO3034-1-1 1/4  | 1 1/4"                                                                              | B       | 44    | 44    | 85   | 52    |
| DO3034-1-1 5/16 | 1 5/16"                                                                             | C       | 47    | 44    | 85   | 52    |
| DO3034-1-1 7/16 | 1 7/16"                                                                             | C       | 51    | 44    | 85   | 52    |
| DO3034-1-1 1/2  | 1 1/2"                                                                              | C       | 53    | 44    | 85   | 60    |

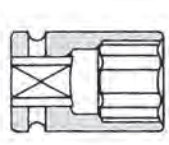
6-POINT EXTRA LONG2

| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                     |         |       |       |      |       |
| DO61145024 | 24                                                                                  | G       | 38,5  | 44    | 270  | 24    |
| DO61145027 | 27                                                                                  | G       | 42    | 44    | 270  | 27    |
| DO61145030 | 30                                                                                  | G       | 45    | 44    | 270  | 30    |
| DO61145032 | 32                                                                                  | G       | 47    | 44    | 270  | 32    |
| DO61145033 | 33                                                                                  | G       | 48    | 44    | 270  | 32    |
| DO61145036 | 36                                                                                  | G       | 53,5  | 44    | 270  | 32    |
| DO61145046 | 46                                                                                  | G       | 63    | 44    | 270  | 38    |
|            |                                                                                     |         |       |       |      |       |
| DO61146024 | 24                                                                                  | G       | 38,5  | 44    | 400  | 24    |
| DO61146027 | 27                                                                                  | G       | 42    | 44    | 400  | 27    |
| DO61146030 | 30                                                                                  | G       | 45    | 44    | 400  | 30    |
| DO61146032 | 32                                                                                  | G       | 47    | 44    | 400  | 32    |
| DO61146033 | 33                                                                                  | G       | 48    | 44    | 400  | 32    |
| DO61146036 | 36                                                                                  | G       | 53,5  | 44    | 400  | 32    |

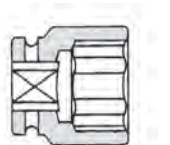
ACCESSORIES



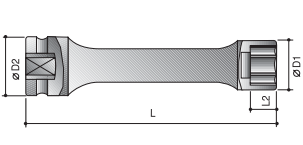
Drawing A



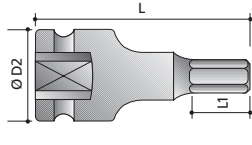
Drawing B



Drawing C



Drawing G



Drawing K



3/4" SQUARE DRIVE



| 6-POINT THIN WALL DEEP1 |                                     |         |       |       |      |       |
|-------------------------|-------------------------------------|---------|-------|-------|------|-------|
| Type                    | <div><div>mm</div><div></div></div> | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                  |                                     |         |       |       |      |       |
| DO61141017              | 17                                  | A       | 25,5  | 44    | 95   | 17    |
| DO61141019              | 19                                  | A       | 28,5  | 44    | 95   | 19    |
| DO61141022              | 22                                  | A       | 33,5  | 44    | 95   | 22    |
| DO61141024              | 24                                  | A       | 36,5  | 44    | 95   | 24    |
| DO61141027              | 27                                  | A       | 40,5  | 44    | 95   | 27    |
| DO61141030              | 30                                  | A       | 43,5  | 44    | 95   | 30    |
| DO61141032              | 32                                  | B       | 46,5  | 44    | 95   | 32    |
| DO61141033              | 33                                  | B       | 47,5  | 44    | 95   | 33    |
| DO61141036              | 36                                  | B       | 52    | 44    | 95   | 36    |
| DO61141038              | 38                                  | B       | 54    | 44    | 95   | 38    |
| DO61141041              | 41                                  | B       | 57    | 44    | 95   | 38    |

Thin wall sockets are not included in the Action warranty.

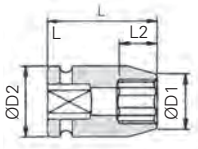
| 6-POINT EXTREME THIN WALL DEEP1 |                                     |         |       |       |      |       |
|---------------------------------|-------------------------------------|---------|-------|-------|------|-------|
| Type                            | <div><div>mm</div><div></div></div> | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                          |                                     |         |       |       |      |       |
| DO61142027                      | 27                                  | A       | 40    | 43    | 108  | 43    |
| DO61142032                      | 32                                  | B       | 45    | 45    | 108  | 43    |
| DO61142041                      | 41                                  | C       | 54,5  | 45    | 108  | 43    |

Thin wall sockets are not included in the Action warranty.

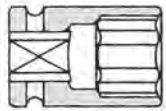
| HEX DRIVER2 |                                     |         |       |      |       |   |
|-------------|-------------------------------------|---------|-------|------|-------|---|
| Type        | <div><div>mm</div><div></div></div> | Drawing | D2 mm | L mm | L1 mm | - |
| Metric      |                                     |         |       |      |       |   |
| DO696510A   | 10                                  | K       | 44    | 100  | 20    | - |
| DO696512A   | 12                                  | K       | 44    | 100  | 20    | - |
| DO696514A   | 14                                  | K       | 44    | 100  | 20    | - |
| DO696517A   | 17                                  | K       | 44    | 100  | 20    | - |
| DO696519A   | 19                                  | K       | 44    | 100  | 20    | - |
| DO696522A   | 22                                  | K       | 44    | 100  | 20    | - |
| DO696524A   | 24                                  | K       | 44    | 100  | 20    | - |
| DO696527A   | 27                                  | K       | 44    | 100  | 20    | - |
| DO696530A   | 30                                  | K       | 44    | 100  | 20    | - |
| DO696532A   | 32                                  | K       | 44    | 100  | 20    | - |
| DO696536A   | 36                                  | K       | 44    | 100  | 20    | - |

| 8-POINT3   |                                     |         |       |       |      |       |
|------------|-------------------------------------|---------|-------|-------|------|-------|
| Type       | <div><div>mm</div><div></div></div> | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric     |                                     |         |       |       |      |       |
| DO63645019 | 19                                  | B       | 41    | 41    | 52   | 15    |
| DO63645024 | 24                                  | C       | 46    | 44,5  | 52   | 20    |
| DO63645027 | 27                                  | C       | 53    | 44,5  | 56   | 24    |
| DO63645030 | 30                                  | C       | 60    | 44,5  | 60   | 28    |
| DO63645032 | 32                                  | C       | 60    | 44,5  | 60   | 28    |
| DO63645038 | 38                                  | C       | 70    | 44,5  | 64   | 32    |

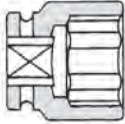
| 12-POINT NORMAL4 |                                     |         |       |       |      |       |
|------------------|-------------------------------------|---------|-------|-------|------|-------|
| Type             | <div><div>mm</div><div></div></div> | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric           |                                     |         |       |       |      |       |
| DO63845013       | 13                                  | A       | 23    | 44    | 50   | 12    |
| DO63845014       | 14                                  | A       | 24    | 44    | 50   | 12    |
| DO63845015       | 15                                  | A       | 26    | 44    | 50   | 12    |
| DO63845016       | 16                                  | A       | 27    | 44    | 50   | 12    |
| DO63845017       | 17                                  | A       | 28    | 44    | 50   | 12    |
| DO63845018       | 18                                  | A       | 29    | 44    | 50   | 12    |
| DO63845019       | 19                                  | A       | 30    | 44    | 50   | 14    |
| DO63845020       | 20                                  | A       | 31    | 44    | 52   | 16    |
| DO63845021       | 21                                  | A       | 32    | 44    | 52   | 16    |
| DO63845022       | 22                                  | A       | 34    | 44    | 52   | 16    |
| DO63845023       | 23                                  | A       | 35    | 44    | 52   | 16    |
| DO63845024       | 24                                  | A       | 36    | 44    | 52   | 18    |
| DO63845025       | 25                                  | B       | 38    | 44    | 52   | 18    |
| DO63845026       | 26                                  | C       | 40    | 44    | 52   | 23    |
| DO63845027       | 27                                  | C       | 40    | 44    | 52   | 23    |
| DO63845028       | 28                                  | C       | 42    | 44    | 52   | 23    |
| DO63845029       | 29                                  | C       | 43    | 44    | 52   | 23    |
| DO63845030       | 30                                  | C       | 43    | 44    | 52   | 23    |
| DO63845031       | 31                                  | C       | 44    | 44    | 56   | 24    |
| DO63845032       | 32                                  | C       | 45    | 44    | 56   | 24    |
| DO63845033       | 33                                  | C       | 46    | 44    | 56   | 24    |
| DO63845034       | 34                                  | C       | 48    | 44    | 56   | 24    |
| DO63845035       | 35                                  | C       | 50    | 44    | 56   | 24    |
| DO63845036       | 36                                  | C       | 51    | 44    | 56   | 24    |
| DO63845037       | 37                                  | C       | 52    | 44    | 56   | 24    |
| DO63845038       | 38                                  | C       | 53    | 44    | 56   | 24    |
| DO63845039       | 39                                  | C       | 55    | 44    | 62   | 28    |
| DO63845041       | 41                                  | C       | 58    | 44    | 62   | 28    |
| DO63845042       | 42                                  | C       | 61    | 44    | 62   | 28    |
| DO63845043       | 43                                  | C       | 63    | 44    | 62   | 28    |
| DO63845046       | 46                                  | C       | 67    | 44    | 68   | 33    |
| DO63845050       | 50                                  | C       | 71    | 54    | 70   | 34    |
| DO63845055       | 55                                  | C       | 77    | 54    | 74   | 35    |
| DO63845056       | 56                                  | C       | 77    | 54    | 74   | 35    |
| DO63845060       | 60                                  | C       | 84    | 54    | 75   | 35    |
| DO63845063       | 63                                  | C       | 86    | 54    | 78   | 37    |
| DO63845065       | 65                                  | C       | 88    | 54    | 78   | 38    |
| DO63845067       | 67                                  | C       | 90    | 54    | 80   | 40    |
| DO63845070       | 70                                  | C       | 96    | 54    | 80   | 40    |



Drawing A



Drawing B



Drawing C

3/4" SQUARE DRIVE



| 12-POINT DEEP1 |                                     |         |       |       |      |       |
|----------------|-------------------------------------|---------|-------|-------|------|-------|
| Type           | <div><div>mm</div><div></div></div> | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric         |                                     |         |       |       |      |       |
| DO65847013     | 13                                  | A       | 24,5  | 44    | 95   | 13    |
| DO65847014     | 14                                  | A       | 25,5  | 44    | 95   | 14    |
| DO65847015     | 15                                  | A       | 27    | 44    | 95   | 15    |
| DO65847016     | 16                                  | A       | 28    | 44    | 95   | 16    |
| DO65847017     | 17                                  | A       | 29,5  | 44    | 95   | 17    |
| DO65847018     | 18                                  | A       | 31    | 44    | 95   | 18    |
| DO65847019     | 19                                  | A       | 32    | 44    | 95   | 19    |
| DO65847020     | 20                                  | A       | 34    | 44    | 95   | 20    |
| DO65847021     | 21                                  | A       | 35    | 44    | 95   | 21    |
| DO65847022     | 22                                  | A       | 37    | 44    | 95   | 22    |
| DO65847023     | 23                                  | A       | 38    | 44    | 95   | 23    |
| DO65847024     | 24                                  | A       | 39    | 44    | 95   | 24    |
| DO65847025     | 25                                  | A       | 41    | 44    | 95   | 25    |
| DO65847026     | 26                                  | A       | 42    | 44    | 95   | 26    |
| DO65847027     | 27                                  | A       | 43    | 44    | 95   | 27    |
| DO65847028     | 28                                  | B       | 44    | 44    | 95   | 28    |
| DO65847029     | 29                                  | C       | 46    | 44    | 95   | 29    |
| DO65847030     | 30                                  | C       | 47    | 44    | 95   | 30    |
| DO65847031     | 31                                  | C       | 48    | 44    | 95   | 31    |
| DO65847032     | 32                                  | C       | 49    | 44    | 95   | 32    |
| DO65847033     | 33                                  | C       | 51    | 44    | 95   | 33    |
| DO65847034     | 34                                  | C       | 52    | 44    | 95   | 34    |
| DO65847035     | 35                                  | C       | 53    | 44    | 95   | 35    |
| DO65847036     | 36                                  | C       | 54    | 44    | 95   | 36    |
| DO65847037     | 37                                  | C       | 56    | 44    | 95   | 37    |
| DO65847038     | 38                                  | C       | 57    | 44    | 95   | 38    |
| DO65847039     | 39                                  | C       | 58    | 44    | 95   | 38    |
| DO65847040     | 40                                  | C       | 59,5  | 44    | 95   | 38    |
| DO65847041     | 41                                  | C       | 61    | 44    | 95   | 38    |
| DO65847042     | 42                                  | C       | 62    | 44    | 95   | 38    |
| DO65847043     | 43                                  | C       | 63,5  | 44    | 95   | 38    |
| DO65847044     | 44                                  | C       | 64,5  | 44    | 95   | 38    |
| DO65847045     | 45                                  | C       | 65,5  | 44    | 95   | 38    |
| DO65847046     | 46                                  | C       | 66,5  | 44    | 100  | 38    |
| DO65847047     | 47                                  | C       | 68    | 44    | 100  | 38    |
| DO65847048     | 48                                  | C       | 69    | 44    | 100  | 38    |
| DO65847049     | 49                                  | C       | 70    | 44    | 100  | 38    |
| DO65847050     | 50                                  | C       | 71    | 54    | 100  | 38    |
| DO65847051     | 51                                  | C       | 72    | 54    | 100  | 40    |
| DO65847052     | 52                                  | C       | 74    | 54    | 100  | 40    |
| DO65847053     | 53                                  | C       | 75    | 54    | 100  | 40    |
| DO65847054     | 54                                  | C       | 77    | 54    | 100  | 40    |
| DO65847055     | 55                                  | C       | 78    | 54    | 105  | 40    |
| DO65847056     | 56                                  | C       | 79    | 54    | 105  | 40    |
| DO65847057     | 57                                  | C       | 80    | 54    | 105  | 40    |
| DO65847058     | 58                                  | C       | 81    | 54    | 105  | 40    |

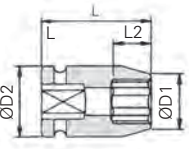
| 12-POINT DEEP (CONTINUED)2 |                                     |         |       |       |      |       |
|----------------------------|-------------------------------------|---------|-------|-------|------|-------|
| Type                       | <div><div>mm</div><div></div></div> | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                     |                                     |         |       |       |      |       |
| DO65847060                 | 60                                  | C       | 84    | 54    | 105  | 42    |
| DO65847063                 | 63                                  | C       | 87    | 54    | 105  | 42    |
| DO65847065                 | 65                                  | C       | 90    | 54    | 105  | 66    |
| DO65847067                 | 67                                  | C       | 92    | 54    | 105  | 66    |
| DO65847068                 | 68                                  | C       | 94    | 54    | 105  | 66    |
| DO65847070                 | 70                                  | C       | 96    | 54    | 105  | 66    |
| DO65847073                 | 73                                  | C       | 100   | 54    | 108  | 66    |
| DO65847075                 | 75                                  | C       | 102   | 64    | 108  | 68    |

| TORX® INTERNAL3 |                                     |         |      |      |       |   |
|-----------------|-------------------------------------|---------|------|------|-------|---|
| Type            | <div><div>mm</div><div></div></div> | Drawing | D mm | L mm | L1 mm | - |
| DO64742050      | T50                                 | F       | 44   | 100  | 5,0   | - |
| DO64742055      | T55                                 | F       | 44   | 100  | 5,5   | - |
| DO64742060      | T60                                 | F       | 44   | 100  | 8,0   | - |
| DO64742070      | T70                                 | F       | 44   | 100  | 9,4   | - |
| DO64742080      | T80                                 | F       | 44   | 100  | 10,5  | - |
| DO64742090      | T90                                 | F       | 44   | 100  | 11,8  | - |
| DO64742100      | T100                                | F       | 44   | 100  | 13,1  | - |

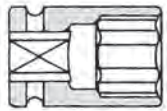
Torx® is a trademark of Textron

| TORX® EXTERNAL4 |                                     |         |       |       |      |       |
|-----------------|-------------------------------------|---------|-------|-------|------|-------|
| Type            | <div><div>mm</div><div></div></div> | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| DO63340018      | E18                                 | A       | 25    | 44    | 56   | 12,5  |
| DO63340020      | E20                                 | A       | 27    | 44    | 56   | 14    |
| DO63340024      | E24                                 | A       | 33    | 44    | 56   | 16,5  |
| DO63340032      | E32                                 | A       | 44    | 44    | 56   | 24,5  |

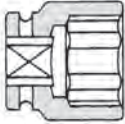
Torx® is a trademark of Textron.



Drawing A



Drawing B



Drawing C

1" SQUARE DRIVE

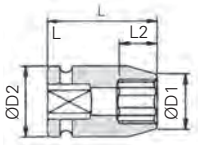


| 4-POINT NORMAL1 |                                                                                   |         |       |       |      |       |
|-----------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric          |                                                                                   |         |       |       |      |       |
| DO63055017      | 17                                                                                | B       | 52    | 52    | 57   | 24    |
| DO63055019      | 19                                                                                | B       | 52    | 52    | 57   | 24    |
| DO63055020      | 20                                                                                | B       | 52    | 52    | 57   | 24    |
| DO63055021      | 21                                                                                | B       | 52    | 52    | 57   | 24    |

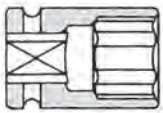
| 6-POINT NORMAL2 |                                                                                   |         |       |       |      |       |
|-----------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric          |                                                                                   |         |       |       |      |       |
| DO4010-0-017    | 17                                                                                | A       | 34    | 54    | 60   | 12    |
| DO4010-0-018    | 18                                                                                | A       | 35    | 54    | 60   | 13    |
| DO4010-0-019    | 19                                                                                | A       | 35,5  | 54    | 60   | 13    |
| DO4010-0-020    | 20                                                                                | A       | 37    | 54    | 60   | 14    |
| DO4010-0-021    | 21                                                                                | A       | 38    | 54    | 60   | 15    |
| DO4010-0-022    | 22                                                                                | A       | 40    | 54    | 60   | 15    |
| DO4010-0-023    | 23                                                                                | A       | 41    | 54    | 60   | 16    |
| DO4010-0-024    | 24                                                                                | A       | 42    | 54    | 60   | 18    |
| DO4010-0-025    | 25                                                                                | A       | 43    | 54    | 60   | 18    |
| DO4010-0-026    | 26                                                                                | A       | 44,5  | 54    | 60   | 18    |
| DO4010-0-027    | 27                                                                                | A       | 46    | 54    | 60   | 19    |
| DO4010-0-028    | 28                                                                                | A       | 47    | 54    | 62   | 19    |
| DO4010-0-029    | 29                                                                                | A       | 48    | 54    | 62   | 19    |
| DO4010-0-030    | 30                                                                                | A       | 50    | 54    | 62   | 21    |
| DO4010-0-031    | 31                                                                                | A       | 51    | 54    | 62   | 21    |
| DO4010-0-032    | 32                                                                                | A       | 52    | 54    | 62   | 22    |
| DO4010-0-033    | 33                                                                                | A       | 53    | 54    | 62   | 22    |
| DO4010-0-034    | 34                                                                                | C       | 55    | 54    | 62   | 22    |
| DO4010-0-035    | 35                                                                                | C       | 56    | 54    | 65   | 22    |
| DO4010-0-036    | 36                                                                                | C       | 57    | 54    | 67   | 25    |
| DO4010-0-037    | 37                                                                                | C       | 59    | 54    | 67   | 25    |
| DO4010-0-038    | 38                                                                                | C       | 59,5  | 54    | 67   | 25    |
| DO4010-0-039    | 39                                                                                | C       | 60    | 54    | 70   | 25    |
| DO4010-0-040    | 40                                                                                | C       | 62    | 54    | 70   | 25    |
| DO4010-0-041    | 41                                                                                | C       | 64    | 54    | 70   | 27    |
| DO4010-0-042    | 42                                                                                | C       | 65    | 54    | 74   | 27    |
| DO4010-0-043    | 43                                                                                | C       | 66    | 54    | 74   | 27    |
| DO4010-0-045    | 45                                                                                | C       | 68    | 54    | 74   | 27    |
| DO4010-0-046    | 46                                                                                | C       | 69,5  | 54    | 76   | 30    |
| DO4010-0-047    | 47                                                                                | C       | 72    | 54    | 76   | 32    |
| DO4010-0-048    | 48                                                                                | C       | 73    | 54    | 76   | 32    |
| DO4010-0-050    | 50                                                                                | C       | 74    | 54    | 80   | 35    |
| DO4010-0-052    | 52                                                                                | C       | 77    | 54    | 84   | 35    |
| DO4010-0-053    | 53                                                                                | C       | 78    | 54    | 84   | 35    |
| DO4010-0-054    | 54                                                                                | C       | 79    | 54    | 84   | 35    |
| DO4010-0-055    | 55                                                                                | C       | 81    | 54    | 84   | 35    |

| 6-POINT NORMAL (CONTINUED)2 |                                                                                   |         |       |       |      |       |
|-----------------------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                        |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                      |                                                                                   |         |       |       |      |       |
| DO4010-0-056                | 56                                                                                | C       | 83    | 54    | 84   | 40    |
| DO4010-0-057                | 57                                                                                | C       | 84    | 54    | 84   | 40    |
| DO4010-0-058                | 58                                                                                | C       | 85    | 54    | 87   | 40    |
| DO4010-0-060                | 60                                                                                | C       | 87    | 54    | 87   | 42    |
| DO4010-0-062                | 62                                                                                | C       | 89    | 54    | 87   | 42    |
| DO4010-0-063                | 63                                                                                | C       | 90    | 54    | 87   | 42    |
| DO4010-0-065                | 65                                                                                | C       | 93    | 54    | 90   | 42    |
| DO4010-0-070                | 70                                                                                | C       | 100   | 54    | 96   | 42    |
| DO4010-0-075                | 75                                                                                | C       | 106   | 86    | 98   | 45    |
| DO4010-0-080                | 80                                                                                | C       | 112   | 86    | 100  | 48    |
| DO4010-0-085                | 85                                                                                | C       | 118   | 86    | 105  | 52    |
| DO4010-0-090                | 90                                                                                | C       | 125   | 86    | 105  | 52    |
| DO4010-0-095                | 95                                                                                | C       | 131   | 86    | 115  | 52    |
| DO4010-0-100                | 100                                                                               | C       | 137   | 95    | 115  | 58    |
| DO4010-0-105                | 105                                                                               | C       | 143   | 95    | 115  | 58    |

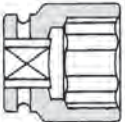
| 6-POINT NORMAL2  |                                                                                     |         |       |       |      |       |
|------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type             |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Inch             |                                                                                     |         |       |       |      |       |
| DO4010-0-1       | 1"                                                                                  | A       | 42    | 51    | 58   | 18    |
| DO4010-0-1 1/8   | 1 1/8"                                                                              | A       | 46    | 51    | 58   | 19    |
| DO4010-0-1 5/16  | 1 5/16"                                                                             | C       | 53    | 52    | 62   | 21    |
| DO4010-0-1 7/16  | 1 7/16"                                                                             | C       | 56    | 52    | 62   | 26    |
| DO4010-0-1 1/2   | 1 1/2"                                                                              | C       | 58    | 52    | 62   | 26    |
| DO4010-0-1 11/16 | 1 11/16"                                                                            | C       | 65    | 52    | 64   | 27    |
| DO4010-0-1 7/8   | 1 7/8"                                                                              | C       | 70    | 58    | 66   | 28    |
| DO4010-0-2 1/16  | 2 1/16"                                                                             | C       | 75    | 58    | 70   | 31    |
| DO4010-0-2 1/4   | 2 1/4"                                                                              | C       | 84    | 62    | 75   | 34    |
| DO4010-0-2 7/16  | 2 7/16"                                                                             | C       | 89    | 62    | 78   | 35    |
| DO4010-0-2 1/2   | 2 1/2"                                                                              | C       | 91    | 62    | 80   | 36    |
| DO4010-0-2 7/8   | 2 7/8"                                                                              | C       | 102   | 62    | 87   | 41    |



Drawing A



Drawing B



Drawing C

1" SQUARE DRIVE

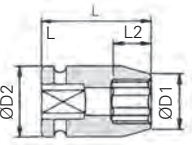


| 6-POINT DEEP1 |                                                                                     |         |       |       |      |       |
|---------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type          |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric        |                                                                                     |         |       |       |      |       |
| DO4010-1-017  | 17                                                                                  | A       | 34    | 54    | 100  | 17    |
| DO4010-1-018  | 18                                                                                  | A       | 34    | 54    | 100  | 18    |
| DO4010-1-019  | 19                                                                                  | A       | 35,5  | 54    | 100  | 19    |
| DO4010-1-020  | 20                                                                                  | A       | 36,5  | 54    | 100  | 20    |
| DO4010-1-021  | 21                                                                                  | A       | 37,5  | 54    | 100  | 21    |
| DO4010-1-022  | 22                                                                                  | A       | 40    | 54    | 100  | 22    |
| DO4010-1-023  | 23                                                                                  | A       | 41    | 54    | 100  | 23    |
| DO4010-1-024  | 24                                                                                  | A       | 42    | 54    | 100  | 24    |
| DO4010-1-025  | 25                                                                                  | A       | 43    | 54    | 100  | 25    |
| DO4010-1-026  | 26                                                                                  | A       | 44,5  | 54    | 100  | 26    |
| DO4010-1-027  | 27                                                                                  | A       | 46    | 54    | 100  | 27    |
| DO4010-1-028  | 28                                                                                  | A       | 47    | 54    | 100  | 28    |
| DO4010-1-029  | 29                                                                                  | A       | 48    | 54    | 100  | 29    |
| DO4010-1-030  | 30                                                                                  | A       | 50    | 54    | 100  | 30    |
| DO4010-1-031  | 31                                                                                  | A       | 51    | 54    | 100  | 31    |
| DO4010-1-032  | 32                                                                                  | A       | 52    | 54    | 100  | 32    |
| DO4010-1-033  | 33                                                                                  | A       | 53    | 53    | 100  | 33    |
| DO4010-1-034  | 34                                                                                  | C       | 55    | 54    | 100  | 34    |
| DO4010-1-035  | 35                                                                                  | C       | 56    | 54    | 100  | 35    |
| DO4010-1-036  | 36                                                                                  | C       | 57    | 54    | 100  | 36    |
| DO4010-1-037  | 37                                                                                  | C       | 57    | 54    | 100  | 37    |
| DO4010-1-038  | 38                                                                                  | C       | 59,5  | 54    | 100  | 38    |
| DO4010-1-039  | 39                                                                                  | C       | 61    | 54    | 100  | 38    |
| DO4010-1-040  | 40                                                                                  | C       | 62    | 54    | 100  | 38    |
| DO4010-1-041  | 41                                                                                  | C       | 64    | 54    | 100  | 38    |
| DO4010-1-042  | 42                                                                                  | C       | 65    | 54    | 100  | 38    |
| DO4010-1-046  | 46                                                                                  | C       | 69,5  | 54    | 100  | 38    |
| DO4010-1-047  | 47                                                                                  | C       | 71,5  | 54    | 100  | 38    |
| DO4010-1-048  | 48                                                                                  | C       | 72,5  | 54    | 100  | 38    |
| DO4010-1-050  | 50                                                                                  | C       | 75    | 54    | 100  | 38    |
| DO4010-1-054  | 54                                                                                  | C       | 80    | 54    | 100  | 40    |
| DO4010-1-055  | 55                                                                                  | C       | 81    | 54    | 100  | 40    |
| DO4010-1-056  | 56                                                                                  | C       | 82    | 54    | 105  | 40    |
| DO4010-1-058  | 58                                                                                  | C       | 85    | 54    | 105  | 40    |
| DO4010-1-060  | 60                                                                                  | C       | 87    | 54    | 120  | 42    |
| DO4010-1-065  | 65                                                                                  | C       | 93    | 54    | 125  | 42    |
| DO4010-1-070  | 70                                                                                  | C       | 100   | 54    | 125  | 42    |
| DO4010-1-075  | 75                                                                                  | C       | 106   | 86    | 135  | 45    |
| DO4010-1-080  | 80                                                                                  | C       | 112   | 86    | 135  | 48    |
| DO4010-1-085  | 85                                                                                  | C       | 118   | 86    | 140  | 52    |
| DO4010-1-090  | 90                                                                                  | C       | 125   | 86    | 140  | 52    |
| DO4010-1-095  | 95                                                                                  | C       | 131   | 86    | 140  | 52    |
| DO4010-1-100  | 100                                                                                 | C       | 137   | 95    | 140  | 58    |
| DO4010-1-105  | 105                                                                                 | C       | 143   | 95    | 155  | 58    |
| DO4010-1-110  | 110                                                                                 | C       | 149   | 95    | 155  | 60    |
| DO4010-1-115  | 115                                                                                 | C       | 155   | 95    | 155  | 62    |

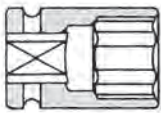
| 6-POINT DEEP1   |                                                                                     |         |       |       |      |       |
|-----------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Inch            |                                                                                     |         |       |       |      |       |
| DO4010-1-15/16  | 15/16"                                                                              | A       | 40    | 51    | 90   | 21    |
| DO4010-1-1      | 1"                                                                                  | A       | 42    | 51    | 90   | 25    |
| DO4010-1-1 1/16 | 1 1/16"                                                                             | A       | 44    | 51    | 90   | 23    |
| DO4010-1-1 3/16 | 1 3/16"                                                                             | A       | 48    | 51    | 90   | 40    |
| DO4010-1-1 5/16 | 1 5/16"                                                                             | C       | 53    | 52    | 90   | 40    |
| DO4010-1-1 1/2  | 1 1/2"                                                                              | C       | 58    | 52    | 92   | 54    |

| 6-POINT THIN WALL DEEP1 |                                                                                     |         |       |       |      |       |
|-------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                    |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                  |                                                                                     |         |       |       |      |       |
| DO61151019              | 19                                                                                  | A       | 33    | 54    | 100  | 19    |
| DO61151024              | 24                                                                                  | A       | 38    | 54    | 100  | 24    |
| DO61151027              | 27                                                                                  | A       | 42,5  | 54    | 100  | 27    |
| DO61151028              | 28                                                                                  | A       | 43    | 54    | 100  | 28    |
| DO61151030              | 30                                                                                  | A       | 45    | 54    | 100  | 30    |
| DO61151032              | 32                                                                                  | A       | 47    | 54    | 100  | 32    |
| DO61151033              | 33                                                                                  | A       | 49    | 54    | 100  | 33    |
| DO61151036              | 36                                                                                  | A       | 52    | 54    | 100  | 36    |
| DO61151041              | 41                                                                                  | C       | 57    | 54    | 100  | 38    |

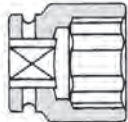
| 6-POINT EXTRA DEEP2 |                                                                                       |         |       |       |      |       |
|---------------------|---------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric              |                                                                                       |         |       |       |      |       |
| DO60559024          | 24                                                                                    | B       | 42    | 54    | 270  | 24    |
| DO60559027          | 27                                                                                    | B       | 45    | 54    | 270  | 27    |
| DO60559030          | 30                                                                                    | B       | 50    | 54    | 270  | 30    |
| DO60559032          | 32                                                                                    | B       | 52    | 54    | 270  | 32    |
| DO60559033          | 33                                                                                    | B       | 52    | 54    | 270  | 32    |
| DO60559036          | 36                                                                                    | B       | 57    | 54    | 270  | 36    |
| DO6115H032          | 32                                                                                    | B       | 48,5  | 54    | 400  | 32    |
| DO6115H033          | 33                                                                                    | B       | 50    | 54    | 400  | 32    |



Drawing A



Drawing B



Drawing C



1" SQUARE DRIVE



8-POINT NORMAL1

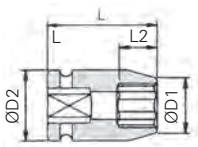
| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                   |         |       |       |      |       |
| DO63655019 | 19                                                                                | A       | 45    | 54    | 60   | 13    |
| DO63655024 | 24                                                                                | A       | 52    | 54    | 60   | 18    |
| DO63655027 | 27                                                                                | C       | 56,5  | 54    | 60   | 19    |
| DO63655030 | 30                                                                                | C       | 61    | 54    | 62   | 21    |
| DO63655032 | 32                                                                                | C       | 64    | 54    | 62   | 22    |
| DO63655035 | 35                                                                                | C       | 68,5  | 58    | 65   | 22    |
| DO63655038 | 38                                                                                | C       | 73    | 58    | 67   | 24    |
| DO63655046 | 46                                                                                | C       | 86    | 62    | 76   | 30    |

12-POINT NORMAL2

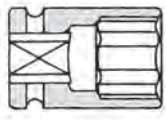
| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                   |         |       |       |      |       |
| DO65855016 | 16                                                                                | A       | 32    | 54    | 60   | 11    |
| DO65855017 | 17                                                                                | A       | 34    | 54    | 60   | 11    |
| DO65855018 | 18                                                                                | A       | 35    | 54    | 60   | 13    |
| DO65855019 | 19                                                                                | A       | 36    | 54    | 60   | 13    |
| DO65855020 | 20                                                                                | A       | 37    | 54    | 60   | 13    |
| DO65855021 | 21                                                                                | A       | 38    | 54    | 60   | 15    |
| DO65855022 | 22                                                                                | A       | 39    | 54    | 60   | 15    |
| DO65855023 | 23                                                                                | A       | 40    | 54    | 60   | 15    |
| DO65855024 | 24                                                                                | A       | 41    | 54    | 60   | 18    |
| DO65855025 | 25                                                                                | A       | 43    | 54    | 60   | 18    |
| DO65855026 | 26                                                                                | A       | 44,5  | 54    | 60   | 18    |
| DO65855027 | 27                                                                                | A       | 45    | 54    | 60   | 19    |
| DO65855028 | 28                                                                                | A       | 46,5  | 54    | 62   | 19    |
| DO65855029 | 29                                                                                | A       | 48    | 54    | 62   | 19    |
| DO65855030 | 30                                                                                | A       | 50    | 54    | 62   | 21    |
| DO65855031 | 31                                                                                | A       | 51    | 54    | 62   | 21    |
| DO65855032 | 32                                                                                | A       | 52    | 54    | 62   | 22    |
| DO65855033 | 33                                                                                | A       | 53    | 54    | 62   | 22    |
| DO65855034 | 34                                                                                | C       | 55    | 54    | 62   | 22    |
| DO65855035 | 35                                                                                | C       | 56    | 54    | 65   | 22    |
| DO65855036 | 36                                                                                | C       | 57    | 54    | 67   | 24    |
| DO65855037 | 37                                                                                | C       | 59    | 54    | 67   | 24    |
| DO65855038 | 38                                                                                | C       | 60    | 54    | 67   | 24    |
| DO65855039 | 39                                                                                | C       | 61    | 54    | 70   | 24    |
| DO65855040 | 40                                                                                | C       | 62    | 54    | 70   | 24    |
| DO65855041 | 41                                                                                | C       | 63,5  | 54    | 70   | 27    |
| DO65855042 | 42                                                                                | C       | 65    | 54    | 74   | 27    |
| DO65855043 | 43                                                                                | C       | 66    | 54    | 74   | 27    |
| DO65855044 | 44                                                                                | C       | 67    | 54    | 74   | 27    |
| DO65855045 | 45                                                                                | C       | 68    | 54    | 74   | 27    |
| DO65855046 | 46                                                                                | C       | 70    | 58    | 76   | 30    |

12-POINT NORMAL (CONTINUED)2

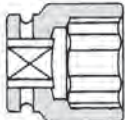
| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                   |         |       |       |      |       |
| DO65855047 | 47                                                                                | C       | 71,5  | 58    | 76   | 30    |
| DO65855048 | 48                                                                                | C       | 72,5  | 58    | 76   | 30    |
| DO65855050 | 50                                                                                | C       | 75    | 62    | 80   | 32    |
| DO65855051 | 51                                                                                | C       | 76    | 62    | 80   | 32    |
| DO65855052 | 52                                                                                | C       | 77    | 62    | 84   | 32    |
| DO65855053 | 53                                                                                | C       | 78    | 62    | 84   | 32    |
| DO65855054 | 54                                                                                | C       | 80    | 62    | 84   | 32    |
| DO65855055 | 55                                                                                | C       | 81    | 62    | 84   | 35    |
| DO65855056 | 56                                                                                | C       | 82    | 62    | 84   | 35    |
| DO65855057 | 57                                                                                | C       | 84    | 62    | 84   | 35    |
| DO65855058 | 58                                                                                | C       | 85    | 62    | 87   | 37    |
| DO65855060 | 60                                                                                | C       | 87    | 62    | 87   | 37    |
| DO65855062 | 62                                                                                | C       | 89    | 62    | 87   | 37    |
| DO65855063 | 63                                                                                | C       | 90    | 62    | 87   | 37    |
| DO65855065 | 65                                                                                | C       | 93    | 62    | 90   | 40    |
| DO65855067 | 67                                                                                | C       | 96    | 62    | 92   | 40    |
| DO65855070 | 70                                                                                | C       | 100   | 62    | 96   | 40    |
| DO65855075 | 75                                                                                | C       | 106   | 86    | 98   | 42    |
| DO65855076 | 76                                                                                | C       | 107   | 86    | 100  | 45    |
| DO65855077 | 77                                                                                | C       | 109   | 86    | 100  | 45    |
| DO65855078 | 78                                                                                | C       | 110   | 86    | 100  | 45    |
| DO65855080 | 80                                                                                | C       | 112   | 86    | 100  | 45    |
| DO65855085 | 85                                                                                | C       | 118   | 86    | 105  | 52    |
| DO65855090 | 90                                                                                | C       | 125   | 86    | 105  | 52    |
| DO65855095 | 95                                                                                | C       | 131   | 86    | 105  | 52    |
| DO65855100 | 100                                                                               | C       | 137   | 86    | 110  | 58    |
| DO65855105 | 105                                                                               | C       | 143   | 95    | 110  | 58    |
| DO65855110 | 110                                                                               | C       | 149   | 95    | 115  | 62    |
| DO65855115 | 115                                                                               | C       | 155   | 95    | 115  | 62    |



Drawing A



Drawing B



Drawing C

1" SQUARE DRIVE



12-POINT DEEP1

| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                     |         |       |       |      |       |
| DO65857016 | 16                                                                                  | A       | 32    | 54    | 100  | 11    |
| DO65857017 | 17                                                                                  | A       | 34    | 54    | 100  | 11    |
| DO65857018 | 18                                                                                  | A       | 35    | 54    | 100  | 13    |
| DO65857019 | 19                                                                                  | A       | 36    | 54    | 100  | 13    |
| DO65857020 | 20                                                                                  | A       | 37    | 54    | 100  | 13    |
| DO65857021 | 21                                                                                  | A       | 38    | 54    | 100  | 15    |
| DO65857022 | 22                                                                                  | A       | 39    | 54    | 100  | 15    |
| DO65857023 | 23                                                                                  | A       | 40    | 54    | 100  | 15    |
| DO65857024 | 24                                                                                  | A       | 41    | 54    | 100  | 18    |
| DO65857025 | 25                                                                                  | A       | 43    | 54    | 100  | 18    |
| DO65857026 | 26                                                                                  | A       | 44,5  | 54    | 100  | 18    |
| DO65857027 | 27                                                                                  | A       | 45    | 54    | 100  | 19    |
| DO65857028 | 28                                                                                  | A       | 46,5  | 54    | 100  | 19    |
| DO65857029 | 29                                                                                  | A       | 48    | 54    | 100  | 19    |
| DO65857030 | 30                                                                                  | A       | 50    | 54    | 100  | 21    |
| DO65857031 | 31                                                                                  | A       | 51    | 54    | 100  | 21    |
| DO65857032 | 32                                                                                  | A       | 52    | 54    | 100  | 22    |
| DO65857033 | 33                                                                                  | A       | 53    | 54    | 100  | 22    |
| DO65857034 | 34                                                                                  | C       | 55    | 54    | 100  | 22    |
| DO65857035 | 35                                                                                  | C       | 56    | 54    | 100  | 22    |
| DO65857036 | 36                                                                                  | C       | 57    | 54    | 100  | 24    |
| DO65857037 | 37                                                                                  | C       | 59    | 54    | 100  | 24    |
| DO65857038 | 38                                                                                  | C       | 60    | 54    | 100  | 24    |
| DO65857039 | 39                                                                                  | C       | 61    | 54    | 100  | 24    |
| DO65857040 | 40                                                                                  | C       | 62    | 54    | 100  | 24    |
| DO65857041 | 41                                                                                  | C       | 63,5  | 54    | 100  | 27    |
| DO65857042 | 42                                                                                  | C       | 65    | 54    | 100  | 27    |
| DO65857043 | 43                                                                                  | C       | 66    | 54    | 100  | 27    |
| DO65857044 | 44                                                                                  | C       | 67    | 54    | 100  | 27    |
| DO65857045 | 45                                                                                  | C       | 68    | 54    | 100  | 27    |
| DO65857046 | 46                                                                                  | C       | 70    | 58    | 100  | 30    |
| DO65857047 | 47                                                                                  | C       | 71,5  | 58    | 100  | 30    |
| DO65857048 | 48                                                                                  | C       | 72,5  | 58    | 100  | 30    |
| DO65857050 | 50                                                                                  | C       | 75    | 62    | 100  | 32    |
| DO65857051 | 51                                                                                  | C       | 76    | 62    | 100  | 32    |
| DO65857052 | 52                                                                                  | C       | 77    | 62    | 100  | 32    |
| DO65857053 | 53                                                                                  | C       | 78    | 62    | 100  | 32    |
| DO65857054 | 54                                                                                  | C       | 80    | 62    | 100  | 32    |
| DO65857055 | 55                                                                                  | C       | 81    | 62    | 100  | 35    |
| DO65857056 | 56                                                                                  | C       | 82    | 62    | 105  | 35    |
| DO65857057 | 57                                                                                  | C       | 84    | 62    | 105  | 35    |
| DO65857058 | 58                                                                                  | C       | 85    | 62    | 105  | 37    |
| DO65857060 | 60                                                                                  | C       | 87    | 62    | 120  | 37    |
| DO65857062 | 62                                                                                  | C       | 89    | 62    | 120  | 37    |
| DO65857063 | 63                                                                                  | C       | 90    | 62    | 120  | 37    |
| DO65857065 | 65                                                                                  | C       | 93    | 62    | 125  | 40    |

12-POINT DEEP (CONTINUED)1

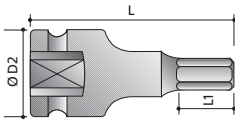
| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                     |         |       |       |      |       |
| DO65857067 | 67                                                                                  | C       | 96    | 62    | 125  | 40    |
| DO65857070 | 70                                                                                  | C       | 100   | 62    | 125  | 40    |
| DO65857075 | 75                                                                                  | C       | 106   | 86    | 135  | 42    |
| DO65857076 | 76                                                                                  | C       | 107   | 86    | 135  | 45    |
| DO65857077 | 77                                                                                  | C       | 109   | 86    | 135  | 45    |
| DO65857078 | 78                                                                                  | C       | 110   | 86    | 135  | 45    |
| DO65857080 | 80                                                                                  | C       | 112   | 86    | 135  | 45    |
| DO65857085 | 85                                                                                  | C       | 118   | 86    | 140  | 52    |
| DO65857090 | 90                                                                                  | C       | 125   | 86    | 140  | 52    |
| DO65857095 | 95                                                                                  | C       | 131   | 86    | 140  | 52    |
| DO65857100 | 100                                                                                 | C       | 137   | 86    | 140  | 58    |
| DO65857105 | 105                                                                                 | C       | 143   | 95    | 155  | 58    |
| DO65857110 | 110                                                                                 | C       | 149   | 95    | 155  | 62    |
| DO65857115 | 115                                                                                 | C       | 155   | 95    | 155  | 62    |

HEX DRIVER2

| Type      |  | Drawing | D2 mm | L mm | L1 mm | - |
|-----------|--------------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric    |                                                                                      |         |       |      |       |   |
| DO696610A | 10                                                                                   | K       | 54    | 100  | 20    | - |
| DO696612A | 12                                                                                   | K       | 54    | 100  | 20    | - |
| DO696614A | 14                                                                                   | K       | 54    | 100  | 20    | - |
| DO696617A | 17                                                                                   | K       | 54    | 100  | 20    | - |
| DO696619A | 19                                                                                   | K       | 54    | 100  | 20    | - |
| DO696622A | 22                                                                                   | K       | 54    | 100  | 20    | - |
| DO696622B | 22                                                                                   | K       | 54    | 140  | 20    | - |
| DO696624A | 24                                                                                   | K       | 54    | 100  | 20    | - |
| DO696627A | 27                                                                                   | K       | 54    | 100  | 20    | - |
| DO696630A | 30                                                                                   | K       | 54    | 100  | 24    | - |
| DO696632A | 32                                                                                   | K       | 54    | 100  | 24    | - |
| DO696636A | 36                                                                                   | K       | 54    | 100  | 28    | - |

PIN & RING

| Type         | D2 mm |                                                                                       |
|--------------|-------|---------------------------------------------------------------------------------------|
| DO1100-0-000 | 54    |  |
| DO1100-0-086 | 86    |                                                                                       |
| DO1100-0-095 | 95    |                                                                                       |



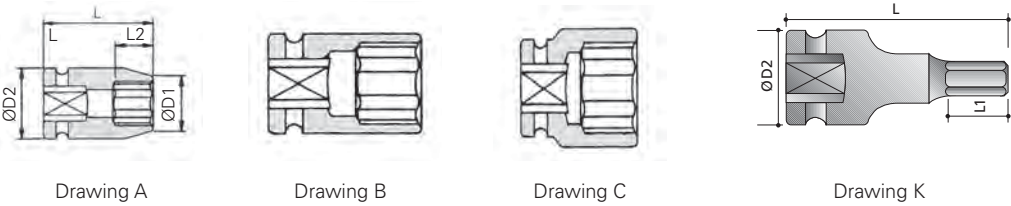
Drawing K

1 1/2" SQUARE DRIVE



| 6-POINT NORMAL1 |                                                                                   |         |       |       |      |       |
|-----------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type            |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric          |                                                                                   |         |       |       |      |       |
| DO5112-0-030    | 30                                                                                | A       | 56    | 86    | 78   | 21    |
| DO5112-0-032    | 32                                                                                | A       | 58    | 86    | 78   | 22    |
| DO5112-0-035    | 35                                                                                | A       | 62    | 86    | 78   | 22    |
| DO5112-0-036    | 36                                                                                | A       | 64    | 86    | 78   | 24    |
| DO5112-0-037    | 37                                                                                | A       | 65    | 86    | 78   | 24    |
| DO5112-0-038    | 38                                                                                | A       | 66    | 86    | 78   | 26    |
| DO5112-0-040    | 40                                                                                | A       | 68    | 86    | 78   | 28    |
| DO5112-0-041    | 41                                                                                | A       | 70    | 86    | 80   | 28    |
| DO5112-0-045    | 45                                                                                | A       | 75    | 86    | 84   | 30    |
| DO5112-0-046    | 46                                                                                | A       | 76    | 86    | 84   | 30    |
| DO5112-0-047    | 47                                                                                | A       | 77    | 86    | 84   | 32    |
| DO5112-0-048    | 48                                                                                | A       | 79    | 86    | 84   | 32    |
| DO5112-0-050    | 50                                                                                | A       | 81    | 87    | 87   | 32    |
| DO5112-0-052    | 52                                                                                | A       | 83    | 86    | 87   | 34    |
| DO5112-0-054    | 54                                                                                | B       | 86    | 86    | 90   | 37    |
| DO5112-0-055    | 55                                                                                | B       | 86    | 86    | 90   | 37    |
| DO5112-0-056    | 56                                                                                | B       | 86    | 86    | 92   | 37    |
| DO5112-0-058    | 58                                                                                | C       | 92    | 86    | 92   | 39    |
| DO5112-0-060    | 60                                                                                | C       | 93    | 86    | 92   | 39    |
| DO5112-0-061    | 61                                                                                | C       | 95    | 86    | 95   | 42    |
| DO5112-0-062    | 62                                                                                | C       | 96    | 86    | 95   | 42    |
| DO5112-0-065    | 65                                                                                | C       | 97    | 86    | 95   | 42    |
| DO5112-0-068    | 68                                                                                | C       | 104   | 86    | 100  | 46    |
| DO5112-0-070    | 70                                                                                | C       | 105   | 86    | 100  | 46    |
| DO5112-0-072    | 72                                                                                | C       | 108   | 86    | 108  | 49    |
| DO5112-0-075    | 75                                                                                | C       | 110   | 86    | 108  | 49    |
| DO5112-0-078    | 78                                                                                | C       | 115   | 86    | 115  | 53    |
| DO5112-0-080    | 80                                                                                | C       | 116   | 86    | 115  | 53    |
| DO5112-0-085    | 85                                                                                | C       | 125   | 86    | 118  | 56    |
| DO5112-0-090    | 90                                                                                | C       | 130   | 86    | 123  | 59    |
| DO5112-0-095    | 95                                                                                | C       | 137   | 95    | 123  | 62    |
| DO5112-0-100    | 100                                                                               | C       | 140   | 95    | 130  | 65    |
| DO5112-0-105    | 105                                                                               | C       | 150   | 95    | 130  | 68    |
| DO5112-0-110    | 110                                                                               | C       | 156   | 95    | 135  | 72    |
| DO5112-0-115    | 115                                                                               | C       | 160   | 95    | 140  | 77    |
| DO5112-0-125    | 125                                                                               | C       | 175   | 127   | 140  | 77    |

| 6-POINT DEEP2 |                                                                                   |         |       |       |      |       |
|---------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type          |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric        |                                                                                   |         |       |       |      |       |
| DO5112-1-036  | 36                                                                                | A       | 64    | 86    | 115  | 24    |
| DO5112-1-041  | 41                                                                                | A       | 70    | 86    | 115  | 28    |
| DO5112-1-042  | 42                                                                                | A       | 71    | 86    | 115  | 28    |
| DO5112-1-046  | 46                                                                                | A       | 76    | 86    | 115  | 30    |
| DO5112-1-050  | 50                                                                                | A       | 81    | 86    | 135  | 34    |
| DO5112-1-054  | 54                                                                                | B       | 86    | 86    | 140  | 37    |
| DO5112-1-055  | 55                                                                                | B       | 86    | 86    | 140  | 37    |
| DO5112-1-056  | 56                                                                                | B       | 88    | 86    | 140  | 37    |
| DO5112-1-060  | 60                                                                                | C       | 94    | 86    | 150  | 39    |
| DO5112-1-063  | 63                                                                                | C       | 97    | 86    | 150  | 42    |
| DO5112-1-065  | 65                                                                                | C       | 100   | 86    | 150  | 42    |
| DO5112-1-070  | 70                                                                                | C       | 106   | 86    | 160  | 46    |
| DO5112-1-075  | 75                                                                                | C       | 112   | 86    | 170  | 49    |
| DO5112-1-080  | 80                                                                                | C       | 119   | 86    | 170  | 53    |
| DO5112-1-085  | 85                                                                                | C       | 125   | 86    | 170  | 56    |
| DO5112-1-090  | 90                                                                                | C       | 131   | 86    | 170  | 59    |
| DO5112-1-095  | 95                                                                                | C       | 137   | 95    | 180  | 61    |
| DO5112-1-100  | 100                                                                               | C       | 144   | 95    | 190  | 65    |
| DO5112-1-105  | 105                                                                               | C       | 154   | 95    | 190  | 68    |
| DO5112-1-110  | 110                                                                               | C       | 157   | 95    | 200  | 72    |
| DO5112-1-115  | 115                                                                               | C       | 164   | 95    | 210  | 77    |
| DO5112-1-120  | 120                                                                               | C       | 167   | 95    | 210  | 77    |
| DO5112-1-125  | 125                                                                               | C       | 174   | 127   | 210  | 77    |



1 1/2" & 2 1/2" SQUARE DRIVE



Red Rooster · Yokota · Toku · Action

| 1 1/2" DRIVE HEX DRIVER1 |                                                                                     |         |      |      |       |   |
|--------------------------|-------------------------------------------------------------------------------------|---------|------|------|-------|---|
| Type                     |  | Drawing | D2mm | L mm | L1 mm | - |
| Metric                   |                                                                                     |         |      |      |       |   |
| DO64866019               | 19                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866022               | 22                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866024               | 24                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866027               | 27                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866030               | 30                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866032               | 32                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866033               | 33                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866041               | 41                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866046               | 46                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866050               | 50                                                                                  | K       | 86   | 105  | 20    | - |
| DO64866055               | 55                                                                                  | K       | 86   | 105  | 20    | - |
| DO64865019               | 19                                                                                  | K       | 86   | 120  | 20    | - |
| DO64865022               | 22                                                                                  | K       | 86   | 120  | 20    | - |
| DO64865024               | 24                                                                                  | K       | 86   | 120  | 20    | - |
| DO64865027               | 27                                                                                  | K       | 86   | 120  | 20    | - |
| DO64865030               | 30                                                                                  | K       | 86   | 120  | 24    | - |
| DO64865032               | 32                                                                                  | K       | 86   | 120  | 24    | - |
| DO64865033               | 33                                                                                  | K       | 86   | 120  | 24    | - |
| DO64865036               | 36                                                                                  | K       | 86   | 120  | 28    | - |
| DO64865038               | 38                                                                                  | K       | 86   | 120  | 28    | - |
| DO64865041               | 41                                                                                  | K       | 86   | 120  | 34    | - |
| DO64865046               | 46                                                                                  | K       | 86   | 120  | 38    | - |
| DO64865050               | 50                                                                                  | K       | 86   | 120  | 38    | - |
| DO64865055               | 55                                                                                  | K       | 86   | 120  | 43    | - |

PIN & RING

| Type         | D2 mm |
|--------------|-------|
| DO1112-0-000 | 86    |
| DO1112-0-095 | 95    |
| DO1112-0-127 | 127   |



| 2 1/2" DRIVE 6-POINT NORMAL2 |                                                                                     |         |       |       |      |       |
|------------------------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Type                         |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                       |                                                                                     |         |       |       |      |       |
| DO6212-0-060                 | 60                                                                                  | A       | 99    | 127   | 125  | 37    |
| DO6212-0-065                 | 65                                                                                  | A       | 105   | 127   | 130  | 40    |
| DO6212-0-070                 | 70                                                                                  | A       | 110   | 127   | 130  | 40    |
| DO6212-0-075                 | 75                                                                                  | A       | 118   | 127   | 140  | 42    |
| DO6212-0-077                 | 77                                                                                  | A       | 122   | 127   | 140  | 45    |
| DO6212-0-080                 | 80                                                                                  | A       | 124   | 127   | 140  | 45    |
| DO6212-0-085                 | 85                                                                                  | C       | 130   | 127   | 140  | 52    |
| DO6212-0-090                 | 90                                                                                  | C       | 136   | 127   | 145  | 52    |
| DO6212-0-095                 | 95                                                                                  | C       | 143   | 127   | 145  | 52    |
| DO6212-0-100                 | 100                                                                                 | C       | 149   | 127   | 150  | 58    |
| DO6212-0-105                 | 105                                                                                 | C       | 155   | 127   | 155  | 58    |
| DO6212-0-110                 | 110                                                                                 | C       | 161   | 127   | 160  | 60    |
| DO6212-0-115                 | 115                                                                                 | C       | 167   | 127   | 165  | 62    |
| DO6212-0-120                 | 120                                                                                 | C       | 176   | 127   | 170  | 67    |
| DO6212-0-125                 | 125                                                                                 | C       | 184   | 127   | 175  | 72    |
| DO6212-0-130                 | 130                                                                                 | C       | 188   | 152   | 175  | 72    |
| DO6212-0-135                 | 135                                                                                 | C       | 195   | 152   | 180  | 77    |
| DO6212-0-140                 | 140                                                                                 | C       | 204   | 152   | 180  | 77    |
| DO6212-0-145                 | 145                                                                                 | C       | 207   | 152   | 185  | 83    |
| DO6212-0-150                 | 150                                                                                 | C       | 214   | 152   | 185  | 83    |
| DO6212-0-155                 | 155                                                                                 | C       | 224   | 152   | 190  | 90    |
| DO6212-0-160                 | 160                                                                                 | C       | 227   | 152   | 190  | 90    |
| DO6212-0-165                 | 165                                                                                 | C       | 234   | 152   | 195  | 95    |
| DO6212-0-170                 | 170                                                                                 | C       | 244   | 152   | 195  | 95    |
| DO6212-0-175                 | 175                                                                                 | C       | 247   | 152   | 200  | 100   |
| DO6212-0-180                 | 180                                                                                 | C       | 254   | 152   | 200  | 100   |
| DO6212-0-185                 | 185                                                                                 | C       | 257   | 152   | 210  | 105   |
| DO6212-0-190                 | 190                                                                                 | C       | 265   | 152   | 210  | 105   |
| DO6212-0-200                 | 200                                                                                 | C       | 275   | 152   | 220  | 110   |

PIN & RING

| Type         |
|--------------|
| DO2112-0-000 |





ADAPTORS

EXTENSION BARS WITH PIN HOLE 1

| Type         |        | Drawing | D mm | L mm |
|--------------|--------|---------|------|------|
| Metric       |        |         |      |      |
| DO7014-0-050 | 1/4"   | B       | 13   | 50   |
| DO7014-0-100 | 1/4"   | B       | 13   | 100  |
| DO7014-0-150 | 1/4"   | B       | 13   | 150  |
| DO7038-0-075 | 3/8"   | B       | 19   | 75   |
| DO7038-0-100 | 3/8"   | B       | 19   | 100  |
| DO7038-0-125 | 3/8"   | B       | 19   | 125  |
| DO7038-0-150 | 3/8"   | B       | 19   | 150  |
| DO7038-0-200 | 3/8"   | B       | 19   | 200  |
| DO7038-0-250 | 3/8"   | B       | 19   | 250  |
| DO7012-0-075 | 1/2"   | B       | 25   | 75   |
| DO7012-0-100 | 1/2"   | B       | 25   | 100  |
| DO7012-0-125 | 1/2"   | B       | 25   | 125  |
| DO7012-0-150 | 1/2"   | B       | 25   | 150  |
| DO7012-0-175 | 1/2"   | B       | 25   | 175  |
| DO7012-0-200 | 1/2"   | B       | 25   | 200  |
| DO7012-0-250 | 1/2"   | B       | 25   | 250  |
| DO7012-0-300 | 1/2"   | B       | 25   | 300  |
| DO7012-0-460 | 1/2"   | B       | 25   | 460  |
| DO7012-0-610 | 1/2"   | B       | 25   | 610  |
| DO7012-0-915 | 1/2"   | B       | 25   | 915  |
| DO7034-0-075 | 3/4"   | B       | 44   | 75   |
| DO7034-0-100 | 3/4"   | B       | 44   | 100  |
| DO7034-0-125 | 3/4"   | B       | 44   | 125  |
| DO7034-0-150 | 3/4"   | B       | 44   | 150  |
| DO7034-0-175 | 3/4"   | B       | 44   | 175  |
| DO7034-0-200 | 3/4"   | B       | 44   | 200  |
| DO7034-0-250 | 3/4"   | B       | 44   | 250  |
| DO7034-0-330 | 3/4"   | B       | 44   | 330  |
| DO7034-0-400 | 3/4"   | B       | 44   | 400  |
| DO7100-0-075 | 1"     | B       | 54   | 75   |
| DO7100-0-100 | 1"     | B       | 54   | 100  |
| DO7100-0-125 | 1"     | B       | 54   | 125  |
| DO7100-0-150 | 1"     | B       | 54   | 150  |
| DO7100-0-175 | 1"     | B       | 54   | 175  |
| DO7100-0-200 | 1"     | B       | 54   | 200  |
| DO7100-0-250 | 1"     | B       | 54   | 250  |
| DO7100-0-300 | 1"     | B       | 54   | 300  |
| DO7100-0-330 | 1"     | B       | 54   | 330  |
| DO7100-0-350 | 1"     | B       | 54   | 350  |
| DO7100-0-400 | 1"     | B       | 54   | 400  |
| DO7112-0-125 | 1 1/2" | B       | 86   | 125  |
| DO7112-0-250 | 1 1/2" | B       | 86   | 250  |
| DO7112-0-500 | 1 1/2" | B       | 86   | 500  |
| DO7212-0-250 | 2 1/2" | B       | 127  | 250  |
| DO7212-0-500 | 2 1/2" | B       | 127  | 500  |

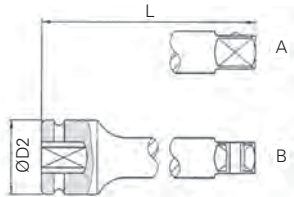
Rings and pins are not standard. Please order separately.

EXTENSION BARS WITH STEEL BALL RETAINER 2

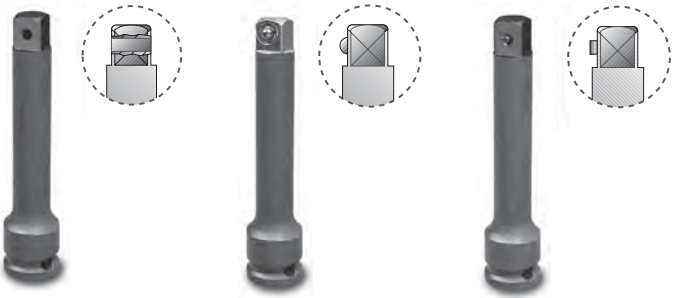
| Type      |      | Drawing | D2 mm | L mm |
|-----------|------|---------|-------|------|
| Metric    |      |         |       |      |
| DO6862075 | 3/8" | A       | 19    | 75   |
| DO6862100 | 3/8" | A       | 19    | 100  |
| DO6862125 | 3/8" | A       | 19    | 125  |
| DO6862150 | 3/8" | A       | 19    | 150  |
| DO6862250 | 3/8" | A       | 19    | 250  |
| DO6863075 | 1/2" | A       | 25    | 75   |
| DO6863100 | 1/2" | A       | 25    | 100  |
| DO6863125 | 1/2" | A       | 25    | 125  |
| DO6863250 | 1/2" | A       | 25    | 250  |

EXTENSION BAR WITH LOCK PIN RETAINER 3

| Type       |      | Drawing | D2 mm | L mm |
|------------|------|---------|-------|------|
| Metric     |      |         |       |      |
| DO64514075 | 3/8" | A       | 19    | 75   |
| DO64514100 | 3/8" | A       | 19    | 100  |
| DO64514125 | 3/8" | A       | 19    | 125  |
| DO64514150 | 3/8" | A       | 19    | 150  |
| DO64514200 | 3/8" | A       | 19    | 200  |
| DO64514250 | 3/8" | A       | 19    | 250  |
| DO64524075 | 1/2" | A       | 25    | 75   |
| DO64524100 | 1/2" | A       | 25    | 100  |
| DO64524125 | 1/2" | A       | 25    | 125  |
| DO64524150 | 1/2" | A       | 25    | 150  |
| DO64524200 | 1/2" | A       | 25    | 200  |
| DO64524250 | 1/2" | A       | 25    | 250  |
| DO64524460 | 1/2" | A       | 25    | 460  |



Drawing A & B

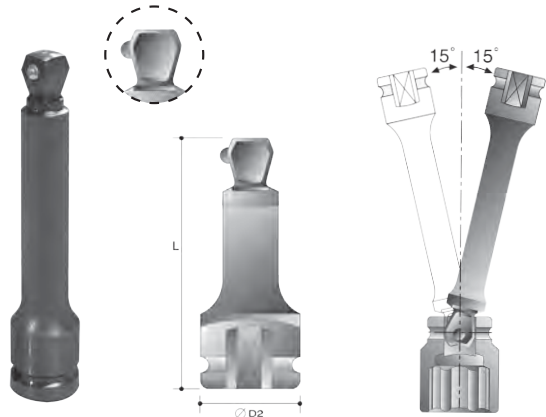


1 Pin hole  
2 Steel ball retainer  
3 Lock pin retainer

ADAPTORS

WOBBLE EXTENSION BARS

| Type       |      |      | D2 mm | L mm | Type                |
|------------|------|------|-------|------|---------------------|
| Metric     |      |      |       |      |                     |
| DO6450F050 | 1/4" | 1/4" | 13    | 50   | Steel ball retainer |
| DO6450F075 | 1/4" | 1/4" | 13    | 75   | Steel ball retainer |
| DO6450F100 | 1/4" | 1/4" | 13    | 100  | Steel ball retainer |
| DO6451F050 | 3/8" | 3/8" | 19    | 50   | Steel ball retainer |
| DO6451F075 | 3/8" | 3/8" | 19    | 75   | Steel ball retainer |
| DO6451F100 | 3/8" | 3/8" | 19    | 100  | Steel ball retainer |
| DO6451F200 | 3/8" | 3/8" | 19    | 200  | Steel ball retainer |
| DO6452F075 | 1/2" | 1/2" | 25    | 75   | Steel ball retainer |
| DO6452F125 | 1/2" | 1/2" | 25    | 125  | Steel ball retainer |
| DO6452F150 | 1/2" | 1/2" | 25    | 150  | Steel ball retainer |
| DO6452F200 | 1/2" | 1/2" | 25    | 200  | Steel ball retainer |



JOINTS

UNIVERSAL JOINTS WITH STEEL BALL

| Type      |      |      | Drawing | D2 mm | L mm |
|-----------|------|------|---------|-------|------|
| Metric    |      |      |         |       |      |
| DO6781F1T | 1/4" | 1/4" | A       | 16    | 43   |
| DO6782F2T | 3/8" | 3/8" | A       | 24    | 50   |
| DO6783F3T | 1/2" | 1/2" | A       | 32    | 60   |
| DO6784F4T | 3/4" | 3/4" | A       | 44    | 90   |

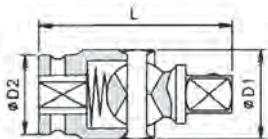


UNIVERSAL JOINTS WITH PIN HOLE

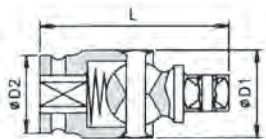
| Type         |        |        | Drawing | D2 mm | L mm |
|--------------|--------|--------|---------|-------|------|
| Metric       |        |        |         |       |      |
| DO9014-0-000 | 1/4"   | 1/4"   | B       | 16    | 43   |
| DO9038-0-000 | 3/8"   | 3/8"   | B       | 24    | 50   |
| DO9012-0-000 | 1/2"   | 1/2"   | B       | 32    | 60   |
| DO9034-0-000 | 3/4"   | 3/4"   | B       | 44    | 105  |
| DO9100-0-000 | 1"     | 1"     | B       | 54    | 110  |
| DO9112-0-000 | 1 1/2" | 1 1/2" | B       | 86    | 182  |



Rings and pins are not standard. Please order separately.



Drawing A



Drawing B

ADAPTORS

ADAPTORS EXTERNAL SQUARE - EXTERNAL HEX

| Type       |      |       | Drawing | L mm | D mm |
|------------|------|-------|---------|------|------|
| Metric     |      |       |         |      |      |
| DO69306050 | 1/4" | 1/4"  | C       | 50   | 9    |
| DO69306075 | 1/4" | 1/4"  | C       | 75   | 9    |
| DO69306100 | 1/4" | 1/4"  | C       | 100  | 9    |
| DO69306150 | 1/4" | 1/4"  | C       | 150  | 9    |
| DO69316050 | 3/8" | 1/4"  | C       | 50   | 13   |
| DO69316075 | 3/8" | 1/4"  | C       | 75   | 13   |
| DO69316100 | 3/8" | 1/4"  | C       | 100  | 13   |
| DO69318075 | 3/8" | 7/16" | D       | 75   | 13   |
| DO6932E050 | 1/2" | 1/4"  | C       | 50   | 17   |
| DO69328075 | 1/2" | 7/16" | D       | 75   | 17   |



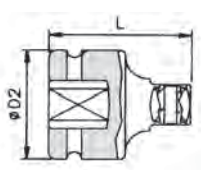
Drawing C



Drawing D



ADAPTORS

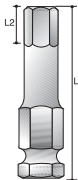


Drawing A

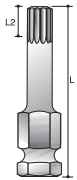


1

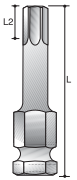
2



Hex drivers



Triple Square



Torx intern

ADAPTORS WITH PIN HOLE

| Type         | Drawing | D2 mm  | L mm |
|--------------|---------|--------|------|
| Metric       |         |        |      |
| DO8014-0-038 | 1/4"    | 3/8"   | A    |
| DO8038-0-014 | 3/8"    | 1/4"   | A    |
| DO8038-0-012 | 3/8"    | 1/2"   | A    |
| DO8012-0-034 | 1/2"    | 3/4"   | A    |
| DO8012-0-038 | 1/2"    | 3/8"   | A    |
| DO8034-0-012 | 3/4"    | 1/2"   | A    |
| DO8034-0-100 | 3/4"    | 1"     | A    |
| DO8100-0-034 | 1"      | 3/4"   | A    |
| DO8100-0-112 | 1"      | 1 1/2" | A    |
| DO8112-0-100 | 1 1/2"  | 1"     | A    |
| DO8112-0-212 | 1 1/2"  | 2 1/2" | A    |
| DO8134-0-112 | 1 3/4"  | 1 1/2" | A    |
| DO8212-0-112 | 2 1/2"  | 1 1/2" | A    |

HEX DRIVERS - 7/16"

| Type       | Drawing | L2 mm | L mm |
|------------|---------|-------|------|
| Metric     |         |       |      |
| DO697RG606 | 7/16"   | A     | 6    |
| DO697RG608 | 7/16"   | A     | 8    |
| DO697RG610 | 7/16"   | A     | 10   |
| DO697RG612 | 7/16"   | A     | 12   |
| DO697RG614 | 7/16"   | A     | 14   |
| DO697RG617 | 7/16"   | A     | 17   |

TRIPLE SQUARE BITS - 7/16"

| Type       | Drawing | L2 mm | L mm |
|------------|---------|-------|------|
| Metric     |         |       |      |
| DO698JG110 | 7/16"   | A     | M10  |



ADAPTORS WITH STEEL BALL

| Type       | Drawing | D2 mm | L mm |
|------------|---------|-------|------|
| Metric     |         |       |      |
| DO64001012 | 1/4"    | 3/8"  | A    |
| DO64011008 | 3/8"    | 1/4"  | A    |
| DO6822F3T  | 3/8"    | 1/2"  | A    |
| DO6823F2T  | 1/2"    | 3/8"  | A    |
| DO64021024 | 1/2"    | 3/4"  | A    |
| DO6815L3T  | 3/4"    | 1/2"  | A    |
| DO64051024 | 1"      | 3/4"  | A    |

INTERNAL TORX BITS - 7/16" DRIVE

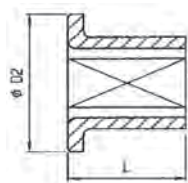
| Type       | Drawing | L2 mm | L mm |
|------------|---------|-------|------|
| Metric     |         |       |      |
| DO697LG130 | 7/16"   | A     | T30  |
| DO697LG140 | 7/16"   | A     | T40  |
| DO697LG145 | 7/16"   | A     | T45  |
| DO697LG150 | 7/16"   | A     | T50  |
| DO697LG155 | 7/16"   | A     | T55  |
| DO697LG160 | 7/16"   | A     | T60  |

\*Also available as set DO691121301, see page 204.

MAGNETIC REDUCING ADAPTORS

| Type       | Form   | D2 mm  | L mm |
|------------|--------|--------|------|
| Metric     |        |        |      |
| DO69880P12 | 1/4"   | 3/8"   | A    |
| DO69880P16 | 1/4"   | 1/2"   | A    |
| DO69881P16 | 3/8"   | 1/2"   | A    |
| DO69882P20 | 1/2"   | 5/8"   | A    |
| DO69882P24 | 1/2"   | 3/4"   | A    |
| DO69884P32 | 3/4"   | 1"     | B    |
| DO69885P48 | 1"     | 1-1/2" | B    |
| DO69886P80 | 1-1/2" | 2-1/2" | B    |
| DO69888P01 | 2-1/2" | 3-1/2" | B    |

The magnetic sleeve adaptors allow the temporary use of bigger impact sockets on smaller tools. By means of magnet, chances of loosing the adaptor are reduced. Especially well suited for the service kit of a traveling mechanic tasked with the servicing of heavy equipment.



Form B

ADAPTORS



1

2

3

4



QUICK CHANGE ADAPTORS

| Type       | Drawing | D2 mm | L mm |
|------------|---------|-------|------|
| Metric     |         |       |      |
| DO69110C08 | A       | 1/4"  | 1/4" |
| DO69110C12 | A       | 1/4"  | 3/8" |
| DO69111C12 | A       | 3/8"  | 3/8" |
| DO69111C16 | A       | 3/8"  | 1/2" |
| DO69112C12 | A       | 1/2"  | 3/8" |
| DO69112C16 | A       | 1/2"  | 1/2" |
| DO69114C16 | A       | 3/4"  | 1/2" |
| DO69114C24 | A       | 3/4"  | 3/4" |
| DO69115C24 | A       | 1"    | 3/4" |
| DO69115C32 | A       | 1"    | 1"   |
| DO69115C64 | A       | 1"    | 3/4" |

QUICK CHANGE BIT HOLDER

| Type       | Drawing | D2 mm | L mm | Bit holder |
|------------|---------|-------|------|------------|
| Metric     |         |       |      |            |
| DO69121B08 | C       | 3/8"  | 1/4" | 19         |
| DO69122B08 | C       | 1/2"  | 1/4" | 25         |

QUICK CHANGE BIT HOLDER

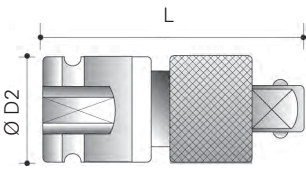
| Type       | Drawing | D2 mm | L mm  | Bit holder |
|------------|---------|-------|-------|------------|
| Metric     |         |       |       |            |
| DO69111A14 | B       | 3/8"  | 7/16" | 22         |
| DO69112A14 | B       | 1/2"  | 7/16" | 25         |



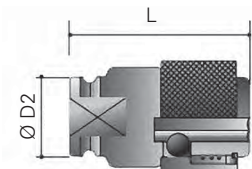
BIT HOLDER E



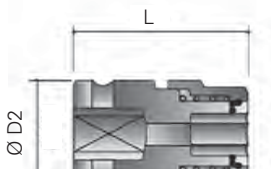
BIT HOLDER C



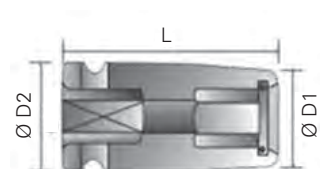
Drawing A



Drawing B



Drawing C



Drawing D



# PIN & RING

Pin & ring



PIN & RING

| Drive  | Type         | Diameter socket (D2)<br>see OPM |
|--------|--------------|---------------------------------|
| 1/4"   | DO1014-0-000 | 13 mm                           |
| 3/8"   | DO1038-0-000 | 19 & 22 mm (set)                |
| 1/2"   | DO1012-0-000 | 25 & 30 mm (set)                |
| 3/4"   | DO1034-0-000 | 44 mm                           |
|        | DO1100-0-000 | 54 mm                           |
| 1"     | DO1100-0-000 | 54 mm                           |
|        | DO1100-0-086 | 86 mm                           |
|        | DO1100-0-095 | 95 mm                           |
| 1 1/2" | DO1112-0-000 | 86 mm                           |
|        | DO1112-0-095 | 95 mm                           |
|        | DO1112-0-127 | 127 mm                          |
| 2 1/2" | DO2112-0-000 | 152 mm                          |
|        | DO2112-0-127 | 127 mm                          |

OPM.: These sizes are not those of the O-ring but are based on the D2 dimensions of the socket.

Retring

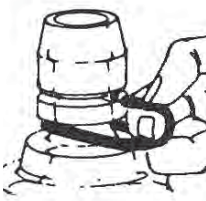


RETRING

| Type     | D2 mm |           |
|----------|-------|-----------|
| DO10032S | 36,5  | 3/4"      |
| DO18708S | 44,5  | 3/4"      |
| DO18715S | 53,9  | 3/4" & 1" |
| DO10008S | 44,5  | 1"        |
| DO10021S | 76,2  | 1 1/2"    |
| DO10025S | 85,7  | 1 1/2"    |



**STEP 1**  
Place socket retainer over square driver. Place socket on square driver aligning retention holes. Hold center pin of retainer between thumb and index finger, and insert it into the retention holes.



**STEP 2**  
Push center pin of socket retainer all the way in.



**STEP 3**  
Pull O-ring of socket retainer up into groove socket.

# SLEEVE DRIVE IMPACT SOCKETS

Sleeve drive impact sockets have been developed for us by ACTION. Sleeve drive sockets improve the quality of a joint tightened with an impulse wrench. They minimize the play between the socket and the tool thus reducing „wobble“ and stabilizing the torque setting. The use of sleeve drive sockets is not only of benefit to the actual joint but it also reduces vibration to the tool and operator, reduces noise and prevents fast wearing of the tool.



**LOW  
VIBRATION**

- Sleeve drive impact sockets guarantee:
- Reduced vibration
  - Accurate torque
  - Noise reduction
  - Less wear

SLEEVE DRIVE

3/8“ Square Drive

6-POINT NORMAL

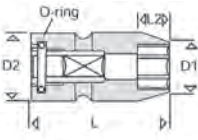
1

| Type       |  | Drawing | D1<br>mm | D2<br>mm | L<br>mm | L2<br>mm |
|------------|-----------------------------------------------------------------------------------|---------|----------|----------|---------|----------|
| Metric     |                                                                                   |         |          |          |         |          |
| DO60910006 | 6                                                                                 | A       | 11       | 19       | 43      | 5        |
| DO60910008 | 8                                                                                 | A       | 13       | 19       | 43      | 7        |
| DO60910009 | 9                                                                                 | A       | 15       | 19       | 43      | 7        |
| DO60910010 | 10                                                                                | A       | 16       | 19       | 43      | 8        |
| DO60910011 | 11                                                                                | A       | 17,5     | 19       | 43      | 9        |
| DO60910012 | 12                                                                                | B       | 19       | 19       | 43      | 9        |
| DO60910013 | 13                                                                                | A       | 20       | 22       | 43      | 9        |
| DO60910014 | 14                                                                                | A       | 21       | 22       | 43      | 9        |
| DO60910015 | 15                                                                                | B       | 22       | 22       | 43      | 11       |
| DO60910016 | 16                                                                                | C       | 24       | 22       | 43      | 11       |
| DO60910017 | 17                                                                                | C       | 25       | 22       | 43      | 11       |
| DO60910018 | 18                                                                                | C       | 26       | 22       | 43      | 11       |
| DO60910019 | 19                                                                                | C       | 27,5     | 22       | 43      | 11       |
| DO60910021 | 21                                                                                | C       | 30       | 22       | 43      | 13       |

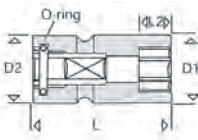
6-POINT MAGNETIC

1

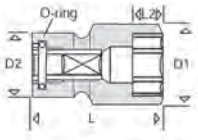
| Type       |  | Drawing | D1<br>mm | D2<br>mm | L<br>mm | L2<br>mm |
|------------|------------------------------------------------------------------------------------|---------|----------|----------|---------|----------|
| Metric     |                                                                                    |         |          |          |         |          |
| DO6091A006 | 6                                                                                  | A       | 11       | 19       | 43      | 5        |
| DO6091A007 | 7                                                                                  | A       | 12       | 19       | 43      | 5        |
| DO6091A008 | 8                                                                                  | A       | 13       | 19       | 43      | 7        |
| DO6091A009 | 9                                                                                  | A       | 15       | 19       | 43      | 7        |
| DO6091A010 | 10                                                                                 | A       | 16       | 19       | 43      | 8        |
| DO6091A011 | 11                                                                                 | A       | 17,5     | 19       | 43      | 9        |
| DO6091A012 | 12                                                                                 | B       | 18,5     | 19       | 43      | 9        |
| DO6091A013 | 13                                                                                 | A       | 20       | 22       | 43      | 9        |
| DO6091A014 | 14                                                                                 | A       | 21       | 22       | 43      | 9        |
| DO6091A016 | 16                                                                                 | C       | 24       | 22       | 43      | 11       |
| DO6091A017 | 17                                                                                 | C       | 25       | 22       | 43      | 11       |
| DO6091A018 | 18                                                                                 | C       | 26       | 22       | 43      | 11       |
| DO6091A019 | 19                                                                                 | C       | 27       | 22       | 43      | 11       |
| DO6091A020 | 20                                                                                 | C       | 28       | 22       | 43      | 13       |
| DO6091A021 | 21                                                                                 | C       | 30       | 22       | 43      | 13       |
| DO6091A022 | 22                                                                                 | C       | 31       | 22       | 50      | 13       |
| DO6091A023 | 23                                                                                 | C       | 32       | 22       | 50      | 13       |
| DO6091A024 | 24                                                                                 | C       | 34       | 22       | 50      | 13       |
| DO6091A025 | 25                                                                                 | C       | 35       | 22       | 50      | 13       |
| DO6091A026 | 26                                                                                 | C       | 36       | 22       | 50      | 13       |
| DO6091A027 | 27                                                                                 | C       | 38       | 22       | 50      | 13       |



Drawing A



Drawing B



Drawing C



6-POINT LONG

2

| Type       |  | Drawing | D1<br>mm | D2<br>mm | L<br>mm | L2<br>mm |
|------------|-----------------------------------------------------------------------------------|---------|----------|----------|---------|----------|
| Metric     |                                                                                   |         |          |          |         |          |
| DO60913006 | 6                                                                                 | D       | 10,5     | 22       | 100     | 4        |
| DO60913008 | 8                                                                                 | D       | 12,5     | 22       | 100     | 8        |
| DO60913010 | 10                                                                                | D       | 15       | 22       | 100     | 8        |
| DO60913012 | 12                                                                                | D       | 18       | 22       | 100     | 9        |
| DO60913013 | 13                                                                                | D       | 19       | 22       | 100     | 9        |
| DO60913014 | 14                                                                                | D       | 20       | 22       | 100     | 9        |
| DO60913015 | 15                                                                                | D       | 21       | 22       | 100     | 11       |
| DO60913016 | 16                                                                                | D       | 22,5     | 22       | 100     | 11       |
| DO60913017 | 17                                                                                | D       | 24       | 22       | 100     | 11       |
|            |                                                                                   |         |          |          |         |          |
| DO60914006 | 6                                                                                 | D       | 10,5     | 22       | 150     | 4        |
| DO60914008 | 8                                                                                 | D       | 12,5     | 22       | 150     | 8        |
| DO60914010 | 10                                                                                | D       | 15       | 22       | 150     | 8        |
| DO60914012 | 12                                                                                | D       | 18       | 22       | 150     | 9        |
| DO60914013 | 13                                                                                | D       | 19       | 22       | 150     | 9        |
| DO60914014 | 14                                                                                | D       | 20       | 22       | 150     | 9        |
| DO60914015 | 15                                                                                | D       | 21       | 22       | 150     | 11       |
| DO60914016 | 16                                                                                | D       | 22,5     | 22       | 150     | 11       |
| DO60914017 | 17                                                                                | D       | 24       | 22       | 150     | 11       |
|            |                                                                                   |         |          |          |         |          |
| DO60915006 | 6                                                                                 | D       | 10,5     | 22       | 200     | 4        |
| DO60915008 | 8                                                                                 | D       | 12,5     | 22       | 200     | 8        |
| DO60915010 | 10                                                                                | D       | 15       | 22       | 200     | 8        |
| DO60915012 | 12                                                                                | D       | 18       | 22       | 200     | 9        |
| DO60915013 | 13                                                                                | D       | 19       | 22       | 200     | 9        |
| DO60915014 | 14                                                                                | D       | 20       | 22       | 200     | 9        |
| DO60915015 | 15                                                                                | D       | 21       | 22       | 200     | 11       |
| DO60915016 | 16                                                                                | D       | 22,5     | 22       | 200     | 11       |
| DO60915017 | 17                                                                                | D       | 24       | 22       | 200     | 11       |
| DO60915019 | 19                                                                                | D       | 27       | 22       | 200     | 11       |

6-POINT MAGNETIC LONG

3

| Type       |  | Drawing | D1<br>mm | D2<br>mm | L<br>mm | L2<br>mm |
|------------|-------------------------------------------------------------------------------------|---------|----------|----------|---------|----------|
| Metric     |                                                                                     |         |          |          |         |          |
| DO6091P006 | 6                                                                                   | D       | 11       | 19       | 100     | 3        |
| DO6091P007 | 7                                                                                   | D       | 12       | 19       | 100     | 3        |
| DO6091P008 | 8                                                                                   | D       | 13       | 19       | 100     | 4        |
| DO6091P009 | 9                                                                                   | D       | 15       | 19       | 100     | 4        |
| DO6091P010 | 10                                                                                  | D       | 16       | 19       | 100     | 4        |
| DO6091P011 | 11                                                                                  | D       | 17,5     | 19       | 100     | 5        |
| DO6091P012 | 12                                                                                  | D       | 18,5     | 19       | 100     | 5        |
| DO6091P013 | 13                                                                                  | D       | 20       | 22       | 100     | 6        |
| DO6091P014 | 14                                                                                  | D       | 21       | 22       | 100     | 6        |
| DO6091P015 | 15                                                                                  | D       | 22       | 22       | 100     | 7        |
| DO6091P016 | 16                                                                                  | D       | 24       | 22       | 100     | 7        |
| DO6091P017 | 17                                                                                  | D       | 25       | 22       | 100     | 7        |
|            |                                                                                     |         |          |          |         |          |
| DO6091R008 | 8                                                                                   | D       | 13       | 19       | 150     | 4        |
| DO6091R010 | 10                                                                                  | D       | 16       | 19       | 150     | 4        |
| DO6091R011 | 11                                                                                  | D       | 17,5     | 19       | 150     | 5        |

SLEEVE DRIVE

3/8“ Square Drive

6-POINT LONG MAGNETIC (CONTINUED)

1

| Type       |  | Drawing | D1<br>mm | D2<br>mm | L<br>mm | L2<br>mm |
|------------|-------------------------------------------------------------------------------------|---------|----------|----------|---------|----------|
| Metric     |                                                                                     |         |          |          |         |          |
| DO6091R012 | 12                                                                                  | D       | 18,5     | 19       | 150     | 5        |
| DO6091R013 | 13                                                                                  | D       | 20       | 22       | 150     | 6        |
| DO6091R014 | 14                                                                                  | D       | 21       | 22       | 150     | 6        |
| DO6091R015 | 15                                                                                  | D       | 22       | 22       | 150     | 7        |
| DO6091R016 | 16                                                                                  | D       | 24       | 22       | 150     | 7        |
| DO6091R017 | 17                                                                                  | D       | 25       | 22       | 150     | 7        |
|            |                                                                                     |         |          |          |         |          |
| DO6091T008 | 8                                                                                   | D       | 13       | 19       | 200     | 4        |
| DO6091T009 | 9                                                                                   | D       | 15       | 19       | 200     | 4        |
| DO6091T010 | 10                                                                                  | D       | 16       | 19       | 200     | 4        |
| DO6091T012 | 12                                                                                  | D       | 18,5     | 19       | 200     | 5        |
| DO6091T013 | 13                                                                                  | D       | 20       | 22       | 200     | 6        |
| DO6091T014 | 14                                                                                  | D       | 21       | 22       | 200     | 6        |
| DO6091T015 | 15                                                                                  | D       | 22       | 22       | 200     | 7        |

6-POINT DEEP MAGNETIC

2

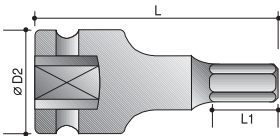
| Type       |  | Drawing | D1<br>mm | D2<br>mm | L<br>mm | L2<br>mm |
|------------|--------------------------------------------------------------------------------------|---------|----------|----------|---------|----------|
| Metric     |                                                                                      |         |          |          |         |          |
| DO6091Q010 | 10                                                                                   | F       | 16       | 19       | 100     | 5        |
| DO6091Q012 | 12                                                                                   | F       | 18,5     | 19       | 100     | 6        |
| DO6091Q013 | 13                                                                                   | F       | 20       | 22       | 100     | 6        |
| DO6091Q014 | 14                                                                                   | F       | 21       | 22       | 100     | 6        |
| DO6091Q016 | 16                                                                                   | F       | 24       | 22       | 100     | 7        |

TORX® INTERNAL

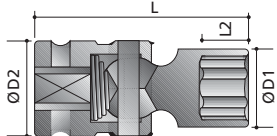
3

| Type       |  | Drawing | L1<br>mm | D2<br>mm | L<br>mm | - |
|------------|---------------------------------------------------------------------------------------|---------|----------|----------|---------|---|
| DO68811009 | T9                                                                                    | E       | 2        | 22       | 75      | - |
| DO68811010 | T10                                                                                   | E       | 2,8      | 22       | 75      | - |
| DO68811015 | T15                                                                                   | E       | 2,8      | 22       | 75      | - |
| DO68811020 | T20                                                                                   | E       | 2,8      | 22       | 75      | - |
| DO68811025 | T25                                                                                   | E       | 3        | 22       | 75      | - |
| DO68811027 | T27                                                                                   | E       | 3        | 22       | 75      | - |
| DO68811030 | T30                                                                                   | E       | 3,8      | 22       | 75      | - |
| DO68811040 | T40                                                                                   | E       | 3,8      | 22       | 75      | - |
| DO68811045 | T45                                                                                   | E       | 4,3      | 22       | 75      | - |
| DO68811047 | T47                                                                                   | E       | 5        | 22       | 75      | - |
| DO68811050 | T50                                                                                   | E       | 5        | 22       | 75      | - |
| DO68811055 | T55                                                                                   | E       | 5        | 22       | 75      | - |

Torx® is a trademark of Textron.



Drawing D



Drawing E



TORX® EXTERNAL

4

| Type       |  | Drawing | D1<br>mm | D2<br>mm | L<br>mm | L2<br>mm |
|------------|-------------------------------------------------------------------------------------|---------|----------|----------|---------|----------|
| DO66910005 | E5                                                                                  | A       | 8        | 19       | 43      | 4,5      |
| DO66910006 | E6                                                                                  | A       | 9        | 19       | 43      | 5,0      |
| DO66910007 | E7                                                                                  | A       | 9,5      | 19       | 43      | 6,0      |
| DO66910008 | E8                                                                                  | A       | 11       | 19       | 43      | 6,5      |
| DO66910010 | E10                                                                                 | A       | 13       | 19       | 43      | 7,5      |
| DO66910011 | E11                                                                                 | A       | 14       | 19       | 43      | 8,0      |
| DO66910012 | E12                                                                                 | A       | 15,5     | 19       | 43      | 8,5      |
| DO66910014 | E14                                                                                 | A       | 17,5     | 22       | 43      | 10,0     |
| DO66910016 | E16                                                                                 | A       | 18,5     | 22       | 43      | 11,0     |

Torx® is a trademark of Textron.

HEX DRIVER

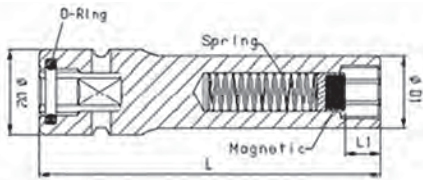
5

| Type       |  | Drawing | L1<br>mm | D2<br>mm | L<br>mm | - |
|------------|-------------------------------------------------------------------------------------|---------|----------|----------|---------|---|
| Metric     |                                                                                     |         |          |          |         |   |
| DO68916003 | 3                                                                                   | E       | 11       | 22       | 75      | - |
| DO68916004 | 4                                                                                   | E       | 11       | 22       | 75      | - |
| DO68916005 | 5                                                                                   | E       | 11       | 22       | 75      | - |
| DO68916006 | 6                                                                                   | E       | 11       | 22       | 75      | - |
| DO68916007 | 7                                                                                   | E       | 16       | 22       | 75      | - |
| DO68916008 | 8                                                                                   | E       | 16       | 22       | 75      | - |
| DO68916009 | 9                                                                                   | E       | 16       | 22       | 75      | - |
| DO68916010 | 10                                                                                  | E       | 16       | 22       | 75      | - |
| DO68916011 | 11                                                                                  | E       | 16       | 22       | 75      | - |
| DO68916012 | 12                                                                                  | E       | 16       | 22       | 75      | - |
| DO68916013 | 13                                                                                  | E       | 16       | 22       | 75      | - |
| DO68916014 | 14                                                                                  | E       | 16       | 22       | 75      | - |
| DO68916015 | 15                                                                                  | E       | 16       | 22       | 75      | - |
| DO68916016 | 16                                                                                  | E       | 16       | 22       | 75      | - |

STUD BOLT SETTERS



| Type       | Size      | D1<br>mm | D2<br>mm | L<br>mm |
|------------|-----------|----------|----------|---------|
| DO66A10062 | M6 x 1    | 12,5     | 22       | 50      |
| DO66A10083 | M8 x 1,25 | 15       | 22       | 50      |
| DO66A10104 | M10 x 1,5 | 17       | 22       | 50      |



Drawing F



SLEEVE DRIVE

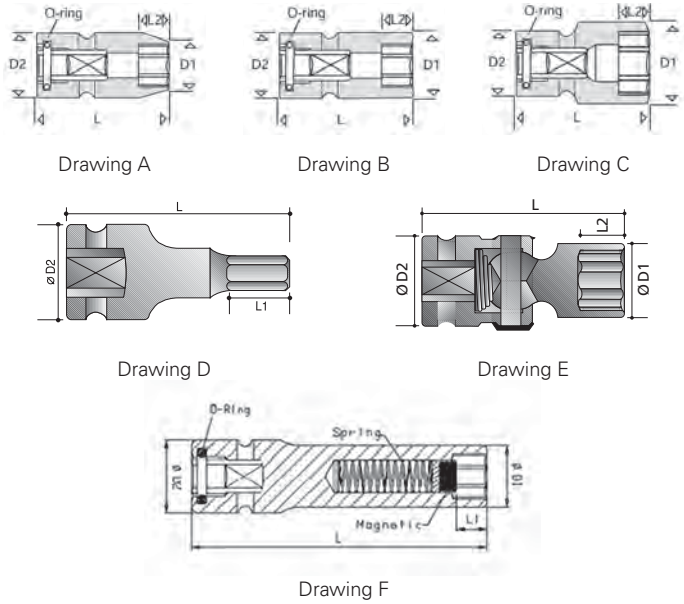
1/2“ Square Drive



| 6-POINT NORMAL1 |    |         |       |       |      |       |
|-----------------|----|---------|-------|-------|------|-------|
| Type            | mm | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric          |    |         |       |       |      |       |
| DO60920012      | 12 | A       | 20    | 25    | 52   | 12    |
| DO60920013      | 13 | A       | 21    | 25    | 52   | 12    |
| DO60920014      | 14 | A       | 22,5  | 25    | 52   | 12    |
| DO60920015      | 15 | A       | 23,7  | 30    | 52   | 12    |
| DO60920016      | 16 | A       | 25    | 30    | 52   | 12    |
| DO60920017      | 17 | A       | 26    | 30    | 52   | 12    |
| DO60920018      | 18 | A       | 27,5  | 30    | 52   | 12    |
| DO60920019      | 19 | A       | 28,7  | 30    | 52   | 12    |
| DO60920021      | 21 | B       | 30    | 30    | 52   | 12    |
| DO60920022      | 22 | C       | 32    | 30    | 52   | 12    |
| DO60920023      | 23 | C       | 32    | 30    | 52   | 12    |
| DO60920024      | 24 | C       | 35    | 30    | 52   | 12    |
| DO60920025      | 25 | C       | 36    | 30    | 57   | 12    |
| DO60920027      | 27 | C       | 39    | 30    | 57   | 12    |
| DO60920030      | 30 | C       | 42    | 30    | 62   | 12    |
| DO60920032      | 32 | C       | 44    | 30    | 62   | 12    |

| 6-POINT LONG2 |    |         |       |       |      |       |
|---------------|----|---------|-------|-------|------|-------|
| Type          | mm | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric        |    |         |       |       |      |       |
| DO60923010    | 10 | D       | 17    | 25    | 100  | 12    |
| DO60923012    | 12 | D       | 19,5  | 25    | 100  | 12    |
| DO60923013    | 13 | D       | 20,5  | 25    | 100  | 12    |
| DO60923014    | 14 | D       | 21,5  | 25    | 100  | 12    |
| DO60923015    | 15 | D       | 22,5  | 25    | 100  | 12    |
| DO60923017    | 17 | D       | 25    | 25    | 100  | 13    |
| DO60923019    | 19 | D       | 28    | 25    | 100  | 13    |
|               |    |         |       |       |      |       |
| DO60924010    | 10 | D       | 17    | 25    | 150  | 12    |
| DO60924012    | 12 | D       | 19,5  | 25    | 150  | 12    |
| DO60924013    | 13 | D       | 20,5  | 25    | 150  | 12    |
| DO60924014    | 14 | D       | 21,5  | 25    | 150  | 12    |
| DO60924015    | 15 | D       | 22,5  | 25    | 150  | 12    |
| DO60924017    | 17 | D       | 25    | 25    | 150  | 13    |
| DO60924019    | 19 | D       | 28    | 25    | 150  | 13    |
|               |    |         |       |       |      |       |
| DO60925010    | 10 | D       | 17    | 25    | 200  | 12    |
| DO60925012    | 12 | D       | 19,5  | 25    | 200  | 12    |
| DO60925013    | 13 | D       | 20,5  | 25    | 200  | 12    |
| DO60925014    | 14 | D       | 21,5  | 25    | 200  | 12    |
| DO60925015    | 15 | D       | 22,5  | 25    | 200  | 12    |
| DO60925017    | 17 | D       | 25    | 25    | 200  | 13    |
| DO60925019    | 19 | D       | 28    | 25    | 200  | 13    |

| 6-POINT LONG MAGNETIC3 |    |         |       |       |      |       |  |
|------------------------|----|---------|-------|-------|------|-------|--|
| Type                   | mm | Drawing | D1 mm | D2 mm | L mm | L2 mm |  |
| Metric                 |    |         |       |       |      |       |  |
| DO6092P010             | 10 | D       | 17,5  | 25    | 100  | 4     |  |
| DO6092P011             | 11 | D       | 18,5  | 25    | 100  | 5     |  |
| DO6092P012             | 12 | D       | 20    | 25    | 100  | 5     |  |
| DO6092P013             | 13 | D       | 21    | 25    | 100  | 6     |  |
| DO6092P014             | 14 | D       | 22,5  | 25    | 100  | 6     |  |
| DO6092P015             | 15 | D       | 23,5  | 30    | 100  | 7     |  |
| DO6092P016             | 16 | D       | 25    | 30    | 100  | 7     |  |
| DO6092P017             | 17 | D       | 26    | 30    | 100  | 7     |  |
| DO6092P018             | 18 | D       | 27,5  | 30    | 100  | 8     |  |
| DO6092P019             | 19 | D       | 28,5  | 30    | 100  | 8     |  |
|                        |    |         |       |       |      |       |  |
| DO6092R010             | 10 | D       | 17,5  | 25    | 150  | 12    |  |
| DO6092R011             | 11 | D       | 18,5  | 25    | 150  | 12    |  |
| DO6092R012             | 12 | D       | 20    | 25    | 150  | 12    |  |
| DO6092R013             | 13 | D       | 21    | 25    | 150  | 12    |  |
| DO6092R014             | 14 | D       | 22,5  | 25    | 150  | 12    |  |
| DO6092R015             | 15 | D       | 23,5  | 30    | 150  | 12    |  |
| DO6092R016             | 16 | D       | 25    | 30    | 150  | 13    |  |
| DO6092R017             | 17 | D       | 26    | 30    | 150  | 13    |  |
| DO6092R018             | 18 | D       | 27,5  | 30    | 150  | 13    |  |
| DO6092R019             | 19 | D       | 28,5  | 30    | 150  | 13    |  |
|                        |    |         |       |       |      |       |  |
| DO6092T010             | 10 | D       | 17,5  | 25    | 200  | 12    |  |
| DO6092T011             | 11 | D       | 18,5  | 25    | 200  | 12    |  |
| DO6092T012             | 12 | D       | 20    | 25    | 200  | 12    |  |
| DO6092T013             | 13 | D       | 21    | 25    | 200  | 12    |  |
| DO6092T014             | 14 | D       | 22,5  | 25    | 200  | 12    |  |
| DO6092T015             | 15 | D       | 23,5  | 30    | 200  | 12    |  |
| DO6092T016             | 16 | D       | 25    | 30    | 200  | 13    |  |
| DO6092T017             | 17 | D       | 26    | 30    | 200  | 13    |  |
| DO6092T018             | 18 | D       | 27,5  | 30    | 200  | 13    |  |
| DO6092T019             | 19 | D       | 28,5  | 30    | 200  | 13    |  |



SLEEVE DRIVE

1/2“ Square Drive



| 6-POINT NORMAL MAGNETIC1 |    |         |       |       |      |       |
|--------------------------|----|---------|-------|-------|------|-------|
| Type                     | mm | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| Metric                   |    |         |       |       |      |       |
| DO6092A006               | 6  | A       | 13    | 25    | 52   | 5     |
| DO6092A007               | 7  | A       | 14    | 25    | 52   | 5     |
| DO6092A008               | 8  | A       | 15    | 25    | 52   | 7     |
| DO6092A009               | 9  | A       | 16    | 25    | 52   | 7     |
| DO6092A010               | 10 | A       | 17,5  | 25    | 52   | 8     |
| DO6092A011               | 11 | A       | 18,5  | 25    | 52   | 9     |
| DO6092A012               | 12 | A       | 20    | 25    | 52   | 12    |
| DO6092A013               | 13 | A       | 21    | 25    | 52   | 12    |
| DO6092A014               | 14 | A       | 22,5  | 25    | 52   | 12    |
| DO6092A015               | 15 | A       | 23,5  | 30    | 52   | 12    |
| DO6092A016               | 16 | A       | 25    | 30    | 52   | 12    |
| DO6092A017               | 17 | A       | 26    | 30    | 52   | 12    |
| DO6092A018               | 18 | A       | 27,5  | 30    | 52   | 12    |
| DO6092A019               | 19 | A       | 28,5  | 30    | 52   | 12    |
| DO6092A020               | 20 | B       | 30    | 30    | 52   | 12    |
| DO6092A021               | 21 | C       | 31    | 30    | 52   | 12    |
| DO6092A022               | 22 | C       | 32    | 30    | 52   | 12    |
| DO6092A023               | 23 | C       | 34    | 30    | 52   | 12    |
| DO6092A024               | 24 | C       | 35    | 30    | 52   | 12    |
| DO6092A025               | 25 | C       | 36    | 30    | 57   | 12    |
| DO6092A026               | 26 | C       | 38    | 30    | 57   | 12    |
| DO6092A027               | 27 | C       | 38,5  | 30    | 57   | 12    |

| 6-POINT DEEP MAGNETIC2 |    |         |       |       |      |       |
|------------------------|----|---------|-------|-------|------|-------|
| Type                   | mm | Drawing | D1 mm | D2 mm | L mm | L1 mm |
| Metric                 |    |         |       |       |      |       |
| DO6092Q010             | 10 | F       | 17,5  | 25    | 100  | 5     |
| DO6092Q013             | 13 | F       | 21    | 25    | 100  | 6     |
| DO6092Q016             | 16 | F       | 25    | 30    | 100  | 7     |
| DO6092Q017             | 17 | F       | 26    | 30    | 100  | 7     |
| DO6092Q019             | 19 | F       | 28,5  | 30    | 100  | 8     |

| TORX® EXTERNAL3 |     |         |       |       |      |       |
|-----------------|-----|---------|-------|-------|------|-------|
| Type            | mm  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
| DO66920010      | E10 | A       | 14    | 25    | 52   | 7,5   |
| DO66920011      | E11 | A       | 15    | 25    | 52   | 8     |
| DO66920012      | E12 | A       | 16    | 25    | 52   | 8,5   |
| DO66920014      | E14 | A       | 18    | 25    | 52   | 10    |
| DO66920016      | E16 | A       | 20    | 25    | 52   | 11    |
| DO66920018      | E18 | A       | 22    | 25    | 52   | 12,5  |
| DO66920020      | E20 | A       | 25    | 30    | 52   | 14    |
| DO66920022      | E22 | A       | 27    | 30    | 52   | 15    |
| DO66920024      | E24 | A       | 29    | 30    | 52   | 16,5  |

Torx® is a trademark of Textron.

| TORX® INTERNAL4 |      |         |       |       |      |   |
|-----------------|------|---------|-------|-------|------|---|
| Type            | mm   | Drawing | L1 mm | D2 mm | L mm | - |
| Metric          |      |         |       |       |      |   |
| DO68821020      | T20  | E       | 2,8   | 25    | 75   | - |
| DO68821025      | T25  | E       | 3     | 25    | 75   | - |
| DO68821027      | T27  | E       | 3     | 25    | 75   | - |
| DO68821030      | T30  | E       | 3,8   | 25    | 75   | - |
| DO68821040      | T40  | E       | 3,8   | 25    | 75   | - |
| DO68821045      | T45  | E       | 4,3   | 25    | 75   | - |
| DO68821047      | T47  | E       | 5     | 25    | 75   | - |
| DO68821050      | T50  | E       | 5     | 25    | 75   | - |
| DO68821055      | T55  | E       | 5,5   | 25    | 75   | - |
| DO68821060      | T60  | E       | 8     | 25    | 75   | - |
| DO68821070      | T70  | F       | 9,4   | 25    | 75   | - |
| DO68821080      | T80  | E       | 10,5  | 25    | 75   | - |
| DO68821090      | T90  | E       | 11,8  | 25    | 75   | - |
| DO68821100      | T100 | E       | 13,1  | 25    | 75   | - |

Torx® is a trademark of Textron.

| HEX DRIVER5 |    |         |       |       |      |   |
|-------------|----|---------|-------|-------|------|---|
| Type        | mm | Drawing | L1 mm | D2 mm | L mm | - |
| Metric      |    |         |       |       |      |   |
| DO68925003  | 3  | E       | 11    | 25    | 75   | - |
| DO68925004  | 4  | E       | 11    | 25    | 75   | - |
| DO68925005  | 5  | E       | 15    | 25    | 75   | - |
| DO68925006  | 6  | E       | 15    | 25    | 75   | - |
| DO68925007  | 7  | E       | 20    | 25    | 75   | - |
| DO68925008  | 8  | E       | 25    | 25    | 75   | - |
| DO68925009  | 9  | E       | 25    | 25    | 75   | - |
| DO68925010  | 10 | F       | 25    | 25    | 75   | - |
| DO68925011  | 11 | E       | 25    | 25    | 75   | - |
| DO68925012  | 12 | E       | 25    | 25    | 75   | - |
| DO68925013  | 13 | E       | 25    | 25    | 75   | - |
| DO68925014  | 14 | E       | 25    | 25    | 75   | - |
| DO68925015  | 15 | E       | 25    | 25    | 75   | - |
| DO68925016  | 16 | E       | 25    | 25    | 75   | - |
| DO68925017  | 17 | E       | 25    | 25    | 75   | - |
| DO68925018  | 18 | E       | 25    | 25    | 75   | - |
| DO68925019  | 19 | E       | 25    | 25    | 75   | - |

STUD BOLT SETTERS

| Type       | Size       | D1 mm | D2 mm | L mm |
|------------|------------|-------|-------|------|
| DO66A21062 | M6 x 1     | 13    | 25    | 75   |
| DO66A21104 | M10 x 1,5  | 17    | 25    | 75   |
| DO66A21125 | M12 x 1,75 | 19    | 25    | 75   |
| DO66A21146 | M14 x 2    | 22    | 25    | 75   |
| DO66A21166 | M16 x 2    | 27    | 30    | 75   |

# SLEEVE DRIVE

3/4“ Square Drive

6-POINT NORMAL

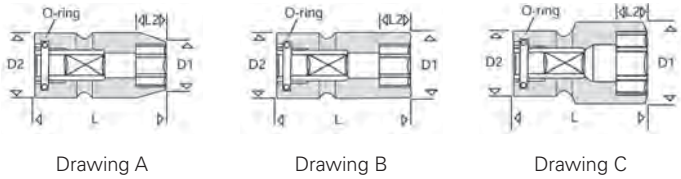
1

| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-----------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                   |         |       |       |      |       |
| DO60940017 | 17                                                                                | A       | 31    | 44    | 65   | 12    |
| DO60940018 | 18                                                                                | A       | 32    | 44    | 65   | 12    |
| DO60940019 | 19                                                                                | A       | 33    | 44    | 65   | 14    |
| DO60940021 | 21                                                                                | A       | 35    | 44    | 65   | 16    |
| DO60940022 | 22                                                                                | A       | 37    | 44    | 65   | 16    |
| DO60940023 | 23                                                                                | A       | 38    | 44    | 65   | 16    |
| DO60940024 | 24                                                                                | A       | 39    | 44    | 65   | 16    |
| DO60940026 | 26                                                                                | A       | 41    | 44    | 65   | 16    |
| DO60940027 | 27                                                                                | A       | 43    | 44    | 65   | 16    |
| DO60940028 | 28                                                                                | B       | 44    | 44    | 68   | 20    |
| DO60940029 | 29                                                                                | C       | 45    | 44    | 68   | 20    |
| DO60940030 | 30                                                                                | C       | 47    | 44    | 68   | 20    |
| DO60940032 | 32                                                                                | C       | 49    | 44    | 70   | 20    |
| DO60940033 | 33                                                                                | C       | 51    | 44    | 70   | 20    |
| DO60940034 | 34                                                                                | C       | 52    | 44    | 70   | 20    |
| DO60940035 | 35                                                                                | C       | 53    | 44    | 70   | 20    |
| DO60940036 | 36                                                                                | C       | 54    | 44    | 70   | 20    |
| DO60940038 | 38                                                                                | C       | 57    | 44    | 72   | 22    |
| DO60940041 | 41                                                                                | C       | 60    | 44    | 72   | 22    |
| DO60940046 | 46                                                                                | C       | 67    | 54    | 77   | 23    |
| DO60940050 | 50                                                                                | C       | 71    | 54    | 77   | 23    |

6-POINT MAGNETIC

2

| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|-------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| Metric     |                                                                                     |         |       |       |      |       |
| DO6094A013 | 13                                                                                  | A       | 24,5  | 44    | 65   | 12    |
| DO6094A014 | 14                                                                                  | A       | 25,5  | 44    | 65   | 12    |
| DO6094A015 | 15                                                                                  | A       | 27    | 44    | 65   | 12    |
| DO6094A016 | 16                                                                                  | A       | 28    | 44    | 65   | 12    |
| DO6094A017 | 17                                                                                  | A       | 30    | 44    | 65   | 12    |
| DO6094A018 | 18                                                                                  | A       | 31    | 44    | 65   | 12    |
| DO6094A019 | 19                                                                                  | A       | 32    | 44    | 65   | 14    |
| DO6094A020 | 20                                                                                  | A       | 34    | 44    | 68   | 14    |
| DO6094A021 | 21                                                                                  | A       | 35    | 44    | 68   | 16    |
| DO6094A022 | 22                                                                                  | A       | 37    | 44    | 68   | 16    |
| DO6094A023 | 23                                                                                  | A       | 38    | 44    | 68   | 16    |
| DO6094A024 | 24                                                                                  | A       | 39    | 44    | 68   | 16    |
| DO6094A025 | 25                                                                                  | A       | 41    | 44    | 69   | 16    |
| DO6094A026 | 26                                                                                  | A       | 42    | 44    | 69   | 16    |
| DO6094A027 | 27                                                                                  | A       | 43    | 44    | 69   | 16    |



HEX DRIVER

3

| Type       |  | Drawing | D2 mm | L mm | L2 mm | - |
|------------|-----------------------------------------------------------------------------------|---------|-------|------|-------|---|
| Metric     |                                                                                   |         |       |      |       |   |
| DO68945010 | 10                                                                                | E       | 44    | 100  | 20    | - |
| DO68945012 | 12                                                                                | E       | 44    | 100  | 20    | - |
| DO68945014 | 14                                                                                | E       | 44    | 100  | 20    | - |
| DO68945016 | 16                                                                                | E       | 44    | 100  | 20    | - |
| DO68945017 | 17                                                                                | E       | 44    | 100  | 20    | - |
| DO68945019 | 19                                                                                | E       | 44    | 100  | 20    | - |
| DO68945022 | 22                                                                                | E       | 44    | 100  | 20    | - |
| DO68945024 | 24                                                                                | E       | 44    | 100  | 20    | - |
| DO68945027 | 27                                                                                | E       | 44    | 100  | 20    | - |
| DO68945030 | 30                                                                                | E       | 44    | 100  | 20    | - |
| DO68945032 | 32                                                                                | E       | 44    | 100  | 20    | - |
| DO68945033 | 33                                                                                | E       | 44    | 100  | 20    | - |
| DO68945036 | 36                                                                                | E       | 44    | 100  | 20    | - |
| DO68945038 | 38                                                                                | E       | 44    | 100  | 20    | - |

For drawings see page 194.

TORX® EXTERNAL

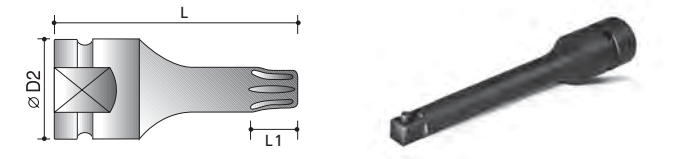
4

| Type       |  | Drawing | D1 mm | D2 mm | L mm | L2 mm |
|------------|------------------------------------------------------------------------------------|---------|-------|-------|------|-------|
| DO66940018 | E18                                                                                | A       | 26    | 44    | 65   | 12,5  |
| DO66940020 | E20                                                                                | A       | 28    | 44    | 65   | 14    |
| DO66940022 | E22                                                                                | A       | 31    | 44    | 65   | 15    |
| DO66940024 | E24                                                                                | A       | 33    | 44    | 65   | 16,5  |

Torx® is a trademark of Textron

EXTENSIONS

| Type       |  | L mm | D1 mm |
|------------|-------------------------------------------------------------------------------------|------|-------|
| DO64614075 | 3/8"                                                                                | 75   | 22    |
| DO64614125 | 3/8"                                                                                | 125  | 22    |
| DO64614250 | 3/8"                                                                                | 250  | 22    |
| DO64624075 | 1/2"                                                                                | 75   | 25    |
| DO64624125 | 1/2"                                                                                | 125  | 25    |
| DO64624175 | 1/2"                                                                                | 175  | 25    |
| DO64624250 | 1/2"                                                                                | 250  | 25    |
| DO64644175 | 3/4"                                                                                | 175  | 44    |
| DO64644250 | 3/4"                                                                                | 250  | 44    |
| DO64644330 | 3/4"                                                                                | 330  | 44    |



# SLEEVE DRIVE

QUICKCHANGE ADAPTORS

1

| Type       |  |  | D2 mm | L mm | - |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|------|---|
| Metric     |                                                                                     |                                                                                     |       |      |   |
| DO69151112 | 3/8"                                                                                | 3/8"                                                                                | 19    | 75   | - |
| DO69151212 | 3/8"                                                                                | 3/8"                                                                                | 19    | 100  | - |
| DO69151116 | 3/8"                                                                                | 1/2"                                                                                | 20    | 80   | - |
| DO69152112 | 1/2"                                                                                | 3/8"                                                                                | 25    | 75   | - |
| DO69152216 | 1/2"                                                                                | 1/2"                                                                                | 25    | 100  | - |
| DO69154116 | 3/4"                                                                                | 1/2"                                                                                | 44    | 90   | - |
| DO69154324 | 3/4"                                                                                | 3/4"                                                                                | 44    | 125  | - |

BIT HOLDERS

2

| Type        |  |  | D2 mm | L mm | - |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|------|---|
| Metric      |                                                                                     |                                                                                     |       |      |   |
| DO69111E08  | 3/8"                                                                                | 1/4"                                                                                | 52    | 22   | - |
| DO69111E14* | 3/8"                                                                                | 7/16"                                                                               | 62    | 22   | - |
| DO69112E08  | 1/2"                                                                                | 1/4"                                                                                | 60    | 25   | - |
| DO69112E14* | 1/2"                                                                                | 7/16"                                                                               | 70    | 25   | - |
| DO69114E14* | 3/4"                                                                                | 7/16"                                                                               | 80    | 44   | - |

\* See page 186.





SETS

DO605121301

3/8"



13 IMPACT SOCKETS, 6-POINT, DEEP  
7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 1 - 8 - 19 mm

DO69521093

1/2"



9 IMPACT SOCKETS, HEX DRIVER  
4-5-6-8-10-12-14-17-19mm

DO605202602

1/2"



26 IMPACT SOCKETS, 6-POINT  
10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-32-33-34-35-36 mm

DO611101301

3/8"



13 IMPACT SOCKETS, 6-POINT, THIN WALL  
7-8-9-10-11-12-13-14-15-16-17-18-19 mm

DO691121301

1/2"



1 QUICK CHANGE ADAPTOR,  
1/2" SQUARE DRIVE, 7/16" HEX.  
HEX INTERNAL TORX BITS 7/16"  
T30-T40-T45-T50-T55-T60  
Hex driver bits - 7/16": 6-8-10-12-14-17 mm

DO69523108

1/2"



10 IMPACT SOCKETS, 6-POINT, DEEP  
10-11-13-14-17-19-21-22-24-27 mm

DO0012-0-000S

1/2"



10 IMPACT SOCKETS, 6-POINT, NORMAL  
9-10-11-13-14-17-19-22-24-27mm

DO605222601

1/2"



26 IMPACT SOCKETS, 6-POINT, DEEP  
10-11-12-13-14-15-16-17-18-19-20-21-22-23-2-25-26-27-28-29-30-32-33-34-35-36 mm

DO652260701

1/2"



7 PCS 1/2" DRIVE  
IMPACT TRIPLE SQUARE DRIVER SET  
M5-M6-M8-M10-M12-M14-M16

Particularly suitable for use in car workshops geared to service Volkswagen brand cars.

SETS

DO61120310

1/2"



3 IMPACT SOCKETS WITH PLASTIC STOP AND SLEEVE  
BLUE 17 MM - YELLOW 19 MM - RED 21 MM

DO611260501

1/2"



5 IMPACT SOCKETS WITH PLASTIC STOP AND SLEEVE  
white 15 mm - blue 17 mm - yellow 19 mm - red 21 mm - green 22 mm

SPECIAL SET FOR WHEEL LUG NUT REMOVER

DO0012-0-286

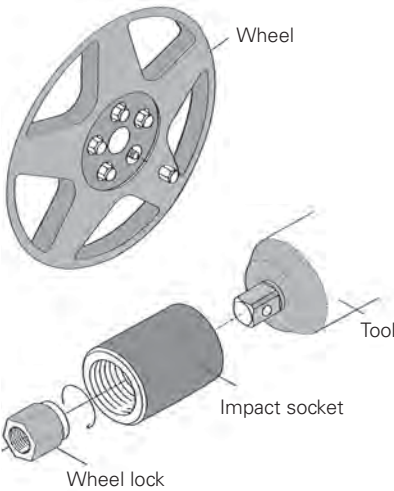
1/2"



7 IMPACT SOCKETS, NORMAL  
17 - 18,5 - 20 - 21,5 - 23 - 24,5 - 26 mm

APPLICATION

This wheel lug nut remover is used when it is discovered that the original key to remove your car wheel is lost. In order to remove the lock and the wheel, these sockets can be used. Proper use of the socket is to have at least three windings of thread of the socket gripping over the lock. In case any of the first three windings are already gripping, the next bigger size of socket should be chosen. When the correct size of socket is chosen, it can unlock up to four bolts.



SET MAGNETIC REDUCERS

DO698800401



4 PCS. MAGNETIC SLEEVE INSERT ADAPTORS  
1/4" FEMALE X 3/8" MALE  
3/8" FEMALE X 1/2" MALE  
1/2" FEMALE X 3/4" MALE  
3/4" FEMALE X 1" MALE

The magnetic sleeve adaptors allow the temporary use of bigger impact sockets on smaller tools. By means of the magnet changes of losing the adaptor are reduced. Especially well suited for the service kit of a traveling mechanic, tasked with the servicing of heavy equipment.



# SETS, TORQUE SOCKETS & SPECIALS

DO605401001

3/4"





10 impact sockets, 6-point, normal  
21-22-24-27-30-32-33-36-41-46 mm

DO605421001

3/4"





10 impact sockets, 6-point, deep  
21-22-24-27-30-32-33-36-41-46 mm

DO0100-1-007

1"





7 impact sockets, 6-point, deep  
24-27-30-32-33-36-41 mm

TORQUE SOCKETS

1/2" 1"



| Type 1/2"  | A/F mm | Nm  | Length | Color |
|------------|--------|-----|--------|-------|
| DO68122D17 | 17     | 75  | 220    | Groen |
| DO68122L17 | 17     | 110 | 220    | Rood  |
| DO68122G19 | 19     | 90  | 220    | Geel  |
| DO68122L19 | 19     | 110 | 220    | Blauw |
| DO68122M19 | 19     | 135 | 220    | Grijs |
| DO68122E21 | 21     | 80  | 220    | Zwart |
| DO68122L21 | 21     | 110 | 220    | Bruin |

| Type 1"    | A/F mm | Nm  | Length |
|------------|--------|-----|--------|
| DO68552U23 | 23     | 250 | 305    |
| DO68552W24 | 24     | 350 | 305    |
| DO68552W27 | 27     | 350 | 305    |
| DO68552Z27 | 27     | 450 | 305    |
| DO68552Y29 | 29     | 400 | 305    |
| DO68552B30 | 30     | 550 | 305    |
| DO68552C30 | 30     | 600 | 305    |
| DO68552A32 | 32     | 500 | 305    |
| DO68552C32 | 32     | 600 | 305    |
| DO68552F32 | 32     | 700 | 305    |
| DO68552A33 | 33     | 500 | 305    |
| DO68552C33 | 33     | 600 | 305    |
| DO68552C36 | 36     | 600 | 305    |

WHEEL NUT SOCKET FOR SPECIAL MERCEDES WHEEL BOLTS. (½" X 17 MM)

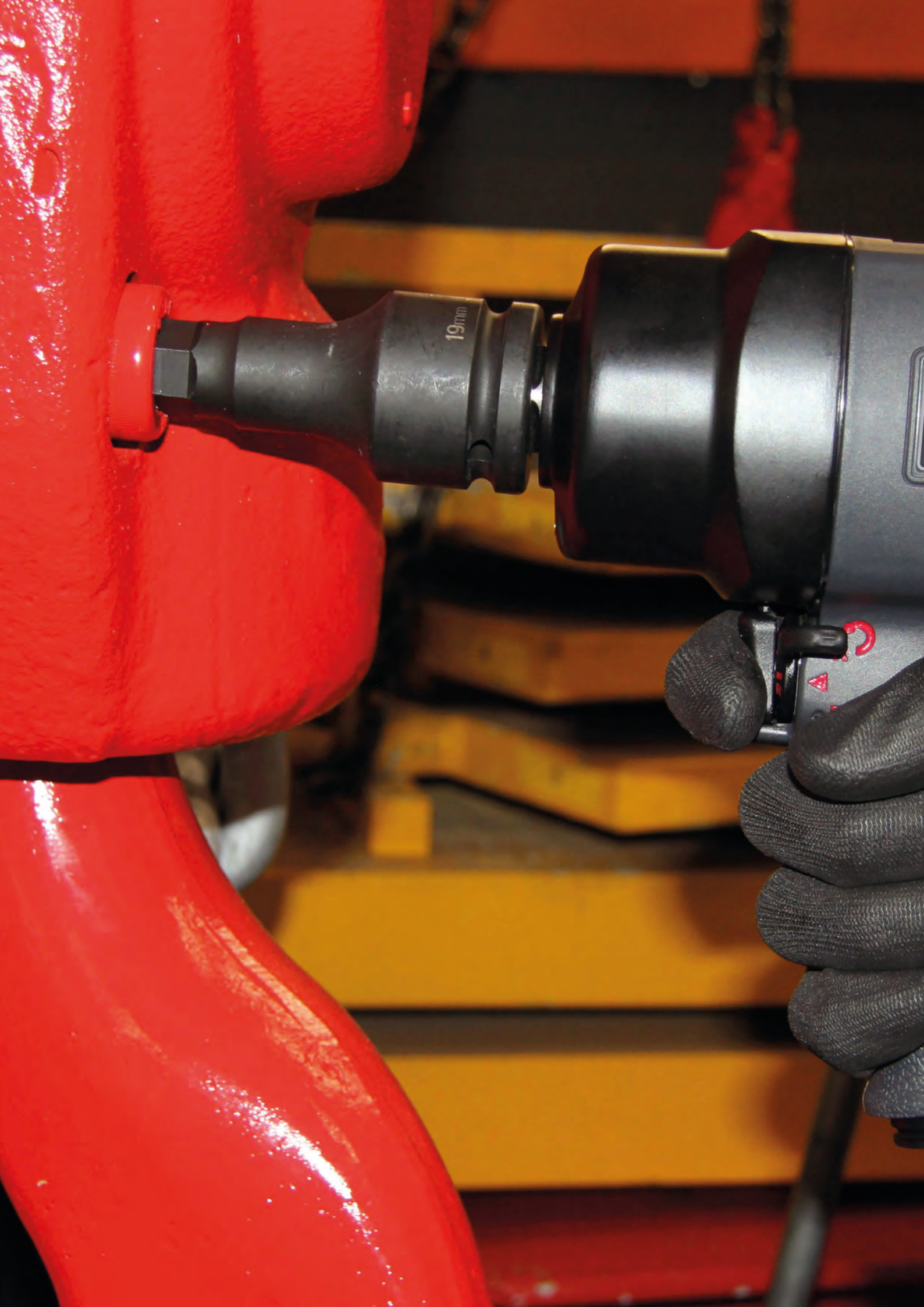
DO6112P017



Includes rotating plastic sleeve and stop for protecting alloy wheels.

This special impact socket is suitable for: Mercedes C-Class / GLK (W204), E-Class (W211, W212, W207), SLK (W172), M-Class (W164, W166), CL-Class (W216), S-Class (W221, W222) en Maybach.

Special







**SERVICE**



# SERVICE

At Rami Yokota we continuously place great emphasis on giving excellent support, we can deliver 97% of our product range Europe wide within 24-48 hours from our centrally located warehouse in Antwerp, Belgium. Maintaining a large stock is important to us and the certainty it provides our partners which is one of the reasons they value us.

We value concepts such as durability and sustainability and endeavour to train all our customers in the use and maintenance of our products, proper use lengthens the lifetime of the tools considerably therefore contributing to a reliable production process. We have extensive facilities and very experienced expert staff who not only master the course content but also possess great teaching ability which makes our training highly effective and motivating.

We also assist in demonstrating our tools at end-users together with our customers, which enables us to give specialized advice. The practical information may differ from the theoretical and the insight gained on-site gives us the information we require to arrive at the most suitable solution for the application.

We support our partners by supplying a variety of display racks and units to exhibit tools, impact sockets and in some cases our lower capacity air chain hoists. In order to remain relevant we also assist the customer in analysing the range on display and adjusting it when deemed necessary.

Our entire product range has been combined in our main POWERTOOLS brochure which is offered in both print and pdf versions in five languages. We also have a variety of other (smaller) brochures that touch upon all the different types of products within our program. Important information regarding our tools, from exploded view to user manuals and instruction or tutorial videos can be found on our website.

On the next page please pay careful attention to the information regarding maintenance and warranty of your tools and related products.

# MAINTENANCE

## Maintenance

At Rami Yokota we strive to avoid breakage and expensive interruption of your production processes through proper and thorough maintenance.

### BEFORE USE

Read and store the user manual of your tool. It contains valuable information about the functioning of the tool and the safety recommendations.

For the batteries of cordless tools: before use, charge the battery fully. Do not store the battery for periods longer than 6 months without discharging and charging them again.

### WE ADVISE YOU TO TAKE THE FOLLOWING POINTS INTO CONSIDERATION:

– Oil your tool at regular intervals using Red Rooster Atlub fully synthetic resin and acid free lubrication

### FOR AIRTOOLS:

- Always check before connecting the hose to the tool, that both the air hose and fittings are in good condition and free of any debris or dirt
- The use of a correctly sized air treatment set (FRL) and a correctly adjusted lubricator
- The use of a hose between the oiler and air tool of max. 8 m. (26 ft.). In case of a longer hose please mount an SMC jet oiler. The jet oiler has a reach of approx. 200 m. (656 ft.).
- The air pressure of the tool has to be 0.63 MPa.

### DRAW WATER FROM THE AIR PIPING AND COMPRESSOR TANK DAILY. CHECK IF THE LUBRICATORS ARE FILLED WITH RED ROOSTER ATLUB OIL.

## Warranty

The warranty period from the date of purchase is as follows:

### 12 MONTHS

- Industrial cordless, electrical and air tools Yokota, Red Rooster and Toku.
- Hoists and winches of Red Rooster

### 3 MONTHS

- On repairs and replaced spare parts, repaired by us or our recognized partners.

Warranty covers clearly definable material and/or construction faults by the manufacturer. Replacement of parts or repair by an official partner of ours, is free of charge when the tool is covered by warranty. Freight or postage is the

### PRESSURE TOO LOW!

When the air supply to the tools is too low it could reduce the performance and the accuracy of the tool. Slow starting and lower productivity lead to a loss of efficiency. 0,1 MPa pressure reduction means 25% power loss to the air motor.

### LOW PRESSURE MAY OCCUR IF:

- The capacity of the compressor is insufficient
- The air piping has been pitched incorrectly
- There are air leaks
- The air treatment equipment is not functioning
- The wrong size hose nipples or quick couplers are used
- The tank is too small

### PLEASE NOTE

When using impact wrenches and impulse wrenches, the torques shown will vary if used on a soft joint. A soft joint can be caused by the use of washers, gaskets and other elastic materials.

### QUALITY OF THE AIR

Poor air quality can result in expensive production downtime, and will increase the time and costs of maintenance, as well as shorten the lifetime of the tool. Good quality air should be a first priority, investments will be worth it, saving your tools from (permanent) damages. Poor quality air can be caused by:

- Lack of necessary air treatment equipment
- Poor quality and/or wrong installation of the air treatment equipment
- Lack of maintenance of the air treatment equipment
- Incorrect hose diameter

responsibility of the customer. Damage attributed to normal wear, overloading or incorrect use is excluded from warranty. Replacement of tools as a consequence of warranty claims is not part of the warranty arrangements. Claims for the loss of production and/or other damages are excluded from this warranty.

Repairs under warranty can only be considered when the tool is in its original state and it is accompanied by the purchase invoice. Warranty claims have to be made through the distributor who supplied the tool. We reserve the right to make unannounced changes/modifications to our tools. These warranty conditions are based on an 8 hour working day.



# TRAINING



**TRAINING**

Changes are continuously taking place as systems, guidelines or installations are renewed. New systems require new skills, which is why it is so important that you continue to train your employees.

Rami Yokota’s know how on products, applications, regulations and much more is something that we are happy to share with you. We will teach you everything about our products both from a theoretical and a practical point of view.

**RAMI YOKOTA TRAINING**

In our Head Office located in Amsterdam, the Netherlands we have a showroom and workshop with extensive training facilities which enable us to use actual tools when discussing every day practice. In addition to the practical elements of the training, the commercial and technical experience of our training team will prove of great benefit to your employees. Theoretical aspects are cleverly woven into one or two day courses, ensuring dynamic and exciting curriculum that will not be easily forgotten.

**TRAINING MODULES**

Our modules vary from basic training in the practical use of tools all the way to advanced training on highly specialised tools. Course material is always up-to-date and includes the most recent technologies in tools, processing and materials.

– General product training  
During our general product training you will receive full knowledge about the necessary pre-conditions for the long-term trouble-free use of our (air)tools. You will also receive insight regarding the different solutions that Rami Yokota can offer for numerous applications and intensities of use those applications require.

– Assembly training  
Market wide components are engineered with increasing detail, therefore bolt connections have to be calculated in a more detailed manner too. The choice of assembly

tool is therefore of growing and greater importance. This training is specifically aimed at the assembly industry. After this training you will be enabled to give correct advice about the tools and their applications.

– Training with compressed air hoisting equipment  
Air hoists are virtually indispensable in a variety of sectors such as offshore, oil and gas, (petro) chemical plants, food industry, tank cleaning and every other industry where the danger of explosion is real. In addition the 100% duty rating along with other important characteristics of air hoists can be immensely useful in other sectors too. During training you will learn about the required pre-conditions that enable safe and long term use of air hoists. There will also be ample attention given to the large variety of possible applications where air hoists are, often, the best alternative to electric or hand-held hoists.

– Repair training  
Faults and break-downs of tools and machinery constitute a large unnecessary cost for many companies, downtime of tools can cause costly interruption to expensive production processes. Rami Yokota’s training is developed to minimize the costs to our customers, our training focuses on recognizing and interpreting signals of wear and tear, as well as disseminating all the necessary information to prevent breakage of (air) tools and air hoists. Timely and sufficient maintenance is the key!  
Your company benefits from the acquired know-how about products and their applications. Well trained employees help increase productivity, quality and safety.

Interested in a training course at Rami Yokota or would you like some more information?

Then do get in touch with us via [marketing@rami-yokota.com](mailto:marketing@rami-yokota.com) and inform us about your requirements.

# SUPPORT



**DISPLAYS RACKS**

Besides technical advice and a delivery rate of 97% within 24-48 hours in Europe of our tools, air hoists, impact sockets and accessories, we also gladly support you in the design of displays. We will help you determine the best assortment for your location, or deliver a fully assorted ready-made display. We always make sure that the concept is suited to your specific needs.

Direct availability of tools with high turnover rates on display, offer your customer the correct tool without risking stagnation. The variety of the assortment and the turnover rate can be periodically analysed. When necessary it can be tweaked to ensure no tools remain in stock over long periods of time and you always have the most current product line available.

We can supply different types of displays to present your products in the most appropriate way: 1 meter displays for our powertools, desk displays for a small assortment of tools, special displays for impact sockets as well as displays for our assortment of breaking and paving hammers.

If your customers are interested in a larger assortment then you can choose to add several interconnecting displays. If you are interested in a special custom made display we can also make you an offer.

**DISPLAY CARDS**

Each tool has its own important specifications. In order to inform your customers we can supply you with magnetized display cards for each tool, carrying all the information relevant to you and your customer.

**BROCHURES**

We offer several information brochures and product leaflets to help you promote, explain and sell our products. The following brochures are available upon request in five languages (Dutch, English, German, French, Polish):

- Power tools
- Assembly tools
- ACTION impact sockets
- RED ROOSTER air chain hoists
- Twice yearly brochure with special OFFERS

All brochures have a space on the back for your stamp or sticker, enabling your customers to know where they can get direct knowledge/training and materials about their tools or potential purchases.

**DEMONSTRATION**

Many of our tools require explanation and even demonstration. Our sales staff are highly trained and available to plan visits with your staff so that the end customer can be convinced the proposed tool is the appropriate solution for their place of work.

For appointments and further information please feel free to contact the sales person in your region, or our head office in Amsterdam.

# INDEX

[illegible]

# INDEX

|                    |    |                    |    |                  |    |                       |     |
|--------------------|----|--------------------|----|------------------|----|-----------------------|-----|
| RRI-BIM15T.....    | 44 | RRI-SP31108.....   | 47 | RRI-60RT.....    | 37 | RRI-3430.....         | 86  |
| RRI-BIM25AT.....   | 44 | RRI-SP31706.....   | 47 | RRI-60RTA.....   | 37 | RRI-3445.....         | 86  |
| RRI-BIM25T.....    | 44 |                    |    | RRI-60S.....     | 39 | RRI-3506.....         | 87  |
| RRI-BIM35T.....    | 44 | RRI-T1135.....     | 87 | RRI-60STA.....   | 36 | RRI-4006.....         | 108 |
| RRI-BIM45T.....    | 44 | RRI-T1550.....     | 87 | RRI-60T.....     | 35 | RRI-4006VL.....       | 108 |
| RRI-BIM65T.....    | 44 | RRI-T1565.....     | 87 | RRI-60X.....     | 38 | RRI-4007.....         | 108 |
|                    |    | RRI-T3335.....     | 87 | RRI-70.....      | 38 | RRI-4007VL.....       | 108 |
| RRI-G50HP.....     | 89 | RRI-T3340.....     | 87 | RRI-70A.....     | 38 | RRI-4010.....         | 59  |
| RRI-G70.....       | 89 | RRI-T4065.....     | 87 | RRI-70AT.....    | 35 | RRI-4011.....         | 59  |
| RRI-PR40740.....   | 59 | RRI-T6250-5NV..... | 83 | RRI-70R.....     | 40 | RRI-4021/4.....       | 97  |
| RRI-PR40948.....   | 59 | RRI-T6250-5CV..... | 83 | RRI-70RA.....    | 40 | RRI-4596/1.....       | 97  |
| RRI-PR41764.....   | 59 |                    |    | RRI-70RG.....    | 40 | RRI-4596R.....        | 97  |
| RRI-PRN41612M..... | 59 | RRI-14.....        | 74 | RRI-70RGT.....   | 37 | RRI-4612K VL.....     | 97  |
|                    |    | RRI-17 1/2.....    | 74 | RRI-70RH.....    | 40 | RRI-4612R VL.....     | 97  |
| RRI-SA10902.....   | 49 | RRI-17 3/8.....    | 74 | RRI-70RHT.....   | 37 | RRI-4007LR 4/5/6..... | 110 |
| RRI-SA11602.....   | 49 | RRI-21.....        | 74 | RRI-70RT.....    | 37 |                       |     |
| RRI-SA20705.....   | 49 | RRI-21/SETSTD..... | 77 | RRI-70RTA.....   | 37 | RRI-5125-2NV.....     | 93  |
| RRI-SA21104.....   | 49 | RRI-21/SETLNG..... | 77 | RRI-70S.....     | 39 | RRI-5125-2CV.....     | 93  |
| RRI-SA21704.....   | 49 | RRI-25.....        | 74 | RRI-70SA.....    | 39 | RRI-5125-2SV.....     | 93  |
| RRI-SA30511.....   | 49 | RRI-30.....        | 38 | RRI-70ST.....    | 36 | RRI-5125-5NV.....     | 93  |
| RRI-SA30710.....   | 49 | RRI-30A.....       | 38 | RRI-70STA.....   | 36 | RRI-5125-5CV.....     | 93  |
| RRI-SA31108.....   | 49 | RRI-30AT.....      | 35 | RRI-70T.....     | 35 | RRI-5125-5SV.....     | 93  |
| RRI-SA30511W.....  | 49 | RRI-30S.....       | 39 | RRI-80.....      | 38 |                       |     |
| RRI-SA30710W.....  | 49 | RRI-30SA.....      | 39 | RRI-80RHT.....   | 37 | RRI-6150-2NV.....     | 93  |
| RRI-SA31108W.....  | 49 | RRI-30ST.....      | 36 | RRI-80ST.....    | 36 | RRI-6150-2CV.....     | 93  |
|                    |    | RRI-30STA.....     | 36 | RRI-80T.....     | 35 | RRI-6150-2SV.....     | 93  |
| RRI-SD10902.....   | 48 | RRI-30T.....       | 35 | RRI-90.....      | 38 | RRI-6150-5NV.....     | 93  |
| RRI-SD11602.....   | 48 | RRI-37E.....       | 76 | RRI-90T.....     | 35 | RRI-6150-5CV.....     | 93  |
| RRI-SD20705.....   | 48 | RRI-40AT.....      | 35 |                  |    | RRI-6150-5SV.....     | 93  |
| RRI-SD21104.....   | 48 | RRI-40AX.....      | 38 | RRI-100.....     | 38 |                       |     |
| RRI-SD21704.....   | 48 | RRI-40S.....       | 39 | RRI-100T.....    | 35 | RRI-8002.....         | 114 |
| RRI-SD30511.....   | 48 | RRI-40SA.....      | 39 | RRI-130.....     | 38 | RRI-8003.....         | 114 |
| RRI-SD30710.....   | 48 | RRI-40ST.....      | 36 | RRI-130T.....    | 35 | RRI-8004.....         | 114 |
| RRI-SD31108.....   | 48 | RRI-40STA.....     | 36 | RRI-150.....     | 38 | RRI-8011.....         | 114 |
| RRI-SD31706.....   | 48 | RRI-40T.....       | 35 | RRI-150T.....    | 35 | RRI-8031.....         | 114 |
|                    |    | RRI-40X.....       | 38 | RRI-180.....     | 38 | RRI-8032.....         | 114 |
| RRI-SL10902.....   | 48 | RRI-50AT.....      | 35 | RRI-180T.....    | 35 | RRI-8460.....         | 111 |
| RRI-SL11602.....   | 48 | RRI-50AX.....      | 38 |                  |    | RRI-8560.....         | 111 |
| RRI-SL20705.....   | 48 | RRI-50R.....       | 40 | RRI-200.....     | 38 | RRI-9001/1.....       | 110 |
| RRI-SL21104.....   | 48 | RRI-50RA.....      | 40 | RRI-200T.....    | 35 | RRI-9003/1.....       | 110 |
| RRI-SL21704.....   | 48 | RRI-50RT.....      | 37 |                  |    | RRI-9005/1.....       | 110 |
| RRI-SL30511.....   | 48 | RRI-50RTA.....     | 37 | RRI-1061.....    | 76 | RRI-9010.....         | 113 |
| RRI-SL30710.....   | 48 | RRI-50S.....       | 39 |                  |    | RRI-21930.....        | 108 |
| RRI-SL31108.....   | 48 | RRI-50SA.....      | 39 | RRI-2006.....    | 83 | RRI-34100.....        | 86  |
| RRI-SL31706.....   | 48 | RRI-50ST.....      | 36 | RRI-2116P.....   | 83 | RRI-T330M12.....      | 85  |
|                    |    | RRI-50STA.....     | 36 | RRI-2206/28..... | 83 |                       |     |
| RRI-SP10502.....   | 47 | RRI-50T.....       | 35 | RRI-2206/40..... | 83 | RRI-8205.....         | 111 |
| RRI-SP10902.....   | 47 | RRI-50X.....       | 38 |                  |    | RRI-8210.....         | 111 |
| RRI-SP11602.....   | 47 | RRI-60SA.....      | 39 | RRI-3006.....    | 87 |                       |     |
| RRI-SP20705.....   | 47 | RRI-60ST.....      | 36 | RRI-3007.....    | 87 | RRI-203.....          | 120 |
| RRI-SP21104.....   | 47 | RRI-60AT.....      | 35 | RRI-3407.....    | 86 |                       |     |
| RRI-SP21704.....   | 47 | RRI-60AX.....      | 38 | RRI-3425.....    | 86 | RRI-60152.....        | 94  |
| RRI-SP30511.....   | 47 | RRI-60R.....       | 40 | RRI-3425L.....   | 86 | RRI-60153.....        | 94  |
| RRI-SP30710.....   | 47 | RRI-60RA.....      | 40 | RRI-3425EL.....  | 86 | RRI-60323.....        | 94  |



# INDEX

[illegible]

# INDEX

|                |    |
|----------------|----|
| YRW-8NS.....   | 79 |
| YRW-10N .....  | 79 |
| YS-e600 .....  | 22 |
| YS-e800 .....  | 22 |
| YS-e900 .....  | 22 |
| YS-e950 .....  | 22 |
| YTC-3 .....    | 27 |
| YW-6CL .....   | 75 |
| YW-50C .....   | 77 |
| YW-65C .....   | 77 |
| YW-90C .....   | 77 |
| YW-120C.....   | 77 |
| YX-280C.....   | 30 |
| YX-500C.....   | 30 |
| YX-700C.....   | 30 |
| YX-180SE.....  | 31 |
| YX-180SA.....  | 31 |
| YX-280SE.....  | 31 |
| YX-280SA.....  | 31 |
| YX-380SE.....  | 31 |
| YX-380SA.....  | 31 |
| YX-500SE.....  | 31 |
| YX-700SE.....  | 31 |
| YX-700C.....   | 30 |
| YX-3000 .....  | 31 |
| YX-4500 .....  | 31 |
| YZ-N600E ..... | 25 |
| YZ-N600A ..... | 25 |
| YZ-N800E ..... | 25 |
| YZ-N800A ..... | 25 |
| YZ-N900E ..... | 25 |
| YZ-N950E.....  | 25 |
| YZ-T600E ..... | 24 |
| YZ-T600A.....  | 24 |
| YZ-T800E ..... | 24 |
| YZ-T800A.....  | 24 |
| YZ-T900E ..... | 24 |
| YZ-T950E ..... | 24 |

Assembly tools  
Impulse wrenches  
System wrenches  
Screwdrivers  
Impact wrenches  
Ratchet wrenches  
Drills  
Grinders  
Sanders  
Balancers  
Hammers  
Breakers  
Air chain hoists  
Air treatment equipment  
Impact sockets