

STA 6000 Data analyzer

Better and faster quality checks,
power and flexibility in your hand.



Atlas Copco



QUALITY FOR YOUR TOOLS AND PROCESSES

Improve everyday tasks for Quality supervisors and operators. Reduced weight and compact design makes the STa 6000 easy to carry along the line. Checking tools in the Tool Crib and on the line and checking tightened joints means quality guaranteed.



STa 6000 DATA ANALYZER



Features

- A** **Intuitive color screen.** STa 6000 color screen features intuitive icon menus.
- B** **Clear feedback.** Feedback is clearly displayed, with the possibility to add a gauge indicator and fully customize information.
- C** **No PC required.** Everything is set and analyzed right on the device – no need for a PC!
- D** **Easy checking.** With the STa 6000 mounted on the wall and connected to an SRTT-L, operators can quickly test their tools prior to production. If the line is being rebalanced, only the SRTT-L transducer has to be changed, and not the entire system.
- E** **Notes – preconfigured or new.** STa 6000 makes adding test notes easy. Notes can be prepared in advance for quick selection on the STa 6000. New notes can always be added on the go.
- F** **Rubber protection and stand.** STa 6000 can be complemented with a rubber protection that also improves operator grip. The STa 6000 stand can be used with or without the rubber protection. Secured but still portable.



| | |
|-------------------------|--|
| Weight | 0.5 Kg |
| Screen size | 3.2" 320x240 |
| Battery duration | 8 hours in normal usage 6 hours in continuous operation (1 test every 30 sec.) |
| Transducers | SRTT, SRTT-L, IRTT, MRTT, QRTT |
| Transducers | mV/V and V transducers |
| Memory | 16 GB - 1000 Pset & Tools - 50000 results & traces |
| Modules | IRC-B, IRC-W, Barcode |

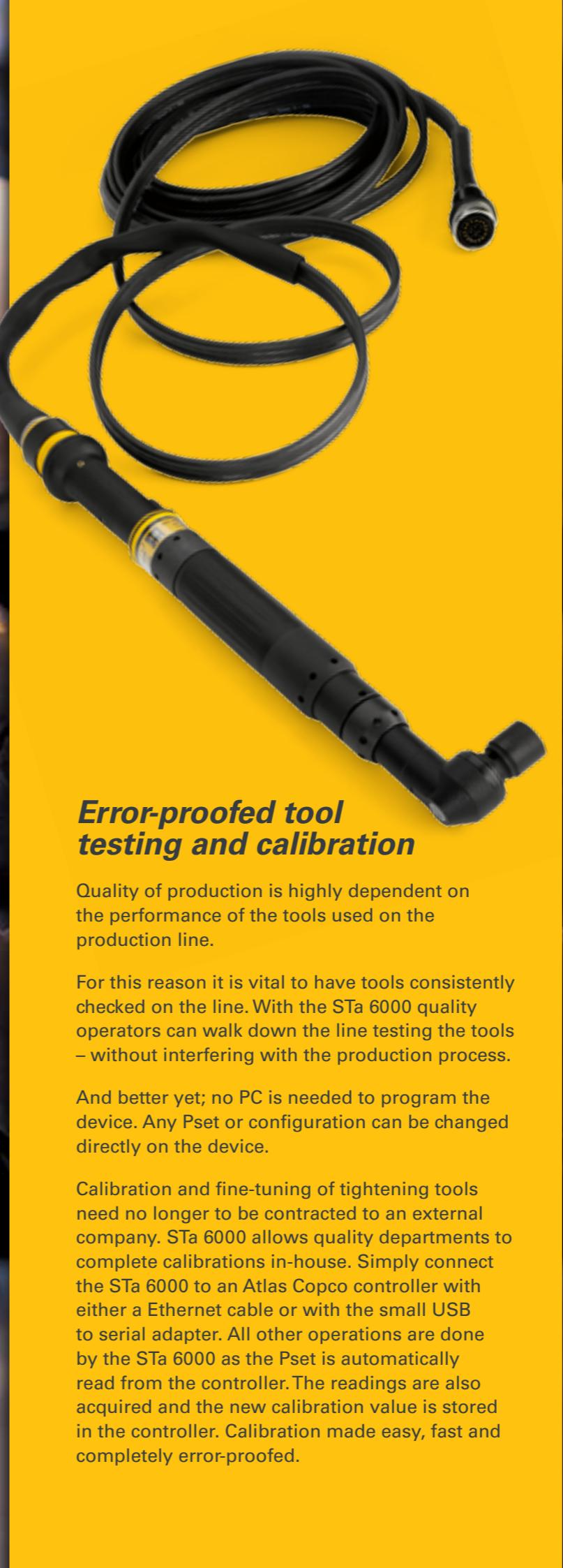




Start with an assessment

Every tightening tool needs to be assessed in your tool crib to make sure that its performance fits the application assigned to it. Both tools that have been recently acquired, and tools that have been serviced.

With the quick programming feature, the STa 6000 gives operators the possibility to quickly start a test. Simply connect a transducer and select the type of tool to be tested. STa 6000 will program itself utilizing the information from the transducer.



Error-proofed tool testing and calibration

Quality of production is highly dependent on the performance of the tools used on the production line.

For this reason it is vital to have tools consistently checked on the line. With the STa 6000 quality operators can walk down the line testing the tools – without interfering with the production process.

And better yet; no PC is needed to program the device. Any Pset or configuration can be changed directly on the device.

Calibration and fine-tuning of tightening tools need no longer to be contracted to an external company. STa 6000 allows quality departments to complete calibrations in-house. Simply connect the STa 6000 to an Atlas Copco controller with either a Ethernet cable or with the small USB to serial adapter. All other operations are done by the STa 6000 as the Pset is automatically read from the controller. The readings are also acquired and the new calibration value is stored in the controller. Calibration made easy, fast and completely error-proofed.



SOFTWARE



Effective and correct

Testing the tools is the first step to prevent quality issues but, by performing residual torque testing on production joints, quality departments are able to verify that the tightening process is effective and the joints are correctly tightened. The STa 6000 implements a specially developed algorithm to test residual torque on joints. Used in conjunction with

the MRTT-C, it will analyze the joint behavior as the operator performs the test. By analyzing torque vs angle behavior of the joint, operator influence during the test is eliminated. Clear feedback is provided through LEDs and vibration from the handle of the MRTT-C. This will increase operator responsiveness preventing any over-torqueing.

Tools talk BLM

TTBLM is the basic software for programming the STa 6000. Quality managers can set up the tool and Pset databases on the STa 6000 from their own desktop, and retrieve all test results and traces as well. By connecting STa 6000 to the plant network with IRC-W modules, the operator can wirelessly retrieve any data from STa 6000 and the export it in Excel, PDF or image format.

TIP: Manage all the test results with Smart Excel. Use it to collect all the data from different STa 6000 devices and store.

Torque Supervisor

Torque Supervisor is the data management software that programs and integrates test results. Providing test scheduling, test reporting and analysis graphs, it keeps track of the history of all tool and joint tests.

TIP: Transfer the information to the STa 6000 by creating tool check or residual test routes for the operators. Program it to make a work list for the operators by transferring only tools that have to be tested that day.

| Model | Full | Light | Tool Crib | Residual | Advanced |
|-------------------|------|-------|-----------|----------|----------|
| JSB bench | • | • | | | |
| Tool Check route | • | | • | | • |
| Joint Check route | • | | • | • | • |



TRANSDUCERS



SRTT-L

The SRTT-L is a transducer range designed for lower torque assembly tools. With exchangeable transducers and test joints, it can be used with any STA 6000. The modular design allows the user to scale his system as his needs to evolve.

QRTT

Fast and easy set-up with highest system accuracy, the QRTT transducers are used to test QST, QMX and ETX nutrunners as well as fixtured Tensor tool calibration. No special test adaptation device between the spindle and the product is needed!



IRTT-B

Incorporating significant improvements in durability and accuracy the IRTT-B is the new generation of Atlas Copco torque and torque/angle in-line rotary transducers. The all new angle reading system gives better resolution and longer life. The IRTT-Bs memory chip is read by the STA 6000, which automatically sets up the transducer characteristics, avoiding any possible errors.



SRTT-B

The SRTT-B is the new generation of Atlas Copco stationary reaction torque transducers with improved durability. The new patented system of fixing the joint simulator on top, avoids any mechanical play. A complete range of accessories and a mechanical joint simulator enables you to test shut-off tools or wrenches.

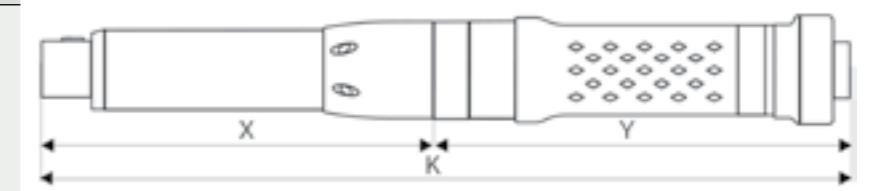


MRTT-C

Using the advanced Torque/Angle algorithm – same as the ST Wrench) – the MRTT-C can be used to detect the residual torque. Torque or Torque/Angle reading depending to the smart-HEAD. It is equipped with LED like STwrench, vibrating handle, a buzzer, TAG recognition and a light in front.



| MRTT-C Model | Length mm | | | Weight | |
|-----------------|-----------|-----|------|--------|------|
| | X | Y | K | Kg | lb |
| 30 Nm | 159 | 166 | 325 | 0.62 | 1.36 |
| 80 Nm | 159 | 166 | 325 | 0.64 | 1.41 |
| 150 Nm | 262 | 166 | 428 | 0.97 | 2.13 |
| 250 Nm | 408 | 166 | 574 | 1.20 | 2.64 |
| 400 Nm | 575 | 166 | 741 | 1.35 | 2.97 |
| 600 Nm | 1040 | 166 | 1206 | 2.12 | 4.67 |



RBU

BASIC is the perfect solution for simple and quick tests.

QC RBU for operators requiring a complete testing solution.

AA RBU is the recommended solution for Advanced Analysis.

Hardware capability

| | 1 | 1 | 1 |
|--|------------------|------------------|------------------|
| Number of Channels | 1 | 1 | 1 |
| Torque | yes | yes | yes |
| Angle (Encoder or Gyroscope) | yes | yes | yes |
| MRTT-C connection for joint checks | yes | yes | yes |
| Size in mm | 110x200x45 | 110x200x45 | 110x200x45 |
| Weight | > 500 g | > 500 g | > 500 g |
| Color Display | yes | yes | yes |
| Keyboard | yes | yes | yes |
| Results Storage | 50000 | 50000 | 50000 |
| Traces storage | 50000 | 50000 | 50000 |
| RBU - Rapid Backup Unit | no | yes | yes |
| Direct Power Supply (slow charger 6H) | yes | yes | yes |
| RJ45 (Ethernet) | yes | yes | yes |
| USB | yes | yes | yes |
| Non Atlas Copco analog transducer connection | yes | yes | yes |
| Software capability - onBoard | | | |
| Languages | yes | yes | yes |
| Multi-units | yes | yes | yes |
| Pset | 1 (not saved) | 1000 | 1000 |
| Batch Count | yes | yes | yes |
| CW/CCW | yes | yes | yes |
| Database - Tool | no | 1000 | 1000 |
| Quick Programming | yes | yes | yes |
| Power Focus and Power Macs calibration | no | yes | yes |
| Traces on display | no | yes | yes |
| Advanced analysis graphs on display | no | no | yes |
| Custom measurement screen | no | yes | yes |
| Wi-Fi print | yes (IRC-W mod.) | yes (IRC-W mod.) | yes (IRC-W mod.) |
| Ethernet print | yes | yes | yes |
| Software Functionality - onBoard | | | |
| - Tool Check | | | |
| Wrench testing | yes | yes | yes |
| Power tool testing | yes | yes | yes |
| Pulse Tool testing | yes | yes | yes |
| Min, Max, Med, Sigma statistics | yes | yes | yes |
| Cm/Cmk | no | yes | yes |
| SPC | no | yes | yes |
| Joint Check | | | |
| Yield point | yes | yes | yes |
| Residual Torque/Time | yes | yes | yes |
| Residual Torque/Angle | yes | yes | yes |
| Residual Torque/Peak | yes | yes | yes |
| Loose and Tight | yes | yes | yes |
| Software capability - connectivity | | | |
| ToolsTalk BLM to view/export results and traces via Wi-Fi (with IRC-W), USB/RJ45 | yes | yes | yes |
| ToolsTalk BLM to program test strategies via Wi-Fi (with IRC-W), USB/RJ45 | no | yes | yes |
| Torque Supervisor via Wi-Fi (with IRC-W), USB/RJ45 | no | yes | yes |
| API via Wi-Fi (with IRC-W), USB/RJ45 | no | yes (API RBU) | yes (API RBU) |

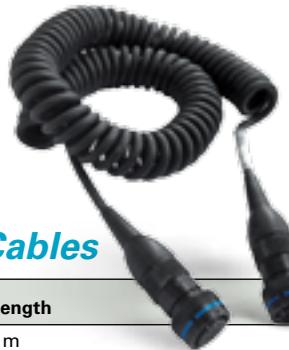


**MAKING TOOLS
PERFORM AT
THEIR BEST**

STa 6000

| Model | Ordering No. |
|-----------------------------|--------------|
| STa 6000 Basic | 8059 0956 60 |
| STa 6000 RBU QC | 8059 0956 62 |
| STa 6000 RBU AA | 8059 0956 63 |
| STa 6000 RBU QC API | 8059 0956 68 |
| STa 6000 RBU AA API | 8059 0956 69 |
| STa 6000 rubber protection | 8059 0956 76 |
| STa 6000 stand | 8059 0956 73 |
| STa 6000 USB/Serial Adapter | 8059 0956 74 |
| Battery pack | 8059 0955 61 |
| Battery adapter | 8059 0955 75 |
| Battery charger | 8059 0930 88 |
| STa power supply* | 4612 0300 21 |
| IRC-B Module | 8059 0920 10 |
| IRC-W Module | 8059 0920 15 |
| BarCode Module | 8059 0920 12 |
| ACTA RS232 cable 3 m | 4222 0546 03 |
| ACTA RS232 cable 5 m | 4222 0546 05 |

*The STa is provided with the power supply (Ordering No. 4612 0300 21) in the box. Battery has to be ordered separately.



Cables

| Length | Ordering No. |
|------------------|--------------|
| 1 m | 4145 0982 01 |
| 3 m | 4145 0982 03 |
| 5 m | 4145 0982 05 |
| 3 m curled cable | 4145 0971 03 |

If non Atlas Copco transducers are used one of the following cables are required.

| Industrial style - model | Ordering No. |
|---------------------------|--------------|
| Transducer cable 3m 19-4 | 4145 0965 03 |
| Transducer cable 3m 19-6 | 4145 0968 03 |
| Transducer cable 3m 19-10 | 4145 0967 03 |

Adapters



| Adapters | Drive | | Ordering No. |
|--------------|--------|--------|--------------|
| | Hex mm | Sq. in | |
| 1/2" to 1/4" | x | 1/2 | 8059 0978 63 |
| 1/2" to 3/8" | x | 1/2 | 8059 0978 64 |
| 3/8" to 36 | 36 | x | 8059 0978 65 |
| 1/2" to 36 | 36 | | 8059 0978 66 |
| 1/2" to 50 | 50 | | 8059 0978 67 |
| 3/4" to 50 | 50 | | 8059 0978 68 |
| 1" to 50 | 50 | | 8059 0978 69 |
| 1/4" - 1/4" | | | 8059 0977 64 |
| 3/8" - 3/8" | | | 8059 0977 65 |
| 1/2" - 1/2" | | | 8059 0977 66 |
| 3/8" - 3/8" | | | 8059 0977 67 |
| 1" - 1" | | | 8059 0978 52 |
| 1/4" - 3/8" | | | 8059 0977 68 |
| 3/8" - 1/2" | | | 8059 0977 69 |
| 1/2" - 3/4" | | | 8059 0977 70 |
| 3/4" - 1" | | | 8059 0978 53 |



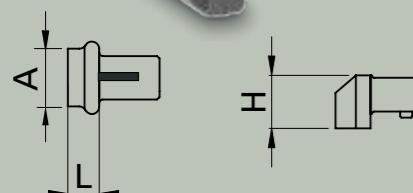
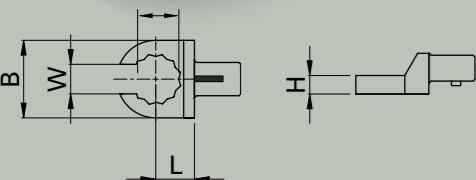
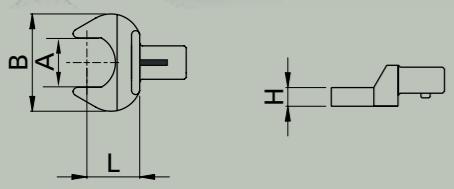
Transducer – MRTT-C

| Model | | Capacity | | Drive | | Weight | |
|--------------------------------------|-----|----------|-------|-------|------|--------|--------------|
| Model | Nm | ft lb | mm | Kg | lb | mm | Ordering No. |
| MRTT-C | | | | | | | |
| smartHEAD only Torque | | | | | | | 8059 0930 10 |
| smartHEAD 30 | 30 | 23 | 9x12 | 0.20 | 0.44 | 167.5 | 8059 0920 30 |
| smartHEAD 80 | 80 | 59 | 9x12 | 0.22 | 0.48 | 167.5 | 8059 0920 42 |
| smartHEAD 150 | 150 | 111 | 14x18 | 0.55 | 1.21 | 271.0 | 8059 0920 48 |
| smartHEAD 250 | 250 | 185 | 14x18 | 0.78 | 1.72 | 417.0 | 8059 0920 54 |
| smartHEAD 400 | 400 | 295 | 14x18 | 0.93 | 2.05 | 584.0 | 8059 0920 60 |
| smartHEAD 600 | 600 | 443 | 21x26 | 1.70 | 3.75 | 1048.5 | 8059 0920 66 |
| smartHEAD A Torque | | | | | | | |
| smartHEAD A15 | 15 | 11 | 9x12 | 0.19 | 0.42 | 147.5 | 8059 0930 24 |
| smartHEAD A30 | 30 | 23 | 9x12 | 0.19 | 0.42 | 147.5 | 8059 0930 31 |
| smartHEAD A80 | 80 | 59 | 9x12 | 0.20 | 0.44 | 147.5 | 8059 0930 43 |
| smartHEAD A150 | 150 | 111 | 14x18 | 0.55 | 1.21 | 271.0 | 8059 0930 48 |
| smartHEAD A250 | 250 | 185 | 14x18 | 0.78 | 1.72 | 417.0 | 8059 0930 54 |
| smartHEAD A400 | 400 | 295 | 14x18 | 0.93 | 2.05 | 584.0 | 8059 0930 60 |
| smartHEAD A600 | 600 | 443 | 21x26 | 1.70 | 3.75 | 1048.5 | 8059 0930 66 |
| smartHEAD A Torque + Angle sq | | | | | | | |
| smartHEAD Asq15 | 15 | 11 | 9x12 | 0.19 | 0.42 | 147.5 | 8059 0930 28 |
| smartHEAD Asq30 | 30 | 23 | 9x12 | 0.19 | 0.42 | 147.5 | 8059 0930 32 |
| smartHEAD Asq80 | 80 | 59 | 9x12 | 0.20 | 0.44 | 147.5 | 8059 0930 44 |
| smartHEAD Asq150 | 150 | 111 | 14x18 | 0.55 | 1.21 | 271.0 | 8059 0930 50 |
| smartHEAD Asq250 | 250 | 185 | 14x18 | 0.78 | 1.72 | 417.0 | 8059 0930 56 |
| smartHEAD Asq400 | 400 | 295 | 14x18 | 0.93 | 2.05 | 584.0 | 8059 0930 62 |

Transducer – SRTT-B

| Model | Drive | | Rated capacity | | Ordering No. |
|-------------------------|--------|--------|----------------|---------|--------------|
| | Hex mm | Sq. mm | Nm | ft lb | |
| SRTT-B 0.5-13 | | 1/2 | 0.5 | 0.37 | 8059 0946 03 |
| SRTT-B 2-13 | | 1/2 | 2 | 1.47 | 8059 0946 09 |
| SRTT-B 5-13 | | 1/2 | 5 | 3.69 | 8059 0946 15 |
| SRTT-B 25-36 | 36 | | 25 | 18.40 | 8059 0946 28 |
| SRTT-B 50-36 | 36 | | 50 | 36.88 | 8059 0946 36 |
| SRTT-B 100-36 | 36 | | 100 | 73.76 | 8059 0946 45 |
| SRTT-B 250-36 | 36 | | 250 | 184.40 | 8059 0946 54 |
| SRTT-B 500-50 | 50 | | 500 | 368.78 | 8059 0946 63 |
| SRTT-B 1000-50 | 50 | | 1000 | 737.60 | 8059 0946 75 |
| SRTT-B 2000-50 | 50 | | 2000 | 1475.00 | 8059 0946 84 |
| Tool interface | | | | | |
| SRTT-B interface | | | | | |
| TJ SRTT-B – Test Joint | Hex mm | Sq. in | Hex mm | Sq. in | Ordering No. |
| TJ SRTT-B S - 0.5 | 1/4 | | | 1/2 | 8059 0940 01 |
| TJ SRTT-B H - 0.5 | 1/4 | | | 1/2 | 8059 0940 02 |
| TJ SRTT-B S - 2 | 1/4 | | | 1/2 | 8059 0940 03 |
| TJ SRTT-B H - 2 | 1/4 | | | 1/2 | 8059 0940 04 |
| TJ SRTT-B S - 5 | 1/4 | | | 1/2 | 8059 0940 05 |
| TJ SRTT-B H - 5 | 1/4 | | | 1/2 | 8059 0940 06 |
| TJ SRTT-B S - 10 | 1/4 | | | 1/2 | 8059 0940 20 |
| TJ SRTT-B H - 10 | 1/4 | | | 1/2 | 8059 0940 21 |
| TJ SRTT-B S - 25 | 3/8 | | 36 | | 8059 0940 07 |
| TJ SRTT-B H - 25 | 3/8 | | 36 | | 8059 0940 08 |
| TJ SRTT-B S - 50 | 1/2 | | 36 | | 8059 0940 09 |
| TJ SRTT-B H - 50 | 1/2 | | 36 | | 8059 0940 10 |
| TJ SRTT-B S - 100 | 1/2 | | 36 | | 8059 0940 11 |
| TJ SRTT-B H - 100 | 1/2 | | 36 | | 8059 0940 12 |
| TJ SRTT-B S - 250 | 1/2 | | 36 | | 8059 0940 13 |
| TJ SRTT-B H - 250 | 1/2 | | 36 | | 8059 0940 14 |
| TJ SRTT-B S - 500 | 3/4 | | 50 | | 8059 0940 15 |
| TJ SRTT-B H - 500</ | | | | | |

Standard end fitting tools with TAG



| Type | A | B | H | L | | |
|-----------------|----|----|-----|------|-----|--------------|
| Type | mm | mm | mm | mm | g | Ordering No. |
| Open end 9 x 12 | 7 | 22 | 5 | 17.5 | 40 | 4620 0001 00 |
| | 8 | 22 | 5 | 17.5 | 39 | 4620 0002 00 |
| | 9 | 26 | 5.5 | 17.5 | 38 | 4620 0003 00 |
| | 10 | 26 | 5.5 | 17.5 | 42 | 4620 0004 00 |
| | 11 | 26 | 5.5 | 17.5 | 41 | 4620 0005 00 |
| | 12 | 30 | 7 | 17.5 | 43 | 4620 0006 00 |
| | 13 | 30 | 7 | 17.5 | 48 | 4620 0007 00 |
| | 14 | 35 | 8 | 17.5 | 52 | 4620 0008 00 |
| | 15 | 35 | 8 | 17.5 | 51 | 4620 0009 00 |
| | 16 | 38 | 8.5 | 17.5 | 58 | 4620 0010 00 |
| | 17 | 38 | 8.5 | 17.5 | 60 | 4620 0011 00 |
| | 18 | 42 | 9 | 20 | 71 | 4620 0012 00 |
| | 19 | 42 | 9 | 20 | 74 | 4620 0013 00 |
| Open end 4 x 18 | 13 | 30 | 7 | 25 | 128 | 4620 0049 00 |
| | 14 | 35 | 8 | 25 | 129 | 4620 0050 00 |
| | 15 | 35 | 8 | 25 | 132 | 4620 0051 00 |
| | 16 | 38 | 9 | 25 | 140 | 4620 0052 00 |
| | 17 | 38 | 9 | 25 | 136 | 4620 0053 00 |
| | 18 | 42 | 10 | 25 | 147 | 4620 0054 00 |
| | 19 | 42 | 10 | 25 | 147 | 4620 0055 00 |
| | 21 | 50 | 11 | 25 | 171 | 4620 0056 00 |
| | 22 | 50 | 11 | 25 | 165 | 4620 0057 00 |
| | 24 | 53 | 12 | 25 | 167 | 4620 0058 00 |
| | 27 | 60 | 13 | 30 | 219 | 4620 0059 00 |
| | 30 | 66 | 14 | 30 | 245 | 4620 0060 00 |
| | 32 | 66 | 14 | 32.5 | 246 | 4620 0061 00 |
| | 34 | 66 | 14 | 32.5 | 239 | 4620 0062 00 |

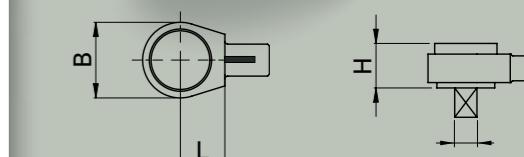
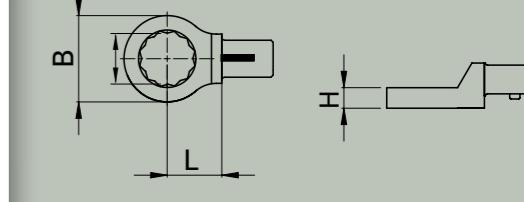
Standard end fitting tools with TAG

| Type | Hex | B | H | L | | |
|------------------|-----|------|----|------|-----|--------------|
| Type | mm | mm | mm | mm | g | Ordering No. |
| Ring end 9 x 12 | 7 | 13 | 8 | 17.5 | 37 | 4620 0014 00 |
| | 8 | 14.2 | 8 | 17.5 | 40 | 4620 0015 00 |
| | 10 | 17.2 | 9 | 17.5 | 44 | 4620 0016 00 |
| | 11 | 18.5 | 9 | 17.5 | 41 | 4620 0017 00 |
| | 12 | 20 | 12 | 17.5 | 49 | 4620 0018 00 |
| | 13 | 21.5 | 12 | 17.5 | 56 | 4620 0019 00 |
| | 14 | 23 | 12 | 17.5 | 52 | 4620 0020 00 |
| | 15 | 24.2 | 12 | 17.5 | 52 | 4620 0021 00 |
| | 16 | 25.7 | 13 | 17.5 | 54 | 4620 0022 00 |
| | 17 | 27.2 | 13 | 17.5 | 59 | 4620 0023 00 |
| | 18 | 28.5 | 13 | 17.5 | 56 | 4620 0024 00 |
| | 19 | 30.3 | 13 | 17.5 | 65 | 4620 0025 00 |
| | 21 | 33 | 15 | 17.5 | 71 | 4620 0026 00 |
| | 22 | 34.5 | 15 | 17.5 | 74 | 4620 0027 00 |
| Ring end 14 x 18 | 13 | 21.5 | 11 | 25 | 127 | 4620 0063 00 |
| | 14 | 23 | 11 | 25 | 123 | 4620 0064 00 |
| | 15 | 24.2 | 11 | 25 | 128 | 4620 0065 00 |
| | 16 | 25.7 | 12 | 25 | 133 | 4620 0066 00 |
| | 17 | 27.2 | 12 | 25 | 135 | 4620 0067 00 |
| | 18 | 28.5 | 12 | 25 | 134 | 4620 0068 00 |
| | 19 | 30.5 | 12 | 25 | 138 | 4620 0069 00 |
| | 21 | 33 | 15 | 25 | 144 | 4620 0070 00 |
| | 22 | 34.5 | 15 | 25 | 145 | 4620 0071 00 |
| | 24 | 37.5 | 15 | 25 | 153 | 4620 0072 00 |
| | 27 | 41.5 | 17 | 25 | 162 | 4620 0073 00 |
| | 30 | 45 | 19 | 25 | 182 | 4620 0074 00 |
| | 32 | 47.5 | 19 | 25 | 181 | 4620 0075 00 |
| | 34 | 50.5 | 19 | 28 | 210 | 4620 0076 00 |
| | 36 | 53 | 19 | 28 | 203 | 4620 0077 00 |
| | 41 | 59 | 20 | 30 | 240 | 4620 0078 00 |

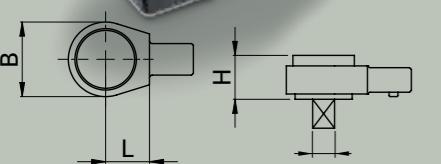
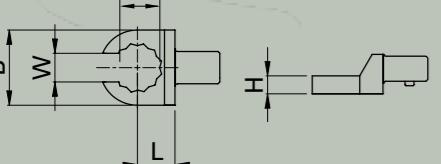
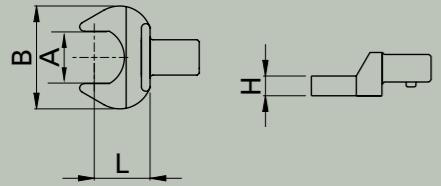
| Type | A | H | L | g | |
|---|---------|------|----|-----|--------------|
| Type | mm | mm | mm | mm | Ordering No. |
| Blank end 9 x12 for making up specials | 8 x 14 | 14.5 | 8 | 30 | 4620 0048 00 |
| Blank end 14 x18 | 11 x 25 | 21.5 | 21 | 98 | 4620 0084 00 |
| Blank end 21 x26 | 13 x 30 | 30 | 13 | 220 | 4620 0085 00 |

| Type | Hex | B | H | L | | |
|----------------------------|-----|----|------|------|------|--------------|
| Type | in | mm | mm | mm | g | Ordering No. |
| Reversible ratchet 9 x 12 | 1/4 | 22 | 14.5 | 17.5 | 62 | 4620 0043 00 |
| | 3/8 | 33 | 24 | 17.5 | 136 | 4620 0044 00 |
| | 1/2 | 33 | 28.3 | 17.5 | 147 | 4620 0045 00 |
| Reversible ratchet 14 x 18 | 1/2 | 43 | 26.2 | 25 | 302 | 4620 0081 00 |
| | 3/4 | 50 | 30.7 | 25 | 467 | 4620 0082 00 |
| Reversible ratchet 21 x 26 | 3/4 | 69 | 30 | 62.5 | 1350 | 4620 0086 00 |

The TAG placed on the ratchet defines the Pset. **NOTE:** Since several sockets could be used, it is recommended to hold the socket in such a way that it is not possible to remove it (e.g. using a pin).



Standard end fitting tools without TAG



Standard end fitting tools without TAG

| Type | A mm | B mm | H mm | L mm | g | Ordering No. |
|------------------|---------|---------|---------|---------|-----|--------------|
| Open end 9 x 12 | 7 | 22 | 5 | 17.5 | 40 | 8059 0975 00 |
| | 8 | 22 | 5 | 17.5 | 39 | 8059 0975 01 |
| | 9 | 26 | 5.5 | 17.5 | 38 | 8059 0975 02 |
| | 10 | 26 | 5.5 | 17.5 | 42 | 8059 0975 03 |
| | 11 | 26 | 5.5 | 17.5 | 41 | 8059 0975 04 |
| | 12 | 30 | 7 | 17.5 | 43 | 8059 0975 05 |
| | 13 | 30 | 7 | 17.5 | 48 | 8059 0975 06 |
| | 14 | 35 | 8 | 17.5 | 52 | 8059 0975 07 |
| | 15 | 35 | 8 | 17.5 | 51 | 8059 0975 08 |
| | 16 | 38 | 8.5 | 17.5 | 58 | 8059 0975 09 |
| | 17 | 38 | 8.5 | 17.5 | 60 | 8059 0975 10 |
| | 18 | 42 | 9 | 20 | 71 | 8059 0975 11 |
| | 19 | 42 | 9 | 20 | 74 | 8059 0975 12 |
| Open end 14 x 18 | 13 | 30 | 7 | 25 | 128 | 8059 0976 00 |
| | 14 | 35 | 8 | 25 | 129 | 8059 0976 01 |
| | 15 | 35 | 8 | 25 | 132 | 8059 0976 02 |
| | 16 | 38 | 9 | 25 | 140 | 8059 0976 03 |
| | 17 | 38 | 9 | 25 | 136 | 8059 0976 04 |
| | 18 | 42 | 10 | 25 | 147 | 8059 0976 05 |
| | 19 | 42 | 10 | 25 | 147 | 8059 0976 06 |
| | 21 | 50 | 11 | 25 | 171 | 8059 0976 07 |
| | 22 | 50 | 11 | 25 | 165 | 8059 0976 08 |
| | 24 | 53 | 12 | 25 | 167 | 8059 0976 09 |
| | 27 | 60 | 13 | 30 | 219 | 8059 0976 10 |
| | 30 | 66 | 14 | 30 | 245 | 8059 0976 11 |
| | 32 | 66 | 14 | 32.5 | 246 | 8059 0976 12 |
| | 34 | 66 | 14 | 32.5 | 239 | 8059 0976 13 |

| Type | Hex mm | B mm | H mm | L mm | g | Ordering No. |
|------------------|-----------|---------|---------|---------|-----|--------------|
| Ring end 9 x 12 | 7 | 13 | 8 | 17.5 | 37 | 8059 0975 13 |
| | 8 | 14.2 | 8 | 17.5 | 40 | 8059 0975 14 |
| | 10 | 17.2 | 9 | 17.5 | 44 | 8059 0975 15 |
| | 11 | 18.5 | 9 | 17.5 | 41 | 8059 0975 16 |
| | 12 | 20 | 12 | 17.5 | 49 | 8059 0975 17 |
| | 13 | 21.5 | 12 | 17.5 | 56 | 8059 0975 18 |
| | 14 | 23 | 12 | 17.5 | 52 | 8059 0975 19 |
| | 15 | 24.2 | 12 | 17.5 | 52 | 8059 0975 20 |
| | 16 | 25.7 | 13 | 17.5 | 54 | 8059 0975 21 |
| | 17 | 27.2 | 13 | 17.5 | 59 | 8059 0975 22 |
| | 18 | 28.5 | 13 | 17.5 | 56 | 8059 0975 23 |
| | 19 | 30.3 | 13 | 17.5 | 65 | 8059 0975 24 |
| | 21 | 33 | 15 | 17.5 | 71 | 8059 0975 25 |
| | 22 | 34.5 | 15 | 17.5 | 74 | 8059 0975 26 |
| Ring end 14 x 18 | 13 | 21.5 | 11 | 25 | 127 | 8059 0976 14 |
| | 14 | 23 | 11 | 25 | 123 | 8059 0976 15 |
| | 15 | 24.2 | 11 | 25 | 128 | 8059 0976 16 |
| | 16 | 25.7 | 12 | 25 | 133 | 8059 0976 17 |
| | 17 | 27.2 | 12 | 25 | 135 | 8059 0976 18 |
| | 18 | 28.5 | 12 | 25 | 134 | 8059 0976 19 |
| | 19 | 30.5 | 12 | 25 | 138 | 8059 0976 20 |
| | 21 | 33 | 15 | 25 | 144 | 8059 0976 21 |
| | 22 | 34.5 | 15 | 25 | 145 | 8059 0976 22 |
| | 24 | 37.5 | 15 | 25 | 153 | 8059 0976 23 |
| | 27 | 41.5 | 17 | 25 | 162 | 8059 0976 24 |
| | 30 | 45 | 19 | 25 | 182 | 8059 0976 25 |
| | 32 | 47.5 | 19 | 25 | 181 | 8059 0976 26 |
| | 34 | 50.5 | 19 | 28 | 210 | 8059 0976 27 |
| | 36 | 53 | 19 | 28 | 203 | 8059 0976 28 |
| | 41 | 59 | 20 | 30 | 240 | 8059 0976 29 |

| Type | Hex mm | B mm | H mm | W mm | L mm | g | Ordering No. |
|-------------------|-----------|---------|---------|---------|---------|----|--------------|
| Flared end 9 x 12 | 10 | 22 | 12 | 7.1 | 17.5 | 57 | 8059 0975 27 |
| | 11 | 22.5 | 12 | 8.6 | 17.5 | 55 | 8059 0975 28 |
| | 12 | 23.5 | 12 | 9 | 17.5 | 59 | 8059 0975 29 |
| | 13 | 25.2 | 12 | 10 | 17.5 | 55 | 8059 0975 30 |
| | 14 | 27 | 13 | 11 | 17.5 | 60 | 8059 0975 31 |
| | 16 | 30 | 13 | 13 | 17.5 | 65 | 8059 0975 32 |
| | 17 | 31.5 | 13 | 14 | 17.5 | 65 | 8059 0975 33 |
| | 18 | 33 | 15 | 14.8 | 17.5 | 74 | 8059 0975 34 |
| | 19 | 34.5 | 15 | 15.8 | 19 | 80 | 8059 0975 35 |
| | 21 | 37.5 | 15 | 16.2 | 19 | 88 | 8059 0975 36 |
| | 22 | 39 | 15 | 17 | 19 | 92 | 8059 0975 37 |
| | 24 | 42 | 15 | 18 | 19 | 75 | 8059 0975 38 |

| Type | Hex in | B mm | H mm | L mm | g | Ordering No. |
|----------------------------|-----------|---------|---------|---------|------|--------------|
| Reversible ratchet 9 x 12 | 1/4 | 22 | 14.5 | 17.5 | 62 | 8059 0975 42 |
| | 3/8 | 33 | 24 | 17.5 | 136 | 8059 0975 43 |
| | 1/2 | 33 | 28.3 | 17.5 | 147 | 8059 0975 44 |
| Reversible ratchet 14 x 18 | 1/2 | 43 | 26.2 | 25 | 302 | 8059 0976 32 |
| | 3/4 | 50 | 30.7 | 25 | 467 | 8059 0976 33 |
| Reversible ratchet 21 x 26 | 3/4 | 69 | 30 | 62.5 | 1350 | 8059 0976 38 |

| Type | Hex in | B mm | H mm | L mm | g | Ordering No. |
|---------------------|-----------|---------|---------|---------|-----|--------------|
| Bits holder 9 x 12 | 1/4 | 14 | 10 | 17.5 | 50 | 8059 0975 45 |
| | 5/16 | 16 | 12.5 | 17.5 | 47 | 8059 0975 46 |
| Bits holder 14 x 18 | 5/16 | 16 | 12.5 | 25 | 112 | 8059 0976 34 |

| Type | Hex in | B mm | H mm | L mm | g | Ordering No. |
|----------------------|-----------|---------|---------|---------|-----|--------------|
| Fixed square 9 x 12 | 1/4 | 22 | 14 | 17.5 | 71 | 8059 0975 39 |
| | 3/8 | 22 | 14 | 17.5 | 76 | 8059 0975 40 |
| | 1/2 | 22 | 14 | 17.5 | 82 | 8059 0975 41 |
| Fixed square 14 x 18 | 1/2 | 30 | 18 | 25 | 203 | 8059 0976 30 |
| | 3/4 | 40 | 25 | 25 | | |



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