

# Industrial Power Tools



Atlas Copco

# **Atlas Copco Tools North American Offices**

---

The Auburn Hills facility is the new home of Atlas Copco Tools and Assembly Systems, USA. Opened in spring of 2004, this site is frequently used to host training courses and seminars. Customers are encouraged to visit and test run our products in our state-of-the-art demonstration room.

## **AUBURN HILLS, MICHIGAN**

2998 Dutton Rd    Phone: 800-859-ERGO  
Auburn Hills, MI 48326                                Fax: 248-373-3001



---

The Canadian office was opened in 1984 and is a sales and service facility. This office has had ISO 9002 approval since 1997, a quality system that is applied to sales, service, and distribution of air powered and electric hand held power tools.

## **MISSISSAUGA, CANADA**

250 Britannia Road East                                Phone: 901-501-9968  
Mississauga, Ontario L4Z 1S6                        Fax: 901-501-9790



# CONTENTS

<b>PNEUMATIC ASSEMBLY TOOLS</b>	<b>7</b>
Selection guide – pneumatic assembly tools .....	8
Tool key .....	10
Impact wrenches .....	12
Hydraulic impulse nutrunners – ErgoPulse .....	18
Pneumatic screwdrivers .....	26
Pneumatic nutrunners .....	37
<b>ELECTRIC ASSEMBLY TOOLS AND SYSTEMS</b>	<b>67</b>
Selection guide – electric assembly tools.....	68
Industrial battery screwdrivers.....	71
Electric screwdrivers Tensor DL .....	78
Electric nutrunners Tensor DS.....	79
Electric nutrunners Tensor SL .....	85
Electric nutrunners Tensor S .....	86
Electric nutrunners Tensor ST .....	94
<b>QUALITY ASSURANCE IN TIGHTENING</b>	<b>139</b>
ACTA 3000, ToolsTalk ACTA.....	140
Transducers IRTT and QRTT .....	141
<b>GRINDERS</b>	<b>145</b>
Selection guide.....	146
Grinding at the right speed .....	148
Safety first .....	149
Turbo grinders and sanders .....	150
Die grinders .....	152
Straight grinders .....	154
Angle grinders .....	156
<b>PERCUSSIVE TOOLS</b>	<b>167</b>
Rules for safer operation .....	168
Chipping hammers – vibration-damped and silenced....	169
Chipping hammers .....	170
Scaler – vibration-controlled.....	171
Chipping hammers/scalers .....	172
Needle scaler .....	173
Rust and weld scalers .....	174
<b>DRILLS</b>	<b>185</b>
Selection guide.....	186
Pistol grip drills .....	187
Micro stop drills .....	188
Straight drills.....	189
<b>AUTOMATIC DRILLING AND TAPPING UNITS</b>	<b>199</b>
Automatic drilling and tapping units.....	200
<b>AIRLINE ACCESSORIES</b>	<b>207</b>
Installation guide .....	208
Air preparation units .....	210
Quick couplings .....	215
Hose clamps.....	217
<b>AIR MOTORS</b>	<b>225</b>
Vane air motors .....	226
LZB vane air motors .....	227
<b>HOISTS AND TROLLEYS</b>	<b>229</b>
Air hoists.....	230
Trolleys .....	231
<b>SERVICE</b>	<b>233</b>
Angle nutrunners .....	39
Straight nutrunners.....	53
Pistol grip nutrunners .....	58
Torque transducers and cables .....	65
RE Assembly Qualifier.....	66
Tensor DS / DL Controller.....	98
Power Focus .....	99
Power Focus / ETX .....	114
PowerMACS / QMX.....	117
Bits and power sockets .....	125
Torque arm .....	134
Transducers SRTT and MRTT.....	142
Torque testers .....	144
Angle sanders .....	158
Orbital and random orbital sanders .....	160
Dust extraction .....	162
Routers.....	165
Nibbler .....	165
Circular cutters .....	166
Riveting systems .....	175
Riveting hammers – vibration-damped.....	176
Bucking bars – vibration-damped.....	178
Riveting hammers – conventional type .....	180
Chisels.....	181
Rammers.....	184
Angle drills.....	192
Tappers.....	196
Screw-feed drills .....	198
Dimension sketches .....	204
Hoses .....	218
Balancers .....	221
Hose reels .....	223
Test equipment .....	224
LZL vane air motors.....	227
Air motor support.....	228
Accessories .....	232



Tensor electric tools are a key to error proofing and productivity.



GTG turbine grinders offer an extremely high rate of material removal.



Reduce your lead times with the new Multiples by Express concept.



## Easy to do business with

*Our global organization is dedicated to serving you, wherever you are. By combining a strong local presence with the latest information technology, we have simplified all aspects of interfacing with a tool supplier. In other words, it is easy to do business with us.*

### **Customer centers**

We know the importance of being close to our customers. For this reason we have fully equipped Customer centers in many parts of the world. Here, in addition to our complete range of products and services, we offer global project management for multinational customers.

### **Application centers**

Advances in tightening technology demand the highest level of engineering expertise. Using Atlas Copco core components, specialized Application centers around the globe configure Atlas Copco assembly systems as complete assembly stations for the automotive industry.

### **Wherever you are**

Atlas Copco power tools and assembly systems are available through our own sales companies in some 50 countries and a network of independent distributors in an additional 90 countries.

### **Making your tool selection**

On our website [www.atlascopco.com/tools](http://www.atlascopco.com/tools) you will find tool selection guides that help you choose precisely the correct tool for your application. Also available is a range of drawings, from simple dimension sketches to 3D CAD drawings.

### **After your purchase**

Atlas Copco ServAid streamlines your tools maintenance. ServAid is a CD-ROM containing an illustrated spare parts list. With ServAid in your computer you have comprehensive parts data at your fingertips.

### **Talk to your local distributor**

Using our e-solution, AC Connect, your distributor can give you a lightning fast response to your inquiries, and the best possible service.



*Rapid deliveries. All orders received before 4 pm are dispatched the same day from our central warehouse in Belgium.*



*Order-driven production. Our plant in Sweden is one of the most efficient of its kind. A dedicated workforce keeps throughput times short.*



*Truly innovative. Atlas Copco launches more new products each year than any other tool supplier.*

# With 3,000 models to choose from, we have the right tool for every job

*Atlas Copco has exactly the right power tool for your job. Make your choice from nearly 3,000 air powered, electrical and battery driven tools, assembly systems, and a wide range of accessories.*



## Innovation through interaction

Atlas Copco launches more new products each year than any other tool supplier. We start by asking what you, our customers, want. We then combine your needs with our own innovative thinking and technical expertise. The result? Advanced tools offering levels of performance, reliability and safety you never thought possible.

## Quality that speaks for itself

Pick up one of our tools. The quality speaks for itself. Before dispatch from our modern plant, each tool is subjected to rigorous quality control. The latest equipment is used to check power, speed, accuracy and air consumption.

All products are accompanied by instructions in 12 languages. Training material and pocket guides are also available in all major languages.

## Ergonomics boost productivity

How productive are your operators? Change to light, powerful, ergonomically designed tools from Atlas Copco and you'll notice an increase in individual productivity.

## Less physical strain

Atlas Copco has a long tradition of ergonomic tool design. Handle designs that optimize the transfer of high feed forces from the hand-arm system direct to the workpiece substantially re-

duce physical strain on the operator. Noise and vibration are minimized. Read more in our book, "Power Tool Ergonomics".

## Lubrication-free

Many Atlas Copco tools are lubrication-free, thus eliminating oil mist from the work area.



*Before dispatch each Atlas Copco tool is subjected to rigorous quality control.*



*We are conducting intensive research into further reducing noise levels and improving vibration-damping technique.*



*Atlas Copco takes great care in all actions to be environment friendly.*

# Quality, every step of the way

*Atlas Copco has an overall quality target: To attain maximum quality at all stages – from initial development to spare part deliveries.*

## Proof of company excellence

The ISO 9001 Certificate confirms that Atlas Copco Tools product company conforms to the Quality Standard ISO 9001. Our quality policy is:

- To fulfill customers' expectations.
- To deliver problem-free products at the right time.
- To continuously improve our products and services.
- To have motivated personnel with clearly defined goals.

In effect it means you know what you're getting. Carefully specified manufacturing processes guarantee that every product leaving our factory meets exactly the same standards of quality and performance.

## EC declaration of conformity

From January 1, 1995, all machines produced by Atlas Copco conform with EC Machine Directive 98/37/EC which focuses on safety.

Each Atlas Copco tool bears the CE marking and is accompanied by detailed operator's instructions and a declaration of conformity.

## Our obligations

- The manufacturer must ensure that the machine is designed in conformance with the standards laid down for the machine type in question.
- The machine must be accompanied by a declaration of conformity.

- The design project must be thoroughly documented.
- The sign affixed to the machine must contain the following basic information:
  - Name and address of manufacturer.
  - Product designation and technical data, defined in the relevant standard.
  - The CE marking.
  - Country and year of manufacture.
- The machine must be accompanied by Operator's Instructions warning of possible hazards when the machine is in use.

The instructions must also include a declaration of noise and vibration based on tests performed according to test codes such as EN standards or other recognized standards. The instructions must be written in all EC languages.

## How we measure noise

When measuring noise, Atlas Copco uses the standard ISO 15744. To the measured level, 3 dB(A) can be added to incorporate variations in production and method. The figure given in this catalogue is the measured sound pressure level. If the measured value exceeds 85 dB(A), we also state the sound power level which is 13 dB(A) higher than the sound pressure level. The standard

describes how to calculate this figure.

Vibration is measured using the test code ISO 8662 for pneumatic tools and EN 50144 for electric tools. The vibration value stated consists of a measured value and a tolerance. The tolerance varies from machine to machine and is given in the instructions.

If the registered value is less than  $2.5 \text{ m/s}^2$ , we normally just state less than  $2.5 \text{ m/s}^2$ , because values less than  $2.5 \text{ m/s}^2$  indicate minimal risk from vibration.

## Environment

As a part of Atlas Copco's environmental policy, Atlas Copco Tools and Assembly Systems product company has received the ISO 14001 certification early 2002. We continuously work with improvements such as:

- Energy efficiency in our production as well as in our products.
- Supplier evaluation from an environmental perspective.
- Reduction of hazardous substances both in our production and in our products.
- Information to our customers in the environmental area.
- Environmental awareness training of all employees.

# Take control of the fastening process

*The later an assembly defect is identified, the more it costs to correct. The end result could be even higher costs as well as the time-consuming problem of recalls. This has made error proofing a critical factor in relation to all complex joint fastening.*

Atlas Copco has defined five tightening process control steps towards zero fault fastening. The five steps assist you in deciding how far you need to go in process control and what safety requirements you have to meet.

## **Step 1. To assure a correct tightening torque**

The first step to zero fault production is obtained by using an assembly tool that delivers a precise and pre-determined torque. However, only the tightening torque is controlled at this first step, operators and work pieces are not yet involved in the monitoring process.

## **Step 2. To assure that all screws are tightened**

One of the most common causes of a faulty assembly is the fact that the operator simply forgets to tighten a screw or makes a re-hit on an already tightened screw. The remedy against this possible error is to use an RE-controller. It monitors the tightening cycle and identifies a proper shut-off of a tool.

## **Step 3. To assure that the joint is correct**

With step 1 and 2 the tool and the operator have been taken into consideration. However, the joint itself can also be a cause of the incorrect tightening. There can be several reasons for this. Missing parts like seals or washers will change the characteristics of the joint. Damaged threads or debris in the joint also lead to an improperly tightened joint.

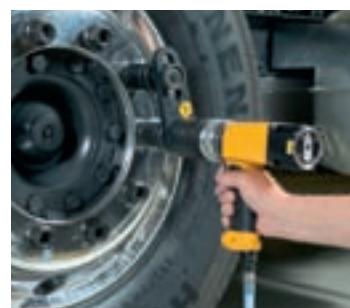
The way to detect these types of faulty joints is to monitor the tightening angle during the tightening process. Operator guidance and feedback are provided by signal lights on the tool and by using socket selectors.

## **Step 4. To assure that safety critical joints are tightened properly**

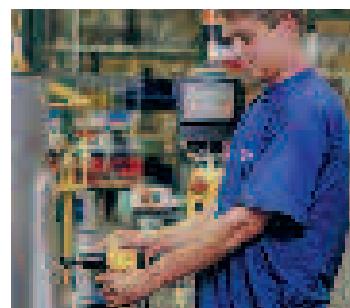
This is the level required for safety critical joints. All tightening data is documented and can be retrieved for error analysis. Documented tightening data for safety critical fasteners is essential in order to avoid or limit recalls and warranty claims.

## **Step 5. To assure zero fault production**

Having reached step four in the advance to zero fault production still leaves room for mistakes. With step five, two further elements are introduced for fault-free production. One element is the introduction of part identification, the other is reject management. With step five the tool controllers are not only networked – they are also connected to the factory network. Information about the components is sent over the factory network. By identifying the components that are to be assembled, relevant information is transferred to the tool controller via the network. This safeguards both that the correct component is being assembled and that corresponding tightening parameters are chosen.



Step 1



Step 2



Step 3



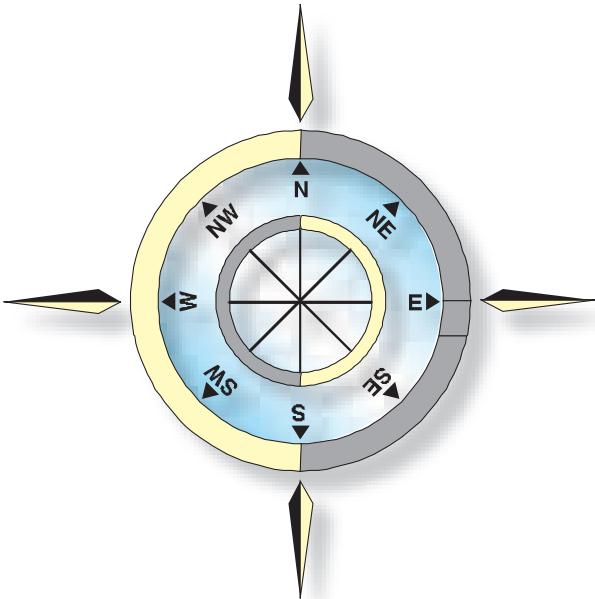
Step 4



*Read more in the guide "Error proofed production – five steps to achieve zero fault fastening".*



Step 5



# Your guide to the catalog

## Accessories included

Under this heading a specification is given for each type of tool and of the parts (nipples, keys, guards, etc.) supplied with the tool.

Instructions and a list of spare parts are always included in the package.

## Optional accessories

Here you will find the specifications for most of the accessories. They are dependent on the job the tool is to be used for and have to be ordered separately.

## Air consumption

The air consumption of the tools is stated in cfm, and relates to free air, i.e., the compressed air expanded to atmospheric pressure. Unless otherwise stated, the figures are valid at a working pressure of 6.3 bar and indicate the maximum air consumption.

Maximum air consumption is valid for the tool without a speed governor when idling, i.e., when the tool is running at no load. A tool with a speed governor has the maximum air consumption at the maximum power output.

## Speed

The tool speeds are indicated in revolutions per minute, r/min, and indicate the idling speed, i.e., the speed at which the tool runs at no load and at a working pressure of 90 psi, if not otherwise specified. The speed at max. output is 50% of the idling speed for tools without a speed governor and 80-90% of the idling speed for tools with a speed governor.

## Selected service kits to order

Under this heading, service kits for the most frequent service jobs done on the tool in question are listed.

## Vibrations

Vibrations are not only unpleasant for the operator, but in the long term can also cause vascular problems.

We consider ourselves the leaders in the industry with regard to our efforts and dedication to reducing vibration levels in our products. Vibration levels are influenced by factors beyond our control such as poor maintenance, pirate parts, unbalanced grinding wheels, etc.

We are therefore unable to guarantee that the use of our tools will never cause vascular problems. Therefore,

even if you choose our tools, you still need to monitor your workforce. The vibration values indicated in this catalogue are measured in accordance with ISO 8662 for pneumatic tools and EN 50144 for electric tools. This standard offers guidance on how to conduct laboratory measurements. To be able to make comparisons, the standard has been developed to give reproducible results.

## Sound level

Most values indicated in this catalogue are measured in accordance with the Pneurop test code. From 2002 the official test code for sound measurements is changed to ISO 15744. The differences between the two standards are however minor, and are in most cases negligible. When we state that a sound level is low we relate this to competitors' similar tools. We do not imply that extensive use of our tools will never cause hearing impairment. Particularly since in many applications the sound from the process is higher than the unloaded tool noise. It is therefore always advisable to wear hearing protection.

### LENGTH

1 in	=	0.0254 m
1 m	=	39.3701 in
		3.2808 ft
1 mm	=	0.0393701 in

### WEIGHT

1 lb	=	0.4536 kg
1 kg	=	2.2046 lb

### TORQUE

1 kpm	=	9.8067 Nm
1 Ft lb	=	1.3558 Nm

### TORQUE

1 In lb	=	0.1130 Nm
1 Nm	=	0.1020 kpm 0.7376 ft lb

### PRESSURE

1 bar	=	100 kPa
1 kp/cm <sup>2</sup> (at)	=	98.0665 kPa
1 psi	=	6.8948 kPa
1 kPa	=	0.0101972 kp/cm <sup>2</sup> (at)

### POWER

1 kpm/s	=	9.8067 W
1 hp	=	745.7 W 101.972 kpm/s
1 kW	=	1.3410 hp

### FLOW

1 m <sup>3</sup> /min	=	16.6667 l/s
1 cfm	=	0.4720 l/s
1 m <sup>3</sup> /h	=	0.2778 l/s
1 l/s	=	2.1189 cfm

# Pneumatic assembly tools

## Get it together fast!

With ergonomically designed screwdrivers, pulse tools, nutrunners and impact wrenches from Atlas Copco. Correct grip diameters reduce reaction forces, vibration and noise levels. High power-to-weight ratios ensure maximum operator comfort.

### Contents

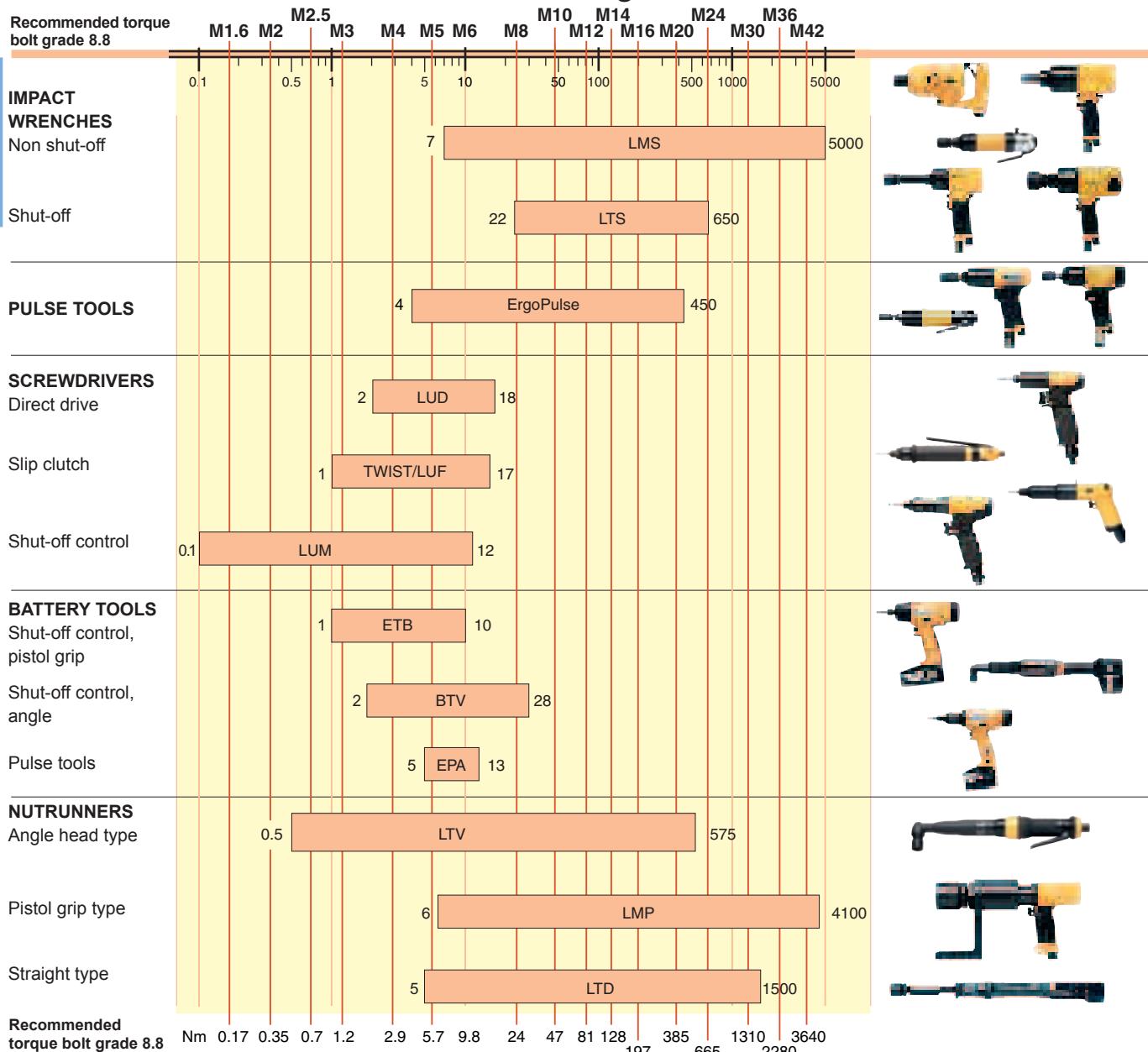
Selection guide – assembly tools .....	8
Basic tightening technique.....	9
Tool key .....	10

### Page

Selection guide – impact wrenches .....	12
Impact wrenches .....	13
Hydraulic impulse nutrunners – ErgoPulse ....	18
Selection guide – ErgoPulse .....	20, 23
Pneumatic screwdrivers .....	26
Selection guide – pneumatic screwdrivers .....	27
Pneumatic nutrunners .....	37
Angle nutrunners .....	39
Straight nutrunners .....	53
Pistol grip nutrunners.....	58
RE Assembly Qualifier.....	66

# PNEUMATIC ASSEMBLY TOOLS

## Selection guide



### IMPACT WRENCHES (LMS, LTS)

Impact wrenches are suitable for general assembly and repair jobs when a powerful and lightweight tool is required. They are the best tools for loosening joints.

Atlas Copco LMS and LTS reversible impact wrenches can handle tough tightening and loosening jobs quickly, with minimum operator fatigue. The LMS non shut-off range is designed for all-purpose tightening with high availability. To cut tightening times, independent of operator influence, the LTS models should be used.

### IMPULSE TOOLS (ErgoPulse)

Suitable both for general assembly and serial production. They have the same advantages as impact wrenches with higher accuracy. In addition you will have a tool with good ergonomics which means lower sound levels and less vibrations. Pulse tools also have a longer service life.

### SCREWDRIVERS

The biggest range on the market when it comes to extremely accurate screwdrivers with ergonomic design. All models are lubrication-free.

For all kinds of jobs involving smaller screw sizes, up to M6.

### Shut-off control (LUM, ETB)

Best practice in most cases, especially for machine screws and screws in plastic. Very high accuracy and lowest bit consumption.

### Slip clutch (TWIST/ LUF)

Best for sheet metal screws, wood screws or self-tapping screws.

### Direct drive (LUD/LUF HRD)

The low cost alternative for wood and self-drilling screws.

### NUTRUNNERS

#### Angle type (LTV)

Suitable for high volume serial production.

Extremely good accuracy, small angle head, suitable for use where space is limited. Low sound and vibration levels.

#### Pistol grip type (LMP, LTD)

An outstanding tool for fast and extremely accurate assembly. A low weight alternative with extremely high torque capacity and low sound level.

# PNEUMATIC ASSEMBLY TOOLS

## Selection guide

### TORQUE RECOMMENDATIONS

The torque is important to ensure the required clamping force. These tables show the recommended torque for the most common types of screws and bolts.

### M-THREADED SCREWS/BOLTS

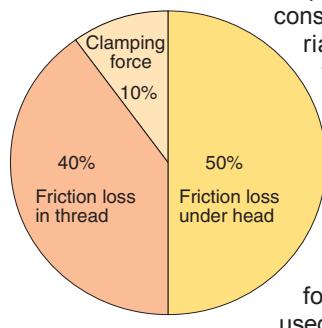
Tightening torque Nm, according to ISO 898/1

Thread	Bolt grade						Thread	Bolt grade						
	3.6	4.6	4.8	5.8	8.8	10.9	12.9	4.6	4.8	5.8	8.8	10.9	12.9	
M1.6	0.05	0.065	0.086	0.11	0.17	0.24	0.29	M14	48	58	80	128	181	217
M2	0.10	0.13	0.17	0.22	0.35	0.49	0.58	M16	74	88	123	197	277	333
M2.2	0.13	0.17	0.23	0.29	0.46	0.64	0.77	M18	103	121	172	275	386	463
M2.5	0.20	0.26	0.35	0.44	0.70	0.98	1.20	M20	144	170	240	385	541	649
M3	0.35	0.46	0.61	0.77	1.20	1.70	2.10	M22	194	230	324	518	728	874
M3.5	0.55	0.73	0.97	1.20	1.90	2.70	3.30	M24	249	295	416	665	935	1120
M4	0.81	1.10	1.40	1.80	2.90	4.00	4.90	M27	360	435	600	961	1350	1620
M5	0.60	2.20	2.95	3.60	5.70	8.10	9.70	M30	492	590	819	1310	1840	2210
M6	2.80	3.70	4.90	6.10	9.80	14.0	17.0	M36	855	1030	1420	2280	3210	3850
M8		8.90	10.50	15.0	24.0	33.0	40.0	M42	1360		2270	3640	5110	6140
M10			17.0	21.0	29.0	47.0	65.0	M45	1690		2820	4510	6340	7610
M12				30.0	36.0	51.0	81.0	M48	2040		3400	5450	7660	9190

## Basic tightening technique

### The material

The material is decisive for the choice of which type of screw and fastening tools you should choose. The most common materials are steel, aluminium, plastic, wood and various types of construction material. Different materials withstand different clamping forces.



The clamping force is the force that holds the joint together and assures its function. Clamping force is attained in practice by transmitting a specific torque. Out of the total torque applied in tightening, roughly 10% is consumed for clamping force, while the remaining 90% is used in overcoming the friction.

### The friction

To assure the best possible results you should endeavour to achieve uniform quality and friction in the joint. This means that you must consider the dimensions of predrilled and punched holes, threads, washers etc. If there is too much variation in the dimensions, and thus in the friction, this could be very costly.

### The screw/bolt

In most constructions the screw is the weakest link in the joint. If anything happens, it is usually cheaper to replace screws. There are exceptions, however, such as when materials like sheet metal and plastic are involved, when the screw is the strongest link. Replacement of parts with defective threads can be expensive. For such applications, it is therefore very important to work with a tool that has an accurate clutch.

### Hard and soft joints

A joint is usually classified as either hard or soft. A hard joint is tightened to full torque through a tightening angle of roughly 30° after the screw has reached snug level. In a soft joint, the screw sometimes has to be tightened more than two complete turns before the full torque is achieved. The same tools often give different torque values on hard and soft joints respectively. This difference in torque values is generally known as "mean shift".

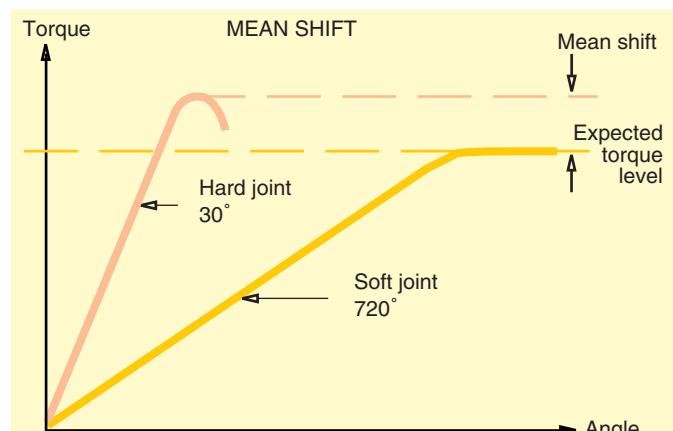
For more information please contact Atlas Copco.

### SCREWS

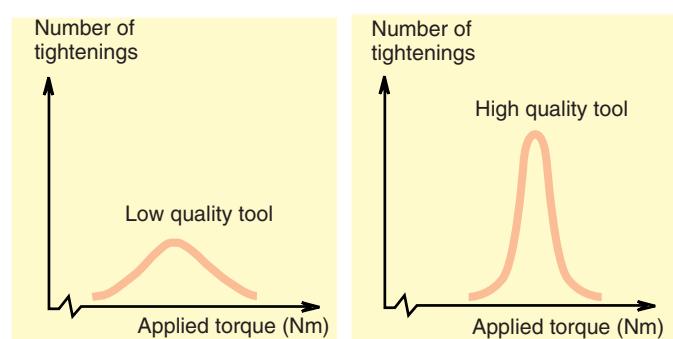
Recommended max tightening torque (Nm) for untreated oil-smeared screws (friction coefficient = 0.125).

Metric coarse thread. The torque corresponds to approximately 62% of tensile stress.

By measuring the torque from a series of tightening operations on the same joint, a measure is obtained of how accurately the tool can repeat a tightening. This is known as the scatter of the tool. For more information about test procedure, see ISO 5393.



The scatter is small for a high quality tool, and wide for a low quality tool



### GENERAL

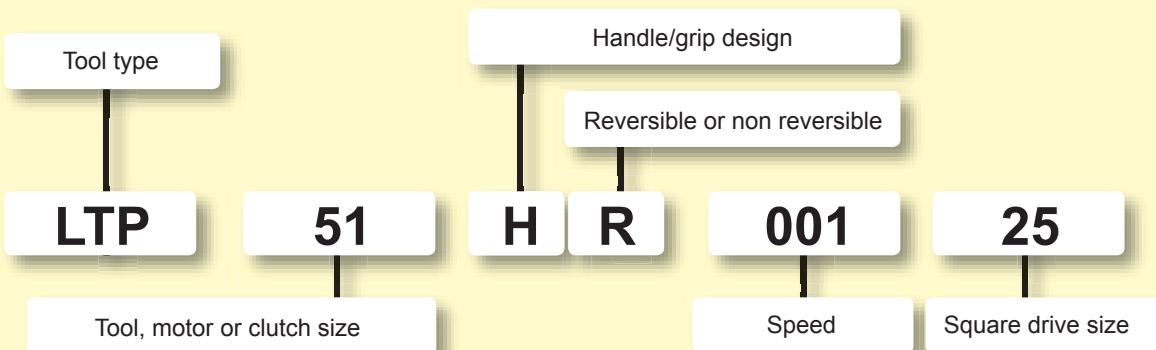
Performance figures for all pneumatic assembly tools are at a working pressure of 6.3 bar.

# PNEUMATIC ASSEMBLY TOOLS

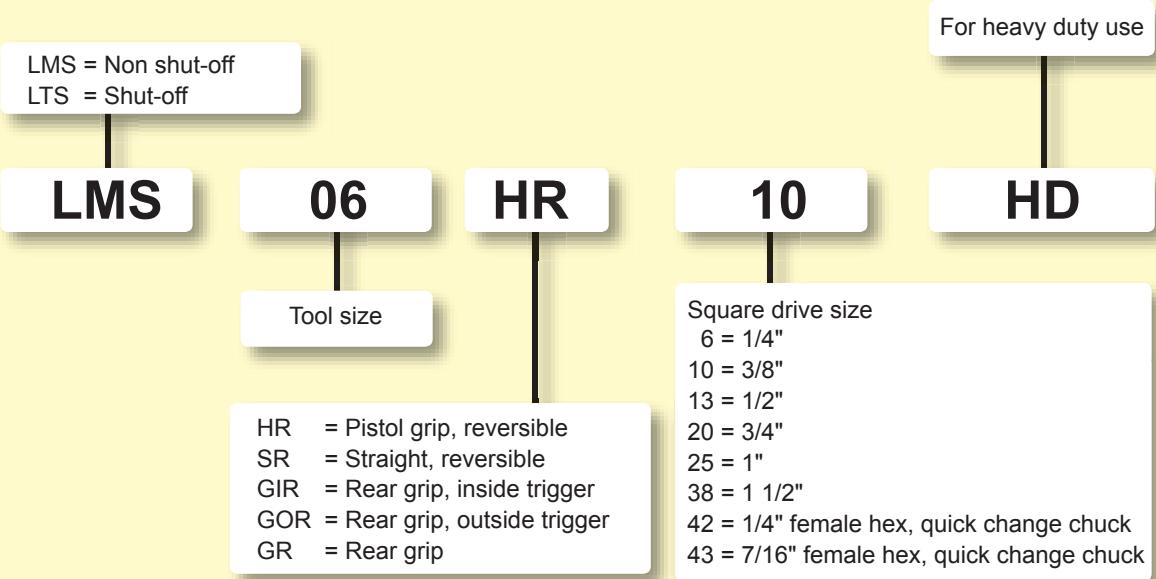
## Tool key

The designator/ordering number of Atlas Copco assembly tools is a combination of letters and numbers indicating various properties and characteristics of the tool concerned.

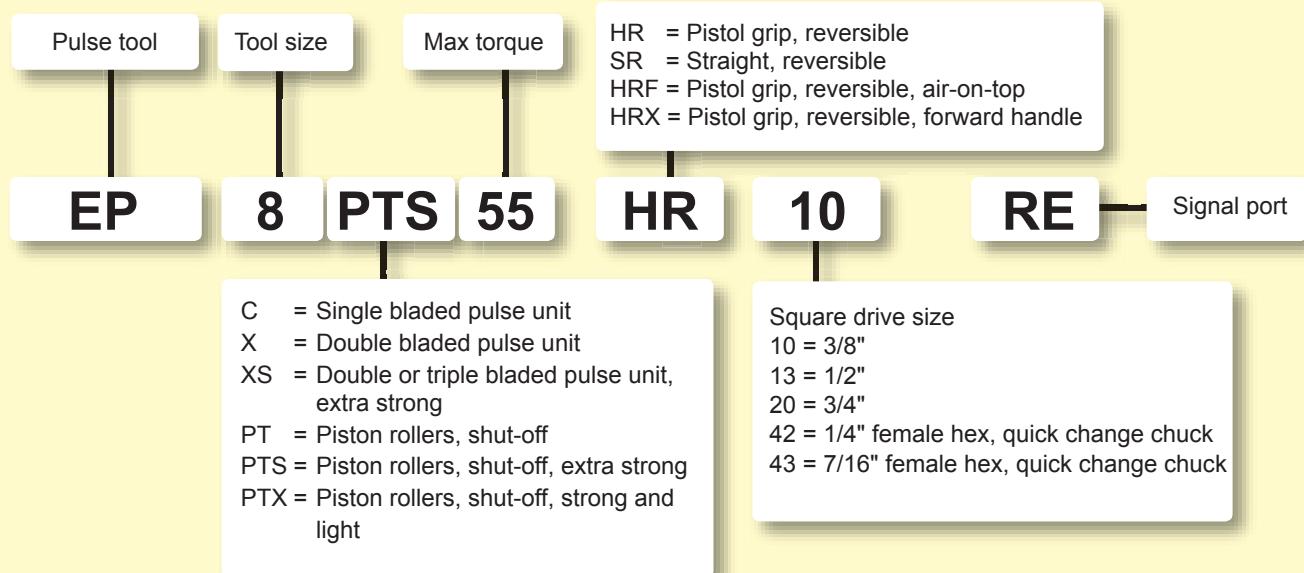
Below is a guide showing the general significance of each group of letters/numbers and specific guides to the individual tool types.



## Impact wrenches



## Hydraulic impulse nutrunners



# PNEUMATIC ASSEMBLY TOOLS

## Tool key

### Screwdrivers

Torque control  
 LUM = Shut-off clutch  
 TWIST = Slip clutch  
 LUD = Direct drive  
 LTV = Shut-off angle tool

HRF = 3-way air inlet with balanced grip  
 HRX = Balanced pistol grip  
 HR = Pistol grip  
 PR = Straight tool with push start  
 SR = Straight tool with lever start  
 R = Reversible angle tool

P = Push start  
 RE = Reporting signal  
 Special rpm models  
 42 = 1/4" female hex, quick change chuck  
 10 = 3/8" female hex  
 6 = 1/4" male hex  
 Q = 1/4" quick change chuck

**LUM**

**22**

**HRX**

**6**

**-P**

Tool size  
 12 – LUM, TWIST, LUD  
 22 – LUM, TWIST, LUD  
 009 – LTV

Torque (Nm)

### Nutrunners

L = Pneumatic

T = Shut-off  
 B, M = Stall

V = Right angle  
 D = In-line  
 P = Pistol grip  
 C = Crowfoot  
 O = Tube nut  
 R = Ratchet  
 K = Worm-drive

Motor size

Generation

X = High speed option

R, SR = Reversible

N, S = Non reversible

HR = Reversible (pistol grip)

H = Non reversible (pistol grip)

**2 8 X**

**R 29 10 Options**

Speed

001 = 100 rpm  
 002 = 200 rpm  
 etc.

or

Torque  
 10 = 10 Nm  
 15 = 15 Nm  
 etc.

RE = Signal port

FS = Flush socket

HAD = Hold-and-drive

TS = Built-in transducer/signal lights etc.

AS = Angle encoder/signal lights

Square drive size

6	= 1/4"
8	= 5/8"
10	= 3/8"
12, 13	= 1/2"
19, 20	= 3/4"
25	= 1"
38	= 1 1/2"
42	= 1/4" female hex
Q	= 1/4" quick chuck

# IMPACT WRENCHES

## Selection guide

Atlas Copco's powerful, high-speed impact wrenches are designed to cut production times by providing fast run-down and quick tightening.

Impact wrenches build up torque in joints through a series of rotary impacts. The torque obtained depends on:

- Air pressure.
- Tightening time on the actual joint.

These factors should be considered when choosing an impact wrench.

As a general rule, if a wrench impacts longer than 5 seconds on a fastener, a larger wrench should be used or a shorter life will result.

This guide will assist you in recommending an impact wrench for a specific application.



	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42	M45	M48
Nm	9.8	24	47	81	128	197	275	385	518	665	961	1310	2280	3640	4510	5450
LMS	LMS06	LMS17	LMS17	LMS27	LMS37	LMS37	LMS47	LMS57	LMS57	LMS61	LMS61	LMS64	LMS86	LMS86	LMS86	LMS86
	LMS06	LMS17	LMS27	LMS37	LMS37	LMS47	LMS57	LMS57	LMS57	LMS57	LMS57	LMS64	LMS64	LMS64	LMS64	LMS86
LTS	LTS17	LTS17	LTS27	LTS27	LTS37	LTS37	LTS37	LTS37	LTS57							
	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42	M45	
Nm	14	33	65	114	181	277	386	541	728	935	1350	1840	3210	5110	6340	
LMS	LMS06	LMS17	LMS27	LMS27	LMS37	LMS37	LMS47	LMS57	LMS61	LMS61	LMS64	LMS86	LMS86	LMS86	LMS86	LMS86
	LMS17	LMS17	LMS27	LMS37	LMS47	LMS47	LMS57	LMS57	LMS61	LMS64	LMS64	LMS64	LMS64	LMS64	LMS64	LMS86
LTS	LTS17	LTS17	LTS27	LTS37	LTS37	LTS37	LTS37	LTS57								
	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42		
Nm	17	40	79	136	217	333	463	649	874	1120	1620	2210	3850	6140		
LMS	LMS06	LMS17	LMS27	LMS27	LMS37	LMS47	LMS57	LMS61	LMS61	LMS64	LMS86	LMS86	LMS86	LMS86	LMS86	LMS86
	LMS17	LMS17	LMS27	LMS37	LMS47	LMS57	LMS57	LMS61	LMS64	LMS86						
LTS	LTS17	LTS17	LTS27	LTS37	LTS37	LTS37	LTS37	LTS57								

=HEAVY DUTY

=EXTRA HEAVY DUTY

The torque figures are normal tightening torque for untreated oil-smeared and rust-protected bolts and nuts in the most common strength grades. The torque figures correspond to approximately 63% of tensile stress.

# IMPACT WRENCHES

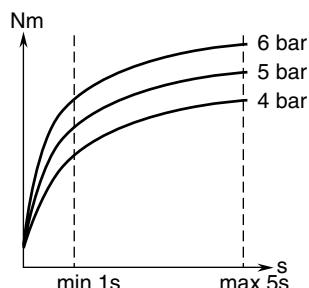
## Non shut-off type – Reversible

### LMS06 – LMS37

Atlas Copco series of impact wrenches are designed for the toughest conditions. They are built to provide the ultimate in dependability and a long, trouble-free service life. There is nothing that matches the Atlas Copco impact wrench when it comes to flexibility, capacity-to-weight ratio and simplicity in use and maintenance.

- Fast tightening and disassembly.
- Wide torque range (7-480 Nm).
- Low weight.
- Negligible reaction force.
- Soft-start throttle.
- LMS06 – LMS27 are lubrication-free.

### LMS Operating Range



The tightening time should not exceed 5 seconds, to avoid excess wear of the tool.

Model	Bolt capacity	Square drive size	Recommended torque range		Max. torque Nm	Impacts per min	Free speed r/min	Weight		Length excl anvil mm	Air consumption under load l/s	Recom- mended hose size mm	Dis- tance centre to side mm	Ordering No.	
	mm	in	Nm	ft lb				kg	lb						
LMS06 SR10	6-8	3/8	7- 30	5- 22	55	2100	12500	0.9	2.0	182	4	8	6.3	20	8434 1060 12
LMS06 HR10	6-8	3/8	7- 30	5- 22	55	2100	13500	0.9	2.0	184	4	8	6.3	20	8434 1060 04*
LMS06 HR10-HD	6-8	3/8	7- 30	5- 22	55	2100	10000	0.9	2.0	184	4	8	6.3	20	8434 1060 08
LMS06 HR42	6-8	1/4 <sup>a</sup>	7- 30	5- 22	55	2100	13500	0.9	2.0	184	4	8	6.3	20	8434 1060 20
LMS06 HR42-HD	6-8	1/4 <sup>a</sup>	7- 30	5- 22	55	2100	10000	0.9	2.0	184	4	8	6.3	20	8434 1060 16
LMS17 HR10	10	3/8	10- 70	7- 52	110	1260	10000	1.7	3.8	141	10	21	10.0	24	8434 1170 60
LMS17 HR13	10	1/2	10- 70	7- 52	110	1260	10000	1.7	3.8	141	10	21	10.0	24	8434 1170 29
LMS27 HR13	12	1/2	30-180	22-133	220	1200	8700	2.1	4.6	142	10	21	10.0	29	8434 1270 02*
LMS27 HR43	12	7/16 <sup>a</sup>	30-180	22-133	220	1200	8700	2.1	4.6	142	10	21	10.0	29	8434 1270 77
LMS37 HR13	14-16	1/2	40-340	30-251	480	1200	7800	2.7	6.0	165	13	27	10.0	33	8434 1360 41*
LMS37 HR16	14-16	5/8	40-340	30-251	480	1200	7800	2.7	6.0	165	13	27	10.0	33	8434 1370 01

<sup>a</sup> Female hex. quick change chuck.

\* Basic tools of the range, cover most needs.

Air inlet thread inch: LMS06 = 1/4", LMS17, LMS27 and LMS37 = 3/8".

HD = Suitable for soft joints.

### ACCESSORIES INCLUDED

Silenced air exhaust through handle  
Hose fitting

### OPTIONAL ACCESSORIES

Page 16-17

### SELECTED SERVICE KITS

Page 17



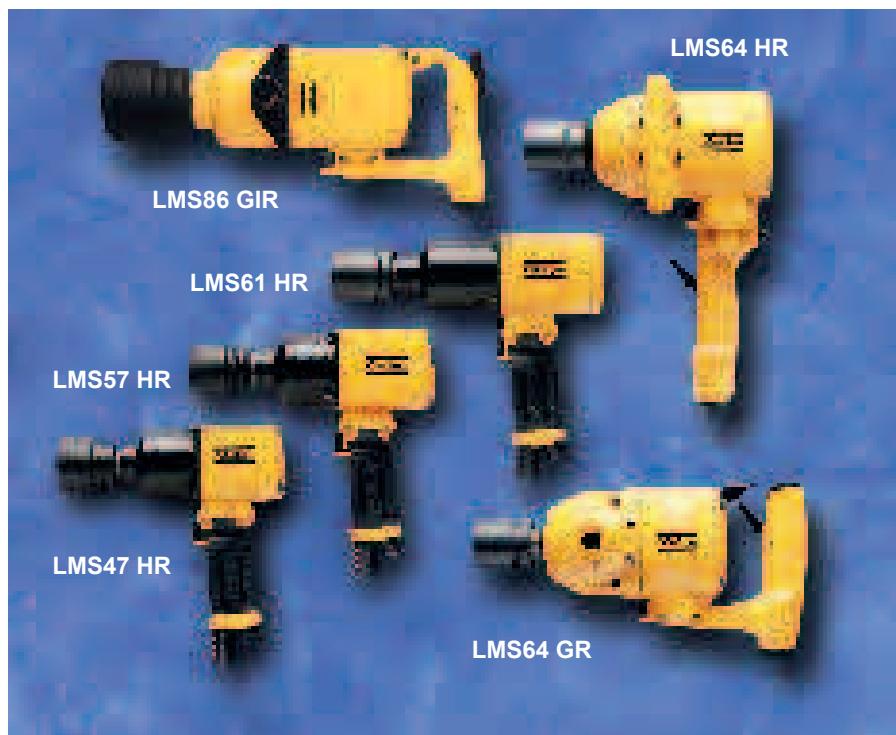
# IMPACT WRENCHES

## Non shut-off type – Reversible

### LMS47 – LMS86

These tools provide enormous power, yet you are in full control, and there is virtually no reaction force during tightening. The torque is applied to the joint, not your wrist. All Atlas Copco impact wrenches have a wide torque range, so each tool can be adjusted to handle many applications.

- Fast tightening and disassembly.
- Wide torque range (70-10000 Nm).
- Low weight.
- Negligible reaction force.
- Soft-start throttle.



Model	Bolt capacity mm	Square drive size in	Recommended torque range		Max. torque Nm	Impacts per min	Free speed r/min	Weight		Length excl anvil mm	Air consumption under load l/s cfm	Recommended hose size mm	Distance centre to side mm	Ordering No.
			Nm	ft lb				kg	lb					
LMS47 HR20	16-19	3/4	70- 460	52- 339	550	900	4800	3.5	7.7	170	14	30	12.5	37 8434 1470 42
LMS57 HR20	18-20	3/4	100- 500	74- 369	900	960	4500	4.3	9.5	189	16	34	12.5	38 8434 1570 09*
LMS57 HR25	18-22	1	100- 650	74- 479	900	960	4500	4.3	9.5	189	16	34	12.5	38 8434 1570 41
LMS61 HR20	20-24	3/4	300-1300	220- 960	1800	900	4000	5.1	11.2	212	12	25	12.5	44 8434 1611 00
LMS61 HR25	20-24	1	300-1300	220- 960	1800	900	4000	5.1	11.2	212	12	25	12.5	44 8434 1610 00
LMS61 HRS4	20-24	1 1/4 <sup>b</sup>	300-1300	220- 960	1800	900	4000	5.1	11.2	212	12	25	12.5	44 8434 1612 00
LMS64 HR25	24-32	1	400-1400	295-1030	2300	600	3100	9.0	20.0	195	21	44	12.5	57 8434 1640 03
LMS64 GR25	24-32	1	400-1400	295-1030	2300	600	3100	9.0	20.0	280	21	44	12.5	57 8434 1641 02*
LMS64 S GR25	24-32	1	400-1500	295-1100	2300	620	3380	9.0	20.0	280	35	73	12.5	57 8434 1641 06
LMS64 GRS5	24-32	1 5/8 <sup>a</sup>	400-1400	295-1030	2300	600	3100	9.0	20.0	280	21	44	12.5	57 8434 1641 44
LMS64 S GRS5	24-32	1 5/8 <sup>a</sup>	400-1500	295-1100	2300	620	3380	9.0	20.0	280	35	73	12.5	57 8434 1641 08
LMS66 GOR38/B	32-45	1 1/2	1000-5000	737-3688	10000	450	3720	16.4	36.0	376	29	61	16.0	63 8434 1860 12
LMS66 GIR38/B	32-45	1 1/2	1000-5000	737-3688	10000	450	3720	16.4	36.0	376	29	61	16.0	63 8434 1860 20*
LMS66 GORS5/B	32-45	1 5/8 <sup>a</sup>	1000-5000	737-3688	10000	450	3720	16.4	36.0	376	29	61	16.0	63 8434 1860 18
LMS66 GIRS5/B	32-45	1 5/8 <sup>a</sup>	1000-5000	737-3688	10000	450	3720	16.4	36.0	376	29	61	16.0	63 8434 1860 26

<sup>a</sup> Spline drive No. 5.

<sup>b</sup> Spline drive No. 4.

GOR = Outside trigger

GR/GIR = Inside trigger

Air inlet thread inch: LMS47, LMS57 and LMS61 = 3/8", LMS64 and LMS86 = 1/2".

\* Basic tools of the range, cover most needs.

### ACCESSORIES INCLUDED

Silenced air exhaust through handle (LMS47/57/61)  
Hose fitting

### OPTIONAL ACCESSORIES

Page 16-17

### SELECTED SERVICE KITS

Page 17



# IMPACT WRENCHES

## Shut-off type – Torsion bar principle

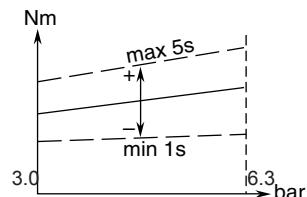
### LTS17 – LTS27

Equipped with automatic shut-off, the LTS models provide a perfect result, every time. This means proper tightening with less risk for over-tightening due to operator influence, improving joint quality as well as operator confidence.

- Automatic shut-off shortens tightening time.
- Consistent torque accuracy.
- No over-torquing.
- Low weight.
- Adjustable torque settings (22-165 Nm).

LTS17 and LTS27 are lubrication-free. The purpose of the torsion bar principle is to increase the bounce angle of the impact mechanism. The tool shuts off once it has reached the pre-set bounce angle.

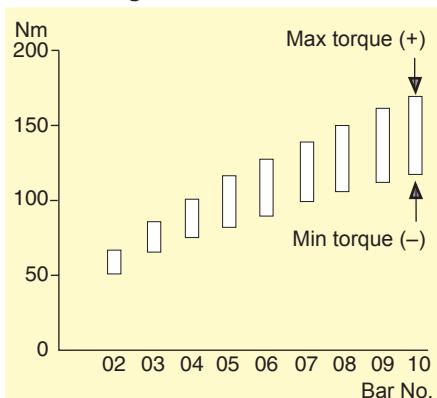
### LTS Adjustment Range



The tightening time should not exceed 5 seconds, to avoid excess wear of the tool.



### LTS17 and -27 torsion bar – bounce angle shut-off



### LTS27 HR43

Female hexagon quick-change chuck for separate torsion bars with 1/2" square drive. The design is specially suitable for the tightening of different bolt sizes at the same work place.

### ACCESSORIES INCLUDED

Silenced air exhaust through handle  
Hose fitting

Torsion bar No. 06 LTS27 HR43  
Adjusting key LTS17 and LTS27

### LTS17, -27 HR13 (10) built-in torsion bar

The anvil of the impact mechanism is extended with a built-in torsion bar to increase accuracy and reduce vibration level. These types are designed for frequent tightening of the same bolt size.

Torsion bar No.	Torque Nm	Ordering No.	Color of bar
02	60	4250 1230 82	orange
03	75	4250 1230 83	yellow
04	90	4250 1230 84	green
05	100	4250 1230 85	blue
06	115	4250 1230 86	red (standard)
07	125	4250 1230 87	orange
08	140	4250 1230 88	yellow
09	150	4250 1230 89	green
10	165	4250 1230 90	blue

Valid at 6 bar air pressure

# IMPACT WRENCHES

## Shut-off type – Added bounce energy principle

### LTS37 – LTS57

LTS shut-off tools automatically shut off when the preset torque is reached, eliminating the need for guesswork. Place the tool on the joint to be fastened and press the trigger. The tool will automatically shut-off at a predetermined torque level, which provides for an operator independent tightening.

- Automatic shut-off shortens tightening time.
- Consistent torque accuracy.
- No over-torquing.
- Low weight.
- Adjustable torque settings (80-650 Nm).

The purpose of the added bounce energy principle is that the energy content of each impact is added to the next and following impact until the preset level is reached and the tool shuts off.



Model	Bolt capacity	Square drive size	Recommended torque range		Impacts per min	Free speed r/min	Weight		Length excl anvil mm	Air consumption under load		Air inlet thread	Recommended hose size mm	Recom- mended centre to side mm	Dis- tance centre to side mm	Ordering No.
	mm	in	Nm	ft lb			kg	lb		l/s	cfm					
LTS37 HR13	12-14	1/2	80 <sup>a</sup> -340	59-250	1140	8800	3.7	8.1	200	10	21	3/8	10	33	8434 1372 41*	
LTS37 HR16	12-16	5/8	120 <sup>a</sup> -340	88-250	1140	8800	3.7	8.1	220	10	21	3/8	10	33	8434 1372 09	
LTS57 HR20	18-20	3/4	200 <sup>a</sup> -500	147-369	960	4600	5.3	12.0	225	13	27	3/8	10	38	8434 1571 08	
LTS57 HR25	18-22	1	200 <sup>a</sup> -650	147-479	960	4600	5.3	12.0	225	13	27	3/8	10	38	8434 1571 40*	

<sup>a</sup> Min torque at 4 bar air pressure and min setting of torque control mechanism.

\* Basic tools of the range, cover most needs.

### OPTIONAL ACCESSORIES

#### Extended anvils



#### Quick change chuck



#### Socket holders



Model	Dimensions		
	Drive size in	Extension mm	Ordering No.
<b>Extended square drive anvil for</b>			
LMS17	1/2	75	4250 1147 80 <sup>ab</sup>
LMS27	1/2	75	4250 1085 80 <sup>ab</sup>
LMS27	1/2	150	4250 1086 80 <sup>ab</sup>
LMS37/LTS37	1/2	75	4250 1031 80 <sup>ab</sup>
LMS37/LTS37	1/2	150	4250 1032 80 <sup>ab</sup>
LMS37/LTS37	5/8	75	4250 1034 80 <sup>ab</sup>
LMS37/LTS37	5/8	150	4250 1035 80 <sup>ab</sup>
LMS47/LTS47	3/4	75	4250 1208 00
LMS47/LTS47	3/4	150	4250 1209 00
LMS57/LTS57	3/4	75	4250 1109 00
LMS57/LTS57	3/4	150	4250 1110 00
LMS57/LTS57	3/4	200	4250 1111 00
LMS57/LTS57	1	75	4250 1113 00
LMS57/LTS57	1	150	4250 1114 00
LMS64	1	80	4250 0774 00
LMS64	1	160	4250 0775 00
<b>Spline type anvil for</b>			
LMS64	1 5/8-14	–	4250 0967 80
<b>Heavy duty anvil (thru hole) for</b>			
LMS37/LTS37	1/2	80	4250 1041 01

Model	Dimensions		
	Drive size in	Extension mm	Ordering No.
<b>Anvil with female hexagon quick change chuck for</b>			
LMS06	1/4	–	4250 1513 80
LMS17	7/16	–	4250 1154 80
LMS27	7/16	–	4250 1088 80
LMS37	7/16	–	4250 1050 80 <sup>c</sup>

#### Ordering No.

<sup>a</sup> Retainer pin – locking type 4250 0851 00

<sup>b</sup> Retainer pin – quick change type 4250 1190 00

<sup>c</sup> NOTE: To be used together with reversing valve 4250 1345 95 (marked "1") only.

Model	Drive size in	Length mm	Ordering No.
<b>Tool holder with square drive, for 7/16" quick change chuck, for</b>			
LMS17,-27	3/8	75	4023 1210 03
	1/2	75	4023 1211 03

### SELECTED SERVICE KITS

Page 17



# IMPACT WRENCHES

## Accessories

### Suspension yokes



Model	Ordering No.		
	Horizontal	Vertical	Swivelling
LMS06 HR	—	—	4210 0243 00
LMS17	—	—	4250 1365 00
LMS27	4250 0872 00	4250 1159 00	—
LMS37	4250 0872 00	4250 1058 00	—
LMS47	4250 0872 00	4250 1327 00	—
LMS57	4250 0872 00	4250 1160 00	—
LMS61	4250 0872 00	4250 1620 90	—
LMS64	4250 0677 80	—	—
LMS86	0371 1102 00	—	—
LTS17	—	—	4250 1365 00
LTS27	4250 0872 00	—	4250 1365 00
LTS37	4250 0872 00	—	4250 1253 00
LTS57	4250 0872 00	—	4250 2229 00

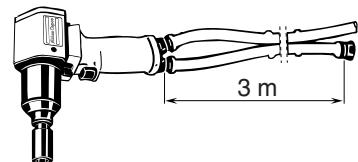
### Protective covers



### Power regulators



### Exhaust kit



Model	Ordering No.
LMS17	4250 1503 00
LMS27	4250 1273 00
LMS37	4250 1213 00
LMS47	4250 1338 00
LMS57	4250 1282 00
LMS61	4250 2464 00
LMS64	4250 0828 00
LTS17	4250 1410 00
LTS27 HR13	4250 1411 00
LTS27 HR43	4250 1340 00
LTS37	4250 1337 00
LTS57	4250 1339 00

Model	Ordering No.
<b>Power regulator valve for</b>	
LMS17/LTS17	4250 1091 90
LMS27/LTS27	4250 1091 91
LMS37/LTS37	4250 1091 92
LMS47	4250 1091 93
LMS57/LTS57	4250 1091 94
LTS17	4250 1091 87
LTS27	4250 1091 86
LTS37	4250 1091 85
LTS57	4250 1091 88

Model	Ordering No.
<b>Piped-away exhaust kit for</b>	
LMS06 HR	4210 2052 00
LMS17, -27, -37, -47, -57,	4250 1366 90
LTS17, -27, -37, -57	



### SELECTED SERVICE KITS

The spare parts included in the service kits cover a normal overhaul of your tool. Always have them available for a fast and economical repair.

Main parts included:

- Vane kit
- Motor bearings
- Gaskets
- O-rings
- Circlips
- Pins etc.

Model	Service kit
LMS06	4081 0008 90
LMS06 SR	4081 0168 90
LMS17/LTS17	4081 0204 90
LMS27/LTS27	4081 0205 90
LMS37/LTS37	4081 0206 90
LMS47	4081 0207 90
LMS57/LTS57	4081 0208 90
LMS61	4081 0257 90
LMS64	4081 0015 90
LMS86	4081 0016 90

# HYDRAULIC IMPULSE NUTRUNNERS

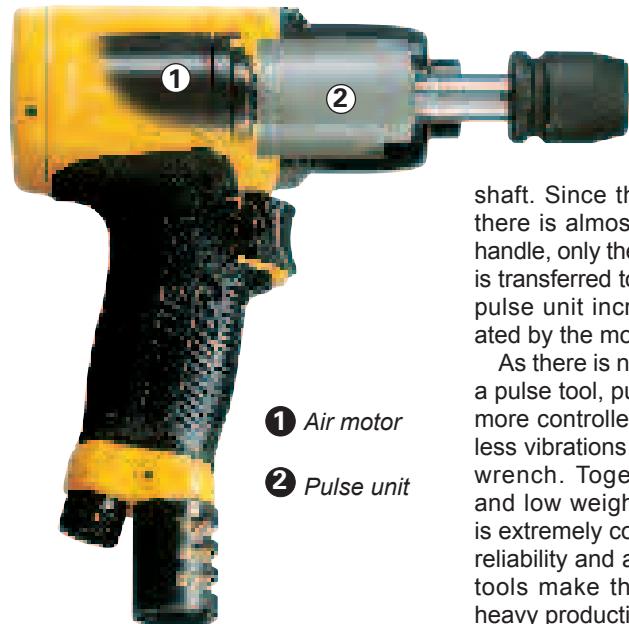
## ErgoPulse

The successful combination of high productivity and a good working environment

- **Productivity** – Very high speed means short cycle times for hard to semi-soft joints.
- **Accuracy** – High torque independent of joint stiffness gives high joint quality.
- **Reliability** – Long service life with simple maintenance requirements.
- **Ergonomics:**
  - Virtually no reaction forces.
  - Low noise and vibration levels.
  - Low weight.
  - Lubrication-free.



## The successful combination of high productivity and a good working environment



### The ErgoPulse principle

The heart of a pulse tool is the hydraulic pulse unit, positioned between the air motor and the outgoing shaft.

Since the pulses are very short, there is almost no reaction force in the handle, only the much lower motor torque is transferred to the operator's hand. The pulse unit increases the torque generated by the motor 50-100 times!

As there is no metal-to-metal impact in a pulse tool, pulse tools provide a softer, more controlled pulse with considerably less vibrations and noise than an impact wrench. Together with good balance and low weight the result is a tool that is extremely comfortable to operate. The reliability and accuracy of the ErgoPulse tools make them ideal for continuous heavy production.

### A complete range

The ErgoPulse range covers torque from 2-450 Nm which means that you can tighten screws from M4 to M20.

ErgoPulse tools are available in both shut-off and non shut-off versions. The shut-off pulse tools – PT, PTS and PTX types – will shut-off the air supply as soon as the pre-set torque has been reached. With a shut-off tool the operator influence is minimized. The result is increased accuracy and faster tightening. The non shut-off tools – C and XS types – produce pulses until the operator releases the trigger. They are preferred in applications where it is an advantage for the operator to be able to control the process by shutting off the tool manually.

Atlas Copco pulse tools are available in straight and pistol grip versions.

# HYDRAULIC IMPULSE NUTRUNNERS

## ErgoPulse – Shut-off type

### PT/PTS/PTX torque sensing shut-off system – an active part of the tightening process

The ErgoPulse PT, PTS and PTX nutrunners incorporate a shut-off system based on retardation instead of timers or bypass valves. Torque is "sensed" by means of a rotatable inertial mass acting against an adjustable spring. When the force of the mass is sufficient to overcome the preset force in the spring, a lock pin releases a disc valve to shut off the air supply. The result is a highly accurate and easily adjustable shut-off system.

### A pulse mechanism with pistons for minimum weight and long service life

The ErgoPulse PT/PTS/PTX pulse unit features a more efficient transfer of the impulse energy. The design is based on cam-guided pistons and rollers and the pulse cylinder is oil-filled. The moving parts are thus completely immersed in oil, which ensures a long service life.

The unique piston principle makes the PT/PTS/PTX tools extremely light.

### Twin chamber motor

The ErgoPulse PT, PTS and PTX nutrunners have a twin chamber vane motor. It is designed for giving high torque at low speed, which gives the best characteristics for fast, reliable and accurate tightening.

### TRIM valve for enhanced performance on hard joints and at low torque levels

The PT, PTS and PTX tools incorporate a patented adjustable valve at the air outlet. This feature enhances the tool's performance on hard joints and at low torque levels.

The PTS/PTX-RE tools are reporting as standard. This means that they supply an air signal that can be connected to a RE-Controller to count the number of tightenings and to detect premature shut-off and rehits.

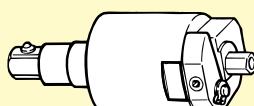
### AUTOTRIM valve, the optimal solution for mixed hard and soft joints

The PTS/PTX-AT tools are equipped with an automatic two-stage Trim valve. The tool runs down the screw with reduced free speed. After 1-2 pulses it shifts automatically to full power thus enabling both hard and soft joints to be tightened with excellent result without any adjustments.

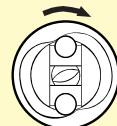
The PTS/PTX-AT tools can also be used for reporting applications.



PT, PTS and PTX pulse unit and shut-off system



Twin piston mechanism



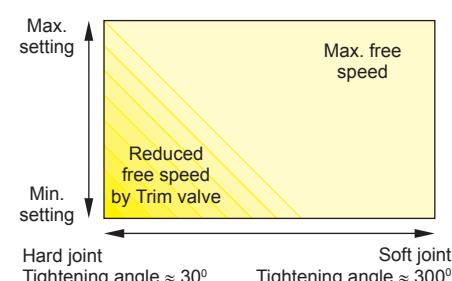
Twin chamber motor



### Recommended operating area

Max recommended tightening time for a pulse tool is 3 seconds. Longer time indicates that the joint is too soft for the tool used. If so, it is recommended to choose a bigger size of tool or another type of nutrunner.

Minimum recommended number of pulses per tightening is 5. Fewer pulses will result in increased scatter. By reducing the free speed with the TRIM valve (PT/PTS/PTX) there will be more pulses per tightening and improved accuracy.



# HYDRAULIC IMPULSE NUTRUNNERS

## ErgoPulse – Shut-off type

### Bolt capacity M5 – M20

- Safer joints and fewer after-checks.
- Fast and accurate tightening.
- Minimum operator fatigue.
- Independence of operator influence.



**1** Twin chamber air motor.

**2** Pulse unit with cam-guided pistons and rollers.

**3** Patented shut-off system with inertia body.

**4** Silencer with TRIM or AUTOTRIM valve.

### ErgoPulse PTS/PTX

The PTS/PTX-RE tools are reporting as standard. You connect an air signal hose to the Trim valve. With the air signal hose connected to a monitoring instrument you can count the number of approved tightenings and detect premature shut-off, rehits and other irregularities.

### ErgoPulse PTS/PTX AutoTrim

The PTS/PTX AutoTrim tools are equipped with an automatic two-stage Trim valve. The tool runs down the screw with reduced free speed. After 1-2 pulses it shifts automatically to full power thus

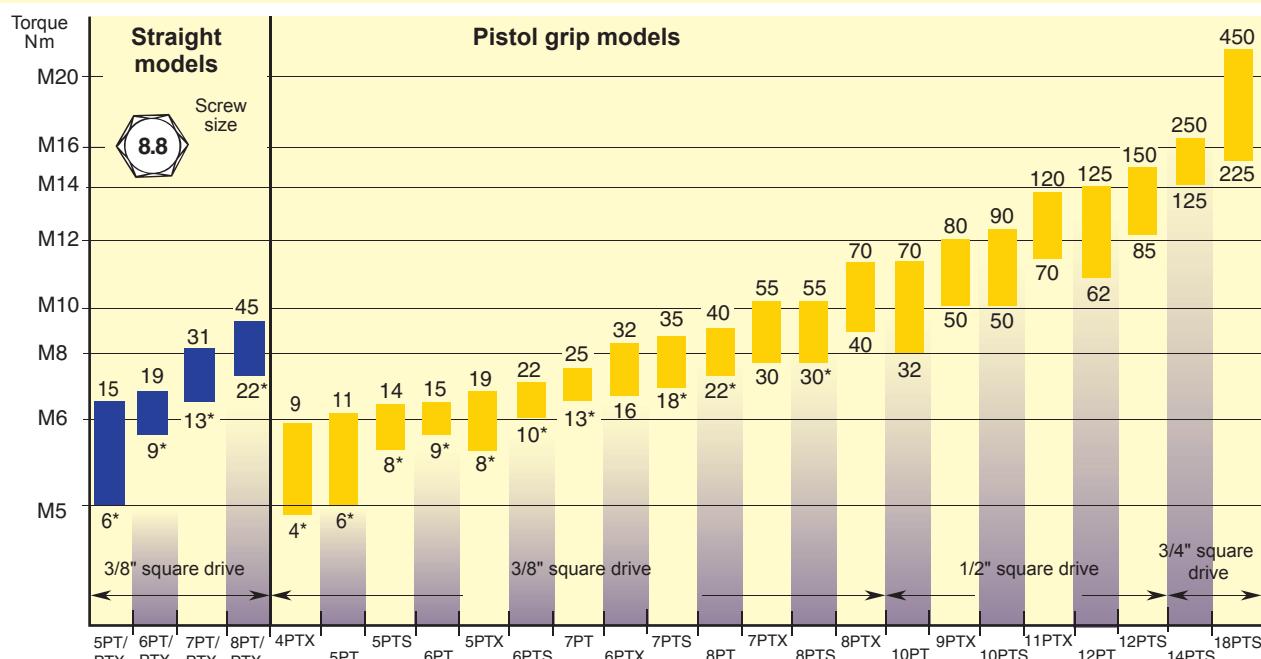
enabling both hard and soft joints to be tightened with excellent result. Old PTS-RE tools can be retrofitted with AutoTrim valves by replacing the existing Trim valve, see page 21. The PTS/PTX-AT tools are reporting as standard.

### ErgoPulse PTS-HRF

The Air on Top versions give you full flexibility, either you use the air inlet on top to avoid the disturbing hose hook or you use the conventional air inlet at the bottom of the handle. The Air on Top is ideal for work stations.

### SELECTION GUIDE

The ErgoPulse PT, PTS and PTX tools can be adjusted within a wide torque range by simply setting the spring force that counteracts the inertia body. Torque should preferably be checked with a hand torque wrench. Electronic monitoring with an in-line transducer is possible but should be verified with a manual hand torque wrench to avoid measuring errors due to the extremely short pulse sequence.



\* For tools with quick change chuck, see technical data.

# HYDRAULIC IMPULSE NUTRUNNERS

## ErgoPulse – Shut-off type

### ErgoPulse PTX

The new ErgoPulse PTX series is intended for applications where weight is critical. The PTX tools are based on the well-proven technology from ErgoPulse PTS. They are available in both Trim and AutoTrim versions. AutoTrim is recommended for applications where same tool is used both for hard and soft joints.



Model	Bolt size mm	Square drive size in	Recommended torque range <sup>a</sup>		Free speed approx. r/min	Weight		Length to side mm	Distance centre mm	Air consumption under load l/s	Air consumption under load cfm	Recommended hose size mm	Air inlet thread in	Sound level dB(A)	Ordering No.
			Nm	ft lb		kg	lb								
<b>Trim Straight models</b>															
EP4PTX9 SR42	M5	1/4 <sup>b</sup>	4 - 9	3 - 7	3400 <sup>d</sup>	0.9	2.0	207	21	4	13	8	1/4	74	8431 0376 00
EP4PTX9 SR10	M5	3/8	4 - 9	3 - 7	3400 <sup>d</sup>	0.9	2.0	207	21	4	13	8	1/4	74	8431 0376 04
EP5PTX14 SR42	M6	1/4 <sup>b</sup>	7 - 14	5 - 10	5300 <sup>d</sup>	0.9	2.0	207	21	7	15	8	1/4	74	8431 0376 10
EP5PTX15 SR10	M6	3/8	9 - 15	7 - 11	5300 <sup>d</sup>	0.9	2.0	207	21	7	15	8	1/4	74	8431 0376 14
EP6PTX18 SR42	M6	1/4 <sup>b</sup>	9 - 18	7 - 13	6800 <sup>d</sup>	0.9	2.0	207	21	7	15	8	1/4	74	8431 0376 20
EP6PTX19 SR10	M6	3/8	10 - 19	7 - 14	6800 <sup>d</sup>	0.9	2.0	207	21	7	15	8	1/4	74	8431 0376 24
EP7PTX28 SR42	M6-M8	1/4 <sup>b</sup>	17 - 28	13 - 21	4300 <sup>d</sup>	1.2	2.5	235	25	8	17	10	1/4	78	8431 0376 30
EP7PTX31 SR10	M6-M8	3/8	18 - 31	13 - 23	4300 <sup>d</sup>	1.2	2.5	235	25	8	17	10	1/4	78	8431 0376 34
EP8PTX38 SR42	M8	1/4 <sup>b</sup>	22 - 38	16 - 28	5500 <sup>d</sup>	1.2	2.5	235	25	9	19	10	1/4	78	8431 0376 44
EP8PTX45 SR10	M8	3/8	24 - 45	18 - 33	5500 <sup>d</sup>	1.2	2.5	235	25	9	19	10	1/4	78	8431 0376 40
<b>Trim-RE Pistol grip (RE-signal)</b>															
EP4PTX9 HR42-RE	M5	1/4 <sup>b</sup>	4 - 9	3 - 7	3400 <sup>d</sup>	0.9	1.9	164	22	4	13	8	1/4	74	8431 0375 50
EP4PTX9 HR10-RE	M5	3/8	4 - 9	3 - 7	3400 <sup>d</sup>	0.9	1.9	164	22	4	13	8	1/4	74	8431 0375 54
EP5PTX17 HR42-RE	M6	1/4 <sup>b</sup>	7 - 17	5 - 13	7000 <sup>d</sup>	0.9	1.9	164	22	7	15	8	1/4	74	8431 0375 00
EP5PTX19 HR10-RE	M6	3/8	8 - 19	6 - 14	7000 <sup>d</sup>	0.9	1.9	164	22	7	15	8	1/4	74	8431 0375 04
EP6PTX28 HR42-RE	M6-M8	1/4 <sup>b</sup>	15 - 28	11 - 21	8500 <sup>d</sup>	0.9	1.9	164	22	7	15	8	1/4	74	8431 0375 10
EP6PTX32 HR10-RE	M6-M8	3/8	16 - 32	12 - 23	8500 <sup>d</sup>	0.9	1.9	164	22	7	15	8	1/4	74	8431 0375 20
EP7PTX55 HR10-RE	M8-M10	3/8	30 - 55	22 - 40	7200 <sup>d</sup>	1.2	2.5	176	25	9	19	10	1/4	77	8431 0375 30
EP8PTX70 HR10-RE	M10	3/8	40 - 70	29 - 51	6900 <sup>d</sup>	1.2	2.5	176	25	9	19	10	1/4	77	8431 0375 60
EP9PTX80 HR13-RE	M10	1/2	50 - 80	37 - 59	5200 <sup>d</sup>	1.5	3.3	188	29	11	23	10	1/4	83	8431 0375 40
EP11PTX120 HR13-RE	M12	1/2	70 - 120	51 - 88	5100 <sup>d</sup>	1.7	3.8	196	29	12	25	10	1/4	83	8431 0376 50
<b>AutoTrim Straight models (RE-signal)</b>															
EP4PTX9 SR42-AT	M5	1/4 <sup>b</sup>	4 - 9	3 - 7	3300 <sup>c</sup>	0.9	2.0	267	21	4	13	8	1/4	74	8431 0376 02
EP4PTX9 SR10-AT	M5	3/8	4 - 9	3 - 7	3300 <sup>c</sup>	0.9	2.0	267	21	4	13	8	1/4	74	8431 0376 06
EP5PTX14 SR42-AT	M6	1/4 <sup>b</sup>	7 - 14	5 - 10	4800 <sup>c</sup>	0.9	2.0	267	21	7	15	8	1/4	74	8431 0376 12
EP5PTX15 SR10-AT	M6	3/8	9 - 15	7 - 11	4800 <sup>c</sup>	0.9	2.0	267	21	7	15	8	1/4	74	8431 0376 16
EP6PTX18 SR42-AT	M6	1/4 <sup>b</sup>	9 - 18	7 - 13	6700 <sup>c</sup>	0.9	2.0	267	21	7	15	8	1/4	74	8431 0376 22
EP6PTX19 SR10-AT	M6	3/8	10 - 19	7 - 14	6700 <sup>c</sup>	0.9	2.0	267	21	7	15	8	1/4	74	8431 0376 26
EP7PTX28 SR42-AT	M6-M8	1/4 <sup>b</sup>	17 - 28	13 - 21	4300 <sup>c</sup>	1.2	2.5	295	25	7	15	10	1/4	78	8431 0376 32
EP7PTX31 SR10-AT	M6-M8	3/8	18 - 31	13 - 23	4300 <sup>c</sup>	1.2	2.5	295	25	7	15	10	1/4	78	8431 0376 36
EP8PTX38 SR42-AT	M8	1/4 <sup>b</sup>	22 - 38	16 - 28	5900 <sup>c</sup>	1.2	2.5	295	25	9	19	10	1/4	78	8431 0376 46
EP8PTX45 SR10-AT	M8	3/8	24 - 45	18 - 33	5900 <sup>c</sup>	1.2	2.5	295	25	9	19	10	1/4	78	8431 0376 42
<b>AutoTrim Pistol grip (RE-signal)</b>															
EP4PTX9 HR42-AT	M5	1/4 <sup>b</sup>	4 - 9	3 - 7	3300 <sup>c</sup>	0.9	2.0	164	22	4	13	8	1/4	74	8431 0375 52
EP4PTX9 HR10-AT	M5	3/8	4 - 9	3 - 7	3300 <sup>c</sup>	0.9	2.0	164	22	4	13	8	1/4	74	8431 0375 56
EP5PTX17 HR42-AT	M6	1/4 <sup>b</sup>	7 - 17	5 - 13	5400 <sup>c</sup>	0.9	2.0	164	22	7	15	8	1/4	74	8431 0375 02
EP5PTX19 HR10-AT	M6	3/8	8 - 19	6 - 14	5400 <sup>c</sup>	0.9	2.0	164	22	7	15	8	1/4	74	8431 0375 06
EP6PTX28 HR42-AT	M6-M8	1/4 <sup>b</sup>	15 - 28	11 - 21	8500 <sup>c</sup>	0.9	2.0	164	22	7	15	8	1/4	74	8431 0375 12
EP6PTX32 HR10-AT	M6-M8	3/8	16 - 32	12 - 23	8500 <sup>c</sup>	0.9	2.0	164	22	7	15	8	1/4	74	8431 0375 22
EP7PTX55 HR10-AT	M8-M10	3/8	30 - 55	22 - 40	6900 <sup>c</sup>	1.2	2.5	176	25	9	19	10	1/4	77	8431 0375 32
EP8PTX70 HR10-AT	M10	3/8	40 - 70	29 - 51	6900 <sup>c</sup>	1.2	2.5	176	25	9	19	10	1/4	77	8431 0375 62
EP9PTX80 HR13-AT	M10	1/2	50 - 80	37 - 59	5100 <sup>c</sup>	1.5	3.4	188	29	11	23	10	1/4	83	8431 0375 42
EP11PTX120 HR13-AT	M12	1/2	70 - 120	51 - 88	5100 <sup>c</sup>	1.7	3.8	196	29	12	25	10	1/4	83	8431 0376 52

<sup>a</sup>To be used as a guide only, final torque depends on type of joint, accessories used and air pressure.

<sup>b</sup>Female hexagon drive. Quick change chuck.

<sup>c</sup>In full speed mode.

<sup>d</sup>With TRIM valve fully open.

# HYDRAULIC IMPULSE NUTRUNNERS

## ErgoPulse – Shut-off type

### PT/PTS models

Model	Bolt size	Square drive size	Recommended torque range <sup>a</sup>		Free speed approx.	Weight		Distance centre to side	Air consumption under load		Recom-mended hose size		Air inlet	Sound level	Ordering No.
	mm	in	Nm	ft lb		kg	lb		mm	mm	l/s	cfm	mm	in	
<b>Pistol grip models. ErgoPulse 5-12PT</b>															
EP5PT HR42	M6	1/4 <sup>b</sup>	5 - 10	4 - 7	5500 <sup>c</sup>	0.95	2.1	205	21	6	13	8	1/4	74	8431 0368 05
EP5PT HR10	M6	3/8	6 - 11	4 - 8	5500 <sup>c</sup>	0.95	2.1	200	21	6	13	8	1/4	74	8431 0368 04
EP6PT HR42	M6	1/4 <sup>b</sup>	8 - 14	6 - 10	6000 <sup>c</sup>	1.0	2.2	205	21	6	13	8	1/4	74	8431 0368 23
EP6PT HR10	M6	3/8	9 - 15	7 - 11	6000 <sup>c</sup>	1.0	2.2	200	21	6	13	8	1/4	74	8431 0368 16
EP7PT HR42	M8	1/4 <sup>b</sup>	12 - 23	9 - 17	4500 <sup>c</sup>	1.3	2.9	175	26	7	15	8	1/4	77	8431 0368 36
EP7PT HR10	M8	3/8	13 - 25	10 - 18	4500 <sup>c</sup>	1.3	2.9	177	26	7	15	8	1/4	77	8431 0368 30
EP8PT HR42	M8	1/4 <sup>b</sup>	20 - 35	15 - 26	6000 <sup>c</sup>	1.4	3.0	175	26	8	17	8	1/4	77	8431 0367 94
EP8PT HR10	M8	3/8	22 - 40	16 - 29	6000 <sup>c</sup>	1.4	3.0	177	26	8	17	8	1/4	77	8431 0367 85
EP10PT HR13	M10	1/2	32 - 70	24 - 51	4000 <sup>c</sup>	1.8	4.0	192	29	10	21	10	1/4	81	8431 0367 66
EP12PT HR13	M12	1/2	62 - 125	46 - 92	3500 <sup>c</sup>	2.4	5.3	201	34	12	25	10	1/4	81	8431 0368 40

### TRIM-RE

<b>Pistol grip models. ErgoPulse 5-6PTS<sup>d</sup></b>															
EP5PTS12 HR42-RE	M5-M6	1/4 <sup>b</sup>	6 - 12	4 - 9	5400 <sup>c</sup>	1.0	2.2	196	21	6.5	14	8	1/4	74	8431 0374 05
EP5PTS14 HR10-RE	M5-M6	3/8	8 - 14	6 - 10	5400 <sup>c</sup>	1.0	2.2	191	21	6.5	14	8	1/4	74	8431 0374 00
EP6PTS20 HR42-RE	M6	1/4 <sup>b</sup>	8 - 20	6 - 15	7300 <sup>c</sup>	1.0	2.2	196	21	7	15	8	1/4	74	8431 0374 15
EP6PTS22 HR10-RE	M6	3/8	10 - 22	7 - 16	7300 <sup>c</sup>	1.0	2.2	191	21	7	15	8	1/4	74	8431 0374 20
<b>Pistol grip models. Balanced grip. ErgoPulse 7-18PTS<sup>d</sup></b>															
EP7PTS30 HR42-RE	M8	1/4 <sup>b</sup>	16 - 31	12 - 23	5700 <sup>c</sup>	1.4	3.0	175	26	8	17	10	1/4	77	8431 0374 35
EP7PTS35 HR10-RE	M8	3/8	18 - 35	13 - 26	5700 <sup>c</sup>	1.4	3.0	176	26	8	17	10	1/4	77	8431 0374 40
EP8PTS40 HR42-RE	M8	1/4 <sup>b</sup>	22 - 40	16 - 29	7300 <sup>c</sup>	1.4	3.0	175	26	9	19	10	1/4	77	8431 0374 55
EP8PTS55 HR10-RE	M8-M10	3/8	30 - 55	22 - 40	7300 <sup>c</sup>	1.4	3.0	176	26	9	19	10	1/4	77	8431 0374 60
EP10PTS90 HR13-RE	M10-M12	1/2	50 - 90	37 - 66	5200 <sup>c</sup>	1.8	4.0	193	29	11	23	10	1/4	83	8431 0374 80
EP12PTS150 HR13-RE	M12-M14	1/2	85 - 150	63 - 110	4200 <sup>c</sup>	2.5	5.5	201	34	13	27	13	3/8	83	8431 0374 90
EP14PTS250 HR20-RE	M12-M16	3/4	125 - 250	92 - 185	4000 <sup>c</sup>	3.3	7.2	216	37	20	42	13	3/8	82	8431 0374 95
EP18PTS450 HR20-RE	M16-M20	3/4	225 - 450	166 - 332	3000 <sup>c</sup>	4.3	9.5	202	42	22	46	13	3/8	85	8431 0374 98
<b>Pistol grip. Air on top models. ErgoPulse 7-10PTS</b>															
EP7PTS35 HRF10-RE	M8	3/8	18 - 35	13 - 26	5700 <sup>c</sup>	1.4	3.0	176	31	8	17	10	1/4	77	8431 0374 41
EP8PTS55 HRF10-RE	M8-M10	3/8	30 - 55	22 - 40	7300 <sup>c</sup>	1.4	3.0	176	31	9	19	10	1/4	77	8431 0374 61
EP10PTS90 HRF13-RE	M10-M12	1/2	50 - 90	37 - 66	5200 <sup>c</sup>	1.8	4.0	193	34	11	23	10	1/4	81	8431 0374 81

### AUTOTRIM

<b>Pistol grip models. ErgoPulse 6PTS</b>															
EP6PTS20 HR42-AT	M6	1/4 <sup>b</sup>	8 - 20	6 - 15	6300 <sup>e</sup>	1.0	2.2	196	21	7	15	8	1/4	74	8431 0374 16
EP6PTS22 HR10-AT	M6	3/8	10 - 22	7 - 16	6300 <sup>e</sup>	1.0	2.2	191	21	7	15	8	1/4	74	8431 0374 21
<b>Pistol grip models. Balanced grip. ErgoPulse 7-18PTS<sup>d</sup></b>															
EP7PTS30 HR42-AT	M8	1/4 <sup>b</sup>	16 - 31	12 - 23	5400 <sup>e</sup>	1.4	3.0	175	26	8	17	10	1/4	77	8431 0374 37
EP7PTS35 HR10-AT	M8	3/8	18 - 35	13 - 26	5400 <sup>e</sup>	1.4	3.0	176	26	8	17	10	1/4	77	8431 0374 42
EP8PTS40 HR42-AT	M8	1/4 <sup>b</sup>	22 - 40	16 - 29	6900 <sup>e</sup>	1.4	3.0	175	26	9	19	10	1/4	77	8431 0374 57
EP8PTS55 HR10-AT	M8-10	3/8	30 - 55	22 - 40	6900 <sup>e</sup>	1.4	3.0	176	26	9	19	10	1/4	77	8431 0374 62
EP10PTS90 HR13-AT	M10-12	1/2	50 - 90	37 - 66	4900 <sup>e</sup>	1.8	4.0	193	29	11	23	10	1/4	83	8431 0374 82
EP12PTS150 HR13-AT	M12-14	1/2	85 - 150	63 - 110	4100 <sup>e</sup>	2.5	5.5	201	34	13	27	13	3/8	83	8431 0374 92
EP14PTS250 HR20-AT	M12-16	3/4	125 - 250	92 - 185	3900 <sup>e</sup>	3.3	7.2	216	37	20	42	13	3/8	82	8431 0374 97
EP18PTS450 HR20-AT	M16-20	3/4	225 - 450	166 - 332	2900 <sup>e</sup>	4.3	9.5	202	42	22	46	13	3/8	85	8431 0374 99
<b>Pistol grip. Air on top models. ErgoPulse 7-10PTS</b>															
EP7PTS35 HRF10-AT	M8	3/8	18 - 35	13 - 26	5400 <sup>e</sup>	1.4	3.0	176	31	8	17	10	1/4	77	8431 0374 43
EP8PTS55 HRF10-AT	M8-10	3/8	30 - 55	22 - 40	6900 <sup>e</sup>	1.4	3.0	176	31	9	19	10	1/4	77	8431 0374 63
EP10PTS90 HRF13-AT	M10-12	1/2	50 - 90	37 - 66	4900 <sup>e</sup>	1.8	4.0	193	34	11	23	10	1/4	81	8431 0374 83

<sup>a</sup>To be used as a guide only, final torque depends on type of joint, accessories used and air pressure.

<sup>b</sup>Female hexagon drive. Quick change chuck.

<sup>c</sup>With TRIM valve fully open.

<sup>d</sup>Approximate maximum torque included in designation.

<sup>e</sup>In full speed mode.

### AUTOTRIM valves for ErgoPulse PTS/PTX-RE

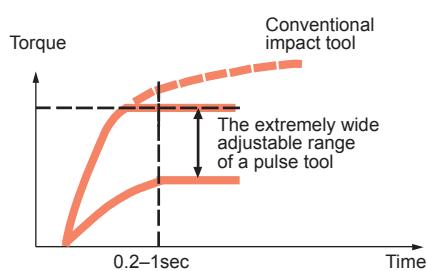
Model	Ordering No.
EP5/6PTS/PTX	4250 1878 90
EP7/8PTS/PTX	4250 1878 91
EP10PTS/9PTX/11PTX	4250 1878 92
EP12PTS	4250 1878 93
EP14PTS	4250 1878 94
EP18PTS	4250 1878 95

# HYDRAULIC IMPULSE NUTRUNNERS

## ErgoPulse – Non shut-off type

Bolt capacity M4 – M20

- Fast and accurate tightening.
- Low weight and small dimensions.



### Twin chamber motor

The ErgoPulse XS nutrunners have a twin chamber vane motor. It is designed for giving high torque at low speed, which provides the best characteristics for fast, reliable and accurate tightening.

### Pulse mechanisms with one, two or three blades

The ErgoPulse non shut-off tools are equipped with pulse units with one (C-tools), two (XS up to size 8) or three blades (XS from size 10). The double and triple blade pulse units use the Atlas Copco patented cam-guided design to push out the blades, giving a very high reliability. These pulse units have a high power-to-weight ratio, making the tools very powerful for their size.

### SELECTION GUIDE

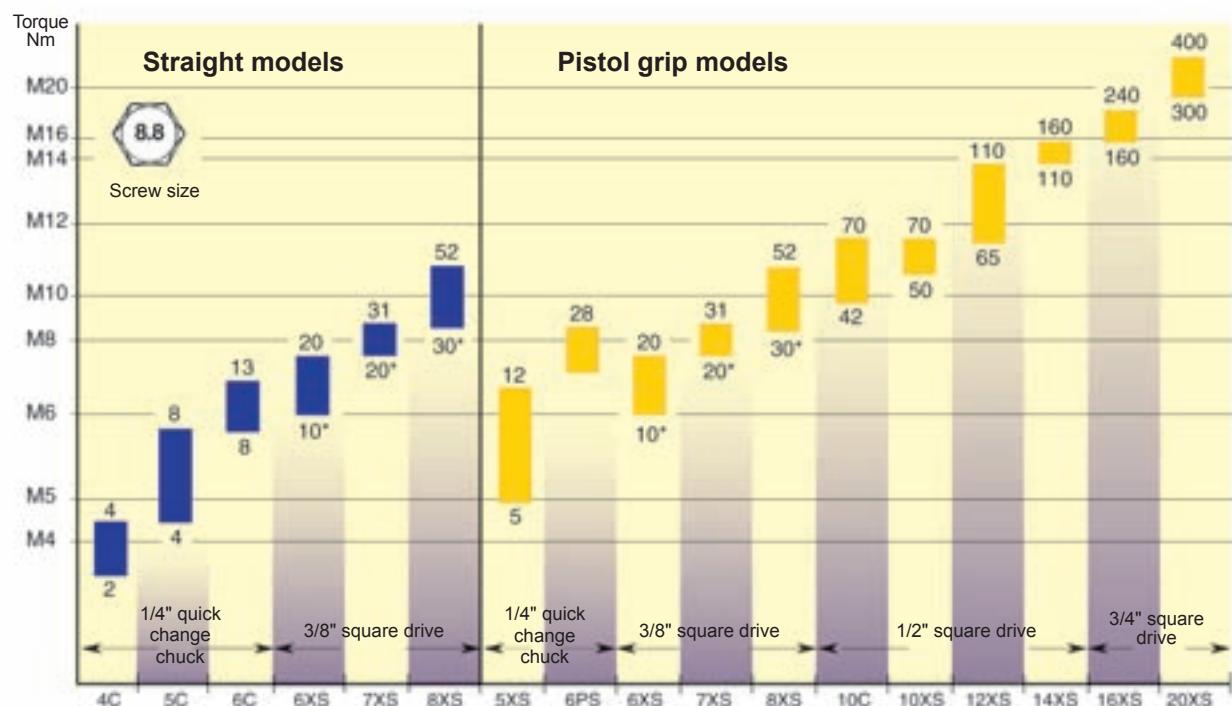
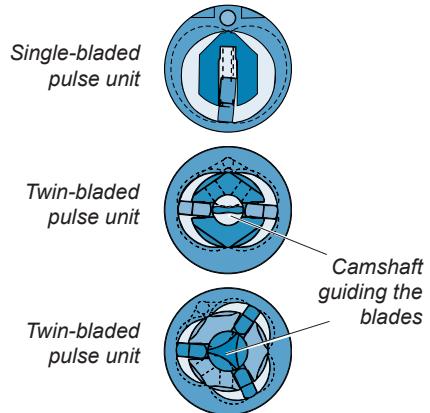
The size of tool is determined on the basis of torque and/or bolt dimension. Torque should preferably be checked with a hand torque wrench. Electronic monitoring with an in-line transducer is possible but should be verified with a manual hand torque wrench to avoid measuring errors due to the extremely short pulse sequence.



Torque is adjusted by regulating an artificial leak in the hydraulic circuit, which gives possibilities for most accurate adjustment of the tightening torque of the tool.

### ErgoPulse 6PS

This model is excellent for tightening self-tapping screws and when fast, powerful reversing is needed. Torque is adjusted by regulating the air pressure.



\* For tools with quick change chuck, see technical data.

# HYDRAULIC IMPULSE NUTRUNNERS

## ErgoPulse – Non shut-off type

Model	Bolt size mm	Square drive size in	Recommended torque range <sup>a</sup>				Free speed r/min	Weight		Length mm	Distance centre to side mm	Air consumption under load	Recom-mended	Air	Sound level <sup>b</sup> dB(A)	Ordering No.
			Nm	ft lb	kg	lb		kg	lb			l/s	cfm	hose size mm	inlet thread	
<b>Air on top models</b>																
EP4C HRF42	M5	1/4 <sup>c</sup>	5 - 9	4 - 7	4800	1.1	2.4	201	25	6	13	8	1/4	70	8431 0260 23	
EP6C HRF42	M6	1/4 <sup>c</sup>	9 - 16	7 - 12	4800	1.2	2.6	226	25	6	13	8	1/4	70	8431 0260 30	
EP8X HRF42	M8	1/4 <sup>c</sup>	18 - 30	13 - 22	9000	1.2	2.6	184	25	6	13	8	1/4	70	8431 0360 97	
EP8X HRF10	M8	3/8	20 - 35	15 - 26	9000	1.2	2.6	184	25	6	13	8	1/4	77	8431 0360 89	
<b>Straight models</b>																
EP4C SR42	M4	1/4 <sup>c</sup>	2 - 4	1 - 3	8200	0.8	1.8	255	19	2.5	5	6	1/4	70	8431 0350 02	
EP5C SR42	M5	1/4 <sup>c</sup>	4 - 8	3 - 6	10500	0.9	2.0	238	20	5	10	8	1/4	75	8431 0261 14	
EP6C SR42	M6	1/4 <sup>c</sup>	8 - 13	6 - 9	10500	1.0	2.2	263	20	5	10	8	1/4	75	8431 0261 22	
EP6XS SR42	M6	1/4 <sup>c</sup>	9 - 19	6 - 14	8000	0.7	1.5	219	22	8	17	8	1/4	75	8431 0372 27	
EP6XS SR10	M6	3/8	10 - 20	7 - 15	8000	0.7	1.5	221	22	8	17	8	1/4	75	8431 0372 25	
EP7XS SR42	M8	1/4 <sup>c</sup>	17 - 28	13 - 21	10000	0.7	1.5	219	22	8	17	8	1/4	75	8431 0372 15	
EP7XS SR10	M8	3/8	20 - 31	15 - 23	10000	0.7	1.5	221	22	8	17	8	1/4	75	8431 0372 05	
EP8XS SR42	M8	1/4 <sup>c</sup>	22 - 40	16 - 29	8000	0.9	2.0	242	24	9	19	8	1/4	78	8431 0369 30	
EP8XS SR10	M8-M10	3/8	30 - 52	22 - 38	8000	0.9	2.0	244	24	9	19	8	1/4	78	8431 0369 20	
<b>Pistol grip models</b>																
EP5C HR42	M5	1/4 <sup>c</sup>	5 - 9	4 - 7	4800	1.0	2.2	225	22	6	13	8	1/4	70	8431 0260 15	
EP5XS HR42	M5-M6	1/4 <sup>c</sup>	5 - 12	4 - 9	8500	0.8	1.8	165	21	9	19	8	1/4	75	8431 0372 30	
EP5CS HR42	M5-M6	1/4 <sup>c</sup>	8 - 16	6 - 12	4800	1.0	2.2	225	22	6	13	8	1/4	70	8431 0260 17	
EP6C HR42	M6	1/4 <sup>c</sup>	9 - 16	7 - 12	4800	1.1	2.4	250	22	6	13	8	1/4	70	8431 0262 13	
EP6XS HR42	M6	1/4 <sup>c</sup>	9 - 19	6 - 14	8000	0.8	1.8	150	22	8	17	8	1/4	75	8431 0372 23	
EP6XS HR10	M6	3/8	10 - 20	7 - 15	8000	0.8	1.8	152	22	8	17	8	1/4	75	8431 0372 20	
EP6PS HR42	M8	1/4 <sup>c</sup>	d - 28	d - 21	8000	0.8	1.8	148	21	9	19	10	1/4	74	8431 0368 22	
EP6PS HR10	M8	3/8	d - 30	d - 22	8000	0.8	1.8	150	21	9	19	10	1/4	74	8431 0368 21	
EP7XS HR42	M8	1/4 <sup>c</sup>	17 - 28	13 - 21	9000	0.8	1.8	150	22	8	17	8	1/4	75	8431 0372 10	
EP7XS HR10	M8	3/8	20 - 31	15 - 23	9000	0.8	1.8	152	22	8	17	8	1/4	75	8431 0372 00	
EP8XS HRX42	M8	1/4 <sup>c</sup>	22 - 40	16 - 29	7000	1.0	2.0	172	23	9	19	10	1/4	80	8431 0369 16	
EP8XS HRX10	M8-M10	3/8	30 - 52	22 - 38	7000	1.0	2.0	174	23	9	19	10	1/4	80	8431 0369 09	
EP10C HR13	M10	1/2	42 - 70	31 - 52	7500	2.0	4.4	163	27	7	15	8	1/4	79	8431 0365 01	
EP10XS HR13	M10	1/2	50 - 70	37 - 52	6000	1.3	2.9	168	26	11	23	10	1/4	78	8431 0369 40	
EP12XS HR13	M12	1/2	65 - 110	48 - 81	4500	1.6	3.5	178	29	12	25	10	1/4	79	8431 0371 00	
EP14XS HR13	M14	1/2	110 - 160	81 - 118	3500	2.4	5.3	188	34	14	30	13	3/8	79	8431 0371 50	
EP16XS HR20	M16	3/4	160 - 240	118 - 177	2800	3.3	7.3	205	37	15	32	13	3/8	81	8431 0371 55	
EP20XS HR20	M20	3/4	300 - 400	221 - 295	3700	5.1	11.2	240	43	16	34	13	3/8	80	8431 0371 60	

<sup>a</sup> To be used as a guide only, final torque depends on type of joint, accessories used and air pressure.

<sup>b</sup> When exhaust hose is used.

<sup>c</sup> Female hexagon drive. Quick change chuck.

<sup>d</sup> Torque is adjusted by regulating the air pressure.

### SELECTED SERVICE KITS

The spare parts included in the service kits cover a normal overhaul of your tool. Always have them available for a fast and economical repair.

Main parts included:

- Vane kit
- Motor bearings
- Gaskets
- O-rings
- Circlips
- Pins etc.

Model	O-ring kit pulse unit	Service kit	Model	O-ring kit pulse unit	Service kit
EP5C/6C SR		4081 0110 90	EP7PTX HR	4250 2058 90	4081 0122 90
EP10C HR		4081 0115 90	EP8PTX HR	4250 2267 91	4081 0279 90
EP5XS	4210 2532 93	4081 0264 90	EP9PTX HR	4250 2058 90	4081 0122 90
EP6/7XS HR	4250 2084 90	4081 0188 90	EP11PTX HR	4250 2267 95	4081 0310 90
EP6/7XS SR	4250 2084 90	4081 0189 90	EP5/6PT HR	4250 2058 90	4081 0122 90
EP6PS HR	4250 2058 91	4081 0274 90	EP5/6PT SR	4250 2058 90	4081 0123 90
EP8XS HR	4250 2085 90	4081 0119 90	EP7/8PT HR	4250 2059 90	4081 0120 90
EP8XS SR	4250 2085 90	4081 0190 90	EP7/8PT SR	4250 2059 90	4081 0198 90
EP10XS HR	4250 2086 90	4081 0191 90	EP10PT HR	4250 2060 90	4081 0124 90
EP12XS HR	4250 2087 90	4081 0192 90	EP12PT HR	4250 2061 90	4081 0125 90
EP14XS HR	4250 2170 90	4081 0200 90	EP5/6PTS HR	4250 2058 90	4081 0122 90
EP16XS HR	4250 2281 90	4081 0223 90	EP7/8PTS HR	4250 2267 91	4081 0225 90
EP20XS HR	4250 2281 91	4081 0245 90	EP10PTS HR	4250 2267 90	4081 0222 90
EP4PTX HR	4250 2058 90	4081 0122 90	EP12PTS HR	4250 2267 92	4081 0226 90
EP5/6PTX HR	4250 2058 90	4081 0122 90	EP14PTS HR	4250 2267 93	4081 0242 90
			EP18PTS HR	4250 2267 94	4081 0256 90

Oil filling kit (150 ml oil, syringe) 4081 0121 90

For complete information, see spare parts list.

# HYDRAULIC IMPULSE NUTRUNNERS

## ErgoPulse – Accessories

### Extensions

Available for ErgoPulse models	Square drive in	Diameter of outgoing spindle		Length mm	Marking	Ordering No.
		mm	in			
6-8XS and 5-8PT/PTS/PTX	3/8	13	100	EP10-13-100	4023 3600 00	
	3/8	13	150	EP10-13-150	4023 3601 00	
	3/8	13	200	EP10-13-200	4023 3611 00	
	3/8	13	250	EP10-13-250	4023 3612 00	
	3/8	13	300	EP10-13-300	4023 3613 00	
10C and 10-12XS	1/2	16	100	EP13-16-100	4023 3602 00	
	1/2	16	150	EP13-16-150	4023 3603 00	
	1/2	16	200	EP13-16-200	4023 3604 00	
	1/2	16	250	EP13-16-250	4023 3614 00	
	1/2	16	300	EP13-16-300	4023 3615 00	
14XS, 9-11PTX and 10-12PT/PTS	1/2	18	100	EP13-18-100	4023 3605 00	
	1/2	18	150	EP13-18-150	4023 3606 00	
	1/2	18	200	EP13-18-200	4023 3607 00	
	1/2	18	250	EP13-18-250	4023 3616 00	
	1/2	18	300	EP13-18-300	4023 3617 00	
16XS/20XS and 14PTS/18PTS	3/4	25	100	EP20-25-100	4023 3608 00	
	3/4	25	150	EP20-25-150	4023 3609 00	
	3/4	25	200	EP20-25-200	4023 3610 00	
	3/4	25	250	EP20-25-250	4023 3618 00	
	3/4	25	300	EP20-25-300	4023 3619 00	

### Sockets

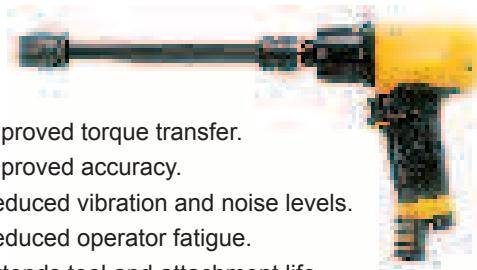
Available for ErgoPulse models	Square drive in	Width across flats mm/in	Diameter of outgoing spindle		Marking	Ordering No.
			mm	in		
<b>Metric sockets</b>						
6-8XS and 5-8PT/PTS/PTX	3/8	10	13	EP10-13	4026 4210 00	
	3/8	13	13	EP13-13	4026 4213 00	
	3/8	16	13	EP16-13	4026 4216 00	
	3/8	17	13	EP17-13	4026 4217 00	
	3/8	18	13	EP18-13	4026 4218 00	
14XS, 9-11PTX and 10-12PT/PTS	1/2	13	18	EP13-18	4026 4313 00	
	1/2	16	18	EP16-18	4026 4316 00	
	1/2	17	18	EP17-18	4026 4317 00	
	1/2	18	18	EP18-18	4026 4318 00	
	1/2	24	18	EP24-18	4026 4324 00	
16XS/20XS and 14PTS/18PTS	3/4	18	25	EP18-25	4026 4418 00	
	3/4	24	25	EP24-25	4026 4424 00	
	3/4	30	25	EP30-25	4026 4430 00	
<b>UNC/UNF-sockets</b>						
6-8XS and 5-8PT/PTS/PTX	3/8	7/16	13	EP7/16-13	4026 4211 00	
	3/8	1/2	13	EP1/2-13	4026 4212 00	
	3/8	9/16	13	EP9/16-13	4026 4214 00	
	3/8	3/4	13	EP3/4-13	4026 4219 00	
14XS, 9-11PTX and 10-12PT/PTS	1/2	1/2	18	EP1/2-18	4026 4312 00	
	1/2	9/16	18	EP9/16-18	4026 4314 00	
	1/2	3/4	18	EP3/4-18	4026 4319 00	
	1/2	15/16	18	EP15/16-18	4026 4323 00	
16XS/20XS and 14PTS/18PTS	3/4	3/4	25	EP3/4-25	4026 4419 00	
	3/4	15/16	25	EP15/16-25	4026 4423 00	
	3/4	11/8	25	EP11/8-25	4026 4429 00	

### Quick change chuck for power tools

Available for ErgoPulse models	Square drive in	Female hex in	Diameter of outgoing spindle		Marking	Ordering No.
			mm	in		
6-8XS and 5-8PT/PTS/PTX	3/8	1/4	13	EP3/8-1/4-13	4026 4501 00	
	3/8	7/16	13	EP3/8-7/16-13	4026 4502 00	
10/14XS, 9-11PTX and 10-12PT/PTS	1/2	7/16	18	EP1/2-7/16-18	4026 4503 00	

### GUIDED SOCKETS AND EXTENSIONS

Specially designed for ErgoPulse nutrunners, Atlas Copco guided sockets and extensions provide deep engagement over the anvil bringing tool and attachment together as "one unit". They give quality, ergonomic and cost saving benefits.



- Improved torque transfer.
- Improved accuracy.
- Reduced vibration and noise levels.
- Reduced operator fatigue.
- Extends tool and attachment life.

### OPTIONAL ACCESSORIES

Pistol grip models	Protective cover	Support handle
EP6/7XS HR	4250 2089 00	
EP8XS HRX	4250 1895 00	
EP10XS HR	4250 1784 00	
EP12XS HR	4250 2459 00	
EP14XS HR	4250 2160 00	
EP16XS HR	4250 2282 00	
EP20XS HR	4250 2288 00	
EP4/5/6 PTX HR	4250 2465 00	
EP7/8PTX HR	4250 2466 00	
EP9PTX HR	4250 2467 00	
EP5/6PT/PTS HR	4250 2393 00	
EP7/8PT/PTS HR	4250 1784 00	
EP10PT/PTS HR	4250 1743 00	
EP12PT/PTS HR	4250 1858 00	
EP14PTS HR	4250 2228 00	4250 2396 91 Included
EP18PTS HR	4250 2319 00	4250 2396 90

For complete information, see spare parts list.

# SCREWDRIVERS

## Ergonomic tools improve productivity

All Atlas Copco screwdrivers are designed with ergonomics in mind. Our philosophy is simple: each job shall be performed with a minimum of effort and a minimum amount of strain on the operator. By reducing the physical load and noise level, the operator will be less tired and this improves productivity.

The main benefits are:

- **High torque accuracy.**
- **Lower sound level** reduces fatigue.
- **Optimum grip and fast clutch** give minimum reaction force.
- **Ergonomic handle shape** reduces operator strain.

### Lubrication-free

Atlas Copco screwdrivers are lubrication-free which offers following benefits:

- **Pollution-free** exhaust air contributes to better working environment.
- **No oil contamination** on critical components.
- No air line lubrication **saves installation costs** and reduces air line inspection and maintenance.

### A complete range

Our pneumatic screwdrivers are named LUM, TWIST, LUF and LUD for pistol and straight models and LTV and TWIST VR for angle models. The battery screwdrivers ETB and BTV are also presented here for easy reference.

**LUM and LTV** models have a fast and accurate shut-off clutch for smooth performance and high quality tightening. They are the ideal tools for joints with high torque accuracy demands.

**TWIST/LUF HR** screwdrivers have a slip clutch, implying a pulsating force when the torque level is reached. These tools are suitable for soft joints or when the torque level may temporarily rise during the homing phase, for instance when using sheet metal screws, wood screws or self-tapping screws.

**LUD/LUF HRD** are direct drive screwdrivers that stall when final torque is reached. The torque level is adjusted by regulating the air pressure. LUD and LUF HRD are mainly used for self drilling and wood screws.

**ELIZA** is the family name of our low-voltage electric screwdrivers. These are available in four basic models covering needs for joints in the range from 0.03 to 3.5 Nm.

**ETB/BTV** battery screwdrivers combine the accurate and operator friendly performance of our famous mechanical shut-off clutch design and the most advanced battery tool technique. They offer air hose and cable free operation with industrial precision and service life. The range includes pistol grip models and angle head screwdrivers.



### Multiple air inlets and air on top

The HRF tool models is an excellent example of how Atlas Copco puts ergonomics and the operator's environment in focus in order to reduce operator strain.

**HRF** – Means that the air supply is done from the top of the tool (25 HRF) or that the tool has multiple air inlets (12 HRF) out of which from the top is one available option. These pistol grip configurations optimize operator comfort and productivity in applications where the air supply is best done from above the assembly line, or when space requirements in the application requires a different air supply configuration.

### ESD – Electrostatic discharge

All straight screwdrivers and LTV009 angle models are ESD approved. 12 and 22 pistol models can be made ESD approved with an optional pistol grip handle. Make sure to use a conductive air hose in the installation.

**Reporting, RE-versions with air signals**  
LUM screwdrivers are also available in RE-versions for process control. The RE-tools supply an air signal that can be connected to a controller to count the number of tightenings and to detect premature shut-off and rehits. One signal port in the back of the tool ensures maximum durability and ergonomics.

For electric and battery screwdrivers, see page 71-78.

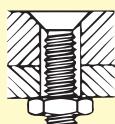
# SCREWDRIVERS

## Selection guide

### SCREW TYPE

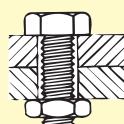
#### Machine screw 4.8

Property class 4.8 normal for cross recessed and slotted screws



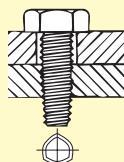
#### Machine screw 8.8

Property class 8.8 normal for hexagon, Allen head and Torx®. Locking nut with plastic insert, increase torque 10%, mechanical-lock nut, increase torque 20%



#### Thread rolling screw-M

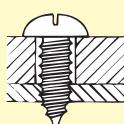
Property class between 8.8 and 10.9 due to case hardening. Taprite® and Swageform are examples



#### Thread forming screw-ST



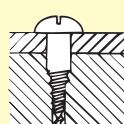
#### Thread forming screw-ST for plastic



#### Self drilling screw-ST



#### Wood screw



### SCREWDRIVER

	<b>Ø Screw size</b>	<b>M1.6</b>	<b>M2</b>	<b>M2.5</b>	<b>M3</b>	<b>M3.5</b>	<b>M4</b>	<b>M5</b>	<b>M6</b>
Machine screw 4.8	Torque Nm/in lb	0.09/0.8	0.2/1.8	0.4/3.5	0.6/5.3	1.0/8.8	1.4/12.4	2.9/25.7	4.9/43.4
Machine screw 8.8	Torque Nm/in lb	0.2/1.8	0.4/3.5	0.7/6.2	1.2/10.6	1.9/16.8	2.9/25.7	4.3/38.1	5.7/50.4
Thread rolling screw-M	Torque Nm/in lb	0.5/4.4			1.4/12.4		3.2/28.3	6.5/57.5	11.0/97.3
Thread forming screw-ST	Torque Nm/in lb	0.3/2.7	1.0/8.8	1.8/15.9	2.9/25.7	4.2/37.2	6.7/59.3	9.1/80.5	
Thread forming screw-ST for plastic	Torque Nm/in lb	0.3/2.7	1.0/8.8	1.8/15.9	2.9/25.7	4.2/37.2	6.7/59.3	9.1/80.5	
Self drilling screw-ST	Torque Nm/in lb	0.3/2.7	1.0/8.8	1.8/15.9	2.9/25.7	4.2/37.2	6.7/59.3	9.1/80.5	
Wood screw	Torque Nm/in lb	1.5/13.3	3/26.5	5/44.2	7.5/66.4		12/106.2		
	Recommended tool								
Machine screw 4.8									
Machine screw 8.8									
Thread rolling screw-M									
Thread forming screw-ST									
Thread forming screw-ST for plastic									
Self drilling screw-ST									
Wood screw									

Shut-off clutch

ErgoPulse

Slip clutch

Direct drive



With optional coupling-ring.

Ordering No. 4210 2316 01



With optional spring.

4210 1831 00

# SCREWDRIVERS

## Pistol grip models – Air shut-off control

**Screw size** M2.2 – M6

**Torque range** 0.4 – 12.5 Nm

Shut off tools are the best choice for machine screws, thread rolling screws and threads forming screws for plastic.

- **More reliable joints** – The LUM shut-off mechanism means accurate tightening, time after time, independent of variations in joint stiffness.
- **Low reaction force** – Rapid clutch with air shut-off reduces the reaction force on the wrist.
- **Low sound levels** – The housing with patented silencer gives a low sound level.
- **All models designed for maximum operator comfort** – The HR can be used with high grip when feed force is needed or with low grip for minimal reaction force. HRX models are perfectly balanced for standard pistol grip applications.
- **Lubrication-free**. Oil free exhaust. Easy installation.

• **HRF** – Means that the air supply is done from the top of the tool (LUM25 HRF) or that the tool has multiple air inlets (LUM12 HRF) out of which from the top is one available option. These pistol grip configurations optimize operator comfort and productivity in applications where the air supply is best done from above the assembly line, or when space requirements in the application requires a different air supply configuration.

• **The new LUM12 and 22 series** both feature compact design, low weight combined with power and speed comparable to larger sized tools. High accuracy and torque repeatability combined with durability are always core features for Atlas Copco's pneumatic screwdrivers.

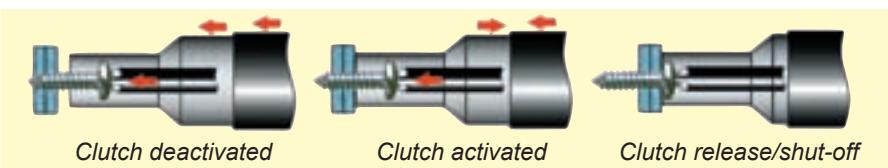


- **RE-reporting** – LUM pistol tools are available in RE-reporting version for process controll, either as a separate tool model or as a regular tool in combination with an RE-kit.

### LUM SM – for sheet metal screws

When tightening screws in sheet metal you might need a high torque to produce the threads in the metal and low final

torque. LUM SM runs the screw down at maximum torque with the clutch deactivated. Towards the end of the tightening the shut-off clutch is automatically activated. The clutch then releases at the desired torque. The front nose is modified to fit different applications and screw types.



Model	Torque range Soft joint		Free speed r/min	Air consumption at free speed		Sound level dB(A)	Weight		Length mm	Air inlet thread in	Distance centre to side mm	Ordering No.		
	Nm	in lb		l/s	cfm		kg	lb						
<b>Pistol grip models with trigger start</b>														
LUM22 HR3	0.6-	3	5.3-	26.5	2200	7.5	16	73	0.85	1.9	186	1/4	18	8431 0269 00
LUM22 HR3-RE	0.6-	3	5.3-	26.5	2200	7.5	16	73	0.85	1.9	186	1/4	18	8431 0278 63
LUM22 HR4	0.6-	4	5.3-	35.4	1650	7.5	16	73	0.85	1.9	186	1/4	18	8431 0269 02*
LUM22 HR4-RE	0.6-	4	5.3-	35.4	1650	7.5	16	73	0.85	1.9	186	1/4	18	8431 0278 65
LUM22 HR6	1.5-	6.5	13.3-	57.5	1150	7.5	16	73	0.85	1.9	186	1/4	18	8431 0269 01
LUM22 HR6-RE	1.5-	6.5	13.3-	57.5	1150	7.5	16	73	0.85	1.9	186	1/4	18	8431 0278 64*
LUM22 HR10	3.5-	10	31-	88.5	750	7.5	16	74	1	2.2	218	1/4	18	8431 0269 03
LUM22 HR10-RE	3.5-	10	31-	88.5	750	7.5	16	74	1	2.2	218	1/4	18	8431 0278 66
LUM22 HR12	3.5-	12.5	31-	110.6	500	7.5	16	73	1	2.2	210	1/4	18	8431 0269 04*
LUM22 HR12-370	3.5-	12.5	31-	110.6	370	7.5	16	73	1	2.2	210	1/4	18	8431 0269 05
LUM22 HR12-RE	3.5-	12.5	31-	110.6	500	7.5	16	73	1	2.2	210	1/4	18	8431 0278 67
<b>Pistol grip models with trigger and push start</b>														
LUM22 HR3-P	0.6-	3	5.3-	26.5	2200	7.5	16	74	0.85	1.9	186	1/4	21	8431 0269 06
LUM22 HR4-P	0.6-	4	5.3-	35.4	1650	7.5	16	74	0.85	1.9	186	1/4	21	8431 0269 08*
LUM22 HR6-P	1.5-	6.5	13.3-	57.5	1150	7.5	16	74	0.85	1.9	186	1/4	21	8431 0269 07*
LUM22 HR10-P	3.5-	10	31-	88.5	750	7.5	16	74	1	2.2	218	1/4	21	8431 0269 09
LUM22 HR12-P	3.5-	12.5	31-	110.6	500	7.5	16	74	1	2.2	210	1/4	21	8431 0269 10*
LUM22 HR12-370-P	3.5-	12.5	31-	110.6	370	7.5	16	74	1	2.2	210	1/4	21	8431 0269 11

# SCREWDRIVERS

## Pistol grip models – Air shut-off control

Model	Torque range Soft joint		Air consumption at free speed				Weight		Length mm	Air inlet thread in	Dis- tance centre to side mm	Ordering No.	
	Nm	in lb	Free speed r/min	l/s	cfm	Sound level dB(A)	kg	lb					
<b>Balanced grip models with trigger start</b>													
LUM12 HRX1	0.6-	1.8	5.3- 15.9	2300	6	13	73	0.65	1.4	176	1/8	15	8431 0278 58
LUM12 HRX1-RE	0.6-	1.8	5.3- 15.9	2300	6	13	73	0.65	1.4	176	1/8	16	8431 0278 59
LUM12 HRX2	0.6-	2.5	5.3- 22.1	1650	6	13	73	0.65	1.4	176	1/8	16	8431 0278 56
LUM12 HRX2-RE	0.6-	2.5	5.3- 22.1	1650	6	13	73	0.65	1.4	176	1/8	16	8431 0278 57
LUM12 HRX3	0.4-	3.5	5.3- 31.9	1150	6	13	73	0.7	1.5	186	1/8	16	8431 0278 54*
LUM12 HRX3-RE	0.4-	3.5	3.5- 31.9	1150	6	13	73	0.7	1.5	186	1/8	16	8431 0278 55
LUM12 HRX5	0.4-	5	3.5- 44.2	850	6	13	73	0.7	1.5	186	1/8	16	8431 0278 51*
LUM12 HRX5-RE	0.4-	5	3.5- 44.2	850	6	13	73	0.7	1.5	186	1/8	16	8431 0278 53
LUM12 HRX5-170	0.4-	5	3.5- 44.2	170	6	13	73	0.7	1.5	196	1/8	16	8431 0278 47
LUM12 HRX5-350	0.4-	5	3.5- 44.2	350	6	13	73	0.7	1.5	186	1/8	16	8431 0278 48
LUM12 HRX5-350-RE	0.4-	5	3.5- 44.2	350	6	13	73	0.7	1.5	186	1/8	16	8431 0278 49
LUM12 HRX8	1.5-	8	13.3- 70.8	500	6	13	73	0.7	1.5	186	1/8	16	8431 0278 60*
LUM12 HRX8-RE	1.5-	8	13.3- 70.8	500	6	13	73	0.7	1.5	186	1/8	16	8431 0278 61
LUM12 HRX8-50	1.5-	8	13.3- 70.8	50	6	13	73	0.7	1.5	196	1/8	16	8431 0280 25
LUM12 HRX8-110	1.5-	8	13.3- 70.8	110	6	13	73	0.7	1.5	196	1/8	16	8431 0280 27
LUM22 HRX2	1.2-	2 <sup>a</sup>	10.6- 17.7	4500	9	19	74	0.9	2	187	1/4	18	8431 0269 29
LUM22 HRX2-3200	1.1-	2.6 <sup>a</sup>	9.7- 23	3200	9	19	74	0.9	2	187	1/4	18	8431 0278 85
LUM22 HRX3	0.6-	3 <sup>a</sup>	5.3- 26.5	2250	9	19	74	0.9	2	187	1/4	18	8431 0269 22
LUM22 HRX3-RE	0.6-	3 <sup>a</sup>	5.3- 26.5	2250	9	19	74	0.9	2	187	1/4	18	8431 0278 70
LUM22 HRX4	0.6-	4 <sup>a</sup>	5.3- 35.4	1650	9	19	74	0.9	2	187	1/4	18	8431 0269 20*
LUM22 HRX6	1.5-	6.5 <sup>a</sup>	13.3- 57.5	1100	9	19	74	0.95	2.1	197	1/4	18	8431 0269 21*
LUM22 HRX6-RE	1.5-	6.5 <sup>a</sup>	13.3- 57.5	1100	9	19	74	0.95	2.1	197	1/4	18	8431 0278 71
LUM22 HRX10	3.5-	10 <sup>a</sup>	31- 88.5	800	9	19	74	1.1	2.4	219	1/4	18	8431 0269 23*
LUM22 HRX10-RE	3.5-	10 <sup>a</sup>	31- 88.5	800	9	19	74	1.1	2.4	219	1/4	18	8431 0278 73
LUM22 HRX11-220	3.5-12.5 <sup>a</sup>	31-110.6	220	9	19	74	1.15	2.5	229	1/4	18	8431 0282 20	
LUM22 HRX12	3.5-12.5 <sup>a</sup>	31-110.6	500	9	19	74	1.1	2.4	211	1/4	18	8431 0269 24*	
LUM22 HRX12-RE	3.5-12.5 <sup>a</sup>	31-110.6	500	9	19	74	1.1	2.4	211	1/4	18	8431 0278 74	
LUM22 HRX12-50	3.5-12.5 <sup>a</sup>	31-110.6	50	9	19	74	1.15	2.5	229	1/4	18	8431 0280 26	
LUM22 HRX12-120	3.5-12.5 <sup>a</sup>	31-110.6	120	9	19	74	1.15	2.5	229	1/4	18	8431 0280 28	
LUM22 HRX12-370	3.5-12.5 <sup>a</sup>	31-110.6	370	9	19	74	1.1	2.4	211	1/4	18	8431 0269 25	
LUM22 HRX12-370-RE	3.5-12.5 <sup>a</sup>	31-110.6	370	9	19	74	1.1	2.4	211	1/4	18	8431 0278 75	
<b>Multiple air inlet models and air on-top models with trigger start</b>													
LUM12 HRF1	0.6-	1.8	5.3- 15.9	2300	6	13	73	0.65	1.4	190	1/8	16	8431 0269 30
LUM12 HRF2	0.6-	2.5	5.3- 22.1	1650	6	13	73	0.65	1.4	190	1/8	16	8431 0269 31
LUM12 HRF3	0.4-	3.6	3.5- 31.9	1150	6	13	73	0.7	1.5	200	1/8	16	8431 0269 32*
LUM12 HRF5	0.4-	5	3.5- 44.2	850	6	13	73	0.7	1.5	200	1/8	16	8431 0269 33*
LUM12 HRF8	1.5-	8	13.3- 70.8	500	6	13	73	0.7	1.5	200	1/8	16	8431 0269 34*
LUM25 HRF11-U	3.5-	5.5 <sup>a</sup>	31- 49	1100	6	13	73	1.2	2.6	226	1/4	26	8431 0249 09
LUM25 HRF08-U-RE	3.5-	7.5 <sup>a</sup>	31- 66	800	6	13	73	1.2	2.6	226	1/4	26	8431 0264 98
LUM25 HRF08-U	3.5-	7.5 <sup>a</sup>	31- 66	800	6	13	73	1.2	2.6	226	1/4	26	8431 0249 07*
LUM25 HRF05-U-RE	3.5-12.0 <sup>a</sup>	31- 110	500	6	13	73	1.2	2.6	226	1/4	26	8431 0264 96	
LUM25 HRF05-U	3.5-12.0 <sup>a</sup>	31- 110	500	6	13	73	1.2	2.6	226	1/4	26	8431 0249 05*	
<b>Sheet metal screwdrivers with trigger start</b>													
LUM22 HR4-SM	0.5-	4.5	4.4- 40	800	7.5	16	73	0.85	1.9	186	1/4	18	8431 0267 52*
LUM22 HR12-SM	3.5-	12.5	31-110.6	500	7.5	16	73	1.0	2.2	210	1/4	18	8431 0249 52*

<sup>a</sup> 1.4-4 Nm with spring, Ordering No. 4210 1831 00.

\* Basic tools of the range, cover most needs.

Recommended hose size mm: LUM10/12/21 = 6, LUM22/25 = 8, LUM22 HR/HRX10 = 10  
ESD approved: LUM12/LUM22.

**All models:** Are reversible and have quick change chuck.

All data at an air pressure of 6.3 bar.

For operator comfort support handle is recommended for high torque, see Optional Accessories.

### ACCESSORIES INCLUDED

Page 36

### OPTIONAL ACCESSORIES

Page 36



### SELECTED SERVICE KITS

Page 36

# SCREWDRIVERS

## Straight models – Air shut-off control

**Screw size**

M1.6 – M6

**Torque range**

0.1 – 12.5 Nm

- **More reliable joints** – The LUM shut-off mechanism means accurate tightening, time after time, independent of variations in joint stiffness.
- **Low reaction force** – Rapid clutch with air shut-off reduces the reaction force on the wrist.
- **Low sound levels** – Thanks to non resonating plastics and soft grips, patented silencer and exhaust hose.
- **Operator comfort** – Correct grip diameter and a comfortable grip surface are key elements to a truly ergonomic design that will reduce reaction forces on the operator, reduce fatigue and eliminate cold hands.
- **The LUM12 and LUM22** both offer very high power and speed for their size combined with the most ergonomic design in the market with the new soft grip handle and the ergo-push collar to facilitate the push motion.
- **RE-reporting** – All LUM straight screwdrivers with lever start can be supplied in reporting, -RE, versions or can be converted locally. (See page 36 for conversion kits).



### START OPTIONS



#### Push start

Common for straight tools on assembly lines. The tool starts when you push the bit towards the screw. Minimizes tightening time. Pistol grip tools with push-start have the combined function push and trigger start.



#### Reverse options

Straight screwdrivers with lever throttle have a ring for reverse operation. All push start models are equipped with push button for frequent and fast reversing.

#### Lever start

Recommended when a proper engagement between bit and screw head and/or screw and workpiece is essential before starting the operation.

### OPTIONAL ACCESSORIES

Clutch housing metal for LUM21 SR/PR for fixtured applications.

Ordering No. 4210 2933 82



### ACCESSORIES INCLUDED

Page 36

### OPTIONAL ACCESSORIES

Page 36



### SELECTED SERVICE KITS

Page 36

# SCREWDRIVERS

## Straight models – Air shut-off control

Model	Torque range Soft joint		Free speed r/min	Air con- sumption at free speed		Sound level dB(A)	Weight kg lb	Length mm	Air inlet thread in	Distance centre to side mm	Ordering No.	
	Nm	in lb		l/s	cfm							
<b>Straight models with push start and button reverse</b>												
LUM10 PR03	0.1- 1.5	0.8- 13	300	3	6	66	0.4 0.9	206	1/8	15	8431 0146 05*	
LUM10 PR05	0.1- 1.5	0.8- 13	460	3	6	66	0.4 0.9	206	1/8	15	8431 0146 09*	
LUM10 PR12	0.1- 1.1	0.8- 10	1200	3	6	66	0.4 0.9	196	1/8	15	8431 0146 17*	
LUM10 PR21	0.1- 0.7	0.8- 6	2000	3	6	67	0.4 0.9	196	1/8	15	8431 0146 25	
LUM12 PR1	0.6- 1.6	5.3- 14.2	1900	4.5	10	76	0.55 1.2	195	1/8	15	8431 0278 29	
LUM12 PR2	0.4- 2.3	3.5- 20.4	1450	4.5	10	76	0.55 1.2	195	1/8	15	8431 0278 27*	
LUM12 PR3	0.4- 3.2	3.5- 28.3	1000	4.5	10	76	0.55 1.2	195	1/8	15	8431 0278 26*	
LUM12 PR4	0.4- 4.2	3.5- 37.2	750	4.5	10	76	0.55 1.2	195	1/8	15	8431 0278 25	
LUM12 PR5	0.4- 5	3.5- 44.2	450	4.5	10	76	0.55 1.2	195	1/8	15	8431 0278 30	
LUM21 PR04-P	0.5- 4.5	4.4- 40	320	4	8	70	0.7 1.5	239	1/8	18	8431 0277 02	
LUM21 PR07-P	0.5- 4.5	4.4- 40	700	4	8	70	0.7 1.5	239	1/8	18	8431 0277 00*	
LUM21 PR10-P	0.5- 3.2	4.4- 30	1000	4	8	71	0.7 1.5	239	1/8	18	8431 0277 08*	
LUM21 PR14-P	0.5- 2.4	4.4- 21	1400	4	8	71	0.7 1.5	239	1/8	18	8431 0277 14*	
LUM21 PR23-P	0.5- 1.5	4.4- 13	2200	4	8	69	0.7 1.5	239	1/8	18	8431 0277 20	
LUM22 PR2-3500	1.1	2.5	9.7- 22.1	3500	7	15	73	0.75 1.7	211	1/4	15	8431 0278 89
LUM22 PR3	0.6- 3.2	5.3- 28.3	2100	7	15	73	0.75 1.7	211	1/4	15	8431 0269 61	
LUM22 PR4	0.5- 4.0	4.4- 35.4	1600	7	15	73	0.75 1.7	211	1/4	15	8431 0269 55	
LUM22 PR4-2300	0.7- 4.5	5.9- 38.2	2300	7	15	73	0.75 1.7	211	1/4	15	8431 0278 81	
LUM22 PR5-350	0.4- 5.0	3.5- 44.2	350	7	15	73	0.75 1.7	211	1/4	15	8431 0269 60	
LUM22 PR6	1.5- 6.0	13.3- 53.1	1000	7	15	73	0.75 1.7	211	1/4	15	8431 0269 56*	
LUM22 PR8-1100	1.5- 8.0	13.3- 70.8	1100	7	15	73	0.9 2.0	224	1/4	15	8431 0278 88	
LUM22 PR10	3.5- 10.0	31- 88.5	700	7	15	76	0.95 2.1	232	1/4	15	8431 0269 58	
LUM22 PR12	3.5- 12.5	31-110.6	450	7	15	73	0.9 2.0	224	1/4	15	8431 0269 57*	
LUM22 PR12-350	3.5- 12.5	31-110.6	350	7	15	73	0.95 2.1	224	1/4	15	8431 0269 59	
LUM22 PR12-850	3.5- 12.0	31-106.2	850	8.5	15	73	1 2.2	246	1/4	15	8431 0278 80	
<b>Straight models with lever start and without push start</b>												
LUM12 SR1	0.6- 1.8	5.3- 15.9	2200	6	13	76	0.6 1.3	217	1/8	15	8431 0278 35	
LUM12 SR2	0.5- 2.5	4.4- 22.1	1700	6	13	76	0.6 1.3	217	1/8	15	8431 0278 34*	
LUM12 SR3	0.4- 3.5	3.5- 31	1200	6	13	76	0.6 1.3	217	1/8	15	8431 0278 33*	
LUM12 SR4	0.4- 4.5	3.5- 39.8	850	6	13	76	0.6 1.3	217	1/8	15	8431 0278 32	
LUM21 SR04-U	0.5- 4.5	4.4- 40	320	4	8	70	0.7 1.5	240	1/8	18	8431 0277 22	
LUM21 SR07-U	0.5- 4.5	4.4- 40	700	4	8	70	0.7 1.5	240	1/8	18	8431 0277 24*	
LUM21 SR07-U-RE	0.5- 4.5	4.4- 40	700	4	8	70	0.7 1.5	240	1/8	18	8431 0264 70	
LUM21 SR10-U	0.5- 3.2	4.4- 30	1000	4	8	71	0.7 1.5	240	1/8	18	8431 0277 28*	
LUM21 SR10-U-RE	0.5- 3.2	4.4- 30	1000	4	8	71	0.7 1.5	240	1/8	18	8431 0264 72	
LUM21 SR14-U	0.5- 2.4	4.4- 21	1400	4	8	71	0.7 1.5	240	1/8	18	8431 0277 30	
LUM21 SR23-U	0.5- 1.5	4.4- 13	2200	4	8	71	0.7 1.5	240	1/8	18	8431 0277 34	
LUM22 SR3	0.6- 3.2	5.3- 28.3	1950	7	15	72	0.8 1.8	239	1/4	16	8431 0269 44	
LUM22 SR4	0.6- 4	5.3- 35.4	1500	7	15	72	0.8 1.8	239	1/4	16	8431 0269 46	
LUM22 SR5-300	0.4- 5	3.5- 44.2	300	7	15	72	0.8 1.8	239	1/4	16	8431 0269 51	
LUM22 SR6	1.5- 6	13.3- 53.1	1000	7	15	72	0.85 1.9	239	1/4	16	8431 0269 47*	
LUM22 SR10	3.5- 10	31- 88.5	700	7	15	74	1 2.2	260	1/4	16	8431 0269 49	
LUM22 SR12	3.5-12.5	31-110.6	430	7	15	72	0.95 2.1	252	1/4	16	8431 0269 48*	
LUM22 SR12-300	3.5-12.5	31-110.6	300	7	15	72	1 2.2	252	1/4	16	8431 0269 50	
LUM37 SR36-U	1.5- 4.5	13.3- 40	3500	16	34	80	1.5 3.3	317	1/4	20	8431 0266 20	
LUM37 SR25-U	5.0- 7.5	44.2- 66	2500	16	34	80	1.6 3.5	338	1/4	20	8431 0266 15	
<b>Straight models for sheet metal applications</b>												
LUM21 SR07-U-SM <sup>abc</sup>	0.5- 4.5	4.4- 40	700	6	13	71	1.1 2.4	229	1/4	19	8431 0264 56	

<sup>a</sup> Front end 12.5 mm (4210 3918 01) included.

<sup>b</sup> Optional front end 21 mm (4210 3918 02).

<sup>c</sup> See page 28 for more information about SM models.

Recommended hose size mm: LUM10/12/21 = 6,  
LUM22 = 8, LUM37 = 10

\* Basic tools of the range, cover most needs.

ESD approved: LUM10/12/21/22 SR/PR

All models: Are reversible and have quick change chuck.

SR-models have ring reverse control.

PR-models have push button reverse.

### ACCESSORIES INCLUDED

Page 36

### OPTIONAL ACCESSORIES

Page 36



### SELECTED SERVICE KITS

Page 36

# SCREWDRIVERS

## Angle head models

Screw size M2.2 – M6

Torque range 0.4 – 15 Nm

- **Good accessibility** – The small size, slim design angle head provides for excellent access in limited spaces and awkward positions.
- **Shut off tools** are the best choice for machine screws, thread rolling screws and threads forming screws for plastic.
- **Safer joints** – The rapid mechanism in shut-off models means accurate tightening, time after time, independent of variations in joint stiffness.
- **High capacity** – Despite the small size, the angle screwdrivers have a high capacity and wearing properties to match the highest demands in industrial line production.
- **Less operator fatigue** – The balance and the slim design contribute to the ergonomic design and make the tools convenient to work with for maximum operator performance.
- **Lubrication-free**. Oil free exhaust. Easy installation.
- **The new LTV009** angle head screwdrivers, designed with focus on accessibility, ergonomics, ease of handling and highest productivity without sacrificing accuracy in tightening. The result is a series of screwdrivers with unmatched performance for its size.
- **RE-reporting** – Connection ports for reporting signal, -RE, are easily arranged on the angle screwdrivers with a conversion kit available as optional equipment (see page 36).



# SCREWDRIVERS

## Angle head models

Model	Torque range Soft joint		Free speed r/min	Air consump- tion at free speed		Sound level dB(A)	Weight		Length mm	Air inlet thread in	Angle head centre to side mm	Angle head height mm	Ordering No.
	Nm	in lb		l/s	cfm		kg	lb					
<b>Air shut-off control models</b>													
LTV009 R025-Q	0.6 - 2.5	5.3 - 22.1	1650	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 00
LTV009 R025-42	0.6 - 2.5	5.3 - 22.1	1650	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 01
LTV009 R025-6	0.6 - 2.5	5.3 - 22.1	1650	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 02
LTV009 R03-10	0.7 - 3	6.2 - 26.5	1400	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 23
LTV009 R035-Q	0.4 - 3.5	3.5 - 31	1100	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 03
LTV009 R035-42	0.4 - 3.5	3.5 - 31	1100	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 04
LTV009 R035-6	0.4 - 3.5	3.5 - 31	1100	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 05
LTV009 R05-Q	0.4 - 5	3.5 - 44.2	850	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 06
LTV009 R05-42	0.4 - 5	3.5 - 44.2	850	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 07
LTV009 R05-6	0.4 - 5	3.5 - 44.2	850	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 08
LTV009 R07-Q	1.1 - 7	9.7 - 61.9	500	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 09*
LTV009 R07-42	1.1 - 7	9.7 - 61.9	500	6	13	76	0.7	1.5	266	1/8	9	25	8431 0278 10*
LTV009 R07-6	1.1 - 7	9.7 - 61.9	500	6	13	76	0.7	1.5	266	1/8	11	28.5	8431 0278 11*
LTV009 R08-6-200	1.3 - 9	11.5 - 79.6	200	6	13	76	0.7	1.5	266	1/8	11	28.5	8431 0278 24*
LTV009 R09-Q	1.3 - 9	11.5 - 79.6	430	6	13	76	0.7	1.5	266	1/8	11	28.5	8431 0278 12
LTV009 R09-10	1.3 - 9	11.5 - 79.6	430	6	13	76	0.7	1.5	266	1/8	11	28.5	8431 0278 13
LTV009 R09-42	1.3 - 9	11.5 - 79.6	430	6	13	76	0.7	1.5	266	1/8	11	28.5	8431 0278 15
LTV009 R09-42M	1.3 - 9	11.5 - 79.6	430	6	13	76	0.7	1.5	266	1/8	11	28.5	8431 0278 16
LTV009 R09-6	1.3 - 9	11.5 - 79.6	430	6	13	76	0.7	1.5	266	1/8	11	28.5	8431 0278 17
LTV009 R11-Q	1.3 - 11	11.5 - 97.3	320	6	13	76	0.8	1.8	266	1/8	11	28.5	8431 0278 19*
LTV009 R11-10	1.3 - 11	11.5 - 97.3	320	6	13	76	0.8	1.8	266	1/8	11	28.5	8431 0278 20*
LTV009 R11-42	1.3 - 11	11.5 - 97.3	320	6	13	76	0.8	1.8	266	1/8	11	28.5	8431 0278 21*
LTV009 R11-6	1.3 - 11	11.5 - 97.3	320	6	13	76	0.8	1.8	266	1/8	11	28.5	8431 0278 22*
LTV008 R09-10-220	1.3 - 9	11.5 - 79.6	220	6	13	76	0.8	1.8	285	1/8	11	28.5	8431 0281 39
LTV008 R09-6-70	1.3 - 9	11.5 - 79.6	70	6	13	76	0.8	1.8	285	1/8	11	28.5	8431 0281 46
LTV008 R11-6-100	1.3 - 11	11.5 - 97.3	100	6	13	76	0.8	1.8	285	1/8	11	28.5	8431 0280 29
LTV008 R11-6-50	1.3 - 11	11.5 - 97.3	50	6	13	76	0.8	1.8	285	1/8	11	28.5	8431 0280 30
LTV08 R03-6	0.5 - 3.2	4.4 - 26	1000	4	8	69	0.8	1.7	275	1/8	10	28.5	8431 0325 88
LTV08 R03-42	0.5 - 3.2	4.4 - 26	1000	4	8	69	0.8	1.7	275	1/8	10	28.5	8431 0325 84
LTV08 R03-Q	0.5 - 3.2	4.4 - 26	1000	4	8	69	0.8	1.7	275	1/8	10	28.5	8431 0325 92
LTV08 R05-6	0.5 - 4.5	4.4 - 39	700	4	8	69	0.8	1.7	275	1/8	10	28.5	8431 0325 78
LTV08 R05-42	0.5 - 4.5	4.4 - 39	700	4	8	69	0.8	1.7	275	1/8	10	28.5	8431 0325 74
LTV08 R05-Q	0.5 - 4.5	4.4 - 39	700	4	8	69	0.8	1.7	275	1/8	10	28.5	8431 0325 81
LTV18 R07-6	3.5 - 7	31 - 61	700	6	13	71	1.2	2.6	290	1/4	10	28.5	8431 0326 72*
LTV18 R07-42	3.5 - 7	31 - 61	700	6	13	71	1.2	2.6	290	1/4	10	28.5	8431 0326 61
LTV18 R07-Q	3.5 - 7	31 - 61	700	6	13	71	1.2	2.6	290	1/4	10	28.5	8431 0326 76
LTV18 R15-6	6.0 - 15	53 - 132	360	7	15	71	1.2	2.6	308	1/4	11	28	8431 0326 55
LTV18 R15-10	6.0 - 15	53 - 132	360	7	15	71	1.2	2.6	308	1/4	11	28	8431 0326 56*
LTV18 R15-42	6.0 - 15	53 - 132	360	7	15	71	1.2	2.6	308	1/4	11	28	8431 0326 54
LTV18 R15-Q	6.0 - 15	53 - 132	360	7	15	71	1.2	2.6	308	1/4	11	28	8431 0326 58
<b>Slip clutch models with 1/4" square drive</b>													
TWIST VR07-6	1.3 - 7.0	12 - 62	700	4	8	72	1.0	2.2	280	1/4	10	29	8431 0256 11*
TWIST VR13-6	2.0 - 6.0	18 - 53	1300	4	8	72	1.0	2.2	280	1/4	10	29	8431 0256 37
<b>Slip clutch models with 1/4" female hexagon drive</b>													
TWIST VR07-I6	1.3 - 7.0	12 - 62	700	4	8	72	1.0	2.2	280	1/4	10	29	8431 0256 03*
TWIST VR13-I6	2.0 - 6.0	18 - 53	1300	4	8	72	1.0	2.2	280	1/4	10	29	8431 0256 29

ESD approved: LTV008/009.

Recommended hose size mm: LTV009 = 6,  
LTW18/TWIST VR = 8

All models: Are reversible.

\* Basic tools of the range, cover most needs.

-42 = 1/4" female hexagon drive for bits.

-10 = 3/8" square drive.

-6 = 1/4" square drive for sockets.

-Q = 1/4" quick change chuck.

### ACCESSORIES INCLUDED

Page 36

### OPTIONAL ACCESSORIES

Page 36



### SELECTED SERVICE KITS

Page 36

# SCREWDRIVERS

## Slip-clutch

**Screw size** M1.6 – M6  
**Torque range** 0.1 – 17 Nm

The slip clutch tool is an excellent general purpose tool. It is a good choice for many wood or self-tapping applications where torque requirements are not consistent.

- **Flexible** – All models are reversible and designed for both left and right hand operations.
- **Fast tightening** – Fast rundown and tightening by the high speed/high torque combination.
- **All models designed for maximum operator comfort** – The HR can be used with high grip when feed force is needed or with low grip for minimal reaction force. HRX models are perfectly balanced for standard pistol grip applications.
- **Lubrication-free** – Oil free exhaust.
- **Easy installation.**



Model	Torque range Soft joint		Free speed r/min	Air consumption at free speed		Sound level dB(A)	Weight		Length mm	Air inlet thread in	Distance centre to side mm	Ordering No.
	Nm	in lb		l/s	cfm		kg	lb				
<b>Straight models with lever start</b>												
TWIST12 SR3	0.7 - 3.3	6.2 - 29.2	1650	6	13	76	0.65	1.4	225	1/8	15	8431 0278 44
TWIST12 SR4	0.5 - 4.2	4.4 - 37.2	1100	6	13	76	0.65	1.4	225	1/8	15	8431 0278 43*
TWIST22 SR6	1.5 - 6.0	13.3 - 53.1	1500	7	15	72	0.85	1.9	239	1/8	15	8431 0269 52
TWIST22 SR10	1.5-10.0	13.3-88.5	700	7	15	74	0.9	2.0	246	1/8	15	8431 0269 53*
<b>Straight models with push start</b>												
TWIST22 PR2	1.1 - 2.6	9.7 - 23	3200	7	15	73	0.75	1.7	242	1/4	15	8431 0278 93
TWIST22 PR7	1.5 - 7.5	13.3 - 66.4	1100	7	15	73	0.75	1.7	211	1/4	15	8431 0278 90
TWIST22 PR6	2.2 - 6.5	19.5 - 57.5	1600	7	15	73	0.75	1.7	211	1/4	15	8431 0278 91
TWIST22 PR4-2300	1.0 - 4.0	8.9 - 35.4	2300	7	15	73	0.75	1.7	242	1/4	15	8431 0278 92
<b>Pistol grip models with trigger and push start</b>												
TWIST12 HRX2	0.6 - 2.4	5.3 - 21.2	1650	6.5	14	73	0.65	1.4	176	1/8	15	8431 0278 40
TWIST12 HRX3	0.6 - 3.5	5.3 - 31.0	1150	6.5	14	73	0.65	1.4	186	1/8	15	8431 0278 39
TWIST12 HRX4	0.5 - 4.4	4.4 - 38.9	800	6.5	14	73	0.65	1.4	186	1/8	15	8431 0278 38*
TWIST22 HRX2-3200	1.1 - 2.6	9.7 - 23	3200	9	19	74	1.05	2.3	205	1/4	15	8431 0278 87
TWIST22 HRX7	1.5 - 7.5	13.3 - 66.4	1100	9	19	74	1.05	2.3	205	1/4	15	8431 0269 26
TWIST22 HRX10	1.5 - 10	13.3 - 88.5	750	9	19	74	1.1	2.4	205	1/4	15	8431 0269 27
TWIST22 HRX12	5 - 12	44.2 - 106.2	500	9	19	74	1.05	2.3	205	1/4	15	8431 0269 28
TWIST22 HR3	1.0 - 3.5	8.9 - 31	2100	8	17	73	0.95	2.1	195	1/4	15	8431 0278 86
TWIST22 HR6	2.2 - 6.5	19.5 - 57.5	1600	8	17	73	0.95	2.1	195	1/4	15	8431 0269 70
TWIST22 HR7	1.5 - 7.5	13.3 - 66.4	1150	8	17	73	0.95	2.1	195	1/4	15	8431 0269 14
TWIST22 HR10	1.5-10.0	13.3-88.5	750	8	17	74	1	2.2	205	1/4	15	8431 0269 15
TWIST22 HR12	5.0-12.0	44.2-106.2	500	8	17	73	1	2.2	195	1/4	15	8431 0269 16*
LUF34 HR04	3.0-17.0	27.0-150.0	440	9.5	19	79	1.4	3.1	265	1/4	21	8431 0311 05
LUF34 HR08	2.0-15.0	18.0-133.0	750	9.5	19	79	1.4	3.1	265	1/4	21	8431 0311 09*
LUF34 HR16	3.0-12.0	27.0-107.0	1600	9.5	19	79	1.4	3.1	265	1/4	21	8431 0311 17
<b>Multiple air inlet models (12) and air-on-top models with trigger start and push start</b>												
TWIST12 HRF3	0.6 - 3.5	5.3 - 31	1150	6	2.8	73	0.7	1.5	200	1/8	15	8431 0269 41
TWIST12 HRF4	0.5 - 4.4	4.4 - 38.9	850	6	2.8	73	0.7	1.5	200	1/8	15	8431 0269 40
TWIST HRF08 <sup>a</sup>	1.5 - 7.5	13.0 - 66.0	800	7	15	74	1.2	2.6	212	1/4	25	8431 0252 42
TWIST HRF16 <sup>a</sup>	2.2 - 6.5	20.0 - 58.0	1600	7	15	74	1.2	2.6	212	1/4	25	8431 0252 44*

Recommended hose size mm: TWIST12 = 6, LUF34 = 10, TWIST22 = 8

**All models:** Are reversible.

Female hexagon drive for bits: 1/4".  
 Have quick change chuck.

\* Basic tools of the range, cover most needs.

### ACCESSORIES INCLUDED

Page 36

### OPTIONAL ACCESSORIES

Page 36



### SELECTED SERVICE KITS

Page 36

# SCREWDRIVERS

## Direct drive

**Screw size** M3 – M8

**Torque range** 1.0 – 18 Nm

- **Direct drive tools** are well suited for self-tapping and self-drilling applications where torque requirements are not consistent.
- **Flexible** – All models are reversible and designed for both left and right hand operations.
- **Combination tools** – COMBI models including drill chuck, can be used for screwdriving, drilling and tapping.
- **Good accessibility** – The short length of the pistol grip models allow very good accessibility in limited spaces.
- **Lubrication-free** – Oil free exhaust. Easy installation.
- **All models designed for maximum operator comfort** – The HR can be used with high grip when feed force is needed or with low grip for minimal reaction force. HRX models are perfectly balanced for standard pistol grip applications.



Model	Torque range Soft joint		Free speed r/min	Air con- sumption at free speed		Sound level dB(A)	Weight		Length mm	Air inlet thread	Distance centre to side mm	Ordering No.
	Nm	in lb		l/s	cfm		kg	lb				
<b>Pistol grip models with trigger start. Direct drive</b>												
LUD12 HRX2	1 - 2.5	8.8 - 22.1	1600	6.5	3.1	73	0.5	1.1	115	1/8	16	8431 0278 77
LUD12 HRX5	2 - 5	17.7 - 44.2	850	6.5	3.1	73	0.5	1.1	125	1/8	16	8431 0278 78
LUD12 HRX8	3.5 - 8	31.0 - 70.8	500	6.5	3.1	73	0.5	1.1	125	1/8	16	8431 0278 79*
LUD22 HR3	1.5 - 5	13.3 - 24.8	3600	8	3.8	73	0.65	1.4	125	1/4	18	8431 0269 17
LUD22 HR5	2.8 - 5.5	24.8 - 48.7	1650	8	3.8	73	0.65	1.4	125	1/4	18	8431 0269 18
LUD22 HR12	5 - 12	44.2 - 106.2	750	8	3.8	74	0.75	1.7	143	1/4	18	8431 0269 19*
LUF34 HRD04	8.0 - 18.0	71 - 160	440	9	19	79	1.2	2.6	212	1/4	20	8431 0311 22*
LUF34 HRD08	8.0 - 11.0	71 - 97	750	9	19	79	1.2	2.6	212	1/4	20	8431 0311 24
LUF34 HRD16	4.0 - 8.0	35 - 71	1600	9	19	79	0.9	2.0	179	1/4	20	8431 0311 26
LUF34 HRD21	2.2 - 4.5	20 - 40	2000	9	19	79	0.9	2.0	179	1/4	20	8431 0311 28
<b>Reversible drill, tapper and screwdriver</b>												
COMBI24 HR08	5.0 - 10.0	44 - 89	800	7	15	75	1.1	2.4	240	1/4	20	8431 0255 61
COMBI24 HR16	2.7 - 5.7	24 - 50	1600	7	15	75	0.9	2.0	205	1/4	20	8431 0255 79
COMBI24 HR36	2.0 - 2.7	18 - 24	3600	7	15	75	0.9	2.0	205	1/4	20	8431 0255 88
COMBI34 HR04	8.0 - 18.0	71 - 160	400	9	19	79	1.5	3.3	228	1/4	20	8431 0311 32
COMBI34 HR08	8.0 - 11.0	71 - 97	750	9	19	79	1.3	2.9	218	1/4	20	8431 0311 34
COMBI34 HR16	4.0 - 8.0	35 - 71	1600	9	19	79	1.0	2.2	179	1/4	20	8431 0311 36

Recommended hose size mm: TWIST/LUD12/COMBI24 = 8, LUF34/COMBI34 = 10

\* Basic tools of the range, cover most needs.

**All models:** Are reversible.

Female hexagon drive for bits: 1/4" on pistol grip models.

Combi-tools are delivered with drill chuck and 1/4" female hex drive for bits.

Torque at min 3 bar and max 6 bar.

### ACCESSORIES INCLUDED

Page 36

### OPTIONAL ACCESSORIES

Page 36



### SELECTED SERVICE KITS

Page 36

# SCREWDRIVERS

## Accessories

### OPTIONAL ACCESSORIES



Designation	Exhaust hose	Support handle	ESD hose	Torque arms adapters	Installation proposal	ESD approved pistol handle
LUM12 HRX/HRF	4210 2052 00	4110 1355 92	8202 0501 06	—	8202 1180 67	4210 3616 04
LUM22 HR 3,4,6	4210 2052 00	4110 1355 92	8202 0501 10	—	8202 1180 77	4210 4337 04
LUM22 HR 10,12	4210 2052 00	4110 1355 93	8202 0501 10	—	8202 1180 77	4210 4337 04
LUM22 HRX 3,4,6	4210 2052 00	4110 1355 92	8202 0501 10	—	8202 1180 77	4210 3616 04
LUM22 HRX 10,12	4210 2052 00	4110 1355 93	8202 0501 10	—	8202 1180 77	4210 3616 04
LUM12 SR	4210 2052 00	—	8202 0501 06	4390 1735 52	8202 1180 67	—
LUM12 PR	4210 2052 00	—	8202 0501 06	4390 1735 53	8202 1180 67	—
LUM22 SR	4210 2053 00	—	8202 0501 10	4390 1735 51	8202 1180 77	—
LUM22 PR	4210 2053 00	—	8202 0501 10	4390 1735 54	8202 1180 77	—
LTV009	4210 2052 00	—	8202 0501 06	—	8202 1180 67	—
LUF34	4210 2053 00	4110 1355 82	8202 0501 10	—	8202 1180 77	—

### ACCESSORIES INCLUDED

#### Clutch adjustment key

Included with all shut-off and slip clutch tools



#### Quick change chuck

Included with all straight and pistol grip tools except LUF14



#### Suspension yoke

Included with all straight and pistol grip tools



#### Exhaust hose

Included with straight and air-on-top models



#### Hose nipple

Included with all tools



### OPTIONAL ACCESSORIES

#### Quick change chuck kit

Extra wide diameter for easy handling

Ordering No. 4210 2326 91



#### Angle-head for LTV009

90° hex drive magnetic bitholder, substitute for 4210 3857 XX angle heads

Ordering No. 4210 3857 91



#### Extended lever for LTV18

Ordering No. 4210 2306 02



### SELECTED SERVICE KITS

The spare parts included in the service kits cover a normal overhaul of your tool. Always have them available for a fast and economical repair.

Main parts included:

- Vane kit
- O-rings
- Motor bearings
- Circlips
- Gaskets
- Pins etc.



### OPTIONAL ACCESSORIES for LUM25 HRF models

	Ordering No.
Swivel, hose dia 8 mm	4210 3134 80
Handle small size	4210 3139 00
Hose reel balancer, HRIL 4	8202 0600 29

### OPTIONAL ACCESSORIES

Model	Ordering No.
<b>Threaded clutch houses</b>	
LUM12 PR/SR 1, 2, 3, 4	4210 4386 04
LUM12 HRX/HRF 1, 3, 5, 8	4210 4386 04
LUM22 HRX/HR 2, 3, 4, 6	4210 4386 04
LUM22 HRX/HR 10, 12	4210 4392 03
LUM22 SR/PR 3, 4, 5, 6	4210 4383 04
LUM22 SR/PR 10, 12	4210 4383 03
<b>Angle head covers</b>	
LTV009 R025-R07	4210 4115 00
LTV009 R08-R11	4210 4116 00

### Kits for screwdrivers

Model	Ordering No.
LUM12 HRX, HRF	4081 0247 90
LUM22 HR/HRX 3, 4, 6, 12	4081 0281 90
LUM22 HR/HRX 10	4081 0282 90
LUM12 SR	4081 0254 90
LUM12 PR	4081 0250 90
LUM22 PR/SR 3, 4, 6, 12	4081 0284 90
LUM22 PR/SR 10	4081 0285 90
LUM10 PR	4081 0070 90
LUM21 PR	4081 0071 90
LUM21 SR-U	4081 0072 90
LUM25 HRF	4080 0075 90
TWIST HRF	4080 0079 90
LUF34 HR	4080 0086 90
TWIST VR	4080 0078 90
LTV08	4080 0084 90
LTV009	4081 0248 90
LTV18	4080 0085 90

### RE-Conversion kits for LUM/LTV models

Model	Ordering No.
LUM12 HRF	4210 3624 99
LUM12 SR	4210 4137 90
LUM22 SR	4210 2057 80
LUM21 SR	4210 2912 92
LTV08	4210 4022 90
LTV009	4210 4137 90
LTV18	4210 4023 90

# NUTRUNNERS

## Power, speed, accuracy and complete easy handleness

An unbeatable combination of power, speed and accuracy are the main criterias for Atlas Copco's range of nutrunners.

Those criterias make the Atlas Copco nutrunners a unique choice:

- **Power** – A high power output in relation to weight and dimension is decisive for productivity, i.e. the combined performance of operator and tool.
- **Speed** – Atlas Copco nutrunners have speed optimised for every torque capacity rating.
- **Accuracy** – The constantly high accuracy, a matter of balance between speed and clutch response, decides torque repeatability independently of joint characteristics.
- **Ergonomics** – The low weight, thermally insulated grip and low noise and vibration levels are all factors that help to reduce operator fatigue. This raises individual performance and contributes to higher overall productivity in your plant.
- **Complete easy handleness** – Simplicity in selection and installation allows you to set the torque once and that is the torque you will get, joint after joint, without complicated analyses.

It is easy to choose the right tool – no joint is too complicated for a nutrunner. To set the torque – just adjust it to the required level, regardless of joint conditions.

Our wide range of nutrunners consists of the three main categories:



- Angle nutrunners
- Straight nutrunners
- Pistol grip nutrunners

These versions are also available in optional models such as torque monitored, crowfoot, Hold and Drive, Flush socket etc.



# ANGLE AND STRAIGHT NUTRUNNERS

## Shut-off type torque control

### Productivity and accuracy

#### Bolt capacity M2.5 – M22

Speed and accuracy – two key performance factors successfully combined in the LTV 8 and LTV 9 angle nutrunner range from Atlas Copco. Consistently accurate, high-speed tightening is complemented by advanced ergonomic design, ensuring a level of unmatched productivity. All this together in a tool that is very easy to handle.

Easy to choose, easy to set, easy to run. Nutrunners from Atlas Copco will help you solve your tightening problems.

- **Accurate every time** – the clutch shuts off at the same torque, tightening after tightening.
- **Hard or soft joint** – do not bother, the tool gives the torque you adjust it for, independent of joint variations.
- **Air pressure fluctuations** – The torque accuracy is unaffected by variations in air pressure and lubrications.
- **Highest productivity** – Instant disengagement of the clutch keeps torque over-shoot to a minimum even on the fastest tools. New models developed to meet the most extreme requirements on operational speeds.
- **Less operator fatigue** – Well balanced, slim and comfortable handle combined with extremely low reaction forces.
- **Reliability** – Certified for accuracy and durability by major car manufacturers.
- **Job verification** – For remote indication of clutch release function the tools can be equipped with air signal outlet – RE. Often used for counting the number of fasteners in a tightening cycle.
- **Electronic monitoring** – Most tools in the range can be equipped with integrated electronics for monitoring applications.



# ANGLE NUTRUNNERS

## Shut-off type torque control

### The LTV series

#### Bolt capacity M2.5 – M22

- Accurate** – The consistent clutch disengagement is your guarantee for a minimum of torque scatter.
- Low mean shift** – The adjustable mechanism in the shut-off clutch is not affected by variations in joint rate or air pressure.
- Extremely fast** – The unique clutch design allows you to select high speed models without compromising accuracy.
- Ergonomic and safe** – Most of the reaction is taken up by the inertia of the tool thanks to the rapid clutch shut-off.
- Serviceability** – The tools are built to last but are at the same time designed for easy, effective service and maintenance.
- Accessible and convenient** – Qualities offered by the lean and smooth exterior in combination with small size angle head and perfect balance. New small size angle head up to 15 Nm.



- ISO 5393 tested** – Many models certified by major car manufacturers.

- Cycle complete signal** – All tools are prepared for report function -RE.

See 66 for further information.

Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint		Free speed r/min	Weight		Length mm	Distance centre to side angle head mm	Angle head height mm	Recom- men- ded hose size mm	Air consump- tion at free speed l/s cfm	Sound level dB(A)	Ordering No.	
			Nm	ft lb		kg	lb								
<b>Torque control LTV, Reversible models</b>															
LTV08 R03-6	M2.5-M4	1/4	0.5 - 3	0.4- 2.2	1000	0.8	1.7	275	10	28.5	6.3	4	8	69	8431 0325 88
LTV08 R03-42	M2.5-M4	1/4 <sup>a</sup>	0.5 - 3	0.4- 2.2	1000	0.8	1.7	275	10	28.5	6.3	4	8	69	8431 0325 84
LTV08 R03-Q	M2.5-M5	1/4 <sup>b</sup>	0.5 - 3	0.4- 2.2	1000	0.8	1.7	275	10	28.5	6.3	4	8	69	8431 0325 92
LTV08 R05-6	M2.5-M4	1/4	0.5 - 4.5	0.4- 3.3	700	0.8	1.7	275	10	28.5	6.3	4	8	69	8431 0325 78
LTV08 R05-42	M2.5-M4	1/4 <sup>a</sup>	0.5 - 4.5	0.4- 3.3	700	0.8	1.7	275	10	28.5	6.3	4	8	69	8431 0325 74
LTV08 R05-Q	M2.5-M5	1/4 <sup>b</sup>	0.5 - 4.5	0.4- 3.3	700	0.8	1.7	275	10	28.5	6.3	4	8	69	8431 0325 81
LTV18 R07-6	M4-M5	1/4	3.5 - 7	2.6- 5	700	1.2	2.6	290	10	28.5	8	6	13	71	8431 0326 72
LTV18 R07-42	M4-M5	1/4 <sup>a</sup>	3.5 - 7	2.6- 5	700	1.2	2.6	290	10	28.5	8	6	13	71	8431 0326 61
LTV18 R07-Q	M4-M5	1/4 <sup>b</sup>	3.5 - 7	2.6- 5	700	1.2	2.6	290	10	28.5	8	6	13	71	8431 0326 76
LTV18 R15-6	M6	1/4	6 - 15	4- 11	360	1.2	2.6	308	11	28	8	6	13	71	8431 0326 55
LTV18 R15-10	M6	3/8	6 - 15	4- 11	360	1.2	2.6	308	11	28	8	6	13	71	8431 0326 56
LTV18 R15-42	M6	1/4 <sup>a</sup>	6 - 15	4- 11	360	1.2	2.6	308	11	28	8	6	13	71	8431 0326 54
LTV18 R15-Q	M6	1/4 <sup>b</sup>	6 - 15	4- 11	360	1.2	2.6	308	11	28	8	6	13	71	8431 0326 58
LTV28 R07-6	M5	1/4	2.5 - 7	1.8- 5	1100	1.3	2.9	334	10	28.5	8	8	17	76	8431 0601 65
LTV28 R07-42	M5	1/4 <sup>a</sup>	2.5 - 7	1.8- 5	1100	1.3	2.9	334	10	28.5	8	8	17	76	8431 0601 73
LTV28 R07-Q	M6	1/4 <sup>b</sup>	2.5 - 7	1.8- 5	1100	1.3	2.9	334	10	28.5	8	8	17	76	8431 0601 68
LTV28 R15-6	M6	1/4	7 - 15	5- 11	560	1.4	3.1	349	11	28	10	10	21	76	8431 0601 52
LTV28 R15-42	M6	1/4 <sup>a</sup>	7 - 15	5- 11	560	1.4	3.1	349	11	28	10	10	21	76	8431 0601 58
LTV28 R15-Q	M6	1/4 <sup>b</sup>	7 - 15	5- 11	560	1.4	3.1	349	11	28	10	10	21	76	8431 0601 53
LTV28 R15-10	M6	3/8	7 - 15	5- 11	560	1.4	3.1	349	11	28	10	10	21	76	8431 0601 55
LTV28 R20-10	M6	3/8	10 - 19	7- 15	530	1.4	3.1	355	13.5	34.5	10	10	21	76	8431 0601 50
LTV28 R20-42	M6	1/4 <sup>a</sup>	10 - 20	7- 15	420	1.4	3.1	350	13.5	34	10	10	21	76	8431 0601 48
LTV28 R28-10	M8	3/8	14 - 28	10- 21	340	1.4	3.1	350	13.5	29.5	10	10	21	76	8431 0601 40
LTV28 RL28-10	M8	3/8	14 - 28	10- 21	80	1.4	3.1	350	13.5	29.5	10	10	21	76	8431 0601 33
<b>Non-reversible models</b>															
LTV28 N11-6	M5-M6	1/4	5 - 11	4- 8	1250	1.2	2.6	305	11	28	10	11	23	76	8431 0600 06
LTV28 N11-42	M5-M6	1/4 <sup>a</sup>	5 - 11	4- 8	1250	1.2	2.6	305	11	28	10	11	23	76	8431 0600 17
LTV28 N11-Q	M5-M6	1/4 <sup>b</sup>	5 - 11	4- 8	1250	1.2	2.6	305	11	28	10	11	23	76	8431 0600 13
LTV28 N11-10	M5-M6	3/8	5 - 11	4- 8	1250	1.2	2.6	305	11	28	10	11	23	76	8431 0600 10
LTV28 N15-10	M6	3/8	7 - 15	5- 11	950	1.2	2.6	305	13.5	29.5	10	11	23	76	8431 0600 99
LTV28 N22-10	M6	3/8	11 - 22	8- 16	620	1.3	2.9	330	13.5	34.5	10	11	23	76	8431 0600 87
LTV28 N28-10	M8	3/8	14 - 28	10- 21	500	1.3	2.9	325	13.5	29.5	10	11	23	76	8431 0600 84
LTV28 N30-10	M8	3/8	15 - 30	11- 22	400	1.3	2.9	325	13.5	29.5	10	11	23	76	8431 0600 81

Air inlet thread in: LTV08 = 1/8, LTV18/28 = 1/4.

<sup>a</sup> Female hex drive.

<sup>b</sup> Quick change chuck.

### ACCESSORIES INCLUDED

Hose fitting

Clutch adjustment key

### OPTIONAL ACCESSORIES

Page 44



### SELECTED SERVICE KITS

Page 44

# ANGLE NUTRUNNERS

## Torque control

### LTV28XX series – for maximum productivity

Atlas Copco LTV28XX angle nutrunners are the perfect choice for high speed and good accuracy. These tools are designed for M6 and M8 screws and offer outstanding performance in lean production. The well proven motor provides high speed for maximum productivity. The mechanical clutch is unique of its kind, giving the accuracy you need.



Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint		Free speed r/min	Weight kg lb	Length mm	Distance centre to side angle head mm	Angle head height mm	Recom- mended hose size mm	Air consump- tion at free speed		Sound level dB(A)		
			Nm	ft lb							l/s	cfm			
<b>Reversible models</b>															
LTV28XX R15-6	M6	1/4	8 - 15	6 - 11	1000	1.5	3.3	378	11	28	10	16	34	80	8431 0531 76
LTV28XX R15-42	M6	1/4 <sup>a</sup>	8 - 15	6 - 11	1000	1.5	3.3	378	11	28	10	16	34	80	8431 0531 77
LTV28XX R15-Q	M6	1/4 <sup>b</sup>	8 - 15	6 - 11	1000	1.5	3.3	378	11	28	10	16	34	80	8431 0531 74
LTV28XX R15-10	M6	3/8	8 - 15	6 - 11	1000	1.5	3.3	378	11	28	10	16	34	80	8431 0531 78
LTV28XX R25-10	M8	3/8	12 - 25	9 - 18	660	1.6	3.5	385	13.5	34.5	10	16	34	80	8431 0531 79
LTV28XX R29-10	M8	3/8	15 - 29	11 - 21	550	1.6	3.5	385	13.5	34.5	10	16	34	80	8431 0531 81
LTV28XX R32-10	M8	3/8	18 - 32	13 - 24	520	1.6	3.5	385	13.5	34.5	10	16	34	80	8431 0531 84
LTV28XX R40-10	M8	3/8	20 - 40	15 - 29	420	1.8	4.0	400	18	34.5	10	16	34	80	8431 0531 87
LTV28XX R44-10	M8	3/8	25 - 44	18 - 32	350	1.8	4.0	400	18	34.5	10	16	34	80	8431 0531 90
<b>Non-reversible models</b>															
LTV28XX N29-10	M8	3/8	18 - 29	13 - 21	875	1.5	3.3	353	13.5	34.5	10	20	42	80	8431 0600 29
LTV28XX N44-10	M10	3/8	22 - 44	16 - 33	560	1.6	3.5	353	13.5	34.5	10	20	42	80	8431 0600 44

<sup>a</sup> Female hex drive.

Air inlet thread in: LTV28 = 1/4.

<sup>b</sup> Quick change chuck.

### LTV29 series

The new LTV29 is specially designed for high speed and small dimensions in combination with outstanding ergonomics. The slim lightweight design, the soft comfortable grip, easy reverse and low reaction force makes this tool type exceptionally easy to use.



Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint		Free speed r/min	Weight kg lb	Length mm	Distance centre to side angle head mm	Angle head height mm	Recom- mended hose size mm	Air consump- tion at free speed		Sound level dB(A)		
			Nm	ft lb							l/s	cfm			
<b>LTV29 R16-Q</b>															
LTV29 R16-Q	M6	1/4 <sup>a</sup>	9 - 16	7 - 12	850	1.3	2.9	351	11	44	10	10	21	76	8431 0621 24
LTV29 R16-42	M6	1/4 <sup>b</sup>	9 - 16	7 - 12	850	1.3	2.9	351	11	34	10	10	21	76	8431 0621 23
LTV29 R16-6	M6	1/4	9 - 16	7 - 12	850	1.3	2.9	351	11	27	10	10	21	76	8431 0621 22
LTV29 R16-10	M6	3/8	9 - 16	7 - 12	850	1.3	2.9	351	11	27	10	10	21	77	8431 0621 21
LTV29 R24-10	M6	3/8	12 - 24	9 - 18	640	1.4	3.1	374	14	30	10	10	21	77	8431 0621 29
LTV29 R30-10	M8	3/8	15 - 30	11 - 22	500	1.3	3.1	374	14	30	10	10	21	77	8431 0621 37

<sup>a</sup> Quick change chuck.

<sup>b</sup> Female hex drive.

### ACCESSORIES INCLUDED

Hose fitting

Clutch adjustment key

### OPTIONAL ACCESSORIES

Page 44



### SELECTED SERVICE KITS

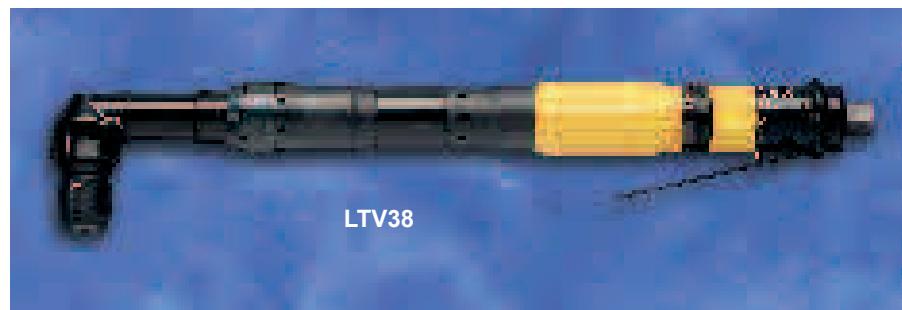
Page 44

# ANGLE NUTRUNNERS

## Torque control

### LTV38 series – the clear M10 choice

The LTV38 series offers the highest reliability when tightening M10 screws. Small, durable gears in combination with a precise clutch and reliable motor put this tool at the top master of its class.

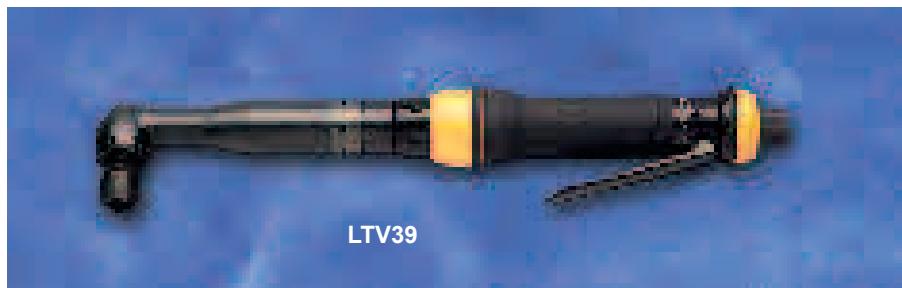


Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint				Free speed r/min	Weight kg lb	Length mm	Distance centre to side angle head mm	Angle head height mm	Recom- mended hose size mm	Air consump- tion at free speed			Sound level dB(A)	Ordering No.
			Nm	ft lb									l/s	cfm			
<b>Reversible models</b>																	
LTV38 R42-10	M8	3/8	20 - 42	15 - 31	400	2.0	4.4	436	18	34.5	10	16	34	80	8431 0603 55		
LTV38 R42-13	M8	1/2	20 - 42	15 - 31	400	2.2	4.8	453	20	41	10	16	34	80	8431 0603 69		
LTV38 R50-10	M10	3/8	25 - 50	18 - 36	330	2.0	4.4	436	18	34.5	10	16	34	80	8431 0603 63		
LTV38 R50-13	M10	1/2	25 - 50	18 - 36	330	2.2	4.8	453	20	41	10	16	34	80	8431 0603 71		
LTV38 R57-13	M10	1/2	30 - 57	22 - 41	280	2.2	4.8	453	20	41	10	16	34	80	8431 0603 51		
LTV38 R70-13	M10	1/2	34 - 70	24 - 50	225	2.4	5.3	487	20	41	10	16	34	80	8431 0603 46		
LTV38 R85-13	M10-M12	1/2	40 - 85	29 - 61	190	2.8	6.1	530	25	52	10	16	34	80	8431 0603 38		
<b>Non-reversible models</b>																	
LTV38 N31-10	M8	3/8	18 - 31	13 - 23	800	1.7	3.7	400	13.5	34.5	10	20	42	80	8431 0602 04		
LTV38 N45-10	M8	3/8	22 - 45	16 - 33	520	1.8	4.0	410	18	34.5	10	20	42	80	8431 0602 06		
LTV38 N55-10	M10	3/8	30 - 55	22 - 40	440	1.8	4.0	410	18	34.5	10	20	42	80	8431 0602 14		
LTV38 N55-13	M10	1/2	30 - 55	22 - 40	440	2.0	4.4	427	20	41	10	20	42	80	8431 0602 22		
LTV38 N68-13	M10	1/2	30 - 68	22 - 40	370	2.0	4.4	427	20	41	10	20	42	80	8431 0602 48		
LTV38 N85-13	M10	1/2	40 - 85	29 - 63	300	2.2	4.8	460	20	41	10	20	42	80	8431 0602 52		
LTV38 N100-13	M12	1/2	50 - 100	37 - 74	250	2.6	5.7	503	25	52	10	20	42	80	8431 0602 59		

Air inlet thread in: LTV38 = 1/4.

### LTV39 series

The new LTV39 series has the fastest nutrunners of their type. The powerful motor, consistently high accuracy and many operator-friendly features give these tools the capability to boost your productivity to higher levels than ever.



Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint				Free speed r/min	Weight kg lb	Length mm	Distance centre to side angle head mm	Angle head height mm	Recom- mended hose size mm	Air consump- tion at free speed			Sound level dB(A)	Ordering No.
			Nm	ft lb									l/s	cfm			
<b>R30-10</b>																	
LTV39 R30-10	M8	3/8	15 - 30	11 - 22	870	1.6	3.5	385	14	35	10	16	34	78	8431 0623 19		
LTV39 R48-10	M8	3/8	24 - 48	18 - 35	560	1.7	3.7	405	18	35	10	16	34	78	8431 0623 27		
LTV39 R48-13	M8	1/2	24 - 48	18 - 35	560	2.0	4.4	425	20	41	10	16	34	78	8431 0623 43		
LTV39 R56-10	M10	3/8	28 - 56	21 - 41	460	1.7	3.7	405	18	35	10	16	34	78	8431 0623 35		
LTV39 R56-13	M10	1/2	28 - 56	21 - 41	460	2.0	4.4	425	20	41	10	16	34	78	8431 0623 51		
LTV39 R70-13	M10	1/2	35 - 70	26 - 51	350	2.1	4.6	425	20	41	10	16	34	78	8431 0623 59		
LTV39 R85-13	M10-12	1/2	43 - 85	32 - 63	305	2.5	5.5	500	25	52	10	16	34	78	8431 0623 67		

### ACCESSORIES INCLUDED

Hose fitting  
Clutch adjustment key

### OPTIONAL ACCESSORIES

Page 44



### SELECTED SERVICE KITS

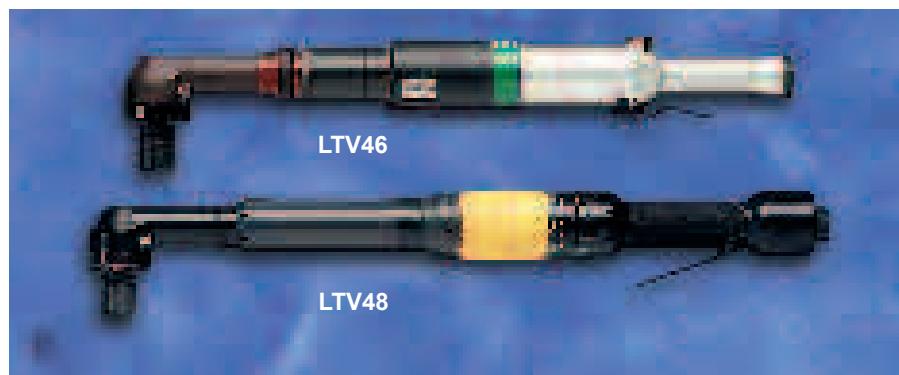
Page 44

# ANGLE NUTRUNNERS

## Torque control

### LTV46 and 48 series – the flexible choice for higher torques

The LTV46 and 48 series are robust and reliable tools – and they are reversible for torques up to 200 Nm. Low weight and smooth handles makes them pleasant to use. Suitable reaction bars and other accessories are available.



Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint		Free speed r/min	Weight		Length mm	Distance centre to side angle head mm	Angle head height mm	Recom- men- ded hose size mm	Air consump- tion at free speed		Sound level dB(A)	Ordering No.
			Nm	ft lb		kg	lb					l/s	cfm		
<b>Reversible models</b>															
LTV48 R65-13	M10	1/2	40 - 65	29 - 47	380	3.1	6.7	550	20	45	12.5	28	59	82	8431 0534 82
LTV48 R120-L13	M12	1/2	70 - 120	51 - 88	215	3.5	7.6	590	25	52	12.5	28	59	82	8431 0534 88
LTV48 R150-L13	M12	1/2	70 - 150	51 - 111	170	3.5	7.6	590	25	52	12.5	28	59	82	8431 0534 93
LTV48 R200-L13	M14	1/2	115 - 200	85 - 148	100	3.8	8.3	610	25	52	12.5	28	59	82	8431 0534 98
<b>Non-reversible models</b>															
LTV46 N55-13	M10	1/2	20 - 57	15 - 40	500	2.9	6.3	495	20	45	12.5	27	57	81	8431 0460 70
LTV46 N70-13	M10-M12	1/2	25 - 73	18 - 51	400	2.9	6.3	495	20	45	12.5	27	57	81	8431 0460 05
LTV46 N90-L13	M12	1/2	35 - 90	26 - 66	280	3.3	7.2	515	25	52	12.5	27	57	81	8431 0460 47
LTV46 N115-L13	M12-M14	1/2	50 - 116	37 - 84	220	3.3	7.2	515	25	52	12.5	27	57	81	8431 0460 13
LTV46 N150-L13	M14	1/2	60 - 150	44 - 111	180	3.3	7.2	515	25	52	12.5	27	57	81	8431 0460 62

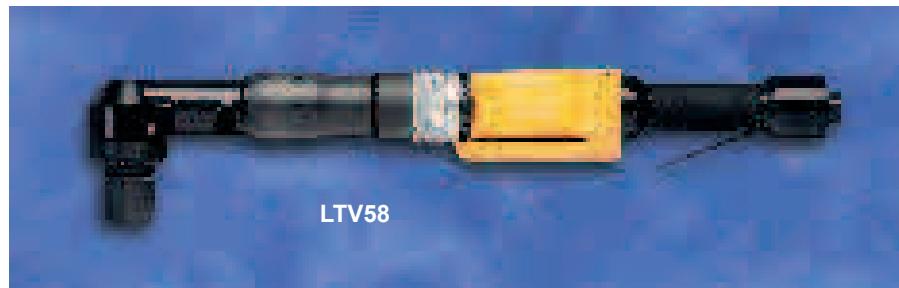
<sup>a</sup> Double square drive is available as optional for LTV46.

Air inlet thread in: LTV46 and LTV48 = 1/2.

Torque range is achieved at min 5 bar on LTV46.

### LTV58 series

LTV58 incorporates a twin motor for high rundown speed and accurate tightening. These tools are intended for the highest torques as well as cramped spaces. Screw sizes from M16 up to M22.



Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint		Free speed r/min	Weight		Length mm	Distance centre to side angle head mm	Angle head height mm	Recom- men- ded hose size mm	Air consump- tion at free speed		Sound level dB(A)	Ordering No.
			Nm	ft lb		kg	lb					l/s	cfm		
<b>Reversible models</b>															
LTV58 R180-13	M16	1/2	85 - 180	63 - 133	540	4.4	9.7	595	25	55	10	19	40	79	8431 0529 04
LTV58 R200-13	M16	1/2	130 - 200	111 - 148	320	4.4	9.7	595	25	55	10	19	40	79	8431 0529 09
LTV58 R350-19	M18	3/4	160 - 350	148 - 259	240	6.4	14.1	604	34	72	10	19	40	79	8431 0529 15
LTV58 R575-25	M22	1	280 - 575	196 - 426	180	10.4	22.9	686	54	81	10	19	40	79	8431 0529 21
<b>Non-reversible models</b>															
LTV58 N180-13	M16	1/2	85 - 180	63 - 133	540	4.4	9.7	595	25	55	10	19	40	79	8431 0529 18
LTV58 N200-13	M16	1/2	130 - 200	111 - 148	320	4.4	9.7	595	25	55	10	19	40	79	8431 0529 24
LTV58 N350-19	M18	3/4	160 - 350	148 - 259	240	6.4	14.1	604	34	72	10	19	40	79	8431 0529 29
LTV58 N575-25	M22	1	280 - 575	196 - 426	180	10.4	22.9	686	54	81	10	19	40	79	8431 0529 34

Air inlet thread in: LTV58 = 1/2.

### Signal connection kit

Page 44

### ACCESSORIES INCLUDED

Hose fitting  
Clutch adjustment key  
Reaction bar/bracket

### OPTIONAL ACCESSORIES

Page 44



### SELECTED SERVICE KITS

Page 44

# ANGLE NUTRUNNERS

## Angle, stall type – Ratchet wrenches – Worm drive

### Angle nutrunners

#### Bolt capacity M6

- Independent of joint variation** – Low inertia design gives accurate torque independent of joint stiffness, in other words low mean shift.
- Easy torque setting** – by adjusting the inlet air pressure.
- Reliable** – well-proven design.
- Good accessibility** – due to small dimensioned angle head.

### Ratchet wrenches

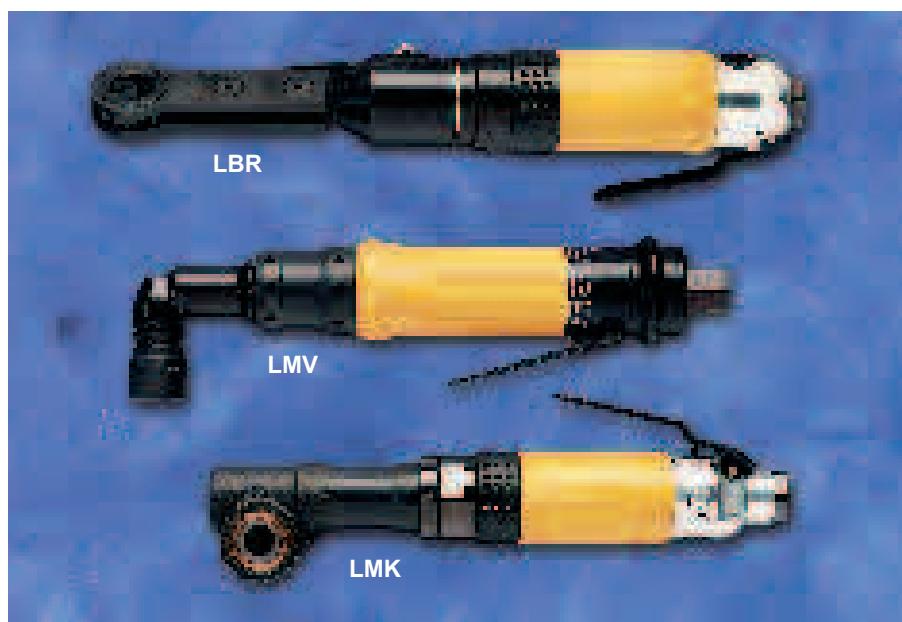
#### Bolt capacity M8 – M10

- Unique accessibility** – The ratchet wrench is a superior tool for limited space applications.
- To loosen** – turn the tool upside down.

### Worm-drive nutrunners

#### Bolt capacity M8 – M12

- Teasing throttle characteristics** – Give you a significantly reduced free speed. The worm-drive nutrunners are suitable for:



- Nutrunning
- Tapping

- Light reaming
- Tube-rolling

They can also be used for incorporation in rigs as air motors for intermittent operation.

Model	Suitable for bolt size mm	Square drive size in	Torque at 6 bar		Free speed r/min	Weight kg	Length mm	Distance centre to side angle head mm	Angle head height mm	Air con- sumption at free speed l/s	Recom- mended hose size mm	Air inlet thread in	Sound level dB(A)	Ordering No.
			Nm	ft lb										
<b>Angle nutrunners stall type, reversible model</b>														
LMV28 R11-10	M6	3/8	11	8	1200	1.1	2.4	264	11	28	10	21	10	1/4 76 8431 0591 07
LMV28 R14-10	M6	3/8	14	10	1000	1.1	2.4	264	13.5	29.5	10	21	10	1/4 76 8431 0591 09
<b>Angle nutrunners stall type, non reversible model</b>														
LMV28 N16-10	M6	3/8	16	12	1000	1.0	2.2	239	13.5	29.5	11	23	10	1/4 76 8431 0590 17
<b>Ratchet wrenches</b>														
LBR33 S26/114-13	M8	13 <sup>a</sup>	22	16	185	1.4	3.1	290	13	15	9.5	20	10	1/4 90 8431 0345 71
LBR33 S26/118-16	M8-M10	16 <sup>a</sup>	30	22	135	1.4	3.1	300	18	15	9.5	20	10	1/4 91 8431 0346 70
LBR33 S26/118-17	M8-M10	17 <sup>a</sup>	30	22	135	1.4	3.1	300	18	15	9.5	20	10	1/4 91 8431 0346 62
<b>Worm drive nutrunners</b>														
LMK22 S004	M8	7/16 <sup>a</sup>	19	14	450	1.0	2.2	240	31	30	6	13	6	1/4 90 8431 0242 26
LMK22 S002	M10	7/16 <sup>a</sup>	23	17	200	1.0	2.2	240	31	30	6	13	6	1/4 90 8431 0242 18
LMK33 S005	M10	7/16 <sup>a</sup>	29	21	480	1.7	3.7	263	41	39	9.5	20	10	1/4 90 8431 0343 24
LMK33 S002	M10-M12	7/16 <sup>a</sup>	32	24	235	1.9	4.2	291	41	39	9.5	20	10	1/4 90 8431 0343 16
LMK33 S001	M10-M12	7/16 <sup>a</sup>	55	41	130	2.2	4.9	385	41	39	9.5	20	10	1/4 90 8431 0343 08

<sup>a</sup> Female hex drive.

#### OPTIONAL ACCESSORIES. Socket adapters for LBR

Dimensions	Ordering No. LBR33 S26/114	Ordering No. LBR33 S26/118
1/2" hex 3/8" square drive	4090 0163 00	4090 0163 00
1/2" hex 1/2" square drive	4090 0164 00	4090 0164 00

#### ACCESSORIES INCLUDED

Hose fitting  
Socket adaptor 3/8" square drive,  
LMK22 1/2" square drive, LMK33

#### Female hex sockets for LBR

Dimensions in	Ordering No. LBR33 S26/114	Ordering No. LBR33 S26/118	Dimensions mm	Ordering No. LBR33 S26/114	Ordering No. LBR33 S26/118
1/4	4210 0360 05	–	10	4210 0414 10	–
5/16	4210 0360 02	–	12	4210 0414 12	4210 0418 12
3/8	4210 0360 03	4210 0389 02	13	4210 0414 13	4210 0418 13
7/16	4210 0360 04	4210 0389 03	14	4210 0414 14	4210 0418 14
1/2	4210 0360 01	4210 0389 04	15	4210 0414 15	4210 0418 15
9/16	–	4210 0389 06	16	–	4210 0418 16
5/8	–	4210 0389 01	17	–	4210 0418 17
3/4	–	4210 0389 05	18	–	4210 0418 18
			19	–	4210 0389 05

NOTE: That 1/2" female hex sockets must be used together with socket adaptors.



#### SELECTED SERVICE KITS

Page 44

# ANGLE NUTRUNNERS

## Accessories



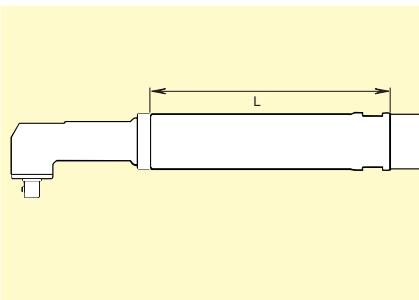
Suspension yoke

Model	Exhaust hose	Fixed	Swivelling	Protective cover	Reaction bar kit	Signal connection kit (-RE)
LTV08				4210 4015 00		4210 4022 90
LTV18 R07		4210 1631 81		4210 4014 00		4210 4023 90
LTV18 R15		4210 1631 81		4210 4013 00		4210 4023 90
LTV28 R07	4210 2053 00	4210 1631 82	4210 3931 80	4210 3990 00		4210 4019 90
LTV28, all models except R07	4210 2053 00	4210 1631 82	4210 3931 80	4210 3990 00		4210 4018 90
LTV28XX R15/R25/R29/R32	4210 2053 00	4210 1631 82	4210 3931 80	4210 3990 00		4210 4017 90
LTV28XX R40/44	4210 2053 00	4210 1631 82	4210 3931 80	4210 3991 00		4210 4017 90
LTV29/39		4210 1631 82	4210 4408 80			
LTV38 R42/R50/R57/N31/N45/N55/N68, LTC38, LTV38 FS	4210 2053 00	4210 1631 82	4210 3931 81	4210 3992 90 (not LTC)		4210 4017 90
LTV38 R70/N85	4210 2053 00	4210 1631 82	4210 3931 81	4210 4003 90		4210 4017 90
LTV38 R85/N100, LTV38 HAD	4210 2053 00	4210 1631 82	4210 3931 81	4210 4004 90	4210 4020 80	4210 4017 90
LTV48 R65	4210 4011 00	4210 4061 80	4210 4021 80	4210 4058 90	4210 4020 80	4210 4057 90
LTV48 R120/R150/R200, LTC48, LTV48 FS, LTV48 HAD	4210 4011 00	4210 4061 80	4210 4021 80	4210 4059 90	4210 4020 80	4210 4057 90
LTV58 N/R 180/200	4210 4011 00		4210 3088 80	4210 4059 90	4220 1128 80	
LTV58 R350	4210 4011 00		4210 3088 80		4220 1201 80	
LTV46, LTC46, LTV46 FS, LTV46 HAD	4210 4011 00					4220 0312 90
LTV58 R575	4210 4011 00		4210 3088 80			4220 1746 80

### Extensions for LTV

### DIMENSIONS

Suitable for tool	Length of extension -"L"	
	mm	Ordering No.
LTV28	75	3 4210 3491 93
LTV28	150	6 4210 3491 95
LTV38 (not R70/R85)	75	3 4210 4301 80
LTV38 (not R70/R85)	150	6 4210 4302 80
LTV38R70/R85/LTV48	75	3 4210 4303 80
LTV38R70/R85/LTV48	150	6 4210 4304 80
LTV39R48/56/70-13	75	3 4210 4301 80
LTV39R48/56/70-13	150	6 4210 4302 80
LTV39R85	75	3 4210 4303 80
LTV39R85	150	6 4210 4304 80



### SELECTED SERVICE KITS

The spare parts included in the service kits cover a normal overhaul of your tool. Always have them available for a fast and economical repair.

Main parts included:

- Vane kit                      • O-rings
- Motor bearings              • Circlips
- Gaskets                      • Pins etc.

Model	Service kit
LTV46 R/LTC46	4081 0104 90
LTV08 R	4081 0084 90
LTV18 R	4081 0085 90
LTV28 R	4081 0102 90
LTV28 XX	4081 0209 90
LTV28 N	4081 0107 90
LTV29	4081 0299 90
LTV38 N	4081 0108 90
LTV38 R	4081 0103 90
LTV39	4081 0298 90

Including the most common wear parts. For complete information, see spare parts list.

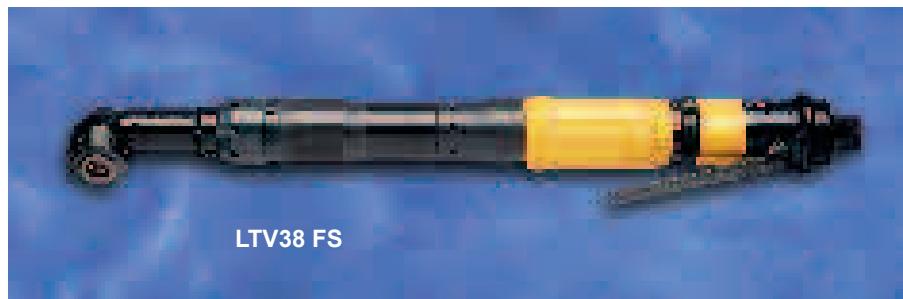
# ANGLE NUTRUNNERS

## Flush socket type

### LTV FS Flush socket tools

A good solution for access problems where minimum angle head size and high torque accuracy is required. The flush socket tools have integrated sockets to achieve a reduced angle head height.

The LTV FS nutrunners are based on the LTV range of angle nutrunners and offer the same tightening characteristics. They have the same motor, clutch and gear parts as the LTV range.



Model	Suitable for bolt size		Torque range Soft joint		Free speed r/min	Weight		Angle head height incl socket	Distance centre to side angle head mm	Re- com- mended hose size	Air consump- tion at free speed			Air Inlet Sound dB(A)	Ordering No.	
	mm	mm	Nm	ft lb		kg	lb				l/s	cfm	in			
<b>Flush socket angle nutrunners LTV FS. Reversible models</b>																
LTV28 R20 FS	M6	13	8- 20	6- 15	500	1.4	3.1	352	34	13.5	10	10	21	1/4	76	8431 0608 02
LTV28 R28 FS	M8	13	14- 28	10- 21	340	1.4	3.1	350	34	-	10	10	21	1/4	76	8431 0608 00
LTV28XX R28 FS	M8	13	14- 28	10- 21	620	1.4	3.1	387	34	13.5	10	10	21	1/4	80	8431 0608 04
LTV29 R30-FS	M8	13	15- 30	11- 22	500	1.3	3.1	374	34	14	10	10	21	1/4	77	8431 0622 38
LTV38 R50 FS	M10	15	25- 50	18- 37	360	2.2	4.8	454	53	20	10	18	38	1/4	80	8431 0609 85
LTV38 R65 FS	M12	16	34- 65	25- 48	280	2.6	5.7	515	53	20	10	18	38	1/4	80	8431 0609 87
LTV39 R48 FS	M8	16	24- 48	18- 35	560	2.0	4.4	425	53	20	10	16	34	1/4	78	8431 0622 42
LTV39 R56 FS	M10	16	28- 56	21- 41	460	2.0	4.4	425	53	20	10	16	34	1/4	78	8431 0622 46
LTV39 R70 FS	M10	16	35- 70	26- 51	350	2.1	4.6	425	53	20	10	16	34	1/4	78	8431 0622 51
LTV39 R85-FS	M10-M12	19	43- 85	32- 63	305	2.5	5.5	500	70	25	10	16	34	1/4	78	8431 0622 58
LTV48 R65 FS	M10	16	30- 65	22- 48	400	3.1	6.7	550	53	20	12.5	28	59	3/8	82	8431 0610 08
LTV48 R120 FS	M12	19	70-120	37- 88	220	3.5	7.6	590	70	25	12.6	28	59	3/8	82	8431 0610 12
LTV48 R150 FS	M12	19	70-150	44-111	180	3.5	7.6	590	70	25	12.7	28	59	3/8	82	8431 0610 17
LTV48 R200 FS	M14	19	115-200	85-148	100	3.8	8.3	610	70	25	12.8	28	59	3/8	82	8431 0610 21
<b>Non-reversible models</b>																
LTV38 N55 FS	M10	15	30- 55	22- 40	440	2.0	4.4	441	53	20	10	20	42	1/4	80	8431 0609 89
LTV38 N85 FS	M10	15	40- 85	29- 63	300	2.2	4.8	460	53	20	10	20	42	1/4	80	8431 0609 93

Torque range is achieved at min 5 bar on LTV46/48.

**NOTE:** Socket mounted according to table above, other sizes available according to page 46.

### ACCESSORIES INCLUDED

Hose fitting

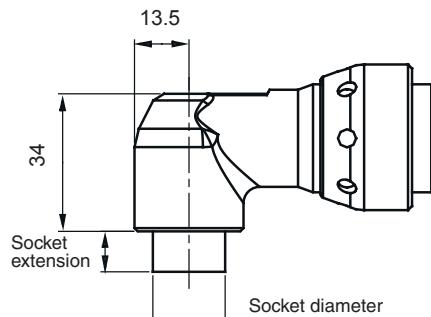
Clutch adjustment key

# ANGLE NUTRUNNERS

## Accessories – For flush socket tools

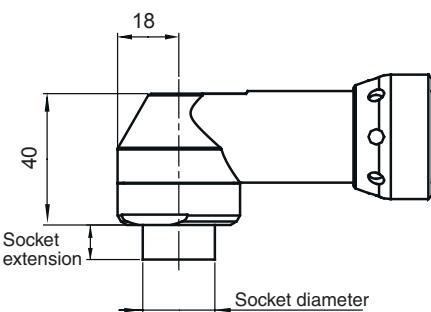
### Integrated sockets – LTV28 R20 FS/R28 FS/XX R28 FS and LTV29 R30 FS

Width across flats mm/in	Socket extension mm	Socket diameter mm	Socket type	Bit lock principle	Ordering No.
10	0	17.9	HEX		4220 1589 10
10	15	17.9	HEX		4220 1589 20
13	0	17.9	HEX		4220 1589 13
13	2	17.9	HEX		4220 1589 33
13	5	17.9	HEX		4220 1589 23
13	15	17.9	HEX		4220 1589 34
6.35=1/4"	0	17.9	HEX, bit holder	magnet	4220 1589 14
8=5/16"	0	17.9	HEX, bit holder	magnet	4220 1589 08



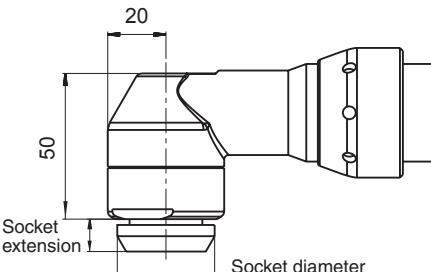
### Integrated sockets – LTV38 R50 FS/N55 FS, LTV39 R48 FS and LTV39 R56 FS

Width across flats mm/in	Socket extension mm	Socket diameter mm	Socket type	Bit lock principle	Ordering No.
12.7=1/2"	0.1	20.9	HEX		4220 1676 33
13	0.1	20.9	HEX		4220 1676 01
13	10.1	20.9	HEX		4220 1676 13
13	21.1	20.9	HEX		4220 1676 23
14	0.1	20.9	HEX		4220 1676 14
15	0.1	20.9	HEX		4220 1676 15
7.95=5/16"	0.1	20.9	HEX	special	4220 1676 04
8=5/16"	12.1	20.9	HEX	special	4220 1676 06



### Integrated sockets – LTV38 R65/N85 FS, LTV39 R70 FS, LTV46 N55 FS/N70 FS and LTV48 R65 FS

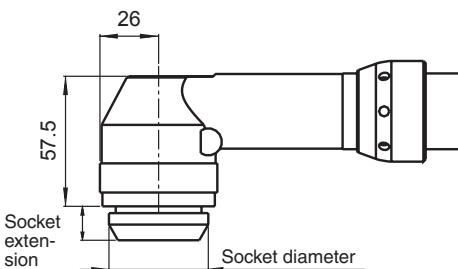
Width across flats mm/in	Socket extension mm	Socket diameter mm	Socket type	Bit lock principle	Ordering No.
10	3.3	27.5	HEX		4220 1621 04
11	2.8	27.5	HEX		4220 0815 01
12	3.3	27.5	HEX		4210 2749 03
13	3.3	27.5	HEX		4210 2749 01
14	3.3	27.5	HEX		4210 2749 04
15	1.3	27.5	HEX		4220 1621 01
15	3.3	27.5	HEX		4210 2749 02
15	8.3	27.5	HEX	Special	4210 2749 10
15	16.3	27.5	HEX		4220 1621 00
16	0.5	27.5	HEX		4220 1251 00
16	4.3	27.5	HEX		4210 2882 01
17	4.3	27.5	HEX		4210 2882 02
18	4.3	27.5	HEX		4210 2882 03
7/16"	3.3	27.5	HEX		4210 2749 06
9/16"	3.3	27.5	HEX		4210 2749 05



Other dimensions on request.

### Integrated sockets – LTV46 N90 FS/N115 FS/N150 FS and LTV48 R120 FS/R150 FS/R200 FS

Width across flats mm	Socket extension mm	Socket diameter mm	Bit lock principle	Ordering No.
<b>Hex</b>				
15	6.5	37.5	SF	4210 3534 15
17	8.5	37.5	SF	4210 3534 17
18	2	37.5	SF	4210 3534 68
18	5.5	41.5	SF	4210 1595 02
18	8.5	37.5	SF	4210 3534 18
19	9.5	37.5	SF	4210 3534 19
21	10.5	37.5	SF	4210 3534 21
22	10.5	37.5	SF	4210 3534 22
24	10.5	37.5	SF	4210 3534 24
24	13.5	41.5	SF	4210 1595 01
27	13.8	40.5	SF	4210 3534 27
<b>Female Torx</b>				
E-10	5.5	37.5	Female TX	4210 3534 30
E-12	5.5	37.5	Female TX	4210 3534 32
E-14	5.5	37.5	Female TX	4210 3534 34
E-16	5.5	37.5	Female TX	4210 3534 36
E-18	5.5	37.5	Female TX	4210 3534 38
E-20	5.5	37.5	Female TX	4210 3534 40
E-20	8.5	40.5	Female TX	4220 2044 01



Other dimensions on request.

# ANGLE NUTRUNNERS

## Crowfoot type

### LTC Crowfoot tools

#### Bolt capacity M8 – M14

A good solution in many cases of inaccessibility is the crowfoot, which has the smallest height and side to centre dimensions.

The LTC range of nutrunners is based on the LTV range of angle nutrunners and offers the same tightening characteristics. They have the same motor, clutch and gear parts as the LTV range.

The crowfoot is attached to a standard angle nutrunner LTV and can easily be adjusted  $\pm 90^\circ$  of centre line.

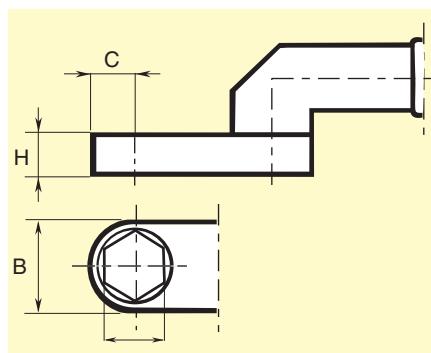


Model	Suitable for bolt size mm	Socket size mm	Torque range				Free speed r/min	Weight	Crowfoot dimensions			Recom- mended hose size mm	Air consuming- tion at free speed			Ordering No.	
			Soft joint		Nm	ft lb			H mm	B mm	C mm		l/s	cfm	Sound level dB(A)		
<b>Reversible</b>																	
LTC38 R33-13-A-O-3	M8	13	16-	33	12-24	430	2.6	5.7	508	19	32	16	10	18	38	80	8431 0611 01
LTC38 R40-17-A-O-3	M10	13	23-	40	17-29	360	3.0	6.6	540	19	39	20	10	18	38	80	8431 0611 08
LTC48 R56-17-A-O-3	M10-M12	17	24-	56	18-41	400	3.9	8.6	600	19	39	20	12.5	28	59	82	8431 0611 06
LTC48 R96-19-A-O-3	M12	19	40-	96	30-71	220	4.3	9.5	640	25	39	20	12.5	28	59	82	8431 0611 11
LTC48 R120-19-A-O-3	M12-M14	19	48-120	36-89	180	4.3	9.5	640	25	39	20	12.5	28	59	82	8431 0611 15	
<b>Non-reversible</b>																	
LTC38 N41-13-A-O-3	M8	13	18-	41	13-30	520	2.4	5.3	479	19	32	16	10	20	42	80	8431 0611 10
LTC46 N46-17-A-O-3	M10	17	16-	46	12-34	500	3.5	7.7	561	19	39	20	12.5	27	57	81	8431 0468 07
LTC46 N55-17-A-O-3	M10	17	20-	55	15-40	400	3.5	7.7	561	19	39	20	12.5	27	57	81	8431 0469 06
LTC46 N78-19-A-O-3	M12	19	28-	78	21-57	280	4.1	9.0	577	25	39	20	12.5	27	57	81	8431 0470 03
LTC46 N93-19-A-O-3	M12	19	40-	93	29-69	220	4.1	9.0	577	25	39	20	12.5	27	57	81	8431 0471 02
LTC46 N120-19-A-O-3	M12	19	48-120	35-88	180	4.1	9.0	577	25	39	20	12.5	27	57	81	8431 0472 01	

Air inlet thread inch: LTC38 = 1/4", LTC46/LTC48 = 1/2".

NOTE: Sockets mounted according to table above, optional sizes see page 48.

### DIMENSIONS



Extensive range of crowfoot and open end tools, see special leaflet,  
**"Atlas Copco tool attachments"**  
Ordering No. 9833 1361 21  
**CD "Ordering information"**  
Ordering No. 9833 1381 01.

# ANGLE NUTRUNNERS

## Accessories – For crowfoot tools

### OPTIONAL HEX SOCKETS FOR LTC CROWFOOT NUTRUNNERS

#### Sockets – LTC38 R33/N41-13-A-O-3<sup>a</sup>

Width across flats		Ordering No.
mm	in	
12	7/16	4210 2625 03
		4210 2625 04
13	1/2	4210 2625 01
14		4210 2625 00
15		4210 2625 02
		4210 2625 06

<sup>a</sup> 13 mm socket mounted on tool.

#### Sockets – LTC38 R40/N48-17-A-O-3<sup>b</sup>, LTC48 R56-17-A-O-3<sup>b</sup>, LTC46 N46/N55-17-A-O-3<sup>b</sup>

Width across flats		Ordering No.
mm	in	
13		4210 2626 06
14		4210 2626 04
15		4210 2626 03
	1/2	4210 2626 05
	5/8	4210 2626 02
16		4210 2626 00
17		4210 2626 01
18		4210 2626 10
19		4210 2626 08

<sup>b</sup> 17 mm socket mounted on tool.

#### Sockets – LTC48 R96/R120-19-A-O-3<sup>c</sup>, LTC46 N78/N93/N120-19-A-O-3<sup>c</sup>

Width across flats		Ordering No.
mm	in	
13		4210 2624 06
14		4210 2624 05
15		4210 2624 04
16		4210 2624 03
17		4210 2624 02
18		4210 2624 01
19	3/4	4210 2624 00

<sup>c</sup> 19 mm socket mounted on tool.

# ANGLE NUTRUNNERS

## Open end type – Torque control

### 10-23 mm hexagon nut capacity

Based on the well-known LTV 8 series of angle nutrunners the LTO torque control open end nutrunners offer tightening of tube nuts in high-pace line production.

Applications are mainly in the assembly of hydraulic and pneumatic brake pipes and other hose and cable connections in the automotive and aircraft industries.

The power from the air motor is transferred to the nut through a gear drive mechanism without impacting or ratcheting.

The one-hand operated two step mechanism simplifies the socket release back to open position.



LTO28 R

Model	Torque range Soft joint		Socket size mm	Max socket size mm	Free speed r/min	Weight		Tool dimensions			Ordering No.
	Nm	ft lb				kg	lb	Total length mm	Tube nut head width mm	height mm	
LTO28 R12-10-K-I-3	8-12	7- 9	10	14	380	1.9	4.2	400	40	14/39	8431 0536 17
LTO28 R17-13-K-I-3	12-17	4-12	13	23	285	2.1	4.6	410	52	14.4/39	8431 0536 11
LTO28 R24-10-K-I-3	15-24	6-18	10	14	160	1.9	4.2	420	40	14/39	8431 0536 12
LTO28 R31-17-K-I-3	18-31	7-23	17	23	140	2.1	4.6	430	52	14.4/39	8431 0536 14

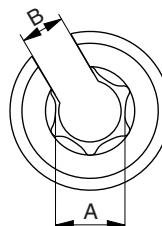
Recomended hose size 10 mm.

Air inlet thread: 1/4 in.

**NOTE:** The tools are supplied with a socket gear according to table above.

### Sockets – LTO28 R12-10-K-I-3/R24-10-K-I-3<sup>a</sup>

Socket size A	Open end B	Ordering No.
10 mm	9	4210 3998 00
11 mm	9	4210 3998 01
12 mm	9	4210 3998 02
13 mm	9	4210 3998 03
14 mm	9	4210 3998 04
3/8"	7	4210 3998 05
7/16"	7	4210 3998 06
1/2"	7	4210 3998 07
9/16"	9	4210 3998 08



<sup>a</sup> These models comes with a 10 mm socket gear mounted.

### Sockets – LTO28 R17-13-K-I-3<sup>b</sup>/R31-17-K-I-3<sup>c</sup>

Socket size A	Open end B	Ordering No.
13 mm	9	4210 3999 00
14 mm	11	4210 3999 01
15 mm	11	4210 3999 02
16 mm	11	4210 3999 03
17 mm	11	4210 3999 04
18 mm	11	4210 3999 05
19 mm	11	4210 3999 06
20 mm	11	4210 3999 07
21 mm	11	4210 3999 08
22 mm	11	4210 3999 09
23 mm	11	4210 3999 10
9/16"	9	4210 3999 11
5/8"	11	4210 3999 12
3/4"	11	4210 3999 13
7/8"	11	4210 3999 14

Extensive range of crowfoot and open end tools, see special leaflet,

**"Atlas Copco tool attachments"**

Ordering No. 9833 1361 21

**CD "Ordering information"**

Ordering No. 9833 1381 01.

<sup>b</sup> This model comes with a 13 mm socket gear mounted.

<sup>c</sup> This model comes with a 17 mm socket gear mounted.

# ANGLE NUTRUNNERS

## Hold and drive type

### Tools for hold and drive bolts

#### Bolt capacity M8 – M18

What used to be a two-man operation has now become a one-man task. No reaction arms.

The distinguishing feature of a hold and drive bolt is that one part is held and the other is tightened from the same side.

Hold and drive bolts are being used increasingly by, for example, truck manufacturers on the frame assembly line. The LTV HAD is especially suitable for shock absorber assembly.

Atlas Copco has developed special tools for use on hold and drive bolts based on the standard LTV series. The reaction torque is absorbed while the bolt is gripped during assembly.

The HAD sockets are available in three different lengths, special sockets are available upon request.

Also suitable for break away bolts, Hi Lok/Hi Shear.

**NOTE:** The screw must be strong enough to carry the final torque.



Model	Bolt size	Torque range <sup>a</sup>		Weight		Free speed r/min	Ordering No.
		Nm	ft lb	kg	lb		
LTV38 R40 LT HAD <sup>b</sup>	M8-10	15- 40	11- 30	3.0	6.5	210	8431 0609 52
LTV38 R42 HAD	M8	20- 42	15- 31	2.2	4.8	430	8431 0603 75
LTV38 R50 HAD	M10	25- 50	18- 36	2.2	4.8	360	8431 0603 82
LTV38 R85 HAD	M10-12	40- 85	30- 67	3.0	6.5	210	8431 0609 58
LTV46 N90 HAD	M10-12	35- 90	26- 52	3.3	7.3	280	8431 0463 28
LTV46 N115 HAD	M12-14	50- 115	37- 85	3.3	7.3	220	8431 0463 10
LTV46 N150 HAD	M14	60- 150	44- 111	3.3	7.3	180	8431 0463 02
LTV48 R120 HAD	M12-14	70- 120	52- 89	3.3	7.3	220	8431 0610 26
LTV48 R150 HAD	M14	70- 150	52- 111	3.3	7.3	180	8431 0610 30
LTV48 R200 HAD	M14	115- 200	85- 150	3.3	7.3	100	8431 0610 32
LTV58 R350 HAD	M18	160- 350	150- 260	6.4	14.1	240	8431 0529 65

<sup>a</sup> At min 5 bar.

<sup>b</sup> For low torque applications.

**NOTE:** Sockets and holders have to be ordered separately see page 51.

Other types of Hold and Drive equipped tools are available on special request.

### ACCESSORIES INCLUDED

Hose fitting

Clutch adjustment key

### OPTIONAL ACCESSORIES

Page 44



### SELECTED SERVICE KITS

Page 44

# ANGLE NUTRUNNERS

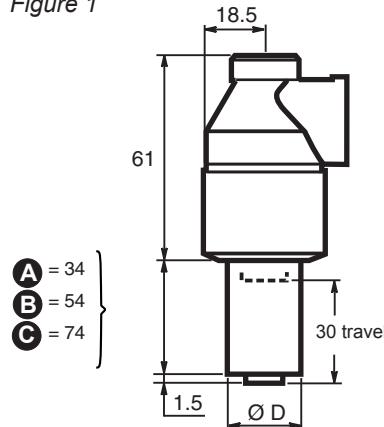
## Accessories – For hold and drive tools

**Nut socket – LTV38 R42-HAD/LTV38 R50-HAD (Fig. 1)**

Width across flats W mm	Socket Ø D mm	Ordering No.		
		A	B	C
10	22	4220 1769 16	4220 1769 31	4220 1769 51
11	22	4220 1769 15	4220 1769 32	4220 1769 52
12	22	4220 1769 13	4220 1769 33	4220 1769 53
13	22	4220 1769 09	4220 1769 12	4220 1769 54
14	22	4220 1769 05	4220 1769 35	4220 1769 08
15	22	4220 1769 14	4220 1769 36	4220 1769 56
16	25	4220 1888 71	4220 1888 81	4220 1888 91
17	25	4220 1888 72	4220 1888 82	4220 1888 92
18	26	4220 1888 73	4220 1888 83	4220 1888 93
19	27	4220 1888 74	4220 1888 84	4220 1888 94
20	31	4220 1888 75	4220 1888 85	4220 1888 95
21	31	4220 1888 76	4220 1888 86	4220 1888 96

Measurements in mm

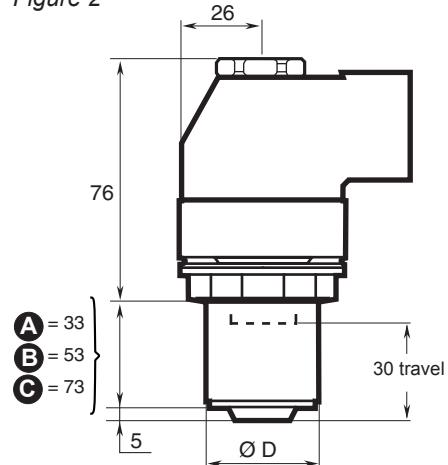
Figure 1



**Nut socket – LTV38 R40 LT/R 85 HAD, LTV48 HAD and LTV46 HAD (Fig. 2)**

Width across flats W mm	Socket Ø D mm	Ordering No.		
		A	B	C
13	30	4210 3513 13	4210 3513 33	4210 3513 53
14	30	4210 3513 14	4210 3513 34	4210 3513 54
15	30	4210 3513 15	4210 3513 35	4210 3513 55
16	30	4210 3513 16	4210 3513 36	4210 3513 56
17	30	4210 3513 17	4210 3513 37	4210 3513 57
18	31	4210 3513 18	4210 3513 38	4210 3513 58
19	32	4210 3513 19	4210 3513 39	4210 3513 59
21	35	4210 3513 21	4210 3513 41	4210 3513 61
22	35	4210 3513 22	4210 3513 42	4210 3513 62
24	35	4210 3513 24	4210 3513 44	4210 3513 64

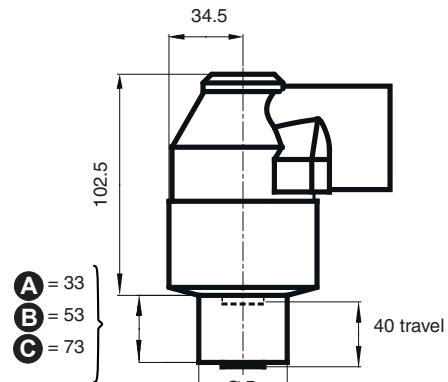
Figure 2



**Nut socket – LTV58 R350-HAD (Fig. 3)**

Width across flats W mm	Socket Ø D mm	Ordering No.		
		A	B	C
18	41	4220 1778 04	4220 1778 14	4220 1778 24
19	41	4220 1778 05	4220 1778 15	4220 1778 25
20	41	4220 1778 06	4220 1778 16	4220 1778 26
21	41	4220 1778 07	4220 1778 17	4220 1778 27
22	41	4220 1778 08	4220 1778 18	4220 1778 28
23	41	4220 1778 09	4220 1778 19	4220 1778 29
24	41	4220 1778 01	4220 1778 11	4220 1778 21
25	41	4220 1778 02	4220 1778 12	4220 1778 22
25.4=1"	41	4220 1778 10	4220 1778 20	4220 1778 30
26	41	4220 1778 03	4220 1778 13	4220 1778 23
27	46	–	4220 2139 84	4220 2139 94
28	46	–	4220 2139 83	4220 2139 93
29	46	–	4220 2139 82	4220 2139 92
30	46	–	4220 2139 81	4220 2139 91
31	54	–	4220 2297 81	4220 2297 91
32	54	–	4220 2297 82	4220 2297 92
33	54	–	4220 2297 83	4220 2297 93
34	54	–	4220 2297 84	4220 2297 94
35	54	–	4220 2297 85	4220 2297 95
36	54	–	4220 2297 86	4220 2297 96

Figure 3



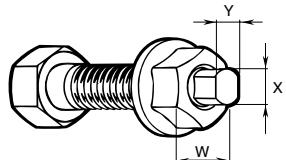
# ANGLE NUTRUNNERS

## Accessories – For hold and drive tools

**Screw holder** – Two flats for LTV38 R42-HAD/LTV38 R50-HAD

Dimension X x Y mm	Suitable socket size mm		Ordering No.		
		A	B	C	
6.6 x 5	10-21	4220 1770 19	–	–	
7 x 5	10-21	–	4220 1770 17	–	
5.1 x 8.2	10-21	4220 1770 01	–	4220 1770 16	
8 x 6	10-21	4220 1770 02	–	–	

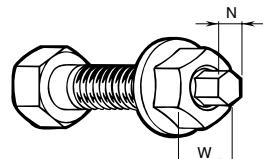
*Two flats*



**Screw holder** – Two flats for LTV38 R40 LT/R85 HAD, LTV48 HAD and LTV46 HAD

Dimension X x Y mm	Suitable socket size mm		Ordering No.		
		A	B	C	
8 x 6.3	15-24	4210 2694 17	4210 2694 18	4210 2694 19	
8 x 6	15-24	4210 2694 05	4210 2694 10	4210 2694 15	
9.55 x 7.6	18-24	4210 2694 01	4210 2694 06	4210 2694 11	
11.20 x 8.9	19-24	4210 2694 02	4210 2694 07	4210 2694 12	
13 x 9.8	19-24	4210 2694 03	4210 2694 08	4210 2694 13	
13.20 x 10.5	19-24	4210 2694 04	4210 2694 09	4210 2694 14	

*Male hexagon*



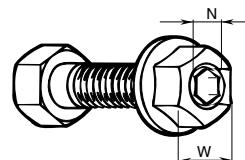
**Screw holder** – Male hexagon for LTV38 R40 LT/R85 HAD, LTV48 HAD and LTV46 HAD

Dimension N mm	Suitable socket size mm		Ordering No.		
		A	B	C	
7	14-24	4210 2825 41	4210 2825 42	4210 2825 43	
8	14-24	4210 2825 01	4210 2825 05	4210 2825 09	
9	15-24	4210 2825 02	4210 2825 06	4210 2825 10	
10	18-24	4210 2825 03	4210 2825 07	4210 2825 11	
11	19-24	4210 2825 04	4210 2825 08	4210 2825 12	
12	19-24	4210 2825 13	4210 2825 14	4210 2825 15	

**Screw holder** – Female hexagon for LTV38 R42-HAD/LTV38 R50-HAD

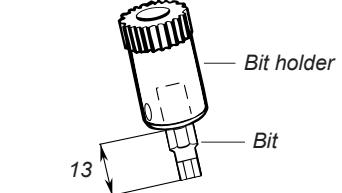
Bit holder 1/4"			Width N, mm	Bits
A	B	C		
4220 1959 01	4220 1959 04	4220 1959 03	10-21	1/4"

*Female hexagon*



**Screw holder** – Female hexagon for LTV38 R40 LT/R85 HAD, LTV48 HAD and LTV46 HAD

Bit holder 5/16"			5/16" Bits	
A	B	C	Width N, mm	Ordering No.
4210 2991 91	4210 2991 92	4210 2991 93	5	4023 1215 00
			6	4023 1216 00
			7	4023 1219 00
			8	4023 1217 00
			10	4023 1218 00



**Screw holder** – Female hexagon for LTV58 R350-HAD

Bit holder	Socket size mm		Ordering No.		
		A	B	C	
7	14-24	4210 2825 41	4210 2825 42	4210 2825 43	
5/16"	18-20	4220 1777 88	4220 1777 89	4220 1777 90	
5/16"	21-36	4220 1777 82	4220 1777 85	4220 1777 87	

NOTE: 8 mm bit is included in the bit holders.

# STRAIGHT NUTRUNNERS

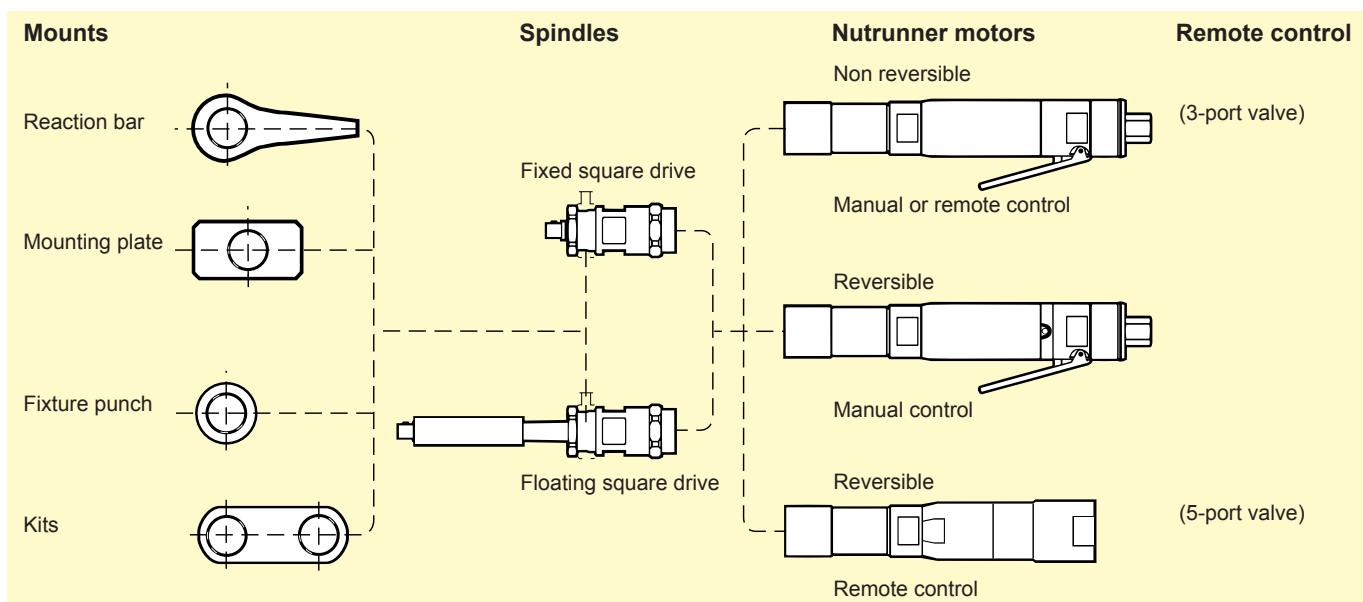
## Hand-held and fixture mounted

The Atlas Copco LTD straight nutrunners are used in hand-held applications and as components in systems for assembly stations, e.g. for:

- **Articulating arms** – Where a fixed support on the work piece for a reaction bar is not available a telescopic or articulated arm mounted LTD nutrunner might be the ideal solution.
- **Second fastener** – By combining two LTD straight nutrunners in a twin spindle unit the screws can be tightened simultaneously.
- **Sequence tightening** – The LTD system offers a flexible, low-cost solution to many advanced tightening requirements.
- **Automatic systems** – The LTD straight nutrunner is the ideal basic tightening unit in automatic and remotely controlled assembly systems.
- **Torque accuracy** – With fixtured tools the operator influence is minimized.



### The LTD system



- **Reaction bar blanks** – For single spindle hand-held applications.
- **Mounting plates** – The LTD/LMD straight nutrunners have a splined reaction bar connection which can also be used for fixed assembly of the nutrunner. A number of standard mounting plates are available to order.
- **Floating square drive** – For two or more spindles the units must usually have floating spindles to compensate for run-down variations. Models with floating square drive or telescopic front parts are available.
- **Fixture punches** – For mounting of the nutrunner to locally made base plates a punch for the splines connection is available as optional equipment.
- **TwinSpin Kit** – A kit for building your own twin spindle assembly unit is available as extra equipment.
- **Remote control** – Remote control valves are available as optional equipment.
- **Air signal outlets** – All LTD models are equipped with air signal outlets for completed operation.
- **Electronic control** – Integrated torque and angle transducers and electronic instruments offer a wide selection of options for advanced tightening monitoring and control. Tools with angle encoders and torque transducers on request.

# STRAIGHT NUTRUNNERS

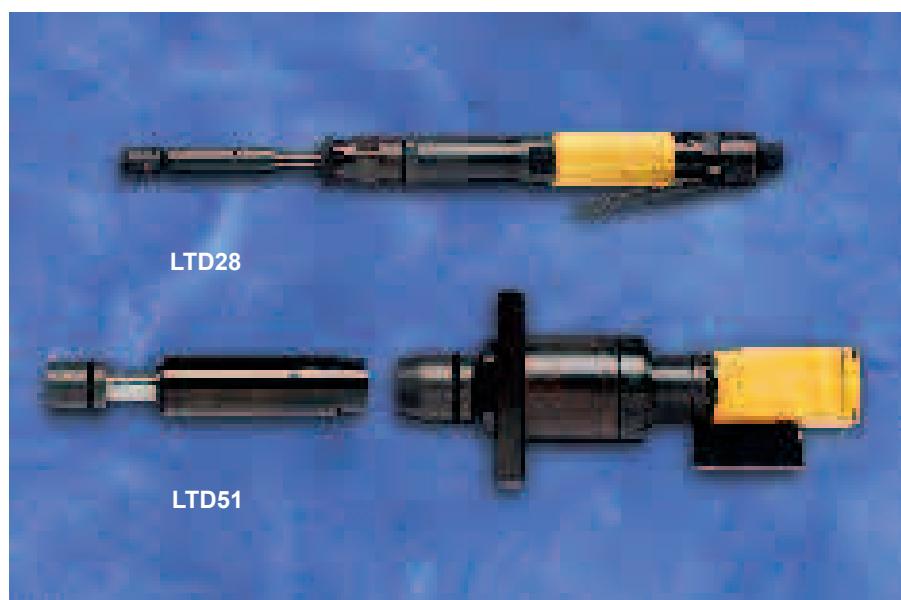
## Shut-off type

### Bolt capacity M5 – M24

The LTD28, 38 and 48 straight nutrunners are based on the power package and clutch from the LTV angle nutrunners.

The LTD/LMD51 nutrunners are based on the unique LTP/LMP51 range of twin motor pistol grip nutrunners with fast rundown and automatic torque-up at low speed, offering high productivity and unmatched torque accuracy as well as joint independence.

- Remote control back head** – A remote valve is connected to the back head of the LTD –RR tools allowing a better multiple.
- Accessibility** – Slim design allows the building of smooth, simple multiples or pare splndle designs. The lack of the clutch makes these tools shorter.
- Flexibility** – The range of LTD tools provides you with the options for your requirements.
- Reversibility** – Reversible LTD tools are available.



Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint		Free speed r/min	Weight without reaction bar/bracket		Length mm	Distance centre to side max mm	Recom- mended hose size mm	Air inlet thread	Sound level dB(A)	Air consump- tion at free speed		Ordering No.
			Nm	ft lb		kg	lb		in				l/s	cfm	
<b>Models with fixed square drive</b>															
LTD28 N9-RE	M5-M6	3/8	5 - 9	4 - 6	1400	1.1	2.4	339	20	10	1/4	76	9	19	8431 0534 05
LTD28 N18-RE	M6	3/8	8 - 18	6 - 13	780	1.2	2.6	358	20	10	1/4	76	9	19	8431 0534 08
LTD28 N21-RE	M6	3/8	10 - 21	7 - 15	570	1.2	2.6	358	20	10	1/4	76	9	19	8431 0534 13
LTD28 N22-RE	M6	3/8	10 - 22	7 - 16	140	1.2	2.6	358	20	10	1/4	76	9	19	8431 0534 18
<b>Reversible, lever start</b>															
LTD28 R8-RE	M5-M6	3/8	3 - 8	2 - 6	1100	1.2	2.6	363	20	10	1/4	76	8	17	8431 0534 61
LTD28 R16-RE	M6	3/8	7 - 16	6 - 12	610	1.3	2.9	383	20	10	1/4	76	8	17	8431 0534 65
LTD28 R20-RE	M6-M8	3/8	10 - 20	7 - 15	520	1.3	2.9	383	20	10	1/4	76	8	17	8431 0534 51
LTD28 R22-RE	M6-M8	3/8	10 - 22	7 - 16	125	1.3	2.9	383	20	10	1/4	76	8	17	8431 0534 54
<b>Reversible, remote control back head</b>															
LTD13 R05-RR	M3-M5	1/4 <sup>c</sup>	1.5 -	5 1.1 - 3.7	850	0.7	1.6	197	16	8	1/8	76	7	15	8431 0533 05
LTD13 R08-RR	M3-M5	1/4 <sup>c</sup>	1.5 -	8 1.1 - 6	500	0.8	1.7	197	16	8	1/8	76	7	15	8431 0533 06
LTD25 R13-RR	M2.5-M6	1/4 <sup>c</sup>	8 - 13	6 - 10	300	1.1	2.4	224	19	10	1/4	76	7	15	8431 0533 11
LTD28 R8-RR	M5-M6	3/8	3 - 8	2 - 6	1100	1.2	2.6	294	20	10/13	<sup>a</sup>	76 <sup>b</sup>	8	17	8431 0703 80
LTD28 R16-RR	M6	3/8	7 - 16	6 - 12	610	1.3	2.9	313	20	10/13	<sup>a</sup>	76 <sup>b</sup>	8	17	8431 0703 82
LTD28 R20-RR	M6-M8	3/8	10 - 20	7 - 15	520	1.3	2.9	313	20	10/13	<sup>a</sup>	76 <sup>b</sup>	8	17	8431 0703 83
<b>Models with telescopic front part, travel 25 mm</b>															
<b>Non reversible, lever start</b>															
LTD28 N9F-RE	M5-M6	3/8	5 - 9	4 - 6	1400	1.5	3.3	447	20	10	1/4	76	9	19	8431 0534 21
LTD28 N18F-RE	M6	3/8	8 - 18	6 - 13	780	1.6	3.5	466	20	10	1/4	76	9	19	8431 0534 27
LTD28 N21F-RE	M6	3/8	10 - 21	7 - 15	570	1.6	3.5	466	20	10	1/4	76	9	19	8431 0534 39
LTD28 N22F-RE	M6	3/8	10 - 22	7 - 16	140	1.6	3.5	466	20	10	1/4	76	9	19	8431 0534 43
<b>Reversible, lever start</b>															
LTD28 R8F-RE	M5-M6	3/8	3 - 8	2 - 6	1100	1.6	3.5	471	20	10	1/4	76	8	17	8431 0534 78
LTD28 R16F-RE	M6	3/8	7 - 16	6 - 12	620	1.7	3.7	491	20	10	1/4	76	8	17	8431 0534 85
LTD28 R20F-RE	M6-M8	3/8	10 - 20	7 - 15	570	1.7	3.7	491	20	10	1/4	76	8	17	8431 0534 37
LTD28 R22F-RE	M6-M8	3/8	10 - 22	7 - 16	125	1.7	3.7	491	20	10	1/4	76	8	17	8431 0534 89
<b>Reversible, remote control back head</b>															
LTD28 R8F-RR	M5-M6	3/8	3 - 8	2 - 6	1100	1.6	3.5	401	20	10/13	<sup>a</sup>	76 <sup>b</sup>	8	17	8431 0703 84
LTD28 R16F-RR	M6	3/8	7 - 16	6 - 12	620	1.7	3.7	421	20	10/13	<sup>a</sup>	76 <sup>b</sup>	8	17	8431 0703 86
LTD28 R20F-RR	M6-M8	3/8	10 - 20	7 - 15	570	1.7	3.7	421	20	10/13	<sup>a</sup>	76 <sup>b</sup>	8	17	8431 0703 88

<sup>a</sup> Air inlet thread = 2 x 1/4" + 1 x 3/8".

<sup>b</sup> With exhaust manifold.

<sup>c</sup> 1/4" quick change chuck.

### ACCESSORIES INCLUDED

Hose fitting

Clutch adjustment key

# STRAIGHT NUTRUNNERS

## Non shut-off and shut-off types

Model	Suitable for bolt size mm	Square drive size in	Torque range Soft joint				Weight without reaction bar/bracket		Length mm	Distance centre to side max width mm	Recom- mended hose size mm	Air inlet thread in	Air consump- tion at free speed			Ordering No.				
			Nm	ft lb	Free speed r/min	kg	lb	Sound level dB(A)		l/s			cfm							
<b>Models with fixed square drive</b>																				
<b>Non-reversible, lever start</b>																				
LTD38 N30-RE	M8	1/2	14-	30	10 - 21	820	2.2	4.8	414	20	10	1/4	80	16	34	8431 0535 04				
LTD38 N38-RE	M8	1/2	20-	38	15 - 27	680	2.2	4.8	414	20	10	1/4	80	16	34	8431 0535 12				
LTD38 N44-RE	M8-M10	1/2	18-	44	13 - 32	580	2.2	4.8	414	20	10	1/4	80	20	42	8431 0535 17				
LTD38 N55-RE	M10	1/2	27-	55	20 - 40	470	2.2	4.8	487	20	10	1/4	80	20	42	8431 0535 20				
<b>Reversible, lever start</b>																				
LTD38 R27-RE	M8	1/2	13-	27	10 - 20	670	2.1	4.6	441	20	10	1/4	80	16	34	8431 0534 53				
LTD38 R32-RE	M8	1/2	18-	32	13 - 24	560	2.1	4.6	441	20	10	1/4	80	16	34	8431 0534 52				
LTD38 R38-RE	M8-M10	1/2	19-	38	14 - 28	480	2.1	4.6	441	20	10	1/4	80	16	34	8431 0535 78				
LTD38 R47-RE	M8-M10	1/2	22-	47	16 - 35	380	2.3	5.1	513	20	10	1/4	80	20	42	8431 0535 83				
<b>Reversible, remote control back head</b>																				
LTD38 R27-RR	M8	1/2	13-	27	10 - 20	670	2.1	4.6	377	21	10/16	a	80 <sup>b</sup>	16	34	8431 0704 22				
LTD38 R32-RR	M8	1/2	18-	32	13 - 24	560	2.1	4.6	377	21	10/16	a	80 <sup>b</sup>	16	34	8431 0704 24				
LTD38 R38-RR	M8-M10	1/2	19-	38	14 - 28	480	2.1	4.6	377	21	10/16	a	80 <sup>b</sup>	16	34	8431 0704 26				
LTD38 R47-RR	M8-M10	1/2	22-	47	16 - 35	380	2.3	5.1	448	21	10/16	a	80 <sup>b</sup>	16	34	8431 0704 28				
<b>Models with telescopic front part, travel 25 mm</b>																				
<b>Non-reversible, lever start</b>																				
LTD38 N30F-RE	M8	1/2	14-	30	10 - 21	820	2.3	5.0	521	20	10	1/4	80	20	42	8431 0535 38				
LTD38 N38F-RE	M8	1/2	20-	38	15 - 27	680	2.3	5.0	521	20	10	1/4	80	20	42	8431 0535 46				
LTD38 N44F-RE	M8-M10	1/2	18-	44	13 - 32	580	2.3	5.0	521	20	10	1/4	80	20	42	8431 0535 31				
LTD38 N55F-RE	M10	1/2	27-	55	20 - 40	470	2.5	5.5	599	23	10	1/4	80	20	42	8431 0535 53				
<b>Reversible, lever start</b>																				
LTD38 R27F-RE	M8	1/2	13-	27	10 - 20	670	2.5	5.5	546	20	10	1/4	80	16	34	8431 0535 65				
LTD38 R32F-RE	M8	1/2	18-	32	13 - 24	560	2.5	5.5	546	20	10	1/4	80	16	34	8431 0535 91				
LTD38 R38F-RE	M8-M10	1/2	19-	38	14 - 28	480	2.5	5.5	546	20	10	1/4	80	16	34	8431 0535 95				
LTD38 R47F-RE	M8-M10	1/2	22-	47	16 - 35	380	2.7	5.9	625	23	10	1/4	80	16	34	8431 0535 99				
<b>Reversible, remote control back head</b>																				
LTD38 R27F-RR	M8	1/2	13-	27	10 - 20	670	2.5	5.5	482	21	10/16	a	80 <sup>b</sup>	16	34	8431 0704 30				
LTD38 R32F-RR	M8	1/2	18-	32	13 - 24	560	2.5	5.5	482	21	10/16	a	80 <sup>b</sup>	16	34	8431 0704 32				
LTD38 R38F-RR	M8-M10	1/2	19-	38	14 - 28	480	2.5	5.5	482	21	10/16	a	80 <sup>b</sup>	16	34	8431 0704 34				
LTD38 R47F-RR	M8-M10	1/2	22-	47	16 - 35	380	2.7	5.9	566	23	10/16	a	80 <sup>b</sup>	16	34	8431 0704 36				
<b>Reversible, lever start</b>																				
LTD48 R65-RE <sup>d</sup>	M10	1/2	27-	65	20 - 48	400	3.1	6.8	582	30	12.5	1/2	82	28	59	8431 0637 07				
LTD48 R81-RE <sup>d</sup>	M12	1/2	32-	81	24 - 60	320	3.1	6.8	582	30	12.5	1/2	82	28	59	8431 0637 12				
<b>Reversible, remote control back head</b>																				
LTD48 R65-RR	M10	1/2	27-	65	20 - 48	400	3.5	7.7	410	28	12.5/16	c	-	30	63	8431 0704 46				
LTD48 R81-RR	M12	1/2	32-	81	24 - 60	330	3.5	7.7	410	28	12.5/16	c	-	30	63	8431 0704 48				
<b>Models with telescopic front part, travel 25 mm</b>																				
<b>Reversible, lever start</b>																				
LTD48 R65F-RE <sup>d</sup>	M10	1/2	27-	65	20 - 48	400	3.5	7.7	700	30	12.5	1/2	82	28	59	8431 0637 17				
LTD48 R81F-RE <sup>d</sup>	M12	1/2	32-	81	24 - 60	320	3.5	7.7	700	30	12.5	1/2	82	28	59	8431 0637 23				
<b>Reversible, remote control back head</b>																				
LTD48 R65F-RR	M10	1/2	27-	65	20 - 48	400	3.7	8.2	522	28	12.5/16	c	-	30	63	8431 0704 50				
LTD48 R81F-RR	M12	1/2	32-	81	24 - 60	330	3.7	8.2	522	28	12.5/16	c	-	30	63	8431 0704 52				
<b>Torque control models with fixed square drive</b>																				
LTD51 012-13-RE	M12	1/2	45-	100	35 - 75	1000	2.6	5.7	223	29	10	3/8	79 <sup>b</sup>	19	40	8431 0525 07				
LTD51 008-13-RE	M14	1/2	70-	175	50 - 130	600	2.6	5.7	223	29	10	3/8	79 <sup>b</sup>	19	40	8431 0525 15				
LTD51 006-19-RE	M16	3/4	85-	225	60 - 165	450	2.6	5.7	223	29	10	3/8	79 <sup>b</sup>	19	40	8431 0525 23				
LTD51 006-16-RE	M16	5/8	85-	225	60 - 165	450	2.6	5.7	223	29	10	3/8	79 <sup>b</sup>	19	40	8431 0525 22				
LTD51 004-20-RE	M18	3/4	145-	320	105 - 235	300	3.3	7.3	260	31	10	3/8	79 <sup>b</sup>	19	40	8431 0525 31				
LTD51 002-20-RE	M20	3/4	220-	460	165 - 335	200	3.3	7.3	260	31	10	3/8	79 <sup>b</sup>	19	40	8431 0525 49				
LTD51 001-25-RE	M24	1	800-	900	220 - 660	52	3.6	7.9	282	32	10	3/8	79 <sup>b</sup>	19	40	8431 0525 21				
<b>Stall type models with fixed square drive</b>																				
LMD51 012-13-RE	M12	1/2	60-	110	45 - 80	1100	2.6	5.7	223	29	10	3/8	79 <sup>b</sup>	19	40	8431 0526 05				
LMD51 008-13-RE	M14	1/2	95-	190	70 - 140	680	2.6	5.7	223	29	10	3/8	79 <sup>b</sup>	19	40	8431 0526 13				
LMD51 006-19-RE	M16	3/4	182-	250	95 - 185	520	2.6	5.7	223	29	10	3/8	79 <sup>b</sup>	19	40	8431 0526 69				
LMD51 006-16-RE	M16	5/8	182-	250	95 - 185	520	2.6	5.7	223	29	10	3/8	79 <sup>b</sup>	19	40	8431 0526 22				
LMD51 004-20-RE	M18	3/4	195-	380	140 - 275	305	3.3	7.3	260	31	10	3/8	79 <sup>b</sup>	19	40	8431 0526 39				
LMD51 002-20-RE	M20	3/4	260-	550	190 - 400	210	3.3	7.3	260	31	10	3/8	79 <sup>b</sup>	19	40	8431 0526 47				
LMD51 001-25-RE	M24	1	470-	950	345 - 695	125	3.7	8.2	282	32	10	3/8	79 <sup>b</sup>	19	40	8431 0526 37				

<sup>a</sup> Air inlet thread = 2 x 1/4" + 1 x 3/8".

<sup>c</sup> Air inlet thread = 2 x 1/2" + 1 x 3/4".

LTD51/LMD51: Change over torque is around 7% of maximum torque on a given air pressure.  
<sup>b</sup> With exhaust manifold.  
<sup>d</sup> Optional RE kit LTD48 RE Ord. No. 4210 4057 90.

### TELESCOPIC FRONT PART LMD/LTD51

Dimensions							
N in	D mm	F mm	L mm	M mm			

# STRAIGHT AND SPECIAL NUTRUNNERS

## Twin spindle fixtures

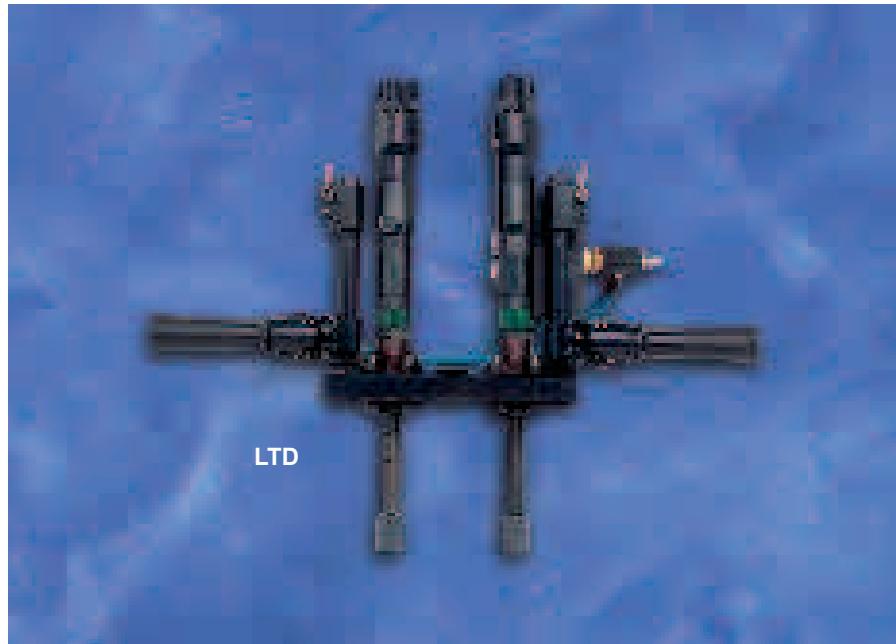
Atlas Copco offers three sizes of twin spindle multiples, intended for 28, 38 and 48/51 sizes. The CC-distance in the TwinSpin is changeable and the largest size has a maximum CC-distance of 364 mm. The smallest size has a minimum CC-distance of 53 mm. The complete set has two throttle handles, one for forward and one for reverse, (if the system is non reversible there is only one throttle handle).

### The following kits are available;

- TwinSpin air LTD28
- TwinSpin air LTD38
- TwinSpin air LTD48/51

### The TwinSpin kit includes;

- 2 x support handle
- 2 x mounting plate, (with corresponding splines)
- 2 x handle attachment
- 1 x suspension wire
- 1 x reaction arm
- 2 x beam
- 1 x assembly tool
- 1 x mounting plate for reaction bar
- 2 x post
- 2 x bracket



TwinSpin kit	Max CC-distance <sup>a</sup>	Min CC-distance <sup>a</sup>	Ordering No.
LTD28 RE/RR	383	53	4210 4159 80
LTD38 N30/N38/N44/R27/R32/R38-RE/RR	376	60	4210 4160 80
LTD38 N55/R47-RE/RR	364	72	4210 4161 80
LTD48 RE/RR	364	72	4210 4161 80
LMD/LTD51 006, 008, 012	364	72	4210 4161 82
LMD/LTD51 002/004	362	87	4210 4161 81

<sup>a</sup> CC-distance = distance between center of spindles.

## Valves kits

Valves have to be ordered separately. 3-gate valves are available for non reversible applications and 5-gate valves for reversible. Mounting brackets for the valve kits have to be ordered separately. For stated noise levels on RR-versions, exhaust manifolds have to be used. Exhaust manifolds have to be ordered separately.

### Valve kits include

- Main valve
- Throttle handle valve/values
- Bracket
- Hose nipples and hose clamps

Intended for tool type	Valve type	Ordering No.
LTD28/38 RE	3-gate for non reversible	4210 4162 80
LTD28 RR	5-gate for reversible	4210 4163 80
LTD48 RE	3-gate for non reversible	4210 4166 80
LTD38/48 RR	5-gate for reversible	4210 4167 80
LMD/LTD51 006, 008, 012	3-gate for non reversible	4210 4166 80

## Exhaust manifolds include

- Block
- Silencer with gasket
- Nipples

Intended for tool type	Ordering No.
LTD28 RR	4210 4168 80
LTD38 RR	4210 4168 81
LTD48 RR	4210 4168 81

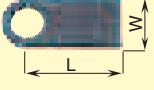
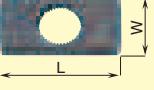
# STRAIGHT NUTRUNNERS

## Accessories

### Reaction bar

	Dimensions mm	LTD28	LTD38	LTD38 N55/R47 LTD46/48 LMD/LTD51	LMD/LTD51 3/4" square models	LMD/LTD51 1" square models
Bar blank (steel)	L					
	250	4210 1798 00	4210 2134 00	4210 2219 02	4210 2726 80	4210 2183 80
	200					
	500					
Bar blank (aluminium)	400			4210 2219 01		

### Mounting plate

	Dimensions mm	LTD28	LTD38	LTD38 N55/R47 LTD46/48 LMD/LTD51 006/008/012	LMD/LTD51 002/004	LMD/LTD51 001
Side mount		<b>L x W</b> 90 x 40 120 x 70	4210 1798 01	4210 2134 01		
Centre mount		<b>L x W</b> 70 x 40 100 x 50 125 x 65	4210 1798 02	4210 2134 02	4210 2219 03	4210 2183 01
Flange mount		D 55			4210 2219 10	4210 2726 01

# PISTOL GRIP NUTRUNNERS

The pistol grip nutrunners from Atlas Copco are a unique combination of torque, speed and weight.

With the Atlas Copco LMP/LTP51 range you get the highest possible rate of torque and speed in relation to the weight of the tool.

- **Extremely fast** – Due to the twin motor concept of LTP/LMP51.
- **Good torque accuracy** – Even on soft joints.
- **No reaction forces** due to the reaction bar.
- **Low sound level** – Exhaust through handle.
- **Single handed operation** – The low weight and the perfectly balanced pistol grip design make the single hand operated LMP24 and -51 and LTP51 nutrunners safer and more comfortable to use.
- **Reversible for maximum flexibility** – Being able to loosen fasteners without changing tools improves productivity and is a major operator benefit in terms of time and effort.

## Electronic monitoring and control

In order to obtain the highest possible production quality all tools can be equipped for electronic monitoring of torque.

- **Torque transducer** – The LMP24 can be used together with the accurate and easy-to-use PRT add on transducers, for torque monitoring.



- **Torque transducer and angle encoder**

– The LMP/LTP51 series can be used with the accurate and easy-to-use PRT add on transducers.



# PISTOL GRIP NUTRUNNERS

## Stall type – Non reversible

### LMP24. Bolt capacity M6 – M10

- High torque accuracy, regardless of joint stiffness.
- Swivelling function as option.
- High torque capacity, in relation to weight.
- Low vibration level.

### LMP51 H. Bolt capacity M12 – M42

Patented standard twin motors give faster production and an increased accuracy with a minimum of air consumption.

- Very high torque accuracy.
- The swivelling function facilitates tool positioning.
- Fast rundown motor for time saving.
- Extremely good weight to torque output ratio compared to single motor pistol grip nutrunners.
- Special model for fast tightening of prevailing applications, LMP51 PH.



Model	Suitable for bolt size	Square drive size	Torque range Soft joint						Free speed r/min	Weight <sup>a</sup> kg lb	Length mm	Distance centre to side mm	Air inlet thread in	Recom- mended hose size mm	Spline type	Ordering No.							
			at 6.3 bar Nm ft lb		at 3 bar Nm ft lb																		
<b>Pistol grip nutrunners</b>																							
LMP24 H011-10	M6	3/8	13	10	6	4	1550	1.0	2.2	210	18	1/4	10	1	8431 0245 56								
LMP24 H005-10	M8	3/8	30	22	14	10	500	1.0	2.2	210	18	1/4	10	1	8431 0245 49*								
LMP24 H003-13	M8	1/2	40	30	14	10	330	1.2	2.6	210	18	1/4	10	1	8431 0245 64								
LMP24 H002-13	M10	1/2	58	43	27	20	240	1.3	2.9	230	21	1/4	10	2	8431 0245 31*								
LMP51 H012-13	M12	1/2	110	80	60	45	1100	2.6	5.7	223	29	3/8	10	3	8431 0510 05								
LMP51 H008-13	M14	1/2	190	140	95	70	680	2.6	5.7	223	29	3/8	10	3	8431 0510 13*								
LMP51 H006-19	M16	3/4	250	185	130	96	520	2.6	5.7	223	29	3/8	10	3	8431 0513 69								
LMP51 H004-20	M18	3/4	380	275	195	140	305	3.3	7.3	260	31	3/8	10	4	8431 0510 39*								
LMP51 H002-20	M20	3/4	550	400	260	190	210	3.3	7.3	260	31	3/8	10	4	8431 0510 47*								
LMP51 H001-25	M24	1	950	695	470	345	125	3.7	8.2	282	32	3/8	10	5	8431 0512 37*								
LMP51 H0007-25	M30	1	1500	1105	750	550	75	6.5	14.3	323	42	3/8	10	9	8431 0510 57								
LMP51 H0005-38	M30	1 1/2	2100	1512	1100	792	52	13.8	30.4	380	68	3/8	10	8	8431 0510 59								
LMP51 H0004-38	M36	1 1/2	3000	2160	1600	1152	36	13.8	30.4	380	68	3/8	10	8	8431 0510 64								
LMP51 H0003-38	M42	1 1/2	4100	2952	2100	1512	26	13.8	30.4	380	68	3/8	10	8	8431 0510 68								

<sup>a</sup> Without reaction bar.

Air consumption at free speed: LMP24, 11 l/s (23 cfm)

\* Basic tools of the range, cover most needs.

LMP51 H: Change over torque is around 7% of maximum torque on a given air pressure.

LMP51, 19 l/s (40 cfm)

Sound level: LMP24, 78 dB(A)

LMP51, 79 dB(A)

### LMP51 PH. Bolt capacity M12 – M27

#### For prevailing applications

The LMP51 PH and LTP51 PH are specially designed to handle prevailing applications, such as locking nuts. A special gear gives a higher change over torque. This allows the fast rundown motor to handle most of the rundown before the slower but stronger tightening motor is used.

Model	Suitable for bolt size	Square drive size	Torque range Soft joint						Free speed r/min	Weight <sup>a</sup> kg lb	Length mm	Distance centre to side mm	Recom- mended hose size mm	Spline type	Ordering No.						
			at 6.3 bar Nm ft lb		at 3 bar Nm ft lb																
<b>Pistol grip nutrunners</b>																					
LMP51 PH005-13	M12	1/2	125	90	65	45	470	2.6	5.7	223	29	10	3	8431 0510 96							
LMP51 PH004-13	M12	1/2	200	145	105	75	300	2.6	5.7	223	29	10	3	8431 0510 88							
LMP51 PH003-19	M16	3/4	280	205	140	100	220	2.6	5.7	223	29	10	3	8431 0513 85							
LMP51 PH002-20	M18	3/4	420	305	210	155	135	3.3	7.3	260	31	10	4	8431 0510 62							
LMP51 PH001-20	M20	3/4	590	430	290	215	90	3.3	7.3	260	31	10	4	8431 0510 54							
LMP51 PH0005-25	M27	1	950	695	470	345	55	3.7	8.2	282	32	10	5	8431 0512 45							

<sup>a</sup> Without reaction bar.

Air consumption at free speed: 19 l/s (40 cfm)

LMP51 PH: Change over torque is around 15% of maximum torque on a given air pressure.

Sound level: 79 dB(A)

#### ACCESSORIES INCLUDED

LMP24: Suspension yoke, reaction bar

LMP51: Swivel type reaction bar

#### OPTIONAL ACCESSORIES

Page 64



#### SELECTED SERVICE KITS

Page 64

# PISTOL GRIP NUTRUNNERS

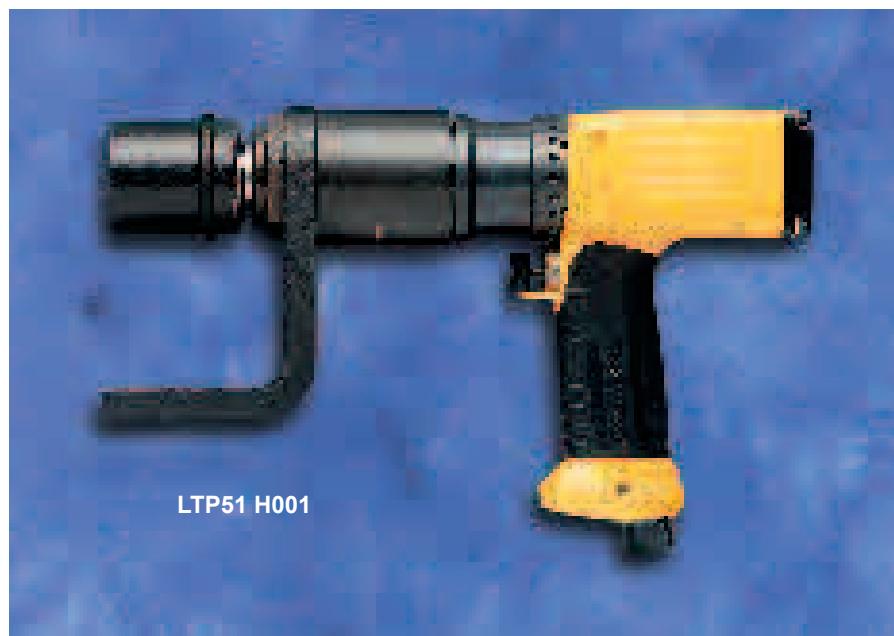
## Torque control type – Non reversible

### LTP51 H. Bolt capacity M12 – M42

#### Torque control type

Patented standard twin motors give faster production and an increased accuracy with a minimum of air consumption.

- The LTP51 has all the features of the LMP51 plus an easy to use shut-off valve.
- Automatic shut-off at preset level.
- Gives fast and reliable tightening.
- Very high torque accuracy.
- The swivelling function facilitates tool positioning.
- Fast rundown motor for time saving.
- Extremely good weight to torque output ratio compared to single motor pistol grip nutrunners.
- Special model for fast tightening of prevailing applications, LTP51 PH.
- Multi Torque device available making it possible to use the same tool at four different settings.



Model	Suitable for bolt size	Square drive size	Torque range at 5 bar				Min torque at 3 bar		Max torque at 6.3 bar		Free speed r/min	Weight <sup>a</sup> kg	Length mm	Distance centre to side			Spline type	Ordering No.
			Nm	ft lb	Nm	ft lb	Nm	ft lb	Nm	ft lb				mm	mm	mm		
<b>Pistol grip nutrunners – Torque control type</b>																		
LTP51 H012-13	M12	1/2	60 - 85	45 - 65	45	35	100	75	900	2.6	5.7	223	29	3	8431 0500 07*			
LTP51 H008-13	M14	1/2	85 - 150	60 - 110	70	50	175	130	550	2.6	5.7	223	29	3	8431 0500 15*			
LTP51 H006-19	M16	3/4	120 - 185	85 - 135	85	60	225	165	400	2.6	5.7	223	29	3	8431 0513 77*			
LTP51 H004-20	M18	3/4	200 - 270	145 - 200	145	105	320	235	255	3.3	7.3	260	31	4	8431 0500 31*			
LTP51 H002-20	M20	3/4	265 - 380	195 - 280	220	160	460	335	175	3.3	7.3	260	31	4	8431 0500 49*			
LTP51 H001-25	M24	1	450 - 700	330 - 510	300	220	900	660	100	3.6	7.9	282	32	5	8431 0502 21*			
LTP51 H0007-25	M30	1	740 - 1100	545 - 810	700	516	1500	1106	55	6.5	14.3	323	42	9	8431 0500 53			
LTP51 H0005-38	M30	1 1/2	1000 - 1700	720 - 1200	800	576	2100	1550	52	13.8	30	380	68	8	8431 0500 58			
LTP51 H0004-38	M36	1 1/2	1500 - 3000	1080 - 2200	1200	864	3000	2200	36	13.8	30	380	68	8	8431 0500 60			
LTP51 H0003-38	M42	1 1/2	2000 - 3300	1440 - 2400	1600	1152	4100	2900	26	13.8	30	380	68	8	8431 0500 63			

<sup>a</sup> Without reaction bar.

\* Basic tools of the range, cover most needs.

LTP51 H: Change over torque is around 7% of maximum torque on a given air pressure.

Air consumption at free speed: 19 l/s (40 cfm)

Sound level: 79 dB(A)

### LTP51 PH

#### For prevailing applications

The LMP51 PH and LTP51 PH are specially designed to handle prevailing applications, such as locking nuts. A special gear gives a higher change over torque. This allows the fast rundown motor to handle most of the rundown before the slower but stronger tightening motor is used.

Model	Suitable for bolt size	Square drive size	Torque range at 5 bar				Min torque at 3 bar		Max torque at 6.3 bar		Free speed r/min	Weight <sup>a</sup> kg	Length mm	Distance centre to side			Spline type	Ordering No.
			Nm	ft lb	Nm	ft lb	Nm	ft lb	Nm	ft lb				mm	mm	mm		
<b>LTP51 PH005-13</b>																		
LTP51 PH005-13	M12	1/2	65 - 90	45 - 65	50	35	110	80	425	2.6	5.7	223	29	3	8431 0500 98			
LTP51 PH004-13	M14	1/2	100 - 155	75 - 115	80	60	190	140	255	2.6	5.7	223	29	3	8431 0500 80			
LTP51 PH003-19	M16	3/4	150 - 205	110 - 150	95	70	260	190	190	2.6	5.7	223	29	3	8431 0513 93			
LTP51 PH002-20	M18	3/4	220 - 300	160 - 220	160	115	380	280	130	3.3	7.3	260	31	4	8431 0500 64			
LTP51 PH001-20	M20	3/4	305 - 415	220 - 305	220	160	520	380	85	3.3	7.3	260	31	4	8431 0500 56			
LTP51 PH0005-25	M27	1	595 - 805	435 - 590	450	330	950	695	50	3.7	8.2	282	32	5	8431 0502 39			

<sup>a</sup> Without reaction bar.

Air inlet thread inch: 3/8"

LTP51 H: Change over torque is around 15% of maximum torque on a given air pressure.

Recommended hose size: 10 mm

Air consumption at free speed: 19 l/s (40 cfm)

Sound level: 79 dB(A)

### ACCESSORIES INCLUDED

LTP51: Swivel type reaction bar

### OPTIONAL ACCESSORIES

Page 64



### SELECTED SERVICE KITS

Page 64

# PISTOL GRIP NUTRUNNERS

Stall type and torque control type – Reversible

LMP24 HR, LMP/LTP51 HR, PHR

Bolt capacity M6 – M42

LMP51 HR

Bolt capacity M14 – M42

- Patented standard twin motors give faster production and an increased accuracy with a minimum of air consumption.
- Very high torque accuracy.
- Fast rundown motor for time saving.
- Extremely good weight to torque out-put compared to single motor pistol grip nutrunners.
- The swivelling function facilitates tool positioning.
- Reversible for maximum flexibility**
  - Being able to loosen fasteners without changing tools improves productivity and is a major operator benefit in terms of time and effort.



Model	Torque range Soft joint						Free speed r/min	Weight <sup>a</sup> kg	Length mm	Distance centre to side mm	Air inlet thread in	Recom-mended hose size mm		Spline type	Ordering No.	
	Suitable for bolt size	Square drive size	at 6.3 bar		at 3 bar											
			Nm	ft lb	Nm	ft lb										
<b>Pistol grip nutrunners – Stall type</b>																
LMP24 HR011-10	M6	3/8	10	7	5	4	860	1.0	2.2	210	18	1/4	10	1	8431 0245 85	
LMP24 HR005-10	M8	3/8	22	16	10	7	380	1.0	2.2	210	18	1/4	10	1	8431 0245 77	
LMP24 HR003-13	M8	1/2	30	22	14	10	250	1.2	2.6	210	18	1/4	10	1	8431 0245 91	
LMP24 HR002-13	M10	1/2	40	33	20	15	180	1.3	2.9	230	21	1/4	10	2	8431 0245 70	
LMP51 HR008-13	M14	1/2	190	140	95	70	680	2.6	6.6	238	30	3/8	10	3	8431 0528 13	
LMP51 HR004-20	M18	3/4	380	275	195	140	305	3.9	8.6	275	34	3/8	10	4	8431 0528 39	
LMP51 HR002-20	M20	3/4	550	400	260	190	210	3.9	8.6	275	34	3/8	10	4	8431 0528 47	
LMP51 HR001-25	M24	1	950	695	470	345	125	4.3	9.5	305	34	3/8	10	5	8431 0528 37	
LMP51 PHR005-25	M27	1	950	695	470	345	55	4.3	9.5	305	34	3/8	10	5	8431 0528 45	
LMP51 HR0007-25	M30	1	1500	1105	750	550	75	6.6	14.6	345	42	3/8	10	9	8431 0528 57	
LMP51 HR0005-38	M30	1 1/2	2100	1550	1100	792	52	13.8	30.0	380	68	3/8	10	8	8431 0528 62	
LMP51 HR0004-38	M36	1 1/2	3000	2200	1600	1152	36	13.8	30.0	380	68	3/8	10	8	8431 0528 65	
LMP51 HR0003-38	M42	1 1/2	4100	2900	2100	1512	26	13.8	30.0	380	68	3/8	10	8	8431 0528 72	

<sup>a</sup>Without reaction bar.

Air consumption at free speed: LMP24, 7 l/s (15 cfm)

Sound level: LMP24/51, 79 dB(A)

LMP51, 19 l/s (40 cfm)

Model	Suitable for bolt size	Square drive size	Torque range at 5 bar				Min torque at 3 bar	Max torque at 6.3 bar	Free speed r/min	Weight <sup>a</sup> kg	Length mm	Distance centre to side mm	Spline type	Ordering No.	
			Nm	ft lb	Nm	ft lb									
<b>Pistol grip nutrunners – Torque control type</b>															
LTP51 HR012-13	M12	1/2	60 - 85	45 - 65	45	35	100	75	900	2.6	5.7	235	30	3	8431 0527 07
LTP51 HR008-13	M14	1/2	85 - 150	60 - 110	70	50	175	130	550	3.0	6.6	238	30	3	8431 0527 15
LTP51 HR004-20	M18	3/4	200 - 270	145 - 200	145	105	320	235	255	3.9	8.6	275	34	4	8431 0527 31
LTP51 HR002-20	M20	3/4	265 - 380	195 - 280	220	160	460	235	175	3.9	8.6	275	34	4	8431 0527 49
LTP51 HR001-25	M24	1	450 - 700	330 - 510	300	220	900	660	100	4.3	9.5	305	34	5	8431 0527 21
LTP51 PHR005-25	M27	1	595 - 805	435 - 590	450	330	950	695	50	4.3	9.5	305	34	5	8431 0527 39
LTP51 HR0007-25	M30	1	740 - 1100	545 - 810	700	516	1500	1106	55	6.6	14.6	345	42	9	8431 0527 53
LTP51 HR0005-38	M30	1 1/2	1000 - 1500	720 - 1080	800	590	2000	1500	52	13.8	30.0	380	68	8	8431 0527 55
LTP51 HR0004-38	M36	1 1/2	1500 - 2200	1080 - 1584	1200	890	3000	2200	36	13.8	30.0	380	68	8	8431 0527 58
LTP51 HR0003-38	M42	1 1/2	2000 - 3000	1440 - 2160	1600	1200	4000	3000	26	13.8	30.0	380	68	8	8431 0527 60

<sup>a</sup>Without reaction bar.

Air consumption at free speed: LTP51, 19 l/s (40 cfm)

Air inlet thread inch: LMP24 = 1/4", LMP/LTP51 = 3/8"

Recommended hose size: 10 mm

Sound level: 79 dB(A)

## ACCESSORIES INCLUDED

LMP24: Suspension yoke, reaction bar

LMP51/LTP51: Swivel type reaction bar

## OPTIONAL ACCESSORIES

Page 64



## SELECTED SERVICE KITS

Page 64

# PISTOL GRIP NUTRUNNERS

## Angle head versions

### LTV51, LMV51, LTPV51 and LMPV51

#### Bolt capacity M14 – M18

Patented standard twin motors give faster production and an increased accuracy with a minimum of air consumption.

- Very high torque accuracy.
- The swivelling function facilitates tool positioning.
- Fast rundown motor for time saving.
- Extremely good weight to torque output ratio compared to single motor pistol grip nutrunners.
- **Remote control** – The LTV51/LMV51 straight nutrunners are designed for operation with a separate throttle valve.
- The Multi Torque Selector makes it possible to preset up to four different shut off levels for one and the same tool.



Model	Suitable for bolt size	Square drive size	Torque range at 5 bar		Min torque at 3 bar		Max torque at 6.3 bar		Free speed r/min	Weight	Distance centre to side		Ordering No.			
			Nm	ft lb	Nm	ft lb	Nm	ft lb			Length mm	mm				
<b>Straight tools with angle head – Shut-off type</b>																
LTV51 006-L13	M14	1/2	110	150	85	115	85	65	180	135	540	4.4	9.7	405	25	8431 0527 61
LTV51 004-L13	M16	1/2	170	200	130	150	130	100	200	150	320	4.4	9.7	405	25	8431 0527 62
LTV51 003-L19	M18	3/4	210	350	160	265	160	120	350	265	240	6.8	15.0	445	34	8431 0527 63
<b>Stall type</b>																
LMV51 006-L13	M16	1/2	–	–	110	85	200	150	590	4.4	9.7	405	25	8431 0527 81		
LMV51 004-L13	M16	1/2	–	–	175	135	200	150	360	4.4	9.7	405	25	8431 0527 82		
LMV51 003-L19	M16	3/4	–	–	245	185	350	265	280	6.8	15.0	445	34	8431 0527 83		
<b>Pistol grip tools with angle head – Shut-off type</b>																
LTPV51 S006-L13	M14	1/2	110	150	85	115	85	65	180	135	540	4.4	9.7	405	25	8431 0527 71
LTPV51 S004-L13	M16	1/2	170	200	130	150	130	100	200	150	320	4.4	9.7	405	25	8431 0527 72
LTPV51 S003-L19	M18	3/4	210	350	160	265	160	120	350	265	240	6.8	15.0	445	34	8431 0527 73
<b>Stall type</b>																
LMPV51 S006-L13	M16	1/2	–	–	110	85	200	150	590	4.4	9.7	405	25	8431 0527 91		
LMPV51 S004-L13	M16	1/2	–	–	175	135	200	150	360	4.4	9.7	405	25	8431 0527 92		
LMPV51 S003-L19	M16	3/4	–	–	245	185	350	265	280	6.8	15.0	445	34	8431 0527 93		

Air consumption at free speed: 19 l/s (40 cfm)

# PISTOL GRIP NUTRUNNERS

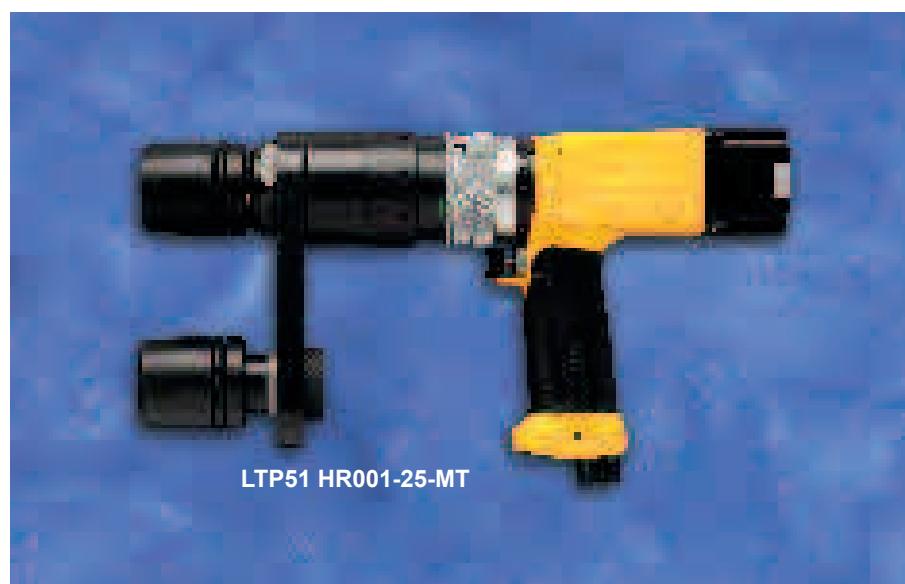
## With integrated Multi Torque Selector

### LTP51 Multi Torque

#### Bolt capacity M14 – M42

- The Multi Torque Selector makes it possible to preset up to four different shut off levels.
- The Rotary dial mounted on the tool allows the operator to select different torque levels without changing the tool.
- Ideal for situations where:
  - Several different assembly operations take place.
  - Multi-stage tightening operations are required.
  - Several different torque settings are needed.

The Multi Torque is available as a complete unit, factory fitted to an LTP nutrunner, or as an accessory which can be retro-fitted to any LTP51 nutrunner.



Model	Suitable Square for bolt size	Square drive size	Torque range at 5 bar				Min torque at 3 bar		Max torque at 6.3 bar		Free speed r/min	Weight		Distance centre to side		Spline type	Ordering No.
			Nm	ft lb	Nm	ft lb	Nm	ft lb	Nm	ft lb		kg	lb	Length	mm		
LTP51 HR008-13-MT	M14	1/2	85 - 150	60 - 110	70	50	175	130	550	3.0	6.6	238	30	3	8431 0518 15		
LTP51 HR004-20-MT	M18	3/4	200 - 270	145 - 200	145	105	320	235	255	3.9	8.6	275	34	4	8431 0518 31		
LTP51 HR002-20-MT	M20	3/4	265 - 380	195 - 280	220	160	460	335	175	3.9	8.6	275	34	4	8431 0518 49		
LTP51 HR001-25-MT	M24	1	450 - 700	330 - 510	300	220	900	660	100	4.3	9.5	305	34	5	8431 0518 21		
LTP51 PHR0005-25-MT	M27	1	595 - 805	435 - 590	450	330	950	695	50	4.3	9.5	305	34	5	8431 0518 39		
LTP51 HR0007-25-MT	M30	1	740 - 1100	545 - 810	700	516	1500	1106	55	6.6	14.6	345	42	9	8431 0518 53		
LTP51 HR0005-38-MT	M30	1 1/2	1000 - 1500	720 - 1080	800	590	2000	1500	52	13.8	30	380	68	8	8431 0518 55		
LTP51 HR0004-38-MT	M36	1 1/2	1500 - 2200	1080 - 1584	1200	890	3000	2200	36	13.8	30	380	68	8	8431 0518 58		
LTP51 HR0003-38-MT	M42	1 1/2	2000 - 3000	1440 - 2160	1600	1200	4100	3000	26	13.8	30	380	68	8	8431 0518 60		

Air consumption at free speed: 19 l/s (40 cfm)

### ACCESSORIES INCLUDED

LTP51: Swivel type reaction bar

### OPTIONAL ACCESSORIES

Page 64



### SELECTED SERVICE KITS

Page 64

# PISTOL GRIP NUTRUNNERS

## Accessories

### OPTIONAL ACCESSORIES

	Ordering No.
<b>For LMP24/51 and LTP51</b>	
Hose nipple	
LMP24	9000 0247 00
LMP/LTP51	9000 0242 00
<b>For LMP24</b>	
Swivel attachment	4210 2249 80
Exhaust hose	4210 2053 00
Support handle (for H/HR002 only)	4110 1355 82
Spindle extension 115 mm x 1/2" (for H/HR002 only)	4210 2154 80
50 mm x 3/8" (for H/HR0011/005 only)	4210 2158 80
1/4" hex bit holder (for H/HR0011/005 only)	4021 0443 00
1/2" square adapter (for H/HR0011/005 only)	4210 2157 80
<b>For LTP51/LMP51</b>	
Exhaust hose	4210 2201 00
Protective cover	4210 3044 00
Aluminium reaction bar (only for LMP/LTP51 H012/H008)	4210 2219 01
Reaction bar blanks	
- 1/2" square models	4210 2219 03
- 3/4" square models	4210 2183 01
- 1" square models (0005-25)	4210 2726 01
- 1" square models (0007-25)	4210 3899 00
Reaction bars S type	
Spline type 3	4210 4480 03
Spline type 4	4210 4480 04
Spline type 5	4210 4480 05
Spline type 6	4210 4480 06
Reaction bars Sliding Drive type	
Spline type 5	4210 4481 05
Multi torque selector	4210 2269 95
Prevailing modification kit	
- for H/HR008	4210 2592 80
- except H/HR008	4210 2593 80
Quick change retainer	
- 1/2" square models	4250 1190 00
- 3/4" square models	4210 3476 80
- 1" square models	4210 3524 80
Shut-off override for LTP51	4210 3545 80

Swivelling suspension yoke for LTP51/LMP51	Ordering No.	Swivelling suspension yoke for LTP51/LMP51	Ordering No.
<b>Mounting dia Ø 54 mm</b>		<b>Ø 67 mm</b>	
LTP/LMP51 H 001-25	4210 3088 80	LTP/LMP51 HR 001-25	4210 3088 82
LTP/LMP51 H 002-20		LTP/LMP51 HR 002-20	
LTP/LMP51 H 004-20		LTP/LMP51 HR 004-20	
LTP/LMP51 H 006-19		LTP/LMP51 HR 0003-38	
LTP/LMP51 H 008-13		LTP/LMP51 HR 0004-38	
LTP/LMP51 H 012-13		LTP/LMP51 HR 0005-38	
LTP/LMP51 PH 001-20		LTP/LMP51 PHR 001-20	
LTP/LMP51 PH 003-19		LTP/LMP51 PHR 0005-25	
LTP/LMP51 PH 004-13		<b>Ø 63.5 mm</b>	
LTP/LMP51 PH 004-20		LTP/LMP51 H 0003-38	4210 3088 83
LTP/LMP51 PH 005-13		LTP/LMP51 H 0004-38	
LTP/LMP51 PH 0005-25		LTP/LMP51 H 0005-38	
<b>Ø 83.5 mm</b>		<b>Ø 60 mm</b>	
LTP/LMP51 H0007-25	4210 3088 81	LTP/LMP51 HR 006-19	4210 3088 84
LTP/LMP51 HR0007-25		LTP/LMP51 HR 008-13	
LTP/LMP51 PH 0003-25		LTP/LMP51 HR 012-13	
LTP/LMP51 PHR 0003-25		LTP/LMP51 PHR 003-19	
		LTP/LMP51 PHR 004-13	
		LTP/LMP51 PHR 005-13	



### SELECTED SERVICE KITS

Model	Trigger kit	Valve kit	General service kit
LMP24	4210 1934 90	4110 1338 90	4081 0105 90
LMP51/LTP51		4210 2356 90	4081 0106 90
LMD51/LTD51			4081 0106 90



Support handle



Suspension yoke



Aluminium reaction bar



Reaction bar blanks



Reaction bar, Sliding Drive type



Reaction bar, S type



Protective cover



Multi torque selector

# TORQUE TRANSDUCERS AND CABLES

## Electronic accessories

### PRT torque transducers

The PRT torque transducers are intended for the reaction bar supported pistol and straight nutrunners type LMP, LTP and LTD. Two models are available;

The PRT -A model with a connector fixed to the transducer housing and the PRT -C model with a 1.5 m pigtail connector cable.

The -A model is suitable for the LTD straight nutrunners and for spot checking of the LMP/LTP pistol grip versions. For continuous monitoring the -C model is recommended due to the ability to stand rough treatment.

### Solenoid valves

The solenoid valves for tools air supply are primarily intended for general remote control of the straight nutrunners LMD51 and LTD51 and for electronic tightening control of the small pistol nutrunners LMP24. They can also be used for upgrading of existing nutrunners with mechanical torque control only. For best torque accuracy the valve should be installed close to the tool.



### PRT torque transducers

Model	Tool	Calibration torque			Ordering No.
		0.59 mV/V Nm	0.8 mV/V ft lb		
PRT50A	LMP24 (except LMP24 H002-13), LTD28	50	37	8092 1110 15	
PRT60A	LMP24 H002-13, LTD38	60	44	8092 1110 23	
PRT200A	LMD/LTD51-13, -19, LTD38 S003, LTD46	200	148	8092 1110 64	
PRT500A	LMD/LTD51-20	500	369	8092 1110 72	
PRT1000A	LMD/LTD51-25	1000	738	8092 1110 80	
PRT200C	LMP/LTP51-13, -19, LTD38 S003, LTD46	200	148	8092 1121 00	
PRT500C	LMP/LTP51-20, LTD46	500	369	8092 1122 00	
PRT1000C	LMP/LTP51-25	1000	738	8092 1123 00	
PRT1500C	LMP/LTP51H/HR0007-25	1500	1106	8092 1124 00	

### Solenoid valves

Description	Dimension	For	Ordering No.
Solenoid valve	1/4" 3/8"	LMP24 LMD/LMP51	8092 1110 07 8092 1111 06

### Cables

Atlas Copco has developed a special Kevlar reinforced cable to meet the demands for flexibility and wearing properties in portable tool applications. This cable design is standard in all factory mounted pigtail signal cables for torque, angle, lights and the built-in solenoid valve as well as in all the connection cables for the FOCUS 2000 instrument. The cables intended for continuous or semi-continuous monitoring of torque with the ACTA 3000 instrument are of conventional heavy-duty design, whereas the cable for spot checking with the ACTA 3000, the IRTT in-line torque transducer cables and control cable for the solenoid valve are standard laboratory quality.

Signal cable type	For Instrument	Length m	Number of pins Tool – Instrument	Ordering No.
<b>Tool cables for continuous monitoring/control</b>				
Torque only	FOCUS 2000	5	6-19	4145 0953 05
		10	6-19	4145 0953 10
		15	6-19	4145 0953 15
Torque/Angle/Signal light/ Solenoid combinations	FOCUS 2000	5	19-19	4145 0952 05
		10	19-19	4145 0952 10
		15	19-19	4145 0952 15
All 19 pin tool cables – extension	FOCUS 2000/ ACTA 3000	10	19-19	4145 0951 10
<b>IRTT/ MRTT transducer cables</b>				
	FOCUS 2000/ ACTA 3000	3	19-19	4145 0949 03
Curled cable	ACTA 3000	10	19-19	4145 0949 10
	ACTA 3000	3	19-19	4145 0971 03
<b>Solenoid valve cable</b>				
Control cable	FOCUS 2000	10	4	4210 3083 80

**NOTE:** Check number of connector pins on both instrument end and tool end to make sure the correct cable is ordered.

## RE ASSEMBLY QUALIFIER II

The RE Assembly Qualifier II provides your operator with visual and audio feedback for error-proofing single or multiple fastener assemblies. When used with a pressure ported pneumatic assembly tool, the RE Assembly Qualifier II verifies fastener installation and fastener count by monitoring pressure differentials during the fastening cycle. The RE Qualifier II monitors internal tool air pressure according to joint characteristics during the assembly process. Your operator will be notified if a correct or an incorrect fastening (such as a re-hit, cross-thread or early trigger release) has occurred. Atlas Copco brings you an intelligent product for error-proofing your fastener assemblies.

- Error-proofing for pneumatic shut-off assembly tools: RE pulse tools, RE screwdrivers and RE nutrunners.
- Verifies fastener installation "Accept/ Reject".
- Verifies fastener count.
- Provides audio and visual operator feedback.
- AutoCal™ automatically determines tool type, pulse or continuous drive.
- Password protected.
- External transducer with OK and NOK lights.
- On-screen graphs.
- Stores 1,000 rundowns.
- Dimensions: 8" base, 10" height and 3.3" depth.



Model	Ordering No.
RE Assembly Qualifier II with Standard Cable Transducer	9810 7050 80
RE Assembly Qualifier II with Coil Cable Transducer	9810 7050 82
RE Assembly Qualifier II, No transducers	9810 7050 84
Standard Cable Transducer	9810 7050 86
Coil Cable Transducer	9810 7050 88
Device Net Module	9810 7050 90
Hood for 12 Pin Connector	9810 7050 92
Software & Manual (Included as standard with RE Assembly Qualifier)	9810 7050 94



# Electric assembly tools and systems

## Right the first time...

The Atlas Copco range of electric and battery assembly tools, control systems and associated software packages define the global benchmark in smart, cost-efficient and error-proof assembly management.

Browse the following pages and discover how our built-in error proofing functions can protect you from costly operator errors: no more forgotten, loose or over tightened screws. Now you can really know it's right – first time!

### Contents

Tool key .....	68
----------------	----

### Page

Industrial battery nutrunners/screwdrivers.....	71
Electric screwdriver Tensor DL .....	78
Electric nutrunners Tensor DS .....	79
Electric nutrunners Tensor SL.....	85
Electric nutrunners Tensor S .....	86
Electric nutrunners Tensor ST .....	94
Tensor DS/DL controller .....	98
Power Focus.....	99
Power Focus / ETX.....	114
PowerMACS / QMX .....	117
Bits and power sockets .....	125
Torque arms .....	134

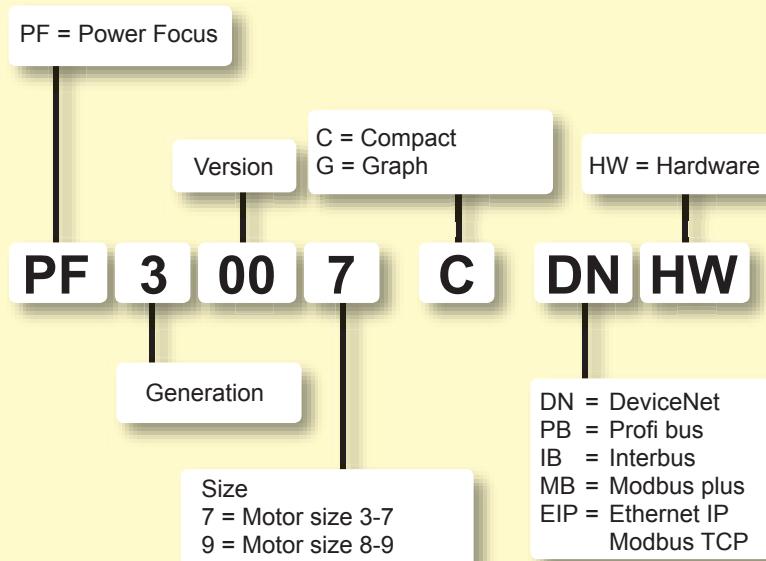
# ELECTRIC ASSEMBLY TOOLS

## Tool key

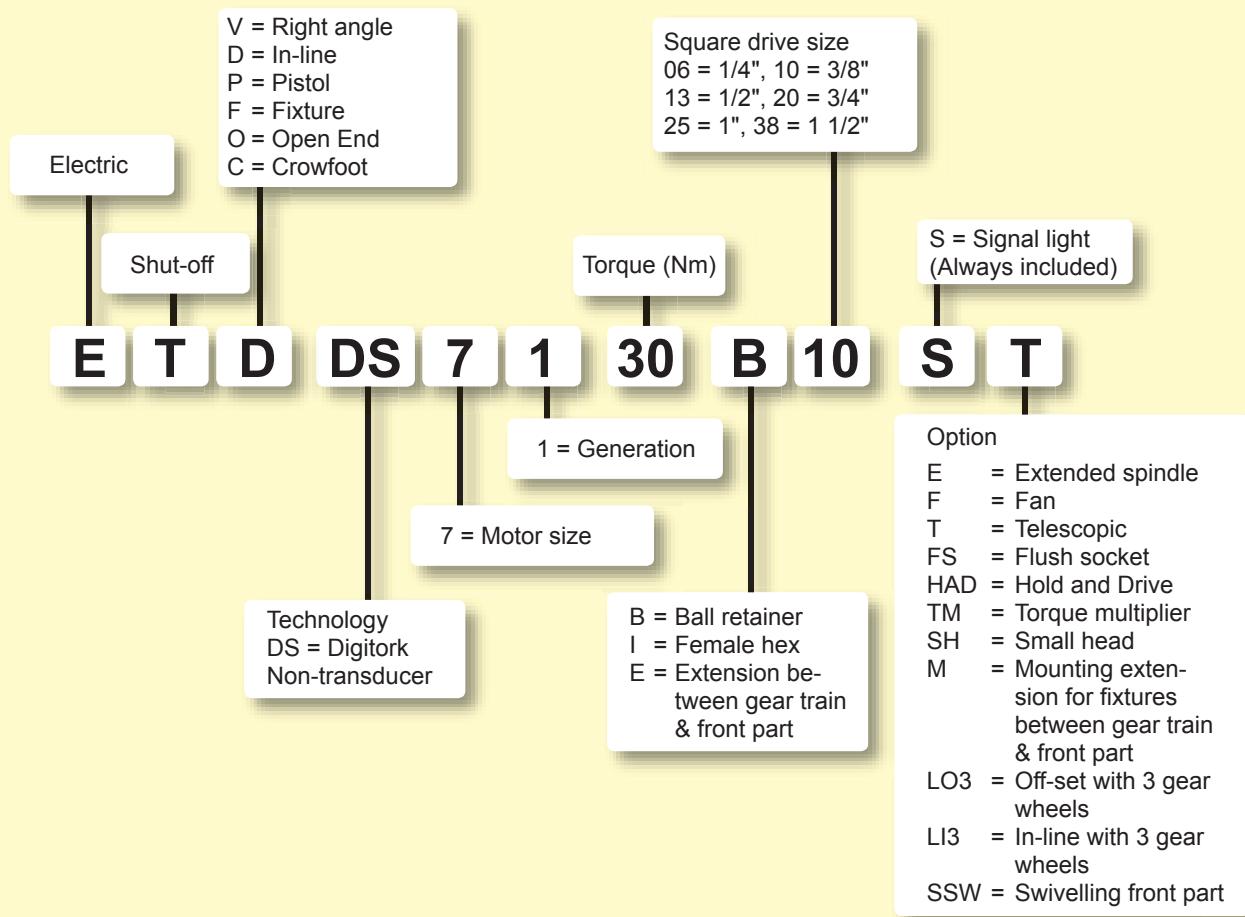
The designator/ordering numbers of Atlas Copco assembly tools is a combination of letters and numbers indicating various properties and characteristics of the tool concerned.

Below is a guide showing the general significance of each group of letters/numbers and specific guides to the individual tool types.

### Power Focus



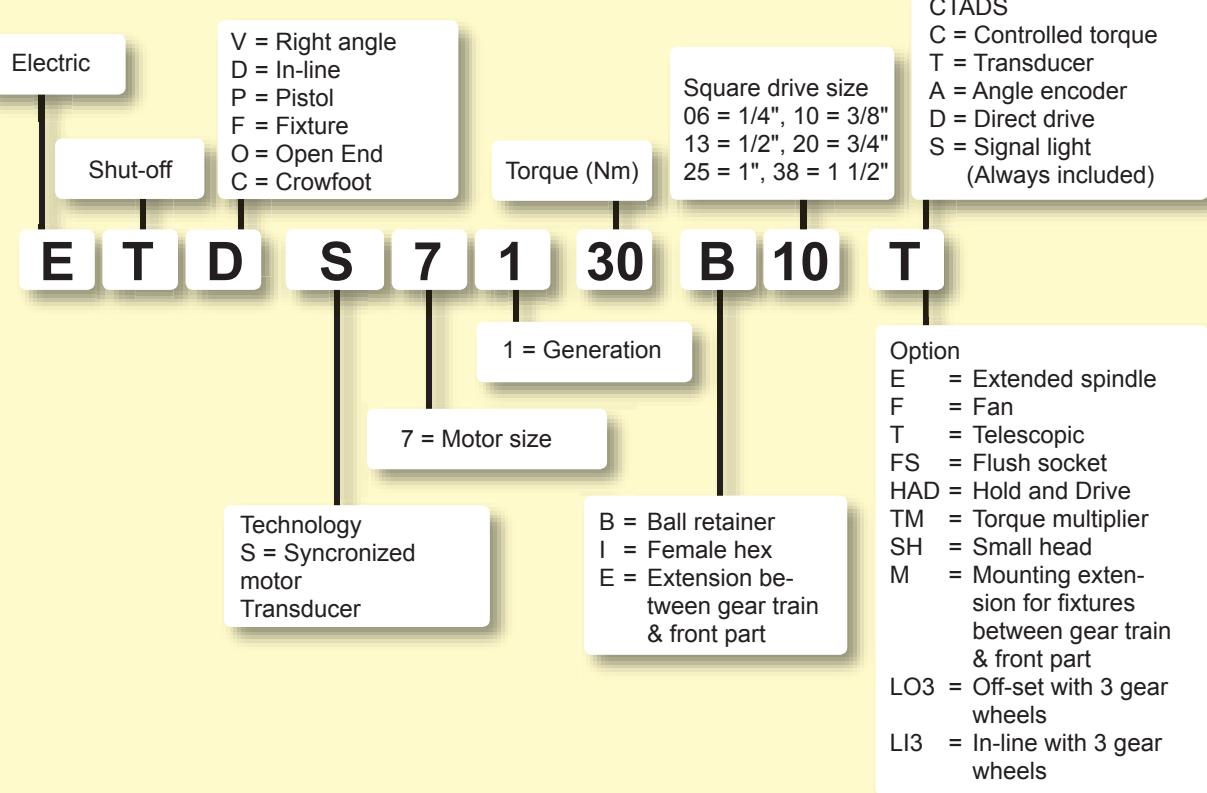
### Tensor DS



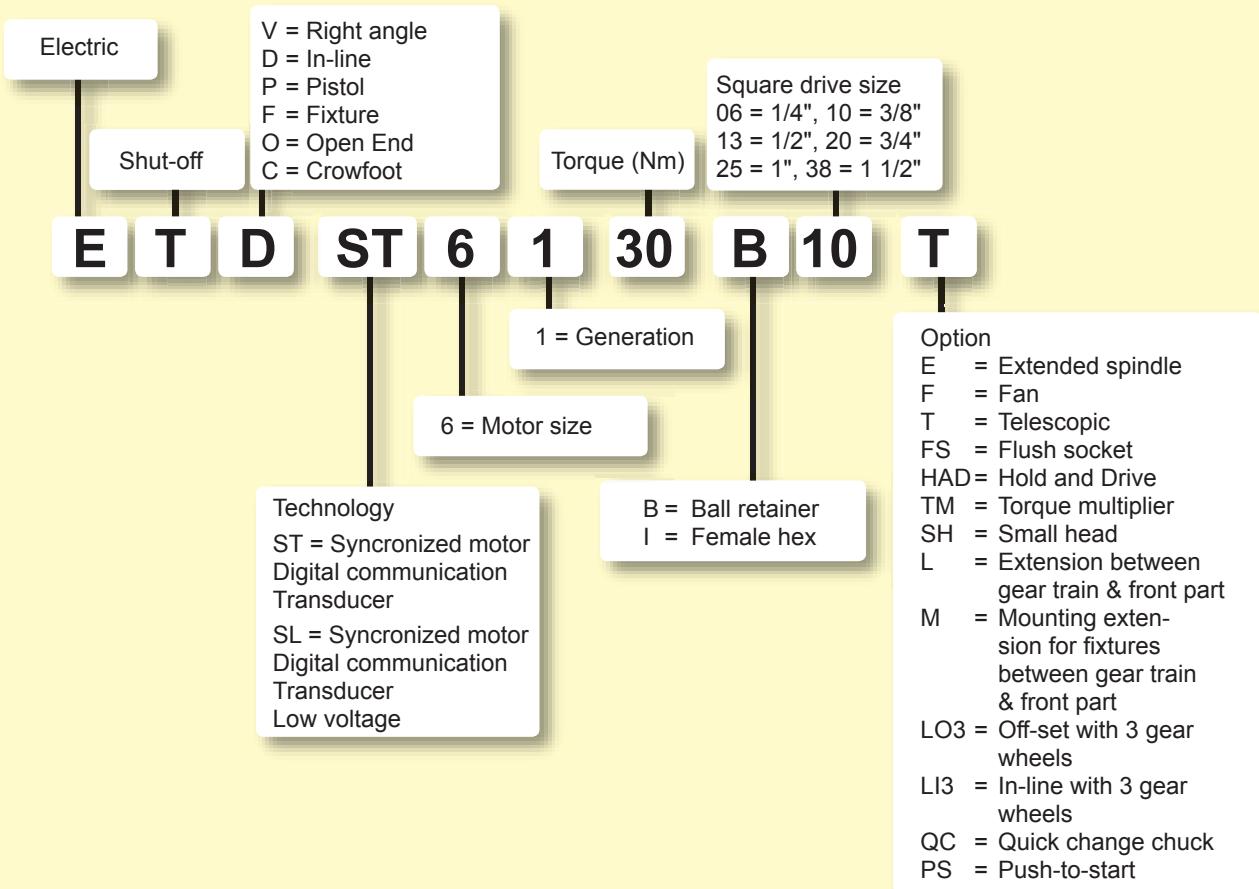
# ELECTRIC ASSEMBLY TOOLS

## Tool key

### Tensor S



### Tensor ST/SL

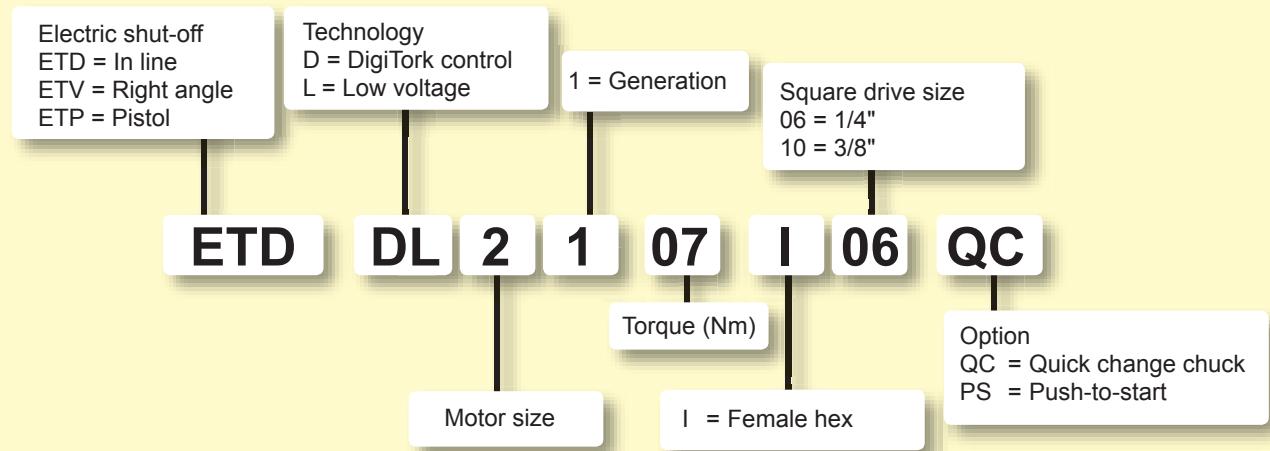


# ELECTRIC ASSEMBLY TOOLS

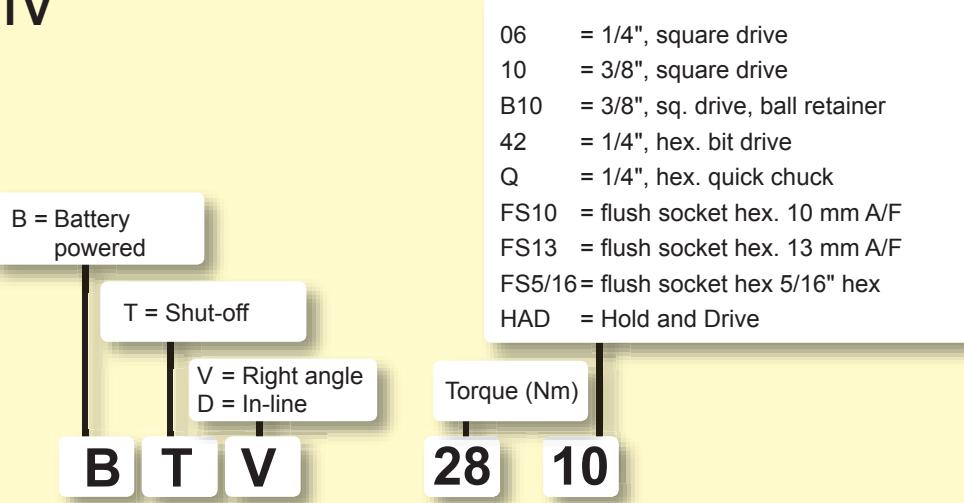
## Tool key

### Screwdrivers

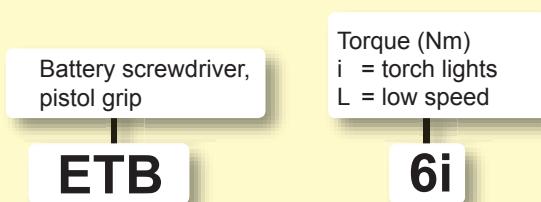
#### Tensor DL



#### BTV



#### ETB



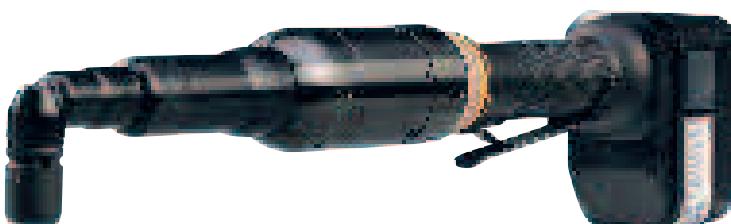
# BATTERY SCREWDRIVERS



## Battery screwdrivers and nutrunners

Freedom to move without being hampered by an air hose or an electric cable and the safety risk of jammed high voltage cords have led to a boost in demand for battery tools from craftsmen and lately also from the production industry. Atlas Copco has put the industrial touch to the battery assembly tools and is today the leading supplier of industrial battery tools to the motor vehicle industry and other assembly line works.

The Atlas Copco battery screwdrivers combine the accurate and operator friendly performance of our famous mechanical shut-off clutch design and the most advanced battery tool technique. Torque accuracy, reliability, service life and serviceability are features that distinguish the industrial battery screwdrivers from the do-it-yourself and professional rated tools. The range includes ETB pistol screwdrivers up to 10 Nm and BTV angle nutrunners up to 28 Nm.



*The BTV battery angle nutrunners offer air hose and cable free operation in the capacity range up to 28 Nm without having to sacrifice neither performance nor accuracy compared to other power tools.*

# ESD APPROVED SCREWDRIVERS

Air-powered and low-voltage electric screwdrivers



**ESD – Electrostatic discharge** – is increasingly recognised as a major cause of damage to electronic devices.

ISO 9000 quality certification drives the need for proper ESD control programs and IEC international standard defines the risk potential and protection for the handling of electronic components.

## Industrial tools – source of damage by ESD

Industrial screwdrivers used in the assembly of electronic components and devices incorporating microelectronics are naturally critical items with regard to ESD risk potential.

The body of the tool, whether air or electrically powered, can hold static electricity and discharge to the work piece via the screwdriver bit.

The plastic materials used for insulation of electrical tools and for convenience and thermal isolation on air tools are sources for generating and holding of static charges and also prevent the tool body from being brought to ground potential through the hand of the operator.

The plastic material used in electric cords and connectors as well as the plastic air hoses are also liable to build up electrostatic fields that might discharge to any object that comes close enough.

## ESD certified screwdrivers

Atlas Copco offers ESD certified tools in the standard range of screwdriver models most frequently used in the electronic industries. This means a guarantee against damage of electronic components by an uncontrolled electrostatic discharge (ESD) from the tools.

Conformity to the requirements of IEC 61340-5-1 standard proposal is approved by SP, Swedish National Testing and Research Institute. In practice it certifies that the material of the equipment at no point will hold an electrostatic potential above 100 V for more than 2 seconds.

The Atlas Copco ESD protection concept has today been brought into all air-powered and electric screwdrivers in the capacity range up to 12.5 Nm.



## Air tools installation for ESD protection

The air-powered screwdrivers must be set up in a way that the tool body will discharge to ground in order to meet the ESD approval standard. The simplest way to do this is to install the tools at the work place with the special Atlas Copco conductive air hose that grants that no electrostatic charges are built up at any face of the screwdriver or the bit used.



# INDUSTRIAL BATTERY ASSEMBLY TOOLS

## Shut-off control

Screw size

M3 – M8

Torque range

0.9 – 28 Nm

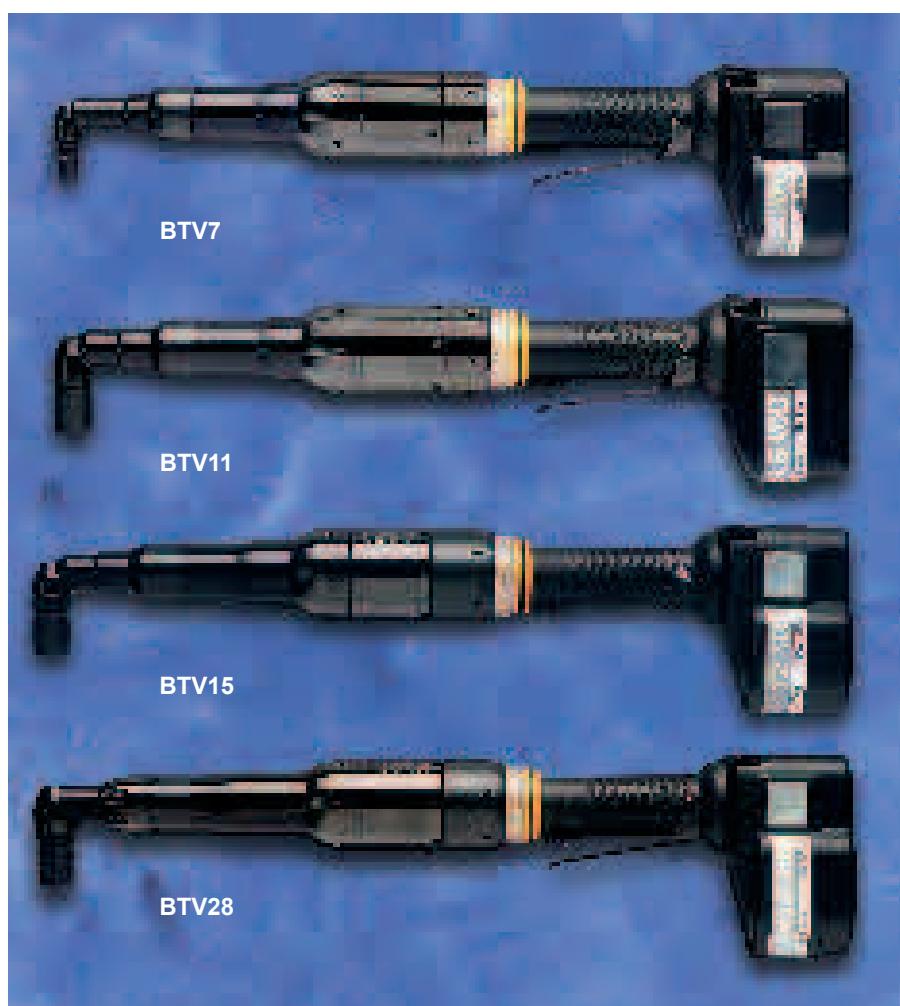
For productivity reasons air tools have generally been preferred in industrial applications due to the favourable power-to-weight ratio of the air motor. On industrial assembly lines today, however, the mode of operation has changed and many screws are best tightened with a battery tool that allows freedom to move along a running production line.

To meet the demands from industrial operation Atlas Copco has developed its own range of industrial battery tools, utilising know-how from building accurate and reliable industrial screwdrivers and combining this with new innovative technique in battery motor control.

### BTV – battery angle nutrunners

The BTV battery angle nutrunner utilises the best of available techniques to allow a lightweight and handy battery tool, an extensive number of tightenings before recharging the battery, a service life that matches any other power tool and accuracy with electronic precision. Where portability is essential on your assembly line the BTV is the ideal match offering:

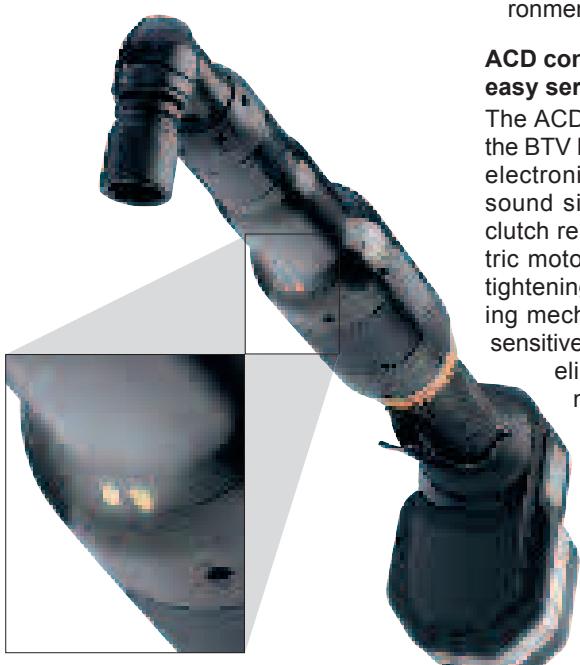
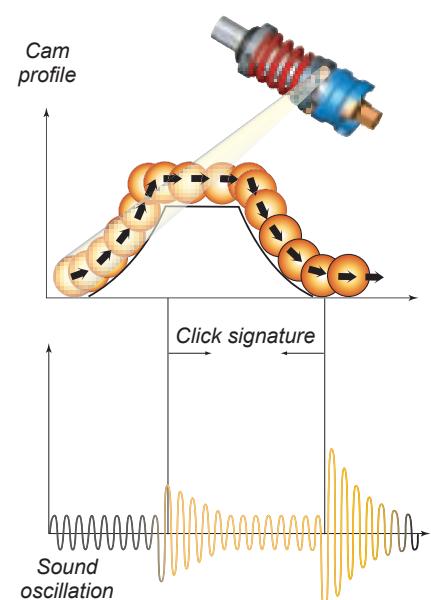
- **Torque accuracy** – Excellent torque repeatability, low mean shift and low reaction force.
- **Movability** – Freedom to move without air hose or electric cord to provide for the power. Freedom to work inside closed compartments, e.g. inside a vehicle.
- **Work protection** – Car body finish free from scratches from hoses and cords.
- **Work place arrangement** – High flexibility and rapid set-up.



- **A safe work place** – Free from interference of air hoses and risk of jammed electric cords.
- **Ergonomics** – Low sound level, clean for the operator and his working environment.

### ACD control – reliability, low wear and easy service

The ACD, Acoustic Clutch Detection, in the BTV battery tool uses a sophisticated electronic identification of the specific sound signature of the click when the clutch releases to short-circuit the electric motor and brake the rotation when tightening is finished. The lack of wearing mechanical switches, magnets and sensitive electronic components and the elimination of wiring between the mechanical clutch and the electronic control card means a considerable improvement in reliability, wearing properties and serviceability.



*The BTV tools are equipped with a built in LED lamp for illuminating the screw head and simplify positioning.*

# INDUSTRIAL BATTERY SCREWDRIVERS

## Shut-off control

### ETBi cordless pistol screwdrivers

The well-proven pistol screwdrivers ETBi use components of same high quality as in our pneumatic tools and electronic motor control adapted to industrial requirements. Common features are:

- **Certified accuracy** – Fast shut-off ensures tightening to the most demanding accuracy requirements.
- **High durability** – Industrial quality means reliability in operation and long service life.
- **Operator comfort** – Ergonomics and operation feedback with light signals contribute to outstanding performance.
- **Low mean-shift** – Clutch design ensures same torque on hard and soft joints throughout the full torque range.
- **Theft protection option** – Models offering electronic theft protection lock the tool on battery charging unless reactivated by a coder.

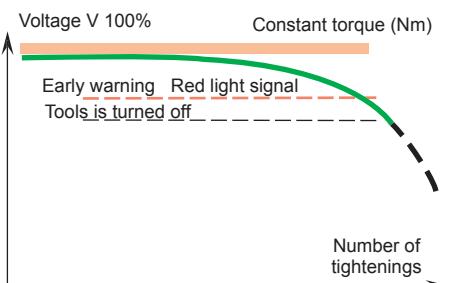


### Green light = proper tightening!

A green light and the "click" sound tells the operator that the clutch has released and the tightening is OK.

### Red light = time to recharge!

A flashing red light gives an early warning when it is time for recharging. All tools have protection to prevent start when there is not enough battery charge. This means that there is no risk for drop in applied torque due to low battery.



Protection against tightening torque drop due to low battery voltage.

### Innovative lights

Torch light now standard – The ETB tools are now also equipped with a built-in LED lamp for illuminating the screw head and simplify positioning when working in confined spaces. The led lamps are placed in an optimal way to avoid disturbing shadows.

# INDUSTRIAL BATTERY SCREWDRIVERS

## Shut-off control

### The ErgoPulse concept

#### EPA – battery pulse screwdrivers

The Atlas Copco range of battery tools also includes the ErgoPulse screwdriver utilising the pulse concept; yet another combination of industrial tool techniques.

- High speed** – Gear-less operation means high rundown speed and short cycle times.
- High torque, low reaction** – The pulse technique allows high torque without any reaction force to the operator.
- Shut-off function** – A timer shut-off device eliminates operator influence on the tightening torque.
- Theft protection option** – Also the EPA is available in a model with electronic theft protection.



Model	Screw size mm	Recommended torque range		Free speed			Weight excl. battery		Tool only Ordering No.	PROT version tool only Ordering No.
		Nm	in lb	9.6 V r/min	12 V r/min	14.4 V r/min	kg	lb		
<b>BTV/BTD – shut-off</b>										
BTV7i-6	M3-M5	2 - 7	18 - 62	350	450	—	1.4	3.0	8431 0261 40	8431 0261 52
BTV7i-42	M3-M5	2 - 7	18 - 62	350	450	—	1.4	3.0	8431 0261 44	8431 0261 53
BTV7i-Q	M3-M5	2 - 7	18 - 62	350	450	—	1.4	3.0	8431 0261 49	8431 0261 54
BTV11i-6	M4-M6	4 - 11	36 - 97	300	380	—	1.4	3.0	8431 0261 55	8431 0261 59
BTV11i-42	M4-M6	4 - 11	36 - 97	300	380	—	1.4	3.0	8431 0261 56	8431 0261 60
BTV11i-Q	M4-M6	4 - 11	36 - 97	300	380	—	1.4	3.0	8431 0261 57	8431 0261 61
BTV11i-10	M4-M6	4 - 11	36 - 97	300	380	—	1.4	3.0	8431 0261 58	8431 0261 64
BTV15i-6	M6	8 - 15	70 - 132	—	340	410	1.7	3.7	8431 0261 65	8431 0261 69
BTV15i-42	M6	8 - 15	70 - 132	—	340	410	1.7	3.7	8431 0261 72	8431 0261 76
BTV15i-Q	M6	8 - 15	70 - 132	—	340	410	1.7	3.7	8431 0261 73	8431 0261 77
BTV15i-10	M6	8 - 15	70 - 132	—	340	410	1.7	3.7	8431 0261 68	8431 0261 78
BTV28i-42	M8	15 - 28	132 - 248	—	210	260	1.8	4.0	8431 0261 79	8431 0262 10
BTV28i-10	M8	15 - 28	132 - 248	—	210	260	1.8	4.0	8431 0261 80	8431 0262 11
BTV28i-B10	M8	15 - 28	132 - 248	—	210	260	1.8	4.0	8431 0261 83	8431 0262 12
BTV28i-Q	M8	15 - 28	132 - 248	—	210	260	1.8	4.0	8431 0261 86	8431 0262 14
BTV28i-FS10	M8	15 - 28	132 - 248	—	210	260	1.8	4.0	8431 0261 89	—
BTV28i-FS13	M8	15 - 28	132 - 248	—	210	260	1.8	4.0	8431 0261 92	—
BTV28i-FS15/16	M8	15 - 28	132 - 248	—	210	260	1.8	4.0	8431 0261 95	—
BTV28i-HAD	M8	15 - 28	132 - 248	—	210	260	1.8	4.0	8431 0261 98	—
BTD16-10	M8	10 - 16	88 - 142	—	330	400	1.7	3.7	8431 0262 09	—
<b>ETB – screwdrivers with shut-off. Pistol grip models</b>										
ETB4i	M3-M5	0.9 - 4.5	8 - 40	800	970	—	1.2	2.6	8431 0272 46	8431 0272 47
ETB6i	M3-M5	1.9 - 7	16 - 62	520	620	—	1.2	2.6	8431 0272 41	8431 0272 44
ETB6Li	M3-M5	1.9 - 7	16 - 62	290	360	—	1.2	2.6	8431 0272 48	—
ETB10i	M4-M6	3 - 10	26 - 90	360	480	—	1.2	2.6	8431 0272 42	8431 0272 43
(ETB6/10: For low torque 1-3.5 Nm use optional clutch spring 4210 3690 90. NOTE: The torque marking system is adapted to standard spring)										
<b>ErgoPulse – hydraulic impulse screwdrivers</b>										
EPA6	M6	5 - 13	44 - 115	3000	—	—	1.2	3.7	8431 0262 48	8431 0262 49

All pistol grip models have 1/4" female hexagon drive for bits with quick change chuck.

# INDUSTRIAL BATTERY SCREWDRIVERS

## Accessories

### Modular battery system

**Battery standard** – Basic battery standard is 9.6 V for the screwdriver sizes ETB and BTV7 and 11. The tools can also be powered with a 12 V battery to increase speed by approximately 25%. The angle nutrunner models BTV15 and BTV28 are designed for 14.4 V battery.



The mounting bracket can fit up to five chargers or four chargers and a decoder.

**Charger standard** – Chargers are of pulse types that ensures long battery life. Standard charger included in tool kits is of quick charge type.

**Multiple charger system** – By assembly of standard chargers on a common bracket a multiple charger system can be built up. A mounting bracket for up to five chargers or four chargers and a theft decoder is available to order.

	Voltage	Capacity	Weight gram	Ordering No.
<b>Battery</b>	9.6 V	2.0 Ah	570	4210 3680 02
	12 V Flat pack	1.4 Ah	500	4210 3680 03
	12 V	2.0 Ah	730	4210 3680 05
	14.4 V	2.0 Ah	800	4210 3680 06



12 V Flat pack / 1.4 Ah



12 V / 2.0 Ah



14.4 V / 2.0 Ah



9.6 V / 2.0 Ah

Batteries

### Pulse chargers

15/23 min <sup>a</sup> (1.4/2.0 Ah)	230/240 V	4210 3676 10
25/36 min (1.4/2.0 Ah)	110/120 V	4210 3676 20
1/1.3 hour (1.4/2.0 Ah)	230/240 V	4210 3676 00

### Mounting bracket for multiple charger

Euro-contact	230/240 V	4210 3677 00
US-contact	110/120 V	4210 3677 01

**NOTE:** Chargers are bought separately.

### Decoder kit

Decoder kit	230/240 V	4210 3679 90
Decoder kit	110/120 V	4210 3679 91

### Protective cover ETB

<b>Suspension yoke</b>		
ETB		4211 5000 80
BTV (swivelling)		4211 5080 80



Pulse charger



Decoder

<sup>a</sup> Not for 14.4 V battery.

Angle head for ETB (gear ratio 1:1.56)

**NOTE:** Torque will increase 50% when angle head is used.

1/4" female hexagon 4210 1875 88  
drive for bits

3/8" square drive for sockets 4210 1875 89

1/4" square drive for  
sockets max 7 Nm 4110 1404 76

30° angle head for ETB (up to 7 Nm)  
Quick change chuck 4110 1436 84  
for female bits

Square drive kit 1/4" for EPA6 4210 2518 90

### Color torque system

The Atlas Copco color torque system gives you an easily visible torque marking system for all your ETB tools. Select a unique color combination for each torque level used on your assembly line.



### Color torque marking rings

Red	4210 3795 02
Green	4210 3795 04
Blue	4210 3795 06
Orange	4210 3795 08



Protective cover

# TENSOR

The new generation electrically controlled nutrunners



## Tensor – there is a tool for every application

The Tensor electrical tool range covers all assembly line requirements for safety- and quality-critical fasteners. All industries with assembly operations have one thing in common – demanding customers who insist on quality and value for money. The Tensor range has been developed to give you the benefits of controlled tightening and advanced electric systems.

- **Productivity gains** – The Tensor means faster spindle speeds, lower cycle times and higher cycle rates.
- **Green light for quality** – No more forgotten screws and faulty fasteners. The green light from the Tensor will make sure that you don't jeopardize your assembly quality.
- **Exceptional ergonomics** – The balance, grip and low weight makes them a favorite on the assembly line.
- **Cut costs with Tensor** – Less maintenance, lower operating costs and reduction of down time, makes the Tensor the lowest life cycle cost tool in the industry.

With available torques ranging from 0.3 to 4000 Nm, the Tensor range of multi-torque electrical tools can be used to equip an entire facility.

Five tool ranges cover all application demands:

### Tensor DL: quality-critical low torque

The Tensor DL range is used for quality-

critical screws. Optimized for small screw assembly, the DL is the electrical choice in the low torque segment.

### Tensor DS: quality-critical

Tensor DS is used for quality-critical fasteners not requiring a traceable measured torque value. DS offers major productivity and quality gains compared with conventional tooling.

### Tensor SL: safety-critical low torque

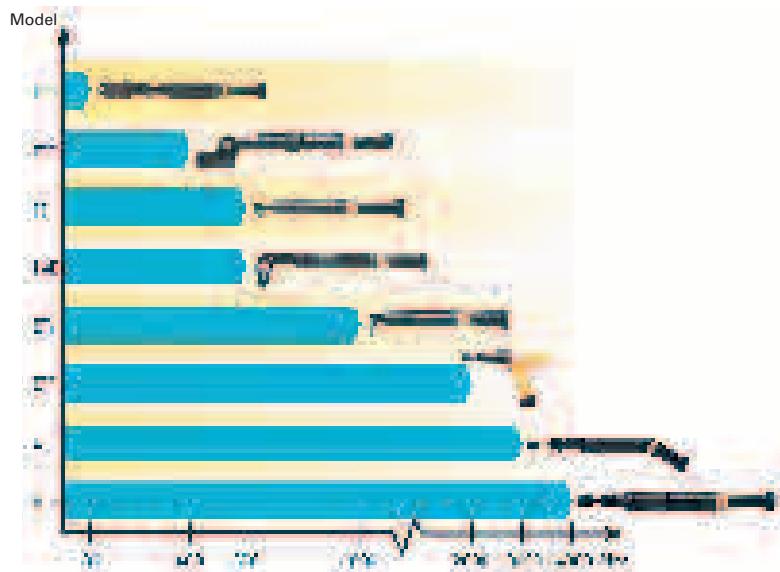
The Tensor SL range is optimized for safety-critical small screw assembly. It offers compact screwdriver ergonomics combined with traceability and error proofing capabilities.

### Tensor S: safety-critical/traceable feedback

The Tensor S is designed for safety-critical applications where there is a requirement for traceable torque value, which can be recorded to confirm that the fastener was fastened to the specific torque.

### Tensor ST: top of the line

Also used for safety-critical applications demanding a traceable torque value, the Tensor ST range complements the S range, ensuring extremely high level of productivity, ergonomic benefits and error proofing functionality.



# TENSOR DL

## Electric screwdrivers

Tensor DL screwdrivers exist in three different tool configurations:

**ETD** – Straight screwdrivers with configurable function button. Available as lever and push to start.

**ETV** – Right angle screwdrivers with lever start and configurable function button.

**ETP** – Pistol grip handle screwdriver with configurable function button. Available as lever and push to start.

- The DL screwdriver range has been optimized for small screw assembly:
- Torque range up to 12 Nm.
- All tools have ESD certification.
- Ergonomic design promotes operator safety.
- Brushless motor gives long service intervals and low maintenance costs.
- Signal lights ensure detection of incorrectly tightened fasteners.



Model	Torque		Speed r/min	Weight		Length mm	CS distance mm	Ordering No.
	Nm	in lbs		kg	lb			
<b>Straight tools (lever start)</b>								
ETD DL21-04-I06	1 - 4	8.8 - 35.4	1600	0.6	1.3	235	18 / 19.5	8433 4014 25
ETD DL21-07-I06	2.2 - 7.5	19.5 - 66	970	0.6	1.3	235	18 / 19.5	8433 4017 31
ETD DL21-10-I06	3 - 10	26.6 - 88.5	720	0.6	1.3	235	18 / 19.5	8433 4019 10
<b>Straight tools (push-to-start and front lights)</b>								
ETD DL21-01-I06-PS	0.3 - 1.2	2.6 - 10	2200	0.6	1.3	243	18 / 19.5	8433 4010 89
ETD DL21-04-I06-PS	1 - 4	8.8 - 35.4	1600	0.6	1.3	243	18 / 19.5	8433 4014 91
ETD DL21-07-I06-PS	2.2 - 7.5	19.5 - 66	970	0.6	1.3	243	18 / 19.5	8433 4017 69
ETD DL21-10-I06-PS	3 - 10	26.6 - 88.5	720	0.6	1.3	243	18 / 19.5	8433 4019 25
<b>Right angle tools (lever start)</b>								
ETV DL21-04-I06	1 - 4	8.8 - 35.4	1600	0.7	1.5	268	9	8433 4004 47
ETV DL21-04-I06-QC	1 - 4	8.8 - 35.4	1600	0.7	1.5	268	9	8433 4004 73
ETV DL21-04-06	1 - 4	8.8 - 35.4	1600	0.7	1.5	268	9	8433 4004 91
ETV DL21-07-I06	2.2 - 7.5	19.5 - 66	970	0.7	1.5	268	9	8433 4007 66
ETV DL21-07-I06-QC	2.2 - 7.5	19.5 - 66	970	0.7	1.5	268	9	8433 4007 79
ETV DL21-07-06	2.2 - 7.5	19.5 - 66	970	0.7	1.5	268	9	8433 4007 94
ETV DL21-10-I06	3 - 12	26.6 - 106.4	610	0.7	1.5	282	11	8433 4009 34
ETV DL21-10-I06-QC	3 - 12	26.6 - 106.4	610	0.7	1.5	282	11	8433 4009 61
ETV DL21-10-06	3 - 12	26.6 - 106.4	610	0.7	1.5	282	11	8433 4009 77
<b>Pistol grip (lever start)</b>								
ETP DL21-04-I06	1 - 4	8.8 - 35.4	1600	0.6	1.3	235	18 / 19.5	8433 4024 19
ETP DL21-07-I06	2.2 - 7.5	19.5 - 66	970	0.6	1.3	235	18 / 19.5	8433 4027 26
ETP DL21-10-I06	3 - 10	26.6 - 88.5	720	0.6	1.3	235	18 / 19.5	8433 4029 13
<b>Pistol grip (push-to-start and front lights)</b>								
ETP DL21-01-I06-PS-H	0.3 - 1.2	2.6 - 10	2200	0.6	1.3	243	18 / 19.5	8433 4020 77
ETP DL21-04-I06-PS-H	1 - 4	8.8 - 35.4	1600	0.6	1.3	243	18 / 19.5	8433 4024 66
ETP DL21-07-I06-PS-H	2.2 - 7.5	19.5 - 66	970	0.6	1.3	243	18 / 19.5	8433 4027 53
ETP DL21-10-I06-PS-H	3 - 10	26.6 - 88.5	720	0.6	1.3	243	18 / 19.5	8433 4029 28

# TENSOR DS

## Angle electric nutrunners

### ETV DS

- ETV DS right angle tools are ideal for hand-held operations.
- Torque range from 2 to 600 Nm (higher torque models available on request).
- Complete range of Flush Socket and Hold & Drive Tools.
- Ball retainers for fast and easy socket changes.



Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Ordering No.
		Nm	ft lb		kg	lb			
<b>ETV DS4</b>									
DS4-05-10S	3/8	1.8 - 6	1.4 - 4.4	1135	1.3	2.9	381	13.5	8433 0705 31
DS4-10-10S	3/8	4.5 - 15	3.5 - 11	585	1.3	2.9	381	13.5	8433 0706 14
DS4-20-10S	3/8	6 - 20	4.4 - 14.5	400	1.3	2.9	381	13.5	8433 0706 49
<b>ETV DS4 Ball Retainer</b>									
DS4-10-B10S	3/8	4.5 - 15	3.5 - 11	585	1.3	2.9	381	13.5	8433 0706 31
<b>ETV DS7</b>									
DS7-15-10S	3/8	5 - 17	3.6 - 12.4	1160	1.4	3.1	412	13.5	8433 0720 10
DS7-30-10S	3/8	10 - 35	7.3 - 25	800	1.4	3.1	412	13.5	8433 0721 42
DS7-40-10S	3/8	12 - 40	9 - 29	800	1.6	3.6	434	18	8433 0721 94
DS7-50-10S	3/8	17 - 55	12 - 40	480	1.6	3.6	434	18	8433 0722 58
DS7-70-13S	1/2	24 - 80	18 - 58	345	2.1	4.7	461	20	8433 0723 16
DS7-100-13S	1/2	33 - 110	24 - 80	240	2.3	5.1	482	20	8433 0723 70
DS7-160-13S	1/2	45 - 150	33 - 110	150	2.8	6.3	525	25.5	8433 0723 98
DS7-200-13S	1/2	60 - 200	44 - 146	120	2.8	6.3	525	25.5	8433 0724 15
<b>ETV DS7 Ball Retainer</b>									
DS7-30-B10S	3/8	10 - 35	7.3 - 25	800	1.4	3.1	412	13.5	8433 0721 54
DS7-40-B10S	3/8	12 - 40	9 - 29	800	1.6	3.6	434	18	8433 0721 99
DS7-50-B10S	3/8	17 - 55	12 - 40	480	1.6	3.6	434	18	8433 0722 63
DS7-100-B13S	1/2	33 - 110	24 - 80	240	2.3	5.1	482	20	8433 0723 68
<b>ETV DS7 Flush Socket</b>									
DS7-25-S-FS10	-	5 - 25	4 - 18	800	1.4	3.1	412	13.5	8433 0720 55
DS7-30-S-FS13	-	10 - 35	7.3 - 25	800	1.4	3.1	412	13.5	8433 0721 65
DS7-40-S-FS13	-	12 - 40	9 - 29	800	1.6	3.6	434	18	8433 0722 03
DS7-50-S-FS13	-	17 - 55	12 - 40	480	1.6	3.6	434	18	8433 0722 75
DS7-70-S-FS	-	24 - 80	18 - 58	345	2.1	4.7	436	20	8433 0723 26
DS7-100-S-FS	-	33 - 110	24 - 80	240	2.3	5.1	482	20	8433 0723 86
DS7-160-S-FS	-	45 - 150	33 - 110	150	2.8	6.3	525	26	8433 0724 00
DS7-200-FS	-	60 - 200	44 - 146	120	2.8	6.3	525	26	8433 0725 01
<b>ETV DS7 Hold &amp; Drive</b>									
DS7-30-HAD-SH	-	10 - 35	7.3 - 25	800	2.0	4.4	435	18	8433 0721 59
DS7-40-HAD-SH	-	12 - 40	9 - 29	800	2.0	4.4	434	18	8433 0722 15
DS7-50-S-HAD	-	17 - 55	12 - 40	480	3.0	6.6	504	26	8433 0722 65
DS7-70-S-HAD	-	24 - 80	18 - 58	290	3.1	6.8	479	26	8433 0723 30
DS7-100-S-HAD	-	33 - 110	24 - 80	225	3.2	7.1	525	26	8433 0723 73
DS7-160-HAD	-	45 - 150	33 - 110	150	3.3	7.3	525	26	8433 0724 02
DS7-200-HAD	-	60 - 200	44 - 146	120	3.3	7.3	525	26	8433 0724 25
<b>ETV DS9</b>									
DS9-100-13S	1/2	40 - 100	29 - 73	685	3.3	7.4	534	20	8433 0750 21
DS9-180-13S	1/2	72 - 180	53 - 131	385	3.8	8.5	578	25.5	8433 0750 68
DS9-270-20S	3/4	108 - 270	79 - 197	235	7.0	15.6	661	33.5	8433 0751 38
DS9-370-20S	3/4	115 - 370	85 - 270	150	7.1	15.8	661	33.5	8433 0751 86
DS9-450-20S	3/4	115 - 450	85 - 328	145	11.6	25.8	702	54	8433 0752 04
DS9-600-25S	1	150 - 600	110 - 440	125	11.6	25.8	702	54	8433 0752 63
<b>ETV DS9 Flush Socket</b>									
DS9-180-FS	-	72 - 180	53 - 131	385	4.1	9.0	577	26	8433 0750 73
DS9-270-S-FS	-	108 - 270	79 - 197	235	7.0	15.6	661	34	8433 0751 46
DS9-370-S-FS	-	148 - 370	108 - 270	150	7.1	15.8	661	34	8433 0751 90
DS9-600-S-FS	-	240 - 600	175 - 438	125	11.6	25.8	701	53	8433 0752 70
<b>ETV DS9 Hold &amp; Drive</b>									
DS9-100-S-HAD	-	40 - 100	29 - 73	575	4.2	10.3	577	26	8433 0750 25
DS9-180-S-HAD	-	72 - 180	53 - 131	385	4.7	10.3	577	26	8433 0750 70
DS9-270-S-HAD	-	108 - 270	79 - 197	235	9.1	20.0	661	34	8433 0751 44
DS9-370-S-HAD	-	148 - 370	108 - 270	150	9.2	20.2	661	34	8433 0751 95
<b>ETV DS9 Torque Multiplier</b>									
DS9 600-25-TM	1	150 - 600	110 - 440	94	9.7	21.4	603	26.3	8433 0752 40
DS9 1000-25-TM	1	250 - 1000	184 - 730	54	12	26.5	666	32	8433 0752 90

# TENSOR DS

## Straight electric nutrunners

### ETD DS

- ETD DS inline tools. The low torque series is ideal for hand-held bench assembly. The high torque tools are well suited for fixtured applications.
- Torque range from 1 to 4000 Nm (higher torque models available on request).
- Telescopic spindles for fixtured applications.
- Female hex drives for bits.
- Swivelling front parts for low reaction force.



Model	Square drive in	Torque				Speed r/min	Weight		Length mm	CS distance mm	Spline/ Mounting	Ordering No.
		Nm	ft lb				kg	lb				
<b>ETD DS4</b>												
DS4-05-10S	3/8	2 -	5	1.5 -	3.6	1315	1.1	2.5	380	28	- / 1	8433 0710 29
DS4-10-10S	3/8	4 -	14	3 -	10	620	1.1	2.5	380	28	- / 1	8433 0710 52
<b>ETD DS4 Telescopic</b>												
DS4-05-10ST	3/8	2 -	5	1.5 -	3.6	1315	1.3	2.9	418	28	2 / 2	8433 0710 37
DS4-10-10ST	3/8	4 -	14	1.5 -	3.6	620	1.3	2.9	418	28	2 / 2	8433 0710 73
<b>ETD DS4 Female Hex</b>												
DS4-02-I06S	1/4	1.0 -	2.5	0.7 -	1.8	2942	1.1	2.5	371	21.5	- / 1	8433 0710 22
DS4-05-I06S	1/4	2 -	5	1.5 -	3.6	1310	1.1	2.5	371	28	- / 1	8433 0710 26
<b>ETD DS7</b>												
DS7-20-10S	3/8	6 -	20	4.4 -	14.5	1240	1.4	3.1	411	28	- / 1	8433 0730 23
DS7-30-10S	3/8	10 -	35	7.3 -	25	745	1.4	3.1	411	28	- / 1	8433 0730 88
DS7-50-13S	1/2	17 -	55	12 -	40	540	1.9	4.2	456	28	2 / 2	8433 0731 12
DS7-70-13S	1/2	21 -	70	15 -	51	370	2.2	4.9	477	28	2 / 2	8433 0731 31
DS7-90-13S	1/2	28 -	95	21 -	69	275	2.2	4.9	477	28	2 / 2	8433 0731 45
DS7-120-13S	1/2	38 -	125	28 -	91	225	2.2	4.9	477	28	2 / 2	8433 0731 84
<b>ETD DS7 Telescopic</b>												
DS7-20-10ST	3/8	6 -	20	4.4 -	14.5	1240	1.5	3.3	449	28	2 / 2	8433 0730 44
DS7-30-10ST	3/8	10 -	35	7.3 -	25	745	1.5	3.3	449	28	2 / 2	8433 0731 05
DS7-50-13ST	1/2	17 -	55	12 -	40	540	2.1	4.7	483	28	3 / 5	8433 0731 24
DS7-70-13ST	1/2	21 -	70	15 -	51	370	2.4	5.4	504	28	3 / 5	8433 0731 40
DS7-90-13ST	1/2	28 -	95	21 -	69	275	2.4	5.4	504	28	3 / 5	8433 0731 52
DS7-120-13ST	1/2	38 -	125	28 -	91	225	2.4	5.4	504	28	3 / 5	8433 0731 96
<b>ETD DS9</b>												
DS9-100-13S	1/2	40 -	100	29 -	73	715	3.0	6.7	529	32	2 / 2	8433 0756 42
DS9-150-13S	1/2	60 -	150	44 -	110	455	3.2	7.1	544	32	2 / 2	8433 0757 54
DS9-200-13S	1/2	80 -	200	58 -	146	340	3.2	7.1	544	32	2 / 2	8433 0758 71
DS9-450-20S	3/4	115 -	450	85 -	328	125	7.4	16.3	639	40.5	6 / 8	8433 0760 71
DS9-1000-25S	1	250 -	1000	184 -	730	68	12.3	27.1	769	47	7 / 11	8433 0763 60
DS9-1200-25S	1	300 -	1200	220 -	880	55	12.3	27.1	769	47	7 / 11	8433 0763 80
DS9-1500-38S	1 1/2	375 -	1500	280 -	1100	42	16.8	37	725	68	8 / 12	8433 0763 91
DS9-2000-38S	1 1/2	600 -	2000	440 -	1475	34	20.5	45.2	725	68	8 / 12	8433 0764 05
DS9-3000-38S	1 1/2	750 -	3000	550 -	2200	21	21.7	47.8	809	68	8 / 12	8433 0764 23
DS9-4000-38S	1 1/2	1000 -	4000	730 -	2950	17	21.7	47.8	809	68	8 / 12	8433 0764 37
<b>ETD DS9 Telescopic</b>												
DS9-100-13ST	1/2	40 -	100	29 -	73	715	3.2	7.1	557	32	3 / 5	8433 0756 92
DS9-150-13ST	1/2	60 -	150	44 -	110	455	3.4	7.6	572	32	3 / 5	8433 0758 03
DS9-200-13ST	1/2	80 -	200	58 -	146	340	3.4	7.6	572	32	3 / 5	8433 0759 11
DS9-270-20ST	3/4	108 -	270	79 -	197	225	6.0	13.4	653	36	6 / 8	8433 0760 55
DS9-450-20ST	3/4	115 -	450	85 -	328	125	7.6	17	689	40.5	6 / 8	8433 0760 88
DS9-600-20ST	3/4	150 -	600	110 -	438	110	7.6	17	689	40.5	6 / 8	8433 0761 35
DS9-1000-25ST	1	250 -	1000	184 -	730	68	12.5	27.6	824	47	7 / 11	8433 0763 63
DS9-1200-25ST	1	300 -	1200	220 -	880	55	12.5	27.6	824	47	7 / 11	8433 0763 83
DS9-1500-38ST	1 1/2	375 -	1500	280 -	1100	42	17	37.5	824	68	8 / 12	8433 0763 93
DS9-2000-38ST	1 1/2	600 -	2000	440 -	1475	34	21	46.3	824	68	8 / 12	8433 0764 20
DS9-3000-38ST	1 1/2	750 -	3000	550 -	2200	21	21.9	48.3	904	68	8 / 12	8433 0764 25
DS9-4000-38ST	1 1/2	1000 -	4000	730 -	2950	17	21.9	48.3	904	68	8 / 12	8433 0764 40
<b>ETD DS9 Swivelling</b>												
DS9-450-20SSW	3/4	180 -	450	79 -	197	125	7.8	17.4	639	40.5	6 / 8	8433 0760 94
DS9-600-20SSW	3/4	240 -	600	175 -	438	110	7.8	17.4	639	40.5	6 / 8	8433 0761 59

# TENSOR DS

## Pistol grip electric nutrunners

### ETP DS

- ETP DS pistol grip tool for both handheld and fixtured applications.
- Torque range from 2 to 2000 Nm (higher torque models available on request).
- Telescopic spindles for fixtured applications.
- Swivelling front parts for low reaction force.
- Female hex drives for bits.
- Swivelling tools are equipped with non-reversible start button, for operator safety.



Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Spline/ Mounting	Ordering No.
		Nm	ft lb		kg	lb				
<b>ETP DS4</b>										
DS4-05-06S	1/4	2 - 5	1.5 - 3.6	1310	1.1	2.5	193	21.5	- / -	8433 0708 76
DS4-10-06S	1/4	3.5 - 12	2.5 - 8.8	660	1.1	2.5	193	21.5	- / -	8433 0708 92
DS4-10-10S	3/8	3.5 - 12	2.5 - 8.8	660	1.1	2.5	193	21.5	- / -	8433 0709 06
<b>ETP DS4 Female Hex</b>										
DS4-02-I06S	1/4	1.0 - 2.5	0.7 - 1.8	2942	1.1	2.5	201	21.5	- / -	8433 0708 57
DS42-02-I06	1/4	1.0 - 2.5	0.7 - 1.8	2950	0.9	2.0	188	21.3	- / -	8433 0708 40
DS4-05-I06S	1/4	2 - 5	1.5 - 3.6	1310	1.1	2.5	201	21.5	- / -	8433 0708 61
DS42-05-I06	1/4	2 - 5	1.5 - 3.6	1770	0.9	2.0	188	21.3	- / -	8433 0708 69
DS4-07-I06S	1/4	2.1 - 7	1.5 - 5.1	905	1.1	2.5	201	21.5	- / -	8433 0708 80
DS4-10-I06S	1/4	3.5 - 12	2.5 - 8.8	660	1.1	2.5	201	21.5	- / -	8433 0708 83
DS42-10-I06	1/4	3.5 - 12	2.5 - 8.8	905	1.0	2.2	188	21.3	- / -	8433 0708 87
<b>ETP DS7</b>										
DS7-20-10S	3/8	6 - 20	4.4 - 14.5	1240	1.6	3.6	273	22	- / 1	8433 0726 36
DS7-30-10S	3/8	10 - 35	7.3 - 25	750	1.6	3.6	273	22	- / 1	8433 0726 53
DS7-50-13S	1/2	17 - 55	12 - 40	540	1.9	4.2	318	21.5	2 / 2	8433 0726 87
DS7-70-13S	1/2	21 - 70	15 - 51	370	2.1	4.7	340	21.5	2 / 2	8433 0727 01
DS7-90-13S	1/2	28 - 95	21 - 69	275	2.1	4.7	340	21.5	2 / 2	8433 0727 19
DS7-120-13S	1/2	38 - 125	28 - 91	220	2.1	4.7	340	21.5	2 / 2	8433 0727 47
<b>ETP DS7 Telescopic</b>										
DS7-70-13ST	1/2	21 - 70	15 - 51	370	2.2	4.9	367	22.5	3 / 5	8433 0727 05
<b>ETP DS7 Swivelling<sup>a</sup></b>										
DS7-70-13SSW	1/2	21 - 70	15 - 51	370	2.2	4.9	339	29.5	2 / 4	8433 0727 09
DS7-90-13SSW	1/2	28 - 95	21 - 69	275	2.2	4.9	339	29.5	2 / 4	8433 0727 28
DS7-120-13SSW	1/2	38 - 125	28 - 91	220	2.2	4.9	339	29.5	2 / 4	8433 0727 84
<b>ETP DS9</b>										
DS9-100-13S	1/2	40 - 100	29 - 73	790	3.8	8.5	378	32	2 / 2	8433 0765 39
DS9-150-13S	1/2	60 - 150	44 - 110	510	3.8	8.5	392	32	2 / 2	8433 0765 58
DS9-200-13S	1/2	80 - 200	58 - 146	375	3.8	8.5	392	32	2 / 2	8433 0766 05
DS9-270-20S	3/4	108 - 270	79 - 197	250	5.8	12.9	451	36	6 / 8	8433 0766 49
DS9-450-20S	3/4	115 - 450	85 - 328	140	7.4	16.5	487	40.5	6 / 8	8433 0767 52
DS9-600-20S	3/4	150 - 600	110 - 438	120	7.4	16.5	487	40.5	6 / 8	8433 0768 08
DS9-1000-25S	1	250 - 1000	184 - 730	68	12.1	26.7	620	47	7 / 11	8433 0768 66
DS9-1200-25S	1	300 - 1200	220 - 880	55	12.1	26.7	620	47	7 / 11	8433 0768 83
DS9-1500-38S	1 1/2	375 - 1500	280 - 1100	42	16.8	37	574	68	8 / 12	8433 0768 94
DS9-2000-38S	1 1/2	500 - 2000	440 - 1475	34	16.8	37	574	68	8 / 12	8433 0769 10
DS9-3000-38S	1 1/2	750 - 3000	550 - 2200	21	21.7	47.8	654	68	8 / 12	8433 0769 30
DS9-4000-38S	1 1/2	1000 - 4000	730 - 2950	17	21.7	47.8	654	68	8 / 12	8433 0769 50
<b>ETP DS9 Telescopic</b>										
DS9-1000-25ST	1	250 - 1000	184 - 730	68	12.3	27.1	672	47	7 / 11	8433 0768 79
DS9-1200-25ST	1	300 - 1200	220 - 880	55	12.3	27.1	672	47	7 / 11	8433 0768 92
DS9-1500-38ST	1 1/2	375 - 1500	280 - 1100	42	17	37.5	672	68	8 / 12	8433 0768 98
DS9-2000-38ST	1 1/2	500 - 2000	440 - 1475	34	17	37.5	672	68	8 / 12	8433 0769 20
DS9-3000-38ST	1 1/2	750 - 3000	550 - 2200	21	21.9	48.3	753	68	8 / 12	8433 0769 36
DS9-4000-38ST	1 1/2	1000 - 4000	730 - 2950	17	21.9	48.3	753	68	8 / 12	8433 0769 60
<b>ETP DS9 Swivelling<sup>a</sup></b>										
DS9-100-13SSW	1/2	40 - 100	29 - 73	790	3.9	8.7	394	32	2 / 4	8433 0765 41
DS9-150-13SSW	1/2	60 - 150	44 - 110	510	3.9	8.7	394	32	2 / 4	8433 0765 69
DS9-200-13SSW	1/2	80 - 200	58 - 146	375	3.9	8.7	394	32	2 / 4	8433 0766 12
DS9-270-20SSW	3/4	108 - 270	79 - 197	250	5.9	13.1	451	36	6 / 8	8433 0766 54
DS9-450-20SSW	3/4	115 - 450	85 - 332	140	7.5	16.7	487	40.5	6 / 8	8433 0767 61
DS9-600-20SSW	3/4	150 - 600	110 - 442	120	7.5	16.7	487	40.5	6 / 8	8433 0768 20
DDS9-750-25SSW	1	220 - 750	162 - 553	84	5.5	12.1	428	47	6 / 8	8433 0768 24
DS9-1000-25SSW	1	250 - 1000	184 - 730	68	12.1	26.7	620	47	7 / 11	8433 0768 76
DS9-1200-25SSW	1	300 - 1200	220 - 880	55	12.1	26.7	620	47	7 / 11	8433 0768 85
DS9-1500-38SSW	1 1/2	375 - 1500	280 - 1100	42	16.8	37	574	68	8 / 12	8433 0768 96
DS9-2000-38SSW	1 1/2	500 - 2000	440 - 1475	34	16.8	37	574	68	8 / 12	8433 0769 15

<sup>a</sup> Non-reversible

# TENSOR DS

## Fixtured electric nutrunners

### ETF DS

- ETF DS inline tools specially designed for built-in and fixtured applications.
- Torque range from 1 to 100 Nm (higher torque models available on request), with the possibility to make bigger tools.
- Extra high durability.
- Remote start button.
- Small centre to side distance.
- Easy cable routing.



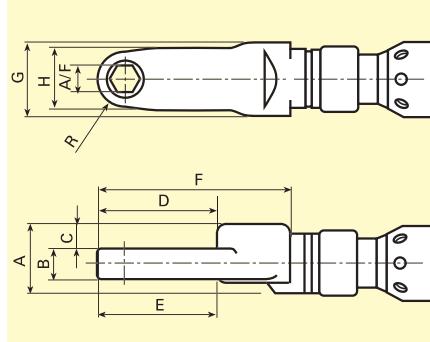
Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Spline	Ordering No.
		Nm	ft lb		kg	lb				
<b>ETF DS4 Telescopic</b>										
DS4-05-10ST	3/8	2 - 5	1.5 - 3.6	1310	1.1	2.5	398	21.5	2	8433 0450 08
DS4-10-10ST	3/8	4 - 14	3 - 10	620	1.1	2.5	398	21.5	2	8433 0450 31
<b>ETF DS7 Telescopic</b>										
DS7-15-10ST	3/8	5 - 15	3.6 - 11	990	1.3	2.9	429	21.5	2	8433 0455 44
DS7-25-10ST	3/8	8 - 25	6 - 18	595	1.3	2.9	429	21.5	2	8433 0455 59
DS7-40-13ST	1/2	12 - 40	9 - 29	430	2.0	4.4	463	21.5	3	8433 0455 78
DS7-50-13ST	1/2	15 - 50	11 - 36	290	2.3	5.1	484	21.5	3	8433 0456 05
DS7-70-13ST	1/2	21 - 70	15 - 50	220	2.3	5.1	484	21.5	3	8433 0456 42
DS7-100-13ST	1/2	30 - 100	22 - 73	175	2.3	5.1	484	21.5	3	8433 0456 82
<b>ETF DS9 Telescopic</b>										
DS9-100-13ST	1/2	30 - 100	22 - 73	340	3.0	7.0	551	32	3	8433 0460 92

# TENSOR DS

## Crowfoot electric nutrunners

### In-Line crowfoot tools

#### DIMENSIONS

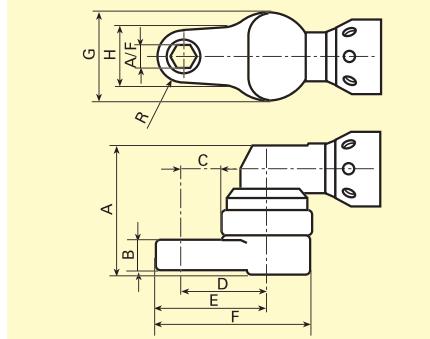


Model	Torque		Speed r/min	Weight kg lb	Length mm	A/F	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	R mm	Ordering No.
	Nm	ft lb														
<b>ETC DS7</b>																
DS7-25-13-LI3	6 - 28	4.4 - 20.7	622	1.9 4.2	507	13	34	15	13	59	71	94	35	30	13	8433 0710 90

For sockets, see separate ordering material (9833 1381 01)

### Offset crowfoot tools

#### DIMENSIONS



Model	Torque		Speed r/min	Weight kg lb	Length mm	A/F	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	R mm	Ordering No.
	Nm	ft lb														
<b>ETC DS4</b>																
DS4-05-7-LO3	1 - 5	0.7 - 3.7	844	1.5 3.3	400	7	56	9	6	25	32	47	37	15	7.5	8433 0701 04
DS4-08-8-LO3	2 - 9.5	1.5 - 7	582	1.5 3.3	402	8	60	14	8	26	34	49	37	16	8	8433 0701 08
<b>ETC DS7</b>																
DS7-15-10-LO5	3.5 - 18	2.6 - 13.3	1164	1.7 3.7	474	10	60	15	48	66	76	91	37	22	10	8433 0701 12
DS7-20-13-LO3	4.6 - 23	3.4 - 17	796	1.7 3.7	460	13	58	10	25	47	62	82	44	31	14.5	8433 0701 16
DS7-25-13-LO3	5.6 - 28	4.2 - 20.7	796	1.8 4.0	454	13	62	15	20	42	55	76	44	30	13	8433 0701 23
DS7-25-13-LO5	5.6 - 28	4.2 - 20.7	796	2.0 4.4	514	13	68	15	62	84	97	118	44	30	13	8433 0701 29
DS7-40-13-LO3	8.8 - 44	6.5 - 32.5	478	2.2 4.8	478	13	68	18	25	47	62	82	44	31	14.5	8433 0701 34
DS7-40-13-LO5	8.8 - 44	6.5 - 32.5	478	2.2 4.8	425	13	69	18	72	94	108	129	44	31	14.5	8433 0701 38
DS7-60-17-LO3	13 - 65	9.6 - 48.1	346	2.7 5.9	507	17	77	24	29	51	66	89	48	30	15	8433 0701 46
DS7-60-17-LO5	13 - 65	9.6 - 48.1	346	3.3 7.3	558	17	81	24	78	102	117	140	48	30	15	8433 0701 56
DS7-80-21-LO3	18 - 90	13.3 - 66.6	236	3.3 7.3	585	21	90	20	35	66	86	112	63	40	20	8433 0701 60
DS7-80-21-LO5	18 - 90	13.3 - 66.6	236	4.1 9.0	651	21	92	20	101	132	152	178	63	40	20	8433 0701 65
<b>ETC DS7 Extra heavy duty</b>																
DS7-40-13-AO3	8 - 40	6 - 29	480	2.3 5.0	486	13	60.3	19	33	53	69	86	40	17	16	8433 0702 15
DS7-70-17-AO3	14 - 70	11 - 51	345	2.9 6.4	528	17	66.5	19	45	68	87	107	45	21	19.5	8433 0702 32
DS7-120-17-AO3	24 - 120	18 - 88	120	4.1 9.0	587	17	88	25	42	68	88	113	51	25	19.8	8433 0702 55
<b>ETC DS9</b>																
DS9-140-21-LO3	30 - 150	22.2 - 111	287	4.8 10.6	638	21	101	33	35	66	86	112	63	40	20	8433 0701 75
DS9-200-21-LO3	43 - 215	31.8 - 159.1	174	10.0 22.0	718	21	146	40	33	70	91	125	77	42	21	8433 0701 80

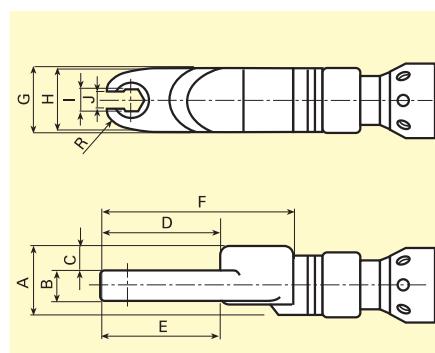
For sockets, see separate ordering material (9833 1381 01)

# TENSOR DS

## Tube nut electric nutrunners

### In-Line tube nut tools

#### DIMENSIONS

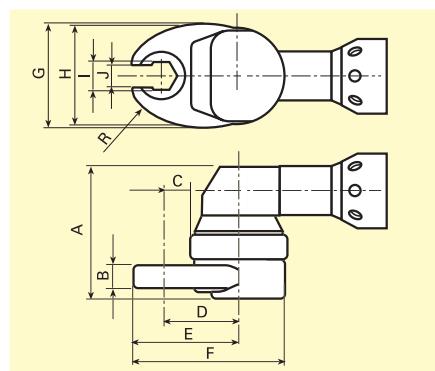


Model	Torque		Speed r/min	Weight		Length mm	I mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm	R mm	Ordering No.
	Nm	ft lb		kg	lb													
<b>ETO DS4</b>																		
DS4-10-10-LI3	2.5 - 12	1.9 - 8.9	468	1.5	3.4	449	10	32	10	13	37	26	67	34	31	7	11.5	8433 0703 05
<b>ETO DS7</b>																		
DS7-15-10-LI3	3 - 15	2.2 - 11.1	1046	1.7	3.7	483	10	32	12	11	39	26	68	34	32	8	14	8433 0703 10
DS7-18-13-LI3	3.6 - 18	2.7 - 13.3	743	1.7	3.7	499	13	34	11	15	49	32	84	35	38	8.5	16	8433 0703 15
DS7-30-13-LI3	6.6 - 33	4.7 - 24.3	453	2.4	5.2	525	13	43	18	14	47	31	83	38	40	10.4	25	8433 0703 21
DS7-35-13-LI3	7 - 35	5.2 - 25.9	438	2.6	5.7	569	13	46	11	21	70	48	113	45	55	12.5	32	8433 0703 25
DS7-50-17-LI3	11 - 55	8.2 - 40.7	290	3.0	6.6	628	17	46	12	20	81	39	124	45	59	16	32	8433 0703 35
DS7-80-19-LI3	16 - 80	11.9 - 59.2	226	3.5	7.7	629	19	46	18	17	74	52	137	64	59	17	32	8433 0703 40

For sockets, see separate ordering material (9833 1381 01)

### Offset tube nut tools

#### DIMENSIONS



Model	Torque		Speed r/min	Weight		Length mm	I mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm	R mm	Ordering No.
	Nm	ft lb		kg	lb													
<b>ETO DS4</b>																		
DS4-08-8-LO3	1.7 - 8.5	1.3 - 6.3	584	1.5	3.3	397	8	59	11	4	22	30	45	37	29	6	10	8433 0703 50
<b>ETO DS7</b>																		
DS7-10-10-LO3	2.4 - 12	1.8 - 8.9	1164	1.6	3.5	434	10	59	10	7	25	35	50	37	31	7	11.5	8433 0703 60
DS7-18-13-LO3	3.6 - 18	2.7 - 13.3	796	1.8	3.9	441	13	61	11	8	30	42	63	44	38	8	15	8433 0703 68
DS7-25-13-LO3	5.6 - 28	4.2 - 20.7	796	1.9	4.2	469	13	65	11	13	37	52	75	48	50	11	31	8433 0703 75
DS7-50-17-LO3	11 - 55	8.2 - 40.7	346	2.8	6.2	510	17	76	12	18	49	69	97	63	59	16	32	8433 0703 80
DS7-80-19-LO3	16 - 80	11.9 - 59.2	236	3.7	8.1	568	19	91	18	18	49	63	97	63	59	17	32	8433 0703 85
DS7-100-24-LO3	22 - 110	16.3 - 81.4	198	4.3	9.5	584	24	92	20	23	60	85	119	74	77	21	33	8433 0703 90

For sockets, see separate ordering material (9833 1381 01)

# TENSOR SL

## Angle electric screwdrivers

### ETV SL

- ETV SL is the most compact transducerised angle screwdriver in the Tensor range.
- Torque range from 0.8 to 12 Nm.
- High durability with spiral angle gears.
- Ergonomic design.
- Buzzer and additional blue LED for better operator support.



Model	Torque		Speed r/min	Weight		Length mm	CS distance mm	Ordering No.
	Nm	in lbs		kg	lb			
<b>Lever start</b>								
ETV SL21-04-I06	0.8 - 4	7 - 35	1600	0.75	1.7	264	9	8433 2004 47
ETV SL21-04-I06-QC	0.8 - 4	8 - 35	1600	0.75	1.7	264	9	8433 2004 73
ETV SL21-04-06	0.8 - 4	9 - 35	1600	0.75	1.7	264	9	8433 2004 91
ETV SL21-07-I06	1.5 - 7.5	13 - 66	970	0.75	1.7	264	9	8433 2007 66
ETV SL21-07-I06-QC	1.5 - 7.5	14 - 66	970	0.75	1.7	264	9	8433 2007 79
ETV SL21-07-06	1.5 - 7.5	15 - 66	970	0.75	1.7	264	9	8433 2007 94
ETV SL21-12-I06	2.5 - 12	22 - 106	610	0.8	1.8	267	11	8433 2008 34
ETV SL21-12-I06-QC	2.5 - 12	23 - 106	610	0.8	1.8	267	11	8433 2008 61
ETV SL21-12-06	2.5 - 12	24 - 106	610	0.8	1.8	267	11	8433 2008 77

# TENSOR SL

## Straight electric screwdrivers

### ETD SL

- ETD SL is a very compact screwdriver with excellent power to weight ratio.
- Torque range from 0.3 to 10 Nm.
- Push to start function and front lights.
- Small centre to side distance.
- Ergonomic design.
- Buzzer and additional blue LED for better operator support.



Model	Torque		Speed r/min	Weight		Length mm	CS distance mm	Ordering No.
	Nm	in lbs		kg	lb			
<b>Push-to-start and front lights</b>								
ETD SL21-01-I06-PS	0.3 - 1.2	2.7 - 10	2950	0.7	1.6	246	18/19.5	8433 2102 92
ETD SL21-04-I06-PS	0.8 - 4	7 - 35	1600	0.7	1.6	246	18/19.5	8433 2104 91
ETD SL21-07-I06-PS	1.5 - 7.5	13 - 66	970	0.7	1.6	246	18/19.5	8433 2107 69
ETD SL21-10-I06-PS	2.0 - 10	18 - 89	720	0.7	1.6	246	18/19.5	8433 2108 25

# TENSOR S

## Angle electric nutrunners

### ETV S

- ETV S right angle tools are ideal for hand-held operations.
- Torque range from 1 to 600 Nm (higher torque models available on request).
- Complete range of Flush Socket and Hold & Drive tools.
- Ball retainers for fast and easy socket changes.
- Female hex drive and quick chucks for bits.



Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Ordering No.
		Nm	ft lb		kg	lb			
<b>ETV S4</b>									
S4-05-10CTADS	3/8	1 - 5	0.7 - 3.6	930	1.5	3.3	382	13.5	8433 0236 26
S4-10-10CTADS	3/8	3 - 15	2.2 - 11	650	1.5	3.3	382	13.5	8433 0236 51
S4-20-10CTADS	3/8	4 - 20	2.9 - 14.4	450	1.5	3.3	382	13.5	8433 0236 91
S4-30-10CTADS	3/8	6 - 30	4.4 - 22	270	1.6	3.5	382	13.5	8433 0237 04
<b>ETV S4 Ball Retainer</b>									
S4-10-B10CTADS	3/8	3 - 15	2.2 - 11	650	1.5	3.3	382	13.5	8433 0236 62
<b>ETV S4 Flush Socket</b>									
S4-10-FS10	-	3 - 15	2.2 - 11	650	1.4	3.2	382	13.5	8433 0236 69
<b>ETV S4 Female Hex</b>									
S4-10-I06CTADS	1/4	3 - 15	2.2 - 11	650	1.5	3.3	382	13.5	8433 0236 32
<b>ETV S4 Quick Chuck</b>									
S4-05-QI06	1/4	1 - 5	0.7 - 3.6	930	1.5	3.3	382	13.5	8433 0236 29
<b>ETV S7</b>									
S7-28-10CTADS	3/8	5 - 29	4 - 21	1300	1.6	3.5	413	13.5	8433 0245 20
S7-30-10CTADS	3/8	6 - 35	5 - 25	910	1.6	3.5	413	13.5	8433 0247 33
S7-40-10CTADS	3/8	8 - 40	6 - 29	910	1.7	3.7	435	18	8433 0250 00
S7-50-10CTADS	3/8	10 - 55	7 - 40	545	1.9	4.2	435	18	8433 0252 87
S7-70-13CTADS	1/2	14 - 80	10 - 58	390	2.2	4.8	461	20	8433 0273 09
S7-100-13CTADS	1/2	20 - 110	15 - 80	300	2.5	5.5	482	20	8433 0280 00
S7-150-13CTADS	1/2	30 - 150	22 - 110	185	2.9	6.4	525	25.5	8433 0288 67
S7-200-13CTADS	1/2	40 - 200	29 - 146	130	3.0	6.6	525	25.5	8433 0291 17
<b>ETV S7 Ball Retainer</b>									
S7-28-B10CTADS	3/8	5 - 29	4 - 21	1300	1.6	3.5	413	13.5	8433 0245 23
S7-30-B10CTADS	3/8	6 - 35	5 - 25	910	1.6	3.5	413	13.5	8433 0247 35
S7-40-B10CTADS	3/8	8 - 40	6 - 29	910	1.7	3.7	435	18	8433 0250 42
S7-50-B10CTADS	3/8	10 - 55	7 - 40	545	1.9	4.2	435	18	8433 0252 62
S7-70-B13CTADS	1/2	14 - 80	10 - 58	390	2.2	4.8	461	20	8433 0273 44
S7-100-B13CTADS	1/2	20 - 110	15 - 80	300	2.5	5.5	482	20	8433 0280 31
S7-150-B13CTADS	1/2	30 - 150	22 - 110	185	2.9	6.4	525	25.5	8433 0288 46
S7-200-B13CTADS	1/2	40 - 200	29 - 146	130	3.0	6.6	525	25.5	8433 0291 44
<b>ETV S7 with Fan</b>									
S7-28-10CTADS-F	3/8	5 - 29	4 - 21	1300	1.8	4.0	451	13.5	8433 0245 25
S7-30-10CTADS-F	3/8	5 - 35	5 - 25	910	1.8	4.0	451	13.5	8433 0247 92
S7-40-10CTADS-F	3/8	8 - 40	6 - 29	910	1.9	4.2	474	18	8433 0250 21
S7-50-10CTADS-F	3/8	10 - 55	7 - 40	545	2.1	4.6	474	18	8433 0253 15
S7-70-13CTADS-F	1/2	14 - 80	10 - 58	390	2.4	5.3	499	20	8433 0273 68

# TENSOR S

## Angle electric nutrunners

Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Ordering No.
		Nm	ft lb		kg	lb			
<b>ETV S7 Flush Socket</b>									
S7-25-CTADS-FS13	-	6 - 25	5 - 18	910	1.6	3.5	413	13.5	8433 0244 12
S7-28-FS5/16	-	5 - 29	4 - 21	1300	1.6	3.5	413	13.5	8433 0244 21
S7-30-CTADS-FS13	-	6 - 35	5 - 25	910	1.6	3.5	413	13.5	8433 0247 96
S7-40-CTADS-FS13	-	8 - 40	6 - 29	910	1.8	4.0	435	18	8433 0251 51
S7-50-CTADS-FS13	-	10 - 55	7 - 40	545	1.8	4.0	435	18	8433 0254 14
S7-70-CTADS-FS	-	14 - 80	10 - 58	390	2.6	5.7	461	20.3	8433 0275 15
S7-100-CTADS-FS	-	20 - 110	15 - 80	300	3.0	6.7	482	20.3	8433 0282 49
S7-150-CTADS-FS	-	30 - 150	22 - 110	185	3.3	7.3	525	26	8433 0289 04
S7-200-CTADS-FS	-	40 - 200	29 - 146	130	3.3	7.3	525	26	8433 0291 79
<b>ETV S7 Hold &amp; Drive</b>									
S7-28-HAD-SH	-	5 - 29	4 - 21	1300	2.1	4.7	436	18.3	8433 0245 74
S7-30-HAD-SH	-	6 - 35	5 - 25	910	2.1	4.7	436	18.3	8433 0247 90
S7-40-HAD-SH	-	8 - 40	6 - 29	910	2.1	4.7	436	18.3	8433 0251 64
S7-50-HAD-SH	-	10 - 55	7 - 40	545	2.1	4.7	436	18.3	8433 0253 74
S7-70-CTADS-HAD	-	14 - 80	10 - 58	320	3.3	7.3	504	26	8433 0274 15
S7-100-CTADS-HAD	-	20 - 110	15 - 80	225	3.7	8.2	525	26	8433 0280 97
S7-150-CTADS-HAD	-	30 - 150	22 - 110	185	3.5	7.7	525	26	8433 0288 93
S7-200-CTADS-HAD	-	40 - 200	29 - 146	130	3.5	8.4	525	26	8433 0292 27
<b>ETV S9</b>									
S9-50-13CTADS	1/2	15 - 50	10.8 - 36	1160	4.2	9.2	552	20	8433 0349 47
S9-80-13CTADS	1/2	30 - 80	22 - 58	950	4.3	9.4	552	20	8433 0350 03
S9-90-13CTADS	1/2	27 - 90	19 - 65	520	4.3	9.4	552	20	8433 0350 14
S9-100-13CTADS	1/2	40 - 100	30 - 73	800	4.4	9.7	595	25.5	8433 0350 22
S9-180-13CTADS	1/2	45 - 180	33 - 132	450	4.5	9.9	595	25.5	8433 0350 85
S9-270-20CTADS	3/4	65 - 270	47 - 198	250	7.4	16.3	661	33.5	8433 0352 39
S9-370-20CTADS	3/4	90 - 370	66 - 270	160	7.5	16.5	661	33.5	8433 0352 74
S9-450-20CTADS	3/4	135 - 450	97 - 324	150	10.0	22	702	54	8433 0353 15
S9-600-25CTADS	1	150 - 600	110 - 432	130	10.1	22.2	702	54	8433 0353 81
<b>ETV S9 Flush Socket</b>									
S9-80-CTADS-FS	-	30 - 80	22 - 58	950	4.7	10.3	552	20.3	8433 0350 09
S9-180-CTADS-FS	-	45 - 180	33 - 132	450	4.7	10.3	595	26	8433 0350 91
S9-270-CTADS-FS	-	65 - 270	47 - 198	250	7.4	16.3	661	34.2	8433 0352 45
S9-370-CTADS-FS	-	90 - 370	66 - 270	160	7.5	16.5	661	34.2	8433 0352 78
S9-600-FS	-	150 - 600	110 - 432	130	15.6	34.3	701	53	8433 0353 92
<b>ETV S9 Hold &amp; Drive</b>									
S9-100-CTADS-HAD	-	40 - 100	30 - 73	800	4.9	10.8	595	26	8433 0350 28
S9-180-CTADS-HAD	-	45 - 180	33 - 132	450	5.0	11.0	595	26	8433 0351 01
S9-270-HAD	-	65 - 270	47 - 198	250	8.2	18	661	34.3	8433 0352 46
S9-370-HAD	-	90 - 370	66 - 270	160	8.3	18.3	661	34.3	8433 0352 85
<b>ETV S9 Torque Multiplier</b>									
S9-600-25CTADS-TM	1	150 - 600	110 - 440	94	9.7	21.4	603	26.3	8433 0353 32
S9-1000-25CTADS-TM	1	250 - 1000	184 - 730	54	12	26.5	666	32	8433 0354 00
S9-2000-38CTADS-TM	1 1/2	500 - 2000	370 - 1475	38	17	37.5	706	80	8433 0354 24

# TENSOR S

## Straight electric nutrunners

### ETD S

- ETD S inline tools. The low torque series is ideal for hand-held bench assembly. The high torque tools are excellent for fixtured applications.
- Torque range from 1 to 4000 Nm (higher torque models available on request).
- Telescopic spindles for fixtured applications.
- Female hex drives for bits.



Model	Square drive in	Torque			Speed r/min	Weight		Length mm	CS distance mm	Spline/ Mounting	Ordering No.
		Nm	ft lb	kg		lb					
<b>ETD S4</b>											
S4-04-10CTADS	3/8	1-	5	0.7 -	3.6	1465	1.4	3.1	381	28	- / 1
S4-10-10CTADS	3/8	3-	14	2.2 -	10.3	690	1.4	3.1	381	28	- / 1
S4-20-10CTADS	3/8	5-	20	3.6 -	15	415	1.4	3.1	381	28	- / 1
<b>ETD S4 Telescopic</b>											
S4-04-10CTADST	3/8	1-	5	0.7 -	3.6	1465	1.5	3.3	419	28	2 / 2
S4-10-10CTADST	3/8	3-	14	2.2 -	10.3	690	1.5	3.3	419	28	2 / 2
S4-20-10CTADST	3/8	5-	20	3.6 -	15	415	1.5	3.3	419	28	2 / 2
<b>ETD S4 Female Hex</b>											
S4-02-I06CTADS	1/4	0.5-	2.5	0.35 -	1.8	2930	1.4	3.1	372	28	- / 1
S4-04-I06CTADS	1/4	1-	5	0.7 -	3.6	1465	1.4	3.1	372	28	- / 1
S4-10-I06CTADS	1/4	3-	14	2.2 -	10.3	690	1.5	3.3	372	28	- / 1
<b>ETD S7</b>											
S7-20-10CTADS	3/8	5-	20	3.6 -	15	1380	1.6	3.6	411	28	- / 1
S7-30-10CTADS	3/8	6-	35	4.4 -	25	830	1.6	3.6	411	28	- / 1
S7-50-13CTADS	1/2	10-	55	7.3 -	40	595	2.1	4.7	456	28	2 / 2
S7-70-13CTADS	1/2	14-	80	11 -	58	410	2.4	4.7	477	29.5	2 / 2
S7-90-13CTADS	1/2	20-	95	15 -	69	335	2.8	6.2	477	29.5	2 / 2
S7-120-13CTADS	1/2	25-	125	18 -	91	280	2.9	6.5	477	29.5	2 / 2
<b>ETD S7 Telescopic</b>											
S7-20-10CTADST	3/8	5-	20	3.6 -	15	1380	1.7	3.8	450	28	2 / 2
S7-20-10CTADS-T50	3/8	5-	20	3.6 -	15	1380	1.8	4.0	500	28	2 / 2
S7-30-10CTADST	3/8	6-	35	4.4 -	25	830	1.7	3.8	450	28	2 / 2
S7-30-10CTADS-T50	3/8	6-	35	4.4 -	25	830	1.8	4.0	500	28	2 / 2
S7-50-13CTADST	1/2	10-	55	7.3 -	40	595	2.2	4.9	483	28	3 / 5
S7-50-13CTADS-T50	1/2	10-	55	7.3 -	40	595	2.3	5.1	540	28	3 / 5
S7-70-13CTADST	1/2	14-	80	11 -	58	410	2.5	5.6	504	29.5	3 / 5
S7-70-13CTADS-T50	1/2	14-	80	11 -	58	410	2.6	5.7	562	29.5	3 / 5
S7-90-13CTADST	1/2	20-	95	15 -	69	335	2.9	6.5	504	29.5	3 / 5
S7-90-13CTADS-T50	1/2	20-	95	15 -	69	335	3.0	6.6	562	29.5	3 / 5
S7-120-13CTADST	1/2	25-	125	18 -	91	280	3.0	6.7	504	29.5	3 / 5
S7-120-13CTADS-T50	1/2	25-	125	18 -	91	280	3.1	6.8	562	29.5	3 / 5
S7-140-13CTADST	1/2	35-	140	26 -	103	280	3.0	6.7	504	29.5	3 / 5
<b>ETD S7 Ball Retainer</b>											
S7-30-B10CTADS	3/8	6-	35	3.6 -	15	830	1.6	3.6	411	28	- / 1
S7-50-B13CTADS	1/2	10-	55	7.3 -	40	595	2.1	4.7	456	28	2 / 2
S7-70-B13CTADS	1/2	14-	80	11 -	58	410	2.4	4.7	477	29.5	2 / 2
<b>ETD S7 Female Hex</b>											
S7-20-I06CTADS	1/4	5-	20	3.6 -	15	1380	1.6	3.6	402	28	- / 1

Continued....

# TENSOR S

## Straight electric nutrunners

Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Spline/ Mounting	Ordering No.
		Nm	ft lb		kg	lb				
<b>ETD S9</b>										
S9-100-13CTADS	1/2	25- 100	19 - 73	795	4.0	8.9	547	31.8	2 / 2	8433 0361 52
S9-200-13CTADS	1/2	50- 200	36 - 146	370	4.1	9.1	547	31.8	2 / 2	8433 0362 38
S9-270-20CTADS	3/4	65- 270	47 - 198	250	6.5	14.5	603	36	6 / 8	8433 0363 83
S9-450-20CTADS	3/4	110- 450	80 - 330	140	7.9	17.6	639	40.3	6 / 8	8433 0364 52
S9-600-20CTADS	3/4	150- 600	110 - 440	120	7.9	17.6	639	40.3	6 / 8	8433 0364 82
S9-1000-25CTADS	1	250-1000	180 - 730	76	12	26.5	770	47	7 / 11	8433 0365 32
S9-1200-25CTADS	1	300-1200	220 - 880	62	12	26.5	770	47	7 / 11	8433 0365 80
S9-1500-38CTADS	1 1/2	375-1500	280 -1100	47	16.8	37.0	727	68	8 / 12	8433 0365 97
S9-2000-38CTADS	1 1/2	500-2000	370 -1475	35	16.8	37.0	727	68	8 / 12	8433 0366 15
S9-3000-38CTADS	1 1/2	750-3000	550 -2200	24	21.7	47.8	808	68	8 / 12	8433 0366 35
S9-4000-38CTADS	1 1/2	1000-4000	730 -2950	18	21.7	47.8	808	68	8 / 12	8433 0366 44
<b>ETD S9 Telescopic</b>										
S9-100-13CTADST	1/2	25- 100	19 - 73	795	4.1	9.1	574	31.8	3 / 5	8433 0362 08
S9-150-13CTADST	1/2	40- 150	30 - 110	510	4.2	9.4	574	31.8	3 / 5	8433 0362 24
S9-200-13CTADST	1/2	50- 200	36 - 146	370	4.2	9.4	574	31.8	3 / 8	8433 0362 55
S9-270-20CTADST	3/4	65- 270	47 - 198	250	6.7	14.9	653	36	6 / 8	8433 0364 12
S9-450-20CTADST	3/4	110- 450	80 - 330	140	8.0	17.8	689	40.3	6 / 8	8433 0364 61
S9-600-20CTADST	3/4	150- 600	110 - 440	120	8.0	17.8	689	40.3	6 / 8	8433 0364 96
S9-1000-25CTADST	1	250-1000	180 - 730	76	12.2	26.9	824	47	7 / 11	8433 0365 14
S9-1200-25CTADST	1	300-1200	220 - 880	62	12.2	26.9	824	47	7 / 11	8433 0365 65
S9-1500-38CTADST	1 1/2	375-1500	280 -1100	47	17	37.5	820	68	8 / 12	8433 0365 95
S9-2000-38CTADST	1 1/2	500-2000	370 -1475	35	17	37.5	820	68	8 / 12	8433 0366 20
S9-3000-38CTADST	1 1/2	750-3000	550 -2200	24	21.9	48.3	903	68	8 / 12	8433 0366 30
S9-4000-38CTADST	1 1/2	1000-4000	730 -2920	18	21.9	48.3	903	68	8 / 12	8433 0366 40

# TENSOR S

## Pistol grip electric nutrunners

### ETP S

- ETP S pistol grip tool for both hand-held and fixtured applications.
- Torque range from 1 to 2000 Nm (higher torque models available on request).
- Telescopic spindles for fixtured applications.
- Female hex quick change drives for bits.



Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Spline/ Mounting	Ordering No.
		Nm	ft lb		kg	lb				
<b>ETP S4</b>										
S4-10-06CTADS	1/4	3 -	12 2.2 - 8.8	735	1.2	2.7	192	21.3	- / -	8433 0235 11
S4-10-10CTADS	3/8	3 -	12 2.2 - 8.8	735	1.2	2.7	194	21.3	- / -	8433 0235 39
S42-10-10	3/8	3 -	12 2.2 - 8.8	1005	1.0	2.2	190	21.3	- / -	8433 0235 48
S4-20-10CTADS	3/8	5 -	20 3.6 - 15	415	1.7	3.7	243	21.3	- / -	8433 0235 64
S42-20-10	3/8	5 -	20 3.6 - 15	560	1.0	2.2	190	21.3	- / -	8433 0235 82
<b>ETP S4 Female Hex</b>										
S4-02-I06CTADS	1/4	0.5 -	2.5 0.35 - 1.8	2930	1.2	2.7	200	21.3	- / -	8433 0233 50
S42-02-I06	1/4	0.5 -	2.5 0.35 - 1.8	3275	0.9	2.0	188	21.3	- / -	8433 0233 61
S4-04-I06CTADS	1/4	1 -	5 0.7 - 3.6	1465	1.2	2.7	200	21.3	- / -	8433 0234 75
S42-04-I06	1/4	1 -	5 0.7 - 3.6	1965	0.9	2.0	188	21.3	- / -	8433 0234 84
S4-10-I06CTADS	1/4	3 -	12 2.2 - 8.8	735	1.2	2.7	200	21.3	- / -	8433 0235 01
S4-10-I06	1/4	3 -	12 2.2 - 8.8	1005	1.0	2.2	188	21.3	- / -	8433 0235 45
<b>ETP S4 Ball Retainer</b>										
S4-10-B10CTADS	3/8	3 -	12 2.2 - 8.8	735	1.2	2.7	194	21.3	- / -	8433 0235 53
<b>ETP S7</b>										
S7-20-10CTADS	3/8	5 -	20 3.6 - 15	1380	1.9	4.2	274	21.5	- / 1	8433 0313 84
S7-30-10CTADS	3/8	6 -	35 4.4 - 25	830	1.9	4.2	274	21.5	- / 1	8433 0314 03
S7-50-13CTADS	1/2	10 -	55 7.3 - 40	595	2.2	4.9	318	26.8	2 / 2	8433 0314 91
S7-70-13CTADS	1/2	14 -	80 11 - 58	410	2.4	5.4	340	29.5	2 / 2	8433 0315 02
S7-90-13CTADS	1/2	20 -	95 15 - 69	533	2.5	5.6	340	29.5	2 / 2	8433 0315 27
S7-120-13CTADS	1/2	25 -	125 18 - 91	280	2.7	6.0	340	29.5	2 / 2	8433 0315 43
<b>ETP S7 Telescopic</b>										
S7-30-10CTADST	3/8	6 -	35 4.4 - 25	830	2.0	4.4	313	21.5	2 / 2	8433 0314 15
S7-120-13CTADST	1/2	25 -	125 18 - 91	280	2.9	6.4	367	29.5	3 / 5	8433 0315 59
<b>ETP S7 Female Hex</b>										
S7-20-I06CTADS	1/4	5 -	20 3.6 - 15	1380	1.9	4.2	265	21.5	- / 1	8433 0313 61
S7-30-I06CTADS	1/4	6 -	35 4.4 - 25	830	1.9	4.2	265	21.5	- / 1	8433 0314 28
<b>ETP S7 Ball Retainer</b>										
S7-30-B10CTADS	3/8	6 -	35 4.4 - 25	830	1.9	4.2	274	21.5	- / 1	8433 0314 18
<b>ETP S9</b>										
S9-70-13CTADS	1/2	25 -	70 18 - 49	1180	3.7	8.3	395	31.8	2 / 2	8433 0367 19
S9-100-13CTADS	1/2	40 -	100 29 - 73	795	3.9	8.7	395	31.8	2 / 2	8433 0367 45
S9-200-13CTADS	1/2	50 -	200 36 - 146	370	3.9	8.7	395	31.8	2 / 2	8433 0367 86
S9-270-20CTADS	3/4	65 -	270 47 - 198	250	6.5	14.5	451	36	6 / 8	8433 0368 52
S9-450-20CTADS	3/4	110 -	450 80 - 330	140	7.9	17.6	487	40.5	6 / 8	8433 0368 99
S9-600-20CTADS	3/4	150 -	600 110 - 440	120	7.9	17.8	487	40.5	6 / 8	8433 0369 38
S9-1000-25CTADS	1	250 -	1000 180 - 730	76	12	26.5	620	47	7 / 11	8433 0370 11
S9-1200-25CTADS	1	300 -	1200 220 - 880	62	12	26.5	620	47	7 / 11	8433 0370 50
S9-1500-38CTADS	1 1/2	375 -	1500 280 - 1100	47	16.8	37.0	572	68	8 / 12	8433 0370 62
S9-2000-38CTADS	1 1/2	500 -	2000 440 - 1475	38	16.8	37.0	572	68	8 / 12	8433 0371 05
S9-3000-38CTADS	1 1/2	750 -	3000 550 - 2200	24	21.7	47.8	654	68	8 / 12	8433 0372 12
S9-4000-38CTADS	1 1/2	1000 -	4000 730 - 2950	18	21.7	47.8	654	68	8 / 12	8433 0372 55
<b>ETP S9 Telescopic</b>										
S9-100-13CTADST	1/2	40 -	100 29 - 73	795	4.0	8.8	422	31.8	3 / 5	8433 0367 51
S9-270-20CTADST	3/4	65 -	270 47 - 198	250	6.7	14.8	501	36	6 / 8	8433 0368 63
S9-450-20CTADST	3/4	110 -	450 80 - 330	140	8.0	17.6	537	40.3	6 / 8	8433 0369 07
S9-600-20CTADST	3/4	150 -	600 110 - 440	120	8.0	17.6	537	40.3	6 / 8	8433 0369 53
S9-1000-25CTADST	1	250 -	1000 180 - 730	76	12.2	26.9	669	47	7 / 11	8433 0370 31
S9-1200-25CTADST	1	300 -	1200 220 - 880	62	12.2	26.9	669	47	7 / 11	8433 0370 55
S9-1500-38CTADST	1 1/2	375 -	1500 280 - 1100	47	17	37.5	669	68	8 / 12	8433 0370 66
S9-2000-38CTADST	1 1/2	500 -	2000 440 - 1475	35	17	37.5	669	68	8 / 12	8433 0371 08
S9-3000-38CTADST	1 1/2	750 -	3000 550 - 2200	24	21.9	48.3	750	68	8 / 12	8433 0372 24
S9-4000-38CTADST	1 1/2	1000 -	4000 730 - 2950	18	21.9	48.3	750	68	8 / 12	8433 0372 62

# TENSOR S

## Fixtured electric nutrunners

### ETF S

- ETF S inline tools specially designed for build-in and fixtured applications.
- Torque range from 1.5 to 1500 Nm (higher torque models available on request).
- Extra high durability.
- Remote start configuration, only.
- Small centre to side distance.
- Telescopic spindles.
- Easy cable routing.



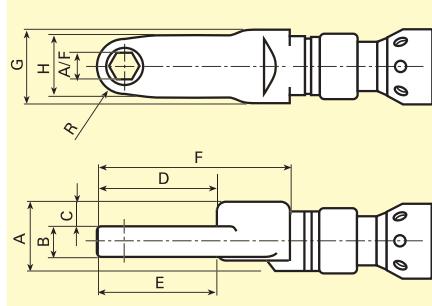
Model	Square drive in	Torque				Speed r/min	Weight		Length mm	CS distance mm	Spline	Ordering No.
		Nm	ft lb				kg	lb				
<b>ETF S4</b>												
S4-10-10CTADS	3/8	3 - 12	2.2 - 8.8			700	1.3	2.9	360	21.5	-	8433 0102 37
<b>ETF S4 Telescopic</b>												
S4-05-10CTADST	3/8	1.5 - 5	0.7 - 3.6			1460	1.3	2.9	399	21.5	2	8433 0102 23
S4-10-10CTADST	3/8	3 - 12	2.2 - 8.8			700	1.3	2.9	399	21.5	2	8433 0102 39
<b>ETF S7 Telescopic</b>												
S7-15-10CTADST	3/8	4 - 15	2.9 - 11			1090	1.5	3.3	430	21.5	2	8433 0105 48
S7-25-10CTADST	3/8	5 - 25	3.6 - 18			680	1.5	3.3	430	21.5	2	8433 0105 67
S7-40-13CTADST	1/2	8 - 40	6 - 29			480	2.1	4.7	463	26.8	3	8433 0105 91
S7-50-13CTADST	1/2	10 - 55	7.3 - 40			305	2.4	5.4	484	29.5	3	8433 0106 04
S7-70-13CTADST	1/2	14 - 80	11 - 58			270	2.8	6.2	484	29.5	3	8433 0106 49
S7-100-13CTADST	1/2	20 - 110	15 - 80			225	2.9	6.5	484	29.5	3	8433 0106 70
<b>ETF S9</b>												
S9-80-13CTADS	1/2	20 - 80	15 - 58			595	4.0	8.9	527	31.8	2	8433 0111 10
S9-120-13CTADS	1/2	30 - 120	22 - 88			380	4.1	9.1	527	31.8	2	8433 0111 30
S9-180-13CTADS	1/2	45 - 180	33 - 132			275	4.1	9.1	527	31.8	2	8433 0111 50
S9-250-20CTADS	3/4	70 - 250	50 - 182			185	6.5	14.5	583	36	6	8433 0111 70
S9-400-20CTADS	3/4	100 - 400	73 - 292			105	7.9	17.6	619	40.3	6	8433 0112 00
S9-500-20CTADS	3/4	125 - 500	92 - 365			90	7.9	17.6	619	40.3	6	8433 0112 20
S9-1000-25CTADS	1	250 - 1000	190 - 730			46	13.0	28.6	749	46.8	7	8433 0112 45
<b>ETF S9 Telescopic</b>												
S9-80-13CTADST	1/2	20 - 80	15 - 58			595	4.1	9.1	554	31.8	3	8433 0111 20
S9-120-13CTADST	1/2	30 - 120	22 - 88			380	4.2	9.4	554	31.8	3	8433 0111 40
S9-180-13CTADST	1/2	45 - 180	33 - 132			275	4.2	9.4	554	31.8	3	8433 0111 60
S9-250-20CTADST	3/4	70 - 250	50 - 182			185	6.7	14.9	633	36	6	8433 0111 80
S9-400-20CTADST	3/4	100 - 400	73 - 292			105	8.0	17.8	669	40.3	6	8433 0112 10
S9-500-20CTADST	3/4	125 - 500	92 - 365			90	8.0	17.8	669	40.3	6	8433 0112 30
S9-800-25CTADST	1	200 - 800	146 - 584			57	13.0	28.6	804	46.8	7	8433 0112 40
S9-1500-38CTADST	1 1/2	375 - 1500	280 - 1100			29	18.0	39.6	800	67.8	8	8433 0112 50

# TENSOR S

## Crowfoot electric nutrunners

### In-Line crowfoot tools

#### DIMENSIONS

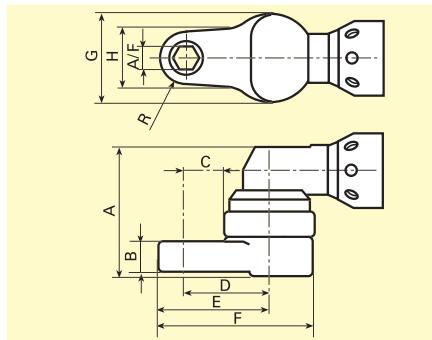


Model	Torque		Speed r/min	Weight		Length mm	A/F mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	R mm	Ordering No.
	Nm	ft lb		kg	lb												
<b>ETC S7</b>																	
S7-25-13-LI3	6 - 28	4.4 - 20.7	622	2.1	4.6	508	13	34	15	13	59	71	94	35	30	13	8433 0210 90

For sockets, see separate ordering material (9833 1381 01)

### Offset crowfoot tools

#### DIMENSIONS



Model	Torque		Speed r/min	Weight		Length mm	A/F mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	R mm	Ordering No.
	Nm	ft lb		kg	lb												
<b>ETC S4</b>																	
S4-05-7-LO3	1 - 5	0.7 - 3.7	940	1.7	3.7	401	7	56	9	6	25	32	47	37	15	7.5	8433 0210 04
S4-08-8-LO3	2 - 9.5	1.5 - 7	874	1.7	3.7	403	8	60	14	8	26	34	49	37	16	8	8433 0210 08
<b>ETC S7</b>																	
S7-15-10-LO5	3.5 - 18	2.6 - 13.3	1297	1.9	4.2	475	10	60	15	48	66	76	91	37	22	10	8433 0210 12
S7-20-13-LO3	4.6 - 23	3.4 - 17	887	1.9	4.2	461	13	58	10	25	47	62	82	44	31	14.5	8433 0210 16
S7-25-13-LO3	5.6 - 28	4.2 - 20.7	887	2.0	4.4	455	13	62	15	20	42	55	76	44	30	13	8433 0210 23
S7-25-13-LO5	5.6 - 28	4.2 - 20.7	887	2.2	4.9	515	13	68	15	62	84	97	118	44	30	13	8433 0210 29
S7-40-13-LO3	8.8 - 44	6.5 - 32.5	533	2.4	5.2	479	13	68	18	25	47	62	82	44	31	14.5	8433 0210 34
S7-40-13-LO5	8.8 - 44	6.5 - 32.5	533	2.4	5.2	526	13	69	18	72	94	108	129	44	31	14.5	8433 0210 38
S7-60-17-LO3	13 - 65	9.6 - 48.1	382	2.8	6.1	507	17	77	24	29	51	66	89	48	30	15	8433 0210 46
S7-60-17-LO5	13 - 65	9.6 - 48.1	382	3.4	7.4	558	17	81	24	78	102	117	140	48	30	15	8433 0210 56
S7-80-21-LO3	18 - 90	13.3 - 66.6	263	3.4	7.6	585	21	90	20	35	66	86	112	63	40	20	8433 0210 60
S7-80-21-LO5	18 - 90	13.3 - 66.6	263	4.3	9.4	651	21	92	20	101	132	152	178	63	40	20	8433 0210 65
<b>ETC S7 Extra heavy duty</b>																	
S7-40-13-AO3	8 - 40	6 - 29	545	2.4	5.5	487	13	60.3	19	33	53	69	86	40	17	16	8433 0211 15
S7-70-17-AO3	14 - 70	11 - 51	390	3.2	7.0	528	17	66.5	19	45	68	87	107	45	21	19.5	8433 0211 32
S7-120-17-AO3	24 - 120	18 - 88	185	4.6	10.1	586	17	88	25	42	68	88	113	51	25	19.8	8433 0211 55
S7-140-17-AO3	28 - 140	21 - 103	160	4.6	10.1	587	17	88	25	42	68	88	113	51	25	19.8	8433 0211 75
<b>ETC S9</b>																	
S9-140-21-LO3	30 - 150	22.2 - 111	320	5.7	12.6	655	21	101	33	35	66	86	112	63	40	20	8433 0210 75
S9-200-21-LO3	43 - 215	31.8 - 159.1	205	10.4	22.9	718	21	146	40	33	70	91	125	77	42	21	8433 0210 80

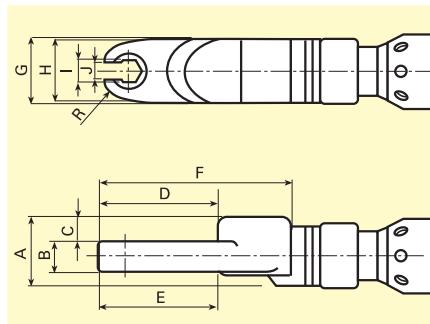
For sockets, see separate ordering material (9833 1381 01)

# TENSOR S

## Tube nut electric nutrunners

### In-Line tube nut tools

#### DIMENSIONS

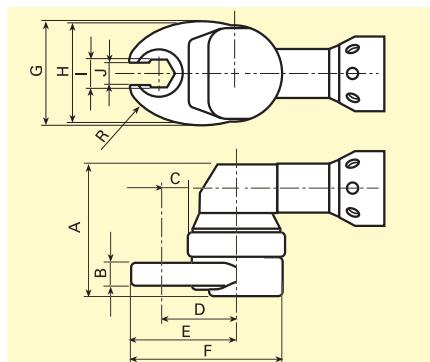


Model	Torque		Speed r/min	Weight		Length mm	A/F	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm	R mm	Ordering No.
	Nm	ft lb		kg	lb													
<b>ETO S4</b>																		
S4-10-10-LI3	2.5 - 12	1.9 - 8.9	555	1.7	3.8	450	10	32	10	13	37	26	67	34	31	11.5	7	8433 0212 05
<b>ETO S7</b>																		
S7-15-10-LI3	3 - 15	2.2 - 11.1	1458	1.9	4.2	484	10	32	12	11	39	26	68	34	32	14	8	8433 0212 10
S7-18-13-LI3	3.6 - 18	2.7 - 13.3	1035	1.9	4.2	500	13	34	11	15	49	32	84	35	38	16	8.5	8433 0212 15
S7-30-13-LI3	6.6 - 33	4.7 - 24.3	630	2.6	5.6	526	13	43	18	14	47	31	83	38	40	25	10.4	8433 0212 21
S7-35-13-LI3	7 - 35	5.2 - 25.9	610	2.8	6.1	570	13	46	11	21	70	48	113	45	55	32	12.5	8433 0212 25
S7-50-17-LI3	11 - 55	8.2 - 40.7	405	3.2	6.9	658	17	46	12	20	81	39	124	45	59	32	16	8433 0212 35
S7-80-19-LI3	16 - 80	11.9 - 59.2	314	3.7	8.1	629	19	46	18	17	74	52	137	64	59	32	17	8433 0212 40

For sockets, see separate ordering material (9833 1381 01)

### Offset tube nut tools

#### DIMENSIONS



Model	Torque		Speed r/min	Weight		Length mm	A/F	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm	R mm	Ordering No.
	Nm	ft lb		kg	lb													
<b>ETO S4</b>																		
S4-08-8-LO3	1.7 - 8.5	1.3 - 6.3	648	1.7	3.7	398	8	59	11	4	22	30	45	37	29	10	6	8433 0212 50
<b>ETO S7</b>																		
S7-10-10-LO3	2.4 - 12	1.8 - 8.9	1880	1.8	4.0	435	10	59	10	7	25	35	50	37	31	11.5	7	8433 0212 60
S7-18-13-LO3	3.6 - 18	2.7 - 13.3	1297	2.0	4.4	442	13	61	11	8	30	42	63	44	38	15	8	8433 0212 68
S7-25-13-LO3	5.6 - 28	4.2 - 20.7	533	2.1	4.7	470	13	65	11	13	37	52	75	48	50	31	11	8433 0212 75
S7-50-17-LO3	11 - 55	8.2 - 40.7	382	3.0	6.7	510	17	76	12	18	49	69	97	63	59	32	16	8433 0212 80
S7-80-19-LO3	16 - 80	11.9 - 59.2	263	3.9	8.5	568	19	91	18	18	49	63	97	63	59	32	17	8433 0212 85
S7-100-24-LO3	22 - 110	16.3 - 81.4	179	4.5	10.0	580	24	92	20	23	60	85	119	74	77	33	21	8433 0212 90

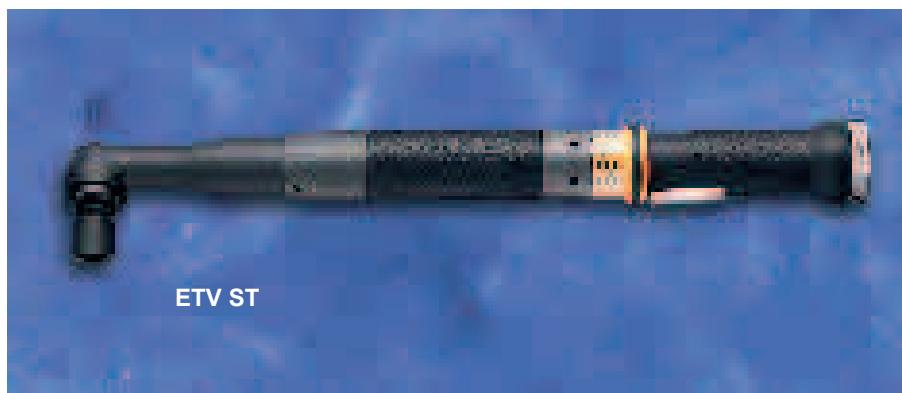
For sockets, see separate ordering material (9833 1381 01)

# TENSOR ST

## Angle electric nutrunners

### ETV ST

- ETV ST right angle tools are ideal for hand-held applications.
- Torque range from 1 to 200 Nm.
- Tensor ST complements the S range by:
  - Extremely high productivity.
  - More ergonomic benefits.
  - Better operator feedback.



Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Height mm	Ordering No.
		Nm	ft lb		kg	lb				
<b>ETV ST31</b>										
ST31-05-10	3/8	1 - 5	0.7 - 3.6	2390	1.0	2.2	381.5	11	39.3	8433 2011 21
ST31-10-10	3/8	3 - 12	2.2 - 8.8	1020	1.0	2.2	381.5	11	39.3	8433 2013 66
ST31-15-10	3/8	5 - 15	3.6 - 10	755	1.0	2.2	381.5	11	39.3	8433 2015 98
ST31-20-10	3/8	5 - 22	3.7 - 16.1	545	1.2	2.6	415	14	42	8433 2017 10
<b>ETV ST31 Ball Retainer</b>										
ST31-05-B10	3/8	1 - 5	0.7 - 3.6	2390	1.0	2.2	381.5	11	39.3	8433 2011 87
ST31-10-B10	3/8	3 - 12	2.2 - 8.8	1020	1.0	2.2	381.5	11	39.3	8433 2014 12
ST31-15-B10	3/8	5 - 15	3.6 - 10	755	1.0	2.2	381.5	11	39.3	8433 2016 36
ST31-20-B10	3/8	5 - 22	3.7 - 16.1	545	1.2	2.6	415	14	42	8433 2018 23
<b>ETV ST31 Female hex</b>										
ST31-05-I06-QC		1 - 5	0.7 - 3.6	2390	1.0	2.2	381.5	11	39.3	8433 2011 95
ST31-10-I06-QC		3 - 12	2.2 - 8.8	1020	1.0	2.2	381.5	11	39.3	8433 2014 21
<b>ETV ST61</b>										
ST61-28-10	3/8	6 - 29	4 - 21	1450	1.3	2.9	440	14	42	8433 2021 76
ST61-30-10	3/8	7 - 35	5 - 25	1090	1.3	2.9	440	14	42	8433 2023 91
ST61-40-10	3/8	8 - 40	6 - 29	1090	1.5	3.3	454	18	47	8433 2027 85
ST61-50-10	3/8	10 - 55	7 - 40	655	1.5	3.3	454	18	47	8433 2031 58
ST61-70-13	1/2	15 - 80	10 - 58	475	2.0	4.5	466	20	58	8433 2035 30
ST61-100-13	1/2	20 - 100	15 - 80	365	2.5	5.5	481	20	58	8433 2039 01
ST61-150-13	1/2	30 - 160	22 - 117	220	3.0	6.6	536	25.5	69.5	8433 2042 70
ST61-200-13	1/2	40 - 210	30 - 154	185	3.0	6.6	536	25.5	69.5	8433 2046 38
<b>ETV ST61 Ball retainer</b>										
ST61-28-B10	3/8	6 - 29	4 - 21	1450	1.3	2.9	440	14	42	8433 2022 32
ST61-30-B10	3/8	7 - 35	5 - 25	1090	1.3	2.9	440	14	42	8433 2025 08
ST61-40-B10	3/8	8 - 40	6 - 29	1090	1.5	3.3	454	18	47	8433 2029 13
ST61-50-B10	3/8	10 - 55	7 - 40	655	1.5	3.3	454	18	47	8433 2032 87
ST61-70-B13	1/2	15 - 80	10 - 58	475	2.0	4.5	466	20	58	8433 2036 93
ST61-100-B13	1/2	20 - 110	15 - 80	365	2.5	5.5	481	20	58	8433 2040 69
ST61-150-B13	1/2	30 - 160	22 - 117	220	3.0	6.6	536	25.5	69.5	8433 2043 62
ST61-200-B13	1/2	40 - 210	30 - 154	185	3.0	6.6	536	25.5	69.5	8433 2047 15
<b>ETV ST61 Flush socket</b>										
ST61-28-FS13	-	6 - 29	4 - 21	1450	1.3	2.9	440	14	35	8433 2022 56
ST61-28-FS12	-	6 - 29	4 - 21	1450	1.3	2.9	440	14	35	8433 2022 65
ST61-28-FS5/16	-	6 - 29	4 - 21	1450	1.3	2.9	440	14	35	8433 2022 79
ST61-30-FS13	-	7 - 35	5 - 25	1090	1.3	2.9	440	14	35	8433 2025 62
ST61-30-FS10	-	7 - 35	5 - 25	1090	1.3	2.9	440	14	35	8433 2025 72
ST61-40-FS13	-	8 - 40	6 - 29	1090	1.5	3.3	454	18	39	8433 2029 64
ST61-50-FS13	-	10 - 55	7 - 40	655	1.5	3.3	454	18	39	8433 2033 28
ST61-70-FS-S	-	15 - 80	10 - 58	475	2.0	4.5	466	20	49.5	8433 2037 35
ST61-100-FS-S	-	20 - 110	15 - 80	365	2.5	5.5	496	20	49.5	8433 2040 95
ST61-150-FS	-	30 - 160	22 - 117	220	3.0	6.6	537	26	55.5	8433 2044 14
ST61-200-FS	-	40 - 210	30 - 154	185	3.0	6.6	537	26	55.5	8433 2047 20
<b>ETV ST61 Hold &amp; Drive</b>										
ST61-28-HAD	-	6 - 29	4 - 21	1450	1.9	4.2	463	18.3	80	8433 2023 20
ST61-30-HAD	-	7 - 35	5 - 25	1090	1.9	4.2	463	18.3	80	8433 2026 24
ST61-40-HAD	-	8 - 40	6 - 29	1090	2.0	4.4	454	18.3	80	8433 2030 07
ST61-50-HAD	-	10 - 55	7 - 40	655	2.0	4.4	454	18.3	80	8433 2033 91
ST61-90-HAD-S	-	20 - 95	15 - 70	400	2.1	4.5	522	26	80	8433 2038 25
ST61-120-HAD-S	-	30 - 130	22 - 100	305	2.6	5.5	540	26	80	8433 2041 52
ST61-150-HAD-S	-	30 - 160	22 - 117	220	3.1	6.6	540	26	80	8433 2044 79
ST61-200-HAD-S	-	40 - 210	30 - 154	185	3.1	6.6	540	26	80	8433 2048 26

# TENSOR ST

## Angle electric nutrunners

Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Height mm	Ordering No.
		Nm	ft lb		kg	lb				
<b>ETV ST81</b>										
ST81-50-10	3/8	16 - 55	12 - 40	1090	1.8	3.9	473	18	48	8433 2051 55
ST81-70-13	1/2	20 - 80	15 - 58	790	2.3	5.0	485	20	58	8433 2053 48
ST81-100-13	1/2	20 - 110	15 - 80	570	2.7	5.9	500	20	58	8433 2056 81
ST81-150-13	1/2	30 - 160	22 - 117	365	3.2	7.0	555	25.5	69.5	8433 2060 12
ST81-200-13	1/2	40 - 210	30 - 154	300	3.2	7.0	555	25.5	69.5	8433 2063 41
<b>ETV ST81 Ball retainer</b>										
ST81-50-B10	3/8	16 - 55	12 - 40	1090	1.8	3.9	473	18	48	8433 2052 36
ST81-70-B13	1/2	20 - 80	15 - 58	790	2.3	5.0	485	20	58	8433 2054 62
ST81-150-B13	1/2	30 - 160	22 - 117	365	3.3	7.0	555	25.5	69.5	8433 2060 97
ST81-200-B13	1/2	40 - 210	30 - 154	300	3.2	7.0	555	25.5	69.5	8433 2064 08
<b>ETV ST81 Flush socket</b>										
ST81-50-FS	-	16 - 55	12 - 40	1090	1.8	3.9	472	18	39	8433 2052 53
ST81-70-FS-S	-	20 - 80	15 - 58	790	2.3	5.0	497	20	49.5	8433 2055 07
<b>ETV ST81 Hold &amp; Drive</b>										
ST81-50-HAD	-	16 - 55	12 - 40	1090	2.3	5.0	473	18.5	80	8433 2052 79
ST81-90-HAD-S	-	20 - 95	15 - 70	665	2.4	5.1	540	26	80	8433 2056 03
ST81-120-HAD-S	-	30 - 130	22 - 100	480	2.8	6.0	560	26	80	8433 2058 64
ST81-150-HAD-S	-	30 - 160	22 - 117	365	3.3	7.0	560	26	80	8433 2061 80
ST81-200-HAD-S	-	40 - 210	30 - 154	300	3.3	7.0	560	26	80	8433 2065 08
<b>ETV ST81 Extended</b>										
ST81-70-13-L150	1/2	20 - 80	15 - 58	790	2.3	5.0	633	20	58	8433 2055 62
ST81-100-13-L150	1/2	20 - 110	15 - 80	570	2.7	5.9	651	20	58	8433 2059 35
ST81-200-13-L150	1/2	40 - 210	30 - 154	300	3.2	7.0	707	25.5	69.5	8433 2065 28



# TENSOR ST

## Straight electric nutrunners

### ETD ST

- ETD ST inline tools.
- Torque range from 1 to 50 Nm.
- Tensor ST complements the S range by ensuring extremely high levels of productivity and better operator feedback.



Model	Square drive in	Torque		Speed r/min	Weight		Length mm	CS distance mm	Spline/ Mounting	Ordering No.
		Nm	ft lb		kg	lb				
<b>ETD ST31</b>										
ST31-05-10	3/8	1 - 5	1.1 - 3.6	2825	0.9	2.0	388	24	- / 1	8433 2112 42
ST31-10-10	3/8	2 - 10	2.2 - 7.2	1200	1.1	2.4	388	24	- / 1	8433 2114 86
<b>ETD ST31 Telescopic</b>										
ST31-05-10-T25	3/8	1 - 5	1.1 - 3.6	2825	0.9	2.0	437	24	- / 13	8433 2111 34
ST31-10-10-T25	3/8	2 - 10	2.2 - 7.2	1200	1.1	2.4	437	24	- / 13	8433 2113 79
<b>ETD ST31 Ball Retainer Telescopic</b>										
ST31-05-B10-T25	3/8	1 - 5	1.1 - 3.6	2825	1.1	2.4	437	24	- / 13	8433 2113 44
<b>ETD ST31 Female Hex</b>										
ST31-05-I06	1/4	1 - 5	1.1 - 3.6	2825	0.9	2.0	350	24	- / 14	8433 2112 87
<b>ETD ST61</b>										
ST61-15-10	3/8	4 - 16	3 - 12	2250	1.4	3.1	438	24	- / 1	8433 2120 91
ST61-20-10	3/8	5 - 22	3.6 - 16	1700	1.4	3.1	438	24	- / 1	8433 2122 62
ST61-30-10	3/8	6 - 35	4.4 - 25	1020	1.4	3.1	429	24	- / 1	8433 2125 06
ST61-50-13	1/2	10 - 55	7.3 - 40	740	1.9	4.2	474	24	2 / 2	8433 2128 79
ST61-70-13	1/2	15 - 80	12 - 58	505	2.3	5.0	491	15	2 / 2	8433 2132 51
ST61-90-13	1/2	20 - 95	15 - 70	410	2.3	5.0	491	15	2 / 2	8433 2136 22
<b>ETD ST61 Telescopic</b>										
ST61-15-10-T25	3/8	4 - 16	3 - 12	2250	1.5	3.3	477	24	2 / 2	8433 2120 43
ST61-20-10-T25	3/8	5 - 20	3.6 - 15	1700	1.5	3.3	477	24	2 / 2	8433 2121 55
ST61-30-10-T25	3/8	6 - 35	4.4 - 25	1020	1.5	3.3	468	24	2 / 2	8433 2123 80
ST61-50-13-T25	1/2	10 - 55	7.3 - 40	740	2.1	4.6	501	24	3 / 5	8433 2127 54
ST61-70-13-T25	1/2	15 - 80	12 - 58	505	2.4	5.4	518	17	3 / 5	8433 2131 27
ST61-90-13-T25	1/2	20 - 95	15 - 70	410	2.4	5.4	518	17	3 / 5	8433 2134 99
ST61-120-13-T25	1/2	25 - 125	19 - 95	305	2.4	5.4	518	17	3 / 5	8433 2138 68
<b>ETD ST61 Female Hex</b>										
ST61-15-I06	1/4	4 - 16	3 - 12	2250	1.4	3.1	430	24	- / 1	8433 2121 36
<b>ETD ST81</b>										
ST81-30-10	1/2	10 - 30	7 - 22	1700	1.8	4.0	450	24	- / 1	8433 2151 93
ST81-50-13	1/2	16 - 50	12 - 37	1230	2.1	4.6	493	24	2 / 2	8433 2153 34
ST81-70-13	1/2	15 - 70	12 - 51	880	2.5	5.5	510	15	2 / 2	8433 2156 03
ST81-90-13	1/2	20 - 95	15 - 70	675	2.5	5.5	510	15	2 / 2	8433 2158 14
ST81-120-13	1/2	25 - 125	19 - 91	505	2.5	5.5	510	15	2 / 2	8433 2160 25
<b>ETD ST81 Telescopic</b>										
ST81-30-10-T25	3/8	10 - 30	7 - 22	1700	1.9	4.2	488	24	2 / 2	8433 2151 21
ST81-50-13-T25	1/2	16 - 50	12 - 37	1230	2.3	5.0	520	24	3 / 5	8433 2152 72
ST81-70-13-T25	1/2	15 - 70	12 - 51	880	2.6	5.8	538	17	3 / 5	8433 2154 98
ST81-90-13-T25	1/2	20 - 95	15 - 70	675	2.6	5.8	538	17	3 / 5	8433 2157 25
ST81-120-13-T25	1/2	25 - 125	19 - 91	505	2.6	5.8	538	17	3 / 5	8433 2159 53

# TENSOR ST

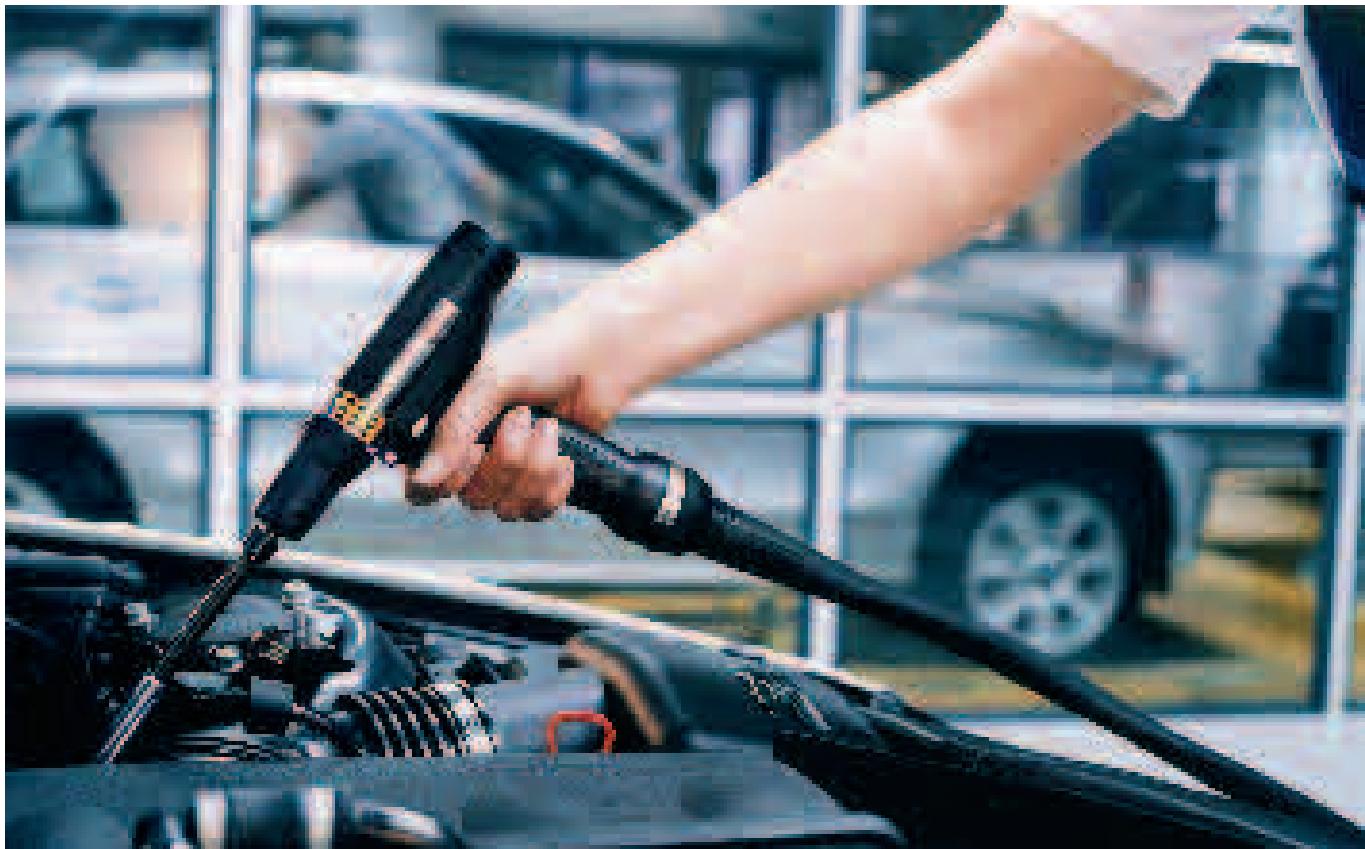
## Pistol grip electric nutrunners

### ETP ST

- ETP ST is a pistol grip model for hand-held applications.
- Torque range from 1 to 11 Nm.
- Female hex drive for bits.
- Low weight and ergonomic grip.
- Easy to access, reverse button.
- Operator friendly, feedback signals with sound and lights.



Model	Square drive in	Torque		Speed r/min	Weight		Length mm	Height mm	Ordering No.
		Nm	ft lb		kg	lb			
<b>ETP ST31</b>									
ETP ST31-05-10	3/8	1 - 5	0.7 - 3.6	2820	0.75	1.7	197	179	8433 2211 02
ETP ST31-05-I06	1/4	1 - 5	0.7 - 3.6	2820	0.75	1.7	197	179	8433 2212 18
ETP ST31-10-10	3/8	3 - 11	2.2 - 8.0	1210	0.8	1.8	197	179	8433 2213 47
ETP ST31-10-I06	1/4	3 - 11	2.2 - 8.0	1210	0.8	1.8	197	179	8433 2214 62
<b>ETP ST31 with scanner</b>									
ETP ST31-05-10BCR	3/8	1 - 5	0.7 - 3.6	2820	0.87	2	197	205	8433 2211 12
ETP ST31-05-I06BCR	1/4	1 - 5	0.7 - 3.7	2820	0.87	2	197	205	8433 2212 28
ETP ST31-10-10BCR	3/8	3 - 11	2.2 - 8.0	1210	0.92	2.1	197	205	8433 2213 57
ETP ST31-10-I06BCR	1/4	3 - 11	2.2 - 8.0	1210	0.92	2.1	197	205	8433 2214 72



# TENSOR DS/DL CONTROLLER

## DS/DL 300 Drive

### Applications

The Tensor DS nutrunner and DL screwdriver series has been developed to give you the benefits of controlled tightening and advanced electric systems throughout your assembly operations. Electric controlled tightening can significantly reduce your assembly costs and improve overall productivity. The simplicity and reliability, combined with outstanding flexibility and accuracy, makes the Tensor DS and DL series a given alternative for your quality critical applications. The systems have a well proven track record of premium quality and reliability in a multitude of industries, e.g. aerospace, automotive, construction, white goods and electronics.

### Drive functionality overview

The drive is the heart of any electrical quality-fastening process. Used both to control and monitor tools, the DS and DL drives provide a high degree of functionality with minimal setup and configuration. The DS drive runs with the Tensor DS nutrunners and the DL drive is used together with Tensor DL screwdrivers. There are two functionality levels of the drives: The Basic (D302 and 303) model, for stations not requiring multi-torque capability, and the Advanced (D312 and 313) model.

### Tensor DS and DL reduce costs

The Tensor DS and DL systems reduce costs through three major benefits:

### Elimination of assembly problems

Through its control and monitoring functionality, Tensor DS/DL will bring you closer to zero fault production. By alerting the operator to the most common errors before they continue down the line, the system ensures high-quality end products, and saves you a fortune in reworking costs.

### One tool for several applications

The Tensor DS/DL can be set with up to 10 different torque settings making it possible to use the same tool for several applications. This reduces operating costs and allows a cleaner design of the work area.

### Tensor DS/DL improves productivity

The unsurpassed power-to-weight ratio together with the high speed of the tool makes it possible for reduced cycle times. The highly precise torque control system – DigiTork – ensures accuracies of +/- 10% over +/- 3 sigma.



# POWER FOCUS

## Tensor S and ST Controller

### Market leader

Atlas Copco is the global market leader for fastening equipment and secures this position with the Power Focus product range.

Power Focus is a modular range of controllers with flexibility to be used for applications ranging from single spindle hand-held operations to fixtured multiple nutrunning systems. Advanced process control and monitoring functions make it easy to view and collect data using the Internet infrastructure.

### Total quality control

The Power Focus can be combined with both Tensor S, Tensor ST, Tensor SL or Tensor DS tools and is used to control the fastening and assembly process in the station. The Power Focus and associated software packages provide easy to understand information for everyone from operators to plant managers.

### All the building blocks

The Power Focus is based on standard hardware and software components which when combined will fulfill all demands from the most basic non-networked system to a fully integrated unit with the factory network. The modules fit together using the 'plug and play' concept.

### Control the assembly process

The Power Focus incorporates advanced control functions to prevent the worker deviating from the required process. On receipt of assembly information, the Power Focus automatically selects the correct tightening sequence and parameters. This is a process control function called Job.

### Built-in connectivity

Fastening data management and communications is a major requirement in modern assembly operations. Many plants demand to have instant fastening data accessible at different levels in the factory. Atlas Copco provides standardized communication solutions with a solid base for integration and the flexibility for future needs.

### RBU cuts downtime

Atlas Copco's patented Rapid Backup Unit (RBU) concept transfers functionality to an non-configured hardware unit, ensuring that hardware can easily be upgraded should functionality requirements change. The RBU also acts as backup for programming and configuration. If a change of hardware is required, just fit the RBU to the new hardware, switch on the unit and you're ready. All programming and network configurations are transferred in seconds. The RBU cuts downtime to a minimum.



Compact

Graph

Two control units are available: Compact and Graph. All have the capability to power and control every Tensor DS/S/ST spindle produced.

#### Compact

Offers minimum hardware expenditure. Easily stackable to form multiple tool configurations.

#### Graph

Gives you full stand alone programming capability. Functions as a programming terminal for one or more compact units.



# POWER FOCUS

## Tensor S and ST Controller

### StepSync spindle synchronization

Tensor spindles are easily fixtured using our standard range of TwinSpin components. StepSync synchronizes Tensor spindles to provide consistent clamp forces over the entire component mating face. Synchronization is performed via the proprietary I/O bus. Depending on user-interface preferences and budget, the SyncMaster may be a Compact or Graph hardware unit.

### MultiStage functionality reduces relaxation

The inherent 'MultiStage' functionality permits the combination of up to eight different parameter sets in a linear sequence. The entire process is activated with just one press of the tool trigger. For joint conditioning, fasteners can be run down to a pre-torque value, backed off by a configurable number of degrees and then re-tightened to the desired final torque. This advanced functionality is ideal for reducing relaxation in a joint.

### Network the controllers with 'Cells'

The 'Cell' concept provides a network without the need for a PC. A 'Cell' may comprise up to 20 units, with a 'CellMaster' (Compact or Graph) and the appropriate number of 'CellMembers'. If the 'Master' is a Graph unit, it can function



*Tensor spindles are easily fixtured using our standard range of TwinSpin components. StepSync synchronizes Tensor spindles to provide consistent clamp forces over the entire component mating face.*

as a programming and monitoring console for the other 'CellMembers', via the high-speed integral Ethernet network. This saves space and cuts hardware costs.

### Advanced statistics for better quality control

Statistical data is collected, analyzed and presented on the Power Focus Graph screen. Diagnostics and statistical alarms

such as SPC monitor charts, and capability (Cpk) alarms highlight changes and trends in the assembly process. Effective information and SPC are good motivators, and encourage operators to adopt a proactive approach in monitoring the quality of the assembly process.

# CONTROLLER SOFTWARE

### Functionality

The functionality is unlocked with a key called RBU (Rapid Backup Unit). This patented device gives you access to the functionality you need and provides backup for your individually programmed data. Five levels of functionality are available: Gold, Silver, Bronze, DS and RBU-X.

### DS

- Stand alone functionality:
- DS tools only
- 64 PSETs
- Integrated Ethernet
- OK/NOK reporting
- Job functionality
- MultiStage functionality
- Cell functionality
- Fieldbus option

### Bronze

- Stand alone functionality:
- 64 PSETs
- Autoset
- Batch count

### Silver

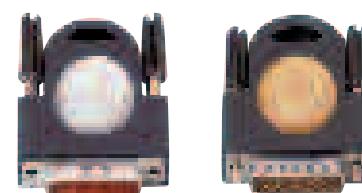
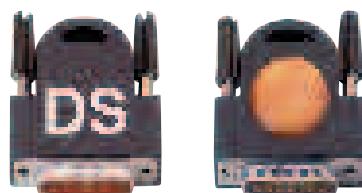
- All the functionality of the bronze plus:
- 250 PSETs
- Integrated Ethernet
- Job functionality
- MultiStage functionality
- Cell functionality
- SPC
- Fieldbus options

### Gold

- All the functionality of the silver plus:
- Advanced line control (Cell Job)
- Synchronisation in a cell
- Running ETX spindles

### RBU-X

- All the functionality of the gold.
- Does not run Tensor tools



# POWER FOCUS

## Connectivity

### Communication levels

#### Cell level

The cell is a key concept in the system design. It is a cluster of max 20 controllers networked together via built-in Ethernet TCP/IP. No need for use of a PC.

#### Factory level

Power Focus can be integrated with the factory Ethernet network which enables easy access and reporting anywhere in the plant.

#### Internet level

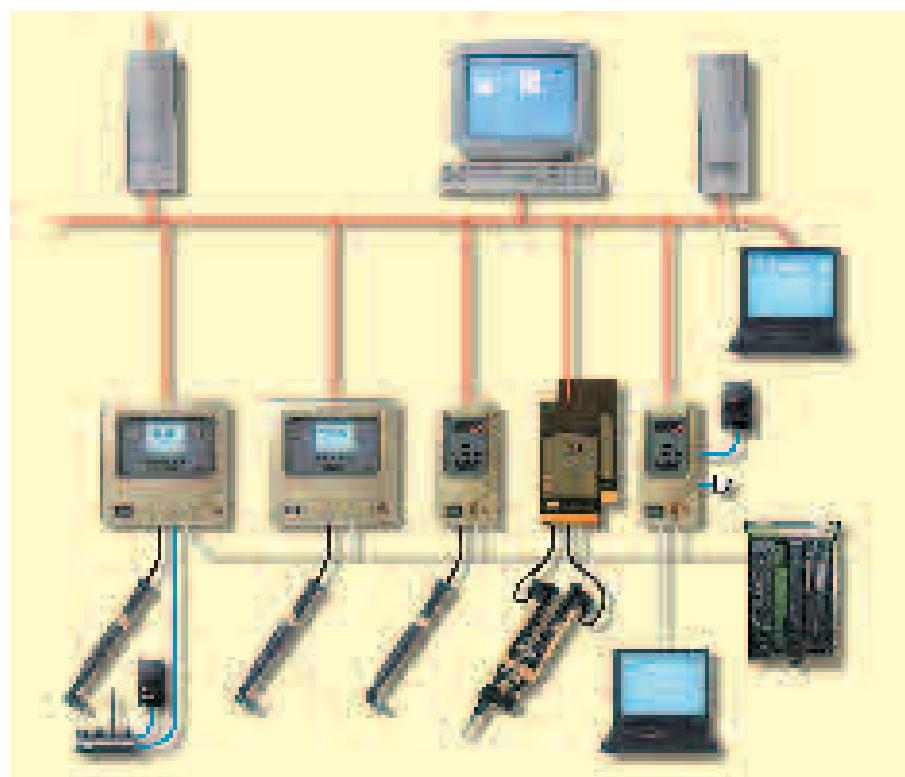
World wide communication is a matter of giving access through a factory network gateway to Power Focus.

#### Controller level

Realtime communication over I/O bus independent of the factory net.

#### Fieldbus level

The most common field buses are supported. Profibus, DeviceNet, Interbus, modbus+.



Discrete I/O, I/O bus, Fieldbus, Compact, Graph, PC, access router, host database.



# POWER FOCUS

## Configuration and analysis software



### ToolsTalk DS/DL – PC-based programming

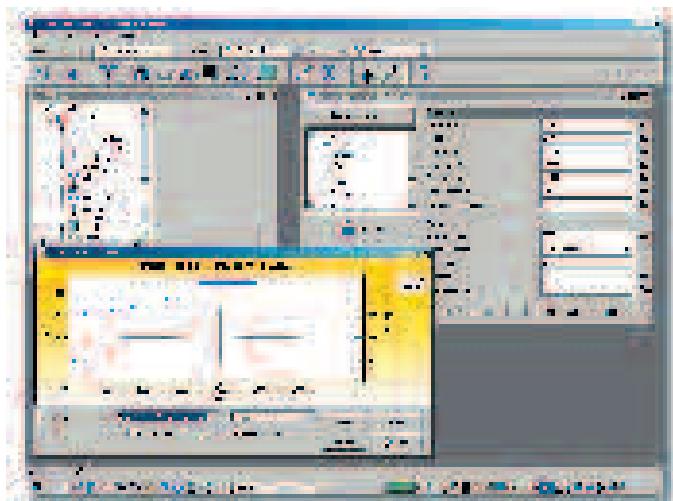
ToolsTalk DS/DL allows complete programming of your DS/DL Drive. There are three programming levels: AutoSet (sets target torque), QuickProg (sets target torque and joint hardness) and Full Programming. Connect your PC to the drive via the serial RS232 port, open the ToolsTalk DS/DL software application and you are talking to the drive. As simple as that. Programming structure is intuitive, logical and easy to follow.

### ToolsTalk PF – remote programming

ToolsTalk PF has the capability to program parameters in all versions of Power Focus 3100 hardware/software configura-

tions, via a user-friendly PC interface. For customized reporting, ToolsTalk can retrieve all results from a specified controller. With a simple click, these results can then be imported directly into other commercial software such as MS Excel etc.

ToolsTalk PF communicates with the Power Focus 3100 control systems via an RS232 serial connection or an Ethernet TCP/IP, either direct or, as is more common in modern plants, via the factory network from the office.

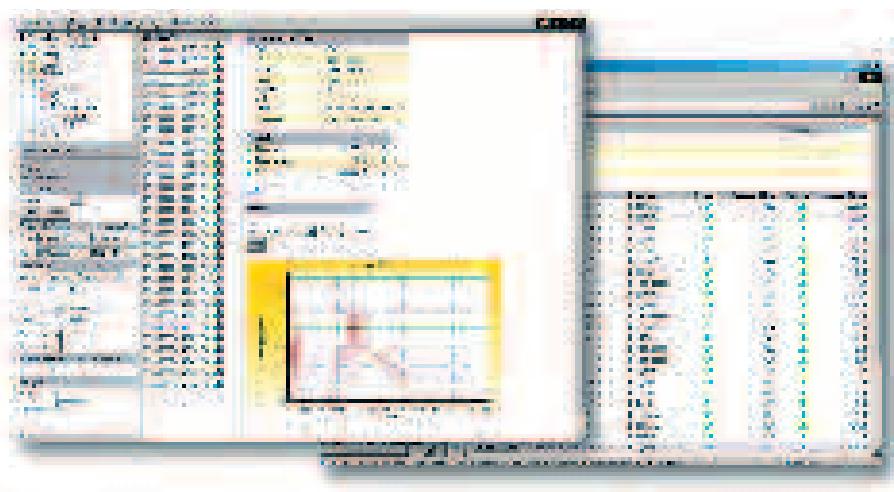


# POWER FOCUS

## Data collection and process improvement software

### ToolsNet – Process improvement

ToolsNet 3000 is a data collection and process improvement software application for use with Power Focus and PowerMACS control systems. Combined, these products provide total control of the assembly process, providing a platform for quality improvements. Historical data, statistics and capability indexes can be accessed at any time via a standard web browser such as MS Explorer. ToolsNet is the complete assembly process improvement tool.



### Traceability minimizes recall costs

The production can be followed in real-time or monitored through different reports such as the Shift report or Product report which provides information on an entire shift or every tightening related to a specified product.

In the event of warranty recalls, the result database provides access to critical information which can easily minimize the extent of any recall leading to an overnight payback on your investment.

### Event Monitor – events in real time

Integrate the Event Monitor software application within your plant architecture and monitor Power Focus and PowerMacs events remotely, as they occur on the assembly line, in real time.

Event Monitor can immediately alert your office PC if the Cpk on a specific controller has dropped below a specified level, or if a tool at a specific workstation requires preventative maintenance.

Event Monitor is web based. Data can be accessed from anywhere in the plant, using a standard web browser such as MS Explorer.

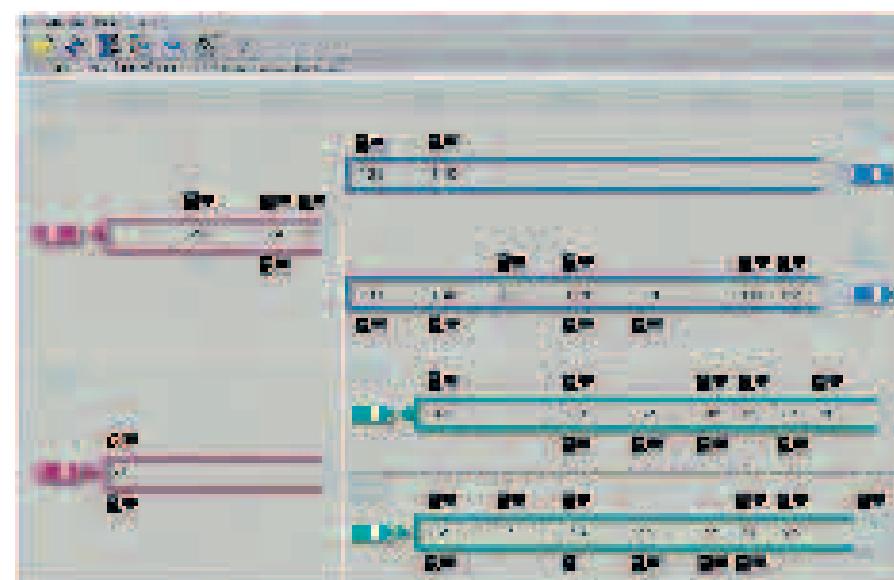


### Factory Overview – visualization

Factory Overview provides real time monitoring and visualization of the production process. Factory Overview is a visual aid that presents the momentary status of the assembly process for a factory, line or workstation in an easy-to-comprehend form, from anywhere in the factory.

This object-orientated concept enables tooling, quality and maintenance engineers to access all plant data in real time. Factory Overview ensures significant performance gains throughout the entire assembly process.

Factory Overview also provides a single portal through which other Atlas Copco software applications, such as ToolsTalk PF, WinTC, ToolsNet and Event Monitor, can be accessed.



# TENSOR

## Functionality overview

General		DS / DL 300		Power Focus 3100			
Functionality Level / RBU	Runs Tool Types	Basic DS / DL	Advanced DS / DL	DS DS	Bronze S / ST / SL	Silver DS / S / ST / SL	Gold DS / S / ST / SL
<b>Tensor controllers</b>							
Compact hardware	x	x		x	x	x	x
LED display	x	x		x	x	x	x
6 button keyboard	x	x		x	x	x	x
Graph hardware						x	x
LCD display						x	x
Full keyboard						x	x
<b>Functionality</b>							
Number of tools	1	1		1	1	1	1
Number of Psets	1	10		64	64	250	250
Batch count	x	x		x	x	x	x
Open end spanner	x	x		x	x	x	x
Quick programming	x	x		x	x	x	x
Cross thread / Rehit detection	x	x		x	x	x	x
Tool service indicator	x	x		x	x	x	x
Autoset	x	x		x	x	x	x
Lock on reject	x	x		x	x	x	x
Line control		x		x		x	x
Transducer torque traceability					x	x	x
Tightening status storage				5 000	5 000	5 000	5 000
Tightening data storage					5 000	5 000	5 000
MultiStages				8		8	8
Trace storage					8	8	8
Real time statistics					x	x	x
SPC					x	x	x
RBU				x	x	x	x
Bar code reading				x		x	x
ID input to select Pset				x		x	x
Job function				x		x	x
Number of jobs				32		99	99
ID input to select job				x		x	x
Complex job sequencing				x		x	x
Cell programming				x		x	x
Label printer (via Open protocol)				x		x	x
Cell Job							x
<b>Strategies and options</b>							
Two stage/Quick step/Ergoramp	x	x		x	x	x	x
Torque control and angle monitoring	x	x		x	x	x	x
DS control	x	x		x		x	x
Auto zoom step	x	x		x	x	x	x
CW / CCW operation	x	x		x	x	x	x
Rundown angle monitoring	x	x		x	x	x	x
Self tap / PVT monitoring	x	x		x	x	x	x
Reverse angle		x		x	x	x	x
Rotate spindle		x		x	x	x	x
Click wrench input					x	x	x
Torque and angle control					x	x	x
Torque or angle control					x	x	x
Angle control and torque monitoring					x	x	x
Step sync							x
<b>I/O</b>							
RS232 programming port	x	x		x	x	x	x
Discrete I/O	x	x		x	x	x	x
Remote start	x	x		x	x	x	x
Socket selector (optional)		x		x	x	x	x
RE Alarm (optional)		x		x	x	x	x
Parallel printer port				x	x	x	x
I/O Expander (optional)				x	x	x	x
Expandable I/O (up to 124 in / 124 out)				x	x	x	x
Operator ID card input				x	x	x	x
Fieldbus card				Optional		Optional	Optional
RS232 bar code reader port				x		x	x
Easily programmed fieldbus protocol				x		x	x
Ethernet port for remote prog				x		x	x
Ethernet port for data collection				x		x	x
<b>Protocols</b>							
Open protocol serial				x	x	x	x
Open protocol Siemens 3964R serial				x	x	x	x
Open protocol Ethernet				x		x	x
API				x		x	x
Double open protocol sessions				x		x	x

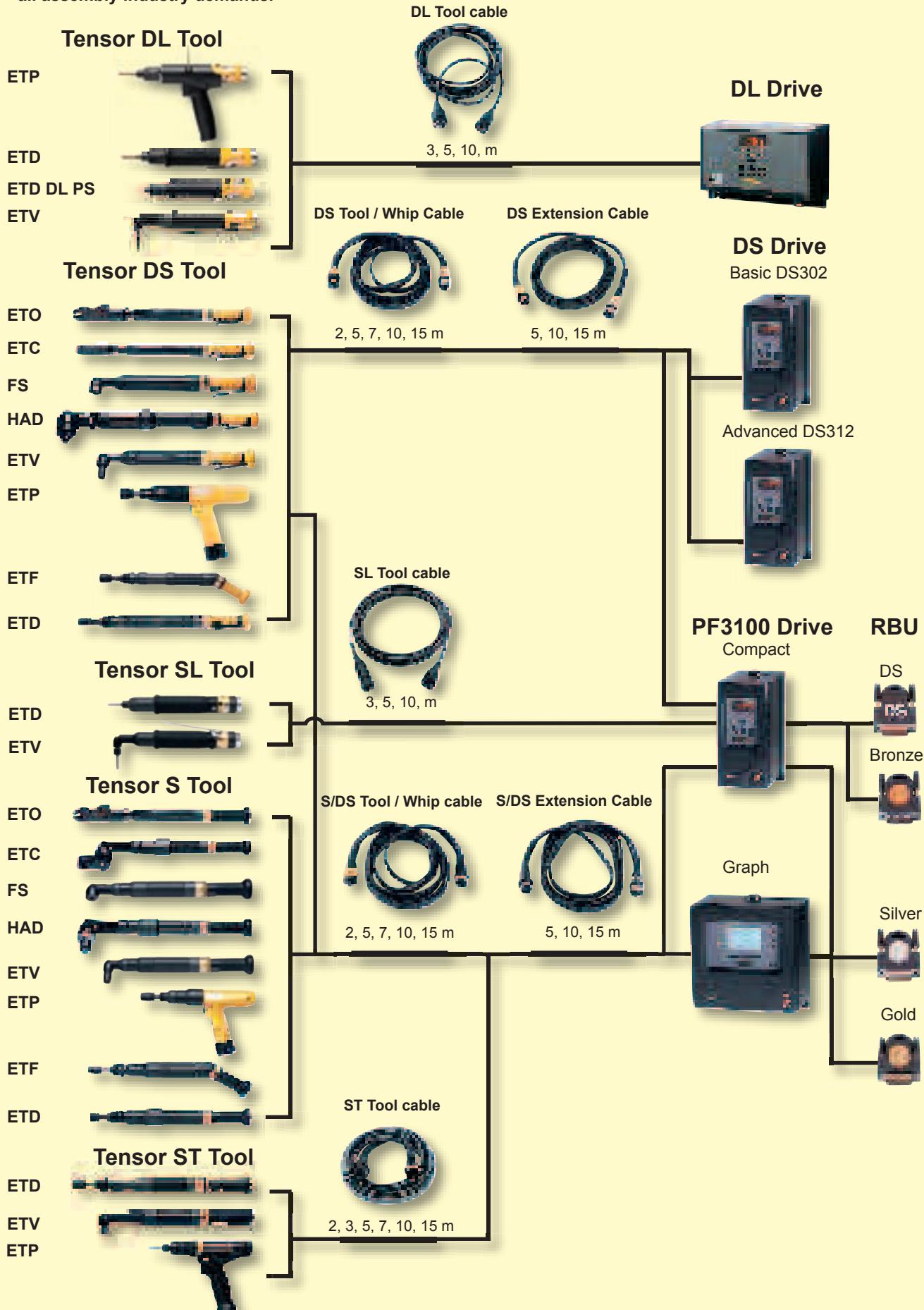
# TENSOR

## Functionality overview

General	DS / DL 300		Power Focus 3100			
	Basic DS / DL	Advanced DS / DL	DS DS	Bronze S / ST / SL	Silver DS / S / ST / SL	Gold DS / S / ST / SL
<b>ToolsTalk World 03</b>						
<b>ToolsTalk Functionality</b>						
Serial connection	x	x	x	x	x	x
Off line programming	x	x	x	x	x	x
Real time analysis	x	x	x	x	x	x
Tightening database to PC (Excel)			x	x	x	x
Tightening simulation			x	x	x	x
Operator monitor			x	x	x	x
Picture monitor			x	x	x	x
Fieldbus quick set-up			x		x	x
Job monitor			x		x	x
Bar code reader configuration			x		x	x
Ethernet connection			x		x	x
Remote programming			x		x	x
View tightening traces				x	x	x
Overlay traces				x	x	x
<b>World 05</b>						
Multiple identifiers					x	x
Tensor ST sound files					x	x
<b>Factory Overview World 03</b>						
<b>Factory Overview Functionality</b>						
Visualisation of controllers on line				x	x	x
Real time tightening status			x		x	x
ToolsTalk link / WinTC			x		x	x
Event Monitor link			x		x	x
ToolsNet link			x		x	x
Power Focus idle indicator			x		x	x
Network connection indicator			x		x	x
Event indicator			x		x	x
Real time CPK			x		x	x
<b>World 05</b>						
Configurable link navigation			x		x	x
Real time torque and angle information					x	x
Controller compatibility			x		x	x
<b>ToolsNet World 03</b>						
<b>ToolsNet Functionality</b>						
Data collection				OK-NOK	x	x
Data evaluation					x	x
Data linked to ID			x		x	x
Date range filtering					x	x
Web browser interface			x		x	x
Client / server solution			x		x	x
Auto uploading of missing data			x		x	x
Oracle / SQL compatibility			x		x	x
Shift reports			x		x	x
Vehicle reports			x		x	x
Full data analysis capabilities					x	x
Customised reports			x		x	x
View tightening traces					x	x
Statistical analysis, histograms, SPC					x	x
<b>World 05</b>						
Station report			x		x	x
Trace analysis/overlay traces			x		x	x
Multiple identifiers			x		x	x
Controller compatibility			x		x	x
<b>Event Monitor World 03</b>						
<b>Event Monitor Functionality</b>						
Web browser interface			x		x	x
Real time event monitoring			x		x	x
Configurable event severity			x		x	x
Event grouping functions			x		x	x
Event filtering			x		x	x
Event acknowledgement			x		x	x
Event observation (with comments)			x		x	x
Event history			x		x	x
<b>World 05</b>						
Controller compatibility			x		x	x

# TENSOR MODULARITY

The Tensor family uses a modular concept based on standard hardware and software. Combined, it will fulfill all assembly industry demands.



# TENSOR

## Drives and software

### Controller hardware

Model	Ordering No.
<b>DL Drive</b>	
D303-DL Basic	8433 4850 48
D313-DL Advanced	8433 4850 33
<b>DS Drive</b>	
D302-DS4 Basic	8433 0820 48
D312-DS4 Advanced	8433 0820 33
D302-DS7 Basic	8433 0822 48
D312-DS7 Advanced	8433 0822 33
D302-DS9 Basic	8433 0824 48
D312-DS9 Advanced	8433 0824 33
<b>Power Focus 3100 Combo World 03</b>	
<b>Tensor S/DS/ST</b>	
PF 3107-G-HW	8433 2700 00
PF 3107-C-HW	8433 2700 05
PF 3107-G-DN-HW	8433 2740 00
PF 3107-C-DN-HW	8433 2740 05
PF 3107-G-PB-HW	8433 2742 00
PF 3107-C-PB-HW	8433 2742 05
PF 3107-G-IB-HW	8433 2745 00
PF 3107-C-IB-HW	8433 2745 05
PF 3107-G-EIP-HW	8433 2749 00
PF 3107-C-EIP-HW	8433 2749 05
PF 3109-G-HW	8433 2900 00
PF 3109-C-HW	8433 2900 05
PF 3109-G-DN-HW	8433 2940 00
PF 3109-C-DN-HW	8433 2940 05
PF 3109-G-PB-HW	8433 2942 00
PF 3109-C-PB-HW	8433 2942 05
PF 3109-G-IB-HW	8433 2945 00
PF 3109-C-IB-HW	8433 2945 05
PF 3109-G-EIP-HW	8433 2949 00
PF 3109-C-EIP-HW	8433 2949 05
<b>Power Focus 3100 Combo World 05</b>	
<b>Tensor SL</b>	
PF3102-C-HW	8433 2200 05
PF3102-C-DN-HW	8433 2240 05
PF3102-C-PB-HW	8433 2242 05
PF3102-C-EIP-HW	8433 2249 05
<b>Tensor S/DS/ST</b>	
PF3107-G-HW	8433 5700 00
PF3107-C-HW	8433 5700 05
PF3107-G-DN-HW	8433 5740 00
PF3107-C-DN-HW	8433 5740 05
PF3107-C-PB-HW	8433 5742 05
PF3109-G-HW	8433 5900 00
PF3109-C-HW	8433 5900 05
PF3109-G-DN-HW	8433 5940 00
PF3109-C-DN-HW	8433 5940 05

### Software modules

Model	Ordering No.
<b>ToolsNet World 03</b>	
5 Spindle license	8092 1156 05
10 Spindle license	8092 1156 10
25 Spindle license	8092 1156 25
50 Spindle license	8092 1156 50
75 Spindle license	8092 1156 75
125 Spindle license	8092 1156 80
200 Spindle license	8092 1156 85
350 Spindle license	8092 1156 90
500 Spindle license	8092 1156 95
<b>ToolsNet World 05</b>	
5 Spindle license	8092 1166 05
10 Spindle license	8092 1166 10
25 Spindle license	8092 1166 25
50 Spindle license	8092 1166 50
75 Spindle license	8092 1166 75
125 Spindle license	8092 1166 80
200 Spindle license	8092 1166 85
350 Spindle license	8092 1166 90
500 Spindle license	8092 1166 95

### Software modules

Model	Ordering No.
<b>Factory Overview World 03</b>	
5 Spindle license	8092 1158 05
10 Spindle license	8092 1158 10
25 Spindle license	8092 1158 25
50 Spindle license	8092 1158 50
75 Spindle license	8092 1158 75
125 Spindle license	8092 1158 80
200 Spindle license	8092 1158 85
350 Spindle license	8092 1158 90
500 Spindle license	8092 1158 95
<b>Factory Overview World 05</b>	
5 Spindle license	8092 1168 05
10 Spindle license	8092 1168 10
25 Spindle license	8092 1168 25
50 Spindle license	8092 1168 50
75 Spindle license	8092 1168 75
125 Spindle license	8092 1168 80
200 Spindle license	8092 1168 85
350 Spindle license	8092 1168 90
500 Spindle license	8092 1168 95
<b>Event Monitor World 03</b>	
5 Spindle license	8092 1157 05
10 Spindle license	8092 1157 10
25 Spindle license	8092 1157 25
50 Spindle license	8092 1157 50
75 Spindle license	8092 1157 75
125 Spindle license	8092 1157 80
200 Spindle license	8092 1157 85
350 Spindle license	8092 1157 90
500 Spindle license	8092 1157 95
<b>Event Monitor World 05</b>	
5 Spindle license	8092 1167 05
10 Spindle license	8092 1167 10
25 Spindle license	8092 1167 25
50 Spindle license	8092 1167 50
75 Spindle license	8092 1167 75
125 Spindle license	8092 1167 80
200 Spindle license	8092 1167 85
350 Spindle license	8092 1167 90
500 Spindle license	8092 1167 95
<b>ToolsTalk DS/DL</b>	
Swedish	8092 1138 60
English	8092 1138 62
German	8092 1138 64
French	8092 1138 66
Spanish	8092 1138 68
Italian	8092 1138 70
<b>ToolsTalk PF3100 World 03</b>	
1-user license	8092 1163 01
5-user license	8092 1163 05
10-user license	8092 1163 10
Plant license	8092 1163 99
<b>ToolsTalk PF3100 World 05</b>	
1-user license	8092 1165 01
5-user license	8092 1165 05
10-user license	8092 1165 10
Plant license	8092 1165 99
1-user licence (upgrade)	8092 1165 31
5-user licence (upgrade)	8092 1165 35
10-user licence (upgrade)	8092 1165 40
<b>Sticker</b>	
PF World 05 sticker (12 package)	4222 0820 15
<b>Controller software</b>	
Software	Référence
RBU-Bronze	8433 0010 10
RBU-Silver	8433 0015 20
RBU-Gold	8433 0020 20
RBU-DS	8433 0005 10
RBU-X	8433 0080 20



Software



DL Drive



Power Focus Graph



Power Focus Compact

# TENSOR

## Controller accessories

### Controller accessories

Model	Ordering No.
Selector 4	8433 0610 04
Selector 8	8433 0610 08
Rotary selector	8433 0606 15
Bit selector	8433 0612 08
Bit selector pad double <sup>a</sup>	4222 0933 92
Bit selector pad single <sup>b</sup>	4222 0933 92
Selector for large sockets	8433 0610 44
RE-Alarm	8433 0560 03
I/O Expander	8433 0564 38
Start handle	4220 1391 91
<b>Accessory cables</b>	
I/O bus cable 0.5 m	4222 0917 00
I/O bus cable 1 m	4222 0917 01
I/O bus cable 3 m	4222 0917 03
I/O bus cable 5 m	4222 0917 05
I/O bus cable 10 m	4222 0917 10
I/O bus cable 15 m	4222 0917 15
I/O Termination plug	4222 0443 00
<b>Ethernet cables</b>	
Crossed 0.5 m	4222 0682 00
Crossed 1 m	4222 0682 01
Crossed 3 m	4222 0682 03
Crossed 5 m	4222 0682 05
Crossed 10 m	4222 0682 10
Crossed 15 m	4222 0682 15
Crossed 25 m	4222 0682 25
Crossed 50 m	4222 0682 50
Straight 0.5 m	4222 0754 00
Straight 1 m	4222 0754 01
Straight 3 m	4222 0754 03
Straight 5 m	4222 0754 05
Straight 10 m	4222 0754 10
Straight 15 m	4222 0754 15
Straight 25 m	4222 0754 25
Straight 50 m	4222 0754 50

<sup>a</sup> Only compatible with Bit selector.

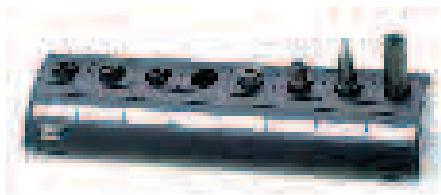
<sup>b</sup> Only compatible with Socket selector 4 and 8.



RE-Alarm



I/O Expansion box



Selector 8



Bit selector



Operator Panel advanced



Start handle



ComNode



ComNode Touch Screen

# TENSOR

## Cables

### Cables for DS/SL/S/ST/DL

Model	Ordering No.
<b>Tensor DL</b>	
<b>Tool cable</b>	
3 m	4220 2604 03
5 m	4220 2604 05
10 m	4220 2604 10
<b>Extension cable DL/SL</b>	
3 m	4220 2704 03
5 m	4220 2704 05
10 m	4220 2704 10
<b>Heavy duty cable</b>	
5 m	4220 3265 05
<b>Spiral cable</b>	
1.5 m	4220 3240 06
<b>Tensor DS</b>	
<b>Tool cable</b>	
2 m	4220 1616 02
5 m	4220 1616 05
7 m	4220 1616 07
10 m	4220 1616 10
15 m	4220 1616 15
<b>Extension cable</b>	
5 m	4220 2047 05
10 m	4220 2047 10
15 m	4220 2047 15
<b>Extension cables for fixtured applications</b>	
5 m	4220 2046 05
10 m	4220 2046 10
15 m	4220 2046 15
<b>Tensor SL</b>	
<b>Tool cable</b>	
3 m	4220 3319 03
5 m	4220 3319 05
10 m	4220 3319 10
<b>Heavy duty cable</b>	
3 m	4220 3378 03
5 m	4220 3378 05
10 m	4220 3378 10
<b>Tensor S</b>	
<b>Tool cable</b>	
2 m	4220 0982 02
3 m	4220 0982 03
5 m	4220 0982 05
7 m	4220 0982 07
10 m	4220 0982 10
15 m	4220 0982 15
<b>Extension cable</b>	
5 m	4220 1007 05
10 m	4220 1007 10
15 m	4220 1007 15
<b>Extension cables for fixtured applications</b>	
5 m	4220 1563 05
10 m	4220 1563 10
15 m	4220 1563 15
<b>Cables with 90 degrees connector</b>	
5 m	4220 1560 05
10 m	4220 1560 10
15 m	4220 1560 15
<b>Cable with loop for high flexibility</b>	
5 m	4220 1845 05
10 m	4220 1845 10
15 m	4220 1845 15

Model	Ordering No.
<b>Tensor ST<sup>a</sup></b>	
<b>Tool cable</b>	
2 m	4220 2636 02
3 m	4220 2636 03
5 m	4220 2636 05
7 m	4220 2636 07
10 m	4220 2636 10
15 m	4220 2636 15
<b>Spiral cable (length/stretched length)</b>	
3 m / 4 m	4220 2757 03
7 m / 8 m	4220 2757 07
10 m / 12 m	4220 2757 10
<b>Cable protection</b>	
	4220 2977 90

<sup>a</sup> Tensor S extension cables are fully compatible with Tensor ST.

### Manuals

Model	Ordering No.
<b>Power Focus 3100</b>	
English	9836 1648 01
Swedish	9836 1648 02
French	9836 1648 03
German	9836 1648 04
Spanish	9836 1648 05
Portuguese	9836 1648 06
Italian	9836 1648 07
<b>DS / DL Drive 300</b>	
English	9836 2050 01
Swedish	9836 2050 02
French	9836 2050 03
German	9836 2050 04
Spanish	9836 2050 05
Portuguese	9836 2050 06
Italian	9836 2050 07

Printed manuals must be ordered separately.



SL Cable



S Cable with 90 degrees connector



S Cable with loop



ST Cable with loop



DL Cable



ST Spiral cable



DS Tool cable



ST cable protection



DS Extension cable for fixtured applications

# TENSOR

## Tool accessories

### Tool extensions

Model	Length	Ordering No.
ETD/ETV/ETF DS4/S4	150	4220 1131 80
ETD DS7/S7 20-30	150	4220 1131 80
ETV DS7/S7 30-50	150	4220 1131 80
ETF DS7/S7 15-40	150	4220 1131 80
ETD/ETV/ETF DS4/S4	100	4220 1131 86
ETD S7 50-120	150	4220 1132 80
ETV S7 70-200	150	4220 1132 80
ETF S7 50-100	150	4220 1132 80
ETD S9 100	150	4220 1132 80
ETV S9 50	150	4220 1132 80
ETF S9 80	150	4220 1132 80
ETD/ETV DS7 70-200	150	4220 1714 80
ETD S9 200	150	4220 1132 81
ETD S9 200	100	4220 1132 82
ETD/ETV DS9/S9 270-370	150	4220 1585 80
ETD DS9/S9 450-600	150	4220 1585 85
ETV ST61/81 100-200	150	4220 2903 81



Tool extension



Fixtured extension



Supported extensions

Model	Extension	Ordering No.
ETV DS7/S7/ST6/ST8 40-50	142	4220 2209 80
	180	4220 2202 80
ETV DS7/S7/ST6/ST8 40-50	88	4220 2247 80
	226	4220 2203 80

### Reaction bars and mounting brackets

Number	Spline type	Type	L / W / H	Ordering No.
1	–	Bracket	100/60/8	4220 1029 00
2	Spline type 2	Bracket	70/41/14	4210 2134 02
3	–	Triangular	73/72/14	4220 2137 02
4	–	Bar	270/35/14	4220 1903 00
5	Spline type 3	Bracket	100/50/12	4210 2219 03
6	–	Triangular	82/80/12	4220 2137 03
7	–	Bar	400/29/12	4210 2219 80
8	Spline type 6	Bracket	200/100/15	4220 1200 00
9	–	Triangular	112/109/15	4220 2137 06
10	–	Bar	560/80/15	4220 1200 01
11	Spline type 7	Bracket	250/150/20	4220 1445 00
12	Spline type 8	Bracket	250/160/20	4220 1972 00
13	–	Bracket	100/60/8	4220 1029 01
14	–	Bracket	100/60/8	4220 1029 02

Mounting bracket is included for some tool models.

Please match the number from the table with the tool tables.

### Reaction plate for fixturing

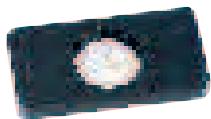
Model	Ordering No.
ETV ST61/81 40-50	4220 3324 80
ETV ST61/ST81-70	4220 3188 80
ETV ST61/ST81-100	4220 3029 80
ETV ST61/ST81-150-200	4220 1128 85

### Suspension yokes

Model	Type	Assembly	Ordering No.
ETD/ETV/ETF S4	Fixed	Motor front nut	4220 1675 86
ETD/ETV/ETF S4/S7	Horizontal	Motor	4220 0987 80
ETD/ETV DS4/DS7	Horizontal	Motor	4220 0987 85
ETD/ETV S4/S7/S9/DS4/DS7/DS9	Vertical	Handles	4220 1417 80
ETD/ETV/ETF S9	Horizontal	Motor	4220 1418 93
ETP S4/S7/DS4/DS7	Horizontal	Motor	4220 1154 90
ETV/ETD ST31/61	Horizontal	Motor	4220 2657 90
ETV/ETD ST31/61	Fixed	Motor	4220 2843 92
ETV/ETD ST81	Horizontal	Motor	4220 0987 90
ETV/ETD ST81	Fixed	Motor	4220 2843 91



Reaction bar



Mounting bracket



Triangular



Reaction plate



Suspension yokes

# TENSOR

## Tool accessories

### Lever DS / S / ST

Model	Ordering No.
Lever	4220 1642 80
Extended lever	4220 1642 85
Safety lever (DS/S)	4220 2356 80



Lever

Safety lever

### Lever DL / SL

Model	Ordering No.
Lever	4220 2540 81
Extended lever	4220 2540 88



Extended lever



Protective cover Tensor DS/S

### Protective cover Tensor DS and Tensor S

Model	Ordering No.
ETV DS4/S4, DS7/S7 28-30	9040 0900 08
ETV S7 40-50	9040 0900 09
ETV S7 70-100	9040 0900 10
ETV S9 50	9040 0900 11
ETV DS7 40-50	9040 0900 33
ETV DS7 70-100	9040 0900 34
ETP S4/DS4 10	9040 0900 12

### Protective cover Tensor ST

Model	Ordering No.
ETV ST31 5-15	4220 2744 05
ETV ST31/ST61 28-30	4220 2744 03
ETV ST61 40-50/ST81 50	4220 2744 02
ETV ST61 70/ST81 70	4220 2744 04



Protective cover Tensor ST

### Pistol grip

Model	Ordering No.
Tensor DL	4220 2743 80



Tensor DL

### Telescopic front parts for ETV

Model	Holder	Front part	Nut
DS7/S7 40/50	4220 1673 80	4220 1145 90	4220 0841 01
DS7/S7 70/100	4220 1811 81	4220 1135 95	4220 0848 01
DS7/S7 150/200	4220 1592 81	4220 1135 93	4220 0848 01
DS9/S9	4220 1960 80	4220 1179 91	Included



Telescopic front part

### Torque multiplier

Model	Max Torque Nm	Gear ratio	Square in	Square out	Ordering No.
T-Mult 120	30	4.54	3/8	1/2	8431 0453 53
T-Mult 200	50	4.62	3/8	3/4	8433 0310 07
T-Mult 400	100	4.10	1/2	3/4	8431 0493 65
T-Mult 500	30	16.11	3/8	3/4	8433 0310 28
T-Mult 800	45	18.50	1/2	1	8433 0311 81
T-Mult 1000	250	4.00	3/4	1	8433 0312 16
T-Mult 1500	72	21.10	1/2	1	8433 0312 20



T-Mult

### Mounting bracket and nut (included with T-mult)

Model	Mounting bracket	Nut
T-Mult 120	4210 2134 00	4210 2135 00
T-Mult 200	4210 2219 03	4210 2218 00
T-Mult 400	4210 2183 00	4210 2182 00
T-Mult 500	4210 2183 00	4210 2182 00
T-Mult 800	4210 2726 00	4210 2725 00
T-Mult 1000	4210 2726 00	4210 2725 00
T-Mult 1500	4210 3899 80	4210 3936 00

# TENSOR

## Tool accessories

### Barcode scanner

Model	Tools	Ordering No.
Scanner ST61-S	ST31, ST61 28-50	8433 0615 10
Scanner ST61-L	ST61 70-200	8433 0615 20
Scanner ST81-S	ST81 50	8433 0615 30
Scanner ST81-L	ST81 70-200	8433 0615 40



Barcode scanner

### Parameter set selector

Model	Tools	Ordering No.
Selector ST61-S	ST31, ST61 28-50	8433 0616 05
Selector ST61-L	ST61 70-200	8433 0616 15
Selector ST81-S	ST81 50	8433 0616 25
Selector ST81-L	ST81 70-200	8433 0616 35



Parameter set selector

### I/O device module

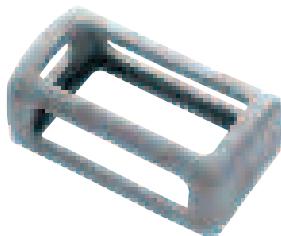
Model	Tools	Ordering No.
I/O Device ST61-S	ST31, ST61 28-50	8433 0617 12
I/O Device ST61-L	ST61 70-200	8433 0617 22
I/O Device ST81-S	ST81 50	8433 0617 32
I/O Device ST81-L	ST81 70-200	8433 0617 42



I/O device module

### Protection

Model	Ordering No.
Scanner protection ST61-S	4220 2762 10
Selector protection	4220 2917 06
I/O device protection	4220 2917 06



Scanner protection

# MULTIPLES BY EXPRESS



## Flexible and powerful

Why waste time and money reinventing the same solution when you can customize your multiples – by Express?

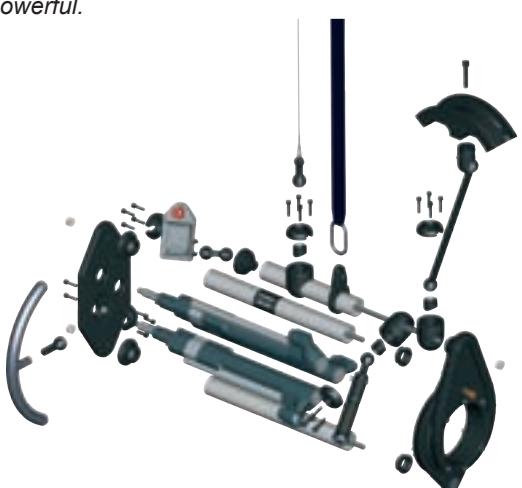
"Express" components are designed and manufactured by Atlas Copco. Our long experience, uncompromising quality and unrivalled R&D resources ensure products that meet the most stringent demands.

## Short lead-time – fast response

The unique Express concept permits quotations, complete with specifications and dimensional drawings, in days rather than weeks. The secret is smart modular thinking (Express) and an outstanding logistics network. This means real savings – in time and money.



*Stand Alone  
system –  
quick, easy  
and powerful.*



*Express mechanics*

# POWER FOCUS

## ETX nutrunners and cables

### Power Focus with ETX nutrunners

ETX nutrunners are compact, durable and easy to integrate.

Some applications require spindles for fixtures and for durability under extreme conditions. ETX is designed to last in the toughest environments with high duty cycle and high production rate. ETX is controlled by the Power Focus 3100, just like the Tensor and Tensor ST tools making it a true plug and play system.

Optimized for integration, ETX makes life easy for application engineers. There are optional ways to fixture the front end of the tool. With a sandwich mount, for easy exchange of the socket holder, or pilot mount direct onto the front end. Its compact planetary gear minimizes center-to-center distances, for greater flexibility when placing the spindles in the powerhead. Calibration data, service data, general tool- and transducer data (such as cycles, serial numbers) is all stored on the built-in memory chip.

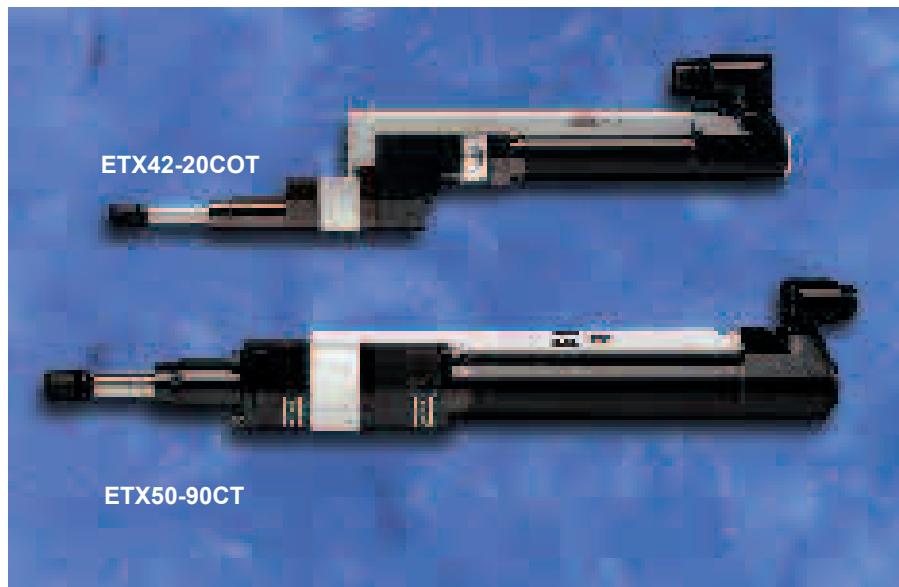
When matching tool to application, accessibility can pose a real problem. Available in many different mechanical designs (angle tools, u-builds and so on), the ETX range can be the answer to that "impossible" application. Contact your local Atlas Copco representative for further details.

- Compact, easy to integrate and service friendly.
- Built in memory chip.
- Torque range 6-950 Nm.
- Adjustable single connector designed for cable management flexibility.
- Different socket holder lengths (0-200 mm), permit access to applications or parts with tight clearances.
- Spring travel can be increased from the standard 50 mm to 76 mm, to simplify fastening of longer bolts.
- ISO certified to +/- 2.5% accuracy and 1 million duty cycles on hard and soft joints.
- Low moment of rotor inertia, designed for high dynamic applications.

### ETX cables

ETX cables are designed with a robust extruded connector and a super-flex jacket for increased durability.

- Reduce spare parts due to a single cable design.
- Super-flex cables provide increased life.
- Cable lengths in combination up to 25 m.

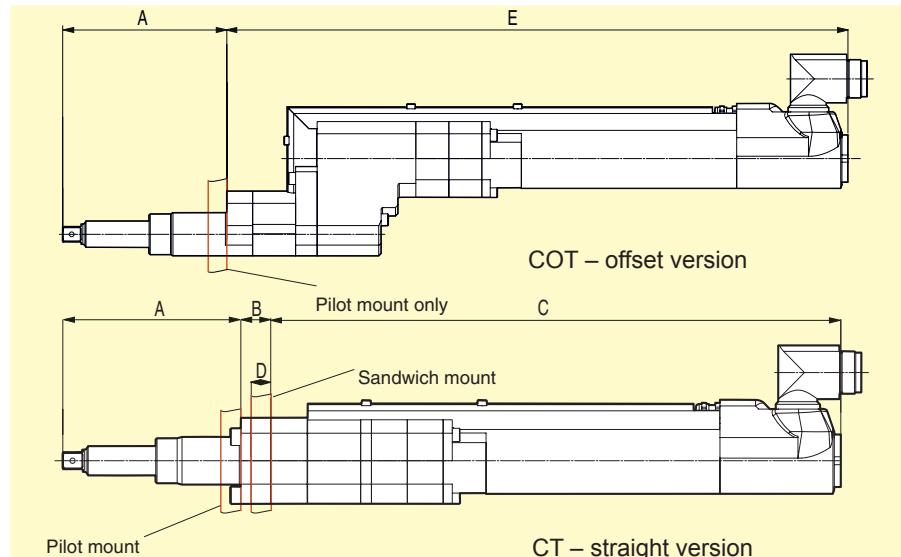


# POWER FOCUS

## ETX nutrunners and cables

### Standard nutrunner

Atlas Copco standard DC electric brushless nutrunners. These state-of-the-art nutrunners are used for a wide variety of fastening tasks.



Model	Travel mm	Torque range		Max speed	Min C-C	Weight kg	Gear ratio	Socket holder size in	Ordering No.	Socket holder Ordering No.	Dimensions					
		Nm	ft lb								A mm	B mm	C mm	D mm	E mm	
ETX42-20CT	50	6- 20	4- 14	2000	43	3.2	7.1	7.50	3/8	8435 5120 10	4230 1818 00	134	23	386	15	-
ETX42-20COT	50	6- 20	4- 14	2000	31	4.3	9.5	7.50	3/8	8435 5120 20	4230 1818 00	134.5	-	-	-	436
ETX42-50CT	50	10- 50	7- 35	700	43	3.5	7.7	21.33	1/2	8435 5130 10	4230 1819 00	134	23	412	15	-
ETX42-50COT	50	10- 50	7- 35	700	31	4.6	10.1	21.33	1/2	8435 5130 20	4230 1819 00	134.5	-	-	-	463
ETX50-90CT	50	20- 90	15- 65	650	51	5.9	13.0	18.21	1/2	8435 5140 10	4230 1820 00	137	23	462	15	-
ETX50-90COT	50	20- 90	15- 65	650	37	8.1	17.9	18.21	1/2	8435 5140 20	4230 1820 00	137	-	-	-	519
ETX50-150CT	50	30- 150	22- 110	380	51	5.8	12.8	31.24	1/2	8435 5150 10	4230 1820 00	137	23	462	15	-
ETX50-150COT	50	30- 150	22- 110	380	37	8.0	17.6	31.24	1/2	8435 5150 20	4230 1820 00	137	-	-	-	519
ETX62-150CT	50	30- 150	22- 110	450	63	9.5	20.9	13.94	1/2	8435 5160 10	4230 1829 00	152	25	531	15	-
ETX62-150COT	50	30- 150	22- 110	450	46	9.5	20.9	13.94	1/2	8435 5160 20	4230 1829 00	152.5	-	-	-	575
ETX62-230CT	50	40- 230	29- 170	330	63	10.2	22.5	19.04	3/4	8435 5170 10	4230 1822 00	152	25	531	15	-
ETX62-230COT	50	40- 230	29- 170	330	46	12.8	28.2	19.04	3/4	8435 5170 20	4230 1822 00	152.5	-	-	-	575
ETX62-350CT	50	50- 350	37- 258	220	63	10.2	22.5	28.33	3/4	8435 5180 10	4230 1822 00	152	25	531	15	-
ETX62-350COT	50	50- 330	37- 243	220	50	12.9	28.4	28.33	3/4	8435 5180 20	4230 1822 00	152	-	-	-	580.5
ETX72-450CT	50	90- 450	65- 331	160	73	11.3	25	41.6	3/4	8435 5182 10	4230 1971 00	146	30	610.5	20	-
ETX72-600CT	50	120- 600	90- 441	110	73	11.3	25	58.0	3/4	8435 5183 10	4230 1971 00	146	30	610.5	20	-
ETX72-600COT	50	120- 580	90- 425	110	55	17	37.5	57.99	3/4	8435 5183 20	4230 1971 00	146	-	-	-	672
ETX90-750CT	50	150- 750	110- 551	90	91	17.8	39	68.3	1	8435 5184 10	4230 1824 00	152	32	581.5	20	-
ETX90-950CT	50	200- 950	150- 699	70	91	17.8	39	90.0	1	8435 5185 10	4230 1824 00	152	32	581.5	20	-

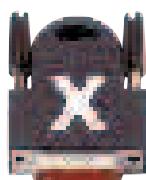
### Cables

Model	Ordering No.
<b>Tool cables</b>	
Tool cables	4230 2195 02
5 m	4230 2195 05
7 m	4230 2195 07
10 m	4230 2195 10
15 m	4230 2195 15
20 m	4230 2195 20
<b>ETX Extension cables</b>	
Extension cables	4220 1563 05
5 m	4220 1563 10
10 m	4220 1563 15

ETX extension cables are the same as for Tensor S.

### RBU

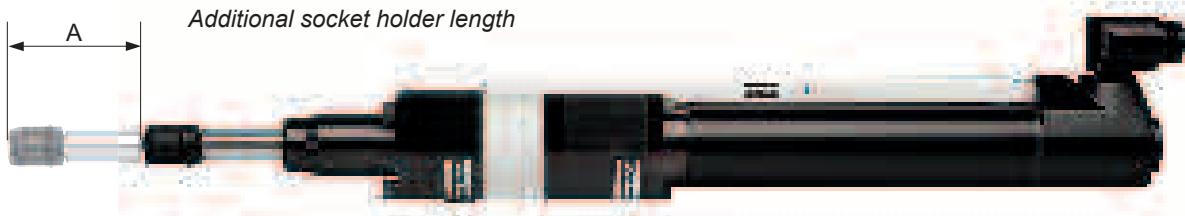
	Ordering No.
RBU-X	8433 0080 20
RBU-Gold	8433 0020 20



# POWER FOCUS

## ETX nutrunners

Atlas Copco special socket holder designs allow you to reach into applications or parts with tight clearances.



### ETX42-20CT

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0 <sup>b</sup>	8435 5120 10	3/8	4230 1818 00
50	8435 4063 08	3/8	4230 2217 00
100	8435 4063 10	3/8	4230 2217 01
150	8435 4063 12	3/8	4230 2217 02
200	8435 4063 14	3/8	4230 2217 03

### ETX42-50CT

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0 <sup>b</sup>	8435 5130 10	1/2	4230 1819 00
50	8435 4063 19	1/2	4230 2218 00
100	8435 4063 21	1/2	4230 2218 01
150	8435 4063 23	1/2	4230 2218 02
200	8435 4063 25	1/2	4230 2218 03

### ETX50-90CT

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0 <sup>b</sup>	8435 5140 10	1/2	4230 1820 00
50	8435 4063 28	1/2	4230 2219 00
100	8435 4063 29	1/2	4230 2219 01
150	8435 4063 30	1/2	4230 2219 02
200	8435 4063 31	1/2	4230 2219 03

### ETX50-150CT

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0 <sup>b</sup>	8435 5150 10	1/2	4230 1820 00
50	8435 4063 68	1/2	4230 2219 00
100	8435 4063 33	1/2	4230 2219 01
150	8435 4063 34	1/2	4230 2219 02
200	8435 4063 35	1/2	4230 2219 03

### ETX62-150CT

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0 <sup>b</sup>	8435 5160 10	1/2	4230 1829 00
50	8435 4063 37	1/2	4230 2223 00
100	8435 4063 40	1/2	4230 2223 01
150	8435 4063 43	1/2	4230 2223 02
200	8435 4063 46	1/2	4230 2223 03
0	8435 4063 70	5/8	4230 1821 00
50	8435 4063 38	5/8	4230 2224 00
100	8435 4063 41	5/8	4230 2224 01
150	8435 4063 44	5/8	4230 2224 02
200	8435 4063 47	5/8	4230 2224 03

### ETX62-230CT

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0	8435 4063 81	5/8	4230 1821 00
50	8435 4063 83	5/8	4230 2224 00
100	8435 4063 98	5/8	4230 2224 01
150	8435 4063 88	5/8	4230 2224 02
200	8435 4063 91	5/8	4230 2224 03
0 <sup>b</sup>	8435 5170 10	3/4	4230 1822 00
50	8435 4063 84	3/4	4230 2226 00
100	8435 4063 86	3/4	4230 2226 01
150	8435 4063 89	3/4	4230 2226 02
200	8435 4063 92	3/4	4230 2226 03

### ETX62-350CT

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0	8435 4063 72	5/8	4230 1821 00
50	8435 4063 53	5/8	4230 2224 00
100	8435 4063 56	5/8	4230 2224 01
150	8435 4063 59	5/8	4230 2224 02
200	8435 4063 62	5/8	4230 2224 03
0 <sup>b</sup>	8435 5180 10	3/4	4230 1822 00
50	8435 4063 54	3/4	4230 2226 00
100	8435 4063 57	3/4	4230 2226 01
150	8435 4063 60	3/4	4230 2226 02
200	8435 4063 63	3/4	4230 2226 03

<sup>a</sup> This socket holder is included when you order the complete spindle.

<sup>b</sup> This socket holder follows when you order the standard nutrunner.

**NOTE:** The spindle travel is 50 mm for all sockets holders.



## PowerMACS/QMX

Where requirements for functionality, durability and flexibility are the highest, PowerMACS and the QMX nutrunners provide the solution for you.

PowerMACS is the controller/servo controlling the QMX nutrunners. These products are typically used for fixtured installations – automated, semi-automated or manually operated.

The PowerMACS controller can be built into a cabinet or used as a Stand Alone. The Stand Alone concept is a unique way of installing these advanced systems in a very simple manner, true plug & play. Advanced products do not have to mean complex handling any more.

The QMX nutrunners are extremely robust and durable, standing up to the toughest environments. At the same time they are small and fast, allowing ergonomically built multiples. Don't let your ergonomics requirements slip just because you are using a multiple.

- **Nutrunner sequencing** – This allows nutrunners to be sequenced at each phase of the tightening process allowing even distribution of torque to each fastener.
- **Even torque distribution** – Where there is uneven torque distribution, part damage or distortion could occur with possible fastener failure or loss of residual torque.
- **Snug, threshold, final torque in one pass** – No need for multiple torque stage sequencing as with a single nutrunner tool. Fixtured nutrunners save time and effort from start to finish.
- **No missed fasteners** – With multiple nutrunners there is a spindle dedicated to each location, ensuring quality on every rundown on every bolt.
- **Better residual torques** – Synchronized controlled fastening allows residual torque levels to be more consistent with the dynamic torque specification.
- **Saving in cycle time** – Compared with using a single nutrunner tool with many rundowns, running all fasteners simultaneously reduces in-station cycle time.
- **Cost saving benefits** – Saving in-station cycle time frees up operators to handle additional tasks and potentially reduce labor requirements, at the same time eliminating bottle necks.

# POWERMACS

## PowerMACS

Already ex-stock as a standard component, PowerMACS is ready to take on the most demanding jobs. You do not have to add external devices to get going. Power it up, program it and you are ready to go.

It is also built to communicate. Connect the PowerMACS system to your network via the built-in Ethernet port or connect it to your fieldbus network (option) to communicate production data.

There is even a PLC on board, allowing you to program any logic sequence you like. The PLC is standard, included when you order a PowerMACS.

Production up-time is ensured by flash PROM memory and RAM back-up memory. We know the value for you of keeping production going and did not compromise on reliability when we designed this system.



- **Plenty of memory** for handling cycle data, statistics, SPC, cycle traces, station events, etc.
- **Peripheral support** for barcode readers, printers and special communication protocols.
- **API-Server** (Application Program Interface) software component using TCP/IP.
- **Fieldbus flexibility** to handle data and I/O communications.
- **On board operating system** with real time configurable PLC to handle all in-station functions.
- **True nutrunner synchronization** achieved using high speed internal Ethernet communications.
- **Installation flexibility** with external and panel mounted controllers.
- **Inertia braking capabilities** to absorb the inertia during a high speed run-down on a hard joint, allowing for productivity and accuracy at the same time.

## PowerMACS – Tightening controllers

Model	Type	Ordering No.
<b>Stand Alone TCs 570 V/20 A (IP54) for QMX42 – QMX62</b>		
TC52 S-N	Stand Alone – No FieldBus	4240 0440 81
TC52 S-P	Stand Alone – ProfiBus	4240 0441 81
TC52 S-I	Stand Alone – InterBus	4240 0442 81
TC52 S-D	Stand Alone – DeviceNet	4240 0443 81
TC52 S-M	Stand Alone – ModBus Plus	4240 0444 81
<b>Stand Alone TCs 570 V/40 A (IP54) for QMX80 – QMX90</b>		
TC54 S-N	Stand Alone – No FieldBus	4240 0450 81
TC54 S-P	Stand Alone – ProfiBus	4240 0451 81
TC54 S-I	Stand Alone – InterBus	4240 0452 81
TC54 S-D	Stand Alone – DeviceNet	4240 0453 81
TC54 S-M	Stand Alone – ModBus Plus	4240 0454 81
<b>Panel TCs (IP20) 570 V/20 A for QMX42 – QMX62</b>		
TC52 P-N	Panel – No FieldBus	4240 0410 81
TC52 P-P	Panel – ProfiBus	4240 0411 81
TC52 P-I	Panel – InterBus	4240 0412 81
TC52 P-D	Panel – DeviceNet	4240 0413 81
TC52 P-M	Panel – ModBus Plus	4240 0414 81
<b>Panel TCs (IP20) 570 V/40 A for QMX80 – QMX90</b>		
TC54 P-N	Panel – No FieldBus	4240 0430 81
TC54 P-P	Panel – ProfiBus	4240 0431 81
TC54 P-I	Panel – InterBus	4240 0432 81
TC54 P-D	Panel – DeviceNet	4240 0433 81
TC54 P-M	Panel – ModBus Plus	4240 0434 81

# POWERMACS

## Power distribution and software

### Power Box Unit – PBU

Power Box Units are used for power distribution. Standard hardware such as Ethernet switches, E-Stop circuitry, 24 VDC power supply, and basic hardware such as power contactors are all configured into the PBU.

- 400 VAC 3 phase and 24 VDC/5A or 24 VDC/10A power distribution to each controller.
- Central Ethernet switch for internal and external TC communication.
- From 1 to 10 nutrunners depending on PBU, and sizes from 400 mm wide.
- All PBUs match TC52 and TC54.



### Stand Alone cable between TC – PBU

Length	Ordering No.
2 m	4231 5063 02
5 m	4231 5063 05
10 m	4231 5063 10

### Power Box Unit – PBU

Model	Size HxDxW mm	DC supply	Ordering No.
Stand Alone PBU 1 Ch	300x155x400	24 V / 5 A	4240 0503 00
Stand Alone PBU 2 Ch	300x155x400	24 V / 5 A	4240 0504 00
Stand Alone PBU 5 Ch	300x155x600	24 V / 5 A	4240 0701 00
Stand Alone PBU 3+3 Ch	300x155x600	24 V / 5 A	4240 0700 00
Stand Alone PBU 10 Ch	300x155x800	24 V / 10 A	4240 0702 00

### Software

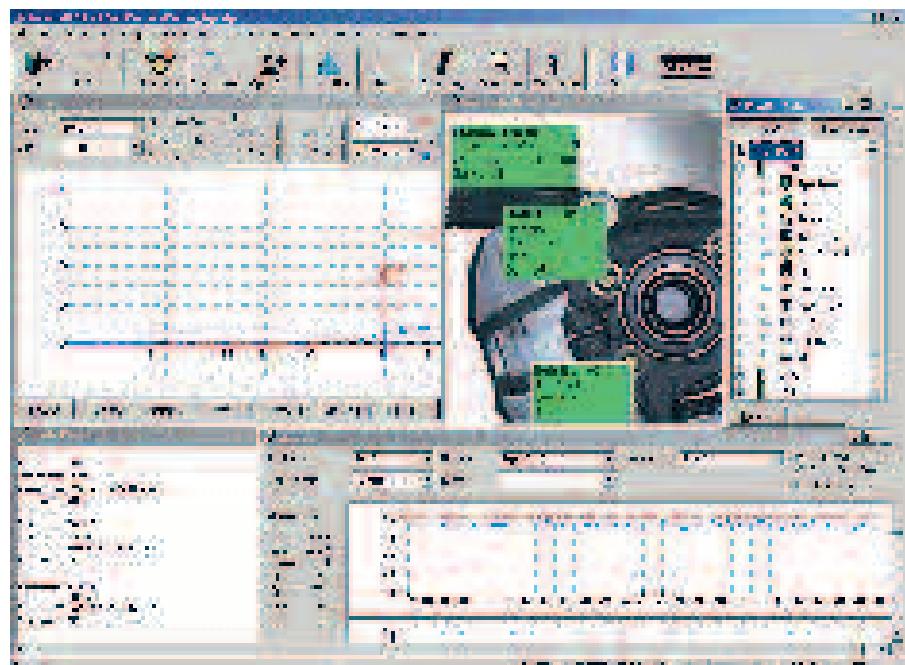
#### WinTC for PowerMACS

WinTC is the user friendly interface that allows users to program, view or configure station functionality. It is a Windows-based program that can be installed on the station PC, on a back office PC connected via Ethernet or on a portable laptop.

The software offers full reporting of tightening results as well as read-at-a-glance graphics of actual customer parts.

Each user can be assigned a specific user name and password with an access level associated with read and write capabilities. It also includes set-up wizards, product training tutorials and tightening templates that guide you through programming tightening sequences.

- User friendly Windows programming interface.
- 10 levels of read and write security.
- Read-at-a-glance graphics with actual picture of customer part.
- Graphical system map of hardware and software.
- Configurable cycle data menu for station reporting of torque data.
- Real time SPC and TDA reporting of any parameter.
- Trace reporting on torque vs. angle, current and time.
- Event logging of security access, parameter changes, errors, faults, alarms and warnings.



WinTC	Ordering No.
World Release 03	Single-user license
	Five-user license
	Ten-user license
World Release 05	Single-user license
	Five-user license
	Ten-user license

- Create tightening programs ranging from the very simple to as complex as the application requires.
- Maintenance menus to verify hardware and software changes without machine intervention.
- Built-in user manual for quick access.

# POWERMACS

## QMX nutrunners and cables

### QMX nutrunners

QMX is designed to last in the toughest environments. With its high speed and outstanding durability it will meet your most stringent demands.

The electric motor in the QMX nutrunners is a proprietary Atlas Copco brushless DC motor. It is highly efficient, allowing for it to put out high power at a high cycle rate without overheating. The design uses resolver technology. All of this together allows QMX to be certified to the highest levels of both accuracy and durability.

Our range includes standard tools in several different configurations of which a sample appears in the catalogue. Should you require more information, please contact your local Atlas Copco representative.

- Resolver technology enables us to run unique tightening strategies and gauging applications.
- Increased productivity due to faster nutrunner speeds resulting from a higher bus voltage.
- Torque range from 6-4000 Nm.
- MTBF better than 5 million cycles, under normal conditions.
- Adjustable single cable connector design for cable management flexibility.
- ISO certified to +/- 2.5% accuracy and 1 million duty cycles on hard and soft joints.
- Excellent nutrunner C-C distances when comparing power-to-weight ratio.
- Low moment of rotor inertia, designed for high dynamic applications.
- Co-axial nutrunner design to handle dual nutrunner functionality on special applications.

### QMX cables

Cable integrity is the most crucial component of any system. QMX cables are designed with a robust extruded connector and a super-flex jacket for increased durability.

- Reduced spare parts due to a single cable design.
- 3-in-1 Power, Resolver, and Transducer connections built into one cable design.
- Super-flex cables provide increased life.
- Cable lengths in combinations up to 35 meters.

### QRTT

Tranducers used for both QMX nutrunners and fixtured Tensor tool calibration. This transducer enables fast and easy set-up with highest system accuracy. By using the QRTT, no special test adapter between the nutrunner and the product itself is now needed (for further information see page 141).

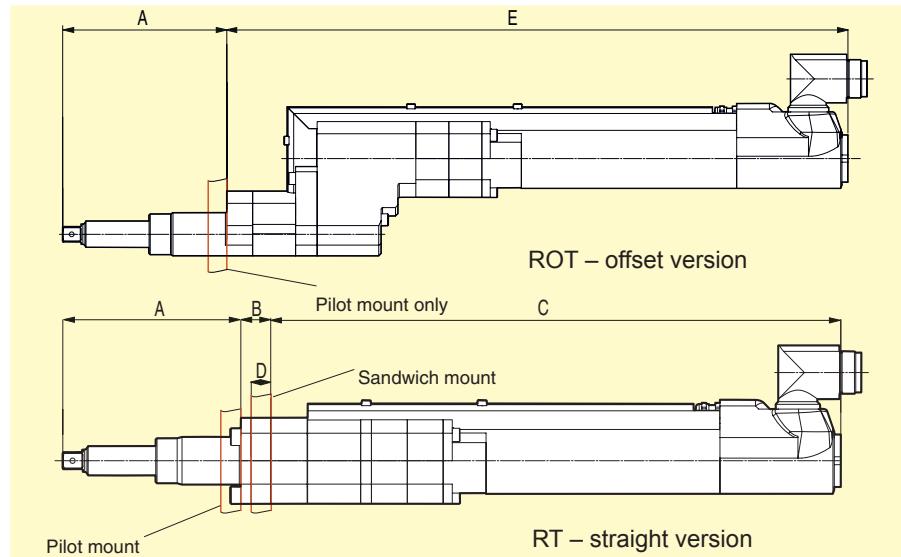


# POWERMACS

## QMX nutrunners

### Standard nutrunner

Atlas Copco standard DC electric brushless resolver nutrunners. These state-of-the-art nutrunners are used for a wide variety of fastening tasks.

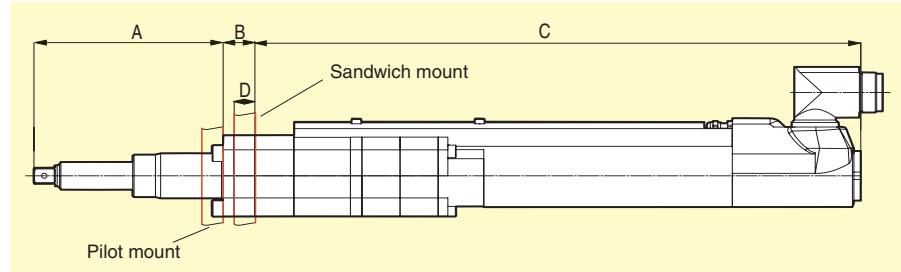


Model	Travel mm	Torque range		Max speed	Min C-C	Weight kg	Gear ratio	Socket holder size in	Ordering No.	Socket holder <sup>a</sup> Ordering No.	Dimensions (mm)				
		Nm	ft lb								A	B	C	D	E
QMX42-2RT	50	6- 20	4- 14	1200	43	3.2	7.1	7.5	3/8	8432 5120 10	4230 1818 00	134	23	386	15
QMX42-2ROT	50	6- 18	4- 13	1200	31	4.3	9.5	7.5	3/8	8432 5120 20	4230 1818 00	134.5	-	-	-
QMX42-5RT	50	10- 50	7- 35	560	43	3.5	7.7	21.3	1/2	8432 5130 10	4230 1819 00	134	23	412	15
QMX42-5ROT	50	10- 50	7- 35	560	31	4.6	10.1	21.3	1/2	8432 5130 20	4230 1819 00	134.5	-	-	-
QMX42-5ROT	50	10- 50	7- 35	560	31	4.6	10.1	21.3	3/8	8432 5130 24	4230 1818 00	134.5	-	-	-
QMX50-9RT	50	20- 90	15- 65	560	51	5.9	13.0	18.2	1/2	8432 5140 10	4230 1820 00	137	23	462	15
QMX50-9ROT	50	20- 85	15- 60	560	37	8.1	17.9	18.2	1/2	8432 5140 20	4230 1820 00	137	-	-	-
QMX50-15RT	50	30- 150	22- 110	330	51	5.8	12.8	31.3	1/2	8432 5150 10	4230 1820 00	137	23	462	15
QMX50-15ROT	50	30- 145	22- 105	330	37	8.0	17.6	31.3	1/2	8432 5150 20	4230 1820 00	137	-	-	-
QMX62-19RT	50	40- 190	30- 140	330	63	9.5	21.0	19.4	5/8	8432 5160 10	4230 1821 00	152	25	525.5	15
QMX62-19RT	50	40- 190	30- 140	330	63	9.5	21.0	19.4	1/2	8432 5165 10	4230 1829 00	152	25	525.5	15
QMX62-19ROT	50	40- 180	30- 130	330	45	12.9	28.4	19.4	5/8	8432 5160 20	4230 1821 00	152.5	-	-	-
QMX62-32RT	50	70- 320	50- 235	200	63	10.2	22.5	32.1	3/4	8432 5170 10	4230 1822 00	152	25	527	15
QMX62-32ROT	50	70- 290	50- 210	200	45	13.5	29.8	32.1	3/4	8432 5170 20	4230 1822 00	152.5	-	-	-
QMX80-58RT	50	120- 580	90- 425	200	81	20.0	44.1	29.6	3/4	8432 5180 10	4230 1971 00	146	30	610	20
QMX80-58ROT	50	120- 550	90- 405	200	55	21.0	46.3	29.6	3/4	8432 5180 20	4230 1971 00	146	-	-	-
QMX90-95RT	50	200- 950	150- 700	130	91	22.0	48.5	46.8	1	8432 5190 10	4230 1824 00	152	32	621	20
QMX90-95ROT	50	200- 900	150- 660	130	63	30.0	66.1	46.8	1	8432 5190 20	4230 1824 00	152.5	-	-	-

<sup>a</sup>The socket holder is included in the product.

### Extended spring travel 76 mm and 100 mm

Atlas Copco special DC electric brushless resolver nutrunner with extended spring travel for longer bolt lengths.



Model	Travel mm	Torque range		Max speed	Min C-C	Weight kg	Gear ratio	Socket holder size in	Ordering No.	Socket holder <sup>a</sup> Ordering No.	Dimensions (mm)				
		Nm	ft lb								A	B	C	D	
QMX42-2RT	76	6- 20	4- 14	1200	43	3.2	7.1	7.5	3/8	8432 5120 11	4230 2114 00	190	23	386	15
QMX42-5RT	76	10- 50	7- 35	560	43	3.7	8.2	21.3	1/2	8432 5130 11	4230 2120 00	190	23	412	15
QMX50-9RT	76	20- 90	15- 65	560	51	6.5	14.3	18.2	1/2	8432 5140 11	4230 2127 00	200	23	464	15
QMX50-15RT	76	30- 150	22- 110	330	51	7.0	15.4	31.3	1/2	8432 5150 11	4230 2127 00	201	25	462	15
QMX62-19RT	76	40- 190	30- 140	330	63	9.8	21.6	19.4	5/8	8432 5160 11	4230 2136 00	200	25	526	15
QMX62-19RT	76	40- 190	30- 140	330	63	9.8	21.6	19.4	1/2	8432 5165 11	4230 2189 00	200	25	526	15
QMX62-32RT	76	70- 320	50- 235	200	63	10.5	23.1	32.1	3/4	8432 5170 11	4230 2137 00	200	25	527	15
QMX80-58RT	76	120- 580	90- 425	200	81	21.0	46.3	29.6	3/4	9831 4048 04	4231 2664 00	214	43	623	20
QMX90-95RT	76	200- 950	150- 700	130	91	23.0	50.7	46.8	1	9831 4058 18	4231 1106 00	176	32	670	20
QMX42-5RT	100	10- 50	7- 35	560	43	8.0	17.6	21.3	3/8	9831 4045 53	4231 2055 00	191	23	510	15
QMX50-15RT	100	30- 150	22- 110	560	51	11.0	24.3	31.3	1/2	9831 4067 15	4231 3189 00	186	23	565	15

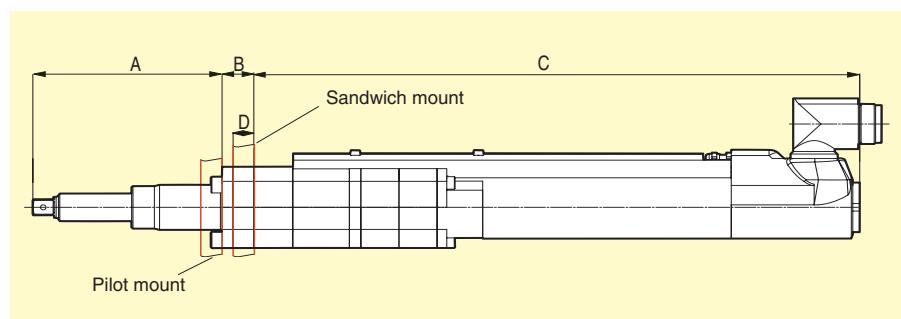
<sup>a</sup>The socket holder is included in the product.

# POWERMACS

## QMX nutrunners

### Dual transducers, RTT

Atlas Copco special DC electric brushless resolver nutrunners with dual torque transducer feedback. This allows for transducer redundancy, enabling verification that readings are within certain tolerances.



### Dual transducers and angle feedback, RATT

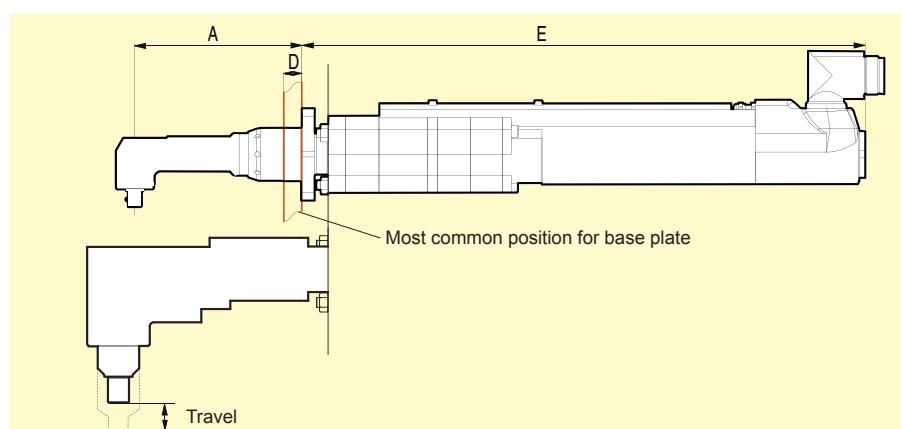
Atlas Copco special DC electric brushless resolver nutrunners with dual angle and torque transducer feedback. This allows for angle and torque verification to double-check system accuracy.

Model	Travel mm	Torque range		Max speed	Min C-C	Weight kg	Gear ratio	Socket holder size in Ordering No.	Socket holder <sup>a</sup> Ordering No.	A mm	B mm	C mm	D mm	
		Nm	ft lb											
<b>RTT</b>														
QMX42-2RTT	50	6 - 20	4 - 14	1200	43	3.2	7.1	7.5	3/8 8432 5120 50	4230 1818 00	134	23	386	15
QMX42-5RTT	50	10 - 50	7 - 35	560	43	3.5	7.7	21.3	1/2 8432 5130 50	4230 1819 00	134	23	412	15
QMX50-9RTT	50	20 - 90	15 - 65	560	51	5.9	13.0	18.2	1/2 8432 5140 50	4230 1820 00	137	23	462	15
QMX50-15RTT	50	30 - 150	22 - 110	330	51	5.9	13.0	31.3	1/2 8432 5150 50	4230 1820 00	137	23	462	15
QMX62-19RTT	50	40 - 190	30 - 140	330	63	9.5	21.0	19.4	5/8 8432 5160 50	4230 1821 00	152	25	526	15
QMX62-32RTT	50	70 - 320	50 - 235	200	63	10.2	22.5	32.1	3/4 8432 5170 50	4230 1822 00	152	25	527	15
QMX80-58RTT	50	120 - 580	90 - 425	200	81	20.0	44.1	29.6	3/4 9831 4048 17	4230 1971 00	146	30	610	20
QMX90-95RTT	50	200 - 950	150 - 700	130	91	22.0	48.5	46.8	1 9831 4058 34	4230 1824 00	152	32	621	20
<b>RATT</b>														
QMX42-2RATT	50	6 - 20	4 - 14	1200	43	3.7	8.2	7.5	3/8 8432 5120 70	4230 1818 00	134	23	386	15
QMX42-5RATT	50	10 - 50	7 - 35	560	43	3.9	8.6	21.3	1/2 8432 5130 70	4230 1819 00	134	23	412	15
QMX50-9RATT	50	20 - 90	15 - 65	560	51	6.0	13.2	18.2	1/2 8432 5140 70	4230 1820 00	137	23	462	15
QMX50-15RATT	50	30 - 150	22 - 110	330	51	6.0	13.2	31.3	1/2 8432 5150 70	4230 1820 00	137	23	462	15
QMX62-19RATT	50	40 - 190	30 - 140	330	63	10.0	22.0	19.4	5/8 8432 5160 70	4230 1821 00	152	25	526	15
QMX62-19RATT	50	40 - 190	30 - 140	330	63	10.0	22.0	19.4	1/2 8432 5165 70	4230 1829 00	152	25	526	15
QMX62-32RATT	50	70 - 320	50 - 235	200	63	10.8	23.8	32.1	3/4 8432 5170 70	4230 1822 00	152	25	527	15
QMX80-58RATT	50	120 - 580	90 - 425	200	81	21.0	46.3	29.6	3/4 9831 4048 18	4230 1971 00	146	30	610	20
QMX90-95RATT	50	200 - 950	150 - 700	130	91	22.5	49.6	46.8	1 9831 4058 35	4230 1824 00	152	32	621	20

<sup>a</sup>The socket holder is included in the product.

### Angle head tools

Atlas Copco special DC electric brushless resolver nutrunners with a right angle head. These simplify access to hard-to-reach applications, enabling nutrunners to be positioned in any way.



Model	Travel mm	Torque range		Max speed	Min C-C	Weight kg	Gear ratio	Socket holder size in Ordering No.	Socket holder <sup>a</sup> Ordering No.	A mm	B mm	C mm	D mm	E mm
		Nm	ft lb											
QMX42-7RTV	-	15 - 70	11 - 50	360	(40)	3.7	8.2	36.1	1/2 9831 4045 46	-	-	-	-	-
QMX42-7RTV	50	15 - 70	11 - 50	360	(38)	5.3	11.7	36.1	1/2 9831 4045 32	4231 2797 00	-	-	-	-
QMX42-7RTV	25	15 - 70	11 - 50	360	(38)	5.1	11.2	36.1	1/2 9831 4045 64	4231 3207 00	-	-	-	-
QMX42-2RTV	-	6 - 30	4 - 22	1000	(36)	3.5	7.7	11.7	3/8 9831 4045 95	-	-	-	-	-
QMX50-14RTV	-	30 - 140	22 - 100	320	(51)	6.2	13.7	33.9	1/2 9831 4046 84	-	141	-	-	15 476
QMX50-20RTV	-	40 - 160	30 - 115	190	(51)	6.1	13.4	58.0	1/2 9831 4046 78	-	141	-	-	15 476
QMX62-33RTV	-	70 - 340	50 - 250	190	67	13.5	29.8	36.0	3/4 9831 4047 46	-	153	-	-	14 548.5
QMX62-34RTV	24	70 - 340	50 - 250	190	63	14.5	32.0	36.0	3/4 9831 4047 31	4231 2416 00	-	-	-	-
QMX62-60RTV	-	120 - 600	90 - 440	60	106	21.0	46.3	105.0	1 9831 4047 21	-	-	-	-	-
QMX62-60RATTV	50	120 - 600	90 - 440	60	106	23.0	50.7	105.0	1 9831 4047 50	4231 3018 00	-	-	-	-

<sup>a</sup>The socket holder is included in the product.

# POWERMACS

## QMX nutrunners and cables

### Angle nutrunner

Atlas Copco special DC electric brushless resolver nutrunners with a right angle head and spring travel. The right angle allows these tools to be positioned in hard-to-reach locations without placing undue strain on them.

Model	Travel mm	Torque range			Max speed	Min C-C	Weight kg lb	Gear ratio	Socket holder size in	Ordering No.	Socket holder <sup>a</sup> Ordering No.
		Nm	ft lb								
QMX42-5RVT	76	10 - 50	7 - 35		560	43	5.0 11.0	21.3	3/4	9831 4045 56	4231 2473 00
QMX50-15RVT	50	30 - 145	22 - 105		300	55	9.4 20.7	31.3	1/2	9831 4046 85	4230 1819 00
QMX62-28RVT	50	50 - 280	35 - 205		190	82	16.4 36.2	32.1	3/4	9831 4047 36	4230 1822 00
QMX90-95RVT	50	200 - 950	150 - 700		130	108	30.0 66.1	46.8	3/4	9831 4058 17	4230 1824 00

<sup>a</sup>The socket holder is included in the product.

### U-nutrunner

Atlas Copco special "U" design DC electric brushless resolver nutrunners. Designed for locations with minimal nutrunner length clearances as in exhaust manifold or indexing applications.

Model	Travel mm	Torque range			Max speed	Min C-C	Weight kg lb	Gear ratio	Socket holder size in	Ordering No.	Socket holder <sup>a</sup> Ordering No.
		Nm	ft lb								
QMX42-5RUT	50	20 - 50	15 - 35		560	43	5.5 12.1	21.3	1/2	9831 4045 45	4230 1819 00
QMX50-9RUT	76	15 - 80	11 - 55		560	51	8.0 17.6	18.2	1/2	9831 4046 31	4230 1820 00
QMX50-15RUT	76	30 - 140	22 - 100		330	51	8.0 17.6	31.3	1/2	9831 4046 26	4230 1820 00
QMX62-19RUT	50	30 - 170	22 - 125		330	88	15.0 33.1	19.4	3/4	9831 4047 37	4230 1822 00
QMX62-32RUT	50	55 - 280	40 - 205		200	88	18.0 39.7	32.1	3/4	9831 4047 35	4230 1822 00
QMX95-200RUT	12	350 - 1750	260 - 1250		60	95	34.0 75.0	98.0	HEX	9831 4058 32	not available

<sup>a</sup>The socket holder is included in the product.

### Co-axial nutrunner

Atlas Copco special co axial-design DC electric brushless resolver nutrunners. This design enables our tools to perform special gauging or fastening applications. Essentially, a nutrunner inside a nutrunner. The center nutrunner is used to set a position or torque while the outside nutrunner synchronizes and secures the position with a lock nut or monitors for excessive friction.

Model	Travel mm	Torque range			Max speed	Min C-C	Weight kg lb	Gear ratio	Socket holder <sup>a</sup> size in	Ordering No.
		Nm	ft lb							
QMX42-2RT/QMX42-5ROT	24 / 24	15 / 63	11 / 45		270 / 170	44	10 22	16.00 / 41.23	1/4 / 3/4	9831 4045 62
QMX42-2RT/QMX42-5ROT	24 / 24	20 / 50	15 / 35		1200 / 560	44	10 22	7.5 / 21.33	1/4 / 3/4	9831 4045 83
QMX42-5RT/QMX50-15RT	24 / 24	50 / 50	35 / 35		200 / 350	64	15 33	21.33 / 31.24	3/8 / 3/4	9831 4046 35
QMX80-55RT/QMX80-10RT	36 / -	550 / 100	400 / 75		200 / 100	216	48 105	29.56 / 48.44	3/4 / -	9831 4040 65

<sup>a</sup>The socket holder is included in the product.

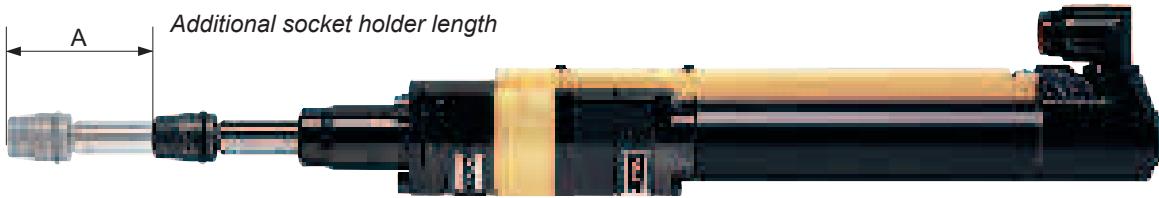
### Cables Stand Alone

Model	Ordering No.
Cable between spindle and controller, 2 m	4231 5062 02
Cable between spindle and controller, 5 m	4231 5062 05
Cable between spindle and controller, 10 m	4231 5062 10
Cable between spindle and controller, 15 m	4231 5062 15
Cable between spindle and controller, 20 m	4231 5062 20
Cable between PBU and controller, 2 m	4231 5063 02
Cable between PBU and controller, 5 m	4231 5063 05
Cable between PBU and controller, 10 m	4231 5063 10

# POWERMACS

## QMX nutrunners

Atlas Copco special socket holder designs allow you to reach into applications or parts with tight clearances.



**QMX42-2RT**

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0 <sup>b</sup>	8432 5120 10	3/8	4230 1818 00
50	8432 4063 08	3/8	4230 2217 00
100	8432 4063 10	3/8	4230 2217 01
150	8432 4063 12	3/8	4230 2217 02
200	8432 4063 14	3/8	4230 2217 03
0	8432 4063 07	1/2	4230 1819 00
50	8432 4063 09	1/2	4230 2218 00
100	8432 4063 11	1/2	4230 2218 01
150	8432 4063 13	1/2	4230 2218 02
200	8432 4063 15	1/2	4230 2218 03

**QMX42-5RT**

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0	8432 4063 17	3/8	4230 1818 00
50	8432 4063 18	3/8	4230 2217 00
100	8432 4063 20	3/8	4230 2217 01
150	8432 4063 22	3/8	4230 2217 02
200	8432 4063 24	3/8	4230 2217 03
0 <sup>b</sup>	8432 5130 10	1/2	4230 1819 00
50	8432 4063 19	1/2	4230 2218 00
100	8432 4063 21	1/2	4230 2218 01
150	8432 4063 23	1/2	4230 2218 02
200	8432 4063 25	1/2	4230 2218 03

**QMX50-9RT**

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0 <sup>b</sup>	8432 5140 10	1/2	4230 1820 00
50	8432 4063 28	1/2	4230 2219 00
100	8432 4063 29	1/2	4230 2219 01
150	8432 4063 30	1/2	4230 2219 02
200	8432 4063 31	1/2	4230 2219 03

**QMX50-15RT**

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0 <sup>b</sup>	8432 5150 10	1/2	4230 1820 00
50	8432 4063 68	1/2	4230 2219 00
100	8432 4063 33	1/2	4230 2219 01
150	8432 4063 34	1/2	4230 2219 02
200	8432 4063 35	1/2	4230 2219 03

**QMX62-19RT**

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0	8432 5165 10	1/2	4230 1829 00
50	8432 4063 37	1/2	4230 2223 00
100	8432 4063 40	1/2	4230 2223 01
150	8432 4063 43	1/2	4230 2223 02
200	8432 4063 46	1/2	4230 2223 03
0 <sup>b</sup>	8432 5160 10	5/8	4230 1821 00
50	8432 4063 38	5/8	4230 2224 00
100	8432 4063 41	5/8	4230 2224 01
150	8432 4063 44	5/8	4230 2224 02
200	8432 4063 47	5/8	4230 2224 03
0	8432 4063 71	3/4	4230 1822 00
50	8432 4063 39	3/4	4230 2226 00
100	8432 4063 42	3/4	4230 2226 01
150	8432 4063 45	3/4	4230 2226 02
200	8432 4063 48	3/4	4230 2226 03

**QMX62-32RT**

A mm	Product No.	Socket holder size in	Socket holder <sup>a</sup> Ordering No.
0	8432 4049 37	1/2	4230 1829 00
50	8432 4063 52	1/2	4230 2223 00
100	8432 4063 55	1/2	4230 2223 01
150	8432 4063 58	1/2	4230 2223 02
200	8432 4063 61	1/2	4230 2223 03
0	8432 4063 72	5/8	4230 1821 00
50	8432 4063 53	5/8	4230 2224 00
100	8432 4063 56	5/8	4230 2224 01
150	8432 4063 59	5/8	4230 2224 02
200	8432 4063 62	5/8	4230 2224 03
0 <sup>b</sup>	8432 5170 10	3/4	4230 1822 00
50	8432 4063 54	3/4	4230 2226 00
100	8432 4063 57	3/4	4230 2226 01
150	8432 4063 60	3/4	4230 2226 02
200	8432 4063 63	3/4	4230 2226 03

<sup>a</sup> The socket holder is included in the product.

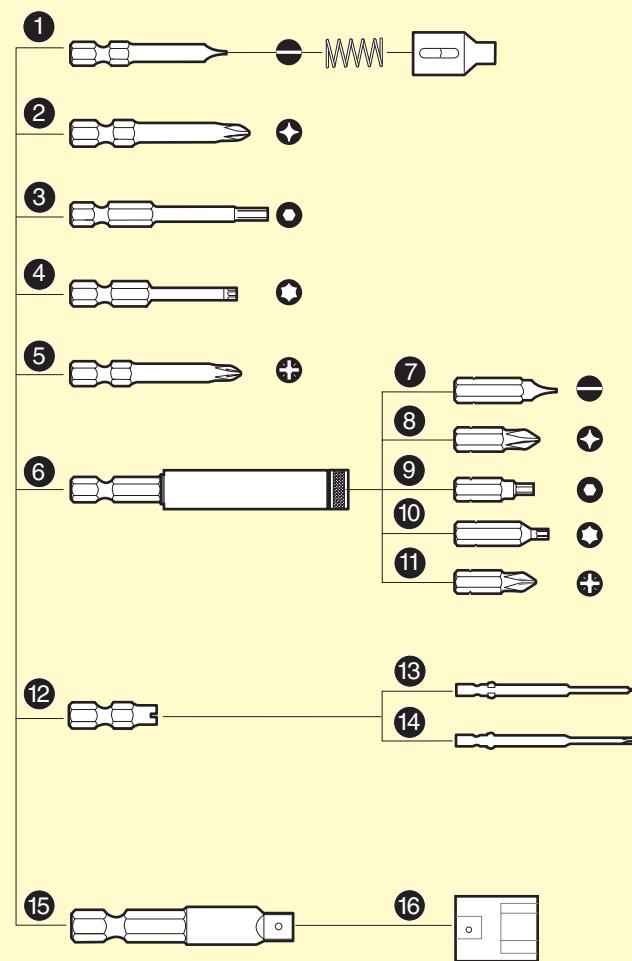
<sup>b</sup> This socket holder follows when you order the standard nutrunner.

**NOTE:** The spindle travel is 50 mm for all sockets holders.

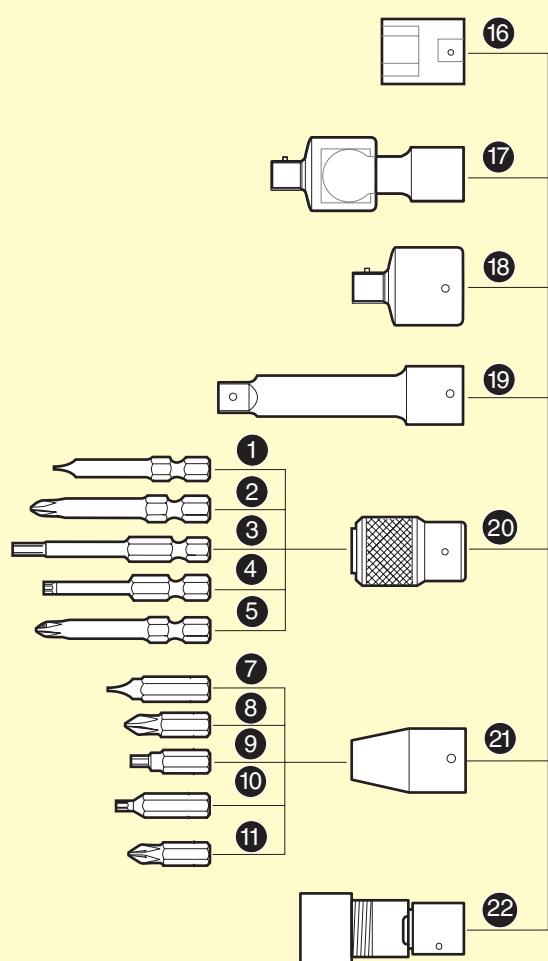
# BITS AND POWER SOCKETS

## With options

### ACCESSORIES FOR SCREWDRIVERS



### ACCESSORIES FOR NUTRUNNERS



	Page
<b>1</b> POWER BITS AND FINDERS FOR STOTTED SCREWS	126
<b>2</b> POWER BITS FOR PHILLIPS SCREWS	127, 128
<b>3</b> POWER BITS FOR ALLEN HEAD SCREWS	128
<b>4</b> POWER BITS FOR TORX® SCREWS	129
<b>5</b> POWER BITS FOR POZIDRIV® SCREWS	129
<b>6</b> INSERT BIT HOLDERS	130
<b>7</b> INSERT BITS FOR SLOTTED SCREWS	126
<b>8</b> INSERT BITS FOR PHILLIPS SCREWS	127
<b>9</b> INSERT BITS FOR ALLEN HEAD SCREWS	128
<b>10</b> INSERT BITS FOR TORX® SCREWS	129
<b>11</b> INSERT BITS FOR POZIDRIV® SCREWS	129
<b>12</b> SHANK ADAPTER 1/4"	126, 128

	Page
<b>13</b> SLOTTED BITS FOR SMALL SCREWS	126
<b>14</b> PHILLIPS BITS FOR SMALL SCREWS POWER SOCKET SET	128 132
<b>15</b> POWER SOCKET HOLDERS	132
<b>16</b> POWER SOCKETS, 1/4"-1 1/2" SQUARE DRIVE	130, 131
<b>17</b> UNIVERSAL JOINTS	132
<b>18</b> SOCKET ADAPTERS	132
<b>19</b> EXTENSIONS, LOCKING PINS AND O-RINGS FOR POWER SOCKETS AND OPTIONS	132
<b>20</b> QUICK CHANGE CHUCK FOR POWER BITS	133
<b>21</b> BIT HOLDER FOR INSERT BITS	133
<b>22</b> STUD SETTER	131

The accessories indicated with \* are available from stock, with the exception of intermediate sales.

### Medium hard contra extra hard bits

Medium hard bits are recommended for driving standard (soft) screws and for impact use.  
Extra hard bits are for driving heat treated or case hardened screws.

Torx® is a registered trademark of Camcar Div., Textron Inc. ACR®, and Pozidriv® are registered trademarks of Phillips Screw Company.

## 1. BITS AND FINDERS FOR SLOTTED SCREWS

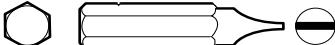
### Application

Wood screw  
Sheet metal screw  
Machine threaded screw

### Comments

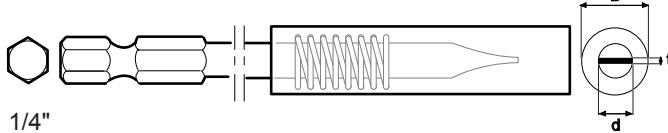
Screw inexpensive  
Relatively difficult to fit (the slot is ruined)  
Requires a finder for guidance

### 1.1 Slotted insert bits, 1/4" shank

1/4" 

Blade thickness mm	Blade width mm	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
0.7	3.4	25	4023 1400 21*
0.8	3.9	25	4023 1400 22*
0.9	4.7	25	4023 1400 23*
1.0	5.5	25	4023 1400 26*
1.0	6.3	25	4023 1400 27*
1.1	7.0	25	4023 1400 28*
1.2	7.1	25	4023 1400 29*
0.9	4.7	38	4023 0699 01*
1.0	6.3	38	4023 0700 01*
1.1	7.0	38	4023 0701 01*
1.2	7.1	38	4023 1410 27*
1.4	9.1	38	4023 0847 01*

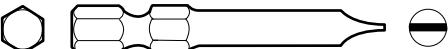
### 1.2 Slotted power bits with finder 1/4" shank



1/4"

Sleeve outside dia D mm	Blade thickness t mm	Blade width d mm	Overall length mm	Ordering No. Complete bit with finder (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
9.5	0.9	4.9	95	4023 0683 00*
11.1	1.0	6.1	93	4023 1313 00*
12.7	1.1	7.4	93	4023 0684 00*
14.3	1.2	8.9	96	4023 0949 00*
15.9	1.3	10.0	95	4023 0685 00*

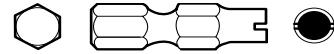
### 1.3 Slotted power bits, 1/4" shank

1/4" 

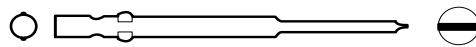
Blade width / body dia. mm	Blade thickness mm	Overall length mm	Ordering No.
			(Medium hard; Hardness = H <sub>RC</sub> 52-56) (Extra hard; Hardness = H <sub>RC</sub> 59-63)
3.2	0.7	49	4023 2020 21*
3.9	0.8	49	4023 2020 03*
4.7	0.9	49	4023 2020 04*
5.4	0.9	49	4023 2020 05*
6.3	1.0	49	4023 2020 06*
7.0	1.1	49	4023 2020 07*
7.9	1.2	49	4023 2020 08*
9.1	1.3	49	4023 2020 09*
3.2	0.7	76	4023 2030 21*
3.9	0.8	76	4023 2030 23*
4.7	0.9	76	4023 2030 24*
5.4	0.9	76	4023 2030 25*
6.3	1.0	76	4023 2030 26*
7.0	1.1	76	4023 2030 27*
7.9	1.2	76	4023 2030 28*
9.1	1.3	76	4023 2030 29*

\* Available directly from stock.

### 1.5 1/4" shank adapter

1/4" 

### 1.6 Slotted power bits, reduced nose diameter



Power bit				Shank adapter	
Blade thickness mm	Blade width mm	Overall length mm	Ordering No.	Shank in	Ordering No.
0.28	1.3	60	4023 1327 01*	1/4	4220 0105 00*
0.30	1.7	60	4023 1327 02*	1/4	4220 0105 00*
0.40	2.0	60	4023 1327 03*	1/4	4220 0105 00*
0.40	2.5	60	4023 1327 04*	1/4	4220 0105 00*

## 2. BITS FOR PHILLIPS SCREWS



### Application

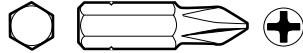
Wood screw  
Sheet metal screw  
Board screw  
Machine threaded screw

### Comments

ACR®-Phillips eliminates "cam-out", screws torque down correct the first time. Angle drive up to 6 degrees. Corrosion, temperature build up and painted screws are easier to remove.

### 2.1 Phillips insert bits, 1/4"

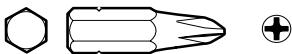
1/4"



Point size	Overall length mm	Ordering No.	
		(Medium hard; Hardness = H <sub>RC</sub> 52 - 56)	(Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
0	25	—	4023 1326 00*
1	25	4023 0696 00*	4023 0696 01*
2	25	4023 0697 00*	4023 0697 01*
2	51	—	4023 1421 03*
2	63	—	4023 1421 05*
3	25	4023 0698 00*	4023 0698 01*
4	32	—	4023 1421 20*

### 2.2 Phillips insert bits 1/4" shank, reduced nose diameter

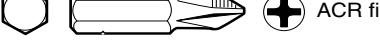
1/4"



Point size	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
1	25	4023 1420 01*
2	25	4023 1420 03*

### 2.3 ACR®-Phillips insert bits, 1/4" shank

1/4"



Point size	Overall length mm	Ordering No. Installation/Removal (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
1	25	4023 1420 51*
2	25	4023 1420 52*
3	25	4023 1420 53*

### 2.4 Phillips insert bits, 5/16" shank

5/16"



Point size	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
1	32	4023 1422 11*
2	32	4023 0726 11*
3	32	4023 0727 11*
4	32	4023 0728 11*

### 2.5 ACR®-Phillips insert bits, 5/16" shank

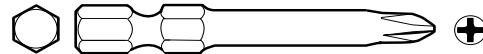
5/16"



Point size	Overall length mm	Ordering No. Installation/Removal (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
2	32	4023 1422 52*

### 2.6 Phillips power bits, 1/4" shank

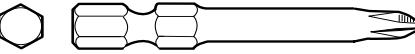
1/4"



Point size	Overall length mm	Body diameter mm	Ordering No.	
			(Medium hard; Hardness = H <sub>RC</sub> 52-56)	(Extra hard Hardness = H <sub>RC</sub> 59-63)
0	49	3.2	4023 1305 00*	4023 1325 00*
1	49	4.7	4023 2320 01*	4023 2320 21*
1	70	4.7	4023 2327 01*	4023 2327 21*
1	89	4.7	4023 2335 01*	4023 2335 21*
1	152	4.7	4023 2360 01*	4023 2360 21*
2	49	6.3	4023 2320 02*	4023 2320 22*
2	70	6.3	4023 2327 02*	4023 2327 22*
2	89	6.3	4023 2335 02*	4023 2335 22*
2	152	6.3	4023 2360 02*	4023 2360 22*
3	49	6.3	4023 2320 03*	4023 2320 23*
3	70	6.3	4023 2327 03*	4023 2327 23*
3	89	6.3	4023 2335 03*	4023 2335 23*
3	152	6.3	4023 2360 03*	4023 2360 23*

### 2.7 ACR®-Phillips power bits, 1/4" shank

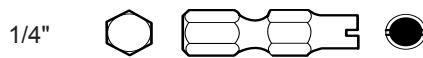
1/4"



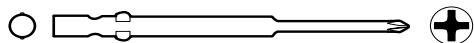
Point size	Overall length mm	Body diameter mm	Ordering No. Installation/Removal (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
1	49	4.8	4023 2320 51*
1	89	4.7	4023 2335 51*
2	49	6.3	4023 2320 52*
2	89	6.3	4023 2335 52*
3	49	6.3	4023 2320 53*
3	89	6.3	4023 2335 53*

\* Available directly from stock.

## 2.8 Shank adapter 1/4"



## 2.9 Power bit for Phillips screw, reduced nose dia.



Power bit				Shank adapter	
Point size	Nose diameter	Overall length	Ordering No.	Shank in	Ordering No.
00	1.5	60	4023 1328 01*	1/4	4220 0105 00*
0	2.0	60	4023 1328 02*	1/4	4220 0105 00*

## 3. BITS FOR ALLEN HEAD SCREWS

### Application

Machine threaded screw

### Comments

Screw requires a certain axial force

Difficult to enter

## 3.1 Allen head insert bits, 1/4" shank<sup>a</sup>



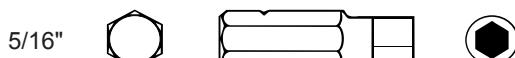
Hex size mm	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)	Hex size in	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
2	25	4023 1318 00*	3/32	4023 1430 23*
2.5	25	4023 1319 00*	7/64	4023 1430 24*
3	25	4023 0819 00*	1/8	4023 1430 25*
4	25	4023 1320 00*	9/64	4023 1430 26*
5	25	4023 0820 00*	5/32	4023 0705 00*
6	25	4023 0821 00*	3/16	4023 0706 00*
7	25	4023 1430 00*	7/32	4023 0848 00*
8	25	4023 0905 00*	1/4	4023 0944 00*

## 3.3 Allen head power bits, 1/4" shank<sup>a</sup>



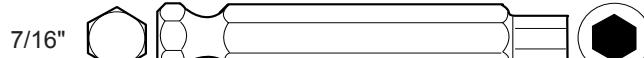
Hex size mm	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)	Hex size in	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
2	49	4023 1311 00*	5/32	4023 0681 00*
2.5	49	4023 1312 00*	3/16	4023 0682 00*
3	49	4023 0710 00*	7/32	4023 0846 00*
4	49	4023 0711 00*	1/4	4023 0942 00*
5	49	4023 0712 00*		
6	49	4023 0906 00*		
8	49	4023 1369 00*		
10	49	4023 1370 00*		

## 3.2 Allen head insert bits, 5/16" shank<sup>a</sup>



Hex size mm	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
5	29	4023 1215 00*
6	29	4023 1216 00*
7	29	4023 1219 00*
8	29	4023 1217 00*
10	29	4023 1218 00*

## 3.4 Allen head power bits, 7/16" shank<sup>a</sup>



Hex size mm	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
5	89	4023 0800 00*
6	89	4023 0801 00*
8	89	4023 0802 00*
10	89	4023 0760 00*

<sup>a</sup> The hexagon shank can in some cases be longer than in the illustration.

\* Available directly from stock.

## 4. BITS FOR TORX® SCREWS

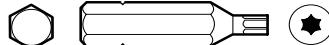


### Application

Machine threaded screw  
Sheet metal screw

#### 4.1 Torx® insert bits 1/4" shank

1/4"



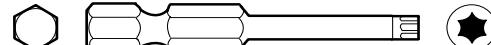
Point size mm	Overall length mm	Ordering No. (Medium hard; Hardness = H <sub>RC</sub> 52 - 56)
T8	25	4023 1329 00*
T9	25	4023 1330 00*
T10	25	4023 1321 00*
T15	25	4023 1331 00*
T20	25	4023 1322 00*
T25	25	4023 1332 00*
T27	25	4023 1333 00*
T30	25	4023 1323 00*
T40	25	4023 1334 00*

### Comments

Screw relatively expensive. Easy to fit. Saves bits. Easy to enter. Low axial force needed. Can transmit relatively high torques.

#### 4.2 Torx® power bits 1/4" shank

1/4"



Point size	Overall length mm	Body diameter mm	Ordering No (Medium hard; Hardness = H <sub>RC</sub> 52 - 56)
T8	49	3.2	4023 2220 21*
T8	89	3.2	4023 2235 21*
T9	49	3.2	4023 2220 22*
T9	89	4.0	4023 2235 22*
T10	49	3.2	4023 2220 23*
T10	89	4.0	4023 2235 23*
T15	49	4.0	4023 2220 24*
T15	89	4.7	4023 2235 24*
T20	49	4.7	4023 2220 25*
T20	89	4.7	4023 2235 25*
T25	49	4.7	4023 2220 26*
T25	89	4.7	4023 2235 26*
T27	49	6.3	4023 2220 27*
T27	89	6.3	4023 2235 27*
T30	49	6.3	4023 2220 28*
T30	89	6.3	4023 2235 28*
T40	89	6.7	4023 2235 29*

## 5. BITS AND FINDERS FOR POZIDRIV® SCREWS



### Application

Wood screw  
Sheet metal screw

### Comments

(Anti Camout Ribs) eliminates "cam-out", screws torqued down correct the first time. Angle drive up to 6 degrees. Corrosion, temperature build up and painted screws are easier to remove.

#### 5.1 Pozidriv® insert bits 1/4" shank

1/4"



Point size	Overall length mm	Ordering No.	
		(Medium hard; Hardness = H <sub>RC</sub> 52 - 56)	(Extra hard; Hardness = H <sub>RC</sub> 59 - 63)
1	25	4023 1101 01*	4023 1101 11*
2	25	4023 1101 02*	4023 1101 12*
3	25	4023 1101 03*	4023 1101 13*

#### 5.2 ACR®-Pozidriv® insert bits, 1/4" shank

1/4"



Point size mm	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59-63)
1	25	4023 1101 21*
2	25	4023 1101 22*
3	25	4023 1101 23*

#### 5.3 Pozidriv® insert bits, 5/16" shank

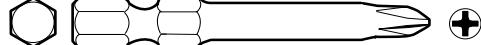
5/16"



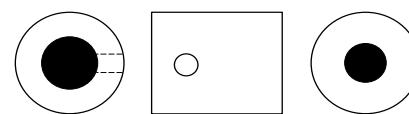
Point size mm	Overall length mm	Ordering No. (Extra hard; Hardness = H <sub>RC</sub> 59-63)
2	32	4023 1108 02*
3	32	4023 1108 13*
4	32	4023 1108 04*

#### 5.4 Pozidriv® power bits, 1/4" shank

1/4"



#### 5.5 Bit guides for Pozidriv® bits<sup>a</sup>



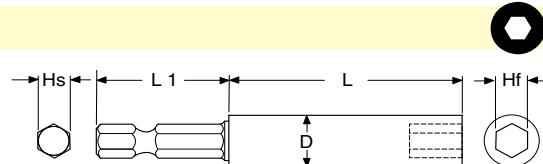
Point size	Overall length mm	Power bits		Bit guides		
		Body dia mm	(Medium hard; Hardness = H <sub>RC</sub> 52 - 56)	(Extra hard; Hardness = H <sub>RC</sub> 59 - 63)		
1	49	4.7	4023 2420 01*	4023 2420 21*	4.9	4023 3320 01*
1	70	4.7	4023 2427 01*	4023 2427 21*	4.9	4023 3320 01*
1	89	4.7	4023 2435 01*	4023 2435 21*	4.9	4023 3320 01*
2	49	6.3	4023 2420 02*	4023 2420 22*	6.5	4023 3320 02*
2	70	6.3	4023 2427 02*	4023 2427 22*	6.5	4023 3320 02*
2	89	6.3	4023 2435 02*	4023 2435 22*	6.5	4023 3320 02*
3	49	6.3	4023 2420 03*	4023 2420 23*	6.5	4023 3320 02*
3	70	6.3	4023 2427 03*	4023 2427 23*	6.5	4023 3320 02*
3	89	6.3	4023 2435 03*	4023 2435 23*	6.5	4023 3320 02*

<sup>a</sup> The bit guides should only be used with screwdriver option 4210 2906 80. This option is available for LUM10, LUM21 and LUM25.

\* Available directly from stock.

## 6. INSERT BIT HOLDERS

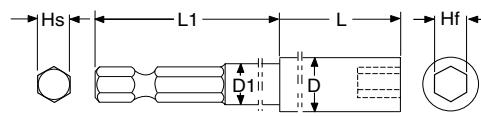
### 6.1 Type 1



Hex shank Hs	Hex female Hf	Diameter D mm	Length L mm	Length 1 L1 mm	Magnetic	Ordering No.
1/4	1/4	11.0	50.5	25.4	Yes	4023 1440 01*
1/4	5/16	12.7	54.0	27.0	Yes	4023 1440 02*
5/16 <sup>a</sup>	1/4	9.5	44.4	28.6	Yes	4023 1324 00*

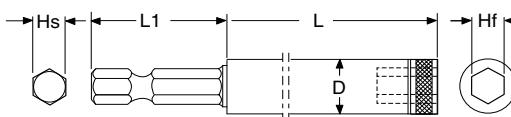
<sup>a</sup> Desoutter drive.

### 6.2 Type 2



Hex shank Hs	Hex female Hf	Diameter D mm	Diameter 1 D1 mm	Length L mm	Length 1 L1 mm	Magnetic	Ordering No.
1/4	1/4	9.5	7.9	47.8	53.8	Yes	4023 1208 00*
1/4	1/4	9.5	7.9	47.8	104.8	Yes	4023 1209 00*
1/4	1/4	11.1	7.9	18.0	36.0	No	4023 1100 00*
1/4	1/4	11.1	7.9	25.4	76.2	No	4023 1206 00*
1/4	1/4	11.1	7.9	25.4	127.0	No	4023 1207 00*

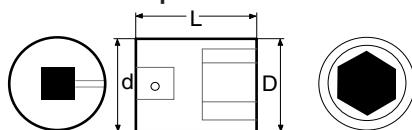
### 6.3 Type 3



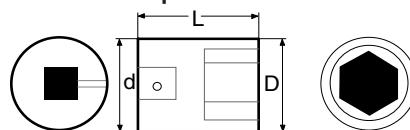
Hex shank Hs	Hex female Hf	Diameter D mm	Length L mm	Length 1 L1 mm	Magnetic	Ordering No.
1/4	1/4	9.4	35.7	25.4	Yes	4023 1353 00*
1/4	1/4	9.4	50.0	25.4	Yes	4023 0707 00*

## 7. POWER SOCKETS

### 7.1 Power socket 1/4" square drive



### 7.2 Power socket 3/8" square drive

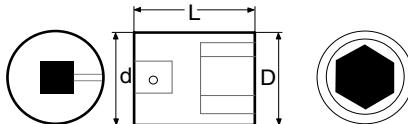


1/4"	Width across flats	D mm	d mm	Overall length L mm	Ordering No.	
					mm	in
	4	7.5	13	25	4026 0604 00*	
	5	8.5	13	25	4026 0605 00*	
	5.5	9	13	25	4026 0605 50*	
	6	9.5	13	25	4026 0606 00*	
	7	11	13	25	4026 0607 00*	
	8	12	13	25	4026 0608 00*	
	9	13	13	25	4026 0609 00*	
	10	14.5	13	25	4026 0610 00*	
	11	16	13	25	4026 0611 00*	
	12	17	13	25	4026 0612 00*	
	13	18	13	25	4026 0613 00*	
	14	19	13	25	4026 0614 00*	

3/8"	Width across flats	D mm	d mm	Overall length L mm	Ordering No.	
					mm	in
	7	12.5	19	30	4026 0907 00*	
	8	14	19	30	4026 0908 00*	
	9	15	19	30	4026 0909 00*	
	10	16	19	30	4026 0910 00*	
	11	17.5	19	30	4026 0911 00*	
	12	19	19	30	4026 0912 00*	
	13	20	22	30	4026 0913 00*	
	14	21	22	30	4026 0914 00*	
	16	24	22	30	4026 0916 00*	
	17	25	22	30	4026 0917 00*	
	18	26	22	30	4026 0918 00*	
	19	27.5	22	30	4026 0919 00*	

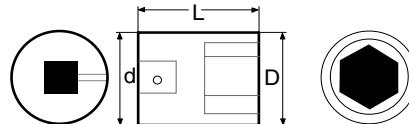
\* Available directly from stock.

### 7.3 Power socket 1/2" square drive



1/2"	Width across flats	D mm	d mm	Overall length L mm	Ordering No.
mm	10	17	25	38	4026 1210 00*
	11	19	25	38	4026 1211 00*
	12	20	25	38	4026 1212 00*
	13	21	25	38	4026 1213 00*
	14	22	25	38	4026 1214 00*
	16	25	30	38	4026 1216 00*
	17	26	30	38	4026 1217 00*
	18	27.5	30	38	4026 1218 00*
	19	29	30	38	4026 1219 00*
	21	32	30	38	4026 1221 00*
	22	32	30	38	4026 1222 00*
	24	35	30	45	4026 1224 00*
	27	39	30	50	4026 1227 00*
	in	3/8	16	22	38
in	7/16	18	22	38	4026 1211 00*
	1/2	20	22	38	4026 1316 00*
	9/16	22	24	38	4026 1318 00*
	3/4	28	28	38	4026 1219 00*
	15/16	35	30	45	4026 1224 00*
	1 1/8	40	38	40	4026 1336 00

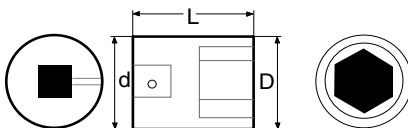
### 7.5 Power socket 1" square drive



1"	Width across flats	D mm	d mm	Overall length L mm	Ordering No.	Pin <sup>a</sup> and O-ring ref. letter	
mm	24	42	54	58	4026 2524 00*	C	
	27	46	54	58	4026 2527 00*	C	
	30	50	54	60	4026 2530 00*	C	
	32	52	54	60	4026 2532 00*	C	
	34	55	54	60	4026 2534 00*	C	
	36	57	54	65	4026 2536 00*	C	
	41	64	54	67	4026 2541 00*	C	
	46	69.5	54	74	4026 2546 00*	C	
	50	75	54	80	4026 2550 00*	C	
	55	81	54	84	4026 2555 00*	C	
	60	87	54	87	4026 2560 00*	C	
	65	93	54	90	4026 2565 00*	C	
	in	15/16	42	54	58	4026 2524 00*	C
	1 1/8	46	54	58	4026 2636 00		
	1 5/16	53	51	62	4026 2642 00		
	1 1/2	58	52	62	4026 2648 00*		
	1 11/16	65	52	64	4026 2654 00		
	1 7/8	70	58	66	4026 2660 00		
	2 1/16	75	58	76	4026 2666 00		

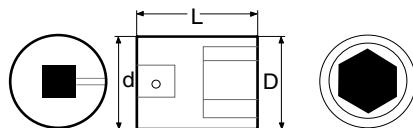
<sup>a</sup> Pin and o-ring see table 13.

### 7.4 Power socket 3/4" square drive



3/4"	Width across flats	D mm	d mm	Overall length L mm	Ordering No.	Pin <sup>a</sup> and O-ring ref. letter	
mm	18	32	44	50	4026 1918 00*	A	
	19	33	44	50	4026 1919 00*	A	
	21	36	44	50	4026 1921 00*	A	
	22	37	44	50	4026 1922 00*	A	
	24	40	44	52	4026 1924 00*	A	
	27	43	44	54	4026 1927 00*	A	
	30	47	44	54	4026 1930 00*	A	
	32	49	44	56	4026 1932 00*	A	
	34	52	44	56	4026 1934 00*	A	
	36	54	44	55	4026 1936 00*	A	
	in	3/4	33	44	50	4026 1919 00*	A
	15/16	40	44	52	4026 1924 00*	A	
	1 1/8	42	44	52	4026 2036 00*	A	
	1 5/16	47	44	56	4026 2042 00*	A	
	1 1/2	53	44	56	4026 2048 00*	A	

### 7.6 Power socket 1 1/2" square drive

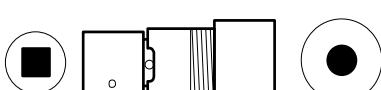


1 1/2"	Width across flats	D mm	d mm	Overall length L mm	Ordering No.	Pin <sup>a</sup> and O-ring ref. letter
mm	50	81.5	86	87	4026 3850 00*	F
	55	87.5	86	90	4026 3855 00*	F
	60	94	86	95	4026 3860 00*	F
	65	100	86	100	4026 3865 00*	F
	70	106	86	105	4026 3870 00*	F
	75	112	86	110	4026 3875 00*	F
	80	119	86	116	4026 3880 00	F

<sup>a</sup> Pin and o-ring see table 13.

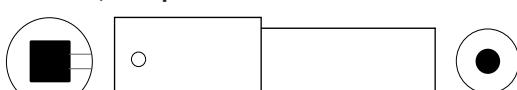
## 8. STUD SETTER

### 8.1 Stud setter



Square drive in	Ordering No.	Holder drive nut	Ordering No.
1/2	4023 0752 80	M6	4023 0761 00*
		M8	4023 0762 00*
		M10	4023 0756 00*
		M12	4023 0757 00

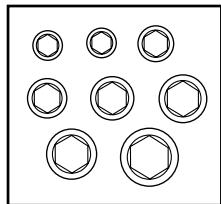
### 8.2 Stud setter, complete unit



Square drive in	Overall length mm	Body diameter mm	Thread	Ordering No.
3/8	55	19	M6	4023 0752 06*
3/8	55	19	M8	4023 0752 08*
1/2	65	24	M10	4023 0752 10*
1/2	65	24	M12	4023 0752 12*

\* Available directly from stock.

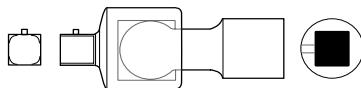
## 9. POWER SOCKET SETS



A complete kit, containing 8 power sockets with 1/2" square drive, delivered in a handy box.

Square drive in	Width across flats	Ordering No.
1/2	13, 16, 17, 18 19, 21, 22, 24	4112 0607 80

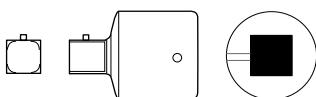
## 10. UNIVERSAL JOINTS



Male square in	Square drive in	Diameter mm	Length mm	Ordering No.	Pin <sup>a</sup> and O-ring ref. letter
3/8	3/8	23	60	4023 1182 00*	
1/2	1/2	29	76	4023 0745 00*	
5/8	5/8	38	69	4023 0875 00	
3/4	3/4	46	89	4023 0857 00	B
1	1	60	112	4023 1060 00	C
1 1/2	1 1/2	84	162	4023 1316 00	F

<sup>a</sup> Pin and o-ring see table 13.

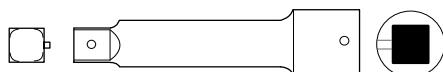
## 11. SOCKET ADAPTERS



Male square in	Square drive in	Diameter mm	Length mm	Ordering No.	Pin <sup>a</sup> and O-ring ref. letter
1/2	3/8	23	35	4023 1153 00	
3/8	1/2	24	39	4023 1154 00	
5/8	1/2	29	43	4023 1155 00	
1/2	5/8	32	49	4023 0733 00	
3/4	5/8	38	54	4023 1156 00	
1/2	3/4	38	57	4023 0909 00	A
1	3/4	44	65	4023 1157 00	B
3/4	1	54	75	4023 0868 00	C
1	1 1/2	83	100	4023 1314 00	F

<sup>a</sup> Pin and o-ring see table 13.

## 12. EXTENSIONS



Male square in	Square drive in	Diameter mm	Length mm	Ordering No.	Pin <sup>a</sup> and O-ring ref. letter
3/8	3/8	21	152	4023 1164 06*	
1/2	1/2	27	127	4023 0734 00*	
1/2	1/2	27	254	4023 0735 00*	
5/8	5/8	33	152	4023 0749 00*	
3/4	3/4	38.5	178	4023 0854 00*	A
3/4	3/4	38.5	330	4023 0855 00*	A
1	1	54	178	4023 0751 00*	C
1	1	54	330	4023 0867 00*	C
1 1/2	1 1/2	88	330	4023 1315 00*	G

<sup>a</sup> Pin and o-ring see table 13.

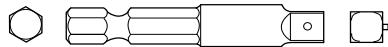
## 13. LOCKING PINS AND O-RINGS FOR 7.4, 7.5, 7.6, 10, 11, 12



Ref. letter	Locking pin		O-ring		Pin and O-ring Ordering No.
	Diameter mm	Length mm	Dia- meter mm	Inner diameter mm	
A <sup>b</sup>	4	35	5	33	4026 5000 90*
B	4	45	5	33	4026 5000 91*
C	5	45	6	44	4026 5000 92*
D	5	60	6	59	4026 5000 93*
E	5	70	6	65	4026 5000 94*
F	6	75	6	65	4026 5000 95*
G	6	75	6	79	4026 5000 96*
H	6	95	6	94	4026 5000 97*

<sup>b</sup> B type pin also included.

## 14. POWER SOCKET HOLDERS

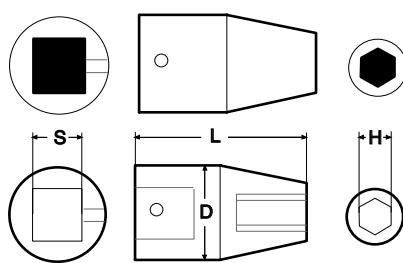


Hex in	Square in	Length mm	Ordering No.
1/4	1/4	50.8	4023 0686 00*
1/4	1/4	76.2	9721 4234 00*
1/4	1/4	101.6	4023 0687 00*
1/4	1/4	152.4	4023 1203 00*
1/4	3/8	50.8	4023 0907 00*
1/4	3/8	76.2	9721 4235 00*
1/4	3/8	101.6	4023 1204 00*
7/16	3/8	76.2	4023 1210 03*
7/16	1/2	70.0	4023 1211 03*

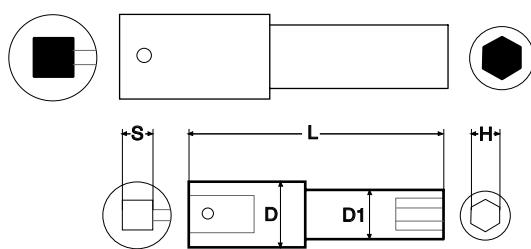
\* Available directly from stock.

## 15. BITHOLDER FOR INSERT BITS

### 15.1 Type A



### 15.3 Type C

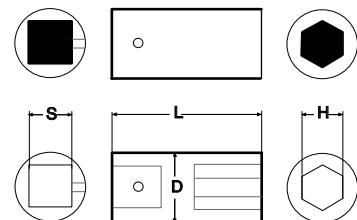


Square S in	Hex H in	Magnetic	Diameter D mm	Length L mm	Ordering No.
3/8	1/4	No	19	33	4023 0793 00*
3/8	5/16	No	19.9	33	4023 0948 00*
1/2	1/4	No	22.1	37.8	4023 1446 06*
1/2	5/16	No	23.8	38.1	4023 0725 00*

Square S in	Hex H in	Magnetic	Diameter D mm	D1 mm	Length L mm	Ordering No.
1/4	1/4 <sup>a</sup>	Yes	12.6	11.1	58	4023 1448 01*
3/8	1/4	Yes	16.9	11.1	52.4	4023 1448 02*
1/2	1/4	Yes	22.3	14.9	38.3	4023 1448 04

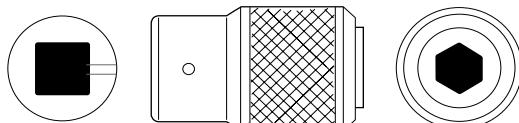
<sup>a</sup> With front nut.

### 15.2 Type B



Square S in	Hex H in	Magnetic	Diameter D mm	Length L mm	Ordering No.
1/4	1/4	No	12	25.2	4023 0695 00*

## 16. QUICK CHANGE CHUCK FOR POWER BITS



Square drive in	Female hex in	Ordering No.
3/8	1/4	4023 1380 00*
3/8	5/16	4023 1382 00*
3/8	7/16	4023 1317 80*
1/2	7/16	4023 0737 00*

\* Available directly from stock.

# TORQUE ARMS

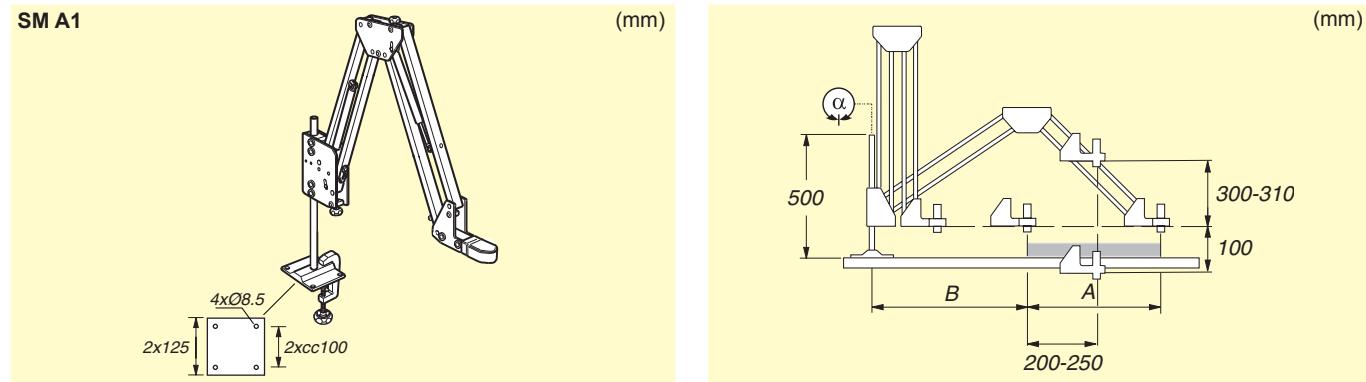
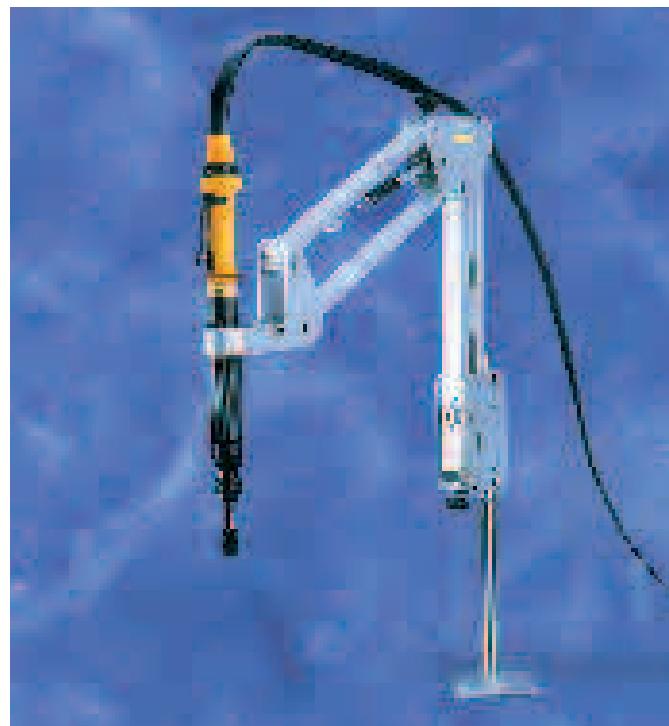
## SM A1 Parallel arm for 50 Nm

Atlas Copco torque arm SM A1 is an excellent means of assistance when using hand-held straight or pistol grip tools e.g. screwdrivers, nutrunners, thread inserts etc.

The torque arms in the SM A1 series are made for heavy duty applications where the tool torque is limited to 50 Nm.

Tool weight should be in the range 2.2 to 8.8 lb. In order to balance the tool weight in a proper and durable way the arms are equipped with gas spring cylinders.

A table stand is included as standard. Tool holder and table stand clamp have to be ordered separately.



Model	Tool weight		Tool torque		Tool diameter mm	Working range		alfa	Ordering No.
	kg	lb	Nm	ft lb		A mm	B mm		
SM A1-400-2	1-2	2.2-4.4	50	36.88	40-60	0-400	600	360°	8202 9000 15*
SM A1-400-3	2-3	4.4-6.6	50	36.88	40-60	0-400	600	360°	8202 9000 16*
SM A1-400-4	2.5-4	5.5-8.8	50	36.88	40-60	0-400	600	360°	8202 9000 19*
SM A1-500-2	1-2	2.2-4.4	50	36.88	40-60	0-500	700	360°	8202 9000 17*
SM A1-500-3	1.5-3	3.3-6.6	50	36.88	40-60	0-500	700	360°	8202 9000 18*

## OPTIONAL

### Tool holders and accessories for SM A1

Description	Ordering No.
Adjustable vertical tool holder	
Ø 40-50 mm	4390 1735 07*
Ø 50-60 mm	4390 1735 08*
Horizontal turnable tool holder	
Ø 40-50 mm	4390 1735 09*
Ø 50-60 mm	4390 1735 35

Description	Ordering No.
Heavy duty 22-82 mm table stand clamp	4390 1734 02*
Wall mounted stand with four 8.5 mm mounting holes	4390 1735 50
Table stand 800 mm	4390 1736 10
Accessories check list:	
• Tool holder?	
• Table stand clamp?	

\* Available directly from stock.

# TORQUE ARMS

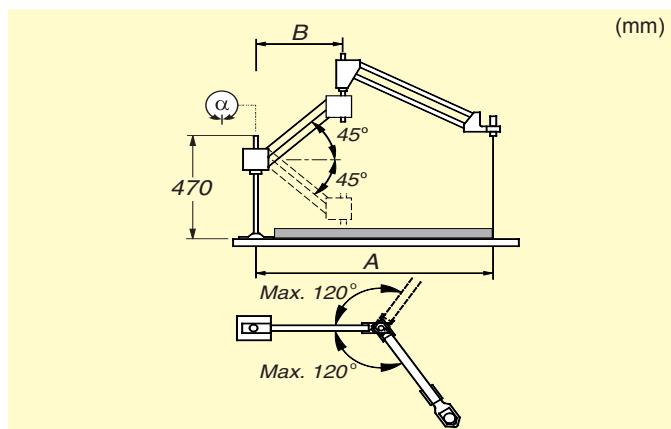
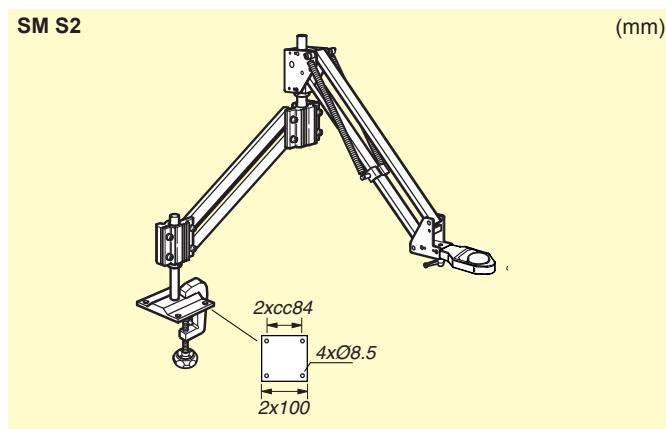
## SM S2 Parallel arm for max 20 Nm

Atlas Copco torque arm SM S2 is an excellent means of assistance when using hand-held straight or pistol grip tools e.g. screwdrivers, nutrunners, thread inserts etc.

Torque arm SM S2 is recommended when there is a lot of free space and a large working area is required. The SM S2 is exceptionally easy to position and handle. The design is intended for heavy duty operations over a long period of time. The open angle between jib and arm should not exceed 120°.

Tool weights should be in the range 0 to 5.5 lb. In order to handle weights in the range 2.2-5.5 lb special springs are supplied as standard.

A table stand is included as standard. Tool holder and table stand clamp have to be ordered separately.



Model	Tool weight Max.		Tool torque		Tool diameter mm	Working range		alfa	Ordering No.
	kg	lb	Nm	ft lb		A mm	B mm		
SM S2-750	2.5	5.5	20	14.75	25-50	0-750	410	360°	8202 9000 12*
SM S2-900	2.5	5.5	20	14.75	25-50	0-900	410	360°	8202 9000 21*

## OPTIONAL

Tool holders and accessories for SM S2 and SM A2 (to be continued on page 136)

	Description	Ordering No.
	Adjustable vertical tool holder	
Ø 25-40 mm	4390 1734 04*	
Ø 40-50 mm	4390 1734 05*	
	Two-axis turnable tool holder with adjustable turning torque	
Ø 36 mm	4390 1734 06*	
Ø 38 mm	4390 1735 34*	
Ø 46 mm	4390 1734 07*	
Ø 56 mm	4390 1735 36*	
Vertical extension for SM A2/SM S2 700 mm	4390 1735 46*	
Vertical telescope extension for SM A2/SM S2 400 mm-750 mm	4390 1735 47	

	Description	Ordering No.
	Horizontal turnable tool holder	
Ø 36 mm	4390 1735 10*	
Ø 38 mm	4390 1735 03*	
Ø 46 mm	4390 1735 05*	
Ø 56 mm	4390 1735 37	
	Vertical tool holder	
Ø 36 mm	4390 1735 04*	
Ø 38 mm	4390 1735 30*	
Ø 46 mm	4390 1735 00*	
Ø 56 mm	4390 1735 38*	

\* Available directly from stock.

# TORQUE ARMS

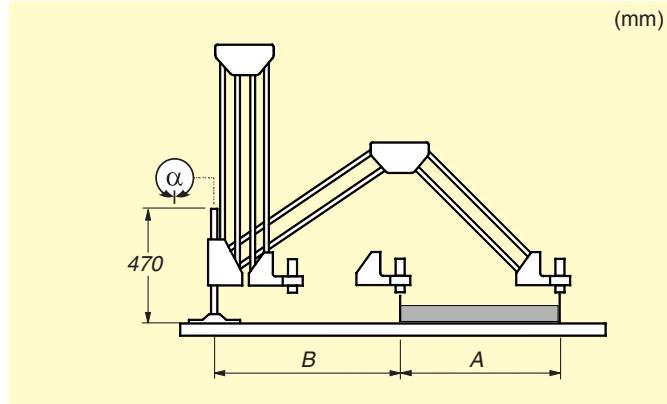
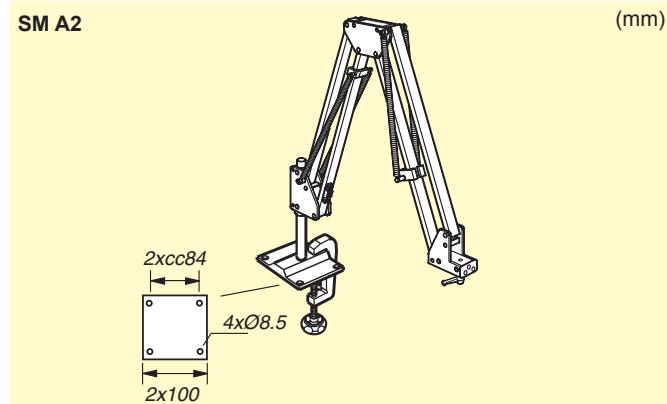
## SM A2 Parallel arm for max 20 Nm

Atlas Copco torque arm SM A2 is an excellent means of assistance when using hand-held straight or pistol grip tools e.g. screwdrivers, nutrunners, thread inserts etc.

Torque arms in the SM A2 series are recommended when there is a lot of equipment on the working bench and the space is limited. The SM A2 is exceptionally easy to position and handle. The design is intended for heavy duty operations over a long period of time. Tool torque should not exceed 20 Nm.

Tool weight should be in the range 0 to 4.4 lb for SM A2-300 and 0 to 5.5 lb for SM A2-400.

A table stand is included as standard. Tool holder and table stand clamp have to be ordered separately.



Model	Tool weight Max.		Tool torque		Tool diameter mm	Working range		alfa	Ordering No.
	kg	lb	Nm	ft lb		A mm	B mm		
SM A2-Complete <sup>a</sup>	2	4.4	20	14.75	25-40	0-300	400	360°	8202 9000 20*
SM A2-300	2	4.4	20	14.75	25-50	0-300	400	360°	8202 9000 10*
SM A2-400	2.5	5.5	20	14.75	25-50	0-400	450	360°	8202 9000 11*

<sup>a</sup> SM A2-Complete includes adjustable vertical tool holder Ø 25-40 mm and a heavy duty 22-82 mm table stand clamp.

## OPTIONAL

Tool holders and accessories for SM A2 and SM S2 (continued from page 135)

Description	Ordering No.
Horizontal two-axis turnable tool holder	
Ø 36 mm	4390 1735 11*
Ø 38 mm	4390 1735 02*
Ø 46 mm	4390 1735 06*
Ø 56 mm	4390 1735 39
Heavy duty 22-82 mm table stand clamp	4390 1734 02*

Description	Ordering No.
Wall mounted stand with two 8.5 mm mounting holes	4390 1734 01*
Special adapters for Atlas Copco screwdrivers, see page 138.	
Accessories check list:	
• Tool holder? • Wall mounted stand? • Table stand clamp? • Special adapters?	

\* Available directly from stock.

# TORQUE ARMS

## SM-Linear torque arms

By mounting your assembly tool on a SM-Linear torque arm the payback begins immediately and continues throughout the duration of your assembly process. All components are available as standard, allowing fast delivery and quick installation. Each model comes complete with appropriate balancing system to support the weight of the tool, and the flexibility offered by movement in 3-axis allows the user to ease the arm effortlessly around the workstation.



Model	Weight		Max torque		Horizontal stroke		Vertical stroke		Height		Ordering No.
	kg	lb	Nm	ft lb	mm	in	mm	in	mm	in	
SML 10	4.1	9.0	10	7	420	16.5	620	24.4	923	36.3	8202 9003 00
SML 50	5.3	11.7	50	37	420	16.5	620	24.4	923	36.3	8202 9003 01
SML 150	17.5	38.6	150	111	330	13	520	20.5	1012	39.8	8202 9003 02
SML 300	19.2	42.3	300	221	330	13	520	20.5	1012	39.8	8202 9003 03
SML 500	27.0	59.5	500	369	480	19	500	19.7	1752	69	8202 9003 04
SML 1000	34.0	75.0	1000	738	480	19	500	19.7	1752	69	8202 9003 05

## ACCESSORIES

Description	Ordering No.
Mounting plate – Spline type 1	4390 1760 00
Mounting plate – Spline type 1 (for SML 10/50)	4390 1786 00
Mounting plate – Spline type 2	4390 1761 00
Mounting plate – Spline type 2 (for SML 10/50)	4390 1787 00
Mounting plate – Spline type 3	4390 1762 00
Mounting plate – Spline type 4	4390 1763 00
Mounting plate – Spline type 5	4390 1764 00
Mounting plate – Spline type 6	4390 1765 00
Mounting plate – Spline type 7	4390 1766 00
Mounting plate – QMX/ETX42	4390 1781 00
Mounting plate – QMX/ETX50	4390 1782 00
Mounting plate – QMX/ETX62	4390 1783 00
Mounting plate – QMX80	4390 1784 00
Mounting plate – QMX90	4390 1785 00
Horizontal adapter (handle mount)	4390 1770 00
Vertical adapter (handle mount)	4390 1769 00
Start handle (electric, 1 signal)	4390 1772 00
Start handle (electric, 2 signal)	4390 1773 00
Start handle (pneumatic)	4390 1771 00
Handgrip (dead handle)	4390 1786 00
Extension mounting plate (for extended reach)	4390 1768 00
Remote start cable, 3 m	4390 1774 00
Remote start cable, 5 m	4390 1775 00
Remote start cable, 10 m	4390 1776 00
Extension remote start cable, 10 m	4390 1778 00
Extension remote start cable, 15 m	4390 1779 00
Y-piece connector (for 2 x electric handles)	4390 1777 00



Mounting plate



Extended mounting plate



Vertical adapter



Horizontal adapter



Start handle

### NOTE:

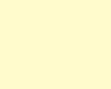
- All models are supplied complete with suitable balancers (air cylinder with SML 500/1000).
- SML 10/50 are supplied with integrated tool holder as standard. If additional accessories such as handles are required, then relevant accessory mounting plate should also be ordered. (Suitable for tools with splined front part only).
- All mounting plates compatible with models SML 150, 300, 500 and 1000.
- Extension mounting plates are not compatible with SML 10/50 arms.
- For forward and reverse tool operation, a 2 signal handle is required (electric tools only).

# TORQUE ARMS

## Accessories

Special adapters for Atlas Copco screwdrivers.  
To be used with torque arms SM S2, SM A2.

Description	Ordering No.
	Adapter for Atlas Copco screwdriver LUM10 PR <sup>a</sup> 4390 1734 09*
	Adapter for Atlas Copco screwdriver ELI <sup>a</sup> 4390 1734 08*
	Adapter for Atlas Copco screwdriver LUM21 PR-P <sup>a</sup> 4390 1735 44*
	Adapter for Atlas Copco screwdriver LUM21 SR <sup>b</sup> 4390 1735 45*

Description	Ordering No.
	Adapter for Atlas Copco screwdriver LUM22 SR <sup>b</sup> 4390 1735 51*
	Adapter for Atlas Copco screwdriver LUM12 SR <sup>a</sup> 4390 1735 52*
	Adapter for Atlas Copco screwdriver LUM12 PR <sup>a</sup> 4390 1735 53*
	Adapter for Atlas Copco screwdriver LUM22 PR <sup>a</sup> 4390 1735 54*

\* Available directly from stock.

### Tool holder diameter for Atlas Copco screwdrivers

LUM25 HRF-U	38 mm
LUF20 PR	36 mm

<sup>a</sup> To be used together with a Ø 46 mm tool holder.

<sup>b</sup> To be used together with a Ø 56 mm tool holder.



# Quality Assurance in Tightening

## Quality assurance – your competitive edge!

A loose or improperly tightened joint in any assembly operation can cause serious problems and have far-reaching consequences for end-users and manufacturers alike.

To ensure the right quality of your company's products, Atlas Copco has developed a comprehensive quality assurance system to meet torque, angle and pulse measurement requirements for all types of fastening tools.

Contents	Page
ACTA 3000 .....	140
ToolsTalk ACTA .....	140
IRTT transducers .....	141
QRTT transducers .....	141
SRTT transducers .....	142
MRTT transducers .....	142-143
Torque testers .....	144

# QUALITY ASSURANCE IN TIGHTENING

## For measuring and analysing torque

### ACTA 3000

The ACTA 3000 complemented by the PC program ToolsTalk ACTA provides you with a complete tool database in which you have easy access to all the information you need regarding torque measuring and analysing. The system cuts tool administration costs and systematically controls the status of your tools during their entire life cycle. It keeps track of tightening data, calibration data, service history, application analyses, purchase details, supplier information, etc. It controls and reminds when it is time for tool calibration and/or preventive maintenance (PM).

All data stored per tool in one place!

ACTA 3000 comes in three different models and can be upgraded depending on your needs:

#### Basic

Measures torque and angle. You can calibrate your tools and check basic statistics.

#### QC – Quality Control

Calculates all advanced statistics, including SPC, and has a database of up to 1000 tools/joints. This database includes information regarding tool programming, tightening and events.

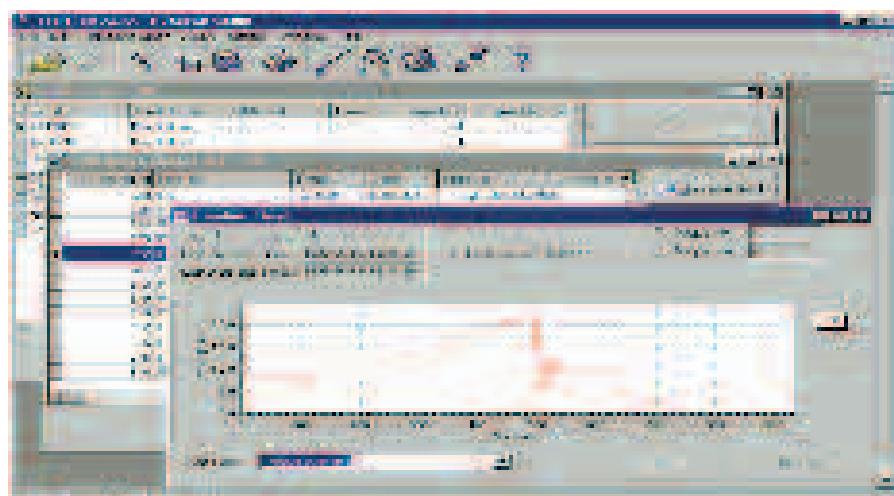
#### AA – Advanced Analysis

This is the complete quality system. It offers all the above and shows an advanced tightening trace for joint analysis.



Model	Ordering No.
ACTA 3000 – Basic	8092 1133 20
ACTA 3000 – QC	8092 1133 30
ACTA 3000 – AA	8092 1133 40

ACTA 3000 software upgrades	Ordering No.
ACTA 3000 software upgrade to generation 2.xx	8092 1147 02
ACTA 3000 software upgrades (including generation 2.xx)	
B to QC (8092 1133 20 to 8092 1133 30)	8092 1149 07
B to AA (8092 1133 20 to 8092 1133 40)	8092 1149 18
QC to AA (8092 1133 30 to 8092 1133 40)	8092 1149 26



Model	Ordering No.
ToolsTalk ACTA Single PC	8092 1136 01
ToolsTalk ACTA Network 5 users	8092 1136 05
ToolsTalk ACTA Network 10 users	8092 1136 10
ToolsTalk ACTA Network 20 users	8092 1136 20
ToolsTalk ACTA Network 50 users	8092 1136 50

Cable included.

Microsoft Windows NT4, 2000 or XP operating system.

ToolsTalk ACTA software upgrades to generation 2.xx	Ordering No.
1 user	8092 1148 01
5 users	8092 1148 05
10 users	8092 1148 10
20 users	8092 1148 20

# QUALITY ASSURANCE IN TIGHTENING

For measuring and analysing torque

## IRTT – in-line rotary torque and torque/angle transducers

The ACTA 3000 automatically reads the memory in Atlas Copco IRTT torque transducers. No manual calibration is needed. The IRTT has very high readout accuracy and is available in torque or torque/angle versions.



Model	Drive		Rated capacity		Ordering No.	Model	Drive		Rated capacity		Ordering No.
	Hex in	Square in	Nm	ft lb			Hex in	Square in	Nm	ft lb	
<b>Torque models</b>											
IRTT 5-I06	1/4		5	4	8092 1129 05	IRTT 1A-I06	1/2		1	0.8	8092 1130 96
IRTT 20-I06	1/4		20	15	8092 1129 10	IRTT 2A-I06	1/2		2	1.5	8092 1130 01
IRTT 20-06	1/4		20	15	8092 1129 15	IRTT 5A-I06	1/4		5	4	8092 1130 06
IRTT 25-10	3/8		25	18	8092 1129 20	IRTT 20A-I06	1/4		20	15	8092 1130 11
IRTT 75-10	3/8		75	55	8092 1129 25	IRTT 20A-06	1/4		20	15	8092 1130 16
IRTT 180-13	1/2		180	133	8092 1129 30	IRTT 25A-10	3/8		25	18	8092 1130 21
IRTT 500-20	3/4		500	369	8092 1129 35	IRTT 75A-10	3/8		75	55	8092 1130 26
IRTT 750-25	1		750	553	8092 1129 40	IRTT 180A-13	1/2		180	133	8092 1130 31
IRTT 1400-25	1		1400	1033	8092 1129 45	IRTT 500A-20	3/4		500	369	8092 1130 36
						IRTT 750A-25	1		750	553	8092 1130 41
						IRTT 1400A-25	1		1400	1033	8092 1130 46
						IRTT 3000A-25	1		3000	2200	8092 1130 51
						IRTT 5000A-38	1 1/2		5000	3685	8092 1130 56

NOTE: All IRTT are equipped with 19-pin connector.

## QRTT

Tranducers used for QMX nutrunner as well as for fixtured Tensor tool calibration. This transducer enables an easy and fast set-up with highest system accuracy. By using the QRTT, no special test adaption device between the spindle and the product itself is needed.



Model	Drive Square in	For QMX spindle	Rated capacity		Ordering No.
			Nm	ft lb	
QRTT 20 Nm kit	3/8	42	2 - 20	1.5 - 15	8092 1164 13
QRTT 75 Nm kit	3/8	42	7.5 - 75	5.5 - 55	8092 1164 18
QRTT 200 Nm kit	1/2	50	20 - 200	15 - 150	8092 1164 23
QRTT 500 Nm kit	3/4	62	50 - 500	37 - 369	8092 1164 28
QRTT 1000 Nm kit	1	80, 90	100 - 1000	75 - 750	8092 1164 33

# QUALITY ASSURANCE IN TIGHTENING

## For measuring and analysing torque

### SRTT – static reaction torque transducers

The static torque transducers are designed for fixturing where a rotary action is not desired during a measurement. All static torque transducers feature a built-in memory for fast auto-calibration with ACTA 3000.



Model	Square drive in	Capacity		Ordering No.
		Nm	ft lb	
SRTT 0.5-06	1/4	0.5	0.4	8092 1143 15
SRTT 2-06	1/4	2	1.5	8092 1143 20
SRTT 5-06	1/4	5	4	8092 1143 25
SRTT 25-10	3/8	25	18	8092 1143 30
SRTT 75-13	1/2	75	55	8092 1143 35
SRTT 180-13	1/2	180	133	8092 1143 40
SRTT 500-20	3/4	500	369	8092 1143 45
SRTT 1400-25	1	1400	1033	8092 1143 50

### Test joint for SRTT

Model	Size	Stiffness	Range		Ordering No.
			Nm	ft lb	
TJ SRTT H 25-10	3/8	Hard	25	18	4220 2451 80
TJ SRTT S 25-10	3/8	Soft	25	18	4220 2451 81
TJ SRTT H 75-10	1/2	Hard	75	55	4220 2659 80
TJ SRTT S 75-10	1/2	Soft	75	55	4220 2659 81
TJ SRTT H 180-13	1/2	Hard	180	133	4220 2660 80
TJ SRTT S 180-13	1/2	Soft	180	133	4220 2660 81

### MRTT – manual screwdriver torque transducer

The MRTT screwdriver is designed to measure static torque on low torque applications. All MRTTs feature a built-in memory for fast auto-calibration with ACTA 3000.



Model	Drive hex in	Capacity		Ordering No.
		Nm	ft lb	
MRTT 2-I06	1/4	2.5	1.8	8092 1144 21
MRTT 7-I06	1/4	7.5	5.5	8092 1144 26

# QUALITY ASSURANCE IN TIGHTENING

## For measuring and analysing torque

### MRTT – manual wrench torque transducer

Designed to measure static torque on higher torque applications. The torque wrench features an LED indicator for low/OK/high torque. It has a unique square drive, which rotates free and is locked when pushed in.



Model	Square drive in	Capacity		Ordering No.
		Nm	ft lb	
MRTT 25-06S <sup>a</sup>	3/8	25	18	8092 1145 32
MRTT 75-13S <sup>a</sup>	1/2	75	55	8092 1145 37
MRTT 180-13S <sup>a</sup>	1/2	180	133	8092 1145 42
MRTT-I 680-20S <sup>b</sup>	3/4	680	510	8092 1164 52

<sup>a</sup> Suggested cable 4145 0971 03 (3 m curled cable) see below.

<sup>b</sup> Works only with cable type 4145 0965 03.

### Transducer cable

The cable needed for all transducers (except MRTT screwdriver where cable is included).

### Cables

Length	Ordering No.
1 m	4145 0963 01
3 m	4145 0963 03
5 m	4145 0963 05
3 m curled cable	4145 0971 03

For usage of non Atlas Copco transducers one of the following cables are required.

Model	Ordering No.
Industrial style Transducer cable 3 m 19 - 4	4145 0965 03
Industrial style Transducer cable 3 m 19 - 6	4145 0968 03
* Transducer cable 3 m 19 - 6	4145 0966 03
Industrial style Transducer cable 3 m 19 - 10	4145 0967 03

\* Please contact Atlas Copco for specific details.

### Cables for ToolsTalk ACTA

Length	Ordering No.
ToolsTalk ACTA cable 3 m	4222 0546 03
ToolsTalk ACTA cable 5 m	4222 0546 05

### ACCESSORIES

	Ordering No.
<b>Demo cases</b>	
ACTA 3000	4222 0527 00
ACTA 3000, with solid filling	4222 0527 01
<b>Battery units</b>	
ACTA 3000, 7.2V/3.8 Ah	4222 0368 00
ACTA 3000, 7.2V/9.5 Ah	4220 0927 80
ACTA 3000, 7.2V/15 Ah	4220 0928 80

For battery charger, please contact Atlas Copco.

# QUALITY ASSURANCE IN TIGHTENING

## For measuring and analysing torque

### Torque testers TT and HT

#### TT – torque testers

The torque testers TT consist of an integrated torque transducer combined with a tightening analysis tool. The units are suitable for clutch and impulse tools. The torque values are displayed in either Nm/in. lb. and are protected from overload by a mechanical stop. The testers of TT1 and TT10 type are ideal for calibrating screwdrivers. Test joints are included.



#### HT – torque testers

The HT units consist of a torque screwdriver combined with a tightening analysis tool. The analogue output can be used together with a pen recorder, oscilloscope or voltmeter for various joint analyses. Rechargeable NiCd cells power the testers.

Model	Measure range Nm	Accuracy % of full scale	Size mm	Weight		Ordering No.
				kg	lb	
<b>TT</b>						
TT1	0 - 1.0	±0.5	230x125x55	2.2	4.9	8092 1113 04
TT10	0 - 10.0	±0.5	230x125x55	2.2	4.9	8092 1113 12
TT12 <sup>a</sup>	2 - 12.0	±0.5	162x240x112	3.5	7.7	8092 1101 73
TT30 <sup>a</sup>	6 - 30.0	±0.5	162x240x112	3.5	7.7	8092 1101 81
<b>HT</b>						
HT0.5	0 - 0.5	±0.5	160x95x60	1.2	2.6	8092 1113 20
HT5	0 - 5.0	±0.5	160x95x60	1.2	2.6	8092 1113 38

<sup>a</sup> Optional accessories not valid for TT12 and TT30.

**NOTE:** Not suitable for impact tools.

### OPTIONAL ACCESSORIES

Designation	Ordering No.
Battery charger 220-240 VAC	4222 0162 00
Battery charger 110-120 VAC	4222 0162 01
Printer DP-1 HS	8092 1117 00
Printer cable 1 m	4222 0171 00

Connected to the DP-1 HS printer (optional) individual torque data and a number of statistical calculations and charts can be made.

For more information see leaflet, Ordering No. 9833 1175 21.

# Grinders

## For a new experience, try Atlas Copco Turbo Grinders

GTG40 Turbo Grinders give you twice the power, with half the weight and they are impossible to stall with the right installation! These are just one of the grinders in Atlas Copco's wide range covering virtually all applications. With all our grinders, you can rely on maximum material removal with minimum effort and, of course, higher productivity.

### Contents

	Page
Selection guide .....	146
Grinding at the right speed .....	148
Safety first.....	149
Turbo grinders and sanders .....	150
Die grinders .....	152
Straight grinders .....	154
Angle grinders .....	156
Angle sanders.....	158
Orbital and random orbital sanders .....	160
Dust extraction.....	162
Routers .....	165
Nibbler .....	165
Circular cutters .....	166



# SELECTION GUIDE

## DIE GRINDING AND DEBURRING

EXAMPLE: In a die grinding or engraving application, mounted points or rotary burrs are used. A suitable tool is the LSF straight die grinder, or the angle head type LSV die grinder.



## WITH

- ① Carbide burrs

- ② Mounted points

## ROUGH GRINDING AND CUTTING OFF



## WITH

- ③ Depressed center wheels (type 27)

- ④ Cut off wheels

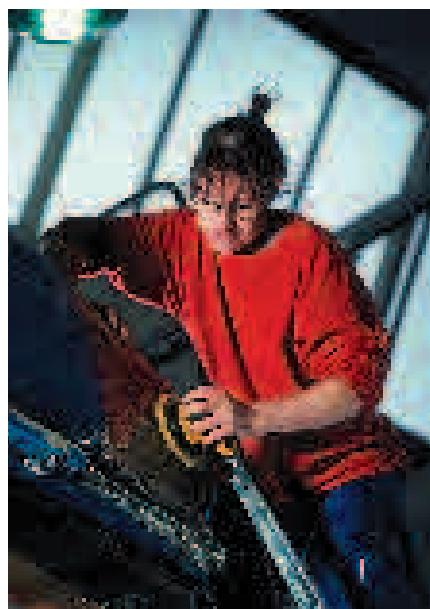
- ⑤ Cup wheels (type 11)

- ⑥ Flap wheels

- ⑦ Straight wheels (type 1)

- ⑧ Cone wheels (type 16, 17 and 18)

## SANDING AND POLISHING



## WITH

- ⑨ Fibre discs

- ⑩ Wire brushes

- ⑪ Coated abrasives

- ⑫ Polishing bonnets

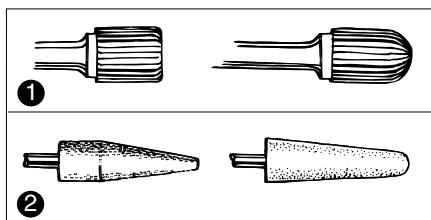
- ⑬ Radial flap wheels

- ⑭ Scotch-brite

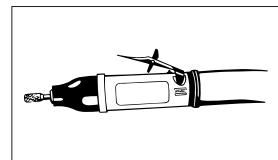
# SELECTION GUIDE

## DIE GRINDERS

Page



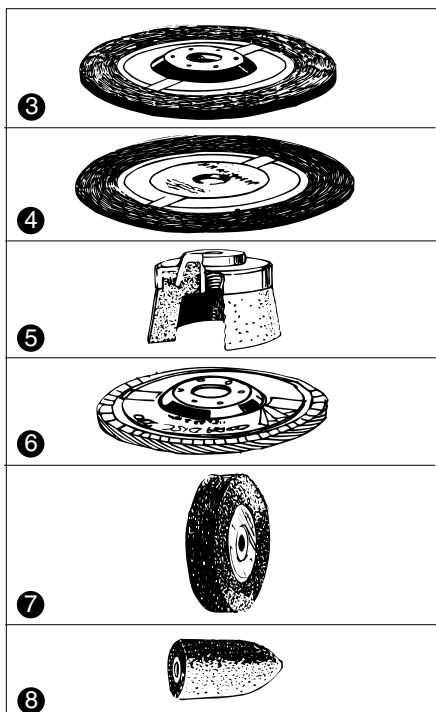
LSF07  
LSF17  
LSV17  
LSF27  
LSF38



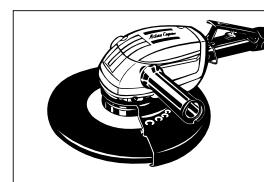
152

## ROUGH GRINDERS

Page

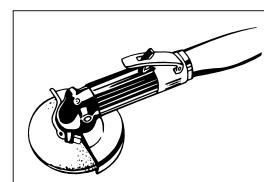


GTG30  
GTG40  
GTR40



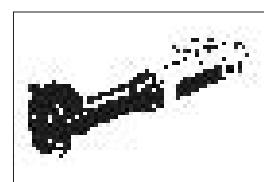
150

LSV38  
LSV48



156

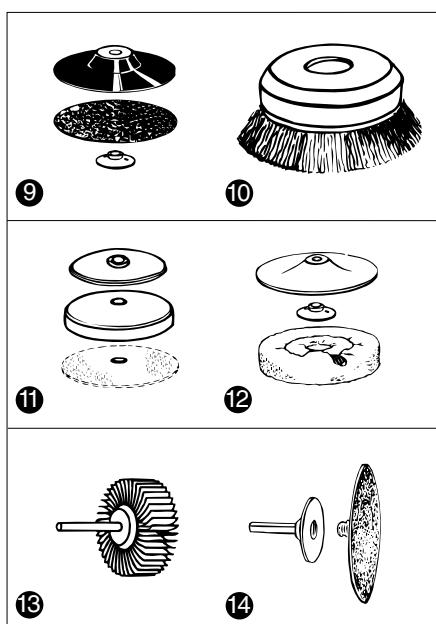
LSR27 CWS  
LSR38 CW  
LSR53 CW



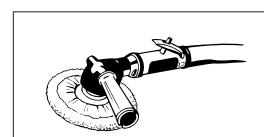
154

## SANDERS AND POLISHERS

Page

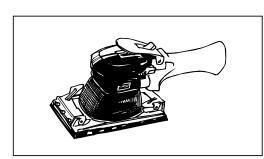


LSV17  
LSV27  
LSV38  
LSV48



158

LSO30  
LSO31  
LSO32



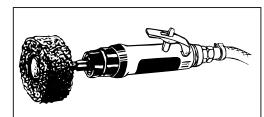
160

LST20  
LST21  
LST22  
LST30  
LST31  
LST32



160

LSF27



152

# GRINDING AT THE RIGHT SPEED

## The key to productivity

### Die grinding

Small precision deburring – die grinding is performed with either tungsten carbide, high speed steel burrs or mounted points.

The choice of burr depends on the size of your job. The larger the volume of material removed, the larger the burr head is required.

Select the tool rpm depending on the diameter of the burr head, the material to be ground and the material in the rotary burr. Use tungsten carbide burrs for hard and tough materials. High speed steel burr's are recommended for natural steel and medium hardened materials. Example, see table below:

Burr head Ø	Hardend steel Though materials		Natural steel Softer materials	Soft material Wood, brass Plastics, Al.
	TC	HSS	Cast iron	
Up to 1/4"	38000	–	38000	38000
Up to 1/2"	30000	–	30000	30000

TC – Tungsten carbide tipped rotary burr.

HSS – High speed steel burr.

For mounted points, follow the recommendations that relate to the particular mounted point.

### Rough grinding

Pure material removal, regardless of whether it is removed from a confined or an open space, is determined by the power generated at the grinding process. The applied feed force and the rotation of the wheel generates a cutting force which multiplied with the peripheral speed of the wheel represents the power removing material, (Power = Peripheral speed x Cutting force).

A powerful grinder will provide enough power with almost maintained rotational speed, when applying feed-force. Higher feed-force requires higher effort from the operator which leads to fatigue. A suitable combination of operative rotational speed, suitable feed-force applied by the operator and the necessary power of the grinder will give you the best combination for the material removal required.

As rough grinding is performed with bonded abrasives, a limitation of rotational speed is necessary in order to prevent wheel fractures due to centrifugal force.

The peripheral speed is limited to 14200 S.F.P.M for fiber reinforced depressed center, straight and cutting off wheels. Resin bonded cup and straight wheels are limited to a peripheral speed of 9000 S.F.P.M.

Similar to rough grinding, a rough surface, ground with coarse grit, will benefit from a high rotational speed. The limitations, however, are the maximum allowed speed of the backing pad and the fiber disc.

Normal sanding speeds for fiber discs of diameter 5", 7" and 9" are 4000 to 6000 rpm.

Polishing with different pastes and compounds require low speed in combination with high torque. Suitable speeds are 1800 to 2200 rpm.

Sanding with wet coated abrasives is best performed at low speeds, because water is thrown out into the periphery and partly because of the fine grit.

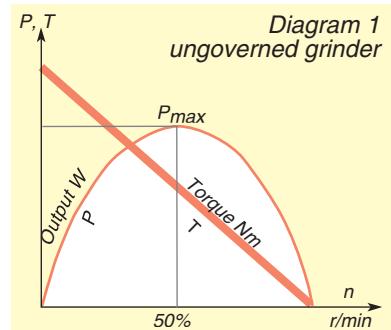
Scotch-Brite, Bear Tex and flap wheels perform best at 50% of their maximum allowed rotational speeds.

### The speed governor

The amount of material removed in the grinding process depends on the power of the tool and the operative rotational speed. The diagram below shows the correlation between torque, power and rotational speed of a non governed pneumatic grinder.

In order to remove material, the operator has to apply a feed-force on the work-piece. Consequently the rotational speed decreases and having passed approximately 50% of the free speed, the operative power output starts to decrease. Theoretically, the most material would be removed at approximately 50% of the free speed on a non governed grinder, (diagram 1).

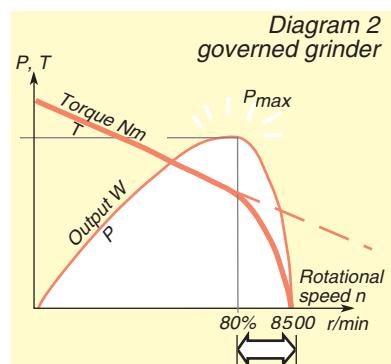
The Atlas Copco grinders are built small and smooth, partly due to their speed governor. The air is governed to the air flow necessary to maintain the rotational speed regardless of load, (to the extent of the power of the grinder).



The correlation between power, torque and rotational speed of a governed grinder is shown in diagram 2.

A theoretical optimum of material removal is reached at approximately 80% of the free speed. The grinder generates max power, removing more material with applied feed force. The rotational speed decreases is negligible.

Air is used economically, as the flow through the motor is adjusted after applied load. Air consumption at free speed is minimized. The governor opens and lets in more air during load thus keeping the optimal rpm.



### Sanding and polishing

Unlike die and rough grinding, sanding and polishing applies to the requirements of a surface. A fine surface will require a fine grit paper, fine Scotch-Brite, Bear Tex or a soft polishing bonnet. Rougher surface grinding will require a higher material removal rate thus requiring a coarser grit paper.

# SAFETY FIRST

## Built-in safety

The Atlas Copco grinders feature a high degree of built-in safety. Overspeed shut-off, safety throttles and wheel guards are good examples of product safety features carried in our grinder line.

## Performance checked

Every grinder leaving our factory is checked on maximum free speed and general functions.

## This is your responsibility

There are, however, measures the operator has to take in order to avoid any risk of misuse or accident. The safety manual, supplied with every grinder contains a number of safety rules for the operator. The 8 steps below are a basic summary of the safety manual. However, we strongly recommend that you read the safety manual as well.

## HOW TO MAKE IT SAFER

### 1 Check the free speed

The measured speed at a pressure of 90 psi (6.3 bars) should not exceed the rated speed of the grinder. A tolerance of +10% is acceptable if stated in the documentation of the tool. The wheel must be removed before the grinder is checked. The checks should be carried out regularly, especially after longer standstill. Make sure that the speed marking on the tool is legible.



### 5 Check that flange and wheel

combinations correspond to national regulations. Check that the flanges are undamaged and that they are clean.



### 2 Check the wheelguard

Always use the recommended wheel-guard and check that it is not damaged. Never use a grinder without the wheelguard when the grinding wheel requires one.



### 6 Wear

- personal protection goggles
- ear protection
- gloves (helmet in heavier applications)



### 3 Match the maximum speed of the wheel to the right grinder

Make sure that the stated maximum speed of the grinder never exceeds the maximum speed of the grinding wheel.



### 7 Test run your grinder in a protected area after having assembled the wheel

Keep the space around the grinding operation free from other people.



### 4 Check the grinding wheel

Make sure that the grinding wheel is not cracked or damaged in any way. The grinding wheel should have the correct hole dimensions and should be fitted properly on the spindle to avoid unbalanced vibrations or serious injury.



### 8 Maintenance

Make sure to follow prescribed service instructions and intervals. Do not disassemble security parts, for example speed governor or overspeed shut-off. These parts have to be completely replaced when damaged.



## Diameter – Peripheral speed – r/min

The table below will help you to translate the peripheral speed of the grinding wheel to the right rotational speed of the grinder when using a specific diameter of grinding wheel.

Wheel diameter inches	Surface speed in feet per minute																	
	4.000	4.500	5.000	5.500	6.000	6.500	7.000	7.500	8.000	8.500	9.000	9.500	10.000	12.000	12.000	14.200		
Revolutions per minute																		
1	15.279	17.189	19.099	21.008	22.918	24.828	26.737	28.647	30.558	32.467	34.377	36.287	38.197	45.837	47.746	54.240		
1 1/2	10.186	11.459	12.732	14.006	15.279	16.552	17.825	19.099	20.372	21.645	22.918	24.192	25.465	30.558	31.831	36.160		
2	7.639	8.594	9.549	10.504	11.459	12.414	13.369	14.324	15.279	16.234	17.189	18.144	19.099	22.918	23.873	27.120		
2 1/2	6.112	6.875	7.639	8.403	9.167	9.931	10.695	11.459	12.223	12.987	13.751	14.515	15.279	18.335	19.099	21.696		
3	5.093	5.730	6.366	7.003	7.639	8.276	8.913	9.549	10.186	10.823	11.459	12.096	12.732	15.279	15.915	18.080		
3 1/2	4.365	4.911	5.457	6.002	6.548	7.094	7.639	8.185	8.731	9.276	9.822	10.368	10.913	13.096	13.642	15.497		
4	3.820	4.297	4.775	5.252	5.730	6.207	6.685	7.162	7.640	8.117	8.594	9.072	9.549	11.459	11.937	13.560		
5	3.056	3.438	3.820	4.202	4.584	4.966	5.348	5.730	6.112	6.494	6.875	7.257	7.639	9.167	9.549	10.848		
6	2.546	2.865	3.183	3.501	3.820	4.138	4.465	4.775	5.093	5.411	5.730	6.048	6.366	7.639	7.958	9.040		
7	2.183	2.456	2.728	3.001	3.274	3.547	3.820	4.093	4.365	4.638	4.911	5.148	5.457	6.548	6.821	7.749		
8	1.910	2.149	2.387	2.626	2.865	3.104	3.342	3.581	3.820	4.058	4.297	4.536	4.775	5.730	5.968	6.780		
9	1.699	1.910	2.122	2.334	2.546	2.759	2.971	3.183	3.395	3.608	3.820	4.032	4.244	5.093	5.305	6.027		

# TURBO GRINDERS

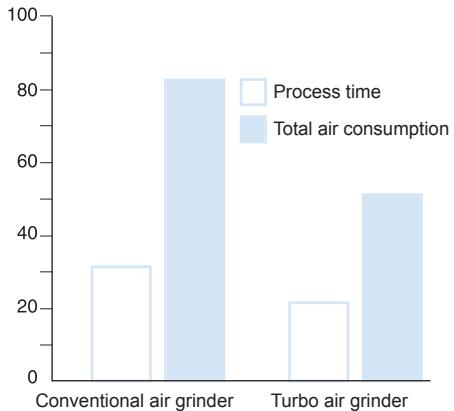
The lubrication-free GTG/GTR40 are the most powerful grinders in the Turbo grinder range, with incredible power for their size and weight. The range includes angle and straight type grinders for virtually every common rough grinding application.

- High material removal** – The Turbo is very powerful and keeps rotational speed under load. It gives a higher rate of material removal, with low wheel consumption.
- Power for efficiency** – The Turbo is driven by an axial turbine, providing power-to-weight ratios never before achieved in grinders. This means you can choose a lighter, more compact tool for ease of use and good accessibility without sacrificing any of the power.
- Long service life** – The turbine means there are no vanes in contact with the cylinder. The gear runs in oil in a housing with patented seals. The governor is designed without rotating parts.
- Minimized vibrations** – On the Turbo, vibration has been cut to below 2.5 m/s<sup>2</sup>. This has been achieved by an entirely new vibration-damping technique, Auto Balancing, in which a set of bearing balls is used to counter-balance the imbalance in the wheel.
- GTR40** – For rough grinding and for applications such as internal and external cleaning of castings with straight grinding wheels.



- Dust extraction** – Efficient accessory for extraction of air-borne dust in sanding applications with fiber discs.

## MORE EFFECTIVE



*The turbine motor is more efficient than a conventional grinder motor. Therefore it takes less time to do the same job. The total air consumption will also be much less for a specific job.*

Model	Max free speed r/min	Max wheel dia in	Max output hp	Weight lb	Height over spindle end in	Air consumption at		Hose size in	Air inlet thread NPT	Sound level dB(A)	Spindle thread in	Ordering No.
						max output cfm	free speed cfm					
<b>For depressed center wheels, type 27</b>												
GTG40 S060-927	6000	9	6.1	9.5	5.2	126	42	5/8	1/2	85	UNC 5/8	8423 0715 05*
GTG40 S060-727	6000	7	6.1	9.5	5.2	126	42	5/8	1/2	85	UNC 5/8	8423 0715 07*
GTG40 S077-727	7700	7	6.1	9.5	5.2	126	42	5/8	1/2	85	UNC 5/8	8423 0715 09*
GTG30 S060-927	6000	9	3.5	9.5	5.2	95	30	5/8	1/2	85	UNC 5/8	8423 0725 05*
GTG30 S060-727	6000	7	3.5	9.5	5.2	95	30	5/8	1/2	85	UNC 5/8	8423 0725 07*
GTG30 S077-727	7700	7	3.5	9.5	5.2	95	30	5/8	1/2	85	UNC 5/8	8423 0725 09*
<b>For cup wheel, type 11</b>												
GTG40 S060-611	6000	6	6.1	10.1	5.2	126	42	5/8	1/2	85	UNC 5/8	8423 0715 00*
GTG30 S060-611	6000	6	3.5	10.1	5.2	95	30	5/8	1/2	85	UNC 5/8	8423 0725 00*
<b>For sanding</b>												
GTG40 S060-900	6000	9	6.1	7.9	5.2	126	42	5/8	1/2	85	UNC 5/8	8423 0715 02*
GTG40 S060-700	6000	7	6.1	7.9	5.2	126	42	5/8	1/2	85	UNC 5/8	8423 0715 03*
GTG30 S060-900	6000	9	3.5	7.9	5.2	95	30	5/8	1/2	85	UNC 5/8	8423 0725 02*
GTG30 S077-700	7700	7	3.5	7.9	5.2	95	30	5/8	1/2	85	UNC 5/8	8423 0725 03*

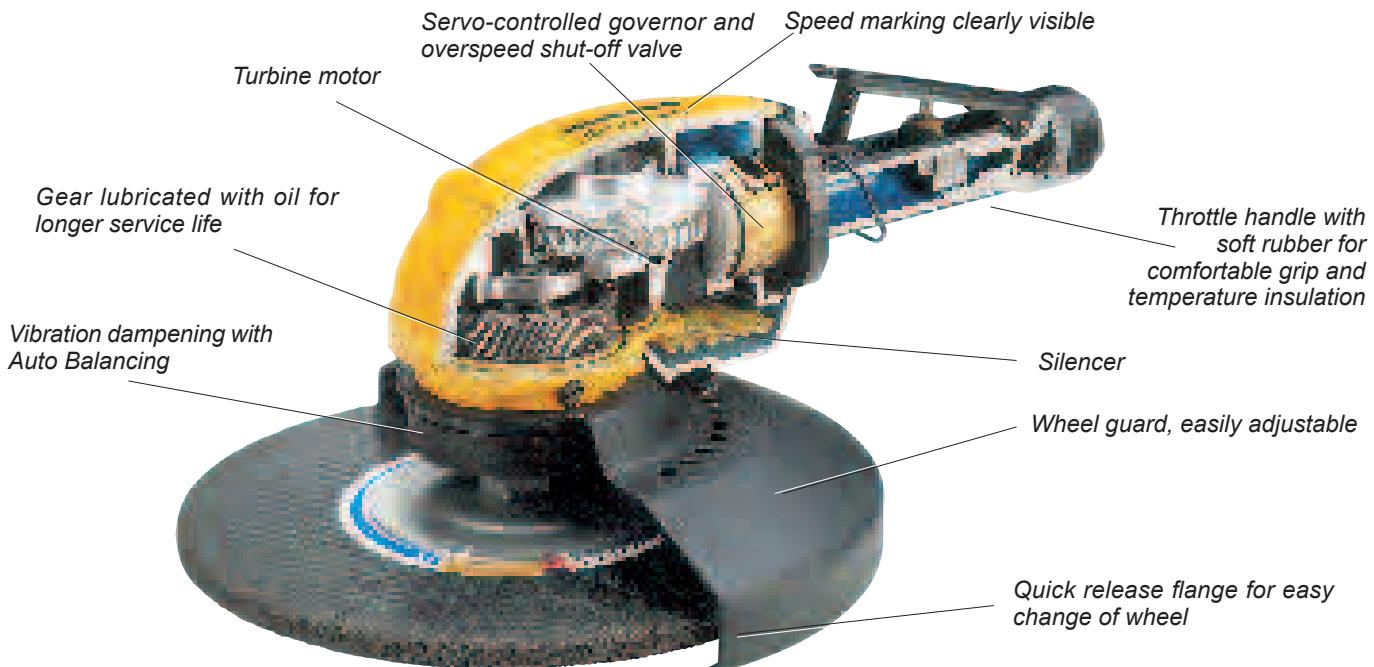
\* Available directly from stock.

Model	Max free speed r/min	Recommended wheel diam. DxTxH in	Spindle		Max output hp	Weight incl. guard flanges lb	Length in	Air consumption		Air inlet thread NPT	Sound level at free speed dB(A)	Recommended air hose in	Ordering No.
			thread in	length in				at max output cfm	at free speed cfm				
GTR40 S085-601	8500	6x1x1	UNC 5/8	2.2	6.1	12.3	22.1	126	42	1/2	85	5/8	8423 0715 11*
GTR40 S072-501	7200	5x1x1	UNC 5/8	2.2	6.1	12.3	22.1	126	42	1/2	85	5/8	8423 0715 13*
GTR40 S060-601	6000	6x1x1	UNC 5/8	2.2	6.1	12.8	22.1	126	42	1/2	85	5/8	8423 0715 15*
GTR40 S060-801	6000	8x1x1	UNC 5/8	2.2	6.1	12.8	22.1	126	42	1/2	85	5/8	8423 0715 17*

\* Available directly from stock.

# TURBO GRINDERS

Twice the power. Half the weight.



## ACCESSORIES INCLUDED – GTG40

Adjustable wheel guard  
Support handle  
Attachment flanges  
Whip hose 2 ft long, 5/8" dia complete with nipple  
Gear box oil, one tube  
Hex key for wheel change

## ACCESSORIES INCLUDED – GTR40

Wheel guard  
Attachment flanges  
Whip hose 2 ft long, 5/8" dia complete with nipple  
Gear box oil, one tube  
Key and spanner for wheel change

## ① OPTIONAL ACCESSORIES – GTG40

	Ordering No.
Wire brush Ø 6"	4170 0685 00
Wire brush attachment set	4170 0550 82
Heavy duty backing pad for sanding Ø 7"	4170 1192 90
Ø 9"	4170 1193 90
Hand shield	4175 0165 90
Adaptor for positioning support handle 120/135° between handles	4175 0164 90*
Dust extraction kit <sup>a</sup> for 7" fiber disc GTG40 S060	3780 4090 10
Hose kit including 6 ft vacuum hose, Ø 1 9/16" and air hose Ø 1/2"	3780 2724 41
Friction plate complete	4175 0186 90

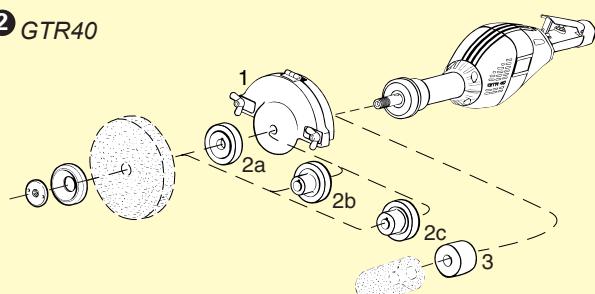
<sup>a</sup> Incl. flow chamber, suction cap and support pad.

\* Included as standard in GTG40 S060-C15.

## ② OPTIONAL ACCESSORIES – GTR40

	Thickness x Hole dia	in	Ordering No.
2	TxH 3/4-1 1/4 x 5/8	2a	4150 0619 00
		2b	4150 1650 00
		2c	4150 0620 00
3	Spacer for cone wheel	3	4150 0787 00

## ② GTR40



1

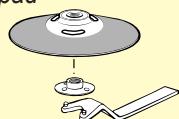
Adapter



Hand shield



Back-up pad



## SERVICE KITS

GTG40	4081 0153 90
GTR40	4081 0153 91

# DIE GRINDERS

The Atlas Copco governed die grinders offer the very best of productivity, reliability and ergonomics.

- Best performance, low weight** – The speed governor keeps the rotational speed close to the maximum free speed when feed-force is applied. The use of a speed governor enables a smaller and smoother design while maintaining access to power.
- Built-in ergonomics for the best working environment** – The unique suspension of motor and spindle of the LSF series prevent unpleasant vibrations from being transferred to the operator's hand. Well tuned motors and air outlet keep sound levels very low.
- Minimized burr consumption** – A suspension of the spindle prevents the burr from chattering. Apart from a smoother die grinding operation, the burr consumption is minimized, in many applications by 20%.
- Wide range** – You can choose the suitable model for your application – from heavy duty versions to small, angle die grinders. Short and extended models (E).



- LSF27 ST030 is lubrication-free** – For a cleaner environment.
- LSF-R** – These models have a rigid shaft suspension. Recommended for mounted points.
- LSF38** – 1.8 hp powerful motor for the toughest applications.

Model	Max free speed r/min	Rec. max dia of carbide burrs in	Max output hp	Weight lb	Length in	Air consumption		Recommended air hose in	Air inlet thread NPT	Sound level at free speed dB(A) <sup>a</sup>	Ordering No.
						at max output cfm	at free speed cfm				
<b>Straight models</b>											
LSF17 S430-2	43000	3/8	0.4	0.9	6.7	19	21	5/16	1/4	75	8423 0703 05*
LSF17 S430E-2	43000	3/8	0.4	0.9	6.7	19	21	5/16	1/4	75	8423 0703 39*
LSF17 S300-2	30000	1/2	0.4	0.9	6.7	19	13	5/16	1/4	73	8423 0703 13*
LSF17 S300E-2	30000	1/2	0.4	1.3	10.6	19	13	5/16	1/4	73	8423 0703 47*
LSF17 S200-2	20000	1/2	0.4	0.9	6.7	17	8	5/16	1/4	64	8423 0703 62*
LSF17 S200E-2	20000	1/2	0.4	1.3	6.7	17	8	5/16	1/4	64	8423 0703 80*
LSF27 S250-2	25000	1/2	0.8	1.5	8.0	38	27	3/8	3/8	79	8423 0702 05*
LSF27 S250E-2	25000	1/2	0.8	1.5	8.0	38	27	3/8	3/8	79	8423 0702 06*
LSF27 S180-2	18000	5/8	0.8	1.5	8.0	34	15	3/8	3/8	71	8423 0702 13*
LSF27 S180E-2	18000	5/8	0.8	1.5	8.0	34	15	3/8	3/8	71	8423 0702 14*
LSF27 S150-2	15000	5/8	0.8	1.5	8.0	32	13	3/8	3/8	71	8423 0702 47*
LSF27 S120-2	12000	5/8	0.7	1.5	8.0	30	8	3/8	3/8	68	8423 0702 62*
LSF38 S180E	18000	5/8	1.8	3.3	13.8	58	31	1/2	3/8	87	8423 0700 28*
LSF38 S250E	25000	1/2	1.8	3.3	13.8	58	53	1/2	3/8	89	8423 0700 31*
<b>Angle models</b>											
LSV17 S200-2 HD	20000	1/2	0.3	1.5	7.7	17	13	5/16	1/4	76	8423 0705 36*
<b>Die grinders for polishing</b>											
LSF27 ST030 LF-2	3000	–	0.9	2.2	10.6	34	42	1/2	3/8	77	8423 0702 79*
LSF27 ST030E LF-2	3000	–	0.9	2.2	15.6	34	42	1/2	3/8	77	8423 0702 80*
LSF27 ST070E-2	7000	–	0.9	2.2	15.6	36	42	1/2	3/8	81	8423 0702 70*
LSF27 ST070-2	7000	–	0.9	2.2	10.6	36	42	1/2	3/8	81	8423 0702 69*

<sup>a</sup> With exhaust hose and in accordance with Pneurop-Cagi test code for all tools.

E = Extended version, flexible spindle

\* Available directly from stock.

R = Rigid model

HD = Heavy duty, rigid spindle

LF = Lubrication-free

# DIE GRINDERS

- High speed model** – LSF07 is a new high speed model for precise grinding and polishing at die making and e.g. renovation of air craft engines.



Model	Max free speed r/min	Rec max dia of			Max output hp	Weight lb	Length in	Air consumption		Recom-mended air hose mm	Air inlet thread NPT	Sound level at free speed <sup>a</sup> dB(A)	Ordering No. with collet <sup>b</sup>
		Tungsten carbide burrs mm	Mount-ed point mm	at max output cfm				at free speed cfm	Recom-mended air hose mm				
<b>High speed model</b>													
LSF07 S850	88000	4	6	0.10	0.9	6.7	4.9	4.6	4.5	–	79	8423 1222 03*	

<sup>a</sup> With exhaust hose and in accordance with Pneurop-Cagi test code for all tools.

<sup>c</sup> Air hose and ErgoNIP included.

\* Available directly from stock.

<sup>b</sup> Ø 1/8" collet standard.

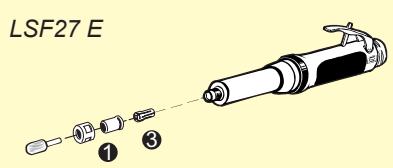
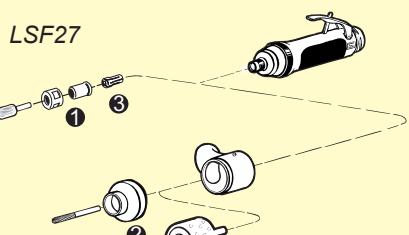
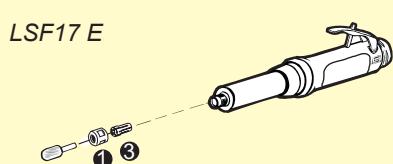
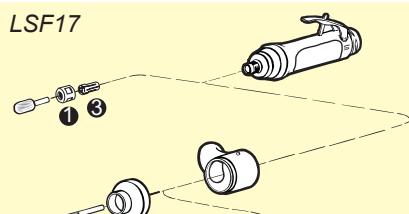
## ACCESSORIES INCLUDED

Air hose and ErgoNIP 08 included Ø 1/8" collet and collet wrench. Exhaust with silencer (LSF07).

## OPTIONAL ACCESSORIES

Ø 1/8" collet 4150 1822 00

# ACCESSORIES



### ① ACCESSORIES INCLUDED

Spanner  
Collet 1/4"  
Air hose, air hose nipple and clamp  
Exhaust hose

### ② OPTIONAL For machining reinforced plastics

For die grinders	LSF17	Dia in	LSF27	Dia in
Diamond burr	3780 5013 70	1/4	3780 5014 20	5/16
Diamond drum	3780 5033 00	1	3780 5035 00	2
Spot suction kit for burr	3780 3015 20		3780 4007 41	
Spot suction kit for drum	3780 4011 60	1/4 (shaft)	3780 4011 71	5/16 (shaft)

### ③ OPTIONAL collets

Dia	Ordering No.
<b>LSF17</b>	
1/4"	4112 1077 00
1/8"	4150 1710 00
Collet nut	4112 1076 00
Collar	4112 1078 00
<b>LSF27/38</b>	
1/4"	4150 1709 00
3/8"	4150 1708 00
Collet nut	4150 1706 00



### SERVICE KITS

17 series	4081 0026 90
27 series	4081 0130 90
36 series	4081 0019 90
38 series	4081 0308 90

Front exhaust – Modification kit  
LSF17 short model 4150 1031 91

# STRAIGHT GRINDERS

## For cone wheels, plugs and collet

Internal grinding of holes and cavities in castings, etc. require rough abrasives, which must be attached to the tool with a rigid shank or be mounted directly on the spindle.

- Rigid and powerful for best productivity** – The LSR38 and LSR53 series gives you the utmost power for the roughest tasks of internal grinding.
- Built-in ergonomics for working comfort** – Lighter jobs are successfully done with LSR27. These light and handy tools offer low sound and vibration levels and will reduce wear on your operator.
- Lubrication-free** – The LSR38-models are lubrication-free.



Model	Max free speed r/min	Recom-mended wheel diameter in		Max output hp	Weight lb	Length in	Air consumption		Air inlet thread NPT	Recom-mended air hose in	Sound level at free speed dB(A) <sup>a</sup>	Spindle thread in	Ordering No.
		at max output cfm	at free speed cfm										
LSR27 S180-CWS	18000	2	0.8	1.5	8	38	38	27	3/8	3/8	69	UNF 3/8	8423 0702 71*
LSR38 S150-CW	15000	2 3/8	1.8	3.5	12.6	50	50	27	3/8	1/2	86	UNF 3/8-24	8423 0700 29*
LSR38 S180-CW	18000	2	1.8	3.5	12.6	58	58	31	3/8	1/2	87	UNF 3/8-24	8423 0700 30*
LSR38 S150-CW/2	15000	2 3/8	1.8	3.5	12.6	50	50	27	3/8	1/2	86	UNC 5/8	8423 0700 33*
LSR38 S180-CW/2	18000	2	1.8	3.5	12.6	58	58	31	3/8	1/2	87	UNC 5/8	8423 0700 35*
LSR53 S120-CW	12000	2	2.1	6.7	19	70	70	36	1/2	1/2	84	UNC 5/8	8423 0708 00*
LSR53 S090-CW	9000	2	1.8	6.7	19	61	61	23	1/2	1/2	82	UNC 5/8	8423 0708 01*

<sup>a</sup> LSR27/38 measured with exhaust hose (incl. accessories).

\* Available directly from stock.

-CW = Indicates use for cone wheel.

# STRAIGHT GRINDERS

Accessories for cone wheels, plugs and collet

## ACCESSORIES INCLUDED

### LSR27 S180-CWS

- 1 Nut
- 2 Flange
- Hose kit 3/8", (0.9 ft)
- Open end spanner 5/8", 3/4"
- Exhaust hose kit (1.1 ft)

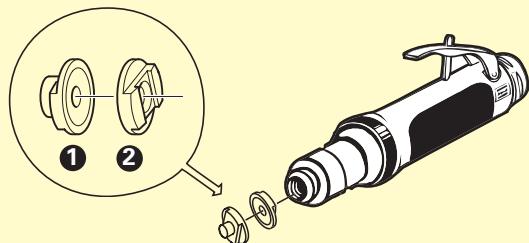
### LSR38

- Exhaust air hose (1.1 ft)
- Hose clamp
- Open end spanner
- 3 For -CW
- UNF 3/8"
- 3 For -CW/2
- UNC/W 5/8"

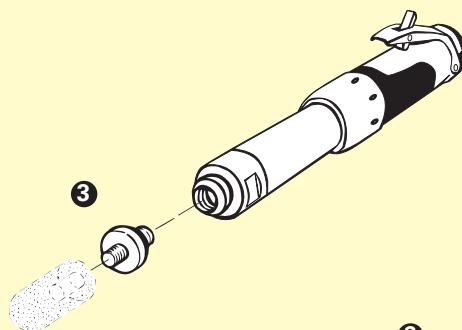
### LSR53

- Spacer for cone wheel
- Open end spanner 1 1/16"
- Hexagon wrench 3/16"

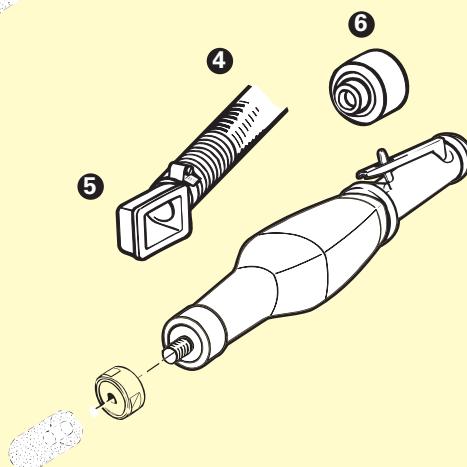
## LSR27 S180-CWS



## LSR38



## LSR53



## OPTIONAL ACCESSORIES

### Ordering No.

### LSR27 S180-CWS

- |            |              |
|------------|--------------|
| Hose clamp | 0347 0122 10 |
| ErgoNip    | 8202 1220 50 |

### LSR38

- Adapters:
- |            |              |
|------------|--------------|
| UNC/W 3/8" | 4150 0318 00 |
| UNF 3/8"   | 4150 0318 01 |
| UNC 1/2"   | 4150 1357 00 |
| UNC/W 5/8" | 4150 0767 00 |

### LSR53

- |                        |              |
|------------------------|--------------|
| 4 Silencer             | 4150 1005 80 |
| 5 Adapter for silencer | 4150 0938 80 |
| 6 Lubricator           | 4150 1405 80 |



## SERVICE KITS

- |           |              |
|-----------|--------------|
| 27 series | 4081 0130 90 |
| 38 series | 4081 0311 90 |
| 53 series | 4081 0132 90 |

# ANGLE GRINDERS

## For depressed center and cut-off wheels

Smooth, precise grinding with demands on accessibility will guide your choice to an angle grinder with depressed center or cut-off wheel.

The span between LSV17 to LSV48 offers you the right size of tool between 3" to 7" diameter wheel respectively and power of 0.40 to 2.5 hp. All the grinders have sealed angle heads which avoids greasy nipples or oil leakage.

- High productivity, good accessibility** – The speed governor keeps rotational speed close to free speed for a high material removal rate. The low angle head gives access to cramped spaces increase productivity.
- Ergonomics** – Thermal isolation of handles, low sound and vibration levels as well as sealed angle heads make these tools the best for operator comfort.
- LSV38** – LSV38 with its 1.7 hp motor has an excellent power to weight ratio. It provides at least 20% higher output than all other comparable grinders on the market due to an all new motor. The high power directly translates into a higher rate of material removal. There are three models available, choose your LSV38 from the selection chart below.
- LSV48** – The 2.5 hp motor makes the LSV48 the perfect grinder for heavy duty applications where productivity



is the key. The low profile angle head makes it possible to work in spaces you could never access with a vertical grinder. LSV48 is equipped with Auto-Balancer that keeps vibrations below 2.5 m/s<sup>2</sup>.

Model	Max free speed r/min	Max wheel dia in	Max output hp	Weight lb	Height over spindle end in	Air consumption		Spindle thread UNC	Air inlet thread NPT	Hose size in	Sound level at free speed dB(A) <sup>a</sup>	Ordering No.
						at max output cfm	at free speed cfm					
<b>Angle grinders</b>												
LSV17 S170-08 HD	17000	3	0.4	1.7	2.9	17	13	3/8 <sup>b</sup>	1/4	5/16	74	8423 0705 50*
LSV38 ST12-427	12000	4	1.7	3.5	3.3	58	31	3/8	3/8	1/2	89	8423 0700 20*
LSV38 ST12-527	12000	4 1/2-5	1.7	4	3.3	58	31	5/8	3/8	1/2	89	8423 0700 22*
LSV38 S12-427	12000	4	1.7	4	3.3	58	31	3/8	3/8	1/2	89	8423 0700 23*
LSV48 SA120-527	12000	5	2.5	5.5	3.9	76	36	5/8	3/8	1/2	83	8423 0707 53*
LSV48 SA085-727	8500	7	2.5	6.2	3.9	76	36	5/8	3/8	1/2	83	8423 0707 52*

<sup>a</sup> For LSV17 with exhaust hose.

With wheel guard for disc

-08 = Ø 3"  
-427 = Ø 4"  
-527 = Ø 5" and 4.5"  
-727 = Ø 7"

\* Available directly from stock.

<sup>b</sup> UNF.

### How to choose your LSV38

	LSV38 S12-427	LSV38 ST12-427	LSV38 ST12-527
1.7 hp air motor	x	x	x
Adjustable guard positions		x	x
Lockable spindle		x	x
Side handle		x	x
Size wheel, inch	4	4	4.5 and 5
Spindle thread, inch	UNF 3/8	UNF 3/8	UNC 5/8

# ANGLE GRINDERS

## Accessories for depressed center and cut-off wheels

### ① ACCESSORIES INCLUDED

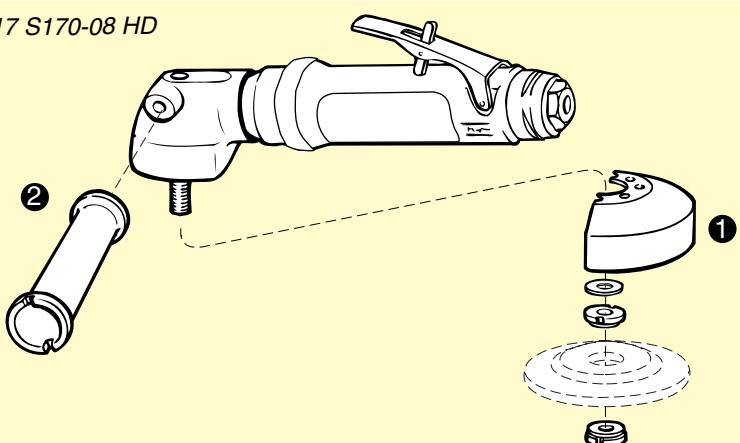
#### LSV17

Wheel guard 3"  
Flanges  
Air hose nipple, clamp  
Wrenches  
Exhaust hose set

### ② OPTIONAL ACCESSORIES

Support handle	Ordering No.
LSV17 S170-08 HD	4110 1355 85

LSV17 S170-08 HD

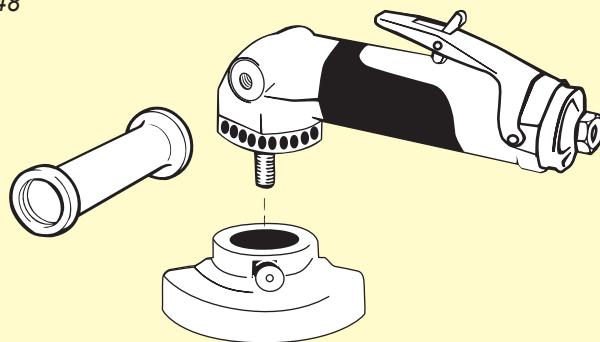


### ACCESSORIES INCLUDED

#### LSV38/48

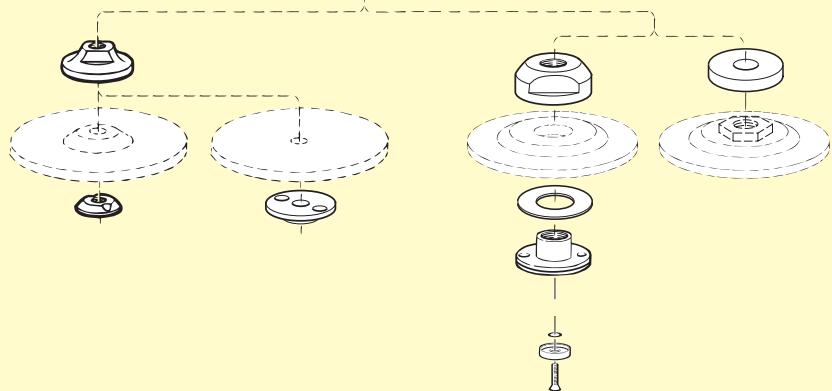
Wheel guard  
Flanges  
Support handle (LSV38 ST-models and LSV48)  
Wrenches  
Grease refill

LSV38/48



LSV38 ST12-427  
LSV38 S12-427

LSV38 ST12-527



### SERVICE KITS

LSV17	4081 0026 90
LSV38	4081 0309 90
LSV48	4081 0312 90

# ANGLE SANDERS

## For sanding and polishing

Surface grinding and polishing operations of various grit require a virtually unlimited number of combinations of rotational speeds and fittings for accessories.

- **Wide range** – The Atlas Copco LSV27 series represents a competitive range of angle sanders with rotational speeds, from the finest polishing operation to coarse grit sanding.
- **Special features for special applications** – Different speed versions with water supply are well suited for finishing at car body workshops or in the stone industry. Versions of both central and peripheral water supply can be found in the range.
- **Torque ranges for any kind of sanding/polishing** – Planetary gears in combination with the angle gear enables a bigger reduction of speed which gives the extra torque needed. The angle grinders marked ST are equipped with a planetary gear.
- **Lubrication-free models, LF** – Avoid contamination of the workplace. No oil in the exhaust air.
- **LSV38** – LSV38 sander is intended for both fine and rough sanding applica-



tions. The comfortable support handle gives excellent control during the sanding process. LSV38 D is equipped with accessories for efficient extraction of sanding dust. Just connect it to a suction installation.

- **LSV48** – LSV48 is more powerful and

is a great choice for rough and fine sanding applications. The angled starting handle gives your excellent control.

Both LSV38 and LSV48 sanders are lubrication free and keeps the sanded surface completely free from oil.

Model	Max free speed r/min	Recom-mended pad size dia in	Max output hp	Weight lb	Length in	Height in	Air consumption		Spindle thread UNC	Recom-mended air hose in	Air inlet thread NPT	Sound level at free speed dB(A) <sup>a</sup>	Ordering No.
							at max output cfm	at free speed cfm					
<b>With collet</b>													
LSV17 S200-2	20000	-	0.3	1.1	6.2	3.0	17	13	- <sup>c</sup>	5/16	1/4	73	8423 0705 07*
LSV17 S120-2	12000	-	0.3	1.1	6.2	3.0	17	13	- <sup>c</sup>	5/16	1/4	73	8423 0705 22*
LSV17 S080-2	8000	-	0.3	1.1	6.2	3.0	17	13	- <sup>c</sup>	5/16	1/4	73	8423 0705 23
<b>With threaded spindle</b>													
LSV17 S200-M	20000	-	0.3	1.1	6.2	1.9	17	13	1/4"-20 <sup>d</sup>	5/16	1/4	73	8423 0705 05*
LSV17 S120-M	12000	-	0.3	1.1	6.2	1.9	17	13	1/4"-20 <sup>d</sup>	5/16	1/4	73	8423 0705 20*
<b>Dry sanding</b>													
LSV27 S085	8500	7	0.8	3.7	10.2	3.4	38	15	5/8	3/8	3/8	79	8423 0706 27*
LSV27 S060	6200	7	0.83	3.1	10.2	3.4	34	15	5/8	3/8	3/8	74	8423 0706 10*
LSV27 S040	4100	7	0.73	3.1	10.2	3.4	27	16	5/8	3/8	3/8	71	8423 0706 28*
LSV27 S021	2100	7	0.6	3.9	11.0	3.4	34	13	5/8	3/8	3/8	74	8423 0706 42*
LSV38 S085	8500	7	1.7	3.5	8.5	3.8	58	31	5/8	1/2	3/8	89	8423 0700 24*
LSV38 S066	6600	7	1.6	3.5	8.5	3.8	50	27	5/8	1/2	3/8	89	8423 0700 25*
LSV38 S066 D	6600	7	1.6	3.5	8.5	3.8	50	27	5/8	1/2	3/8	89	8423 0700 26*
LSV38 S085 D	8500	7	1.7	3.5	8.5	3.8	58	31	5/8	1/2	3/8	89	8423 0700 27*
LSV48 SA085	8500	7	2.5	5.1	11.8	3.5	76	36	5/8	5/8	3/8	83	8423 0707 51*
LSV48 SA066	6600	7	2.5	5.1	11.8	3.5	76	36	5/8	5/8	3/8	83	8423 0707 50*
<b>Wet sanding</b>													
LSV27 S10	1100	9	0.4	4.2	11.0	3.4	28	13	5/8	3/8	3/8	74	8423 0706 67
LSV27 ST008-01 LF	800	-	0.74	4.2	11.0	3.4	34	15	5/8	3/8	3/8	74	8423 0706 85
<b>Lubrication-free, dry and wet sanding</b>													
LSV27 ST013 <sup>b</sup> LF	1300	7	0.8	3.5	11.0	3.4	34	15	5/8	3/8	3/8	75	8423 0706 61
LSV27 ST008-01 LF	800	9	0.7	4.2	11.0	3.4	34	13	5/8	3/8	3/8	74	8423 0706 85

<sup>a</sup> LSV17/27 measured with exhaust hose.

-01 = wet sander, centre water supply.

\* Available directly from stock.

<sup>b</sup> Equipped with twist throttle.

-M = Male 1/4" thread

<sup>c</sup> Ø 1/4" collet.

<sup>d</sup> UNC male.

### ACCESSORIES INCLUDED

Air hose nipple  
Clamp  
Exhaust hose (LSV17/27)  
Support handle (LSV27)  
Wrenches

# ANGLE SANDERS

## Accessories for sanding and polishing

### OPTIONAL ACCESSORIES

#### ① Backing set standard type

washers – backing pad – nut – wrench

For all models dia, in	Ordering No.	
	Soft	Stiff
5	4170 0768 80	–
7	4170 0756 80	4170 0757 80

#### ② Backing pad with ribbed surface for cooler process, fits both UNC 5/8"-11 and M14 spindel thread

backing pad – rear washer – front nut

For all models dia in	Pad Ordering No.	Pin key for front nut <sup>a</sup> Ordering No.
5	4150 1962 80	4080 1169 00
7	4150 1962 81	4080 1169 00

<sup>a</sup> Optional, order separately.

#### ③ Backing set combination type

washer – hub – pad 125, 180 and 230 mm – nut – wrench

For all models dia in	Ordering No.	
5-7	4170 0258 80	
5-9	4170 0259 80	

#### ④ Backing set heavy duty type

washer – rubber pad – back-up pad – nut

For all models dia in	Ordering No.		
	Soft	Medium	Stiff
5	–	4170 0659 82	–
7	4170 0660 81	4170 0660 82	4170 0660 83
9	–	4170 0661 82	4170 0661 83

#### ⑤ Spot suction kit for fibre disc, sanders with UNC 5/8" spindle (see page 164)

flow chamber – cap – washers – backing pad – nut

Model	Dia in	Ordering No.
LSV27 S060	5	3780 4007 80
LSV27 S040/S060	7	3780 4007 90
LSV27 S021	9	3780 4031 60

#### ⑥ Lamb's wool bonnet

velcro back

For all models dia in	Lamb's wool bonnet Ordering No.	Backing set Ordering No.
6	4112 6093 15	4112 6092 15

#### ⑦ Backing set for abrasive paper and wet grinding

washers – backing pad – foam rubber pad

Dia mm	Medium Ordering No.	Max r/min
180	4170 0428 83	2500

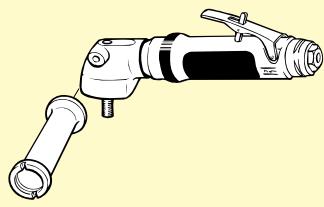
### SERVICE KITS



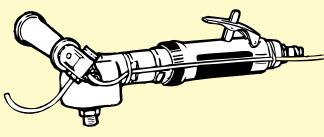
LSV17	4081 0026 90
LSV27	4081 0130 90
LSV38	4081 0309 90
LSV48	4081 0312 90



LSV27



LSV27-00/01



# ORBITAL AND RANDOM ORBITAL SANDERS

The new series of random orbital sanders combine all the important customer and application requirements in a very competitive range of products. Applications like sanding before painting and surface coating, polishing with wax and surface conditioner are all quickly done with the small and easily operated LST 20-range of sanders. Vibration level is below 2.5 m/s<sup>2</sup> on all models.

All models are lubrication-free and have silicone free components. They have two grip options in the same handle. In addition, one smaller grip mold is included. The full range includes standard models and extraction models. There are also two orbit diameters to choose from in the model range.

- **Lubrication-free** – Avoids contamination of the workplace. No oil in the exhaust air.



Model	Max free speed r/min	Pad size in	Orbit diam in	Max output hp	Weight lb	Height in	Length in	Air consumption cfm	Recommended air hose in	Air inlet thread	Sound level at free speed dB(A)	Ordering No.
<b>Random orbital – standard</b>												
LST30 H090-11	9000	4 1/2	5/16	0.4	2.6	4 23/32	10	16	5/16	1/4	81	8423 0361 64*
LST30 H090-15	9000	6	5/16	0.4	2.6	4 23/32	10 13/16	16	5/16	1/4	81	8423 0361 72*
LST30 S090-15	9000	6	5/16	0.4	2.4	4 23/32	6 7/8	16	5/16	1/4	80	8423 0361 98*
<b>Self suction<sup>a</sup></b>												
LST31 H090-15	9000	6	5/16	0.4	3.0	4 23/32	11 13/16	16	5/16	1/4	84	8423 0363 19*
LST31 S090-15	9000	6	5/16	0.4	2.9	4 23/32	7 7/8	16	5/16	1/4	82	8423 0363 35*
<b>Central suction<sup>b</sup></b>												
LST32 H090-15	9000	6	5/16	0.4	3.0	4 23/32	11 13/16	16	5/16	1/4	82	8423 0362 55*
LST32 S090-15	9000	6	5/16	0.4	2.9	4 23/32	7 7/8	16	5/16	1/4	83	8423 0362 71*
<b>Orbital – standard</b>												
LSO30 S070-3	7000	3.6x6.7	3/16	0.4	3.5	5	7.3	16	5/16	1/4	80	8423 0360 16*
LSO30 H070-3	7000	3.6x6.7	3/16	0.4	3.7	5	11.2	16	5/16	1/4	81	8423 0360 24*
<b>Self suction<sup>a</sup></b>												
LSO31 S070-3	7000	3.6x6.7	3/16	0.4	3.5	5	8.3	16	5/16	1/4	82	8423 0362 79*
LSO31 H070-3	7000	3.6x6.7	3/16	0.4	3.7	5	12.2	16	5/16	1/4	81	8423 0363 03*
<b>Central suction<sup>c</sup></b>												
LSO32 S070-3	7000	3.6x6.7	3/16	0.4	3.5	5	8.3	16	5/16	1/4	78	8423 0360 99*
LSO32 H070-3	7000	3.6x6.7	3/16	0.4	4.0	5	12.2	16	5/16	1/4	79	8423 0361 07*
<b>Standard model</b>												
LST20 R350	12 000	90	3/16	0.27	1.85	95	127	17	8	1/4	76	8423 0361 65*
LST20 R550	12 000	125	3/16	0.27	1.85	83	127	17	8	1/4	76	8423 0361 69*
LST20 R650	12 000	150	3/16	0.27	1.85	83	127	17	8	1/4	76	8423 0361 73*
LST20 R325	12 000	90	3/32	0.27	1.85	95	127	17	8	1/4	76	8423 0361 76*
LST20 R525	12 000	125	3/32	0.27	1.85	83	127	17	8	1/4	76	8423 0361 81
LST20 R625	12 000	150	3/32	0.27	1.85	83	127	17	8	1/4	76	8423 0361 84*
<b>Extraction model – self suction<sup>a</sup></b>												
LST21 R350	12 000	90	3/16	0.27	1.85	95	133 <sup>d</sup>	17	8	1/4	85	8423 0361 66
LST21 R550	12 000	125	3/16	0.27	1.85	83	133 <sup>d</sup>	17	8	1/4	85	8423 0361 70*
LST21 R650	12 000	150	3/16	0.27	1.85	83	133 <sup>d</sup>	17	8	1/4	85	8423 0361 74*
LST21 R325	12 000	90	3/32	0.27	1.85	95	133 <sup>d</sup>	17	8	1/4	85	8423 0361 77
LST21 R525	12 000	125	3/32	0.27	1.85	83	133 <sup>d</sup>	17	8	1/4	85	8423 0361 82
LST21 R625	12 000	150	3/32	0.27	1.85	83	133 <sup>d</sup>	17	8	1/4	85	8423 0361 85*
<b>Extraction model – central suction<sup>b</sup></b>												
LST22 R350	12 000	90	3/16	0.27	1.85	95	133 <sup>d</sup>	17	8	1/4	78	8423 0361 67
LST22 R550	12 000	125	3/16	0.27	1.85	83	133 <sup>d</sup>	17	8	1/4	78	8423 0361 71*
LST22 R650	12 000	150	3/16	0.27	1.85	83	133 <sup>d</sup>	17	8	1/4	78	8423 0361 75*
LST22 R325	12 000	92	3/32	0.27	1.85	95	133 <sup>d</sup>	17	8	1/4	78	8423 0361 78
LST22 R525	12 000	125	3/32	0.27	1.85	83	133 <sup>d</sup>	17	8	1/4	78	8423 0361 83
LST22 R625	12 000	150	3/32	0.27	1.85	83	133 <sup>d</sup>	17	8	1/4	78	8423 0361 86*

<sup>a</sup> Includes dust collecting bag.

H = With handle

\* Available directly from stock.

<sup>b</sup> Required air flow 150 m<sup>3</sup>/h or 88 cfm.

S = Without handle

<sup>c</sup> Required air flow 60 m<sup>3</sup>/h or 35 cfm.

All data at 90 psi.

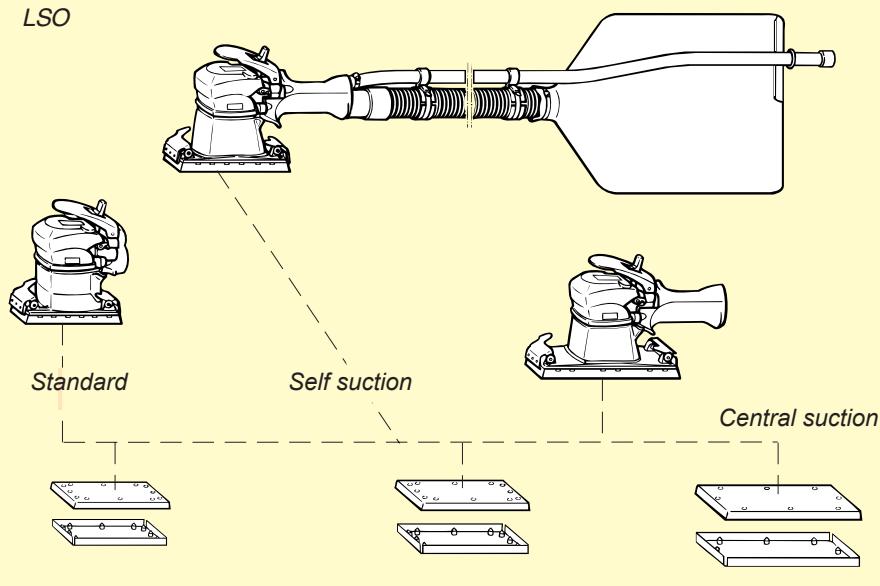
<sup>d</sup> 186 mm (7.3") included suction hose connector.

# ORBITAL AND RANDOM ORBITAL SANDERS

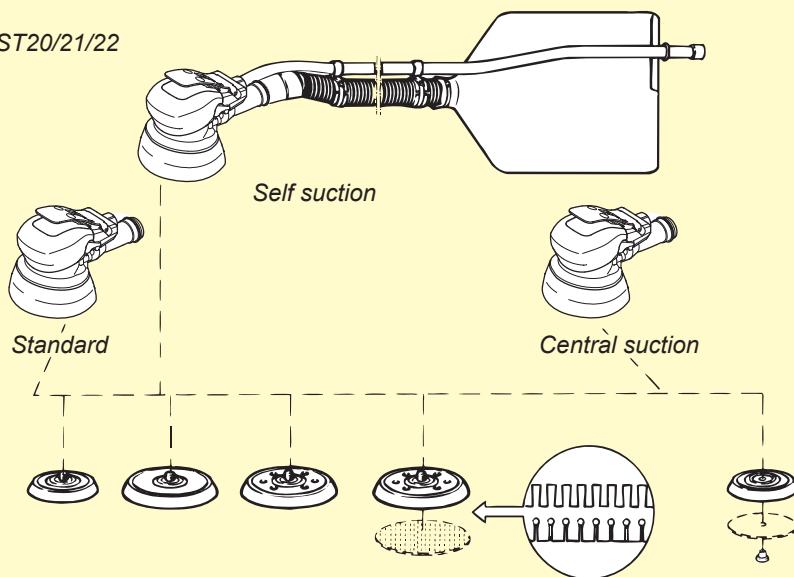
## Accessories

### MODELS / ACCESSORIES

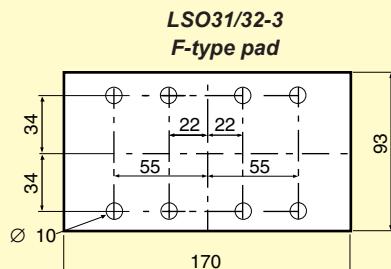
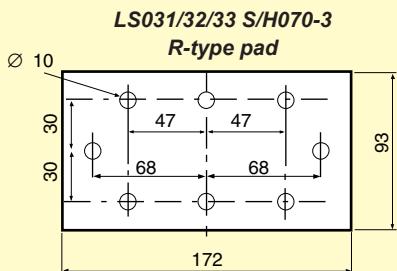
**LSO**



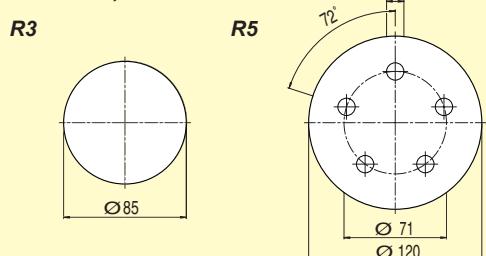
**LST20/21/22**



### Hole pattern dimensions for sanding paper, dust extraction models



**LST20/21/22, 30/31/32**



**LSO**

### ACCESSORIES INCLUDED

Base pad  
Perforating plate  
Hose nipple for 8 mm hose  
LSO31 including dust collection kit

### OPTIONAL ACCESSORIES

For LSO	Ordering No.
Base pad, vinyl for -3F-type	4112 0787 01
Hose set Dust hose, Ø 32 mm, L=1.8 m including air hose	3780 2724 34 <sup>a</sup>
Suspension yoke	4112 0975 00

<sup>a</sup> LSO32

**LST20/21/22**

### ACCESSORIES INCLUDED

Pad for velcro back paper  
U-wrench for pad change  
Air hose nipple  
Dust hose and bag (LST21)  
Large and small grip cover

### OPTIONAL ACCESSORIES

#### Pad for self stick paper

Ordering No.		
Dia 89 mm	Dia 125 mm	Dia 150 mm
For LST20	4112 1231 00	4112 1233 00
	4112 1235 00	
For LST21/22	4112 1232 00	4112 1234 00

**LST30/31/32**

### ACCESSORIES INCLUDED

Pad for self stick papers  
Bar for changing pad  
Hose nipple for 8 mm hose  
LST31 incl dust collection kit

### OPTIONAL ACCESSORIES

For LST	Ordering No.
Pad velcro, Ø 6"	4112 0795 01 <sup>a</sup>
Pad velcro, Ø 4 1/2"	4112 0792 02 <sup>b</sup>
Pad velcro, Ø 6", 6 holes	4112 0796 00 <sup>c</sup>
<b>Hose set</b>	
Dust hose Ø 1 1/4", L=5.9 in including air hose	3780 2724 34 <sup>d</sup>
Suspension yoke	4112 0975 00

<sup>a</sup> LST30-15

<sup>b</sup> LST30/32-11

<sup>c</sup> LST31/32-15

<sup>d</sup> LST32



### SERVICE KITS

LST20/21/22 4112 1300 90

# DUST EXTRACTION

The fact that dust can represent a hazard in the working environment is well documented.

Dust particles from certain materials are dangerous to your health. Even inert dust particles that cause no permanent damage can still be retained in the body and make breathing more difficult. The size of dust particles of most concern are those below 0.005 mm.

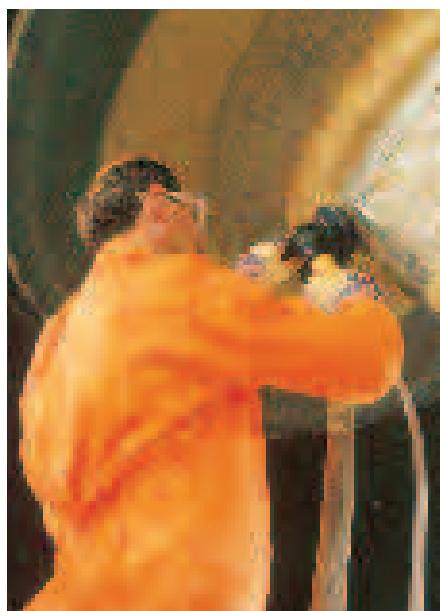
Efficient dust control can make a significant contribution to efficiency and productivity in industrial operations. It is already a requirement in countries with strict health and safety regulations.

Efficient dust control will:

- Reduce the health risk for operators exposed to potentially dangerous particles.
- Give a more favorable working environment which will encourage greater efficiency and effort from those who operate industrial tools.

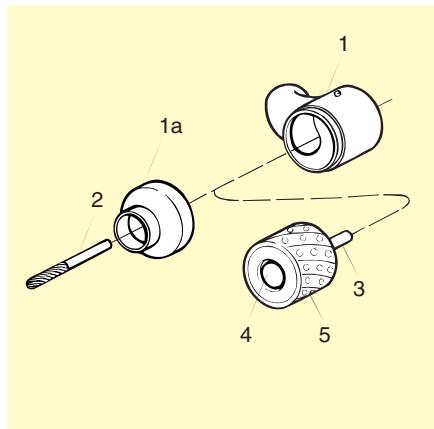
The most efficient method of dust collection is dust extraction at the point of dust creation, i.e. on the tool itself. This ensures very efficient extraction and also allows a relatively low power vacuum source to be used.

Atlas Copco spot suction kits provide an extraction hood fixed to the tool. It is fitted with a plastic or brush edge to trap heavier particles as well as the small ones. The following pages show a number of applications and the necessary dust extraction kits with their contents.



# ACCESSORIES

## DIE GRINDERS



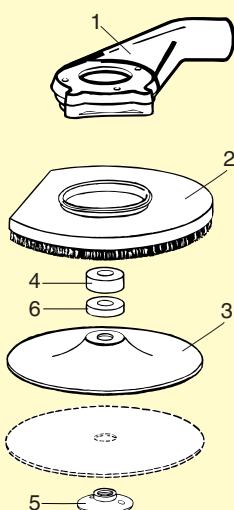
### Spot suction accessories for die grinders

Suction requirement: 125 m<sup>3</sup>/h (LSF17), 200 m<sup>3</sup>/h (LSF27)

			Ordering No.
LSF17 S	Optional	1 Chamber for burr 2 Diamond burr 6 mm	3780 3015 20 3780 5013 70
LSF17 S	Includes	<b>KIT FOR DRUM</b> 1 Chamber 3 Shaft dia 6 mm 4 Locking screw 5 Diamond drum 27 mm	3780 4011 60 3780 3015 20 3780 5090 30 3780 5090 60 3780 5033 00
LSF17 S E	Optional	1 Chamber for burr	3780 4007 30
		Hose kits including 5.9 ft vacuum hose and air hose LSF17, hose Ø 25 mm LSF27, hose Ø 32 mm	3780 2724 20 3780 2724 30
		Collets 6 mm 8 mm	4150 0075 00 4150 0074 00
LSF27 S		<b>KIT FOR BURR</b> 1 Chamber 1a Nozzle	3780 4007 41 3780 3300 51 3780 2730 10
	Includes	2 Diamond burr 8 mm	3780 5014 20
LSF27 S	Optional	<b>KIT FOR DRUM</b> 1 Chamber 3 Shaft 8 mm Distance nut 4 Locking nut Hook wrench 5 Diamond drum, Ø 50 mm	3780 4011 71 3780 3300 51 3780 5091 00 3780 5091 50 3780 5092 00 3780 5092 50 3780 5035 00

# ACCESSORIES

## SANDERS FOR FIBER DISC



**Spot suction accessories for sanding with fiber disc. Sanders with UNC 5/8" spindle.**  
**Suction requirement: 250 m<sup>3</sup>/h**

		Ordering No.
LSV27 S040/S060/S085 125 mm fiber disc	<b>KIT</b> Includes 1 Chamber 2 Suction cap 125 mm with brush 3 Backing pad 125 mm 4 Distance washer 12 mm 5 Nut 5/8"	3780 4007 80 3780 3100 40 3780 2650 20 3780 2710 30 3780 2721 60 3780 2722 00
LSV27 S040/S060 180 mm fiber disc	<b>KIT</b> Includes 1 Chamber 2 Suction cap 180 mm with brush 3 Backing pad 180 mm 6 Distance washer 9 mm 5 Nut 5/8"	3780 4007 90 3780 3100 40 3780 2675 00 3780 2710 60 3780 2721 50 3780 2726 70
LSV27 S021 180 mm fiber disc	<b>KIT</b> Includes 1 Chamber 2 Suction cap 180 mm with brush 3 Backing pad 6 Distance washer 12 mm 5 Nut 5/8"	3780 4031 60 3780 6101 50 3780 2675 00 3780 2710 60 3780 2721 60 3780 2726 70
LSV38 S066D 180 mm fiber disc	<b>KIT</b> Includes 1 Chamber 2 Suction cap 180 mm with brush 3 Backing pad 180 mm 5 Nut 5/8" 6 Distance washer 14 mm	3780 4008 83 4175 0888 02 3780 2675 00 3780 2710 60 3780 2726 70 3780 2721 61
LSV38 S085D 125 mm fiber disc	<b>KIT</b> Includes 1 Chamber 2 Suction cap 125 mm with brush 3 Backing pad 125 mm 5 Nut 5/8" 6 Distance washer 14 mm	3780 4008 82 4175 0888 02 3780 2650 20 3780 2710 30 3780 2726 70 3780 2721 61
GTG40 S060 180 mm fiber disc	<b>KIT</b> Includes 1 Chamber 2 Suction cap 180 mm with brush 3 Backing pad 180 mm 4 Distance washer 3 mm 5 Flange nut 5/8"	3780 4090 10 3780 3180 10 3780 2675 30 3780 2710 30 3780 2721 30 3780 2722 00
Hose kits including 1.8 m vacuum hose, Ø 38 mm and air hose Ø 13 mm (Ø 10 mm for LSV27)	LSV27 LSV38, GTG40	3780 2724 40 3780 2724 41
Brush for suction cap		3780 2678 00
Separate brush for cap Ø 125 mm		3780 2677 50
Separate brush for cap Ø 180 mm		3780 2677 30
Separate brush (30 mm high) for cap Ø 180 mm		3780 2677 30

# ROUTERS

Pattern fixture cutting of composite in the aerospace industry as well as trimming of composite materials is preferably done with a router. The LSK37 is the only router with dust extraction and support bearing integrated into one unit. This gives the LSK37 excellent performance and ergonomics in most composite applications.

- Productivity** – The speed governor maintains the rotational speed at applied feed-force which enables fast and effective cutting and prevents the bit from clogging.
- Ergonomics** – An integrated dust extraction hood for deportation of hazardous dust, thermally isolated throttle handle, sound dampening exhaust valve and piped-away exhaust air provides the operator with the best working environment.



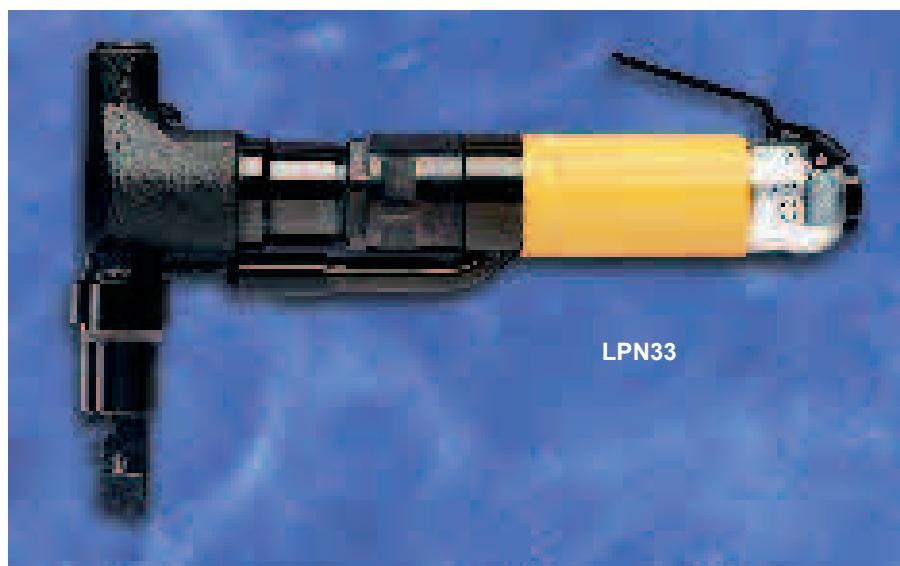
Model	Free speed r/min	Collet size	Power hp	Air consumption cfm	Recommended hose size in	Hose fitting thread	Ordering No.
LSK37 S250-DS1	25000	6 mm	0.95	32	1/2	3/8	8423 1234 41
LSK37 S250-DS2	25000	1/4"	0.95	32	1/2	3/8	8423 1234 42

Suction requirement: 200 m<sup>3</sup>/h.

# NIBBLER

The Atlas Copco LPN33 nibbler can cut iron sheet up to 2 mm in thickness and aluminium sheet in thicknesses up to 2.5 mm.

- Sturdy design** – To ensure optimal tool life, the cutter and die insert are made of tungsten carbide and the other parts of the nibbler head of high-grade steel.
- Good accessibility** – The cutter works in upward direction reducing the risk of die failure. The die insert has cutting edges all round and can be rotated through 360° before being worn out.
- Piped-away exhaust air** – Some of the exhaust air is conducted through the nibbler head so as to blow out the chips and cool the cutter.



Model	Nibbler cutting speed 0.1" sheet ft/min	Max sheet thickness mm			Length in	Weight lb	Hose size dimension in	Hose fitting thread	Ordering No.
		Steel	Stain-less	Alumin-ium					
LPN33	5.2	2.0	1.0	2.5	10.6	4.6	3/8	1/4	8424 0301 07*

\* Available directly from stock.

## ACCESSORIES INCLUDED

Hexagon wrench

Hose fitting for 3/8" air hose

# CIRCULAR CUTTERS

Cutting operations in glass and carbon fiber as well as metal sheet, wood and steel can successfully be performed with a circular cutter.

- **Effective** – LCS10 and 37 cut to a depth of 10 and 26 mm respectively.
- **LCS37** is suitable for diamond coated blades only.
- **Dust extraction** – Cutting of composite materials generates dust containing particles hazardous to health. The dust must be deported in order to prevent the operator from inhaling them.

LCS37 is equipped with a cutter blade guard with integrated dust extraction hood for external vacuum source.



Model	Free speed r/min	Max cutting depth in	Max cutter blade dia in	Weight lb	Hose size in	Air consumption cfm	Hose fitting thread	Ordering No.
<b>Circular cutters</b>								
LCS10	3000	3/8	2	3.1	1/4	16	1/4	8424 1161 38*
LCS37 S150D <sup>a</sup>	15000	1	4	3.5	1/2	38	1/2	8424 1125 05*

<sup>a</sup> Suction requirement: 200 m<sup>3</sup>/h.

\* Available directly from stock.

## OPTIONAL ACCESSORIES – Cutter blades

Model	Application	Max thickness of material mm	No. of teeth mm	Dia in	Hole in	Ordering No.
LCS10	Steel sheet	1.0	92	2	0.4	4190 0394 00
	Steel sheet	1.0	62	2	0.4	4190 0395 00 (std)
	Aluminium	2.5	34	2	0.4	4190 0396 00
	Wood	10.0	34	2	0.4	4190 0396 00
LCS37	Glassfiber	25.0	44/60 (Grain)	3	0.5	3780 5073 00
	Glassfiber	25.0	44/60 (Grain)	4	0.5	3780 5074 00

## OPTIONAL ACCESSORIES

Model	Ordering No.
Suction hose set (L= 5.9 in, Dia 1 1/4") for LCS37	3780 2724 31
Bladeguard for LCS10	4150 1964 00

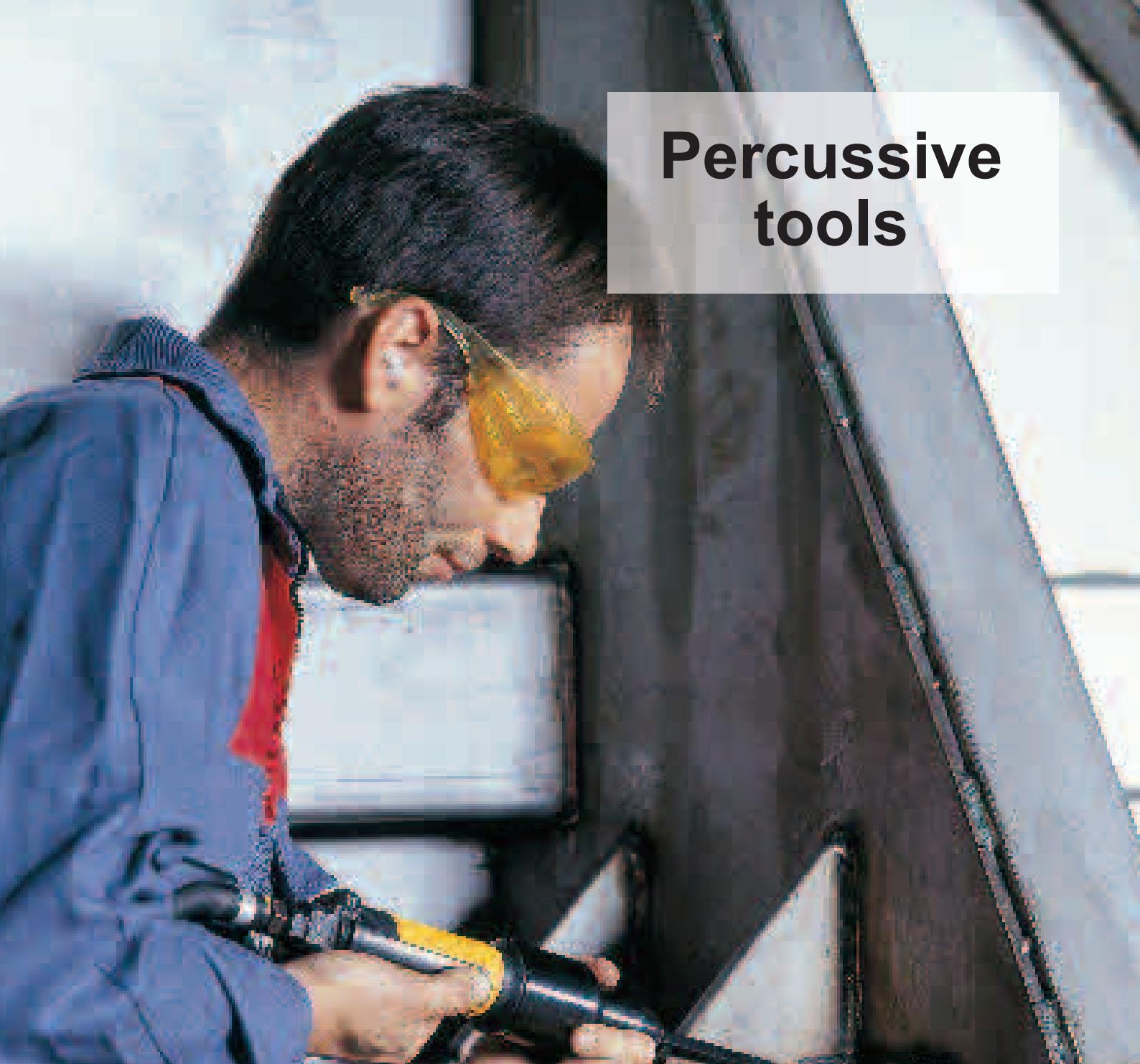
## ACCESSORIES INCLUDED

### LCS10

Cutter blade, 62 teeth  
Hexagon wrench  
Hose nipple for 1/4" air hose

### LCS37

Flanges for diamond blade  
Hose nipple for 1/2" air hose



# Percussive tools

## Choose Atlas Copco and you've cracked it!

Chipping hammers, riveting hammers, rammers, scalers and bucking bars – our percussive tools make light of the toughest jobs. The vibration-damped Ergoline range includes sophisticated ergonomic features designed to minimize operator fatigue.

### Contents

Rules for safer operation .....	168
Chipping hammers – vibration-damped and silenced .....	169

### Page

Chipping hammers .....	170
Scaler – vibration-controlled .....	171
Chipping hammers/scalers .....	172
Needle scaler .....	173
Rust and weld scalers .....	174
Riveting system .....	175
Riveting hammers – vibration-damped .....	176
Bucking bars – vibration-damped .....	178
Riveting hammers – conventional type .....	180
Chisels .....	181
Rammers .....	184

# RULES FOR SAFER OPERATION

**IMPORTANT:** All local safety regulations with respect to installation, operation and overhaul must always be followed.

## AVOID ACCIDENTS

- 1** The chisel, die or punch may fall out or may be shot out of the tool accidentally causing serious injury.



To prevent injury from a flying chisel:

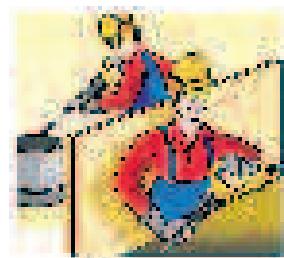
- Always use a retainer.
- Inspect the retainer for wear or damage regularly.

## AND



- Be aware that the chisel may break during operation.
- Never trigger a hammer unless held against a work piece.
- Remove chisel, die or punch from tool when work is over.
- When finishing a job, disconnect the tool from its air supply.
- Before changing accessories, chisel or die – disconnect the tool from the air supply.

- 2** Chips and sparks shall be prevented from striking an eye or another operator.



To prevent vision loss:

- Always wear eye protection.
- Isolate work of this kind by using barriers between work stations.
- Do not use the tool for other purposes than it is intended for.

- 3** Gloves protect fingers from pinching, scuffing and scraping.

- Protective shoes may prevent your feet from being injured.

- 4** Explosive atmosphere must not be ignited.



To prevent injury and property loss from fires:

- Use other techniques.
- Use accessories of non sparking material (e.g. needle attachment of Beryllium copper for a needle scaler).

- 5** Electric shock may be fatal.

- Avoid chiseling into electric wiring hidden inside walls etc.

## LONG TERM RISKS

- 6** Always use ear protection.



To prevent gradual loss of hearing due to exposure to high noise level – wear ear protection.

- 7** Vibration may be harmful to hands and arms.



- Use vibration damped tools if available.
- Reduce the total time of exposure to vibrations, particularly if the operator has to guide the chisel by hand.

- 8** Dust generated during operation may be harmful.

- Use spot suction or a breathing apparatus.

## PROPER USE AND MAINTENANCE.

- 9** Do not perform idle blows with a hammer.



- They will cause high internal stresses and shorten the life of the tool.
- Note the risk of shooting out the chisel, die or punch if the retainer is not in order or damaged.

- 10** Quick coupling.



- If a coupling is used on a percussive tool, it shall be separated from the tool by a whip hose (length 0.5 m).

- 11** Follow the tool manual and the lubrication instructions.

- 12** Make preventative maintenance overhauls at regular intervals.

# CHIPPING HAMMERS

## Vibration-dampened and silenced

### Tough on the job – easy on you

Choose the tools that give the best results in the toughest working conditions, yet are easy on the operator. These are effective, reliable tools for fettling of castings, chipping operations in the mechanical industry, hole making and light demolition of concrete.

- **RRF21/31** have a sturdy D-handle cast from a light metal alloy for a high power-to-weight ratio and steady grip. The compact, vibration-controlled ( $2.5 \text{ m/s}^2$ ) design offers good accessibility and ease of use.
- **RRD37/57** are light, quiet and have a long service life. They have light alloy tool casings, very low vibration (below  $2.5 \text{ m/s}^2$ ) and noise levels, vibration damped in both hand grips, and piped away exhaust.



Model	Blows Hz	Piston dia		Stroke		Energy per blow J ft lb	Length in	Weight kg lb	Bushing mm in	Air consumption l/s cfm		Hose size mm in	Air inlet NPT	Ordering No.				
		mm	in	mm	in					l/s	cfm							
<b>Chipping hammers vibration damped</b>																		
RRF21-04	57	18	0.7	33	1.3	2.0	1.5	9.6	1.75	3.3	10.2 <sup>c</sup>	0.40	6.5	13.8	10.0	3/8	3/8	8425 1104 09*
RRF31-04	38	22	0.9	43	1.7	4.4	3.2	10.4	2.5	5.3	12.7 <sup>d</sup>	0.50	7.5	15.9	10.0	3/8	3/8	8425 1104 19*
RRD37-11	35	27/19 <sup>a</sup>	1.1/0.8	70	2.8	6.8	5.0	16.5	3.0	6.6	17.3 <sup>e</sup>	0.68	7.2	15.3	12.5	1/2	special <sup>f</sup>	8425 1101 22*
RRD37-12	35	27/19 <sup>a</sup>	1.1/0.8	70	2.8	6.8	5.0	16.5	3.0	6.6	17.3 <sup>e</sup>	0.68	7.2	15.3	12.5	1/2	special <sup>f</sup>	8425 1101 30*
RRD57-11	31	28/18 <sup>b</sup>	1.1/0.8	92	3.6	9.3	6.9	18.0	3.4	7.5	17.3 <sup>e</sup>	0.68	9.5	20.1	12.5	1/2	special <sup>f</sup>	8425 1103 20*
RRD57-12	31	28/18 <sup>b</sup>	1.1/0.8	92	3.6	9.3	6.9	18.0	3.4	7.5	17.3 <sup>e</sup>	0.68	9.5	20.1	12.5	1/2	special <sup>f</sup>	8425 1103 38*

<sup>a</sup> Effective piston dia 19 mm, 0.75 in.

-11: Guided models, -04 and -12: Non guided models.

\* Available directly from stock.

<sup>b</sup> Effective piston dia 21.5 mm, 0.85 in.

<sup>c</sup> For 0.4 in parker taper shank.

<sup>d</sup> For 0.5 in parker taper shank.

<sup>e</sup> Spline.

<sup>f</sup> Integrated hose barb.

### Power regulator

Model	Ordering No.
RRF21 and -31	3512 0273 80

### Quick change retainer

Model	Ordering No.
RRF21	3512 0347 00
RRF31	3512 0344 00

### DIMENSIONS (in)

Model	L	H	D
RRF21	9.7	6.3	1.3
RRF31	10.4	6.7	1.4
RRD37	16.5	6.9	—
RRD57	18.0	7.5	—

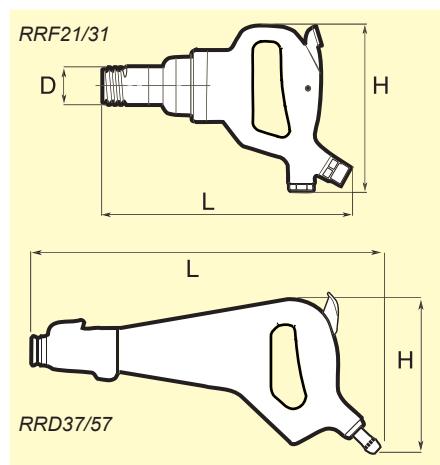
### Retainer, open type

Model	Ordering No.
RRF21	3512 0290 90
RRF31	3512 0305 90

### RRD37, RRD57

The RRD37 and RRD57 can be equipped with spot suction.

Equipment for spot suction	Ordering No.
Suction cap	3510 0477 80
Hose cap	3510 0536 00
Suction hose Ø 40 mm, length 15 m	3780 1602 02



### ACCESSORIES INCLUDED

RRF models Chisel retainer

RRD models Flat chisel

    Silencer complete

    Hand grip

    Key

### OPTIONAL ACCESSORIES

A selection of chisels

RRD37/57 ISO with splines

For a wide choice of chisels, see page 181.

# CHIPPING HAMMERS

Atlas Copco RRC chipping hammers are used mainly in foundries, in heavy industry and for hole-making and light demolition in the building industry.

- **Dependable** – Their robust construction makes them highly dependable.
- **Efficient** – RRC65 and RRC75 have a blow rate which makes them particularly suitable for surface roughening.
- **Chisel retainer** – For safer jobs – RRC22-RRC75 are delivered with a chisel retainer as standard. For the same reason you should choose a tool that can be guided via the machine itself and not by holding the chisel.

As standard, Atlas Copco chipping hammers of series RRC are delivered with bushings as follows:

## RRC22

- 01, guided ISO 0.5 in hex, round collar
- 02, non guided ISO 0.5 in round, round collar

## RRC34/65/75

- 01/-05, guided 0.68 in hex, oval collar
- 02/-04, non guided 0.68 in round, oval collar



Model	Blows Hz	Piston dia		Stroke		Energy per blow		Length in	Weight kg lb	Bushing		Air consumption l/s cfm		Hose size mm in		Air inlet NPT	Ordering No.
		mm	in	mm	in	J	ft lb			mm	in	l/s	cfm	mm	in		
<b>Chipping hammers including chisel retainer</b>																	
RRC22F-01	62	15	0.6	52	2.0	2.7	2.0	10.2	2.2	4.9	12.7	0.50	6.2	13.1	10	3/8	8425 0202 22*
RRC22F-02	62	15	0.6	52	2.0	2.7	2.0	10.2	2.2	4.9	12.7	0.50	6.2	13.1	10	3/8	8425 0202 30
RRC34B-04	45	24	0.9	67	2.6	5.5	4.1	13.0	4.5	9.9	17.3	0.68	8.0	14.0	12.5	1/2	8425 0212 55*
RRC34B-05	45	24	0.9	67	2.6	5.5	4.1	13.0	4.5	9.9	17.3	0.68	8.0	17.0	12.5	1/2	8425 0212 63*
RRC65B-01	40	29	1.1	50	2.0	10.0	7.3	13.2	5.9	13.0	17.3	0.68	10.8	22.9	12.5	1/2	8425 0225 33*
RRC65B-02	40	29	1.1	50	2.0	10.0	7.3	13.2	5.9	13.0	17.3	0.68	10.8	22.9	12.5	1/2	8425 0225 41*
RRC75B-01	30	29	1.1	75	3.0	16.0	11.8	15.4	6.5	14.3	17.3	0.68	14.0	29.6	12.5	1/2	8425 0225 58*
RRC75B-02	30	29	1.1	75	3.0	16.0	11.8	15.4	6.5	14.3	17.3	0.68	14.0	29.6	12.5	1/2	8425 0225 66*

\* Available directly from stock.

## ACCESSORIES INCLUDED

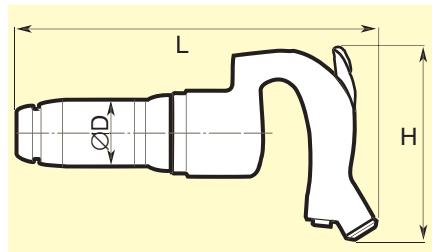
RRC22F  
RRC34B  
RRC65B  
RRC75B } Chisel retainer

## OPTIONAL ACCESSORIES

Quick change retainer, oval or round collar 0.68 shank, Ordering No. 3512 0342 00  
A selection of chisels fitting -01, -02 type, see page 181.

## DIMENSIONS (in)

Model	L	H	D
RRC22	10.2	6.1	1.3
RRC34	13.0	6.3	1.7
RRC65	13.2	6.7	2.1
RRC75	15.4	6.7	2.1



# SCALER

## Vibration-controlled

Scaler RVM07B is ideal for tasks such as weld dressing, etc.

- **Vibration-dampened with low-noise level** – below 2.5 m/s<sup>2</sup>.
- **Two-job capacity** – RVM07B features a clean-blowing device (B) which is very useful for clearing stock work on steel structures etc.
- **RVM07B** is the obvious choice for light concrete trimming and for removal of paint and rust.

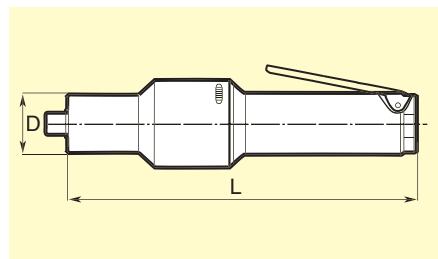


Model	Blows Hz	Length in	Weight		Air consumption		Hose size		Air inlet NPT	Ordering No.
			kg	lb	l/s	cfm	mm	in		
<b>Scaler</b>										
RVM07B	100	10.7	1.9	3.8	3.8	8.1	6.3	1/4	1/4	8425 0105 30*

\* Available directly from stock.

### DIMENSIONS (in)

Model	L	D
RVM07B	10.7	1.5



### ACCESSORIES INCLUDED

Flat carbide tipped chisel 10x120 mm

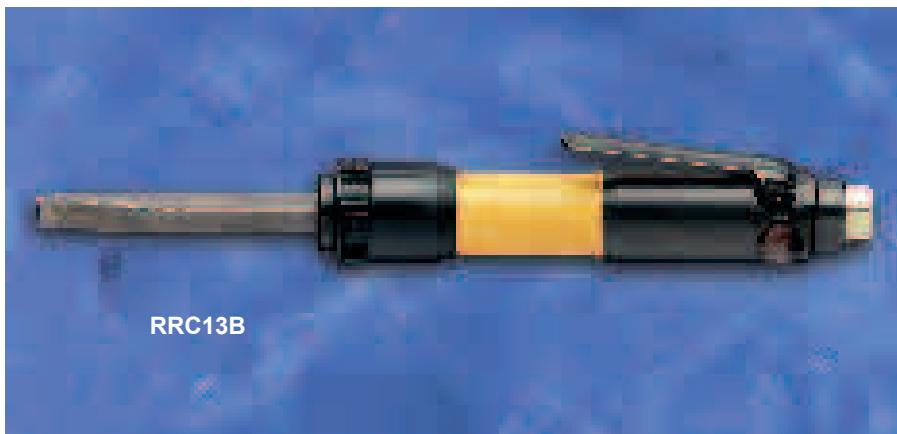
### OPTIONAL ACCESSORIES

Carbide tipped chisels and through hardened chisels with other length and width.  
See page 181.

# CHIPPING HAMMERS / SCALERS

The RRC13B is a robust scaler for heavy slag chipping and for instant trimming of concrete.

- **High removal rate** – RRC13B is very effective and has a high removal rate in relation to its low weight.
- **Well proven** percussive mechanism and retainer.
- **Two-job capacity** – RRC13B with extra clean-blowing device.
- **Improved back head** – Throttle valve and lever with really Heavy Duty performance for long service life. Clean blowing system with twice the previous blow capacity. Large button for easy operation and sturdy valve stem to resist rough handling.

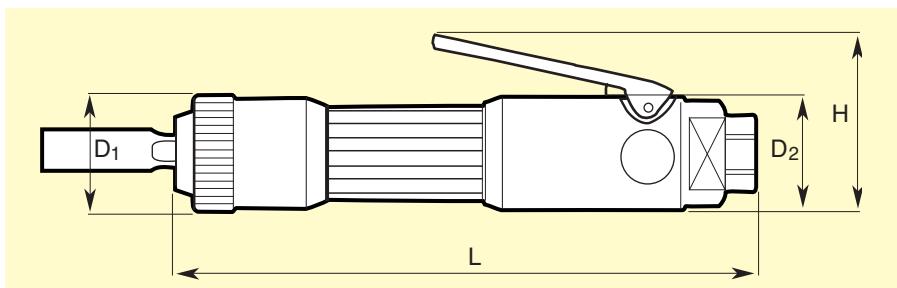


Model	Blows Hz	Piston dia		Stroke		Energy per blow J ft lb	Length in	Weight kg lb	Air consumption l/s cfm		Hose size mm in	Air inlet NPT	Ordering No.
		mm	in	mm	in				l/s	cfm			
<b>Scaler</b>													
RRC13B	73	15	0.6	35	1.4	1.4	1.0	9.1	1.6	3.5	4.0	8.0	10 3/8 3/8 8425 0101 34*

\* Available directly from stock.

## DIMENSIONS (in)

Model	L	H	D <sub>1</sub>	D <sub>2</sub>
RRC13B	9.1	2.6	1.8	1.6



## ACCESSORIES INCLUDED

Scaling chisel

## OPTIONAL ACCESSORIES

RRC13B	Ordering No.
Hand guard	3510 0246 90
All steel retainer	3510 0245 80
Silencer	3510 0366 80

Chisels for RRC13B  
Square shank 0.5 in with round end.

For a wide choice of chisels,  
see page 181.

# NEEDLE SCALER

The effective needle scaler, type RRC13N, is based on the same fundamental design as the straight chipping hammers of type RRC13 described before.

- **Sturdy design** – Easy to maintain.
- **Versatile** – The needle scaler is used to remove welding slag, rust and paint from steel structures.

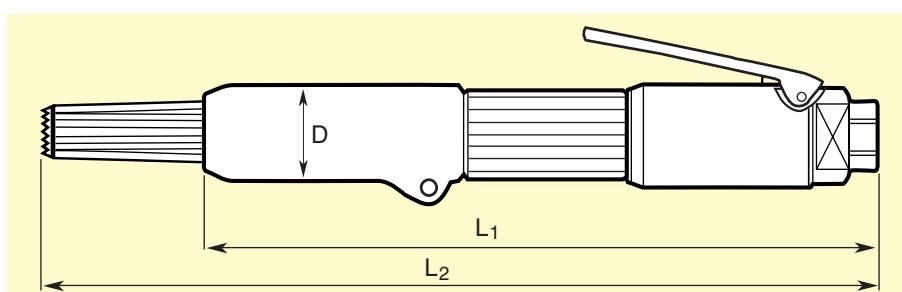


Model	Blows Hz	Piston dia		Stroke		Energy per blow		Length in	Weight		Air consumption		Hose size		Air inlet NPT	Ordering No.
		mm	in	mm	in	J	ft lb		kg	lb	l/s	cfm	mm	in		
<b>Scaler</b>																
RRC13N	73	15	0.6	35	1.4	1.4	1.0	11.1	1.9	4.2	4.0	8.0	10	3/8	3/8	8425 0101 36*

\* Available directly from stock.

## DIMENSIONS (in)

Model	L <sub>1</sub>	L <sub>2</sub>	D
RRC13N	11.1	13.9	1.5



## ACCESSORIES INCLUDED

Needle set (steel)

## OPTIONAL ACCESSORIES

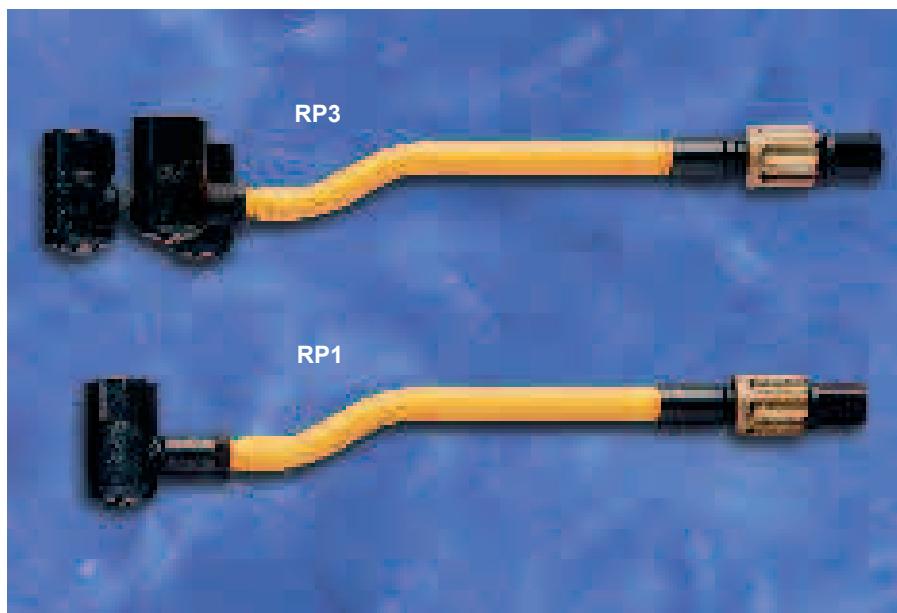
Needle-set of 19 needles, length 100 mm

Material	Ordering No.
Steel, standard	3510 0221 90
Steel flat ends	3510 0227 90
Stainless steel flat ends	3510 0228 90
Beryllium copper flat ends (spark resistant)	3510 0229 90

# RUST AND WELD SCALERS

The RP rust and weld scaler is designed for removal of rust, paint and other coating from steel structures, steam boilers etc.

- **Easy to maintain** – The 4-point bit, with cemented carbide insert, is replaceable.
- **Two models for flexible work** – The rust and weld scaler is available in versions with 1 impact head (RP1) and with 3 impact pistons (RP3).

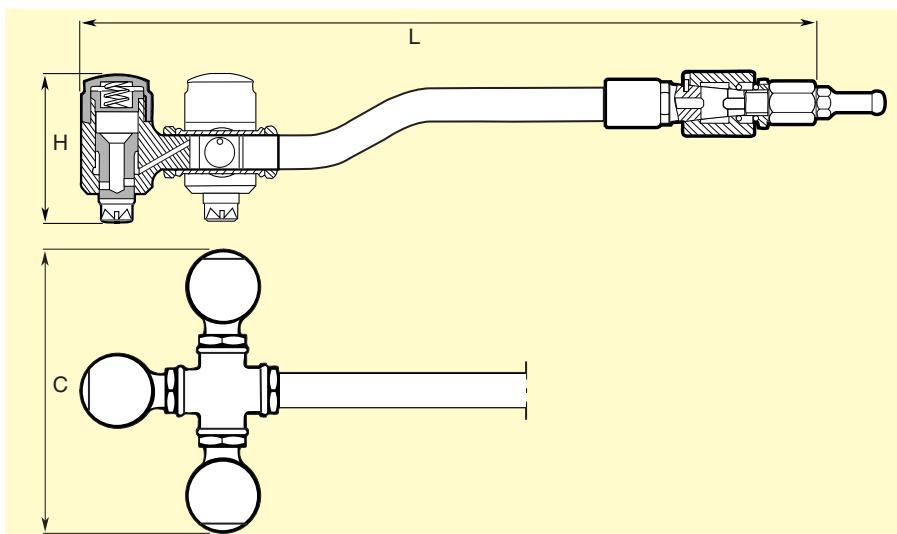


Model	Blows Hz	Length in	Weight		Air consumption		Hose size		Air inlet NPT	Ordering No.
			kg	lb	l/s	cfm	mm	in		
<b>Scalers</b>										
RP1	69	19.1	2.0	4.4	3.2	6.8	10	3/8	3/8	8425 0301 06*
RP3	69	20.3	3.9	8.6	9.6	20.3	10	3/8	3/8	8425 0301 14*

\* Available directly from stock.

## DIMENSIONS (in)

Model	L	H	C
RP1	19.1	3.1	–
RP3	20.3	3.1	7.1



## ACCESSORIES INCLUDED

Four-point carbide bit, length 55 mm

## OPTIONAL ACCESSORIES

RP1 and RP3	Ordering No.
Vibration-dampened support handle	3550 0079 80



## How to find a suitable hammer and bucking bar

The Atlas Copco riveting system includes vibration-dampened hammers RRH and bucking bars RBB – as well as conventional riveting hammers RRN.

The vibration-dampened riveting hammers – RRH – are available in different sizes, RRH04P, RRH06P, RRH08P, RRH10P and RRH12P.

Each size is available in "Trigger start" and "Push to start" models.

The conventional riveting hammer – RRN – is available in one size: RRN11P.

The number of blows and the power are critical factors which determine the strength of a riveted joint. A few powerful blows

are needed to fill out the hole and form a head when upsetting the rivet. The impact force is critical to some extent when working with aluminium alloys, as too many blows can embrittle the metal.

In terms of capacity, the tools overlap. The table on page 177 helps you to find the right tool for your particular application of riveting.

The vibration-dampened bucking bars RBB are available in two versions – the simple spring dampened – SP type and the air servo assisted SA type. There are three sizes RBB04, RBB10 and RBB16.

# RIVETING HAMMERS

## Vibration-dampened

**RRH** is a unique series of riveting hammers incorporating completely revolutionary ergonomic advantages.

- **Versatile** – RRH can easily cope with rivets in diameters up to 12 mm.
- **Vibration-dampened system** – A RRH vibration-dampened riveting hammer, combined with an RBB vibration-dampened bucking bar, offer an unbeatable system for riveting.
- **Adjustable power**.
- **Adjustable hand guard** – Support hand grip is vibration-dampened.
- **New models with trigger start for excellent handling. Pistol grip with rubber coating.**



Model	Blows Hz	Nozzle		Piston dia		Stroke		Energy per blow		Weight		Air consumption		Hose size		Air inlet NPT	Ordering No.
		mm	in	mm	in	mm	in	J	ft lb	kg	lb	l/s	cfm	mm	in		
<b>Riveting hammers with push start</b>																	
RRH04P-01	66	10.0	0.4	15	0.6	40	1.6	2.0	1.5	1.0	2.2	3.7	6	6.3	1/4	1/4	8426 1109 07*
RRH04P-02	66	10.2	0.4	15	0.6	40	1.6	2.0	1.5	1.0	2.2	3.7	6	6.3	1/4	1/4	8426 1109 15*
RRH04P-12	66	10.2	0.4	15	0.6	40	1.6	2.0	1.5	1.0	2.2	3.7	6	6.3	1/4	1/4	8426 1109 25
RRH06P	36	10.2	0.4	15	0.6	102	4.0	6.0	4.4	1.3	2.9	9.0	19	10.0	3/8	1/4	8426 1110 04*
RRH08P	24	10.2	0.4	15	0.6	137	5.4	8.0	5.9	1.4	3.0	10.0	21	10.0	3/8	1/4	8426 1110 09
RRH10P	25	12.7	0.5	19	0.7	118	4.6	13.0	9.6	2.0	4.4	12.0	24	10.0	3/8	1/4	8426 1110 20*
RRH12P	20	12.7	0.5	19	0.7	153	6.0	16.0	11.8	2.1	4.6	13.0	28	10.0	3/8	1/4	8426 1110 47*
<b>Riveting hammers with trigger start</b>																	
RRH04P TS-12	66	10.2	0.4	15	0.6	40	1.6	2.0	1.5	1.0	2.2	3.7	6	6.3	1/4	1/4	8426 1109 27*
RRH06P TS	36	10.2	0.4	15	0.6	102	4.0	6.0	4.4	1.3	2.9	9.0	19	10.0	3/8	1/4	8426 1110 66*
RRH08P TS	24	10.2	0.4	15	0.6	137	5.4	8.0	5.9	1.4	3.0	10.0	21	10.0	3/8	1/4	8426 1110 68*
RRH10P TS	25	12.7	0.5	19	0.7	118	4.6	13.0	9.6	2.0	4.4	12.0	24	10.0	3/8	1/4	8426 1110 70*
RRH12P TS	20	12.7	0.5	19	0.7	153	6.0	16.0	11.8	2.1	4.6	13.0	28	10.0	3/8	1/4	8426 1110 72*

-01 means 10 mm short shank rivet set.

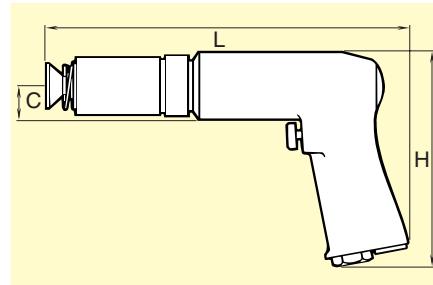
-12 means 10.2 mm stand shank rivet set.

\* Available directly from stock.

-02 means 10.2 mm short shank rivet set.

### DIMENSIONS (in)

Model	L	H	C
RRH04-01	6.3	5.8	0.9
RRH04-02	6.3	5.8	0.9
RRH04-12	6.9	5.8	0.9
RRH06	8.9	5.8	0.94
RRH08P	9.6	5.8	0.94
RRH10P	10.4	5.9	1.06
RRH12P	11.8	5.9	1.06



### Kits for conversion to trigger start operation

Model	Ordering No.
RRH04P-12	3520 0363 80
RRH06/08P	3520 0210 81
RRH10/12P	3520 0364 80

### ACCESSORIES INCLUDED

Flush set  
Open spring retainer

### OPTIONAL ACCESSORIES

Blank and flush rivet sets, see page 177

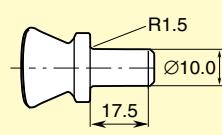
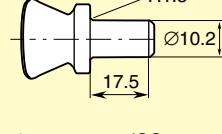
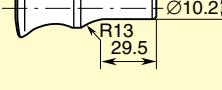
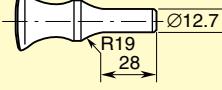
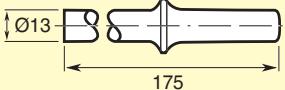
# SELECTION GUIDE

Hammer model <sup>a</sup>	Nominal Max. Rivet Diameter Capacity						Bucking bar model required <sup>b</sup>	
	Dural		Steel		Titanium			
	mm	in	mm	in	mm	in		
RRH04	2- 5	3/32 - 3/16	1- 4	3/21 - 5/32			RBB04 RBB10	
RRN11	2- 5	3/32 - 3/16	1- 4	3/32 - 5/32				
RRH06	4- 7	5/32 - 1/4	3- 6	1/8 - 1/4	2- 4	3/32 - 5/32	RBB10 RBB16	
RRH08	5- 8	3/16 - 5/16	4- 7	5/32 - 1/4	3- 6	1/8 - 1/4	RBB10 RBB16	
RRH10	5- 9	3/16 - 3/8	6- 8	1/4 - 5/16	4- 7	5/32 - 1/4	RBB16	
RRH12	8-11		7-10	1/4 - 3/8	6- 9	1/4 - 1/8	RBB16	

<sup>a</sup> Hammer capacity depends on direct/indirect riveting as well as Panel density and stiffness.

<sup>b</sup> Bucking bar capacity is dependent on dolly weight.

## RIVET SETS. RRH and RRN

Hammer type	Model	Shank mm	Flush set Ordering No.	Blank rivet set Ordering No.
RRH04P-01 RRN11P-01	(-01)	10.0 spec		3085 0347 00
RRH04P-02 RRN11P-02	(-02)	10.2 spec		3085 0352 00
RRH04P-12 RRH06P RRH08P RRN18P RRN24P	(-12)	10.2 std		3085 0324 00
RRH10P/s RRH12P RRN34P		12.7 std		3085 0323 00
RRH04P-12 RRH06P RRH08P		10.2 std	Mandrel blank 	3085 0212 00

# BUCKING BARS

## Vibration-dampened

An efficient riveting system consists of vibration-dampened bucking bars together with vibration-dampened riveting hammers.

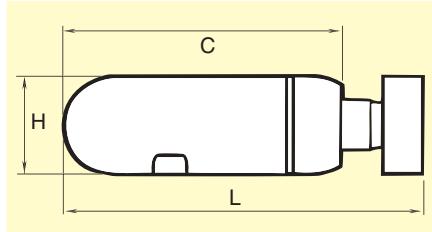
- Self-adjustable** – RBB10SA and RBB16SA feature a self-adjusting dampening system which requires a compressed air supply. RBB04SP, RBB10SP and RBB16SP use a spring as dampening element and consequently do not require an air supply.
- Flexible** – The bucking bars can be fitted with several different interchangeable dolly configurations via a quick change retainer for maximum flexibility.
- Cramped spaces** – Mini bucking bars RBB04SP are ideal for work in confined spaces. The large mass types - 04, -05 will in most applications set the rivet faster than the smaller models.



### DIMENSIONS (in)

Model	L	H	C
RBB10SA/SP	6.5	1.9	5.5
RBB16SA/SP	7.9	1.9	7.8

Dollies other than standard, see page 179.



Model	Weight		Diameter		Air consumption		Ordering No.
	kg	lb	mm	in	l/s	cfm	
<b>Bucking bars with standard dolly<sup>a</sup></b>							
RBB10SA	1.3	2.9	48	2.0	0.5	1.1	8426 9101 77
RBB10SP	1.1	2.4	48	2.0	–	–	8426 9101 74
RBB16SA	1.9	4.2	48	2.0	0.5	1.1	8426 9101 78
RBB16SP	1.7	3.7	48	2.0	–	–	8426 9101 76
<b>Bucking bars without dolly and rod</b>							
RBB10SA-U	1.0	2.2	48	2.0	0.5	1.1	8426 9101 73
RBB10SP-U	0.9	2.0	48	2.0	–	1.1	8426 9101 86
RBB16SA-U	1.7	3.7	48	2.0	0.5	1.1	8426 9101 75
RBB16SP-U	1.5	3.3	48	2.0	–	–	8426 9101 94
<b>Mini bucking bars</b>							
RBB04SP-01	0.8	1.8	46	1.8	–	–	8426 9101 10*
RBB04SP-02	0.8	1.8	46	1.8	–	–	8426 9101 11
RBB04SP-03	0.8	1.8	46	1.8	–	–	8426 9101 12
RBB04SP-04	1.3	2.9	46	1.8	–	–	8426 9101 13*
RBB04SP-05	1.4	3.1	46	1.8	–	–	8426 9101 14

<sup>a</sup> Standard dolly assy (3085 0335 93).

\* Available directly from stock.

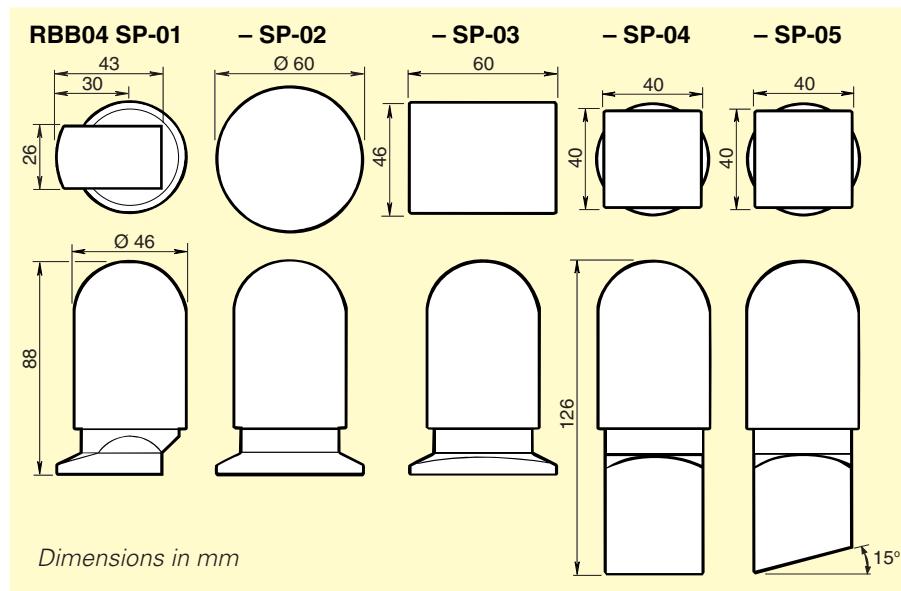
### ACCESSORIES INCLUDED

All SA-models	Hose and hose fitting
All 10/16 models	Plastic cover

### OPTIONAL ACCESSORIES

Designation	Ordering No.
Rod 5 mm	3085 0365 03
Rod 50 mm	3085 0365 04
Rod 100 mm	3085 0365 05
<b>Plastic cover for</b>	
RBB10SA	3520 0317 00
RBB10SP	3520 0315 00
RBB16SA	3520 0318 00
RBB16SP	3520 0316 00

Dollies other than standard, see page 179.



# ACCESSORIES

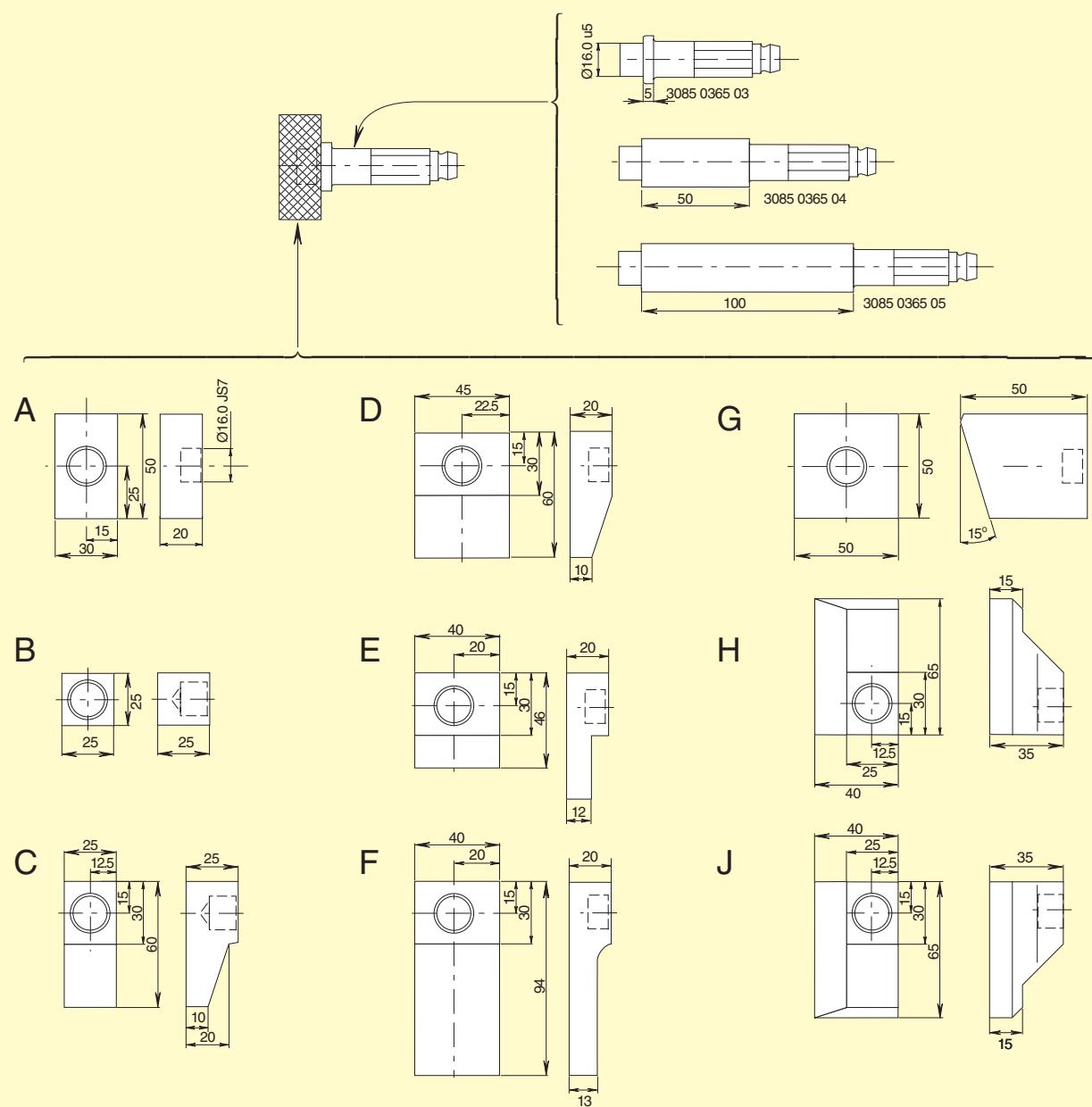
## Dollies for RBB10 and RBB16, all models

Dolly type	Weight		Ordering No. With rod 5 mm	Weight		Ordering No. With rod 50 mm	Weight		Ordering No. With rod 100 mm
	kg	lb		kg	lb		kg	lb	
A	0.37	0.8	3085 0335 93 <sup>a</sup>	0.47	1.0	3085 0335 94	0.67	1.5	3085 0335 95
B	0.25	0.55	3085 0363 93	0.35	0.8	3085 0363 94	0.55	1.3	3085 0363 95
C	0.36	0.8	3085 0364 93	0.46	1.0	3085 0364 94	0.66	1.5	3085 0364 95
D	0.43	0.9	3085 0337 93	0.53	1.2	3085 0337 94	0.73	1.6	3085 0337 95
E	0.35	0.8	3085 0339 93	0.45	1.0	3085 0339 94	0.65	1.5	3085 0339 95
F	0.57	1.3	3085 0336 93	0.67	1.5	3085 0336 94	0.87	1.9	3085 0336 95
G	1.00	2.2	3085 0338 93	1.10	2.4	3085 0338 94	1.30	2.9	3085 0338 95
H	0.62	1.4	3085 0340 93	0.72	1.6	3085 0340 94	0.92	2.0	3085 0340 95
J	0.62	1.4	3085 0341 93	0.72	1.6	3085 0341 94	0.92	2.0	3085 0341 95

<sup>a</sup> Standard dolly assy.

Other than Atlas Copco's, dollies can also be used and press fitted onto a rod. Please see rod (i.e. hole) specification in the below drawing. Custom design dollies are recommended to be manufactured locally and fitted on to Atlas Copco rods.

## DIMENSIONAL DRAWING of dollies available



# RIVETING HAMMERS

## Conventional type

For riveting in confined spaces we recommend our RRN11 riveting hammer.

- **RRN11** – The smallest riveting hammer available on the market, with unique accessibility.
- **Adjustable** – The RRN11 has a built-in adjustment knob with which you can set the power for different rivet materials and sizes.
- **Controllable** – The trigger is easily operated and provides excellent control.



Model	Blows Hz	Nozzle		Piston dia		Stroke		Energy per blow		Weight		Air consumption		Hose size		Air inlet NPT	Ordering No.
		mm	in	mm	in	mm	in	J	ft lb	kg	lb	l/s	cfm	mm	in		
<b>Riveting hammers</b>																	
RRN11P-01	66	10.0	0.4	15	0.6	40	1.6	2.0	1.5	1.2	2.6	3.4	7.2	6.3	1/4	1/8	8426 1101 05*
RRN11P-02	66	10.2	0.4	15	0.6	40	1.6	2.0	1.5	1.2	2.6	3.4	7.2	6.3	1/4	1/8	8426 1101 13*

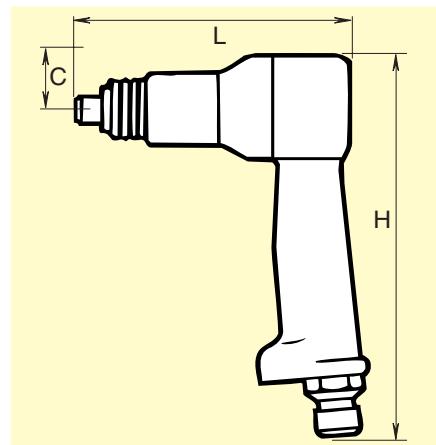
-01 means 10 mm short shank rivet set.

\* Available directly from stock.

-02 means 10.2 mm short shank rivet set.

### DIMENSIONS (in)

Model	L	H	C
RRN11P	3.9	6.7	0.9



### ACCESSORIES INCLUDED

- RRN11P  
Blank rivet set  
Retainers for blank and flush rivet set

### OPTIONAL ACCESSORIES

Blank and flush rivet sets, see page 177

# CHISELS



**Chisels for Chipping Hammers.** All chisels are normally through hardened. Otherwise, see tables

Figure	Shank type	Tools	Table
	Square shank 1/2 in/13.0 mm	RRC13, RRC13B (ordered up to year 2000 included)	1
	Extended square shank ISO, 12.7 mm	RRC15	1
	Square shank 1/2 in, round end	RRC13B (ordered from year 2001)	1
	Hexagon and round shank ISO, round collar 1/2 in/12.7 mm	RRC22F-01, RRC22F-02 RRF21, RRF31-01/-02	2
	Hexagon shank ISO, round collar 0.68 in/17.3 mm	RRC34B-01, RRC65B-01, RRC75B-01	3
	Round shank ISO, with splines 0.68 in/17.3 mm	RRD37, RRD57	3
	Hexagon shank ISO, without round collar 0.68 in/17.3 mm	RRC34-01, RRC65-01, RRC75-01	4
	Round shank ISO, without collar 0.68 in/17.3 mm	RRC34-02, RRC65-02, RRC75-02	4
	Special shank	RVM07B	5
	Parker Taper 0.401 in and 0.498 in*	RRF21/31-04	—
	Oval collar 0.68 in, hex and round*	RRC34/65/75	—

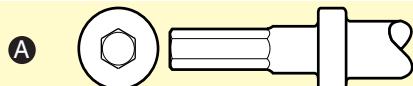
\* NOTE: Not stocked by Atlas Copco

**1A. Chisels with square shank 13.0 mm 1B. Chisels with square shank ISO 12.7 mm 1C. Square shank 1/2 in round end**

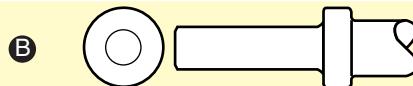


Chisel type	Designation	Width		Length		Square 13 mm (1/2") Ordering No.	ISO Extended square 12.7 mm (1/2") Ordering No.	1/2 in square with round end Ordering No.
		mm	in	mm	in			
	Chisel blank	15	0.59	155	6.1	3085 0020 00	3085 0228 02	3512 0113 00
		15	0.59	178	7.0			
		15	0.59	200	7.9	3085 0020 01		
		15	0.59	300	11.8	3085 0020 02		
	Flat chisel	15	0.59	110	4.3	3085 0227 00	3085 0230 01	3512 0114 00
		15	0.59	165	6.1			3512 0070 00
		15	0.59	185	7.3			
		15	0.59	200	7.9	3085 0227 01		
	Wide flat chisel	35	1.38	165	6.5	3085 0032 00	3085 0232 01	3512 0115 00
		35	1.40	178	7.0			
		35	1.38	200	7.9	3085 0032 01		
		35	1.38	300	11.8	3085 0032 02		
		55	2.17	165	6.5	3085 0332 00		
	Angle scraper chisel	35	1.38	165	6.5	3085 0176 00	3085 0362 00	
		35	1.38	200	7.9	3085 0176 01		
		55	2.17	165	6.5	3085 0333 00		
	Scaling chisel	15	0.59	155	6.1	3085 0018 00	3085 0229 01	
		15	0.59	200	7.9	3085 0018 02		
		15	0.59	300	11.8	3085 0018 01		

**2A. Chisels with hexagon shank ISO, round collar 12.7 mm**

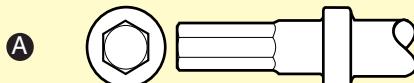


**2B. Chisels with round shank ISO, round collar 12.7 mm**

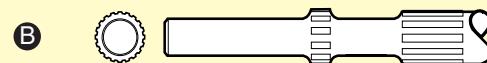


Chisel type	Designation	Width		Length		Hex ISO 12.7 mm (1/2") Ordering No.	Round ISO 12.7 mm (1/2") Ordering No.
		mm	in	mm	in		
	Chisel blank	13	0.51	200	7.9	3085 0182 00	
		13	0.51	350	13.8	3085 0182 01	
		13	0.51	400	15.7	3085 0182 04	
		13	0.51	500	19.7	3085 0182 05	
	Flat chisel	13	0.51	200	7.9	3085 0183 00	3085 0184 00
		35	1.38	300	11.8	3085 0376 00	
	Sharp chisel	15	0.59	200	7.9	3085 0170 00	
		15	0.59	300	11.8	3085 0170 01	
	Spot weld chisel	17	0.69	200	7.9	3085 0301 00	
	Angle scraper chisel	30	1.18	200	7.9	3085 0262 00	
	Pipe cutting chisel	20	0.78	200	7.9	3085 0302 00	
		35	1.38	200	7.9	3085 0303 00	
	Plate cutting chisel	14.5	0.57	200	7.9	3085 0263 00	
	Plate cutting chisel	16	0.62	200	7.9	3085 0173 00	
	Moil point chisel	13	0.51	200	7.9	3085 0297 00	
		13	0.51	305	12.0	3085 0297 01	

### 3A. Chisels with hexagon shank ISO, round collar 17.3 mm

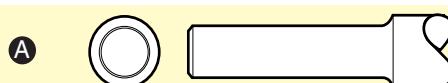


### 3B. Chisels with round ISO shank with splines 17.3 mm

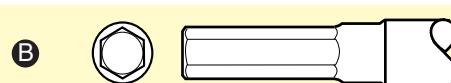


Chisel type	Designation	Width		Length		Hex ISO 17.3 mm (0.68") Ordering No.	Width		Length		Round ISO with splines 17.3 mm (0.68") Ordering No.
		mm	in	mm	in		mm	in	mm	in	
	Chisel blank	22	0.86	335	13.1	3085 0220 00	22	0.86	250	9.8	3085 0242 00
		22	0.86	560	22.0	3085 0220 01	22	0.86	340	13.4	3085 0242 01
		22	0.86	1060	41.7	3085 0220 02	22	0.86	550	21.7	3085 0242 02
							22	0.86	800	31.5	3085 0242 03
	Flat chisel	22	0.86	200	10.2	3085 0221 00	22	0.86	215	8.5	3085 0236 00
		22	0.86	335	13.1	3085 0221 01	22	0.86	250	9.8	3085 0236 01
		22	0.86	560	41.9	3085 0221 02	22	0.86	340	13.4	3085 0236 02
	Flat chisel	32	1.26	335	13.1	3085 0989 00	32	1.26	340	13.4	3085 0252 00
	Wide flat chisel	50	1.97	335	13.1	3085 0235 00	50	1.97	340	13.4	3085 0250 00
	Extra wide flat chisel	130	5.12	400	15.7	3085 0342 00	130	5.12	400	15.7	3085 0998 00
	Angle scraper chisel	50	1.97	335	13.1	3085 0349 00	50	1.97	335	13.2	3085 0350 00
	Moil point chisel	22	0.86	335	13.1	3085 0223 00	22	0.86	340	13.4	3085 0249 00
		22	0.86	560	15.7	3085 0223 01					
	Hollow chisel						33	1.36	340	13.4	3085 0354 00
	Shank rod for roughing head	—	—	180	7.1	3085 0257 00	—	—	195	7.7	3085 0254 00
	Roughing head for shank rod (tungsten carbide)	39	1.53	—	—	3085 0255 00	39	1.53	—	—	3085 0255 00
	Roughing head for shank rod	40	1.57	—	—	3085 0253 00	40	1.57	—	—	3085 0253 00

### 4A. Chisels with ISO shank without collar, round



### 4B. Chisels with ISO shank without collar, hexagon



Chisel type	Designation	Width		Length		Round 17.3 mm (0.68") ISO Ordering No.	Hexagon 17.3 mm (0.68") ISO Ordering No.
		mm	in	mm	in		
	Chisel blank	23	0.91	200	7.9	3085 0150 00	3085 0140 00
		23	0.91	560	22.0		3085 0140 01
	Flat chisel	23	0.91	225	8.9	3085 0225 00	3085 0224 00

## 5. Chisels with special shank



Chisel type	Designation	Material	Width		Length		Ordering No.
			mm	in	mm	in	
	Flat chisel	Tungsten carbide	10	0.39	120	4.7	3085 0321 00
		Through hardened steel	10	0.39	120	4.7	3085 0325 00
		Tungsten carbide	10	0.39	200	7.9	3085 0321 01
		Tungsten carbide	10	0.39	300	11.8	3085 0321 02
		Tungsten carbide	20	0.79	120	4.7	3085 0345 00
		Through hardened steel	20	0.79	120	4.9	3085 0346 00
	Wide chisel	Tungsten carbide	35	1.38	120	4.7	3085 0322 00
		Through hardened steel	35	1.38	120	4.7	3085 0327 00

## RAMMERS

The Atlas Copco dependable and simple floor and bench rammers are intended for ramming of casting sand in cylinders, core boxes, large molds and casting pits, or for stamping work, for instance with filling sand, and stamping of refractory furnace linings.



Model	Blows Hz	Piston dia		Stroke		Length in	Weight kg lb	Air consumption l/s cfm		Hose size mm in	Air inlet thread NPT	Ordering No.
		mm	in	mm	in			l/s	cfm			
<b>Rammers</b>												
RAM06	20	20/10	0.8/0.5	84	3.3	16.3	2.5	5.5	3.0	6.4	6.3 1/4	1/4 8467 0105 29*
RAM12	11	27	1.1	102	4.0	18.9	4.2	9.3	6.0	12.7	12.5 1/2	1/4 8467 0106 51*
RAM20A	12	34	1.3	203	8.0	51.8	10.9	24.0	10.5	22.2	12.5 1/2	special 8467 0108 18*

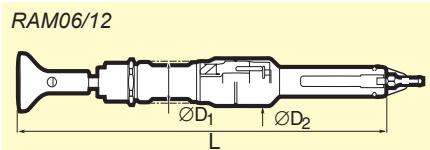
\* Available directly from stock.

### ACCESSORIES INCLUDED

RAM06	Cast iron butt, 60 mm dia
RAM12	Rubber butt, 63 mm dia
RAM20A	Cast iron butt, 75 mm dia, Hose attachment

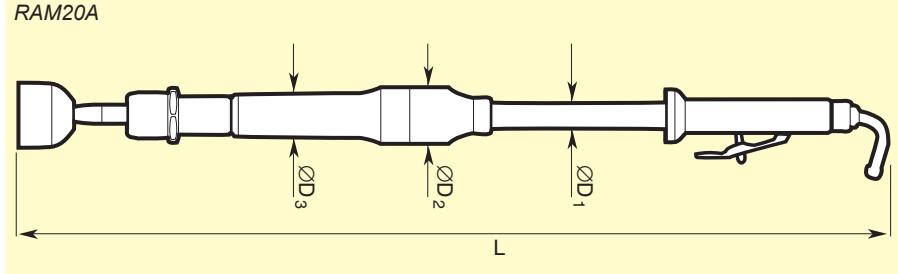
### DIMENSIONS (in)

Model	L	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>
RAM06	16.3	1.5	1.9	—
RAM12	18.9	2.0	2.0	—
RAM20A	51.8	2.2	2.8	1.3



### OPTIONAL ACCESSORIES

Model	Ordering No.
<b>RAM06</b>	
Rubber peen, 18x50 mm	3086 0006 00
Rubber peen, 60 mm dia	3086 0009 00
<b>RAM12</b>	
Rubber peen, 19x61 mm dia	3512 0216 00
<b>RAM20A</b>	
Rubber peen, 75 mm dia	3086 0013 00





# Drills

## Pick up any Atlas Copco drill...

It fits snugly in your hand. The anatomic design of the grip keeps the arm and wrist straight, reducing the risk of injury. The perfect balance of the tool enables you to guide it smoothly and easily. The high power-to-weight ratio means maximum stock removal in the shortest possible time. The chuck guard protects fingers, allowing a two-handed grip and comfortable guiding of the drilling operation.

### Contents

	Page
Selection guide .....	186
Pistol grip drills .....	187
Micro stop drills.....	188
Straight drills.....	189
Angle drills .....	192
Tappers.....	196
Screw-feed drills .....	198

# DRILLS

## Selection guide

The classic wing of the pistol-grip drill was designed more than 30 years ago. Its many ergonomic features still make it outstanding on the market in terms of user benefits.

Wide range of speed alternatives offers the right model for every application.

Rugged and reliable design offers low service and maintenance costs.

The rubber covered housing provides a comfortable soft grip. Prevents the tool from slipping in the hand and it improves the insulation.

The design and angle of the pistol grip keeps the wrist and arm straight due to better precision and less risk of injury.

Chuck guard allowing two-handed grip, as well as protecting fingers and chuck sleeve during drilling operation.

Unique, lubrication-free design for a cleaner working environment.

Easy, sensitive trigger action, with built-in throttling capability, reduces the risk of "trigger finger" symptoms.

Efficient silencing for a quieter working environment.

Exhaust discharge can be aimed away from the operator in any direction, eliminating the risk of airborne chips or dust whirling near the operator's face.

The hose is connected inside the handle which makes it possible to keep the coupling on the floor and to use the tool in cramped spaces. The "Flex connect" is only available to LBB16.

### Choose the right drill for the right material

Model	Drill dimension / mm	Material/cutting speed					
		Mild steel 787-1180 m/min	Alloy steel 197-590 m/min	Cast iron 590-787 m/min	Aluminium and bronze 1968-3150 m/min	Wood and board 3150-5905 m/min	Com- posite 1968-3937 m/min
LBB16 EP/EPX	200	—	—	—	1.0 - 2.0	1.0 - 4.0	1.0 - 4.0
	060	—	—	—	1.0 - 5.0	2.0 - 5.0	2.0 - 5.0
	045	1.0 - 2.5	—	1.0 - 2.0	2.0 - 8.0 <sup>a</sup>	4.0 - 10.0 <sup>a</sup>	4.0 - 10.0 <sup>a</sup>
	033	2.0 - 4.0	1.0 - 1.5	1.5 - 2.5	5.0 - 10.0 <sup>a</sup>	5.0 - 12.0 <sup>a</sup>	5.0 - 12.0 <sup>a</sup>
	024	2.5 - 5.0	1.0 - 2.0	2.0 - 4.0	—	—	—
	010	6.0 - 8.0	1.5 - 5.0	5.0 - 8.0	—	—	—
LBB34	H060	1.0 - 2.0	—	—	2.5 - 5.0	4.0 - 8.0	1.0 - 5.0
	H033	2.0 - 4.0	—	1.5 - 3.0	5.0 - 10.0	8.0 - 13.0 <sup>a</sup>	5.0 - 10.0
	H026	2.5 - 6.0	1.0 - 3.0	2.0 - 4.0	8.0 - 13.0 <sup>a</sup>	8.0 - 13.0 <sup>a</sup>	—
	H013	5.0 - 10.0	1.0 - 5.5	4.0 - 8.0	—	—	—
	H007	8.0 - 13.0	3.0 - 8.0	7.0 - 13.0	—	—	—
LBB36	H060	1.0 - 2.0	—	—	2.5 - 5.0	4.0 - 8.0	1.0 - 5.0
	H033	2.0 - 4.0	—	1.5 - 3.0	5.0 - 10.0	8.0 - 13.0	5.0 - 10.0
	H026	2.5 - 6.0	1.0 - 3.0	2.0 - 4.0	8.0 - 13.0 <sup>a</sup>	8.0 - 13.0 <sup>a</sup>	8.0 - 13.0 <sup>a</sup>
	H013	5.0 - 10.0	1.0 - 5.5	4.0 - 8.0	—	—	—
	H007	8.0 - 13.0	3.0 - 8.0	7.0 - 13.0	—	—	—
	H005	14.0 - 19.0 <sup>b</sup>	—	—	—	—	—
LBB45	H017	—	—	—	10.0 - 16.0	16.0 - 50.0 <sup>a</sup>	10.0 - 16.0
	H006	10.0 - 16.0	4.0 - 10.0	8.0 - 16.0	16.0 - 23.0 <sup>a</sup>	—	16.0 - 23.0 <sup>a</sup>
	H004	16.0 - 23.0 <sup>a</sup>	6.0 - 16.0	13.0 - 23.0 <sup>a</sup>	—	—	—

<sup>a</sup> This bit size is larger than the standard chuck capacity of the machine.

<sup>b</sup> To be used with No. 2 Morse socket adapter, see Optional Accessories.

### DIMENSIONS LBB EP/EPX/H (mm)

Model	L	H	C	D	E	Model	L	H	C	D	E
LBB16 EP/EPX-200	177	131	16.5	31.4	13.8	LBB34 H013	238	156	23	41.5	50.0
LBB16 EP/EPX-060	177	131	16.5	31.4	13.8	LBB34 H007	238	156	23	41.5	50.0
LBB16 EP/EPX-045	177	131	16.5	31.4	13.8	LBB24 HF045	165	156	25	35.9	14.8
LBB16 EP/EPX-033	177	131	16.5	31.4	13.8	LBB24 HF020	165	156	25	35.9	14.8
LBB16 EP/EPX-024	177	131	16.5	31.4	13.8	LBB36 H060	217	157	23	41.5	16.5
LBB16 EP/EPX-020	177	131	16.5	31.4	13.8	LBB36 H033	217	157	23	41.5	16.5
LBB16 EP/EPX-010	190	131	16.5	31.4	27.0	LBB36 H026	217	157	23	41.5	16.5
LBB16 EP/EPX-005	190	131	16.5	31.4	27.0	LBB36 H013	256	157	23	41.5	64.0
LBB16 EP-003	190	131	16.5	31.4	27.0	LBB36 H007	256	157	23	41.5	64.0
LBB34 H060	199	156	23	41.5	16.5	LBB36 H005	256	157	23	41.5	64.0
LBB34 H033	199	156	23	41.5	16.5	LBB45 H006	360	185	33	60	113
LBB34 H026	199	156	23	41.5	16.5						

# PISTOL-GRIP DRILLS

Atlas Copco pistol-grip drills are suitable for most drilling tasks in virtually every sector of industry.

- Comfortable grip for high precision.
- Cost-saving.
- Two-hand grip available.
- Lubrication-free.

The new LBB16 is the answer to market demands for:

- Improved ergonomics.
- Increased power.
- Smaller size.

<b>LBB16 EP</b>	<b>0.4 hp<sup>a</sup></b>	<b>(290 W)</b>
<b>LBB16 EPX</b>	<b>0.45 hp<sup>a</sup></b>	<b>(340 W)</b>
<b>LBB34</b>	<b>0.6 hp<sup>a</sup></b>	<b>(400 W)</b>
<b>LBB36</b>	<b>0.9 hp<sup>a</sup></b>	<b>(700 W)</b>
<b>LBB45</b>	<b>0.9 hp<sup>b</sup></b>	<b>(700 W)</b>

<sup>a</sup> Lubrication-free motor.

<sup>b</sup> Conventional motor (pistol-grip drill only).



Model	Free speed r/min	Chuck capacity in	Weight		Air consumption at free speed		Hose size mm	Air inlet thread NPT	Sound level at free speed dB(A)	With chuck Ordering No.	Without chuck	
			kg	lb	l/s	cfm					Model	Ordering No.
<b>Non-reversible drills with air supply through handle</b>												
LBB16 EP-200 <sup>a</sup>	20000	0.26	0.6	1.2	8.0	17.0	6.3	1/4	1/4	75	8421 0108 60*	200-U 8421 0108 61*
LBB16 EP-060 <sup>a</sup>	6000	0.26	0.6	1.2	8.0	17.0	6.3	1/4	1/4	75	8421 0108 50*	060-U 8421 0108 51*
LBB16 EP-045 <sup>a</sup>	4500	0.26	0.6	1.2	8.0	17.0	6.3	1/4	1/4	75	8421 0108 40*	045-U 8421 0108 41*
LBB16 EP-033 <sup>a</sup>	3300	0.26	0.6	1.2	8.0	17.0	6.3	1/4	1/4	75	8421 0108 30*	033-U 8421 0108 31*
LBB16 EP-024 <sup>a</sup>	2400	0.26	0.6	1.2	8.0	17.0	6.3	1/4	1/4	75	8421 0108 20*	024-U 8421 0108 21*
LBB16 EP-010	1000	0.39	0.7	1.5	8.0	17.0	6.3	1/4	1/4	75	8421 0108 10*	010-U 8421 0108 11*
LBB16 EP-005 <sup>b</sup>	500	0.39	0.7	1.5	8.0	17.0	6.3	1/4	1/4	75	8421 0108 06*	005-U 8421 0108 07*
LBB16 EP-003 <sup>b</sup>	300	0.39	0.7	1.5	8.0	17.0	6.3	1/4	1/4	75	8421 0108 01*	003-U 8421 0108 02*
LBB16 EPX-200 <sup>a</sup>	20000	0.26	0.6	1.2	9.5	20.0	6.3	1/4	1/4	78	8421 0108 82*	200-U 8421 0108 63*
LBB16 EPX-060 <sup>a</sup>	6000	0.26	0.6	1.2	9.5	20.0	6.3	1/4	1/4	78	8421 0108 52*	060-U 8421 0108 53*
LBB16 EPX-045 <sup>a</sup>	4500	0.26	0.6	1.2	9.5	20.0	6.3	1/4	1/4	78	8421 0108 42*	045-U 8421 0108 43*
LBB16 EPX-033 <sup>a</sup>	3300	0.26	0.6	1.2	9.5	20.0	6.3	1/4	1/4	78	8421 0108 32*	033-U 8421 0108 33*
LBB16 EPX-024 <sup>a</sup>	2400	0.26	0.6	1.2	9.5	20.0	6.3	1/4	1/4	78	8421 0108 22*	024-U 8421 0108 23*
LBB16 EPX-010 <sup>b</sup>	1000	0.39	0.7	1.5	9.5	20.0	6.3	1/4	1/4	78	8421 0108 12*	010-U 8421 0108 03*
LBB16 EPX-005 <sup>b</sup>	500	0.39	0.7	1.5	9.5	20.0	6.3	1/4	1/4	78	8421 0108 08*	050-U 8421 0108 09*
LBB34 H060 <sup>a</sup>	6000	0.39	1.1	2.4	9.5	20.0	10.0	3/8	1/4	77	8421 0308 47*	-H060U 8421 0308 96*
LBB34 H033 <sup>a</sup>	3300	0.39	1.1	2.4	9.5	20.0	10.0	3/8	1/4	77	8421 0308 39*	-H033U 8421 0308 88*
LBB34 H026 <sup>a</sup>	2600	0.39	1.1	2.4	9.5	20.0	10.0	3/8	1/4	77	8421 0308 21*	-H026U 8421 0308 70*
LBB34 H013 <sup>a</sup>	1300	0.39	1.5	3.3	9.5	20.0	10.0	3/8	1/4	77	8421 0308 13*	-H013U 8421 0308 62*
LBB34 H007 <sup>b</sup>	700	0.51	1.6	3.5	9.5	20.0	10.0	3/8	1/4	77	8421 0308 05*	-H007U 8421 0308 54*
LBB36 H200 <sup>a</sup>	20000	0.26	1.0	2.2	16.5	34.9	10.0	3/8	3/8	81	8421 0408 55	-H200U 8421 0408 53
LBB36 H060 <sup>a</sup>	6000	0.26	1.2	2.5	16.5	34.9	10.0	3/8	3/8	81	8421 0408 49*	-H060U 8421 0408 47*
LBB36 H033 <sup>a</sup>	3300	0.39	1.2	2.5	16.5	34.9	10.0	3/8	3/8	81	8421 0408 41*	-H033U 8421 0408 39*
LBB36 H026 <sup>a</sup>	2600	0.39	1.2	2.5	16.5	34.9	10.0	3/8	3/8	81	8421 0408 33*	-H026U 8421 0408 31*
LBB36 H013 <sup>a</sup>	1300	0.39	1.5	3.3	16.5	34.9	10.0	3/8	3/8	81	8421 0408 15*	-H013U 8421 0408 13*
LBB36 H007 <sup>b</sup>	700	0.51	1.6	3.5	16.5	34.9	10.0	3/8	3/8	81	8421 0408 07*	-H007U 8421 0408 05*
LBB36 H005 <sup>b</sup>	500	—	1.2	3.3	16.5	34.9	10.0	3/8	3/8	81	—	-H005U 8421 0408 03*
LBB45 H017 <sup>b</sup>	1700	0.63	4.2	9.3	10.0	21.0	10.0	3/8	1/4	85 <sup>c</sup>	8421 0501 32*	— —
LBB45 H006 <sup>b</sup>	600	0.63	4.3	9.3	10.0	21.0	10.0	3/8	1/4	85 <sup>c</sup>	8421 0501 24*	— —
LBB45 H004 <sup>b</sup>	400	0.63	4.3	9.3	10.0	21.0	10.0	3/8	1/4	85 <sup>c</sup>	8421 0501 16*	— —
<b>Reversible drills with drill chuck and quick change 1/4" bit holder</b>												
COMBI24 HR36	3600	0.26	0.9	2.0	7.0	15.0	6.3	1/4	1/4	75	8431 0255 88	— —
COMBI24 HR16	1600	0.39	0.9	2.0	7.0	15.0	6.3	1/4	1/4	75	8431 0255 79*	— —
COMBI24 HR08	800	0.39	1.1	2.4	7.0	15.0	6.3	1/4	1/4	75	8431 0255 61	— —
COMBI34 HR16	1600	0.39	1.0	2.2	8.0	17.0	10.0	3/8	1/4	79	8431 0311 36	— —
COMBI34 HR08	800	0.39	1.3	2.9	8.0	17.0	10.0	3/8	1/4	79	8431 0311 34	— —
COMBI34 HR04	400	0.51	1.5	3.3	8.0	17.0	10.0	3/8	1/4	79	8431 0311 32	— —

<sup>a</sup> Including chuck guard.

<sup>b</sup> Including support handle.

<sup>c</sup> 79 dB(A) with silencer set 4112 0863 80.

\* Available directly from stock.

## ACCESSORIES INCLUDED

Chuck, chuck key, hose nipple.

LBB16, 34 and -36 with suspension yoke and with chuck guard where possible.

16, 34 and -36-models have a 3/8" -24 UNF spindle thread LBB36 H005 has a 1/2" thread, LBB45 has a JT3 taper mount.

## OPTIONAL ACCESSORIES

See page 190-191

# MICRO STOP DRILLS

With integrated micro stop for higher accuracy

The LBS24 drill is equipped with an integrated micro stop intended for the aerospace industry where high precision drilling, reaming and countersinking is important.

- Accurate** – The integrated micro stop function makes the LBS24 unique for high precision drilling of rivet holes and other fasteners. Minimized spindle run out is induced by eliminating standard drill chuck.
- Ergonomic** – The handle is from our well-known Ergoline drills. The integrated micro stop function makes the tool shorter and lighter in weight.
- Flexible** – Can be used for drilling, reaming, countersinking and in certain applications a combined operation using a form bit.
- Dust extraction** – A specially designed spot suction is developed for working in composite.
- Lubrication-free** – For a cleaner working environment and operator comfort.

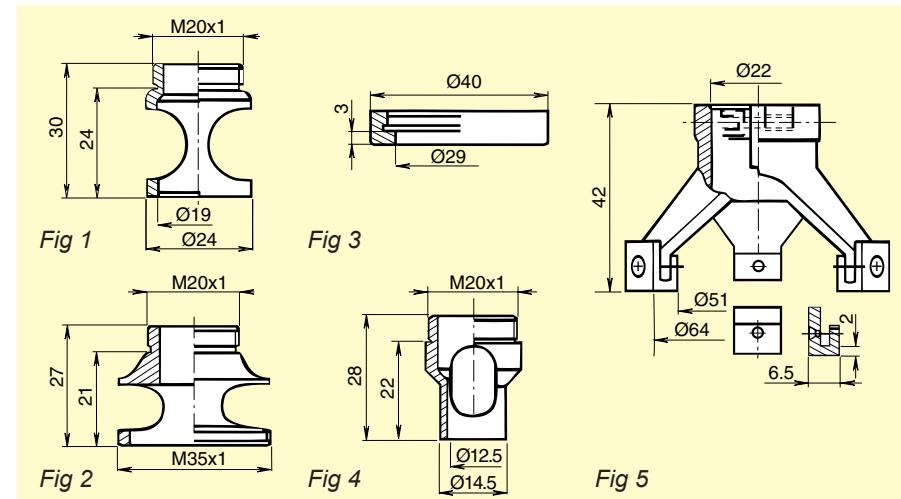
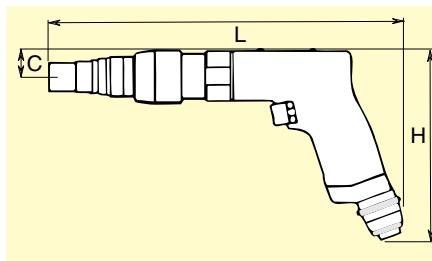


Model	Free speed r/min	Spindle thread in/mm	Stroke mm/in	Setting range +		Weight kg/lb	Hose size mm/in	Air consumption l/s cfm		Sound level dB(A)	Air inlet thread NPT	Ordering No.	
				mm	in			l/s	cfm				
LBS24 H045-40M	4500	M6x1	40 1.6	6	1/4	1.1	2.4	6.3	1/4	5.9	12.5	74	1/4 8421 0220 10
LBS24 H045-40	4500	1/4"-28	40 1.6	6	1/4	1.1	2.4	6.3	1/4	5.9	12.5	74	1/4 8421 0220 30*
LBS24 H010-40M	1000	M6x1	40 1.6	6	1/4	1.2	2.8	6.3	1/4	5.9	12.5	73	1/4 8421 0220 50
LBS24 H010-40	1000	1/4"-28	40 1.6	6	1/4	1.2	2.8	6.3	1/4	5.9	12.5	73	1/4 8421 0220 70
LBS36 H033-40	3300	1/4"-28	40 1.6	6	1/4	1.2	2.6	10	3/8	16.5	34.9	81	3/8 8421 0220 80
LBS36 H013-40	1300	1/4"-28	40 1.6	6	1/4	1.5	3.3	10	3/8	16.5	34.9	81	3/8 8421 0220 90

\* Available directly from stock.

## DIMENSIONS LBS H (mm)

Model	L	H	C
LBS24 H045-40M	247	154	20
LBS24 H045-40	247	154	20
LBS24 H010-40M	278	154	20
LBS24 H010-40	278	154	20
LBS36 H033-40	281	157	21
LBS36 H013-40	314	157	21



## ACCESSORIES INCLUDED

Hose nipple

2x2 mm Allen wrenches



## SERVICE KIT

4081 0005 90

## OPTIONAL ACCESSORIES

Designation	Attachment	Ordering No.
Plain base, dia 24 mm	Fig 1	M 20x1 4110 1521 00
Plain base for nylon ring (attached with thread M35x1)	Fig 2	M 20x1 4110 1522 00
Separate nylon ring for above base, outer dia 40 mm, thread M35x1	Fig 3	M 20x1 4110 1523 00
Plain base, dia 14.5 mm	Fig 4	M 20x1 4110 1520 00
Tripod, nylon supported	Fig 5	Dia 22 mm 4110 1524 00
Spot suction attachment for drilling in composite, to be used in combination with plain base, dia 24 mm	See photo above	4110 1529 90

# STRAIGHT DRILLS

The straight drills are intended mainly for vertical drilling operations and for drilling in cramped and confined spaces.

- **Quiet** – They have a very low noise level, just like all our drills.
- **Side exhaust (LBB34)** – The air can be directed for operator convenience.
- **Rear exhaust (LBB24)** – The air is piped away through a pliant hose and prevents whirls of dust.
- **Lubrication-free** – 24- and 34-series of drills are lubrication-free for clean working environment and operator comfort.

**LBB24 0.3 hp (210 W) Lubrication-free motor**  
**LBB34 0.6 hp (400 W) Lubrication-free motor**



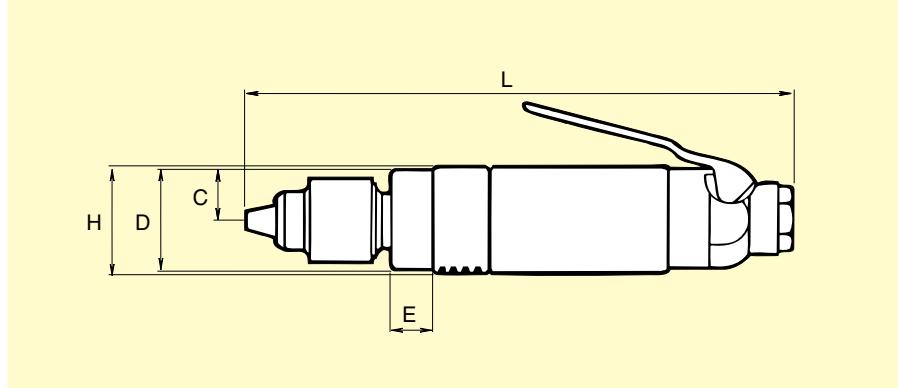
Model	Free speed r/min	Chuck capacity		Weight		Air consumption at free speed		Hose size		Air inlet thread NPT	Sound level at free speed dB(A)	With chuck Ordering No.	Without chuck	
		mm	in	kg	lb	l/s	cfm	mm	in				Model	Ordering No.
<b>Drills with rear exhaust</b>														
LBB24 S200B	19000	6.5	0.26	0.8	1.7	6.0	13.0	6.3	1/4	1/4	75	8421 0205 15*	-S200U	8421 0205 56
LBB24 S060B	6000	6.5	0.26	0.8	1.7	6.0	13.0	6.3	1/4	1/4	75	8421 0205 17*	-S060U	8421 0205 19*
LBB24 S045B	4500	6.5	0.26	0.8	1.7	6.0	13.0	6.3	1/4	1/4	75	8421 0205 23*	-S045U	8421 0205 64*
LBB24 S033B	3300	6.5	0.26	0.8	1.7	6.0	13.0	6.3	1/4	1/4	75	8421 0205 31*	-S033U	8421 0205 72*
LBB24 S020B	2000	6.5	0.26	0.8	1.7	6.0	13.0	6.3	1/4	1/4	75	8421 0205 49*	-S020U	8421 0205 80
<b>Drills with side exhaust</b>														
LBB34 S060	6000	10.0	0.39	1.1	2.4	10.0	21.0	10.0	3/8	1/4	88	8421 0309 41*	-S060U	8421 0309 74*
LBB34 S026	2600	10.0	0.39	1.1	2.4	10.0	21.0	10.0	3/8	1/4	88	8421 0309 25*	-S026U	8421 0309 82*
LBB34 S013	1300	10.0	0.39	1.5	3.3	10.0	21.0	10.0	3/8	1/4	87	8421 0309 17*	-S013U	8421 0309 90*

24- and 34-models have a 3/8" -24 UNF spindle thread.

\* Available directly from stock.

## DIMENSIONS LBB S (mm)

Model	L	H	C	D	E
LBB24 S200	183	38	19	35.9	14.8
LBB24 S060	198	38	19	35.9	14.8
LBB24 S045	183	38	19	35.9	14.8
LBB24 S033	183	38	19	35.9	14.8
LBB24 S020	183	38	19	35.9	14.8
LBB34 S060	192	43	21	41.5	16.5
LBB34 S026	192	43	21	41.5	16.5
LBB34 S013	200	43	21	41.5	16.5



## ACCESSORIES INCLUDED

Chuck, chuck key, hose nipple

Suspension yoke and chuck guard

Push button set

Exhaust hose (-24 models)

## OPTIONAL ACCESSORIES

See page 190-191

# PISTOL GRIP AND STRAIGHT DRILLS

## Optional accessories

### Key chucks

Mount	Body diameter mm	Chuck capacity mm	Ordering No.		
			Chuck (key incl)	Key only	Key designation
3/8-24UNF	30	0.0- 6.5	4021 0283 00	4021 0293 00	S1
3/8-24UNF	36	2.0-10.0	4021 0416 00	4021 0449 00	S8
3/8-24UNF	46	2.0-13.0	4021 0289 00	4021 0465 00	S2
JT3	59	3.0-16.0	4021 0423 00	4021 0301 00	S3

Key chuck



### Quick chucks

Mount	Chuck dia mm	Chuck capacity mm	Ordering No.
3/8-24UNF	34	0.0- 6.5	4021 0400 00
3/8-24UNF	34	0.0- 8.0	4021 0401 00
3/8-24UNF	36	0.0-10.0	4021 0402 00
3/8-24UNF	36	2.0-13.0	4021 0403 00

Quick chuck



### Support handles

For model	Ordering No.
LBB16	4110 1355 92
LBB34/-36	4110 1355 82
LBV34	4110 1355 87
LBB45	4110 1355 84

Support handle



### Chuck guards

For model	Max chuck dia mm	Ordering No.
LBB16 <sup>a</sup>	30	4110 1619 04
LBB34/-36 <sup>b</sup>	36	4110 1415 00

<sup>a</sup> The guards do not fit 1000 r/min models, 500 r/min and 300 r/min models.

<sup>b</sup> The guards do not fit 700 r/min models.

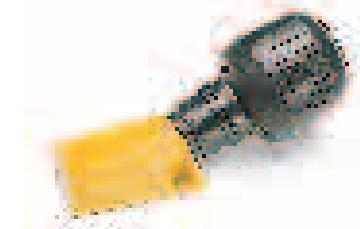
Chuck guard



### Silencer sets

For model	Ordering No.
LBB34 H	Exhaust pipe away set
LBB45	External silencer

Silencer set



# PISTOL GRIP AND STRAIGHT DRILLS

## Optional accessories

### Collet chuck and collets

Designation	Capacity		Ordering No.
	mm	in	
Collet	3		4150 0081 00
	6		4150 0075 00
	8	5/16	4150 0074 00
		1/8	4150 0082 00
		5/32	4150 0648 00
		3/16	4150 0649 00
		1/4	4150 0076 00
	Collet holder		4110 0844 90
Collet nut			4150 0760 00

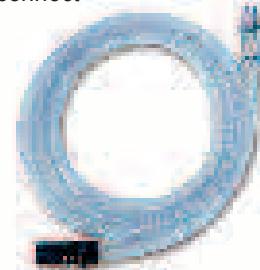
Collet chuck and collets



### Flex connect

For model	Ordering No.
LBB16	4110 1601 80

Flex connect



### Spot suction attachment

For model	Hose size in	Spot suction kit Ordering No.	Hose kit Ordering No.
LBB16	1 1/4	4110 1715 80	4112 1227 00
LBB34/-36	1 1/4	4110 1716 80	4112 1227 00

Spot suction attachment



### Power feed arm for extra feed force – LBB36 H005

	Ordering No.
Adapter piece (SR295), lever arm (SR201), chain (SR202) and No. 2 Morse socket (SR206)	4110 1416 80
Two extension pieces (SR204-1 and SR204-2), 14.6 and 29.5 inch long	4110 1417 80
No. 2 Morse socket	4110 1416 01

Power feed arm



### OPTIONAL ACCESSORIES – LBB45

Designation	Ordering No.
Feed screw	4110 0976 80
No. 2 Morse socket	4130 1080 00
Ratchet wrench for feed screw	4130 2000 00
Breast plate	4110 0974 80
Silencer set	4112 0863 80

### SERVICE KITS



LBB16	4081 0271 90
LGB24	4081 0005 90
LBB/LGB/LBV34	4081 0035 90
LBB36	4081 0194 90
LBB45	4081 0139 90

# ANGLE DRILLS

## The perfect drill for cramped spaces

The angle drills are available in versions with 30°, 90° and 360° angle heads and are designed for drilling in confined and awkward spaces.

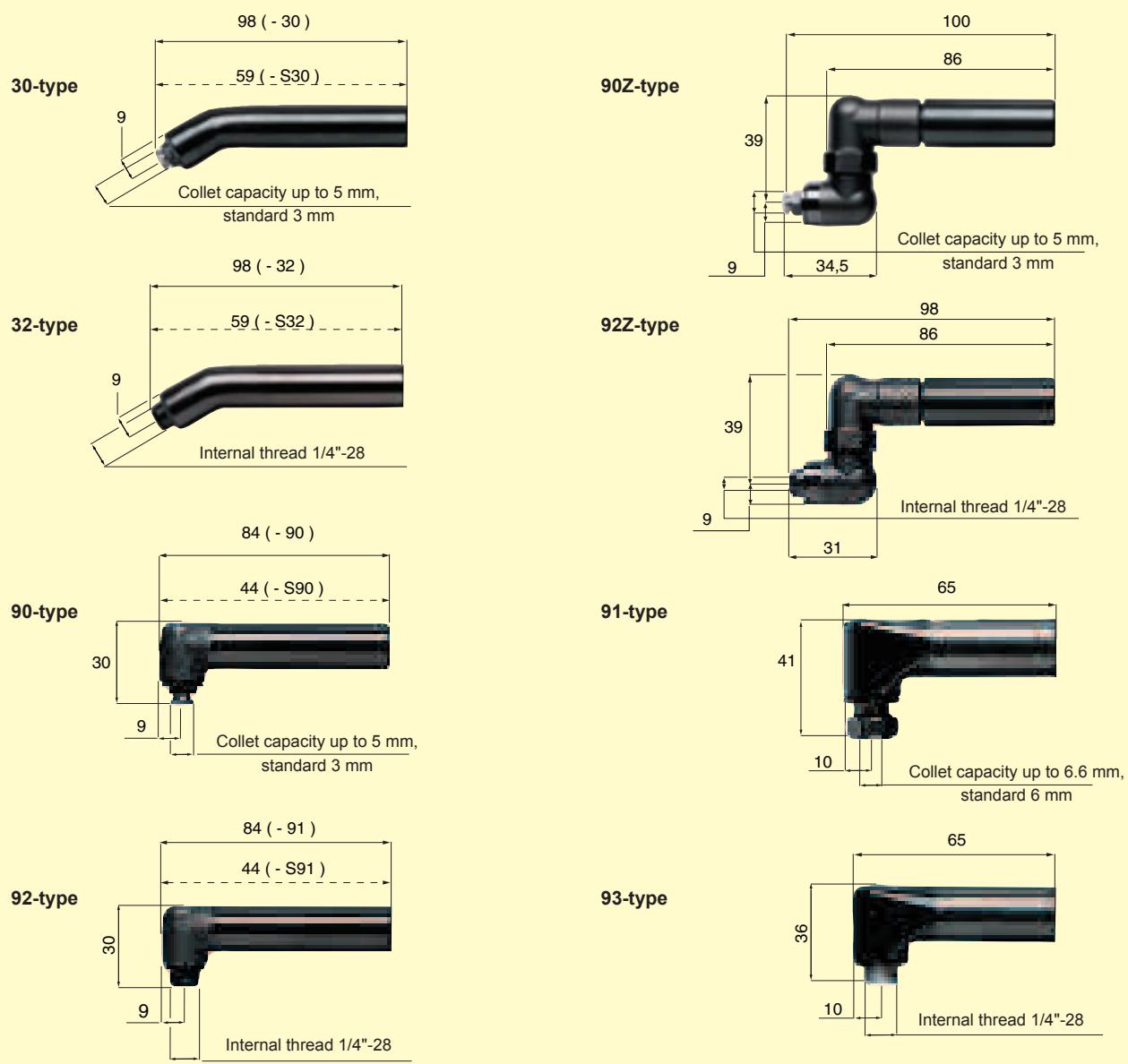
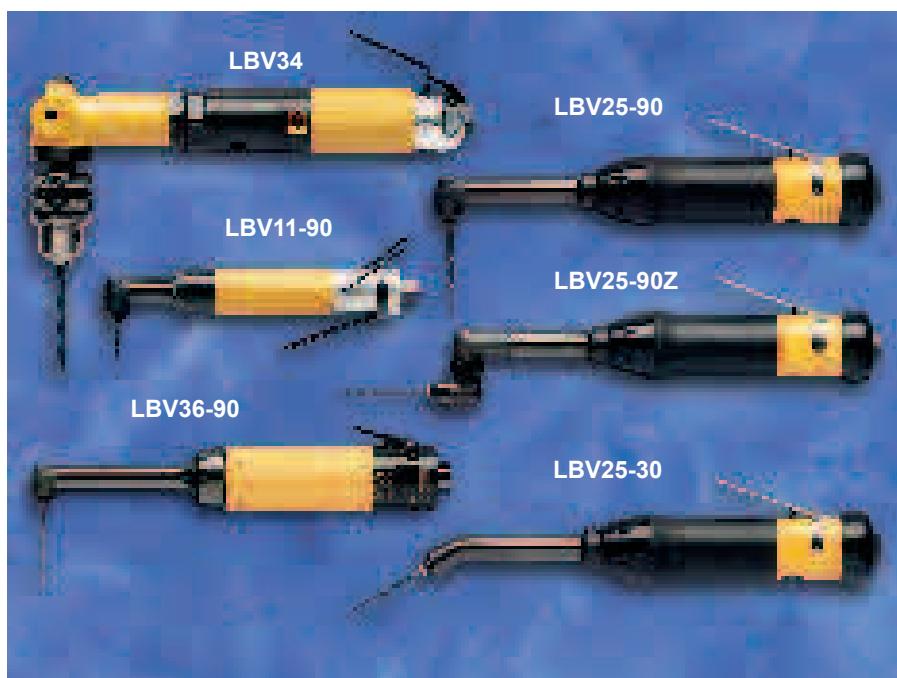
Just like other Atlas Copco hand drills, they are based on motors from the 25-, 34-, and 36-series.

The angle drills are operated with a lever throttle. The series feature:

- Low noise level.
- Low air consumption.
- Side exhaust/rear exhaust.
- Lubrication-free design.
- Collet chuck or threaded spindle.
- Multiple lever options.

<b>LBV11</b>	0.16 hp (110W)
<b>LBV25 -30/32,-90/92,-91/93</b>	0.3 hp <sup>a</sup> (210W)
<b>LBV34</b>	0.6 hp (400W)
<b>LBV36 -30,-90/92,-91/93</b>	0.73 hp (510W)

<sup>a</sup>Maximum power.



# ANGLE DRILLS

Model	Free speed r/min	Setting range rpm	Collet or chuck capacity		Weight		Air consumption at free speed		Hose dimension		Air inlet thread NPT	Sound level at free speed dB(A)	Ordering No.
			mm	in	kg	lb	l/s	cfm	mm	in			
<b>30° angle head – Collet chuck models – small angle head</b>													
LBV11 S027-S30	2700	–	5.0	0.20	0.5	1.1	3.2	6.8	5.0	1/8	1/4	71	8421 0108 70
LBV25 EA032-S30	3200	1500-4000	5.0	0.20	0.6	1.3	3.2	6.8	6.3	1/4	1/4	70	8421 0218 00*
LBV25 EA032-30	3200	1500-4000	5.0	0.20	0.7	1.5	3.2	6.8	6.3	1/4	1/4	70	8421 0218 01*
LBV25 EA032-S32	3200	1500-4000	– <sup>c</sup>	–	0.6	1.3	3.2	6.8	6.3	1/4	1/4	70	8421 0218 02
LBV25 EA032-32	3200	1500-4000	– <sup>c</sup>	–	0.7	1.5	3.2	6.8	6.3	1/4	1/4	70	8421 0218 03
LBV36 S030-30 <sup>d</sup>	3000	–	5.0	0.20	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 70
LBV36 S030-S30 <sup>d</sup>	3000	–	5.0	0.20	0.9	2.0	17.0	36.0	10.0	3/8	1/4	82	8421 0414 71
LBV36 S045-30 <sup>d</sup>	4500	–	5.0	0.20	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 72*
LBV36 S045-S30 <sup>d</sup>	4500	–	5.0	0.20	0.9	2.0	17.0	36.0	10.0	3/8	1/4	82	8421 0414 73
<b>90° angle head</b>													
LBV11 S025-S90	2500	–	5.0	0.20	0.5	1.1	3.2	6.8	5.0	1/8	1/4	71	8421 0109 79*
LBV25 EA032-S90	3200	1500-4000	5.0	0.20	0.6	1.3	3.2	6.8	6.3	1/4	1/4	70	8421 0218 04*
LBV25 EA032-90	3200	1500-4000	5.0	0.20	0.7	1.5	3.2	6.8	6.3	1/4	1/4	70	8421 0218 05*
LBV25 EA032-S92	3200	1500-4000	– <sup>c</sup>	–	0.6	1.3	3.2	6.8	6.3	1/4	1/4	70	8421 0218 06*
LBV25 EA032-92	3200	1500-4000	– <sup>c</sup>	–	0.7	1.5	3.2	6.8	6.3	1/4	1/4	70	8421 0218 07*
LBV36 S030-90 <sup>d</sup>	3000	–	5.0	0.20	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 60*
LBV36 S030-S90 <sup>d</sup>	3000	–	5.0	0.20	0.9	2.0	17.0	36.0	10.0	3/8	1/4	82	8421 0414 61
LBV36 S045-90 <sup>d</sup>	4500	–	5.0	0.20	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 62*
LBV36 S045-S90 <sup>d</sup>	4500	–	5.0	0.20	0.9	2.0	17.0	36.0	10.0	3/8	1/4	82	8421 0414 63
LBV36 S030-92 <sup>d</sup>	3000	–	– <sup>c</sup>	–	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 64*
LBV36 S030-S92 <sup>d</sup>	3000	–	– <sup>c</sup>	–	0.9	2.0	17.0	36.0	10.0	3/8	1/4	82	8421 0414 65
LBV36 S045-92 <sup>d</sup>	4500	–	– <sup>c</sup>	–	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 66*
LBV36 S045-S92 <sup>d</sup>	4500	–	– <sup>c</sup>	–	0.9	2.0	17.0	36.0	10.0	3/8	1/4	82	8421 0414 67
<b>360° angle head</b>													
LBV25 EA032-90Z	3200	1500-4000	5.0	0.20	0.7	1.5	3.2	6.8	6.3	1/4	1/4	70	8421 0218 08*
LBV25 EA032-92Z	3200	1500-4000	– <sup>c</sup>	–	0.7	1.5	3.2	6.8	6.3	1/4	1/4	70	8421 0218 09
<b>90° angle head – Collet chuck models – large angle head</b>													
LBV25 EA045-91	4500	1500-4500	6.6	0.26	0.8	1.7	5.4	11.4	6.3	1/4	1/4	73	8421 0218 10*
LBV25 EA020-91	2000	800-2000	6.6	0.26	0.8	1.7	5.4	11.4	6.3	1/4	1/4	72	8421 0218 11*
LBV25 EA010-91	1000	500-1000	6.6	0.26	0.9	2.0	5.4	11.4	6.3	1/4	1/4	71	8421 0218 12
LBV25 EA045-93	4500	1500-4500	– <sup>c</sup>	– <sup>c</sup>	0.8	1.7	5.4	11.4	6.3	1/4	1/4	73	8421 0218 13
LBV25 EA020-93	2000	800-2000	– <sup>c</sup>	– <sup>c</sup>	0.8	1.7	5.4	11.4	6.3	1/4	1/4	72	8421 0218 14*
LBV25 EA010-93	1000	500-1000	– <sup>c</sup>	– <sup>c</sup>	0.9	2.0	5.4	11.4	6.3	1/4	1/4	71	8421 0218 15
LBV25 EA005-91	500	200-500	6.6	0.26	0.9	2.0	5.4	11.4	6.3	1/4	1/4	72	8421 0218 84
LBV25 EA005-93	500	200-500	– <sup>c</sup>	– <sup>c</sup>	0.9	2.0	5.4	11.4	6.3	1/4	1/4	72	8421 0218 99
LBV36 S030-91 <sup>d</sup>	3000	–	6.6	0.26	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 50*
LBV36 S060-91 <sup>d</sup>	6000	–	6.6	0.26	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 51*
LBV36 S030-93 <sup>d</sup>	3000	–	– <sup>c</sup>	– <sup>c</sup>	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 52
LBV36 S060-93 <sup>d</sup>	6000	–	– <sup>c</sup>	– <sup>c</sup>	1.0	2.2	17.0	36.0	10.0	3/8	1/4	82	8421 0414 53
<b>90° angle head – Key chuck models</b>													
LBV25 EA020	2000	800-2000	6.5 <sup>a</sup>	0.25 <sup>a</sup>	0.8	1.7	5.4	11.4	6.3	1/4	1/4	72	8421 0218 60*
LBV34 S040	4000	–	6.5 <sup>a</sup>	0.25 <sup>a</sup>	1.5	3.3	7.5	15.9	10.0	3/8	1/4	88	8421 0309 46 <sup>*b</sup>
LBV34 S010	1000	–	10.0 <sup>a</sup>	0.39 <sup>a</sup>	2.0	4.4	7.5	15.9	10.0	3/8	1/4	88	8421 0309 12 <sup>*b</sup>
LBV34 S005	500	–	13.0 <sup>a</sup>	0.51 <sup>a</sup>	2.1	4.6	7.5	15.9	10.0	3/8	1/4	87	8421 0309 04 <sup>*b</sup>

<sup>a</sup> Spindle thread, male 3/8"-24 UNF.

\* Available directly from stock.

<sup>b</sup> Side exhaust.

<sup>c</sup> Internal thread 1/4"-28.

<sup>d</sup> Short lever as standard.

## ACCESSORIES INCLUDED

Collet or chuck with key

Push button set

Hose nipple

3 mm collet (5.0 collet capacity head)

6 mm collet (6.6 collet capacity head)

## OPTIONAL ACCESSORIES

Page 194-195

# ANGLE DRILLS

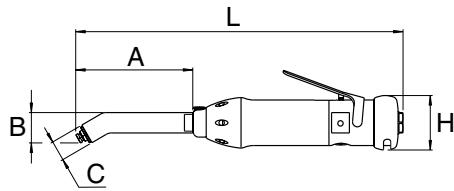
## Optional accessories

### Angle drill dimensions – Drilling capacity

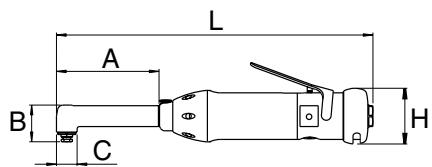
Model	Angle head mm					Drilling capacity mm	
	A	B	C	L	H	Mild steel	Aluminum and bronze
LBV11 S027-S30	59	25	18	224	30	4.0	5.0
LBV25 EA032-S30	59	25	18	236	45.5	4.0	5.0
LBV25 EA032-30	98	25	18	275	45.5	4.0	5.0
LBV25 EA032-S32	59	25	18	236	45.5	4.0	5.0
LBV25 EA032-32	98	25	18	275	45.5	4.0	5.0
LBV11 S025-S90	44	30	18	204	30	4.0	5.0
LBV25 EA032-S90	44	30	18	221	45.5	4.0	5.0
LBV25 EA032-90	84	30	18	261	45.5	4.0	5.0
LBV25 EA032-S92	44	30	18	221	45.5	4.0	5.0
LBV25 EA032-92	84	30	18	261	45.5	4.0	5.0
LBV25 EA045-91	65	41	20	239	45.5	3.0	6.6
LBV25 EA045-93	65	36	20	239	45.5	3.0	6.6
LBV25 EA020-91	65	41	20	239	45.5	5.0	6.6
LBV25 EA020-93	65	36	20	239	45.5	5.0	6.6
LBV25 EA010-91	65	41	20	271	45.5	6.6	6.6
LBV25 EA010-93	65	36	20	271	45.5	6.6	6.6
LBV25 EA032-90Z	100	48	18	276	45.5	4.0	5.0
LBV25 EA032-92Z	98	48	18	273	45.5	4.0	5.0
LBV25 EA020	68	82	15	239	45.5	5.0	6.5
LBV34 S045	92	97	20	255	43	3.0	6.5
LBV34 S010	92	114	20	290	43	10.0	10.0
LBV34 S005	92	120	20	290	43	13.0	13.0
LBV36 S030-91	92	41	10	252	43	4.0	6.6
LBV36 S060-91	92	41	10	252	43	2.0	6.6
LBV36 S030-93	92	36	10	252	43	4.0	6.6
LBV36 S060-93	92	36	10	252	43	2.0	6.6
LBV36 S030-30	122	26	9	281	43	4.0	5.0
LBV36 S030S-30	82	26	9	241	43	4.0	5.0
LBV36 S045-30	122	26	9	281	43	3.0	5.0
LBV36 S045S-30	82	26	9	241	43	3.0	5.0
LBV36 S030-90	112	30	9	272	43	4.0	5.0
LBV36 S030S-90	72	30	9	232	43	4.0	5.0
LBV36 S045-90	112	30	9	272	43	3.0	5.0
LBV36 S045S-90	72	30	9	232	43	3.0	5.0
LBV36 S030-92	112	30	9	272	43	4.0	5.0
LBV36 S030S-92	72	30	9	232	43	4.0	5.0

### Angle head dimensions

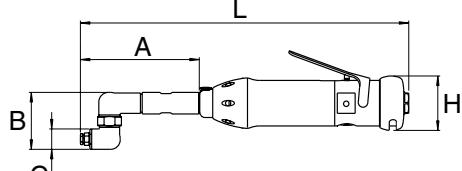
LBV11, -25  
30°



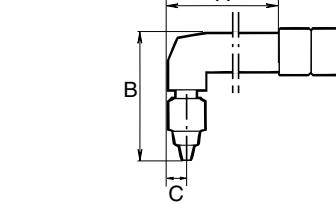
LBV11, -25  
90°



LBV25  
360°



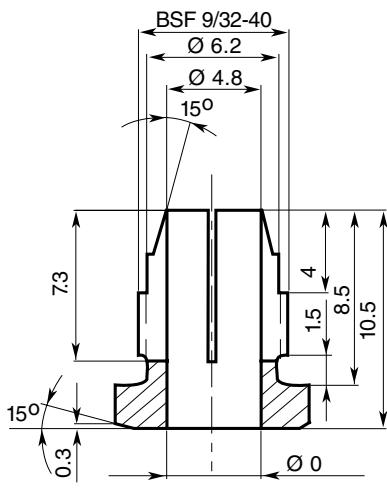
LBV34  
90°



### Collets for 5.0 mm capacity head LBV11, LBV25 S032 – (-30, -90, -90Z) and LBV36 (-30, -90)

Capacity mm	Ordering No.	Capacity mm	Ordering No.	Capacity in	Ordering No.
1.0	4110 0438 01	3.4	4110 0438 33	1/16	4110 0438 19
1.5	4110 0438 02	3.5	4110 0438 13	3/32	4110 0438 20
1.8	4110 0438 28	3.6	4110 0438 24	1/8	4110 0438 21
2.0	4110 0438 03	3.7	4110 0438 34	5/32	4110 0438 22
2.1	4110 0438 29	3.8	4110 0438 14	3/16	4110 0438 23
2.2	4110 0438 04	3.9	4110 0438 35		
2.3	4110 0438 30	4.0	4110 0438 15		
2.4	4110 0438 05	4.1	4110 0438 25		
2.5	4110 0438 06	4.2	4110 0438 26		
2.6	4110 0438 07	4.3	4110 0438 36		
2.7	4110 0438 31	4.4	4110 0438 37		
2.8	4110 0438 32	4.5	4110 0438 16		
2.9	4110 0438 08	4.6	4110 0438 38		
3.0	4110 0438 09	4.7	4110 0438 39		
3.1	4110 0438 10	4.8	4110 0438 18		
3.2	4110 0438 11	4.9	4110 0438 40		
3.3	4110 0438 12	5.0	4110 0438 27		

### Collets for 5.0 mm (Thread BSF 9/32 -40)



# ANGLE DRILLS

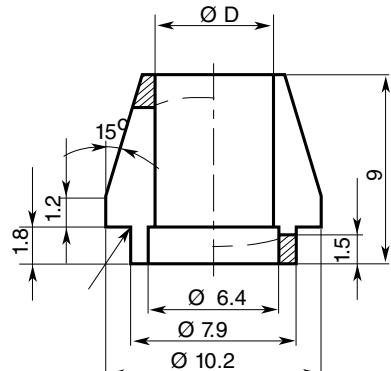
## Optional accessories

### Collets for 6.6 mm capacity head LBV25 (-91) and LBV36 (-91)

Capacity mm	Ordering No.	Capacity mm	Ordering No.
1.6	4110 1411 01	4.2	4110 1411 14
1.8	4110 1411 02	4.4	4110 1411 15
2.0	4110 1411 03	4.6	4110 1411 16
2.2	4110 1411 04	4.8	4110 1411 17
2.4	4110 1411 05	5.0	4110 1411 18
2.6	4110 1411 06	5.2	4110 1411 19
2.8	4110 1411 07	5.4	4110 1411 20
3.0	4110 1411 08	5.6	4110 1411 21
3.2	4110 1411 09	5.8	4110 1411 22
3.4	4110 1411 10	6.0	4110 1411 23
3.6	4110 1411 11	6.2	4110 1411 24
3.8	4110 1411 12	6.4	4110 1411 25
4.0	4110 1411 13	6.6	4110 1411 26

Collet nut 4110 1410 00, to be ordered separately.

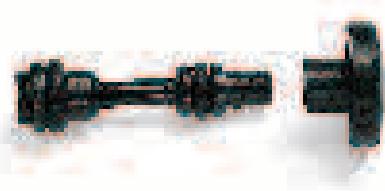
### Collets for 6.6 mm



### Push button set

For model	Ordering No.
LBB24 S	4110 1427 90
LBV25 EA	4110 1427 90
LBB34 S	4110 1427 91
LBV34 S	4110 1427 91

### Push button set



### Safety levers

For model	Ordering No.	
LBB24 S	Rear exhaust	4210 2306 80
LBB34 S		4150 1035 90
LBV25 EA		4210 2306 81
LBV34 S		4150 1035 90
LBV36		4150 1594 97

### Safety lever



### Short levers

For model	Ordering No.
LBV25	4210 2306 04
LBV36	4110 1581 01

### Short lever



### SERVICE KITS

LBB/LGB/LBV24	4081 0005 90
LBV25	4081 0272 90
LBB/LGB/LBV34	4081 0035 90
LBV36 (30, 90/92)	4081 0263 90
LBV36 (91/93)	4081 0251 90

# TAPPERS

Atlas Copco tappers are designed for tapping and thread cleaning operations with thread taps. As standard, the tools are fitted with a tap chuck.

- Comfortable and effective** – The ergonomic design of the handle gives you a comfortable grip and maximum performance.
- Higher productivity** – Thanks to the double speed when you withdraw the machine.
- Low noise level** – Rearward-directed exhaust gives a lower noise level.
- Lubrication-free**.
- Quick change system** – Equip your old tool or order a new one with this system. Various tap holders can be used to change a broken tap or to change to a different tap size.
- Lower cost** – The efficient air motor together with interchangeable components from our standard drills cut your costs.



Model	Free speed		Tapping capacity		Weight		Hose dimension		Air inlet	Air con-	With chuck		Without chuck	
	Forward r/min	Reverse r/min	mm	in	kg	lb	mm	in	thread NPT	l/s cfm	Ordering No.	Model	Ordering No.	
<b>Pistol-grip tappers with air supply through handle</b>														
LGB24 H007	700	1400	6	0.24	1.1	2.4	6.3	1/4	1/4	5.5 11.5	8421 0210 67*	-U	8421 0210 69	
LGB24 H007Q <sup>a</sup>	700	1400	6	0.24	1.1	2.4	6.3	1/4	1/4	5.5 11.5	8421 0210 75*	—	—	
LGB34 H007	700	1400	10	0.39	1.8	4.0	10.0	3/8	1/4	7.5 15.9	8421 0311 66*	-U	8421 0311 68*	
LGB34 H007Q <sup>a</sup>	700	1400	10	0.39	1.8	4.0	10.0	3/8	1/4	7.5 15.9	8421 0311 76*	—	—	
LGB36 H007Q <sup>a</sup>	700	1400	12	0.47	2.0	4.4	10.0	3/8	3/8	16.5 34.9	8421 0411 00*	—	—	
<b>Pistol-grip tappers with air supply on top</b>														
LGB24 HF007	700	1400	6	0.24	1.2	2.6	6.3	1/4	1/4	6.0 12.7	8421 0210 80	—	—	
LGB24 HF007Q <sup>a</sup>	700	1400	10	0.39	1.2	2.6	6.3	1/4	1/4	6.0 12.7	8421 0210 82	—	—	
<b>Straight tappers</b>														
LGB24 S007	700	1400	6	0.24	1.1	2.4	6.3	1/4	1/4	5.5 11.6	8421 0210 71	-U	8421 0210 73	
LGB34 S007	700	1400	10	0.39	1.8	4.0	10.0	3/8	1/4	7.5 15.9	8421 0311 72	-U	8421 0311 74	

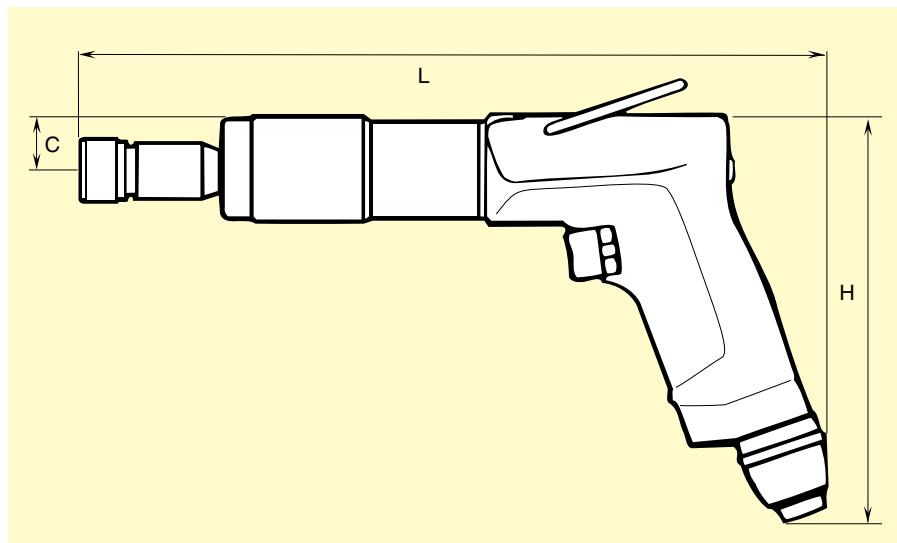
<sup>a</sup> Quick change system.

\* Available directly from stock.

Taper: Jacob 1

## DIMENSIONS LGB (mm)

Model	L	H	C
LGB24 H007	260	154	18
LGB34 H007	300	156	20
LGB24 HF007	235	200	20
LGB24 S007	253	38	19
LGB34 S007	293	43	21
LGB36 H007	335	157	20



## ACCESSORIES INCLUDED

### Non Quick change system

LGB24 Chuck complete with collet

4.5-6.5 mm 4021 0410 00

LGB34 Chuck complete with collet

6.4-10 mm 4021 0469 00

### Quick change system

Chuck plus one tap holder with collet for M6 shank Ø 0.25 inch.

# TAPPERS

## Optional accessories

### Collets for non Quick change system

Model	Capacity mm	Ordering No.
LGB24	2.5- 4.5	4021 0412 00
	4.5- 6.5	4021 0413 00
LGB34	3.5- 6.5	4021 0337 00
	4.5- 8.0	4021 0336 00
	6.4-10.0	4021 0456 00

### Collets for Quick change system

Collets for tap size mm	Shank dia mm	Ordering No.
M2.2/M2.5	2.8	4021 0414 01
M3	3.15	4021 0414 02
M3.5	3.5	4021 0414 03
M4	4.0	4021 0414 04
M4.5	4.5	4021 0414 05
M5	5.0	4021 0414 06
M5.5	5.6	4021 0414 07
M6	6.3	4021 0414 08
M6 (DIN)	6.0	4021 0414 13
M7	7.1	4021 0414 09
M8/M11	8.0	4021 0414 10
M9/M12	9.0	4021 0414 11
M10	10.0	4021 0414 12



### SERVICE KITS

LGB24	4081 0005 90
LGB34	4021 0035 90
LGB36	4081 0194 90

### Complete existing equipment with Quick change system

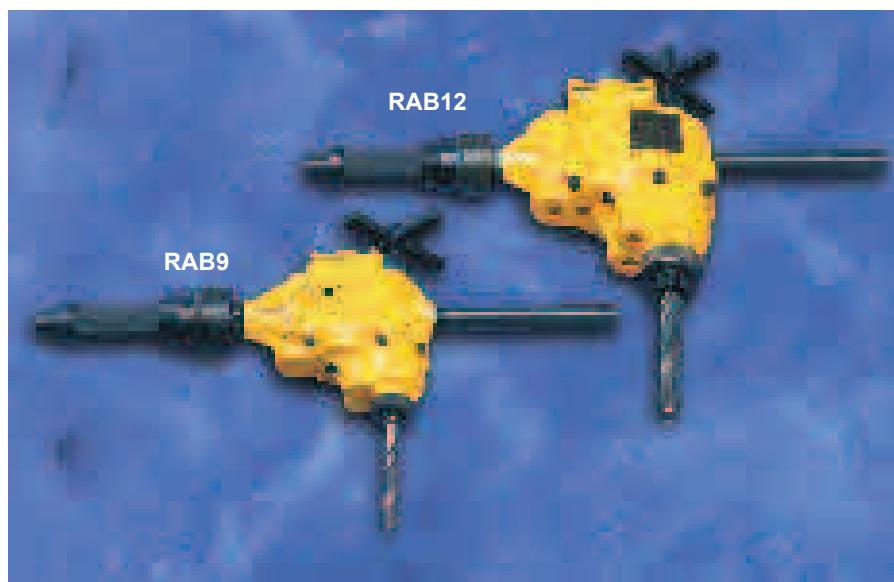
Accessories	Length mm	Ordering No.
Quick change chuck	47	4021 0406 90
Tap holder	58	4021 0408 00



# SCREW-FEED DRILLS

Atlas Copco screw-feed drills are ideal for heavy-duty drilling operations requiring high feed forces. These drills can also be used for reaming and tube-rolling.

- **Reliable** – They have a simple and reliable design.
- **Constant speed** – The speed governor keeps the drilling speed constant and reduces air consumption as power is reduced.
- **Safer** – The safety catch prevents accidental starting. The throttle is self-closing.



Model	Forward	Reverse
RAB9	1.14 hp (0.85 kW)	0.74 hp (0.55 kW)
RAB12	2.0 hp (1.5 kW)	1.5 hp (1.1 kW)

Model	Capacity								Hose dimension	Air consumption max output	Distance centre to side	Air inlet thread	Ordering No.
	Free speed r/min	Drill-ing mm	Ream-ing mm	Tapp-ing mm	Morse taper No.	Length feed mm	Height mm in	Weight kg lb					
<b>Reversible screw-feed drills</b>													
RAB9 VR006	600	23	23	12	2	75	265 10.4	9.5 20.9	13 1/2	23 49	40	1/2	8421 5109 45*
RAB9 VR003	300	23	23	16	2	75	265 10.4	9.5 20.9	13 1/2	22 47	40	1/2	8421 5109 37*
RAB12 L450	475	32	32	24	3	90	340 13.4	12.9 28.4	16 5/8	32 68	50	1/2	8421 5112 24*
RAB12 L250	240	51	40	30	4	90	385 13.2	14.9 32.8	16 5/8	33 70	50	1/2	8421 5112 16*
RAB12 L150	140	51	40	32	4	90	385 15.2	14.9 32.8	16 5/8	30 64	50	1/2	8421 5112 08*

\* Available directly from stock.

## ACCESSORIES INCLUDED

Hose nipple

## OPTIONAL ACCESSORIES

Breast plate

Square drive adapter



Model	Ordering No.
RAB9	4110 0974 82
RAB12	4110 0974 83

Morse taper No.	Square drive in	Ordering No.
3	1	4021 0394 00
4	1	4021 0395 00



# Automatic drilling and tapping units

## More mechanization in your drilling operations

Simple, cost effective. Atlas Copco automatic drilling and tapping units cut costs by reducing machining time in ancillary equipment, or in highly automated special machines. Modular designs allow the units to be easily replaced, transferred to other machines, or combined to form new special-purpose machines.

### Contents

	Page
Automatic drilling and tapping units.....	200
Dimension sketches .....	204

# AUTOMATIC DRILLING AND TAPPING UNITS

These units are available in three sizes, LBL25, LBL35 and LBL45, each size covering a specific diameter range, totally up to 20 mm in steel.

The basic units can be fitted with different chucks, twin heads for simultaneous drilling of two holes and attachments for chip removal and tapping.

- **Highly dependable** – LBL drilling and tapping units feature quick and precise clamping, making them highly dependable.
- **Easy to build together** – Several holes can be drilled in a single operation since several of these compact units can easily be built together.
- **Low noise level** – The units have a low noise level as the exhaust air is discharged through silencers inside the protective casing.



Model	Capacity			Air consumption										Ordering No.
	Steel mm	Alumi-nium mm	Feed force N	Max output		Feed stroke mm	Free speed r/min	Weight		Max output l/s cfm		Free speed l/s cfm		
<b>Automatic drilling and tapping units</b>														
LBL25E 220	1.2	2.0	350	0.22	0.3	80	21000	3	6.6	5.2	11	5.8	12	8421 9208 47
LBL25E 049	3.2	5.0	350	0.22	0.3	80	4600	3	6.6	5.2	11	5.8	12	8421 9208 55
LBL25E 022	5.0	6.5	350	0.22	0.3	80	2100	3	6.6	5.2	11	5.8	12	8421 9208 63
LBL25E 011	8.0	10.0	350	0.22	0.3	80	1100	3	6.6	5.2	11	5.8	12	8421 9208 71
LBL35E 190	—	2.0	1050	0.33	0.5	80	19000	7	15.0	9.5	21	10.6	22	8421 9308 53
LBL35E 054	3.0	5.0	1050	0.33	0.5	80	5400	7	15.0	9.5	21	10.6	22	8421 9308 46
LBL35E 030	5.0	7.0	1050	0.33	0.5	80	3000	7	15.0	9.5	21	10.6	22	8421 9308 38
LBL35E 014	8.0 <sup>a</sup>	10.0 <sup>b</sup>	1050	0.33	0.5	80	1400	7	15.0	9.5	21	10.6	22	8421 9308 12
LBL35E 007	11.0 <sup>c</sup>	13.0 <sup>d</sup>	1050	0.33	0.5	80	700	16	15.0	9.5	21	10.6	22	8421 9308 04
LBL45E 025	—	10.0	2500	0.80	1.1	120	2500	16	35.0	20.0	44	9.0	19	8421 9408 52
LBL45E 015	7.0	14.0	2500	0.80	1.1	120	1500	16	35.0	20.0	44	9.0	19	8421 9408 45
LBL45E 010	10.0	16.0	2500	0.80	1.1	120	1000	16	35.0	20.0	44	9.0	19	8421 9408 37
LBL45E 007	14.0 <sup>c</sup>	22.0 <sup>d</sup>	2500	0.80	1.1	120	700	16	35.0	20.0	44	9.0	19	8421 9408 29
LBL45E 005	16.0 <sup>d</sup>	22.0 <sup>e</sup>	2500	0.80	1.1	120	550	16	35.0	20.0	44	9.0	19	8421 9408 11
LBL45E 003	20.0 <sup>e</sup>	32.0 <sup>f</sup>	2500	0.80	1.1	120	320	16	35.0	20.0	44	9.0	19	8421 9408 03

Recommended max tapping size: <sup>a</sup>M4   <sup>b</sup>M5   <sup>c</sup>M8   <sup>d</sup>M10   <sup>e</sup>M12   <sup>f</sup>M16

# AUTOMATIC DRILLING AND TAPPING UNITS

## Selection guide

**LBL45**

025	015	010	007	005	003
—	7.0	10.0	14.0 (M8)	16.0 (M10)	20.0 (M12)
	○	○	○	○	○
10.0	14.0	16.0	22.0 (M12)	32.0 (M16)	



Steel



Aluminium

**LBL35**

190	054	030	014	007
—	3.0	5.0	8.0 (M4)	11.0 (M8)
○	○	○	○	○
○	○	○	○	○

**LBL25**

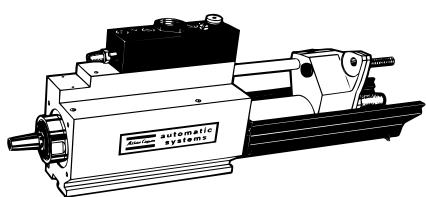
220	049	022	011
1.2	3.2	5.0	8.0
○	○	○	○
○	○	○	○



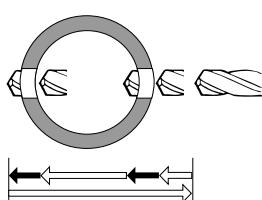
# AUTOMATIC DRILLING AND TAPPING UNITS

## Optional accessories

### Chip removal attachments



### Programmed damping device



*Hydraulic damper*



*Key chuck*



Model	Ordering No.
LBL35	4130 1950 81
LBL45	4130 1950 82

To be used together with the hydraulic damper.

### LBL25

Designation	Ordering No.
Hydraulic damper (feed stroke 65 mm)	4130 1844 80
Key chuck (0-6.5 mm)	4021 0283 00
Key chuck (2-10 mm)	4021 0416 00

*Sleeve chuck*



### LBL35

Designation	Ordering No.
Hydraulic damper (feed stroke 65 mm)	4130 1844 80
Key chuck (2.0-13.0 mm)	4021 0452 00
Sleeve chuck (2.0-9.5 mm)	4021 0459 00
Twin spindle head, speed ratio 1:1, centre to centre adjustment range 12.7-63.5 mm	4130 1363 84
Other multiple heads on request	
Tapping unit, M2-M7 SPD3, Taper socket J33	4130 1938 00
Holder for tapping unit SPD3	4130 1787 00
Collet 2.5-5 mm	4021 0412 00
Collet 5-6.3 mm	4021 0413 00
Tapping unit, M3-M12 SPD5, Tapping Socket J33	4130 1939 00
Holder for tapping unit SPD5	4130 1860 00
Collet 3.3-6.8 mm	4021 0337 00
Collet 4.5-8.7 mm	4021 0336 00
Collet 6-10 mm	4021 0456 00

### LBL45

Designation	Ordering No.
Hydraulic damper (feed stroke 110 mm)	4130 1895 80
Key chuck (3.2-16.0 mm)	4021 0423 00
Sleeve chuck (2.0-9.5 mm)	4021 0458 00
No. 2 Morse taper socket	4130 1080 00
No. 3 Morse taper socket	4130 1079 00
Twin spindle head, speed ratio 1:1, centre to centre adjustment range 19-95 mm	4130 1364 82
Other multiple heads on request	
Tapping unit, M15-M18 SPD7, Taper socket, J3	4130 1940 00
Holder for tapping unit SPD7	4130 1773 00
Collet 6-10 mm	4023 1059 00

*Morse taper socket*



*Tapping unit*



*Twin spindle head*



# AUTOMATIC DRILLING AND TAPPING UNITS

## Accessories

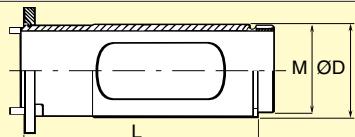
## **Collets for Twin head LBL35**

Size mm	Ordering No.								
1.0	4130 1367 00	2.2	12	3.4	24	4.6	36	5.8	48
1.1	01	2.3	13	3.5	25	4.7	37	5.9	49
1.2	02	2.4	14	3.6	26	4.8	38		
1.3	03	2.5	15	3.7	27	4.9	39	6.0	4130 1367 50
1.4	04	2.6	16	3.8	28			6.1	51
1.5	05	2.7	17	3.9	29	5.0	4130 1367 40	6.2	52
1.6	06	2.8	18			5.1	41	6.3	53
1.7	07	2.9	19	4.0	4130 1367 30	5.2	42	6.4	54
1.8	08			4.1	31	5.3	43	6.5	55
1.9	09	3.0	4130 1367 20	4.2	32	5.4	44		
		3.1	21	4.3	33	5.5	45		
2.0	4130 1367 10	3.2	22	4.4	34	5.6	46		
2.1	11	3.3	23	4.5	35	5.7	47		

## Collets for Sleeve chuck LBL35/45 Twin head LBL45

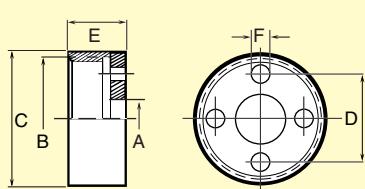
Size mm	Ordering No.								
2.0	4130 1561 00	3.6	16	5.1	31	6.7	47	8.2	62
2.1	01	3.7	17	5.2	32	6.8	48	8.3	63
2.2	02	3.8	18	5.3	33	6.9	49	8.4	64
2.3	03	3.9	19	5.4	34			8.5	65
2.4	04			5.5	35	7.0	4130 1561 50	8.6	66
2.5	05	4.0	4130 1561 20	5.6	36	7.1	51	8.7	67
2.6	06	4.1	21	5.7	37	7.2	52	8.8	68
2.7	07	4.2	22	5.8	38	7.3	53	8.9	69
2.8	08	4.3	23	5.9	39	7.4	54		
2.9	09	4.4	24			7.5	55	9.0	4130 1561 70
		4.5	25	6.0	4130 1561 40	7.6	56	9.1	71
3.0	4130 1561 10	4.6	26	6.1	41	7.7	57	9.2	72
	11	4.7	27	6.2	42	7.8	58	9.3	73
3.1	12	4.8	28	6.3	43	7.9	59	9.4	74
3.2	13	4.9	29	6.4	44			9.5	75
3.3	14			6.5	45	8.0	4130 1561 60		
3.4	15	5.0	4130 1561 30	6.6	46	8.1	61		

## **TIP MOUNT**



Model	Max stroke	Dimensions, mm/in				Ordering No.
		L	D	M		
LBL35	73	159	60	M56x1.5L	4140 0090 80	
LBL45	110	215	80	M56x1.5L	4140 0092 80	

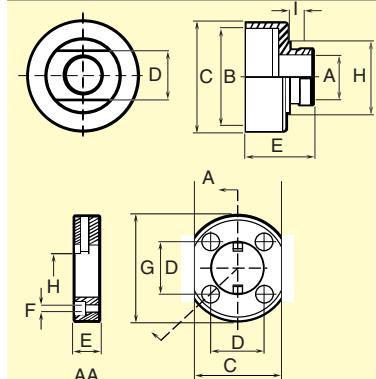
#### **DRILL GUIDE (Screw mount)**



A	B	C	D	E	F	G	H	I	Ordering No.
4 <sup>a</sup> , 5, 6, 7, 8, 10, 12, 18, 22, 26	M56x 1.5L	60 (2.36)	39 (1.54)	25 (0.98)	6.2 (0.24)				4140 0044 04, -05, -06, -07, -08, -10, -12, -18, -22, 26

<sup>a</sup> Dimensions mentioned under A refer to the outside diameter for drill guide bushings.

## **DRILL GUIDE (Bayonet mount)**



A	B	C	D	E	F	G	H	I	Ordering No.
4 <sup>a</sup> , 5, 6, 7, 8, 10, 12, 18, 22, 26	M56x 1.5L	60 (2.36)	30 (1.18)	37 (1.46)			40h8 (1.57)	6.2 (0.31)	4140 0058 04, -05, -06, -07 -08, -10, -12, -18, -22, -26
		56 (2.20)	36 (1.50)	15 (0.59)	6.5 (0.26)	67 (2.64)	40F8 (1.57)		4140 0059 80

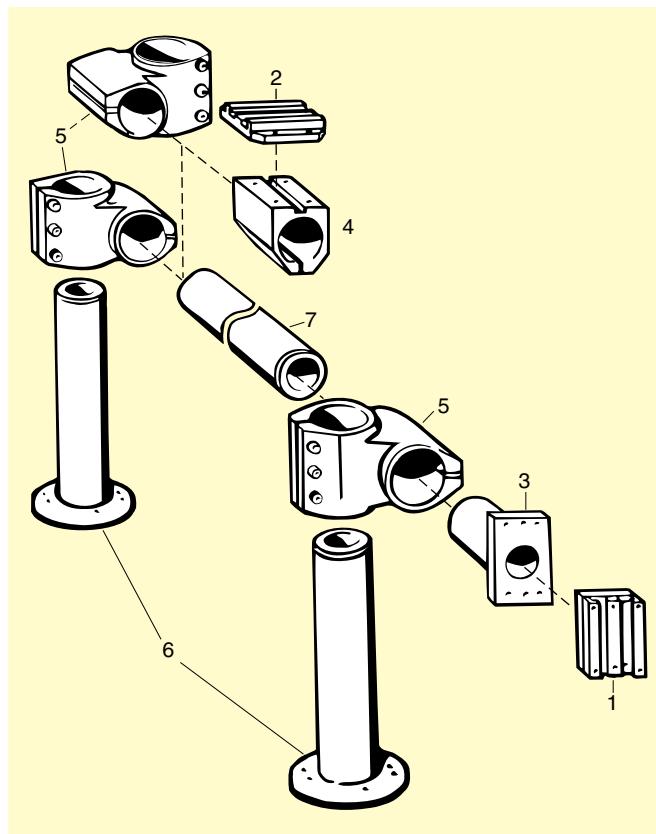
<sup>a</sup> Dimensions mentioned under A refer to the outside diameter for drill guide bushings.

# DIMENSION SKETCHES

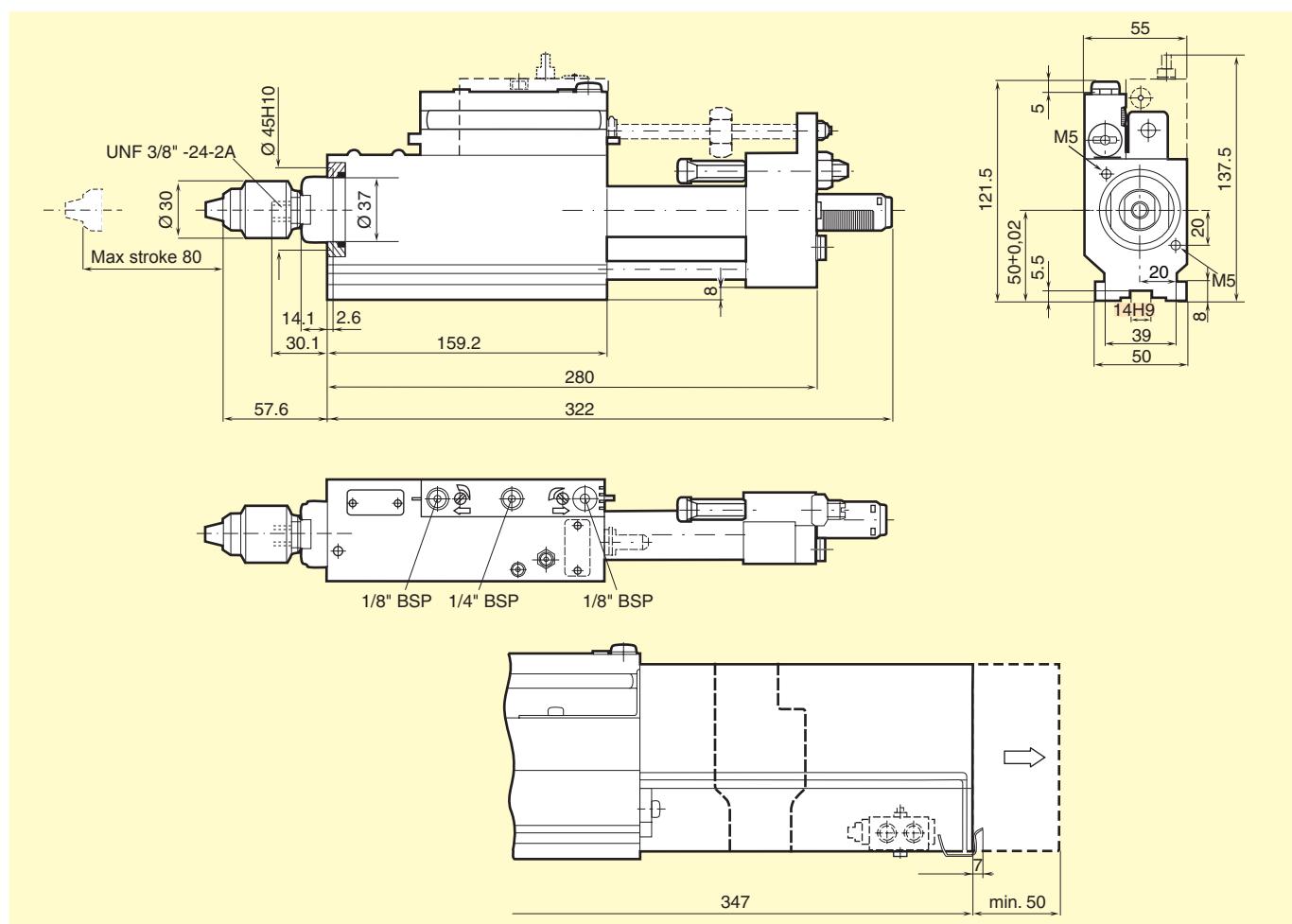
## MOUNTINGS

Ref. No.	Designation	Ordering No.	
		LBL25, LBL35	LBL45
1	Base plate	4140 0077 80	4140 0081 80
2	Base plate	4140 0080 80	4140 0084 80
3	Column mount	4140 0050 00	
4	Side mount	4140 0047 80	4140 0018 80
5	Crossmount	4140 0048 80	4140 0029 80
6	Column socket 500 mm long 250 mm long 600 mm long 300 mm long	4140 0051 01 4140 0051 02	4140 0019 02 4140 0019 01
7	Column 500 mm long 600 mm long 300 mm long	4140 0052 01	4140 0020 02 4140 0020 01
8	Locking bar	4140 0078 00 <sup>a</sup>	4140 0082 00 <sup>a</sup>
9	Locking bar	4140 0079 00 <sup>a</sup>	4140 0083 00 <sup>a</sup>

<sup>a</sup> Two per unit.



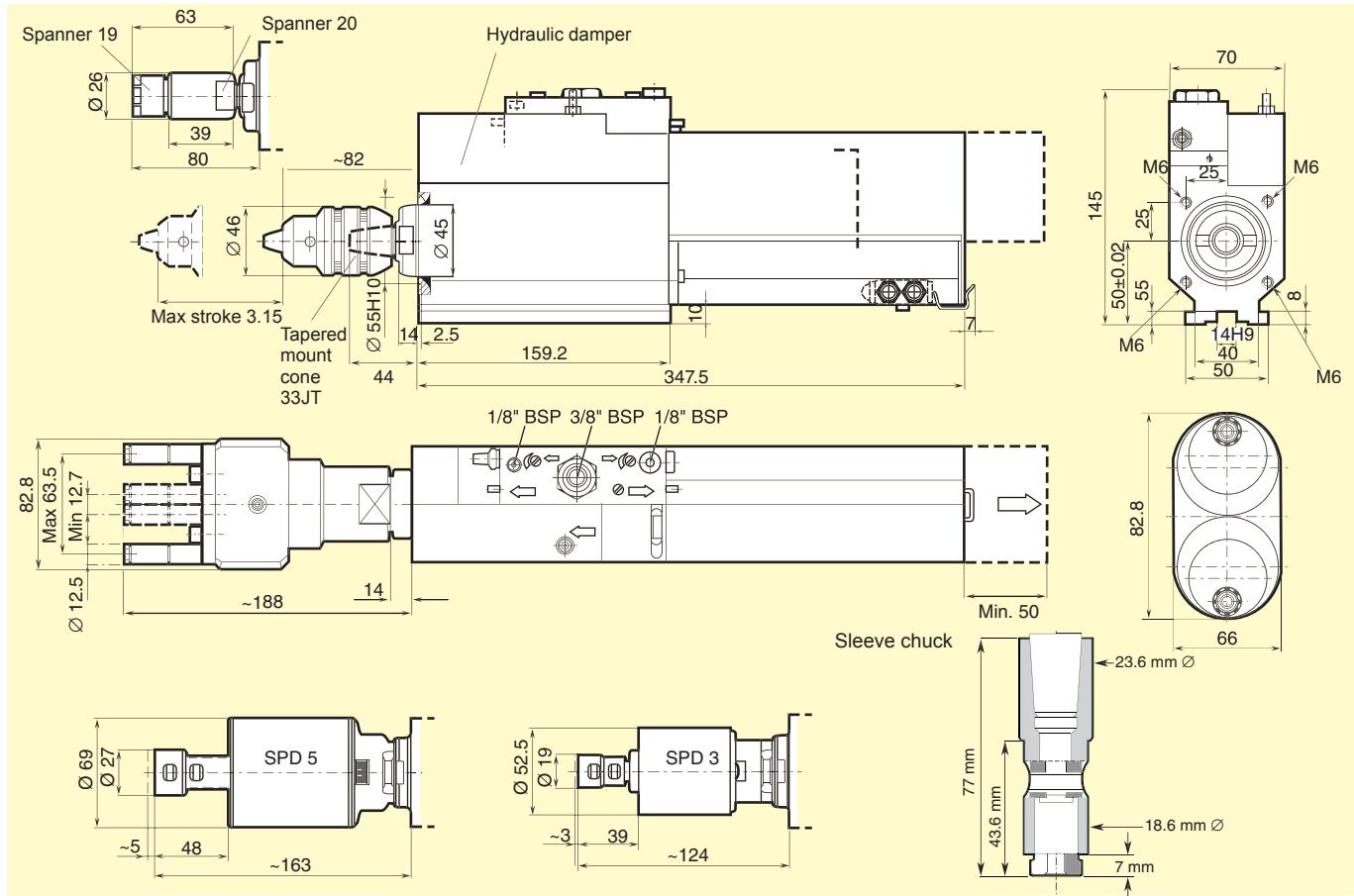
## DIMENSION SKETCH – LBL25



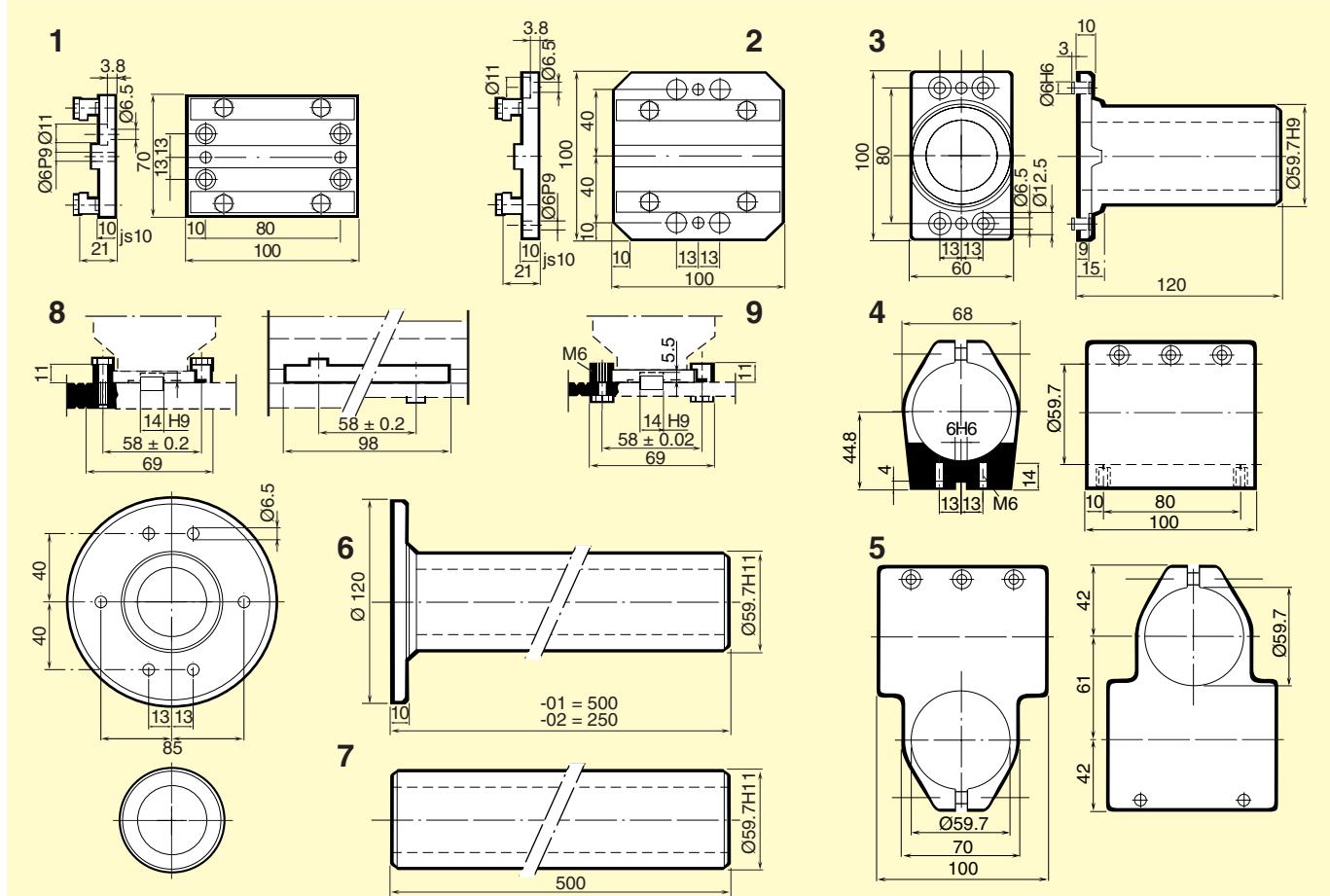
Dimensions available on Auto-Cad diskette. Please contact Atlas Copco.

# DIMENSION SKETCHES

## DIMENSION SKETCH – LBL35



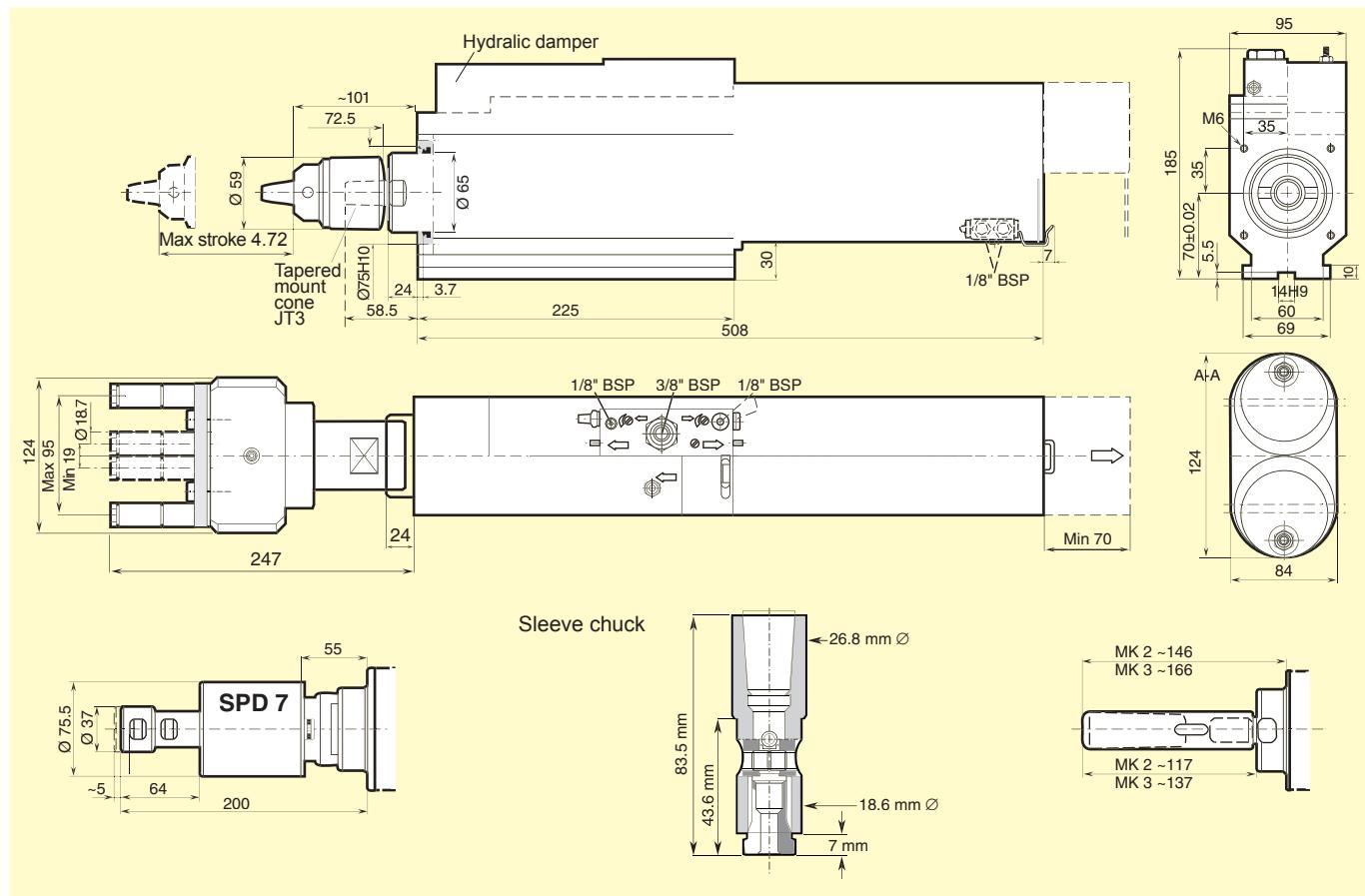
## DIMENSION SKETCH – Mountings for LBL25E and -35E



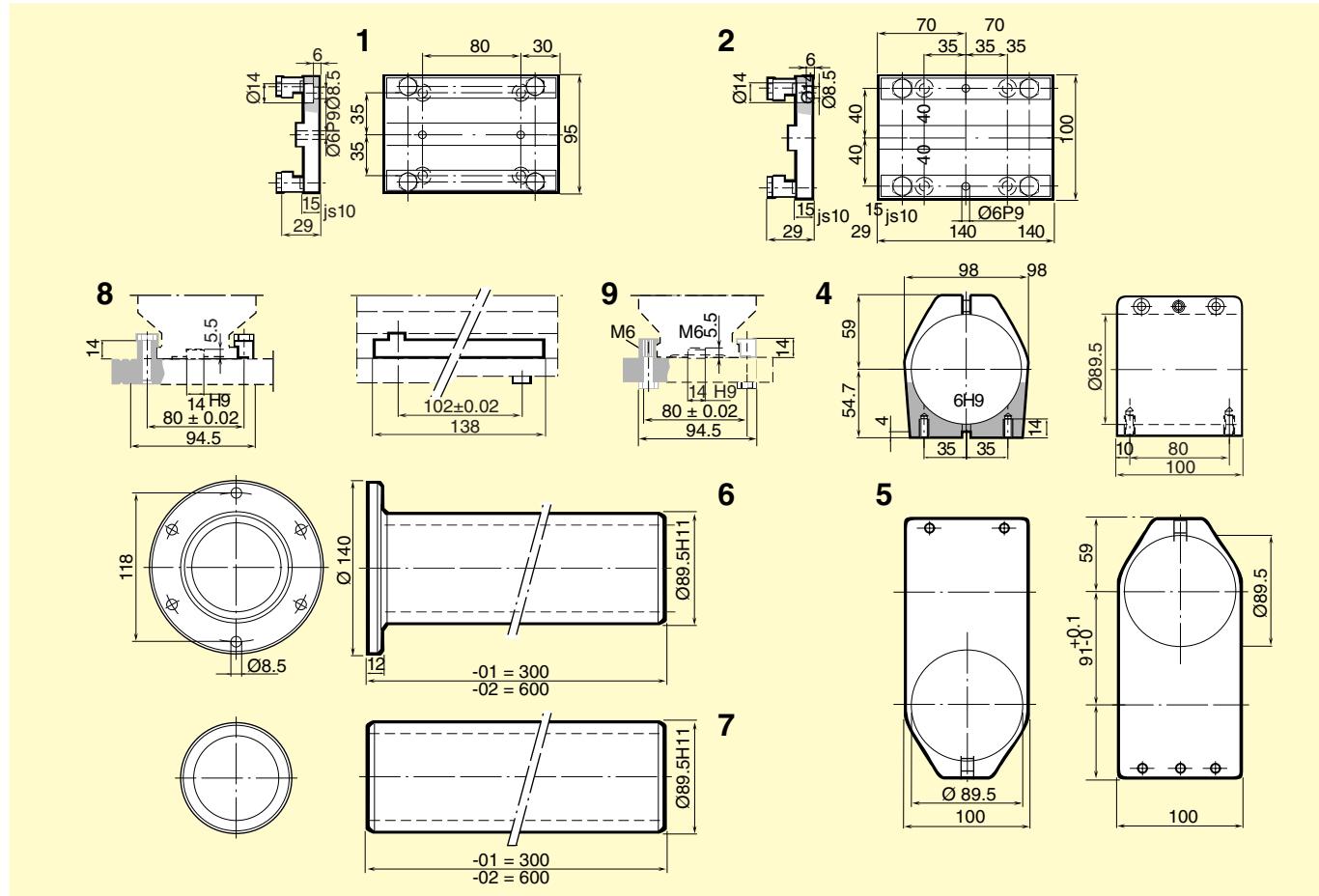
Dimensions available on Auto-Cad diskette. Please contact Atlas Copco.

# DIMENSION SKETCHES

## DIMENSION SKETCH – LBL45



## DIMENSION SKETCH – Mountings for LBL45E



Dimensions available on Auto-Cad diskette. Please contact Atlas Copco.

# Airline accessories



## Get the best from your air tools

Atlas Copco airline accessories mean correct air pressure, whatever the conditions. Atlas Copco quick couplings ensure low pressure drop. Atlas Copco balancers take the weight off the operator and our high-performance hose is up to 50% lighter than conventional hoses.

### Contents

Contents	Page
Installation guide.....	208
Air preparation units .....	210
Quick couplings .....	215
Hose clamps.....	217
Hoses .....	218
Balancers.....	221
Hose reels .....	223
Test equipment .....	224

# AIRLINE ACCESSORIES

## Installation guide

### AIR PREPARATION UNITS, MIDI 1/2" and MAXI 1"

The most common way to choose between these two types is to select MIDI wherever possible (this will cover approximately 90% of all the applications). MIDI is suitable for all kinds of assembly tools, percussive tools, drills, nibblers and saws. MAXI can also be used for small grinders.

MAXI can be used as an alternative when necessary. If the tools are major air consumers, large grinders for instance, 80% require MAXI units, and it might be a good idea to install MAXI on all work sites.

### REGULATOR

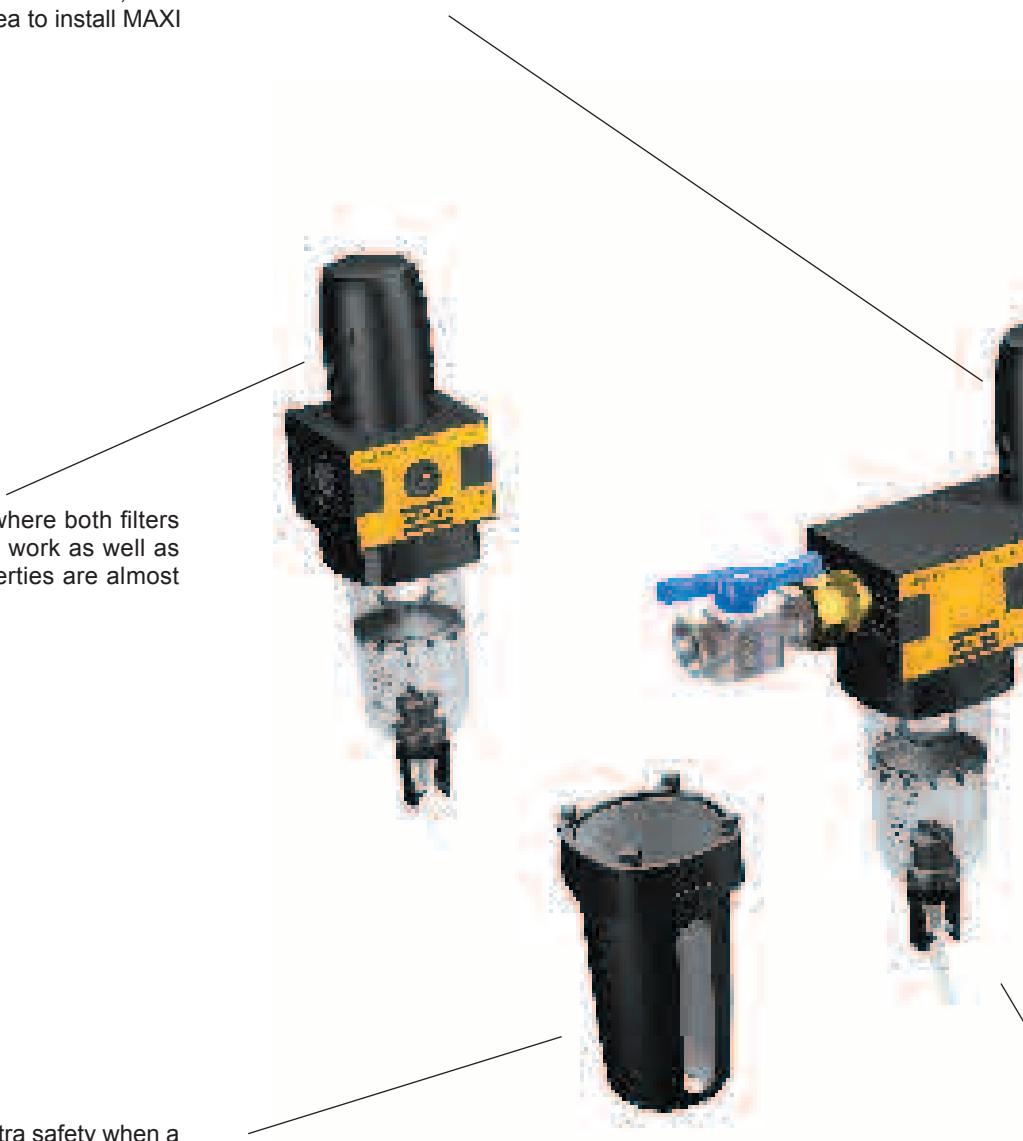
The regulator (REG) is designed to ensure the right working pressure to the tool. A regulator is needed when high accuracy is required on the tools' working pressure (this is normally the case when using torque controlled tools, i.e. assembly tools). Too high working pressure also means unnecessarily high air consumption.

### FILTER / REGULATOR

F/R units are recommended in every case where both filters and regulators are needed. Combined units work as well as separate units, filtering and regulating properties are almost the same as for individual units.

### METAL BOWL GUARD

The metal bowl guard is recommended for extra safety when a polycarbonate bowl is used (MIDI only). The guard helps avoid accidents if the polycarbonate bowl is damaged under pressure. MAXI units have a metal bowl as standard.



# AIRLINE ACCESSORIES

## Installation guide

### OIL-FOG LUBRICATOR

The oil fog lubricator (DIM) is used to lubricate air tools which have a normal operation time and is the standard method of lubricating air tools. (It is not needed with lubrication-free tools.)



### FILTER

The filter (FIL) is used to remove water and dirt from the compressed air. Clean air prevents corrosion damage and wear of the air tools.

The usual type of drainage on filters is semi-automatic. All filters are accompanied by a kit enabling them to be converted from semi-automatic to manual drainage.

By manual drainage we refer to drainage by hand when the filter bowl is full. Semi-automatic drainage takes place when the pressure in the bowl drops below 3 psi (providing the air supply is switched off regularly).

### HOSES

Choose hoses depending on the working environment. When it is hot, dirty and the hoses are laying on the floor, choose rubber hoses. For bench operations and a clean environment, use the CABLAIR. For all general operations, light grinding to heavy assembly, ordinary PVC or the POLUR hose will do fine.

### WHIP HOSES

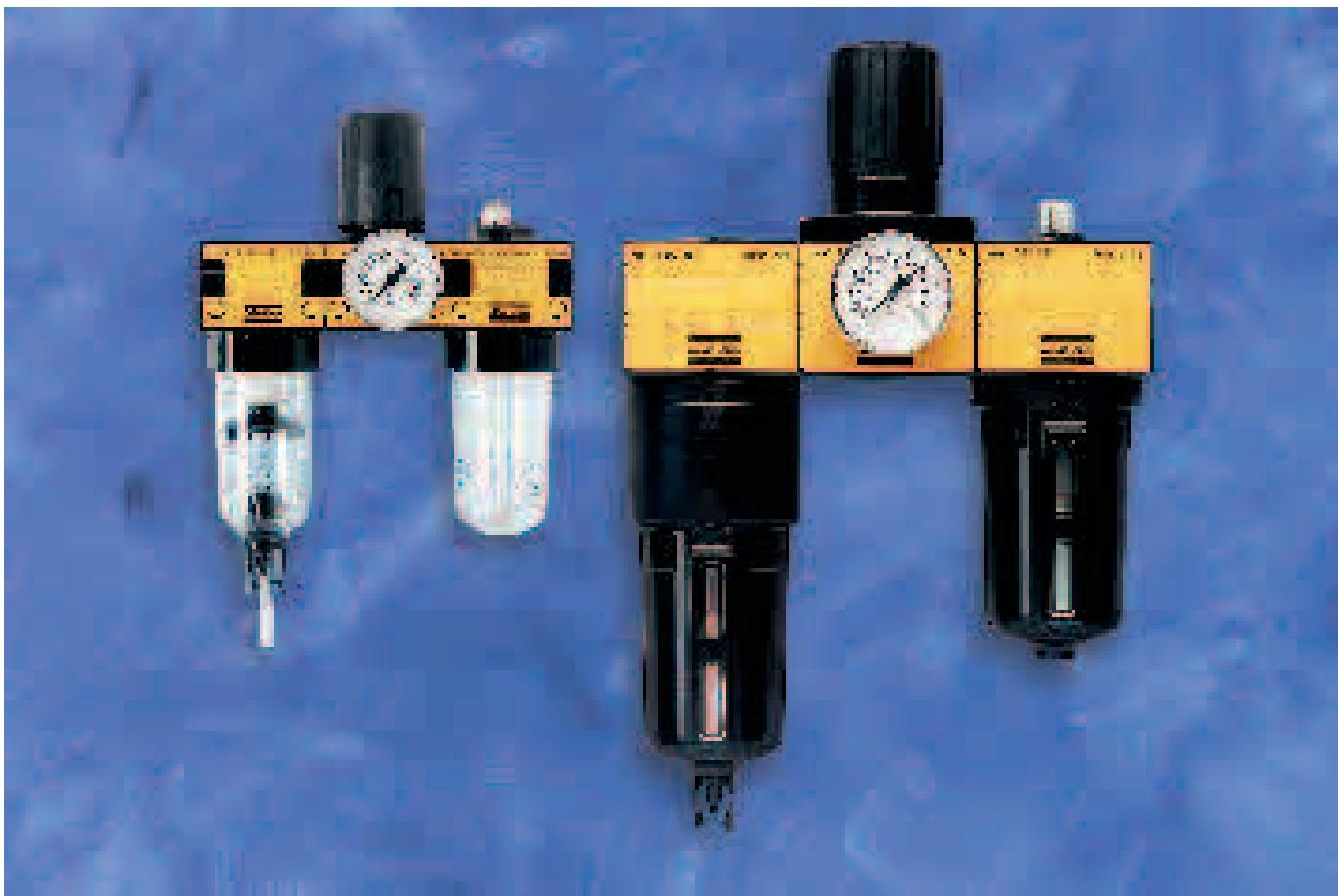
Whip hoses are recommended for use on percussive tools, such as impact wrenches, chipping hammers and on grinders with high vibration levels. Quick couplings which are connected directly to a percussive tool will need replacement sooner if a whip hose is not used.

### PRESSURE CLAMPS

A single lagged medium pressure clamp is recommended for use on CABLAIR. A medium pressure clamp with screw locking is recommended for PVC and POLUR hoses and smaller rubber hoses up to 5/8". Heavy duty clamp is recommended for rubber hoses above 5/8".

# AIR PREPARATION UNITS

A correct air treatment guarantees a good total economy



The only way to ensure maximum capacity and increased service life for your compressed air equipment is to make sure that the air used is correctly processed. This is where Atlas Copco's MIDI and MAXI air preparation units come in. They are designed to correctly process the air for all types of pneumatic equipment used in industry today. And a correct air treatment guarantees a good total economy of the system.

To guarantee that the machine at the end of the airline delivers optimum power, each unit is designed to allow the smallest possible pressure drop.

- **Easy to install** – a modern compact design with small installation dimensions.
- **Direct assembly** – which eliminates bulky couplings.
- **Easy to handle** – simple installation and simple dismantling.

## Catalogue symbols



Manual drainage



Pressure gauge 0-10 bar



Metal bowl



Semi-automatic drainage



Polycarbonate bowl



Oil free outlet



Automatic drainage



Polycarbonate bowl and bowl guard

## Important standards for air preparation units

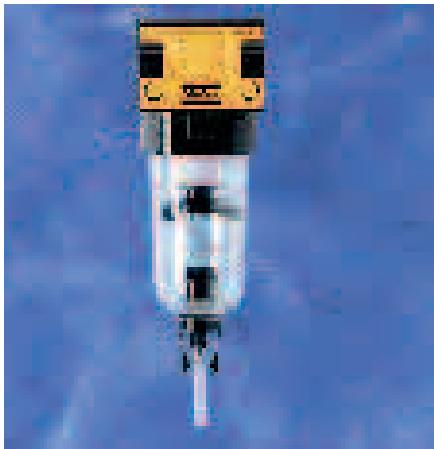
### European standard EN 983 Safety of machinery

Atlas Copco fulfils all of these demands regarding air preparation units MIDI-C and MAXI.

### International standard ISO 4414

The contents of ISO 4414 are the same regarding air preparation units as those of EN 983, which Atlas Copco fulfils for the air preparation units MIDI-C and MAXI.

# AIR PREPARATION UNITS



## FILTER – FIL

Water and dirt in your compressed air system will cause extensive corrosion damage and wear.

- Cleaner air** – Atlas Copco filters are designed to give clean air with minimal pressure loss and a very high degree of water separation.
- Longer life for your tool** – Using air filters will result in a noticeable decrease in maintenance costs for the pneumatic equipment used.



## REGULATOR – REG

Atlas Copco regulators reduce a variable primary pressure to a practically constant secondary pressure.

- Good operation economy** – By installing a pressure regulator you can be assured of maintaining a good operating economy.
- No unnecessary air consumption** – Many pneumatic applications do not require full airline pressure to operate efficiently.



## LUBRICATOR – DIM

Atlas Copco oil-fog lubricators ensure a long, efficient and trouble-free life for your pneumatic tools and components.

- Correct proportion oil to air flow** – Oil fog lubrication is recommended for tools in continuous operation. The lubricator automatically delivers oil to the working pneumatic unit in correct proportion to the air consumption.

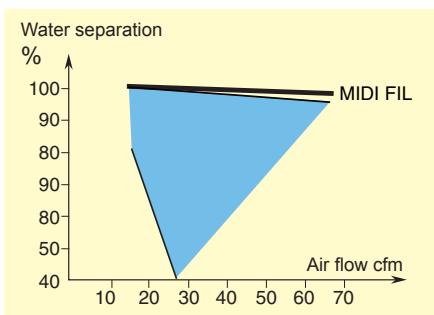


Fig. 1 MIDI FIL 15C – Water separation

The MIDI FIL 15C removes 97% of the water present in the air line at 90 psi and 70 cfm with a minimum pressure drop (see fig. 1 and 2). Competitors fall within the shaded field.

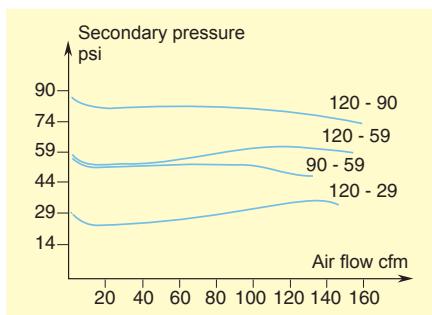


Fig. 3 MIDI REG 15C-S – Secondary pressure versus flow

Flow characteristics, if the regulator is set for a secondary pressure of 90 psi at a constant airline pressure of 120 psi with no air flow, the secondary pressure will drop when air consumption starts. At a flow rate of 20 cfm for instance, the secondary pressure will be 80 psi and will remain the same even if the air flow increases up to 100 cfm (see fig. 3).

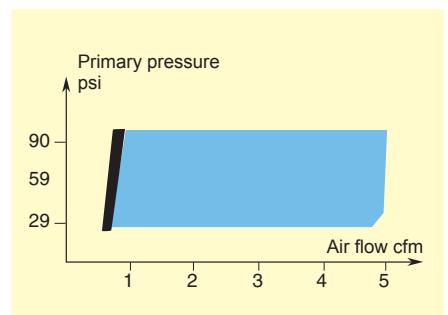


Fig. 4 MIDI DIM 15C – Oil delivery

The MIDI DIM 15C begins delivering oil when the air flow is as low as 0.6 cfm at 90 psi. Competitors fall within the shaded field (see fig. 4).

The MIDI DIM 15C has the advantage of a very low pressure drop. Competitors fall within the shaded field (see fig. 5).

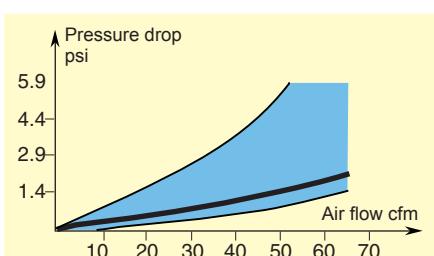


Fig. 2 MIDI FIL 15C – Pressure drop

The combination units MIDI F/R and MAXI F/R have the same function as FIL and REG together.

Combined air preparation units.

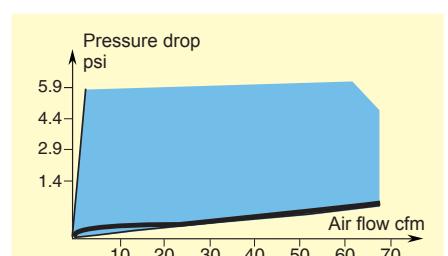


Fig. 5 MIDI DIM 15C – Pressure drop

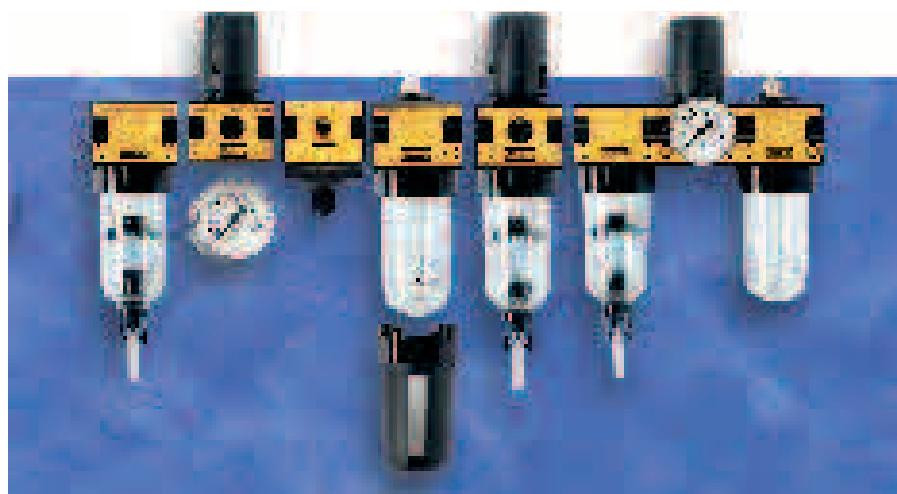
# AIR PREPARATION UNITS

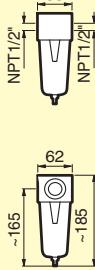
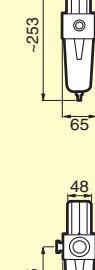
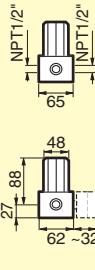
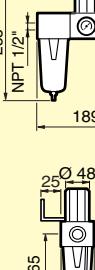
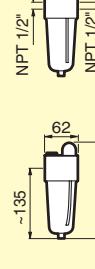
## MIDI-C – 1/2" NPT

Air preparation unit MIDI-C main application is to prepare the air for pneumatic tools. MIDI-C is suitable for all kinds of assembly tools, percussive tools, drills, nibblers and saws. MIDI-C can also be used for small grinders.

MIDI-C has a 1/2" NPT connection thread and the metal housing.

All separate units (mounting brackets, assembly kits and pressure gauges) must be ordered separately. Please refer to page 214 for accessories. Combination units are delivered complete.



MIDI-C 1/2" NPT Model	Max. recommended air flow	Filter drainage	Type of bowl	Pressure gauge (thread)	MIDI-C 1/2" NPT Model	Max. recommended air flow	Filter drainage	Type of bowl	Pressure gauge (thread)	
 <b>FILTER</b>	81 cfm	 + 			 <b>FILTER/REGULATOR</b>	64 cfm	 + 		1/4" NPT	
 <b>REGULATOR</b>	68 cfm			1/4" NPT	 <b>FILTER+REGULATOR+LUBRICATOR</b>	91 cfm	 +  + 			1/4" NPT
 <b>LUBRICATOR</b>	91 cfm									

<sup>a</sup> Accessories page 214.

<sup>b</sup> Mounting bracket, assembly kit and gauge are included.

\* Available directly from stock.

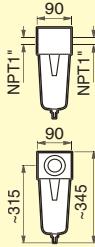
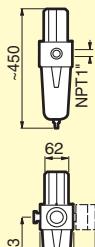
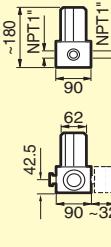
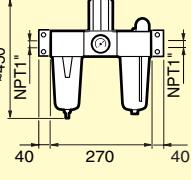
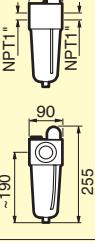
# AIR PREPARATION UNITS

## MAXI – 1" NPT

Air preparation unit MAXI main application is to prepare the air for pneumatic tools which are large air consumers. MAXI can be used for large air consumers, i.e. big grinders. MAXI has a 1" NPT connection thread and metal housing.

All separate units (mounting brackets, assembly kits and pressure gauges) must be ordered separately. Please refer to page 214 for accessories. Combination units are delivered complete.



MAXI 1" NPT Model	Max. recommended air flow	Filter drainage	Type of bowl	Pressure gauge (thread)	MAXI 1" NPT Model	Max. recommended air flow	Filter drainage	Type of bowl	Pressure gauge (thread)
 <b>FILTER</b>	223 cfm				 <b>FILTER/REGULATOR</b>	170 cfm			1/4" NPT
	MAXI FIL 25AU-B <sup>a</sup> Ordering No. 9093 0018 32*				 <b>REGULATOR</b>	180 cfm	1/4" NPT		
	MAXI REG 25AU <sup>a</sup> Ordering No. 9093 0018 92*				 <b>FILTER/REGULATOR/LUBRICATOR</b>	142 cfm			
 <b>LUBRICATOR</b>	95 cfm								
	MAXI DIM 25AU <sup>a</sup> Ordering No. 9093 0019 22*								

<sup>a</sup> Accessories page 214.

<sup>b</sup> Mounting bracket, assembly kit and gauge are included.

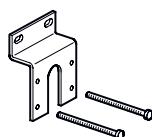
\* Available directly from stock.

# AIR PREPARATION UNITS

## Accessories

### MIDI-C

#### COMMON ACCESSORIES



Mounting  
bracket kit  
9090 1655 80\*



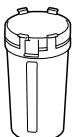
Assembly kit  
9090 1654 00\*

#### FILTER (FIL) ACCESSORIES



30 micron filter element  
9090 2064 00\*

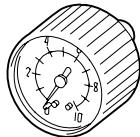
5 micron filter element  
9090 2065 00\*



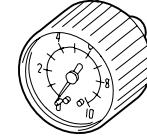
Bowl guard  
9090 1717 00\*

#### REGULATOR (REG) ACCESSORIES

Pressure gauge 0-140 psi is included in the combination units FRD.  
Pressure gauge has to be ordered separately for separate units.

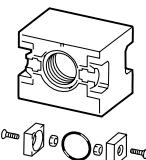


Pressure gauge:  
0-140 psi (0-10 bar)  
Ø 50 mm  
9090 2052 00\*  
0-230 psi (0-16 bar)  
Ø 50 mm  
9090 2053 00\*

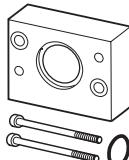


Pressure gauge:  
0-140 psi (0-10 bar)  
Ø 63 mm  
9090 0238 00\*  
0-230 psi (0-16 bar)  
Ø 63 mm  
9090 0239 00\*

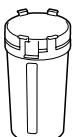
#### LUBRICATOR (DIM) ACCESSORIES



Air distribution  
block kit  
9090 1719 00\*



Air distribution  
block kit  
9090 1851 90\*



Bowl guard  
9090 1717 00\*



Glass sight dome  
9090 1121 00\*



Glass sight dome  
9090 1873 00

#### FIL/REG (F/R) ACCESSORIES

Please see filter (FIL) and regulator (REG) accessories for appropriate accessories.

\* Available directly from stock.

# QUICK COUPLINGS

## ERGOQIC

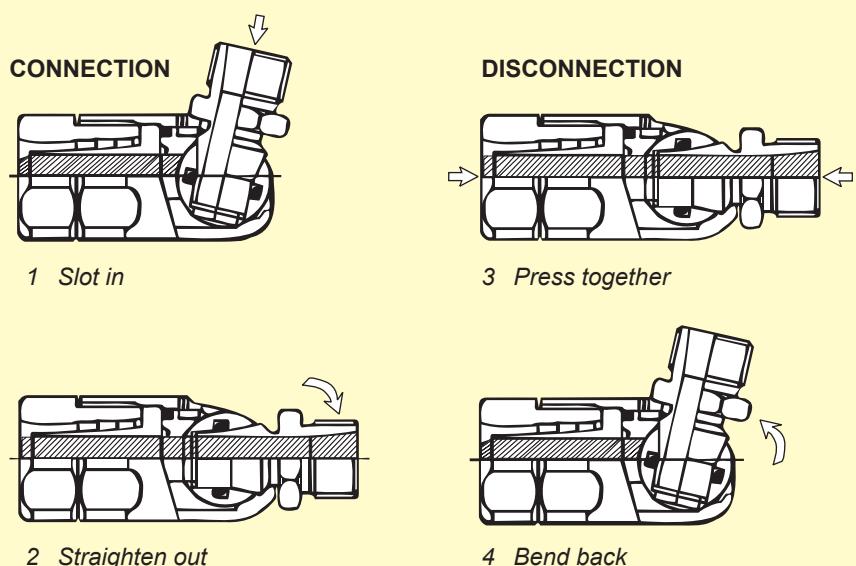
The ErgoQIC is a totally new approach to quick couplings. Upgrading any air system with ErgoQIC will give the benefit of more power. This leads to higher productivity and energy savings.

ErgoQIC is effective in operation and easy to handle. Flipping the air flow on or off is literally a pushover. The ball valve swivels through 75° for quick connection/disconnection and safe operation.

ErgoQIC 08 and  
ErgoNIP 08



*Four easy steps to connect and disconnect*



**ErgoQIC 08 and ErgoNIP 08, 38 cfm (recommended air flow at 90 psi pressure)**

Connection type	Coupling ErgoQIC 08	Ordering No.	Size		Connection type	Nipple ErgoNIP 08	Ordering No.	Size	
			mm	in				mm	in
H – Hose	H06	8202 1110 04*	6.3	1/4	H – Hose	H06	8202 1210 37*	6.3	1/4
	H08	8202 1110 12*	8	5/16		H08	8202 1210 45*	8	5/16
	H10	8202 1110 38*	10	3/8		H10	8202 1210 52*	10	3/8
					S H – Safety Hose <sup>a</sup>	SH06	8202 1210 39*	6.3	1/4
						SH08	8202 1210 47*	8	5/16
						SH10	8202 1210 50*	10	3/8
M – Male	M08U	8202 1115 09*	1/4" NPT		M – Male	M06U	8202 1215 08*	1/8" NPT	
	M10U	8202 1115 17*	3/8" NPT			M08U	8202 1215 16*	1/4" NPT	
	M15U	8202 1115 25*	1/2" NPT			M10U	8202 1215 24*	3/8" NPT	
F – Female	F08U	8202 1115 30*	1/4" NPT		F – Female	F08U	8202 1215 32*	1/4" NPT	
	F10U	8202 1115 35*	3/8" NPT			F10U	8202 1215 35*	3/8" NPT	
Protective cover		9090 1940 00*							

<sup>a</sup> For joining hoses longer than 10 ft.

\* Available directly from stock.

# QUICK COUPLINGS

## ERGOQIC also features:

- Full flow with no restrictions in the coupling, which saves energy.
- Ergonomic design, minimized connection force.
- Automatic venting as a tool connector.
- Safety nipple for automatic venting when disconnecting hoses.
- Protective cover as optional accessory to avoid scratches.

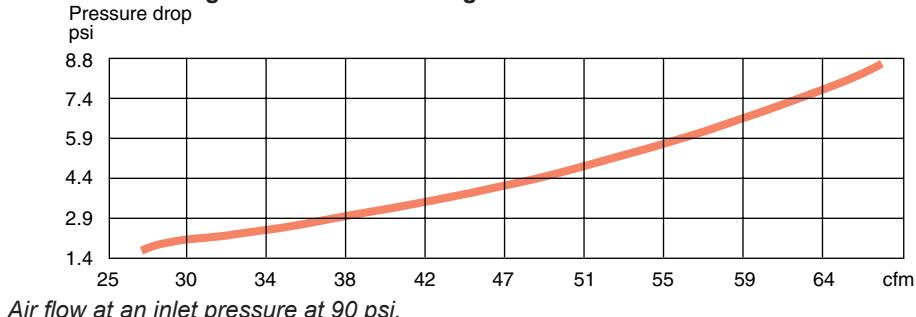


## TECHNICAL DATA

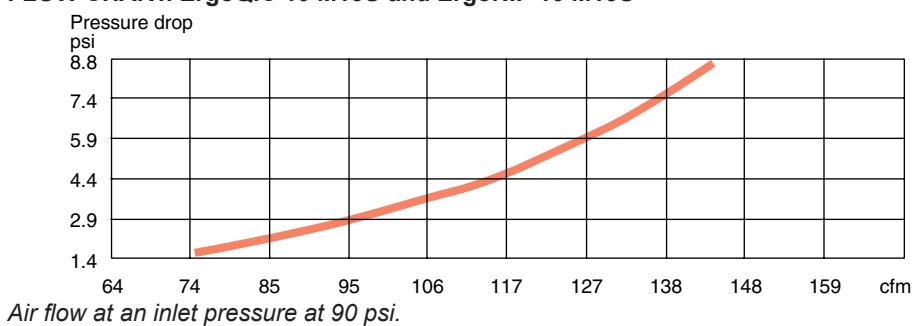
### ErgoQIC 08 and ErgoQIC 10

Temperature range °F		Max. working pressure psi
min	max	
+15	+158	235

## FLOW CHART. ErgoQIC 08 M15U and ErgoNIP 08 M10U



## FLOW CHART. ErgoQIC 10 M15U and ErgoNIP 10 M15U



## ErgoQIC 10 and ErgoNIP 10, 100 cfm (recommended air flow at 90 psi pressure)

Connection type	Coupling ErgoQIC 10	Ordering No.	Size		Connection type	Nipple ErgoNIP 10	Ordering No.	Size	
			mm	in				mm	in
H – Hose	H06	8202 1120 30*	6.3	1/4	H – Hose	H06	8202 1220 35*	6.3	1/4
	H08	8202 1120 40*	8	5/16		H08	8202 1220 43*	8	5/16
	H10	8202 1120 02*	10	3/8		H10	8202 1220 50*	10	3/8
	H13	8202 1120 10*	12.5	1/2		H13	8202 1220 68*	12.5	1/2
						SH06	8202 1220 37*	6.3	1/4
						SH08	8202 1220 45*	8	5/16
						SH10	8202 1220 52*	10	3/8
						SH13	8202 1220 70*	12.5	1/2
M – Male	M08U	8202 1125 07*	1/4"	NPT	M – Male	M08U	8202 1225 06*	1/4"	NPT
	M10U	8202 1125 15*	3/8"	NPT		M10U	8202 1225 14*	3/8"	NPT
	M15U	8202 1125 23*	1/2"	NPT		M15U	8202 1225 22*	1/2"	NPT
F – Female	F08U	8202 1125 30*	1/4"	NPT	F – Female	F08U	8202 1225 30*	1/4"	NPT
	F10U	8202 1125 35*	3/8"	NPT		F10U	8202 1225 32*	3/8"	NPT
Protective cover	9090 1931 00*					F15U	8202 1225 34*	1/2"	NPT

<sup>a</sup> For joining hoses longer than 10 ft.

\* Available directly from stock.

# HOSE CLAMPS

## MEDIUM CLAMPS FOR CABLAIR AND PVC HOSES



For CABLAIR	For PVC	One-lugged steel clamp mm	Ordering No.
–	–	5.2- 6.2	0347 0122 18
–	–	5.9- 7.0	0347 0122 19
–	03	7.0- 8.5	0347 0122 05
06	05	8.5-10.0	0347 0122 06
08	06	9.8-11.8	0347 0122 07
–	08	11.3-13.3	0347 0122 08
10	–	12.8-14.8	0347 0122 09
–	10	14.6-16.8	0347 0122 10
13	–	16.5-18.8	0347 0122 11
–	13	18.0-20.3	0347 0122 12
16	–	20.2-22.8	0347 0122 13
–	–	22.0-24.8	0347 0122 14
20	–	23.3-26.3	0347 0122 15
–	–	26.5-30.0	0347 0122 16
25	–	29.8-33.1	0347 0122 22

## MEDIUM CLAMPS FOR CABLAIR, PVC AND POLUR HOSES



For CABLAIR	For PVC, POLUR	Medium clamp worm drive mm	Ordering No.
–	–	8.0-14.0	0347 6102 00
–	08	11.0-17.0	0347 6103 00
–	10	11.0-17.0	0347 6103 00
–	–	13.0-20.0	0347 6104 00
16	13	15.0-24.0	0347 6105 00
20	16	19.0-28.0	0347 6106 00
–	20	22.0-32.0	0347 6107 00
25	25	26.0-38.0	0347 6109 00
–	–	32.0-44.0	0347 6111 00
–	–	38.0-50.0	0347 6112 00
–	–	50.0-65.0	0347 6113 00

## MEDIUM CLAMPS FOR RUBBER HOSES



For TURBO	For RUBAIR	Medium clamp worm drive mm	Ordering No.
–	06	11.0-17.0	0347 6103 00
13	10	13.0-20.0	0347 6104 00
16	13	15.0-24.0	0347 6105 00
–	16	19.0-28.0	0347 6106 00
20	–	22.0-32.0	0347 6107 00
–	20	26.0-38.0	0347 6109 00

## HEAVY DUTY CLAMPS FOR RUBBER HOSES



For TURBO	For RUBAIR	Heavy-duty clamp mm	Ordering No.
–	–	22.0-25.0	9000 0194 00
20	16	25.0-28.0	9000 0195 00
–	20	29.0-32.0	9000 0196 00
–	25	34.0-38.0	9000 0197 00

# HOSES

## PVC HOSES

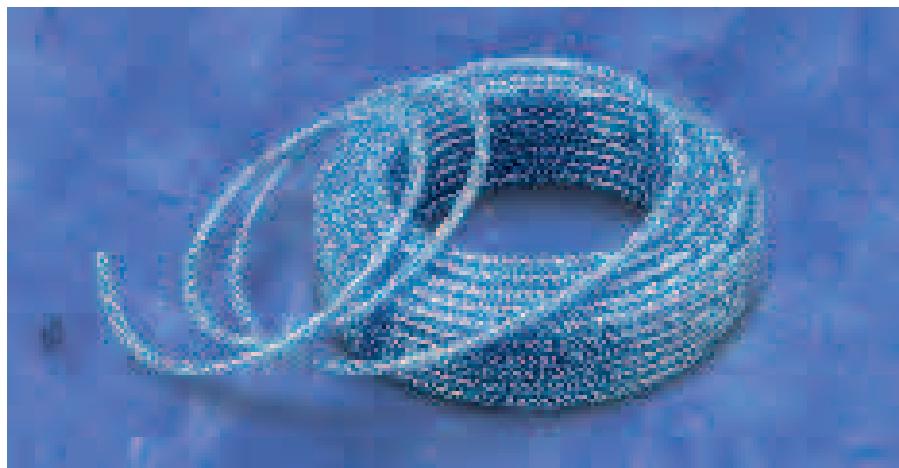
### Strong for heavy-duty applications

The PVC hose has high resistance to abrasion, which makes it the ideal hose for tough working conditions such as workshops, factories, garages, etc. It is mainly recommended for indoor use.

The PVC hose is available in 9 diameters ranging from 1/8" to 1" inside diameter (3 mm to 25 mm) to suit a wide variety of fittings.

- **Transparent** – Facilitates inspection.
- **Pliable** – Easily follows working movements.
- **Long service life.**
- **Inside diameter** according to ISO 4397.
- **Working temperature** between +13°F and +140°F.
- **Easy to handle** – Supplied in 98 ft coils.
- **Blue color** – The international identification color for compressed air.

The PVC hose can also be used in many other fields to carry fluids.



### PVC hose

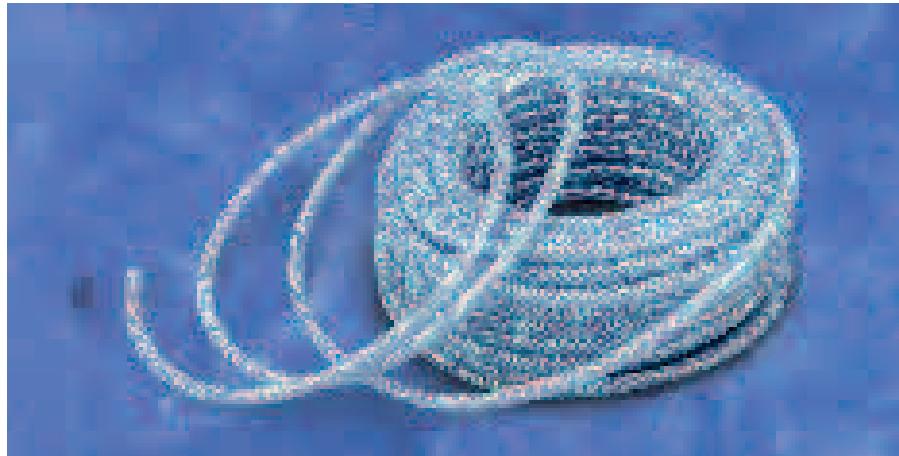
Model	Inside dia		Outside dia mm	Max working pressure <sup>a</sup> psi	Max recommended air flow <sup>b</sup> cfm	Weight per 98 ft coil lb	Ordering No.
	mm	in					
PVC 03	3.2	1/8	7	294	1.5	3	9093 0037 21
PVC 05	5	3/16	9	265	4.5	4.2	9093 0037 51
PVC 06	6.3	1/4	11	265	8.5	5.5	9093 0037 81*
PVC 06-ESD <sup>c</sup>	6.3	1/4	11	265	8.5	5.5	8202 0501 06*
PVC 08	8	5/16	12	265	16	6.4	9093 0038 11*
PVC 10	10	3/8	14	206	28	8.1	9093 0038 41*
PVC 13	12.5	1/2	18	191	45	13	9093 0038 71*
PVC 16	16	5/8	22	176	91	15.8	9093 0039 01*
PVC 20	19	3/4	25	176	159	18.3	9093 0039 31
PVC 25	25	1	32	162	265	27.5	9093 0039 61

## CABLAIR HOSES

### Superlight flexible PVC-hose

CABLAIR is made of high-strength, high-performance PVC-material in combination with optimum braid angle polyester-reinforced fibers. CABLAIR can withstand the same pressures and temperatures as standard hoses. CABLAIR is recommended for indoor use.

- **Low weight** – Extremely low weight, 30-50% less than conventional hoses – in combination with low-weight tools this makes an ideal ergonomic solution.
- **Soft and flexible** – Extremely flexible – softer than ordinary PVC-hoses.
- **Easy to handle** – Supplied in 98 ft coils wrapped in shrink film.
- **Working temperature** +13°F to +140°F.
- **Inside diameter** according to ISO 4397.
- **Patents pending.**
- **Blue color** – The international identification color for compressed air.



### CABLAIR hose

Model	Inside dia		Outside dia mm	Max working pressure <sup>a</sup> psi	Max recommended air flow <sup>b</sup> cfm	Weight per 98 ft coil lb	Ordering No.
	mm	in					
CABLAIR 06	6.3	1/4	9	265	8.5	2.6	9093 0035 11*
CABLAIR 08	8	5/16	10.5	265	16	3.7	9093 0035 41*
CABLAIR 10	10	3/8	13	206	28	4.6	9093 0035 71*
CABLAIR 13	12.5	1/2	16.5	181	45	6.6	9093 0036 01*
CABLAIR 16	16	5/8	21	162	81	11.9	9093 0036 31
CABLAIR 20	19	3/4	24	162	159	12.8	9093 0036 61
CABLAIR 25	25	1	31	147	265	22.9	9093 0036 91

<sup>a</sup> Working temperature range: +13°F to +140°F. With a safety factor of 3 at +68°F (at the max temp of +140°F the working pressure should be reduced by 50%).

\* Available directly from stock.

<sup>b</sup> The pressure drop will be 3 psi on a hose length of 16 ft, including 2 nipples and at an inlet pressure of 100 psi.

<sup>c</sup> Antistatic hose.

# HOSES

## RUBAIR – RUBBER HOSE

### A double reinforced strong hose

RUBAIR is a specially developed rubber hose for compressed hand-held air tools. The hose fulfills all general heavy duty demands. RUBAIR is recommended for indoor and outdoor applications e.g. in foundries, shipyards, engineering workshops as well as on construction sites. The wall thickness is thin which makes RUBAIR light and flexible to work with.

- **Double-reinforced** makes it extra strong and tough.
- **Durable** – For rugged environmental conditions.
- **The hose is antistatic.**
- **Supplied in 65 ft coils wrapped in shrink film.**
- **Long service life.**
- **Working temperature** between  $-40^{\circ}\text{F}$  and  $+194^{\circ}\text{F}$ .
- **Inside diameter** according to ISO 4397.



**RUBAIR rubber hose**

Model	Inside dia		Outside dia mm	Max working pressure <sup>a</sup> psi	Max recommended air flow <sup>b</sup> cfm	Weight per 65 ft coil lb	Ordering No.
	mm	in					
RUBAIR 06	6.3	1/4	11.3	235	8.5	4.4	8202 0401 06*
RUBAIR 10	10	3/8	16.0	235	28	7.9	8202 0402 10*
RUBAIR 13	12.5	1/2	12.5	235	45	10.3	8202 0403 13*
RUBAIR 16	16	5/8	23.0	235	91	13.4	8202 0404 16*
RUBAIR 20	20	3/4	26.6	235	159	17.1	8202 0405 20*
RUBAIR 25	25	1	34.0	235	265	26	8202 0406 25*

<sup>a</sup> Working temperature range:  $-40^{\circ}\text{F}$  to  $+194^{\circ}\text{F}$ . With a safety factor of 5 at  $+68^{\circ}\text{F}$ .

\* Available directly from stock.

<sup>b</sup> The pressure drop will be 3 psi on a hose length of 16 ft, including 2 nipples and at an inlet pressure of 100 psi.

## TURBO – RUBBER HOSE

Super-light flexible rubber hose. TURBO is recommended for indoor and outdoor use.

- **The ideal hose** for a wide variety of applications, such as foundries, shipyards, engineering workshops as well as on construction sites.
- **Supplied in 65 ft coils wrapped in shrink film.**
- **Extremely low weight**, 30-40% less than conventional rubber hoses.
- **Soft and flexible** – Extremely flexible, softer than ordinary rubber hoses.
- **The hose is antistatic.**



**TURBO rubber hose**

Model	Inside dia		Outside dia mm	Max working pressure <sup>a</sup> psi	Max recommended air flow <sup>b</sup> cfm	Weight per 65 ft coil lb	Ordering No.
	mm	in					
TURBO 13	12.5	1/2	18.6	235	45	8.6	9093 0057 91*
TURBO 16	16.5	5/8	22.5	235	91	10.6	9093 0057 31*
TURBO 20	20.1	3/4	26.1	235	159	11.9	9093 0057 61*

<sup>a</sup> Working temperature range:  $-40^{\circ}\text{F}$  to  $+194^{\circ}\text{F}$ . With a safety factor of 4 at  $+68^{\circ}\text{F}$ .

\* Available directly from stock.

<sup>b</sup> The pressure drop will be 3 psi on a hose length of 16 ft, including 2 nipples and at an inlet pressure of 100 psi.

# HOSES

## POLUR – POLYURETHANE

POLUR has high resistance to abrasion. The hose is oil-resistant. POLUR has a much longer lifetime compared with PVC hoses. The polyurethane hose is an ideal hose in tough working conditions such as workshops, factories, garages, shipyards and construction sites. The POLUR is recommended for indoor and outdoor applications. The POLUR is very flexible and keeps its flexibility even when working at minus degrees. The hose will, when stressed, always retract to its normal shape and keeps its performance during its entire life.

- **Working temperature** between -22°F to +176°F.
- **Easy to handle** – Supplied in 82 ft coils.
- **Hardness** – 68/90 Shore A.



**POLUR polyurethane hose**

Model	Hose diameter			Working pressure psi	Burst pressure psi	Recom-mended air flow for 16 ft hose <sup>a</sup> cfm	Weight per 82 ft coil lb	Ordering No.
	inside mm	in	outside mm					
POLUR 08	8	5/16	12	294	882	16	4.4	8202 0601 08*
POLUR 10	10	3/8	14	235	735	28	5.1	8202 0602 10*
POLUR 13	13	1/2	18	191	588	45	8.8	8202 0603 13*

<sup>a</sup> The pressure drop will be 3 psi on a hose length of 16 ft, including 2 nipples and at an inlet pressure of 100 psi.

\* Available directly from stock.

# BALANCERS

## COLIBRI BALANCERS

The Colibri range – COL 1, 2, 3 and 4 – provides weightless suspension for loads from 1.5 up to 121 lb.

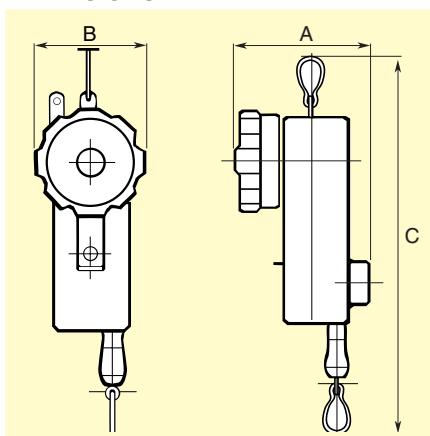
Colibri is a unique range of balancers. Colibri holds the load weightless throughout the entire cable length – at all levels, thanks to the unique counterpoised cones in the balancer which provide constant tension throughout the entire cable length.

The load is not pulled back when released and the environment is protected from accidental hoisting of the load.

### Safety aspects are underscored through several built-in functions

- **The cable locks** in the event of spring failure (downward braking power). See also COL 2/3 S below.
- **The cable locks** if the load drops or if the cable breaks (upward braking power).
- **In all models**, the braking function can be activated upwards by using the “bow and arrow” principle if you need to slacken the cable to change the load.
- **For the large COL 4 balancers** a separate activation Cable-Pullout mechanism is available, making it easy to hook on the load or to unload the balancer.
- **The spring tension** can be easily preset for COL 1, 2 and 3 by turning the adjustment wheel. Nothing more than an ordinary wrench is required for the large COL 4 balancers.

## DIMENSIONS



## MANDATORY ACCESSORIES

Safety chain for	Ordering No.
COL 1	4391 4045 90
COL 2 and 3	4391 4046 90
COL 4	4391 4047 90

## COLIBRI WITH BUILT-IN EXTRA SAFETY BRAKE

The Colibri balancer is available in a model with built-in extra safety brake mechanism for applications with extremely high safety requirements.



## Colibri standard

Model	Capacity range		Cable length ft	Weight		Dimensions			Ordering No.
	kg	lb		kg	lb	A in	B in	C in	
COL 1 01	0.7- 1.3	1.5- 2.9	5.6	0.5	1.1	4.3	2.8	9.6	8202 0750 01*
COL 1 01R	0.7- 1.3	1.5- 2.9	5.6	0.5	1.1	4.3	3.3	9.6	8202 0773 12
COL 1 02	1.0- 2.0	2.2- 4.4	5.6	0.5	1.1	4.3	2.8	9.6	8202 0750 19*
COL 1 02R	1.0- 2.0	2.2- 4.4	5.6	0.5	1.1	4.3	3.3	9.6	8202 0773 20
COL 2 03	1.7- 3.5	3.7- 7.7	7.8	2.3	5.1	6.1	4.6	16.8	8202 0750 27*
COL 2 04	3.0- 6.0	6.6- 13.2	7.8	2.3	5.1	6.1	4.6	16.8	8202 0750 35*
COL 2 05	4.7- 7.0	10.4- 15.4	7.8	2.5	5.5	6.1	4.6	16.8	8202 0750 43*
COL 3 07	5.5- 9.0	12.1- 19.8	7.8	3.3	7.3	7.7	4.6	16.8	8202 0750 50*
COL 3 10	8.0-13.0	17.6- 28.7	7.8	3.4	7.5	7.7	4.6	16.8	8202 0750 68*
COL 3 15	12.5-17.0	27.6- 37.5	7.8	3.8	8.4	7.7	4.6	16.8	8202 0750 76*
COL 4 18	14.0-22.0	30.9- 48.5	7.8	13.2	29.1	9.6	7.6	24.4	8202 0774 11*
COL 4 18P	14.0-22.0	30.9- 48.5	7.8	14.1	31.1	9.6	7.6	24.4	8202 0774 29
COL 4 22	17.0-28.0	37.4- 61.7	7.8	13.9	30.6	9.6	7.6	24.4	8202 0750 84*
COL 4 22P	17.0-28.0	37.4- 61.7	7.8	14.8	32.6	9.6	7.6	24.4	8202 0751 26
COL 4 30	24.0-38.0	52.9- 83.8	7.8	14.5	32.0	9.6	7.6	24.4	8202 0750 92*
COL 4 30P	24.0-38.0	52.9- 83.8	7.8	15.4	34.0	9.6	7.6	24.4	8202 0751 34
COL 4 42	36.0-49.0	79.4-107.8	7.8	14.9	32.8	9.6	7.6	24.4	8202 0751 00*
COL 4 42P	36.0-49.0	79.4-107.8	7.8	15.8	34.8	9.6	7.6	24.4	8202 0751 42
COL 4 50	43.0-55.0	98.4-121.3	7.8	15.3	33.7	9.6	7.6	24.4	8202 0751 18*
COL 4 50P	43.0-55.0	98.4-121.3	7.8	16.2	35.7	9.6	7.6	24.4	8202 0751 59

R = With indicator for fast weight adjustment. P = With pull-out mechanism.

## Colibri with built-in extra safety brake

Model	Capacity range		Cable length ft	Weight		Ordering No.
	kg	lb		kg	lb	
COL 2 03S	1.7- 3.5	3.7- 7.7	7.9	2.3	5.1	8202 0775 93*
COL 2 04S	3.0- 6.0	6.6-13.2	7.9	2.3	5.1	8202 0776 01*
COL 2 05S	4.7- 7.0	10.4-15.4	7.9	2.5	5.3	8202 0776 19*
COL 3 07S	5.5- 9.0	12.1-19.8	7.9	3.3	7.3	8202 0776 27*
COL 3 10S	8.0-13.0	17.6-28.7	7.9	3.4	7.5	8202 0776 35*
COL 3 15S	12.5-17.0	27.6-37.5	7.9	3.8	8.4	8202 0776 43*

\* Available directly from stock.

# BALANCERS

## BALANCER – RIL

RIL balancers always keep the tool in place, handy and easily accessible. There are also many other advantages:

- **Flexible** with a wide range for loads from 0.0 to 236 lb.
- **Rugged** and very strongly made to withstand rough treatment.
- **Adjustable wire stop** helps to obtain the most convenient height of the tool.
- **Required torque easily set**, by only one standard tool.

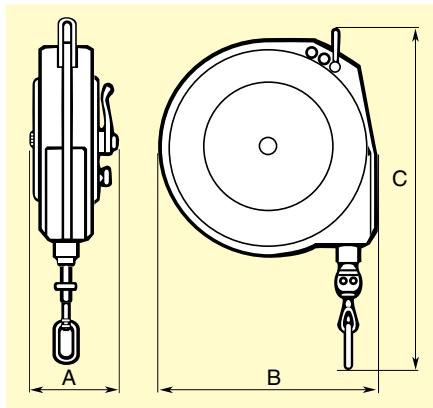
Types RIL 1C, 2C, 4C, 5C, 5, 10C, 15C and 22C are the small to medium-size balancers intended for small tools.

Types RIL 20, 30, 40, 50A, 60A, JA, KA and LA are larger heavy duty sizes intended for medium-size and large tools. They have a compact and sturdy design with high-tensile aluminium alloy casing. Worm gear adjustment provides the torque required. An automatic safety lock prevents load dropping in the event of a main spring failure. The wire rope drum can be locked at any position for ease and safety when changing tools or cable. Forged safety hooks at top and bottom.



Model (Standard design)	Capacity range		Cable length ft	Weight		Dimensions			Ordering No.
	kg	lb		kg	lb	A in	B in	C in	
RIL 1C	0.0- 0.5	0.0- 1.7	4.9	0.6	1.3	2.0	4.2	9.4	8202 0700 02*
RIL 2C	0.4- 1.0	0.9- 2.2	4.9	0.6	1.3	2.0	4.2	9.4	8202 0701 19*
RIL 4C	1.0- 2.0	2.2- 4.4	4.9	0.6	1.3	2.0	4.2	9.4	8202 0702 18*
RIL 5C	1.4- 2.3	3.1- 5.1	4.9	0.6	1.3	2.0	4.2	9.4	8202 0703 25*
RIL 5	0.4- 2.3	0.9- 5.1	7.9	2.0	4.4	2.8	6.2	12.1	8202 0703 09*
RIL 5LR <sup>b</sup>	0.4- 2.3	0.9- 5.1	7.9	2.1	4.6	2.8	6.2	12.1	8202 0703 15*
RIL 10C	2.0- 5.0	4.4-11.0	7.9	2.7	6.0	3.3	7.5	14.5	8202 0704 16*
RIL 15C	5.0- 7.0	11.0-15.4	7.9	3.2	7.1	3.3	7.5	14.5	8202 0705 15*
RIL 20 <sup>a</sup>	5.0- 9.0	15.4-19.8	5.9	7.2	15.9	7.0	8.0	19.5	8202 0707 05*
RIL 22C	6.0-10.0	13.2-22.0	7.9	3.2	7.1	3.3	7.5	14.5	8202 0706 14*
RIL 30 <sup>a</sup>	9.0-14.0	19.8-30.9	5.9	7.2	15.9	7.0	8.0	19.5	8202 0708 04*
RIL 40 <sup>a</sup>	13.0-18.0	28.7-39.7	5.9	7.2	15.9	7.0	8.0	19.5	8202 0709 03*
RIL 50A <sup>a</sup>	18.0-23.0	39.7-50.7	5.9	7.5	16.5	7.0	8.0	19.5	8202 0728 00*
RIL 60A <sup>a</sup>	23.0-30.0	50.7-56.7	5.9	7.5	16.5	7.0	8.0	19.5	8202 0729 09*

## DIMENSIONS



Model (Extra robust, design)	Capacity range		Cable length ft	Weight		Dimensions			Ordering No.
	kg	lb		kg	lb	A in	B in	C in	
RIL 50JA <sup>a</sup>	18- 25	40- 55	6.9	15	33	7.5	12.0	28.0	8202 0713 07
RIL 60JA <sup>a</sup>	24- 29	53- 64	6.9	15	33	7.5	12.0	28.0	8202 0714 06
RIL 70JA <sup>a</sup>	24- 32	53- 71	6.9	15	33	7.5	12.0	28.0	8202 0715 05
RIL 80JA <sup>a</sup>	31- 39	68- 86	6.9	15	33	7.5	12.0	28.0	8202 0716 04
RIL 90JA <sup>a</sup>	36- 41	79- 90	6.9	15	33	7.5	12.0	28.0	8202 0717 03
RIL 100JA <sup>a</sup>	40- 45	88- 99	6.9	15	33	7.5	12.0	28.0	8202 0718 02
RIL 110KA <sup>a</sup>	38- 52	84-115	6.9	24	53	10.2	12.0	28.0	8202 0719 01
RIL 120KA <sup>a</sup>	52- 57	115-126	6.9	24	53	10.2	12.0	28.0	8202 0720 08
RIL 130KA <sup>a</sup>	56- 61	123-135	6.9	24	53	10.2	12.0	28.0	8202 0721 07
RIL 140KA <sup>a</sup>	61- 66	135-146	6.9	24	53	10.2	12.0	28.0	8202 0722 06
RIL 150KA <sup>a</sup>	65- 70	143-154	6.9	24	53	10.2	12.0	28.0	8202 0723 05
RIL 160KA <sup>a</sup>	70- 75	153-165	6.9	24	53	10.2	12.0	28.0	8202 0724 04
RIL 170KA <sup>a</sup>	72- 79	159-171	6.9	24	53	10.2	12.0	28.0	8202 0725 03
RIL 190KA <sup>a</sup>	79- 88	174-194	6.9	24	53	10.2	12.0	28.0	8202 0726 02
RIL 200KA <sup>a</sup>	86- 91	190-201	6.9	24	53	10.2	12.0	28.0	8202 0727 01
RIL 230LA <sup>a</sup>	95-107	209-236	6.9	37	82	14.1	11.5	28.0	8202 0731 05

<sup>a</sup> Balancer equipped with automatic safety drum lock in case of spring failure.

\* Available directly from stock.

<sup>b</sup> LR – lock ratchet

## OPTIONAL ACCESSORIES

Safety chain for	Ordering No.
1C, 2C, 4C and 5C	4391 4045 90
10C <sup>a</sup> , 15C <sup>a</sup> and 22C <sup>a</sup>	4391 4156 00
5, 20, 30, 40	4391 4046 90
50A and 60A	4391 4047 90
JA, KA and LA	4390 1543 00

<sup>a</sup> Safety chain included.

# HOSE REELS

## HOSE REEL BALANCER – HRIL

The HRIL range of hose reel balancers are specifically designed for use with small pneumatic hand tools.

The integrated air hose and support cable ensures that the work area is kept tidy and the tool is easy to control.

- Ergonomics** – The retraction force over hose travel remains almost constant which minimizes load on the operator and ensures smooth operation. An easily adjusted rubber stop is fitted on the hose which allows the tool to be set at the optimum position.

The retraction force is easily adjustable by means of a hand wheel on the rear casing (this can be removed if desired, once the retraction force is set).

- Long service life** – The design features a rugged casing, self lubricating spindle bearing bushes and a 360 degrees rotary inlet connector.

A durable hose is fitted with additional protection to prevent excessive bending around air connectors.

- Low pressure drop** – The HRIL balancers have very good flow characteristics.



Model	Capacity range		Recom-mended air flow <sup>a</sup> cfm	Hose travel ft	Weight		Max working pressure psi	Dimensions			Ordering No.
	kg	lb			kg	lb		A in	B in	C in	
HRIL 3-NPT	0.5-1.4	1.1-3.1	11.7	3.3	1.2	2.6	147	3.6	5.2	6.8	8202 0601 10
HRIL 4-NPT	0.7-2.0	1.5-4.4	13.8	3.3	1.4	3.1	147	3.6	5.2	6.8	8202 0601 28

<sup>a</sup> At inlet pressure of 86 psi pressure drop is 5.7 psi.

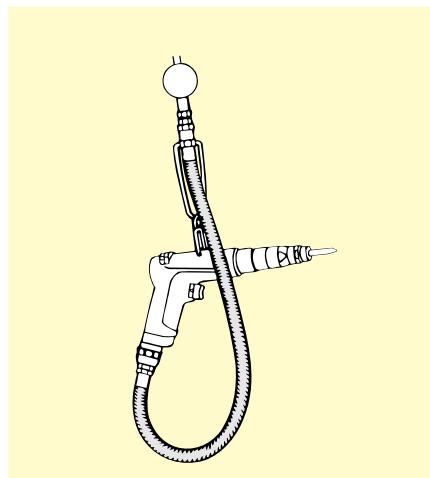
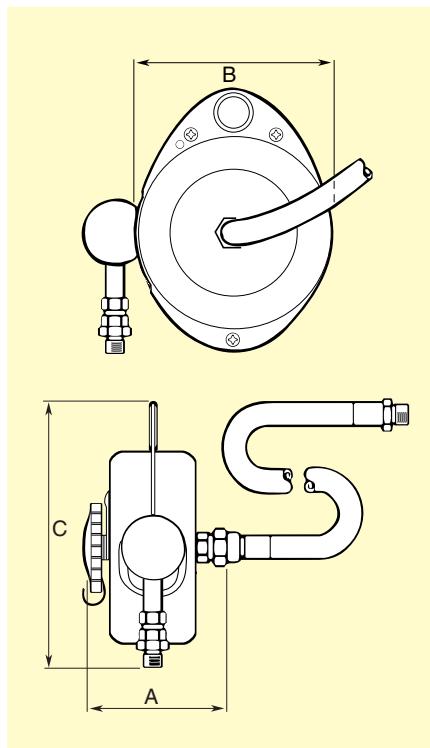
### Air line fittings

All models have a NPT 1/4" inlet fitting.

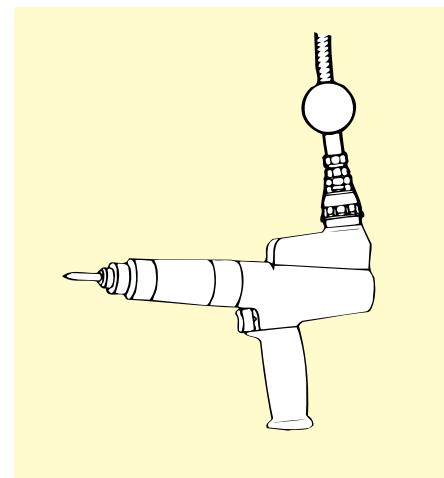
HRIL 3 supplied with NPT 1/8" and NPT 1/4" outlet fittings.

HRIL 4 supplied with NPT 1/4" outlet fitting.

### DIMENSIONS



Conversion kit for air inlet from below.



Air inlet from above.

### OPTIONAL ACCESSORIES

Designation	Ordering No.
Conversion kit for air inlet from below, - HRIL 3, HRIL 4	4390 1687 90*

### MANDATORY ACCESSORIES

Designation	Ordering No.
Safety chain	4391 4045 90*

\* Available directly from stock.

# HOSE REELS

## HOSE REEL – HM

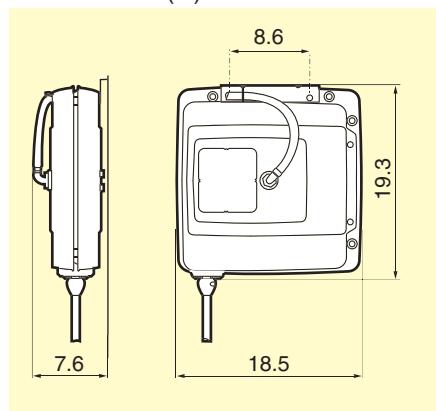
The HoseMaster hose reel has a high quality rubber hose for handling of air and water. Movable brackets give a choice between wall, floor and ceiling mounting.

Other advantages are:

- **Safer, smooth and kink-free reeling.**
- **Reduces hose wear.**
- **Improves the working environment.**  
Max working pressure is 220 psi.  
Working temperature: -14°F – +140°F.



## DIMENSIONS (in)



## Hose reel

Model	Hose dimensions Inside dia		Length ft	Max recommended air flow <sup>a</sup> cfm	Weight		Ordering No.
	mm	in			kg	lb	
HM10	10	3/8	33	25	17	37	8202 1181 40*
HM13	12.5	1/2	26	47	16	35	8202 1181 57*

<sup>a</sup> Air flow at an inlet pressure of 90 psi and a pressure drop of 7 psi.

\* Available directly from stock.

## OPTIONAL ACCESSORIES

Designation	Ordering No.
Pivoting wall bracket, 120°	4390 1676 90
Spring for max 49 ft 3/8" hose or 33 ft 1/2" hose	4390 1751 00

# TEST EQUIPMENT

## AIR LEAKAGE DETECTOR

The Air Leakage Detector is used to find leaks (e.g. in compressed air installations, vacuum installations, etc.) It works by "listening" in a frequency band normally containing no interference and non-audible for humans (>20kHz). Leaking compressed air or electrical flashover (sparks) generates e.g. ultrasonic sound.

The equipment is delivered in a suitcase and consists of: Detecting device, head phone set and directional probe.

**Ordering No. 8202 9002 00\*.**



\* Available directly from stock.



# Air motors

## The right choice for demanding applications

Since Atlas Copco air motors are unaffected by, and generate no electrical interference, they are ideal for hazardous environments. Lubrication-free and stainless steel versions are available for applications where hygiene is crucial or the environment is corrosive.

Contents	Page
Vane air motors .....	226
LZB vane air motors .....	227
LZL vane air motors.....	227
Air motor support .....	228

# VANE AIR MOTORS

Air motors from Atlas Copco – the reliable, cost-effective solution when applying power to rotating machines. Consider the air motor features and characteristics giving large benefits to the designer.

- Power-to-weight performance that is superior to most other motors, in fact, 75% lighter and 85% smaller than an asynchronous electric motor with the same output.
- Can be held stalled at full torque indefinitely, and accepts repeated starting and stopping without limitation.
- Torque, speed and direction of rotation can be changed easily using simple control methods.
- Output that automatically adjusts to match the applied load.
- Controllable over a wide speed range.
- Ideal for many applications in hazardous or hostile environments.
- Smooth start-up to minimize "shock" loading on transmission components.
- Unaffected by, and will not generate, electrical interference.



## Unique features for LZB motors

### Lubrication-free air motors for sensitive processes where hygienic operation is crucial

Equipped with low friction vanes and sealed bearings the lubrication-free motors release no lubricants into the air. They offer a viable drive solution for sensitive processes and hygienic environments where oil contamination would be at best a problem and, at worst, a catastrophe.

### Stainless steel air motors for harsh and aggressive environments

The stainless steel air motors are ideal for harsh or even aggressive environments where hygiene is essential. They have a "clean" design with no pockets where dirt can collect. They are fitted with double shaft seals to prevent water from entering the gears. Lubrication-free versions are also available.

### High torque air motors when a real workhorse is needed

Fitted with extra strong planetary gears the high torque air motors provide torques up to 680 Nm. The gears are dimensioned to stand being loaded at full stall torque indefinitely. Despite their strength the high torque air motors are compact compared to solutions with helical or worm gears. Lubrication-free versions are also available.



### Explosion proof certified versions

Our air motors are available in explosion proof certified versions, in compliance with the European Union's ATEX Directive on equipment for potentially explosive environments.

### Customized air motors to your individual specifications

Whatever the requirement, Atlas Copco is always happy to help customers find solutions to their special needs. For OEMs, for instance, a customized air motor can be the most efficient solution when integrating an air motor into a machine or a tool. Special motors may have unique casings or mounting arrangements. They may utilize non-standard materials or surface coatings and be designed to achieve a specific output.

# VANE AIR MOTORS

## LZB and LZL

### LZB

#### 0.1 – 1.2 kW

The LZB vane air motors are compact in design, light in weight and available in a host of different gear ratios to meet a variety of speed requirements. They are particularly suited to be built into hand held machines and also many different types of industrial equipment.



Model	Max output		Speed at max output r/min	Torque at max output		Min start torque		Free speed r/min	No. of gear ratios	Motor diameter	
	kW	hp		Nm	ft lb	Nm	ft lb			mm	in
<b>Non-reversible</b>											
LZB14	0.16	0.22	330 - 9100	0.17 - 4.7	0.12 - 3.4	0.26 - 7	0.19 - 5.1	690 - 19500	5	27	1.1
LZB22	0.25	0.34	235 - 9600	0.25 - 9.9	0.18 - 7.3	0.45 - 17	0.33 - 12.5	510 - 21500	7	36	1.4
LZB33	0.39	0.52	10 - 9400	0.40 - 340	0.30 - 251	0.76 - 680	0.56 - 501	21 - 20000	17	42	1.6
LZB42	0.65	0.87	25 - 10500	0.59 - 236	0.44 - 174	1.10 - 430	0.80 - 315	50 - 21000	12	46	1.8
LZB46	0.84	1.13	25 - 10800	0.74 - 300	0.55 - 220	1.20 - 490	0.88 - 360	50 - 21000	12	46	1.8
LZB54	1.20	1.60	65 - 9300	1.20 - 175	0.88 - 129	1.80 - 250	1.30 - 180	125 - 18000	10	60	2.4
<b>Reversible</b>											
LZB14	0.10	0.14	230 - 6500	0.15 - 4.1	0.11 - 3.0	0.19 - 5	0.14 - 3.7	460 - 13000	5	27	1.1
LZB22	0.16	0.22	5 - 6500	0.24 - 10.8	0.18 - 8	0.35 - 13.4	0.26 - 9.9	5 - 13800	9	36	1.4
LZB33	0.24	0.32	7 - 7000	0.34 - 305	0.25 - 225	0.46 - 412	0.34 - 304	5 - 14000	21	42	1.6
LZB42	0.53	0.71	19 - 8100	0.62 - 250	0.46 - 184	0.70 - 270	0.52 - 200	37 - 16000	12	46	1.8
LZB46	0.62	0.83	20 - 8600	0.68 - 275	0.50 - 200	0.75 - 300	0.55 - 220	40 - 17000	12	46	1.8
LZB54	0.82	1.10	45 - 6800	1.20 - 165	0.88 - 122	1.20 - 165	0.88 - 122	90 - 13000	10	60	2.4

The LZB14, LZB22 and LZB33 models are available in lubrication-free versions. LZB14, LZB22 and LZB33 can be obtained in a stainless steel version. The standard non-reversible motors have clockwise rotation but can also be obtained with anti-clockwise rotation.

### LZL

#### 1.3 – 5.2 kW

The LZL vane motors are reversible air motors which have been designed to offer outstanding starting and low speed performance. These general purpose motors are powerful, durable and offer long service life.



Model	Max output		Speed at max output r/min	Torque at max output		Min start torque		Free speed r/min	No. of gear ratios
	kW	hp		Nm	ft lb	Nm	ft lb		
<b>Motor only</b>									
LZL05	1.3	1.7	4200	3.0	2.2	4.8	3.5	9000	—
LZL15	2.3	3.1	3380	6.5	4.8	10.9	8.0	7000	—
LZL25	3.4	4.5	2800	11.6	8.5	18.0	13.3	5800	—
LZL35	5.2	7.0	2500	20.0	14.7	32.0	23.6	5000	—
<b>With helical gear unit</b>									
LZL05	1.3	1.7	17 - 462	26 - 688	19 - 507	42 - 1112	31 - 820	37 - 990	11
LZL15	2.3	3.1	17 - 371	58 - 1259	43 - 929	96 - 2134	71 - 1573	35 - 770	11
LZL25	3.4	4.5	14 - 306	103 - 2244	76 - 1655	159 - 3471	117 - 2560	29 - 635	11
LZL35	5.2	7.0	19 - 496	98 - 2459	72 - 1814	156 - 3935	115 - 2902	39 - 992	9
<b>With worm gear unit</b>									
LZL05	0.9	1.2	67 - 525	19 - 117	15 - 88	—	—	130 - 1030	7
LZL15	1.8	2.4	58 - 422	46 - 279	34 - 206	—	—	115 - 840	7
LZL25	2.8	3.8	44 - 361	82 - 571	60 - 421	—	—	90 - 740	7

For more information on Atlas Copco vane motors see our air motor catalogue, Ordering No. 9833 8998 21.

# AIR MOTOR SUPPORT

## Customized air motors to your individual specifications

Whatever the requirement, Atlas Copco is always happy to help customers find solutions to their special needs. For OEMs, for instance, a customized air motor can be the most efficient solution when integrating an air motor into a machine or tool.

Special motors may have unique casings or mounting arrangements. They may utilize non-standard materials or surface coatings and be designed to achieve a specific output.



## Select your air motor in 30 seconds!

Designed for Windows-based PCs, Atlas Copco has developed an Air Motor Selection Guide. It stores data on all of Atlas Copco's air motors.

The designer specifies the required torques and speed of the motor and within seconds the program chooses the optimum motor. It also supplies complete documentation with performance curves and motor data.

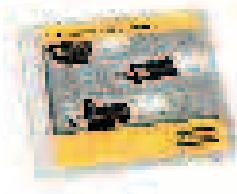
**Ordering No. 9833 9093 00**



## Air motor drawing library

CAD-drawings of any of the hundreds of different Atlas Copco air motors are available to designers on CD or to download from Internet (in both .DXF and .IGS formats) from the Atlas Copco Air Motor Draw Library. These CAD-drawings can then be quickly and easily inserted into the designer's machine drawing.

**Ordering No. 9833 1139 00**



## When more information is required

For further information on Atlas Copco vane motors please ask for a copy of our Air Motor catalog, **Ordering No. 9833 8998 21**.





# Hoists and trolleys

**Treat 'em rough,  
they can stand it!**

Atlas Copco air hoists will not overheat, even during intensive operations at maximum load. Outstanding inching characteristics give precise load control. Complementing the hoists, Atlas Copco trolleys are supplied as manual or motor-driven units. Both products are certified for use in hazardous environments.

## Contents

	Page
Air hoists.....	230
Trolleys .....	231
Accessories .....	232



# AIR HOISTS

## Explosion proof for safe operation

Our air hoists and trolleys are ideal for lift applications in hazardous environments, where sparks or high outer temperatures could ignite explosive gases, vapour or dust. All are certified Explosion-proof, to stringent European standards, in compliance with the EU ATEX Directive. Available in six sizes, they offer lift capacities from 250 kg to 6 tons. All hoists and trolleys are certified to level Ex II 2G T5 II B D100°C. The SR types are even certified to Ex II 2G T5 IIC D100°C.

- Precise and stepless speed control** – Through effective stepless control with excellent creep characteristics the LLA air hoists are fast to use over the entire speed range.
- Heavy duty performance** – These air hoists can continually operate at maximum load with frequent start and stop cycles without risk of damage.
- Elimination of load sink** – The patented brake mechanism eliminates loadsink when starting lifting, and automatically holds the load if the air supply fails.
- Compact size** – The small dimensions make the LLA hoists easy to install, even in the most restricted space. Also the low weight means the hoists can easily be moved for maintenance or relocation purposes.



Model	Max lifting capacity		Lifting speed at full load		Chain strands qty	Weight excl chain		Chain weight		Required chain-length metre	Sound level dB(A)	Air consumption		Hose dia mm	Hose fitting thread BSP	Ordering No.
	kg	ton	m/min	ft/min		kg	lb	kg/m	lb/ft			l/s	cfm			
LLA250 EX	500	1/4	18.6	61.0	1	12.7	28.0	0.9	0.6	Lifting height + 0.5	84	37	78	12.5	1/2	8451 1540 10*
LLA500 EX	1000	1/2	12.6	41.3	1	12.7	28.0	0.9	0.6	Lifting height + 0.5	83	38	81	12.5	1/2	8451 1540 28*
LLA1000 U EX	2000	1	6.3	20.7	2	14.5	32.0	0.9	0.6	2 x lifting height + 0.5	83	38	81	12.5	1/2	8451 1540 69*
LLA3000 EX	6000	3	3.0	9.8	1	42.5	93.7	2.9	1.9	Lifting height + 0.6	79	40	85	20	3/4	8451 1540 77*
LLA6000 EX	12000	6	1.5	4.9	2	65.5	144.4	2.9	1.9	2 x lifting height + 0.9	79	40	85	40	3/4	8451 1540 85*
<b>Spark-resistant model</b>																
LLA250 SR	500	1/4	17.0	55.8	1	12.7	28.0	0.9	0.6	Lifting height + 0.5	83	45	95	12.5	1/2	8451 1510 08
LLA500 SR	1000	1/2	8.5	27.9	2	14.5	32.0	0.9	0.6	2 x lifting height + 0.5	83	45	95	12.5	1/2	8451 1510 16
LLA1250 SR	2500	1 1/4	5.0	16.4	1	42.5	93.7	2.9	1.9	Lifting height + 0.6	79	50	106	20.0	3/4	8451 1510 24

NOTE: The load chain and pull chain must be ordered separately.

\* Available directly from stock.

## DIMENSIONS

Model	A		B		C		D	
	mm	in	mm	in	mm	in	mm	in
LLA250 EX	377	14.8	122	4.8	390	15.4	29	1.1
LLA500 EX/250 SR	377	14.8	122	4.8	390	15.4	29	1.1
LLA1000 U EX/500 SR	445	17.5	122	4.8	390	15.4	29	1.1
LLA3000 EX/1250 SR	575	22.6	212	8.3	546	21.5	50	2.0
LLA6000 EX	785	30.9	249	9.8	546	21.5	60	2.4

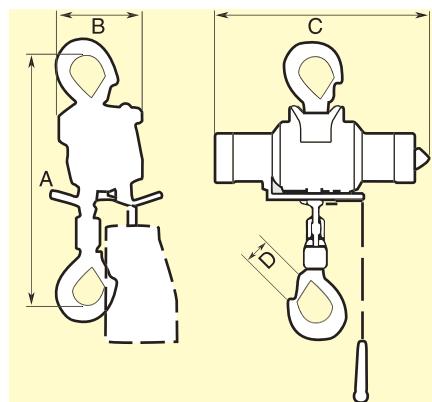
## ACCESSORIES INCLUDED

Wooden handle for pull chain hose nipple  
BSP 1/2"

Suspension hook and load hook

## OPTIONAL ACCESSORIES

Page 232



# TROLLEYS

Atlas Copco trolleys are available in 3 sizes, for maximum loads of 1, 3 and 6 ton. All models can be offered with air motor drive. The 1 and 3 ton trolleys are also available in manual versions.

## Simple installation

The trolleys are easy to install. The wheels are designed so that the trolley is equally suitable on both parallel and tapered I-beam section beams. The distance between the wheels is easily adjusted to suit the beam width by turning the suspension yoke.



Model	Max capacity		Max speed with full load		Air consumption		Beam width standard		Beam width optional		Curve radius min		Weight		Ordering No.
	kg	ton	m/min	ft/min	l/s	cfm	mm	in	mm	in	mm	in	kg	lb	
<b>Manual</b>															
TLT1000	2000	1	—	—	—	—	50-165	2 - 6.5	134-265	5.3-10.4	1250	50	9.4	21	8451 1520 06
TLT3000	6000	3	—	—	—	—	136-334	5.2-13.1	60-172	2.3- 6.7	2200	88	32.0	70	8451 1530 04
LLT1000 SR	2000	1	—	—	—	—	54-173	2.1- 6.8	140-273	5.5-10.7	1200	47	9.5	21	8451 1500 00
LLT2500 SR	6000	3	—	—	—	—	133-332	5.2-13.1	58-170	2.3- 6.7	1400	55	24.5	54	8451 1500 26
<b>Motor-driven</b>															
TLT1000M <sup>a</sup>	2000	1	14.0	45.9	4.0	8.5	50-155	2 - 6.1	134-255	5.3-10.0	1250	50	11.0	24	8451 1520 14
LLT3000M <sup>b</sup>	6000	3	17.8	58.4	42.0	89.0	133-306	5.2-12.0	58-144	2.3- 5.7	1400	55	41.0	90	8451 1530 12
LLT6000M <sup>b</sup>	12000	6	16.2	53.1	42.0	89.0	145-300	5.7-11.8	70-148	2.8- 5.8	1800	71	91.0	200	8451 1530 20
LLT1000(M) SR <sup>ac</sup>	2000	1	14.0	45.9	4.5	9.5	54-153	2.1- 6.0	140-253	5.5-10.0	1200	47	11.0	24	8451 1500 42
LLT2500M SR <sup>bc</sup>	6000	3	17.8	58.4	42.0	89.0	133-306	5.2-12.0	58-144	2.3- 5.7	1400	55	41.0	90	8451 1500 34

<sup>a</sup> Pendant control must be ordered separately.

Sound level: TLT1000M and LLT1000(M)-SR = 85 dB

<sup>b</sup> Includes handle for control chain. Control chain must be ordered separately.

LLT3000M and LLT6000M = 81 dB

<sup>c</sup> The pendant controls are not spark resistant.

Performance figures are at 6 bar (87 psi) working pressure.

Motor-driven trolleys have 1/2" BSP air connection.

12.5 mm (1/2") hose size is recommended for LLT1000M, 20 mm for LLT3000M and 6000M.

NOTE: Suspension yoke for optional beam width must be ordered separately. See page 232.

## DIMENSIONS

Model	A		B		C standard		C (opt)		D		E		F	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
<b>Manual</b>														
TLT1000	22.0	0.9	52	2.0	212	8.3	312	12.2	—	—	264	10.4	—	—
TLT3000	37.0	1.5	75	2.9	400	15.7	238	9.4	—	—	370	12.8	—	—
LLT1000 SR	23.5	0.9	55	2.2	212	8.3	312	12.3	—	—	250	9.8	—	—
LLT2500 SR	39.0	1.5	82	3.2	400	15.7	238	9.4	—	—	364	14.3	—	—
<b>Motor-driven</b>														
TLT1000M	22.0	0.9	52	2.0	212	8.3	312	12.2	224	8.8	264	10.4	—	—
LLT1000(M)/SR	23.5	0.9	55	2.2	212	8.3	312	12.3	225	8.9	250	9.8	—	—
LLT2500M/SR	39.0	1.5	82	3.2	400	15.7	238	9.4	161	6.3	364	12.8	126	5.0
LLT30000M	39.0	1.5	82	3.2	400	15.7	238	9.4	—	—	364	14.3	—	—
LLT6000M	61.0	2.4	118	4.6	424	16.7	282	11.1	181	7.1	422	16.6	79	3.1

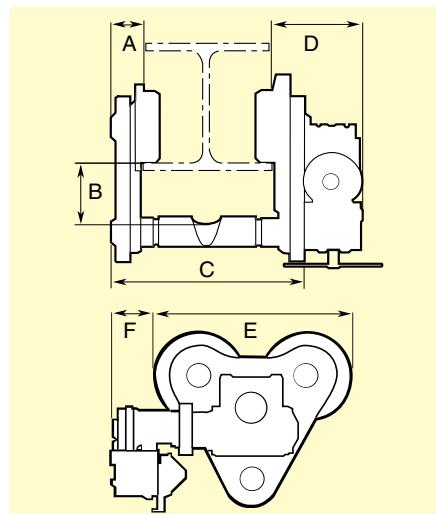
## ACCESSORIES INCLUDED

LLT3000M/6000M

Wooden handle for pull chain

## OPTIONAL ACCESSORIES

Page 232



# ACCESSORIES FOR HOISTS AND TROLLEYS

## OPTIONAL ACCESSORIES. Hoists

Description	Ordering No. LLA250/500/1000 U EX	Ordering No. LLA3000/6000 EX	Ordering No. LLA250/500 SR	Ordering No. LLA1250 SR
Load chain, zinc plated, per m	4310 2293 00	4310 2296 00		
Load chain, stainless steel, per m			4310 2211 00	4310 2219 00
Control chain, zinc plated, per m	4310 0748 00	4310 0748 00		
Control chain, stainless steel, per m			4310 2221 00	4310 2221 00
2 button pendant control				
Handle and actuators only	4310 2301 90	4310 2302 90	4310 2301 90	4310 2302 90
Hose set per m	4380 0576 91	4380 0576 91	4380 0576 91	4380 0576 91
4 button pendant control				
Handle and actuators only	4310 2303 90	4310 2304 90	4310 2303 90	4310 2304 90
Hose set per m	4380 0576 94	4380 0576 93	4380 0576 94	4380 0576 93
Twist rod control				
Complete (1.1-2.0 m)	4310 0774 91	4310 0774 91	4310 0774 91	4310 0774 91
Extension set (1.1-1.9 m)	4310 0780 91	4310 0780 91	4310 0780 91	4310 0780 91
Articulating link	4310 0876 91	4310 0876 91	4310 0876 91	4310 0876 91
Chain collectors PVC for length of chain	– 4 m – 7 m –12 m –18 m –25 m	4310 0742 04 4310 0742 07 4310 0742 12 4310 0742 18 4310 0742 25	4310 2291 07	4310 0742 04 4310 0742 07 4310 0742 12 4310 0742 18 4310 0742 25
Chain collectors Steel for length of chain	–12 m –18 m		4310 2102 80 4310 2109 80	4310 2102 80 4310 2109 80
Overload protection device				
LLA250 EX/250-SR	4310 0812 83		4310 2233 90	
LLA500 EX/500-SR	4310 0812 84		4310 2233 91	
LLA1000 U EX	4310 0812 85			
LLA3000 EX/6000 EX		4310 0806 90		
LLA1250-SR				incl as standard
Safety hooks, zinc plated	4310 0739 01			
Chain stop, zinc plated	4310 0740 91	4310 2097 91		
Chain stop			4310 2231 90	4310 2232 90

**NOTE:** For items specified per metre, the required length should be indicated by multiplying the Ordering No. by the required length, ie. to order 12 m of chain for an LLA250-SR the order should be 12 x 4310 2211 00.

When ordering load chain, follow the recommendations on chain given in the technical data for LLA hoists.

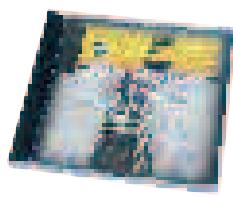
## OPTIONAL ACCESSORIES. Trolleys

Description	Ordering No. TLT1000/LLT1000 SR	Ordering No. TLT3000/LLT2500 SR	Ordering No. TLT1000M/LLT1000(M) SR	Ordering No. LLT3000M/M SR	Ordering No. LLT6000M
Suspension yoke	4380 0640 02	4380 0608 00	4380 0640 02	4380 0608 00	4380 0628 00
Zinc plated control chain per m				4310 0748 00	4310 0748 00
Stainless steel control chain per m				4310 2221 00	
2 button pendant control					
Handle and actuator only			4310 0835 91	4310 2300 90	4310 2300 90
Hose kit per m			4380 0576 92	4380 0576 91	4380 0576 91

### Air hoist selection program

The fastest way to choose correct hoists and accessories is by using the Windows based computer program available on CD-rom.

**Ordering No. 9833 1087 00**



To order your hoist or trolley with accessories factory fitted, simply list all items required and add the **Ordering No. 8990 0001 00**, to order.

**EXAMPLE:** To order a 500 kg hoist with motor driven trolley, four button five-meter long pendant control and a load chain for a ten-meter lift, send the following:

Order to be sent	Comments
1 x 8451 1540 28	LLA500 EX Hoist block
11 x 4310 2293 00	Load chain for hoist = Required height of lift + 0.5 m, (see technical data for LLA Hoists)
1 x 8451 1520 14	TLT1000M Motor driven trolley
1 x 4310 2263 90	4 button handle + hoist actuator
5 x 4380 0576 94	Hose set for 4 button pendant control
1 x 8990 0001 00	Instruction to assemble above items



# Service

## Who could be better qualified to service your tools than Atlas Copco?

We offer you a service partnership on a local or global basis. We will gladly take our share of the responsibility for keeping your plant running around the clock.

We offer you a wide selection of standard service products that can be tailored to the specific needs of your plant according to Atlas Copco quality standards.

Our well trained, highly skilled mechanics are always ready to offer the best technical support and advice.

Let our service products help you eliminate downtime and improve your quality!

### Contents

Service.....	234
--------------	-----

### Page

# ATLAS COPCO SERVICE PRODUCTS

*Continuous monitoring and service of each power tool or spindle is one of the most cost-efficient ways to optimize your assembly line. Scheduled service intervals eliminate the risk of unwelcome surprises and enhance availability. Original Atlas Copco replacement parts, approved to stringent standards, further enhance consistently reliable performance.*



## Gold Service

A full coverage service program, tailored to the needs of Atlas Copco electric spindles and equipment. The program is geared to the specific demands placed on the equipment in production. The program is built on standard modules, tailor-made for the customer. Fixed annual cost. Full warranty throughout the contract period.



## Silver Service

A preventive maintenance program tailored to the needs of Atlas Copco electric spindles and equipment. The program is based on age, usage and application. Valid for a fixed period, which may be prolonged yearly, throughout the economic lifetime of the tool. Additional services are available within this program.



## Bronze Service

A service specially developed for spindles not covered by a scheduled maintenance program. The fixed-price repair program ensures faster turn-around and cuts administration costs at every level. In Bronze service you are ensured that the tool is repaired and tested according to Atlas Copco specifications.



## Calibration Service

On the assembly line, you need to be certain about the performance of your spindles. High-speed rundown to an exact torque is a precision science. This service keeps your transducerized spindle and torque measurement equipment calibrated for optimum performance. Atlas Copco offers a wide range of accredited ISO/IEC 17025 certified calibration services for all your Atlas Copco tools and test equipment.

## Calibration

Calibration of transducerized tools and electronics against traceably calibrated references in compliance with industry standards.

## Validation

On site verification of tool performance and accuracy.

## Process optimization and site management agreements

While at your plant our service engineer will support your maintenance personnel, and can give advice on all aspects of tool/system optimization and service. Our commitment is based on fixed prices per annum to give you complete control over your operating costs.

## Training

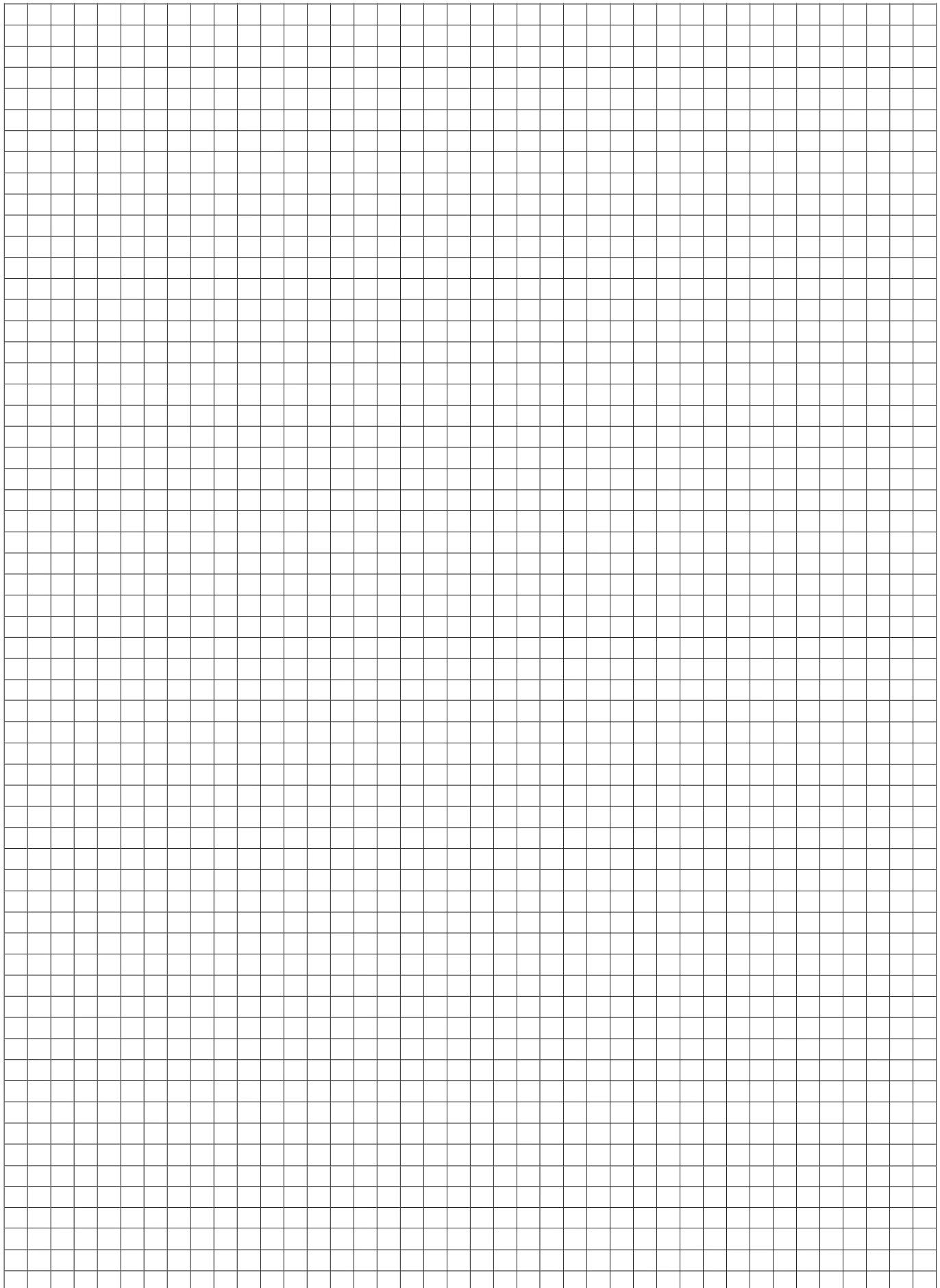
Get the best performance from your Atlas Copco tools and systems. We offer hands-on training at your plant or at our training centers for service mechanics, operators, foremen and line managers to a fixed price.



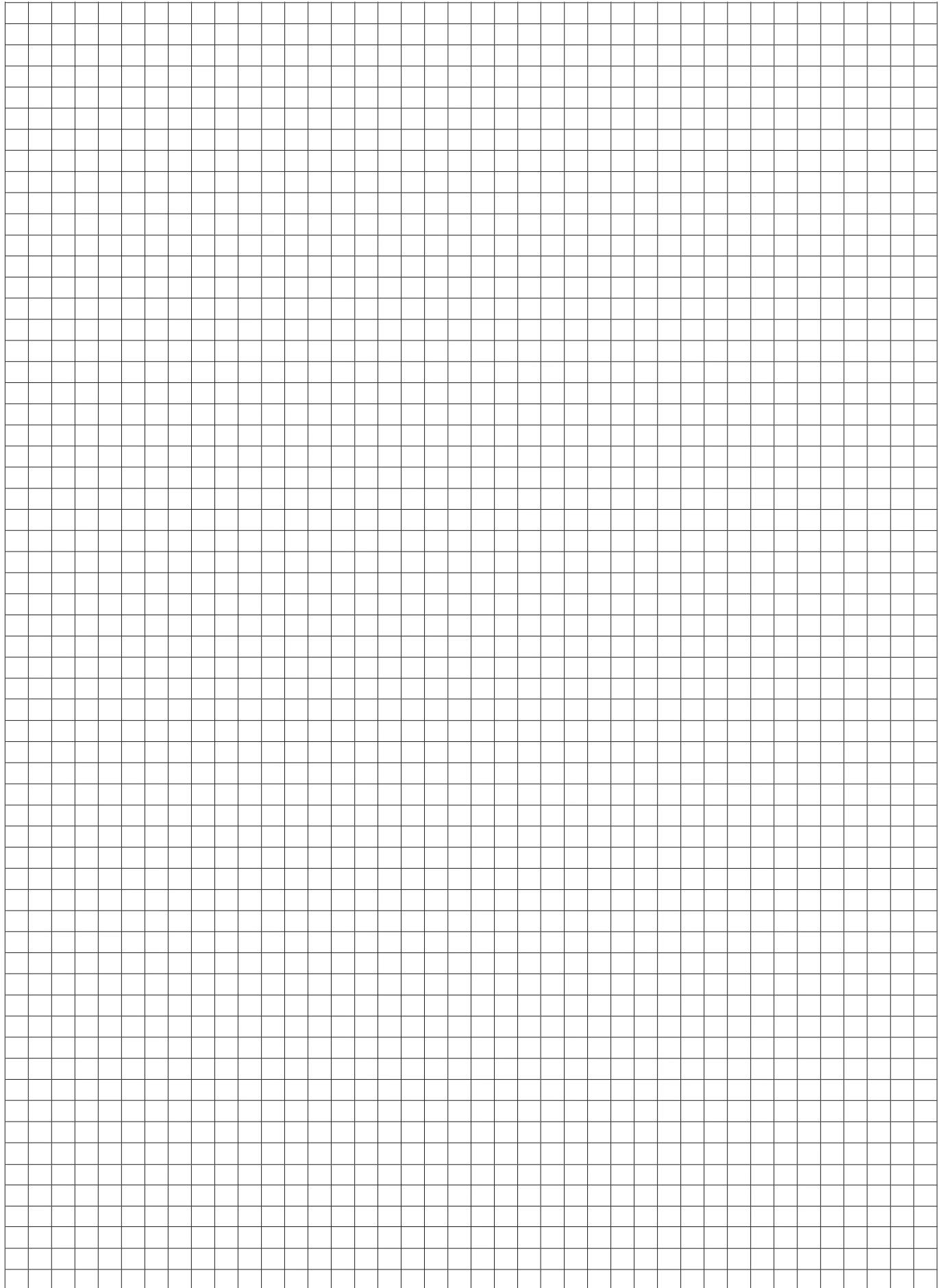
For more information, please contact service center in  
Auburn Hills, MI.

Phone : 800-859-3746

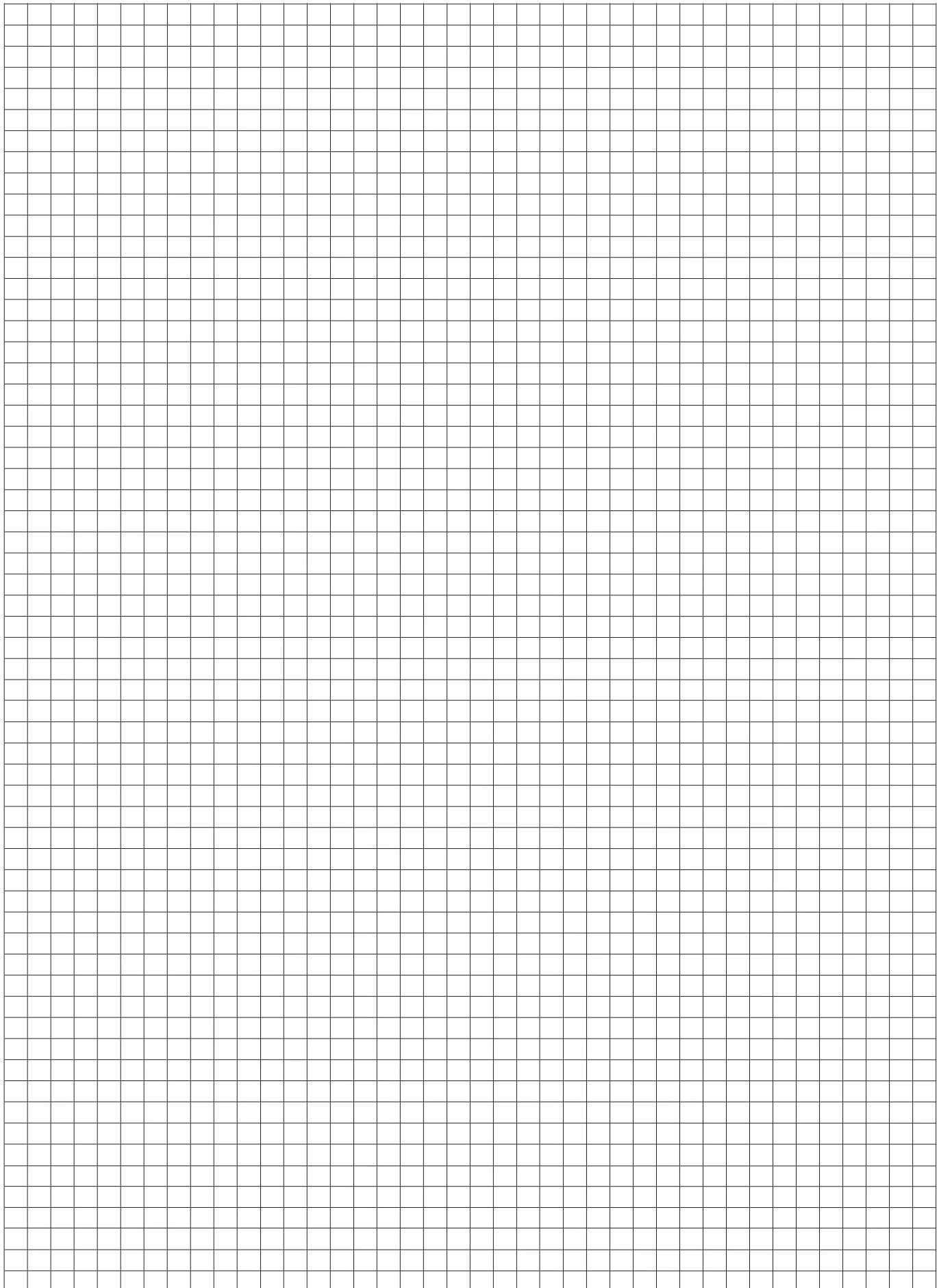
# NOTES



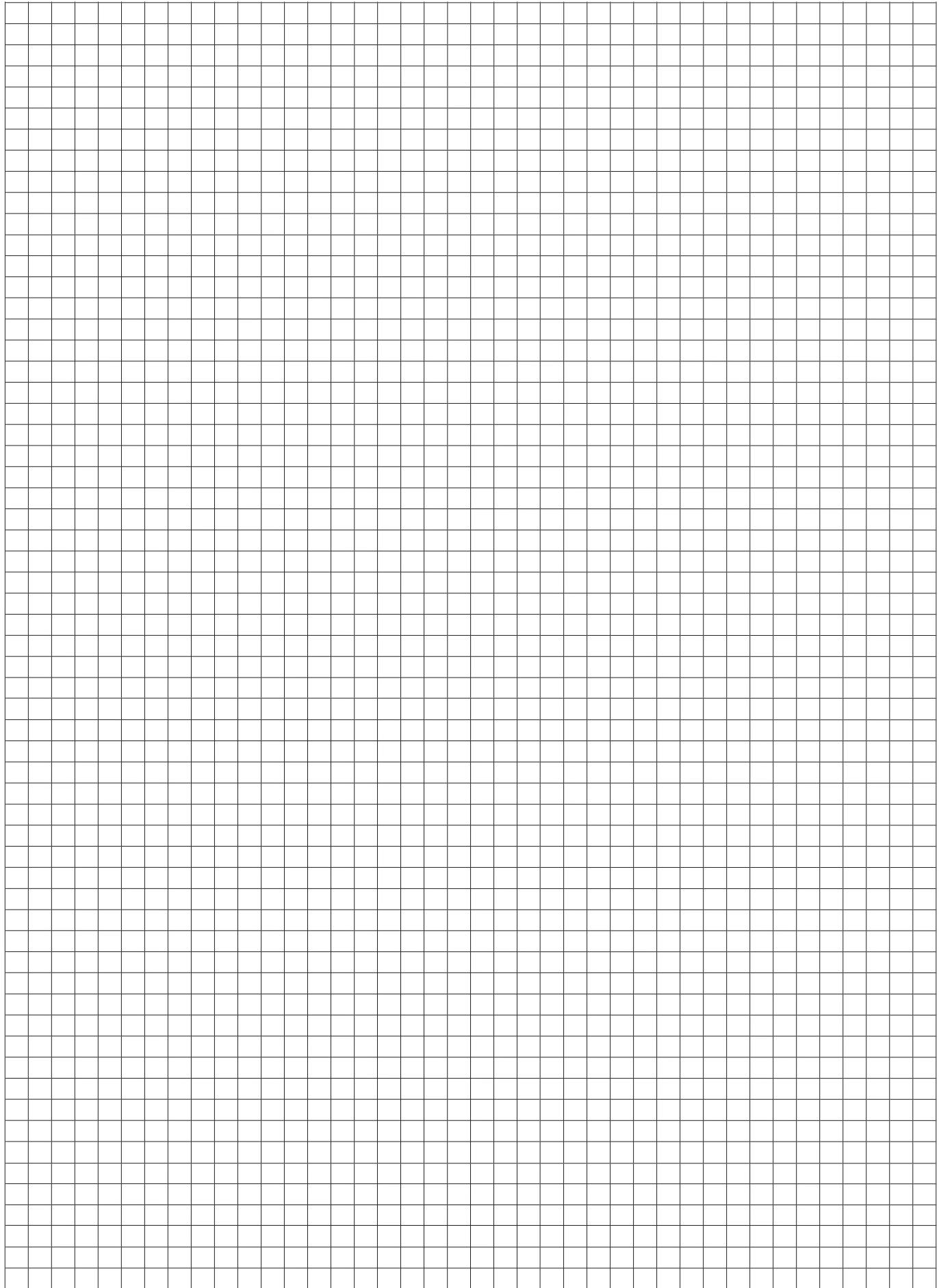
# NOTES



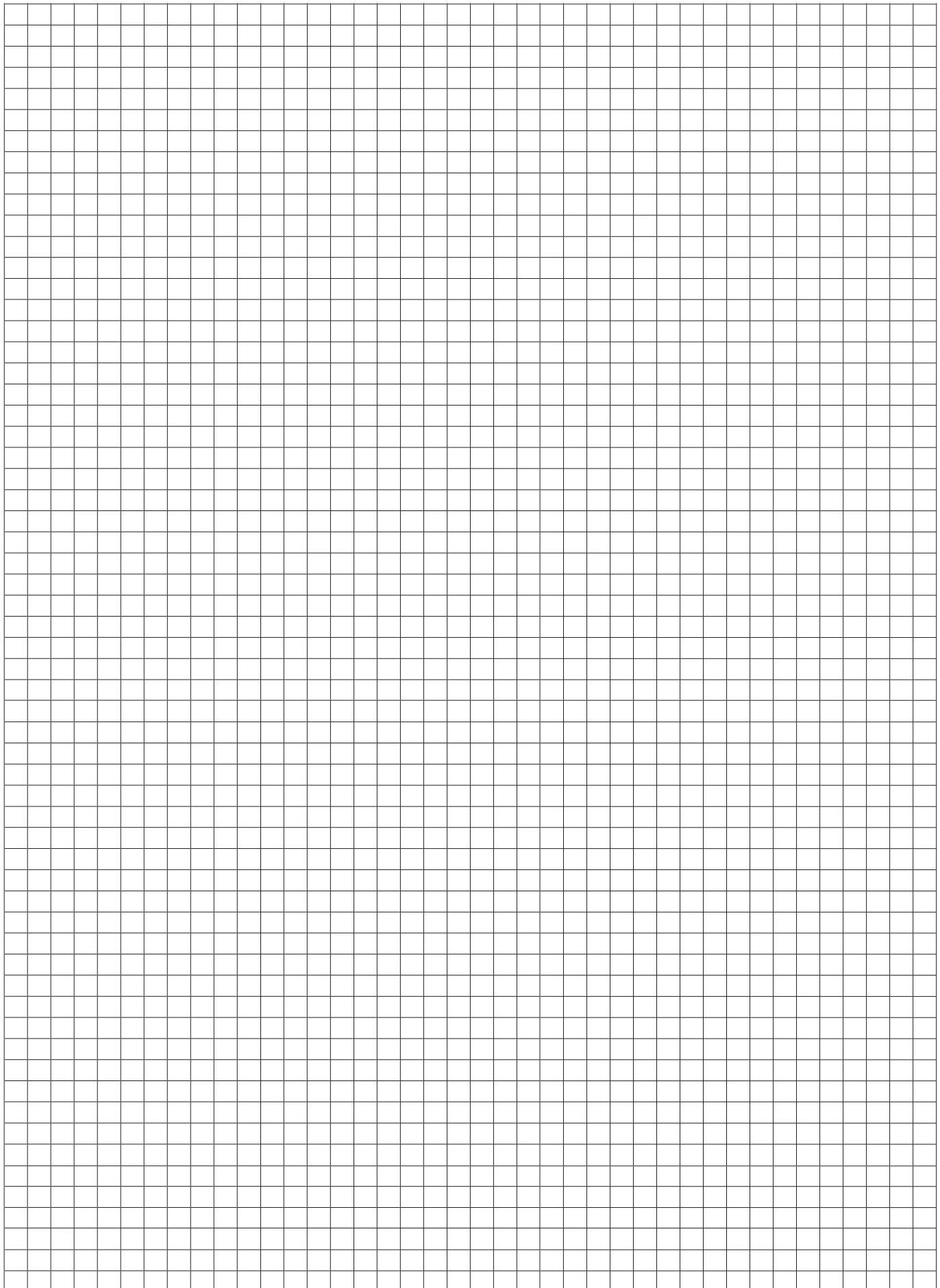
# NOTES



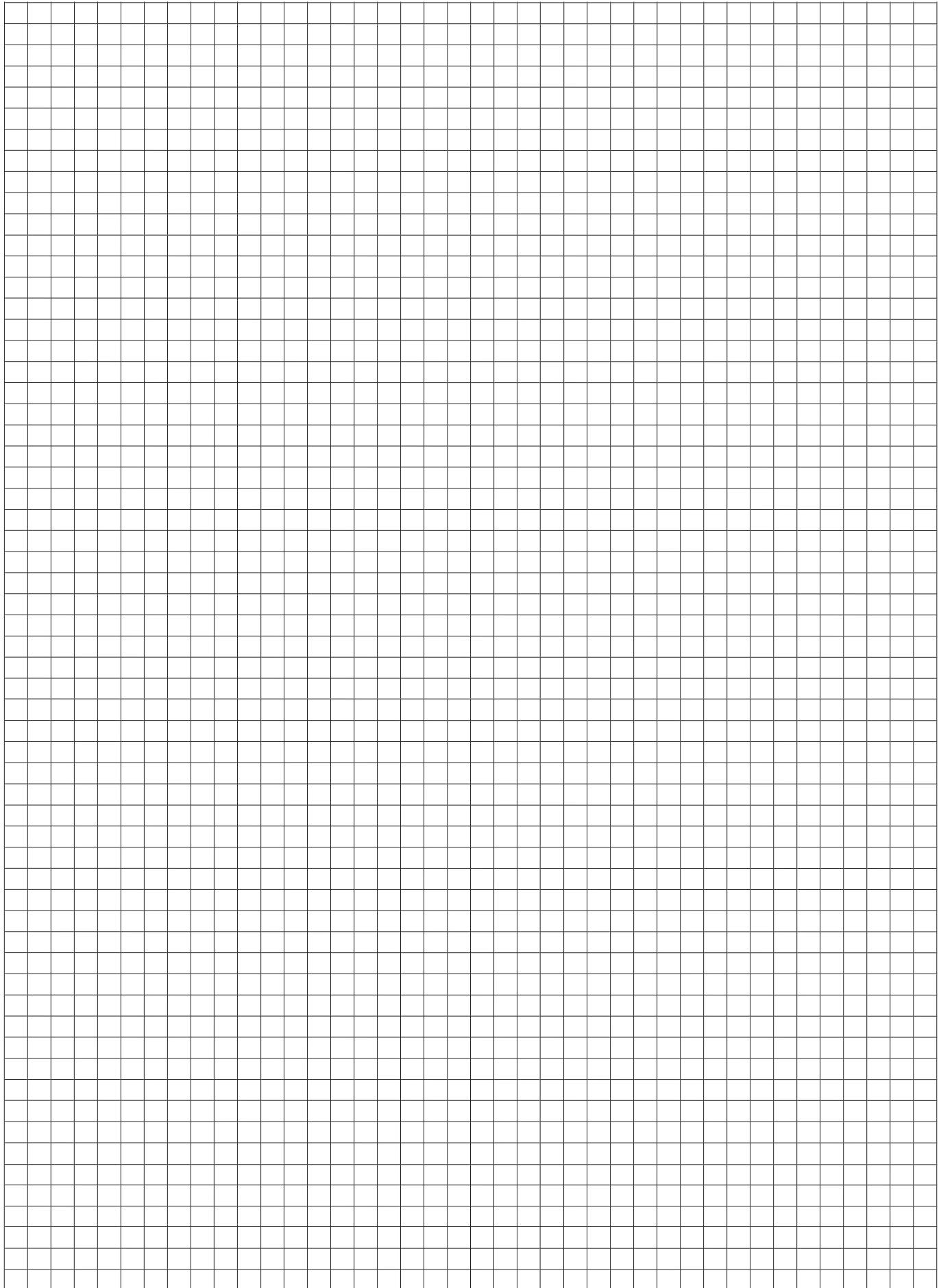
# NOTES



# NOTES



# NOTES



## **Industrial Tools Division Warranty**

Atlas Copco Tools and Assembly Systems warrants to the customer that the products manufactured by Atlas Copco Tools and Assembly Systems and its affiliates shall be free of defects in design, material, and workmanship for the following periods of time:

**A.** For portable industrial hand tools and hoists, twelve (12) months from date of shipment to customer.

**B.** All 2000 Series Tools, accessories and parts, three (3) months from date of shipment of customer.

Should any failure to conform with this warranty appear prior to or after shipment of the product to customer during the specified periods under normal and proper use and provided the product has been properly stored, installed, handled and maintained by the customer, Atlas Copco Tools and Assembly Systems shall, if given prompt notice by customer, repair or replace the nonconforming product or authorize repair or replacement by the distributor. Note: This does not include standard wear items such as vanes, o-rings, etc.

Replaced products become the property of Atlas Copco Tools and Assembly Systems.

Atlas Copco Tools and Assembly Systems warrants Products or parts thereof repaired or replaced pursuant to the above warranty, under normal or proper use, storage, installation and maintenance, against defects in design, workmanship and material for a period of 30 days from date of start-up of such repaired or replaced equipment or parts or the expiration of the original product warranty, whichever is longer.

Atlas Copco Tools and Assembly Systems' warranty does not extend to products not manufactured by Atlas Copco Tool and Assembly Systems or its affiliates. As to such products, customer shall be entitled to proceed only upon the terms of that particular manufacturer's warranty does not apply to defects in material provided by customer or design stipulated by customer.

Use products, products not manufactured by Atlas Copco Tools and Assembly Systems or its affiliates and products excluded from the above warranties are sold AS IS with no representation or warranty, and ALL WARRANTIES OF QUALITY, WRITTEN, ORAL OR IMPLIED, other than may be expressly agreed to by Atlas Copco Tools and Assembly Systems. In writing, INCLUDING WITHOUT LIMITATION, WARRANTIES OR MERCHANTABILITY AND FITNESS ARE HEREBY DISCLAIMED.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF QUALITY, WRITTEN, ORAL OR IMPLIED AND ALL OTHER WARRANTIES INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS ARE HERBY DISCLAIMED. Correction of nonconformities as provided above shall be distributor's exclusive remedy and shall constitute fulfillment of all liabilities of Atlas Copco Tools and Assembly Systems (including any liability for direct, indirect, special incidental or consequential damages) whether in warranty, strict liability, contract, tort, negligence or otherwise with respect to the quality of or any defect in products delivered here under.

## **OSHA Statement**

Atlas Copco Tools and Assembly Systems ("the company") represents to the original user that the products advertised herein are designed to comply with The Occupational Safety and Health Act of 1970 and as amended as of the date of manufacture. The company shall not be responsible for any failure to so comply with the Act which results from the location, operation, use or maintenance of the products or from alteration of the products by persons other than the company or from any option or accessory of the products which was available to the original user but omitted at his direction, or from design or instructions furnished by the original user.

The company's responsibility herein is limited to modification or replacement of the products so that the products conform to the regulations applicable at the time of manufacture or at the option of the company to refund to the original user the purchase price less an allowance for normal depreciation upon the return of the products to the company. By special request, a sound warranty can be offered; otherwise all standards under the Act with respect to noise are specifically excluded.

Whether in relation to the above or otherwise, the company will not indemnify the original user for any fines; penalties neither imposed nor are liable for loss due to delay or any special, indirect or consequential damages of any nature whatsoever.

Subject to alteration without prior notice.

9837 3000 21 Recyclable paper. Printed in Sweden. Strokirk-Landströms, Lidköping 2005:1



**Atlas Copco**

[www.atlascopco.com](http://www.atlascopco.com)