



Industrial Tools



The Ultimate Power Tools

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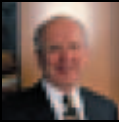




your global supplier, your local support



CP - ONE BRAND, ONE SOURCE, ONE STANDARD - THE ULTIMATE POWER TOOLS



The CP brand, the name for quality tools and assembly systems from three of the world's major and long standing power tool manufacturers: CP Chicago Pneumatic, CP Desoutter and CP Georges Renault, now fully integrated to one business. Together we provide you with the complete range of products to satisfy all your production needs. We have harnessed our combined R&D, engineering design, manufacturing and sales expertise to form one global organisation serving you at local level yet providing the security of a large back-up organisation. The end result is the most extensive range of products, services and production solutions available, from simple fastening tools, drills and abrasive tools to the most advanced assembly and drilling systems available. Whatever the application we have the tools for the job. CP – a name synonymous with quality, durability, power and excellence in its field.

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Rock Hill, USA
CP global Headquarters.
Design and assembly operation
of products specific
to the vehicle service industry.



Hemel Hempstead, UK
Manufacturing base and assembly
of CP pneumatic tools.



Nantes, France
R&D and Marketing excellence centre.
Application centre for customised
solutions and assembly
of CP electric tools
and assembly systems.



Qingdao, China
Joint venture manufacturing
CP's range of value based tools.



Hoeselt, Belgium and Rock Hill, USA
Distribution centres situated
on two continents to enable daily
direct deliveries to our customers
round the world.



Providing customised solutions for specific production needs



CP Application and Automation Centre

Many major international motor vehicle, aerospace and appliance industry companies rely on CP's Application and Automation centre to provide customised solutions for their production lines.

Our goal: to respond rapidly to customer's specific application requirements.

The best solutions: the proven range of EB (electric brushless) tools keyed to production requirements on a worldwide scale.

CP's totally integrated project management

Right from the start of a customer project, a dedicated team is formed, linked to the locally based CP Project Manager. If the technical specification is not for a standard item, we will create a new one or adapt an existing tool. CP is the only company to undertake this degree of service. CP maintains close interactive relationships with customers in the design and development of these tools.

...and time-critical simultaneous engineering

In the world of international production line manufacture, timing is key.

With advanced CAD software, CP designs production systems around the customer's own 3D component even at the drawing board stage. Design, fit and access amendments can be implemented within just a few hours.



Worldwide Support at All Times

Fast response is vital. That is why CP offers a worldwide support and backup service 7 days a week, 365 days a year.





We produce customised tools...

A single tool or a multiple tool fixture? CP expertise means development of customised tools whatever the application. Special engineered solutions in the fields of mechanical, electrical or software produced to client specifications.

...develop multi-spindle applications...

Close co-operation with CP customers' production sites ensures rapid response for special multi-spindle jigs. A typical example is a fully plc-controlled 32-spindle jig for the synchronised tightening of Perkins Diesel engine block bolts.

...and specialised wheel tightening machines

Amongst the first to develop high speed, high accuracy nut runners for motor vehicle assembly lines, the specific requirements for wheel tightening in the aerospace industry has also been successfully addressed by CP engineers.

CP - providing customised solutions for major multinational customers

Land Rover
Perkins Diesel in the UK and USA
Peugeot- world wide plants
Lotus Cars UK
AirBus Industrie - Europe wide
Renault - world wide plants
Electrolux - Europe wide
SMEG
Festo
Danfoss
and many, many more



ErgoSense™ The Ergonomic Partnership

What is ergonomics?

Ergonomics at work deals with the interactions between operators and their work equipment, work environment and work process.

Ergonomically designed work systems enhance safety, effectiveness and efficiency, improve human working and living conditions and counteract adverse effects on human health and performance.

Best Practice with ErgoSense™

Chicago Pneumatic promote the use of Ergonomic Best Practice amongst their customers at all times and are happy to establish working partnerships to help reach this goal. The following chart shows how this may be achieved.

People

This includes not only the person who will be using a power tool, but also those people who work in the vicinity of the power tool, as they may also be affected by noise, dust etc. Their health before starting to work with or near a power tool needs to be assessed as well as monitored when the tool is in use. Training is of course very important before anyone uses a power tool and CP are happy to provide guidance and training material specific to the use of our products.

Environment

Attention needs to be paid to aspects of the working area such as heating, comfort, noise, dust and rest areas. CP Sales Consultants can provide guidance on exposure levels and other requirements.

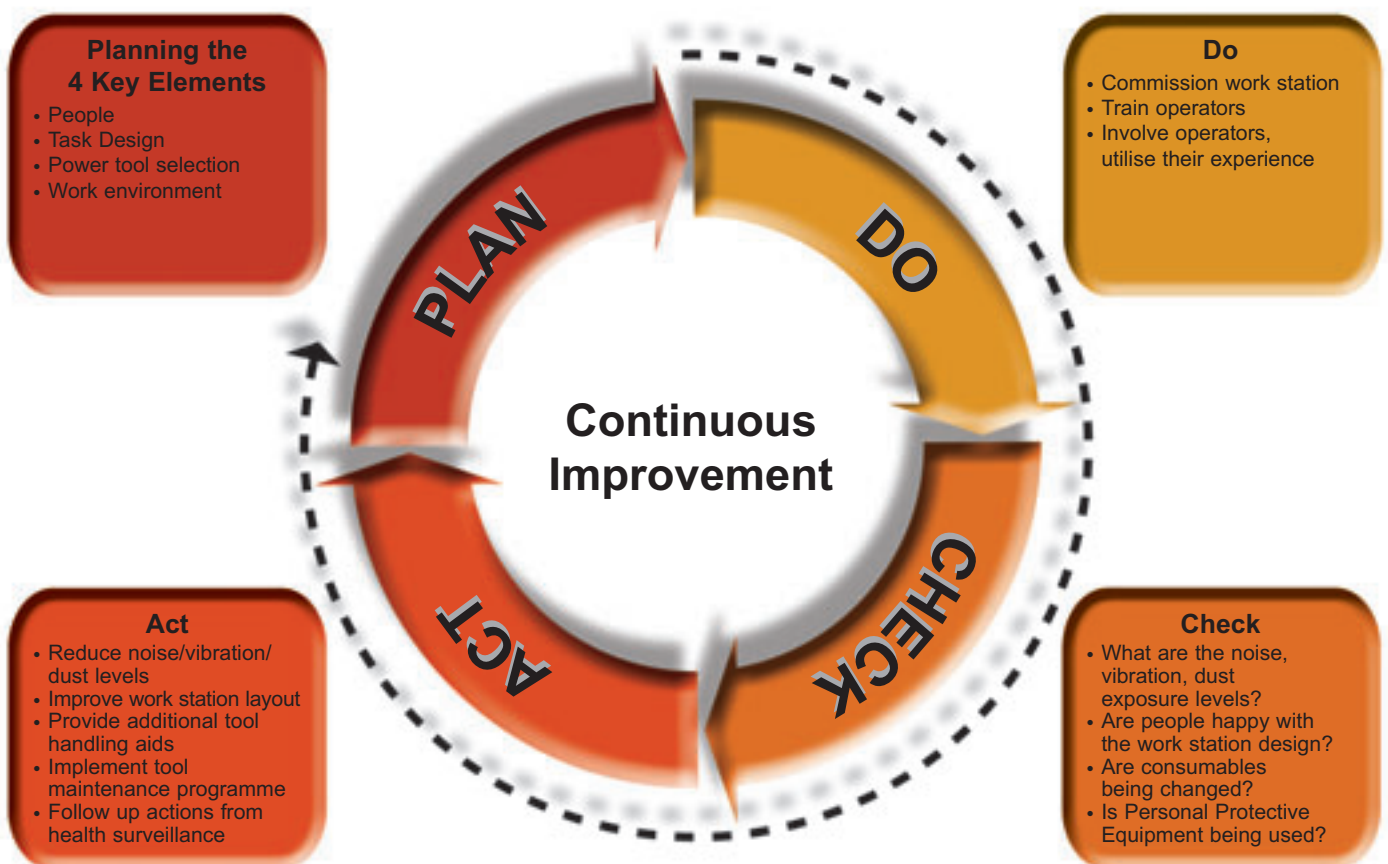
Task Design

The design of the workstation and the way in which a task is performed are critical in avoiding long term problems. Critical items include: design of the working envelope, neutral wrist position, correct tool selection for task, design of workpiece fixturing and provision of handling aids such as side handles / stands / balancers.

Power Tool Selection

CP power tools embody the latest thinking on ergonomic principles. Look for the following features:

- Correct shape & size for optimal handling
- Low torque reactions, reduced loads & forces on the operator for maximum comfort in use
- Low emissions of noise/dust/vibrations/oil help improve the working environment
- Conformance to all relevant standards, worldwide.



International Ergonomic Standards

Chicago Pneumatic has a long history of active participation with the International Standards Organisation & other NGOs responsible for formulating the standards that are now accepted worldwide. CP staff participate on Committees, Working Groups and Trade Associations to ensure they keep up to date with developments in legislation & standards in all parts of the world. CP are happy to share this knowledge with our customers through the ErgoSense™ Programme. Please call us.



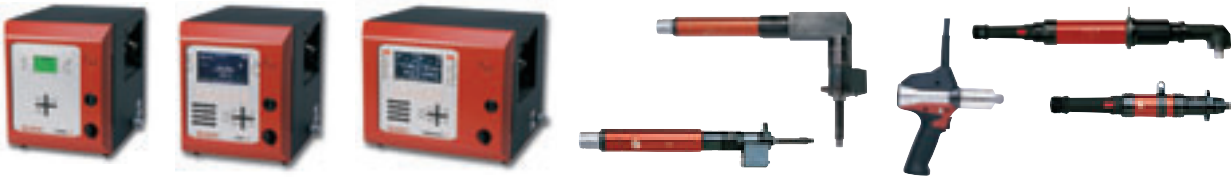
Assembly Tools - Selection Guide

TOOL TYPE

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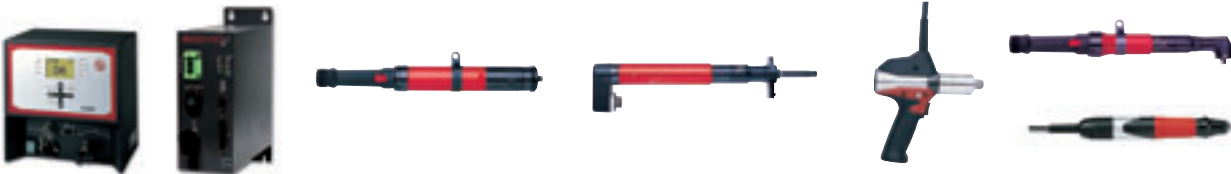
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ELECTRIC CURRENT CONTROLLED EB TOOLS

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ELECTRIC FASTENING TOOLS

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PNEUMATIC FASTENING TOOLS

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CUSTOMIZED SOLUTION: Automation - Screwfeeders - Crowfoot - Ergonomic accessories

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PNEUMATIC IMPACT WRENCHES

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CVI II Range

Controllers



Common controller for hand held tools and fixtured spindles.

Flexibility

- Easy to program, same concept of programming for all controllers.
- Large screen on CVI II and TWINCVI II with user friendly messages.

Flexibility: up to 250 cycles, 20 phases on each
Enables the easy set up of all applications from simple run down up to complex sequence applications.

Structured logical programming:

Applications can be programmed either from the controller keypad, the CVIPC2000 software or via a PLC.

CVIPC2000 software

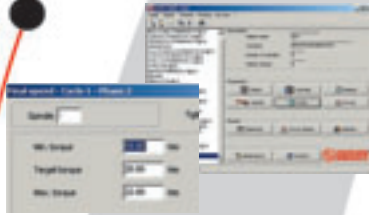
This software is compatible with Windows 95, 98, NT and XP.

All CP controllers can be programmed with CVIPC2000 software.

Its user-friendly design makes it easy to program cycles, display results, graphs, run statistics, etc...

With the advanced network version you can connect up to 32 controllers in an RS422 serial network and many more using Ethernet connection.

CVI II controllers are open to Networks: Ethernet, Modbus+, Profibus DP, DeviceNet, Interbus S (see pages 22-23).



Communication

Process

Management



ISaGRAF

The ISaGRAF workbench adds the functionality of a PLC to the control systems of the CVI II. This can control local line functions and simple applications.

A number of standard ISaGRAF software functions have been developed:

- **SFP B:** control ONE sequence of several cycles.
- **SFP A:** all features of SFP B, but several different sequences can be programmed and selected from a network, bar code, electronic labels on a part, PLC etc. In addition it is possible to display on a PC HMI (Human/Machine Interface):
 - Status of the sequence (OK/NOK, how many completed/remaining)
 - Picture components to be assembled

- **Positioning system:** The position of the tool is detected by absolute angle encoders. The cycle within the sequence is then automatically selected based on the tool position.

Quality Assurance

The large controller memory ensures traceability by allowing recall of tightening results: final torque, final angle, torque rate, date, time, bar code, tightening curves, etc...

Number of results: up to 11600 (torque, angle, date, time, report).

Curves: 2 OK Curves + 1 NOK Curve per channel.

Traceability

Statistics

The statistics software will calculate statistics for torque or angle results.

These calculations are performed under one of the current standards: (ISO, CNOMO, NF).

Results displayed on CVI II and TWINCVI II:

- Statistics report with CP, CPK, CAM.
- Display of scatter diagram, histogram, control chart, mean, range, standard deviation.
- Printing of full statistics report.



CVIPC2000 Statistics Screens

Modularity

Modularity

All controllers are available in a modular version. The modules can be installed in a cabinet to drive a multi-spindle machine.

MULTICVI system can drive up to 32 spindles.



From the simplest to the most advanced applications



Electric transducerized EB tools



Quality of tightening

'OK / NOK signals', the quality of each tightening is displayed in an 'accept/reject' indication by LED's on tools and external signals to the controlled process system of the production line (PLC).
 - All tools are equipped with built in torque transducers. The strain gauge technology is leading-edge in terms of accuracy and linearity. Joint quality is assured by angle monitoring and digital communication on all controllers.



Tightening strategies to meet the joint specification

- Torque + angle monitoring
 - Angle + torque monitoring
 - Angle + torque + torque rate
 - Prevailing torque
 - Yield point
 - Detection of the plastic zone area of joint
 - Additional torque + angle transducers
- Continuous process monitoring by current control

Ergonomic features have been designed in with involvement from our customers at every stage.

Nutrunners from 0.3 to 295 ft lbs (up to 400 Nm)

- High power to weight ratio tools, one of the lightest on the market
- CP's special manufacture & treatment of the angle head components gives market leading durability.
- 6 OK or NOK LED's on the tool handle

Fixtured Spindles from 0.4 to 1400 ft lbs (up to 1900 Nm)

- High speed tools reduce tightening cycle time.
- In-line and 90° models with special designs available for limited access.
- High durability - actual customer tools exceeded 4 500000 cycles

Independent calibration of tools, no need to re-calibrate controllers

The tool-integrated memory contains the transducer features, sensitivity, nominal load and several counters. These counters inform maintenance of scheduled calibration or to perform preventative maintenance on the tool.

Reliability and low maintenance tools

- Brushless AC motor: virtually maintenance free
- Resolver: smooth angle control at any speed

Ergonomics & operator comfort



Tools

Large range of tools

Productivity

Process

Low maintenance

costs

Automatic self diagnosis with user friendly messages
 Reduction of assembly inspection procedures



BRD 'Backup Rescue Device'

The BRD is an external memory device which is used to back up and store the programs and data of the CVIS and CVI range.



Technical features

CVI II Range

FUNCTION	CVIS II	CVI II MODCVI-1	TWINCVI II MODCVI-2
Number of channels	1	1	2
Number of cycles	15	250	250
Number of phases	8	20	20
Batch count	99	99	99
Real time statistics (ISO.CNOMO.NF)		✓	✓
Bar code reading	✓	✓	✓
Synchronization of spindles			✓
TIGHTENING RESULTS			
Torque + Angle + Date + Time + Report	up to 5000	up to 8500	up to 11600
Number of curves	2	3	6
TIGHTENING STRATEGIES			
Torque control + angle monitoring	✓	✓	✓
Angle control + torque monitoring	✓	✓	✓
Torque and Angle control	✓	✓	✓
Torque control + (Angle + torque Rate) monitoring		✓	✓
Angle control + (Torque + torque Rate) monitoring		✓	✓
Yield point strategy		✓	✓
Stall torque		✓	✓
Prevailing torque	✓	✓	✓
Current monitoring	✓	✓	✓
EXTERNAL CONNECTIVITY			
Input	8	26	26
Output	6	32	32
RS232/422 programming port	✓	✓	✓
Parallel printer port	✓	✓	✓
High speed RS232/485/20mA PLC port		✓	✓
Bar code port	1	1	2
ADVANCED OPTIONS			
Ethernet 4 sockets port		✓	✓
Fieldbus: Profibus, modbus+, interbusS, devicenet		✓	✓
Cycles sequencing/ station management			✓
SFP B cycle sequencing		✓	✓
SFP A station management		✓	✓
MAINTENANCE			
Access to all tools parameters	✓	✓	✓
Autotest of the complete system	✓	✓	✓
PROGRAMMING			
8 keys + LCD screen	✓		
Full keypad + large LCD screen		✓	✓
CVIPC2000 point to point or via networking	✓	✓	✓

Example order for 1 complete Assembly System

ITEM	PART NO.
1 Tool portable angle nutrunner ERA60J	615 165 081 0
1 Cable length 15m	615 917 075 0
1 Controller CVI II	615 932 617 0
1 Start-up kit (USA)	615 928 079 0



Controllers

CVIS II -CVI II -TWINCVI II -MODCVI -CPUCVI



A



B



C



D



E

MODCVI-2
Is the modular version
of TWINCVI II

CPUCVI
The CPUCVI is the system control for a multi spindle unit.
It fully controls the assembly sequence, controls
the MODCVI and centralizes the command and results.

PIC REF	MODEL	PART NUMBER	AVERAGE POWER	ELECTRICAL SUPPLY	WIDTH		DIMENSIONS HEIGHT		DEPTH		WEIGHT	
					mm	in.	mm	in.	mm	in.	kg	lb.
			KVA	115/230 V								
STANDARD												
A	CVIS II	615 932 618 0	0.5	Single-phase	280	11.0	345	13.6	385	15.2	17.0	37.5
B	CVI II	615 932 617 0	0.5	Single-phase	280	11.0	345	13.6	385	15.2	18.5	40.8
C	TWINCVI II	615 932 619 0	1.0	Single-phase	400	15.7	345	13.6	400	15.7	26.0	57.3
D	MODCVI-1	615 932 501 0	0.5	Single-phase or	230	9.0	355	14.0	360	14.2	11.0	24.3
D	MODCVI-2	615 932 521 0	1.0	Three-phase	230	9.0	355	14.0	360	14.2	13.6	30.0
E	CPUCVI	615 932 561 0	0.2	Single-phase	108	4.3	375	14.7	360	14.2	6.6	14.5
WITH PROFIBUS CONNECTION												
B	CVI II	615 932 620 0	0.5	Single-phase	280	11.0	345	13.6	385	15.2	18.5	40.8
C	TWINCVI II	615 932 621 0	1.0	Single-phase	400	15.7	345	13.6	400	15.7	26.0	57.3

START-UP KIT to be ordered with the controller
Including: **Plug + Literature**

PLUG	LITERATURE	CVIS II	TWINCVI II / CVI II
A	French	615 928 090 0	615 928 070 0
C	English	615 928 091 0	615 928 071 0
A	English	615 928 095 0	615 928 075 0
B	English	615 928 099 0	615 928 079 0
A	German	615 928 092 0	615 928 072 0
A	Spanish	615 928 093 0	615 928 073 0
E	Italian	615 928 094 0	615 928 074 0
A	Dutch	615 928 098 0	615 928 078 0
A	Portuguese	615 928 096 0	615 928 076 0



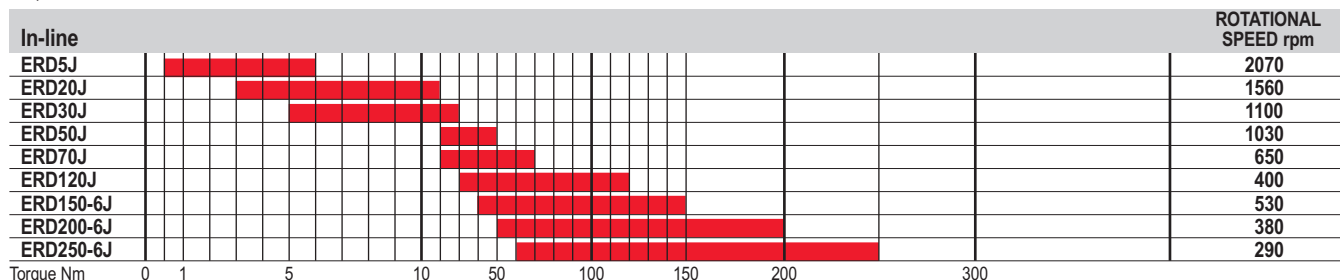
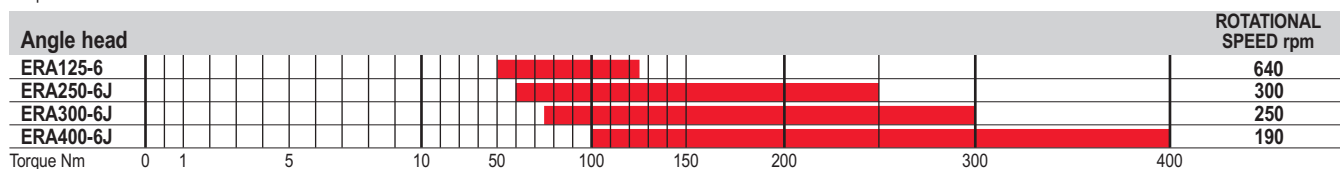
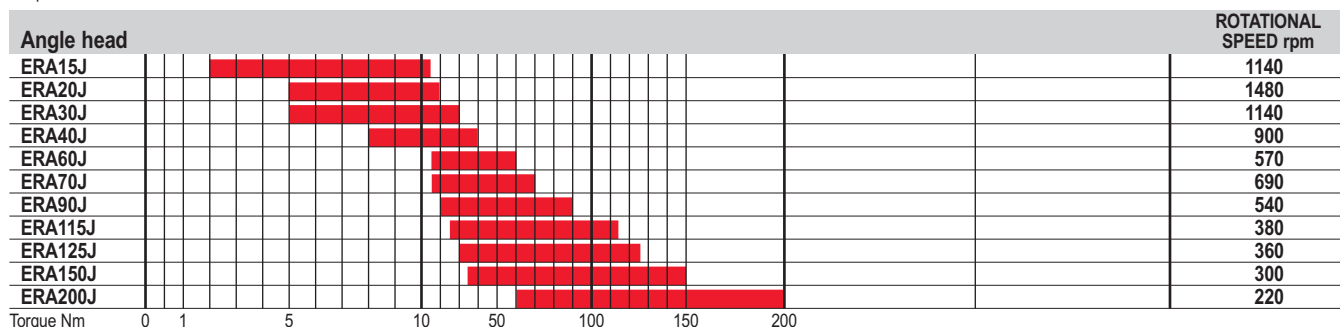
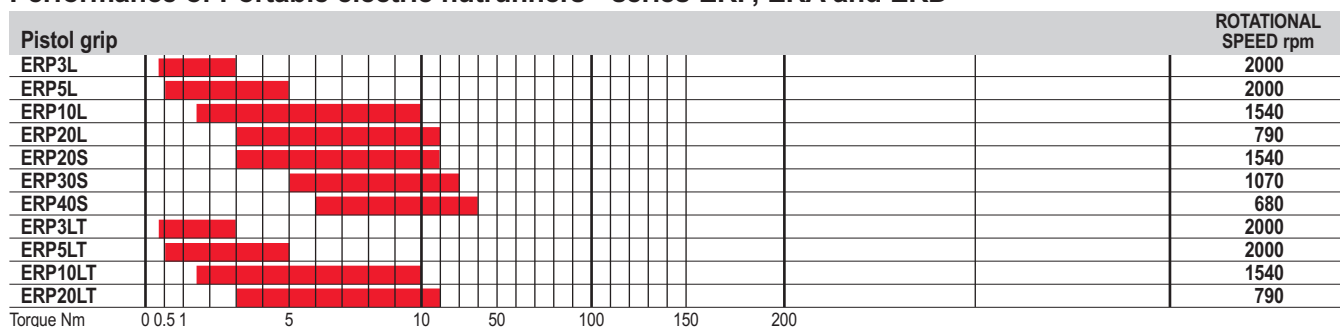
OPTIONAL ACCESSORIES

	PART NO.
PC cable, length 2m (78.7")	615 917 047 0
Printer cable, length 2m (78.7")	615 917 057 0
Wall hanging system	615 930 519 0
Power supply 400 Volts	615 932 460 0
BRD 'Backup Rescue Device'	615 936 026 0
SFP Basic	615 927 527 0
SFP Advanced	615 927 528 0
CVIS/CVICPC2000	1 Installation
CVIP2000 Standard	1 Installation
CVIP2000 Advanced	1 Installation
CVIS/CVICPC2000	5 Installations
CVIP2000 Standard	5 Installations
CVIP2000 Advanced	5 Installations
CVIS/CVICPC2000	25 Installations
CVIP2000 Standard	25 Installations
CVIP2000 Advanced	25 installations

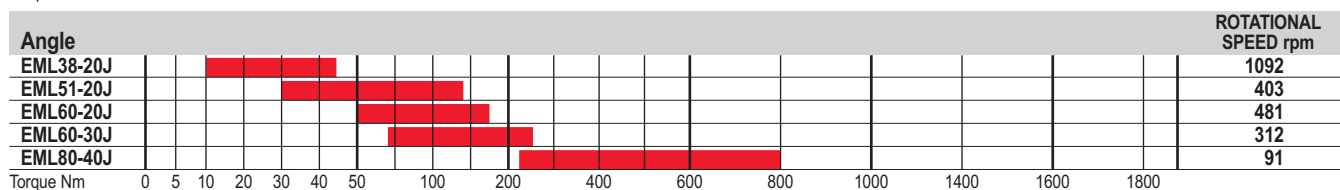
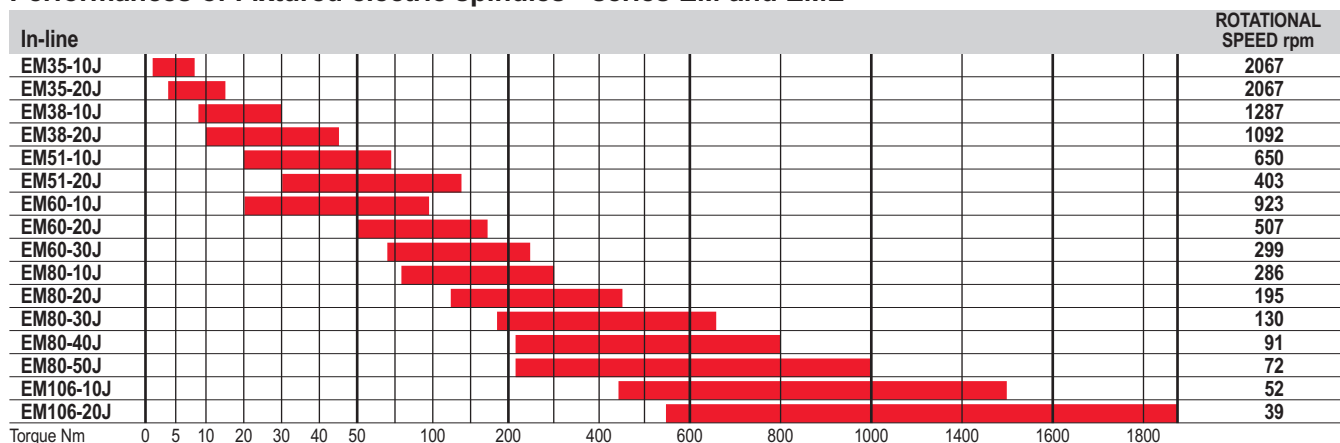


Torque Range

Performance of Portable electric nutrunners - series ERP, ERA and ERD



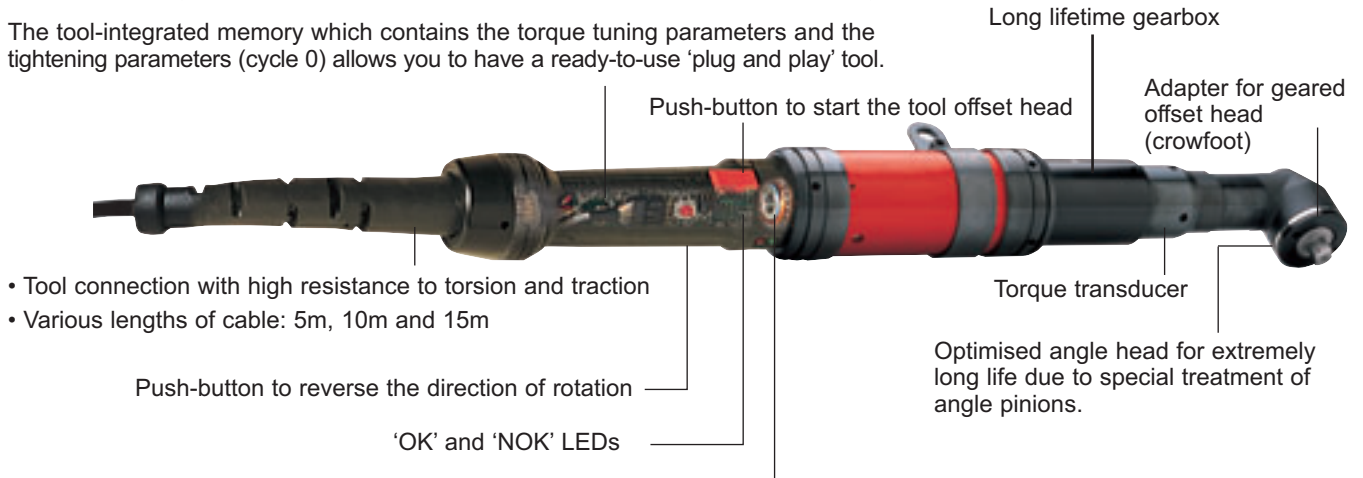
Performances of Fixtured electric spindles - series EM and EML



Electric Nutrunners - CVI II Range

Brushless autosynchronous electric motor, no friction parts, and therefore virtually no wear.

The tool-integrated memory which contains the torque tuning parameters and the tightening parameters (cycle 0) allows you to have a ready-to-use 'plug and play' tool.



- Tool connection with high resistance to torsion and traction
- Various lengths of cable: 5m, 10m and 15m

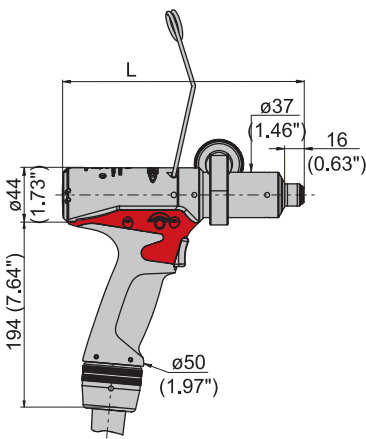
Each motor has a resolver which allows highly precise positional sensing of the rotor. The control of the motor is therefore very accurate and allows angular counting from the signals transmitted by the resolver.

Pistol grip electric nutrunners - CVI II

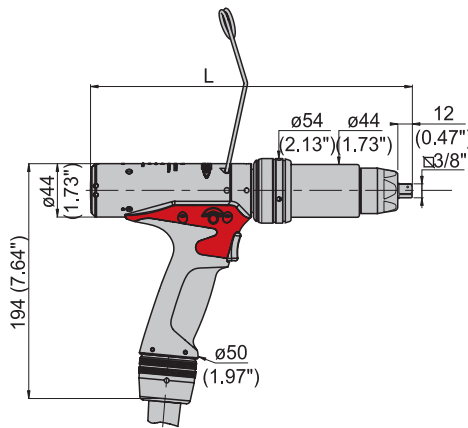
ERP3.. - ERP5.. - ERP10.. - ERP20.. - ERP30.. - ERP40S

0.35 to 40 Nm (0.26 to 29.5 ft.lb) - 790 - 2000 rpm

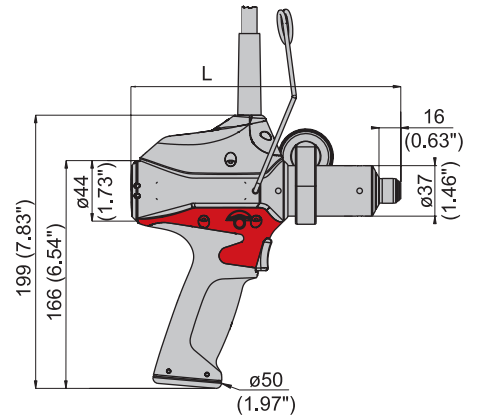
ERP3L - ERP5L - ERP10L - ERP20L
ERP20S - ERP30S



ERP40S



ERP3LT - ERP5LT - ERP10LT - ERP20LT



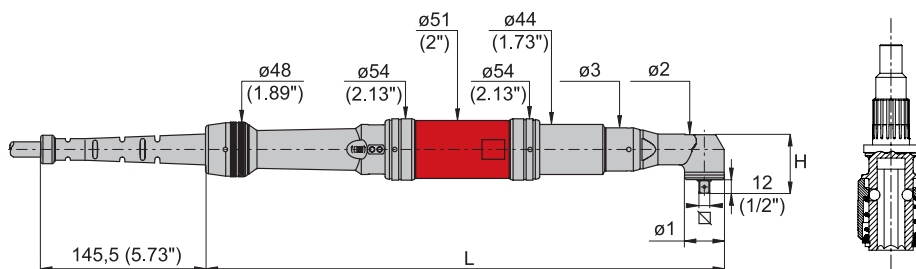
Accessories: see page 21

MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg
ERP3L	615 165 193 0	Hex. 1/4 F	0.35-3	0.26-2.2	2000	2000	196	7.7	1.0	2.2
ERP5L	615 165 194 0	Hex. 1/4 F	0.5-5	0.37-3.7	2000	1960	196	7.7	1.0	2.2
ERP10L	615 165 195 0	Hex. 1/4 F	1.5-10	1.10-7.4	1540	1000	196	7.7	1.1	2.4
ERP20L	615 165 196 0	Hex. 1/4 F	3.0-20	2.21-14.7	790	515	196	7.7	1.1	2.4
ERP20S	615 165 197 0	Hex. 1/4 F	3.0-20	2.21-14.7	1540	1000	221	8.7	1.2	2.6
ERP30S	615 165 198 0	Sq. 3/8	5.0-30	3.68-22.1	1070	700	217	8.5	1.2	2.6
ERP40S	615 165 263 0	Sq. 3/8	6.0-40	4.42-29.5	680	442	274	10.8	1.7	3.7
ERP3LT	615 165 227 0	Hex. 1/4 F	0.35-3	0.26-2.2	2000	2000	196	7.7	1.0	2.2
ERP5LT	615 165 228 0	Hex. 1/4 F	0.5-5	0.37-3.7	2000	1960	196	7.7	1.0	2.2
ERP10LT	615 165 229 0	Hex. 1/4 F	1.5-10	1.10-7.4	1540	1000	196	7.7	1.1	2.4
ERP20LT	615 165 230 0	Hex. 1/4 F	3.0-20	2.21-14.7	790	510	196	7.7	1.1	2.4



Angle head electric nutrunners - CVI II

ERA15J - ERA20J - ERA30J - ERA40J - ERA60J
 2 to 60 Nm (1.5 to 44.2 ft.lb) - 570 to 1480 rpm



ERA15J
 Quick change chuck
 P.N. 615 396 262 0

MODEL	H		Ø1		Ø2		Ø3	
	mm	in.	mm	in.	mm	in.	mm	in.
ERA15J	45.5	1.79	28	1.1	27	1.06	38	1.5
ERA20J - ERA30J	45.5	1.79	28	1.1	27	1.06	38	1.5
ERA40J	51.5	2.03	35	1.38	27	1.06	38	1.5
ERA60J	57.5	2.26	40	1.57	30.5	1.2	38	1.5

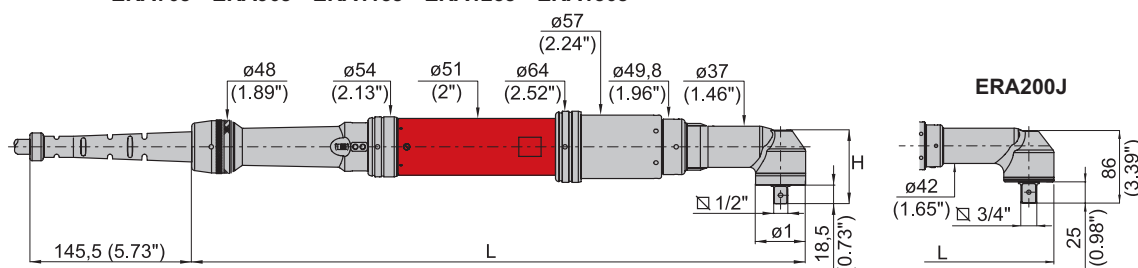
Accessories: see page 21

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg
ERA15J	615 165 191 0	3/8	2-15	1.5-11.0	1140	741	422	16.6	1.7	3.7
ERA20J	615 165 078 0	3/8	5-20	3.7-14.7	1480	962	447	17.6	2.0	4.4
ERA30J	615 165 079 0	3/8	5-30	3.7-22.1	1140	741	447	17.6	2.0	4.4
ERA40J	615 165 080 0	3/8	8-40	5.9-29.5	900	585	458	18.0	2.1	4.6
ERA60J	615 165 081 0	3/8	15-60	11.0-44.2	570	370	469	18.5	2.2	4.8

Angle head electric nutrunners - CVI II

ERA70J - ERA90J - ERA115J - ERA125J - ERA150J - ERA200J
 15 to 200 Nm (11 to 147.4 ft.lb) - 220 to 690 rpm

ERA70J - ERA90J - ERA115J - ERA125J - ERA150J



ERA200J

MODEL	H		Ø1	
	mm	in.	mm	in.
ERA70J - ERA90J - ERA115J	66	2.59	45	1.77
ERA125J - ERA150J	69	2.72	50	1.97
ERA200J	86	3.39	60	2.36

Accessories: see page 21

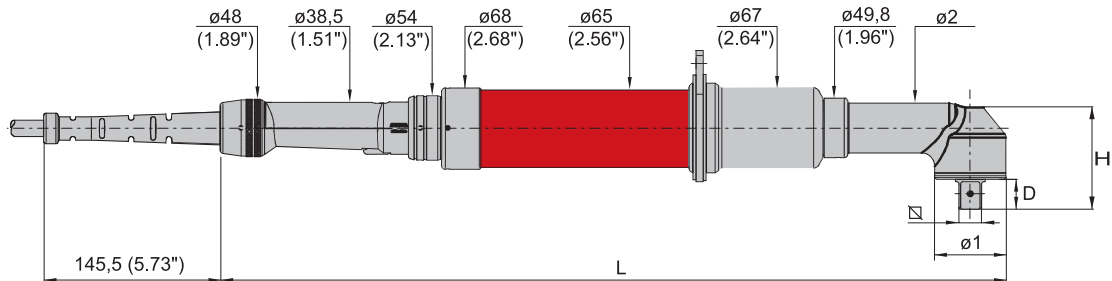
MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg
ERA70J	615 165 082 0	1/2	15-70	11.0-51.6	690	448	552	21.7	3.5	7.7
ERA90J	615 165 083 0	1/2	20-90	14.7-66.3	540	351	552	21.7	3.5	7.7
ERA115J	615 165 084 0	1/2	25-115	18.4-84.8	380	247	552	21.7	3.5	7.7
ERA125J	615 165 085 0	1/2	30-125	22.1-92.1	360	234	554	21.8	3.7	8.1
ERA150J	615 165 086 0	1/2	35-150	25.8-110.6	300	195	554	21.8	3.7	8.1
ERA200J	615 165 123 0	3/4	60-200	44.2-147.4	220	143	604	23.8	3.9	8.6



Angle head electric nutrunners - CVI II

ERA125-6J - ERA250-6J

50 to 250 Nm (36.8 to 184.2 ft.lb) - 300 - 640 rpm



MODEL	H		D		Ø1		Ø2	
	mm	in.	mm	in.	mm	in.	mm	in.
ERA125-6J	69	2.72	16.5	0.65	50	1.97	37	1.46
ERA250-6J	86	3.38	25.0	0.98	60	2.36	42	1.65

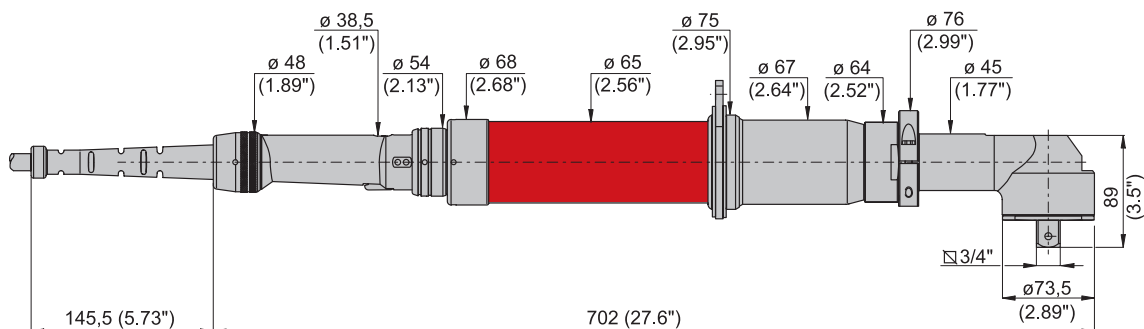
Accessories: see page 21

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg
ERA125-6J	615 165 089 0	1/2	50-125	36.8-92.1	640	416	639	25.2	6.2	13.7
ERA250-6J	615 165 092 0	3/4	60-250	44.2-184.2	300	195	661	26.0	6.3	13.9

Angle head electric nutrunners - CVI II

ERA300-6J - ERA400-6J

75 to 400 Nm (55.2 to 295 ft.lb) - 190 - 250 rpm



Accessories: see page 21

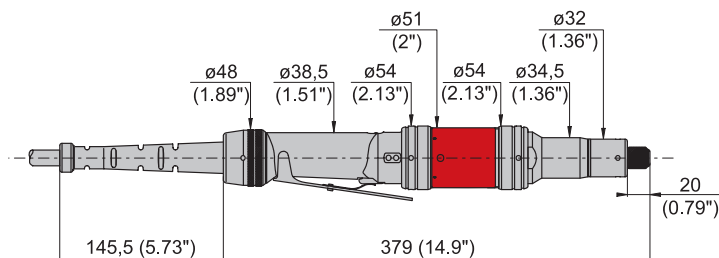
MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg
ERA300-6J	615 165 070 0	3/4	75-300	55.2-221	250	162	702	27.6	8	17.6
ERA400-6J	615 165 071 0	3/4	100-400	73.7-295	190	123	702	27.6	8	17.6



In-line electric nutrunners - CVI II

ERD5J

0.5 - 6 Nm (0.37 - 4.4 ft.lb) - 2070 rpm



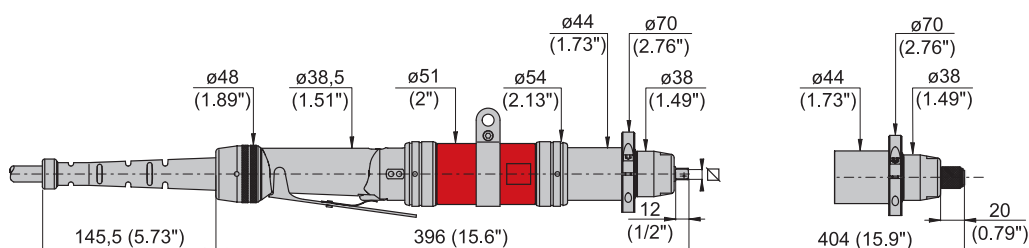
Accessories: see page 21 

MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
ERD5J	615 165 060 0	Hex 1/4 F	0.5-6	0.37-4.4	2070	1345	379	14.9	1.3	2.8

In-line electric nutrunners - CVI II

ERD20J - ERD30J

3 to 30 Nm (2.2 to 22 ft.lb) - 1100 - 1560 rpm



Accessories: see page 21 

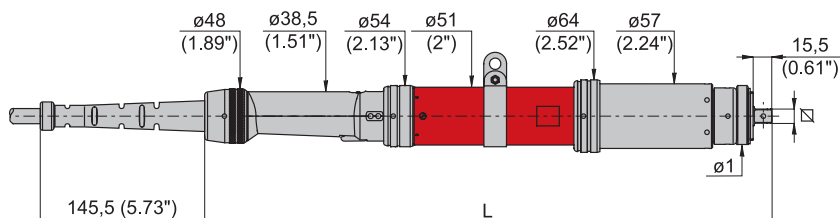
MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
ERD20J	615 165 072 0	Hex 1/4 F	3-20	2.2-14.7	1560	1014	404	15.9	1.8	3.9
ERD30J	615 165 073 0	Sq. 3/8	5-30	3.7-22.1	1100	715	396	15.6	1.8	3.9



In-line electric nutrunners - CVI II

ERD50J - ERD70J - ERD120J

20 to 120 Nm (14.7 to 88.4 ft.lb) - 400 to 1030 rpm



MODEL	Ø1	
	mm	in.
ERD50J	49.8	1.96
ERD70J	49.8	1.96
ERD120J	50.0	1.97

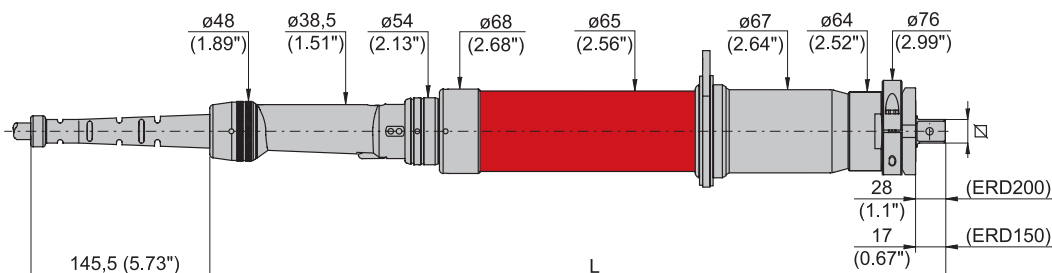
Accessories: see page 21 

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
		in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
ERD50J	615 165 074 0	3/8	20-50	14.7-36.8	1030	669	475	18.7	2.8	6.2
ERD70J	615 165 075 0	1/2	20-70	14.7-51.6	650	422	475	18.7	2.8	6.2
ERD120J	615 165 062 0	1/2	30-120	22.1-88.4	400	260	502	19.8	3.3	7.3

In-line electric nutrunners - CVI II

ERD150-6J - ERD200-6J - ERD250-6J

40 to 250 Nm (29.5 to 184.2 ft.lb) - 290 to 530 rpm



Accessories: see page 21 

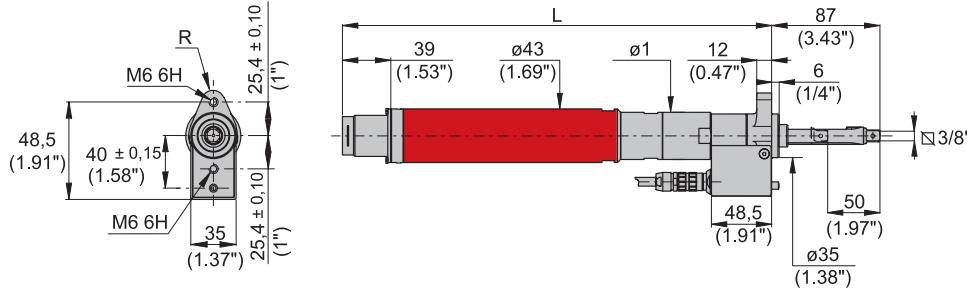
MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
		in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
ERD150-6J	615 165 205 0	1/2	40-150	29.5-111.5	530	344	590	23.2	5.9	13
ERD200-6J	615 165 206 0	3/4	50-200	36.8-147.4	380	247	597	23.5	5.9	13
ERD250-6J	615 165 207 0	3/4	60-250	44.2-184.2	290	188	597	23.5	5.9	13



Fixtured electric spindles - CVI II

EM35-10J - EM35-20J - EM38-10J - EM38-20J

0.5 to 45 Nm (0.37 to 33.2 ft.lb) - 1092 to 2067 rpm



MODEL	Ø1	
	mm	in.
EM35-10J	35	1.38
EM35-20J	35	1.38
EM38-10J - EM38-20J	38	1.50

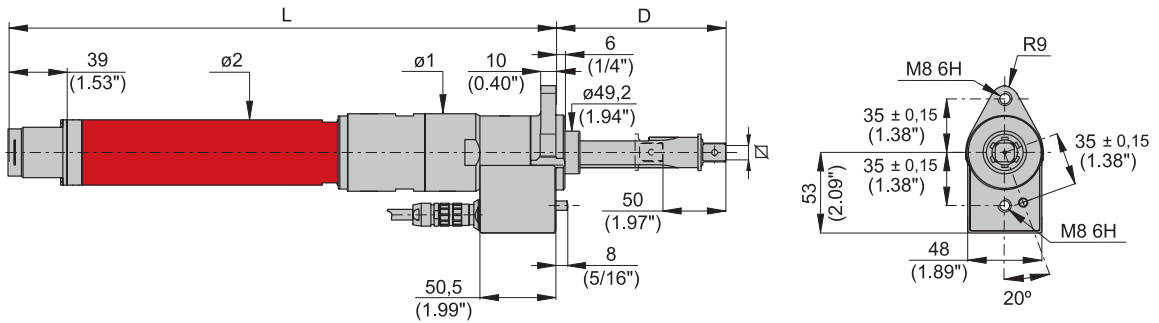
Accessories: see page 21

MODEL	PART NUMBER	SQUARE DRIVE		TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
		in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg	lb.	
EM35-10J	615 165 013 0	3/8	0.5-8.0	0.37-5.89	2067	1344	50	1.97	43.2	1.7	274	10.8	1.7	3.7	
EM35-20J	615 165 014 0	3/8	4.0-15.0	2.14-11.0	2067	1344	50	1.97	43.2	1.7	299	11.8	2.0	4.4	
EM38-10J	615 165 015 0	3/8	9.0-30.0	6.63-22.1	1287	837	50	1.97	43.2	1.7	345	13.6	2.0	4.4	
EM38-20J	615 165 016 0	3/8	10.0-45.0	7.37-33.2	1092	710	50	1.97	43.2	1.7	345	13.6	2.0	4.4	

Fixtured electric spindles - CVI II

EM51-10J - EM51-20J - EM60-10J - EM60-20J - EM60-30J

20 to 250 Nm (14.7 to 184.2 ft.lb) - 299 to 650 rpm



MODEL	Ø1		Ø2		D	
	mm	in.	mm	in.	mm	in.
EM51-10J - EM51-20J	51	2.01	43	1.70	113.0	4.50
EM60-10J - EM60-20J	60	2.36	60	2.36	113.0	4.50
EM60-30J	60	2.36	60	2.36	121.5	4.78

Accessories: see page 21

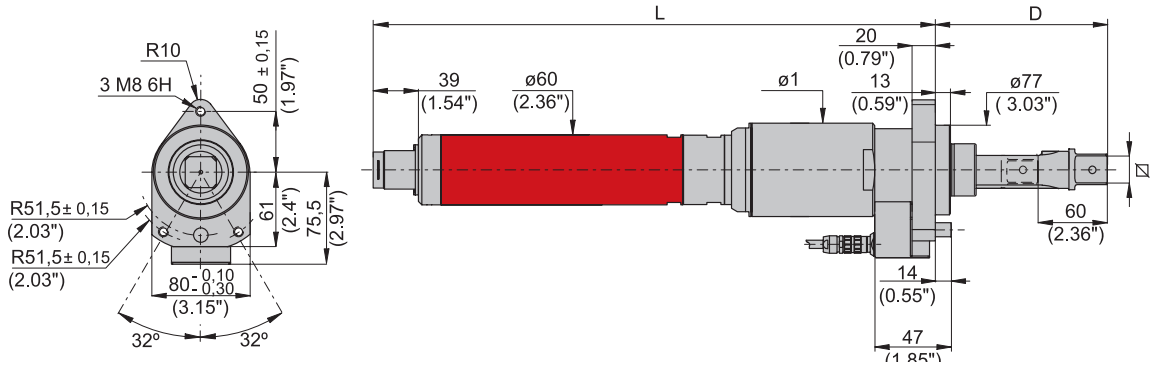
MODEL	PART NUMBER	SQUARE DRIVE		TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
		in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg	lb.	
EM51-10J	615 165 017 0	1/2	20-70	14.7-51.6	650	423	50	1.97	51.2	2.0	364	14.3	2.9	6.4	
EM51-20J	615 165 018 0	1/2	30-135	22.1-99.5	403	262	50	1.97	51.2	2.0	391	15.4	3.5	7.7	
EM60-10J	615 165 019 0	1/2	20-95	14.7-70.0	923	600	50	1.97	60.2	2.4	421	16.6	4.8	10.6	
EM60-20J	615 165 020 0	3/4	50-175	36.8-129.0	507	330	50	1.97	60.2	2.4	421	16.6	4.8	10.6	
EM60-30J	615 165 021 0	3/4	70-250	51.6-184.2	299	195	50	1.97	60.2	2.4	457	18.0	5.2	11.5	



Fixtured electric spindles - CVI II

EM80-10J - EM80-20J - EM80-30J - EM80-40J - EM80-50J
EM106-10J - EM106-20J

80 to 1900 Nm (59 to 1400 ft.lb) - 39 to 286 rpm



MODEL	Ø1		D	
	mm	in.	mm	in.
EM80-10J - EM80-20J	80	3.15	140	5.51
EM80-30J - EM80-40J - EM80-50J	80	3.15	140	5.51
EM106-10J - EM106-20J	106	4.17	148	5.53

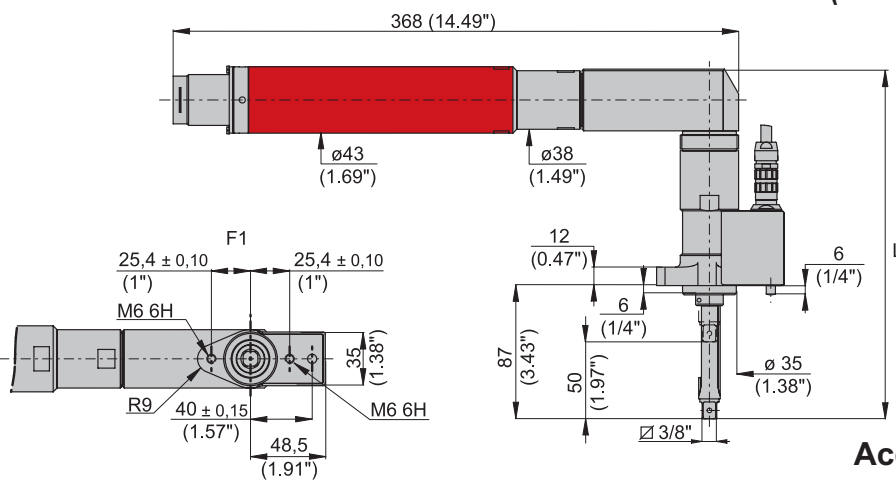
Accessories: see page 21

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg	lb.
EM80-10J	615 165 022 0	3/4	80-300	59-221	286	186	60	2.36	80.2	3.2	484	19.0	9.8	21.6
EM80-20J	615 165 023 0	3/4	120-450	88-332	195	127	60	2.36	80.2	3.2	484	19.0	9.8	21.6
EM80-30J	615 165 024 0	1	180-650	133-479	130	85	60	2.36	80.2	3.2	484	19.0	9.8	21.6
EM80-40J	615 165 025 0	1	220-800	162-590	91	59	60	2.36	80.2	3.2	484	19.0	9.8	21.6
EM80-50J	615 165 251 0	1	220-1000	162-737	72	55	60	2.36	80.2	3.2	484	19.0	9.8	21.6
EM106-10J	615 165 026 0	1	430-1500	317-1105	52	34	60	2.36	106.2	4.2	554	21.8	15.0	33.1
EM106-20J	615 165 027 0	1	540-1900	398-1400	39	25	60	2.36	106.2	4.2	554	21.8	15.0	33.1

Fixtured electric spindles - CVI II

EML38-20J

10 - 45 Nm (7.4 - 33.2 ft.lb) - 1092 rpm



Accessories: see page 21

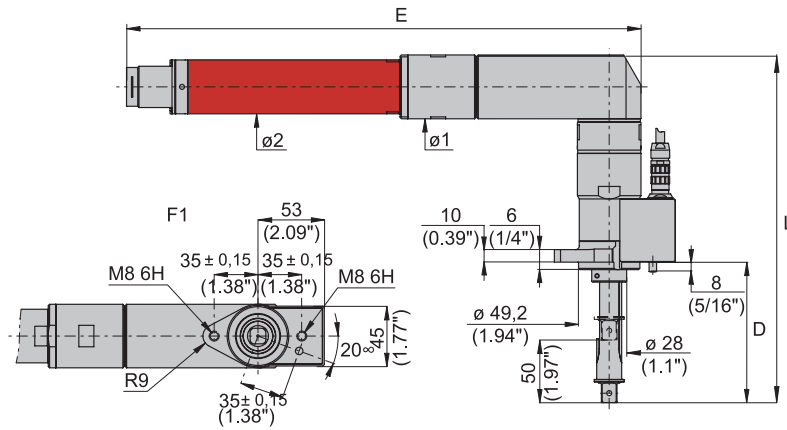
MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg	lb.
EML38-20J	615 165 063 0	3/8	10-45	7.4-33.2	1092	710	50	1.97	43.2	1.7	140.5	5.53	3.0	6.6



Fixtured electric spindles - CVI II

EML51-20J - EML60-20J - EML60-30J

30 to 250 Nm (22 - 184 ft.lb) - 312 to 403 rpm



MODEL	Ø1		Ø2		D		E	
	mm	in.	mm	in.	mm	in.	mm	in.
EML51-20J	51	2.01	43	1.69	113.0	4.45	412.5	16.2
EML60-20J	60	2.36	60	2.36	121.5	4.78	452.5	17.8
EML60-30J	60	2.36	60	2.36	121.5	4.78	452.5	17.8

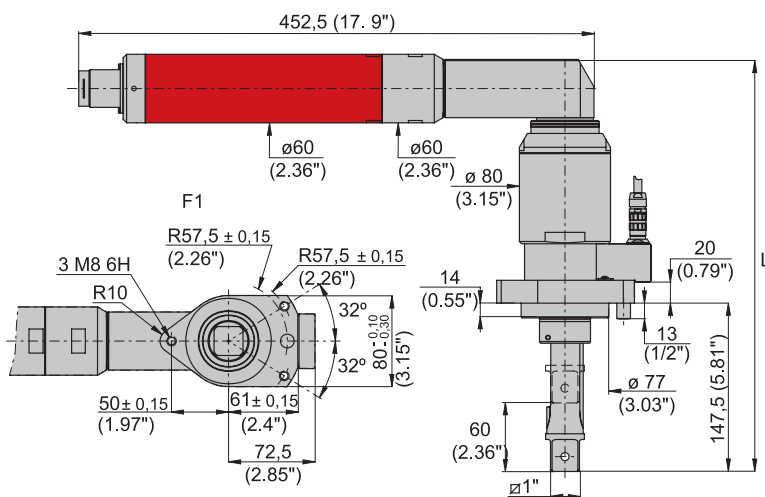
Accessories: see page 21

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg
EML51-20J	615 165 064 0	1/2	30-135	22-99.5	403	262	50	1.97	51.2	2.0	166	6.5	4	8.8
EML60-20J	615 165 065 0	3/4	50-175	37-129	481	313	50	1.97	60.2	2.4	178	7.0	6	13.2
EML60-30J	615 165 066 0	3/4	70-250	52-184	312	203	50	1.97	60.2	2.4	178	7.0	6	13.2

Fixtured electric spindles - CVI II

EML80-40J

220 - 800 Nm (162 - 590 ft.lb) - 91 rpm



Accessories: see page 21

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg
EML80-40J	615 165 067 0	1	220-800	162-590	91	59	60	2.4	80.2	3.2	241	9.49	11	24.2



ERP / ERA / ERD

ACCESSORIES INCLUDED



	PART NO.
• Side handle for ERP	467033
• Suspension bail for ERP	467003
• Suspension bail for ERA15J to ERA200J / ERD5 to ERD120J	615 571 050 0
• Suspension bail on a Swivel for ERA125-6J to ERA400-6J / ERD150-6J to ERD250-6J	615 396 296 0
• Reaction bar ring for ERA125-6J / ERA250-6J	615 396 230 0
• Reaction bar ring for ERA300-6J / ERA400-6J	615 396 302 0
• Reaction bar ring for ERD20J/30J	615 396 044 0
• Reaction bar ring for ERD120J	615 595 259 0
• Reaction bar ring for ERD150-6J to ERD250-6J	615 396 297 0
• Handle lever for ERD5J	615 396 192 0

OPTIONAL ACCESSORIES



	PART NO.
• Rotary 90° degree connector	615 396 299 0
• Suspension bail on a swivel for ERA20/30/40/60J / ERD5/20/30J	615 396 121 0
• Suspension bail on a swivel for ERA70/90/115/150/200J / ERD50/70/120J	615 396 122 0
• Top cable length 4m for ERPLT	615 917 410 0
• Quick change chuck for ERA15/20/30J	615 396 262 0
• Reaction bar ring for ERA70/90/115/150J	615 396 227 0
• Reaction bar ring for ERA200J / ERA125-6J/250-6J	615 396 230 0
• Handle lever for ERD20J to ERD120J / ERA15J to ERA400-6J	615 396 192 0

Cable for ERP / ERA ERD



Cable length:	5m	10m	15m	20m	25m	30m
• Nutrunners cable	615 917 072 0	615 917 074 0	615 917 075 0			
• Extension cable		615 917 084 0	615 917 085 0	615 917 086 0	615 917 087 0	615 917 088 0

Socket Tray

• Socket tray (sockets are not supplied)	615 936 005 0
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Cable length:	1m	5m	10m	15m
• Cable for sockets tray	615 917 241 0	615 917 242 0	615 917 244 0	615 917 245 0

Reporting Box

• Reporting Box	615 936 001 0
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EM / EML

OPTIONAL ACCESSORIES



Transducer-holder from EM tool	PART NO.	Connector	PART NO.
• 3/8" square drive EM35/EM38	615 396 426 0	• 90° motor connector adaptor for EM	615 396 118 0
• 1/2" square drive EM51/EM60.10	615 396 427 0	• 180° connector angle head kit for EM60-80-106	615 396 197 0
• 3/4" square drive EM60.20/30	615 396 428 0	• 180° connector angle head kit for EM35-38-51	615 396 196 0
• 3/4" square drive EM80.10/EM80.20	615 396 429 0		
• 1" square drive EM80.30/40/50 / EM106	615 396 430 0		

Cable for EM tools




Cable length:	5m	10m	15m	MODCVI 20m	25m	30m	35m
Motor cable	615 917 112 0	615 917 114 0	615 917 115 0	615 917 116 0	615 917 117 0	615 917 118 0	615 917 119 0
90° cable connector	615 917 142 0	615 917 144 0	615 917 145 0	615 917 146 0	615 917 147 0	615 917 148 0	615 917 149 0
Motor extension cable	615 917 182 0	615 917 184 0	615 917 185 0	615 917 186 0	615 917 187 0	615 917 188 0	615 917 189 0
Torque cable	615 917 122 0	615 917 124 0	615 917 125 0	615 917 126 0	615 917 127 0	615 917 128 0	615 917 129 0
Torque extension cable	615 917 192 0	615 917 194 0	615 917 195 0	615 917 196 0	615 917 197 0	615 917 198 0	615 917 199 0


Cable length:	0.7m	1.5m	5m	10m	TWINGVI II 15m	20m	25m	30m	35m
Motor cable	615 917 091 0		615 917 092 0	615 917 094 0	615 917 095 0	615 917 096 0	615 917 097 0	615 917 098 0	615 917 099 0
90° cable connector			615 917 132 0	615 917 134 0	615 917 135 0	615 917 136 0	615 917 137 0	615 917 138 0	615 917 139 0
Motor extension cable			615 917 162 0	615 917 164 0	615 917 165 0	615 917 166 0	615 917 167 0	615 917 168 0	615 917 169 0
Torque cable		615 917 101 0	615 917 102 0	615 917 104 0	615 917 105 0	615 917 106 0	615 917 107 0	615 917 108 0	615 917 109 0
Extension torque cable			615 917 172 0	615 917 174 0	615 917 175 0	615 917 176 0	615 917 177 0	615 917 178 0	615 917 179 0



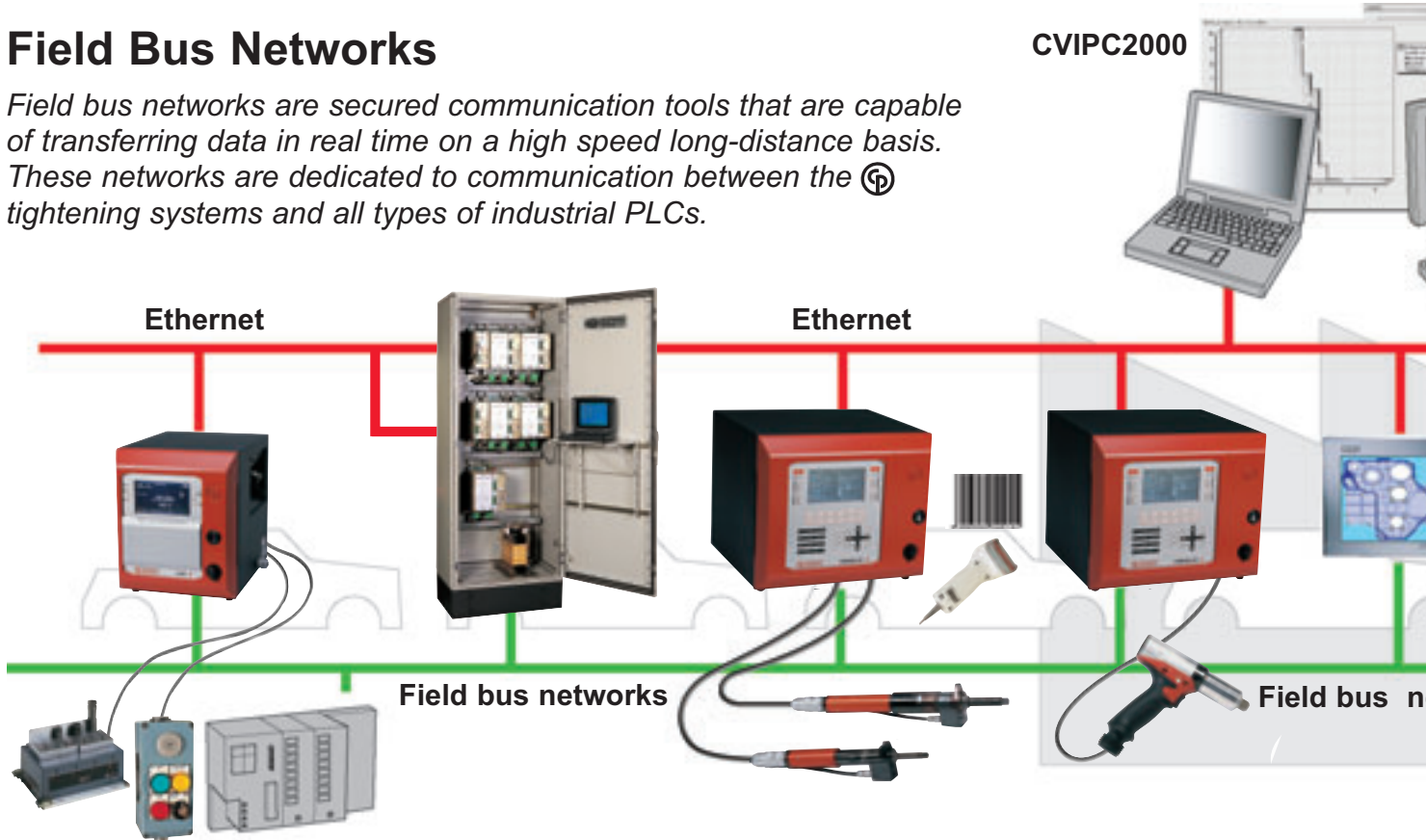
Networks

Communication between the various industrial on-line production systems is today a key factor to control and increase productivity. With the inclusion of field bus networks and Ethernet in our assembly systems,  has the right solution for you.

Field Bus Networks

Field bus networks are secured communication tools that are capable of transferring data in real time on a high speed long-distance basis. These networks are dedicated to communication between the  tightening systems and all types of industrial PLCs.

CVIPC2000



The following **Field bus networks** are available on the CVI range: Profibus DP, Modbus+, Interbus S, DeviceNet

- Inputs/Outputs: all the controller I/O's can be used via the networks

Inputs:

- Start/Stop cycle
- Cycle no.
- Run reverse
- Reset
- Etc.

Outputs:

- 'OK' or 'NOK' results
- Number of 'OK' cycles
- In cycle
- Cycle acknowledge
- Etc.






- Sending and retrieving digital data

Sending out: part number, bar code, vehicle code, etc.

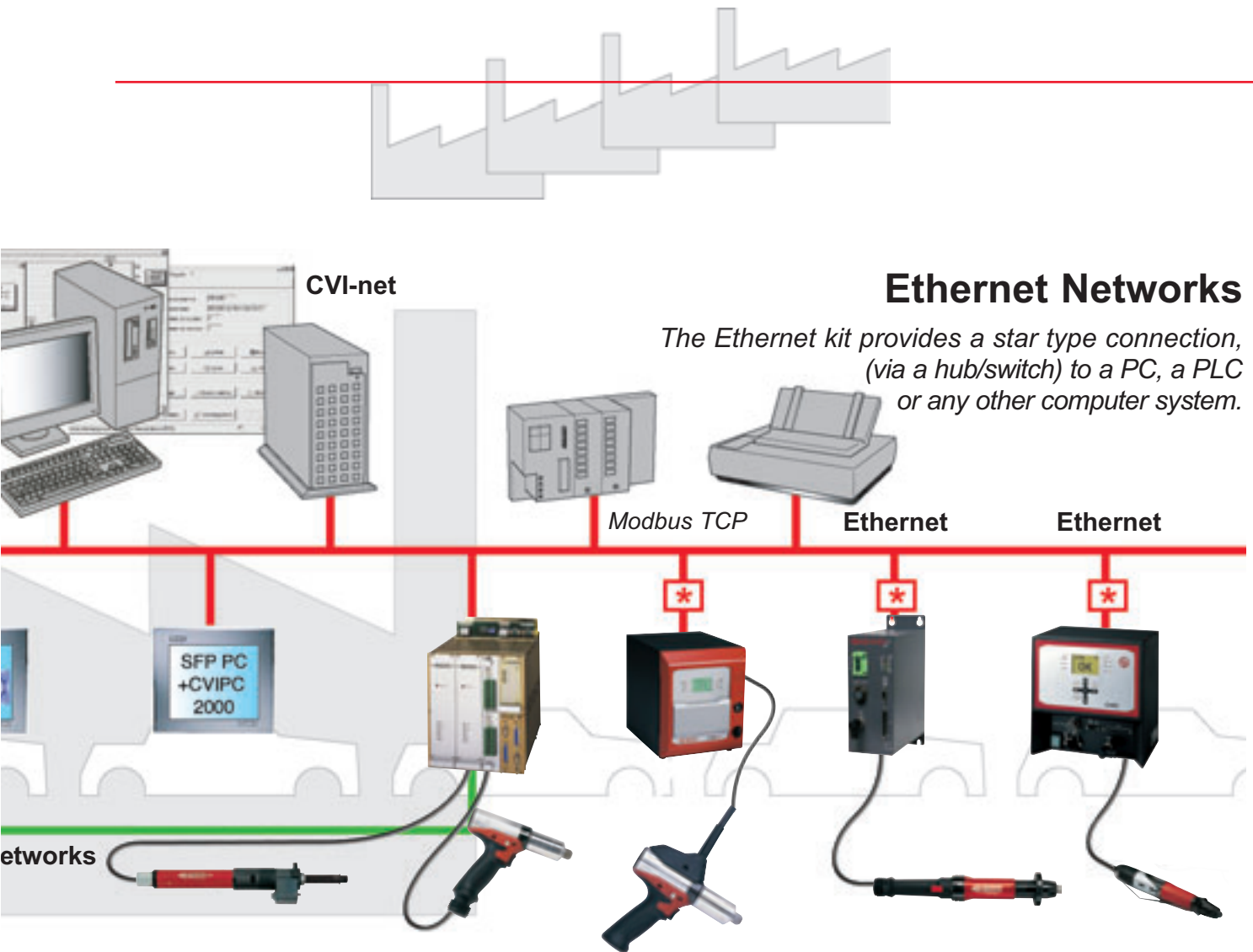
Retrieval - Code / Results / Torque+Angle+Date+Time+Report, etc.

- Programming torque, angle and speed parameters in the tightening cycles already programmed

To order your field bus network kit, select the part number below that matches your controller:

TWINCVI II CVI II	KIT	PART NUMBER	MODCVI	KIT	PART NUMBER	CPUCVI	KIT	PART NUMBER
	MODBUS+	615 929 0050		MODBUS+	615 929 0060		MODBUS+	615 929 0070
	PROFIBUS DP	615 929 0080		PROFIBUS DP	615 929 0090		PROFIBUS DP	615 929 0100
	INTERBUS S	615 929 0110		INTERBUS S	615 929 0120		INTERBUS S	615 929 0130
	DEVICENET	615 929 0140		DEVICENET	615 929 0150		DEVICENET	615 929 0160






Ethernet Networks

The Ethernet kit provides a star type connection, (via a hub/switch) to a PC, a PLC or any other computer system.

The **Ethernet Kit** can be installed on all systems in the CVI range (except CVIS and CVIC*).

- Inputs/Outputs: all the controller I/O's can be used via the networks

The  **Ethernet Kit** includes 4 sockets. It allows therefore to have a simultaneous connection to the 4 applications below:

- CVIPC2000/SFP PC
- Sending measurement results in order of occurrence
- An ISaGRAF application: Debug
- A MODBUS TCP type PLC network
- CVI-net

The advantages of an Ethernet link:

- High speed data transfer (100Mbits/s)
- Collision control, preventing the loss of information
- Long-distance transfer (n x 100 m)
- Standard RJ45 cables
- Multi-application connection on the same medium (cable)
- No theoretical limitation to the number of controllers connected
- The leading edge of information transfer systems

All the data transferred via field bus networks can also be transferred via Ethernet in Modbus TCP.

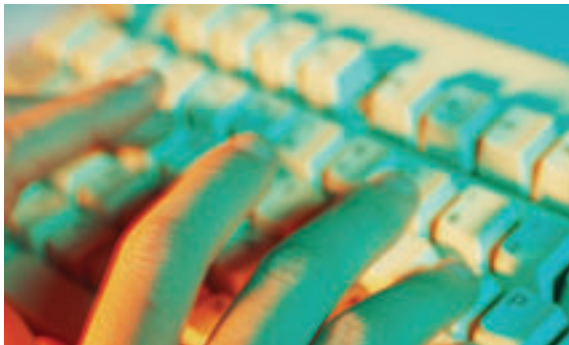
*for cvis and cvic, an Ethernet connection is obtained through an RS232/Ethernet type UDS-10 'lantronix' converter


MODEL	PART NUMBER
Ethernet CVI KIT	615 929 0180
Cable for TWINCVI controller	615 917 4090



CVIPC2000 software

Program Parameters and Monitor Data



CVIPC2000 software (Windows compatible) is a user friendly tool able to program tightening cycles, collect and display results and curves from all  tightening controllers in real time.

The Advanced network version allows the connection of up to 32 controllers in RS422 mode and many more through an Ethernet link.

Real time control mode

- Display all stations connected
- Display and save results
- Display tightening reports
- Print results after each tightening or from date to date

Programming mode

- General parameters of controllers: peripherals, fieldbuses, Ethernet,
- Tightening cycles, up to 250
- Electric brushless tool features
- Downloading of all parameters to stations

Statistical analysis mode

- Standards: ISO, CNOMO, NF
- Display and print:
 - Histograms
 - SPC
 - Control charts, mean, range, standard deviation

Maintenance mode

- Access to tool counters, partial number of cycles and total number of cycles performed by the tool
- Test mode to check torque transducer, angle encoder, brushless motor, etc...
- Complete backup/restore of Stations



Displaying of all stations programmed
Access to main functions with soft key

Friendly Interface



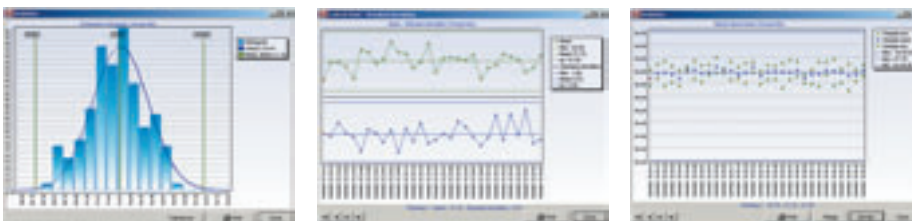
Cycles and phases programming mode

Easy Control



From torque control up to yield point strategy

Complete Statistical Package



MODEL	PART NUMBER	MODEL	PART NUMBER	MODEL	PART NUMBER
CVIS/CVIC PC2000 1 install	615 927 521 0	CVI PC2000 standard 1 install	615 927 522 0	CVI PC2000 advance 1 install	615 927 523 0
CVIS/CVIC PC2000 5 install	615 927 534 0	CVI PC2000 standard 5 install	615 927 526 0	CVI PC2000 advance 5 install	615 927 535 0
CVIS/CVIC PC2000 25 install	615 927 536 0	CVI PC2000 standard 25 install	615 927 537 0	CVI PC2000 advance 25 install	615 927 538 0



CVI-net software

Secure Info into Databases



Through Ethernet and in real time; CVI-net is a unique simple software to collect and save tightening results and curves into a SQL Data Base.*

*CVI-NET is a multilingual windows software, compatible with the most common data bases, **SQL server,Interbase,Oracle,ACCESS,etc...**

CVI-NET software includes two applications software: CVI-collector and CVI-Viewer.

CVI-Collector

- Single software installation on the main server
- Data collection linked to Identification Number as station number / part number / tools number/ a free field for special needs
- Auto uploading of missing data (FIFO inside controllers)
- Overview of all controllers connected

CVI-Viewer

- Multi-user installation
- View tightening results
- View tightening curves
- Customized report:
 - Date range filtering
 - Data linked to an Identification Number
- View of maintenance information

CVI-Net save more than 40 parameters plus the results at the end of each tightening.

Real time quality control of the network

Alarm in case of disconnection and FIFO inside controllers. Automatic uploading of missing data from controllers.

Traceability

All results with Identification Number can be exported to another data base for long time saving. The display of one or more curves allows you to analyse and make comparison of tightening.

Printing report

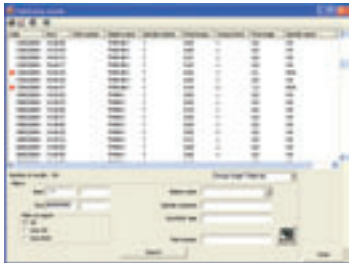
Printing of all tightening of a vehicle or a component by scanning the bar code number.

Easy Control



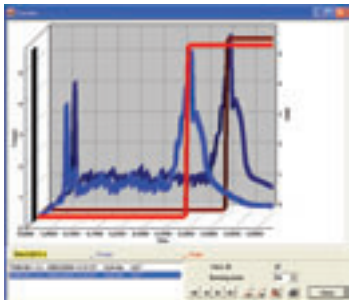
Ethernet connection manager

Friendly Interface



Filtering of results, per VIN number, Per date, type of results, etc...

100% Security



3D Curves screen, display of one or several curves

MODEL	PART NUMBER
CVI-net 1 controller	615 927 555 0
CVI-net 10 controllers	615 927 549 0
CVI-net 25 controllers	615 927 550 0
CVI-net 50 controllers	615 927 551 0



CVIC Range

Easy to start



The CVIC system can be used for all critical applications, offering improved control, joint integrity and many more advantages over conventional tools.

The brushless DC tools are **controlled by measuring the power consumption of the tool** and monitoring the angle rotation.

The CVIC range is quickly installed because **all the set parameters are auto-programmed as soon as the controller is switched on (identification of the type of tool and its specific features with the built-in memory inside the tool)**

3 Programming mode:

- **In Quick programming mode:** enter the torque value and maximum angle and the controller will optimise the parameters to tighten most joints at a given torque value with angle monitoring.

- **In Self-learning mode:** enter the torque, perform a number of tightenings, and the self-learning system will automatically calculate the torque rate for the joint, optimising the tightening parameters and determining the correct acceptance thresholds.

- **In Personalised Programming mode:** you can program all the tightening data that as required.

Suited to each and every application

2 Software versions are available in the CVIC range:

Version L: allows you to tighten at a programmed torque after self-learning of the joint and allows you to detect incorrect tightenings.

Version H: performs all the functions of version L and in addition provides access to 7 tightening systems with different torques and in 15 phases available:

Search sequence - runDown speed - Final speed phase and Corrective action in case of defect, together with the storing of the 100 results.

The quality of each tightening is assessed in with an 'ACCEPT/REJECT' report shown by LEDs on the tool, on the CVIC display and via volt free 'relay' contacts from the I/O port.

The control of the assembly station by the CVIC eliminates the risk of delivering non conforming parts, (missed screws, re-tightening, etc.).

The traceability of the fastening process is ensured by the editing of results after each tightening operation or by checking the last 100 tightening results 'H version'

This generation of tools has passed durability tests up to 1 500 000 cycles for various models.

The brushless type motor does not require any maintenance.



Reliability & Quality of tightening

Reduce Cost of maintenance

```

↓ Cabinet
 99BA04532
18/01/99 15:43
-■■■■■■■■■
 Tool OK
 Version 1
  ECA60
 99 A 04501
    
```

Reading of the tool features

```

START SPINDLE
Dir.   :+Right
Speed  : 10 %
                0 rPm
                0.0 Nm
                0.08 A
                0°
Reset
    
```

Tool rotating test

```

INPUT/OUTPUT
 1      8
InPut  00000000
OutPut  ■■■■■■
Omax   max 0
Ok     ok 0
Omin   min 0
    
```

Reading of input/output



Mastering assembly

MULTICVIC - Flexible multi-spindle system

Control system 1 to 32 channels

- The **MODCVIC is the rack version of the CVIC**. It has no screen or keyboard. It is programmed by the CVIS/CVIPC 2000 software.

2 software versions L and H are available, with all the functions of the CVIC controller. The Rack version 'H' can be connected through of PC network to make programming easier.

- The **MULTICVIC** consist of several MODCVIC-H modules adapted to the number of tools connected and a CPUCVI module as an interface between the PLC and the modules. It is used to fully control the tightening sequence, centralise the control functions and the results while monitoring the MODCVIC.

It is capable of controlling complex tightening or loosening sequences of machines while of centralising the monitoring of control functions and the results. In case of NOK results, it allows cycle restart.

- The flexibility of the MULTICVIC can be further increased by operating the available 26 input and 32 output connections of the CPUCVI module through an ISaGRAF process control application integrated in this module.

CVIPC2000 software

This common software of all CP DC controllers can program and collect results of CVIC range. It is possible to connect up to 32 controllers through a PC network (H version).

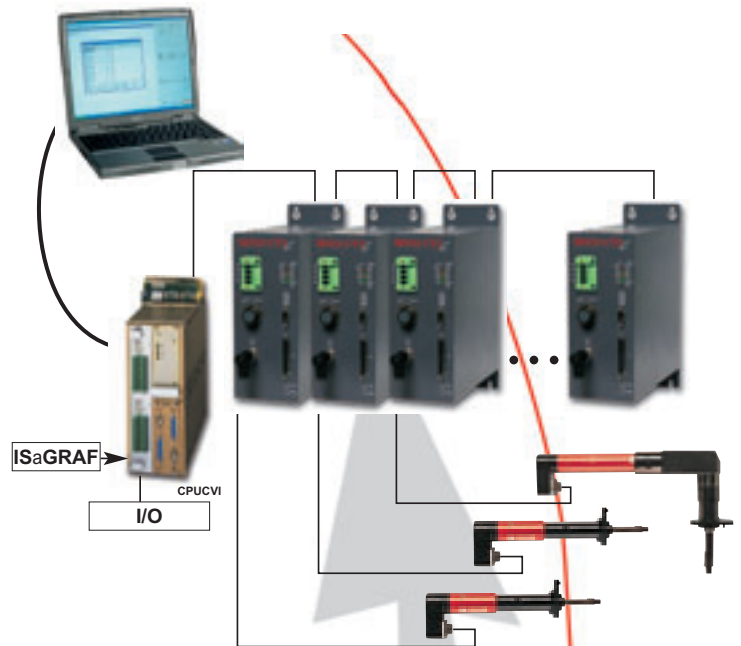
Socket tray

The socket tray allows you to automatically select a tightening cycle by picking the appropriate socket.

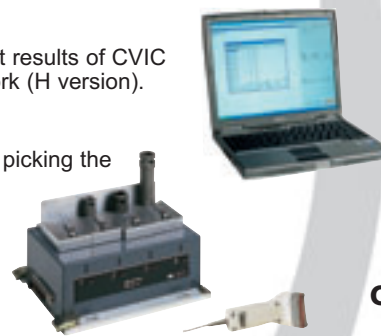
Bar code reader

- it selects a tightening cycle
- the bar code number is saved with the tightening results.

The tool-integrated memory which contains the torque tuning parameters and the tightening parameters (cycle 0) allows you to have a ready-to-use 'plug and play' tool.



Connection of peripheral



Adapter for geared offset head (crowfoot)

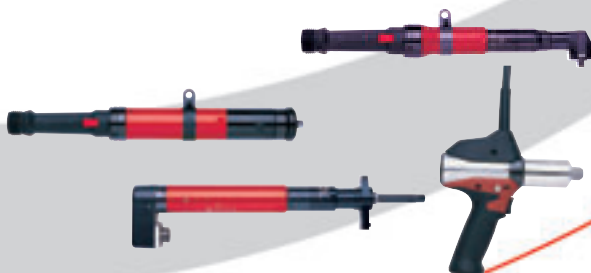
Long lifetime gearbox



Tool connection with high resistance to torsion and traction

Operation Comfort

Optimised angle head for extremely long life because of special treatment of angle pinions.



The tools of the CVIC range are among the lightest and the quietest on the market <70 dB(A). With their ergonomics, they suit all working conditions.

The progressive start of CVIC tools, as well as the ergo stop function provide maximum comfort for the operator.



Technical features

CVIC Range

MAIN FUNCTIONS	VERSIONS	
	L STANDARD	H ADVANCED
Quick cycle with self-learning of the joint	✓	✓
Number of cycles in the controller	0	7
Number of cycle in the tool	1	1
Number of phases	2	15
Batch count (99 OK reports)	✓	✓
TIGHTENING RESULTS		
Torque + Angle + Date + Time + Report		100
TYPES OF PHASES IN A CYCLE		
Search Sequence		✓
Run Down	✓	✓
Torque controlled final speed phase	✓	✓
Angle-controlled final speed phase		✓
Angle-controlled run reverse		✓
Restart cycle in case of defect		✓
Prevailing torque monitoring		✓
STRATEGIES		
Torque control and angle monitoring	✓	✓
Angle control and torque monitoring		✓
DISPLAY AND PROGRAMMING		
Display		
LCD display	✓	✓
Keyboard		
8 buttons keyboard	✓	✓
Reports		
LEDs	6	6
PC Software Windows		
CVIPC2000*: program cycles, collect, display and save results, run statistics	✓	✓
Connection 'point to point'		
Connection through a network (32 controllers)		✓
<i>*All CVIPC2000 versions are compatible with CVICs</i>		
MAINTENANCE		
Access to all tool parameters (tool memory)	✓	✓
Autotest of the complete system	✓	✓
Spindle rotation test	✓	✓
Input/Output selection	✓	✓
Date of the last maintenance operation	✓	✓
Total and partial cycle counters	✓	✓
PERIPHERALS		
Input/Output	2/4	8/8
PC point-to-point connection (RS232)	✓	✓
PC network connection (RS422)		✓
Bar code reader connection to select a cycle number (RS232)		✓
MODEL		
CONTROLLER for low torque tools	CVIC L-2	CVIC H-2
MODULE for low torque tools	MODCVIC L-2	MODCVIC H-2
CONTROLLER for the other tools	CVIC L-4	CVIC H-4
MODULE for the other tools	MODCVIC L-4	MODCVIC H-4
MAINS SUPPLY		
Single -phase 110/230 Volts	✓	✓



Controllers

CVIC - MODCVIC



A



B

PIC REF	MODEL	PART NUMBER	TOOLS	CONSUMPTION (current)		MAINS SUPPLY	WIDTH		DIMENSIONS HEIGHT		DEPTH		WEIGHT	
				115V	230V		mm	in.	mm	in.	mm	in.	kg	lb.
CVIC CONTROLLER														
A	CVIC L-2	615 932 608 0	ECD5/ECP3 to 20L/ECL/MC35-10	4A	2A	Single-phase	260	10.2	270	10.6	170	6.7	5	11.0
A	CVIC H-2	615 932 610 0	ECD5/ECP3 to 20L/ECL/MC35-10	4A	2A	100 to 250 V	260	10.2	270	10.6	170	6.7	5	11.0
A	CVIC L-4	615 932 609 0	Other tools	8A	4A	Single-phase	260	10.2	270	10.6	170	6.7	5	11.0
A	CVIC H-4	615 932 611 0	Other tools	8A	4A	100 to 250 V	260	10.2	270	10.6	170	6.7	5	11.0
MODCVIC MODULE														
B	MODCVIC L-2	615 932 612 0	ECD5/ECP3 to 20L/ECL/MC35-10	4A	2A	Single-phase	100	3.94	320	12.6	270	10.6	4	8.8
B	MODCVIC H-2	615 932 602 0	ECD5/ECP3 to 20L/ECL/MC35-10	4A	2A	or	100	3.94	320	12.6	270	10.6	4	8.8
B	MODCVIC L-4	615 932 613 0	Other tools	8A	4A	three-phase	100	3.94	320	12.6	270	10.6	4	8.8
B	MODCVIC H-4	615 932 604 0	Other tools	8A	4A	100 to 250 V	100	3.94	320	12.6	270	10.6	4	8.8

START-UP KIT to be ordered with the controller
Including: **Plug + Literature + Connector**

PLUG	LITERATURE	PART NO.
A	French	615 928 040 0
C	English	615 928 041 0
A	English	615 928 046 0
B	English	615 928 049 0
A	German	615 928 042 0
A	Spanish	615 928 043 0
D	Italian	615 928 044 0
A	Dutch	615 928 048 0
A	Swedish	615 928 045 0



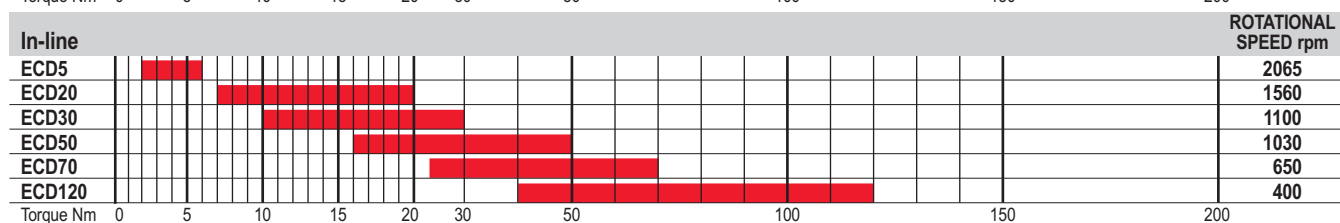
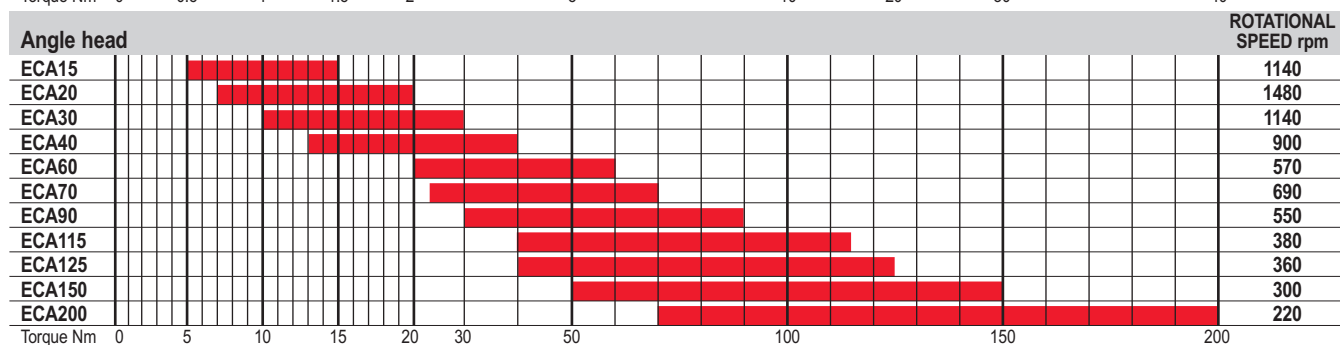
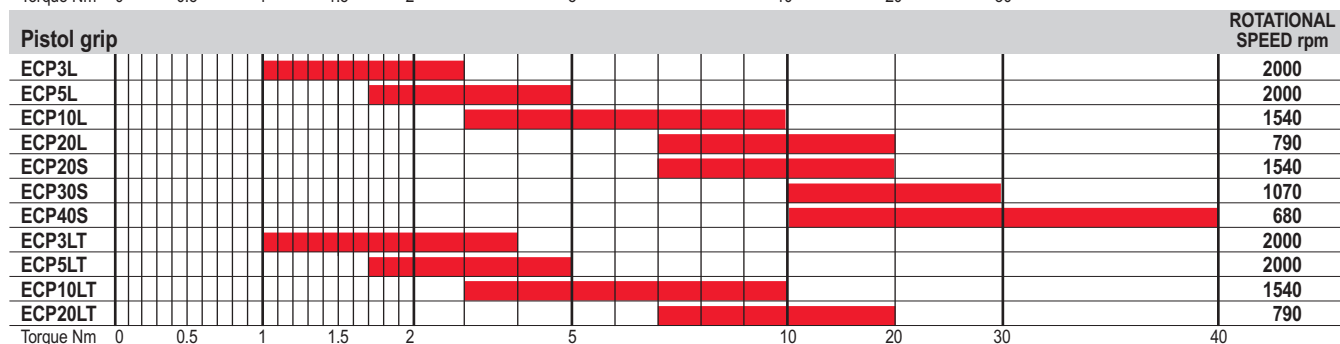
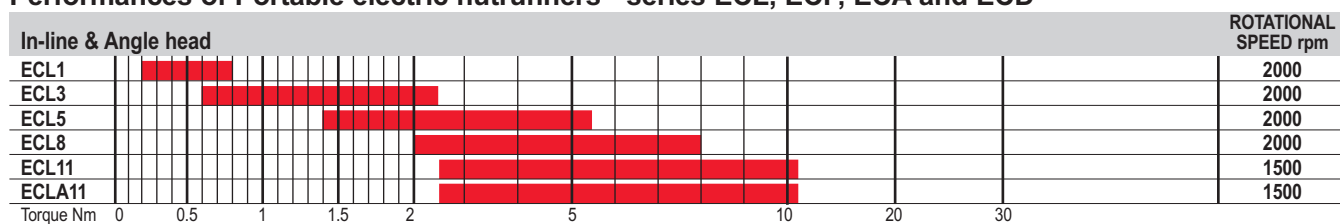
OPTIONAL ACCESSORIES

	PART NO.
• CVICPC NETWORK 2000 software	615 927 523 0
• PC cable Length 2m (78.7")	615 917 047 0
• Printer cable Length 2m (78.7")	615 917 011 0
• CVIS/CVICPC2000 1 Installation	615 927 521 0
• CVIS/CVICPC2000 5 Installations	615 927 534 0
• CVIS/CVICPC2000 25 Installations	615 927 536 0

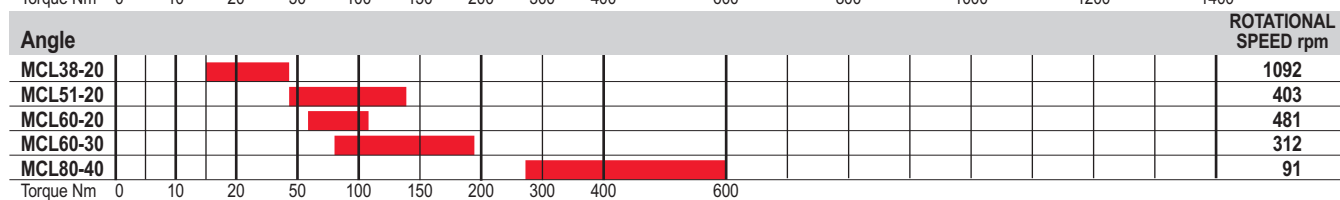
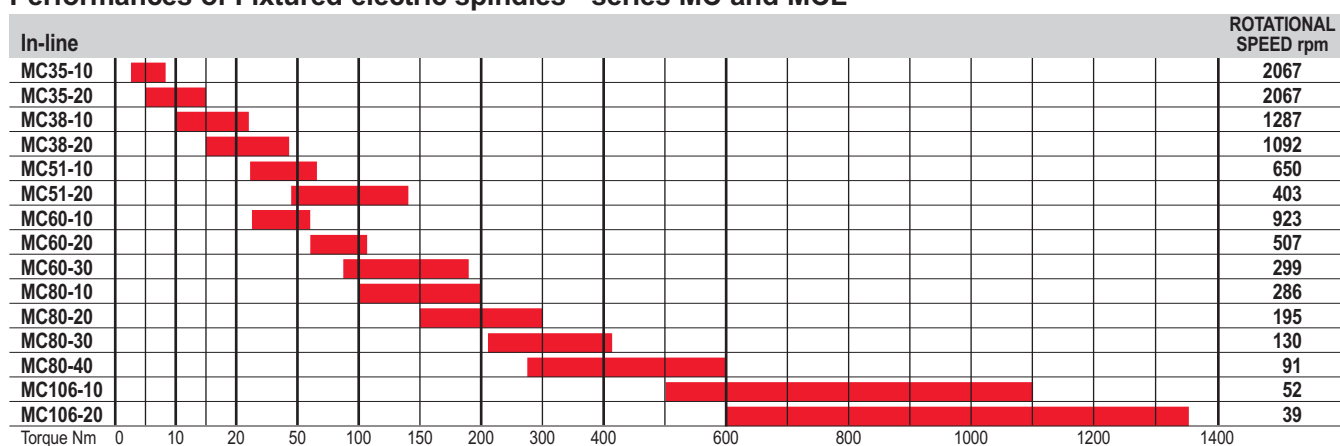


Torque Range

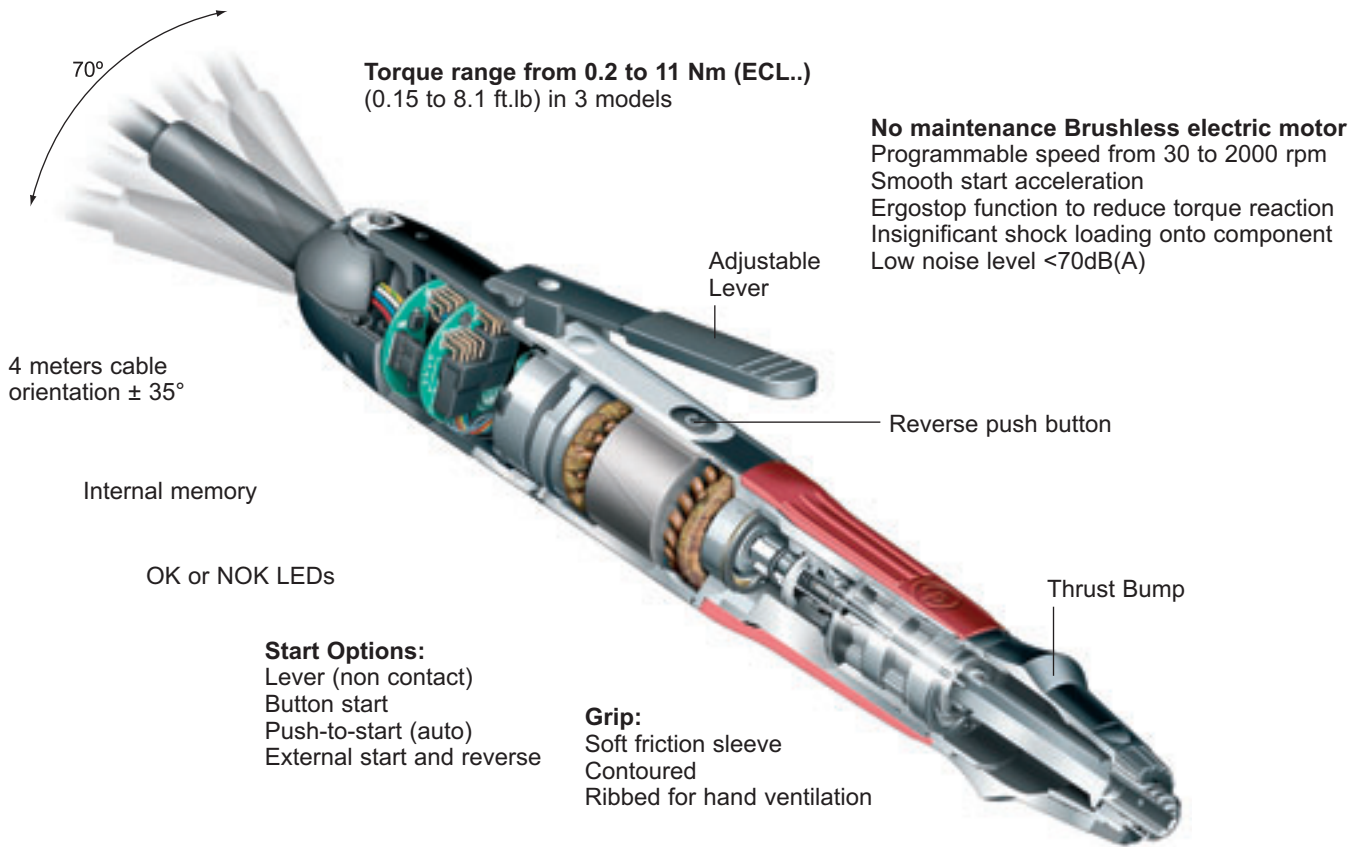
Performances of Portable electric nutrunners - series ECL, ECP, ECA and ECD



Performances of Fixtured electric spindles - series MC and MCL

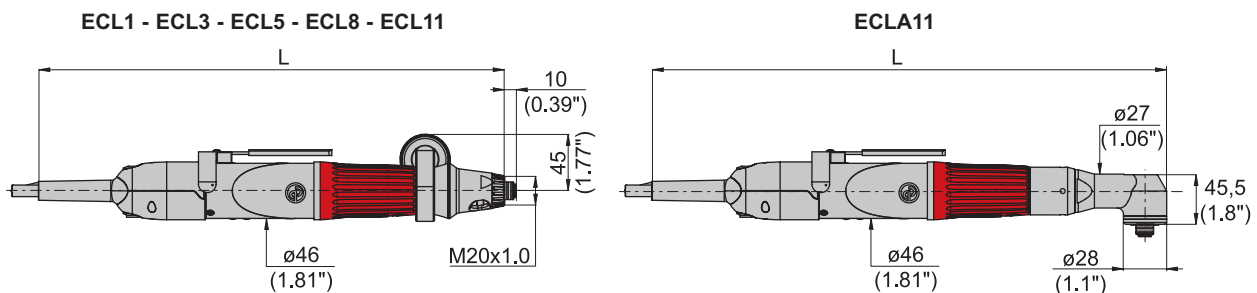


Electric Nutrunners - CVIC Range



Low torque electric screwdrivers - CVIC

ECL1 - ECL3 - ECL5 - ECL8 - ECL11 - ECLA11
 0.2 to 11 Nm (0.15 to 8.1 ft.lb) - 1000 to 2000 rpm



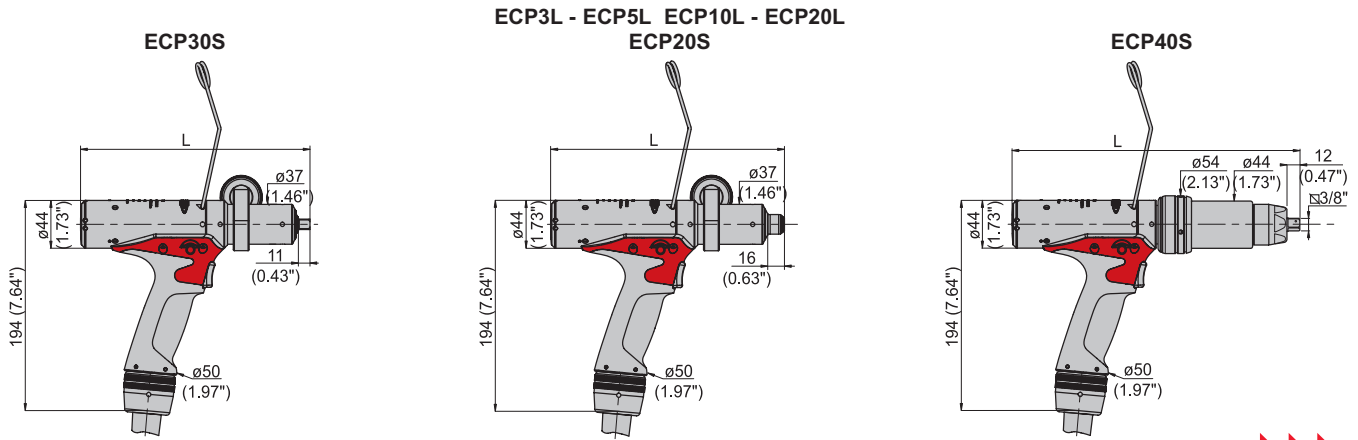
Accessories: see page 38

MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg
ECL1	615 165 235 0	Hex. 1/4 F	0.2-0.8	0.15-0.6	2000	2000	380	14.96	1.0	2.2
ECL3	615 165 236 0	Hex. 1/4 F	0.6-2.5	0.4-1.8	2000	2000	380	14.96	1.0	2.2
ECL5	615 165 259 0	Hex. 1/4 F	1.4-5.5	1.0-4.1	2000	2000	380	14.96	1.0	2.2
ECL8	615 165 237 0	Hex. 1/4 F	2.0-8.0	1.5-5.9	2000	1400	380	14.96	1.1	2.4
ECL11	615 165 260 0	Hex. 1/4 F	2.6-11	1.9-8.1	1500	1000	380	14.96	1.1	2.4
ECLA11	615 165 261 0	Hex. 1/4 F	2.6-11	1.9-8.1	1500	1000	430	16.93	1.2	2.6



Pistol grip electric nutrunners - CVIC

ECP3L - ECP5L - ECP10L - ECP20L - ECP20S - ECP30S - ECP40S
 1 to 40 Nm (0.7 to 29.5 ft.lb) - 680 to 2000 rpm

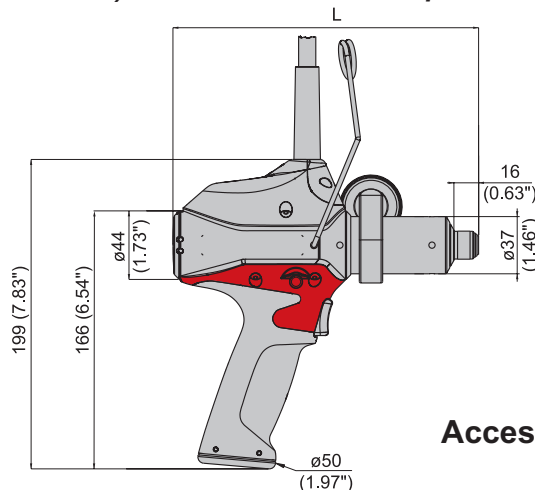


Accessories: see page 38

MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg
ECP3L	615 165 199 0	Hex 1/4 F	1.0-3	0.7-2.2	2000	2000	196	7.7	1.0	2.2
ECP5L	615 165 200 0	Hex 1/4 F	1.7-5	1.3-3.7	2000	1515	196	7.7	1.0	2.2
ECP10L	615 165 201 0	Hex 1/4 F	3.0-10	2.2-7.4	1540	1000	196	7.7	1.1	2.4
ECP20L	615 165 202 0	Hex 1/4 F	7.0-20	4.9-14.8	790	515	196	7.7	1.1	2.4
ECP20S	615 165 203 0	Hex 1/4 F	7.0-20	4.9-14.8	1540	1000	221	8.7	1.2	2.6
ECP30S	615 165 204 0	Sq 3/8	10.0-30	7.4-22.1	1070	700	217	8.5	1.2	2.6
ECP40S	615 165 262 0	Sq 3/8	10.0-40	7.4-29.5	680	442	274	10.7	1.7	3.7

Pistol grip electric nutrunners - CVIC

ECP3LT - ECP5LT - ECP10LT - ECP20LT
 1 to 20 Nm (0.7 to 14.8 ft.lb) - 790 to 2000 rpm



Accessories: see page 38

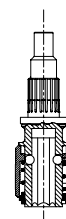
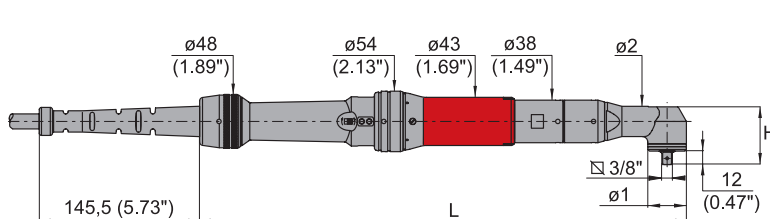
MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg
ECP3LT	615 165 231 0	Hex 1/4 F	1.0-3	0.7-2.2	2000	2000	196	7.7	1.0	2.2
ECP5LT	615 165 232 0	Hex 1/4 F	1.7-5	1.3-3.7	2000	1960	196	7.7	1.0	2.2
ECP10LT	615 165 233 0	Hex 1/4 F	3.0-10	2.2-7.4	1540	1000	196	7.7	1.1	2.4
ECP20LT	615 165 234 0	Hex 1/4 F	7.0-20	5.2-14.8	790	510	196	7.7	1.1	2.4



Angle head electric nutrunners - CVIC

ECA15 - ECA20 - ECA30 - ECA40 - ECA60

5 to 60 Nm (3.7 to 44.2 ft.lb) - 570 to 1480 rpm



ECA15
Quick change chuck
P.N 615 396 262 0

MODEL	H		Ø1		Ø2	
	mm	in.	mm	in.	mm	in.
ECA15	45.5	1.8	28	1.1	27.0	1.06
ECA20 - ECA30	45.5	1.8	28	1.1	27.0	1.06
ECA40	51.5	2.0	35	1.4	27.0	1.06
ECA60	57.5	2.3	40	1.6	30.5	1.20

Accessories: see page 38

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
ECA15	615 165 192 0	3/8	5-15	3.7-11.0	1140	855	406	16.0	1.3	2.9
ECA20	615 165 100 0	3/8	7-20	5.2-14.7	1480	1110	431	16.9	1.7	3.7
ECA30	615 165 101 0	3/8	10-30	7.4-22.1	1140	855	431	16.9	1.7	3.7
ECA40	615 165 102 0	3/8	13-40	9.6-29.5	900	675	441	17.4	1.8	4.0
ECA60	615 165 103 0	3/8	20-60	14.7-44.2	570	427	453	17.8	1.9	4.2

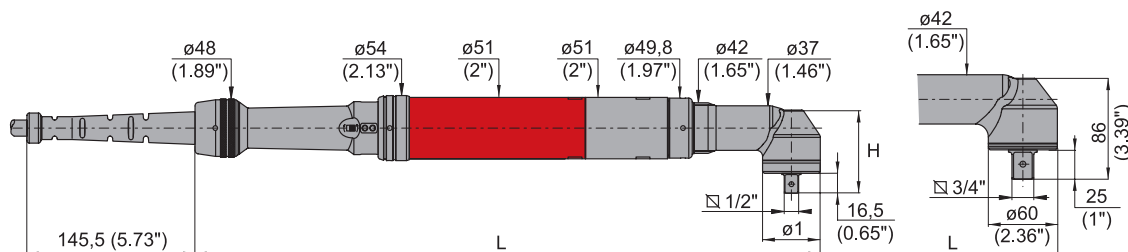
Angle head electric nutrunners - CVIC

ECA70 - ECA90 - ECA115 - ECA125 - ECA150 - ECA200

23 to 200 Nm (16.9 to 147.5ft.lb) - 220 to 690 rpm

ECA70 - ECA90 - ECA115 - ECA125 - ECA150

ECA200



MODEL	H		Ø1	
	mm	in.	mm	in.
ECA70- ECA90 - ECA115	66	2.6	45	1.77
ECA125 - ECA150	69	2.7	50	1.97

Accessories: see page 38

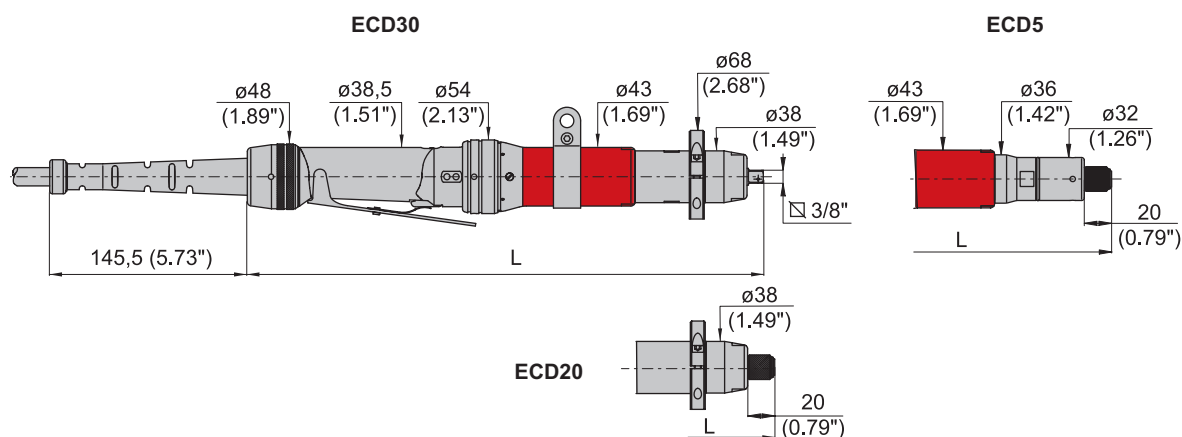
MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
			Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
ECA70	615 165 104 0	1/2	23-70	16.9-51.6	690	517	538	21.2	3.3	7.3
ECA90	615 165 105 0	1/2	30-90	22.1-66.4	550	412	538	21.2	3.3	7.3
ECA115	615 165 106 0	1/2	39-115	28.7-84.8	380	285	538	21.2	3.3	7.3
ECA125	615 165 188 0	1/2	40-125	29.5-92.2	360	270	541	21.3	3.6	7.9
ECA150	615 165 189 0	1/2	50-150	36.8-110.6	300	225	541	21.3	3.6	7.9
ECA200	615 165 190 0	3/4	70-200	51.6-147.5	220	165	591	23.3	3.8	8.4



In-line electric nutrunners- CVIC

ECD5 - ECD20 - ECD30

2 to 30 Nm (1.5 to 22 ft.lb) - 1100 to 2065 rpm



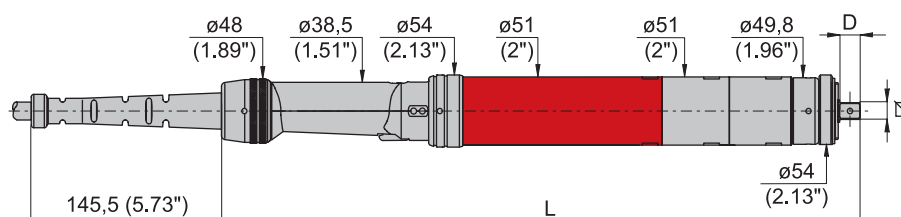
Accessories: see page 38

MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
		in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
ECD5	615 165 068 0	Hex 1/4 F	2-6	1.5-4.4	2065	1548	346	13.6	1.0	2.4
ECD20	615 165 093 0	Hex 1/4 F	7-20	5.2-14.7	1560	1170	388	15.3	1.5	3.3
ECD30	615 165 094 0	Sq 3/8	10-30	7.4-22	1100	825	380	15.0	1.5	3.3

In-line electric nutrunners - CVIC

ECD50 - ECD70 - ECD120

16 to 120 Nm (11.8 to 88.5 ft.lb) - 400 to 1030 rpm



MODEL	D	
	mm	in.
ECD50	12.0	0.47
ECD70- ECD120	16.5	0.65

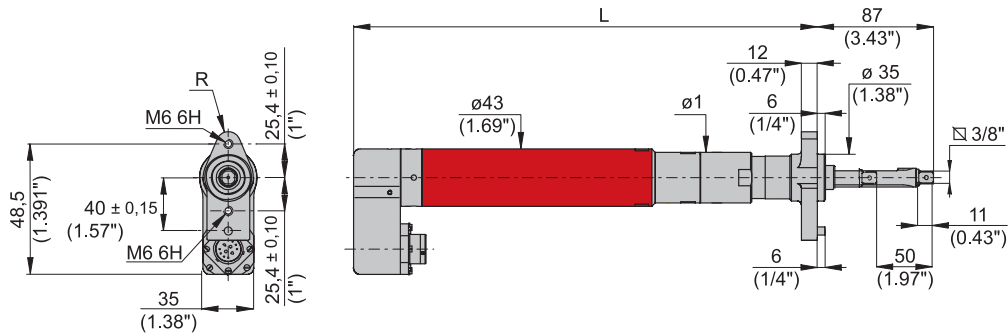
Accessories: see page 38

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH L		WEIGHT	
		in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
ECD50	615 165 095 0	3/8	16-50	11.8-36.8	1030	772	456	17.9	2.6	5.7
ECD70	615 165 096 0	1/2	23-70	16.9-51.6	650	487	461	18.1	2.6	5.7
ECD120	615 165 097 0	1/2	40-120	29.5-88.5	400	300	488	19.2	3.1	6.8



Fixtured electric spindles - CVIC

MC35-10 - MC35-20 - MC38-10 - MC38-20 2.5 to 45 Nm (1.8 to 33.2 ft.lb) - 1092 to 2067 rpm



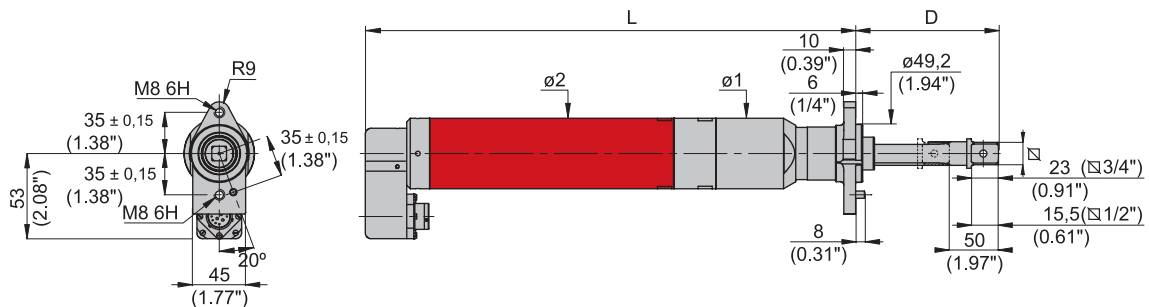
MODEL	Ø1	
	mm	in.
MC35-10	35	1.38
MC35-20	35	1.38
MC38-10 - MC38-20	38	1.50

Accessories: see page 38

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg
MC35-10	615 165 107 0	3/8	2.5-8	1.8-5.9	2067	1344	50	1.97	43.2	1.7	276	10.9	1.7	3.7
MC35-20	615 165 108 0	3/8	5.0-15	3.7-11	2067	1344	50	1.97	43.2	1.7	301	11.8	2.0	4.4
MC38-10	615 165 109 0	3/8	10.0-30	7.4-22.1	1287	837	50	1.97	43.2	1.7	347	13.7	2.0	4.4
MC38-20	615 165 110 0	3/8	15.0-45	11.0-33.2	1092	710	50	1.97	43.2	1.7	347	13.7	2.0	4.4

Fixtured electric spindles - CVIC

MC51-10 - MC51-20 - MC60-10 - MC60-20 - MC60-30 25 to 190 Nm (18.4 to 140 ft.lb) - 299 to 923 rpm



MODEL	Ø1		Ø2		D	
	mm	in.	mm	in.	mm	in.
MC51-10 - MC51-20	51	2.01	43	1.70	113.0	4.45
MC60-10	60	2.36	60	2.36	113.0	4.45
MC60-20 - MC60-30	60	2.36	60	2.36	121.5	4.78

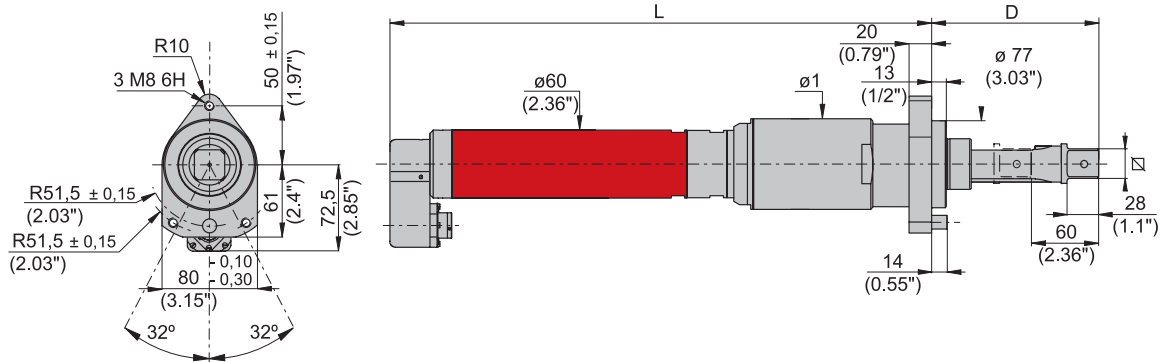
Accessories: see page 38

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg
MC51-10	615 165 111 0	1/2	25-70	18.4-51.6	650	423	50	1.97	51.2	2.0	366	14.4	2.9	6.4
MC51-20	615 165 112 0	1/2	45-135	33.2-99.5	403	262	50	1.97	51.2	2.0	393	15.4	3.5	7.7
MC60-10	615 165 113 0	1/2	30-60	22.1-44.2	923	600	50	1.97	60.2	2.4	417	16.4	4.8	10.6
MC60-20	615 165 114 0	3/4	60-110	44.2-81.1	507	330	50	1.97	60.2	2.4	417	16.4	4.8	10.6
MC60-30	615 165 115 0	3/4	80-190	59.0-140	299	195	50	1.97	60.2	2.4	453	17.8	5.2	11.5



Fixtured electric spindles - CVIC

MC80-10 - MC80-20 - MC80-30 - MC80-40 - MC106-10 - MC106-20
 100 to 1350 Nm (73.7 to 995 ft.lb) - 39 to 286 rpm



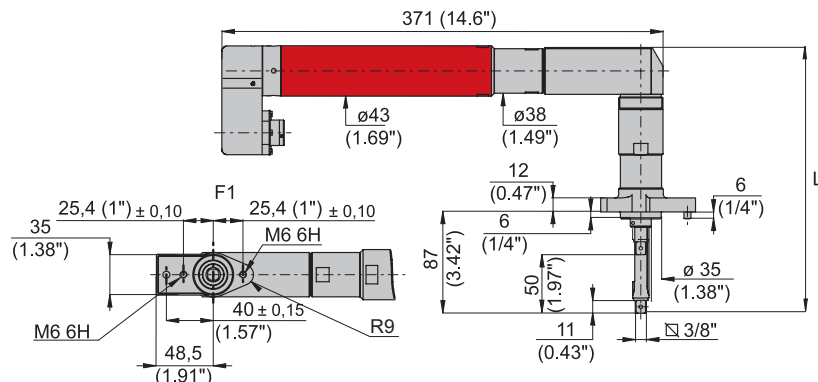
MODEL	ø1		D	
	mm	in.	mm	in.
MC80-10 - MC80-20	80	3.15	140	5.51
MC80-30 - MC80-40	80	3.15	148	5.82
MC106-10 - MC106-20	106	4.17	148	5.82

Accessories: see page 38

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg	lb.
MC80-10	615 165 116 0	3/4	100-195	73.7-144	286	186	60	2.36	80.2	3.2	480	18.9	9.8	21.6
MC80-20	615 165 117 0	3/4	150-300	110.5-221	195	127	60	2.36	80.2	3.2	480	18.9	9.8	21.6
MC80-30	615 165 118 0	1	220-420	162.1-309	130	85	60	2.36	80.2	3.2	480	18.9	9.8	21.6
MC80-40	615 165 119 0	1	270-600	199.0-442	91	59	60	2.36	80.2	3.2	480	18.9	9.8	21.6
MC106-10	615 165 120 0	1	500-1100	368.5-811	52	34	60	2.36	106.2	4.2	556	21.9	15.0	33.1
MC106-20	615 165 121 0	1	600-1350	442.2-995	39	25	60	2.36	106.2	4.2	556	21.9	15.0	33.1

Fixtured electric spindles - CVIC

MCL38-20
 15 - 45 Nm (11 - 33.2 ft.lb) - 1092 rpm



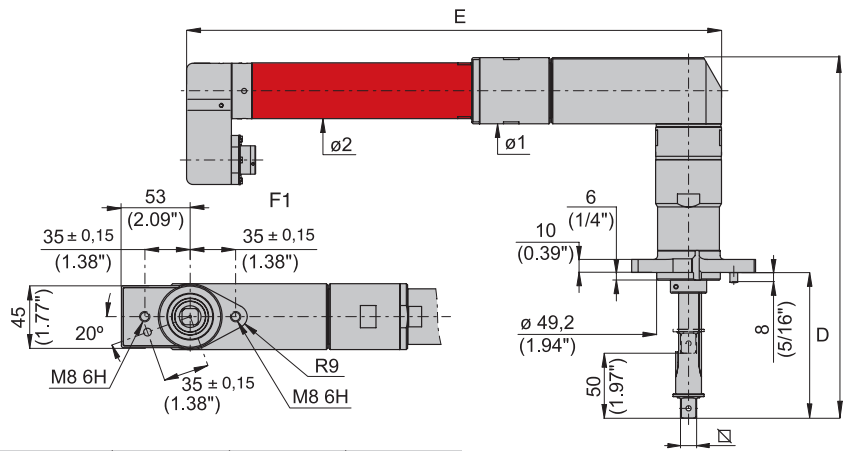
Accessories: see page 38

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg	lb.
MCL38-20	615 165 124 0	3/8	15-45	11-33.2	1092	710	50	1.97	43.2	1.7	140.5	5.53	3.0	6.6



Fixtured electric spindles - CVIC

MCL51-20 - MCL60-20 - MCL60-30 45 to 190 Nm (33.2 to 140 ft.lb) - 312 to 481 rpm



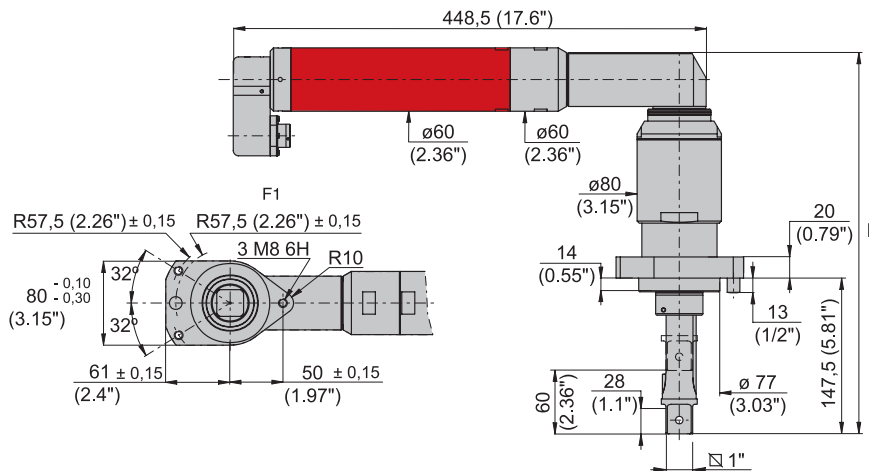
MODEL	Ø1		Ø2		D		E	
	mm	in.	mm	in.	mm	in.	mm	in.
MCL51-20	51	2.01	43	1.69	113	4.45	412.5	16.2
MCL60-20	60	2.36	60	2.36	121	4.76	448.5	17.7
MCL60-30	60	2.36	60	2.36	121	4.76	448.5	17.7

Accessories: see page 38 

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg
MCL51-20	615 165 125 0	1/2	45-135	33.2-99.5	403	262	50	1.97	51.2	2.0	166	6.5	4	8.8
MCL60-20	615 165 126 0	3/4	60-110	44.2-81.1	481	313	50	1.97	60.2	2.4	178	7.0	6	13.2
MCL60-30	615 165 127 0	3/4	80-190	58.9-140	312	203	50	1.97	60.2	2.4	178	7.0	6	13.2

Fixtured electric spindles - CVIC

MCL80-40 270 - 600 Nm (199 - 442 ft.lb) - 91 rpm



Accessories: see page 38 

MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg
MCL80-40	615 165 128 0	1	270-600	199-442	91	59	60	2.4	80.2	3.2	241	9.49	11	24.2



Accessories

ECL / ECP / ECA / ECD

ACCESSORIES INCLUDED

ITEM	PART NO.
• Side handle for ECP / ECL8	467033
• Fixed suspension bail for ECP.LT	467003
• Stationary suspension bail for ECA15/20/30/40/60 / ECD	615 571 056 0
• Stationary suspension bail for ECA90/115/125/150/200	615 571 050 0
• Square drive ball 3/8" for ECA15/20/30/40/60	615 770 028 0
• Reaction bar for ECD20/30	615 396 191 0
• Reaction bar for ECD50/70/120	615 396 229 0
• Trigger lever for ECD5	615 595 259 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
• Rotary right angle tool connector for ECP	615 396 300 0
• Suspension bail for ECP.L	615 396 121 0
• Suspension bail on a swivel for ECA20/30/40/60 / ECD5/20/30	615 396 228 0
• Suspension bail on a swivel for ECA70/90/115/125/150/200 / ECD50/70/120	615 396 229 0
• Top cable length 4m for ECP.LT	615 917 420 0
• Reaction bar ring for ECA60	615 396 226 0
• Reaction bar ring for ECA70/90/115/125/150	615 396 227 0
• Reaction bar ring for ECA200	615 396 230 0
• Trigger lever for ECA / ECD	615 396 192 0
• Ball for ECA15/20/30/40	615 770 028 0

Spring Loaded Shafts and Bearings Support for ECL

1 Bit Adaptor	103782
2 Spring Loaded Shaft 25mm (1") stroke, 3/8" Sq Drive	108342
3 Shaft Support and Nose Mount	108412

Nose Mounts for ECL

4 Nose Mount	108392
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Offset Head and Spring Loaded Shaft for ECL

5 Offset Head, Offset 30mm (1.18")	384993
6 Spring Loaded Shaft 25mm (1") stroke, 3/8" Sq Drive	108352

Screwdriver Bit Adaptor for ECL

7 3/8" Square to 1/4" Hex Power Adaptor	108322
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Cable for ECP / ECA / ECD

Cable length:	3m	5m	10m	15m	20m	25m	30m
• Nutrunners cable	615 917 211 0	615 917 212 0	615 917 214 0	615 917 215 0			
• Extension cable		615 917 222 0	615 917 224 0	615 917 225 0	615 917 226 0	615 917 227 0	615 917 228 0

Socket Tray

• Socket tray (sockets not supplied)	615 936 005 0
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Cable length:	1m	5m	10m	15m
• Cable for socket tray	615 917 241 0	615 917 242 0	615 917 244 0	615 917 245 0

Reporting Box

• Reporting Box	615 936 001 0
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MC / MCL

OPTIONAL ACCESSORIES

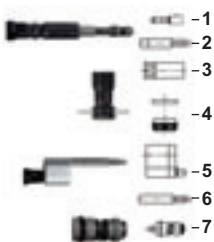
	PART NO.
• Motor/In-line connector assembly kit for MC35-10 to MC51-20 / MCL38-20/MCL51-20	615 396 198 0
• Motor/In-line connector assembly kit for MC60-10 to MC106-20 / MCL60-20/30/MCL80-40	615 396 199 0

Transducer-holder from MC tool

• 3/8" square drive MC35/MC38	615 396 426 0
• 1/2" square drive MC51/MC60.10	615 396 427 0
• 3/4" square drive MC60.20/MC60.30	615 396 428 0
• 3/4" square drive MC80.10/MC80.20	615 396 429 0
• 1" square drive MC80.30/40/MC106	615 396 430 0

Cable for MC & MCL tools

Cable length:	MODCVIC					
	5m	10m	15m	20m	25m	30m
• Motor cable	615 917 232 0	615 917 234 0	615 917 235 0	615 917 236 0	615 917 237 0	615 917 238 0
• Motor extension cable	615 917 222 0	615 917 224 0	615 917 225 0	615 917 226 0	615 917 227 0	615 917 228 0



Low voltage screwdrivers



A



B



C



D



E

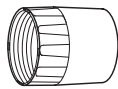
Power Controllers

PIC REF	MODEL	PART NUMBER	DESCRIPTION
D	ESP1-1	615 932 630 0	For use with one screwdriver AC 115V 50/60Hz
D	ESP1-2	615 932 631 0	For use with one screwdriver AC 230V 50/60Hz
E	ESP2-1	615 932 632 0	For use with two screwdrivers AC 115V 50/60Hz
E	ESP2-2	615 932 633 0	For use with two screwdrivers AC 230V 50/60Hz

START-UP KIT to be ordered with the controller

Including: **Power cable and plug**

PLUG	DESCRIPTION	PART NO.
A	UK	396843
B	USA	459323
C	European	396853



OPTIONAL ACCESSORIES

- | | PART NO |
|--|---------------|
| • Torque fixing ring Types A can be equipped with torque fixing ring | 615 225 053 0 |
| Types B and C can be equipped with torque fixing ring | 615 225 054 0 |

Recommended duty cycle, maximum 15 screws per minute

PIC REF	MODEL	PART NUMBER	FREE SPEED		OUTPUT Hex.	TORQUE RANGE		LENGTH		WEIGHT		VOLTAGE	CONTROLLER
			Hi rpm	Lo rpm		in.	Nm	in.lb	mm	in.	kg		
A	SLK003-L1000-S4Q	615 165 252 0	1000	700	1/4	0.02-0.34	0.18-3.01	224	8.82	0.27	0.59	24 or 32	ESP
A	SLK007-L1000-S4Q	615 165 253 0	1000	700	1/4	0.05-0.69	0.44-6.11	224	8.82	0.27	0.59	24 or 32	ESP
A	SLK010-L670-S4Q	615 165 254 0	670	470	1/4	0.10-0.98	0.88-8.67	224	8.82	0.27	0.59	24 or 32	ESP
B	SLK011-L1000-S4Q	615 165 255 0	1000	700	1/4	0.10-1.18	0.88-10.4	239	9.41	0.48	1.06	24 or 32	ESP
B	SLK015-L1000-S4Q	615 165 256 0	1000	700	1/4	0.29-1.57	2.57-13.9	239	9.41	0.48	1.06	24 or 32	ESP
C	SLK011-A1000-S4Q	615 165 257 0	1000	700	1/4	0.20-0.98	1.77-8.67	218	8.58	0.48	1.06	24 or 32	ESP
C	SLK015-A1000-S4Q	615 165 258 0	1000	700	1/4	0.29-1.57	2.57-13.9	218	8.58	0.48	1.06	24 or 32	ESP



ESP Range

ESP7 controller for SLE screwdrivers

Remote interface port
(options 2,3,4,5)

Switchable supply voltage
AC230, 50Hz or
AC120, 60Hz

3 Button keypad for
simple programming

LCD Display for programming
and displaying cycle parameters

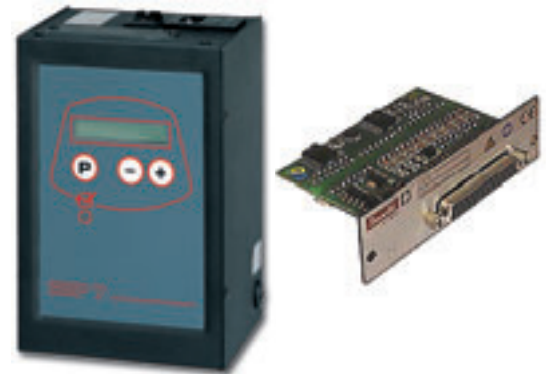
Cycle complete indicator

Wall mounting bracket



TECHNICAL FEATURES

MAIN FUNCTIONS	VERSIONS				
	OPTION 1	OPTION 2	OPTION 3	OPTION 4	OPTION 5
PROGRAMMABLE CONTROLLER					
Password protected programming	✓	✓	✓	✓	✓
Automatic tool recognition	✓	✓	✓	✓	✓
Factory default reset facility	✓	✓	✓	✓	✓
Auto Start	✓	✓	✓	✓	✓
Left/Right hand rotation	✓	✓	✓	✓	✓
Tool running indicator	✓	✓	✓	✓	✓
CONTROL CARDS					
Slow start speed control		✓	✓	✓	✓
Rundown speed control		✓	✓	✓	✓
Final speed control		✓	✓	✓	✓
Reverse speed control		✓	✓	✓	✓
Auto reverse			✓	✓	✓
Current control				✓	✓
4 Parameter groups			✓	✓	✓
FAS capability				✓	✓
Remote interface port		✓	✓	✓	✓



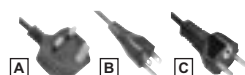
MODEL	PART NUMBER	FOR TOOLS	SWITCHABLE SUPPLY VOLTAGE		WIDTH		DIMENSIONS HEIGHT		DEPTH		WEIGHT	
			AC230	AC120	mm	in.	mm	in.	mm	in.	kg	lb

PROGRAMMABLE CONTROLLER												
ESP7	111362	SLE	50Hz	60Hz	143	5.6	212	8.3	115	4.5	5	11.3

CONTROL CARDS												
OPTION 2	108242										0.21	0.46
OPTION 3 & 4	108252										0.25	0.55
OPTION 5	108262										0.34	0.75

START-UP KIT to be ordered with the controller
Including: **Power cable and plug**

PLUG	DESCRIPTION	PART NO.
A	UK	396843
B	USA	459323
C	European	396853



Example of order

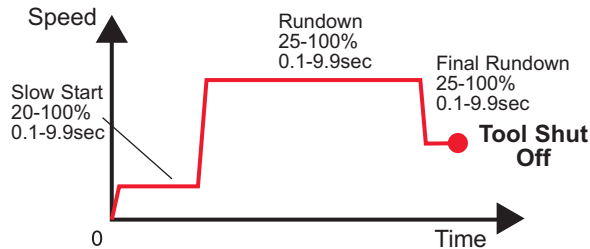
	PART NO.
Tools - Clutch controlled types only	SLE017-A1500-S4Q
Programmable controller	ESP7
Control Card	Option 2
Start-up kit	UK
	1464864
	111362
	108242
	396843



Electric fastening tools

Control Options

OPTION 2 – Clutch Controlled Shut Off with Speed Control

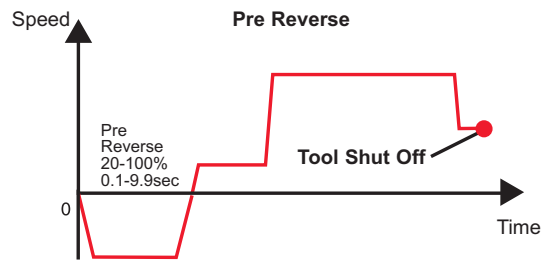
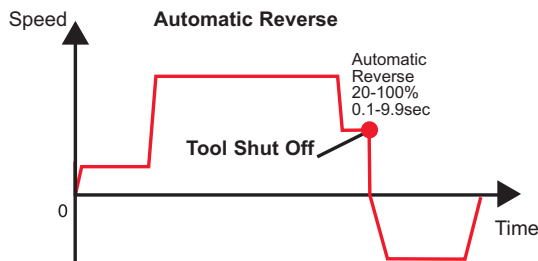


Parameters Tool start mode, external forward, reverse or stop signal functions, slow start time and speed, rundown time and speed, final rundown time and speed, reverse speed

Outputs Cycle finished, cycle not finished, ground 24V DC

Inputs External forward, external reverse, external stop, +24V DC

OPTION 3 – Clutch Controlled Shut Off with Speed Control and Automatic Reverse Options OPTION 4 – Current Controlled Shut Off with Speed Control and Automatic Reverse Options



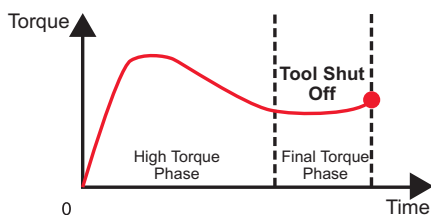
Parameters As per Option 2 plus program selection (maximum of 4), pre reverse time, automatic reverse time after shut off, current percentage (current control only)

Outputs Cycle finished, cycle not finished, ground 24V DC

Inputs External forward, external reverse, external stop, program selection, +24V DC

OPTION 5 – Clutch or Current Controlled Shut Off with Speed Control and Automatic Reverse Option, High Torque Current Control and Fastening Assurance

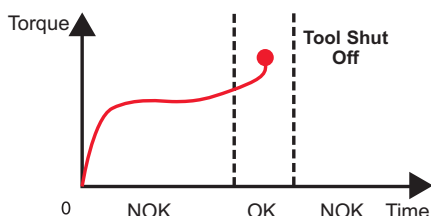
This option has all the features of Options 3 and 4 plus:



High Torque Current Control

This function permits the current control tools to operate at a higher torque level during the rundown than the torque required at shut off.

Applications include those with thread forming screws, self tapping screws in thin materials or soft plastics, self lock nuts and screws, misaligned holes and fragile components.



Fastening Assurance System

The fastening assurance system provides the ability to verify that all the fasteners in an assembly have been correctly fastened. By comparing the timing of electrical signals from the screwdriver with set parameters, the fastening cycle can be monitored and output signals generated for OK and NOK assembly confirmation. The output signals can then be combined to indicate that all the fasteners on the component have been tightened correctly.

Parameters As per Option 2, 3 and 4 plus enable FAS, enable high current, time limits for FAS, number of screws in a group (FAS), group start (FAS), NOK receipt to disable tool (FAS), permit sequencing of groups

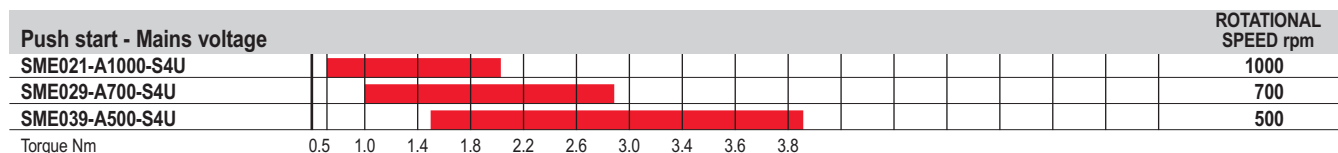
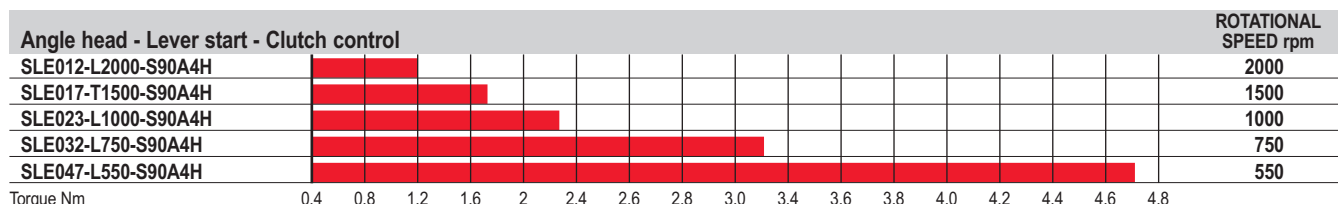
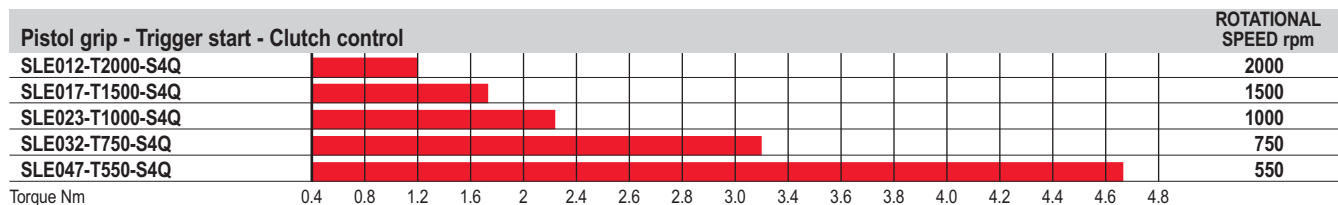
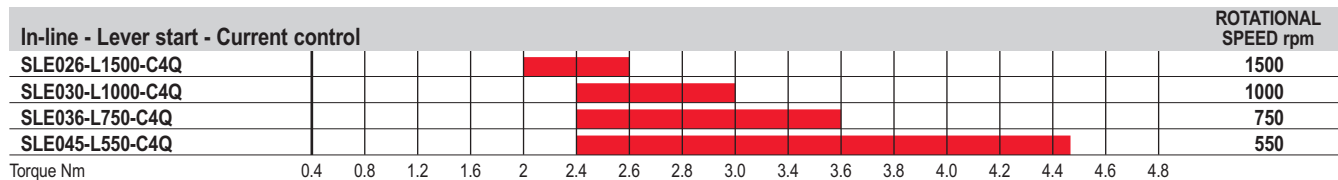
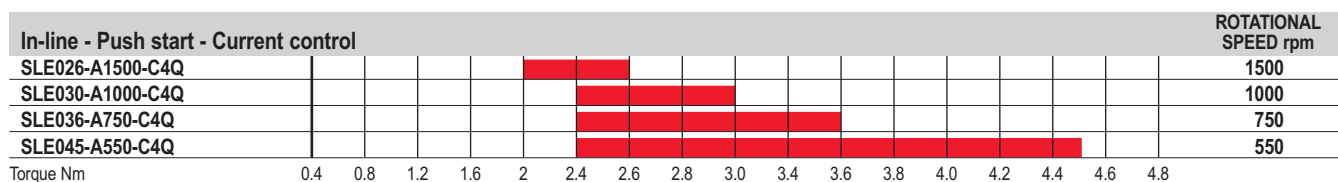
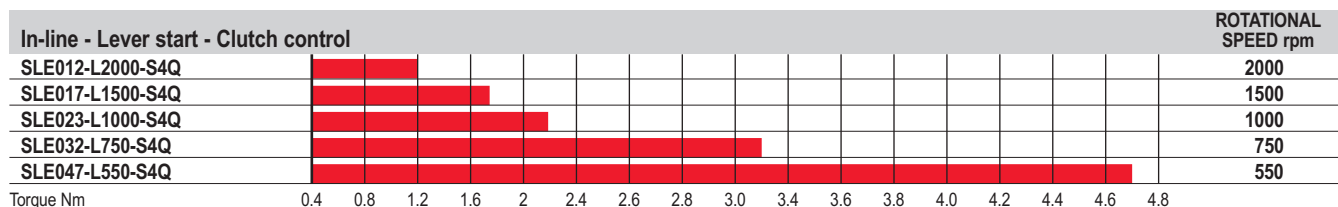
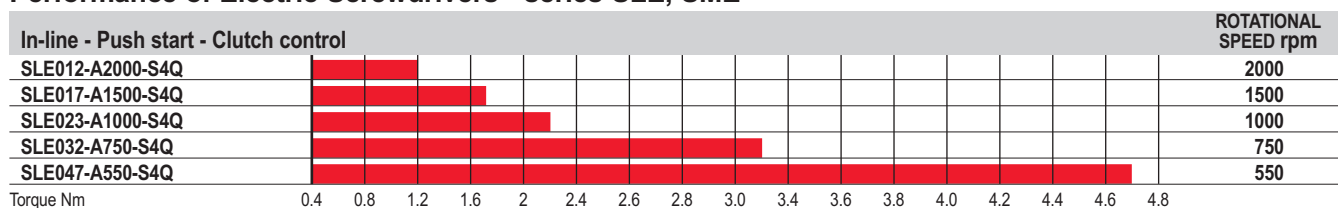
Outputs As per Option 2, 3 and 4 plus n screws OK, n screws NOK

Inputs As per Option 2, 3 and 4 plus reset last, reset all, NOK receipt to acknowledge NOK, group start (maintained during cycle)

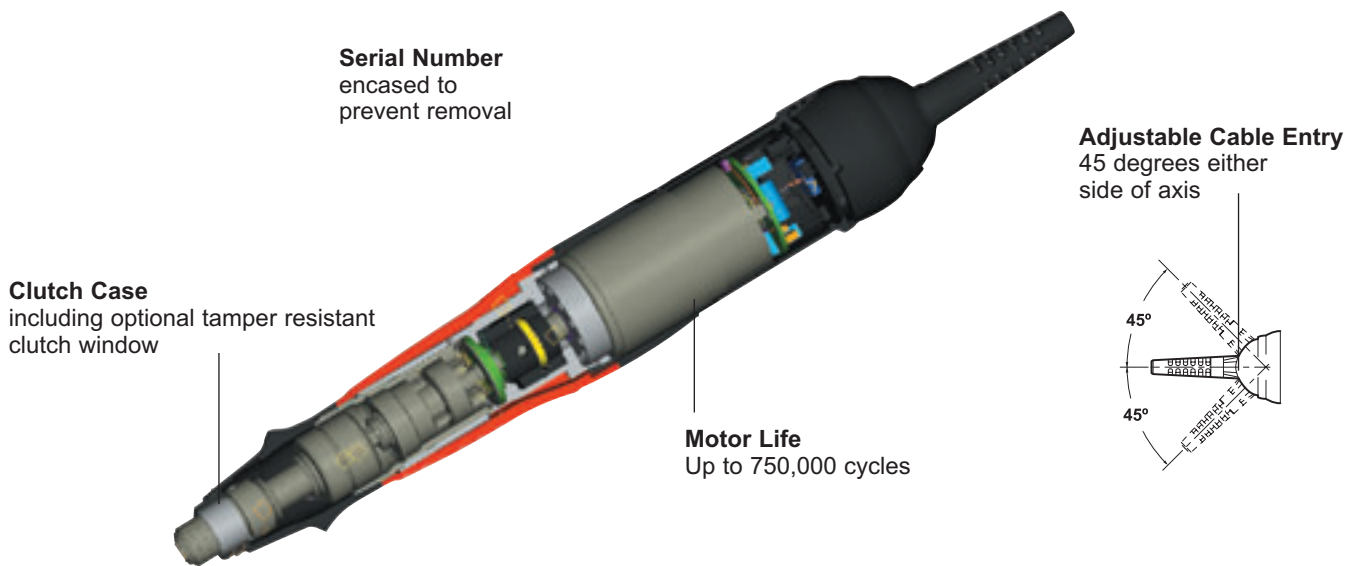


Torque range

Performance of Electric Screwdrivers - series SLE, SME



Electric screwdrivers

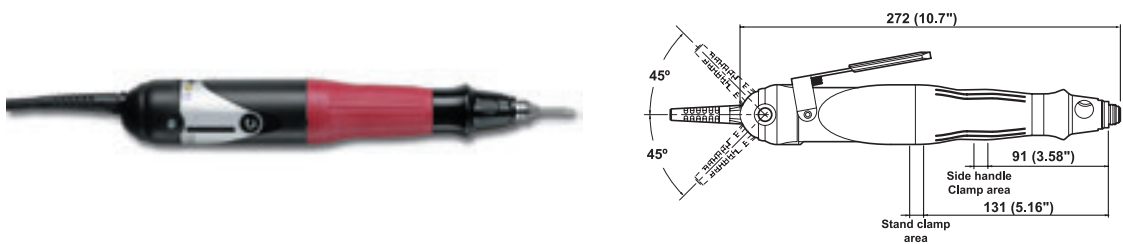


- Torque control options
 - Clutch control
 - Current to reduce shock loading on the component, permit 4 torques with a single tool, allow high torque during the rundown phase
- 5 Start options – push, button, lever, trigger, combination* (button/push, lever/push, trigger/push)

* Not available on angle head tools

SLE - In-line High power screwdriver

0.4 to 4.7 Nm (3.5 to 41.6 in.lb) - 550 to 2000 rpm



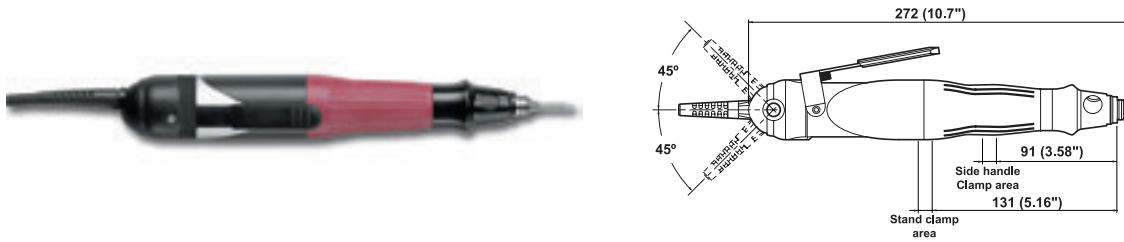
Accessories: see page 47

MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE		FITTED SPRING		WEIGHT		VOLTAGE	CONTROLLER
		in.	rpm	Nm	in.lb	Nm	in.lb	kg	lb	VDC	
PUSH START - LOW VOLTAGE - CLUTCH CONTROL - SHUT OFF											
SLE012-A2000-S4Q	1464854	1/4	2000	0.4-1.2	3.5-10.6	0.4-1.2	3.5-10.6	0.64	1.4	40	ESP7
SLE017-A1500-S4Q	1464864	1/4	1500	0.4-1.7	3.5-15.0	0.4-1.7	3.5-15.0	0.64	1.4	40	ESP7
SLE023-A1000-S4Q	1464874	1/4	1000	0.4-2.3	3.5-20.3	0.4-2.3	3.5-20.3	0.64	1.4	40	ESP7
SLE032-A750-S4Q	1464884	1/4	750	0.4-3.2	3.5-28.3	1.5-3.2	13.3-28.3	0.64	1.4	40	ESP7
SLE047-A550-S4Q	1464894	1/4	550	0.4-4.7	3.5-41.6	1.5-4.7	13.3-41.6	0.64	1.4	40	ESP7



SLE - In-line High power screwdriver

0.4 to 4.7 Nm (3.5 to 41.6 in.lb) - 550 to 2000 rpm

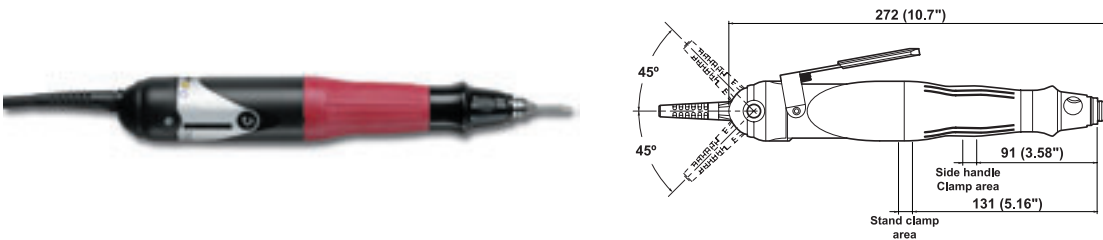


Accessories: see page 47

MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE		FITTED SPRING		WEIGHT		VOLTAGE	CONTROLLER
		in.	rpm	Nm	in.lb	Nm	in.lb	kg	lb	VDC	
LEVER START - LOW VOLTAGE - CLUTCH CONTROL - SHUT OFF											
SLE012-L2000-S4Q	1464904	1/4	2000	0.4-1.2	3.5-10.6	0.4-1.2	3.5-10.6	0.68	1.5	40	ESP7
SLE017-L1500-S4Q	1464914	1/4	1500	0.4-1.7	3.5-15.0	0.4-1.7	3.5-15.0	0.68	1.5	40	ESP7
SLE023-L1000-S4Q	1464924	1/4	1000	0.4-2.3	3.5-20.3	0.4-2.3	3.5-20.3	0.68	1.5	40	ESP7
SLE032-L750-S4Q	1464934	1/4	750	0.4-3.2	3.5-28.3	1.5-3.2	13.3-28.3	0.68	1.5	40	ESP7
SLE047-L550-S4Q	1464944	1/4	550	0.4-4.7	3.5-41.6	1.5-4.7	13.3-41.6	0.68	1.5	40	ESP7

SLE - In-line High power screwdriver

2.0 to 4.5 Nm (17.7 to 39.8 in.lb) - 550 to 1500 rpm



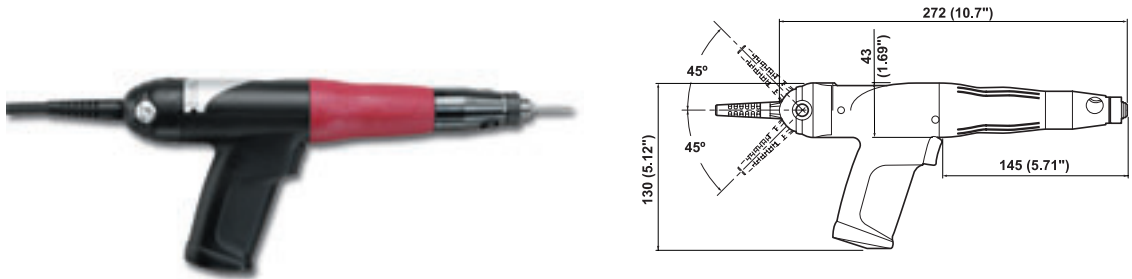
Accessories: see page 47

MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE HARD JOINT		TORQUE RANGE SOFT JOINT		WEIGHT		VOLTAGE	CONTROLLER
		in.	rpm	Nm	in.lb	Nm	in.lb	kg	lb	VDC	
PUSH START - LOW VOLTAGE - CURRENT CONTROL - SHUT OFF											
SLE026-A1500-C4Q	1465414	1/4	1500	2.0-2.6	17.7-23.0	1.4-1.6	12.3-14.1	0.6	1.3	40	ESP7
SLE030-A1000-C4Q	1465424	1/4	1000	2.4-3.0	21.2-26.5	1.8-2.1	15.9-18.5	0.6	1.3	40	ESP7
SLE036-A750-C4Q	1465434	1/4	750	2.4-3.6	21.2-31.8	1.8-2.8	15.9-24.7	0.6	1.3	40	ESP7
SLE045-A550-C4Q	1465444	1/4	550	2.4-4.5	21.2-39.8	1.9-3.8	16.8-33.6	0.6	1.3	40	ESP7
LEVER START - LOW VOLTAGE - CURRENT CONTROL - SHUT OFF											
SLE026-L1500-C4Q	1465884	1/4	1500	2.0-2.6	17.7-23.0	1.4-1.6	12.3-14.1	0.64	1.4	40	ESP7
SLE030-L1000-C4Q	1465894	1/4	1000	2.4-3.0	21.2-26.5	1.8-2.1	15.9-18.5	0.64	1.4	40	ESP7
SLE036-L750-C4Q	1465904	1/4	750	2.4-3.6	21.2-31.8	1.8-2.8	15.9-24.7	0.64	1.4	40	ESP7
SLE045-L550-C4Q	1465914	1/4	550	2.4-4.5	21.2-39.8	1.9-3.8	16.8-33.6	0.64	1.4	40	ESP7



SLE - Pistol grip High power screwdriver

0.4 to 4.7 Nm (3.5 to 41.6 in.lb) - 550 to 2000 rpm

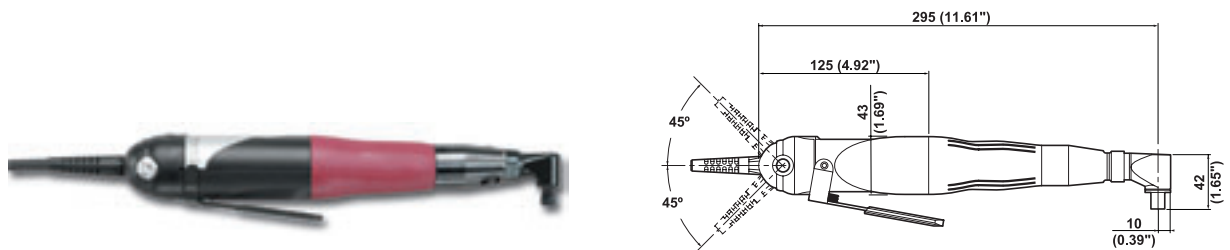


Accessories: see page 47 

MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE		FITTED SPRING		WEIGHT		VOLTAGE	CONTROLLER
		in.	rpm	Nm	in.lb	Nm	in.lb	kg	lb	VDC	
TRIGGER START - LOW VOLTAGE - CLUTCH CONTROL - SHUT OFF											
SLE012-T2000-S4Q	1465004	1/4	2000	0.4-1.2	3.5-10.6	0.4-1.2	3.5-10.6	0.71	1.6	40	ESP7
SLE017-T1500-S4Q	1465014	1/4	1500	0.4-1.7	3.5-15.0	0.4-1.7	3.5-15.0	0.71	1.6	40	ESP7
SLE023-T1000-S4Q	1465024	1/4	1000	0.4-2.3	3.5-20.3	0.4-2.3	3.5-20.3	0.71	1.6	40	ESP7
SLE032-T750-S4Q	1465034	1/4	750	0.4-3.2	3.5-28.3	1.5-3.2	13.3-28.3	0.71	1.6	40	ESP7
SLE047-T550-S4Q	1465044	1/4	550	0.4-4.7	3.5-41.6	1.5-4.7	13.3-41.6	0.71	1.6	40	ESP7

SLE - Angle head High power screwdriver

0.4 to 4.7 Nm (3.5 to 41.6 in.lb) - 550 to 2000 rpm



Accessories: see page 47 

MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE		FITTED SPRING		WEIGHT		VOLTAGE	CONTROLLER
		in.	rpm	Nm	in.lb	Nm	in.lb	kg	lb	VDC	
LEVER START - LOW VOLTAGE - CLUTCH CONTROL - SHUT OFF											
SLE012-L2000-S90A4H	1464954	1/4	2000	0.4-1.2	3.5-10.6	0.4-1.2	3.5-10.6	0.81	1.8	40	ESP7
SLE017-L1500-S90A4H	1464964	1/4	1500	0.4-1.7	3.5-15.0	0.4-1.7	3.5-15.0	0.81	1.8	40	ESP7
SLE023-L1000-S90A4H	1464974	1/4	1000	0.4-2.3	3.5-20.3	0.4-2.3	3.5-20.3	0.81	1.8	40	ESP7
SLE032-L750-S90A4H	1464984	1/4	750	0.4-3.2	3.5-28.3	1.5-3.2	13.3-28.3	0.81	1.8	40	ESP7
SLE047-L550-S90A4H	1464994	1/4	550	0.4-4.7	3.5-41.6	1.5-4.7	13.3-41.6	0.81	1.8	40	ESP7



SME - Electric screwdrivers

0.5 to 3.9 Nm (4.4 to 34.5 in.lb) - 500 to 1000 rpm



Recommended duty cycle, maximum 24 screws per minute

Accessories: see page 47 

MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE		LENGTH		WEIGHT		VOLTAGE
		in.	rpm	Nm	in.lb	mm	in.	kg	lb	VAC
PUSH START - MAINS VOLTAGE										
SME021-A1000-S4U	1458554	1/4	1000	0.5-2.1	4.4-18.6	264	10.4	1.05	2.31	230
SME029-A700-S4U	1458604	1/4	700	1.0-2.9	8.9-25.6	269	10.6	1.05	2.31	230
SME039-A500-S4U	1458624	1/4	500	1.5-3.9	13.3-34.5	269	10.6	1.05	2.31	230
For USA market only										
SME021-A1000-S4U	1462224	1/4	1000	0.5-2.1	4.4-18.6	264	10.4	1.05	2.31	120
SME029-A700-S4U	1462234	1/4	700	1.0-2.9	8.9-25.6	269	10.6	1.05	2.31	120
SME039-A500-S4U	1462244	1/4	500	1.5-3.9	13.3-34.5	269	10.6	1.05	2.31	120



SLE / SME

ACCESSORIES INCLUDED

	PART NO.	
	SLE	SME
• Suspension bail	443703	
• Side handle for 550rpm	467033	
• Clutch Adjustment Keys	69773/443713	
• Clutch Spring - 550/750rpm	443523	
• Power cable (UK)		438713
• Power cable (Europe)		438723
• Power cable (flying lead - not Europe)		438733

OPTIONAL ACCESSORIES

ITEM	SLE	PART NO.	SME
Balancers and Holster			
• Spring Suspension Balancer	50522		52862
• Reaction Free Self Lock Balancer	54422		54422
• Suspension Shackle	615 571 056 0		
• Suspension Shackle Rotary	615 396 228 0		
• Bench Mounted Swing Arm	66542		66542
• Tool Holster DTH-42	107892		107892
Bench Stands (for more information see pages 93 - 101)			
1 D53 Stand, 220-580mm (8.7-22.8") Reach	388163		
1 D53X Stand, 175-650mm (6.9-26.7") Reach	388173		
• Tool clamp	384793		
2 D57 Balancing Arm, 400-700mm (15.8-27.5") Reach	408903		
2 D57X Balancing Arm, 450-850mm (157.7-33.4") Reach	408913		
3 D58 Balancing Arm with Swivel, 500-750mm (19.7-29.5") Reach	408923		
Vacuum Pick Up - Order Pick Up kit, Finder Sleeve and Vacuum Source			
• Vacuum Pick Up Kit	108892		
• Finder Sleeve Blank - Plastic	464103		
• Finder Sleeve Blank - Steel	464093		
• Vacuum Source for use with HU Balancer	51262		
• Vacuum Source for use with DU Balancer. Reporting box	51482		
• Vacuum Source AV201 for use with Filter/Regulator Unit	112063		
Miscellaneous			
• Side Handle	467033		
• Angle Head 45 degrees 1/4" Hex (D6.3) Drive	205 04 7627 3		
• Angle Head 45 degrees 1/4" Square Drive	205 047 628 3		
• Angle Head 90 degrees 1/4" Hex (D6.3) Drive	475523		
• Angle Head 90 degrees 1/4" Square Drive	475513		
• Lever Conversion Kit	467853		
Trigger Conversion Kit (4 parts required)			
• Pistol Grip	473803		
• Switch Assembly	473743		
• Trigger Assembly	473843		
• Spring	473923		
• SME Clutch Locking Ring			438963
• SME Pistol Grip			438743





SSB Battery Screwdriver

1.5 to 12 Nm (1.1 to 8.8 ft.lb) - 360 and 750 rpm

The SSB range has been developed to meet the needs for a high quality cordless screwdriver specifically for the industrial user.

High rundown speeds: **>700rpm** = reduced process time

Excellent torque accuracy assures joint integrity and quality

Extreme durability of components: **>200000 tightening operations** means high duty cycles and productivity as well as lower operating costs

2.6Ah / 12volt NiMh battery packs can give **up to 800 assembly operations per charge**

T handle shape with **2 position battery clip**

Ergonomic design features for improved **operator comfort** and output

Optical and audible OK torque indicators and low voltage warning light

Sound level **<70dB(A)** and vibration **<2.5m/s²** ref. EN 50260

Technical features for class-leading durability & efficiency

- Super G high magnetic motor for 30% more power
- Increased reverse torque for efficient fastener removal
- Industrial duty bearings & gearbox components for consistent power delivery and torque repeatability
- All electronic function processors for enhanced durability
- 1/4" hexagon quick release bit holder accepts ISO standard power bits.



How to order standard screwdriver package

- 1- Specify screwdriver model & part number
- 2- Choose battery type & quantity
- 3- Choose charger suitable for local voltage

Battery not included in standard offering

SSB060 / SSB120

OPTIONAL ACCESSORIES

		PART NO.
Battery type		
• Battery NiCd 12V 2.0 Ah - 0.73kg (1.6lb)	BCD 12	615 396 370 0
• Battery NiMh 12V 2.6 Ah - 0.73kg (1.6lb)	BMH 12	615 396 371 0
Battery charger		
• Charger NiCd/NiMh 230V - Europe	CH40 EU	615 396 367 0
• Charger NiCd/NiMh 230V - UK	CH40 UK	615 396 368 0
• Charger NiCd 120V - USA	CH30 US	615 396 425 0

MODEL	PART NUMBER	TORQUE RANGE		ROTATIONAL SPEED	DRIVE	HEIGHT		WEIGHT	
		Nm	ft.lb	rpm	in	mm	in.	kg	lb
SSB060-T750-S4Q	615 165 240 0	1.5-6	1.1-4.4	700-750	Hex. 1/4	250	9.8	1.9	4.3
SSB120-T360-S4Q	615 165 250 0	5.0-12	3.7-8.8	360	Hex. 1/4	250	9.8	1.9	4.3



Quality assurance

Sigma 2001 / Delta 4000/5000

Easy-to-use and Versatile

The **SIGMA** and **DELTA** are easy-to-use, versatile systems which allow the measurement of torque values with model **SIGMA 2001**, **DELTA 4000** or torque and angle values with model **DELTA 5000**.

The parameters and features of all the transducers in the range are stored in the SIGMA / DELTA and are automatically set when selecting the type of transducer:

- Digital rotary transducers, DRT4 type
- Static transducers, ST4000 type
- Hand wrenches, CD or CF type
- Torque & Angle, DRT5 type rotary transducers (with DELTA 5000)

The **memory** stores up to 1000 results (SIGMA 2001), up to 5000 results (DELTA 4000/5000).

Lightweight and self-contained, the SIGMA can operate for 8 hours, the DELTA 14 hours without charge or a change of batteries. In addition, there is an easily interchangeable battery block option which doubles this operating time. The data autosave function allows you to perform this operation without the loss of results.

Communication: the **SIGMA / DELTA** have the option to connect various parallel printers. They are fitted with an RS232C serial type PC port.

Designed for your Quality Procedure

Checking operation

Sequence of checking operations throughout the assembly line to verify that the tooling is operating to specified torques.

Each operation setting includes all requisite parameters for its performance (type of transducers used, number of required readings, specified torque, tolerances, etc.)

Manual sequencing

Manual selection of the operation corresponding to the tool being verified.

Automatic sequencing

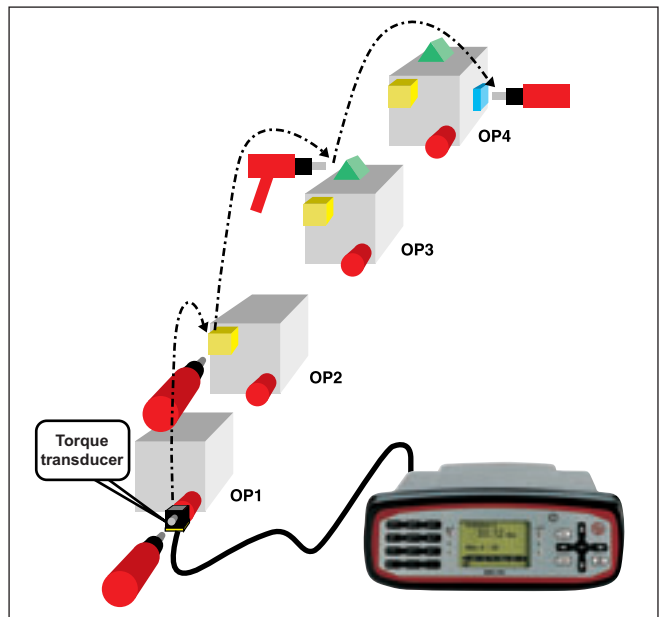
The selection of the various operations can also be carried out automatically, saving the operator the additional time to manually select the operation.

Number of operations

It is possible to program up to 1000 operations. Each operation can include 4 to 5000 reading results depending on the number of operations stored.

DELTAPC Software

The DELTAPC software allows you to save, control, modify and select all the checking operations, to define customised quality procedures. Each procedure can then be performed after being downloaded to the SIGMA / DELTA.



Continuous verification of the torque applied by the tightening tools



Calibration of electric nutrunner



Calibration of pneumatic screwdrivers

Torque measurement systems

Sigma 2001 / Delta 4000/5000

Integrated Statistical Calculations

- CAM, CP and CPK calculation and measurement of mean & range on torque or angle values in accordance with ISO, NF and CNOMO standards.
- Calculation of ideal tolerances
- Data screening (date or value interval)
- Tolerance interval selection
- 'Population homogeneity' test
- Normal distribution test
- Exporting the results

The results of the readings can be exported to the **DELTAPC** software in order to:

- Store the results and perform statistical calculations
- Save and display one or several curves
- Display histograms and control charts
- Transfer the results and curves to an EXCEL or other type data base.

Two Operations Modes

Acquisition Mode

In this mode, SIGMA / DELTA allows the operator to acquire and store torque values or torque and angle values:

- Either automatically, after each tightening operation
- Or manually, by pressing the VAL key

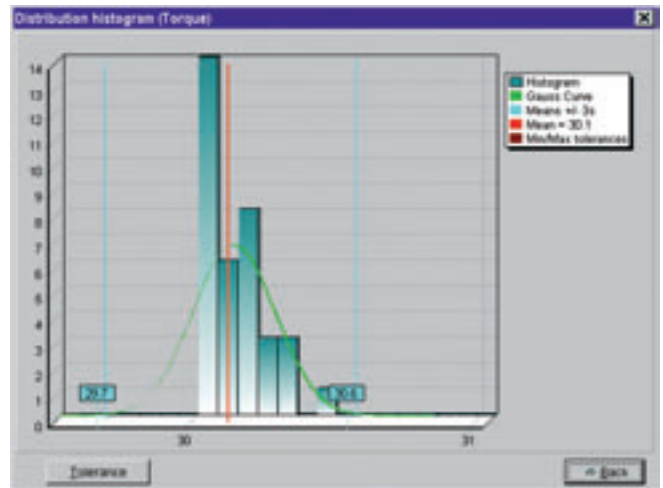
In manual mode, 2 types of reading are available:

- Peak: displays and stores the maximum torque read
- Track: the values displayed follow the evolution of the torque in a continuous process.

Examples of application in track mode

- Hand torque measuring wrenches (CF, CD)
- Reading the tension in a joint with a force meter
- Calibration of assembly machines in 'static mode'.
In this mode, the values are not stored.

STAT. RES.	
Nb > Tmax	0
Mean	30.10
Sigma	0.54
Sigma	0.54
Disp.	0.29
Cam	0.00
Cpk	1.00



Programming Mode

With its ergonomic design, **SIGMA / DELTA** can be easily programmed by using the 5 browsing and the multifunction alphanumeric keys of the keyboard.

The main parameters that can be programmed are:

- Selection of transducer connected to unit
- The torque measuring unit
- The nominal torque
- The nominal torque or torque & angle tolerances
- The number of readings for each operation
- The mode used to start the reading
- The parameters used to save the curves
- etc.

The unit is multilingual: Français, English, Espanol, Deutsch, Italiano, Nederlands, Svenska.

Fields of Application



Car industry



Aeronautics



TGV (high speed train)



Electronics



Technical features

Sigma 2001, Delta 4000, Delta 5000

MAIN FUNCTIONS	SIGMA 2001	DELTA 4000	DELTA 5000
TORQUE			
Connection of strain gauge transducers, ST / CD / CF / TD type or others	✓	✓	✓
Connection of digital transducers DRT4 and DRT5	✓	✓	✓
Range changeover: Automatic, depending on the transducer selected	✓	✓	✓
Sensitivity: Automatic selection depending on the transducer selected	✓	✓	✓
Transducer load: Automatic selection depending on the transducer selected	✓	✓	✓
Specific: Torque from 1 to 10 000Nm - up to 20 specific transducers can be defined		✓	✓
Transducers: Force from 1 to 50 000 daN Sensitivity 0.5 to 2.5 Mv/v	✓	✓	✓
Units: Nm - N.cm - kg.cm - Ft.lb - ln.lb - kg - N - daN - Kn	✓	✓	✓
SETTING			
Joint: Selection of the type of joint and application: Hard - Standard - Soft and filter value (2 to 2048 Hertz)	✓	✓	✓
Measuring mode: Standard - Impulse Wrenches	✓	✓	✓
Zero point adjustment: Automatic zero correction independent of the display reset	✓	✓	✓
Display reset: Manual - External - Automatic (programmable)	✓	✓	✓
Operating Mode: Acquisition mode - Programmable mode	✓	✓	✓
INTEGRATED STATISTICAL CALCULATIONS			
CAM, CP and CPK calculation and measurement of mean range on torque or angle values in accordance with ISO, NF and CNOMO standards.		✓	✓
Calculation of ideal tolerances		✓	✓
Data screening (date or value interval)		✓	✓
Tolerance interval selection		✓	✓
Population homogeneity test		✓	✓
Normal distribution test		✓	✓
Exporting the results		✓	✓
COMMUNICATION			
LEDs: Tightening reports		✓	✓
Torque OK - Min. torque - Max torque		✓	✓
Torque OK - Min. torque - Max. torque - Angle OK - Min angle - Max. angle			✓
Inputs: Reset the reading and saving the result - Reset the reading without saving the result		✓	✓
Outputs: 3 torque reports: OK - Min.- Max.		✓	✓
Analog torque output (0-10V)		✓	✓
Memory: Up to 5000 results including, torque, torque & angle, date & time			✓
Up to 5000 results including, torque, date & time		✓	
Up to 1000 results including, torque, date & time	✓		
Printer: connected to SubD25 point parallel port with printing: either in order of occurrence (print after each reading, automatically) / parameters / statistics / curves or in increments of N readings starting from a given date.	✓	✓	✓
POWER REQUIREMENTS			
Power supply: Removable and rechargeable battery of 6 x 1.2 V (7.2V) NiMH	✓	✓	✓
Battery life: 8 - 14 hours, 1000 Discharging / Recharging cycles	14	14	14
Automatic stop when not used during the selected	✓	✓	✓
Battery control: low battery indication - Power miser - Charge level test	✓	✓	✓
Global data backup during battery	✓	✓	✓
Charger: Multi-voltage 115/230 Volts with multi-standard mains power cord	✓	✓	✓



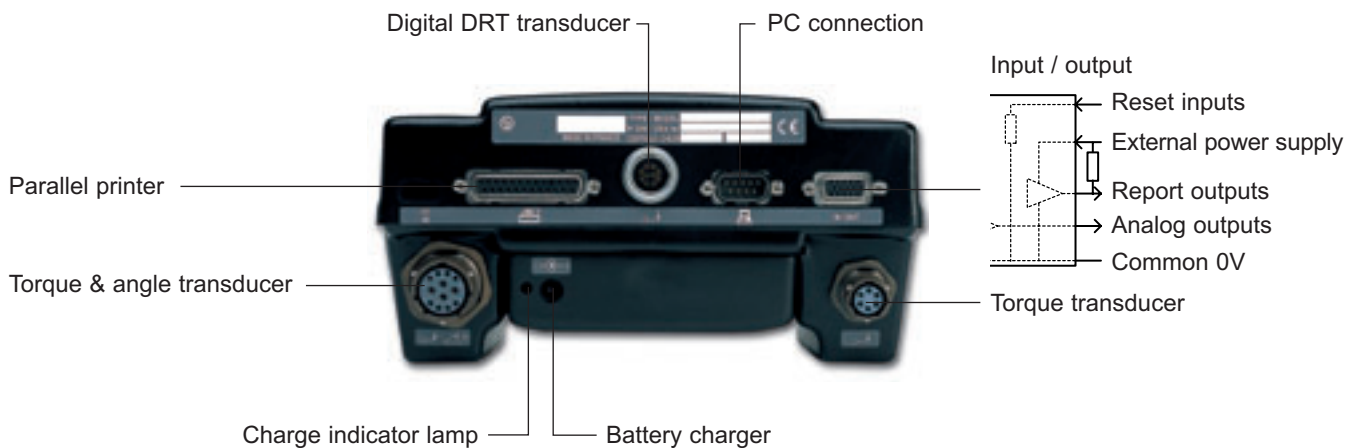
Measuring unit

Sigma 2001 / Delta 4000 / Delta 5000

OPERATOR INTERFACE



CONNECTIONS



MODEL	PART NUMBER	POWER REQUIREMENTS		DEPTH		DIMENSIONS		HEIGHT		WEIGHT	
		BATTERY LIFE	CHARGER	mm	in.	mm	in.	mm	in.	kg	lb.
SIGMA2001 unit	615 935 037 0	14	115/230	190	7.48	230	9	100	3.94	1.050	1.93
DELTA4000 unit	615 935 035 0	14	115/230	190	7.48	230	9	100	3.94	1.050	2.31
DELTA5000 unit	615 935 043 0	14	115/230	190	7.48	230	9	100	3.94	1.050	2.31

ACCESSORIES INCLUDED

	PART NO.
• Universal Charger	615 922 948 0
• Multilingual literature	615 993 801 0

START-UP KIT to be ordered with the unit
Including: **Plug + Cable**

PLUG	PART NO.
A	615 917 201 0
C	615 917 202 0
B	615 917 203 0
D	615 917 204 0



OPTIONAL ACCESSORIES

	PART NO.
• Extra battery block	615 935 042 0
• Unit/PC connection cable, type RS232C	615 917 047 0
• Parallel printer cable	615 917 057 0
• DELTAPC STD 1 Install	615 927 529 0
• DELTAPC STD 5 Install	615 927 530 0
• DELTAPC STD 25 Install	615 927 531 0
• DELTAPC ADV 1 Install	615 927 520 0
• DELTAPC ADV 5 Install	615 927 532 0
• DELTAPC ADV 25 Install	615 927 533 0

Cable see page 57



Digital Rotary Transducers

Torque or Torque & Angle

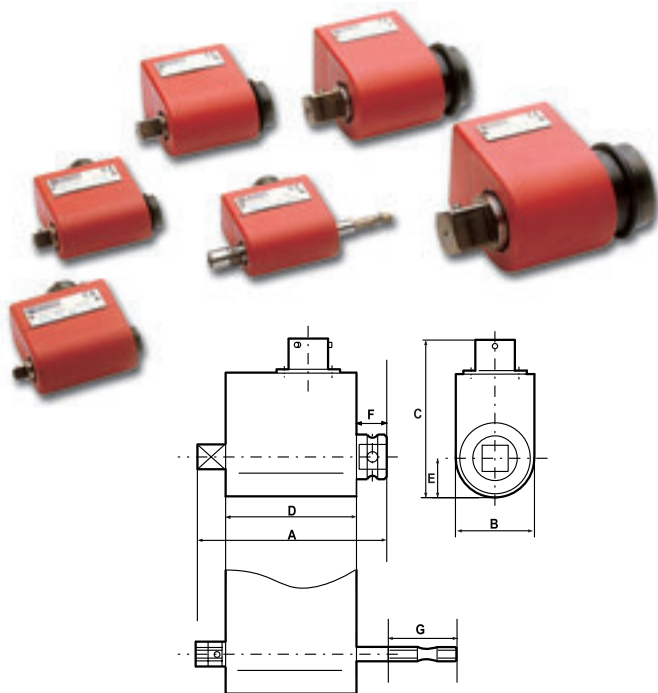
The DRT4 (torque) and DRT5 (torque & angle) transducers cover a torque range from 0.15 to 1400 Nm (0.11 to 1032 ft.lb). DRT5 transducers offer a angle resolution down to 0.5°. The built-in memory provides all transducer calibration data to Sigma or Delta data collector.

Features:

- Torque range from 0.15 to 1400 Nm (0.11 to 1032 ft.lb).
- Strain gauges transducer – sensitivity 2mV/V. – accuracy +/-0.35% full scale.
- Built-in smart chip memory with: Calibration features: type of transducer – sensitivity – nominal load – serial number. Maintenance information: date of last calibration – maximum torque applied on transducer.
- Unique contact system preventing the common problem of ‘brush bounce’.
- Angle counting system 0.5° resolution
- Same size for torque or torque & angle transducers
- Digital connection between data collector and transducer. Torque value converted to a digital signal close to the strain gauges.

Benefits:

- Transducers used in line with screwdrivers – pneumatic tools – impulse tools – electric nutrunners and spindles.
- The most accurate and reliable type of torque transducer.
- No need for transducer selection. The data collector automatically recognises the transducer connected.
- Avoids risk of operator error in selecting a wrong type of transducer.
- Transducers can be used in line with impulse tools, but not with impact tools.
- Checks all types of joints, hard and soft.
- No problem of accessibility.
- Insensitive to cable length. Reliability of torque values transmitted to the data collector. Only one type of transducer cable needed. Easy to recalibrate by modifying the sensitivity coefficient. No hardware adjustment.



MODEL	PART NUMBER	TORQUE RANGE		OUTPUT
		Nm	ft.lb	Hex-sq.

TORQUE TRANSDUCERS DRT4

DRT 4 H 2	615 165 209 0	0.15-2	0.11-1.47	Hex 1/4"
DRT 4 H 5	615 165 210 0	0.3-5	0.22-3.69	Hex 1/4"
DRT 4 H 20	615 165 211 0	1.5-20	1.11-14.7	Hex 1/4"
DRT 4 Sq 20	615 165 212 0	1.5-20	1.11-14.7	Sq 1/4"
DRT 4 Sq 25	615 165 213 0	1.8-25	1.33-18.4	Sq 3/8"
DRT 4 Sq 75	615 165 214 0	5.0-75	3.69-55.3	Sq 3/8"
DRT 4 Sq 180	615 165 215 0	12.0-180	8.85-132	Sq 1/2"
DRT 4 Sq 500	615 165 216 0	35.0-500	25.8-368	Sq 3/4"
DRT 4 Sq 1400	615 165 217 0	95.0-1400	70.0-1032	Sq 1"

TORQUE & ANGLE TRANSDUCERS DRT5

DRT 5 H 2	615 165 218 0	0.15-2	0.11-1.47	Hex 1/4"
DRT 5 H 5	615 165 219 0	0.3-5	0.22-3.69	Hex 1/4"
DRT 5 H 20	615 165 220 0	1.5-20	1.11-14.7	Hex 1/4"
DRT 5 Sq 20	615 165 221 0	1.5-20	1.11-14.7	Sq 1/4"
DRT 5 Sq 25	615 165 222 0	1.8-25	1.33-18.4	Sq 3/8"
DRT 5 Sq 75	615 165 223 0	5.0-75	3.69-55.3	Sq 3/8"
DRT 5 Sq 180	615 165 224 0	12.0-180	8.85-132	Sq 1/2"
DRT 5 Sq 500	615 165 225 0	35.0-500	25.8-368	Sq 3/4"
DRT 5 Sq 1400	615 165 226 0	95.0-1400	70.0-1032	Sq 1"

OPTIONAL ACCESSORIES

Cables, see page 57

OUTPUT	A		B		C		D		E		F		G	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
1/4" Hex	116.0	4.56	30.0	1.18	68.0	2.68	56.0	2.20	13.0	0.51	39.0	1.53	25.5	1
1/4" Sq	71.5	2.81	30.0	1.18	71.5	2.81	56.0	2.20	13.0	0.51	6.0	0.24		
3/8" Sq	77.0	3.03	30.0	1.18	74.0	2.91	56.0	2.20	15.0	0.59	8.0	0.31		
1/2" Sq	87.0	3.42	42.0	1.65	82.5	3.25	58.0	2.28	21.0	0.83	12.0	0.47		
3/4" Sq	106.0	4.17	52.0	2.05	93.5	3.68	60.0	2.36	26.0	1.02	21.0	0.83		
1" Sq	125.0	4.92	63.0	2.48	104.0	4.09	64.5	2.54	31.5	1.24	29.0	1.14		



Torque wrenches and Screwdrivers

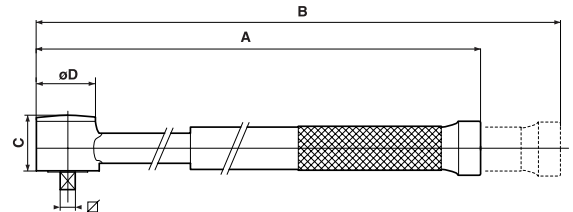
Setting or Checking the torque applied in a joint

The **CD – CF** and **TD** type torque transducers are used to check and correct torque on already tightened joints by breakaway measurement on re-tightening.

They also allow you to perform the tightening operation itself while monitoring the progress of the torque value. The active component is a bending test bar to which the strain gauges are glued.

They can be connected to any measuring unit of the P range by means of a plug located at the end of the arm or the cord.

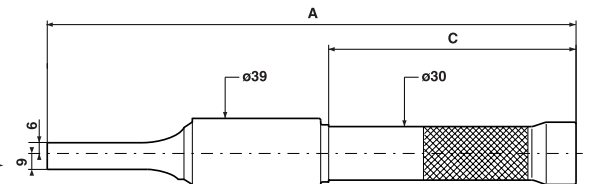
Torsion Static Torque Wrenches - CD Series



Flexion Static Torque Wrenches - CF Series (patented)



Facom
'series 20' bit
(20 x 7)



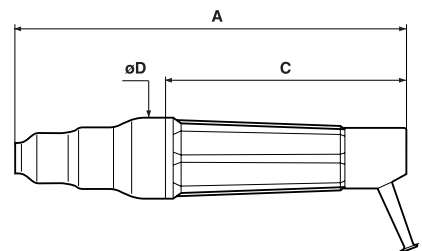
Essentially designed to be fitted with open end wrenches for any torque check on components such as brake or injection pipes, etc. where it is impossible to use socket type bits, these wrenches include flexion test pieces. With their original design, measurement is independent both of the point of application of the force and hand position. To allow this, it is essential that the nut axis be at a fixed distance from the mechanical bit stop, a condition met by Facom 'series 20' bits.

Torsion Static Torque Wrenches - TD Series

The screwdriver is fitted with a spirally wound cord (extended length 1.5m - 59") for connection to a torque measuring unit.

It is supplied in a case specially designed for screwdriver bits.

For any tightening accessory, refer to the 'Tightening Accessories' catalogue.



Uncertainty for any type of transducers: $\pm (0.3\% \text{ of the measurement} + \text{Linearity})$


MODEL	PART NUMBER	TORQUE RANGE		SENSITIVITY		LINEARITY		SQUARE DRIVE	DIMENSIONS								WEIGHT			
		Nm	ft.lb	Mv/v	FOR	Nm	ft.lb		Nm	ft.lb	A	B	C		D		kg	lb.		
									in.	mm	in.	With telescopic handle	mm	in.	mm	in.	mm	in.		
TORSION STATIC TORQUE WRENCHES																				
CD4001	615 165 146 0	1-15	0.7-11	1.475	10	7.4	0.02	0.01	3/8	280	11.1	W / 0	35	1.4	35	1.4	0.6	1.3		
CD4005	615 165 147 0	5-70	3.7-51.6	1.475	100	73.7	0.10	0.07	3/8	335	13.2	W / 0	35	1.4	35	1.4	0.7	1.5		
CD4010	615 165 148 0	10-150	7.4-110.5	1.475	100	73.7	0.20	0.15	1/2	524	20.6	W / 0	35	1.4	35	1.4	1.3	2.8		
CD4050	615 165 149 0	50-700	36.8-516	1.475	1000	737	2.00	1.47	3/4	775	30.5	1140 (44.9')	64	2.5	80	3.1	6.0	13.2		
CD4100	615 165 150 0	100-1500	73.7-1105	1.475	1000	737	2.00	1.47	1	1025	40.3	1640 (64.6')	64	2.5	80	3.1	8.0	17.6		
FLEXION STATIC TORQUE WRENCHES																				
CF2005	615 165 151 0	5-70	3.7-51.6	1.475	100	73.7	0.40	0.29	20x7mm	295	11.6	W / 0	138	5.4	-	-	0.9	1.9		
CF2010	615 165 152 0	10-150	7.4-110.5	1.475	100	73.7	0.40	0.29	20x7mm	350	13.8	W / 0	192	7.6	-	-	1.0	2.2		
TORQUE SCREWDRIVER																				
TD2001	615 165 153 0	1-15	0.7-11	1.475	10	7.4	0.02	0.01	Hex. 1/4	205	8.1	W / 0	124	4.9	40	1.6	0.4	0.8		



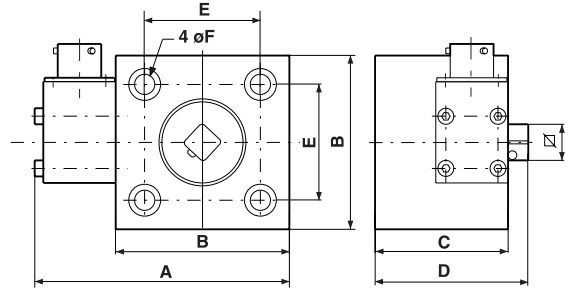
ST4000 series Stationary Transducers

(static torque)

Setting pneumatic nutrunners, torque-limiting wrenches

These static transducers are intended to be secured to a mounting base which can resist the applied torques. They are designed for the tuning of nutrunners (measuring stall or shut-off torque) and torque wrenches (torque-limiting, mechanical or digital reading type) and can be used with any type of  measuring unit.

A small joint simulator can be inserted between the transducer and the tool which allows the nutrunner to rotate for a better measurement of the setting torque (see accessories below).



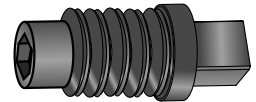
Uncertainty for any type of transducers: $\pm (0.3\% \text{ of the measurement} + \text{Linearity})$

MODEL	PART NUMBER	TORQUE RANGE		SENSITIVITY FOR		LINEARITY UNCERTAINTY		SQUARE DRIVE	DIMENSIONS												WEIGHT		
		Nm	ft.lb	Mv/v	Nm	ft.lb	Nm		ft.lb	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	kg	lb.	
TORSION STATIC TORQUE WRENCHES																							
ST4001	615 165 141 0	1-15	0.7-11.1	1.475	10	7.4	0.02	0.01	3/8	88	3.5	60	2.4	46	1.8	53	2.1	40	1.6	7.0	0.27	0.5	1.1
ST4005	615 165 142 0	5-70	3.7-51.6	1.475	100	73.7	0.10	0.07	3/8	88	3.5	60	2.4	46	1.8	53	2.1	40	1.6	7.0	0.27	0.5	1.1
ST4010	615 165 143 0	10-150	7.4-110.5	1.475	100	73.7	0.20	0.15	1/2	88	3.5	60	2.4	46	1.8	56	2.2	40	1.6	7.0	0.27	0.56	1.2
ST4050	615 165 144 0	50-700	36.8-516	1.475	1000	737	2.00	1.47	3/4	108	4.3	80	3.1	65	2.6	85	3.3	60	2.4	8.5	0.33	3.5	7.7
ST4100	615 165 145 0	1000-1500	737-1105	1.475	1000	737	2.00	1.47	1	108	4.3	80	3.1	65	2.6	90	3.3	60	2.4	8.5	0.33	3.5	7.7

Accessories

JOINT SIMULATOR FOR STATIC TRANSDUCERS

These are small joint simulators, consisting of screws and spring washers which are positioned in the square drive of the static transducer. They enable any type of nutrunner to rotate (air shut-off, hydropneumatic, electric nutrunners...) for a better measurement of the setting torque.



MODEL	PART NUMBER	TRANSDUCER	THREAD	MODEL	PART NUMBER	TRANSDUCER	THREAD	MODEL	PART NUMBER	TRANSDUCER	THREAD
ACS3.01	615 910 925 0	ST4001	M3	ACS6.05	615 910 928 0	ST4005	M6	ACS10.10	615 910 932 0	ST4010	M10
ACS4.01	615 910 926 0	ST4001	M4	ACS6.10	615 910 929 0	ST4010	M6	ACS10.50	615 910 933 0	ST4050	M10
		ST4005		ACS8.05	615 910 930 0	ST4005	M8	ACS12.50	615 910 934 0	ST4050	M12
ACS5.01	615 910 927 0	ST4001	M5	ACS8.10	615 910 931 0	ST4010	M8	ACS16.50	615 910 935 0	ST4050	M16

TMP220 BENCH TOP TORQUE METER

TORQUE RANGE	NICAD BATTERIES	APPROX BATTERY LIFE	CHARGING TIME	WEIGHT	DIMENSIONS	CHARGER 120V (USA)	CHARGER 230V (EUR)	CHARGER 230V (UK)
scale		hours	hours	kg lb	mm in.	PART NO.	PART NO.	PART NO.
0-1Nm/0-10 Nm 0-0.7ft lb/0-7.4ft lb	4 x 1.2V	8	10	3.2 7	290x195x115 11.4x7.7x4.5	54382	54372	54362

Suitable for ratchet tools and shut off tools up to 10Nm (100 inf lbs)

- Switchable for first peak, max. peak and continuous monitoring
- Accuracy $\pm 0.5\%$ of full scale
- Switchable metric or imperial torque readout
- RS232 output for data recording by computer

- Lightweight and compact, supplied with charger
- Joint simulator kit supplied – part no. 54392
- Vice bar fitted for rigid mounting
- Printer paper part no. 345953 – order separately
- To order spare charger 120v (USA) part no. 345623, 220v (Europe) part no. 345613, 240v (UK) part no. 345603



Measurement Accessories



MODEL	PART NUMBER	TORQUE RANGE		INCREMENTS		OUTPUT	LENGTH		WEIGHT	
		metric	imperial	metric	imperial		mm	in.	kg	lb.
PRESET TORQUE ADJUSTABLE SCREWDRIVERS - FOR TIGHTENING										
AS-120	81892	10-120 cNm		1 cNm		1/4" fem. hex.	168	6.6	0.16	0.35
AS-600 ₁	81922	1-6 Nm		0.1 Nm		1/4" fem. hex.	184	7.2	0.34	0.75
AS-900 ₁	81942	4-9 Nm		0.1 Nm		1/4" fem. hex.	184	7.2	0.34	0.75
AS-07	91902	10-120 ozf in		1 ozf in		1/4" fem. hex.	168	6.6	0.16	0.35
AS-50 ₁	81932	5-50 lbf in		1 lbf in		1/4" fem. hex.	184	7.2	0.34	0.75
AS-80 ₁	81952	40-80 lbf in		1 lbf in		1/4" fem. hex.	184	7.2	0.34	0.75

1) supplied with T bar



MODEL	PART NUMBER	TORQUE RANGE		INCREMENTS		OUTPUT	LENGTH		WEIGHT	
		metric	imperial	metric	imperial		mm	in.	kg	lb.
DIAL INDICATING TORQUE SCREWDRIVERS - FOR MEASURING + TIGHTENING										
TS-050	81852	0-50 cNm	0.70 ozf in	2 cNm	5 ozf in	1/4" fem. hex.	178	7.0	0.2	0.44
TS-100	81862	0-100 cNm	0.140 ozf in	5 cNm	10 ozf in	1/4" fem. hex.	178	7.0	0.2	0.44
TS-250 ₁	81872	0-250 cNm	0.20 ozf in	10 cNm	1 lbf in	1/4" fem. hex.	250	9.8	0.5	1.10
TS-500 ₁	81882	0-500 cNm	0.40 ozf in	20 cNm	2 lbf in	1/4" fem. hex.	250	9.8	0.5	1.10

1) supplied with T bar



MODEL	PART NUMBER	TORQUE RANGE		INCREMENTS		OUTPUT	LENGTH		WEIGHT	
		metric	imperial	metric	imperial		mm	in.	kg	lb.
DIAL INDICATING TORQUE WRENCHES - FOR MEASURING + TIGHTENING										
TW-4	81962	0.3-4 Nm	3-35 lbf in	0.1 Nm	1 lbf in	1/4" sq.	255	10	0.52	1.15
TW-13	81972	0.5-13.5 Nm	4-120 lbf in	0.5 Nm	2 lbf in	1/4" sq.	255	10	0.52	1.15
TW-27	81982	1-27 Nm	1-20 lbf in	1 Nm	0.5 lbf ft	1/4" sq.	255	10	0.52	1.15
TW-80	81992	6-80 Nm	5-60 lbf ft	2 Nm	1 lbf ft	1/4" sq.	455	18	1.36	3.0
TW-160	82002	10-160 Nm	6-120 lbf ft	2.5 Nm	2 lbf ft	1/4" sq.	535	21	1.36	3.0

Cable for Connecting Measuring Units & Transducers

CABLE	PART NO.	CABLE	PART NO.
• CNA cable, torque & angle, 3m (118") long (Delta 5000)	615 917 250 0	• CLCAC SP cable, torque, 5m (196.8') long	615 917 255 0
• CPNS cable, torque, 2m (78.7') long	615 917 251 0	• CNA cable, torque & angle, 4m (157.5') long	615 917 258 0
• CPNS cable, torque, 5m (196.8') long	615 917 252 0	• Cable, 2m (78.7') long (DRT)	615 917 430 0
• CSPS cable, torque, stretched, 2m (78.7') long	615 917 253 0	• Coiled cable, 2m (78.7') long (DRT)	615 917 432 0
• CCAC spiral cable, torque, 2m (78.7') long (CSS 2689 HA)	615 917 254 0	• Cable, 5m (196.8') long (DRT)	615 917 433 0



DeltaPC Software

“to make your monitoring operations easier”

This software, which is compatible with Windows 95, 98, NT and 2000, enables connection of torque or torque and angle measuring equipment in the Sigma and Delta range.

Its user-friendly design makes it possible to program complete flowcharts of measurement sequences just by copying and pasting or clicking on icons.

Main software functions:



Common to all the Sigma and Delta control boxes

‘Standard’ version of the software

- recovery and display of tightening results
- treatment of results in accordance with ISO, NF and CNOMO standards
- memorising the results and export to databases (ASCII)
- complete recovery of the control box parameters
- multi-language

Specific to Delta control boxes

‘Advanced’ version of the software

- all the functions of the ‘Standard’ version +
- recovery and display of the tightening curves
- management of the periodical control of fastening tools
- programming control operations
- programming control sequences



DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER
Standard version		Advanced version	
1 installation	615 927 529 0	1 installation	615 927 520 0
5 installations	615 927 530 0	5 installations	615 927 532 0
25 installations	615 927 531 0	25 installations	615 927 533 0

RS232 cable between control box and PC not supplied with the software – Part Number: 615 917 047 0

DOWNLOADING between controller and PC:

Controller => PC



With just one click, you can:

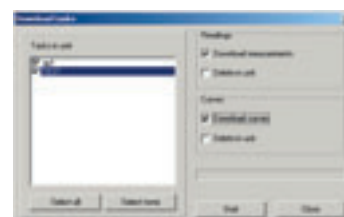
- select one or more operations
- recover the control operations from the control boxes
- recover the results and tightening curves

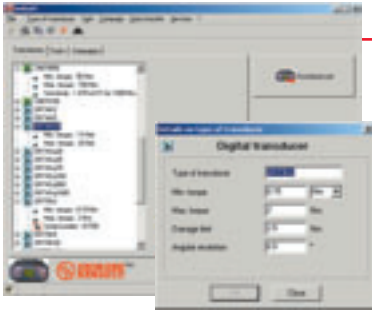


PC => Controller

You can download to the control boxes

- one or more operations
- a control flowchart





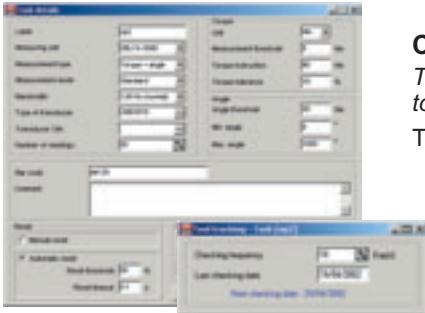
PROGRAMMING

'Torque' or 'torque and angle' transducers for analogue and digital signals

Select the better transducer for your control operation.

- by selecting a standard transducer in the range, you can display all its characteristics
- you can associate the serial numbers of your transducers with the table of parameters
- you can also define your own* 'specific' transducers with their own characteristics

* provided that they are based on a strain gauge technology.



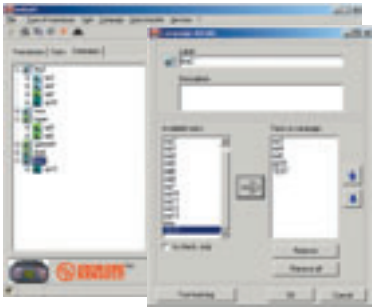
Control operation: 'A checking tool'

To ensure that the fastening tools on the assembly line continue to tighten to the right torque level.

The software makes it easy to programme all the parameters required for the control:

- the type of transducer
- the number of measurements to be made
- the settings and tolerances
- the triggering thresholds for acquisition of the tightening curves
- etc...

With just one click, the operation is downloaded to the control box.



Campaign 'Designed to manage your monitoring operations'

A control campaign is made up of a range of monitoring operations on the assembly line.

With just a click in the list of operations, you can set up your own control campaign.

The Delta control box then manages the sequence of operations.

With another click, the range is downloaded to the measurement control box.

Presentation of RESULTS

Torque or torque and angle results

After each operation or campaign, the operator could transfer all the results.

He or she can display them and select the desired columns, sort them by type of report, and scroll them on the screen.

All the results can be exported to a database; the format is of ASCII type.

Tightening curves

The software can display from ONE to FOUR tightening curves at the same time.

Type of curves:

- torque as a function of time $f(t)$
- torque and angle as a function of time $f(t)$
- torque as a function of angle $f(\text{angle})$

it is possible to

- zoom in on all or part of one or more curves
- move the curves along the X axis
- calculate a running average for N points (N=3,5,7 or 9)
- archive them
- print them

Statistic

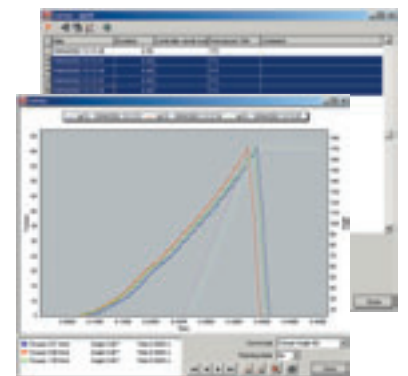
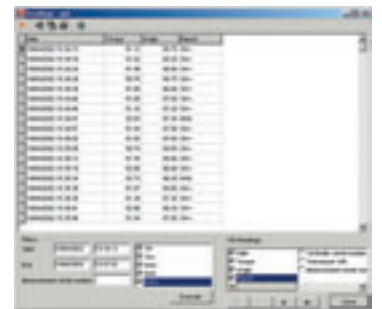
This software could calculate statistics for torque or angle results.

These calculations are carried out under the current standards (ISO, CNOMO, NF).

Results displayed:

- statistical report with CP, CPK, CAM, - ratio of change, average, range deviation...
- display of the scatter diagram
- histogram
- control charts

Printing of the full statistical report.



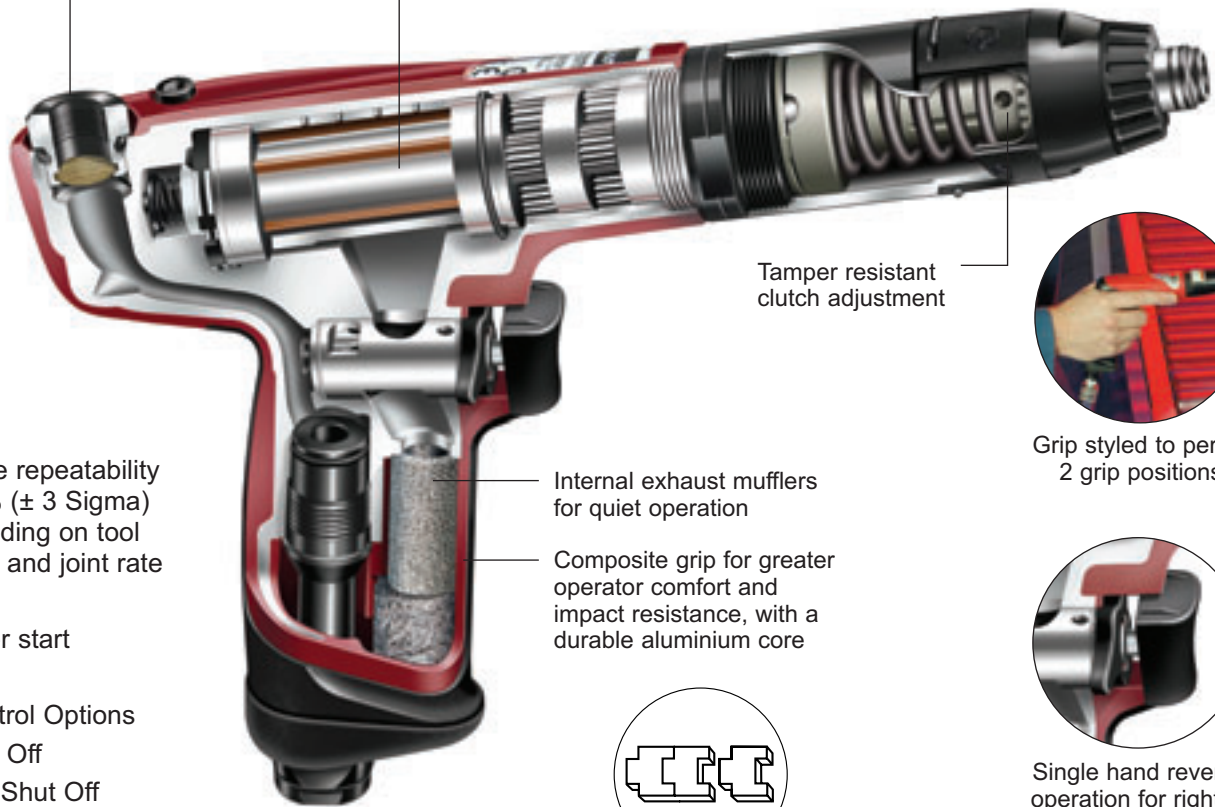
Pneumatic fastening tools

Shut Off, Non Shut Off, Direct Drive, Automatic Reverse

T shape grip for better balance to enhance operator comfort

New powerful, efficient, Dryline™ motor

New clutch and motor prolonging tool life to over 2.5 million cycles before a major strip down



Tamper resistant clutch adjustment



Grip styled to permit 2 grip positions

Torque repeatability $\leq \pm 4\%$ (± 3 Sigma) depending on tool speed and joint rate

Internal exhaust mufflers for quiet operation

Composite grip for greater operator comfort and impact resistance, with a durable aluminium core

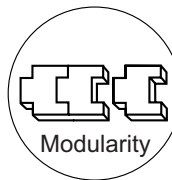
Trigger start



Single hand reverse operation for right or left handed operators

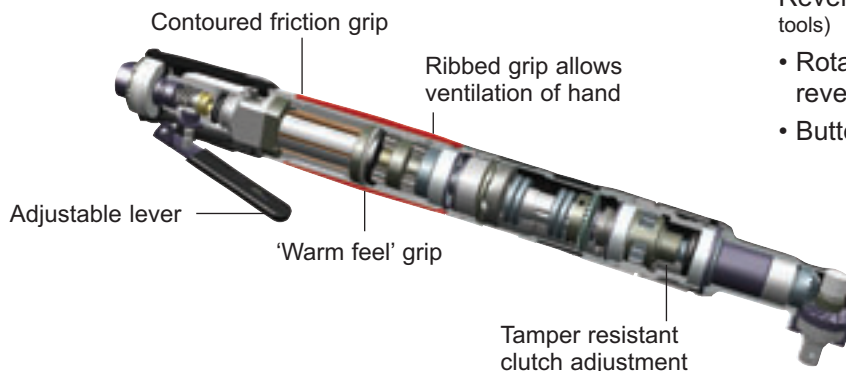
3 Control Options

- Shut Off
- Non Shut Off
- Direct Drive



2 Control Options

- Shut Off
- Non Shut Off



Contoured friction grip

Ribbed grip allows ventilation of hand

Adjustable lever

'Warm feel' grip

Tamper resistant clutch adjustment

Option of Rotary or Button Reverse (except on open ended tools)

- Rotary – long periods in reverse
- Button – rapid reverse

4 Angle Head Options

- 1/4" Hexagon
- 1/4" Square
- 3/8" Square
- Open Ended Hexagon



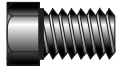


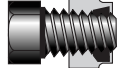






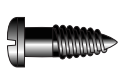


Tool Selection

Criteria

- Type of Fastener/Component
- Joint integrity
- Torque Required
- Tool Orientation and Operator Reference
- Productivity
- Access

Type of Fastener/Component

FASTENER/ COMPONENT	RECOMMENDED TOOL TYPE	FASTENER/ COMPONENT	RECOMMENDED TOOL TYPE
Machine Screw / Nut	 Shut Off / Impulse / Non Shut Off	Screws with Adhesive	 HLT / Non Shut Off / Impulse
Thread Rolling / Forming	 Shut Off / HLT / Impulse / Direct Drive	Self Lock Nuts	 HLT / Non Shut Off / Impulse
Self Tapping	 Non Shut Off / HLT / Direct Drive	Misaligned Holes	 HLT
Self Tapping in Plastic / Thin Materials	 Shut Off / HLT	Variable Size Holes	 HLT
Self Drilling	 Non Shut Off / HLT / Direct Drive	Fragile Components	 HLT / Low Voltage Screwdrivers
Wood Screws	 Non Shut Off / Direct Drive		

Joint Integrity

Joint Integrity	Average						Excellent
Joint Quality Control Method	Visual	Visual + Torque	Visual + Torque	Time + Torque	Torque + Angle	Torque + Angle	Angle + Torque
Tool Process Control	Direct Drive	Non Shut Off Current Control	Shut Off Impulse	Shut Off and Fastening Assurance Current Control and Fastening Assurance	Current Control and Angle Monitoring	Torque Control and Angle Monitoring	Angle Control and Torque Monitoring
Pneumatic Tool Types	Screwdriver Angle Wrench Torque Motor	Screwdriver Angle Wrench Torque Motor	Screwdriver Angle Wrench Torque Motor	Screwdriver, Angle Wrench or Torque Motor with FAS			
Electric Tool Types		Low Voltage Tool + ESP Controller	Low Voltage Tool + ESP Controller Mains Voltage Tool	Low Voltage Tool + ESP Controller			
EB Brushless					Screwdriver, Angle Wrench or Spindle + CVI II Controller	Screwdriver, Angle Wrench or Spindle + CVI II Controller	Screwdriver, Angle Wrench or Spindle + CVI II Controller
Torque Accuracy at ± 3 Sigma	15-20%	10-15%	Shut Off 5-10% Impulse 10-15%	Shut Off 5-10% Impulse 10-15%	10-15%	3-5%	Not Applicable



Tool Selection

Fastener Torque Values

ISO	MACHINE SCREWS					THREAD FORMING/ ROLLING SCREWS
	4.6	5.8	8.8	10.9	12.9	8.8
THREAD SIZE	RECOMMENDED TORQUE (Nm)					RECOMMENDED TORQUE (Nm)
M1.6	0.07	0.12	0.19	–	–	–
M2	0.15	0.24	0.38	–	–	0.5
M2.2	0.19	0.31	0.51	–	–	–
M2.5	0.28	0.48	0.77	–	–	–
M3	0.51	0.85	1.4	1.9	2.3	1.4
M3.5	0.8	1.34	2.2	3.0	3.6	–
M4	1.2	2.0	3.2	4.5	5.4	3.2
M5	2.4	4.0	6.4	9.0	10.7	6.5
M6	4.1	6.8	10.9	15.3	18.3	11
M8	9.8	16.3	26.1	36.8	44.1	26
M10	19.3	32.2	51.5	72	86.9	52
M12	33.6	56	90	126	151	91
M14	53	89	142	200	239	–
M16	82	136	218	307	368	–
M18	114	190	304	428	513	–
M20	160	266	426	598	718	–
M22	215	358	573	806	967	–

SELF TAPPING/DRILLING SCREWS

THREAD SIZE	RECOMMENDED TORQUE (Nm)
ST2.2 (B2)	0.2
ST2.9 (B4)	1.0
ST3.5 (B6)	1.8
ST4.2 (B8)	2.9
ST4.8 (B10)	4.2
ST5.5 (B12)	6.7
ST6.3 (B14)	9.1

Conversion Factors

Nm x 141.6 = oz in
 Nm x 8.851 = in lb
 Nm x 0.73756 = ft lb
 Nm x 0.102 = kgf m/kpm
 Nm x 10.2 = kgf cm

Torque figures should be used as a guide only
 Table assumes fasteners are new, lightly lubricated and of a standard finish
 For lock nuts with a nylon insert, +10%

For non metric threads please use the following data as a guide.

Recommended Maximum Torque Values – UNC Threads

THREAD SIZE	QUALITY P		QUALITY S		QUALITY T	
	Nm	lbf ft	Nm	lbf ft	Nm	lbf ft
1/4	5.43	4.00	10.3	7.60	11.1	8.19
5/16	11.2	8.26	21.3	15.71	23.0	16.96
3/8	19.9	14.68	37.9	27.95	40.9	30.17
7/16	31.9	23.53	60.7	44.77	65.5	48.31
1/2	48.8	36.00	92.7	68.37	100	73.76
9/16	70.4	51.92	134	98.83	144	106
5/8	97.4	71.84	185	136.45	200	147.5
3/4	178	131.3	338	249.3	364	268.5
7/8	279	205.8	530	391	572	422
1	418	308.3	795	586	858	633
1 1/8	593	437.4	1126	830	1216	897
1 1/4	837	617.3	1591	1173	1717	1266
1 3/8	1096	808.4	2083	1536	2248	1658
1 1/2	1456	1074	2767	2041	2987	2203

Recommended Maximum Torque Values – UNF Threads

THREAD SIZE	QUALITY P		QUALITY S		QUALITY T	
	Nm	lbf ft	Nm	lbf ft	Nm	lbf ft
1/4	6.28	4.63	11.9	8.78	12.9	9.51
5/16	12.5	9.22	23.8	17.55	25.7	18.96
3/8	22.7	16.74	43.2	31.9	46.6	34.4
7/16	35.9	26.5	68.2	50.3	73.6	54.3
1/2	55.4	40.9	105	77.4	114	84.0
9/16	79.0	58.3	150	111	162	119
5/8	111	81.9	210	155	227	167
3/4	195	144	370	273	399	294
7/8	309	228	587	433	634	468
1	459	339	873	644	942	695
1 1/8	667	492	1267	934	1368	1009
1 1/4	925	682	1757	1296	1896	1398
1 3/8	1252	923	2378	1754	2567	1893
1 1/2	1642	1211	3119	2300	3367	2482

Quality P = approximately ISO 4.6

Quality S/T = approximately ISO 8.8

Quality S = ANSI Grade 5

Tool Orientation and Operator Preference



P Shape

Self Tapping/Forming/Cutting Screws Use P Shape - arm in line with body of tool for thrust
 Multi orientation Use P Shape - allows wrist to rotate into position
 Top air inlet Can only use T Shape
 Require balanced tool Use T Shape - especially with screwfeeder

Button Reverse versus Rotary Reverse

Rapid Reverse Required Use button reverse
 Thread Chasing Cleaning Use button reverse (auto reverse for blind holes)
 Rivnuts/Threaded Fasteners Use auto reverse tools
 Long Periods in Reverse Use rotary reverse

Push Start versus Lever Start

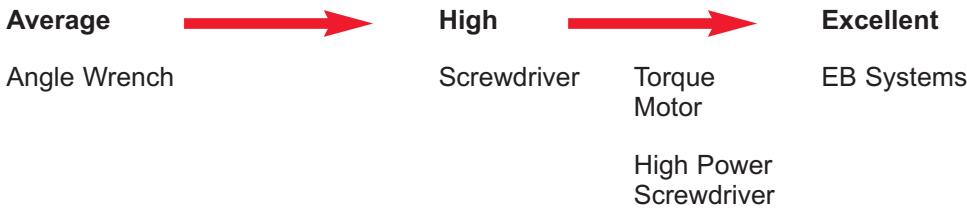
Fast Cycle Rate Use push start
 Single Hand Operation Required Use push start
 Need to Align/Position Components First Use lever start or push + trigger start (SBP/SDP only)



Productivity and Ergonomics

Productivity

General Rules



Torque and Productivity

TORQUE		SCREWDRIVERS	ANGLE WRENCHES	TORQUE MOTORS	IMPULSE TOOLS	LOW VOLTAGE TOOLS	MAINS VOLTAGE TOOLS	EB BRUSHLESS TOOLS
Nm	ft lb							
1	0.7	Excellent	Good	Excellent	Excellent	Good	Average	Good
5	3.7	Excellent	Good	Excellent	Excellent	Average	-	Excellent
10	7.4	Good	Good	Good	Excellent	-	-	Excellent
50	36	-	Average	Average	Good	-	-	Excellent
100	74	-	Average	Average	Good	-	-	Excellent
250	184	-	-	-	Good	-	-	Excellent
500	369	-	-	-	-	-	-	Excellent
1000	738	-	-	-	-	-	-	Excellent
2000	1475	-	-	-	-	-	-	Excellent

Access



90° Angle Heads



45/30° Angle Heads



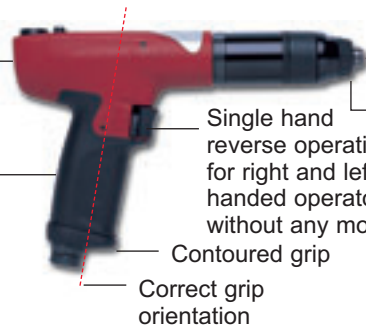
Crowfoot Open Ended Wrenches

Ergonomic Benefits

- Lightweight
- Short Length
- Light Start Load

Pistol options of 'P' or 'T' style to suit the application and operator preference

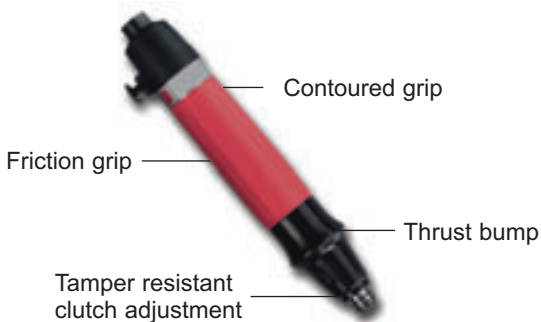
'Warm feel' friction grip



Tapered nose for improved visibility
Tamper resistant clutch adjustment

Single hand reverse operation for right and left handed operators without any modification

Contoured grip
Correct grip orientation



Contoured grip

Friction grip

Thrust bump

Tamper resistant clutch adjustment



Adjustable lever

'Warm feel' grip

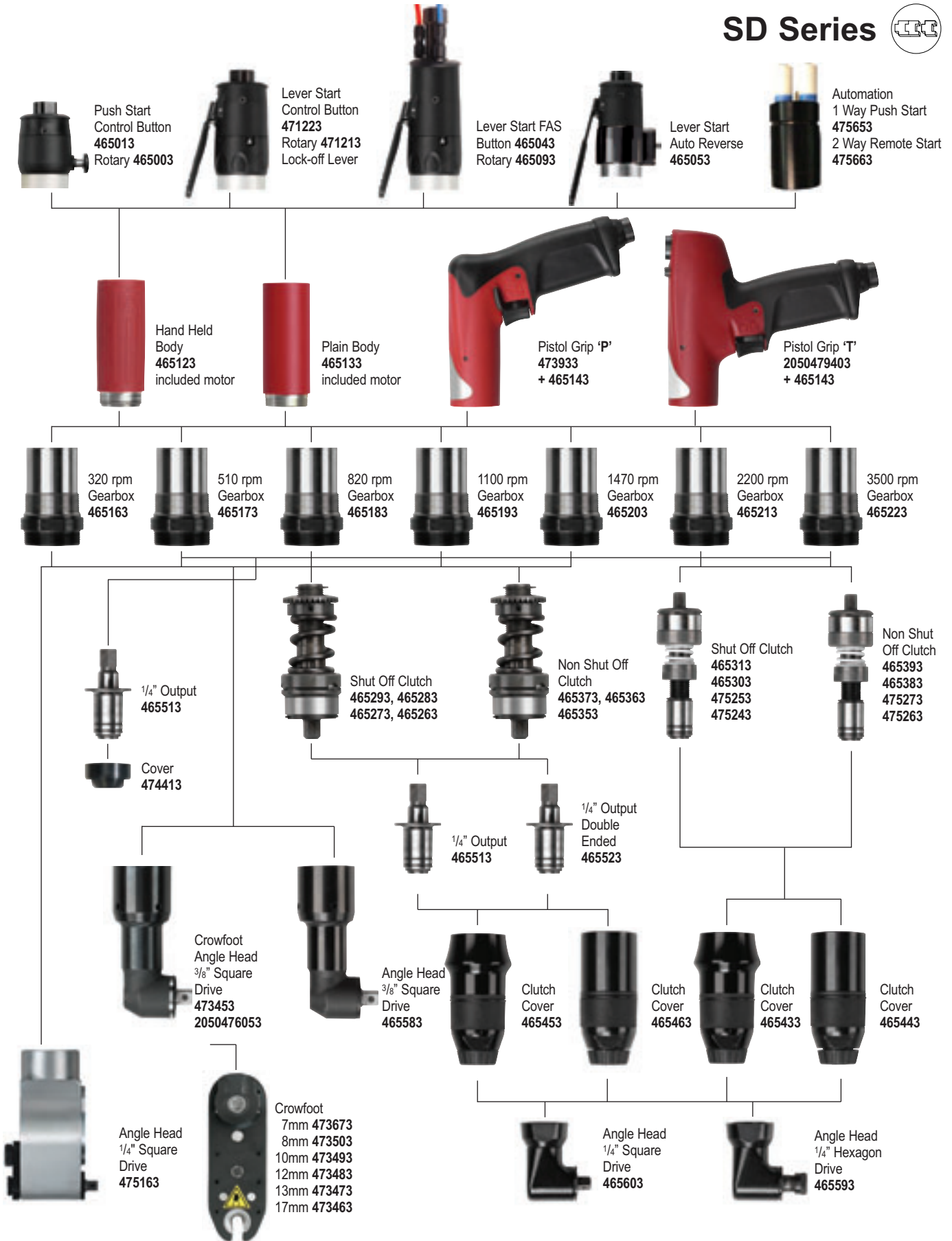
Ribbed grip allows ventilation of hand

For low vibration exposure and high productivity, select shut-off tools where possible



Modularity

SD Series

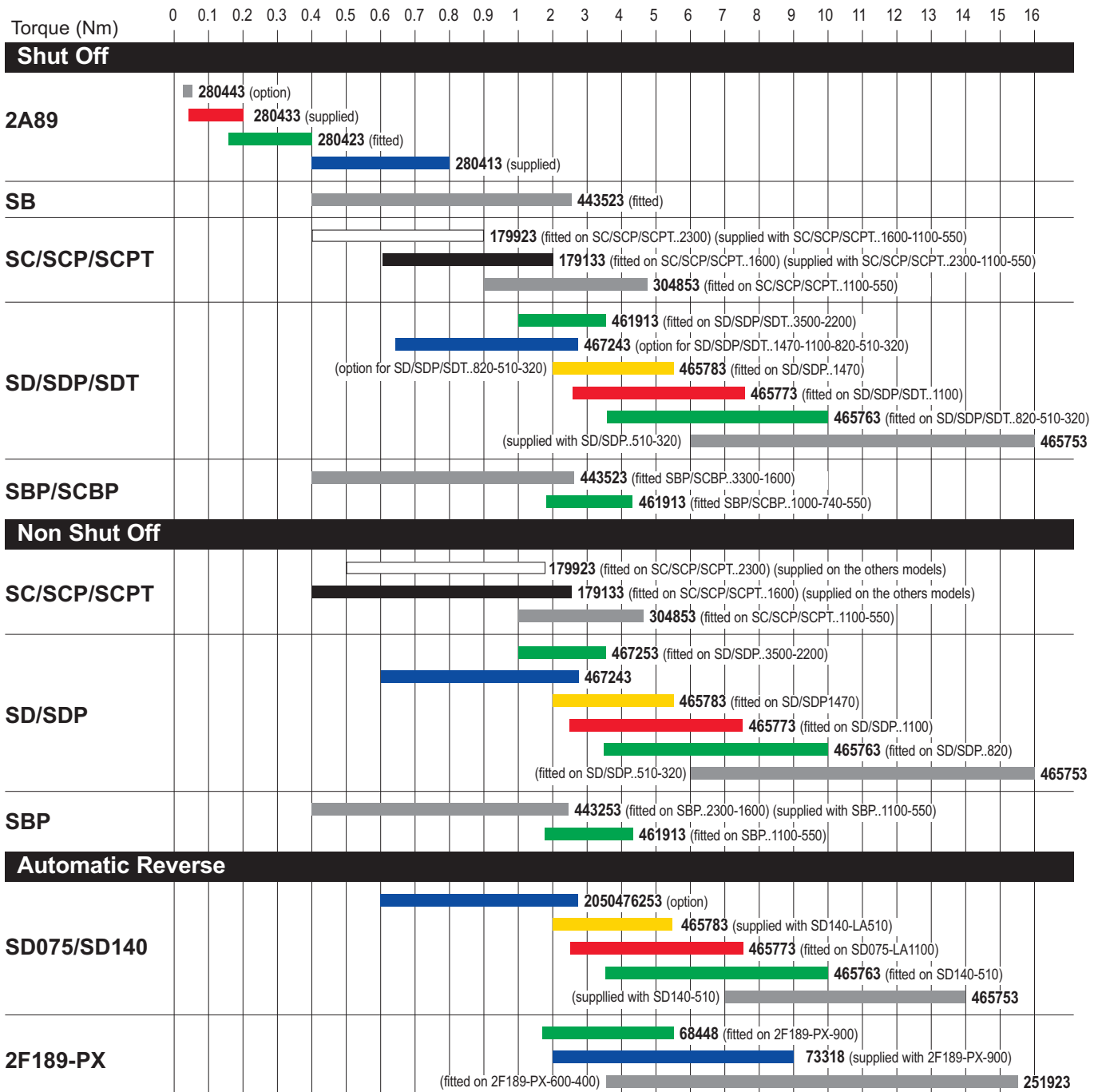


Screwdriver Torque Ranges

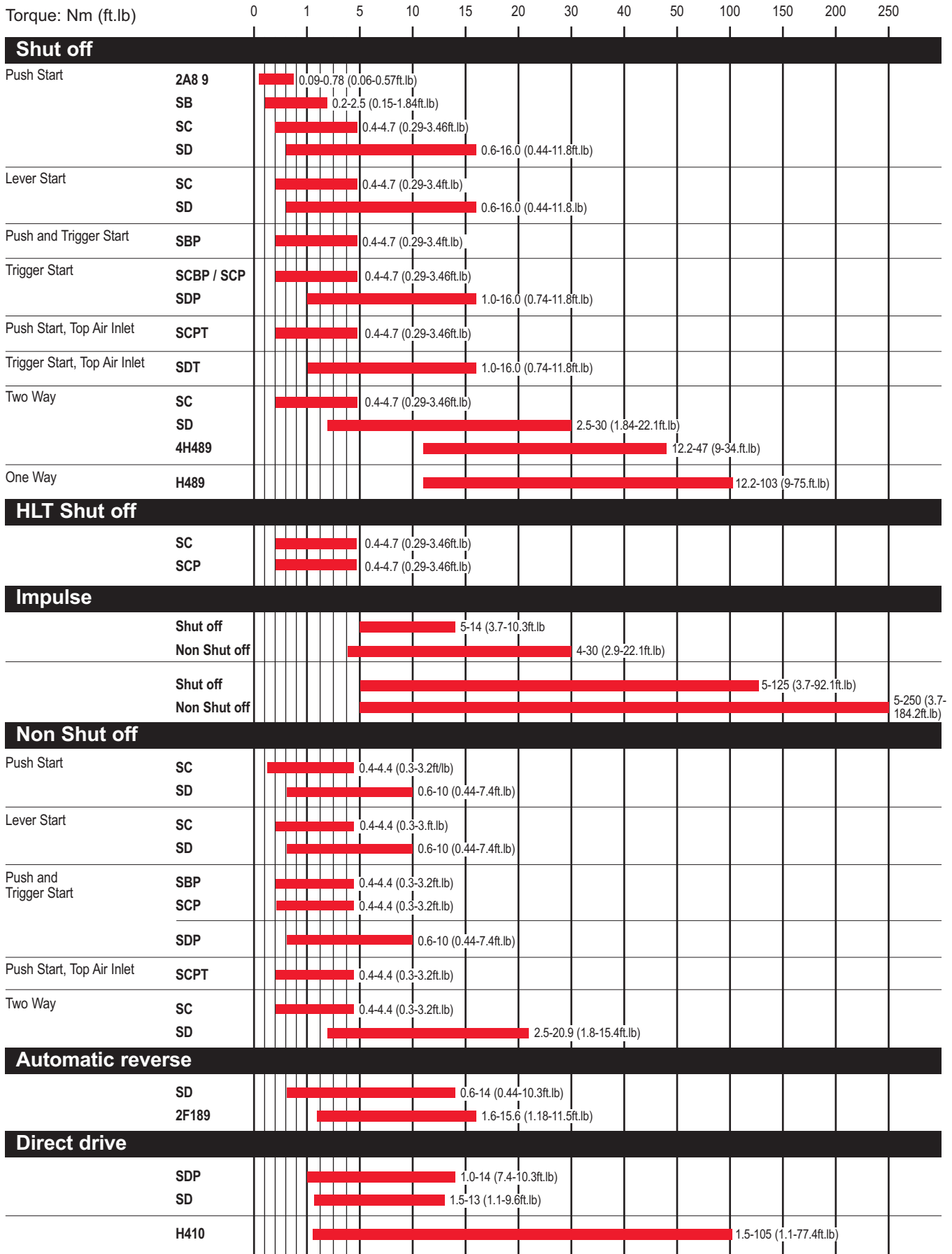
Torque output of the range of shut off and non shut off screwdrivers is controlled by the type of spring in the clutch assembly.

The overall torque range, together with that of the factory fitted spring on a soft joint to ISO5393 are listed in the tables on the following pages. The chart below provides an indication of the torque ranges for the optional colour coded clutch springs together with their respective part numbers (some are included with certain tools). As a general rule, the tool should be fitted with a spring which ensures the torque required falls within 20 to 80% of the operating range.

Please note that the torque range of specific speed tools may alter slightly from that shown below and for this reason the chart should be used as a guide only.

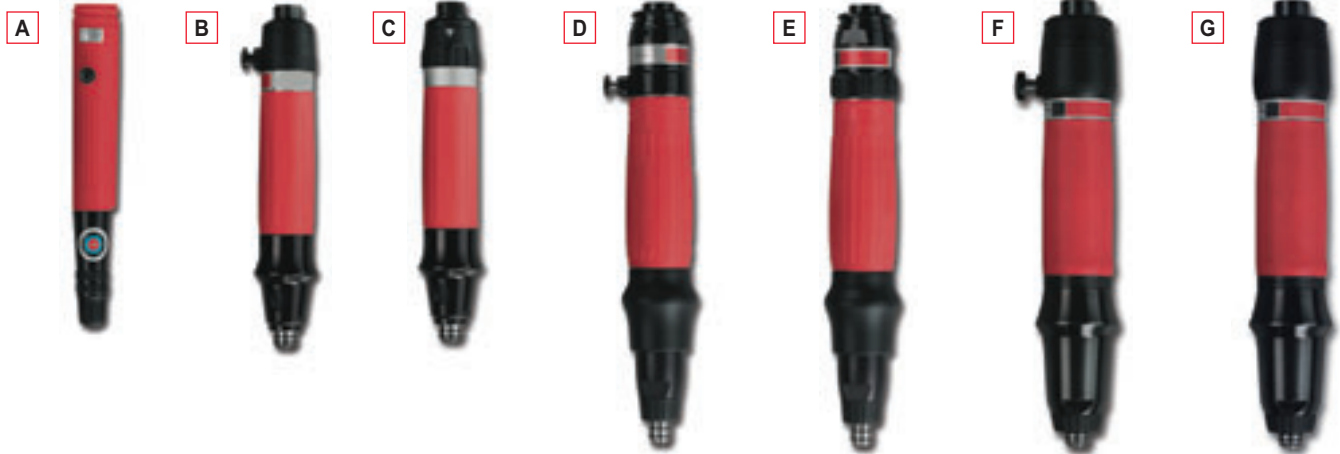


Tool Types and Torque Ranges

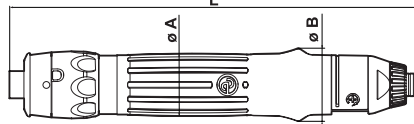


Screwdrivers - Shut off - Push start

0.09 to 16 Nm (0.06 to 11.8 ft.lb) - 320 to 3500 rpm



Model	ø A mm (in.)	ø B mm (in.)	L mm (in.)
2A89..	27 (1.06")		178 (7")
SB..	32 (1.26")	36 (1.42")	197 (7.76")
SC..	37 (1.46")	41 (1.61")	250 (9.84")
SD023..3500	38.7 (1.52")	44 (1.73")	227 (8.94")
SD035..2200	38.7 (1.52")	44 (1.73")	227 (8.94")
SD055..1470	38.7 (1.52")	44 (1.73")	253 (10")
SD075..1100	38.7 (1.52")	44 (1.73")	253 (10")
SD100..820	38.7 (1.52")	44 (1.73")	253 (10")
SD140..510	38.7 (1.52")	44 (1.73")	253 (10")
SD160..320	38.7 (1.52")	44 (1.73")	253 (10")



Types B to C, 1/4" double ended and 5mm bit holder optional
 (1) Types B to G, NPT optional

Accessories: see page 84

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX ⁽¹⁾	TORQUE RANGE		FITTED SPRING		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
					Nm	ft.lb	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm	in.
A	2A89-A-1300	1225434	1300	3mm	0.09-0.56	0.06-0.4	0.15-0.43	0.11-0.3	0.21	0.62	2.2	4.7	M5	3	1/8
A	2A89-A-700	1225514	700	3mm	0.09-0.75	0.06-0.5	0.15-0.43	0.11-0.3	0.21	0.62	2.2	4.7	M5	3	1/8
A	2A89-A-400	1225694	400	3mm	0.09-0.78	0.06-0.6	0.15-0.43	0.11-0.3	0.21	0.62	2.2	4.7	M5	3	1/8
A	2A89-A-1300	1223154	1300	1/4	0.09-0.56	0.06-0.4	0.15-0.43	0.11-0.3	0.21	0.62	2.2	4.7	M5	3	1/8
A	2A89-A-700	1223234	700	1/4	0.09-0.75	0.06-0.5	0.15-0.43	0.11-0.3	0.21	0.62	2.2	4.7	M5	3	1/8
A	2A89-A-400	1223314	400	1/4	0.09-0.78	0.06-0.6	0.15-0.43	0.11-0.3	0.21	0.62	2.2	4.7	M5	3	1/8
B	SB011-AB1600-S4Q	1460644	1600	1/4	0.4-1.1	0.29-0.8	0.4-1.1	0.29-0.8	0.42	0.93	4.1	8.7	1/8	5	3/16
B	SB015-AB1100-S4Q	1460634	1100	1/4	0.4-1.5	0.29-1.1	0.4-1.5	0.29-1.1	0.42	0.93	4.1	8.7	1/8	5	3/16
B	SB025-AB750-S4Q	1460624	750	1/4	0.4-2.5	0.29-1.8	0.4-2.5	0.29-1.8	0.42	0.93	4.1	8.7	1/8	5	3/16
B	SB025-AB500-S4Q	1460684	500	1/4	0.4-2.5	0.29-1.8	0.4-2.5	0.29-1.8	0.42	0.93	4.1	8.7	1/8	5	3/16
C	SB011-AR1600-S4Q	1460524	1600	1/4	0.4-1.1	0.29-0.8	0.4-1.1	0.29-0.8	0.42	0.93	4.1	8.7	1/8	5	3/16
C	SB015-AR1100-S4Q	1460514	1100	1/4	0.4-1.5	0.29-1.1	0.4-1.5	0.29-1.1	0.42	0.93	4.1	8.7	1/8	5	3/16
C	SB025-AR750-S4Q	1460504	750	1/4	0.4-2.5	0.29-1.8	0.4-2.5	0.29-1.8	0.42	0.93	4.1	8.7	1/8	5	3/16
C	SB025-AR500-S4Q	1460564	500	1/4	0.4-2.5	0.29-1.8	0.4-2.5	0.29-1.8	0.42	0.93	4.1	8.7	1/8	5	3/16
D	SC021-AB2300-S4Q	1461854	2300	1/4	0.4-2.1	0.29-1.5	0.4-0.9	0.29-0.7	0.61	1.34	6.5	13.8	1/8	6	1/4
D	SC021-AB1600-S4Q	1461864	1600	1/4	0.4-2.1	0.29-1.5	0.6-2.1	0.44-1.5	0.61	1.34	6.5	13.8	1/8	6	1/4
D	SC043-AB1100-S4Q	1461874	1100	1/4	0.4-4.3	0.29-3.2	0.9-4.3	0.66-3.2	0.61	1.34	6.5	13.8	1/8	6	1/4
D	SC047-AB550-S4Q	1461884	550	1/4	0.4-4.7	0.29-3.5	0.9-4.7	0.66-3.5	0.61	1.34	6.5	13.8	1/8	6	1/4
E	SC021-A2300-S4Q	1456574	2300	1/4	0.4-2.1	0.29-1.5	0.4-0.9	0.29-0.7	0.61	1.34	6.5	13.8	1/8	6	1/4
E	SC021-A1600-S4Q	1456584	1600	1/4	0.4-2.1	0.29-1.5	0.6-2.1	0.44-1.5	0.61	1.34	6.5	13.8	1/8	6	1/4
E	SC043-A1100-S4Q	1456594	1100	1/4	0.4-4.3	0.29-3.2	0.9-4.3	0.66-3.2	0.61	1.34	6.5	13.8	1/8	6	1/4
E	SC047-A550-S4Q	1456604	550	1/4	0.4-4.7	0.29-3.5	0.9-4.7	0.66-3.5	0.61	1.34	6.5	13.8	1/8	6	1/4
F	SD023-AB3500-S4Q	1462834	3500	1/4	1.0-2.3	0.74-1.7	1.0-2.3	0.74-1.7	0.73	1.61	8.7	18.4	1/4	10	3/8
F	SD035-AB2200-S4Q	1462824	2200	1/4	1.0-3.5	0.74-2.6	1.0-3.5	0.74-2.6	0.73	1.61	8.7	18.4	1/4	10	3/8
F	SD055-AB1470-S4Q	1462814	1470	1/4	0.6-5.5	0.44-4.0	2.0-5.5	1.47-4.0	0.89	1.96	8.7	18.4	1/4	10	3/8
F	SD075-AB1100-S4Q	1462804	1100	1/4	0.6-7.5	0.44-5.5	2.5-7.5	1.84-5.5	0.89	1.96	8.7	18.4	1/4	10	3/8
F	SD100-AB820-S4Q	1462794	820	1/4	0.6-10.0	0.44-7.4	3.5-10.0	2.58-7.4	0.89	1.96	8.7	18.4	1/4	10	3/8
F	SD140-AB510-S4Q	1462784	510	1/4	0.6-14.0	0.44-10.3	3.5-10.0	2.58-7.4	0.89	1.96	8.7	18.4	1/4	10	3/8
F	SD160-AB320-S4Q	1462774	320	1/4	0.6-16.0	0.44-11.8	3.5-10.0	2.58-7.4	0.89	1.96	8.7	18.4	1/4	10	3/8
G	SD023-AR3500-S4Q	1462764	3500	1/4	1.0-2.3	0.74-1.7	1.0-2.3	0.74-1.7	0.73	1.61	8.7	18.4	1/4	10	3/8
G	SD035-AR2200-S4Q	1462754	2200	1/4	1.0-3.5	0.74-2.6	1.0-3.5	0.74-2.6	0.73	1.61	8.7	18.4	1/4	10	3/8
G	SD055-AR1470-S4Q	1462744	1470	1/4	0.6-5.5	0.44-4.0	2.0-5.5	1.47-4.0	0.89	1.96	8.7	18.4	1/4	10	3/8
G	SD075-AR1100-S4Q	1462734	1100	1/4	0.6-7.5	0.44-5.5	2.5-7.5	1.84-5.5	0.89	1.96	8.7	18.4	1/4	10	3/8
G	SD100-AR820-S4Q	1462724	820	1/4	0.6-10.0	0.44-7.4	3.5-10.0	2.58-7.4	0.89	1.96	8.7	18.4	1/4	10	3/8
G	SD140-AR510-S4Q	1462714	510	1/4	0.6-14.0	0.44-10.3	3.5-10.0	2.58-7.4	0.89	1.96	8.7	18.4	1/4	10	3/8
G	SD160-AR320-S4Q	1462704	320	1/4	0.6-16.0	0.44-11.8	3.5-10.0	2.58-7.4	0.89	1.96	8.7	18.4	1/4	10	3/8

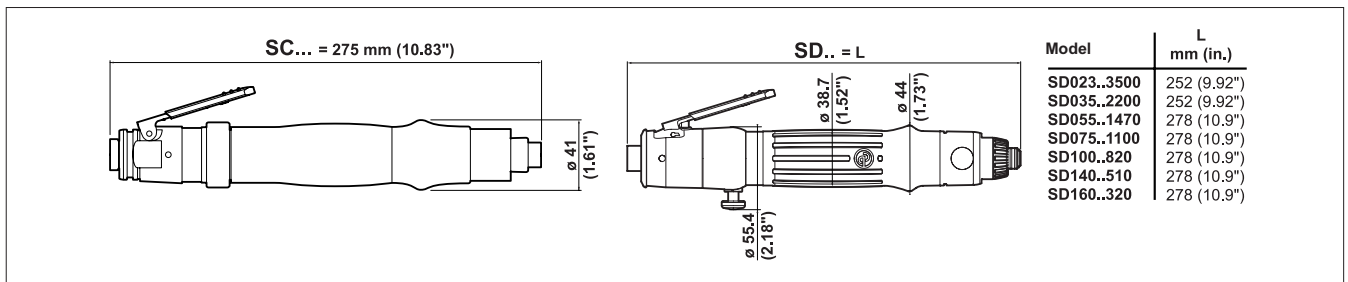


Screwdrivers - Shut off - Lever start

0.4 to 16 Nm (0.29 to 11.8 ft.lb) - 320 to 3500 rpm



See page 72



Accessories: see page 84

⁽¹⁾ NPT optional

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		FITTED SPRING		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm	in.
A	SC021-L2300-S4Q	1456654	2300	1/4	0.4-2.1	0.29-1.55	0.4-0.9	0.29-0.66	0.68	1.50	6.5	13.8	1/8	6	1/4
A	SC021-L1600-S4Q	1456664	1600	1/4	0.4-2.1	0.29-1.55	0.6-2.1	0.44-1.55	0.68	1.50	6.5	13.8	1/8	6	1/4
A	SC043-L1100-S4Q	1456674	1100	1/4	0.4-4.3	0.29-3.17	0.9-4.3	0.66-3.17	0.68	1.50	6.5	13.8	1/8	6	1/4
A	SC047-L550-S4Q	1456684	550	1/4	0.4-4.7	0.29-3.46	0.9-4.7	0.66-3.46	0.68	1.50	6.5	13.8	1/8	6	1/4
B	SD023-LB3500-S4Q	1463094	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	0.74-1.69	0.76	1.67	8.7	18.4	1/4	10	3/8
B	SD035-LB2200-S4Q	1463084	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	0.74-2.58	0.76	1.67	8.7	18.4	1/4	10	3/8
B	SD055-LB1470-S4Q	1463074	1470	1/4	0.6-5.5	0.44-4.05	2.0-5.5	1.47-4.05	0.92	2.03	8.7	18.4	1/4	10	3/8
B	SD075-LB1100-S4Q	1463064	1100	1/4	0.6-7.5	0.44-5.53	2.5-7.5	1.84-5.53	0.92	2.03	8.7	18.4	1/4	10	3/8
B	SD100-LB820-S4Q	1463054	820	1/4	0.6-10.0	0.44-7.37	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8
B	SD140-LB510-S4Q	1463044	510	1/4	0.6-14.0	0.44-10.3	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8
B	SD160-LB320-S4Q	1463034	320	1/4	0.6-16.0	0.44-11.8	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8
C	SD023-LR3500-S4Q	1463024	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	7.37-1.69	0.76	1.67	8.7	18.4	1/4	10	3/8
C	SD035-LR2200-S4Q	1463014	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	7.37-2.58	0.76	1.67	8.7	18.4	1/4	10	3/8
C	SD055-LR1470-S4Q	1463004	1470	1/4	0.6-5.5	0.44-4.05	2.0-5.5	1.47-4.05	0.92	2.03	8.7	18.4	1/4	10	3/8
C	SD075-LR1100-S4Q	1462994	1100	1/4	0.6-7.5	0.44-5.53	2.5-7.5	1.84-5.53	0.92	2.03	8.7	18.4	1/4	10	3/8
C	SD100-LR820-S4Q	1462984	820	1/4	0.6-10.0	0.44-7.37	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8
C	SD140-LR510-S4Q	1462974	510	1/4	0.6-14.0	0.44-10.3	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8
C	SD160-LR320-S4Q	1462964	320	1/4	0.6-16.0	0.44-11.8	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8



Screwdrivers - Shut off - Pistol grip

0.4 to 16.6 Nm (0.29 to 12.2 ft.lb) - 320 to 3500 rpm



Model	ØA		L	
	mm (in.)	mm (in.)	mm (in.)	mm (in.)
SBP..	31 (1.22")	182 (7.17")		
SCBP..	31 (1.22")	182 (7.17")		
SCP...	34 (1.34")	228 (8.97")		
SCPT...	34 (1.34")	230 (9.06")		
SDP023...3500	36 (1.42")	194 (7.64")		
SDP035...2200	36 (1.42")	194 (7.64")		
SDP055...1470	36 (1.42")	220 (8.66")		
SDP075...1100	36 (1.42")	220 (8.66")		
SDP100...800	36 (1.42")	220 (8.66")		
SDP140...510	36 (1.42")	220 (8.66")		
SDP160...320	36 (1.42")	220 (8.66")		
SDP045...180	36 (1.42")	220 (8.66")		

Model	L
	mm (in.)
SDT023...3500	212 (8.35")
SDT035...2200	212 (8.35")
SDT055...1470	238 (9.37")
SDT075...1100	238 (9.37")
SDT100...800	238 (9.37")
SDT140...510	238 (9.37")
SDT160...320	238 (9.37")

(1) NPT optional - Types D and E, Top air inlet

Accessories: see page 84

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		FITTED SPRING		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm	in.

PUSH AND TRIGGER START

A	SBP021-T2300-S4Q	1462144	2300	1/4	0.4-2.1	0.29-1.55	0.4-2.1	0.29-1.55	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SBP021-T1600-S4Q	1462154	1600	1/4	0.4-2.1	0.29-1.55	0.4-2.1	0.29-1.55	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SBP043-T1100-S4Q	1462164	1100	1/4	0.4-4.3	0.29-3.17	1.8-4.3	1.33-3.17	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SBP047-T550-S4Q	1462174	550	1/4	0.4-4.7	0.29-3.46	1.8-4.7	1.33-3.46	0.82	1.81	6.5	13.8	1/8	6	1/4

TRIGGER START

A	SCBP021-T2300-S4Q	1466374	2300	1/4	0.4-2.1	0.29-1.55	0.4-2.1	0.29-1.55	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SCBP021-T1600-S4Q	1466364	1600	1/4	0.4-2.1	0.29-1.55	0.4-2.1	0.29-1.55	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SCBP043-T1100-S4Q	1466354	1100	1/4	0.4-4.3	0.29-3.17	1.8-4.3	1.33-3.17	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SCBP044-T740-S4Q	1466344	740	1/4	0.4-4.4	0.29-3.24	1.8-4.4	1.33-3.24	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SCBP047-T550-S4Q	1466334	550	1/4	0.4-4.7	0.29-3.46	1.8-4.7	1.33-3.46	0.82	1.81	6.5	13.8	1/8	6	1/4
B	SCP021-T2300-S4Q	1456734	2300	1/4	0.4-2.1	0.29-1.55	0.4-0.9	0.29-0.66	0.86	1.89	6.5	13.8	1/8	6	1/4
B	SCP021-T1600-S4Q	1456744	1600	1/4	0.4-2.1	0.29-1.55	0.6-2.1	0.44-1.55	0.86	1.89	6.5	13.8	1/8	6	1/4
B	SCP043-T1100-S4Q	1456754	1100	1/4	0.4-4.3	0.29-3.17	0.9-4.3	0.66-3.17	0.86	1.89	6.5	13.8	1/8	6	1/4
B	SCP047-T550-S4Q	1456764	550	1/4	0.4-4.7	0.29-3.46	0.9-4.7	0.66-3.46	0.86	1.89	6.5	13.8	1/8	6	1/4
C	SDP023-T3500-S4Q	1465574	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	0.74-1.69	0.9	1.98	9.0	19.1	1/4	10	3/8
C	SDP035-T2200-S4Q	1465564	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	0.74-2.58	0.9	1.98	9.0	19.1	1/4	10	3/8
C	SDP055-T1470-S4Q	1465554	1470	1/4	1.0-5.5	0.74-4.05	1.0-5.5	0.74-4.05	1.0	2.20	9.0	19.1	1/4	10	3/8
C	SDP075-T1100-S4Q	1465544	1100	1/4	0.6-7.5	0.44-5.53	2.5-7.5	1.84-5.53	1.0	2.20	9.0	19.1	1/4	10	3/8
C	SDP100-T800-S4Q	1465534	820	1/4	0.6-10.0	0.44-7.37	3.5-10.0	2.58-7.37	1.0	2.20	9.0	19.1	1/4	10	3/8
C	SDP140-T510-S4Q	1465524	510	1/4	0.6-14.0	0.44-10.3	3.5-10.0	2.58-7.37	1.0	2.20	9.0	19.1	1/4	10	3/8
C	SDP160-T320-S4Q	1465514	320	1/4	0.6-16.0	0.44-11.8	3.5-10.0	2.58-7.37	1.0	2.20	9.0	19.1	1/4	10	3/8
C	SDP045-T180-S4Q	205 146 706 4	180	1/4	1.5-4.5	1.10-3.32	1.5-4.5	1.10-3.32	1.0	2.20	9.0	19.1	1/4	10	3/8
D	SDT023-T3500-S4Q	1465784	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	0.74-1.69	1.1	2.42	9.0	19.1	1/4	10	3/8
D	SDT035-T2200-S4Q	1465774	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	0.74-2.58	1.1	2.42	9.0	19.1	1/4	10	3/8
D	SDT055-T1470-S4Q	1465764	1470	1/4	2.0-5.5	1.47-4.05	2.0-5.5	1.47-4.05	1.1	2.42	9.0	19.1	1/4	10	3/8
D	SDT075-T1100-S4Q	1465754	1100	1/4	2.5-7.5	1.84-5.53	2.5-7.5	1.84-5.53	1.1	2.42	9.0	19.1	1/4	10	3/8
D	SDT100-T820-S4Q	1465744	820	1/4	3.5-10.0	2.58-7.37	3.5-10.0	2.58-7.37	1.1	2.42	9.0	19.1	1/4	10	3/8
D	SDT140-T510-S4Q	1465734	510	1/4	3.5-14.0	2.58-10.3	3.5-10.0	2.58-7.37	1.1	2.42	9.0	19.1	1/4	10	3/8
D	SDT160-T320-S4Q	1465724	320	1/4	3.5-16.0	2.58-11.8	3.5-10.0	2.58-7.37	1.1	2.42	9.0	19.1	1/4	10	3/8

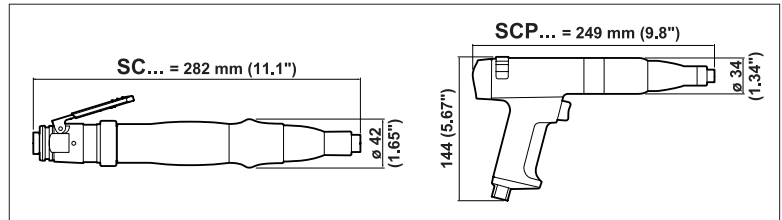
PUSH START, TOP AIR INLET

E	SCPT021-A2300-S4Q	1458974	2300	1/4	0.4-2.1	0.29-1.55	0.4-0.9	0.29-0.66	0.86	1.89	6.5	13.8	1/8	6	1/4
E	SCPT021-A1600-S4Q	1458934	1600	1/4	0.4-2.1	0.29-1.55	0.6-2.1	0.44-1.55	0.86	1.89	6.5	13.8	1/8	6	1/4
E	SCPT043-A1100-S4Q	1458894	1100	1/4	0.4-4.3	0.29-3.17	0.9-4.3	0.66-3.17	0.86	1.89	6.5	13.8	1/8	6	1/4
E	SCPT047-A550-S4Q	1458854	550	1/4	0.4-4.7	0.29-3.46	0.9-4.7	0.66-3.46	0.86	1.89	6.5	13.8	1/8	6	1/4



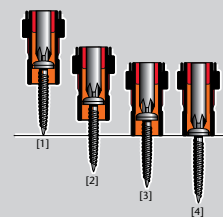
Screwdrivers - Shut off HLT

0.4 to 4.7 Nm (0.29 to 3.46 ft.lb) - 550 to 1600 rpm

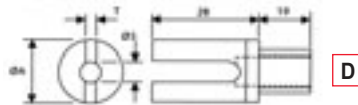
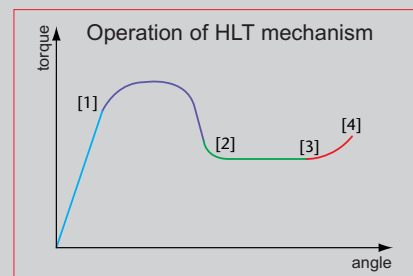


TYPICAL HLT CYCLE

- 1 Tool starts to cut/form thread – direct drive
- 2 Thread is cut/formed, rundown continues – direct drive
- 3 Depth stop touches component, drive engages clutch
- 4 Final torque achieved, clutch operates and air supply is shut off



Depth stop changes tool from direct drive to clutch operation



DEPTH STOPS

PIC REF	PART NUMBER	LENGTH
		mm
C	440833	28
C	440843	48
C	440853	127

PIC REF	PART NUMBER	T	ØA
		mm	mm
D	440863*	5	25
D	440873	3	15

* Supplied with tools

PIC REF	PART NUMBER	MATERIAL
E	432533	Steel
E	445623	Composite

SD-HLT

The HLT clutch modules can be used with the SD range of shut off screwdrivers

How to order

1. Order **SD-L** or **SDP** shut off screwdriver
2. Order adapter kit part no. **2R307161000**
3. Order HLT module from table

PART NUMBER	DESCRIPTION
434433	HLT Module 0.4-0.9Nm (0.29-0.66 ft.lb)
434413	HLT Module 0.6-2.1Nm (0.44-1.55 ft.lb)
434423	HLT Module 0.9-4.7Nm (0.66-3.46 ft.lb)

⁽¹⁾ NPT optional

Accessories: see page 84

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		FITTED SPRING		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm	in.
A	SC009-L1600-HLT4M	1459644	1600	1/4	0.4-0.9	0.29-0.66	0.4-0.9	0.29-0.66	0.79	1.74	7	15.4	1/8	6	1/4
A	SC021-L1600-HLT4M	1459614	1600	1/4	0.6-2.1	0.44-1.55	0.6-2.1	0.44-1.55	0.79	1.74	7	15.4	1/8	6	1/4
A	SC022-L1100-HLT4M	1459654	1100	1/4	0.6-2.1	0.44-1.55	0.6-2.1	0.44-1.55	0.79	1.74	7	15.4	1/8	6	1/4
A	SC022-L550-HLT4M	1459664	550	1/4	0.6-2.1	0.44-1.55	0.6-2.1	0.44-1.55	0.79	1.74	7	15.4	1/8	6	1/4
A	SC043-L1100-HLT4M	1459624	1100	1/4	0.9-4.3	0.66-3.17	0.9-4.3	0.66-3.17	0.79	1.74	7	15.4	1/8	6	1/4
A	SC047-L550-HLT4M	1459634	550	1/4	0.9-4.7	0.66-3.46	0.9-4.7	0.66-3.46	0.79	1.74	7	15.4	1/8	6	1/4
B	SCP009-T1600-HLT4M	1459704	1600	1/4	0.4-0.9	0.29-0.66	0.4-0.9	0.29-0.66	1.00	2.20	7	15.4	1/8	6	1/4
B	SCP021-T1600-HLT4M	1459714	1600	1/4	0.6-2.1	0.44-1.55	0.6-2.1	0.44-1.55	1.00	2.20	7	15.4	1/8	6	1/4
B	SCP022-T1100-HLT4M	1459724	1100	1/4	0.6-2.1	0.44-1.55	0.6-2.1	0.44-1.55	1.00	2.20	7	15.4	1/8	6	1/4
B	SCP043-T1100-HLT4M	1459734	1100	1/4	0.9-4.3	0.66-3.17	0.9-4.3	0.66-3.17	1.00	2.20	7	15.4	1/8	6	1/4
B	SCP022-T550-HLT4M	1459744	550	1/4	0.6-2.1	0.44-1.55	0.6-2.1	0.44-1.55	1.00	2.20	7	15.4	1/8	6	1/4
B	SCP047-T550-HLT4M	1459754	550	1/4	0.9-4.7	0.66-3.46	0.9-4.7	0.66-3.55	1.00	2.20	7	15.4	1/8	6	1/4



FAS3000 – Fastening Assurance System

The FAS3000 – Fastening Assurance System provides the ability to verify that all the fasteners in an assembly have been correctly fastened without the level of investment usually associated with assembly control systems and additional inspection.

The FAS3000 has been designed with the operator and engineer in mind and is easy to use and set up with a typical procedure comprising:

- Select measurement program.
- Rundown a number of OK screws and record data from the display.
- Enter parameters into the program via facia keypad.
- Select the run mode and the FAS3000 is now ready to use.

Features

- Automatic measurement of fastener profile for rapid set up.
- 8 programs for different fastener profiles.
- Capacity for a maximum of 250 fasteners per program.
- OK and Not OK visual indicators for each fastener.
- Audible error warning for Not OK.
- ‘Group Cycle Complete’ visual indicator.
- Manual lockable reset switch.
- Password protection of parameters.
- 4 output sockets for interfacing with other equipment including inputs as well as output signals.
- EMC approved.

Coded error messages are shown on the LED display to quickly identify the problem with the assembly process.

The messages include:

- Fastener already tightened.
- Clutch operated before minimum time.
- Clutch operated after maximum time.
- Trigger/Lever released at the same instant as the clutch operated.
- Trigger/Lever released before the clutch operated.
- Sensor failure.
- Too many fasteners tightened.



START-UP KIT

to be ordered with the FAS3000

PART NO.

POWER CABLE AND PLUG

LENGTH

A	B	C
Mains Power Cable	Mains Power Cable	Mains Power Cable
Europe	USA	UK
2m (78")	2m (78")	2m (78")
396853	459323	396843

ACCESSORIES INCLUDED

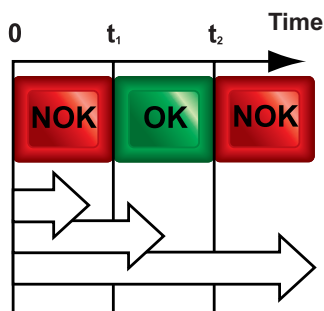
LENGTH

PART NO.

D	E
Sensor Assembly	Sensor electric cord
2 of these are needed per unit	
2m (78")	5m (197")
205 047 908 3	205 047 964 3

MODEL	PART NUMBER	LENGTH		DIMENSIONS WIDTH		HEIGHT		WEIGHT		SUPPLY VOLTAGE
		mm	in.	mm	in.	mm	in.	kg	lb.	
FAS3000	205 146 677 4	317	12.5	161	6.4	87	3.4	3	6.6	AC220-240V, 50Hz & AC110-120V, 60Hz

By comparing the timing of pneumatic signals from a shut off screwdriver with set parameters, the fastening cycle can be monitored and output signals generated for OK and NOK.



OPERATING SEQUENCE

t_1 = Minimum time

t_2 = Maximum time

Clutch operated before minimum time, lever/trigger released before minimum time.

Indicates crossed thread, screw too short, thread too short, too many washers.

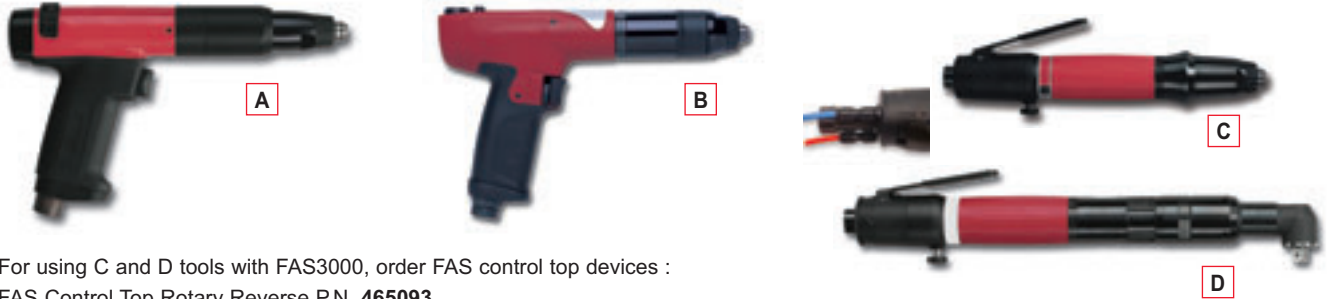
Clutch operated within time limits - OK.

Clutch operated after maximum time. Screw too long, no thread in component, stripped thread, no washers on assembly.



Screwdrivers - Fastening Assurance System

0.4 to 30 Nm (0.3 to 22.1 ft.lb) - 320 to 3500 rpm



For using C and D tools with FAS3000, order FAS control top devices :

FAS Control Top Rotary Reverse P.N. **465093**

FAS Control Top Button Reverse P.N. **465043**

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		FITTED SPRING		WEIGHT		AIR FLOW		AIR INLET ⁽²⁾	HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm	in.

PISTOL GRIP

A	SCP021-T2300-FAS4Q	1461124	2300	1/4	0.4-2.1	0.3-1.5	0.4-0.9	0.3-0.6	6.5	14.3	6.0	12.6	1/8	6	1/4
A	SCP021-T1600-FAS4Q	1461134	1600	1/4	0.4-2.1	0.3-1.5	0.6-2.1	0.4-1.5	6.5	14.3	6.0	12.6	1/8	6	1/4
A	SCP043-T1100-FAS4Q	1461144	1100	1/4	0.4-4.3	0.3-3.2	0.9-4.3	0.6-3.2	6.5	14.3	6.0	12.6	1/8	6	1/4
A	SCP047-T550-FAS4Q	1461154	550	1/4	0.4-4.7	0.3-3.5	0.9-4.7	0.6-4.7	6.5	14.3	6.0	12.6	1/8	6	1/4

T SHAPE TOOLS

B	SDT023-T3500-S4Q	1465784	3500	1/4	1.0-2.3	0.7-1.7	1.0-2.3	0.7-1.7	1.1	2.4	9.0	19.1	1/4	10	3/8
B	SDT035-T2200-S4Q	1465774	2200	1/4	1.0-3.5	0.7-2.6	1.0-3.5	0.7-2.6	1.1	2.4	9.0	19.1	1/4	10	3/8
B	SDT055-T1470-S4Q	1465764	1470	1/4	2.0-5.5	1.5-4.1	2.0-5.5	1.5-4.1	1.1	2.4	9.0	19.1	1/4	10	3/8
B	SDT075-T1100-S4Q	1465754	1100	1/4	2.5-7.5	1.8-5.5	2.5-7.5	1.8-5.5	1.1	2.4	9.0	19.1	1/4	10	3/8
B	SDT100-T800-S4Q	1465744	820	1/4	3.5-10.0	2.6-7.4	3.5-10.0	2.6-7.4	1.1	2.4	9.0	19.1	1/4	10	3/8
B	SDT140-T510-S4Q	1465734	510	1/4	3.5-14.0	2.6-10.3	3.5-10.0	2.6-7.4	1.1	2.4	9.0	19.1	1/4	10	3/8
B	SDT160-T320-S4Q	1465724	320	1/4	3.5-16.0	2.6-11.8	3.5-10.0	2.6-7.4	1.1	2.4	9.0	19.1	1/4	10	3/8

STRAIGHT TOOLS

C	SD023-LB3500-S4Q	1463094	3500	1/4	1.0-2.3	0.7-1.7	1.0-2.3	0.7-1.7	0.76	1.7	8.7	18.4	1/4	10	3/8
C	SD035-LB2200-S4Q	1463084	2200	1/4	1.0-3.5	0.7-2.6	1.0-3.5	0.7-2.6	0.76	1.7	8.7	18.4	1/4	10	3/8
C	SD055-LB1470-S4Q	1463074	1470	1/4	2.0-5.5	1.5-4.1	2.0-5.5	1.5-4.1	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD075-LB1100-S4Q	1463064	1100	1/4	2.5-7.5	1.8-5.5	2.5-7.5	1.8-5.5	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD100-LB820-S4Q	1463054	820	1/4	3.5-10.0	2.6-7.4	3.5-10.0	2.6-7.4	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD140-LB510-S4Q	1463044	510	1/4	3.5-14.0	2.6-10.3	3.5-10.0	2.6-7.4	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD160-LB320-S4Q	1463034	320	1/4	3.5-16.0	2.6-11.8	3.5-10.0	2.6-7.4	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD023-LR3500-S4Q	1463024	3500	1/4	1.0-2.3	0.7-1.7	1.0-2.3	0.7-1.7	0.76	1.7	8.7	18.4	1/4	10	3/8
C	SD035-LR2200-S4Q	1463014	2200	1/4	1.0-3.5	0.7-2.6	1.0-3.5	0.7-2.6	0.76	1.7	8.7	18.4	1/4	10	3/8
C	SD055-LR1470-S4Q	1463004	1470	1/4	2.0-5.5	1.5-4.1	2.0-5.5	1.5-4.1	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD075-LR1100-S4Q	1462994	1100	1/4	2.5-7.5	1.8-5.5	2.5-7.5	1.8-5.5	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD100-LR820-S4Q	1462984	820	1/4	3.5-10.0	2.6-7.4	3.5-10.0	2.6-7.4	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD140-LR510-S4Q	1462974	510	1/4	3.5-14.0	2.6-10.3	3.5-10.0	2.6-7.4	0.92	2.0	8.7	18.4	1/4	10	3/8
C	SD160-LR320-S4Q	1462964	320	1/4	3.5-16.0	2.6-11.8	3.5-10.0	2.6-7.4	0.92	2.0	8.7	18.4	1/4	10	3/8

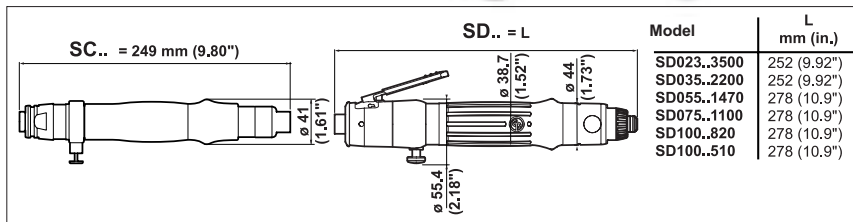
ANGLE TOOL

D	SD070-LB1100-S90-A4H	1463254	1100	1/4	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.12	2.5	8.7	18.4	1/4	10	3/8
D	SD070-LB820-S90-A4H	1463244	820	1/4	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.12	2.5	8.7	18.4	1/4	10	3/8
D	SD070-LB510-S90-A4H	1463234	510	1/4	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.12	2.5	8.7	18.4	1/4	10	3/8
D	SD070-LB320-S90-A4H	1463224	320	1/4	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.12	2.5	8.7	18.4	1/4	10	3/8
D	SD070-LR1100-S90-A4H	1463294	1100	1/4	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.12	2.5	8.7	18.4	1/4	10	3/8
D	SD070-LR820-S90-A4H	1463284	820	1/4	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.12	2.5	8.7	18.4	1/4	10	3/8
D	SD070-LR510-S90-A4H	1463274	510	1/4	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.12	2.5	8.7	18.4	1/4	10	3/8
D	SD070-LR320-S90-A4H	1463264	320	1/4	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.12	2.5	8.7	18.4	1/4	10	3/8
D	SD070-LB1100-S90-A4S	1463374	1100	1/4 sq	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.11	2.4	8.7	18.4	1/4	10	3/8
D	SD070-LB820-S90-A4S	1463364	820	1/4 sq	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.11	2.4	8.7	18.4	1/4	10	3/8
D	SD070-LB510-S90-A4S	1463354	510	1/4 sq	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.11	2.4	8.7	18.4	1/4	10	3/8
D	SD070-LB320-S90-A4S	1463344	320	1/4 sq	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.11	2.4	8.7	18.4	1/4	10	3/8
D	SD070-LR1100-S90-A4S	1463414	1100	1/4 sq	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.11	2.4	8.7	18.4	1/4	10	3/8
D	SD070-LR820-S90-A4S	1463404	820	1/4 sq	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.11	2.4	8.7	18.4	1/4	10	3/8
D	SD070-LR510-S90-A4S	1463394	510	1/4 sq	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.11	2.4	8.7	18.4	1/4	10	3/8
D	SD070-LR320-S90-A4S	1463384	320	1/4 sq	2.5-7	1.8-5.2	2.5-7.0	1.8-5.2	1.11	2.4	8.7	18.4	1/4	10	3/8
D	SD072-LB1080-S90-A10S	1463504	1080	3/8 sq	2.5-7.2	1.8-5.3	2.5-7.2	1.8-5.3	1.41	3.1	8.7	18.4	1/4	10	3/8
D	SD095-LB800-S90-A10S	1463494	800	3/8 sq	2.5-7.2	1.8-5.3	3.0-9.5	2.2-7.0	1.41	3.1	8.7	18.4	1/4	10	3/8
D	SD130-LB600-S90-A10S	1463484	600	3/8 sq	4.5-13	3.3-9.6	4.5-13	3.3-9.6	1.41	3.1	8.7	18.4	1/4	10	3/8
D	SD209-LB370-S90-A10S	1463474	370	3/8 sq	6.0-20.9	4.4-15.4	6.0-20.9	4.4-15.4	1.5	3.3	8.7	18.4	1/4	10	3/8
D	SD300-LB250-S90-A10S	1463464	250	3/8 sq	11.0-30	8.1-22.1	11-30	8.1-22.1	1.5	3.3	8.7	18.4	1/4	10	3/8
D	SD072-LR1080-S90-A10S	1463554	1080	3/8 sq	2.5-7.2	1.8-5.3	2.5-7.2	1.8-5.3	1.41	3.1	8.7	18.4	1/4	10	3/8
D	SD095-LR800-S90-A10S	1463544	800	3/8 sq	3.0-9.5	2.2-7.0	3.0-9.5	2.2-7.0	1.41	3.1	8.7	18.4	1/4	10	3/8
D	SD130-LR600-S90-A10S	1463534	600	3/8 sq	4.5-13	3.3-9.6	4.5-13	3.3-9.6	1.41	3.1	8.7	18.4	1/4	10	3/8
D	SD209-LR370-S90-A10S	1463524	370	3/8 sq	6.0-20.9	4.4-15.4	6.0-20.9	4.4-15.4	1.50	3.3	8.7	18.4	1/4	10	3/8
D	SD300-LR250-S90-A10S	1463514	250	3/8 sq	11.0-30	8.1-22.1	11.0-30	8.1-22.1	1.50	3.3	8.7	18.4	1/4	10	3/8



Screwdrivers - Non Shut off - Push and Lever start

0.4 to 10 Nm (0.29 to 7.37 ft.lb) - 510 to 3500 rpm



Types A, B and F - 5/16" hex bit holder optional ⁽¹⁾ NPT optional

Accessories: see page 84

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		FITTED SPRING		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
					Nm	ft.lb	Nm	ft.lb	kg	lb.	l/s	cfm		mm	in.
			rpm	in.											

PUSH START

A	SC024-AB2300-R4Q	1461894	2300	1/4	0.5-2.4	0.37-1.77	0.5-1.8	0.37-1.33	0.61	1.34	6.5	13.8	1/8	6	1/4
A	SC022-AB1600-R4Q	1461904	1600	1/4	0.5-2.2	0.37-1.62	0.8-2.2	0.59-1.62	0.61	1.34	6.5	13.8	1/8	6	1/4
A	SC044-AB1100-R4Q	1461914	1100	1/4	0.4-4.4	0.29-3.24	1.3-4.4	0.96-3.24	0.61	1.34	6.5	13.8	1/8	6	1/4
A	SC044-AB550-R4Q	1461924	550	1/4	0.4-4.4	0.29-3.24	1.0-4.4	0.74-3.24	0.61	1.34	6.5	13.8	1/8	6	1/4
B	SC024-A2300-R4Q	1456614	2300	1/4	0.5-2.4	0.37-1.77	0.5-1.8	0.37-1.33	0.61	1.34	6.5	13.8	1/8	6	1/4
B	SC022-A1600-R4Q	1456624	1600	1/4	0.5-2.2	0.37-1.62	0.8-2.2	0.59-1.62	0.61	1.34	6.5	13.8	1/8	6	1/4
B	SC044-A1100-R4Q	1456634	1100	1/4	0.4-4.4	0.29-3.24	1.3-4.4	0.96-3.24	0.61	1.34	6.5	13.8	1/8	6	1/4
B	SC044-A550-R4Q	1456644	550	1/4	0.4-4.4	0.29-3.24	1.0-4.4	0.74-3.24	0.61	1.34	6.5	13.8	1/8	6	1/4
C	SD023-AB3500-R4Q	1462954	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	0.74-1.69	0.73	1.61	8.7	18.4	1/4	10	3/8
C	SD035-AB2200-R4Q	1462944	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	0.74-2.58	0.73	1.61	8.7	18.4	1/4	10	3/8
C	SD055-AB1470-R4Q	1462934	1470	1/4	0.6-5.5	0.44-4.05	2.0-5.5	1.47-4.05	0.89	1.96	8.7	18.4	1/4	10	3/8
C	SD075-AB1100-R4Q	1462924	1100	1/4	0.6-7.5	0.44-5.53	2.5-7.5	1.84-5.53	0.89	1.96	8.7	18.4	1/4	10	3/8
C	SD100-AB820-R4Q	1462914	820	1/4	0.6-10	0.44-7.37	3.5-10.0	2.58-7.37	0.89	1.96	8.7	18.4	1/4	10	3/8
C	SD100-AB510-R4Q	1462904	510	1/4	0.6-10	0.44-7.37	3.5-10.0	2.58-7.37	0.89	1.96	8.7	18.4	1/4	10	3/8
D	SD023-AR3500-R4Q	1462894	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	0.74-1.69	0.73	1.61	8.7	18.4	1/4	10	3/8
D	SD035-AR2200-R4Q	1462884	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	0.74-2.58	0.73	1.61	8.7	18.4	1/4	10	3/8
D	SD055-AR1470-R4Q	1462874	1470	1/4	0.6-5.5	0.44-4.05	2.0-5.5	1.47-4.05	0.89	1.96	8.7	18.4	1/4	10	3/8
D	SD075-AR1100-R4Q	1462864	1100	1/4	0.6-7.5	0.44-5.53	2.5-7.5	1.84-5.53	0.89	1.96	8.7	18.4	1/4	10	3/8
D	SD100-AR820-R4Q	1462854	820	1/4	0.6-10	0.44-7.37	3.5-10.0	2.58-7.37	0.89	1.96	8.7	18.4	1/4	10	3/8
D	SD100-AR510-R4Q	1462844	510	1/4	0.6-10	0.44-7.37	3.5-10.0	2.58-7.37	0.89	1.96	8.7	18.4	1/4	10	3/8

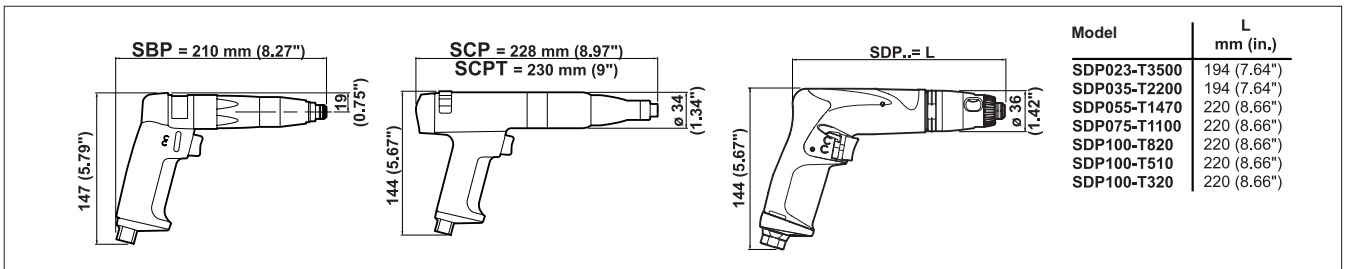
LEVER START

E	SC024-L2300-R4Q	1456694	2300	1/4	0.5-2.4	0.37-1.77	0.5-1.8	0.37-1.33	0.61	1.34	6.5	13.8	1/8	6	1/4
E	SC022-L1600-R4Q	1456704	1600	1/4	0.5-2.2	0.37-1.62	0.8-2.2	0.59-1.62	0.61	1.34	6.5	13.8	1/8	6	1/4
E	SC044-L1100-R4Q	1456714	1100	1/4	0.4-4.4	0.29-3.24	1.3-4.4	0.96-3.24	0.61	1.34	6.5	13.8	1/8	6	1/4
E	SC044-L550-R4Q	1456724	550	1/4	0.4-4.4	0.29-3.24	1.0-4.4	0.74-3.24	0.61	1.34	6.5	13.8	1/8	6	1/4
F	SD023-LB3500-R4Q	1463214	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	0.74-1.69	0.76	1.67	8.7	18.4	1/4	10	3/8
F	SD035-LB2200-R4Q	1463204	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	0.74-2.58	0.76	1.67	8.7	18.4	1/4	10	3/8
F	SD055-LB1470-R4Q	1463194	1470	1/4	0.6-5.5	0.44-4.05	2.0-5.5	1.47-4.05	0.92	2.03	8.7	18.4	1/4	10	3/8
F	SD075-LB1100-R4Q	1463184	1100	1/4	0.6-7.5	0.44-5.53	2.5-7.5	1.84-5.53	0.92	2.03	8.7	18.4	1/4	10	3/8
F	SD100-LB820-R4Q	1463174	820	1/4	0.6-10	0.44-7.37	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8
F	SD100-LB510-R4Q	1463164	510	1/4	0.6-10	0.44-7.37	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8
G	SD023-LR3500-R4Q	1463154	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	0.74-1.69	0.76	1.67	8.7	18.4	1/4	10	3/8
G	SD035-LR2200-R4Q	1463144	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	0.74-2.58	0.76	1.67	8.7	18.4	1/4	10	3/8
G	SD055-LR1470-R4Q	1463134	1470	1/4	0.6-5.5	0.44-4.05	2.0-5.5	1.47-4.05	0.92	2.03	8.7	18.4	1/4	10	3/8
G	SD075-LR1100-R4Q	1463124	1100	1/4	0.6-7.5	0.44-5.53	2.5-7.5	1.84-5.53	0.92	2.03	8.7	18.4	1/4	10	3/8
G	SD100-LR820-R4Q	1463114	820	1/4	0.6-10	0.44-7.37	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8
G	SD100-LR510-R4Q	1463104	510	1/4	0.6-10	0.44-7.37	3.5-10.0	2.58-7.37	0.92	2.03	8.7	18.4	1/4	10	3/8



Screwdrivers - Non Shut Off - Pistol Grip

0.4 to 15 Nm (0.29 to 11 ft.lb) - 320 to 3500 rpm



⁽¹⁾ NPT optional

Accessories: see page 84

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		FITTED SPRING		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾		HOSE INT. Ø	
					Nm	ft.lb	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm	in.	

PUSH AND TRIGGER START

A	SBP024-T2300-R4Q	1462184	2300	1/4	0.5-2.4	0.37-1.77	0.5-2.4	0.37-1.77	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SBP022-T1600-R4Q	1462194	1600	1/4	0.5-2.2	0.37-1.62	0.5-2.2	0.37-1.62	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SBP044-T1100-R4Q	1462204	1100	1/4	0.4-4.4	0.29-3.24	1.8-4.4	1.33-3.24	0.82	1.81	6.5	13.8	1/8	6	1/4
A	SBP044-T550-R4Q	1462214	550	1/4	0.4-4.4	0.29-3.24	1.8-4.4	1.33-3.24	0.82	1.81	6.5	13.8	1/8	6	1/4

TRIGGER START

B	SCP024-T2300-R4Q	1456774	2300	1/4	0.5-2.4	0.37-1.77	0.5-1.8	0.37-1.33	0.86	1.89	6.5	13.8	1/8	6	1/4
B	SCP022-T1600-R4Q	1456784	1600	1/4	0.5-2.2	0.37-1.62	0.8-2.2	0.59-1.62	0.86	1.89	6.5	13.8	1/8	6	1/4
B	SCP044-T1100-R4Q	1456794	1100	1/4	0.4-4.4	0.29-3.24	1.3-4.4	0.96-3.24	0.86	1.89	6.5	13.8	1/8	6	1/4
B	SCP044-T550-R4Q	1456804	550	1/4	0.4-4.4	0.29-3.24	1.0-4.4	0.74-3.24	0.86	1.89	6.5	13.8	1/8	6	1/4
C	SDP023-T3500-R4Q	1465644	3500	1/4	1.0-2.3	0.74-1.69	1.0-2.3	0.74-1.69	0.90	1.98	9.0	19.1	1/4	10	3/8
C	SDP035-T2200-R4Q	1465634	2200	1/4	1.0-3.5	0.74-2.58	1.0-3.5	0.74-2.58	0.90	1.98	9.0	19.1	1/4	10	3/8
C	SDP055-T1470-R4Q	1465624	1470	1/4	1.0-5.5	0.74-4.05	1.0-5.5	0.74-4.05	1.00	2.20	9.0	19.1	1/4	10	3/8
C	SDP075-T1100-R4Q	1465614	1100	1/4	0.6-7.5	0.44-5.53	2.5-7.5	1.84-5.53	1.00	2.20	9.0	19.1	1/4	10	3/8
C	SDP100-T820-R4Q	1465604	820	1/4	0.6-10.0	0.44-7.37	3.5-10.0	2.58-7.37	1.00	2.20	9.0	19.1	1/4	10	3/8
C	SDP100-T510-R4Q	1465594	510	1/4	0.6-10.0	0.44-7.37	3.5-10.0	2.58-7.37	1.00	2.20	9.0	19.1	1/4	10	3/8
C	SDP100-T320-R4Q	1465584	320	1/4	0.6-10.0	0.44-7.37	3.5-10.0	2.58-7.37	1.00	2.20	9.0	19.1	1/4	10	3/8

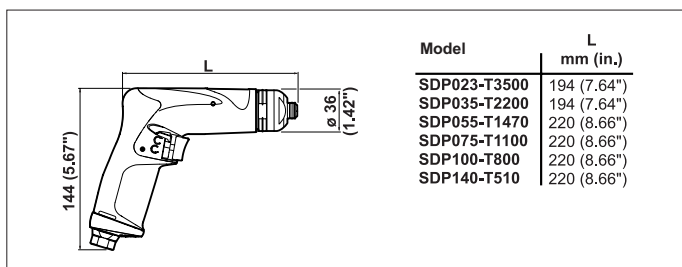
PUSH START, TOP AIR INLET

D	SCPT024-A2300-R4Q	1458994	2300	1/4	0.5-2.4	0.37-1.77	0.5-1.8	0.37-1.33	0.86	1.89	6.5	13.8	1/8	6	1/4
D	SCPT022-A1600-R4Q	1458954	1600	1/4	0.5-2.2	0.37-1.62	0.8-2.2	0.59-1.62	0.86	1.89	6.5	13.8	1/8	6	1/4
D	SCPT044-A1100-R4Q	1458914	1100	1/4	0.4-4.4	0.29-3.24	1.3-4.4	0.96-3.24	0.86	1.89	6.5	13.8	1/8	6	1/4
D	SCPT044-A550-R4Q	1458874	550	1/4	0.4-4.4	0.29-3.24	1.0-4.4	0.74-3.24	0.86	1.89	6.5	13.8	1/8	6	1/4



Screwdrivers - Direct drive Pistol grip

1 to 14 Nm (0.74 to 10.3 ft.lb) - 510 to 3500 rpm



Accessories: see page 85

⁽¹⁾ NPT optional

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm	in.
A	SDP023-T3500-D4Q	1465714	3500	1/4	1.0-2.3	0.74-1.69	0.8	1.76	9.0	19.1	1/4	10	3/8
A	SDP035-T2200-D4Q	1465704	2200	1/4	1.0-3.5	0.74-2.58	0.8	1.76	9.0	19.1	1/4	10	3/8
A	SDP055-T1470-D4Q	1465694	1470	1/4	1.0-5.5	0.74-4.05	0.8	1.76	9.0	19.1	1/4	10	3/8
A	SDP075-T1100-D4Q	1465684	1100	1/4	3.5-7.5	2.58-5.53	0.8	1.76	9.0	19.1	1/4	10	3/8
A	SDP100-T800-D4Q	1465674	820	1/4	3.5-10.0	2.58-7.37	0.8	1.76	9.0	19.1	1/4	10	3/8
A	SDP140-T510-D4Q	1465664	510	1/4	3.5-14.0	2.58-10.3	0.8	1.76	9.0	19.1	1/4	10	3/8



Screwdrivers - Automatic reverse

0.6 to 15.6 Nm (0.44 to 11.5 ft.lb) - 400 to 1100 rpm



A



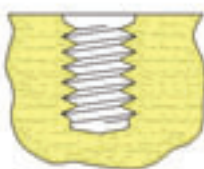
B

Applications

Placement of Threaded Fasteners



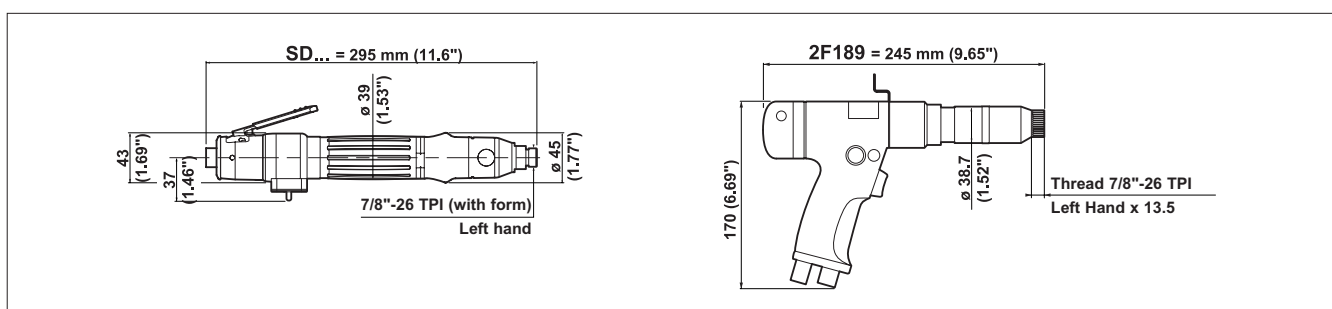
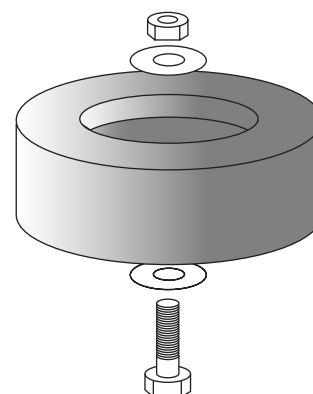
Tapping in Blind Holes



Clearing Tapped Holes after Painting or Coating



Assembly of Rotating Parts (e.g. lawn mower wheel) must be used in a stand



(¹) NPT optional

Accessories: see page 85

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm	in.
A	SD140-LA510-S4	1464584	510	See	0.6-14.0	0.44-10.3	1.0	2.2	8.7	18.4	1/4	10	3/8
A	SD075-LA1100-S4	1464604	1100	Accessories	0.6-7.5	0.44-5.53	1.0	2.2	8.7	18.4	1/4	10	3/8
B	2F189-PX-900	1240584	900	Table	1.8-8.9	1.33-6.56	1.6	3.5	9.4	19.9	1/4	10	3/8
B	2F189-PX-600	1240744	600		1.6-14.0	1.18-10.3	1.6	3.5	9.4	19.9	1/4	10	3/8
B	2F189-PX-400	1240904	400		1.6-15.6	1.18-11.5	1.6	3.5	9.4	19.9	1/4	10	3/8



Angle Head - Shut off

0.4 to 103 Nm (0.3 to 75.9 ft.lb) - 200 to 2200 rpm



See page 72

(1) NPT optional

Accessories: see page 86



PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT	TORQUE RANGE			FITTED SPRING		LENGTH		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
					rpm	in.	Nm	ft.lb	Nm	ft.lb	mm	in.	kg	lb.	l/s		cfm	in.
TWO WAY																		
A	SC021-L2000-S90A4S	1459154	2000	1/4 sq	0.4-2.1	0.3-1.5	0.4-0.9	0.3-0.6	275	10.8	0.84	1.85	6.5	13.8	1/8	6	1/4	
A	SC021-L1400-S90A4S	1459144	1400	1/4 sq	0.4-2.1	0.3-1.5	0.6-2.1	0.4-1.5	275	10.8	0.84	1.85	6.5	13.8	1/8	6	1/4	
A	SC043-L950-S90A4S	1459134	950	1/4 sq	0.4-4.3	0.3-3.2	0.9-4.3	0.6-3.2	275	10.8	0.84	1.85	6.5	13.8	1/8	6	1/4	
A	SC047-L500-S90A4S	1459124	500	1/4 sq	0.4-4.7	0.3-3.4	0.9-4.7	0.6-3.4	275	10.8	0.84	1.85	6.5	13.8	1/8	6	1/4	
B	SC021-L2200-S45A4S	1459574	2200	1/4 sq	0.4-2.1	0.3-1.5	0.4-0.9	0.3-0.6	339	13.3	0.85	1.87	6.5	13.8	1/8	6	1/4	
B	SC021-L1500-S45A4S	1459584	1500	1/4 sq	0.4-2.1	0.3-1.5	0.6-2.1	0.4-1.5	339	13.3	0.85	1.87	6.5	13.8	1/8	6	1/4	
B	SC043-L1050-S45A4S	1459594	1050	1/4 sq	0.4-4.3	0.3-3.2	0.9-4.3	0.6-3.2	339	13.3	0.85	1.87	6.5	13.8	1/8	6	1/4	
B	SC047-L520-S45A4S	1459604	520	1/4 sq	0.4-4.7	0.3-3.4	0.9-4.7	0.6-3.4	339	13.3	0.85	1.87	6.5	13.8	1/8	6	1/4	
B	SC021-L2200-S45A4H	1459484	2200	1/4 hex	0.4-2.1	0.3-1.5	0.4-0.9	0.3-0.6	339	13.3	0.84	1.85	6.5	13.8	1/8	6	1/4	
B	SC021-L1500-S45A4H	1459494	1500	1/4 hex	0.4-2.1	0.3-1.5	0.6-2.1	0.4-1.5	339	13.3	0.84	1.85	6.5	13.8	1/8	6	1/4	
B	SC043-L1050-S45A4H	1459504	1050	1/4 hex	0.4-4.3	0.3-3.2	0.9-4.3	0.6-3.2	339	13.3	0.84	1.85	6.5	13.8	1/8	6	1/4	
B	SC047-L520-S45A4H	1459514	520	1/4 hex	0.4-4.7	0.3-3.4	0.9-4.7	0.6-3.4	339	13.3	0.84	1.85	6.5	13.8	1/8	6	1/4	
C	SC021-L2000-S90A4H	1459074	2000	1/4 hex	0.4-2.1	0.3-0.8	0.4-0.9	0.3-0.6	275	10.8	1.12	2.47	6.5	13.8	1/8	6	1/4	
C	SC021-L1400-S90A4H	1459064	1400	1/4 hex	0.4-2.1	0.3-1.5	0.6-2.1	0.4-1.5	275	10.8	1.12	2.47	6.5	13.8	1/8	6	1/4	
C	SC043-L950-S90A4H	1459054	950	1/4 hex	0.4-4.3	0.3-3.2	0.9-4.3	0.6-3.2	275	10.8	1.12	2.47	6.5	13.8	1/8	6	1/4	
C	SC047-L500-S90A4H	1459044	500	1/4 hex	0.4-4.7	0.3-3.4	0.9-4.7	0.6-3.4	275	10.8	1.12	2.47	6.5	13.8	1/8	6	1/4	
D	SD070-LB1100-S90-A4H	1463254	1100	1/4 hex	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.12	2.47	8.7	18.4	1/4	10	3/8	
D	SD070-LB820-S90-A4H	1463244	820	1/4 hex	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.12	2.47	8.7	18.4	1/4	10	3/8	
D	SD070-LB510-S90-A4H	1463234	510	1/4 hex	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.12	2.47	8.7	18.4	1/4	10	3/8	
D	SD070-LB320-S90-A4H	1463224	320	1/4 hex	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.12	2.47	8.7	18.4	1/4	10	3/8	
D	SD070-LR1100-S90-A4H	1463294	1100	1/4 hex	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.11	2.45	8.7	18.4	1/4	10	3/8	
D	SD070-LR820-S90-A4H	1463284	820	1/4 hex	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.11	2.45	8.7	18.4	1/4	10	3/8	
D	SD070-LR510-S90-A4H	1463274	510	1/4 hex	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.11	2.45	8.7	18.4	1/4	10	3/8	
D	SD070-LR320-S90-A4H	1463264	320	1/4 hex	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.11	2.45	8.7	18.4	1/4	10	3/8	
D	SD070-LB1100-S90-A4S	1463374	1100	1/4 sq	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.11	2.45	8.7	18.4	1/4	10	3/8	
D	SD070-LB820-S90-A4S	1463364	820	1/4 sq	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.11	2.45	8.7	18.4	1/4	10	3/8	
D	SD070-LB510-S90-A4S	1463354	510	1/4 sq	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.11	2.45	8.7	18.4	1/4	10	3/8	
D	SD070-LB320-S90-A4S	1463344	320	1/4 sq	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.11	2.45	8.7	18.4	1/4	10	3/8	
D	SD070-LR1100-S90-A4S	1463414	1100	1/4 sq	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.41	3.11	8.7	18.4	1/4	10	3/8	
D	SD070-LR820-S90-A4S	1463404	820	1/4 sq	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.41	3.11	8.7	18.4	1/4	10	3/8	
D	SD070-LR510-S90-A4S	1463394	510	1/4 sq	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.41	3.11	8.7	18.4	1/4	10	3/8	
D	SD070-LR320-S90-A4S	1463384	320	1/4 sq	2.5-7.0	1.8-5.2	2.5-7.0	1.8-5.1	305	12.0	1.50	3.31	8.7	18.4	1/4	10	3/8	
D	SD072-LB1080-S90-A10S	1463504	1080	3/8 sq	2.5-7.2	1.8-5.3	2.5-7.2	1.8-5.3	353	13.9	1.50	3.31	8.7	18.4	1/4	10	3/8	
E	SD095-LB800-S90-A10S	1463494	800	3/8 sq	3.0-9.5	2.2-7.0	3.0-9.5	2.2-7.0	353	13.9	1.41	3.11	8.7	18.4	1/4	10	3/8	
E	SD130-LB600-S90-A10S	1463484	600	3/8 sq	4.5-13.0	3.3-9.6	4.5-13.0	3.3-9.6	353	13.9	1.41	3.11	8.7	18.4	1/4	10	3/8	
E	SD209-LB370-S90-A10S	1463474	370	3/8 sq	6.0-20.9	4.4-15.4	6.0-20.9	4.4-15.4	376	14.8	1.41	3.11	8.7	18.4	1/4	10	3/8	
E	SD300-LB250-S90-A10S	1463464	250	3/8 sq	11.0-30.0	8.1-22.1	11.0-30.0	8.1-22.1	376	14.8	1.50	3.31	8.7	18.4	1/4	10	3/8	
E	SD072-LR1080-S90-A10S	1463554	1080	3/8 sq	2.5-7.2	1.8-5.3	2.5-7.2	1.8-5.3	376	14.8	1.50	3.31	8.7	18.4	1/4	10	3/8	
E	SD095-LR800-S90-A10S	1463544	800	3/8 sq	3.0-9.5	2.2-7.0	3.0-9.5	2.2-7.0	376	14.8	3.10	6.83	8.7	18.4	1/4	10	3/8	
E	SD130-LR600-S90-A10S	1463534	600	3/8 sq	4.5-13.0	3.3-9.6	4.5-13.0	3.3-9.6	376	14.8	3.10	6.83	8.7	18.4	1/4	10	3/8	
E	SD209-LR370-S90-A10S	1463524	370	3/8 sq	6.0-20.9	4.4-15.4	6.0-20.9	4.4-15.4	376	14.8	2.30	5.07	8.7	18.4	1/4	10	3/8	
E	SD300-LR250-S90-A10S	1463514	250	3/8 sq	11.0-30.0	8.1-22.1	11.0-30.0	8.1-22.1	376	14.8	2.30	5.07	8.7	18.4	1/4	10	3/8	
F	4H489-N-750	1301984	750	3/8 sq	12.2-36.0	9.0-26.5	12.2-36.0	9.0-26.5	435	17.1	3.10	6.83	16.5	34.9	3/8	12	1/2	
F	4H489-N-480	1301804	480	1/2 sq	25.5-47.0	18.8-34.6	25.5-47.0	19.0-34.6	459	18.1	3.10	6.83	16.5	34.9	3/8	12	1/2	

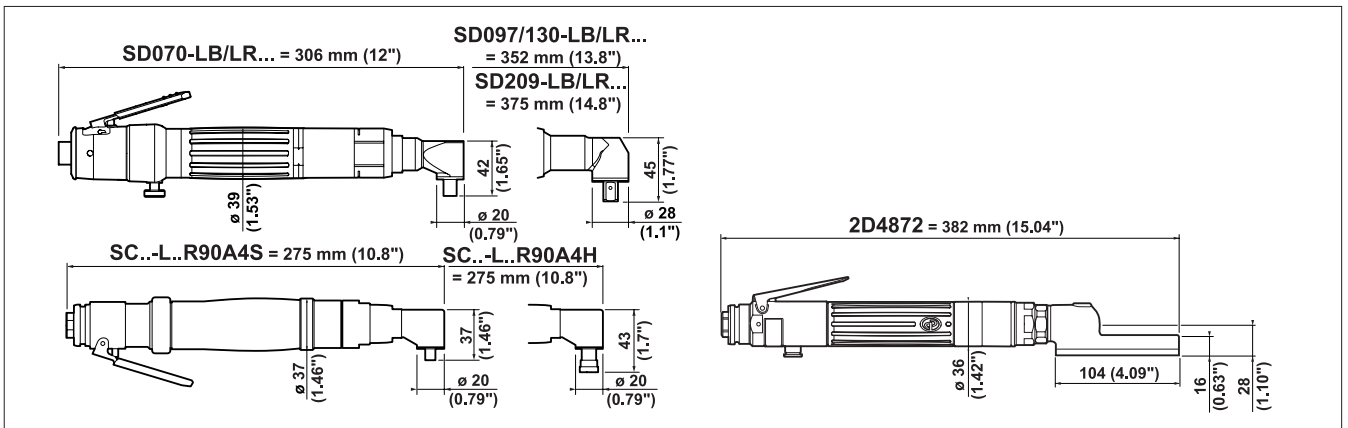
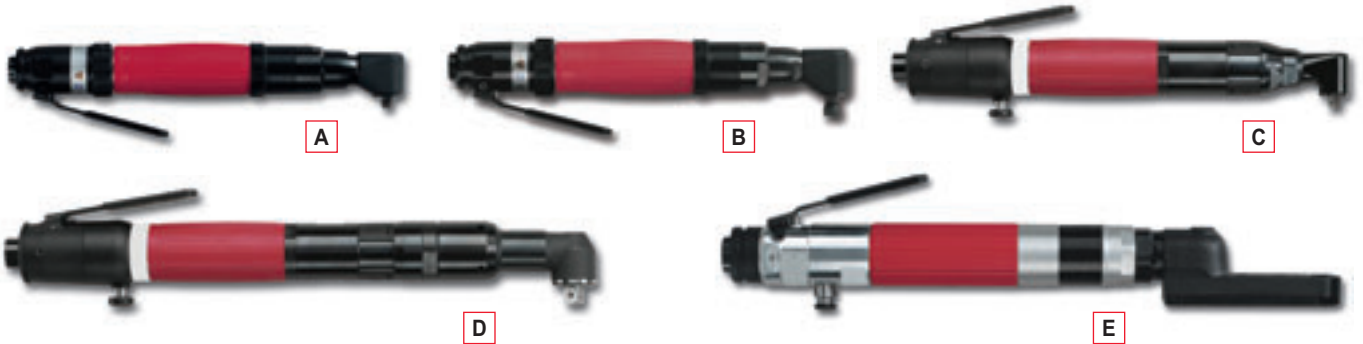
ONE WAY

G	H489-N-750	1301724	750	3/8 hex	12.2-36.0	8.99-26.5	12.2-36.0	9.0-26.5	366	14.4	2.30	5.07	16.5	34.9	3/8	12	1/2
G	H489-N-480	1301644	480	1/2 hex	25.5-47.0	18.8-34.6	25.5-47.0	18.8-34.6	435	17.1	3.10	6.83	16.5	34.9	3/8	12	1/2
G	H489-N-200	1301564	200	1/2 hex	30.1-103	22.2-75.9	30.1-103	22.2-76.0	459	18.1	3.10	6.83	16.5	34.9	3/8	12	1/2



Angle head - Non Shut off

0.4 to 20.9 Nm (0.29 to 15.4 ft.lb) - 320 to 2000 rpm



Accessories: see page 86

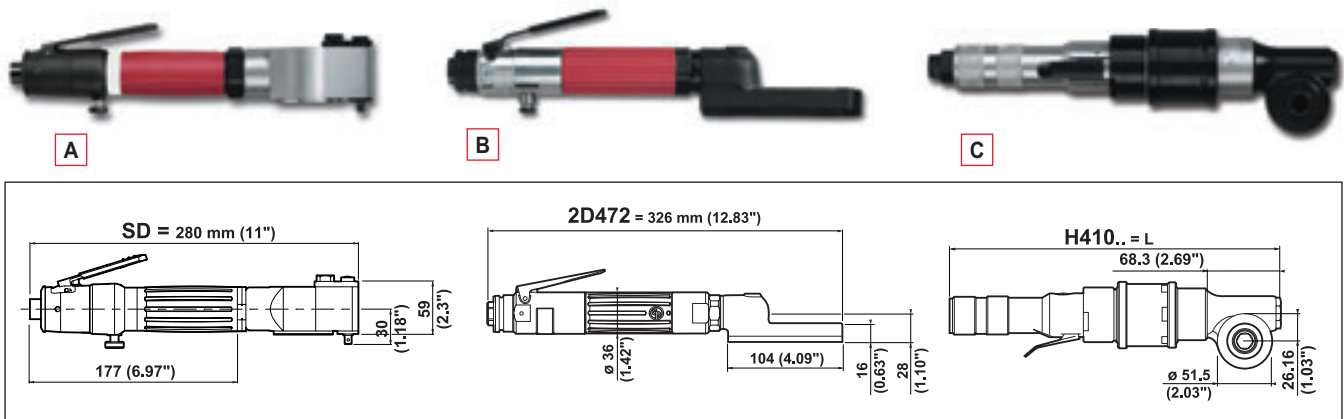
(1) NPT optional

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT		TORQUE RANGE		FITTED SPRING		WEIGHT		AIR FLOW	AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
				rpm	in.	Nm	ft.lb	Nm	ft.lb	kg	lb.	l/s	cfm	in.	mm
A	SC024-L2000-R90A4S	1459194	2000	1/4 sq	0.5-2.4	0.37-1.77	0.5-1.8	0.37-1.33	0.84	1.85	6.5	13.8	1/8	6	1/4
A	SC022-L1400-R90A4S	1459184	1400	1/4 sq	0.5-2.2	0.37-1.62	0.8-2.2	0.59-1.62	0.84	1.85	6.5	13.8	1/8	6	1/4
A	SC044-L950-R90A4S	1459174	950	1/4 sq	0.4-4.4	0.29-3.24	1.3-4.4	0.96-3.24	0.84	1.85	6.5	13.8	1/8	6	1/4
A	SC044-L500-R90A4S	1459164	500	1/4 sq	0.4-4.4	0.29-3.24	1.0-4.4	0.74-3.24	0.84	1.85	6.5	13.8	1/8	6	1/4
B	SC024-L2000-R90A4H	1459114	2000	1/4 hex	0.5-2.4	0.37-1.77	0.5-1.8	0.37-1.33	0.84	1.85	6.5	13.8	1/8	6	1/4
B	SC022-L1400-R90A4H	1459104	1400	1/4 hex	0.5-2.2	0.37-1.62	0.8-2.2	0.59-1.62	0.84	1.85	6.5	13.8	1/8	6	1/4
B	SC044-L950-R90A4H	1459094	950	1/4 hex	0.4-4.4	0.29-3.24	1.3-4.4	0.96-3.24	0.84	1.85	6.5	13.8	1/8	6	1/4
B	SC044-L500-R90A4H	1459084	500	1/4 hex	0.4-4.4	0.29-3.24	1.0-4.4	0.74-3.24	0.84	1.85	6.5	13.8	1/8	6	1/4
C	SD070-LB1100-R90-A4H	1463334	1100	1/4 hex	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.12	2.47	8.7	18.4	1/4	10	3/8
C	SD070-LB820-R90-A4H	1463324	820	1/4 hex	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.12	2.47	8.7	18.4	1/4	10	3/8
C	SD070-LB510-R90-A4H	1463314	510	1/4 hex	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.12	2.47	8.7	18.4	1/4	10	3/8
C	SD070-LB320-R90-A4H	1463304	320	1/4 hex	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.12	2.47	8.7	18.4	1/4	10	3/8
C	SD070-LR1100-R90-A4H	1463654	1100	1/4 hex	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.12	2.47	8.7	18.4	1/4	10	3/8
C	SD070-LR820-R90-A4H	1463644	820	1/4 hex	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.12	2.47	8.7	18.4	1/4	10	3/8
C	SD070-LR510-R90-A4H	1463634	510	1/4 hex	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.12	2.47	8.7	18.4	1/4	10	3/8
C	SD070-LR320-R90-A4H	1463624	320	1/4 hex	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.12	2.47	8.7	18.4	1/4	10	3/8
C	SD070-LB1100-R90-A4S	1463454	1100	1/4 sq	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.11	2.45	8.7	18.4	1/4	10	3/8
C	SD070-LB820-R90-A4S	1463444	820	1/4 sq	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.11	2.45	8.7	18.4	1/4	10	3/8
C	SD070-LB510-R90-A4S	1463434	510	1/4 sq	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.11	2.45	8.7	18.4	1/4	10	3/8
C	SD070-LB320-R90-A4S	1463424	320	1/4 sq	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.11	2.45	8.7	18.4	1/4	10	3/8
C	SD070-LR1100-R90-A4S	1463694	1100	1/4 sq	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.11	2.45	8.7	18.4	1/4	10	3/8
C	SD070-LR820-R90-A4S	1463684	820	1/4 sq	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.11	2.45	8.7	18.4	1/4	10	3/8
C	SD070-LR510-R90-A4S	1463674	510	1/4 sq	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.11	2.45	8.7	18.4	1/4	10	3/8
C	SD070-LR320-R90-A4S	1463664	320	1/4 sq	2.5-7.0	1.84-5.16	2.5-7.0	1.84-5.16	1.11	2.45	8.7	18.4	1/4	10	3/8
D	SD097-LB1080-R90-A10S	1463584	1080	3/8 sq	3.0-9.7	2.21-7.15	3.0-9.7	2.21-7.15	1.41	3.11	8.7	18.4	1/4	10	3/8
D	SD130-LB600-R90-A10S	1463574	600	3/8 sq	4.5-13.0	3.32-9.58	4.5-13.0	3.32-9.58	1.41	3.11	8.7	18.4	1/4	10	3/8
D	SD209-LB370-R90-A10S	1463564	370	3/8 sq	6.0-20.9	4.42-15.4	6.0-20.9	4.42-15.4	1.50	3.31	8.7	18.4	1/4	10	3/8
D	SD097-LR1080-R90-A10S	1463724	1080	3/8 sq	3.0-9.7	2.21-7.15	3.0-9.7	2.21-7.15	1.41	3.11	8.7	18.4	1/4	10	3/8
D	SD130-LR600-R90-A10S	1463714	600	3/8 sq	4.5-13.0	3.32-9.58	4.5-13.0	3.32-9.58	1.41	3.11	8.7	18.4	1/4	10	3/8
D	SD209-LR370-R90-A10S	1463704	370	3/8 sq	6.0-20.9	4.42-15.4	6.0-20.9	4.42-15.4	1.50	3.31	8.7	18.4	1/4	10	3/8
E	2D4872-LX-550	1388614	550	0.445" hex	3.6-6.8	2.65-5.0	3.6-6.8	2.65-5.0	1.10	2.42	8.5	18.0	1/4	10	3/8



Angle Head - Direct drive

1.5 to 105 Nm (1.1 to 77.4 ft.lb) - 60 to 800 rpm



SD - Stall Torque (Nm) Setting using Regulator Part No. 81223

Accessories: see page 85

MODEL	REGULATOR POSITION						
	1	2	3	4	5	6	Open
Inlet Pressure - 6.3 bar							
SD130-LB500-D90-A4S	3.2	3.5	5.3	7.0	10.0	12.5	13.0
SD096-LB800-D90-A4S	2.6	2.8	4.0	5.5	7.3	9.0	9.6
Inlet Pressure - 4.0 bar							
SD130-LB500-D90-A4S	2.0	2.7	3.0	4.2	6.0	8.2	9.0
SD096-LB800-D90-A4S	1.5	1.7	2.5	3.0	4.5	5.5	6.0

H410 - Stall Torque (Nm) Setting using a Typical Regulator

MODEL	REGULATOR POSITION									
	10%	20%	30%	40%	50%	60%	70%	80%	90%	Open
Inlet Pressure - 6.3 bar										
H410-N-500	3	6	9	12	15	18	21	24	27	30
H410-N-350	5	9	14	18	23	27	32	36	41	45
H410-N-150	8	16	24	32	40	48	56	64	72	80
H410-N-90	16	32	48	63	79	95	-	-	-	-
H410-N-60	20	40	60	80	-	-	-	-	-	-
Inlet Pressure - 4.0 bar										
H410-N-500	2	4	6	8	9	11	13	15	17	19
H410-N-350	3	6	9	11	14	17	20	23	26	28
H410-N-150	5	10	15	20	25	30	35	40	45	50
H410-N-90	10	20	30	40	50	60	70	80	90	100
H410-N-60	4	30	45	60	75	90	105	-	-	-

Maximum stall torque 105Nm.

Performance will differ from the figures above depending on the regulator used.

Data obtained from a lubricated air line.

Torque figures are to be used as a guide only.

* Must never be used without regulator with a pressure higher than 4 bars

** Must never be used without regulator with a pressure higher than 2 bars

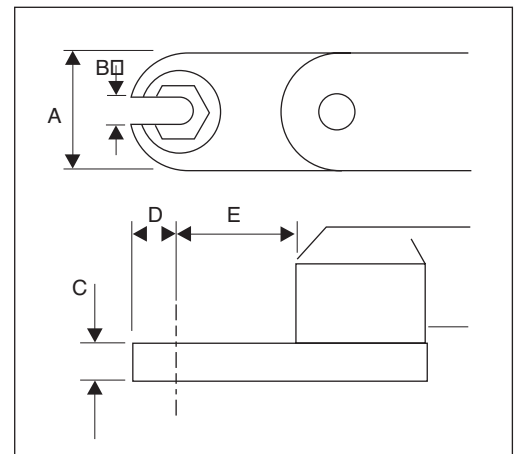
(1) NPT optional

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT	TORQUE RANGE		LENGTH L		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾	HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	mm	in.	kg	lb.	l/s	cfm	in.	mm	in.
A	SD130-LB500-D90-A4S	1465974	500	1/4 sq	2.0-13.0	1.47-9.58	326	12.8	1.08	2.38	8.7	18.4	1/4	10	3/8
A	SD096-LB800-D90-A4S	1465984	800	1/4 sq	1.5-9.6	1.10-7.07	326	12.8	1.08	2.38	8.7	18.4	1/4	10	1/4
B	2D472-LX-550	1388534	550	0.445 hex	1.2-12.6	0.9-9.3	316	12.4	1.0	2.20	8.5	18.0	1/4	10	1/4
C	H410-N-500	1302374	500	0.525 hex	3.0-30	2.21-22.1	319	12.6	1.70	3.74	17.9	37.9	3/8	12	1/2
C	H410-N-350	1302454	350	0.525 hex	4.5-45	3.31-33.1	319	12.6	1.70	3.74	17.9	37.9	3/8	12	1/2
C	H410-N-150	1302534	150	0.525 hex	8.0-80	5.89-58.9	358	14.1	2.00	4.41	17.9	37.9	3/8	12	1/2
C	H410-N-90*	1302614	90	0.525 hex	10.0-105	7.37-77.4	358	14.1	2.00	4.41	13.2	27.9	3/8	12	1/2
C	H410-N-60**	1302794	60	0.525 hex	10.0-105	7.37-77.4	358	14.1	2.00	4.41	13.2	27.9	3/8	12	1/2



Open ended wrenches - Angle head

4 to 16 Nm (2.9 to 11.8 ft.lb) - 240 - 320 rpm



ACROSS FLATS	A		B		C		D		E	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
17	48	1.89	12	0.55	14	0.55	19.0	0.74	91.5	3.60
13	38	1.49	7	0.47	12	0.47	14.7	0.58	79.6	3.13
12	38	1.49	7	0.47	12	0.47	14.7	0.58	79.6	3.13
10	38	1.49	7	0.47	12	0.47	14.7	0.58	79.6	3.13
8	38	1.49	7	0.47	12	0.47	14.7	0.58	79.6	3.13
7	38	1.49	7	0.47	12	0.47	14.7	0.58	79.6	3.13

Method of Control

The open ended tools feature a dual action control top.

1. Press lever for tightening.
2. Release lever to mid position to reverse to open socket position.

Accessories: see page 86

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT HEX	TORQUE RANGE		LENGTH		WEIGHT		AIR FLOW		AIR INLET	HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	mm	in.	kg	lb.	l/s	cfm	in.	mm	in.
A	SD160-LB240-S-OE17	1463594	240	17	7.0-16	5.16-11.8	453	17.83	1.9	4.19	8.7	18.4	1/4	10	3/8
A	SD160-LB240-S-OE13	1463604	240	13	7.0-16	5.16-11.8	453	17.83	1.8	3.97	8.7	18.4	1/4	10	3/8
A	SD160-LB240-S-OE12	1463614	240	12	7.0-16	5.16-11.8	453	17.83	1.8	3.97	8.7	18.4	1/4	10	3/8
A	SD160-LB240-S-OE10	1463734	240	10	7.0-16	5.16-11.8	453	17.83	1.8	3.97	8.7	18.4	1/4	10	3/8
A	SD120-LB320-S-OE8	1463744	320	8	4.0-12	2.95-8.84	453	17.83	1.8	3.97	8.7	18.4	1/4	10	3/8
A	SD120-LB320-S-OE7	1463754	320	7	4.0-12	2.95-8.84	453	17.83	1.8	3.97	8.7	18.4	1/4	10	3/8
	SD160-LB240-S-OE	1464474	240	-	7.0-16	5.16-11.8			1.5	3.31	8.7	18.4	1/4	10	3/8
	SD120-LB320-S-OE	1464484	320	-	4.0-12	2.95-8.84			1.5	3.31	8.7	18.4	1/4	10	3/8

SHUT OFF



Impulse - Shut Off and Non Shut Off

4 to 250 Nm (3 to 184 ft.lb) - 3500 to 10500 rpm



Accessories: see page 87 

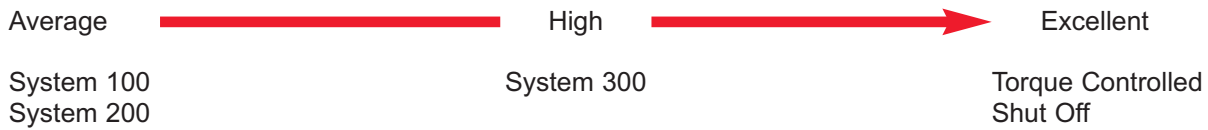
(1) NPT optional

PIC REF	MODEL	PART NUMBER	FREE SPEED	OUTPUT	TORQUE RANGE		LENGTH		WEIGHT		AIR FLOW		AIR INLET BSP ⁽¹⁾		HOSE INT. Ø	
			rpm	in.	Nm	ft.lb	mm	in.	kg	lb.	l/s	cfm	in.	mm	in.	
NON SHUT OFF																
A	PT008-L10500-I4Q	1461384	10500	Hex 1/4	4-8	3.0-5.9	238	9.4	0.95	2.09	5	11.2	1/4	8	1/4	
A	PT013-L10500-I4Q	1461394	10500	Hex 1/4	8-13	5.9-9.5	263	10.4	1.00	2.20	5	11.2	1/4	8	1/4	
B	PT030-L9000-I10S	1461404	9000	Sq 3/8	15-30	11.0-22.1	246	9.7	1.20		5	11.2	1/4	8	1/4	
C	PT009-T7800-I4Q	1461414	7800	Hex 1/4	5-9	3.7-6.6	184	7.2	0.95	2.09	6	13.3	1/4	8	1/4	
C	PT016-T7800-I4Q	1461784	7800	Hex 1/4	9-16	6.6-11.8	208	8.2	1.05		6	13.3	1/4	8	1/4	
D	PT035-T9000-I10S	1461424	9000	Sq 3/8	20-5	14.8-25.8	175	6.9	0.98	2.16	6	13.3	1/4	8	1/4	
E	PT070-T7500-I13S	1461434	7500	Sq 1/2	42-70	31.0-51.6	179	7.0	2.00	4.41	7	15.4	1/4	8	1/4	
F	PT115-T6000-I13S	1461444	6000	Sq 1/2	75-115	55.3-84.8	185	7.3	2.70	5.95	9	17.6	3/8	10	3/8	
F	PT200-T5500-I13S	1461454	5500	Sq 1/2	120-200	88.5-147	181	7.1	3.30	7.27	11	19.8	3/8	10	3/8	
F	PT250-T4000-I19S	1461464	4000	Sq 3/4	160-250	118.0-184	232	9.1	4.30	9.48	12	26.4	3/8	10	3/8	
SHUT OFF																
G	PT010-L5000-S4Q	1462254	5000	Hex 1/4	5-10	3.7-7.3	212	8.3	0.90	1.98	6	13.3	1/4	8	1/4	
G	PT014-L6000-S4Q	1462264	6000	Hex 1/4	8-14	5.9-10.3	212	8.3	0.90	1.98	6	13.3	1/4	8	1/4	
H	PT010-T5500-S4Q	1462274	5500	Hex 1/4	5-10	3.7-7.3	166	6.5	0.95	2.09	6	13.3	1/4	8	1/4	
H	PT014-T6000-S4Q	1462284	6000	Hex 1/4	8-14	5.9-10.3	166	6.5	1.00	2.20	6	13.3	1/4	8	1/4	
I	PT040-T6000-S10S	1462294	6000	Sq 3/8	22-40	16.2-29.5	177	7.0	1.40	3.08	8	17.3	1/4	8	1/4	
J	PT070-T4000-S13S	1462304	4000	Sq 1/2	32-70	23.6-51.6	192	7.6	1.80	3.96	10	19.8	1/4	10	3/8	
K	PT125-T3500-S13S	1462314	3500	Sq 1/2	62-125	45.7-92.2	201	7.9	2.40	5.29	12	26.4	1/4	10	3/8	



Torque Motor

Joint Integrity



The range of Torque Motors includes 4 options of torque control.

Torque Controlled Shut Off – 0.4-32Nm (3.5-23.6 ftlb)



These tools feature the Target 'Tork clutch' that operates a shut-off valve built into the tool.

System 100 – Stall Torque – 2-175Nm (1.5-129 ftlb)



With this system the motors are controlled by regulating the air pressure.

System 200 – Minimum Torque Indication (MTI) – 9-175Nm (6.6-129 ftlb)



System 200 is used where a signal is required to show that the minimum torque required has been achieved.

System 300 – Indicated Torque Control (ITC) – 9-175Nm (6.6-129 ftlb)

System 300 is designed to shut-off the motors when the desired torque has been reached.



For further information
see catalogue LT1445



Accessories

STRAIGHT - PUSH START / LEVER START & HLT

ACCESSORIES INCLUDED

	2A89	SB	SC	SD
• Suspension bail(s)	280903	443703	39433/280893	467003
• Side handle				467033
• Exhaust hose	280913	443723	396553	467073
• Clutch Adjustment Keys	292583 (2)	446583	29932	29932
• Clutch Adjustment Keys SD - 2200/3500 r/min				467293

OPTIONAL ACCESSORIES

ITEM	2A89	SB	SC	SD
Balancers & Holster				
1 Spring Suspension Balancer	52542	50522	50522	52862
1 Hose Reel Balancer	52552	50552	50552	50562
1 Reaction Free Self Lock Balancer			54422	54432
2 Tool Holster DTH-42	107892	107892	107892	107892
Bench Stands				
3 D53 Stand, 220-580mm (8.6-22.8") Reach		388163	388163	388163
• Tool clamp		384793	384793	384793
3 D53X Stand, 175-650mm (6.9-25.6") Reach		388173	388173	388173
• Tool clamp		384793	384793	384793
4 D57 Balancing Arm, 400-700mm (15.7-27.6") Reach		408903	408903	408903
• Tool clamp		409063	409063	409063
4 D57X Balancing Arm, 450-850mm (17.7-33.5")		408913	408913	408913
• Tool clamp		409063	409063	409063
5 D58 Balancing Arm with Swivel, 4500-750mm (19.7-29.5") Reach		408923	408923	408923
• Tool clamp		409063	409063	409063
6 Bench Mounted Swinging Arm for use with Balancer		66542	66542	66542
Vacuum Pick Up - Order Pick Up kit, Finder Sleeve & Vacuum Source				
7 Vacuum Pick Up kit (spring only for 2A89)	280443	108892	75152	108892
8 Finder Sleeve Blank - Plastic		464093		464093
• Finder Sleeve Blank - Steel	88992	464103	464753	464103
9 Vacuum Source for use with HU Balancer (lever start model)			51262	51262
9 Vacuum Source for use with DU Balancer (lever start model)			51482	51482
10 Vacuum Source AV201 for use with Filter/Regulator Unit			112063	112063
Miscellaneous				
• 90 Degree angle head 1/4" Hex Insert (D6.3)-Max torque: 7Nm (for Lever start model)			437833	
• 90 Degree angle head 1/4" Square drive -Max torque: 7Nm (for Lever start model)			437843	
• 45 Degree 1/4" Hex Insert (D6.3) (for Lever start model)			91532	
• 45 Degree 1/4" Square drive (for Lever start model)			91522	
• Offset Exhaust				205 047 623 3
11 Side handle		70442		467033
• Clutch Case 7/8" LH Thread 320-1470 rpm				205 047 478 3
• Clutch Case 7/8" LH Thread 2200-3500 rpm				205 047 479 3
• Clutch Case without Thrust Bump, M20x1.0LH Thread 320-1470rpm				465463
• Clutch Case without Thrust Bump, M20x1.0LH Thread 32200-3500rpm				465443

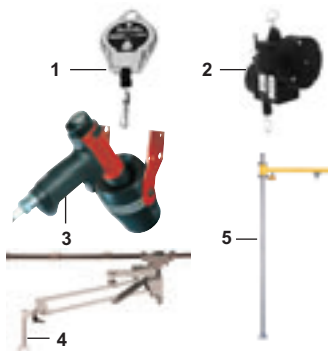
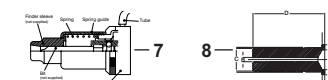
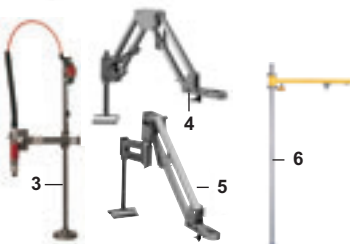
PISTOL GRIP & HLT

ACCESSORIES INCLUDED

	SBP SCBP	SCP SCPT	SDP SDT
• Suspension bail(s)	307683	307683	473153
• Side handle (320 & 1470rpm)			467303
• Clutch Adjustment Keys (320 - 1470rpm)	446583	29932	29932
• Clutch Adjustment Keys (2200 - 3500rpm)			467293

OPTIONAL ACCESSORIES

	SBP SCBP	SCP SCPT	SDP SDT
Balancers & Holster			
1 Spring Suspension Balancer	52862	52862	52862
1 Hose Reel Balancer	50552	50552	50562
• Hose Reel Balancer Conversion Kit	107403	107403	115193
2 Reaction Free Self Lock Balancer	54422	54422	54432
3 Tool Holster DTH-42	107892	107892	107892
Bench Stands			
4 D59 Pantographic Arm (see page 98-99)	408933	408933	408933
Miscellaneous			
5 Bench Mounted Swing Arm for use with Balancer	66542	66542	66542
• Side handle	70442	70442	467033



DIRECT DRIVE

ACCESSORIES INCLUDED

	SDP	SD	H410
• Suspension bail(s)	473153		467003
• Side Handle	467033		
• Exhaust Hose		467073	

OPTIONAL ACCESSORIES

ITEM	SDP	SD	H410
• Air Flow Regulator	81223	81223	
Balancers & Holster			
1 Spring Suspension Balancer	52862	50532	50542
2 Hose Reel Balancer	50562	50562	
• Hose Reel Balancer Conversion Kit	115193		
3 Reaction Free Self Lock Balancer	54432	54432	54442
4 Tool Holster DTH-42	107892	107892	

Suspension Shackle

5 Suspension Shackle		70082	615 571 050 0
• Swivel Suspension Shackle			615 396 229 0

Bench Stand

6 D59 Pantographic Arm (see page 98-99)	408933		
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Miscellaneous

7 Side Handle	467033		
• Offset Exhaust		205 047 623 3	
8 Bench Mounted Swing Arm	66542	66542	66542
• Square Drive Adaptor $\frac{3}{8}$ " Square Drive, 48mm (1.89") long			14422
• Square Drive Adaptor $\frac{1}{2}$ " Square Drive, 46mm (1.81") long			14442
• Square Drive Adaptor $\frac{1}{2}$ " Square Drive, 76mm (2.99") long			14482

AUTO REVERSE

ACCESSORIES INCLUDED

	SD	2F189-PX
• Suspension bail(s)	467003	
• Side Handle	467033	
• Clutch Adjustment Keys	29932	29932

OPTIONAL ACCESSORIES

ITEM	SD	H489
Placement of Threaded Inserts		
1 M3 x 0.5 Nose Kit	76552	76552
1 M4 x 0.7 Nose Kit	76562	76562
1 M5 x 0.8 Nose Kit	76572	76572
1 M6 x 1.0 Nose Kit	76582	76582
1 M8 x 1.25 Nose Kit	76592	76592
1 8 x 32 UNC Nose Kit	76622	76622
1 10 x 24 UNC Nose Kit	76632	76632
1 10 x 32 UNF Nose Kit	76642	76642
1 $\frac{1}{4}$ " x 28 UNF Nose Kit	76662	76662
1 $\frac{5}{8}$ " UNC Nose Kit	76672	76672
1 $\frac{5}{8}$ " UNF Nose Kit	76682	76682

Blind Hole Tapping/ Cleaning - 3 parts Required

• Bit Adaptor	465513	
• Bit Adaptor		370683
2 Thread Adaptor	96743	96743
3 Chuck capacity 6.5mm (1/4")	28942	28942

Balancers & Tool Holster

4 Spring Suspension Balancer - 4DU	50532	50532
5 Reaction Free Self Lock Balancer - 4R	54432	54452
• Hose Reel Balancer	51722	51722
• 2F189 Conversion Kit	115193	115193
6 Tool Holster DTH-42		

Bench Stands

7 D57 Balancing Arm, 400-700mm (15.8-27.5") Reach	409063	409063
• Tool clamp	408903	408903
7 D57X Balancing Arm, 450-850mm (17.7-33.4") Reach	408913	408913
• Tool clamp	409063	409063
8 D58 Balancing Arm with Swivel, 500-750mm (19.7-29.5") Reach	408923	408923
• Tool clamp	409063	409063
9 Bench Mounted Swinging Arm for use with Balancer	66542	66542



Accessories

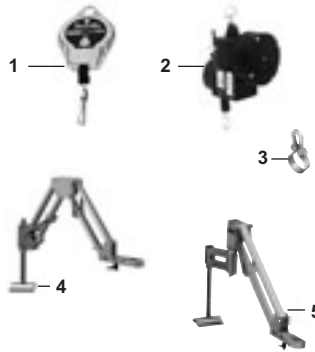
ANGLE HEAD

ACCESSORIES INCLUDED

	SC	SD	H489	4H489
• Suspension bail(s)	39433/280893	467003		
• Exhaust hose	396553	467073		
• Clutch Adjustment Keys	29932	29932	29932	29932

OPTIONAL ACCESSORIES

ITEM	SC	SD	H489	4H489
Balancers & Holster				
1 Spring Suspension Balancer	52862	50532	50052	50052
1 Hose Reel Balancer	50552	50562		
2 Reaction Free self-lock balancer	54422	54432	54452	54452
Suspension Shackle				
3 Suspension Shackle	95842	70082	70042	70042
3 Suspension Shackle (H489-N-200)			69942	
Bench Stands				
4 D57 Balancing Arm, 400-700mm (15.7-27.6") Reach	408903	408903		
• Tool clamp	409063	409063		
4 D57X Balancing Arm, 450-850mm (17.7-33.5") Reach	408913	408913		
• Tool clamp	409063	409063		
5 D58 Balancing Arm with Swivel, Reach 4500-750mm (19.7-29.5")	408923	408923		
• Tool clamp	409063	409063		
Miscellaneous				
• Offset Exhaust		205 047 623 3		
• Bench Mounted Swing Arm	66542	66542	66542	66542



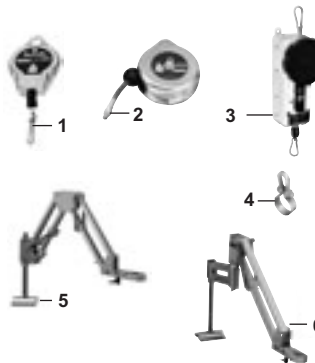
OPEN ENDED WRENCHES

ACCESSORIES INCLUDED

	SD
• Suspension bail(s)	467003
• Exhaust hose	467073
• Clutch Adjustment Keys	29932

OPTIONAL ACCESSORIES

ITEM	SD
Balancers	
1 Spring Suspension Balancer	50542
2 Hose Reel Balancer	50562
3 Reaction Free self-lock balancer	54442
Suspension Shackle	
4 Suspension Shackle	70082
Bench Stands	
5 D57 Balancing Arm, 400-700mm (15.7-27.6") Reach	408903
• Tool clamp	409063
5 D57X Balancing Arm, 450-850mm (17.7-33.5") Reach	408913
• Tool clamp	409063
6 D58 Balancing Arm with Swivel, Reach 4500-750mm (19.7-29.5")	408923
• Tool clamp	409063
Miscellaneous	
• Offset Exhaust	205 047 623 3
• Bench Mounted Swing Arm	66542



IMPULSE TOOLS - NON SHUT OFF

ACCESSORIES INCLUDED

	PT008-L	PT013-L	PT030-L	PT009-T	PT016-T	PT035-T	PT070-T	PT115-T	PT200-T	PT250-T
• Suspension Bail	451463	451463	451463	451393	451393	451393	454033	452613	452613	452623
• Exhaust Hose	452243	452243	452243	-	-	-	-	-	-	-

OPTIONAL ACCESSORIES

	PT008-L	PT013-L	PT030-L	PT009-T	PT016-T	PT035-T	PT070-T	PT115-T	PT200-T	PT250-T
• Exhaust Hose Kit	-	-	-	453923	453923	453923	-	-	-	-
• Suspension Bail - Vertical	-	-	-	-	-	-	-	453653	453323	453703
• Swivel Suspension Bail - Vertical and Horizontal	-	-	-	-	-	453953	-	453673	453333	453693

Balancers and Holster

• Spring Suspension Balancer	52862	52862	50542	50532	50532	50532	50052	50052	50052	50052
• Hose Reel Balancer	50552	50552	50562	50562	50562	50562	-	-	-	-
• Hose Reel Balancer Conversion Kit	-	-	-	107403	107403	115193	-	-	-	-
• Reaction Free Self Lock Balancer	54432	54432	54432	54432	54432	54432	54442	54442	54452	54452
• Spring Suspension Self Lock Balancer	-	-	-	-	-	-	50572	50572	50572	50572
• Tool Holster DTH-42	107892	107892	107892	107892	107892	107892	-	-	-	-

Bench Stands

• Bench Mounted Swing Arm	66542	66542	66542	66542	66542	66542	66542	66542	66542	66542
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IMPULSE TOOLS - SHUT OFF

ACCESSORIES INCLUDED

	PT010-L	PT014-L	PT010-T	PT014-T	PT040-T	PT070-T	PT125-T
• Suspension Bail	451463	451463	451393	451393	459843	459843	459843
• Exhaust Hose	459813	459813	-	-	-	-	-

OPTIONAL ACCESSORIES

	PT010-L	PT014-L	PT010-T	PT014-T	PT040-T	PT070-T	PT125-T
• Spring Suspension Balancer	52862	52862	52862	52862	50532	50542	50052
• Hose Reel Balancer	50552	50552	50552	50552	50562	-	-
• Hose Reel Balancer Conversion Kit	-	-	107403	107403	115193	-	-
• Reaction Free Self Lock Balancer	54422	54422	54432	54432	54432	54442	54442
• Spring Suspension Self Lock Balancer	-	-	-	-	-	-	50572
• Tool Holster DTH-42	107892	107892	107892	107892	-	-	-

Bench Stands

• Bench Mounted Swing Arm	66542	66542	66542	66542	66542	66542	66542
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Customer driven development and production



A global operation that puts power into the hands of production.

Our capability

Leading-edge technology in the ergonomic design and cost efficient manufacture of industrial and assembly power tools and systems.

Our products

Unrivalled quality and advanced technology that stems from pioneering innovation, tireless research and inspired design and development in line with our customers' requirements.

Our strengths

The total integration of multi-cultural engineering experience, quality driven manufacturing expertise and customer-oriented service.

Our assets

International centres of excellence in application research, product development, manufacture and sales support, serving the needs of the most prestigious names in global industries.

Our goals

To exceed customer expectations in every aspect of quality, performance and value for money from a product range that numbers over 2000 tools.

The Excellence Centre

Over 200 new tools and variants have been produced by CP to meet customer's specific needs...

Many of these tools were developed through the innovative ideas from our R&D Excellence Centre.

Fundamental research into new materials, exploring new methods, ergonomics and product utility - all key features of the CP work ethic. The R&D mantra: 'Do it right. Do it quick. Innovate'.



...designed for success...

No design is produced just for the sake of change. Output of the Excellence Centre has to match the theoretical idea with the practical answer. Innovation means open minds that provide the correct, simplest, workable and cost-effective solution for customers.

...by the most talented engineers

When we recruit for the Excellence Centre we look for people with first class talent for research, design and engineering. Compared to competitor organisations, CP employs more than the average ratio of engineers with high level degrees.





The Production Centre

A great deal more than a tools assembly operation.

From raw materials, through high precision manufacturing to the finished product, the Technical Support team maintains the most rigid standards of quality control, QA management, environmental procedures and policies

Premium performance and absolute reliability

It starts with materials and component testing. That means QA and QC inspection on the tools manufacturing and assembly operations that all comply with QA9001 and ISO 14001 standard procedures.

The CP Quality Circle

To achieve the highest standards, CP maintains a Quality Circle. R&D, suppliers, manufacturing, sales, customer and application - all participate in interactive feedback. It is a fail-safe system. CP's Technical Support team constantly audits product quality and performance within the customers' own production processes.



Vehicle Service

General service for cars and trucks, body shops, tyre shops and speciality shops.

Land Transportation

MVIC, MVI, Truck & Bus, Motorcycle, Train, Bicycle

Land Rover	OPEL-GM in	Valeo
Nissan	Europe	Johnson
Renault	Australasia	Control
Peugeot	USA	Delphi
	South	Lear
	America	Faurecia

Air & Spacecraft

Final Assembly, Sub-contractors, Maintenance

Airbus	Embraer	Eurocopter	Agusta
Boeing	Bombardier	GKN	
Lockheed	Sikorsky	Westland Bell	

General Industry

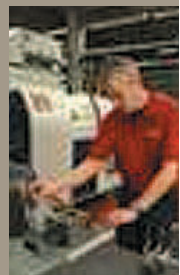
Agriculture, Heavy Equipment, Foundry/Machine, Tool Builders, Window & Door, MRO, and Marine

ABB	Alstom	BAE	BrasFels
Caterpillar	DPCA	Dubai Drydocks	Fonderie du poitou
Fritz Winter	Gaindu	General Dynamic	Halliburton
John Deere	JOT-Components	Kvaerner Mas	Maua Jurong
McDermott	Ponticelli	Rexroth	Saeta
SAIPEM	Shanghai	Siemens VDO Spa	Sperro Compressors
Technogym	Tenaris	Transocean	Tupy

Light Assembly

White Goods, Brown Goods, Furniture

Electrolux	Celestica/IBM	Vaillant	Dyson
Rowenta	Thomson	Black and	Candy
Arno	Panasonic	Decker	Hoover/Candy
Dell	Sharp	Milwaukee	Baxi
Compaq/	Lear	Electric	Schneider
Hewlett	Bosch	Samsung	Phillips
Packard	Siemens	Sony	Motorola



Automatic Feed Systems

Two basic models make up the range:

VCF Range

Aimed at high volume production, the VCF range is modular and features a small programmable controller that controls the entire fastening cycle, ensuring the fastener is reliably fed to the tool. Each screw is correctly orientated by the vibratory action of the bowl, then presented to the gate selector for delivery into the feed tube. When not in use both the bowl vibration and aligning air vents are automatically shut off, thus saving energy.

The screw feeding system has been designed to operate with hand-operated and fixtured units. Its modular design enables it to be adjusted to suit a diverse range of customer applications including automation and multi drop.



Features

Pneumatic powered nozzle advance and retract

Screw retaining clip incorporated into nozzle

High precision gate mechanism for screw selection

Hardened tool steel gate and nozzle components

Timed vibration/air blast shut-off

Benefits

Eliminates workpiece damage and improves component accessibility by pushing the fastener through the nozzle jaws. Reduces force required by the operator to push the screw into the component.

Improved ease of use as the screw shank is visible through the jaws and so easy to locate into the component.

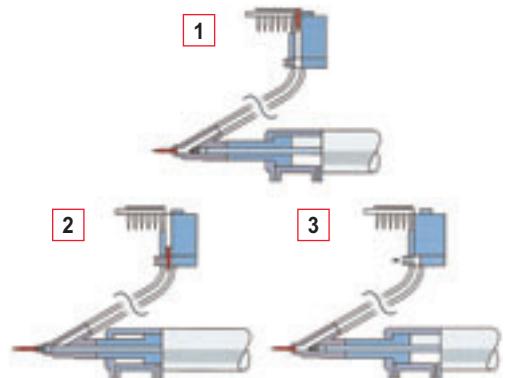
Reliable and durable operation.

Extended service life and reduced maintenance.

Energy saving and reduces exposure to noise.

Typical VCF Cycle

1. In the rest position a screw is held in the nozzle jaws for insertion into the joint. The gate selects a single orientated screw from the vibrating feed rails.
2. As the screw is inserted into the joint, it engages the bit and starts the tool. A signal to the piston then retracts the nozzle leaving both screw and bit free from the jaws. Simultaneously the gate drops a single screw into the feed tube.
3. Once the correct torque is reached the motor is shut off and piston advanced. A blast of air transports the next screw down the feed tube into position in the jaws for the next cycle.



BM2100

This unit has less features than the VCF range and is primarily for use on applications using wood or self tapping screws.

Again each screw is correctly orientated by the vibratory action of the bowl, then presented to the gate which delivers the screw to the nozzle. The BM2100 system can only be operated with handoperated tools and incorporates a spring return nozzle.

All of the Automatic Feed Systems are fully self contained and have an integral regulator/lubricator for connection directly to a suitable air supply.



Product Range

NJ Screw Presenter

- 3 Base models, NJ12, NJ23 and NJ45
- Modular rail system to permit screws of 1.4 to 5.0mm diameter to be
- Rail can be changed and the unit set up within 5 minutes
- Simple brush and rail combination to prevent jamming
- 30% faster feed rate due to a number of screws being fed into the rail in a single cycle
- Presenter has built in height adjustment to allow the screw to be presented to the operator at the correct angle



Capacity

NJ12 Thread Diameter 1.4-1.7mm, Screw Length < 10mm
 NJ23 Thread Diameter 1.8-3.0mm, Screw Length < 18mm
 NJ45 Thread Diameter 3.1-5.0mm, Screw Length < 18mm

Dimensions 130x215x136mm **Weight** 3.2kg
Max Feed Rate 2 screws/second **Bowl Capacity** Approximately 1200pcs (M3)
Power Supply 230/120V **Rated Input** 12V, 500mA

All screw presenters include the appropriate rail assembly and AC adaptor.

Model codes

MAX SCREW SIZE	SCREW PRESENTER	RAIL ASSEMBLY STANDARD	HOLDING PLATE SHORT/COUNTERSUNK SCREWS
mm			
1.4	NJ12 2050111772	R14 2050111802	-
1.7	NJ12 2050111772	R17 2050111812	-
2	NJ23 2050111782	R20 2050111822	R20-23 2050111892
2.3	NJ23 2050111782	R23 2050111832	R20-23 2050111892
2.6	NJ23 2050111782	R26 2050111842	R26-30 2050111902
3	NJ23 2050111782	R30 2050111852	R26-30 2050111902
3.5	NJ45 2050111792	R35 2050111862	R35-40 2050111912
4	NJ45 2050111792	R40 2050111872	R35-40 2050111912
5	NJ45 2050111792	R50 2050111882	R50 2050111922

Component Parts for Automation

Many of the parts used by CP Desoutter for manufacturing assembly systems are available as component parts for the construction of machines or automated assembly.

Parts include:

- Nozzles
- Slides
- Stands
- Bowl feeders
- Offset heads
- Spring loaded shafts



Please contact us for further information

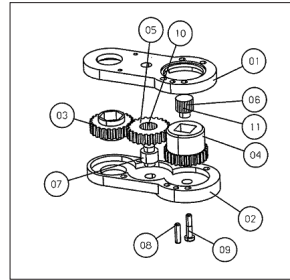


Crowfoot

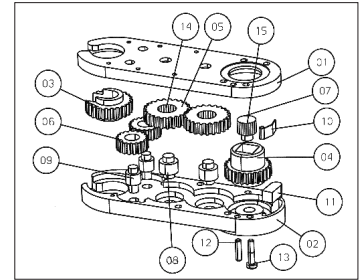
ERA / ECA Ranges



Others on request

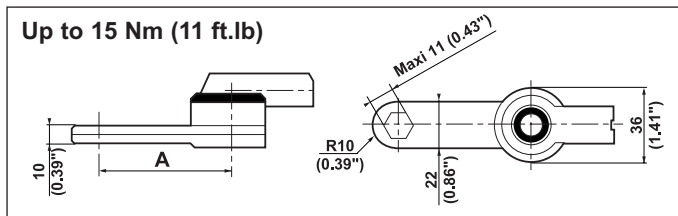


Closed-end standard crowfoot

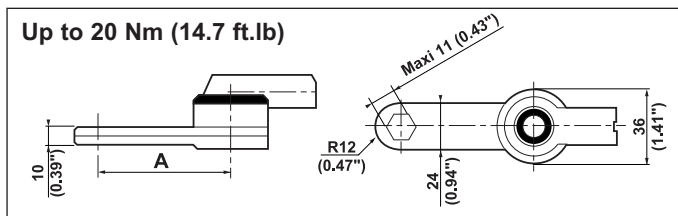


Open-end standard crowfoot

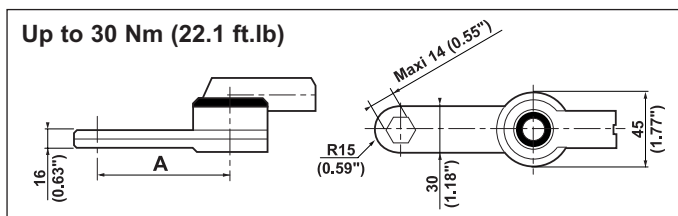
Closed-end standard crowfoot



MODEL	MAX. OUTPUT TORQUE		A	ERA / ECA TOOLS TORQUE	
	Nm	Ft.lb		mm	Nm
S-1011	12	8.8	32	20	14.7
S-1012	11	8.1	48	20	14.7
S-1013	10	7.4	64	15/20	11/14.7
S-1014	9	6.6	80	15/20	11/14.7
S-1015	8	5.9	96	15/20	11/14.7

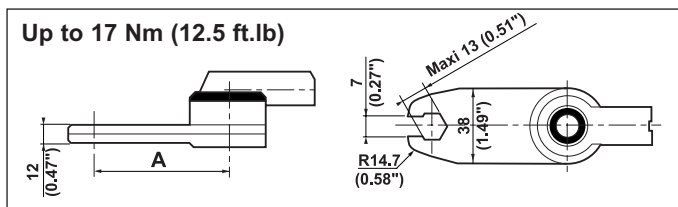


MODEL	MAX. OUTPUT TORQUE		A	ERA / ECA TOOLS TORQUE	
	Nm	Ft.lb		mm	Nm
S-1021	16	11.8	36.10	20	14.7
S-1022	15	11.1	54.15	20	14.7
S-1023	13	9.6	72.20	20	14.7
S-1024	12	8.8	90.25	20	14.7
S-1025	11	8.1	108.30	15/20	11/14.7
S-1026	10	7.4	126.35	15/20	11/14.7
S-1027	8	5.9	144.40	15/20	11/14.7

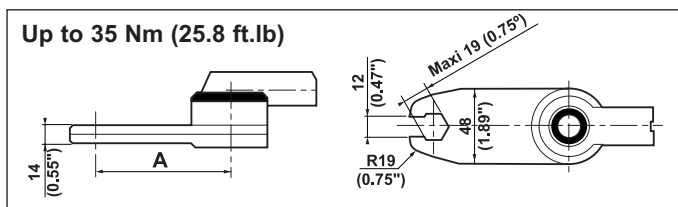


MODEL	MAX. OUTPUT TORQUE		A	ERA / ECA TOOLS TORQUE	
	Nm	Ft.lb		mm	Nm
S-1031	24	17.7	46.10	40	29.5
S-1032	22	16.2	69.15	40	29.5
S-1033	20	14.7	92.20	30	22.1
S-1034	18	13.3	115.25	30	22.1
S-1035	16	11.8	138.30	20	14.7
S-1036	15	11.0	161.45	20	14.7

Open-end standard crowfoot



MODEL	MAX. OUTPUT TORQUE		A	ERA / ECA TOOLS TORQUE	
	Nm	Ft.lb		mm	Nm
S-2001	17	12.5	33.5	30	22.1
S-2002	17	12.5	56.5	30	22.1
S-2003	17	12.5	79.6	30	22.1

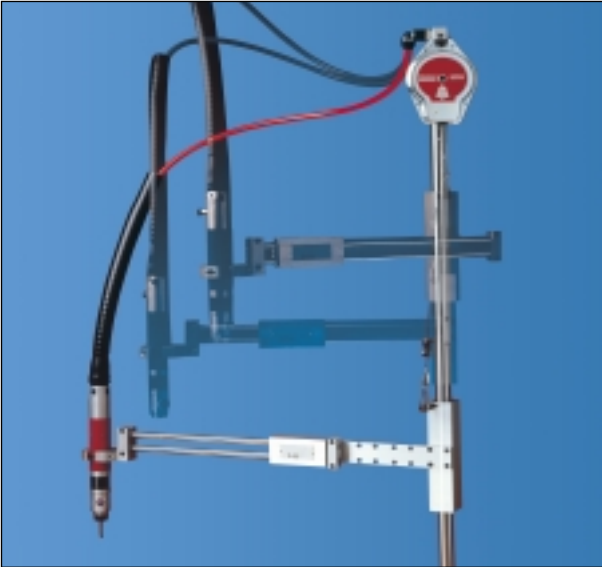


MODEL	MAX. OUTPUT TORQUE		A	ERA / ECA TOOLS TORQUE	
	Nm	Ft.lb		mm	Nm
S-2011	35	25.8	33.5	60	44.2
S-2012	35	25.8	62.5	60	44.2



Ergonomic Accessories

Balancing Arms



D53, D53X Bench Stand

This range of modular bench stands suspends the tools vertically and requires minimal bench space. The stands feature a rigid linear bearing frame onto which a tool clamp is mounted which can be rotated through 360 degrees around the pillar.



D57, D57X

These are a standard pantograph design and cover working ranges up to 850mm and are designed for tools with a torque not exceeding 15Nm.



D58

This swivel balancing version incorporates a swivelling section and pantograph section giving a working range of 750mm and are designed for tools with a torque not exceeding 6Nm.



D59

The rail mounted balancing arm consists of a parallel arm remounted on a rail supported carriage. The horizontal range covered is 650mm plus rail travel with a vertical range of 400 to 750mm. This arm can be equipped with optional height and side locking devices. The rail can be mounted in any position and can be delivered in any length (joined every 3 metres)



Ergonomic Accessories

Balancing Arms – for increased performance

The CP range of modular balancing arms provides a wide operating area with a minimal bench space requirement. The D57, D58 and D59 models complement the D53 range of bench stands by providing greater tool carrying capacity in terms of weight and torque reaction.

A range of tool holders allow the tool to be positioned vertically, horizontally or at 45° to the work piece thereby avoiding damage and off centre assembly. Hole quality when drilling and tapping are also greatly improved. These balancing arms are designed for heavy-duty operation over a long period of time.

The range of balancing arms provide assistance to an operator when using hand held tools such as screwdrivers, drills and nutrunners. The operator's arm, wrist and shoulder are relieved of the stress from torque, vibration and weight of the tool which means that quality, productivity and operator comfort are greatly improved.

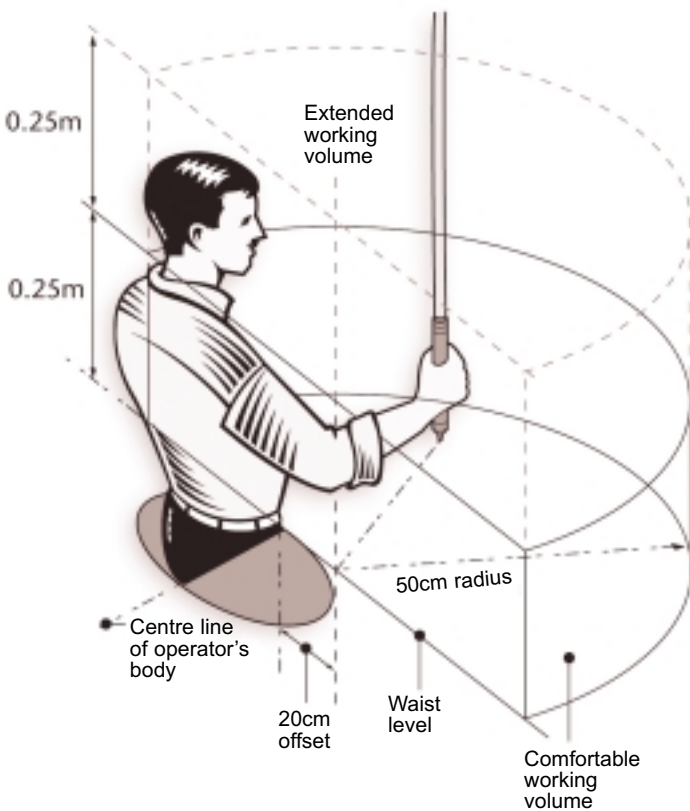
Features

- Easy to position and handle
- Heavy duty
- Modular
- Ensures correct orientation of tool to workpiece

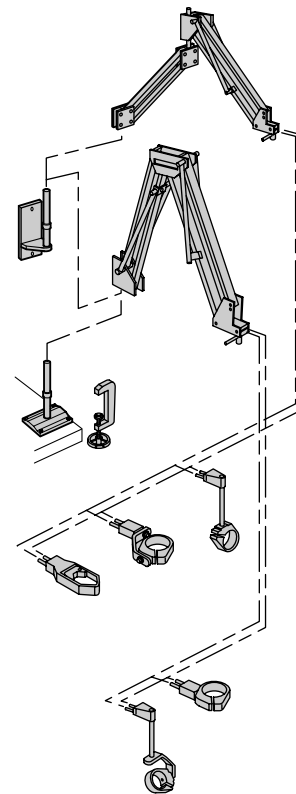
Benefits

- Relieves operator stress
- Long term operation and reliability
- Use in large variety of applications and tools
- Prevents damage to assembly and Improves quality

Ideal working envelope for sitting or standing operators



Balancing Arms Modular System

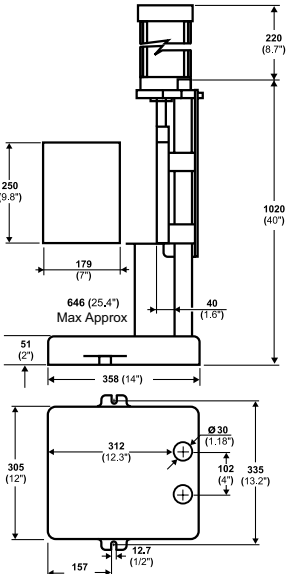
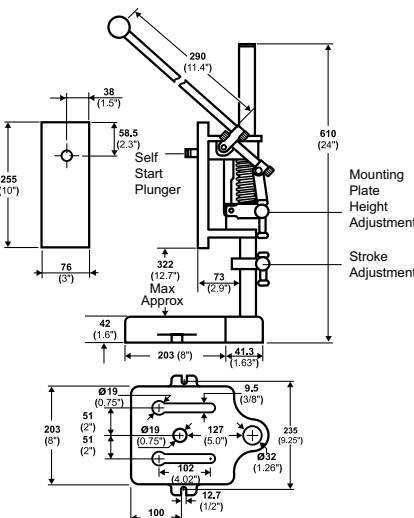
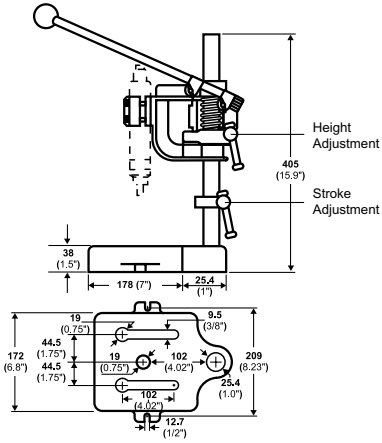


Dimensions as per ISO 14738 (European Population Data)

Stands

Lever Operated Stands - a range of stands for bench mounting with lever operation: **D54, R55S**

Cylinder Operated Stands - the MC55 stand for semi-automation with cylinder operation: **MC55**



D54
Tool Types
 SC-AB/AR Screwdrivers
 SD-1AM Torque Motor
 SD-2RM Torque Motor
 DM Air Motors

R55S
Tool Types
 All types with maximum torque of 16Nm
 Mounting bracket required

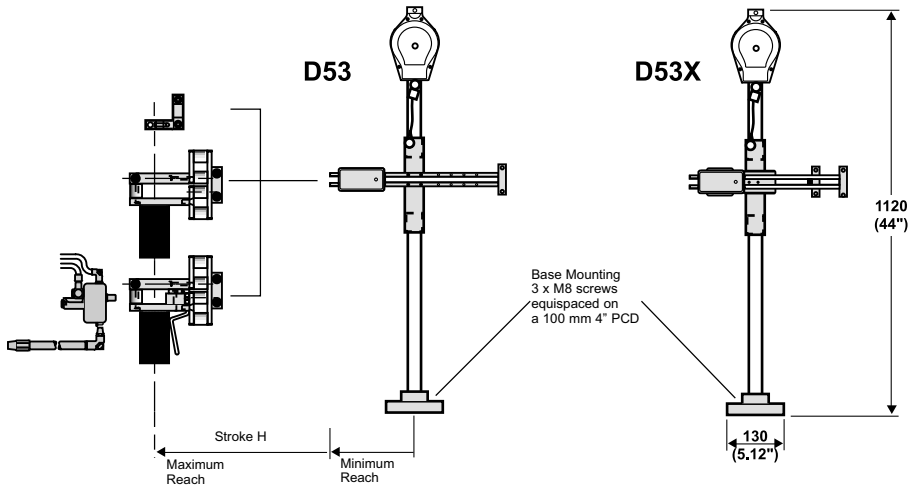
MC55
Tool Types
 All types with maximum torque of 51Nm
 Mounting bracket required
 Pneumatic circuit required

MODEL	PART NUMBER	MAXIMUM TORQUE		MAX. STROKE		MAX. MOUNTED PLATE LOAD		WEIGHT	
		Nm	ft.lb	mm	in.	kg	lbb	kg	lb

D54	901944	16	21.7	45	1.77			7.0	3.2
R55S	903644	16	21.7	57	2.24	6	2.7	11.3	5.1
MC55	902914	51	69.2	100	3.93	68	30.4	32	14.5



Accessories



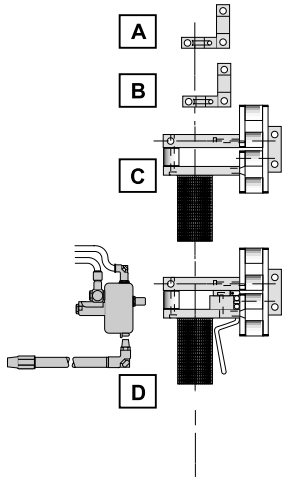
D53 - D53X

OPTIONAL ACCESSORIES

ITEM	PART NO.
A Standard Tool clamp 26-38mm	384793
B ECL/SLE Tool clamp	6153963720
C E2 Comfort Grip for Push Start	388193
D EL Comfort Grip for Lever Start	388203

The minimum and maximum reach can be changed in 30mm increments for 5 positions

POSITION	MINIMUM / MAXIMUM REACH							
	D53 + 384793 / 6153963720		D53 + 388193/388203		D53X + 384793 / 6153963720		D53X + 388193 / 388203	
	mm	in.	mm	in.	mm	in.	mm	in.
1	220/480	8.6/18.9	285/545	11.2/21.4	175/570	6.9/22.4	240/635	9.5/25
2	250/510	9.8/20	315/575	12.4/22.6	205/600	8.0/23.6	270/665	10.6/26.2
3	280/540	11.0/21.2	345/605	13.6/23.8	235/630	9.2/24.8	300/695	11.8/27.4
4	310/570	12.2/22.4	375/635	14.7/25	265/660	10.4/25.9	330/725	13.0/28.6
5	340/600	13.4/23.6	405/665	15.9/26.2	295/690	11.6/27.1	360/755	14.2/29.7



Ergonomic Accessories

Stands D53, D53X




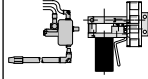


How To Order

1. Basic Stand
2. Tool Holder
3. Clutch Case for Tool

D53 Tool Holder Selection - To select the tool holder

- 1 - Find the tool type along the left column
- 2 - Select the tool holder required from the top row
- 3 - Check comments column

TOOL HOLDER					
					
	Standard Vertical Tool Holder	Vertical Tool Holder	E2 Comfort Grip for Push Start	EL Comfort Grip for Push Start	Comments
	PART NO.	PART NO.	PART NO.	PART NO.	
Straight Case Screwdrivers					
SB-AR/AB	384793				
SC-AR/AB	384793		388193		For E2 fit clutch case 411653 & 432703
SC-L	384793			388203	For EL fit clutch case 411653 & 432703 and remove lever extension
SD-AR/AB	384793		388193		For EL fit clutch case 465463 for 320/1470rpm, 465443 for 2200/3500rpm
SD-LR/LB	384793			388203	For EL fit clutch case 465463 for 320/1470rpm, 465443 for 2200/3500rpm and remove lever extension
Electric Screwdrivers					
SME	384793				
S5	384793				
SLE	384793				Nose mount only, fit clutch case 443843
ECL		615 396 372 0			
ECD5	384793				
ERD5	387493				
Drills and Tappers					
C	384793				
D Drills	384793			388203	
D Tappers	384793			388203	

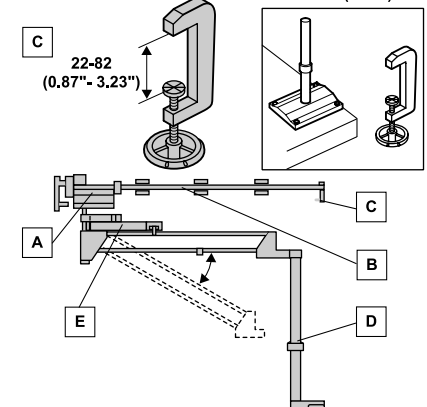
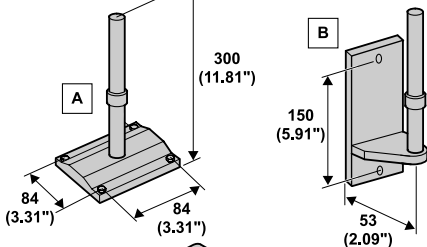
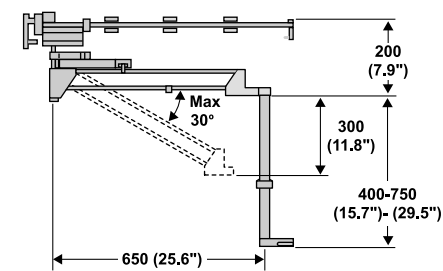
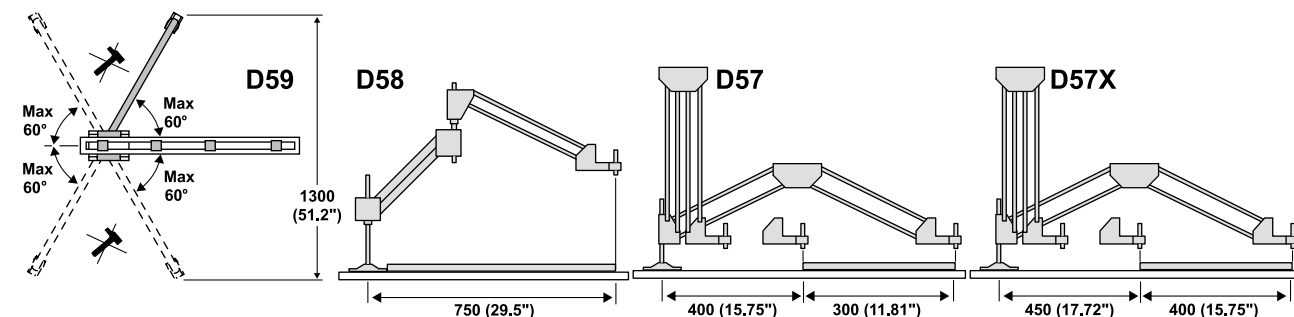
PIC REF	MODEL	PART NUMBER	MAXIMUM TORQUE		HORIZONTAL STROKE (H)		VERTICAL STROKE (V)		MAXIMUM CAPACITY	
			Nm	ft.lb	mm	in.	mm	in.	kg	lb

STANDS

A	D53	388163	16	21.7	260	10.2	600	23.6	2.5	5.5
A	D53X	388173	16	21.7	395	15.9	600	23.6	1.5	3.0



Accessories



D57 - D57X - D58

ACCESSORIES INCLUDED

ITEM	PART NO.	
	D57/D57X	D58
A Bench Mount	408953	408953

OPTIONAL ACCESSORIES

ITEM	PART NO.	
	D57/D57X	D58
B Wall Mount Bracket	408963	408963
C Table Stand Clamp	408973	408973
• Heavy duty spring for weight capacity 1 - 2.5kg	408993	
• Tool Holder	See Table	See Table
• Adaptor Sleeves	See Table	See Table

D59

ACCESSORIES INCLUDED

ITEM	PART NO.
	D59
A Rail Carriage	409253

OPTIONAL ACCESSORIES

ITEM	PART NO.
	D59
B Rail (Supplied per Metre)	409213
C Rail End Stops	409223
D Telescopic Height Adjustment	409203
E Top Arrester (Vertical Lock)	409233
E Side Arrester (Horizontal Lock)	409243
• Tool Holder	See Table

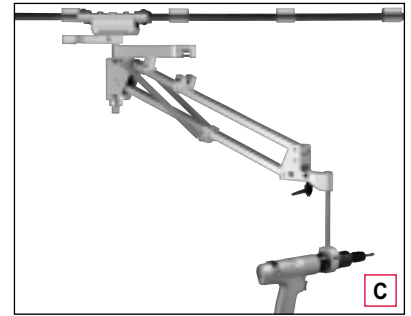
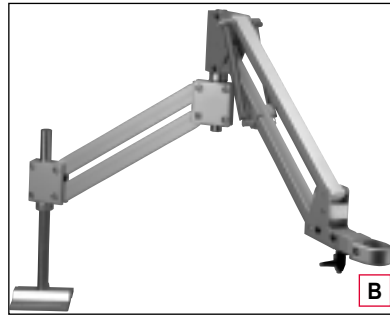
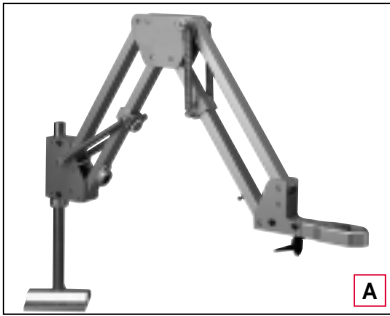
D57/D57X/D58/D59 Tool Holder Data

Adjustable Vertical Tool Holder Allen Key supplied as standard	Vertical 2 Axis Rotation Tool Holder Adapter sleeve supplied with tool holder	Horizontal Single Axis Rotation Tool Holder Adapter sleeve supplied with tool holder	Horizontal 2 Axis Rotation Tool Holder Adapter sleeve supplied with tool holder	Adaptor Sleeve Blank (supplied as standard with tool holders) to be machined to suit the tool
PART NO. Capacity mm ø25-40 409063 ø40-50 409073	PART NO. Diameter mm ø36(1.42") ø46(1.8") ø56(2.2") 409083 409093 409103	PART NO. Diameter mm ø36(1.42") ø46(1.8") ø56(2.2") 409113 409123 409133	PART NO. Diameter mm ø36(1.42") ø46(1.8") ø56(2.2") 409173 409183 409193	PART NO. Diameter mm Diameter mm Outside Outside ø46(1.8") ø56(2.2") Inside Inside ø30(1.2") ø40(1.6") 409273 409023



Ergonomic Accessories

Stands D57, D57X, D58, D59



D57/D57X/D58 How To Order

1. Basic Stand
2. Tool Holder
3. Optional Accessories

D59 How To Order

1. Basic Stand
2. Tool Holder
3. Rail (supplied per metre, e.g. for 3m order (3) off)
4. Rail End Stops (2 required per complete rail)
5. Optional Accessories

Example :

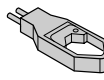
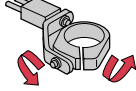
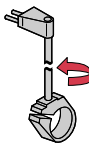
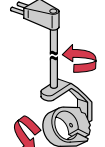
SD straight case screwdriver
Adjustable vertical tool holders - 409063 or
Horizontal single axis rotation tool holder - 409123

* Use 409063 for nose mount

D57/D57X/D58/D59 Tool Holder Selection

To select the tool holder

- 1 - Find the tool type along the left column
- 2 - Select the tool holder required from the top row
- 3 - Read across and down to select the tool holder required

	TOOL HOLDER			
				
	Adjustable Vertical Tool Holder	Vertical 2 Axis Rotation	Horizontal Single Axis Rotation	Horizontal 2 Axis Rotation
Straight Case Screwdrivers and Torque Motors	PART NO.	PART NO.	PART NO.	PART NO.
SB	409063	409083	409113	409173
SC	409063	409083	409113	409173
SD	409063	409093	409123	709183
2F89-AX-630-900 *	409063/409073	409103	409133	409193
Pistol Grip Screwdrivers				
SBP		409083	409113	409173
SCP		409083	409113	409173
SDP		409093	409123	409183
2D		409093	409123	409193
2F		409093	409123	409193
Angle Head Tools				
SC	409063	409083	409113	
SD	409063	409093	409123	
Electric Screwdrivers				
SME	409073	409103	409133	409193
S5	409073	409093	409123	
SLE *	409063/409073	409093	409123	409193
ECD5	409063/409073	409093	409123	409193
ERD5	409063	409093	409123	409193
ECP3/5/10		409093	409123	409183
ECL	409073	409103	409133	
ERP5/10		409093	409123	409183
Drills and Tappers				
C	409063	409093	409113	
D Drills	409063	409083	409113	
D Tappers	409063	409083	409113	
DR750		409103	409133	409193

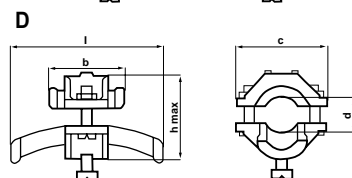
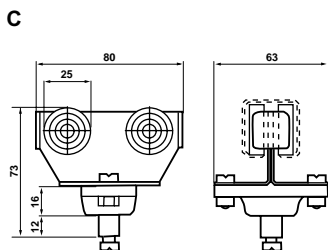
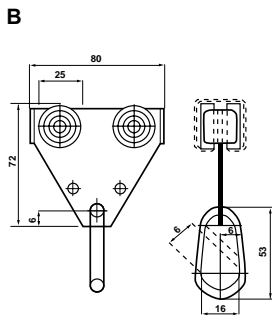
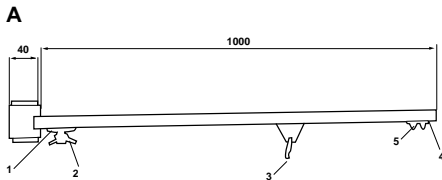
PIC REF	MODEL	PART NUMBER	MAXIMUM TORQUE		MAXIMUM STROKE (H)		MINIMUM REACH		VERTICAL TRAVEL		CAPACITY WITH STANDARD SPRING	
			Nm	ft.lb	mm	in	mm	in.	mm	in.	kg	lb
STANDS												
A	D57	408903	15	11.8	700	27.6	400	15.7	95	3.7	0.0-2.0	2.2-4.4
A	D57X	408913	15	11.8	850	33.5	450	17.7	95	3.7	0.0-2.0	2.2-4.4
B	D58	408923	6	8.1	750	29.5	500	19.7			0.0-2.5	2.2-5.5
C	D59	408933	18	24.4	650	25.6			300	11.8	0.0-2.0	2.2-5.5



Accessories

Bench Tidy Components

OPTIONAL ACCESSORIES



Swivel Arm

A	Suitable for suspending equipment	66462
	Max. load at 1000mm = 16kg	
	Weight: 3kg	
	Supplied complete with:	
1	End Clamp	66332
2	Hose Clip	66292
3	Suspension Trolley	66352
4	End Cap	66372
5	End Stop	66422

Suspension Trolley

B	Suspension trolley	66352
	Use for suspending tool balancers, or coiled hoses	
	To run in 32 x 30 'C' Rail Track	
	Weight: 0.3kg	
	Max. load: 20kg	
	Materials:	
	Chassis: Steel, plastic, galvanized / Axles: Steel galvanised / Spring safety hook: Steel, galvanized	

Hose Trolley

C	Hose Trolley	66282
	Used in conjunction with Hose Clip to run in 32 x 30 'C' Rail Track	
	Weight: 0.26kg	
	Max. load: 20kg	
	Materials:	
	Bearing part: Steel plate, plastic covered / Rollers (ball bearings): Steel, galvanized	
	Ball & Socket Joint: Nylon / Small parts: Steel, galvanized	

Hose Clip

D	Hose Clip
	Used to support coils of air hose or electric cable

d		r		l		h max		b		c		b		PART NO.
mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	
10-16	0.39-0.63	80	3.15	70	2.75	38	1.50	35	1.38	42	1.65	0.04	0.09	66292
17-25	0.67-0.98	125	4.92	100	3.94	47	1.85	50	1.97	50	1.97	0.06	0.13	66302
26-36	1.02-1.42	180	7.08	140	5.51	58	2.58	70	2.75	64	2.52	0.12	0.30	66322



Bench Tidy Kit & Bench Mounted Swinging Arm

Three complete Bench Tidy Kits to suit 1.5m, 2m and 2.5m bench widths with flexibility of mounting in height and spacing of upright supports.

Everything included to set up a simple system within minutes, which can be enhanced with the accessories shown on the accessories page, adding to the versatility.

Supplied in 2 packs, needing only 10/13/17mm a/f wrenches and standard screwdrivers to assemble.

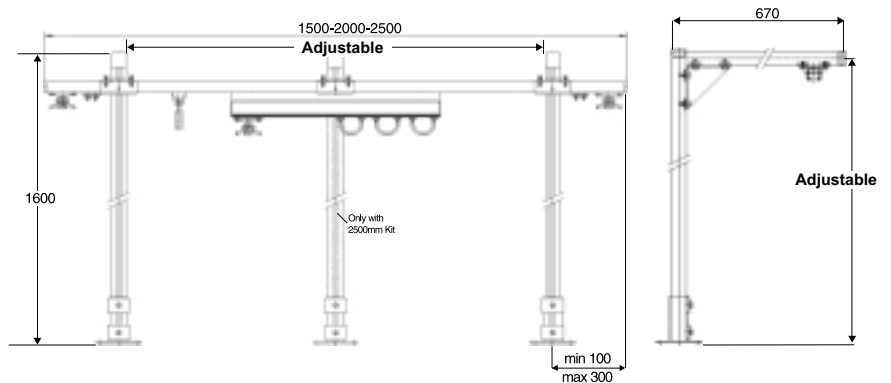


COMPLETE BENCH TIDY KIT - READY TO ASSEMBLE

Each kit consist of:

- Tool Suspension Track of specified length
- Hose trolley
- Horizontal outrigger arms
- Hose clamp
- Vertical C-rail uprights with base for benchtop mounting (2 uprights with 1.5m and 2m kits, 3 with 2.5m kits)
- All necessary brackets, fittings and end stops/clamps
- Simple, step by step assembly instructions
- Tool Suspension trolley with 3 suspension rings and hoseclamp

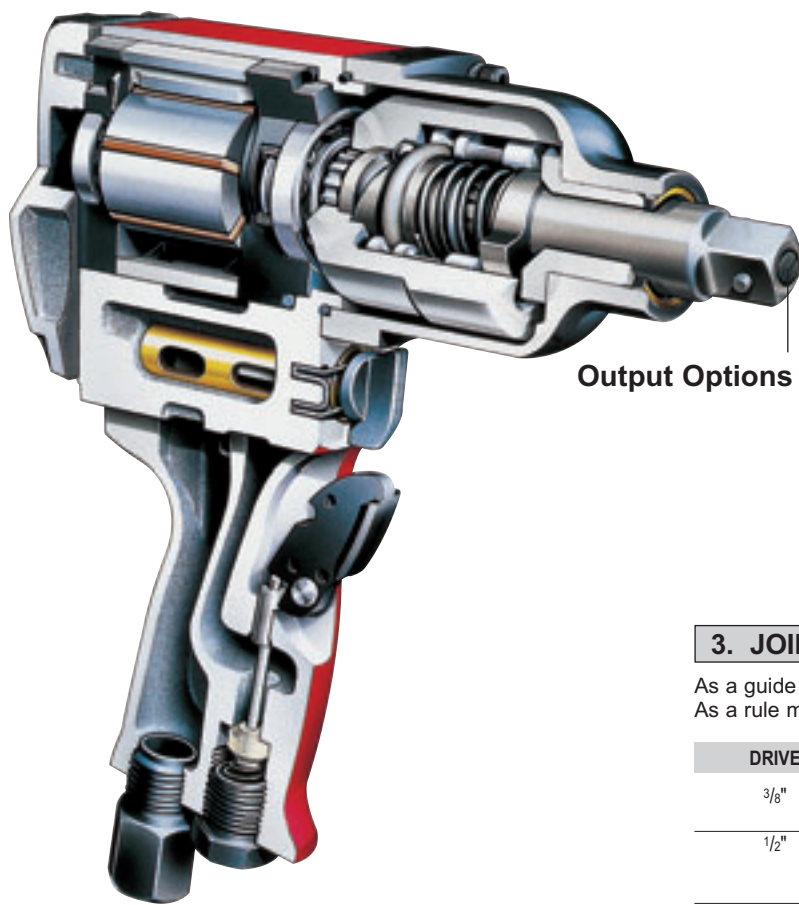
INSTALLATION HINT



PIC REF	PART NUMBER	LENGTH OF SUSPENSION TRACK		HEIGHT		HORIZONTAL STROKE		WEIGHT		
		mm	in.	mm	in.	mm	in.	kg	lb	
BENCH TIDY										
A	111672	1500	5	1600	63			22	48.5	
A	111682	2000	6 1/2	1600	63			24	53.0	
A	111692	2500	8	1600	63			26	57.0	
BENCH MOUNTED SWINGING ARM										
B	66542			1600	63	650	19.7	10	22.0	



Impact Wrench Features



Output Options

Ease of service

Simple 3 piece construction for ease and speed of servicing.

Durable steel clutch housings (zinc option on some models).

Clutch Options

CP have developed a range of 7 clutch types to meet the differing demands of our customers applications. No single clutch is perfect for every type of joint.

2 or 3-Jaw - Good on soft or hard joints with high ultimate torques.

Rocking Dog - Good on very soft joints providing high speed rundown.

Single or Double Dog - For soft and hard joints. High power/weight ratio.

Twin Lobe - All round clutch with a high ultimate torque and high power to weight ratio.

Pin - Excellent on hard joints with a good power/weight ratio.

Tool Selection

1. APPLICATION TYPE

These tools are Heavy Duty and suitable for high production rates such as those on production/assembly lines, where high durability is used and the tools are used frequently.

Torque Controlled – Tool 'shuts off' at a predetermined torque with the added benefits of being able to eliminate some operator influence and be used for 2 or more torques.

2. BOLT SIZE/TORQUE

The table below lists the maximum torques for bolt sizes and different grade fasteners. These torque figures are for guidance only. Always confirm values with the bolt supplier/manufacturer.

BOLT SIZE	METRIC ISO 8.8	METRIC ISO 10.9	METRIC ISO 12.9	BOLT SIZE	SAE GRADE 1 & GRADE 2	SAE GRADE 5	ASTM-UNC GRADE 8/A490
mm	Nm	Nm	Nm	in.	ft lb	ft lb	ft lb
6	10.5	15	17	1/4	3	8	11
8	25	36	43	5/16	6	16	22
10	51	71	86	3/8	11	28	38
12	87	122	146	7/16	18	46	61
14	138	195	234	1/2	28	70	94
16	213	299	359	9/16	43	110	135
18	293	413	495	5/8	55	140	188
20	416	585	702	3/4	97	250	336
22	563	792	950	7/8	155	405	541
24	718	1011	1213	1	230	600	812
27	1060	1491	1789	1 1/8	340	770	1151
30	1440	2025	2430	1 1/4	480	1080	1626
33	1956	2751	3301	1 3/8	660	1470	2130
36	2517	3540	4248	1 1/2	860	1950	2830

3. JOINT TYPE

As a guide use the table to specify a tool for a certain joint. As a rule most joints are 'soft'.

DRIVE	VERY SOFT	SOFT	HARD
3/8"		CP6031	CP6031
		CP6300	CP6300
1/2"		CP6041	CP6041
		CP6500	CP6500
	CP6540	CP6540	
3/4"		CP6060	CP6060
		CP6700	CP6700
	CP6700	CP6700	
1"		CP6110	CP6110
	CP0610	CP0610	CP0610
		CP0611	CP0611
		CP9596	CP9596
1 1/2"	CP0614	CP0614	CP0614
		CP6120	CP6120

4. HANDLE TYPE



Pistol



D Handle
Outside Trigger

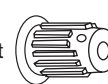


D Handle
Inside Trigger

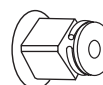
5. SOCKET RETENTION



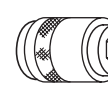
Pin Retainer
for infrequent socket change



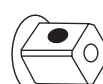
Integral Spline
with integral push button retainer



Friction Ring
for rapid socket change

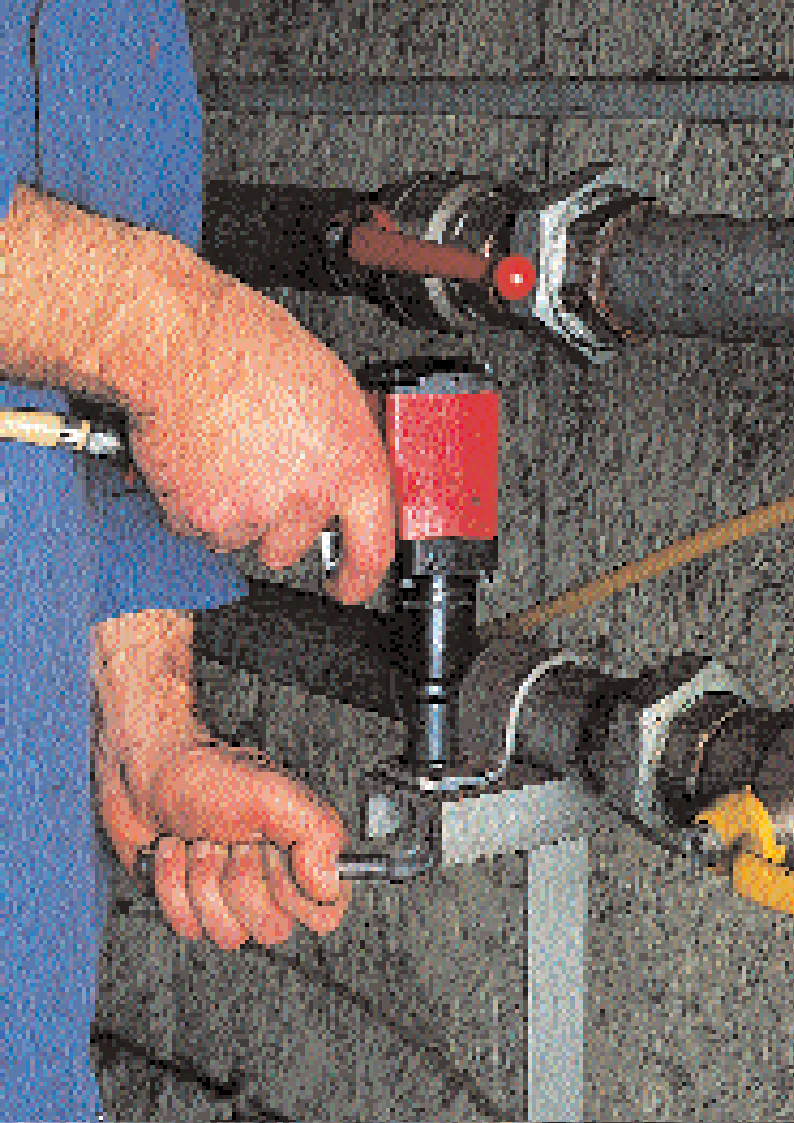


Quick Change
for screwdriver bits or torsion bars

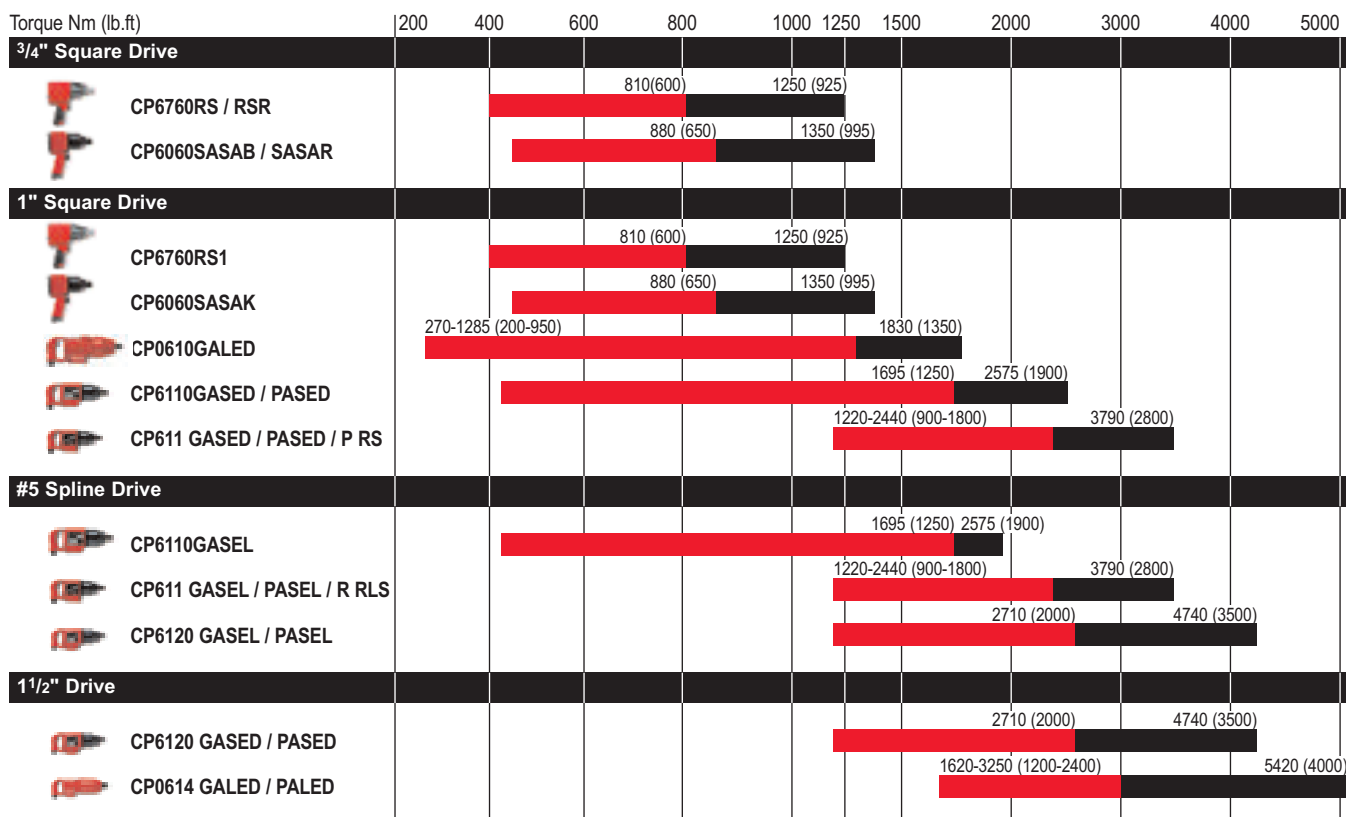
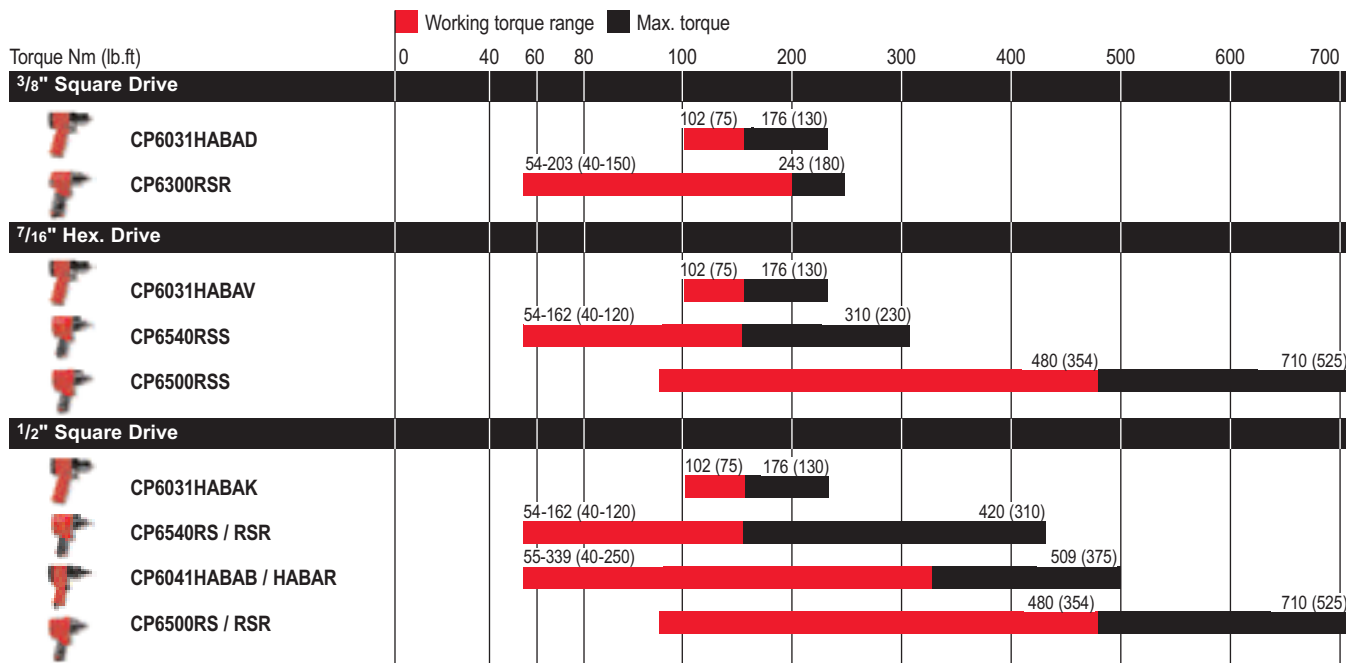


Hole
for pin o-ring type retention



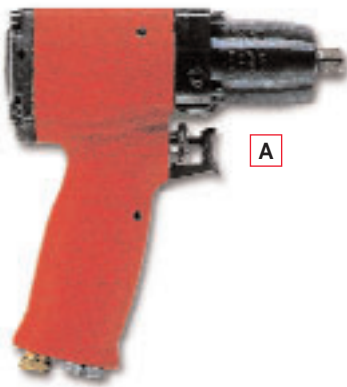


Impact Wrench Torque Ranges



Impact Wrench

30 to 480 Nm (23 to 354 ft.lb)



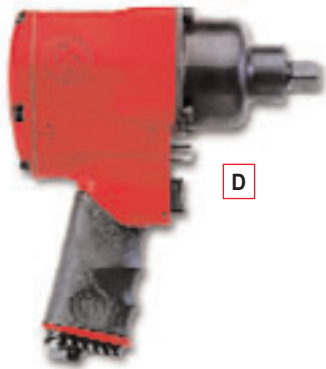
A



B



C

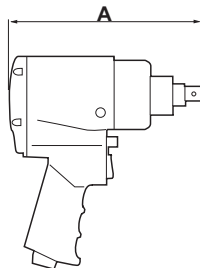


D



E

Model	A		Side to centre	
	mm	in.	mm	in.
CP6031 HABAD	143	5.63	25.4	1
CP6031 HABAK	143	5.63	25.4	1
CP6031 HABAV	146	5.75	25.4	1
CP6300 RSR	152	5.98	31.8	1.25
CP6041 HABAB	173	6.83	31.8	1.25
CP6041 HABAR	173	6.83	31.8	1.25
CP6500 RS	178	7.01	35.8	1.41
CP6500 RSR	178	7.01	35.8	1.41
CP6500 RSS	178	7.01	35.8	1.41
CP6540 RS	188	7.4	35.1	1.38
CP6540 RSR	188	7.4	35.1	1.38
CP6540 RSS	188	7.4	35.1	1.38



OPTIONAL ACCESSORIES

1/2" square drive with 50mm (2") extension, friction ring retainer

CP6500

CA148629

CP6500 - reverse torque 845Nm (625ft.lb)

* Free speed

Air inlet: 1/4" NPT

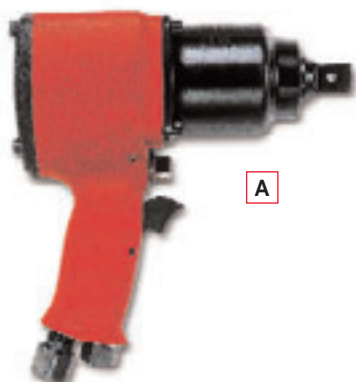
Torque ranges should be used as a guide only. Final torque will depend on the joint, operating pressure and drive accessories.

PIC REF	MODEL	PART NUMBER	DRIVE	SOCKET RETAINER	CLUTCH TYPE	HANDLE STYLE	TORQUE WORKING		TORQUE MAX.		WEIGHT		AIR CONSUMPTION	
							Nm	ft lb	Nm	ft lb	kg	lb	l/s*	cfm*
A	CP6031 HABAD	TO21887	3/8"	Pin	2-Jaw	Pistol	30-102	23-75	176	130	1.5	3.3	12.0	25
A	CP6031 HABAK	TO21884	1/2"	Pin	2-Jaw	Pistol	30-102	23-75	176	130	1.5	3.3	12.0	25
A	CP6031 HABAV	TO21885	7/16" hex	Quick Change	2-Jaw	Pistol	30-102	23-75	176	130	1.5	3.3	12.0	25
B	CP6300 RSR	TO25285	3/8"	Friction Ring	Single-Dog	Pistol	54-203	40-150	243	180	1.6	3.5	6.6	14
C	CP6041 HABAB	TO21888	1/2"	Pin	2-Jaw	Pistol	55-339	40-250	509	375	2.80	6.2	18.9	40
C	CP6041 HABAR	TO22331	1/2"	Friction Ring	2-Jaw	Pistol	55-339	40-250	509	375	2.80	6.2	18.9	40
D	CP6500 RS	TO25214	1/2"	Pin	Double-Dog	Pistol	140-480	103-354	710	525	2.65	5.8	11.8	25
D	CP6500 RSR	TO25216	1/2"	Friction Ring	Double-Dog	Pistol	140-480	103-354	710	525	2.65	5.8	11.8	25
D	CP6500 RSS	TO25215	7/16" hex	Quick Change	Double-Dog	Pistol	140-480	103-354	710	525	2.65	5.8	11.8	25
E	CP6540 RS	TO25312	1/2"	Pin	Rocking-Dog	Pistol	54-162	40-120	420	310	2.80	6.2	10.4	22
E	CP6540 RSR	TO25313	1/2"	Friction Ring	Rocking-Dog	Pistol	54-162	40-120	420	310	2.80	6.2	10.4	22
E	CP6540 RSS	TO25314	7/16" hex	Quick Change	Rocking-Dog	Pistol	54-162	40-120	310	230	2.80	6.2	10.4	22



Impact Wrench

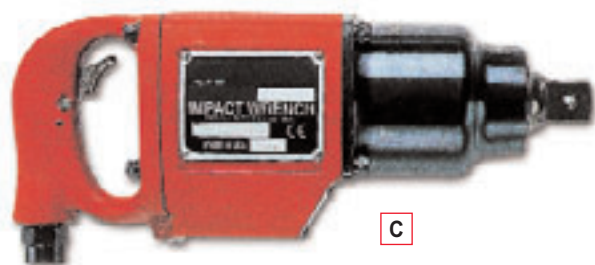
245 to 1695 Nm (180 to 1250 ft.lb)



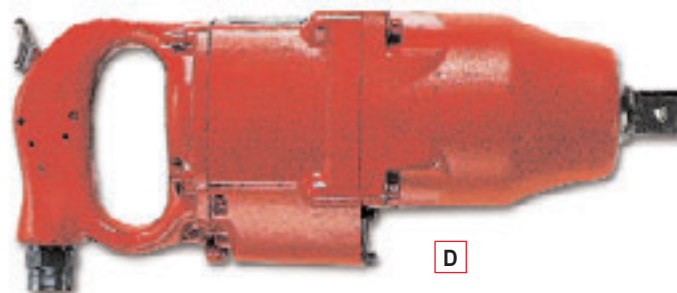
A



B

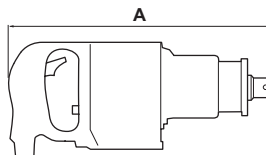
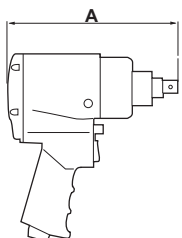


C



D

Model	A		Side to centre	
	mm	in.	mm	in.
CP6060 SASAB	194	7.64	45.2	1.78
CP6060 SASAK	194	7.64	45.2	1.78
CP6060 SASAR	194	7.64	45.2	1.78
CP6760 RS	230	9.05	45.7	1.8
CP6760 RS1	230	9.05	45.7	1.8
CP6760 RSR	230	9.05	45.7	1.8
CP6110 GASED	330	12.99	44.5	1.75
CP6110 GASEL	330	12.99	44.5	1.75
CP6110 PASED	330	12.99	44.5	1.75
CP0610 GALED	343	13.5	54.1	2.13



ACCESSORIES INCLUDED

	CP0610	CP6110
• Support handle	C145892	C039423
• Support handle mount		C116388
• Support handle screws (4 off)		C127944

* Free speed

Air Inlet: 3/8" NPT for A & B - 1/2" NPT for C & D

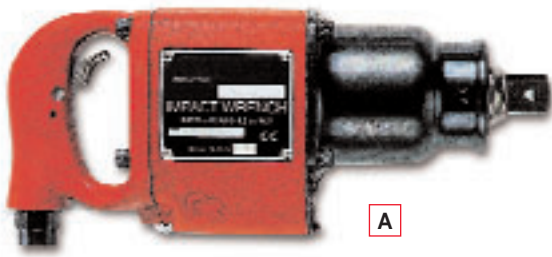
Torque ranges should be used as a guide only. Final torque will depend on the joint, operating pressure and drive accessories.

PIC REF	MODEL	PART NUMBER	DRIVE	SOCKET RETAINER	CLUTCH TYPE	HANDLE STYLE	TORQUE WORKING		TORQUE MAX.		WEIGHT		AIR CONSUMPTION	
							Nm	ft lb	Nm	ft lb	kg	lb	l/s*	cfm*
A	CP6060 SASAB	TO24059	3/4"	Hole	2-Jaw	Pistol	265-880	195-650	1350	995	5.3	11.7	19.8	42
A	CP6060 SASAK	TO24060	1"	Hole	2-Jaw	Pistol	265-880	195-650	1350	995	5.4	11.9	19.8	42
A	CP6060 SASAR	TO24058	3/4"	Friction Ring	2-Jaw	Pistol	265-880	195-650	1350	995	5.4	11.9	19.8	42
B	CP6760 RS	TO25309	3/4"	Hole	2-Jaw	Pistol	245-810	180-600	1250	925	5.1	11.2	19.3	41
B	CP6760 RS1	TO25311	1"	Hole	2-Jaw	Pistol	245-810	180-600	1250	925	5.1	11.2	19.3	41
B	CP6760 RSR	TO25310	3/4"	Friction Ring	2-Jaw	Pistol	245-810	180-600	1250	925	5.1	11.2	19.3	41
C	CP6110 GASED	TO24425	1"	Hole	Twin Lobe	D Outside	510-1695	375-1250	2575	1900	9.75	21.5	25.0	53
C	CP6110 GASEL	TO24426	#5 Spline	Integral	Twin Lobe	D Outside	510-1695	375-1250	2575	1900	9.75	21.5	25.0	53
C	CP6110 PASED	TO25100	1"	Hole	Twin Lobe	D Inside Trigger	510-1695	375-1250	2575	1900	9.75	21.5	25.0	53
D	CP0610 GALED	TO18046	1"	Hole	3-Jaw	D Outside	270-1285	200-950	1830	1350	9.30	20.5	27.8	59

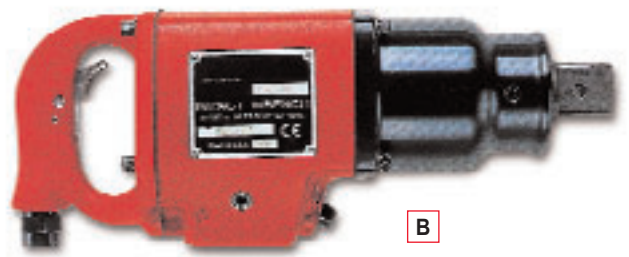


Impact Wrench

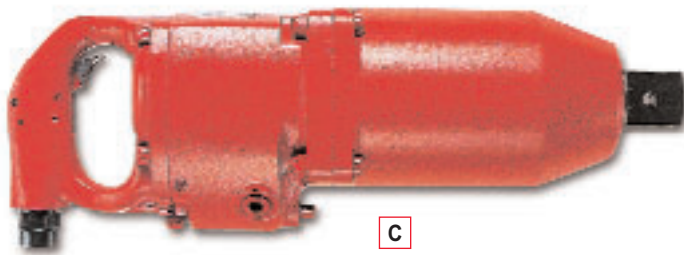
815 to 3250 (600 to 2400 ft.lb)



A



B

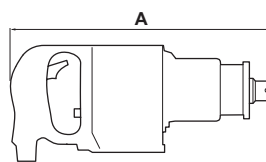
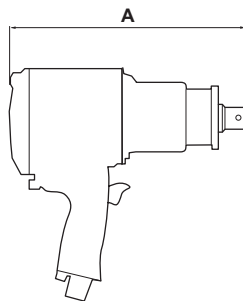


C



D

Model	A		Side to centre	
	mm	in.	mm	in.
CP0611 GASED	318	12.52	57.2	2.25
CP0611 GASEL	318	12.52	57.2	2.25
CP0611 PASED	318	12.52	57.2	2.25
CP0611 PASEL	318	12.52	57.2	2.25
CP6120 GASED	375	14.76	58.7	2.31
CP6120 GASEL	375	14.76	58.7	2.31
CP6120 PASED	375	14.76	58.7	2.31
CP6120 PASEL	375	14.76	58.7	2.31
CP0614 GALED	417	16.42	61.0	2.4
CP0614 PALED	417	16.42	61.0	2.4
CP0611P RS	272	10.7	55.0	2.13
CP0611P RLS	272	10.7	55.0	2.13



ACCESSORIES INCLUDED

	CP0611	CP0614	CP6120
• Support handle	CA048548	C039423	CA048548
• Support handle mount			C119061
• Support handle screws (4 off)			P073025

* Free speed

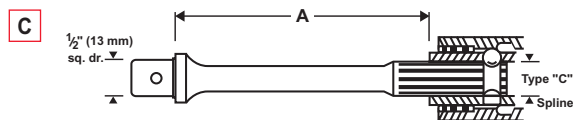
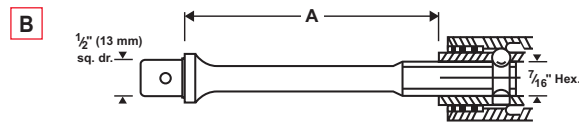
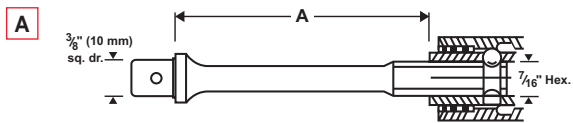
Air inlet: 1/2" NPT

Torque ranges should be used as a guide only. Final torque will depend on the joint, operating pressure and drive accessories.

PIC REF	MODEL	PART NUMBER	DRIVE	SOCKET RETAINER	CLUTCH TYPE	HANDLE STYLE	TORQUE WORKING		TORQUE MAX.		WEIGHT		AIR CONSUMPTION	
							Nm	ft lb	Nm	ft lb	kg	lb	l/s*	cfm*
A	CP0611 GASED	T022580	1"	Hole	2-Jaw	D Outside	1220-2440	900-1800	3790	2800	10.2	22.5	40.1	85
A	CP0611 GASEL	T022581	#5 Spline	Integral	2-Jaw	D Outside	1220-2440	900-1800	3790	2800	10.2	22.5	40.1	85
A	CP0611 PASED	T022578	1"	Hole	2-Jaw	D Inside Trigger	1220-2440	900-1800	3790	2800	10.2	22.5	40.1	85
A	CP0611 PASEL	T022579	#5 Spline	Integral	2-Jaw	D Inside Trigger	1220-2440	900-1800	3790	2800	10.2	22.5	40.1	85
B	CP6120 GASED	T018237	1 1/2"	Hole	2-Jaw	D Outside	815-2710	600-2000	4740	3500	15.4	33.9	44.8	95
B	CP6120 GASEL	T017755	#5 Spline	Integral	2-Jaw	D Outside	815-2710	600-2000	4740	3500	15.4	33.9	44.8	95
B	CP6120 PASED	T018841	1 1/2"	Hole	2-Jaw	D Inside Trigger	815-2710	600-2000	4740	3500	15.4	33.9	44.8	95
B	CP6120 PASEL	T018235	#5 Spline	Integral	2-Jaw	D Inside Trigger	815-2710	600-2000	4740	3500	15.4	33.9	44.8	95
C	CP0614 GALED	T020021	1 1/2"	Hole	2-Jaw	D Outside	1620-3250	1200-2400	5420	4000	14.3	31.5	44.8	95
C	CP0614 PALED	T020022	1 1/2"	Hole	2-Jaw	D Inside Trigger	1620-3250	1200-2400	5420	4000	14.3	31.5	44.8	95
D	CP0611P RS	T025413	1"	Hole	2-Jaw	Pistol	1220-2440	900-1800	3790	2800	10.5	23.1	40.1	85
D	CP0611P RLS	T025414	#5 Spline	Integral	2-Jaw	Pistol	1220-2440	900-1800	3790	2800	10.5	23.1	40.1	85



Torque Controlled Accessories



PIC REF	PART NUMBER	NOMINAL NUMBER	COLOUR	TORQUE RANGE		LENGTH 'A'		PIC REF	PART NUMBER	NOMINAL NUMBER	COLOUR	TORQUE RANGE		LENGTH 'A'	
				Nm	ft lb	mm	in.					Nm	ft lb	mm	in.
7/16" HEX. DRIVE TORK BARS CP6031 TEBAV															
A	C112301	1	Red	11-14	8-10	95	3 3/4"	A	C112308	8	Or/White	37-41	27-30	95	3 3/4"
A	C112302	2	Orange	14-16	10-12	95	3 3/4"	A	C112309	9	Yel/White	41-46	30-34	87	3 7/16"
A	C112303	3	Yellow	16-20	12-15	95	3 3/4"	A	C112310*	10	Gm/White	46-52	34-38	87	3 7/16"
A	C112304	4	Green	20-24	15-18	95	3 3/4"	A	C112311*	11	Blue/White	52-57	38-42	87	3 7/16"
A	C112305	5	Blue	24-28	18-21	95	3 3/4"	A	C112312*	12	Pur/White	57-62	42-46	49	1 15/16"
A	C112306	6	Purple	28-33	21-24	95	3 3/4"	Tork Bar Kit							
A	C112307	7	Red/White	33-37	24-27	95	3 3/4"								

PIC REF	PART NUMBER	NUMBER	COLOUR	NOMINAL TORQUE RANGE SINGLE BLOW		LENGTH 'A'		PIC REF	PART NUMBER	NUMBER	COLOUR	NOMINAL TORQUE RANGE SINGLE BLOW		LENGTH 'A'	
				Nm	ft lb	mm	in.					Nm	ft lb	mm	in.
7/16" HEX. DRIVE TORK BARS CP6041 TEBAS															
B	C113201	1	Red	20-27	15-20	110	4 5/16"	B	C113208	8	Or/White	50-55	68-75	110	4 5/16"
B	C113202	2	Orange	27-34	20-25	110	4 5/16"	B	C113209	9	Yel/White	55-60	75-81	110	4 5/16"
B	C113203	3	Yellow	34-41	25-30	110	4 5/16"	B	C113210	10	Gm/White	60-70	81-95	92	3 5/8"
B	C113204	4	Green	41-48	30-35	110	4 5/16"	B	C113211	11	Blue/White	70-80	95-109	67	2 5/8"
B	C113205	5	Blue	48-54	35-40	110	4 5/16"	B	C113212	12	Pur/White	80-90	109-122	41	1 5/8"
B	C113206	6	Purple	54-61	40-45	110	4 5/16"	Tork Bar Kit							
B	C113207	7	Red/White	61-68	45-50	110	4 5/16"								

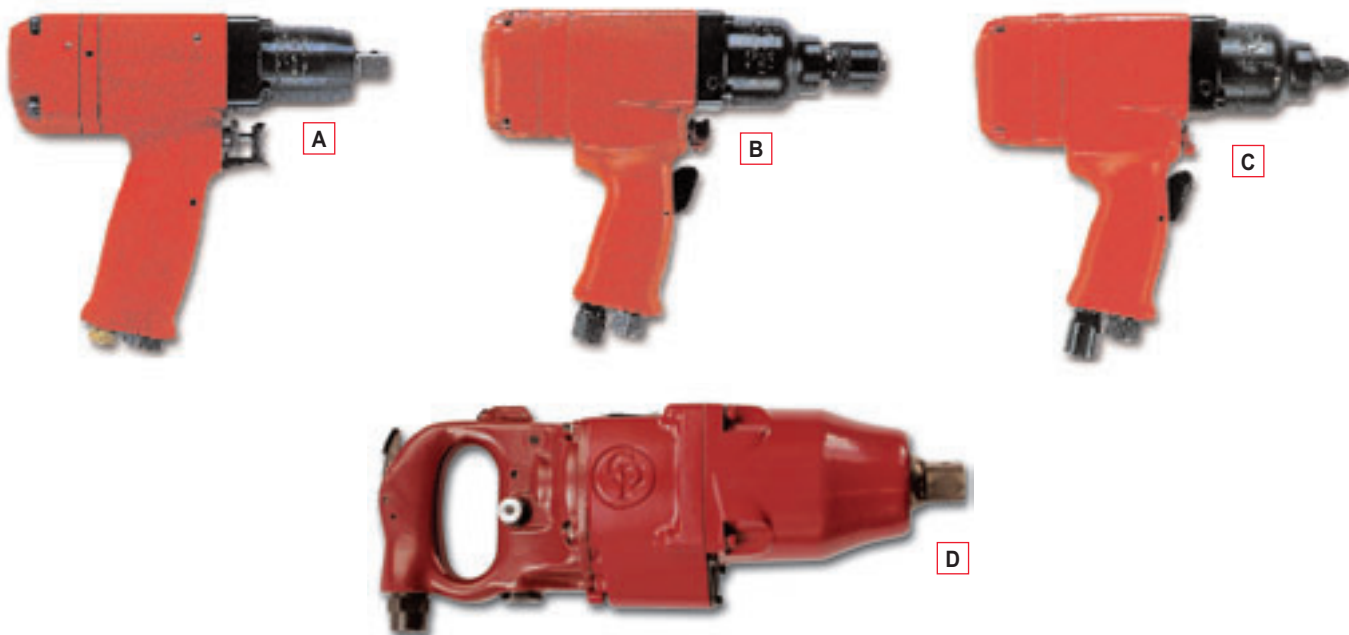
PIC REF	PART NUMBER	NUMBER	COLOUR	NOMINAL TORQUE RANGE SINGLE BLOW		LENGTH 'A'		PIC REF	PART NUMBER	NUMBER	COLOUR	NOMINAL TORQUE RANGE SINGLE BLOW		LENGTH 'A'	
				Nm	ft lb	mm	in.					Nm	ft lb	mm	in.
TYPE 'C' SPLINE DRIVE TORK BARS CP6041 TEBAD															
C	C051531	1	Red	15-20	20-27	4 3/16"	106	C	C051538	8	Or/White	50-55	68-75	4 3/16"	106
C	C051532	2	Orange	20-25	27-34	4 3/16"	106	C	C051539	9	Yel/White	55-60	75-81	4 3/16"	106
C	C051533	3	Yellow	25-30	34-41	4 3/16"	106	C	C051540	10	Gm/White	60-70	81-95	4 3/16"	106
C	C051534	4	Green	30-35	41-48	4 3/16"	106	C	C051541	11	Blue/White	70-80	95-109	4 3/16"	106
C	C051535	5	Blue	35-40	48-54	4 3/16"	106	C	C051542	12	Pur/White	80-90	109-122	4 3/16"	106
C	C051536	6	Purple	40-45	54-61	4 3/16"	106	Tool Bar Kit							
C	C051537	7	Red/White	45-50	61-68	4 3/16"	106								

Under normal working conditions a Tork Bar will hold a wrench's mean torque output within the limits listed. Under unusual work conditions it may be necessary to use a higher or lower rated bar to get desired torque. After selecting a bar for a specific job always check the selection by driving a few fasteners and measuring the torque delivered.



Torque Controlled Tools

8 to 405 Nm (6 to 300 ft.lb)



Methods of Torque Control

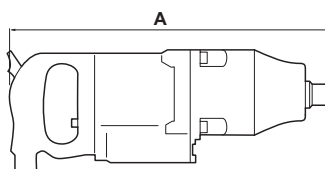
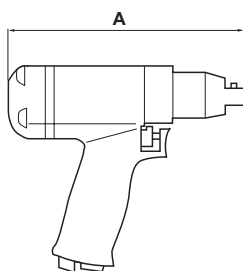
1. 'Close Coupled' Torque Control – socket attached directly to the output of the wrench

The torque control mechanism and speed adjustments are made by two screws located in the rear of the housing cap. The wrench shuts off automatically when the specified torque is reached. Correct torque setting is determined by testing on the joint to be assembled.

2. 'Quick Change Tork Bar' – CP6031 TEBAV, CP6041 TEBAD, CP6041 TEBAS, CP6060 TESAT

Simple substitution of the tork bar changes the torque output of the tool. The wrench shuts off automatically when the specified torque is reached. This solution should be used if 2 or more torques are required from the same tool.

Model	A		Side to centre	
	mm	in.	mm	in.
CP6031 TEBAK	159	6.25	34.9	2.31
CP6031 TEBAV	191	7.0	34.9	2.31
CP6041 TEBAB	211	8.3	31.8	1.25
CP6041 TEBAD	244	9.6	31.8	1.25
CP6041 TEBAS	244	9.6	31.8	1.25
CP6060 TESAB	240	8.3	50.8	2.0
CP0610 TELUD	391	15.4	54.0	2.12



ACCESSORIES INCLUDED

- Support handle

CP0610

C039423

* Free speed

CP0610-T – Lock out feature to override the shut-off, for 'turn of the nut' fastening.

Air inlet: 1/4" NPT for A & B - 3/8" NPT for C - 1/2" NPT for D

Torque ranges should be used as a guide only. Final torque will depend on the joint, operating pressure and drive accessories.

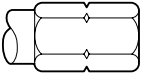






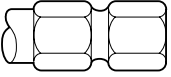

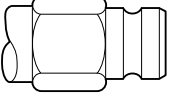

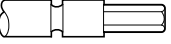



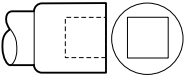


PIC REF	MODEL	PART NUMBER	DRIVE	SOCKET RETAINER	CLUTCH TYPE	HANDLE STYLE	TORQUE WORKING		TORQUE MAX.		WEIGHT		AIR CONSUMPTION	
							Nm	ft lb	Nm	ft lb	kg	lb	l/s*	cfm*
A	CP6031 TEBAK	TO21951	1/2"	Pin	2-Jaw	Pistol	20	15	54	40	1.6	3.5	11.8	25
A	CP6031 TEBAV	TO21952	7/16" hex	Quick Change	2-Jaw	Pistol	8	6	47	35	1.7	3.7	11.8	25
B	CP6041 TEBAB	TO21953	1/2"	Pin	2-Jaw	Pistol	47	35	155	115	3.0	6.6	18.9	40
B	CP6041 TEBAD	TO21954	C Spline	Quick Change	2-Jaw	Pistol	20	15	120	90	3.1	6.8	18.9	40
B	CP6041 TEBAS	TO21955	7/16" hex	Quick Change	2-Jaw	Pistol	20	15	120	90	3.1	6.8	18.9	40
C	CP6060 TESAB	TO24176	3/4"	Hole	2-Jaw	Pistol	175	130	540	400	6.0	13.2	27.8	59
D	CP0610 TELUD	TO18056	1"	Hole	3-Jaw	D Outside	405	300	810	600	10.4	22.9	27.8	59



Fastening accessories

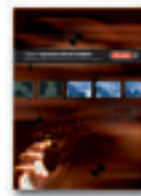
General Information

- Our Accessories Range is continually evolving. If you cannot find what you require, please ask.
- All the screwdriver bits conform to ISO1173 and DIN3126 with the exception of the 5/16" Hex Power.
- The hardness shown in the tables refer to hardness figures of 54-57 Rc for 'Hard' and 61-63 Rc for 'Extra Hard'.

Drives	Fastener Head Type	Symbols
 <p>1/4" Hex* Insert (C6.3) (ISO1173/ DIN3126)</p>	 <p>Pozidriv/Supadriv</p>	<p>The following symbols are used in this catalogue:</p> <ul style="list-style-type: none">  Hexagon Across Flat Size ID Internal Diameter ∅ Diameter H Hard XH Extra Hard  Magnetic  Male Square Drive Size  Female Square Drive Size L Length Q/R Quick Release  Thread Size
 <p>1/4" Hex Power Drive (E6.3) (ISO1173/ DIN3126)</p>	 <p>Phillips</p>	
 <p>5/16" Hex Power Drive</p>	 <p>Torx</p>	
 <p>3mm Hex Power Drive (A3) (ISO1173)</p>	 <p>Torx Plus</p>	
 <p>Thread Drive</p>	 <p>Slot</p>	
 <p>Square Drive</p>	 <p>Internal Hex</p>	
	 <p>External Hex</p>	

* **Note:** to be used with a bit holder

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ACR®, Pozidriv®, Torq-Set®, Tri-Wing® are registered trademarks of Phillips Screw Co.

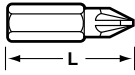


For information on Ergonomics and the workplace see publication LT198



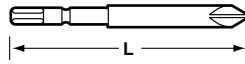


Screwdriver Bits



1/4" HEX INSERT (C6.3)

POINT SIZE	L		PART NO. H	PART NO. XH
	mm	in.		
0	25	1	108082	
1	25	1	4023110101	110752
2	25	1	4023110102	110762
3	25	1	4023110103	110772
1	50	2	4023110104	
2	50	2	4023110105	
4	30	1 3/16		110182



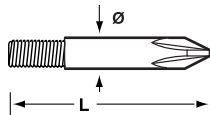
3mm HEX POWER (A3)

POINT SIZE	L		PART NO. XH
	mm	in.	
0	50	2	80782
1	50	2	80792



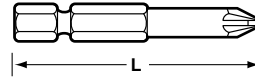
4mm HEX INSERT (C4)

POINT SIZE	L		PART NO. XH
	mm	in.	
0	28	1 1/8	80872
1	28	1 1/8	80882



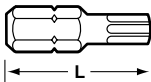
THREAD DRIVE

POINT SIZE	L		Ø	THREAD	PART NO. XH
	mm	in.			
1	33	1 5/16	6	M4	65422
2	33	1 5/16	6	M4	65442
2	33	1 5/16	7	M5	65452
2	33	1 5/16	8	M6	105732
3	33	1 5/16	8	M6	105742



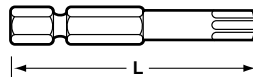
1/4" HEX POWER (E6.3)

POINT SIZE	L		PART NO. H	PART NO. XH
	mm	in.		
1	50	2	4023242001	111162
2	50	2	4023242002	111172
3	50	2	4023242003	111182
1	70	2 3/4	4023242701	111192
2	70	2 3/4	4023242702	111202
3	70	2 3/4	4023242703	111222
1	89	3 1/2	4023243501	111232
2	89	3 1/2	4023243502	111242
3	89	3 1/2	4023243523	111252
1	150	6		110292
2	150	6		110302
3	150	6		110322



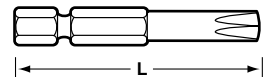
1/4" HEX INSERT (C6.3)

POINT SIZE	L		PART NO. H
	mm	in.	
T6	25	1	4023132700
T7	25	1	4023132800
T8	25	1	4023132900
T9	25	1	4023133000
T10	25	1	111272
T15	25	1	111282
T20	25	1	111292
T25	25	1	111302
T27	25	1	111322
T30	25	1	111332
T40	25	1	111342



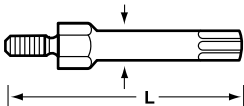
1/4" HEX POWER (E6.3)

POINT SIZE	L		PART NO. H
	mm	in.	
T8	50	2	4023222021
T9	50	2	4023222022
T10	50	2	111352
T15	50	2	111372
T20	50	2	111382
T25	50	2	111392
T27	50	2	111402
T30	50	2	111422
T40	50	2	111432
T20	89	3 1/2	108912



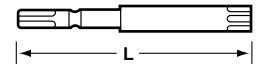
TORX PLUS 1/4" HEX POWER (E6.3)

POINT SIZE	L		PART NO. XH
	mm	in.	
IP8	89	3 1/2	108122
IP10	89	3 1/2	108132
IP15	89	3 1/2	108142



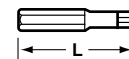
THREAD DRIVE

POINT SIZE	L		Ø	THREAD	PART NO. XH
	mm	in.			
T8	33	1 5/16	6	M4	105772
T10	33	1 5/16	6	M4	105782
T15	33	1 5/16	6	M4	105792
T20	33	1 5/16	6	M4	105802
T25	33	1 5/16	6	M4	105822
T10	33	1 5/16	7	M5	105832
T15	33	1 5/16	7	M5	105842
T20	33	1 5/16	7	M5	105852
T25	33	1 5/16	7	M5	105862
T30	33	1 5/16	7	M5	105882



3mm HEX POWER (A3)

POINT SIZE	L		PART NO. XH
	mm	in.	
T6	50	2	89962
T8	50	2	89972
T10	50	2	89982

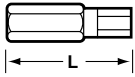


4mm HEX INSERT (C4)

POINT SIZE	L		PART NO. XH
	mm	in.	
T6	28	1 1/8	99772

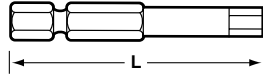


Screwdriver Bits



1/4" HEX INSERT (C6.3)

HEX	L		PART NO. XH
	mm	in.	
2.0mm	25	1	110782
3/32"	25	1	4023143023
2.5mm	25	1	110792
3.0mm	25	1	110802
1/8"	25	1	4023143025
9/64"	25	1	4023143026
4.0mm	25	1	110822
3/16"	25	1	4023070600
5.0mm	25	1	110832
7/32"	25	1	4023084800
6.0mm	25	1	110842
1/4"	25	1	4023094400
7.0mm	25	1	4023143000
8.0mm	25	1	110852
10.0mm	32	1 1/4	110192



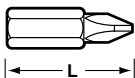
1/4" HEX POWER (E6.3)

HEX	L		PART NO. XH
	mm	in.	
2.0mm	50	2	110202
2.5mm	50	2	110862
3.0mm	50	2	110872
4.0mm	50	2	110882
5.0mm	50	2	110892
6.0mm	50	2	110902
8.0mm	50	2	110922
10.0mm	50	2	110932



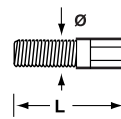
4mm HEX INSERT (C4)

HEX	L		PART NO. XH
	mm	in.	
1.5mm	28	1 1/8	81192
2.0mm	28	1 1/8	81202
2.5mm	28	1 1/8	81222
3.0mm	28	1 1/8	81232



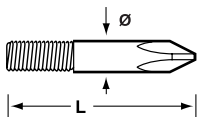
1/4" HEX INSERT (C6.3)

POINT SIZE	L		PART NO. H	PART NO. XH
	mm	in.		
0	25	1	4023070200	110682
1	25	1	4023069600	110692
2	25	1	4023069700	110702
3	25	1	4023069800	110722
4	32	1 1/4		110732
1	50	2	4023142116	
2	50	2	4023142113	110742
3	50	2	4023142117	
2	70	2 3/4		110172



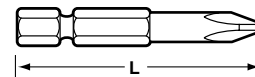
THREAD DRIVE

HEX	L		Ø	THREAD	PART NO. XH
	mm	in.			
2.5mm	33	1 5/16	6	M4	105892
3.0mm	33	1 5/16	6	M4	105902
3.0mm	33	1 5/16	7	M5	105922
4.0mm	33	1 5/16	7	M5	105932
5.0mm	33	1 5/16	8	M6	105942
6.0mm	33	1 5/16	8	M6	105952



THREAD DRIVE

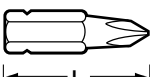
POINT SIZE	L		Ø	THREAD	PART NO. XH
	mm	in.			
1	33	1 5/16	6	M4	95902
2	33	1 5/16	6	M4	65372
1	33	1 5/16	7	M5	95942
2	33	1 5/16	7	M5	65382
3	33	1 5/16	8	M6	105762



1/4" HEX POWER (E6.3)

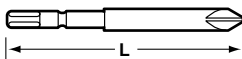
POINT SIZE	L		PART NO. H	PART NO. XH	PART NO. ACR
	mm	in.			
0	50	2		110232	
1	50	2	4023232001	111522	111082
2	50	2	4023232002	111532	111092
3	50	2	4023232003	111542	111102
1	70	2 3/4		110242	
2	70	2 3/4		110252	
3	70	2 3/4		110262	
1	89	3 1/2	4023233501	111552	111122
2	89	3 1/2	4023233502	111562	111132
3	89	3 1/2	4023233503	111572	111142
2	152	6		111152	

ACR® = Anti-Cam-out Ribs



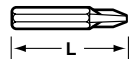
REDUCED NOSE DIAMETER 1/4" HEX INSERT (C6.3)

POINT SIZE	L		PART NO. H	PART NO. XH
	mm	in.		
1	25	1	4023142004	4023142001
2	25	1	4023142002	4023142003



3mm HEX POWER (A3)

POINT SIZE	L		PART NO. XH
	mm	in.	
000	50	2	88972
00	50	2	82102
0	50	2	80762
1	50	2	80772



4mm HEX INSERT (C4)

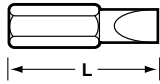
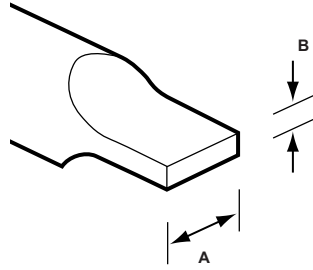
POINT SIZE	L		PART NO. XH
	mm	in.	
0	28	1 1/8	80852
1	28	1 1/8	80862

For 5/16" Hex Power Accessories see page 117



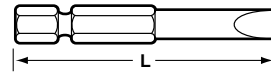
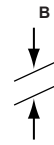


Screwdriver Bits



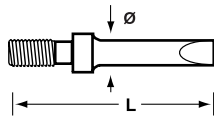
1/4" HEX INSERT (C6.3)

A		B		L		PART NO. H	PART NO. XH
mm	in.	mm	in.	mm	in.		
3.5	0.14	0.7	0.026	25	1	4023140001	4023140021
4.0	0.15	0.8	0.030	25	1		4023140022
4.7	0.17	0.9	0.034	25	1		110662
4.5	0.18	0.6	0.024	25	1		
5.0	0.20	0.8	0.031	25	1	4023141102	
7.1	0.22	0.9	0.040	25	1		110672
6.3	0.25	1.0	0.042	25	1		4023140027
8.0	0.31	1.6	0.063	25	1	4023141103	
5.5	0.21	1.0	0.042	25	1		110152



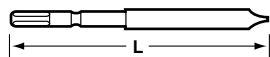
1/4" HEX POWER (E6.3)

A		B		L		PART NO. H	PART NO. XH
mm	in.	mm	in.	mm	in.		
3.2	0.12	0.7	0.026	50	2	4023201001	110642
3.9	0.15	0.8	0.032	50	2	4023202003	110942
4.7	0.19	0.9	0.034	50	2	4023202004	110952
5.4	0.22	0.8	0.032	50	2	4023201101	
6.3	0.25	1.0	0.038	50	2	4023202006	110962
6.5	0.26	1.2	0.047	50	2		
7.2	0.28	1.1	0.042	50	2	4023202007	110972
7.9	0.31	1.2	0.046	50	2	4023201008	111002
8.0	0.31	1.6	0.063	50	2		
9.1	0.36	1.3	0.050	50	2		111022
3.2	0.12	0.7	0.026	76	3	4023201501	110652
3.9	0.15	0.8	0.032	76	3		111032
4.7	0.19	0.9	0.034	76	3	4023203004	111042
6.3	0.25	1.0	0.038	76	3	4023203006	111052
8.0	0.31	1.2	0.046	76	3		110082
9.1	0.36	1.3	0.050	76	3		110092
3.2	0.12	0.7	0.026	101	4		4023204021
3.9	0.15	0.8	0.032	101	4		4023204023
4.7	0.19	0.9	0.034	101	4		4023204024
6.3	0.25	1.0	0.038	101	4		4023204026
7.2	0.28	1.1	0.042	101	4		4023204027
7.9	0.31	1.2	0.046	101	4		4023204028
9.1	0.36	1.3	0.050	101	4		4023204029



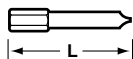
THREAD DRIVE

A	B	L	Ø	THREAD	PART NO. XH	
mm	in.	mm	mm	mm		
4.8	0.19	0.6	33	5.5	M4	105962
5.5	0.22	0.6	33	5.5	M4	105972
6.0	0.24	0.7	33	6.0	M4	105982
7.0	0.28	0.9	33	7.0	M5	106002
7.0	0.28	1.0	33	7.0	M5	106022
8.0	0.32	1.0	33	8.0	M6	106032



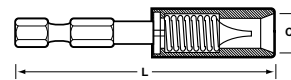
3mm HEX POWER (A3)

A		B		L		PART NO. XH
mm	in.	mm	in.	mm	in.	
2.0	0.08	0.3	0.012	50	2	88962
2.3	0.09	0.4	0.016	50	2	80722
3.0	0.12	0.5	0.020	50	2	80732
4.0	0.16	0.6	0.024	50	2	80742
5.0	0.20	0.8	0.031	50	2	80752
6.0	0.24	0.8	0.031	100	4	88982



4mm HEX INSERT (C4)

A		B		L		PART NO. XH
mm	in.	mm	in.	mm	in.	
3.0	0.12	0.5	0.020	28	1 ¹ / ₈	80802
4.5	0.18	0.6	0.024	28	1 ¹ / ₈	80832
5.5	0.22	0.8	0.031	28	1 ¹ / ₈	80842

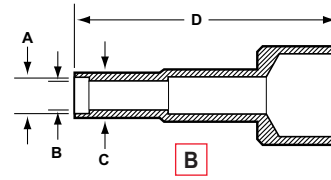
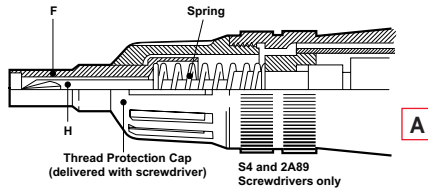


**COMBINED BIT AND FINDER SLEEVES
1/4" HEX POWER (E6.3)**

A		B		L		C		PART NO. XH
mm	in.	mm	in.	mm	in.	mm	in.	
4.9	0.20	0.91	0.04	95	3 ¹³ / ₁₆	8.0	0.32	111062
6.1	0.24	1.07	0.04	95	3 ¹³ / ₁₆	9.4	0.38	111072
7.3	0.29	1.07	0.04	95	3 ¹³ / ₁₆	10.8	0.43	4023068400
8.9	0.36	1.17	0.05	95	3 ¹³ / ₁₆	11.3	0.45	4023094900
10.0	0.40	1.27	0.05	98	3 ⁵⁹ / ₆₄	12.6	0.50	4023068500
3.91	0.16	0.6	0.02	53	2 ¹ / ₈	4.0	0.17	108032
3.91	0.16	0.7	0.03	53	2 ¹ / ₈	4.0	0.17	108042
7.0	0.28	1.2	0.05	95	3 ¹³ / ₁₆	9.3	0.37	110222
9.0	0.36	1.6	0.06	95	3 ¹³ / ₁₆	12.0	0.48	110122
10.0	0.40	1.6	0.06	95	3 ¹³ / ₁₆	15.0	0.60	110132
12.0	0.48	2.0	0.08	95	3 ¹³ / ₁₆	16.0	0.64	110142



Screwdriver Bits & Finder Sleeves

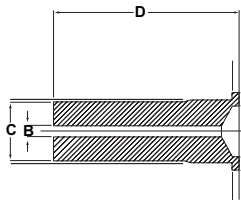
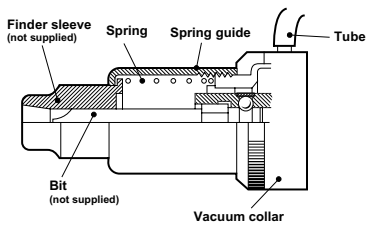


FINDER SLEEVES & BITS FOR 3mm HEX POWER (A3) SCREWDRIVERS BITS

To use 3mm Hex Power Bits (A3) with Non Rotating Finder Sleeves spring Part No. 280443 will be required.

PIC REF	ØA		ØB		ØC		D		PART NO. F	PART NO. H	PART NO. H	POINT SIZE	PART NO. H	POINT SIZE		
	mm	in.	mm	in.	mm	in.	mm	in.								
A & B	3.0	0.12	3.10	0.12	2.4	0.09	3.80	0.15	34	1 ³ / ₈	81042	80722	80782	0	88972/82102/80762	000/00/0
A & B	3.8	0.15	3.85	0.15	3.1	0.125	4.75	0.19	34	1 ³ / ₈	81052	80732	80782	0	80762	0
A & B	4.3	0.17	4.60	0.18	4.1	0.16	5.45	0.21	34	1 ³ / ₈	81062	80742	80792	1	80772	1
A & B	4.7	0.19	4.85	0.19	4.1	0.16	5.70	0.22	34	1 ³ / ₈	81072	80742	80792	1	80772	1
A & B	5.6	0.22	5.65	0.22	5.1	0.20	6.60	0.26	34	1 ³ / ₈	81082	80752	80792	1	80772	
B	Finder Sleeve Blank							6.60	0.26	100	4	88992				

Can be used with suction screw pick-up



VACUUM CREW PICK-UP KIT FOR SB & SC SCREWDRIVERS

DESCRIPTION	PART NO.
ømm	
Kit (SB) including:	108892
Spring Guide	464213
Spring	464223
Vacuum collar	464233
Vacuum tube (2.3m long)	111223
Blank finder sleeve machining instructions	464183
Kit (SC):	
1/4" hex (F6.3)	75152
5/16" hex	74762

NON-ROTATING FINDER SLEEVE KIT FOR SB SCREWDRIVERS

DESCRIPTION	PART NO.
ømm	
Kit including:	108902
Spring guide	464203
Spring	464223
Blank finder sleeve machining instructions	464183

Note: Finder sleeves to suit screw/screwdriver bit must be machined from plastic or steel blanks (see below)

DESCRIPTION	ØB		ØC		D		PART NO.
	mm	in.	mm	in.	mm	in.	
Finder Sleeve Blank – Delrin (SB)	3.0	0.12	14.2	0.6	105	4.1	464103
Finder Sleeve Blank – Steel (SB)	3.0	0.12	14.2	0.6	105	4.1	464093
Finder Sleeve Blank – Steel (SC)	3.35	0.13	15.6	0.6	26	1.0	464753

AIR-POWERED VACUUM ATTACHMENTS FOR BALANCERS

HU Hose Reel Balancers and DU Cable Balancers can be simply converted into a vacuum source by fitting a Vacuum Attachment. Vacuum is adjustable and switches off automatically when screwdriver is released.

PIC REF	BALANCER TYPE	VACUUM WATER GAUGE (1mm w.g. = 81.1 mbar)						HOSE LENGTH		HOSE BORE	
		mm	in.	l/s	cfm	dB(A)	part no.	m	ft.	mm	in.
A	HU	4570	13	0.47	1	64	51262	1.6	5 ¹ / ₂	4	0.16
B	DU	4570	13	0.47	1	64	51482	1.6	5 ¹ / ₂	4	0.16

AIR-POWERED AV201 VACUUM UNIT

The AV201 is installed into the air line system by screwing into the gauge port of a combination filter/regulator or into a tee piece between a regulator and lubricator.

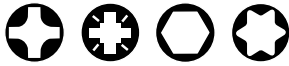
VACUUM MERCURY GAUGE						AIR INLET	HOSE LENGTH		HOSE BORE	
mm	in.	l/s	cfm	dB(A)	part no.		m	ft.	mm	in.
4570	13	0.7	1.5	54	112063	1/8	2.3	7 ¹ / ₂	4	0.16

SHAKER TRAYS

Conveniently aligns screw head upwards for easy pick-up with spring sleeve or suction. Dimensions (w x l x h) 118 x 95.7 x 21.3mm (4⁵/₈"x3³/₄"x27/₃₂")

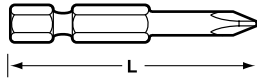
SLOT WIDTH		SCREW SIZE			
mm	in.	mm	BA	part no.	
1.8	0.071	M1.4/M1.6	10	9302	
2.0	0.079	-	9	9292	
2.4	0.094	M2/M2.2	8	9282	
3.4	0.134	M3	5	9252	
3.8	0.150	M3.5	4	9242	
4.9	0.193	M4.5	2	9222	





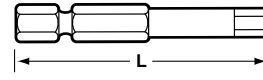
Impulse/Impact Bits

Designed for use with impact and impulse tools to absorb shock loading



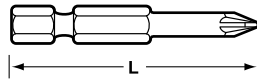
1/4" HEX POWER (E6.3)

POINT OR HEX	L		PART NO.
	mm	in.	
2	49	2	9092012111
3	49	2	9092012141



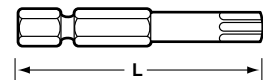
1/4" HEX POWER (E6.3)

POINT OR HEX	L		PART NO.
	mm	in.	
4	49	2	9092012291
5	49	2	9092012321
6	49	2	9092012351



1/4" HEX POWER (E6.3)

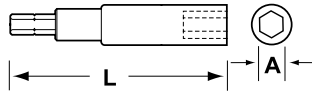
POINT OR HEX	L		PART NO.
	mm	in.	
2	49	2	9092012051
3	49	2	9092012081



1/4" HEX POWER (E6.3)

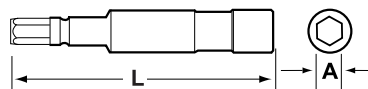
POINT OR HEX	L		PART NO.
	mm	in.	
T25	49	2	9092012201
T30	49	2	9092012231

Bit Holders



1/4" HEX INSERT (C6.3)

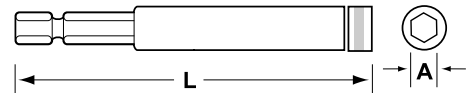
L		A		Q/R	PART NO.
mm	in.				
43	1.7	1/4" Hex Insert (D6.3)	X	X	22322



3mm HEX POWER (A3)

L		A		Q/R	PART NO.
mm	in.				
57	2.25	4mm Hex Insert (D4)	✓	X	80892
57	2.25	4mm Hex Insert (D4)	X	X	80902
50	2.0	1/4" Hex Insert (D6.3)	X	X	82322

For 5/16" Hex. Power Accessories see page 118



1/4" HEX POWER (E6.3)

L		A		Q/R	PART NO.
mm	in.				
50	2.0	1/4" Hex Power (E6.3)	X	✓	75782
50	2.0	5/16" Hex Power	X	X	110622
45	1.8	4mm Hex Insert (D4)	✓	X	97632
50	2.0	1/4" Hex Insert (D6.3)	✓	X	107952
73	2.9	1/4" Hex Insert (D6.3)	✓	X	99752 ¹⁾
75	3.0	1/4" Hex Insert (D6.3)	X	✓	111262
74	2.9	1/4" Hex Insert (D6.3)	✓	X	101252 ²⁾
42	1.6	1/4" Hex Insert (D6.3)	✓	X	101282
74	2.9	1/4" Hex Insert (D6.3)	✓	✓	100162
100	3.9	1/4" Hex Insert (D6.3)	X	X	110342
150	5.9	1/4" Hex Insert (D6.3)	✓	X	110102
150	5.9	1/4" Hex Insert (D6.3)	X	X	110352
80	3.1	1/4" Hex Insert (D6.3) ³⁾	✓	X	110362

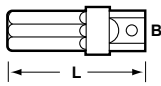
¹⁾ Reduced external diameter 9.5mm (3/8"), no retention clip

²⁾ Copper beryllium

³⁾ With retaining screw

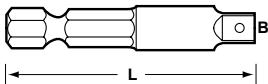


Adaptors



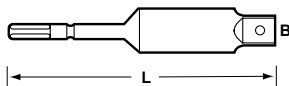
SQUARE DRIVE ADAPTORS 1/4" HEX INSERT (C6.3)

B	L		PART NO.
	mm	in.	
1/4" Square Drive	39	1.5	14372



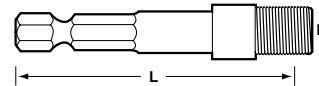
1/4" HEX POWER (E6.3)

B	L		PART NO.
	mm	in.	
1/4" Square Drive	35	1.4	95352
1/4" Square Drive	50	2.0	97132
3/8" Square Drive	41	1.6	95362



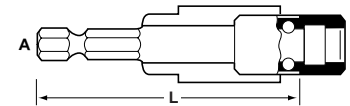
3mm HEX POWER (A3)

B	L		PART NO.
	mm	in.	
1/4" Square Drive	50	2.0	82732



THREAD ADAPTOR 1/4" HEX POWER (E6.3)

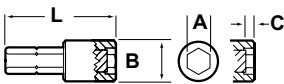
B	L		PART NO.
	mm	in.	
3/8" x 24 UNF	45	1.7	96743



TELESCOPIC SPINDLE EXTENSION ADAPTORS

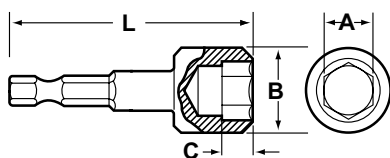
A	B	L		STROKE		PART NO.
		mm	in.	mm	in.	
5/16" Hex Power	3/8" Square Drive	67	2.6	9.5	0.81	71593
1/4" Hex Power E6.3	1/4" Hex Power E6.3	84	4.2	9.5	0.81	96713
3/8" Square Drive	1/4" Hex Power E6.3	73	3.8	9.5	0.81	96723

Nutrunners



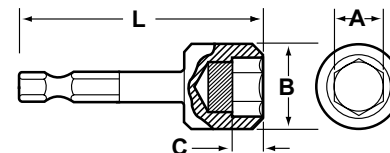
1/4" HEX INSERT (C6.3)

ISO	UNF/C	A		B		C		L		PART NO.
		mm	in.	mm	in.	mm	in.	mm	in.	
M4		7.0	0.27	11	0.43	2.4	0.09	28	1.1	9092011961
M5		8.0	0.31	13	0.51	2.9	0.11	28	1.1	9092011991
M6		10.0	0.39	14	0.56	5.0	0.20	32	1.25	9092012021



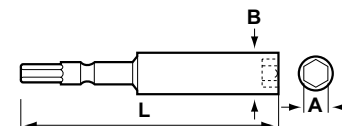
1/4" HEX POWER (E6.3)

ISO	UNF/C	A		B		C		L		PART NO.
		mm	in.	mm	in.	mm	in.	mm	in.	
M3		5.5	0.21	11	0.43	3.9	0.15	65	2.5	9092011451
M3.5		6.0	0.23	11	0.43	3.9	0.15	65	2.5	9092011511
	4	1/4		11	0.43	4.4	0.17	65	2.5	9092011751
M4		7.0	0.27	12	0.47	4.8	0.19	65	2.5	9092011571
M5		8.0	0.31	13	0.51	5.6	0.22	65	2.5	9092011631
	10 3/16"	3/8		14	0.56	6.7	0.26	65	2.5	9092011871
M6		10.0	0.39	14	0.56	6.7	0.26	65	2.5	9092011691



1/4" HEX POWER (E6.3)

ISO	UNF/C	A		B		C		L		PART NO.
		mm	in.	mm	in.	mm	in.	mm	in.	
M3		5.5	0.22	11	0.43	2.3	0.09	65	2.5	9092011481
M3.5		6.0	0.24	11	0.43	2.4	0.09	65	2.5	9092011541
	4	1/4		11	0.43	2.4	0.09	65	2.5	9092011781
M4		7.0	0.27	12	0.47	2.8	0.11	65	2.5	9092011601
M5		8.0	0.31	13	0.51	2.9	0.11	65	2.5	9092011661
M6		10.0	0.39	14	0.56	5.0	0.19	65	2.5	9092011721
	12 1/4"	11.1	0.44	16	0.63	5.0	0.19	65	2.5	9092011931



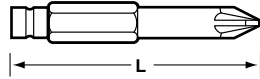
3mm HEX POWER (A3)

ISO	UNF/C	A		B		L		PART NO.	PART NO.
		mm	in.	mm	in.	mm	in.		
M2.5		5.0	0.20	10	0.39	43	1.72	80962	81002
M3		5.5	0.22	10	0.39	43	1.72	80972	81022



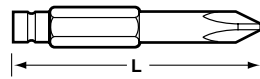


5/16" Hex Power Accessories



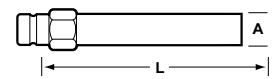
SCREWDRIVER BITS 5/16" HEX POWER

POINT SIZE	L		PART NO. XH
	mm	in.	
1	32	1.3	11642
2	32	1.3	11652
1	52	2.0	11672
2	52	2.0	11682
3	52	2.0	11692
1	92	3.6	11702
2	92	3.6	11722
3	92	3.6	11732



SCREWDRIVER BITS 5/16" HEX POWER

POINT SIZE	L		PART NO. XH
	mm	in.	
1	32	1.3	11532
2	32	1.3	11542
3	32	1.3	11552
1	44	1.7	13362
2	44	1.7	13372
1	52	2.0	11562
2	52	2.0	11572
3	52	2.0	11582
1	92	3.6	11602
2	92	3.6	11622
3	92	3.6	11632



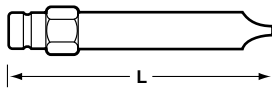
SCREWDRIVER BIT BLANK 5/16" HEX POWER

A		L		PART NO. XH
mm	in.	mm	in.	
10.2	0.40	52	2	10522
10.2	0.40	154	6	10692



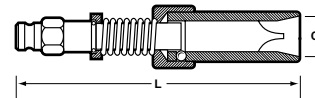
SCREWDRIVER BITS 5/16" HEX POWER

HEX	L		PART NO. XH	
	mm	in.		
3	0.12	50	2.0	99842
4	0.16	50	2.0	99852
5	0.19	50	2.0	99862
6	0.23	50	2.0	99872
8	0.31	50	2.0	99882



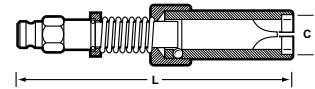
SCREWDRIVER BITS 5/16" HEX POWER

A		B		L		PART NO. XH
mm	in.	mm	in.	mm	in.	
3.1	0.12	0.6	0.023	52	2.04	10082
3.7	0.14	0.8	0.031	52	2.04	10092
5.0	0.19	1.0	0.038	52	2.04	10102
6.2	0.24	1.0	0.038	52	2.04	10122
7.5	0.29	1.2	0.047	52	2.04	10132
8.8	0.34	1.3	0.051	52	2.04	10142
10.2	0.40	1.5	0.059	52	2.04	10152
3.1	0.12	0.6	0.023	78	3.07	10162
3.7	0.14	0.8	0.032	78	3.07	10172
5.0	0.19	1.0	0.038	78	3.07	10182
6.2	0.24	1.0	0.038	78	3.07	10192
7.5	0.29	1.2	0.047	78	3.07	10202
8.8	0.34	1.3	0.051	78	3.07	10222
10.2	0.40	1.5	0.059	78	3.07	10232
3.1	0.12	0.6	0.023	103	4.05	10242
3.7	0.14	0.8	0.032	103	4.05	10252
5.0	0.19	1.0	0.038	103	4.05	10262
6.2	0.24	1.0	0.038	103	4.05	10272
7.5	0.29	1.2	0.047	103	4.05	10282
10.2	0.40	1.5	0.059	103	4.05	10302
3.7	0.14	0.8	0.031	154	6.06	10402
5.0	0.19	1.0	0.308	154	6.06	10422
6.2	0.24	1.0	0.038	154	6.06	10432
10.2	0.40	1.5	0.059	154	6.06	10462



SCREWDRIVER BITS – COMBINED BIT AND FINDER SLEEVES 5/16" HEX POWER

A		B		L		C		PART NO. XH
mm	in.	mm	in.	mm	in.	mm	in.	
3.2	0.12	0.6	0.023	84	3.3	4.2	0.16	10822
3.9	0.15	0.8	0.031	84	3.3	5.7	0.22	10832
5.1	0.20	1.0	0.038	84	3.3	7.2	0.28	10842
6.4	0.25	1.1	0.043	84	3.3	8.6	0.34	10852
7.7	0.30	1.2	0.047	84	3.3	10.1	0.39	10862
8.8	0.34	1.4	0.055	84	3.3	11.6	0.45	10872
11.0	0.42	1.6	0.062	84	3.3	13.0	0.51	10882
3.9	0.15	0.8	0.031	110	4.3	5.7	0.22	10902
5.1	0.20	1.0	0.038	110	4.3	7.2	0.28	10922
6.4	0.25	1.1	0.043	110	4.3	8.6	0.34	10932
7.7	0.30	1.2	0.047	110	4.3	10.1	0.39	10942

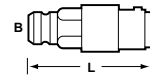
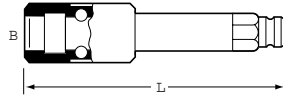
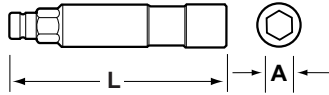


SCREWDRIVER BITS – COMBINED BIT AND SPRING PICK-UP SLEEVES

A		B		L		C		PART NO. XH
mm	in.	mm	in.	mm	in.	mm	in.	
3.2	0.12	0.6	0.023	84	3.3	3.9	0.15	22802
3.9	0.15	0.8	0.031	84	3.3	4.3	0.17	22792
3.9	0.15	0.8	0.031	84	3.3	4.9	0.19	22782
5.1	0.20	1.0	0.039	84	3.3	5.6	0.22	22772
5.1	0.20	1.0	0.039	84	3.3	6.4	0.25	22762
6.4	0.25	1.1	0.043	84	3.3	7.1	0.28	22752
6.4	0.25	1.1	0.043	84	3.3	8.0	0.31	22742
7.7	0.30	1.1	0.043	84	3.3	9.2	0.36	22732
3.9	0.15	0.8	0.031	110	4.3	4.9	0.19	22892
5.1	0.20	1.0	0.038	110	4.3	5.6	0.22	22882



5/16" Hex Power Accessories



BIT HOLDERS 5/16" HEX POWER

L		A	Q/R	PART NO.
mm	in.			
45	1.77	1/4" Hex Power (F6.3)	X ✓	78882
45	1.77	5/16" Hex Power	X ✓	75792
46	1.81	1/4" Hex Insert (D6.3)	X X	11522
62	2.44	1/4" Hex Insert (D6.3)	✓ X	11502
Replacement Spring Ring for 11522, 11502				260613
70	2.75	1/4" Hex Insert (D6.3)	✓ ✓	100172
55	2.16	1/4" Hex Insert (D6.3)	✓ X	98682
Cap and O Ring for 98682				X X 100132

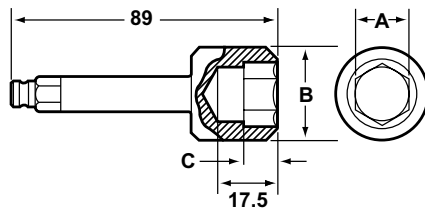
EXTENSION ADAPTORS 5/16" HEX POWER

B	L		PART NO.
	mm	in.	
5/16" Hex Power	51	2.0	10762
5/16" Hex Power	76	2.9	10772
5/16" Hex Power	101	3.9	10782
5/16" Hex Power	126	4.9	10792
5/16" Hex Power	151	5.9	10802

SQUARE DRIVE ADAPTORS 5/16" HEX POWER

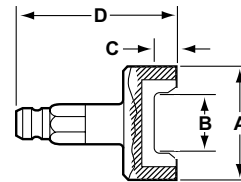
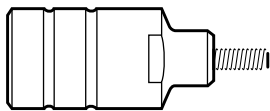
B	L		PART NO.
	mm	in.	
1/4" Square Drive	34	1.3	32962
1/4" Square Drive	75	2.9	23592
1/4" Square Drive	100	3.9	23602
1/4" Square Drive	150	5.9	23622
3/8" Square Drive	37	1.4	91772

NUTRUNNERS 5/16" HEX POWER



ISO		A		B		C		PART NO.	PART NO.
mm	in.	mm	in.	mm	in.	mm	in.		⊕
M2.5	5.1	0.20	8.9	0.35	2.3	0.09		7342	
M3	5.5	0.21	9.5	0.37	2.4	0.09		61332	
M3.5	6.1	0.24	10.4	0.41	3.2	0.12		7372	
	4	6.5	0.25	11.4	0.44	3.3	0.13	7392	
M4	7.2	0.28	11.9	0.46	3.3	0.13		61342	108472
	5-6	8.1	0.31	13.7	0.54	4.1	0.16	7412	
M5	8.3	0.32	13.7	0.54	4.1	0.16		7422	
	10.1	0.39	16.0	0.63	4.8	0.18		7462	108492
M6	11.4	0.44	17.5	0.68	5.6	0.22		7482	
	5/16"	13.0	0.51	19.6	0.77	6.4	0.25	7512	
M8	13.2	0.52	19.8	0.78	6.4	0.25		7522	108502
	13.6	0.53	20.3	0.80	6.4	0.25		7532	
M10	14.5	0.57	21.3	0.83	7.9	0.31		7552	
	3/8"	17.3	0.68	24.6	0.96	9.7	0.38	7582	

Bottle Cap Drivers/Nose Attachment Kits



NOSE ATTACHMENT KITS FOR THE ASSEMBLY OF THREADED CAPTIVE FASTENERS, RIVET NUTS, ETC USE WITH TOOLS 2F189

THREAD SIZE	PART NO. ASSEMBLY KIT	THREAD SIZE	PART NO. ASSEMBLY KIT
M3 x 0.5	76552	6 x 32 UNC	76602
M4 x 0.7	76562	8 x 32 UNC	76622
M5 x 0.8	76572	10 x 24 UNC	76632
M6 x 1.0	76582	10 x 32 UNF	76642
		1/4" -20 UNC	76652
M8 x 1.25	76592	1/4" -28 UNF	76662
		5/16" UNC	76672
		5/16" UNF	76682

BOTTLE CAP DRIVERS 5/16" HEX POWER

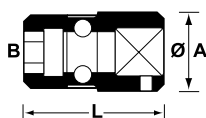
ØA		ØB		C		D		PART NO.
mm	in.	mm	in.	mm	in.	mm	in.	
25.4	1.0	14.3	0.56	6.4	0.25	38.1	1.50	11832
28.6	1.12	17.5	0.68	6.4	0.25	38.1	1.50	11842
31.7	1.24	22.2	0.87	6.4	0.25	38.1	1.50	11852
34.9	1.37	23.8	0.93	6.4	0.25	38.1	1.50	11862
39.7	1.56	27.0	1.06	6.4	0.25	38.9	1.53	11872
42.9	1.68	30.2	1.18	6.4	0.25	38.9	1.53	11882
49.2	1.93	36.5	1.43	7.9	0.31	40.4	1.59	11892
55.6	2.18	42.9	1.68	7.9	0.31	40.4	1.59	11902



THREAD SIZE	PART NO. A	PART NO. B	PART NO. C	LENGTH D		PART NO.	E A/F SIZE		PART NO.	PART NO. F	PART NO. G
				mm	in.		mm	in.			
M3 x 0.5	273513	273603	273423	35	1.37	279683	2.5	0.09	72362	273613	16313
M4 x 0.7	273533	273603	273443	35	1.37	273643	3.0	0.12	72172		
M5 x 0.8	273563	273603	273473	35	1.37	273653	4.0	0.15	72192		
M6 x 1.0	273573	273603	273483	35	1.37	237893	5.0	0.19	72222		
M8 x 1.25	273593		300383	45	1.77	300393	6.0	0.23	72242		

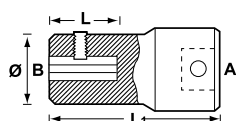


Square Drive Adaptors



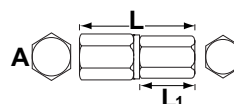
SQUARE DRIVE TO SCREWDRIVER BIT ADAPTORS QUICK RELEASE AND CLIP/BALL RETENTION

A	B	L		Ø MAX		Q/R	PART NO.
in.		mm	in.	mm	in.		
3/8	1/4" Hex Insert (D6.3)	32	1.26	16	0.62		21792
3/8	1/4" Hex Power (F6.3)	46	1.81	22	0.86	Q/R	108052
3/8	5/16" Hex Power	30	1.18	19	0.74		70942
3/8	5/16" Hex Power	68	2.67	21	0.82	Q/R	21762
1/2	1/4" Hex Insert (D6.3)	45	1.77	22	0.86		6158123060



POSITIVE RETENTION

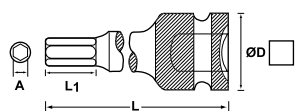
A	B	L		Ø	L1		PART NO.	
in.		mm	in.	mm	in.	mm	in.	
3/8	1/4" Hex	14	0.55	14	0.55	38	1.49	6158122060
3/8	7/16" Hex	14	0.55	14	0.55	38	1.49	6158041570
1/2	7/16" Hex	14	0.55	14	0.55	38	1.49	6158041600



HEXAGONAL BITS 7/16"

SIZE ON FLATS A		L		HEX LENGTH L1		PART NO.
mm	in.	mm	in.	mm	in.	
8		28	1.10	12	0.47	6158041080
10		28	1.10	12	0.47	6158041090
12		28	1.10	12	0.47	6158041100
14		28	1.10	12	0.47	6158041110
	1/4	28	1.10	12	0.47	6158040220
	5/16	28	1.10	12	0.47	6158040230
	3/8	28	1.10	12	0.47	6158040240
	7/16	28	1.10	12	0.47	6158040250
	1/2	28	1.10	12	0.47	6158040260

Sockets 1/2" Drive with Male Hex/Stud Runners

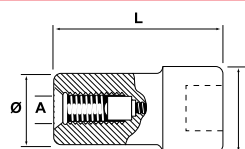


HEXAGONAL DRIVES WITH PIN AND O RING RETENTION

A		SQUARE DRIVE	L		L1		ØD		PART NO.
mm	in.	in.	mm	in.	mm	in.	mm	in.	
4	0.15	3/8	50	1.96	16	0.63	19	0.74	9092013781
5	0.19	3/8	50	1.96	16	0.63	19	0.74	9092013811
6	0.23	3/8	50	1.96	16	0.63	19	0.74	9092013841
8	0.31	3/8	50	1.96	16	0.63	19	0.74	9092013871
10	0.39	3/8	50	1.96	16	0.63	19	0.74	9092013901
8	0.31	1/2	75	2.95	16	0.63	25	0.98	9092013961
10	0.39	1/2	75	2.95	16	0.63	25	0.98	9092013991
12	0.47	1/2	75	2.95	16	0.63	25	0.98	9092014021
14	0.55	1/2	75	2.95	20	0.78	25	0.98	9092014051

SOCKET 1/2" DRIVE WITH MALE HEX

HEX		L		L1		PART NO.
mm	in.	mm	in.	mm	in.	
4	0.15	44	1.73	6	0.23	6158040400
5	0.19	44	1.73	8	0.31	6158040410
6	0.23	44	1.73	9	0.35	6158040420
8	0.31	44	1.73	12	0.47	6158040430
10	0.39	47	1.85	16	0.63	6158040440
14	0.55	50	1.96	21	0.82	6158040450
17	0.67	50	1.96	26	1.02	6158040460
19	0.74	50	1.96	26	1.02	6158040470
	1/4	44	1.73	12	0.47	6158040480
	5/16	44	1.73	12	0.47	6158040490
	3/8	47	1.85	16	0.63	6158040500
	7/16	50	1.96	18	0.71	6158040510
	1/2	50	1.96	19	0.74	6158040520
	9/16	50	1.96	21	0.82	6158040530
	5/8	50	1.96	24	0.94	6158040540



STUD RUNNER

THREAD A	SQUARE DRIVE	Ø		D		L		PART NO.
	in.	mm	in.	mm	in.	mm	in.	
M5 x 80	3/8	15	0.59	19	0.74	55	2.16	6158041530
M6 x 100	3/8	15	0.59	19	0.74	55	2.16	6158041610
M8 x 125	3/8	17	0.66	19	0.74	55	2.16	6158041620
M10 x 150	3/8	19	0.74	24	0.94	55	2.16	6158041540
M6 x 100	1/2	22	0.86	24	0.94	65	2.55	6158041550
M8 x 125	1/2	24	0.94	24	0.94	65	2.55	6158041630
M10 x 150	1/2	24	0.94	24	0.94	65	2.55	6158041640
M12 x 175	1/2	24	0.94	24	0.94	65	2.55	6158041650
M12 x 125	1/2	24	0.94	24	0.94	65	2.55	903-108-0
M14 x 150	1/2	24	0.94	24	0.94	65	2.55	903-118-0
M14 x 200	1/2	24	0.94	24	0.94	65	2.55	6158041680
M16 x 200	1/2	24	0.94	24	0.94	65	2.55	6158041580

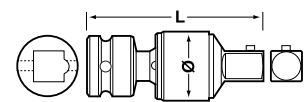
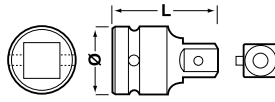
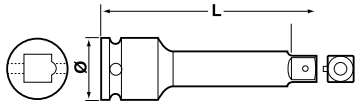
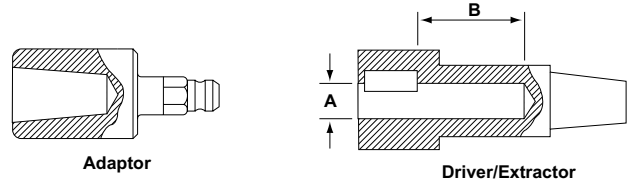


Stud Driver/Extractors

Extensions – Universal Joints – Adaptors

STUD DRIVER/EXTRACTORS 5/16" HEX POWER

A	B		PART NO.	
	mm	in.	ADAPTOR	DRIVER/EXTRACTOR
M4	18.2	0.71	15492	15262
M5	19.8	0.78	15492	15302
M6	12.7	0.50	15502	15332
	14.3	0.56	15502	15342
M7	19.0	0.74	15502	15362
M8	19.0	0.74	15502	15372



EXTENSIONS

FEMALE SQ.	SQ. DRIVE	L		Ø		PART NO.
in.	in.	mm	in.	mm	in.	
1/4	1/4	51	2.0	13	0.51	6158071050
1/4	1/4	75	2.9	13	0.51	6158071070
1/4	1/4	100	3.9	13	0.51	6158071100
1/4	1/4	150	5.9	13	0.51	6158071150
3/8	3/8	76	3.0	19	0.74	6158072070
3/8	3/8	152	5.9	19	0.74	6158072150
1/2	1/2	51	2.0	30	1.18	6158073050
1/2	1/2	127	5.0	30	1.18	6158073130
1/2	1/2	254	10.0	30	1.18	6158073250
3/4	3/4	102	4.0	44	1.73	6158075100
3/4	3/4	178	7.0	44	1.73	6158075170
1	1	178	7.0	54	2.12	6158076180
1	1	330	12.9	54	2.12	6158076330
1 1/2	1 1/2	330	12.9	86	3.38	6158078330
#5	#5	203	7.9	54	2.12	6158040340
#5	#5	381	15.0	54	2.12	6158040350

ADAPTORS

FEMALE SQ.	SQ. DRIVE	L		Ø		PART NO.
in.	in.	mm	in.	mm	in.	
1/4	3/8	32	1.3	12.5	0.49	6158091200
3/8	1/4	31	1.2	22	0.86	6158092100
3/8	1/2	35	1.4	22	0.86	6158092300
1/2	3/8	35	1.4	25	0.98	6158093200
1/2	3/4	43	1.7	30	1.18	6158093500
3/4	1/2	52	2.0	44	1.73	6158095300
3/4	1	60	2.4	44	1.73	6158095600
1	3/4	67	2.6	54	2.12	6158096500
1	1 1/2	85	3.3	54	2.12	6158096800
#4	3/4	90	3.5	60	2.36	6158040110
#4	1	90	3.5	60	2.36	6158040120
#5	1	90	3.5	60	2.36	6158040130
#5	1 1/2	100	3.9	60	2.36	6158040140

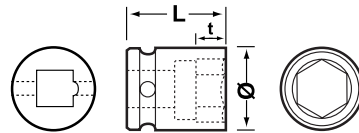
UNIVERSAL JOINTS

FEMALE SQ.	SQ. DRIVE	L		Ø		PART NO.
in.	in.	mm	in.	mm	in.	
1/4	1/4	42	1.6	17	0.66	6158081010
3/8	3/8	60	2.3	20	0.78	6158082010
1/2	1/2	76	3.0	32	1.26	6158083010
3/4	3/4	89	3.5	44	1.73	6158085010
1	1	112	4.4	54	2.12	6158086010
1 1/2	1 1/2	162	6.4	86	3.38	6158088010
#4	#4	132	5.2	86	3.38	6158040320
#5	#5	143	5.6	86	3.38	6158040330

Sockets 1/4" - 3/8" Square Drive

STANDARD 1/4" SQUARE DRIVE IMPACT SOCKETS

SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
4.0	25	1	7.5	0.30	4	0.16	6158051040
4.5	25	1	8.0	0.31	4	0.16	6158051450
5.0	25	1	8.5	0.33	4	0.16	6158051050
5.5	25	1	9.0	0.35	4	0.16	6158051550
6.0	25	1	9.5	0.37	5	0.20	6158051060
7.0	25	1	11.0	0.43	5	0.20	6158051070
8.0	25	1	12.0	0.47	6	0.24	6158051080
9.0	25	1	13.0	0.51	7	0.28	6158051090
10.0	25	1	14.5	0.57	7	0.28	6158051100
11.0	25	1	16.0	0.63	8	0.31	6158051110
12.0	25	1	17.0	0.67	8	0.31	6158051120
13.0	25	1	18.0	0.71	9	0.35	6158051130
14.0	25	1	19.0	0.75	9	0.35	6158051140



MAGNETIC 1/4" SQUARE DRIVE IMPACT SOCKETS

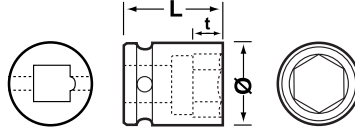
SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
7	25	1	19	0.75	3	0.12	6158040050
8	25	1	19	0.75	4	0.16	6158040060
10	25	1	19	0.75	5	0.20	6158040070

STANDARD 3/8" SQUARE DRIVE IMPACT SOCKETS

SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
6	34	1.34	10.0	0.39	5.0	0.20	6158052060
7	34	1.34	11.0	0.43	6.5	0.26	6158052070
8	34	1.34	12.0	0.47	7.5	0.30	6158052080
9	34	1.34	13.5	0.53	8.0	0.31	6158052090
10	34	1.34	15.0	0.59	8.0	0.31	6158052100
11	34	1.34	16.5	0.65	9.0	0.35	6158052110
12	34	1.34	18.0	0.71	9.0	0.35	6158052120
13	34	1.34	19.5	0.77	10.0	0.39	6158052130
14	34	1.34	20.5	0.81	10.0	0.39	6158052140
15	34	1.34	22.0	0.87	10.0	0.39	6158052150
16	34	1.34	23.0	0.91	10.0	0.39	6158052160
17	34	1.34	24.5	0.96	10.0	0.39	6158052170
18	34	1.34	25.5	1.00	10.0	0.39	6158052180
19	34	1.34	27.0	1.06	11.0	0.43	6158052190
3/8"	30	1.18	14.5	0.57	4.0	0.16	6158042660
7/16"	30	1.18	17.0	0.67	6.0	0.24	6158042670
1/2"	30	1.18	19.0	0.75	6.0	0.24	6158042680
9/16"	30	1.18	20.0	0.79	7.0	0.28	6158042690
5/8"	30	1.18	24.0	0.94	8.0	0.31	6158042700
11/16"	30	1.18	24.0	0.94	9.0	0.35	6158042710



Sockets 1/2" - 3/4" Square Drive



STANDARD 1/2" SQUARE DRIVE IMPACT SOCKETS

SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
10	38	1.50	16.0	0.63	8.0	0.31	6158053100
11	38	1.50	17.5	0.69	9.0	0.35	6158053110
12	38	1.50	19.0	0.75	9.0	0.35	6158053120
13	38	1.50	20.5	0.81	10.0	0.39	6158053130
14	38	1.50	22.0	0.87	10.0	0.39	6158053140
15	38	1.50	23.5	0.93	10.0	0.39	6158053150
16	38	1.50	24.5	0.96	10.0	0.39	6158053160
17	38	1.50	26.0	1.02	10.0	0.39	6158053170
18	38	1.50	27.5	1.08	10.0	0.39	6158053180
19	38	1.50	29.0	1.14	11.0	0.43	6158053190
20	38	1.50	30.0	1.18	12.0	0.47	6158053200
21	38	1.50	31.0	1.22	13.0	0.51	6158053210
22	38	1.50	32.5	1.28	13.0	0.51	6158053220
23	38	1.50	34.0	1.34	15.0	0.59	6158053230
24	45	1.77	35.0	1.38	15.0	0.59	6158053240
26	45	1.77	38.0	1.50	15.0	0.59	6158053260
27	50	1.97	39.0	1.54	16.0	0.63	6158053270
28	50	1.97	40.0	1.57	17.0	0.67	6158053280
29	50	1.97	41.0	1.61	17.0	0.67	6158053290
30	50	1.97	42.5	1.67	18.0	0.71	6158053300
3/8"	38	1.50	16.0	0.63	4.0	0.16	6158042780
7/16"	38	1.50	18.0	0.71	6.0	0.24	6158042790
1/2"	38	1.50	20.0	0.79	6.0	0.24	6158042800
9/16"	38	1.50	22.0	0.87	7.0	0.28	6158042810
5/8"	38	1.50	25.0	1.00	8.0	0.31	6158042820
11/16"	38	1.50	26.0	1.02	9.0	0.35	6158042830
3/4"	38	1.50	28.7	1.13	9.5	0.37	6158053190
13/16"	38	1.50	30.0	1.18	11.0	0.43	6158042840
7/8"	38	1.50	32.0	1.26	13.0	0.51	6158042850
15/16"	38	1.50	34.0	1.34	13.0	0.51	6158042860
1"	38	1.50	36.0	1.42	13.0	0.51	6158042870
1 1/16"	38	1.50	38.7	1.52	13.0	0.51	6158053270
1 1/8"	40	1.57	38.0	1.50	16.5	0.65	6158042880
1 3/16"	40	1.57	42.0	1.65	16.5	0.65	6158053300
1 1/4"	40	1.57	44.0	1.73	17.0	0.67	6158042890

EXTENDED 1/2" SQUARE DRIVE IMPACT SOCKETS

SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
10	78	3.07	17.0	0.67	10.0	0.39	6158063100
11	78	3.07	18.5	0.73	11.0	0.43	6158063110
12	78	3.07	20.0	0.79	12.0	0.47	6158063120
13	78	3.07	21.5	0.85	13.0	0.51	6158063130
14	78	3.07	23.0	0.91	14.0	0.55	6158063140
15	78	3.07	23.5	0.93	15.0	0.59	6158063150
16	78	3.07	24.5	0.96	16.0	0.63	6158063160
17	78	3.07	26.0	1.02	17.0	0.67	6158063170
18	78	3.07	27.5	1.08	18.0	0.71	6158063180
19	78	3.07	29.0	1.14	19.0	0.75	6158063190
20	78	3.07	30.0	1.18	20.0	0.79	6158063200
21	78	3.07	31.0	1.22	23.0	0.91	6158063210
22	78	3.07	32.5	1.28	23.0	0.91	6158063220
23	78	3.07	34.0	1.34	25.0	0.98	6158063230
24	78	3.07	35.0	1.38	25.0	0.98	6158063240
27	78	3.07	39.0	1.54	26.0	1.02	6158063270
28	78	3.07	40.0	1.57	27.0	1.06	6158063280
30	78	3.07	43.0	1.69	30.0	1.18	6158063300
1/2"	78	3.07	20.0	0.79	6.0	0.24	6158042900
9/16"	78	3.07	22.0	0.87	7.0	0.28	6158042910
5/8"	78	3.07	25.0	0.98	8.0	0.31	6158042920
11/16"	78	3.07	26.0	1.02	9.0	0.35	6158042930
3/4"	78	3.07	28.7	1.13	9.5	0.37	6158063190
13/16"	78	3.07	30.0	1.18	11.0	0.43	6158042940
7/8"	78	3.07	32.0	1.26	13.0	0.51	6158042950
15/16"	78	3.07	34.0	1.34	13.0	0.51	6158042960
1"	78	3.07	36.0	1.42	13.0	0.51	6158042970
1 1/16"	78	3.07	38.7	1.52	13.0	0.51	6158063270
1 1/8"	78	3.07	40.0	1.57	16.5	0.65	6158042980

STANDARD 3/4" SQUARE DRIVE IMPACT SOCKETS

SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
18	50	1.97	31	1.22	12	0.47	6158055180
19	50	1.97	32	1.26	13	0.51	6158055190
21	50	1.97	35	1.38	13	0.51	6158055210
22	50	1.97	35	1.38	13	0.51	6158055220
24	50	1.97	39	1.54	15	0.59	6158055240
26	54	2.13	41	1.61	16	0.63	6158055260
27	54	2.13	42	1.65	16	0.63	6158055270
29	54	2.13	44	1.73	17	0.67	6158055290
30	54	2.13	46	1.81	18	0.71	6158055300
32	56	2.20	49	1.93	18	0.71	6158055320
33	56	2.20	51	2.01	20	0.79	6158055330
34	56	2.20	52	2.05	20	0.79	6158055340
36	56	2.20	54	2.13	20	0.79	6158055360
38	58	2.28	57	2.24	22	0.87	6158055380
41	58	2.28	61	2.40	22	0.87	6158055410
3/4"	45	1.77	36	1.42	9.5	0.37	6158055190
13/16"	46	1.81	35	1.38	11.0	0.43	6158042990
7/8"	46	1.81	40	1.57	13.0	0.51	6158043000
15/16"	46	1.81	41	1.61	13.0	0.51	6158043010
1"	46	1.81	43	1.69	13.0	0.51	6158043020
1 1/16"	48	1.89	46	1.81	13.0	0.51	6158055270
1 1/8"	52	2.05	48	1.89	16.5	0.65	6158043030
1 1/4"	52	2.05	51	2.01	16.5	0.65	6158043040
1 5/16"	55	2.16	54	2.13	17.0	0.67	6158043050
1 3/8"	56	2.20	54	2.13	19.0	0.75	6158043060
1 7/16"	56	2.20	54	2.13	19.0	0.75	6158043070
1 1/2"	59	2.32	60	2.36	22.0	0.87	6158055380

EXTENDED 3/4" SQUARE DRIVE IMPACT SOCKETS

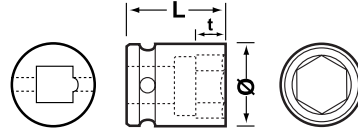
SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
18	100	3.94	32	1.26	18	0.71	6158065180
19	100	3.94	33	1.30	19	0.75	6158065190
21	100	3.94	36	1.42	21	0.83	6158065210
22	100	3.94	36	1.42	22	0.87	6158065220
24	100	3.94	40	1.57	24	0.94	6158065240
26	100	3.94	42	1.65	26	1.02	6158065260
27	100	3.94	43	1.69	27	1.06	6158065270
30	100	3.94	46	1.81	30	1.18	6158065300
32	100	3.94	49	1.93	32	1.26	6158065320
33	100	3.94	51	2.01	32	1.26	6158065330
34	100	3.94	52	2.05	32	1.26	6158065340
36	100	3.94	54	2.13	32	1.26	6158065360
38	100	3.94	57	2.24	35	1.38	6158065380
41	100	3.94	61	2.40	35	1.38	6158065410
3/4"	90	3.54	32	1.26	9.5	0.37	6158065190
13/16"	90	3.54	35	1.38	11.0	0.43	6158043080
7/8"	90	3.54	38	1.50	13.0	0.51	6158043090
15/16"	90	3.54	40	1.57	13.0	0.51	6158043100
1"	90	3.54	41	1.61	13.0	0.51	6158043110
1 1/16"	90	3.54	41	1.61	13.0	0.51	6158065270
1 1/8"	90	3.54	44	1.73	16.5	0.65	6158043120
1 1/4"	90	3.54	49	1.93	17.0	0.67	6158043130
1 5/16"	90	3.54	49	1.93	19.0	0.75	6158043140
1 1/2"	90	3.54	54	2.13	22.0	0.87	6158065380



Sockets 1"- 1 1/2" Square and 5# Spline Drive

STANDARD 1" SQUARE DRIVE IMPACT SOCKETS

SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
24	59	2.32	38	1.50	15.0	0.59	6158056240
27	59	2.32	44	1.73	16.0	0.63	6158056270
29	59	2.32	48	1.89	17.0	0.67	6158056290
30	61	2.40	50	1.97	18.0	0.71	6158056300
32	61	2.40	52	2.05	19.0	0.75	6158056320
33	61	2.40	54	2.13	19.0	0.75	6158056330
34	61	2.40	54	2.13	19.0	0.75	6158056340
36	65	2.56	57	2.24	23.0	0.91	6158056360
38	65	2.56	59	2.32	23.0	0.91	6158056380
41	70	2.76	63	2.48	25.0	0.98	6158056410
42	70	2.76	64	2.52	25.0	0.98	6158056420
46	75	2.95	69	2.72	30.0	1.18	6158056460
50	80	3.15	75	2.95	32.0	1.26	6158056500
55	83	3.27	81	3.19	33.0	1.30	6158056550
60	83	3.27	87	3.43	33.0	1.30	6158056600
65	86	3.39	94	3.70	38.0	1.50	6158056650
3/4"	55	2.17	36	1.42	9.5	0.37	6158043150
13/16"	55	2.17	38	1.50	11.0	0.43	6158043160
7/8"	55	2.17	40	1.57	13.0	0.51	6158043170
15/16"	55	2.17	41	1.61	13.0	0.51	6158043180
1"	55	2.17	43	1.69	13.0	0.51	6158043190
1 1/16"	55	2.17	46	1.81	13.0	0.51	6158043200
1 1/8"	57	2.24	48	1.89	16.5	0.65	6158043210
1 1/16"	57	2.24	50	1.97	16.5	0.65	6158043220
1 1/4"	57	2.24	51	2.01	17.0	0.67	6158043230
1 5/16"	60	2.36	54	2.13	19.0	0.75	6158043240
1 3/8"	60	2.36	54	2.13	19.0	0.75	6158043250
1 7/16"	60	2.36	54	2.13	19.0	0.75	6158043260
1 1/2"	64	2.52	60	2.36	22.0	0.87	6158043270
1 5/8"	64	2.52	63	2.48	22.0	0.87	6158043280
1 11/16"	69	2.72	67	2.64	25.0	0.89	6158043290
1 3/4"	69	2.72	70	2.76	25.5	1.00	6158043300



EXTENDED 1" SQUARE DRIVE IMPACT SOCKETS

SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
24	100	3.94	39	1.54	24.0	0.94	6158066240
27	100	3.94	45	1.77	27.0	1.06	6158066270
30	100	3.94	51	2.01	30.0	1.18	6158066300
32	100	3.94	53	2.09	30.0	1.18	6158066320
33	100	3.94	54	2.13	30.0	1.18	6158066330
34	100	3.94	54	2.13	30.0	1.18	6158066340
36	100	3.94	57	2.24	33.0	1.30	6158066360
38	100	3.94	59	2.32	33.0	1.30	6158066380
41	100	3.94	63	2.48	35.0	1.38	6158066410
42	100	3.94	64	2.52	35.0	1.38	6158066420
46	115	4.53	69	2.72	35.0	1.38	6158066460
50	125	4.92	75	2.95	38.0	1.50	6158066500
55	125	4.92	81	3.19	40.0	1.57	6158066550
60	125	4.92	87	3.43	40.0	1.57	6158066600
65	135	5.31	94	3.70	42.0	1.65	6158066650
1 1/16"	100	3.94	46	1.81	13.0	0.51	6158043310
1 1/8"	100	3.94	48	1.89	16.5	0.65	6158043320
1 1/4"	100	3.94	51	2.01	17.0	0.67	6158043330
1 5/16"	100	3.94	54	2.13	19.0	0.75	6158043340
1 1/2"	100	3.94	60	2.36	22.0	0.87	6158043350
1 5/8"	100	3.94	63	2.48	22.0	0.87	6158043360
1 3/4"	100	3.94	70	2.76	25.5	1.00	6158043370
2"	100	3.94	73	2.87	27.0	1.06	6158043380
2 9/16"	100	3.94	92	3.62	35.0	1.38	6158043390
2 3/4"	110	4.33	96	3.78	38.0	1.50	6158043400
3 3/8"	116	4.56	115	4.53	49.0	1.93	6158043410
3 3/4"	118	4.64	135	5.31	49.0	1.93	6158043420

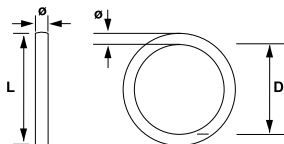
STANDARD 1-1/2" SQUARE DRIVE IMPACT SOCKETS

SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
50	87	3.43	81	3.19	25.0	0.98	6158058500
55	90	3.54	86	3.39	30.0	1.18	6158058550
60	95	3.74	94	3.70	38.0	1.50	6158058600
65	100	3.94	99	3.90	40.0	1.57	6158058760
70	105	4.13	105	4.13	42.0	1.65	6158058700
75	110	4.33	112	4.41	42.0	1.65	6158058750
80	110	4.33	119	4.69	42.0	1.65	6158058800
85	116	4.57	121	4.76	49.0	1.93	6158058850
90	120	4.72	131	5.16	50.0	1.97	6158058900
95	130	5.12	141	5.55	55.0	2.17	6158058950
1 3/4"	80	3.15	75	2.95	25.5	1.00	6158043670
2"	82	3.23	80	3.15	27.0	1.06	6158043680
2 9/16"	96	3.78	100	3.94	35.0	1.38	6158058700
2 3/4"	101	3.98	105	4.13	38.0	1.50	6158058750
3 3/8"	116	4.57	127	5.00	49.0	1.93	6158043690
3 3/4"	118	4.65	135	5.31	49.0	1.93	6158058950

STANDARD 5# SPLINE DRIVE IMPACT SOCKETS

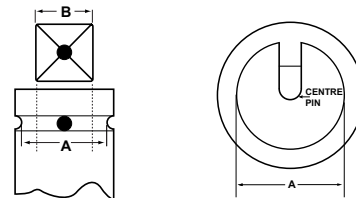
SIZE ON FLATS	L		Ø		DEPTH t		PART NO.
	mm	in.	mm	in.	mm	in.	
3/4"	70	2.76	48	1.89	9.5	0.37	6158043430
7/8"	70	2.76	48	1.89	13.0	0.51	6158043440
15/16"	70	2.76	48	1.89	13.0	0.51	6158043450
1"	70	2.76	49	1.93	13.0	0.51	6158043460
1 1/16"	70	2.76	51	2.01	13.0	0.51	6158043470
1 1/8"	70	2.76	51	2.01	16.5	0.65	6158043480
1 3/16"	70	2.76	54	2.13	16.5	0.65	6158043490
1 1/4"	75	2.95	60	2.36	17.0	0.67	6158043500
1 5/16"	77	3.03	60	2.36	19.0	0.75	6158043510
1 3/8"	77	3.03	60	2.36	19.0	0.75	6158043520
1 7/16"	77	3.03	63	2.48	19.0	0.75	6158043530
1 1/2"	80	3.15	63	2.48	22.0	0.87	6158043540
1 5/8"	80	3.15	67	2.64	22.0	0.87	6158043550
1 11/16"	84	3.31	67	2.64	25.0	0.98	6158043560
1 3/4"	84	3.31	73	2.87	25.5	1.00	6158043570

Socket Retention



PIN AND O-RING RETENTION

HEX SIZE	□	L		Ø		PIN		D		O RING	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
6-12	3/8	16	0.64	3	0.12	6158043880	13	0.52	3.5	0.14	6158044020
13-19	3/8	16	0.64	3	0.12	6158043880	16	0.64	3.5	0.14	6158044030
10-14	1/2	20	0.78	3	0.12	6158043900	19	0.76	4.0	0.16	6158044040
15-30	1/2	25	0.98	3	0.12	6158043910	24	0.96	4.0	0.16	6158044050
18-41	3/4	35	1.37	4	0.16	6158043920	36	1.44	5.0	0.19	6158044060
24-65	1	45	1.77	5	0.19	6158043930	45	1.77	7.0	0.28	6158044070
50-90	1-1/2	75	2.95	6	0.24	6158043940	75	2.95	10.0	0.39	6158044080
95	1-1/2	75	2.95	6	0.24	6158043940	90	3.54	10.0	0.39	6158044090


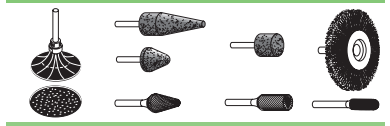



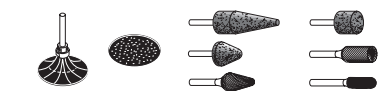
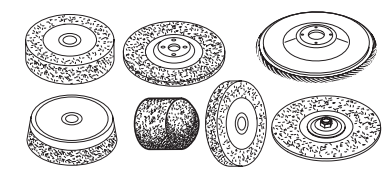

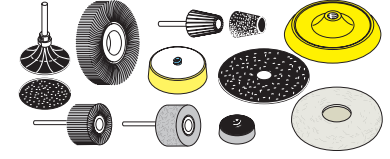



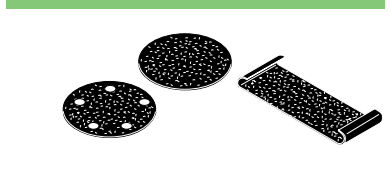


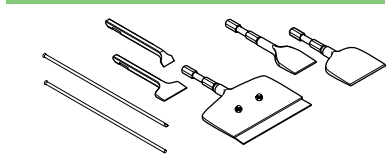


RETAINING RING IMPACT SOCKET RETAINER

A GROOVE DIAMETER SOCKET SIZE	B FOR USE ON SQUARE DRIVE	NUMBER ON RING	PART NO.
in.	in.		
1 5/8	3/4	10034S	C134690
2 1/4	1	10016S	C134692
3 3/8	1 1/2	10025S	C134694
3 7/8	1 1/2	10030S	C134695
4 3/8	1 1/2	10035S	C134696

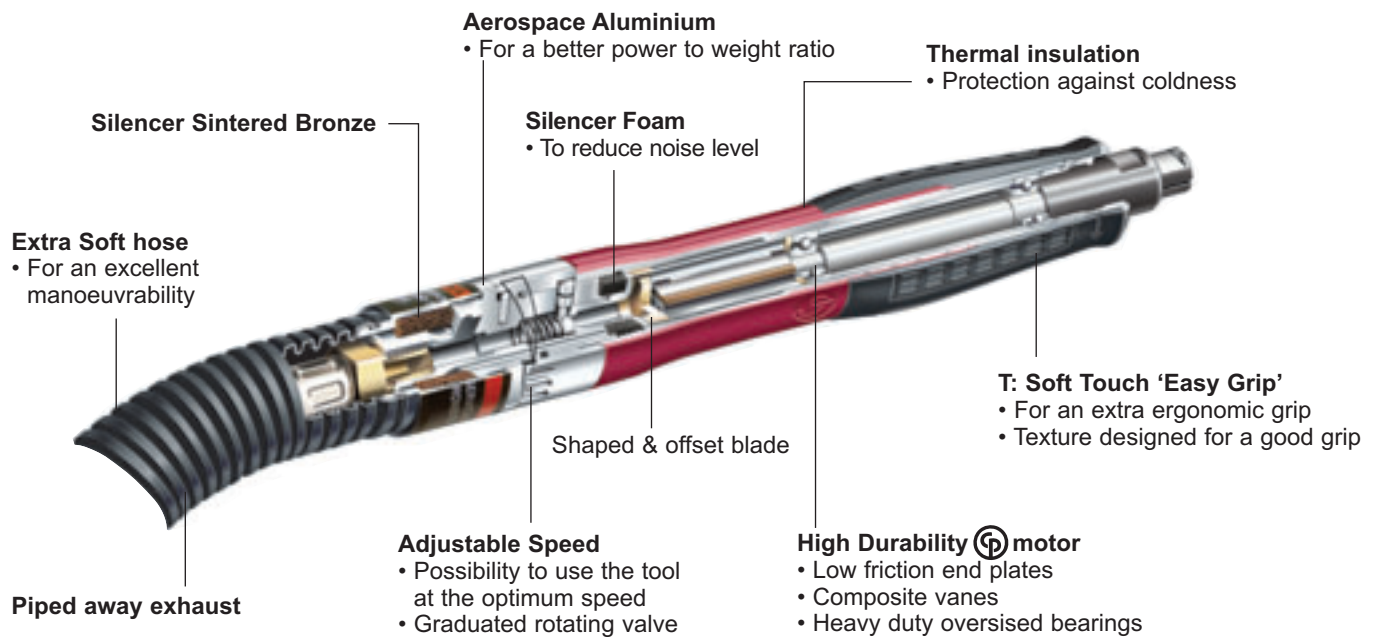


Removal Tools - Selection Guide

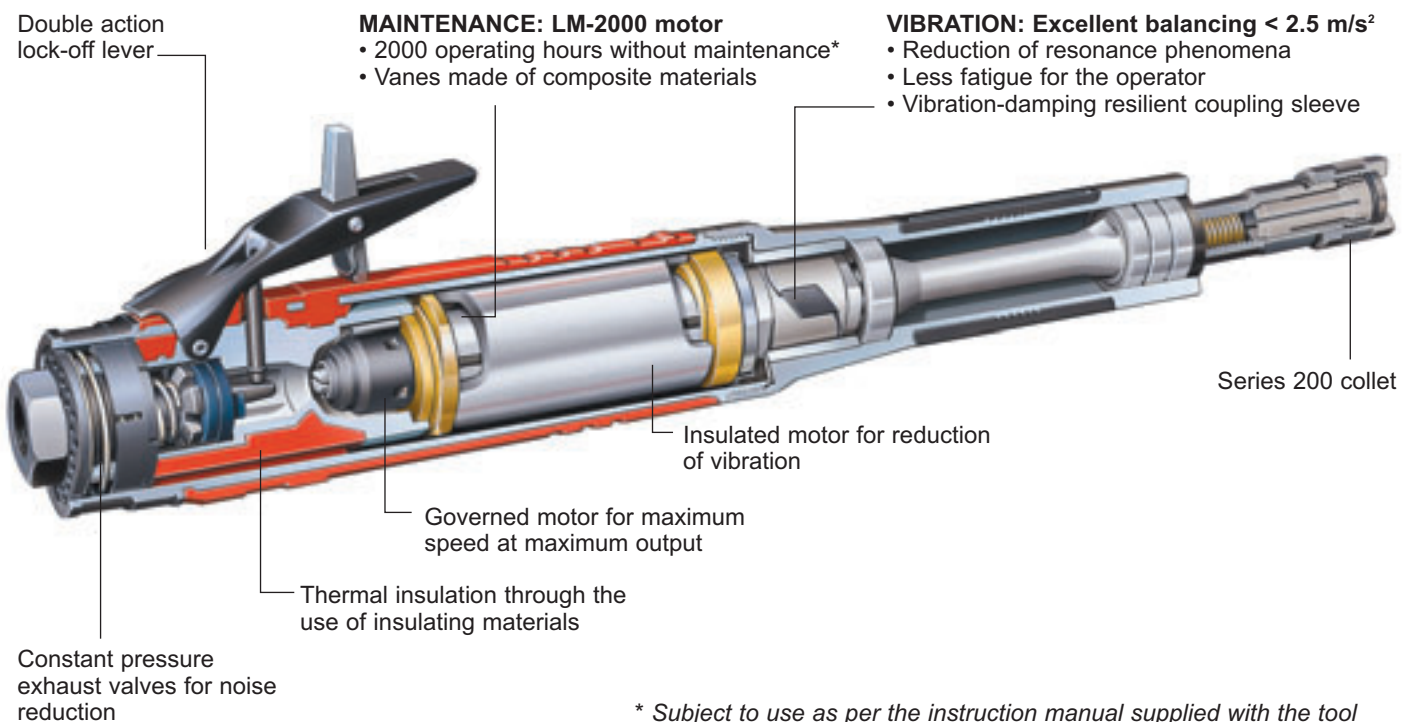
TOOL TYPE	ACCESSORIES	PAGE
GRINDERS: for carbide burrs, mounted points & sanding discs		124-137
		
ROUTERS		138
		
COLLET GRINDER ACCESSORIES		139
		
GRINDERS: for cone wheels, type 1 wheels, depressed centre wheels, cup wheels, cut-off wheels, diamond discs, flap wheels		140-163
		
SANDERS: for expandable wheels, flap wheels, brushes, abrasive discs, sheepskin, water sanding		164-179
		
BRUSHING MACHINES: for cup brushes, radial brushes		180-181
		
DUST EXTRACTION SYSTEMS: for straight and angle grinders		182-191
		
RANDOM ORBITAL SANDERS: for abrasive discs ORBITAL SANDERS: for abrasive sheets		192-201
		
BELT SANDERS		202-203
		
NEEDLE SCALERS, CHIPPERS, CHIPPERS, CHISEL SCALERS		204-218
		

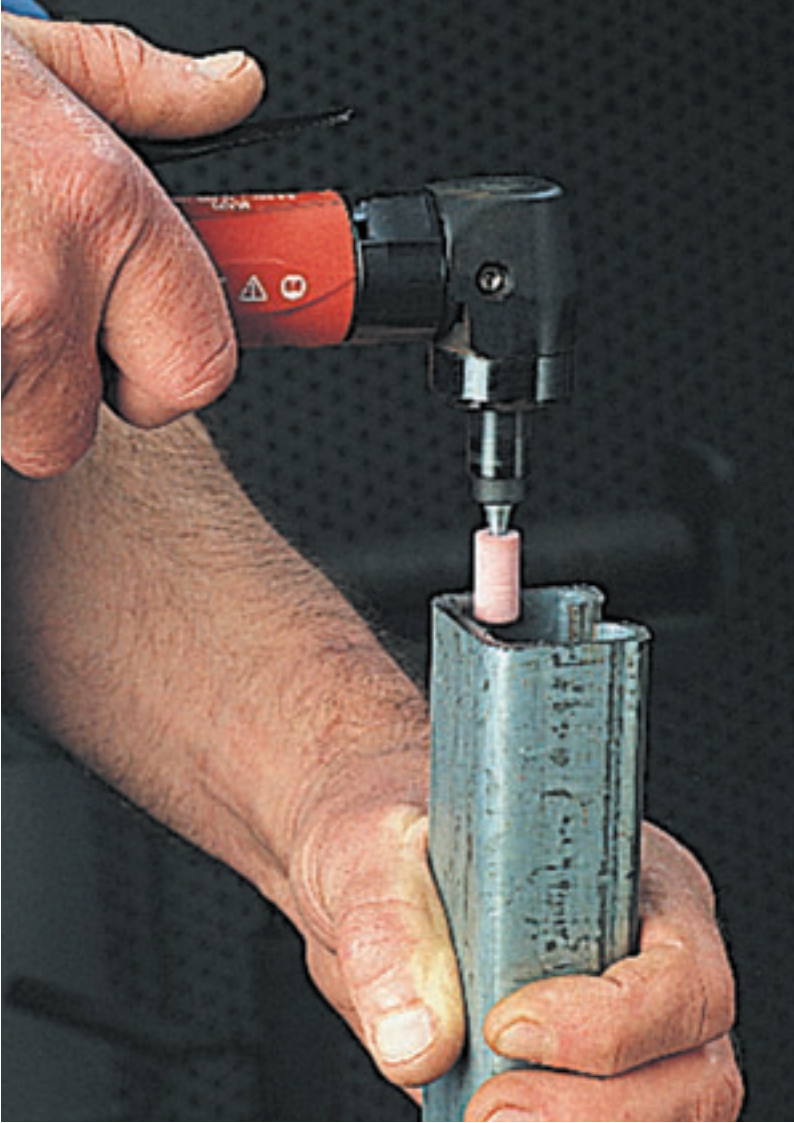


Grinders for carbide burrs, mounted points & sanding discs

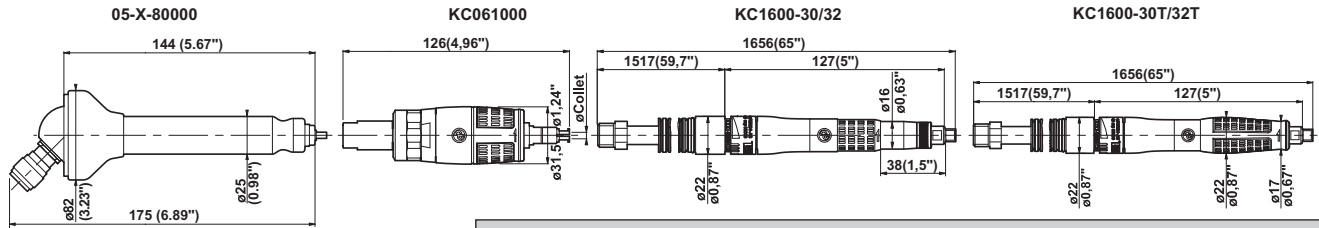


44 to 1200 Watts (0.06 to 1.61 hp) range





Accessories



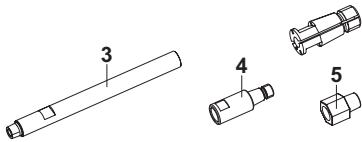
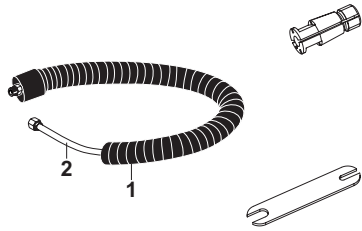
KC1600-30 / KC1600-30T / KC1600-32 / KC1600-32T

ACCESSORIES INCLUDED

ITEM	KC1600-30 KC1600-30T	KC1600-32 KC1600-32T
• Collet \varnothing 3mm	205 047 961 3	
• Collet \varnothing 3.17mm ($1/8$ "")		205 047 962 3
1 Exhaust kit - L = 1m (39.4")	615 396 405 0	615 396 405 0
2 Mounted inlet hose $1/4$ " BSP - \varnothing 6mm ($1/4$ "") - L = 1.5m (59")	615 875 119 0	
2 Mounted inlet hose $1/4$ " NPT - \varnothing 6mm ($1/4$ "") - L = 1.5m (59")		615 875 118 0
• Spanner (Qty 2)	205 047 965 3	205 047 965 3
• Carrying case (for T version only)	P137979	P137979

OPTIONAL ACCESSORIES

ITEM	PART NO.
• Collet \varnothing 2.38mm ($3/32$ "")	205 048 059 3
3 Machine extension - L = 150mm (5.9")	615 595 330 0
4 Collet extension - L = 20mm (0.79")	615 595 329 0
5 Adaptor $1/4$ " BSP - $1/4$ " NPT female	181523



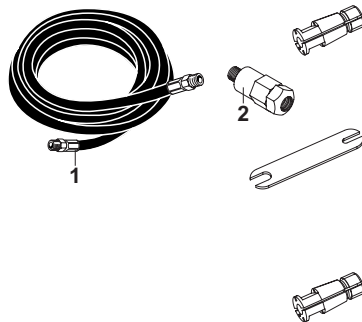
KC061000-30 / KC061000-32 / 05-X-80000

ACCESSORIES INCLUDED

ITEM	KC061000-30	KC061000-32	05-X-80000
• Collet \varnothing 3mm	205 047 961 3		9812
• Collet \varnothing 3.17mm ($1/8$ "")		205 047 962 3	9782
1 Complete inlet hose $1/8$ "M - $1/4$ "M, \varnothing 5mm ($3/16$ "") L = 2.40m (94.5")	P043886	P043886	
2 Filter $1/4$ " F- $1/4$ "M. NPT	P056381	P056381	
• Spanner (Qty 2)	205 047 965 3	205 047 965 3	

OPTIONAL ACCESSORIES

	KC016000-..	05-X-80000
• Collet \varnothing 2.38mm ($3/32$ "")	205 048 059 3	9792



Grinders for carbide burrs & mounted points

44 to 100 Watts (0.06 to 0.13 hp) - 60000 to 100000 rpm



A



B



C



D



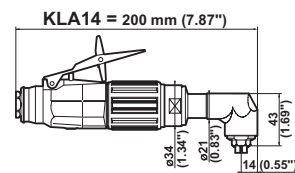
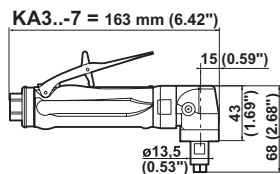
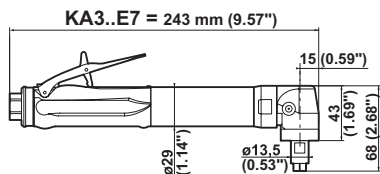
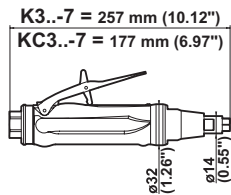
E

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET MAX CAPACITY		POWER		WEIGHT		AIR CONSUMPTION		AIR INLET. THREAD	HOSE INT Ø	
			rpm	mm	in.	W	hp	kg	lb.	l/s	cfm	in.	mm	in.
PENCIL DIE GRINDERS														
A	KC1600-30T	615 170 313 0	60000	3.00		100	0.13	0.15	0.33	4.9	10.4	1/4 BSP	6	1/4
A	KC1600-32T	615 170 314 0	60000	3.17	1/8	100	0.13	0.15	0.33	4.9	10.4	1/4 NPT	6	1/4
B	KC1600-30	615 170 315 0	60000	3.00		100	0.13	0.15	0.33	4.9	10.4	1/4 BSP	6	1/4
B	KC1600-32	615 170 316 0	60000	3.17	1/8	100	0.13	0.15	0.33	4.9	10.4	1/4 NPT	6	1/4
TURBINE GRINDERS														
C	KC061000-30	205 146 638 4	100000	3.00		44	0.06	0.24	0.53	8.5	18.0	1/4	5	3/16
C	KC061000-32	205 146 707 4	100000	3.17	1/8	44	0.06	0.24	0.53	8.5	18.0	1/4	5	3/16
D	05-X-80000	258984	80000	3.17	1/8	75	0.1	0.3	0.66	2.8	5.9	1/8	5	3/16
E	05-X-80000	258564	80000	3.17	1/8	75	0.1	0.3	0.66	2.8	5.9	1/8	5	3/16



Accessories



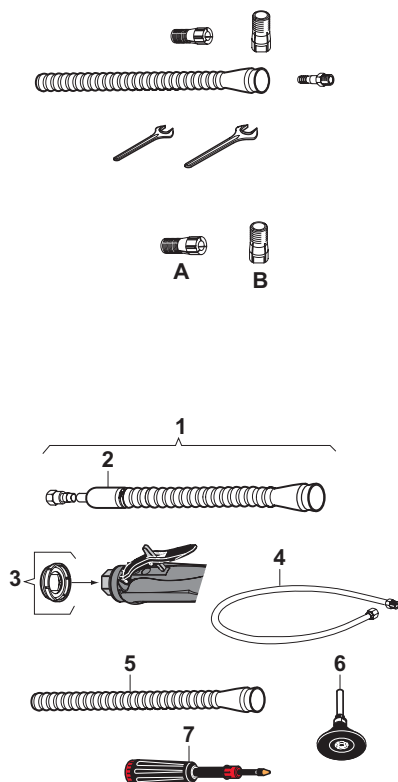
K3..-7 / KC3..-7 / KA3..E7 / KA3..-7 / KLA14

ACCESSORIES INCLUDED

	K3.. / KC3.. KA3..	KLA14
• CNOMO collet \varnothing 6mm	615 526 046 0	615 526 079 0
• Exhaust hose L = 0.8m (31")	615 875 106 0	
• 1/4" air hose nipple for 8mm (5/16") ID hose	615 704 019 0	
• 1/4" air hose nipple for 6mm (1/4") ID hose		615 705 009 0
• Flat wrench, 10mm (25/64")	615 801 002 0	615 801 002 0
• Flat wrench, 11mm (7/16")	615 801 003 0	
• Flat wrench, 14mm		615 801 005 0

OPTIONAL ACCESSORIES

ITEM	A K3.. / KC3.. KA3..	B KLA14
• Collet \varnothing 2mm		615 526 066 0
• CNOMO collet \varnothing 2.5mm	615 526 089 0	615 526 068 0
• CNOMO collet \varnothing 3mm	615 526 044 0	615 526 069 0
• CNOMO collet \varnothing 3.2mm (1/8")	615 526 045 0	
• Collet \varnothing 3.5mm		615 526 070 0
• CNOMO collet \varnothing 4mm (5/32")	615 526 090 0	615 526 071 0
• CNOMO collet \varnothing 4.5mm	615 526 091 0	615 526 073 0
• CNOMO collet \varnothing 5mm	615 526 092 0	615 526 075 0
• Collet \varnothing 5.5mm		615 526 077 0
• CNOMO collet \varnothing 6.4mm (1/4")	615 526 047 0	
• Collet \varnothing 6.5mm		615 526 081 0
• Collet \varnothing 7mm		615 526 083 0
• Collet \varnothing 7.5mm		615 526 084 0
• Collet \varnothing 8mm (5/16")		615 526 088 0
1 Complete silencer kit	615 396 101 0	615 399 423 0
2 Silencer	615 574 028 0	
3 Clipable silencer	615 396 124 0	
4 Inlet hose assembly L = 1m (40") 1/4"M - 1/4"F \varnothing 6mm (1/4")		615 870 206 0
5 Exhaust hose L = 0.8m (31")		615 875 106 0
6 Backing pad \varnothing 50mm		615 804 098 0
7 Grease gun (capacity 24g - 0.8 oz.)	615 990 149 0	
• Lubricant for bevel gear (1kg - 2.2lb)	615 990 148 0	



Grinders for carbide burrs, mounted points & sanding discs

300 - 375 Watts (0.4 - 0.5 hp) - 12000 to 40000 rpm

Supplied with CNOMO collet, \varnothing 6mm



A



B



C



D



E

K3..-7 / KC3..-7 / KA3..E7 / KA3..-7
CNOMO type collet



KLA14

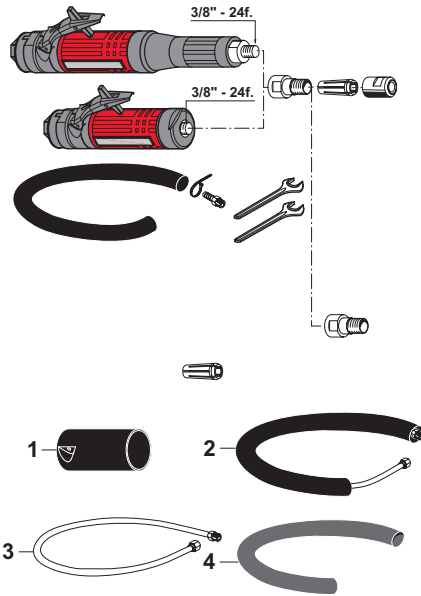
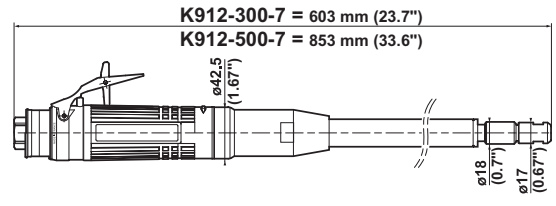
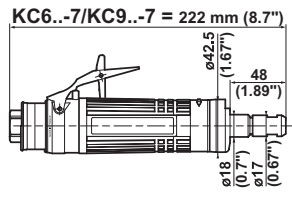
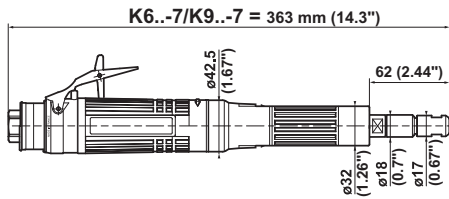


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET MAX CAPACITY		POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET. THREAD	HOSE INT \varnothing	
			rpm	mm	in.	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.
STRAIGHT GRINDERS																
A	K340-7	615 170 036 0	40000	6.4	1/4	375	0.5	0.58	1.28	7.5	16.0	10.0	21	1/4	8	5/16
A	K331-7	615 170 035 0	31000	6.4	1/4	375	0.5	0.58	1.28	4.5	9.5	9.5	20	1/4	8	5/16
A	K325-7	615 170 034 0	25000	6.4	1/4	375	0.5	0.58	1.28	3.5	7.5	9.5	20	1/4	8	5/16
A	K320-7	615 170 033 0	20000	6.4	1/4	375	0.5	0.58	1.28	2.5	5.0	8.0	17	1/4	8	5/16
B	KC340-7	615 170 032 0	40000	6.4	1/4	375	0.5	0.40	0.88	7.5	16.0	10.0	21	1/4	8	5/16
B	KC331-7	615 170 031 0	31000	6.4	1/4	375	0.5	0.40	0.88	4.5	9.5	9.5	20	1/4	8	5/16
B	KC325-7	615 170 030 0	25000	6.4	1/4	375	0.5	0.40	0.88	3.5	7.5	9.5	20	1/4	8	5/16
B	KC320-7	615 170 029 0	20000	6.4	1/4	375	0.5	0.40	0.88	2.5	5.0	8.0	17	1/4	8	5/16
ANGLE GRINDERS																
C	KA320E7	615 170 047 0	20000	6.4	1/4	375	0.5	0.60	1.32	6.5	13.5	10.0	21	1/4	8	5/16
C	KA312E7	615 170 039 0	12000	6.4	1/4	375	0.5	0.60	1.32	3.0	6.5	9.0	19	1/4	8	5/16
D	KA320-7	615 170 043 0	20000	6.4	1/4	375	0.5	0.50	1.10	6.5	13.5	10.0	21	1/4	8	5/16
D	KA312-7	615 170 037 0	12000	6.4	1/4	375	0.5	0.50	1.10	3.0	6.5	9.0	19	1/4	8	5/16
E	KLA14	615 170 026 0	13500	8.0	5/16	300	0.4	0.75	1.70	8.0	17.0			1/4	6	1/4



Accessories



K6..-7 / K9..-7 / KC6..-7 / KC9..-7

ACCESSORIES INCLUDED

	PART NO.
• CNOMO collet \varnothing 6mm	615 526 049 0
• Exhaust hose L = 1.5m (60")	615 875 113 0
• Clamp	615 873 415 0
• $\frac{3}{8}$ " air hose nipple for 10mm ($\frac{3}{8}$ " ID) hose	615 704 017 0
• Flat wrench, 14mm (Qty 2)	615 801 005 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
• Collet-holder extension L = 28mm (1.1")	615 523 019 0
• CNOMO collet \varnothing 3mm	615 526 048 0
• CNOMO collet \varnothing 6.35mm ($\frac{1}{4}$ "	615 526 050 0
• CNOMO collet \varnothing 8mm	615 526 051 0
1 Insulating sleeve	615 570 471 0
2 Complete silencer kit	615 396 166 0
3 Inlet hose assembly L = 1.7m (67") $\frac{3}{8}$ "M- $\frac{3}{8}$ "F - \varnothing 10mm ($\frac{3}{8}$ "	615 870 210 0
4 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0



Grinders for carbide burrs & mounted points

600 - 900 Watts (0.8 - 1.21 hp) - 12000 to 28000 rpm

Supplied with CNOMO collet, \varnothing 6mm



A



B



C



D

K6...-7 / KC6...-7 / K9...-7 / KC9...-7
CNOMO type collet

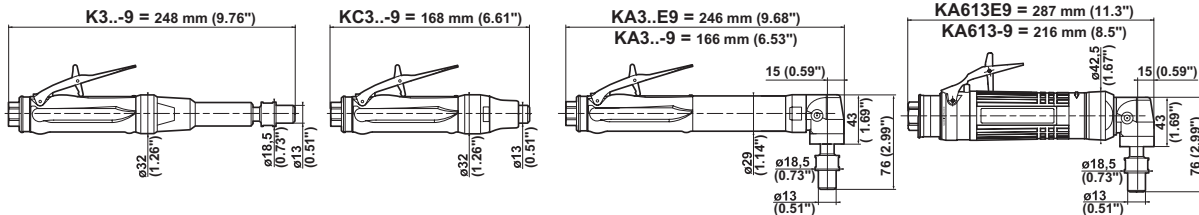


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET MAX CAPACITY		POWER		WEIGHT		AIR CONSUMPTION				AIR INLET. THREAD		HOSE INT \varnothing	
			rpm	mm	in.	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.	
A	K628-7	615 170 107 0	28000	8	5/16	600	0.80	1.3	2.9	16	34	15	32	3/8	10	3/8	
A	K624-7	615 170 106 0	24000	8	5/16	600	0.80	1.3	2.9	10	21	15	32	3/8	10	3/8	
A	K922-7	615 170 119 0	22000	8	5/16	900	1.21	1.4	3.1	13	28	18	38	3/8	10	3/8	
A	K619-7	615 170 105 0	19000	8	5/16	600	0.80	1.3	2.9	6	13	15	32	3/8	10	3/8	
A	K918-7	615 170 117 0	18000	8	5/16	900	1.21	1.4	3.1	10	21	18	38	3/8	10	3/8	
A	K615-7	615 170 104 0	15000	8	5/16	600	0.80	1.3	2.9	6	13	15	32	3/8	10	3/8	
A	K915-7	615 170 114 0	15000	8	5/16	900	1.21	1.4	3.1	8	17	17	36	3/8	10	3/8	
A	K912-7	615 170 110 0	12000	8	5/16	900	1.21	1.4	3.1	6	13	16	34	3/8	10	3/8	
B	KC628-7	615 170 126 0	28000	8	5/16	600	0.80	0.9	2.0	16	34	15	32	3/8	10	3/8	
B	KC624-7	615 170 125 0	24000	8	5/16	600	0.80	0.9	2.0	10	21	15	32	3/8	10	3/8	
B	KC922-7	615 170 130 0	22000	8	5/16	900	1.21	1.0	2.2	13	28	18	38	3/8	10	3/8	
B	KC619-7	615 170 124 0	19000	8	5/16	600	0.80	0.9	2.0	6	13	15	32	3/8	10	3/8	
B	KC918-7	615 170 129 0	18000	8	5/16	900	1.21	1.0	2.2	10	21	18	38	3/8	10	3/8	
B	KC615-7	615 170 123 0	15000	8	5/16	600	0.80	0.9	2.0	6	13	15	32	3/8	10	3/8	
B	KC915-7	615 170 128 0	15000	8	5/16	900	1.21	1.0	2.2	8	17	17	36	3/8	10	3/8	
B	KC912-7	615 170 127 0	12000	8	5/16	900	1.21	1.0	2.2	6	13	16	34	3/8	10	3/8	
C	K912-300-7	615 170 108 0	12000	8	5/16	900	1.21	2.1	4.6	6	13	16	34	3/8	10	3/8	
D	K912-500-7	615 170 109 0	12000	8	5/16	900	1.21	2.7	5.9	6	13	16	34	3/8	10	3/8	



Accessories



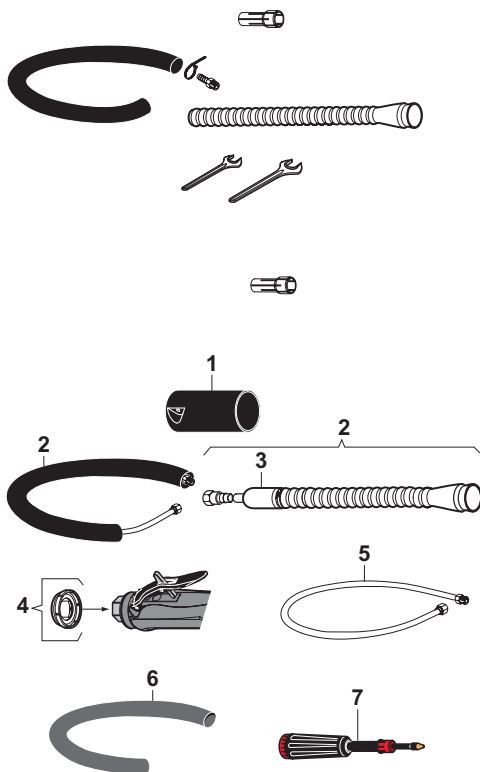
K3..-9 / KC3..-9 / KA3..E9 / KA3..-9 / KA613E9 / KA613-9

ACCESSORIES INCLUDED

	K3../KC3..-9 KA3..E9/KA3..-9	KA613E9 KA613-9
• Series 300 resilient collet, \varnothing 5.55 to 6,35mm (1/4")	615 526 059 0	615 526 059 0
• Exhaust hose L = 0.8m (31")	615 875 106 0	
• Exhaust hose L = 1.5m (60")		615 875 113 0
• Clamp		615 873 415 0
• 1/4" air hose nipple for 8mm (5/16") ID hose	615 704 019 0	
• 3/8" air hose nipple for 10mm (3/8") ID hose		615 704 017 0
• Flat wrench, 11mm (7/16")	615 801 003 0	615 801 003 0
• Flat wrench, 17mm (11/16")	615 801 032 0	615 801 032 0

OPTIONAL ACCESSORIES

ITEM	K3../KC3..-9 KA3..E9/KA3..-9	KA613E9 KA613-9
• Series 300 resilient collet, \varnothing 0,4 to 1,2mm	615 526 052 0	615 526 052 0
• Series 300 resilient collet, \varnothing 1.2 to 2mm	615 526 053 0	615 526 053 0
• Series 300 resilient collet, \varnothing 1,7 to 2,5mm	615 526 054 0	615 526 054 0
• Series 300 resilient collet, \varnothing 2,4 to 3,2mm (1/8")	615 526 055 0	615 526 055 0
• Series 300 resilient collet, \varnothing 3,16 to 3,96mm	615 526 056 0	615 526 056 0
• Series 300 resilient collet, \varnothing 3,95 to 4,75mm	615 526 057 0	615 526 057 0
• Series 300 resilient collet, \varnothing 4.75 to 5,55mm	615 526 058 0	615 526 058 0
1 Insulating sleeve		615 570 471 0
2 Complete silencer kit	615 396 101 0	615 396 166 0
3 Silencer	615 574 058 0	
4 Clipable silencer	615 396 124 0	
5 Inlet hose assembly L = 1.7m (0,67") 3/8"M - 3/8"F \varnothing 10mm (3/8")		615 870 210 0
6 Reinforced cloth-lined exhaust hose L = 0.75m (30")		615 875 116 0
7 Grease gun (capacity 24g - 0.8 oz.)	615 990 149 0	615 990 149 0
• Lubricant for bevel gear (1kg -2.2 lb.)	615 990 148 0	615 990 148 0



PLANING DOWN WELD



SEMI-FINISH / FINISH



TRIMMING



CLEANING



TRIMMING - MACHINE



GRINDING

Grinders for carbide burrs, mounted points & sanding discs

375 - 600 Watts (0.5 - 0.8 hp) - 9000 to 40000 rpm

Supplied with series 300 resilient collet, \varnothing 5.55 to 6.35mm (1/4")



A



B



C



D



E



F

K3...-9 / KC3...-9 / KA3...(E)9 / KA613(E)9
Series 300 collet

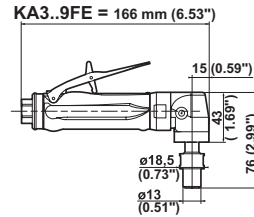


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET MAX CAPACITY		POWER		WEIGHT		AIR CONSUMPTION				AIR INLET. THREAD	HOSE INT \varnothing	
			rpm	mm	in.	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.
STRAIGHT GRINDERS																
A	K340-9	615 170 139 0	40000	6.35	1/4	375	0.5	0.57	1.26	7.5	16.0	10.0	21	1/4	8	5/16
A	K331-9	615 170 140 0	31000	6.35	1/4	375	0.5	0.57	1.26	4.5	9.5	9.5	20	1/4	8	5/16
A	K325-9	615 170 141 0	25000	6.35	1/4	375	0.5	0.57	1.26	3.5	7.5	9.5	20	1/4	8	5/16
A	K320-9	615 170 142 0	20000	6.35	1/4	375	0.5	0.57	1.26	2.5	5.0	8.0	17	1/4	8	5/16
B	KC340-9	615 170 143 0	40000	6.35	1/4	375	0.5	0.38	0.84	7.5	16.0	10.0	21	1/4	8	5/16
B	KC331-9	615 170 144 0	31000	6.35	1/4	375	0.5	0.38	0.84	4.5	9.5	9.5	20	1/4	8	5/16
B	KC325-9	615 170 145 0	25000	6.35	1/4	375	0.5	0.38	0.84	3.5	7.5	9.5	20	1/4	8	5/16
B	KC320-9	615 170 027 0	20000	6.35	1/4	375	0.5	0.38	0.84	2.5	5.0	8.0	17	1/4	8	5/16
B	KC318-9	615 170 196 0	18000	6.35	1/4	375	0.5	0.38	0.84	2.5	5.0	8.0	17	1/4	8	5/16
ANGLE GRINDERS																
C	KA320E9	615 170 146 0	20000	6.35	1/4	375	0.5	0.61	1.35	6.5	13.5	10.0	21	1/4	8	5/16
C	KA312E9	615 170 147 0	12000	6.35	1/4	375	0.5	0.61	1.35	3.0	6.5	9.0	9	1/4	8	5/16
D	KA320-9	615 170 148 0	20000	6.35	1/4	375	0.5	0.51	1.13	6.5	13.5	10.0	21	1/4	8	5/16
D	KA312-9	615 170 149 0	12000	6.35	1/4	375	0.5	0.51	1.13	3.0	6.5	9.0	19	1/4	8	5/16
D	KA309-9	615 170 266 0	9000	6.35	1/4	375	0.5	0.50	1.10	3.0	6.5	9.0	19	1/4	8	5/16
E	KA613E9	615 170 136 0	13000	6.35	1/4	600	0.8	1.40	3.10	10.0	21.0	15.0	32	3/8	10	3/8
F	KA613-9	615 170 135 0	13000	6.35	1/4	600	0.8	1.10	2.40	10.0	21.0	15.0	32	3/8	10	3/8



Accessories



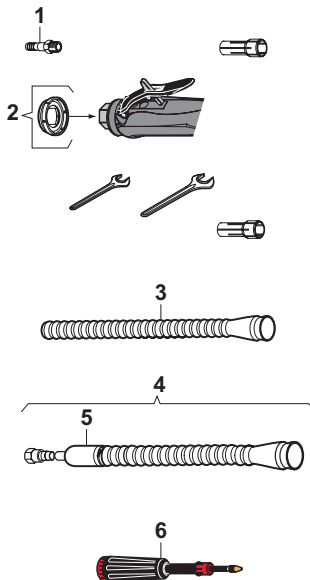
KA320-9FE / KA312-9FE

ACCESSORIES INCLUDED

ITEM	PART NO.
• Series 300 resilient collet, \varnothing 5.55 to 6.35mm ($1/4$ "	615 526 059 0
1 $1/4$ " air hose nipple for 8mm ($5/16$ " ID hose	615 704 019 0
2 Clipable silencer	615 396 124 0
• Flat wrench, 11mm ($7/16$ "	615 801 003 0
• Flat wrench, 17mm ($11/16$ "	615 801 032 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
• Series 300 resilient collet, \varnothing 0.4 to 1.2 mm ($3/64$ "	615 526 052 0
• Series 300 resilient collet, \varnothing 1.2 to 2 mm ($5/64$ "	615 526 053 0
• Series 300 resilient collet, \varnothing 1.7 to 2.5 mm ($3/32$ "	615 526 054 0
• Series 300 resilient collet, \varnothing 2.4 to 3.2 mm ($1/8$ "	615 526 055 0
• Series 300 resilient collet, \varnothing 3.16 to 3.96 mm ($5/32$ "	615 526 056 0
• Series 300 resilient collet, \varnothing 3.95 to 4.75 mm ($3/16$ "	615 526 057 0
• Series 300 resilient collet, \varnothing 4.75 to 5.55 mm ($7/32$ "	615 526 058 0
3 Exhaust hose L = 0.8 m (31")	615 875 106 0
4 Complete silencer kit	615 396 101 0
5 Silencer	615 574 028 0
6 Grease gun (capacity 24g - 0.8 oz.)	615 990 149 0
• Grease for bevel gear (1 kg - 2.2 lb.)	615 990 148 0

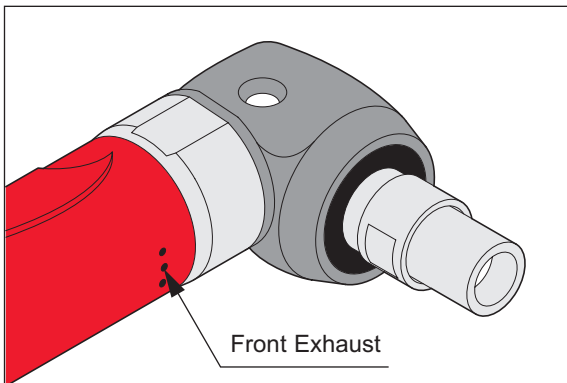


Grinders for carbide burrs, mounted points & sanding discs

375 Watts (0.5 hp) - 12000 - 20000 rpm

Supplied with series 300 resilient collet, \varnothing 5.55 to 6.35 mm (1/4")

Front Exhaust



K312-9FE / KA320-9FE
Series 300 collet

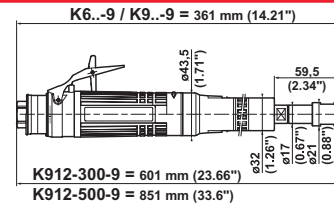
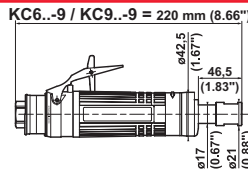
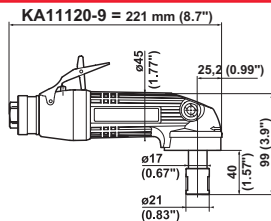
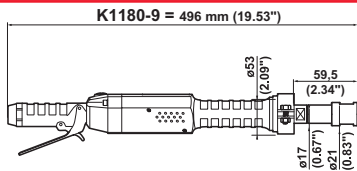


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET MAX CAPACITY		POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET THREAD	HOSE INT \varnothing	
			rpm	mm	in.	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.
A	KA320-9FE	615 170 206 0	20000	6.35	1/4	375	0.5	0.51	1.13	6.5	13.5	10.0	21	1/4	8	5/16
A	KA312-9FE	615 170 205 0	12000	6.35	1/4	375	0.5	0.51	1.13	3.0	6.5	9.0	19	1/4	8	5/16



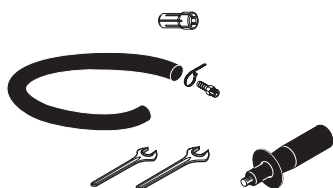
Accessories



K6.-9 / K9.-9 / KC6.-9 / KC9.-9 / KA11120-9 / K1180-9

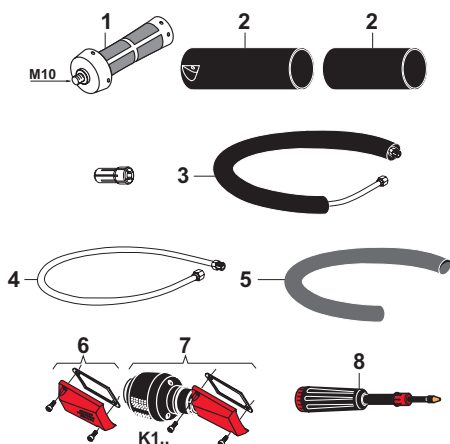
ACCESSORIES INCLUDED

	K/KC6 / K/KC9 KA11120-9	K1180-9
• Series 200 resilient collet, collet \varnothing 5.55 to 6.35mm (1/4")	615 526 063 0	
• Series 200 resilient collet, collet \varnothing 8.7 to 9.5mm (3/8")		615 526 065 0
• Exhaust hose L = 1.5m (60")	615 875 113 0	
• Clamp	615 873 415 0	
• 3/8" air hose nipple for 10mm (3/8") ID hose	615 704 017 0	
• 3/8" air hose nipple for 13mm (1/2") ID hose for KA11120-9	615 704 027 0	
• 1/2" air hose nipple for 15mm (3/8") ID hose		615 704 014 0
• Flat wrench, 14mm	615 801 005 0	615 801 005 0
• Flat wrench, 19mm (3/4")	615 801 076 0	615 801 076 0
• Side handle for KA11120-9	615 576 038 0	



OPTIONAL ACCESSORIES

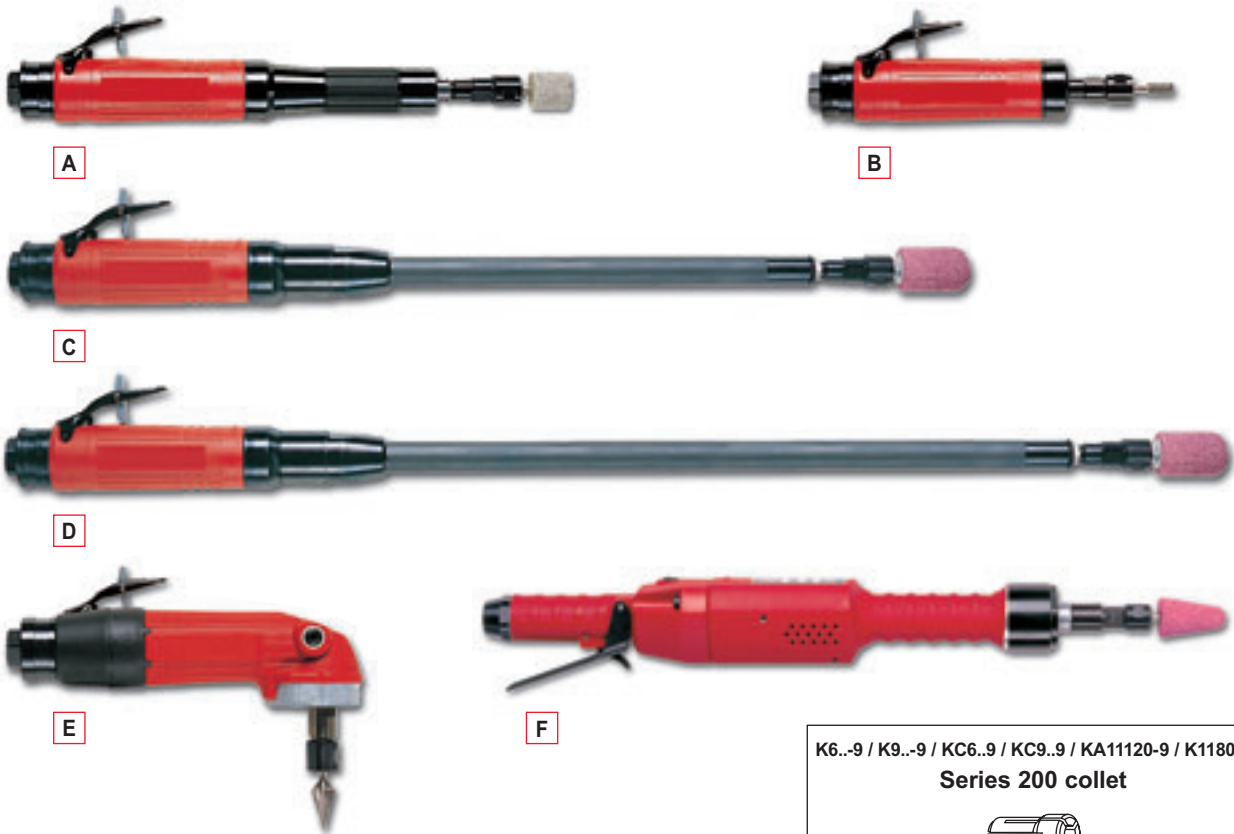
ITEM	K/KC6 / K/KC9 KA11120-9	K1180-9
• Series 200 resilient collet, collet \varnothing 2.4 to 3.2mm (1/8")	615 526 061 0	615 526 061 0
• Series 200 resilient collet, collet \varnothing 5.2 to 6mm	615 526 062 0	615 526 062 0
• Series 200 resilient collet, collet \varnothing 5.55 to 6.35mm (1/4")		615 526 063 0
• Series 200 resilient collet, collet \varnothing 7.2 to 8mm	615 526 064 0	615 526 064 0
• Series 200 resilient collet, collet \varnothing 8.7 to 9.5mm (3/8")	615 526 065 0	
1 Vibration-damping handle for KA11120-9	615 576 066 0	
2 Insulating sleeve for KA11120-9	615 570 412 0	
2 Insulating sleeve for K/KC	615 570 471 0	
3 Complete silencer kit	615 396 166 0	
4 Inlet hose assembly L = 1.7m (67") 3/8"M-3/8"F - \varnothing 10mm (3/8")	615 870 210 0	
4 Inlet hose assembly L = 1.7m (67")	615 804 064 0	
• 3/8"M-3/8"F - \varnothing 13mm (1/2") for KA11120-9		
5 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0	
6 Silencer kit		615 399 298 0
7 Silencer kit		615 399 459 0
8 Grease gun (capacity 24g - 0.8oz) for KA11120-9	615 990 149 0	
• Lubricant for bevel gear (1kg - 2.2lb) for KA11120-9	615 990 148 0	



Grinders for carbide burrs, mounted points & sanding discs

600 to 1200 Watts (0.8 to 1.61 hp) - 12000 to 28000 rpm

Supplied with series 200 resilient collet, \varnothing 5.55 to 6.35mm (1/4") & \varnothing 8.7 to 9.5mm (3/8")



K6..9 / K9..9 / KC6..9 / KC9..9 / KA11120-9 / K1180-9
Series 200 collet



Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET MAX CAPACITY		POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET. THREAD	HOSE INT Ø	
			rpm	mm	in.	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.
A	K628-9	615 170 150 0	28000	9.5	3/8	600	0.80	1.3	2.9	16	34	15	32	3/8	10	3/8
A	K624-9	615 170 151 0	24000	9.5	3/8	600	0.80	1.3	2.9	10	21	15	32	3/8	10	3/8
A	K922-9	615 170 152 0	22000	9.5	3/8	900	1.21	1.4	3.1	13	28	18	38	3/8	10	3/8
A	K619-9	615 170 153 0	19000	9.5	3/8	600	0.80	1.3	2.9	6	13	15	32	3/8	10	3/8
A	K918-9	615 170 154 0	18000	9.5	3/8	900	1.21	1.4	3.1	10	21	18	38	3/8	10	3/8
A	K615-9	615 170 155 0	15000	9.5	3/8	600	0.80	1.3	2.9	6	13	15	32	3/8	10	3/8
A	K915-9	615 170 156 0	15000	9.5	3/8	900	1.21	1.4	3.1	8	17	17	36	3/8	10	3/8
A	K912-9	615 170 157 0	12000	9.5	3/8	900	1.21	1.4	3.1	6	13	16	34	3/8	10	3/8
B	KC628-9	615 170 158 0	28000	9.5	3/8	600	0.80	0.9	2.0	16	34	15	32	3/8	10	3/8
B	KC624-9	615 170 159 0	24000	9.5	3/8	600	0.80	0.9	2.0	10	21	15	32	3/8	10	3/8
B	KC922-9	615 170 160 0	22000	9.5	3/8	900	1.21	1.0	2.2	13	28	18	38	3/8	10	3/8
B	KC619-9	615 170 161 0	19000	9.5	3/8	600	0.80	0.9	2.0	6	13	15	32	3/8	10	3/8
B	KC918-9	615 170 162 0	18000	9.5	3/8	900	1.21	1.0	2.2	10	21	18	38	3/8	10	3/8
B	KC615-9	615 170 163 0	15000	9.5	3/8	600	0.80	0.9	2.0	6	13	15	32	3/8	10	3/8
B	KC915-9	615 170 164 0	15000	9.5	3/8	900	1.21	1.0	2.2	8	17	17	36	3/8	10	3/8
B	KC912-9	615 170 165 0	12000	9.5	3/8	900	1.21	1.0	2.2	6	13	16	34	3/8	10	3/8
C	K912-300-9	615 170 169 0	12000	9.5	3/8	900	1.21	2.1	4.6	6	13	16	34	3/8	10	3/8
D	K912-500-9	615 170 170 0	12000	9.5	3/8	900	1.21	2.7	5.9	6	13	16	34	3/8	10	3/8
E	KA11120-9	615 170 060 0	12000	9.5	3/8	1100	1.50	1.4	3.1	10	21	19	40	3/8	13	1/2
F	K1180-9	615 170 246 0	18000	9.5	3/8	1200	1.61	2.5	5.9	9	19	27	57	1/2	15	5/8



Routers

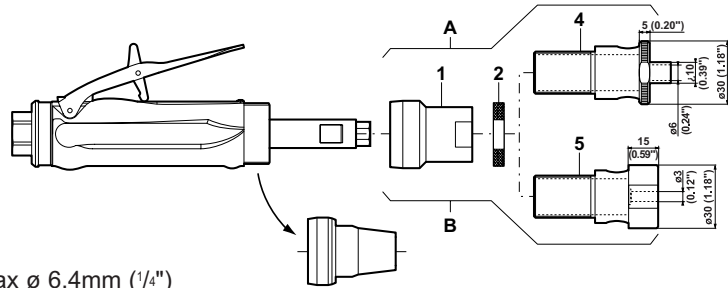
375 to 900 Watts (0.5 to 1.21 hp) - 12000 to 40000 rpm

375 W (0.5hp) - 20000 to 40000 rpm

CNOMO type collet



A



615 396 069 0: Machined routing kit for burr, max \varnothing 6.4mm (1/4")

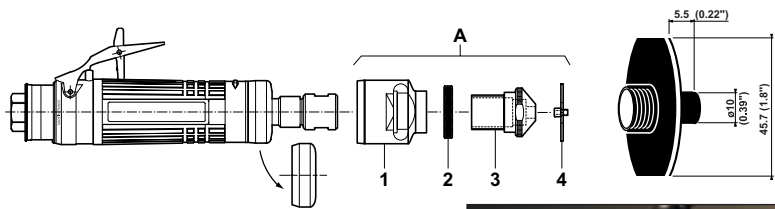
615 396 070 0: Blank routing kit allowing you to adapt the blank to fit the application

600 - 900 W (0.8 - 1.21hp) - 12000 to 28000 rpm

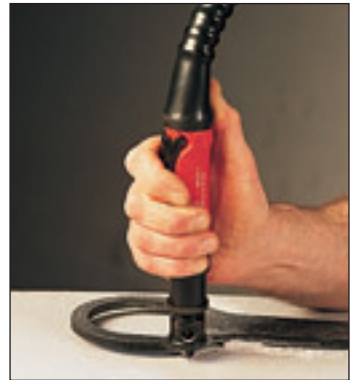
CNOMO type or Series 200 collet



B



615 396 289 0: Machined routing kit for burr, max \varnothing 6.4mm (1/4")



OPTIONAL ACCESSORIES

ITEM	KC3..	KC6../KC9..
A Machined routing kit	615 396 069 0	615 396 289 0
B Blank routing kit (item 1, 2, 5)	615 396 070 0	
1 Flange	615 595 231 0	615 595 245 0
2 Adjusting nut	615 607 140 0	615 607 145 0
• Circlip		615 687 056 0
• Bearing		615 758 127 0
3 Router nose (including: circlips & bearing)		615 542 132 2
4 Machined routing guide	615 542 125 0	615 542 131 0
5 Blank routing guide	615 542 125 2	

If you need a complete tool ready to use the KC624-9RT (24000 rpm) Part No. 615 170 290 0

If you need a specific speed or a higher power:

Select the motor, the speed of your choice below then add the routing kit

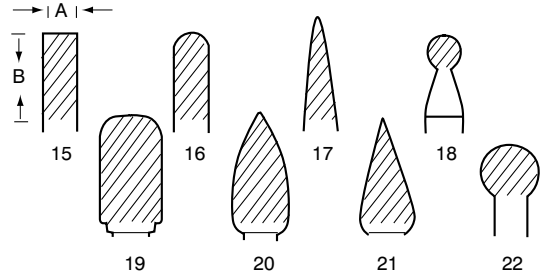
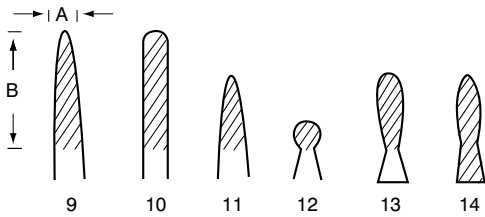
For example: Tool with Series 200 collet - 900 W -22000 rpm (KC922-9) + routing kit **Order 615 170 160 0 + 615 396 289 0**

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	FREE SPEED	POWER		PART NO.		ROUTING KIT	
			W	hp	CNOMO COLLET (-7)	SERIES 200 COLLET (-9)	MACHINED	BLANK
		rpm						
375 Watts (0.5 hp) - CNOMO type collet								
A	KC340-7	40000	375	0.5	615 170 032 0		615 396 069 0	615 396 070 0
A	KC331-7	31000	375	0.5	615 170 031 0			
A	KC325-7	25000	375	0.5	615 170 030 0			
A	KC320-7	20000	375	0.5	615 170 029 0			
600 - 900 Watts (0.8 - 1.21 hp) - CNOMO type or Series 200 collet								
B	KC628-	28000	600	0.80	615 170 126 0	615 170 158 0	615 396 289 0	
B	KC624-	24000	600	0.80	615 170 125 0	615 170 159 0		
B	KC922-	22000	900	1.21	615 170 130 0	615 170 160 0		
B	KC619-	19000	600	0.80	615 170 124 0	615 170 161 0		
B	KC918-	18000	900	1.21	615 170 129 0	615 170 162 0		
B	KC615-	15000	600	0.80	615 170 123 0	615 170 163 0		
B	KC915-	15000	900	1.21	615 170 128 0	615 170 164 0		
B	KC912-	12000	900	1.21	615 170 127 0	615 170 165 0		



Collet Grinder Accessories



Tungsten Carbide Burrs are suitable for cutting unhardened and hardened steels, stainless, weld seams, steel castings, light and non-ferrous metals, plastics.

TUNGSTEN CARBIDE BURRS 3mm Ø SHANK

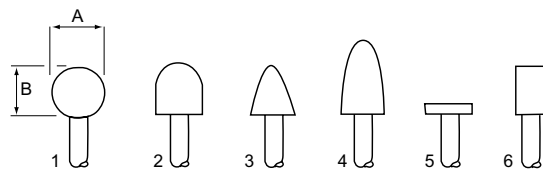
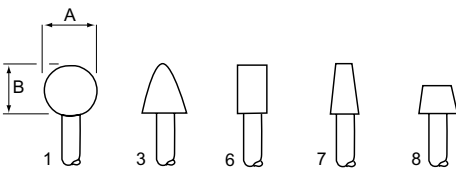
Can also be used with collet type CNOMO or 200 & 300 Series (1/8")

PIC REF	A		B		PART NO.
	mm	in.	mm	in.	
9	3	1/8	13	1/2	38122
10	3	1/8	13	1/2	38132
11	3	1/8	8	5/16	38142
12	3	1/8	3	1/8	38152
13	3	1/8	8	5/16	38162
14	3	1/8	8	5/16	38172

TUNGSTEN CARBIDE BURRS 6mm Ø SHANK

Can also be used with collet type CNOMO or 200 & 300 Series (1/4")

PIC REF	A		B		PART NO.
	mm	in.	mm	in.	
15	6	1/4	13	1/2	38182
16	6	1/4	16	5/8	38192
17	6	1/4	19	3/4	38202
18	6	1/4	6	1/4	38222
19	10	3/8	19	3/4	36122
20	10	3/8	19	3/4	36132
21	10	3/8	19	3/4	36142
22	10	3/8	10	3/8	38232



Aluminium Oxide Mounted Points are available in red grades. Red grades are suitable for grinding high tensile materials such as ordinary and alloy steels, high speed steel and annealed malleable iron.

MOUNTED POINTS 3mm Ø SHANK - RED

Can also be used with collet type CNOMO or 200 & 300 Series (1/8")

PIC REF	MAX SPEED	A		B		PART NO.
		mm	in.	mm	in.	
1	104000	5	0.19	5	0.19	38582
3	104000	5	0.19	8	0.31	38522
6	81000	6	0.25	6	0.25	38632
7	105000	4	0.16	4	0.16	38562
8	81000	6	0.25	6	0.25	38542

MOUNTED POINTS 6mm Ø SHANK - RED

Can also be used with collet type CNOMO or 200 & 300 Series (1/4")

PIC REF	MAX SPEED	A		B		PART NO.
		mm	in.	mm	in.	
1	59000	16	0.62	16	0.62	435983
2	50000	20	0.79	16	0.62	435993
3	45000	20	0.79	28	1.10	436003
4	48000	20	0.79	32	1.26	436013
5	53000	20	0.79	22	0.87	436023
6	40000	13	0.51	25	1.00	436033
6	38000	25	1.00	3	0.11	436043

RECOMMENDED SPEEDS FOR TUNGSTEN CARBIDE BURRS - rpm x 1000

MATERIAL	HEAD DIAMETER				
	3mm (1/8")	6mm (1/4")	10mm (3/8")	13mm (1/2")	16mm (5/8")
Alum, Zinc Base, Plastics	30-90	15-70	10-50	17-38	6-30
Cast Iron, Brass, Copper, Bronze	45-90	23-60	15-40	11-30	9-24
Mild Steel	60-90	45-60	30-40	22-30	18-24
Titanium, Stainless, Hardened Steels, Ceramics	60-90	30-45	19-30	15-22	12-18

BACKING PAD WITH 6mm Ø SHANK

SPEED	Ø		PART NO.
	mm	in.	
25000	50	1.97	615 804 098 0



ABRASIVE DISCS

SPEED	GRIT	PART NO.
25000	P40	615 804 099 0
25000	P60	615 804 100 0
25000	P80	615 804 101 0
25000	P120	615 804 102 0



Turbine Grinders:

Ergonomics, Power & Productivity

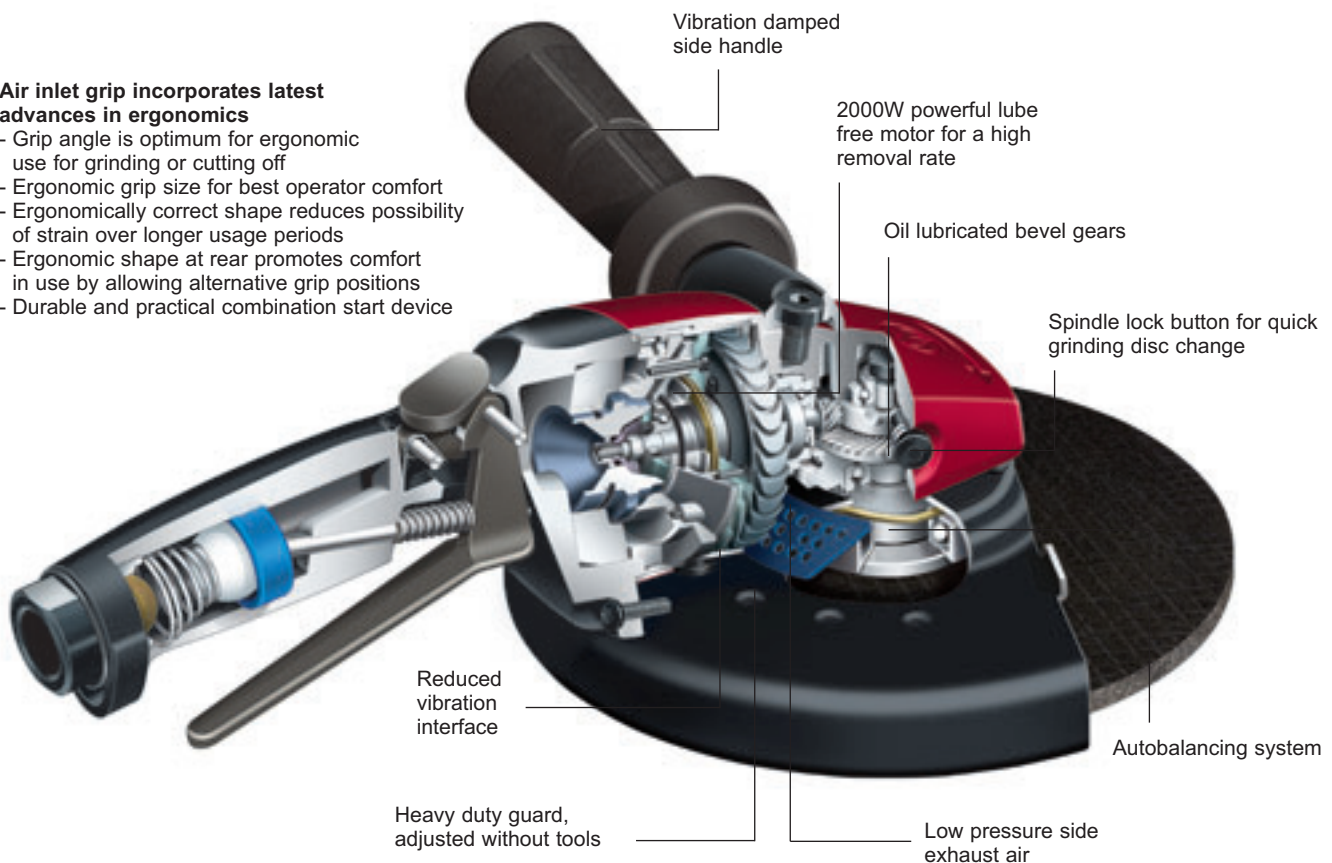
Operators are offered the combination of high stock removal rate, an environmentally friendly oil free motor and a low vibration level, making this tool the market leader for maximum operator comfort. The latest technical innovations have been applied to this range to offer the best compromise solution in terms of **Power, Productivity and Ergonomics**.

Ergonomics and Operator comfort:

- Low pressure side exhaust air \ No exhaust air blowing on the operator offers better comfort in use
- Ergonomic shape \ Optimised for use in both grinding and cutting off operations offers reduced muscular tension during long operating periods
- Ergonomic handle size \ Designed by ergonomists in collaboration with end users, allows for optimum handling with reduced stress
- Ergonomic body shape & near ideal weight distribution \ Reduces operator fatigue
- Vibration damped side handle & auto-balancing feature \ Lower hand/arm vibrations

Air inlet grip incorporates latest advances in ergonomics

- Grip angle is optimum for ergonomic use for grinding or cutting off
- Ergonomic grip size for best operator comfort
- Ergonomically correct shape reduces possibility of strain over longer usage periods
- Ergonomic shape at rear promotes comfort in use by allowing alternative grip positions
- Durable and practical combination start device

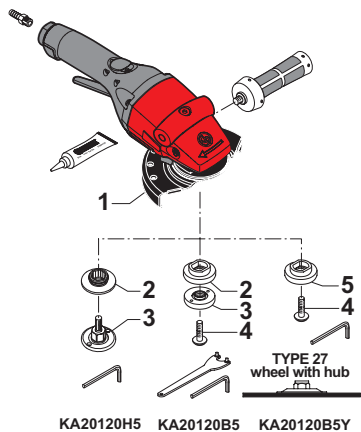
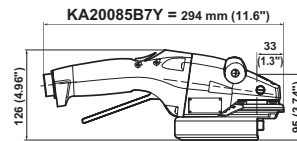
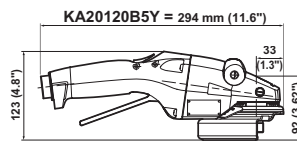
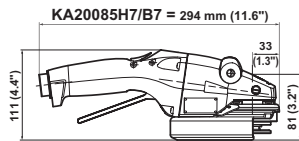
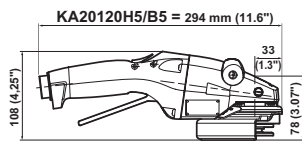


Power and Productivity:

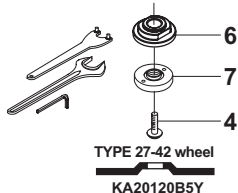
- 2000 W (2,7hp) lube free motor \ Simple, single stage technology reduces size & weight, promoting output, reliability & operator comfort in use
- High torque motor \ Increases stock removal rates & efficiency in operation
- Built-in governor \ Ensures maximum motor power is available at high speed for sustained stock removal & efficiency
- Heavy duty guard adjusted without tools \ Easy positioning to suit comfortable, safe operation
- Push button spindle lock \ Easy, safe & rapid changing of abrasives
- Oiled lubricated & sealed bevel gears \ Best for durability and easy maintenance



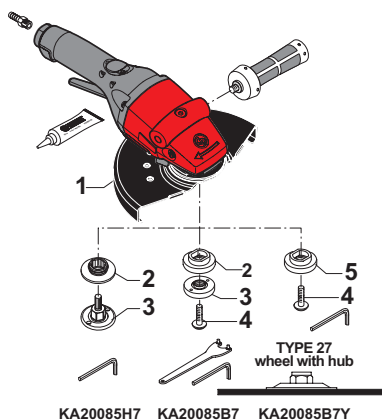
Accessories



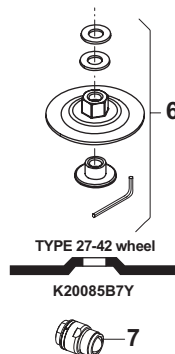
KA20120H5 KA20120B5 KA20120B5Y



KA20120B5Y



KA20085H7 KA20085B7 KA20085B7Y



KA20085B7Y

KA20120H5 / KA20120B5 / KA20120B5Y - ø 127mm (5")

ACCESSORIES INCLUDED

ITEM	KA20120H5 Hex	KA20120B5 5/8"-11f.	KA20120B5Y 5/8" - 11f.
• 1/2" air hose nipple for ø 13mm (1/2") ID hose	615 704 016 0	615 704 016 0	615 704 016 0
• Vibration-damping side handle	615 576 066 0	615 576 066 0	615 576 066 0
• Oil can (7ml)	615 990 170 0	615 990 170 0	615 990 170 0
1 Guard	615 504 170 0	615 504 170 0	615 504 172 0
2 Rear flange	615 503 152 0	615 503 141 0	
3 Front flange	615 502 071 0	615 502 067 0	
4 Safety screw	-	615 614 076 0	
5 Flange			615 614 076 0
• Hex. key 6mm	615 802 056 0	615 802 057 0	615 802 057 0
• Pin wrench 35mm (5/16")		615 802 010 0	

OPTIONAL ACCESSORIES

ITEM	KA20120B5Y
6 Rear flange	615 503 143 0
7 Nut	615 502 067 0
4 Safety screw	615 614 076 0
• Hex. Key 6.35mm (1/4")	615 802 057 0
• Pin wrench 35mm (5/16")	615 802 010 0
• Flat wrench 27mm (1 1/16")	615 802 077 0

KA20085H7 / KA20085B7 / KA20085B7Y - ø 180mm (7")

ACCESSORIES INCLUDED

ITEM	KA20085H7 Hex	KA20085B7 5/8"-11f.	KA20085B7Y 5/8" - 11f.
• 1/2" air hose nipple for ø 13mm (1/2") ID hose	615 704 016 0	615 704 016 0	615 704 016 0
• Vibration-damping side handle	615 576 066 0	615 576 066 0	615 576 066 0
• Oil can (7ml)	615 990 170 0	615 990 170 0	615 990 170 0
1 Guard	615 504 171 0	615 504 171 0	615 504 173 0
2 Rear flange	615 503 152 0	615 503 141 0	
3 Front flange	615 502 071 0	615 502 067 0	
4 Safety screw	-	615 614 076 0	615 614 076 0
5 Flange			615 503 153 0
• Hex. key 6mm	615 802 056 0	615 802 056 0	615 802 056 0
• Pin wrench 35mm (5/16")	-	615 802 010 0	

OPTIONAL ACCESSORIES

ITEM	KA20085B7Y
6 Wheel adapter	C087920

OTHER OPTIONAL ACCESSORIES

ITEM	PART NO.
• Oil can (250ml)	615 990 168 0
7 Rotating bushing inlet 1/2"	615 396 366 0



Grinders for depressed centre wheels, cut-off wheels & flap wheels

∅ 127mm (5") - ∅ 180mm (7")

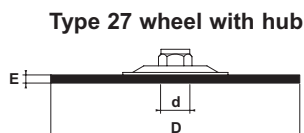
2000 Watts (2.7 hp) - 8500 to 12000 rpm



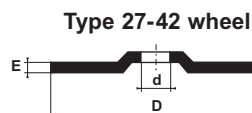
A



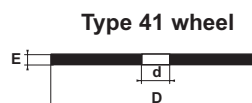
B



Type 27 wheel with hub

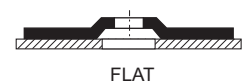


Type 27-42 wheel

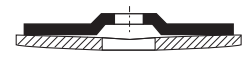


Type 41 wheel

Depressed center flap wheels



FLAT



CURVED

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY D x E x d		SPINDLE TYPE	POWER		WEIGHT		AIR CONSUMPTION UNDER LOAD				AIR INLET THREAD		HOSE INT. Ø	
			rpm	mm	inch		W	hp	kg	lb.	l/s	cfm	l/s	cfm	inch	mm	in	
A	KA20120H5	615 170 288 0	12000	127x6.4x22.2	5x1/4x7/8	HEX	2000	2.7	2.5	5.5	12	25	30	63	1/2	13	1/2	
A	KA20120B5	615 170 301 0	12000	127x6.4x22.2	5x1/4x7/8	5/8"-11f.	2000	2.7	2.4	5.3	12	25	30	63	1/2	13	1/2	
B	KA20085H7	615 170 289 0	8500	180x9.5x22.2	7x3/8x7/8	HEX	2000	2.7	2.7	5.9	12	25	30	63	1/2	13	1/2	
B	KA20085B7	615 170 302 0	8500	180x9.5x22.2	7x3/8x7/8	5/8"-11f.	2000	2.7	2.6	5.8	12	25	30	63	1/2	13	1/2	
For USA market only (to ANSI B186.1)																		
A	KA20120B5Y	615 170 321 0	12000	127x6.4x22.2	5x1/4x22.2	5/8"-11f.	2000	2.7	2.4	5.3	12	25	30	63	1/2	13	1/2	
B	KA20085B7Y	615 170 322 0	8500	180x9.5x22.2	7x3/8x7/8	5/8"-11f.	2000	2.7	2.6	5.8	12	25	30	63	1/2	13	1/2	



Grinders for type 1 wheels, cone wheels, depressed centre wheels, cut-off wheels & flap wheels

NOISE LEVEL: Low sound level 77dB(A)*

- The best available power-to-noise level ratio
- Motor-integrated silencer
- Canalised air escape

SAFETY: Double action for start-up

- Safety catch

POWER/SPEED: Unprecedented

- Unequalled power-to-weight ratio
- Governed motor for maximum speed at maximum output
- Extensive operating range
- 1100 W motor

VIBRATION : 1.8m/s²

- Reduction of resonance phenomena
- Less fatigue for the operator
- Suspended motor
- Standard vibration-damping handle

MAINTENANCE : LM-1000 angle head

- 1000 operating hours between lubrication intervals
- Bevel gear head with self-contained lubrication
- Lubrication every 1000 hours without removing the head, thanks to the external lubricator

MAINTENANCE: LM-2000 motor

- 2000 operating hours without maintenance**
- Integral motor for better impact strength
- Vanes made of composite materials

ERGONOMICS: Multi-position guard

- Multi-position guard without service key
- Standard and cut-off grinding functions without fatigue for the operator
- 360° adjustable start-up lever

Specific alloy casing with excellent impact strength

MAINTENANCE: LM-2000 motor

- 2000 operating hours without maintenance*
- Integral motor for better impact strength
- Vanes made of composite materials

Stainless steel governor (overspeed mechanism USA version only)

Governed motor for maximum speed at maximum output

Double row ball bearing for increased service life

Double action safety lever

Built-in oil tank for outside operation

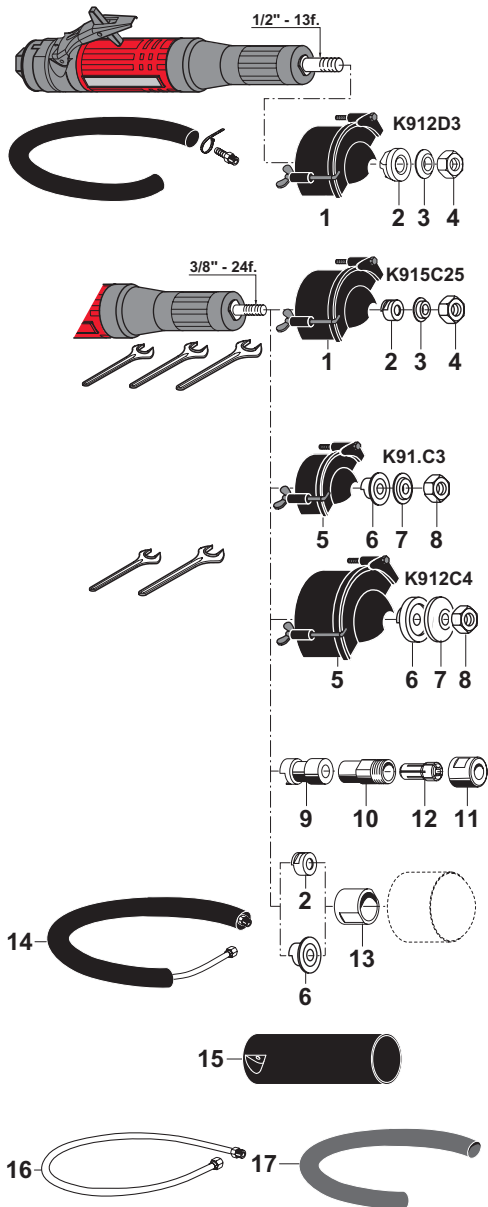
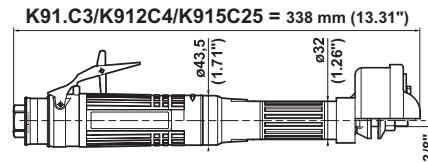
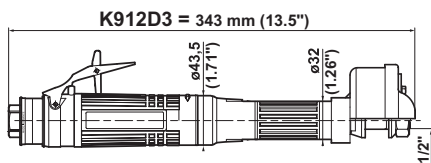
Vibration reducer

Wheel change with safety system

* With piped away exhaust kit ** Subject to use as per the instruction manual supplied with the tool



Accessories



K9..

ACCESSORIES INCLUDED

ITEM	K912D3 ø 80mm (3")	K915C25 ø 63mm (2-1/2")
• Exhaust hose L = 1.5m (60")	615 875 113 0	615 875 113 0
• Clamp	615 873 415 0	615 873 415 0
• 3/8" air hose nipple for 10mm ID hose	615 704 017 0	615 704 017 0
1 Wheel guard	615 504 151 0	615 504 150 0
2 Rear flange	615 503 127 0	615 503 126 0
3 Front flange	615 502 044 0	615 502 043 0
4 Locknut	615 608 045 0	615 608 044 0
• Flat wrench 17mm (11/16")	-	615 801 032 0
• Flat wrench 14.3mm (9/16")	-	615 801 074 0
• Flat wrench 19mm (3/4")	615 801 076 0	-

ITEM	K91.C3 ø 80mm (3")	K912C4 ø 100mm (4")
5 Wheel guard	615 504 151 0	615 504 152 0
6 Rear flange	615 503 125 0	615 503 131 0
7 Front flange	615 502 013 0	615 502 063 0
8 Locknut	615 608 044 0	615 608 044 0
• Flat wrench. 14.3mm (9/16")	615 801 074 0	615 801 074 0
• Flat wrench. 19mm (3/4")	615 801 076 0	615 801 076 0

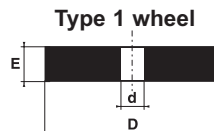
OPTIONAL ACCESSORIES

ITEM	PART NO.
9 Spacer for collet-holder	615 666 149 0
10 Series 200 collet-holder	615 523 023 0
11 Series 200 collet nut	615 607 144 0
12 Series 200 resilient collet	(see page 136)
13 Spacer for threaded cone wheel 3/8"	615 503 516 0
• Rear flange supplied with tool 615 503 125 0 or 615 503 126 0	-
14 Complete silencer kit	615 396 166 0
15 Thermal insulating sleeve	615 570 471 0
16 Inlet hose assembly L = 1.7m (67") 3/8"M - 3/8"F ø 10mm	615 870 210 0
17 Reinforced cloth-lined exhaust hose L = 0.75 m (30")	615 875 116 0

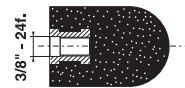


Grinders for cone wheels & type 1 wheels

∅ 63mm (2½") - ∅ 80mm (3") - ∅ 100mm (4")
900 Watts (1.21 hp) - 12000 to 18000 rpm



Wheel. type 16 - 18 - 18R and 19



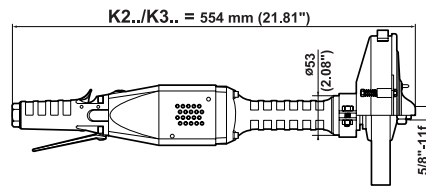
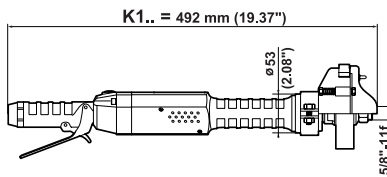
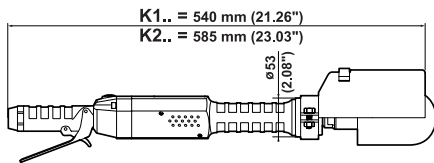
* Reinforced resinoid wheel

Caution: comply with the speeds recommended by component and abrasive manufacturers

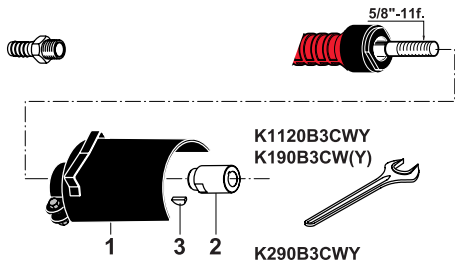
PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY		THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET THREAD		HOSE INT. Ø	
				mm	inch		W	hp	kg	lb.	l/s	cfm	l/s	cfm	inch	mm	in	
A	K918C3	615 170 118 0	18000	*80 x13x9.52	3x1/2x3/8	3/8-24f.	900	1.21	1.7	3.7	7	15	16	34	3/8	10	3/8	
B	K915C25	615 170 115 0	15000	63 x13x9.52	2½x1½x3/8	3/8-24f.	900	1.21	1.6	3.5	7	15	16	34	3/8	10	3/8	
C	K912D3	615 170 113 0	12000	80 x20x12.7	3x2½x1½	1/2-13f.	900	1.21	1.7	3.7	7	15	16	34	3/8	10	3/8	
A	K915C3	615 170 116 0	15000	*80 x13x9.52	3x1/2x3/8	3/8-24f.	900	1.21	1.7	3.7	7	15	16	34	3/8	10	3/8	
A	K912C3	615 170 111 0	12000	*80 x13x9.52	3x1/2x3/8	3/8-24f.	900	1.21	1.7	3.7	7	15	16	34	3/8	10	3/8	
D	K912C4	615 170 112 0	12000	*100 x13x9.52	4x1/2x3/8	3/8-24f.	900	1.21	1.8	4.0	7	15	16	34	3/8	10	3/8	



Accessories



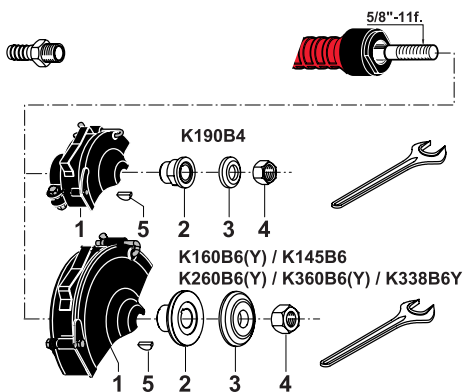
K1120B3CWY / K.90B3CW(CWY) - ø 80mm (3")



ACCESSORIES INCLUDED

ITEM	PART NO.
• 1/2" air hose nipple for 15mm (5/8") ID hose	615 704 014 0
1 Wheel guard	615 504 080 0
2 Rear flange	615 503 095 0
3 Woodruff key	615 630 019 0
• Flat wrench, 27mm (1 1/16")	615 801 077 0

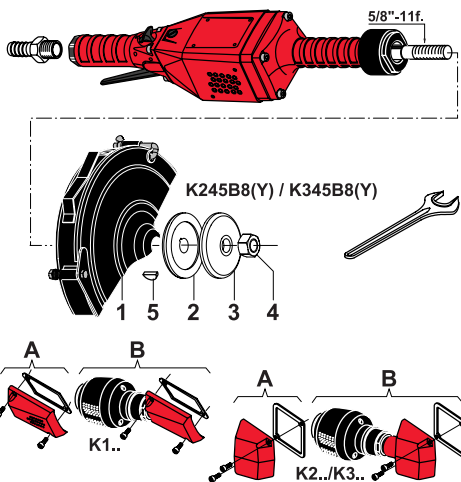
K190B4 / K.60B6(B6Y) / K145B6 / K338B6Y



ACCESSORIES INCLUDED

ITEM	K190B4	K.60B6 (B6Y)
	ø 100mm (4")	K145B6 K338B6Y ø 150mm (6")
• 1/2" air hose nipple for 15mm (5/8") ID hose	615 704 014 0	615 704 014 0
1 Wheel guard	615 504 154 0	615 504 079 0
2 Rear flange	615 503 094 0	615 503 028 0
3 Front flange	615 502 046 0	615 502 027 0
4 Nut	615 608 006 0	615 608 006 0
5 Woodruff key	615 630 019 0	615 630 019 0
• Flat wrench, 27mm (1 1/16")	615 801 077 0	615 801 077 0

K245B8(B8Y) / K345B8(B8Y) - ø 200mm (8")



ACCESSORIES INCLUDED

ITEM	K245B8 (B8Y)
	K345B8 (B8Y) ø 200mm (8")
• 1/2" air hose nipple for 15mm (5/8") ID hose	615 704 014 0
1 Wheel guard	615 504 078 0
2 Rear flange	615 503 004 0
3 Front flange	615 502 007 0
4 Nut	615 608 006 0
5 Woodruff key	615 630 019 0
• Flat wrench, 27mm (1 1/16")	615 801 077 0

OPTIONAL ACCESSORIES

ITEM	K1..	K2.. / K3..
A Silencer kit	615 399 298 0	615 399 227 0
B Silencer kit	615 399 459 0	615 399 460 0



Grinders for cone wheels & type 1 wheels

∅ 80mm (3") - ∅ 100mm (4") - ∅ 150mm (6") - ∅ 200mm (8")
1000 to 2700 Watts (1.34 to 3.62 hp) - 3800 to 12000 rpm



A



B



C



D

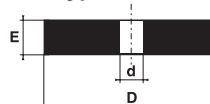


E



F

Type 1 wheel



Wheel. type 16 - 18 - 18R and 19

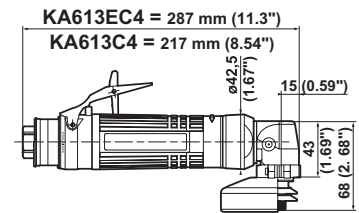
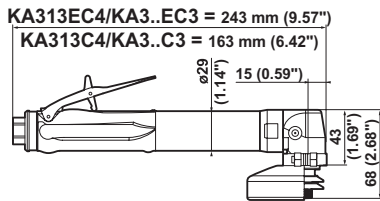


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY		THREADED SPINDLE	POWER	WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET THREAD		HOSE INT. Ø		
			rpm	mm	inch			W	hp	kg	lb.	l/s	cfm	l/s	cfm	inch	mm	in
Not available for USA (to EN 792 STANDARDS)																		
A	K190B3CW	615 170 005 0	9000	80	3	5/8-11f.	1200	1.61	3.5	7.7	9	19	27	57	1/2	15	5/8	
B	K190B4	615 170 004 0	9000	100x25x15.9	4x1x5/8	5/8-11f.	1200	1.61	3.2	7.0	9	19	27	57	1/2	15	5/8	
C	K160B6	615 170 003 0	6000	150x25x15.9	6x1x5/8	5/8-11f.	1200	1.61	3.5	7.7	6	12	23	48	1/2	15	5/8	
C	K145B6	615 170 002 0	4500	150x25x15.9	6x1x5/8	5/8-11f.	1000	1.34	3.5	7.7	5	10	20	42	1/2	15	5/8	
E	K260B6	615 170 008 0	6000	150x25x15.9	6x1x5/8	5/8-11f.	2000	2.70	5.1	11.2	10	21	38	80	1/2	15	5/8	
E	K360B6	615 170 010 0	6000	150x25x15.9	6x1x5/8	5/8-11f.	2700	3.62	5.6	12.3	13	27	41	86	1/2	15	5/8	
F	K245B8	615 170 006 0	4500	200x25x15.9	8x1x5/8	5/8-11f.	1800	2.41	5.8	12.7	8	17	32	67	1/2	15	5/8	
F	K345B8	615 170 009 0	4500	200x25x15.9	8x1x5/8	5/8-11f.	2400	3.22	6.3	13.9	8	17	33	70	1/2	15	5/8	
For USA Market only (to ANSI B186.1)																		
A	K1120B3CWY	615 170 171 0	12000	80	3	5/8-11f.	1300	1.74	3.0	6.6	16	34	30	64	1/2	15	5/8	
A	K190B3CWY	615 170 172 0	9000	80	3	5/8-11f.	1200	1.61	3.0	6.6	9	19	27	57	1/2	15	5/8	
D	K290B3CWY	615 170 174 0	9000	80	3	5/8-11f.	2400	3.22	4.5	9.9	18	38	46	97	1/2	15	5/8	
C	K160B6Y	615 170 173 0	6000	150x25x15.9	6x1x5/8	5/8-11f.	1200	1.61	3.5	7.7	6	12	23	48	1/2	15	5/8	
E	K260B6Y	615 170 175 0	6000	150x25x15.9	6x1x5/8	5/8-11f.	2000	2.70	5.1	11.2	10	21	38	80	1/2	15	5/8	
E	K360B6Y	615 170 177 0	6000	150x25x15.9	6x1x5/8	5/8-11f.	2700	3.62	5.6	12.3	13	27	41	86	1/2	15	5/8	
E	K338B6Y	615 170 208 0	3800	150x25x15.9	6x1x5/8	5/8-11f.	2000	2.70	5.6	12.3	8	17	33	70	1/2	15	5/8	
F	K245B8Y	615 170 176 0	4500	200x25x15.9	8x1x5/8	5/8-11f.	1800	2.41	5.8	12.7	8	17	32	67	1/2	15	5/8	
F	K345B8Y	615 170 178 0	4500	200x25x15.9	8x1x5/8	5/8-11f.	2400	3.22	6.3	13.9	8	17	33	70	1/2	15	5/8	



Accessories



KA3..EC3 / KA3..C3 / KA313EC4 / KA313C4

ACCESSORIES INCLUDED

ITEM	KA3..EC3	KA313EC4
	KA3..C3	KA313C4
	ø 76mm (3")	ø 100mm (4")
• Exhaust hose L = 0.8m (31")	615 875 106 0	615 875 106 0
• 1/4" air hose nipple for 8mm ID hose	615 704 019 0	615 704 019 0
1 Wheel guard	615 504 155 0	615 504 160 0
2 Flange	-	615 606 515 0
3 Flange	615 502 064 0	615 502 064 0
4 Flange	615 503 144 0	615 503 144 0
• Pin wrench, 20-3mm	615 802 008 0	615 802 008 0
• Flat wrench, 11mm (7/16")	615 801 003 0	615 801 003 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
5 Complete silencer kit	615 396 101 0
6 Silencer	615 574 028 0
7 Clipable silencer	615 396 124 0
8 Grease gun includes (24g - 0.8oz)	615 990 149 0
• Lubricant for bevel gear (1kg - 2.2lb)	615 990 148 0

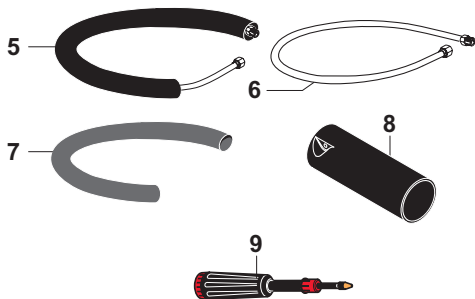
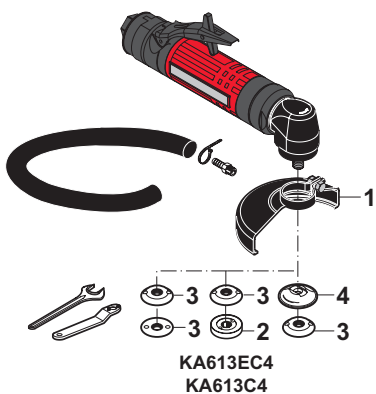
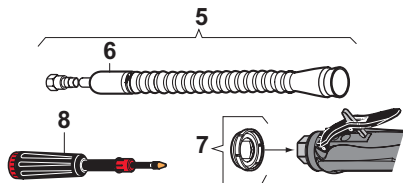
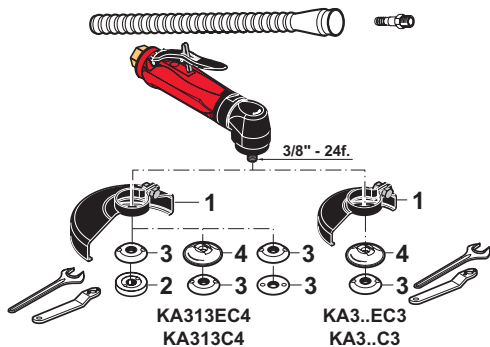
KA613EC4 / KA613C4 - ø 100mm (4")

ACCESSORIES INCLUDED

ITEM	KA613EC4 KA613C4
• Exhaust hose L = 1.5m (60")	615 875 113 0
• Clamp	615 873 415 0
• 3/8" air hose nipple for 10mm ID hose	615 704 017 0
1 Wheel guard	615 504 160 0
2 Flange	615 606 515 0
3 Flange	615 502 064 0
4 Flange	615 503 144 0
• Pin wrench, 20-3mm	615 802 008 0
• Flat wrench, 11mm (7/16")	615 801 003 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
5 Complete silencer kit	615 396 166 0
6 Inlet hose assembly L = 1.7m (67") 3/8" M - 3/8" F ø 10mm	615 870 210 0
7 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0
8 Thermal insulating sleeve	615 570 471 0
9 Grease gun includes (24g - 0.8oz)	615 990 149 0
• Lubricant for bevel gear (1kg - 2.2lb)	615 990 148 0



Grinders for depressed centre wheels & cut-off wheels

∅ 76mm (3") - ∅ 100mm (4")

375 - 600 Watts (0.5 - 0.8 hp) - 13000 to 20000 rpm



A



B



C



D

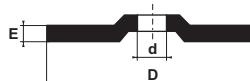


E

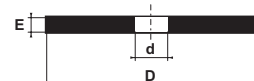


F

Type 27-42 wheel



Type 41 wheel

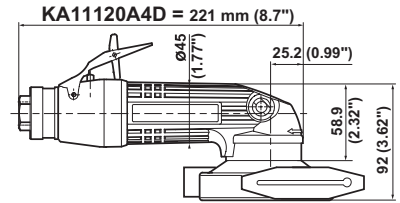
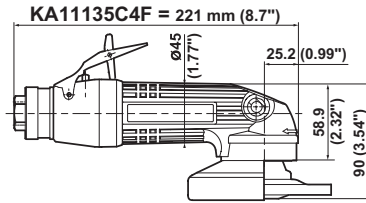


Caution: comply with the speeds recommended by component and abrasive manufacturers

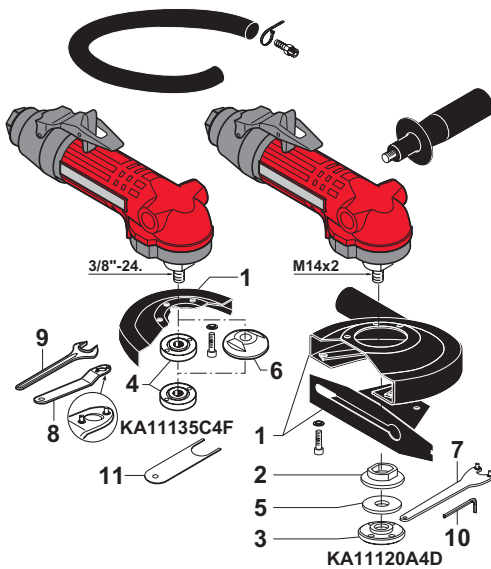
PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY		THREADED SPINDLE	POWER	WEIGHT	AIR CONSUMPTION				AIR INLET THREAD		HOSE INT. Ø		
				D	xExd				AT FREE SPEED	AT MAX OUTPUT	inch	mm	in				
			rpm	mm	inch	inch	W	hp	kg	lb.	l/s	cfm	l/s	cfm	inch	mm	in
A	KA320EC3	615 170 046 0	20000	76 x7x9.52	3x ¹ / ₄ x ³ / ₈	³ / ₈ -24 f.	375	0.5	0.81	1.78	6.5	13.5	10.0	21	¹ / ₄	8	⁵ / ₁₆
A	KA318EC3	615 170 045 0	18000	76 x7x9.52	3x ¹ / ₄ x ³ / ₈	³ / ₈ -24 f.	375	0.5	0.81	1.78	4.5	9.5	9.5	20	¹ / ₄	8	⁵ / ₁₆
B	KA313EC4	615 170 050 0	13000	100 x7x9.52&15.9	4x ¹ / ₄ x ³ / ₈ & ⁵ / ₈	³ / ₈ -24 f.	375	0.5	0.83	1.83	3.0	6.5	9.0	19	¹ / ₄	8	⁵ / ₁₆
C	KA320C3	615 170 042 0	20000	76 x7x9.52	3x ¹ / ₄ x ³ / ₈	³ / ₈ -24 f.	375	0.5	0.64	1.41	6.5	13.5	10.0	21	¹ / ₄	8	⁵ / ₁₆
C	KA318C3	615 170 041 0	18000	76 x7x9.52	3x ¹ / ₄ x ³ / ₈	³ / ₈ -24 f.	375	0.5	0.64	1.41	4.5	9.5	9.5	20	¹ / ₄	8	⁵ / ₁₆
D	KA313C4	615 170 049 0	13000	100 x7x9.52&15.9	4x ¹ / ₄ x ³ / ₈ & ⁵ / ₈	³ / ₈ -24 f.	375	0.5	0.66	1.45	3.0	6.5	9.0	19	¹ / ₄	8	⁵ / ₁₆
E	KA613EC4	615 170 138 0	13000	100 x7x9.52&15.9	4x ¹ / ₄ x ³ / ₈ & ⁵ / ₈	³ / ₈ -24 f.	600	0.8	1.50	3.30	10.0	21.0	15.0	32	³ / ₈	10	³ / ₈
F	KA613C4	615 170 137 0	13000	100 x7x9.52&15.9	4x ¹ / ₄ x ³ / ₈ & ⁵ / ₈	³ / ₈ -24 f.	600	0.8	1.20	2.60	10.0	21.0	15.0	32	³ / ₈	10	³ / ₈



Accessories



KA11135C4F / KA11120A4D - ø 100mm (4")

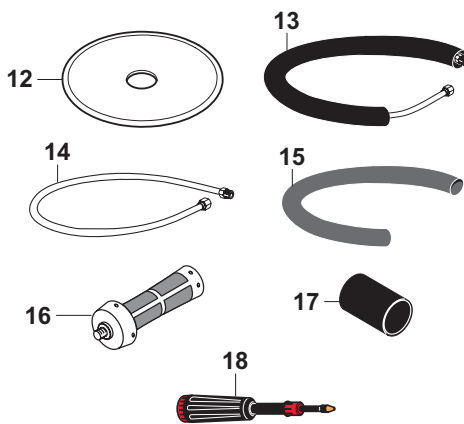


ACCESSORIES INCLUDED

ITEM	KA11135C4F 3/8" - 24f.	KA11120A4D M14x2
• Exhaust hose L = 1.5m (60")	615 875 113 0	615 875 113 0
• Clamp	615 873 415 0	615 873 415 0
• 3/8" air hose nipple for 13mm (1/2") ID hose	615 704 027 0	615 704 027 0
• Side handle	-	615 576 038 0
1 Wheel guard	615 504 143 0	615 396 076 0
2 Rear flange	-	615 503 134 0
3 Front flange	-	615 502 066 0
4 Flange (Qty 2)	615 606 515 0	-
5 Spacer	-	615 643 074 0
6 Rear flange	615 503 515 0	-
7 Pin wrench, 35mm (1 3/8")	-	615 802 010 0
8 Pin wrench	615 802 008 0	-
9 Flat wrench, 17mm (11/16")	615 801 032 0	-
10 Hex. key 8mm (5/16")	-	615 802 061 0
11 Wrench	615 802 512 0	-

OPTIONAL ACCESSORIES

ITEM	PART NO.
12 Diamond disc ø 100mm (4")	615 860 002 0
13 Complete silencer kit	615 396 166 0
14 Inlet hose assembly L = 1.7m (67") 3/8"M - 3/8"F ø13mm (1/2")	615 804 064 0
15 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0
16 Vibration-damping side handle	615 576 066 0
17 Thermal insulating sleeve	615 570 412 0
18 Grease gun includes 24g (0.8oz)	615 990 149 0
• Lubricant for bevel gear (1kg - 2.2lb)	615 990 148 0



Grinders for depressed centre wheels, cut-off wheels & diamond disc

Ø 100mm (4")

1100 Watts (1.5 hp) - 12000 - 13500 rpm



A

Adjustable lever



B

Adjustable lever
Supplied with dust extraction casing
for diamond disc Ø 100mm (4").
Vacuum hose. ID 25mm (1")

Type 27-42 wheel



Type 41 wheel



Diamond disc

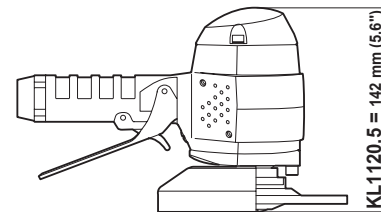
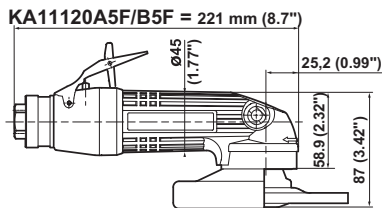


Caution: comply with the speeds recommended by component and abrasive manufacturers * Diamond disc

PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY DxExd		THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET THREAD		HOSE INT. Ø	
			rpm	mm	inch	inch	W	hp	kg	lb.	l/s	cfm	l/s	cfm	inch	mm	in	
A	KA11135C4F	615 170 057 0	13500	100x6.4x16	4x1/4x9/8	3/8"-24f.	1100	1.5	1.6	3.5	10	21	20	42	3/8	13	1/2	
B	KA11120A4D*	615 170 059 0	12000	100x3.2x22.2	4x1/8x7/8	M14x2	1100	1.5	2.0	4.4	10	21	20	42	3/8	13	1/2	



Accessories



KA11120A5F / KA11120B5F - ø 127mm (5")

ACCESSORIES INCLUDED

ITEM	KA11120A5F M14x2	KA11120B5F 5/8"-11f.
• Exhaust hose L = 1.5m (60")	615 875 113 0	615 875 113 0
• Clamp	615 875 415 0	615 873 415 0
• 3/8" air hose nipple for 13mm ID hose	615 704 027 0	615 704 027 0
• Side handle	615 576 038 0	615 576 038 0
1 Wheel guard	615 504 142 0	615 504 142 0
2 Rear flange	615 503 134 0	615 503 141 0
3 Front flange	615 502 066 0	615 502 067 0
4 Safety screw	615 614 076 0	615 614 076 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0	615 802 010 0
• Flat wrench, 17mm (1 1/16")	615 801 079 0	615 801 079 0
• Hex. key 6.35mm (1/4")	615 802 057 0	615 802 057 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
5 Complete silencer kit	615 396 166 0
6 Inlet hose assembly L = 1.7m (67") 3/8"M - 3/8"F ø 13mm (1/2")	615 804 064 0
7 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0
8 Vibration-damping side handle	615 576 066 0
9 Thermal insulating sleeve	615 570 412 0
10 Grease gun includes 24g (0.8oz)	615 990 149 0
• Lubricant for bevel gear (1kg - 2.2lb)	615 990 148 0

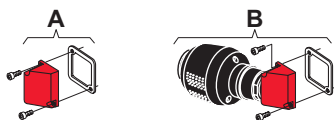
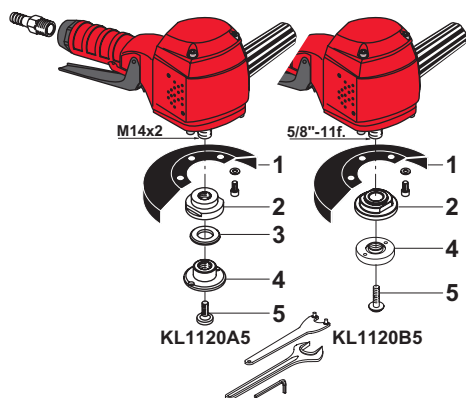
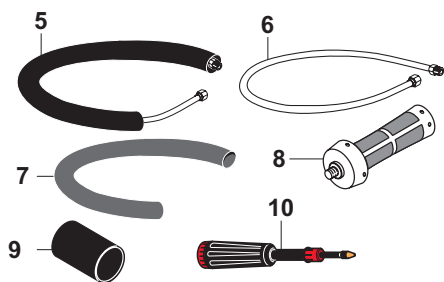
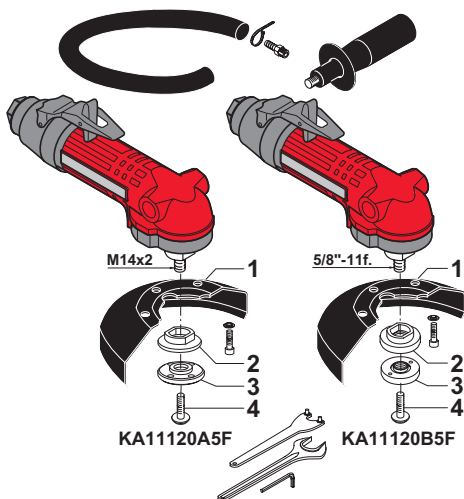
KL1120A5 / KL1120B5 - ø 127mm (5")

ACCESSORIES INCLUDED

ITEM	KL1120A5 M14x2	KL1120B5 5/8"-11f.
• 3/8" air hose nipple for 10mm ID hose	615 704 017 0	615 704 017 0
1 Wheel guard	615 504 086 0	615 504 086 0
2 Rear flange	615 503 096 0	615 503 143 0
3 Washer for wheels thickness <2mm	615 642 052 0	-
4 Nut	615 606 032 0	615 502 067 0
5 Safety screw	615 614 033 0	615 614 076 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0	615 802 010 0
• Flat wrench, 27mm (1 1/16")	615 801 077 0	615 801 077 0
• Hex. key 6mm	615 802 056 0	-
• Hex. key 6.35mm (1/4")	-	615 802 057 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
A Silencer kit	615 396 117 0
B Silencer kit	615 399 462 0



Grinders for depressed centre wheels, cut-off wheels & flap wheels Ø 127mm (5")

750 - 1100 Watts (1.02 - 1.5 hp) - 12000 rpm

Fixed wheel guard

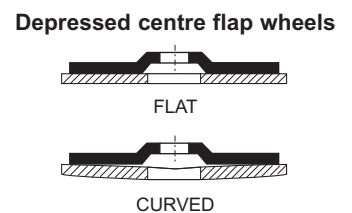
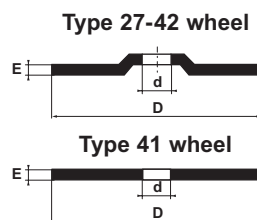


A

Adjustable lever



B

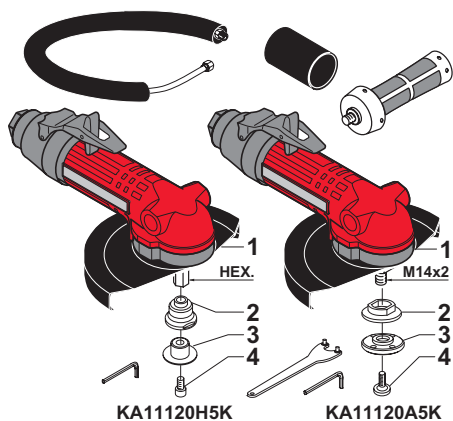
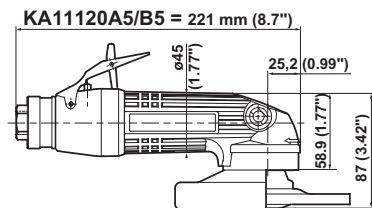
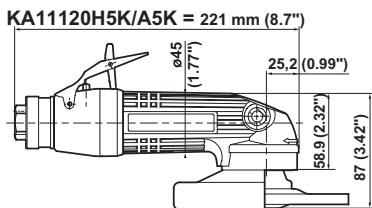


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY DxExd		THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET THREAD	HOSE INT. Ø	
			rpm	mm	inch	inch	W	hp	kg	lb.	l/s	cfm	l/s	cfm	inch	mm	in
A	KA11120A5F	615 170 052 0	12000	127x6.4x22.2	5x1/4x7/8	M14x2	1100	1.5	1.7	3.7	10	21	20	42	3/8	13	1/2
A	KA11120B5F	615 170 055 0	12000	127x6.4x22.2	5x1/4x7/8	5/8"-11f.	1100	1.5	1.7	3.7	10	21	20	42	3/8	13	1/2
B	KL1120A5	615 170 013 0	12000	127x6.4x22.2	5x1/4x7/8	M14x2	750	1.02	2.3	5.0	16	34	16	34	3/8	10	3/8
B	KL1120B5	615 170 181 0	12000	127x6.4x22.2	5x1/4x7/8	5/8"-11f.	750	1.02	2.3	5.0	16	34	16	34	3/8	10	3/8



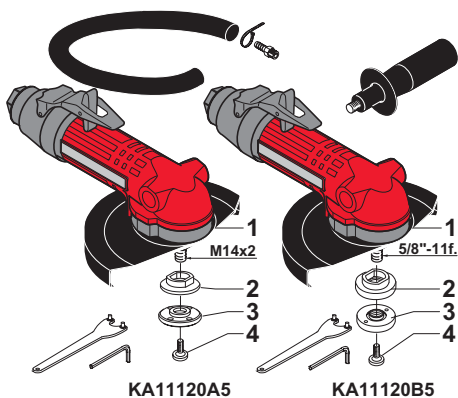
Accessories



KA11120H5K / KA11120A5K - ø 127mm (5")

ACCESSORIES INCLUDED

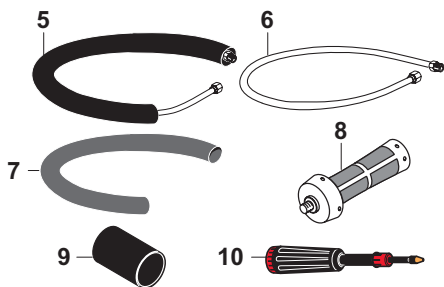
ITEM	KA11120H5K Hex.	KA11120A5K M14x2
• Complete silencer kit	615 396 166 0	615 396 166 0
• Vibration-damping side handle	615 576 066 0	615 576 066 0
• Thermal insulating sleeve	615 570 412 0	615 570 412 0
• Case	-	-
1 Multi-position guard	615 504 163 0	615 504 163 0
2 Rear flange	615 503 124 0	615 503 134 0
3 Front flange	615 502 062 0	615 502 066 0
4 Safety screw	615 616 101 0	615 614 076 0
• Pin wrench, 35mm (1 3/8")	-	615 802 010 0
• Hex. key 6mm	615 802 056 0	-
• Hex. key 6.35mm (1/4")	-	615 802 057 0



KA11120A5 / KA11120B5 - ø 127mm (5")

ACCESSORIES INCLUDED

ITEM	KA11120A5 M14x2	KA11120B5 5/8"-11f.
• Exhaust hose L = 1.5m (60")	615 875 113 0	615 875 113 0
• Clamp	615 873 415 0	615 873 415 0
• 3/8" air hose nipple for 13mm (1/2") ID hose	615 704 027 0	615 704 027 0
• Side handle	615 576 038 0	615 576 038 0
1 Multi-position guard	615 504 163 0	615 504 163 0
2 Rear flange	615 503 134 0	615 503 141 0
3 Front flange	615 502 066 0	615 502 067 0
4 Safety screw	615 614 076 0	615 614 076 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0	615 802 010 0
• Hex. key 6.35mm (1/4")	615 802 057 0	615 802 057 0



OPTIONAL ACCESSORIES

ITEM	PART NO.
5 Complete silencer kit	615 396 166 0
6 Inlet hose assembly L = 1.7m (67") 3/8"M - 3/8"F - ø 13mm (1/2")	615 804 064 0
7 Reinforced cloth-lined exhaust hose L = 0.75 m (30")	615 875 116 0
8 Vibration-damping side handle	615 576 066 0
9 Thermal insulating sleeve	615 570 412 0
10 Grease gun includes 24g (0.8oz)	615 990 149 0
• Lubricant for bevel gear (1kg - 2.2lb)	615 990 148 0



Grinders for depressed centre wheels, cut-off wheels & flap wheels Ø 127mm (5")

1100 Watts (1.5 hp) - 12000 rpm

Quick wheel change - Multi-position guard



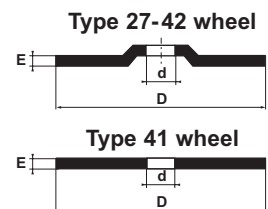
A



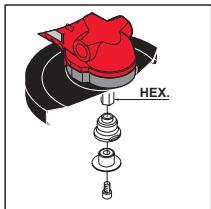
B

Adjustable lever

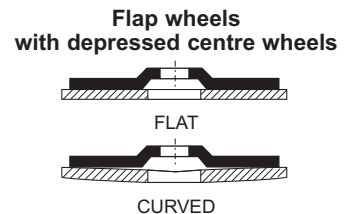
Multi-position guard without tool. to be adjusted manually. by simple pressure.



Lock button and hexagonal spindle. to change the wheel with a single hex key.



Lock button

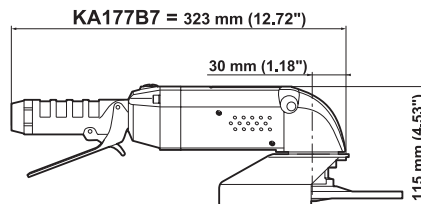
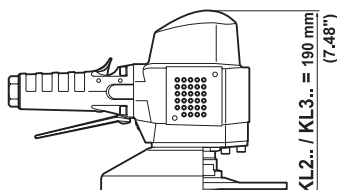
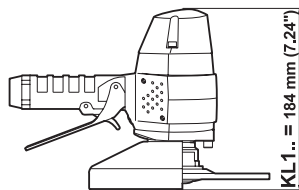


Caution: comply with the speeds recommended by component and abrasive manufacturers

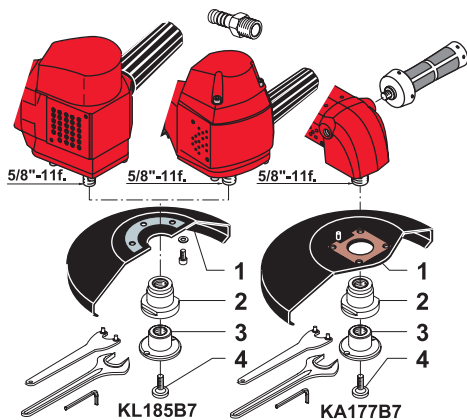
PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY		THREADED SPINDLE	POWER			AIR CONSUMPTION				AIR INLET THREAD		HOSE INT. Ø	
			rpm	mm	inch	inch	W	hp	kg	lb.	l/s	cfm	l/s	cfm	inch	mm	in
A	KA11120H5K	615 170 028 0	12000	127x6.4x22.2	5x1/4x7/8	HEX	1100	1.5	1.7	3.7	10	21	20	42	3/8	13	1/2
A	KA11120A5K	615 170 054 0	12000	127x6.4x22.2	5x1/4x7/8	M14x2	1100	1.5	1.7	3.7	10	21	20	42	3/8	13	1/2
B	KA11120A5	615 170 053 0	12000	127x6.4x22.2	5x1/4x7/8	M14x2	1100	1.5	1.7	3.7	10	21	20	42	3/8	13	1/2
B	KA11120B5	615 170 056 0	12000	127x6.4x22.2	5x1/4x7/8	5/8"-11f.	1100	1.5	1.7	3.7	10	21	20	42	3/8	13	1/2



Accessories



KL185B7 / KL285B7 / KL377B7 / KA177B7



ACCESSORIES INCLUDED

ITEM	KL185B7 ø 180mm (7")	KL285B7 KL377B7 ø 180mm (7")	KA177B7 ø 180mm (7")
• Vibration-damping side handle	-	-	615 576 066 0
• 1/2" air hose nipple for 15mm (5/8") ID hose	-	615 704 014 0	615 704 014 0
• 1/2" air hose nipple for 13mm (1/2") ID hose	615 704 016 0	-	-
1 Wheel guard	615 504 095 0	615 504 128 0	615 504 133 0
2 Rear flange	615 503 103 0	615 503 103 0	615 503 103 0
3 Nut	615 542 104 0	615 542 104 0	615 542 104 0
4 Safety screw	615 614 034 0	615 614 034 0	615 614 034 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0	615 802 010 0	615 802 010 0
• Flat wrench, 27mm (1 1/16")	615 801 077 0	615 801 077 0	615 801 077 0
• Hex. key 6mm	615 802 056 0	615 802 056 0	615 802 056 0

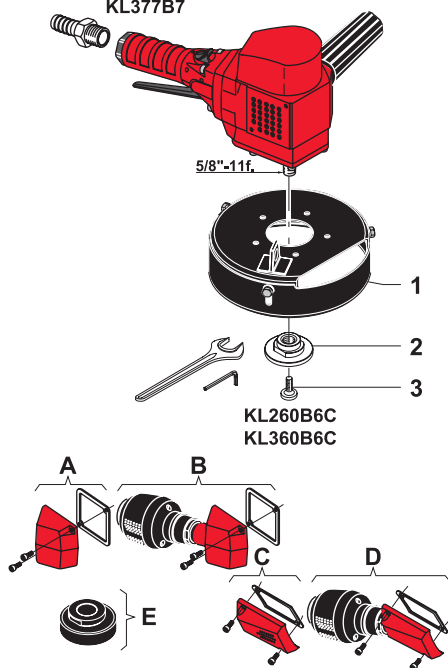
KL260B6C / KL360B6C - ø 150mm (6")

ACCESSORIES INCLUDED

ITEM	PART NO.
• 1/2" air hose nipple for 15mm (5/8") ID hose	615 704 014 0
1 Wheel guard	615 399 010 0
2 Rear flange	615 503 116 0
3 Safety screw	615 614 034 0
• Flat wrench, 27mm (1 1/16")	615 801 077 0
• Hex. key 6mm	615 802 056 0

OPTIONAL ACCESSORIES

ITEM	KL2./KL3..	KL185B7	KA177B7
A Silencer kit	615 399 227 0	615 396 117 0	-
B Silencer kit	615 399 460 0	615 399 462 0	-
C Silencer kit	-	-	615 399 298 0
D Silencer kit	-	-	615 399 459 0
E Vibration reducer (except KL260/360B6C)	615 503 146 0	615 503 146 0	615 503 146 0



Grinders for depressed centre wheels, cup wheels & flap wheels

∅ 150mm (6") - ∅ 180mm (7")
1200 to 2800 Watts (1.61 to 3.75 hp) - 6000 to 8500 rpm



A



B

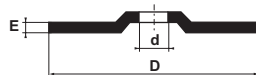


C



D

Type 27-42 wheel



Type 41 wheel



Depressed centre flap wheels

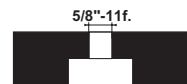


FLAT

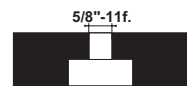


CURVED

TYPE 6 wheel



TYPE 11 wheel



Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY		THREADED SPINDLE	POWER	WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET THREAD	HOSE INT. Ø	
			rpm	mm	inch			W	hp	kg	lb.	l/s	cfm		l/s	cfm

VERTICAL GRINDERS

Not available for USA (to EN792 STANDARDS)

A	KL185B7	615 170 012 0	8500	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11f.	1200	1.61	2.8	6.1	16	34	27	57	1/2	13	1/2
B	KL285B7	615 170 017 0	8500	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11f.	2500	3.35	4.0	8.8	15	31	44	93	1/2	15	5/8
B	KL377B7	615 170 202 0	7700	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11f.	2800	3.75	4.2	9.2	19	40	46	97	1/2	15	5/8

ANGLE GRINDER

Not available for USA (to EN792 STANDARDS)

C	KA177B7	615 170 021 0	7700	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11f.	1200	1.61	2.9	6.3	14	30	27	57	1/2	15	5/8
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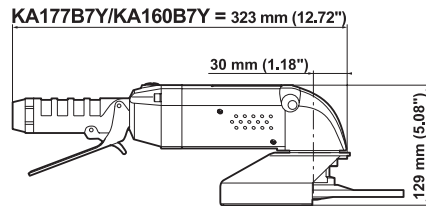
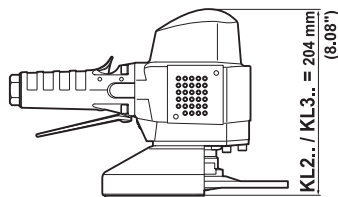
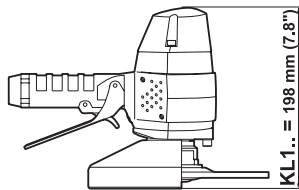
VERTICAL GRINDERS for cup wheels

Not available for USA (to EN792 STANDARDS)

D	KL260B6C	615 170 015 0	6000	150	6	5/8-11f.	2200	3.00	4.2	9.2	9	19	39	82	1/2	15	5/8
D	KL360B6C	615 170 018 0	6000	150	6	5/8-11f.	2700	3.62	4.4	9.7	12	25	43	91	1/2	15	5/8



Accessories



KL.77B7Y / KL.60B7Y / KA1..B7Y - ø 180mm (7")

ACCESSORIES INCLUDED

ITEM	KL1..B7Y	KL2..B7Y KL3..B7Y	KA177B7Y KA160B7Y
• Vibration-damping side handle	-	-	615 576 066 0
• 1/2" air hose nipple for 15mm (5/8") ID hose	-	615 704 014 0	615 704 014 0
• 1/2" air hose nipple for 13mm (1/2") ID hose	615 704 016 0	-	-
1 Wheel guard	615 504 169 0	615 504 166 0	615 504 167 0
2 Rear flange	615 503 150 0	615 503 150 0	615 503 107 0
3 Nut	615 608 049 0	615 608 049 0	615 608 049 0
4 Safety screw	615 614 034 0	615 614 034 0	615 614 034 0
5 Flat wrench, 27mm (1-1/16")	615 801 077 0	615 801 077 0	615 801 077 0
• Hex. key 6mm	615 802 056 0	615 802 056 0	615 802 056 0

OPTIONAL ACCESSORIES

ITEM	KL.77B7Y KL.60B7Y KA177B7Y
6 Rear flange	615 503 103 0
7 Nut	615 542 104 0
8 Vibration reducer	615 503 146 0
9 Safety screw	615 614 034 0
10 Wheel adapter	C087920
11 Pin wrench, 35mm (1-3/8")	615 802 010 0
12 Flat wrench, 27mm (1-1/16")	615 801 077 0
13 Hex. key 6mm	615 802 056 0

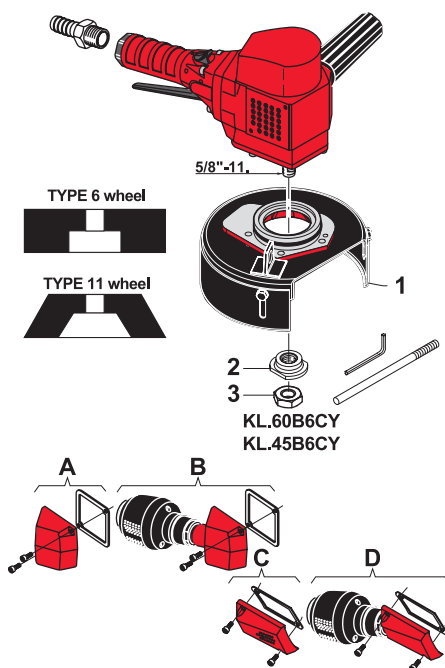
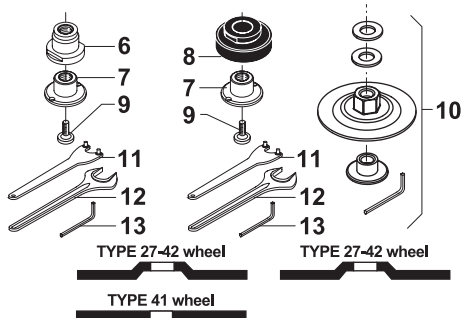
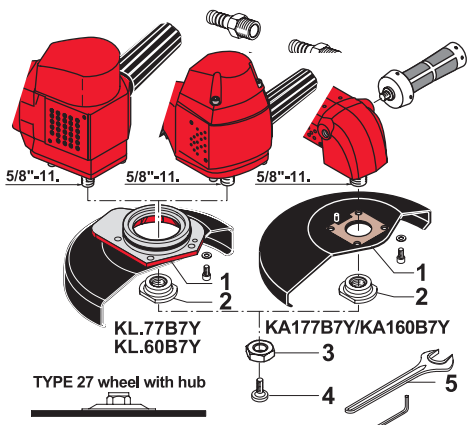
KL.60B6CY / KL.45B6CY - ø 150mm (6")

ACCESSORIES INCLUDED

ITEM	PART NO.
• 1/2" air hose nipple for 15mm (5/8") ID hose	615 704 014 0
1 Wheel guard	615 396 128 0
2 Rear flange	615 503 150 0
3 Nut	615 608 049 0
• Lever	615 595 202 0
• Hex. key, 8mm (5/16")	615 802 061 0

OTHER OPTIONAL ACCESSORIES

ITEM	KL1..B7Y	KL2..B.Y KL3..B.Y	KA177B7Y
A Silencer kit	615 396 117 0	615 399 227 0	-
B Silencer kit	615 399 462 0	615 399 460 0	-
C Silencer kit	-	-	615 399 298 0
D Silencer kit	-	-	615 399 459 0

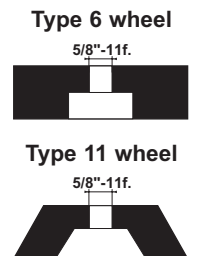
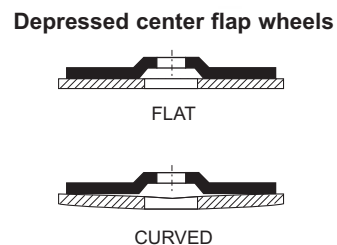
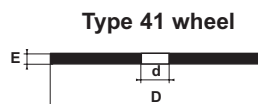
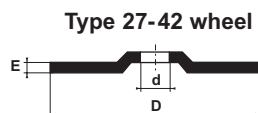
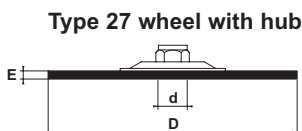


Grinders for depressed centre wheels, cup wheels & flap wheels

Ø 150mm (6") - Ø 180mm (7")

1100 to 2800 Watts (1.47 to 3.75 hp) - 4500 to 7700 rpm

USA
Market
Only



Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY		THREADED SPINDLE	POWER	WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX OUTPUT		AIR INLET THREAD		HOSE INT. Ø	
				mm	inch			W	hp	kg	lb.	l/s	cfm	l/s	cfm	inch	mm

VERTICAL GRINDERS

For USA Market only (to ANSI B186.1)

A	KL177B7Y	615 170 182 0	7700	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11	1200	1.61	2.8	6.1	8	17	25	53	1/2	13	1/2
B	KL277B7Y	615 170 184 0	7700	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11	2400	3.21	4.0	8.8	14	29	42	89	1/2	15	5/8
B	KL377B7Y	615 170 190 0	7700	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11	2800	3.75	4.2	9.2	19	40	46	97	1/2	15	5/8
A	KL160B7Y	615 170 183 0	6000	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11	1100	1.47	2.8	6.1	6	13	24	51	1/2	13	1/2
B	KL260B7Y	615 170 185 0	6000	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11	2200	3.00	4.0	8.8	10	21	39	82	1/2	15	5/8
B	KL360B7Y	615 170 191 0	6000	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11	2700	3.62	4.2	9.2	12	25	43	91	1/2	15	5/8

ANGLE GRINDER

For USA Market only (to ANSI B186.1)

C	KA177B7Y	615 170 179 0	7700	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11	1200	1.61	2.9	6.3	14	30	27	57	1/2	15	5/8
C	KA160B7Y	615 170 247 0	6000	180x9.5x22.2	7x ³ / ₈ x7/ ₈	5/8-11	1200	1.61	2.9	6.3	9	19	24	50	1/2	15	5/8

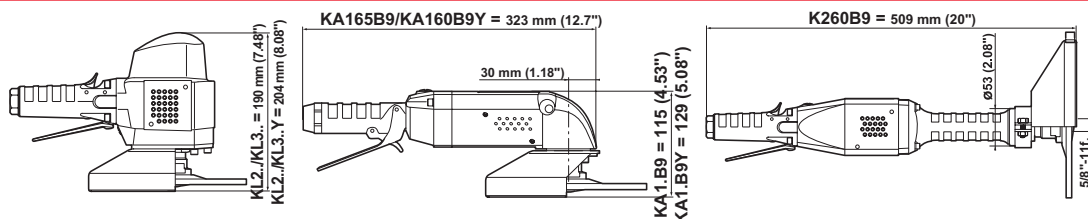
VERTICAL GRINDERS for cup wheels

For USA Market only (to ANSI B186.1)

D	KL260B6CY	615 170 187 0	6000	150	6	5/8-11	2200	3.00	4.2	9.2	10	21	39	82	1/2	15	5/8
D	KL360B6CY	615 170 193 0	6000	150	6	5/8-11	2700	3.62	4.4	9.7	12	25	43	91	1/2	15	5/8
D	KL245B6CY	615 170 188 0	4500	150	6	5/8-11	1700	2.28	4.2	9.2	7	15	32	68	1/2	15	5/8
D	KL345B6CY	615 170 194 0	4500	150	6	5/8-11	2000	2.68	4.4	9.7	9	19	34	72	1/2	15	5/8



Accessories



KL.65B9 / KL.60B9Y / KL.45B9Y / KA16.B9(Y) - ø 230mm (9")

ACCESSORIES INCLUDED

ITEM	KL265B9	KL.60B9Y	KA165B9	KA160B9Y
	KL365B9	KL.45B9Y		
• Vibration-damping side handle			615 576 066 0	615 576 066 0
• 1/2" air hose nipple for 15 mm (5/8") ID hose	615 704 014 0	615 704 014 0	615 704 014 0	615 704 014 0
1 Wheel guard	615 504 127 0	615 504 165 0	615 504 136 0	615 504 168 0
2 Rear flange	615 503 103 0		615 503 103 0	
3 Nut	615 542 104 0		615 542 104 0	
4 Safety screw	615 614 034 0	615 614 034 0	615 614 034 0	615 614 034 0
5 Nut		615 608 049 0		615 608 049 0
• Flat wrench, 27mm (1 1/16")	615 801 077 0	615 801 077 0	615 801 077 0	615 801 077 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0		615 802 010 0	
• Hex. Key 6mm	615 802 056 0	615 802 056 0	615 802 056 0	615 802 056 0

OPTIONAL ACCESSORIES

ITEM	KL.60B9Y	KL.45B9Y	KA160B9Y
	2 Rear flange	615 503 103 0	
3 Nut	615 542 104 0		
4 Safety screw	615 614 034 0		
6 Vibration reducer	615 503 146 0		
7 Wheel adapter	C087920		
• Pin wrench, 35mm (1 3/8")	615 802 010 0		
• Flat wrench, 27mm (1 1/16")	615 801 077 0		
• Hex. Key 6mm	615 802 056 0		

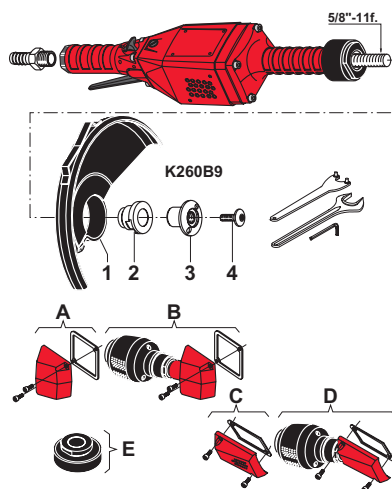
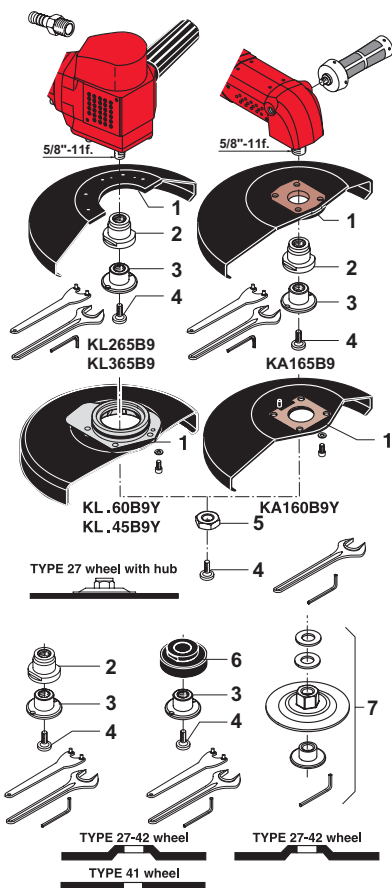
K260B9 - ø 230mm (9")

ACCESSORIES INCLUDED

ITEM	K260B9
• 1/2" air hose nipple for 15 mm (5/8") ID hose	615 704 014 0
1 Wheel guard	615 504 161 0
2 Rear flange	615 503 103 0
3 Nut	615 542 104 0
4 Safety screw	615 614 034 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0
• Flat wrench, 27mm (1 1/16")	615 801 077 0
• Hex. Key 6mm	615 802 056 0

OTHER OPTIONAL ACCESSORIES

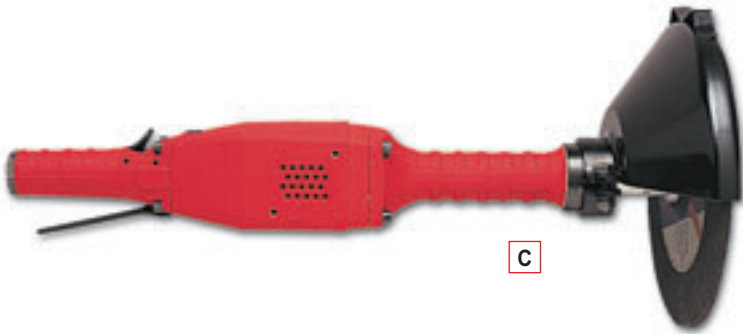
ITEM	KL.65B9	KL.60B9Y	KA165B9	KA160B9Y
	K260B9	KL.45B9Y		
A Silencer kit	615 399 227 0	615 399 227 0		
B Silencer kit	615 399 460 0	615 399 460 0		
C Silencer kit			615 399 298 0	615 399 298 0
D Silencer kit			615 399 459 0	615 399 459 0
E Vibration reducer	615 503 146 0		615 503 146 0	



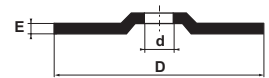
Grinders for depressed centre wheels

ø 230mm (9")

1000 to 2700 Watts (1.34 to 3.62 hp) - 4500 to 6500 rpm



Type 27-42 wheel



Type 41 wheel



Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	WHEEL MAX CAPACITY		THREADED SPINDLE	POWER	WEIGHT		AIR CONSUMPTION				AIR INLET THREAD	HOSE INT. Ø		
				D	xExd			W	hp	kg	lb.	l/s	cfm		l/s	cfm	inch

VERTICAL GRINDERS

Not available for USA (to EN 792 STANDARDS)

A	KL265B9	615 170 016 0	6500	230x6.4x22.2	9x1/4x7/8	5/8-11f.	2200	3.00	4.2	9.2	10	21	40	84	1/2	15	5/8
A	KL365B9	615 170 019 0	6500	230x6.4x22.2	9x1/4x7/8	5/8-11f.	2700	3.62	4.4	9.7	13	27	44	93	1/2	15	5/8

For USA Market only (to ANSI B186.1)

A	KL260B9Y	615 170 186 0	6000	230x6.4x22.2	9x1/4x7/8	5/8-11f.	2200	3.00	4.2	9.2	10	21	39	82	1/2	15	5/8
A	KL360B9Y	615 170 192 0	6000	230x6.4x22.2	9x1/4x7/8	5/8-11f.	2700	3.62	4.4	9.7	12	25	43	91	1/2	15	5/8
A	KL245B9Y	615 170 189 0	4500	230x6.4x22.2	9x1/4x7/8	5/8-11f.	1700	2.28	4.2	9.2	7	15	32	68	1/2	15	5/8
A	KL345B9Y	615 170 195 0	4500	230x6.4x22.2	9x1/4x7/8	5/8-11f.	2000	2.28	4.4	9.7	9	19	34	72	1/2	15	5/8

ANGLE GRINDERS

Not available for USA (to EN 792 STANDARDS)

B	KA165B9	615 170 020 0	6500	230x6.4x22.2	9x1/4x7/8	5/8-11f.	1200	1.61	3.0	6.6	11	23	25	53	1/2	15	5/8
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For USA Market only (to ANSI B186.1)

B	KA160B9Y	615 170 180 0	6000	230x6.4x22.2	9x1/4x7/8	5/8-11f.	1000	1.34	3.0	6.6	9	19	24	50	1/2	15	5/8
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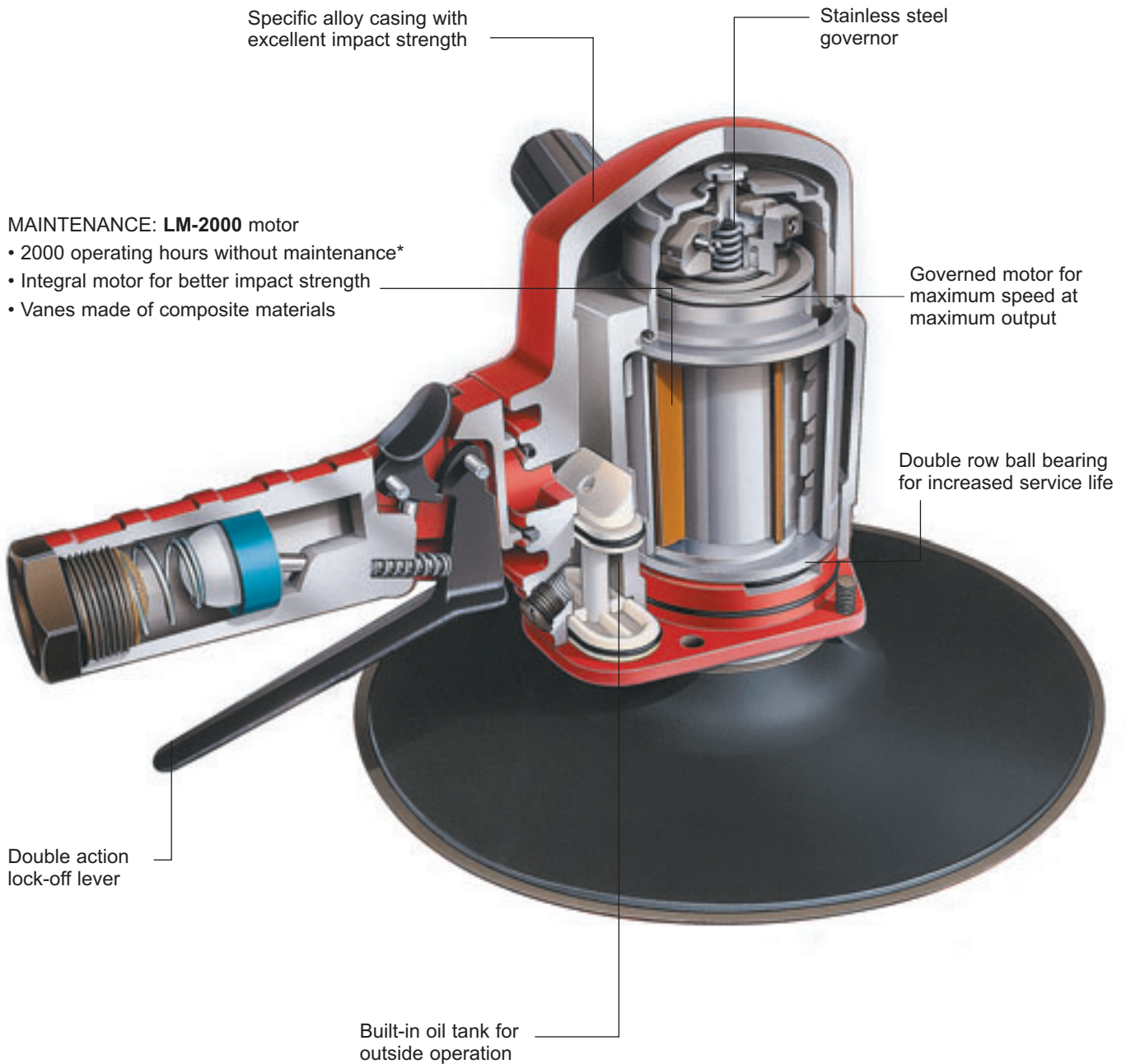
STRAIGHT GRINDERS

Not available for USA (to EN 792 STANDARDS)

C	K260B9	615 170 007 0	6000	230x6.4x22.2	9x1/4x7/8	5/8-11f.	2000	2.70	5.0	11.0	10	21	38	80	1/2	15	5/8
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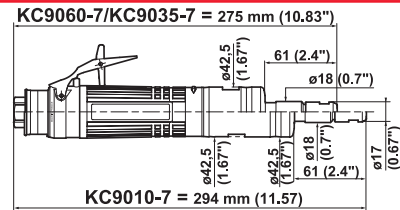
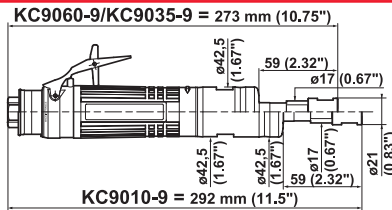
Sanders for abrasive discs, flap wheels & polishing accessories



* Subject to use as per the instruction manual supplied with the tool



Accessories



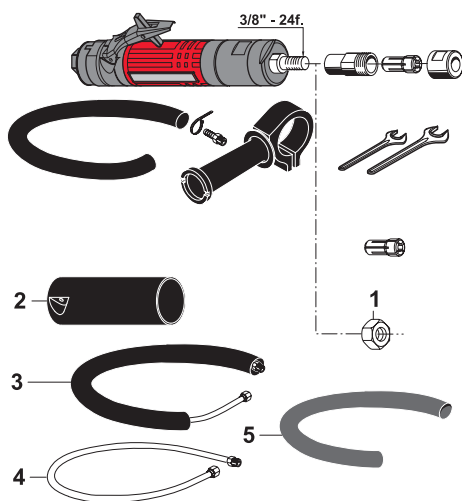
KC9060-9 / KC9035-9 / KC9010-9

ACCESSORIES INCLUDED

	PART NO.
• Series 200 resilient collet, \varnothing 5.55 to 6.35mm (1/4")	615 526 063 0
• Exhaust hose L = 1.5m (60")	615 875 113 0
• Clamp	615 873 415 0
• 3/8" air hose nipple for 10mm (3/8") ID hose	615 704 017 0
• Flat wrench, 14mm	615 801 005 0
• Flat wrench, 19mm (3/4")	615 801 076 0
• Side handle	615 576 068 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
• Series 200 resilient collet, \varnothing 2.4 to 3.2mm (1/8")	615 526 061 0
• Series 200 resilient collet, \varnothing 5.2 to 6mm	615 526 062 0
• Series 200 resilient collet, \varnothing 7.2 to 8mm (5/16")	615 526 064 0
• Series 200 resilient collet, \varnothing 8.7 to 9.5mm (3/8")	615 526 065 0
1 Nut 3/8" - 24 f.	615 608 044 0
2 Insulating sleeve	615 570 471 0
3 Complete silencer kit	615 396 166 0
4 Inlet hose assembly L = 1.7m (67") 3/8"M - 3/8"F - \varnothing 10mm (3/8")	615 870 210 0
5 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0



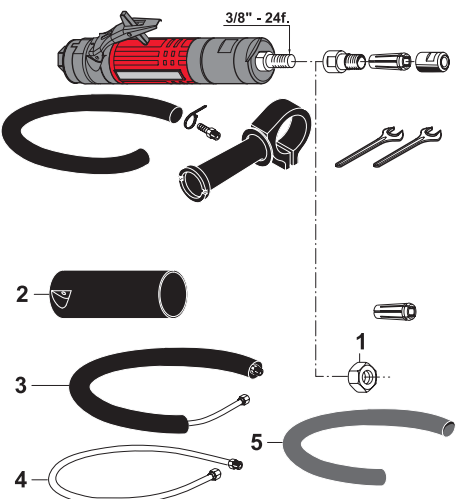
KC9060-7 / KC9035-7 / KC9010-7

ACCESSORIES INCLUDED

	PART NO.
• CNOMO collet \varnothing 6mm	615 526 049 0
• Exhaust hose L = 1.5m (60")	615 875 113 0
• Clamp	615 873 415 0
• 3/8" air hose nipple for 10mm (3/8") ID hose	615 704 017 0
• Flat wrench, 14mm (Qty 2)	615 801 005 0
• Side handle	615 576 068 0

OPTIONAL ACCESSORIES

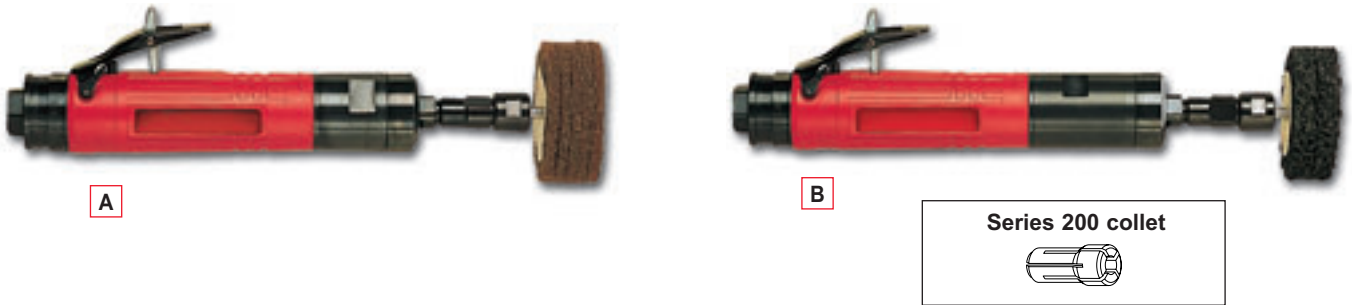
ITEM	PART NO.
• CNOMO collet \varnothing 3mm	615 526 048 0
• CNOMO collet \varnothing 6.35mm (1/4")	615 526 050 0
• CNOMO collet \varnothing 8mm (5/16")	615 526 051 0
1 Nut 3/8" - 24 f.	615 608 044 0
2 Insulating sleeve	615 570 471 0
3 Complete silencer kit	615 396 166 0
4 Inlet hose assembly L = 1.7m (67") 3/8"M - 3/8"F - \varnothing 10mm (3/8")	615 870 210 0
5 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0



Sanders for expandable wheels, flap wheels, brushes...

900 Watts (1.21 hp) - 1000 to 5500 rpm

Supplied with series 200 resilient collet, \varnothing 5.55 to 6.35mm (1/4")



Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET MAX CAPACITY		POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX CAPACITY		AIR INLET THREAD	HOSE INT. \varnothing	
				rpm	mm	in.	W	hp	kg	lb.	l/s	cfm	l/s		cfm	in.
A	KC9060-9	615 170 166 0	5500	9.5	3/8	900	1.21	1.38	3.0	10	21	16	34	3/8	10	3/8
A	KC9035-9	615 170 167 0	3500	9.5	3/8	900	1.21	1.38	3.0	6	13	14	30	3/8	10	3/8
B	KC9010-9	615 170 168 0	1000	9.5	3/8	900	1.21	1.45	3.2	10	21	16	34	3/8	10	3/8

Sanders for expandable wheels, flap wheels, brushes...

900 Watts (1.21 hp) - 1000 to 5500 rpm

Supplied with CNOMO collet, \varnothing 6mm

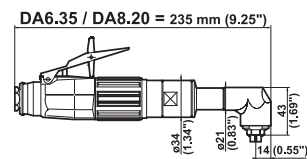
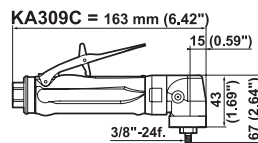
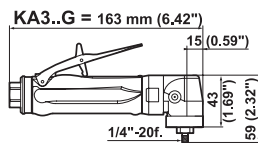
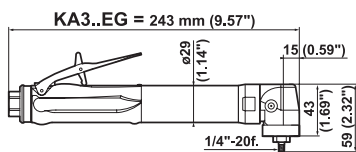


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET MAX CAPACITY		POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR CONSUMPTION AT MAX CAPACITY		AIR INLET THREAD	HOSE INT. \varnothing	
				rpm	mm	in.	W	hp	kg	lb.	l/s	cfm	l/s		cfm	in.
A	KC9060-7	615 170 122 0	5500	8	5/16	900	1.21	1.38	3.0	10	21	16	34	3/8	10	3/8
A	KC9035-7	615 170 121 0	3500	8	5/16	900	1.21	1.38	3.0	6	13	14	30	3/8	10	3/8
B	KC9010-7	615 170 120 0	1000	8	5/16	900	1.21	1.45	3.2	10	21	16	34	3/8	10	3/8



Accessories



KA3..EG / KA3..G / KA309C

ACCESSORIES INCLUDED

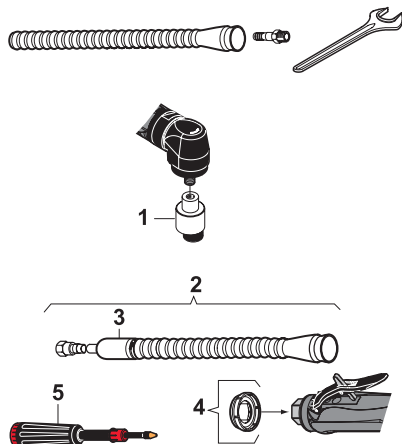
- | | PART NO. |
|--|---------------|
| • Exhaust hose L = 0.8m (31") | 615 875 106 0 |
| • 1/4" air hose nipple for 8mm (5/16") ID hose | 615 704 019 0 |
| • Flat wrench, 11mm (7/16") | 615 801 003 0 |

OPTIONAL ACCESSORIES

ITEM	KA309C	PART NO.
1 Excentric sanding head	3/8"-24f	615 396 251 0

OTHER OPTIONAL ACCESSORIES

ITEM	PART NO.
2 Complete silencer kit	615 396 101 0
3 Silencer	615 574 028 0
4 Clipable silencer	615 396 124 0
5 Grease gun (capacity 24g - 0.8oz)	615 990 149 0
• Lubricant for bevel gear (1kg - 2.2lb)	615 990 148 0



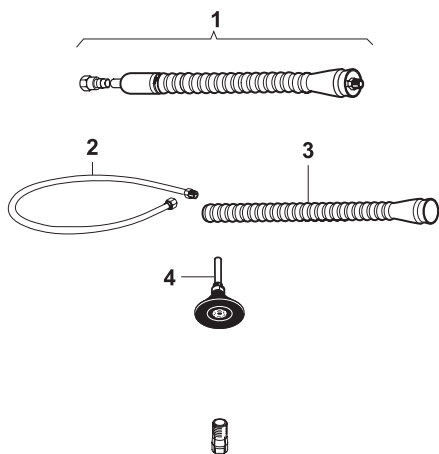
DA6.35 / DA8.20

ACCESSORIES INCLUDED

- | | PART NO. |
|---|---------------|
| • Collet \varnothing 6mm | 615 526 079 0 |
| • 1/4" air hose nipple for 6mm (1/4") ID hose | 615 705 009 0 |
| • Flat wrench, 10mm (3/8") | 615 801 002 0 |
| • Flat wrench, 14mm | 615 801 005 0 |

OPTIONAL ACCESSORIES

ITEM	PART NO.
1 Complete silencer kit	615 399 423 0
2 Inlet hose assembly L = 1m (40") 1/4"M - 1/4"F \varnothing 6mm	615 870 206 0
3 Exhaust hose L = 0.8m (31")	615 875 106 0
4 Backing pad \varnothing 50mm (3 1/32")	615 804 098 0
• Collet \varnothing 2mm	615 526 066 0
• Collet \varnothing 2.5mm	615 526 068 0
• Collet \varnothing 3mm	615 526 069 0
• Collet \varnothing 3.5mm	615 526 070 0
• Collet \varnothing 4mm (5/32")	615 526 071 0
• Collet \varnothing 4.5mm	615 526 073 0
• Collet \varnothing 5mm	615 526 075 0
• Collet \varnothing 5.5mm	615 526 077 0
• Collet \varnothing 6mm	615 526 079 0
• Collet \varnothing 6.5mm (1/4")	615 526 081 0
• Collet \varnothing 7mm	615 526 083 0
• Collet \varnothing 7.5mm	615 526 084 0
• Collet \varnothing 8mm (5/16")	615 526 088 0



Sanders for abrasive discs

220 to 375 Watts (0.3 to 0.5 hp) - 2100 to 20000 rpm

Supplied with 1/4" or 3/8" threaded spindle only – CNOMO collet, ø 6mm



A

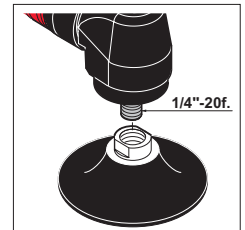


B



C

3/8"-24f.



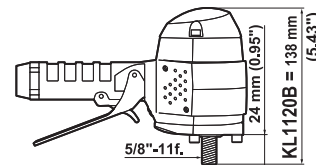
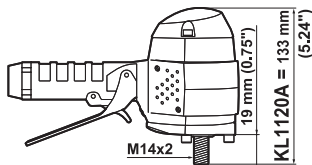
D

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	ABRASIVE MAX CAPACITY		THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION				AIR INLET THREAD	HOSE INT. Ø	
				rpm	ø mm		ø in.	W	hp	kg	lb.	l/s	cfm	l/s		cfm	in.
A	KA320EG	615 170 048 0	20000	76	3	1/4"-20f.	375	0.5	0.67	1.47	6.5	13.5	10	21	1/4	8	5/16
A	KA312EG	615 170 040 0	12000	76	3	1/4"-20f.	375	0.5	0.67	1.47	3.0	6.5	9	19	1/4	8	5/16
B	KA320G	615 170 044 0	20000	76	3	1/4"-20f.	375	0.5	0.50	1.10	6.5	13.5	10	21	1/4	8	5/16
B	KA318G	615 170 310 0	18000	76	3	1/4"-20f.	375	0.5	0.50	1.10	3.0	6.5	9	19	1/4	8	5/16
B	KA312G	615 170 038 0	12000	76	3	1/4"-20f.	375	0.5	0.50	1.10	3.0	6.5	9	19	1/4	8	5/16
B	KA309G	615 170 204 0	9000	76	3	1/4"-20f.	220	0.3	0.50	1.10	2.2	4.7	8	17	1/4	8	5/16
C	KA309C	615 170 203 0	9000	76	3	3/8"-24f.	220	0.3	0.50	1.10	2.2	4.7	8	17	1/4	8	5/16
LOW SPEED SANDERS				Collet Max													
D	DA6.35	615 176 019 0	3500	cap. 8mm (5/16")			300	0.4	0.9	2.0	8	17	-	-	1/4	6	1/4
D	DA8.20	615 176 030 0	2100	cap. 8mm (5/16")			300	0.4	0.9	2.0	8	17	-	-	1/4	6	1/4



Accessories



KL1120A / KL1120B

ACCESSORIES INCLUDED

- 3/8" air hose nipple for 10mm (3/8") ID hose

PART NO.

615 704 017 0

OPTIONAL ACCESSORIES

Sanding with standard abrasive disc ø 127mm (5")

ITEM	KL1120A M14x2	KL1120B 5/8"-11f.
A Soft sanding kit for abrasive disc (including item 1-2)	615 399 251 0	615 399 251 0
1 Ventilated backing pad with nut M14 & 5/8" (max. 12000 rpm)	615 990 127 0	615 990 127 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0	615 802 010 0
• Hex key 8mm (5/16")	615 802 061 0	615 802 061 0
2 M14 Spacer	615 641 027 0	
2 5/8" Spacer		615 642 050 0

Sanding with semirigid disc ø 127mm (5")

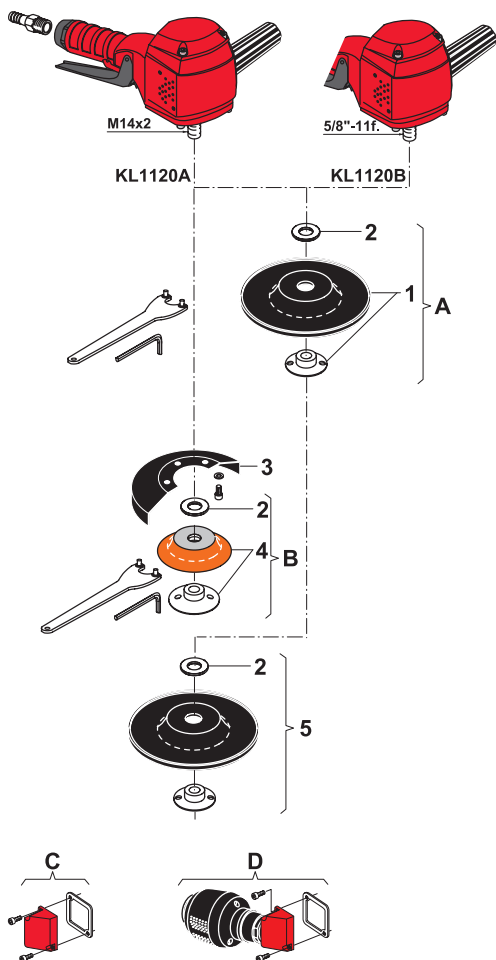
ITEM	KL1120A M14x2
3 Wheel guard	615 504 086 0
B Sanding kit for semirigid disc (including item 4-2)	615 399 203 0
4 Backing pad with nut M14 (max: 12000 rpm)	615 990 129 0
2 M14 Spacer	615 641 027 0
• Hex key 8mm (5/16")	615 802 061 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0

Sanding with standard abrasive disc ø 127mm (5")

ITEM	KL1120A M14x2	KL1120B 5/8"-11f.
5 Semi-hard backing pad with nut M14 & 5/8" (max. 12000 rpm)	615 804 074 0	615 804 074 0
2 M14 Spacer	615 641 027 0	
2 5/8" Spacer		615 642 050 0

OTHER OPTIONAL ACCESSORIES

ITEM	PART NO.
C Silencer kit	615 396 117 0
D Silencer kit	615 399 462 0



Sanders for abrasive discs

ø 127mm (5")
750 Watts (1.02 hp) - 12000 rpm

Supplied with M14 or 5/8" threaded spindle only



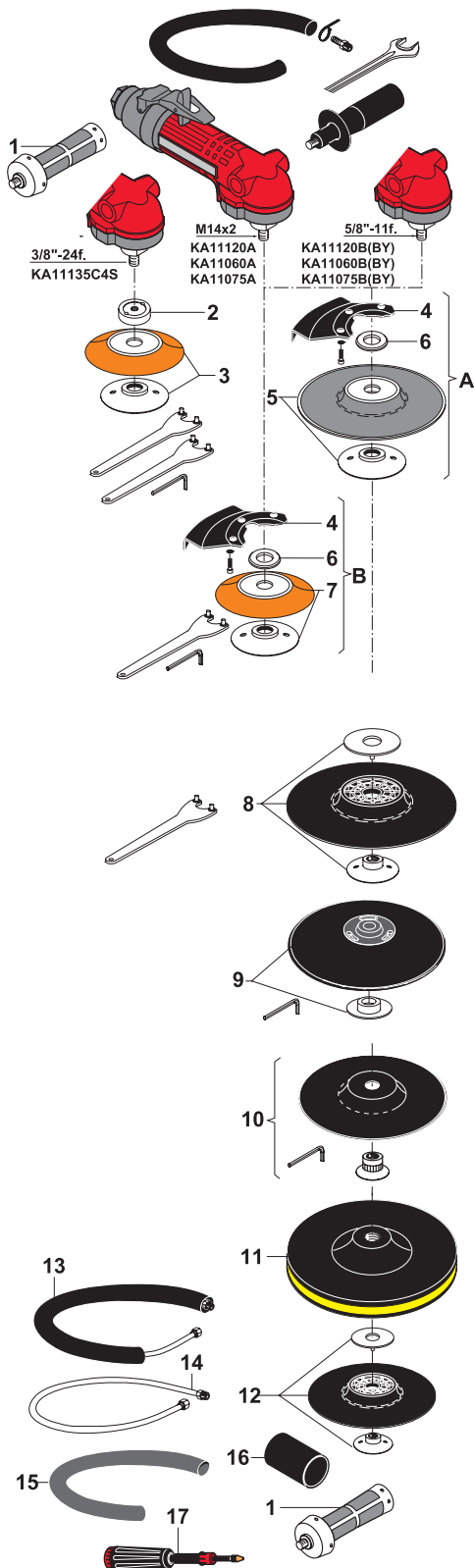
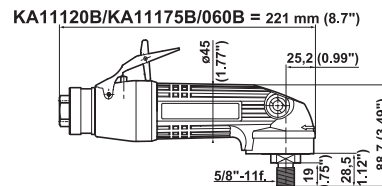
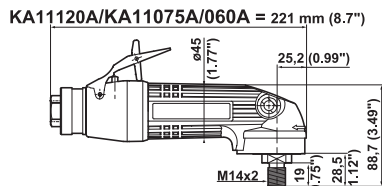
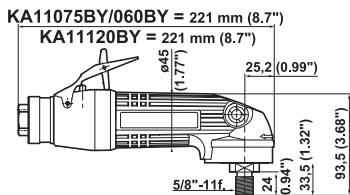
A

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	ABRASIVE MAX CAPACITY		THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD	HOSE INT. Ø	
			rpm	ø mm	ø in.	W	hp	kg	lb.	l/s	cfm	in.	mm	in.	
A	KL1120A	615 170 022 0	12000	127	5	M14x2	750	1.02	2.2	4.8	16	34	3/8	10	3/8
A	KL1120B	615 170 207 0	12000	127	5	5/8"-11f.	750	1.02	2.2	4.8	16	34	3/8	10	3/8



Accessories



KA11135C4S / KA11120A-B-BY / KA11075/060A-B-BY

ACCESSORIES INCLUDED

ITEM	KA11135C4S 3/8"-24f.	KA11120 KA11075/060
• Exhaust hose L = 1.5m (60")	615 875 113 0	615 875 113 0
• Clamp	615 873 415 0	615 873 415 0
• 3/8" air hose nipple for 13mm (1/2") ID hose	615 704 027 0	615 704 027 0
• Side handle	615 576 038 0	615 576 038 0
• Flat wrench, 17mm (11/16")	615 801 032 0	615 801 032 0
1 Vibration-damping side handle	615 576 066 0	
2 Flange	615 606 515 0	
3 Backing with nut	615 990 167 0	
• Pin wrench, 20-3mm	615 802 008 0	

OPTIONAL ACCESSORIES

ITEM	KA11120A KA11075/060A M14x2	KA11120B KA11075/060B 5/8"-11f
A Sanding kit for abrasive disc (including items 4-5-6)	615 396 072 0	615 396 072 0
4 Finger guard	615 504 145 0	615 504 145 0
5 Ventilated backing pad with nut M14 & 5/8" (max. 12000 rpm)	615 990 127 0	615 990 127 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0	615 802 010 0
• Hex key 8mm (5/16")	615 802 061 0	615 802 061 0
6 M14 Spacer	615 641 027 0	
6 5/8" Spacer		615 642 050 0

Sanding with semirigid disc ø 127mm (5")

ITEM	KA11120A KA11075/060A
B Sanding kit for semirigid disc (including items 4-6-7)	615 396 075 0
4 Finger guard	615 504 145 0
7 Backing pad with nut M14 (max. 12000 rpm)	615 990 129 0*
• Pin wrench, 35mm (1 3/8")	615 802 010 0
• Hex key 8mm (5/16")	615 802 061 0
6 M14 Spacer	615 641 027 0

Sanding

ITEM	KA11075/060A M14x2	KA11075/060B 5/8"-11f	KA11075/060BY 5/8"-11f
8 Soft backing pad with nut M14 & 5/8" ø 180mm (7") (max. 8500 rpm)	615 990 133 0*	615 990 133 0*	
8 Rigid backing pad with nut M14 & 5/8" ø 180mm (7") (max. 8500 rpm)	615 990 134 0*	615 990 134 0*	
• Pin wrench 35mm (1 3/8")	615 802 010 0	615 802 010 0	
9 Spiracool pad whit nut ø 180mm (7") (max. 8500 rpm)			S091836
10 Complete kit ø 180mm (7") (max. 7000 rpm) for KA11060BY			K129587
• Hex key 8mm (5/16")			615 802 061 0
11 Rigid velcro-backed backing pad ø 180mm (7") (max. 8700 rpm)	615 990 145 0	615 990 146 0	
11 Rigid velcro-backed backing pad ø 150mm (6") (max. 10000 rpm)	615 990 137 0	615 990 138 0	

* Spare part: Nut 6156060220 for M14 model and 6156080290 for 5/8"

OTHER OPTIONAL ACCESSORIES

ITEM	PART NO.
12 Semi-hard backing pad with nut M14 & 5/8" ø 127mm (5") (max. 12000 rpm)	615 804 074 0
13 Complete silencer kit	615 396 166 0
14 Inlet hose assembly L = 1.7m (67") - 3/8"M - 3/8"F ø 13mm (1/2")	615 804 064 0
15 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0
• Clamp	615 873 415 0
1 Vibration-damping side handle	615 576 066 0
16 Thermal Insulating sleeve	615 570 412 0
17 Grease gun (capacity 24g - 0.8oz)	615 990 149 0
• Lubricant for bevel gear (1kg-2.2lb.)	615 990 148 0



Sanders for abrasive discs

∅ 100mm (4") - ∅ 127mm (5") - ∅ 150mm (6") - ∅ 180mm (7")
 900 to 1100 Watts (1.21 to 1.5 hp) - 6000 to 13500 rpm

Supplied with M14 or 5/8" threaded spindle only



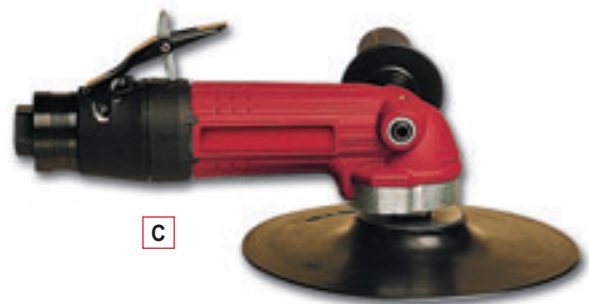
A



B



B



C

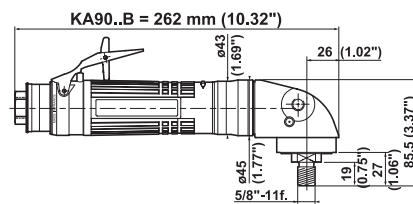
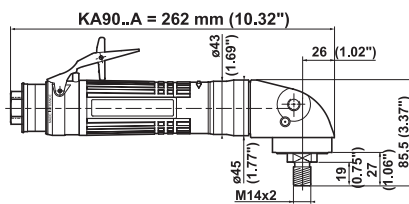
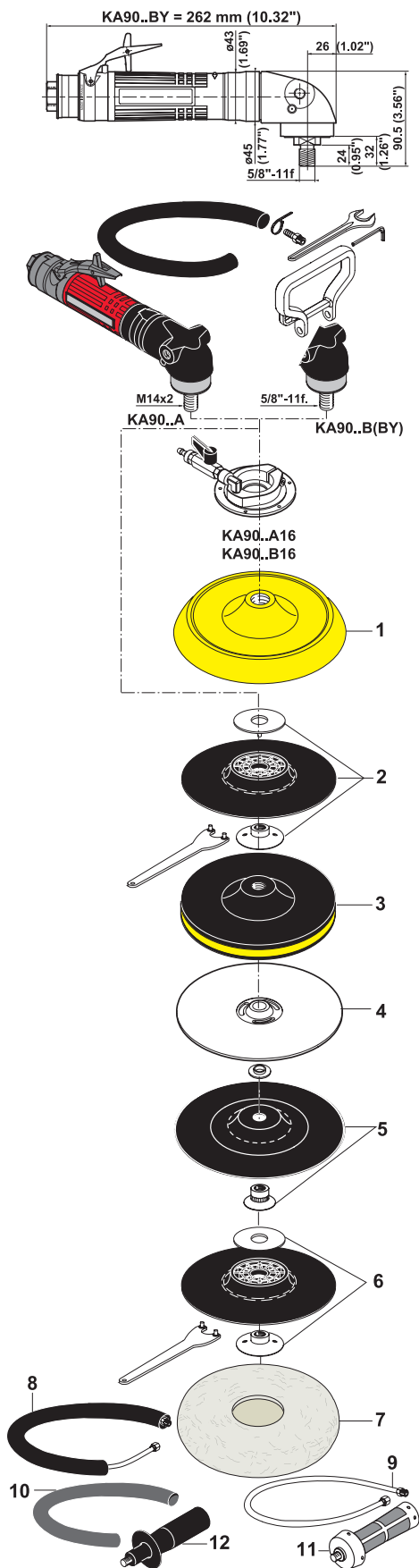


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION				AIR INLET THREAD		HOSE INT. Ø	
			rpm	mm	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.	
A	KA11135C4S	615 170 291 0	13500	3/8"-24f.	1100	1.50	1.4	3.1	10	21	20	42	3/8	13	1/2	
B	KA11120A	615 170 051 0	12000	M14x2	1100	1.50	1.4	3.1	10	21	20	42	3/8	13	1/2	
B	KA11120B	615 170 239 0	12000	5/8"-11f	1100	1.50	1.4	3.1	10	21	20	42	3/8	13	1/2	
C	KA11075A	615 170 061 0	7500	M14x2	1000	1.34	1.4	3.1	7	15	19	40	3/8	13	1/2	
C	KA11075B	615 170 062 0	7500	5/8"-11f	1000	1.34	1.4	3.1	7	15	19	40	3/8	13	1/2	
C	KA11060A	615 170 063 0	6000	M14x2	900	1.21	1.4	3.1	6	13	17	36	3/8	13	1/2	
C	KA11060B	615 170 064 0	6000	5/8"-11f	900	1.21	1.4	3.1	6	13	17	36	3/8	13	1/2	
For USA Market only (to ANSI B186.1)																
B	KA11120BY	615 170 305 0	12000	5/8"-11f.	1100	1.50	1.4	3.1	10	21	20	42	3/8	13	1/2	
C	KA11075BY	615 170 307 0	7500	5/8"-11f.	1000	1.34	1.4	3.1	7	15	19	40	3/8	13	1/2	
C	KA11060BY	615 170 306 0	6000	5/8"-11f.	900	1.21	1.4	3.1	6	13	17	36	3/8	13	1/2	



Accessories



KA90..A / KA90..B / KA90..BY

ACCESSORIES INCLUDED

	PART NO.
• Exhaust hose L = 1.5m (60")	615 875 113 0
• Clamp	615 873 415 0
• 3/8" air hose nipple for 10mm (3/8") ID hose	615 704 017 0
• Support handle	615 576 069 0
• Flat wrench, 17mm (11/16")	615 801 032 0
• Hex key 8mm (5/16")	615 802 061 0
• Water intake system for KA90..A16 and B16	615 396 113 0

OPTIONAL ACCESSORIES

KA90..A16 and KA90..B16 with water intake

Water sanding

ITEM	KA90..A16 M14x2	KA90..B16 5/8"-11f.
1 Foam pad ø 200mm (8") (max 3000 rpm)	615 990 139 0	615 990 015 0
1 Foam pad ø 180mm (7") (max 3200 rpm)	615 990 140 0	615 990 144 0
1 Foam pad ø 150mm (6") (max 3800 rpm)	615 990 135 0	615 990 136 0

All pads are medium hardness, with a centre hole

Sanding

ITEM	KA90..A M14x2	KA90..B 5/8"-11f	KA9030/20BY 5/8"-11f
2 Soft backing pad with nut M14 & 5/8" ø 180mm (7") (max. 8500 rpm)	615 990 133 0	615 990 133 0	
2 Rigid backing pad with nut M14 & 5/8" ø 180mm (7") (max. 8500 rpm)	615 990 134 0	615 990 134 0	
• Pin wrench, 35mm (1 3/8")	615 802 010 0	615 802 010 0	
3 Rigid velcro-backed backing pad ø 180mm (7") (max. 8700 rpm)	615 990 145 0	615 990 146 0	
3 Rigid velcro-backed backing pad ø 150mm (6") (max. 10000 rpm)	615 990 137 0	615 990 138 0	
4 Spiracool pad whit nut ø 180mm (7") (max.8500 rpm)			S091836
4 Spiracool pad with nut ø 230mm (9") (max 6500 rpm)			S091839
5 Complete Kit ø 180mm (7") (max. 7000 rpm)			K129587
• Hex. Key 8mm (5/16")			615 802 061 0

Polishing

ITEM	KA90..A KA90..B
6 Soft backing pad with nut M14 & 5/8" ø 180mm (7") (max. 8500 rpm)	615 990 133 0
• Pin wrench 35mm (1 3/8")	615 802 010 0
7 Sheepskin ø 180mm (7") (max. 2100 rpm)	615 845 999 0

OTHER OPTIONAL ACCESSORIES

ITEM	PART NO.
8 Complete silencer kit	615 396 166 0
9 Inlet hose assembly L = 1.7m (67") 3/8"M - 3/8"F - ø 10mm (3/8")	615 870 210 0
10 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0
11 Vibration-damping side handle	615 576 066 0
12 Side handle	615 576 038 0



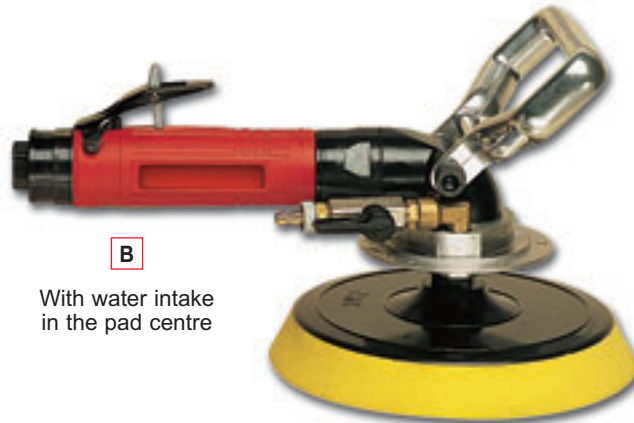
Sanders for abrasive discs

sheepskin & water sanding
 ø 150mm (6") - ø 180mm (7") - ø 200mm (8") - ø 230mm (9")
 900 Watts (1.21 hp) - 2000 - 3000 rpm

Supplied with M14 or 5/8" threaded spindle only



A



B

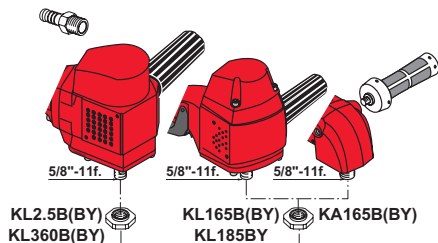
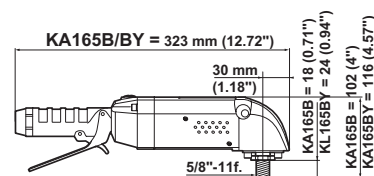
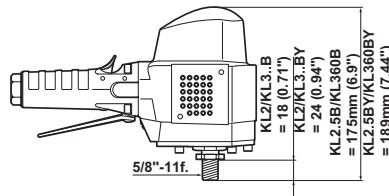
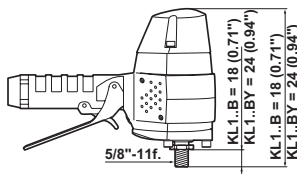
With water intake
in the pad centre

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION				AIR INLET THREAD	HOSE INLET Ø	
			rpm	in.	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.
A	KA9030A	615 170 098 0	3000	M14x2	900	1.21	1.6	3.5	13	27	17	36	3/8	10	3/8
A	KA9030B	615 170 099 0	3000	5/8-11f.	900	1.21	1.6	3.5	13	27	17	36	3/8	10	3/8
A	KA9020A	615 170 096 0	2000	M14x2	900	1.21	1.6	3.5	7	15	17	36	3/8	10	3/8
A	KA9020B	615 170 097 0	2000	5/8-11f.	900	1.21	1.6	3.5	7	15	17	36	3/8	10	3/8
B	KA9030A16	615 170 102 0	3000	M14x2	900	1.21	2.0	4.4	13	27	17	36	3/8	10	3/8
B	KA9030B16	615 170 103 0	3000	5/8-11f.	900	1.21	2.0	4.4	13	27	17	36	3/8	10	3/8
B	KA9020A16	615 170 100 0	2000	M14x2	900	1.21	2.0	4.4	7	15	17	36	3/8	10	3/8
B	KA9020B16	615 170 101 0	2000	5/8-11f.	900	1.21	2.0	4.4	7	15	17	36	3/8	10	3/8
For USA Market only (to ANSI B186.1)															
A	KA9030BY	615 170 309 0	3000	5/8-11f.	900	1.21	1.6	3.5	13	27	17	36	3/8	10	3/8
A	KA9020BY	615 170 308 0	2000	5/8-11f.	900	1.21	1.6	3.5	7	15	17	36	3/8	10	3/8



Accessories



KL2.5B(BY)
KL360B(BY) KL165B(BY)
KL185BY KA165B(BY)

KL165B(BY) / KL185BY / KL2.5B-(BY) / KL360B(BY) / KA165B(BY)

ACCESSORIES INCLUDED

	KL165B(BY) KL185BY	KL2.5B(BY) KL360B(BY)	KA165B(BY)
• Rear flange	615 503 107 0	615 503 107 0	615 503 107 0
• Rear flange (for BY model)	615 503 151 0	615 503 151 0	615 503 149 0
• 1/2" air hose nipple for 13mm (1/2") ID hose	615 704 016 0		
• 1/2" air hose nipple for 15mm (5/8") ID hose		615 704 014 0	615 704 014 0
• Vibration-damping side handle			615 576 066 0

OPTIONAL ACCESSORIES

Sanding with standard abrasive disc ø 180mm (7")

ITEM	KL165B KA165B	KL2.5B KL360B
A Sanding kit for abrasive disc (including item 1)	615 396 131 0	615 396 131 0
1 Soft Backing pad with nut (max. 8500 rpm)	615 990 133 0	615 990 133 0
• Pin wrench, 35mm (1 3/8")	615 802 010 0	615 802 010 0
• Hex key 8mm (5/16")	615 802 061 0	615 802 061 0

Sanding with Spiracool pad ø 180mm (7")

ITEM	KL185BY KL165BY	KL2.5BY KL360BY	KA165BY
B Spiracool pad (max. 8500 rpm)	S091836	S091836	S091836
• Hex key 8mm (5/16")	615 802 061 0	615 802 061 0	615 802 061 0

Sanding with standard abrasive disc ø 230mm (9")

ITEM	KL2.5B KL360B
C Sanding kit for abrasive disc (including item 2)	615 396 134 0
2 Soft Backing pad with nut (max. 6500 rpm)	615 990 141 0*
• Pin wrench, 35mm (1 3/8")	615 802 010 0
• Hex key 8mm (5/16")	615 802 061 0

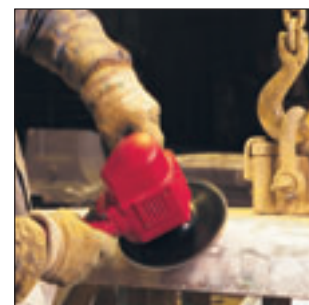
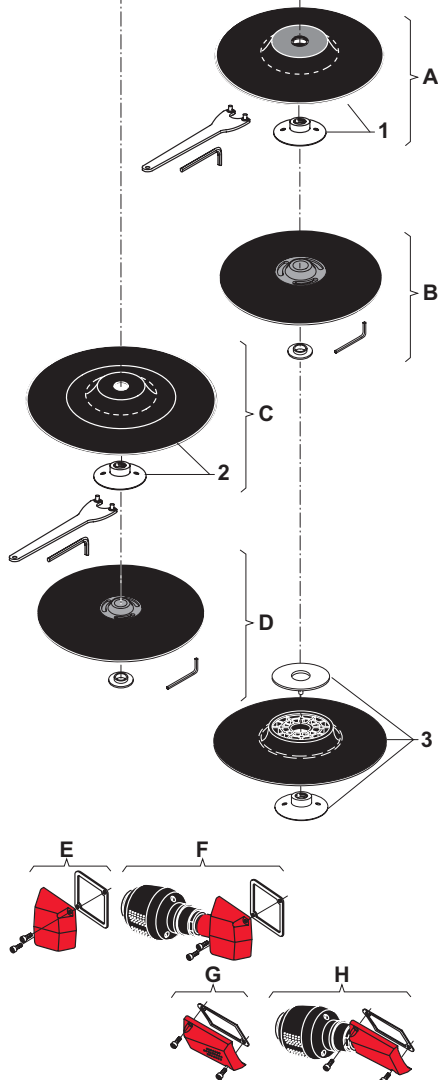
* Spare Part: Nut 6156080290

Sanding with Spiracool pad ø 230mm (9")

ITEM	KL2.5BY KL360BY
D Spiracool pad (max. 6500 rpm)	S091839
• Hex key 8mm (5/16")	615 802 061 0

OTHER OPTIONAL ACCESSORIES

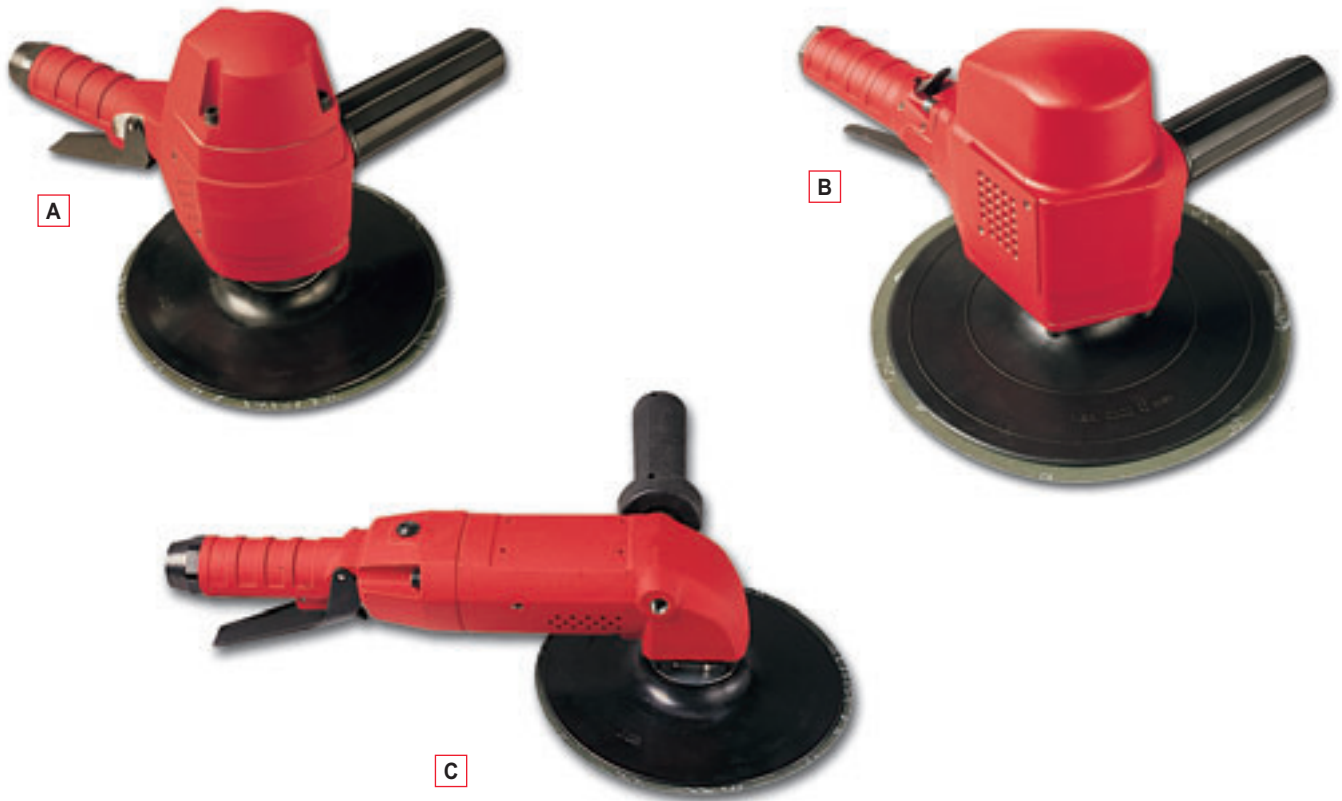
ITEM	KL185BY KL165B(BY)	KL2.5B(BY) KL360B(BY)	KA165B(BY)
3 Rigid backing pad with nut ø 180mm (7") (max. 8500 rpm) (except BY model)	615 990 134 0	615 990 134 0	615 990 134 0
E Silencer kit	615 396 117 0	615 396 227 0	
F Silencer kit	615 399 462 0	615 399 460 0	
G Silencer kit			615 399 298 0
H Silencer kit			615 399 459 0



Sanders for abrasive discs

∅ 180mm (7") - ∅ 230mm (9")
1200 to 2700 Watts (1.61 to 3.62 hp) - 4500 to 8500 rpm

Supplied with 5/8" threaded spindle only



Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	ABRASIVE MAX CAPACITY		THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION				AIR INLET THREAD	HOSE INLET ∅	
			rpm	∅ mm	∅ in.	in.	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.

VERTICAL SANDERS

Not available for USA (to EN792 STANDARDS)

A	KL165B	615 170 011 0	6500	180	7	5/8-11f	1200	1.61	2.3	5.1	6	13	25	53	1/2	13	1/2
B	KL245B	615 170 014 0	4500	230	9	5/8-11f	2000	2.70	3.5	7.7	7	15	32	68	1/2	15	5/8
B	KL265B	615 170 023 0	6500	230	9	5/8-11f	2200	3.00	3.5	7.7	11	23	41	87	1/2	15	5/8
B	KL360B	615 170 024 0	6000	230	9	5/8-11f	2700	3.62	3.7	8.2	12	25	43	91	1/2	15	5/8

ANGLE SANDER

Not available for USA (to EN792 STANDARDS)

C	KA165B	615 170 025 0	6500	180	7	5/8-11f	1200	1.61	2.3	5.1	11	23	25	53	1/2	15	5/8
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VERTICAL SANDERS

For USA Market only (to ANSI B186.1)

A	KL185BY	615 170 240 0	8500	180	7	5/8-11f	1200	1.61	2.3	5.1	16	34	27	57	1/2	13	1/2
A	KL165BY	615 170 241 0	6500	180	7	5/8-11f	1200	1.61	2.3	5.1	6	13	25	53	1/2	13	1/2
B	KL245BY	615 170 242 0	4500	230	9	5/8-11f	2000	2.70	3.5	7.7	7	15	32	68	1/2	15	5/8
B	KL265BY	615 170 243 0	6500	230	9	5/8-11f	2200	3.00	3.5	7.7	11	23	41	87	1/2	15	5/8
B	KL360BY	615 170 244 0	6000	230	9	5/8-11f	2700	3.62	3.7	8.2	12	25	43	91	1/2	15	5/8

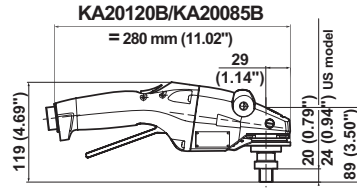
ANGLE SANDER

For USA Market only (to ANSI B186.1)

C	KA165BY	615 170 245 0	6500	180	7	5/8-11f	1200	1.61	2.3	5.1	11	23	25	53	1/2	15	5/8
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Accessories



KA20120B / KA20085B

ACCESSORIES INCLUDED

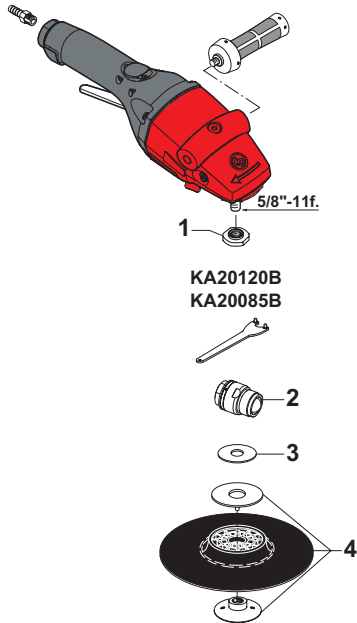
ITEM	PART NO.
• 1/2" air hose nipple for 13mm (1/2") ID hose	615 704 016 0
• Vibration-damping side handle	615 576 066 0
• Oil can (7ml)	615 990 170 0
1 Rear flange	615 503 151 0
• Oil can (7ml)	615 990 170 0
1 Rear flange for US model	615 503 107 0
• Flat wrench 35mm (5/16")	615 802 010 0

OPTIONAL ACCESSORIES

ITEM	PART NO.
• Oil can 250ml	615 990 168 0
2 Rotating bushing	615 396 366 0

OTHER OPTIONAL ACCESSORIES

ITEM	KA20120B 5/8"-11f.	KA20085B 5/8"-11f.
3 Spacer	615 642 050 0	615 642 050 0
4 Semi-hard backing pad with nut ø 127mm (5") (max. 12000 rpm)	615 804 074 0	
4 Rigid backing pad with nut ø 180mm (7") (max. 8500 rpm)		615 990 134 0



KA20120B
KA20085B



Sanders for abrasive discs

∅ 127mm (5") - ∅ 180mm (7")
2000 Watts (2.7 hp) - 8500 - 12000 rpm

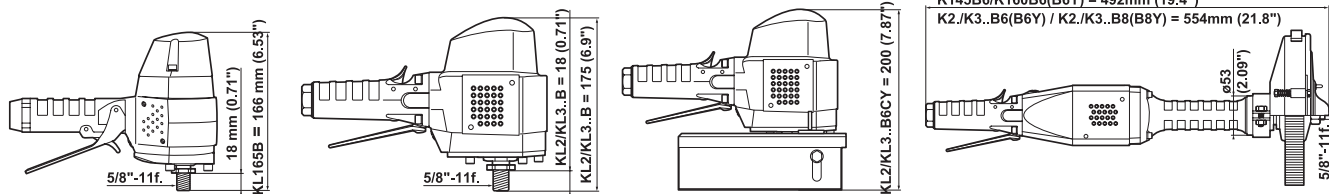


Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	ABRASIVE MAX CAPACITY		THREADED SPINDLE	POWER		WEIGHT		AIR CONSUMPTION				AIR INLET THREAD	HOSE INLET Ø	
			rpm	∅ mm	∅ in.	in.	W	hp	kg	lb.	l/s	cfm	l/s	cfm	in.	mm	in.
A	KA20120B	615 170 303 0	12000	127	5	5/8-11f.	2000	2.7	2.2	4.8	12	25	30	63	1/2	13	1/2
B	KA20085B	615 170 304 0	8500	180	7	5/8-11f.	2000	2.7	2.2	4.8	12	25	30	63	1/2	13	1/2



Accessories



K145B6/K160B6(B6Y) = 492mm (19.4")
K2./K3..B6(B6Y) / K2./K3..B8(B8Y) = 554mm (21.8")

KL165B / KL2.5B / KL360B / KL.60B6CY / KL.45B6CY

ACCESSORIES INCLUDED

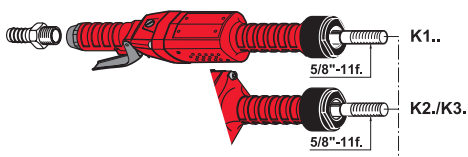
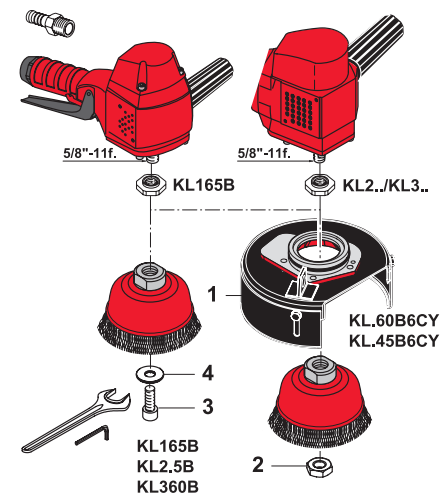
To be used with cup brush (not included)

ITEM	KL165B	KL2.5B KL360B	KL.60B6CY KL.45B6CY
• Rear flange	615 503 107 0	615 503 107 0	615 503 151 0
• 1/2" air hose nipple for 13mm (1/2") ID hose	615 704 016 0		
• 1/2" air hose nipple for 15mm (5/8") ID hose		615 704 014 0	615 704 014 0
1 Wheel guard			615 396 128 0
2 Nut			615 608 049 0
• Flat wrench 27mm (1 1/16")			615 801 077 0

OPTIONAL ACCESSORIES

Kit for cup brush, max ø 150mm (6"), thread 5/8"-11f

ITEM	KL165B KL2.5B KL360B
• Complete kit (including item 3-4)	615 396 133 0
3 Allen screw M8x20	615 616 002 0
4 Washer L8	615 642 070 0
• Flat wrench 27mm (1 1/16")	615 801 077 0
• Hex. Key 6mm	615 802 056 0



K145B6 / K.60B6(B6Y) / K.45B8(B8Y) / K338B6Y

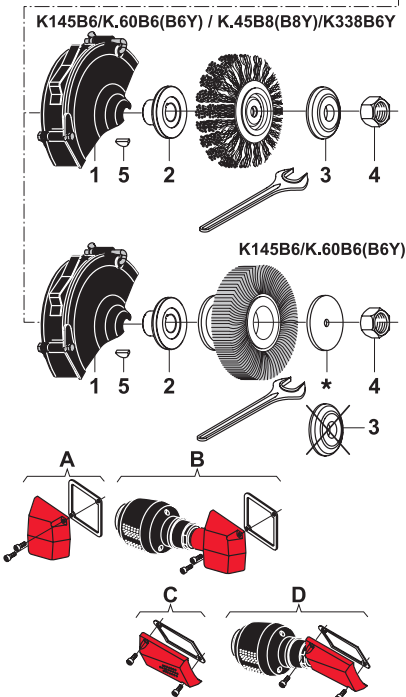
ACCESSORIES INCLUDED

ITEM	K145B6 K.60B6(B6Y) FLAP WHEEL ø 165mm (6-5/8")	K145B6 K.60B6(B6Y) K338B6Y RADIAL BRUSHES ø 150mm (6")	K345B8(B8Y) K245B8(B8Y) RADIAL BRUSHES ø 200mm (8")
	• 1/2" air hose nipple for 15mm (5/8") ID hose	615 704 014 0	615 704 014 0
1 Wheel guard	615 504 079 0	615 504 079 0	615 504 078 0
2 Rear flange	615 503 028 0	615 503 028 0	615 503 004 0
3 Front flange	615 502 027 0	615 502 027 0	615 502 007 0
4 Nut	615 608 006 0	615 608 006 0	615 608 006 0
5 Woodruff key	615 630 019 0	615 630 019 0	615 630 019 0
• Flat wrench 27mm (1 1/16")	615 801 077 0	615 801 077 0	615 802 077 0

* Flange supplied with flap wheel. To be drilled to fit the diameter of the output shaft of the tool.

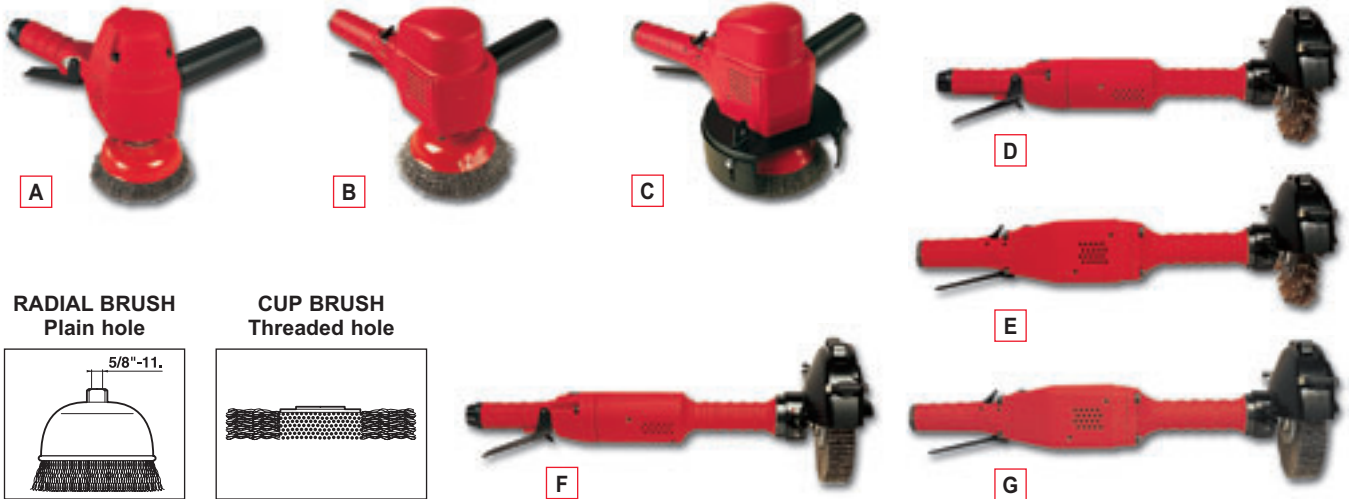
OTHER OPTIONAL ACCESSORIES

ITEM	KL165B	KL2./KL3.. K2./K3..	K145B6 K160B6(B6Y)
A Silencer Kit	615 396 117 0	615 399 227 0	
B Silencer Kit	615 399 462 0	615 399 460 0	
C Silencer Kit			615 399 298 0
D Silencer Kit			615 399 459 0



Brushing machines for cup & radial brushes

Polishing machines for flap wheels ø 150mm (6") - ø 165mm (6⁵/₈") - ø 200mm (8") 1000 to 2700 Watts (1.34 to 3.62 hp) - 3800 to 6500 rpm



Other characteristics, see pages 149, 159 and 161

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	ACCESSORIES	FREE SPEED	THREADED SPINDLE	POWER		WEIGHT	
				rpm	in.	W	hp	kg	lb.

VERTICAL MACHINES to be used with CUP BRUSHES

Not available for USA (to EN792 STANDARDS)

A	KL165B	615 170 011 0	+ Kit 615 396 133 0 (Max ø 150mm (6") - thread 5/8"-11f.)	6500	5/8-11f.	1200	1.61	2.4	5.3
B	KL245B	615 170 014 0	+ Kit 615 396 133 0 (Max ø 150mm (6") - thread 5/8"-11f.)	4500	5/8-11f.	2000	2.70	3.5	7.7
B	KL265B	615 170 023 0	+ Kit 615 396 133 0 (Max ø 150mm (6") - thread 5/8"-11f.)	6500	5/8-11f.	2200	3.00	3.5	7.7
B	KL360B	615 170 024 0	+ Kit 615 396 133 0 (Max ø 150mm (6") - thread 5/8"-11f.)	6000	5/8-11f.	2700	3.62	3.7	8.2

For the USA Market only (to ANSI B186.1)

C	KL260B6CY	615 170 187 0	Max ø 150mm (6") thread 5/8"-11f.	6000	5/8-11f.	2200	3.00	4.2	9.2
C	KL360B6CY	615 170 193 0	Max ø 150mm (6") thread 5/8"-11f.	6000	5/8-11f.	2700	3.62	4.4	9.7
C	KL245B6CY	615 170 188 0	Max ø 150mm (6") thread 5/8"-11f.	4500	5/8-11f.	1700	2.28	4.2	9.2
C	KL345B6CY	615 170 194 0	Max ø 150mm (6") thread 5/8"-11f.	4500	5/8-11f.	2000	2.68	4.4	9.7

STRAIGHT MACHINES to be used with RADIAL BRUSHES

Not available for USA (to EN792 STANDARDS)

D	K145B6	615 170 002 0	Max ø 150mm x bore 15.9mm (6" x 5/8")	4500	5/8-11f.	1000	1.34	3.5	7.7
E	K260B6	615 170 008 0	Max ø 150mm x bore 15.9mm (6" x 5/8")	6000	5/8-11f.	2000	2.70	5.1	11.2
E	K360B6	615 170 010 0	Max ø 150mm x bore 15.9mm (6" x 5/8")	6000	5/8-11f.	2700	3.62	5.6	12.3
E	K245B8	615 170 006 0	Max ø 200mm x bore 15.9mm (8" x 5/8")	4500	5/8-11f.	1800	2.41	5.8	12.7
E	K345B8	615 170 009 0	Max ø 200mm x bore 15.9mm (8" x 5/8")	4500	5/8-11f.	2400	3.22	6.3	13.9

For the USA Market only (to ANSI B186.1)

D	K160B6Y	615 170 173 0	Max ø 150mm x bore 15.9mm (6" x 5/8")	6000	5/8-11f.	1200	1.61	3.5	7.7
E	K260B6Y	615 170 175 0	Max ø 150mm x bore 15.9mm (6" x 5/8")	6000	5/8-11f.	2000	2.70	5.1	11.2
E	K360B6Y	615 170 177 0	Max ø 150mm x bore 15.9mm (6" x 5/8")	6000	5/8-11f.	2700	3.62	5.6	12.3
E	K338B6Y	615 170 208 0	Max ø 150mm x bore 15.9mm (6" x 5/8")	3800	5/8-11f.	2000	2.70	5.6	12.3
E	K245B8Y	615 170 176 0	Max ø 200mm x bore 15.9mm (8" x 5/8")	4500	5/8-11f.	1800	2.41	5.8	12.7
E	K345B8Y	615 170 178 0	Max ø 200mm x bore 15.9mm (8" x 5/8")	4500	5/8-11f.	2400	3.22	6.3	13.9

STRAIGHT MACHINES to be used with FLAP WHEEL

Not available for USA (to EN792 STANDARDS)

F	K145B6	615 170 002 0	Max. ø 165 x 30 x 15.9mm (6 ⁵ / ₈ " x 1 ³ / ₁₆ " x 5/8")	4500	5/8-11f.	1000	1.34	3.5	7.7
F	K160B6	615 170 003 0	Max. ø 165 x 30 x 15.9mm (6 ⁵ / ₈ " x 1 ³ / ₁₆ " x 5/8")	6000	5/8-11f.	1200	1.61	3.5	7.7
G	K260B6	615 170 008 0	Max. ø 165 x 30 x 15.9mm (6 ⁵ / ₈ " x 1 ³ / ₁₆ " x 5/8")	6000	5/8-11f.	2000	2.70	5.1	11.2
G	K360B6	615 170 010 0	Max. ø 165 x 30 x 15.9mm (6 ⁵ / ₈ " x 1 ³ / ₁₆ " x 5/8")	6000	5/8-11f.	2700	3.52	5.6	12.3

For the USA Market only (to ANSI B186.1)

F	K160B6Y	615 170 173 0	Max. ø 165 x 30 x 15.9mm (6 ⁵ / ₈ " x 1 ³ / ₁₆ " x 5/8")	6000	5/8-11f.	1200	1.61	3.5	7.7
G	K260B6Y	615 170 175 0	Max. ø 165 x 30 x 15.9mm (6 ⁵ / ₈ " x 1 ³ / ₁₆ " x 5/8")	6000	5/8-11f.	2000	2.70	5.1	11.2
G	K360B6Y	615 170 177 0	Max. ø 165 x 30 x 15.9mm (6 ⁵ / ₈ " x 1 ³ / ₁₆ " x 5/8")	6000	5/8-11f.	2700	3.62	5.6	12.3



Dust extraction systems for grinders and sanders



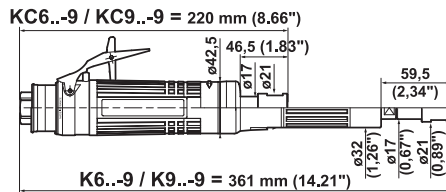
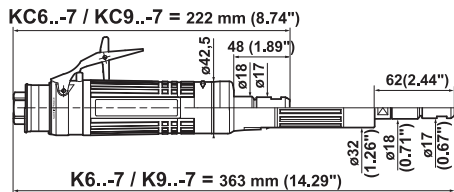
Suction cap with or without brush
for metallic or non metallic materials

Dust extraction systems:

- **Straight machines:** for diamond burrs and diamond cylinders
- **Vertical machines and angle machines:** for grinding discs, sanding discs and diamond discs



Accessories



K6... / K9... / KC6... / KC9...

ACCESSORIES INCLUDED

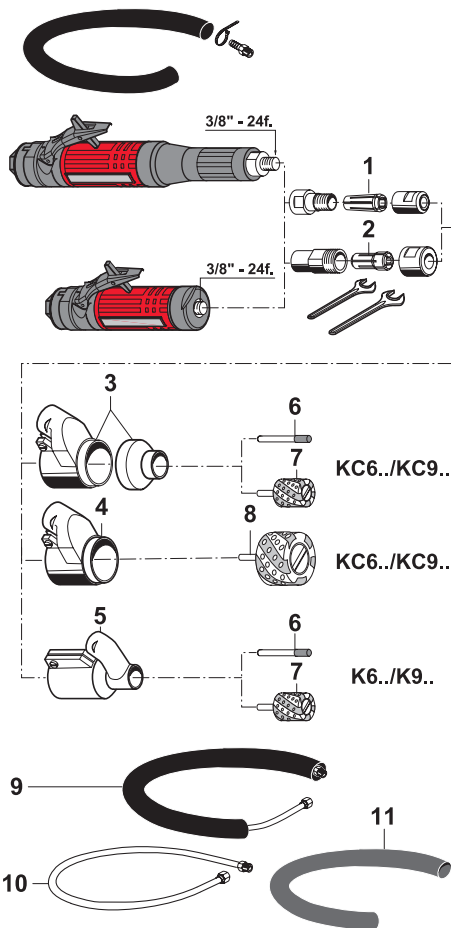
ITEM	COLLET CNOMO	COLLET SERIES 200
1 CNOMO collet \varnothing 6 mm	615 526 049 0	
2 Series 200 resilient collet, \varnothing 5.55 to 6.35 mm (1/4")		615 526 063 0
• Exhaust hose L = 1.5 m (60")	615 875 113 0	615 875 113 0
• Clamp	615 873 415 0	615 873 415 0
• 3/8" air hose nipple for 10 mm (3/8") ID hose	615 704 017 0	615 704 017 0
• Flat wrench 14 mm	615 801 005 0	615 801 005 0
• Flat wrench 19 mm (3/4")		615 801 076 0

OPTIONAL ACCESSORIES

ITEM	K6.../K9...	KC6.../KC9...
3 Suction cap		615 396 013 0
4 Suction cap		615 396 023 0
5 Suction cap	615 396 014 0	
6 Diamond burr \varnothing 7.2 mm (0.28"), shank \varnothing 6 mm (1/4") (28000 rpm max)	615 860 051 0	615 860 051 0
7 Diamond cylinder \varnothing 27 mm (1-1/16"), shank \varnothing 6 mm (1/4") (20000 rpm max)	615 860 003 0	615 860 003 0
8 Diamond cylinder \varnothing 52 mm (2-1/12"), shank \varnothing 6 mm (1/4") (15000 rpm max)		615 860 004 0

OTHER OPTIONAL ACCESSORIES

ITEM	PART NO.
9 Complete silencer kit	615 396 166 0
10 Inlet hose assembly L = 1.7 m (67") 3/8M - 3/8"F - \varnothing 10 mm (3/8")	615 870 210 0
11 Reinforced cloth-lined exhaust hose L = 0.75 m (30")	615 875 116 0



Dust extraction systems

for straight grinders

600 - 900 Watts (0.8 - 1.21 hp) - 12000 to 28000 rpm



A



B



B



615 396 014 0
Vacuum hose
ID 25 mm
(1")



615 396 013 0
Vacuum hose
ID 32 mm
(1 1/4")



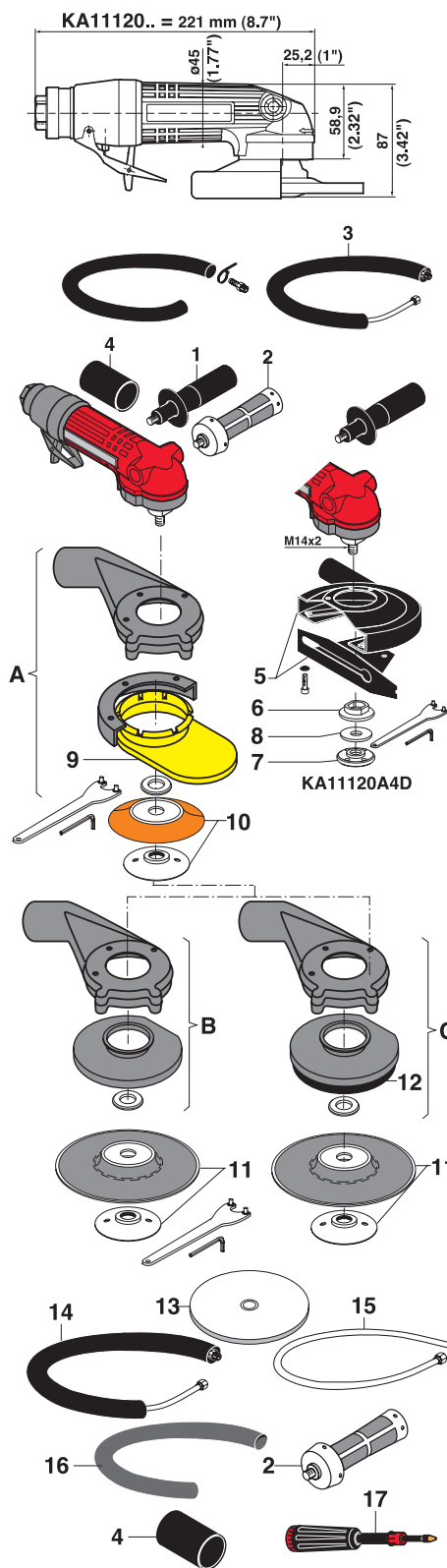
615 396 023 0
Vacuum hose
ID 32 mm
(1 1/4")

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER			SUCTION CAP ASSEMBLY	FREE SPEED	POWER		WEIGHT		AIR INLET THREAD
		CNOMO COLLET (-7)	SERIES 200 COLLET (-9)				W	hp	kg	lb.	
A	K628-	615 170 107 0	615 170 150 0	+	615 396 014 0	28000	600	0.80	1.3	2.9	3/8
A	K624-	615 170 106 0	615 170 151 0	+	615 396 014 0	24000	600	0.80	1.3	2.9	3/8
A	K922-	615 170 119 0	615 170 152 0	+	615 396 014 0	22000	900	1.21	1.4	3.1	3/8
A	K619-	615 170 105 0	615 170 153 0	+	615 396 014 0	19000	600	0.80	1.3	2.9	3/8
A	K918-	615 170 117 0	615 170 154 0	+	615 396 014 0	18000	900	1.21	1.4	3.1	3/8
A	K615-	615 170 104 0	615 170 155 0	+	615 396 014 0	15000	600	0.80	1.3	2.9	3/8
A	K915-	615 170 114 0	615 170 156 0	+	615 396 014 0	15000	900	1.21	1.4	3.1	3/8
A	K912-	615 170 110 0	615 170 157 0	+	615 396 014 0	12000	900	1.21	1.4	3.1	3/8
B	KC628-	615 170 126 0	615 170 158 0	+	615 396 013 0 or 615 396 023 0	28000	600	0.80	0.9	2.0	3/8
B	KC624-	615 170 125 0	615 170 159 0	+	615 396 013 0 or 615 396 023 0	24000	600	0.80	0.9	2.0	3/8
B	KC922-	615 170 130 0	615 170 160 0	+	615 396 013 0 or 615 396 023 0	22000	900	1.21	1.0	2.2	3/8
B	KC619-	615 170 124 0	615 170 161 0	+	615 396 013 0 or 615 396 023 0	19000	600	0.80	0.9	2.0	3/8
B	KC918-	615 170 129 0	615 170 162 0	+	615 396 013 0 or 615 396 023 0	18000	900	1.21	1.0	2.2	3/8
B	KC615-	615 170 123 0	615 170 163 0	+	615 396 013 0 or 615 396 023 0	15000	600	0.80	0.9	2.0	3/8
B	KC915-	615 170 128 0	615 170 164 0	+	615 396 013 0 or 615 396 023 0	15000	900	1.21	1.0	2.2	3/8
B	KC912-	615 170 127 0	615 170 165 0	+	615 396 013 0 or 615 396 023 0	12000	900	1.21	1.0	2.2	3/8



Accessories



KA11120.5K / KA11120A.. / KA11120B5. / KA11075. / KA11060.

ACCESSORIES INCLUDED

ITEM	KA11120H5K KA11120A5K	KA11120A4D	KA11120A. KA11120B5. KA110..A / B
• Exhaust hose L= 1.5m (60")	615 875 113 0	615 875 113 0	615 875 113 0
• Clamp	615 873 415 0	615 873 415 0	615 873 415 0
• 3/8" air hose nipple for 13 mm (1/2") ID hose	615 704 027 0	615 704 027 0	615 704 027 0
1 Side handle	615 576 038 0	615 576 038 0	615 576 038 0
2 Vibration-damping side handle	615 576 066 0		
3 Complete silencer kit	615 396 166 0		
4 Thermal Insulating sleeve	615 570 412 0		
5 Wheel guard		615 396 076 0	
6 Rear flange		615 503 134 0	
7 Front flange		615 502 066 0	
8 Spacer		615 643 074 0	
• Hex key 8mm (1/2")		615 802 061 0	

OPTIONAL ACCESSORIES

For grinding or sanding with semirigid disc for metallic materials

ITEM	KA11120A5K KA11120A5.	KA11120H5K KA11120B5.
A Suction cap for grinding wheel & semirigid disc ø 127mm (5")	615 396 009 0	615 396 009 0
9 Push fit hood	615 570 364 0	615 570 364 0
10 Backing pad with nut M14 (max. 12000rpm)*	615 990 129 0	615 990 129 0
• Washer	615 643 076 0	615 643 076 0

* Sanding with the semirigid disc

For sanding metallic materials

ITEM	KA11120A / B KA110..A / B
B Suction cap for standard abrasive disc ø 127mm (5")	615 396 010 0
11 Ventilated backing pad with nut M14 & 5/8" (max. 12000rpm)	615 990 127 0

For sanding non metallic materials

ITEM	KA11120A / B KA110..A / B
C Suction cap for standard abrasive disc ø 127mm (5")	615 396 012 0
11 Ventilated backing pad with nut M14 & 5/8" (max. 12000rpm)	615 990 127 0
12 Spare brush	615 570 466 0
• Washer	615 643 076 0

OTHER OPTIONAL ACCESSORIES

ITEM	PART NO.
13 Diamond disc ø 100m (4") for KA11120A4D	615 860 002 0
14 Complete silencer kit	615 396 166 0
15 Inlet hose assembly L = 1.7 m (67") - 3/8"M - 3:8"F ø 13 mm (1/2")	615 804 064 0
16 Reinforced cloth-lined exhaust hose L = 0.75m (30")	615 875 116 0
2 Vibration-damping side handle	615 576 066 0
4 Thermal Insulating sleeve	615 570 412 0
17 Grease gun (capacity 24g - 0.8oz)	615 990 149 0
• Lubricant for bevel gear (1 kg - 2.2 lb)	615 990 148 0



Dust extraction systems for angle grinders & sanders

∅ 100mm (4") - ∅ 127mm (5")
900 to 1100 Watts (1.21 to 1.5 hp) - 6000 to 12000 rpm



A

Adjustable lever



B

Dust extraction casing for diamond disc ∅ 100 mm (4")
Vacuum hose ID 25 mm (1")

Adjustable lever

For wheel or semirigid abrasive disc for metallic materials



615 396 009 0
Vacuum hose
ID 38mm
(1½")

Standard abrasive disc for metallic materials



615 396 010 0
Vacuum hose
ID 38mm
(1½")

Standard abrasive disc for non metallic materials



615 396 012 0
Vacuum hose
ID 38mm
(1½")



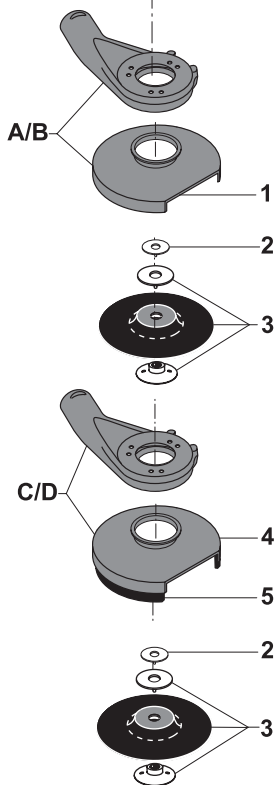
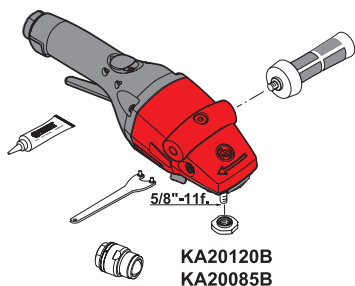
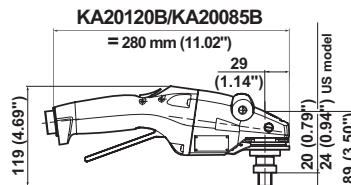
C

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER		SUCTION CAP ASSEMBLY	FREE SPEED	THREADED SPINDLE	POWER		WEIGHT		AIR INLET THREAD
					rpm	in	W	hp	kg	lb.	in.
ANGLE GRINDERS											
A	KA11120H5K	615 170 028 0	+	615 396 009 0	12000	HEX	1100	1.50	1.7	3.7	3/8
A	KA11120A5K	615 170 054 0	+	615 396 009 0	12000	M14x2	1100	1.50	1.7	3.7	3/8
A	KA11120A5	615 170 053 0	+	615 396 009 0	12000	M14x2	1100	1.34	1.7	3.7	3/8
A	KA11120B5	615 170 056 0	+	615 396 009 0	12000	5/8"-11f	1100	1.34	1.7	3.7	3/8
A	KA11120A5F	615 170 052 0	+	615 396 009 0	12000	M14x2	1100	1.50	1.7	3.7	3/8
A	KA11120B5F	615 170 055 0	+	615 396 009 0	12000	5/8"-11f	1100	1.50	1.7	3.7	3/8
B	KA11120A4D	615 170 059 0		Supplied with dust extraction casing	12000	M14x2	1100	1.50	1.7	3.7	3/8
ANGLE SANDERS											
C	KA11120A	615 170 051 0	+	615 396 010 0 or 615 396 012 0	12000	M14x2	1100	1.50	1.4	3.1	3/8
C	KA11120B	615 170 239 0	+	615 396 010 0 or 615 396 012 0	12000	5/8"-11f	1100	1.50	1.4	3.1	3/8
C	KA11075A	615 170 061 0	+	615 396 010 0 or 615 396 012 0	7500	M14x2	1000	1.34	1.4	3.1	3/8
C	KA11075B	615 170 062 0	+	615 396 010 0 or 615 396 012 0	7500	5/8"-11f	1000	1.34	1.4	3.1	3/8
C	KA11060A	615 170 063 0	+	615 396 010 0 or 615 396 012 0	6000	M14x2	900	1.21	1.4	3.1	3/8
C	KA11060B	615 170 064 0	+	615 396 010 0 or 615 396 012 0	6000	5/8"-11f	900	1.21	1.4	3.1	3/8



Accessories



KA20120B / KA20085B

ACCESSORIES INCLUDED

	PART NO.
• 1/2" air hose nipple for \varnothing 13 mm (1/2") ID hose	615 704 016 0
• Vibration-damping side handle	615 576 066 0
• Oil can (7ml)	615 990 170 0
• Rear flange	615 503 151 0
• Rear flange (for USA Market)	615 503 107 0
• Pin wrench, 35mm (1-3/8")	615 802 010 0

OPTIONAL ACCESSORIES

	PART NO
• Oil can (250 ml)	615 990 168 0
• Rotating bushing inlet 1/2"	615 396 366 0

OTHER OPTIONAL ACCESSORIES For sanding metallic materials

ITEM	KA20120B \varnothing 127mm (5")	KA20085B \varnothing 180mm (7")
A Complete kit (including item 1)	615 396 387 0	
1 Suction cap for abrasive disc \varnothing 127mm (5")	615 570 235 0	
B Complete kit (including item 1)		615 396 383 0
1 Suction cap for abrasive disc \varnothing 180mm (7")		615 570 232 0
2 Spacer	615 642 050 0	615 642 050 0
3 Semi-hard backing pad with nut \varnothing 127mm (5") (max: 12000 rpm)	615 804 074 0	
3 Rigid backing pad with nut \varnothing 180mm (7") (max: 8500 rpm)		615 990 134 0

For sanding non metallic materials

ITEM	KA20120B \varnothing 127mm (5")	KA20085B \varnothing 180mm (7")
C Complete kit (including item 4-5)	615 396 385 0	
4 Suction cap for abrasive disc \varnothing 127mm (5")	615 570 234 0	
5 Spare brush	615 570 466 0	
D Complete kit (including item 4-5)		615 396 381 0
4 Suction cap for abrasive disc \varnothing 180mm (7")		615 570 231 0
5 Spare brush		615 570 233 0
2 Spacer	615 642 050 0	615 642 050 0
3 Semi-hard backing pad with nut \varnothing 127mm (5") (max: 12000 rpm)	615 804 074 0	
3 Rigid backing pad with nut \varnothing 180mm (7") (max: 8500 rpm)		615 990 134 0



Dust extraction systems for angle sanders

ø 127 mm (5") - ø 180 mm (7")
2000 Watts (2.7 hp) - 8500 - 12000 rpm

Supplied with 5/8" threaded spindle only



A



B

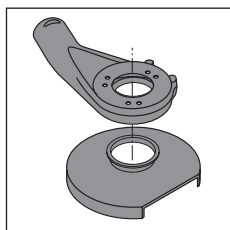


C

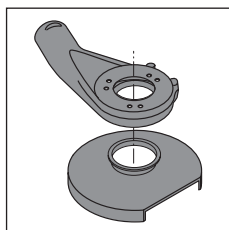


D

For standard abrasive disc for metallic materials
ø 127mm (5") ø 180mm (7")



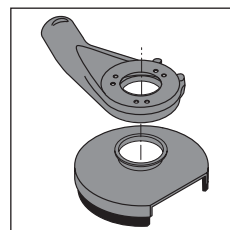
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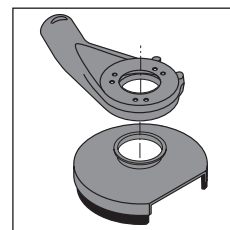
615 396 383 0

Vacuum hose, ID 38 mm (1 1/2")

For standard abrasive disc for non metallic materials
ø 127mm (5") ø 180mm (7")



615 396 385 0



615 396 381 0

Vacuum hose, ID 38 mm (1 1/2")

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER		SUCTION CAP ASSEMBLY	FREE SPEED	THREADED SPINDLE	POWER		WEIGHT		AIR INLET THREAD
					rpm	in	W	hp	kg	lb.	in.
A	KA20120B	615 170 303 0	+	615 396 387 0	12000	5/8 - 11f.	2000	2.7	2.2	4.8	1/2
B	KA20120B	615 170 303 0	+	615 396 385 0	12000	5/8 - 11f.	2000	2.7	2.2	4.8	1/2
C	KA20085B	615 170 304 0	+	615 396 383 0	8500	5/8 - 11f.	2000	2.7	2.2	4.8	1/2
D	KA20085B	615 170 304 0	+	615 396 381 0	8500	5/8 - 11f.	2000	2.7	2.2	4.8	1/2



Dust extraction systems for vertical & angle sanders

ø 180mm (7")

900 - 1200 Watts (1.21 - 1.61 hp) - 2000 to 6500 rpm

Supplied with M14 & 5/8" threaded spindle only

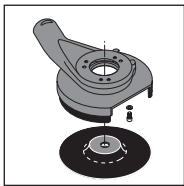


A

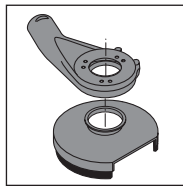


B

For standard abrasive disc for non metallic materials

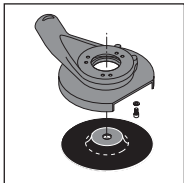


615 399 364 0

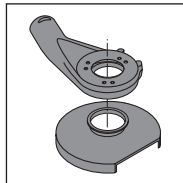


615 396 126 0

For standard abrasive disc for non metallic materials



615 399 365 0



615 396 125 0

Vacuum hose, ID 38mm (1½")



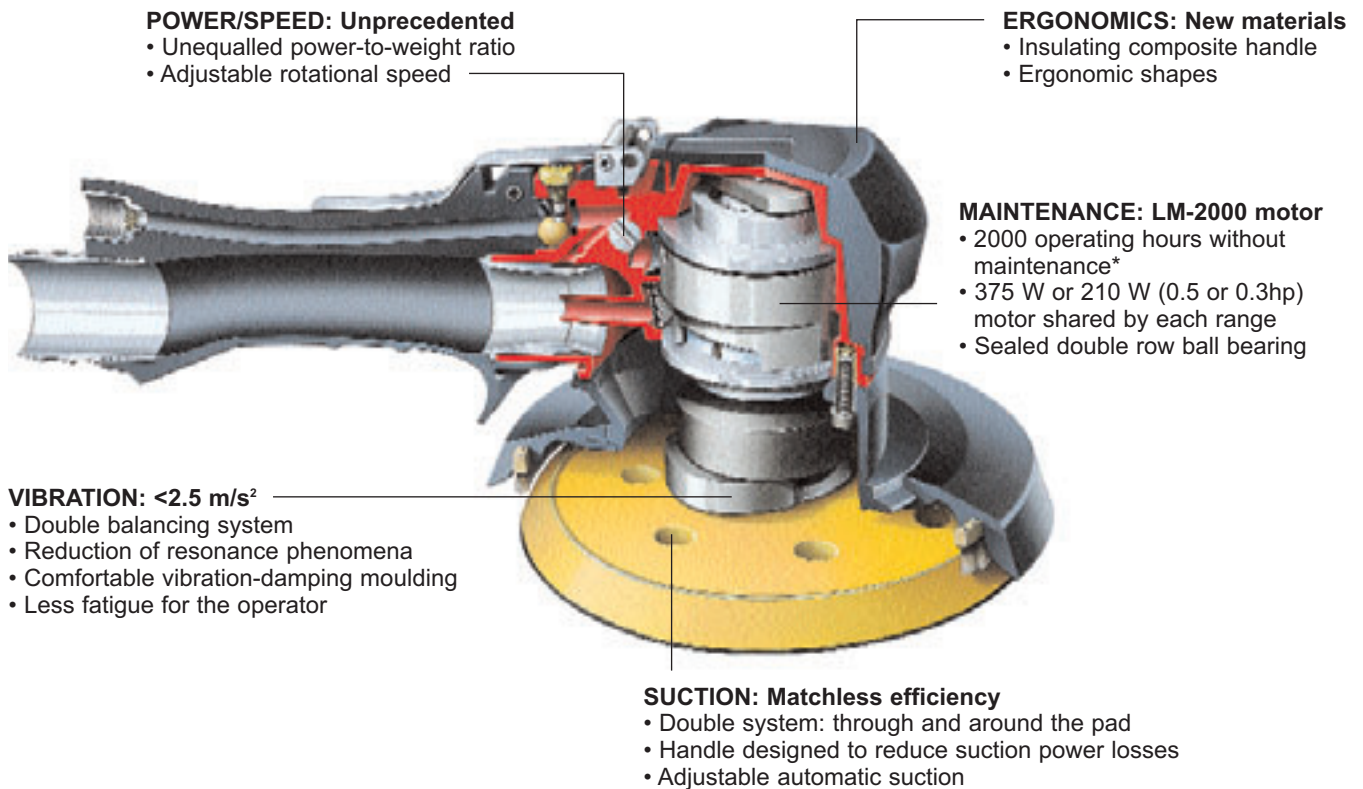
C

Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER		DUST EXTRACTION KIT	FREE SPEED	THREADED SPINDLE	POWER		WEIGHT		AIR INLET THREAD
					rpm	in	W	hp	kg	lb.	in.
VERTICAL SANDER											
A	KL165B	615 170 011 0	+	615 399 364 0 or 615 399 365 0	6500	5/8-11f.	1 200	1.61	2.3	5.1	1/2
ANGLE SANDERS											
B	KA9030A	615 170 098 0	+	615 396 126 0 or 615 396 125 0	3000	M14x2	900	1.21	1.6	3.5	3/8
B	KA9030B	615 170 099 0	+	615 396 126 0 or 615 396 125 0	3000	5/8-11f.	900	1.21	1.6	3.5	3/8
B	KA9020A	615 170 096 0	+	615 396 126 0 or 615 396 125 0	2000	M14x2	900	1.21	1.6	3.5	3/8
B	KA9020B	615 170 097 0	+	615 396 126 0 or 615 396 125 0	2000	5/8-11f.	900	1.21	1.6	3.5	3/8
ANGLE SANDERS for USA Market only (to ANSI B186.1)											
C	KA9030BY	615 170 309 0	+	615 396 126 0 or 615 396 125 0	3000	5/8-11f.	900	1.21	1.6	3.5	3/8
C	KA9020BY	615 170 308 0	+	615 396 126 0 or 615 396 125 0	2000	5/8-11f.	900	1.21	1.6	3.5	3/8

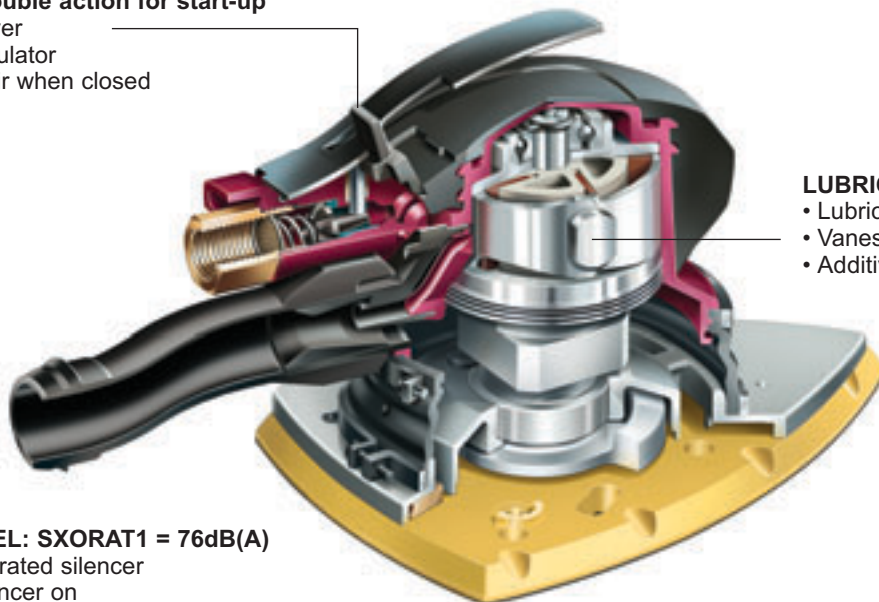


Random orbital sanders for abrasive discs and orbital sanders for abrasive sheets



SAFETY: Double action for start-up

- Lock-off lever
- Unique regulator stops the air when closed



NOISE LEVEL: SXORAT1 = 76dB(A)

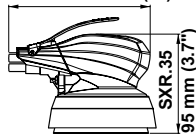
- Motor-integrated silencer
- Double silencer on suction-free machines

* Subject to use as per the instruction manual supplied with the tool

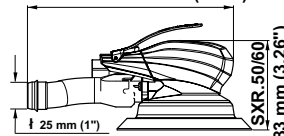


Accessories

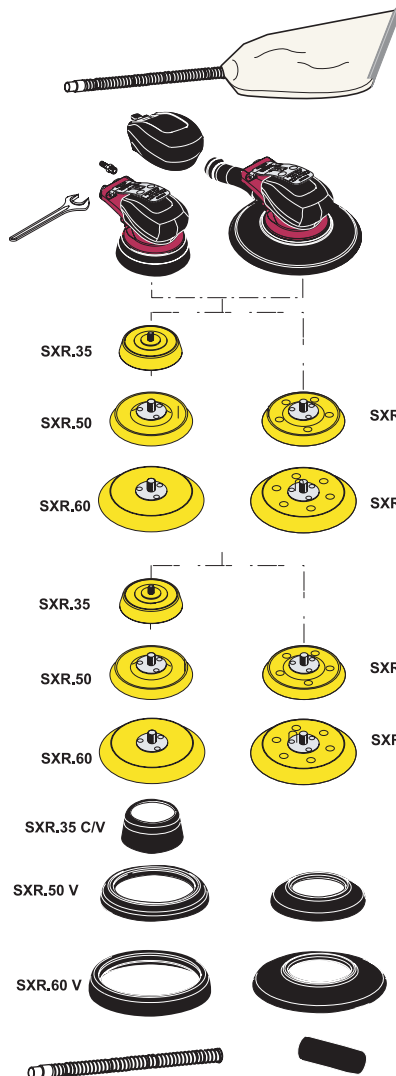
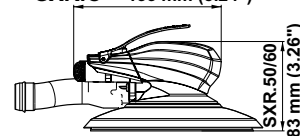
SXR. = 127 mm (5")



SXR.V/C = 186 mm (7.32")



SXR.C = 133 mm (5.24")



SXR.35. / SXR.50. / SXR.60.

ACCESSORIES INCLUDED

- 1/4" air hose nipple for 6mm (1/4") ID hose
- Small grip (medium-size grip fitted on sander)
- Flat wrench 26mm across flats
- Complete dust extraction kit for SXRA..V and SXR..V version

PART NO.

615 705 009 0
615 303 109 0
615 801 078 0
615 396 264 0

Pads:
Thread 5/16"-24 f

For scrim-
backed
abrasive

For scrim-
backed abrasive
(V) or (C)
with holes

- Pad ø 89mm (3.5") - 80gr - SXR(.)35(.)
- Pad ø 125mm (5") - 100gr - SXR(.)50
- Pad ø 150mm (6") - 130gr - SXR(.)60

615 990 158 0
615 990 156 0
615 990 154 0

-
615 990 157 0
615 990 155 0

OPTIONAL ACCESSORIES

Pads:
Thread 5/16"-24 f

For
self-adhesive
abrasive

For
self-adhesive
abrasive
(V) or (C)
with holes

- Pad ø 89mm (3.5") - 80gr - SXR(.)35(.)
- Pad ø 125mm (5") - 100gr - SXR(.)50
- Pad ø 150mm (6") - 130gr - SXR(.)60

615 990 163 0
615 990 161 0
615 990 159 0

-
615 990 162 0
615 990 160 0

Vacuum skirts

- Vacuum skirt for SXR(.)35(.)
- Vacuum skirt for SXR(.)50C
- Vacuum skirt for SXR(.)60C
- Vacuum skirt for SXR(.)50V
- Vacuum skirt for SXR(.)60V

615 350 110 0
615 350 107 0
615 350 106 0
615 350 103 0
615 350 102 0

Adaptor

- Vacuum hose adaptor ø 25mm (1") / ø 32mm (1 1/4")
- Vacuum hose adaptor ø 25mm (1") / ø 28mm (1 1/8")

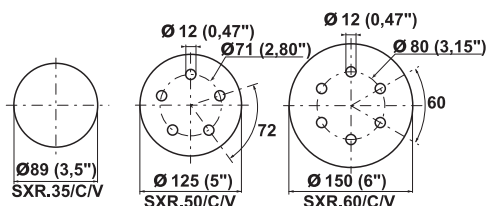
615 350 117 0
615 804 448 0

Hose

- Dust extraction hose ø 25mm (1") L = 1.5m (60")

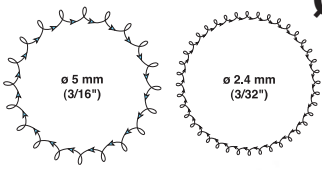
615 396 263 0

PAD DIMENSIONS



Random orbital sanders for abrasive discs

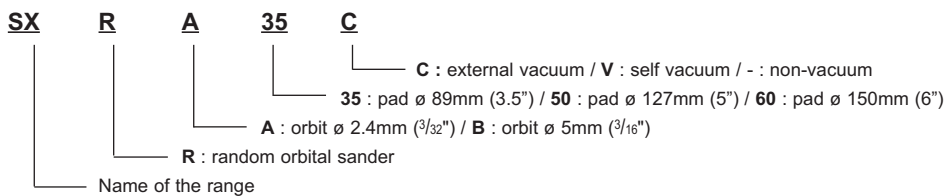
Ø 89mm (3.5") - Ø 127mm (5") - Ø 150mm (6")
210 Watts (0.3 hp) - 12000 rpm



Supplied kit



HOW TO SELECT YOUR SX SANDER — Eg: SXRA35C - SXR model / orbit Ø 2.4mm (3/32") / pad Ø 89mm (3.5") / with dust extraction



*Sanders equipped with PSA pad

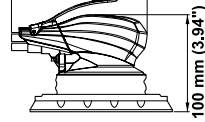
Caution: comply with the speeds recommended by component and abrasive manufacturers

PAD SIZE		MODEL	PART NUMBER	MODEL	PART NUMBER	MODEL	PART NUMBER	WEIGHT		AIR CONSUMPTION AT MAX. OUTPUT		AIR INLET THREAD	HOSE INT Ø		
mm	in.							kg	lb.	l/s	cfm	in.	mm	in.	
RANDOM ORBITAL SANDERS, ORBIT Ø 5mm (3/16")															
		Non-vacuum		External vacuum		Self vacuum									
Ø 89	3.5	SXRB35	615 170 209 0	SXRB35C	615 170 215 0	SXRB35V	615 170 212 0	0.8	1.7	8.0	16.6	1/4	6	1/4	
Ø 127	5	SXRB50	615 170 210 0	SXRB50C	615 170 216 0	SXRB50V	615 170 213 0	0.8	1.7	8.0	16.6	1/4	6	1/4	
Ø 127	5	SXRB50*	615 170 300 0					0.8	1.7	8.0	16.6	1/4	6	1/4	
Ø 150	6	SXRB60	615 170 211 0	SXRB60C	615 170 217 0	SXRB60V	615 170 214 0	0.8	1.7	8.0	16.6	1/4	6	1/4	
Ø 150	6	SXRB60*	615 170 317 0					0.8	1.7	8.0	16.6	1/4	6	1/4	
RANDOM ORBITAL SANDERS, ORBIT Ø 2.4mm (3/32")															
		Non-vacuum		External vacuum		Self vacuum									
Ø 89	3.5	SXRA35	615 170 218 0	SXRA35C	615 170 224 0	SXRA35V	615 170 221 0	0.8	1.7	8.0	16.6	1/4	6	1/4	
Ø 127	5	SXRA50	615 170 219 0	SXRA50C	615 170 225 0	SXRA50V	615 170 222 0	0.8	1.7	8.0	16.6	1/4	6	1/4	
Ø 150	6	SXRA60	615 170 220 0	SXRA60C	615 170 226 0	SXRA60V	615 170 223 0	0.8	1.7	8.0	16.6	1/4	6	1/4	

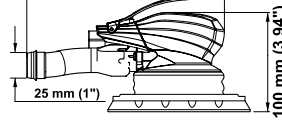


Accessories

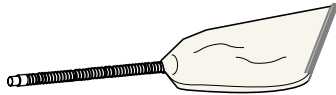
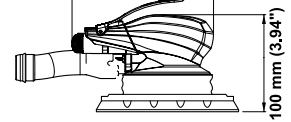
SXO.. = 127 mm (5")



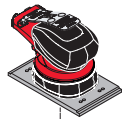
SXO..V = 186 mm (7.32")



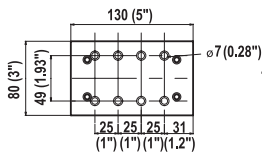
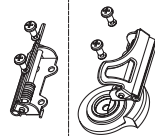
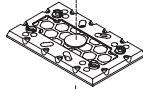
SXO..C = 133 mm (5.24")



SXOAT1.



SXOAR1.



SXOAR1. / SXOAT1.

ACCESSORIES INCLUDED

- 1/4" air hose nipple for 6mm (1/4") ID hose
- Small grip (medium-size grip fitted on sander)
- Complete dust extraction kit for SXOAR1..V version

PART NO.

615 705 009 0
615 303 109 0
615 396 264 0

Pad

- Pad 80x130mm (3x5") for SXOAR..
- Pad 147x100mm (6x4") for SXOAT1..

PART NO.

615 350 121 0
615 350 122 0

OPTIONAL ACCESSORIES

- Paper holder kit
- Pad 80x130mm (3x5") for SXOAR..

PART NO.

615 396 413 0
615 350 123 0

Adaptor

- Vacuum hose adaptor \varnothing 25mm (1") / \varnothing 32mm (1 1/4")
- Vacuum hose adaptor \varnothing 25mm (1") / \varnothing 28mm (1 1/8")

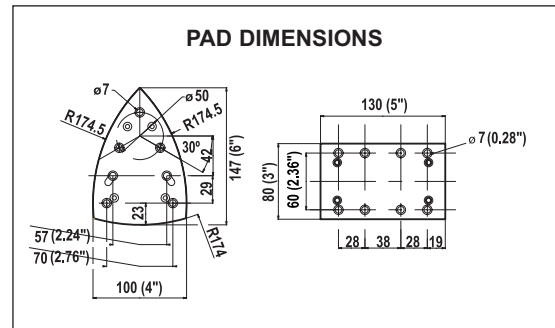
615 350 117 0
615 804 448 0

Hose

- Dust extraction hose \varnothing 25mm (1") L = 1.5m (60")

615 396 263 0

PAD DIMENSIONS



Orbital sanders for abrasive sheets

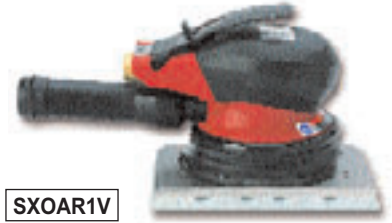
80 x 130mm (3"x 5") - 147 x 100mm (6"x 4")
210 Watts (0.3 hp) - 10000 rpm



SXOAR1



SXOAR1C



SXOAR1V



SXOAT1



SXOAT1C

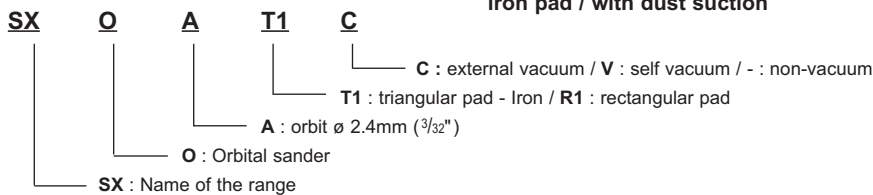


SXOAT1V



SXOAR1 equipped with paper holder kit P.N 615 396 413 0

HOW TO SELECT YOUR SXO SANDER — Eg: SXOAT1C - SXO model / orbit \varnothing 2.4mm ($3/32$ ")
iron pad / with dust suction



Supplied kit



Caution: comply with the speeds recommended by component and abrasive manufacturers

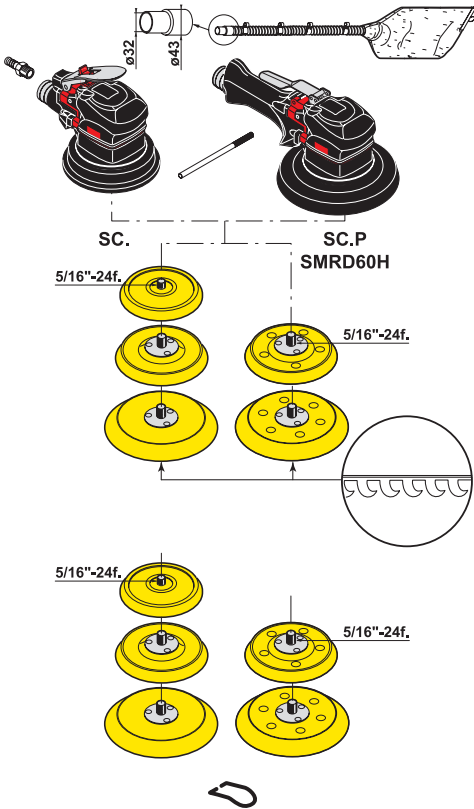
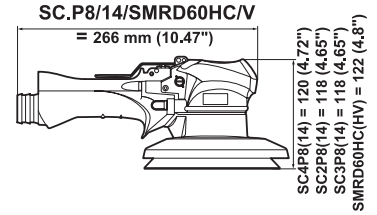
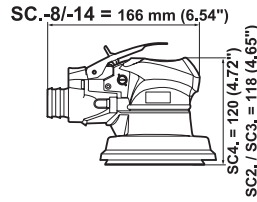
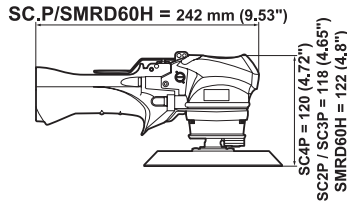
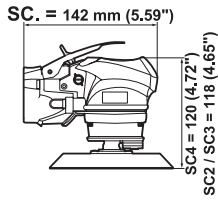
PAD SIZE		MODEL	PART NUMBER	MODEL	PART NUMBER	MODEL	PART NUMBER	WEIGHT		AIR CONSUMPTION AT MAX. OUTPUT		AIR INLET THREAD	HOSE INT. Ø	
mm	in.							kg	lb.	l/s	cfm	in.	mm	in.

ORBITAL SANDERS, ORBIT \varnothing 2.4mm ($3/32$ ")

		Non-vacuum		External vacuum		Self vacuum									
80x130	3x5	SXOAR1	615 170 233 0	SXOAR1C	615 170 237 0	SXOAR1V	615 170 235 0	1.0	2.2	8.0	16.6	1/4	6	1/4	
147x100	6x4	SXOAT1	615 170 234 0	SXOAT1C	615 170 238 0	SXOAT1V	615 170 236 0	1.0	2.2	8.0	16.6	1/4	6	1/4	



Accessories



SC.. / SC..P / SMRD60..

ACCESSORIES INCLUDED

	PART NO.
• 1/4" air hose nipple for 8mm (5/32") ID hose	615 704 019 0
• Clamping lever	615 595 202 0
• Complete dust extraction kit for version (SC.-14/SRMD60HV)	615 399 471 0

Pads: Thread 5/16" - 24f.

	For scrim-backed abrasive	For scrim-backed abrasive (-8) or (-14) (C) or (V) with holes
• Pad ø 110mm (4 3/8") - SC2/-8/-14 - SC2P/8/14	615 990 102 0	-
• Pad ø 127mm (5") - SC3(P)	615 990 123 0	615 990 124 0
• Pad ø 150mm (6") - SC4(P) - SRMD60H.	615 990 125 0	615 990 126 0

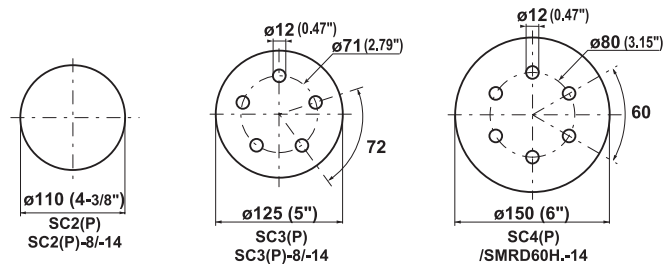
OPTIONAL ACCESSORIES

Pads:

	For self-adhesive abrasive	For self-adhesive abrasive with holes (-8) or (-14) (C) or (V)
• Pad ø 110mm (4 3/8") - SC2/-8/-14 - SC2P/8/14	615 990 101 0	-
• Pad ø 127mm (5") - SC3(P)	615 990 111 0	615 990 110 0
• Pad ø 150mm (6") - SC4(P) - SRMD60H.	615 990 119 0	615 990 118 0

• Suspension bail	SC..P/SMRD60H	615 570 532 0
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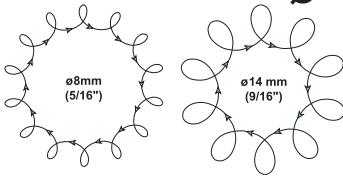
PAD DIMENSIONS



Random orbital sanders for abrasive discs

∅ 110mm (4³/₈") - ∅ 127mm (5") - ∅ 150mm (6")

375 Watts (0.5 hp) - 10000 rpm



Caution: comply with the speeds recommended by component and abrasive manufacturers

PAD SIZE		MODEL	PART NUMBER	MODEL	PART NUMBER	MODEL	PART NUMBER	WEIGHT		AIR CONSUMPTION AT MAX. OUTPUT		AIR INLET THREAD	HOSE INT. Ø	
mm	in.							kg	lb.	l/s	cfm	in.	mm	in.

SANDERS WITH PALM GRIP, ORBIT ∅ 8mm (5/16")

		Non-vacuum		External vacuum		Self vacuum									
∅ 110	4 ³ / ₈	SC2	615 170 080 0	SC2-8	615 170 092 0	SC2-14	615 170 086 0	1.1	2.42	11	23	1/4	8	5/16	
∅ 127	5	SC3	615 170 082 0	SC3-8	615 170 094 0	SC3-14	615 170 088 0	1.2	2.64	11	23	1/4	8	5/16	
∅ 150	6	SC4	615 170 081 0	SC4-8	615 170 093 0	SC4-14	615 170 087 0	1.3	2.86	11	23	1/4	8	5/16	

SANDERS WITH HANDLE GRIP, ORBIT ∅ 8mm (5/16")

		Non-vacuum		External vacuum		Self vacuum									
∅ 110	4 ³ / ₈	SC2P	615 170 077 0	SC2P8	615 170 089 0	SC2P14	615 170 083 0	1.2	2.64	11	23	1/4	8	5/16	
∅ 127	5	SC3P	615 170 079 0	SC3P8	615 170 091 0	SC3P14	615 170 085 0	1.3	2.86	11	23	1/4	8	5/16	
∅ 150	6	SC4P	615 170 078 0	SC4P8	615 170 090 0	SC4P14	615 170 084 0	1.4	3.08	11	23	1/4	8	5/16	

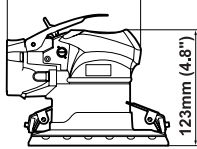
LARGE ORBIT SANDERS WITH HANDLE GRIP, ORBIT ∅ 14mm (9/16")

		Non-vacuum		External vacuum		Self vacuum									
∅ 150	6	SMRD60H	615 170 280 0	SMRD60HC	615 170 281 0	SMRD60HV	615 170 282 0	1.3	2.86	11	23	1/4	8	5/16	

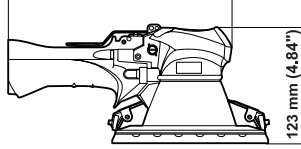


Accessories

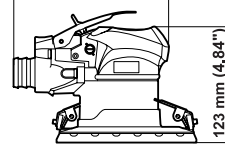
SV3 = 142mm (5.59")



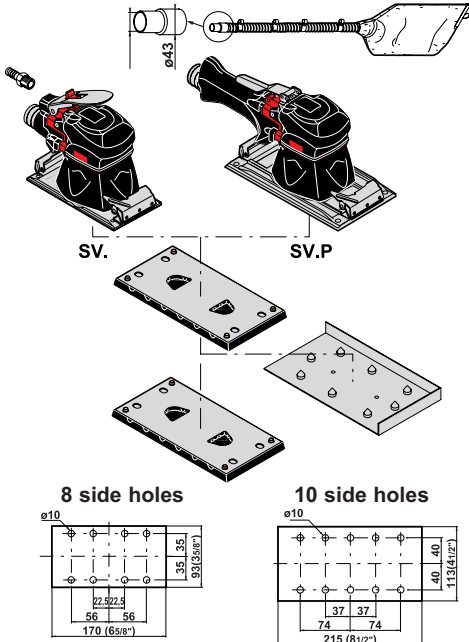
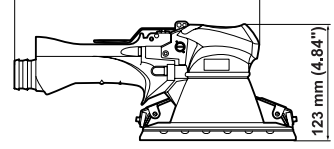
SV.P = 242 mm (9.53")



SV.-8/-14 = 166 mm (6.54")



SV.P8/14 = 266 mm (10.47")



SV.. / SV..P

ACCESSORIES INCLUDED

- 1/4" air hose nipple for 8mm (5/16") ID hose
- Complete dust extraction kit for version (-14)

PART NO.

615 704 019 0
615 399 471 0

Pads and Drilling Plate

- Pad 170x93mm (6 5/8"x 3 5/8") - SV3(P)
- Pad 215x113mm (8 1/2"x 4 1/2") - SV4P

Pad

Drilling plate
for release
(-8) or (-14)

615 350 018 0 615 990 094 0
615 350 019 0 615 990 095 0

OPTIONAL ACCESSORIES

- Pad 170x93mm (6 5/8"x 3 5/8") - 8 side holes SV3(P)
- Pad 215x113mm (8 1/2"x 4 1/2") - 10 side holes SV4P

PART NO.

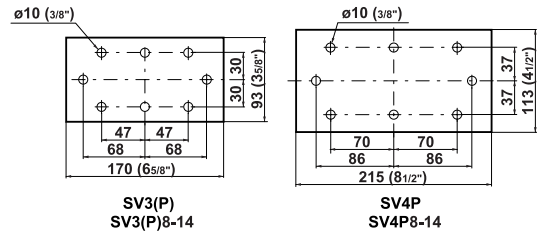
615 350 057 0
615 350 058 0

SV..P

- Suspension bail

615 570 532 0

PAD DIMENSIONS



Orbital sanders for abrasive sheets

170 x 93mm (6⁵/₈"x 3⁵/₈") - 215 x 113mm (8¹/₂"x 4¹/₂")
 375 Watts (0.5 hp) - 8000 rpm



SV3



SV3P



SV3-8



SV3P8



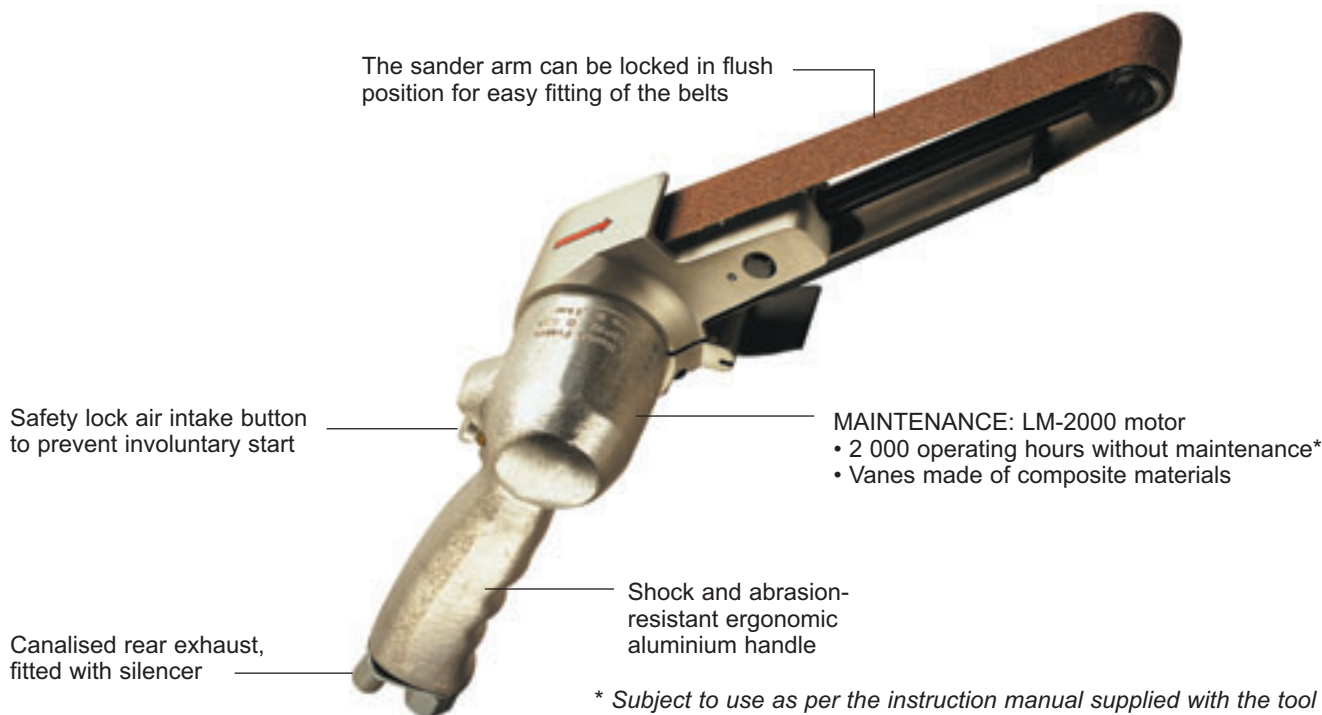
SV3P14

Caution: comply with the speeds recommended by component and abrasive manufacturers

PAD SIZE		MODEL	PART NUMBER	MODEL	PART NUMBER	MODEL	PART NUMBER	WEIGHT		AIR CONSUMPTION AT MAX. OUTPUT		AIR INLET THREAD		HOSE INT. Ø	
mm	in.							kg	lb.	l/s	cfm	in.	mm	in.	
SANDERS WITH PALM GRIP, ORBIT Ø 5mm (3/16")															
		Non-vacuum		External vacuum		Self vacuum									
170x93	6 ⁵ / ₈ x 3 ⁵ / ₈	SV3	615 170 066 0	SV3-8	615 170 074 0	SV3-14	615 170 070 0	1.7	3.74	11	23	1/4	8	5/16	
SANDERS WITH HANDLE GRIP, ORBIT Ø 5mm (3/16")															
		Non-vacuum		External vacuum		Self vacuum									
170x93	6 ⁵ / ₈ x 3 ⁵ / ₈	SV3P	615 170 067 0	SV3P8	615 170 075 0	SV3P14	615 170 071 0	1.8	3.96	11	23	1/4	8	5/16	
215x113	8 ¹ / ₂ x 4 ¹ / ₂	SV4P	615 170 068 0	SV4P8	615 170 076 0	SV4P14	615 170 072 0	1.9	4.19	11	23	1/4	8	5/16	

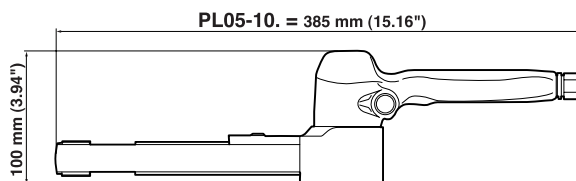


Belt sanders



* Subject to use as per the instruction manual supplied with the tool

Accessories



PL05-10D / PL05-10E / PL05-10F

ACCESSORIES INCLUDED

	PART NO.
• Exhaust hose	615 396 022 0
• 1/4" air hose nipple for 6mm (1/4") ID hose	615 705 009 0
• Hex. key 4 mm	615 802 054 0

OPTIONAL ACCESSORIES

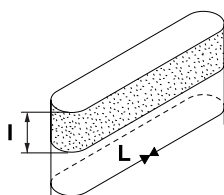
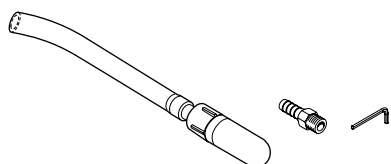
	PART NO.
• Suction cap for 32mm (1 1/4") ID vacuum hose	321003
• Screw FHc M4x10	615 616 118 0

OPTIONAL ACCESSORIES

ENDLESS BELTS

L x l		GRIT NUMBER				
mm	in.	P40	P50	P60	P90	P100
480 x 16	18 7/8 x 5/8	615 848 313 0	615 848 314 0	615 848 315 0	615 848 316 0	615 848 317 0
480 x 20	18 7/8 x 25/32	615 848 323 0	615 848 324 0	615 848 325 0	615 848 326 0	615 848 327 0
480 x 25	18 7/8 x 63/64	615 848 333 0	615 848 334 0	615 848 335 0	615 848 336 0	615 848 337 0

L x l		GRIT NUMBER			
mm	in.	P120	P150	P190	P240
480 x 16	18 7/8 x 5/8	615 848 318 0	615 848 319 0		
480 x 20	18 7/8 x 25/32	615 848 328 0	615 848 329 0	615 848 320 0	
480 x 25	18 7/8 x 63/64	615 848 338 0	615 848 339 0	615 848 330 0	615 848 331 0



Belt sanders

300 Watts (0.4 hp) - 16000 rpm



A



B



C



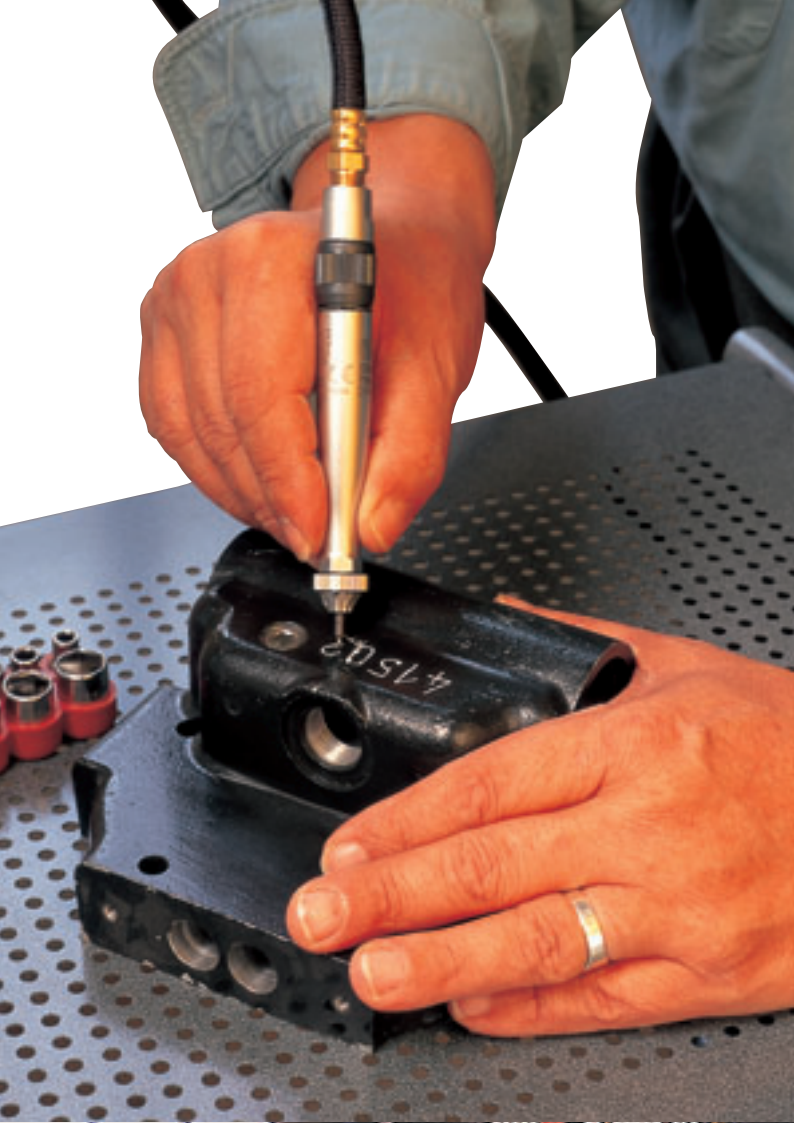
Caution: comply with the speeds recommended by component and abrasive manufacturers

PIC REF	MODEL	PART NUMBER	FREE SPEED	BELT SIZE L x l		POWER		WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD	HOSE INT. Ø	
				rpm	mm	in.	W	Hp	kg	lb	l/s	cfm	in.	mm
A	PL05-10D	615 170 131 0	16000	480 x 16	18 ⁷ / ₈ x 5 ¹ / ₈	300	0.4	0.95	2.09	1.2	2.54	1/4	6	1/4
B	PL05-10E	615 170 132 0	16000	480 x 20	18 ⁷ / ₈ x 25 ¹ / ₃₂	300	0.4	0.95	2.09	1.2	2.54	1/4	6	1/4
C	PL05-10F	615 170 133 0	16000	480 x 25	18 ⁷ / ₈ x 63 ¹ / ₆₄	300	0.4	0.95	2.09	1.2	2.54	1/4	6	1/4

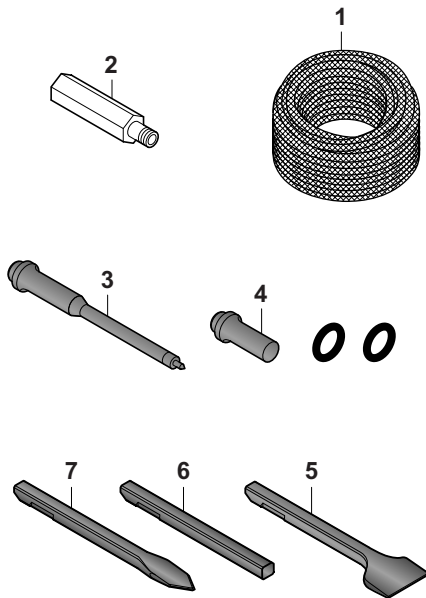
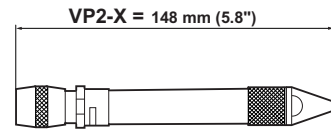
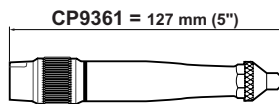


Needle Scalers, Chippers & Chisel Scalers





Accessories



CP9361 / CP9361-1

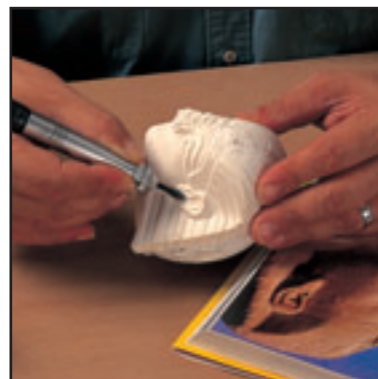
ACCESSORIES INCLUDED

ITEM	CP9361	CP9361-1
1 Air Hose - 5mm (3/16") bore	P043886	P043886
2 Air Filter Assembly	P056381	P056381
3 Stylus - carbide tipped	P054177	P054177
4 Anvil for use with chisels & blank		P054207
5 Flat Chisel		P054183
6 Chisel Blank		P054184
7 Round nose Chisel		P054182
• Carrying Case		P137979

VP2-X

ACCESSORIES INCLUDED

ITEM	VP2-X
1 Air Hose - 3.2mm bore - Length 2m (78.7") - 1/8" - 1/4" BSP	75902
• Tungsten carbide tipped needle	63213
• Key	63533



Air Scribe



A



B



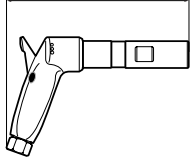
C

PIC REF	MODEL	PART NUMBER	BLOWS PER MINUTE	WEIGHT		LENGTH		AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD	HOSE INT. Ø	
				kg	lbs	mm	in.	l/s	cfm	in.	mm	in.
A	CP9361	T012644	13500	0.14	0.31	127	5.0	0.5	1.1	1/4	5.0	3/16
B	CP9361-1	T011970	13500	0.14	0.31	127	5.0	0.5	1.1	1/4	5.0	3/16
C	VP2-X	671094	11400	0.10	0.22	148	5.8	0.9	1.9	1/8	3.2	1/8

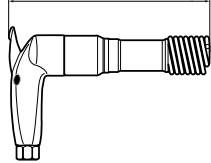


Accessories

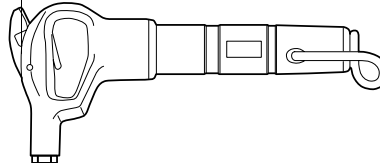
RA1/RA1BL = 190 mm (7.5")



RA2C/RA2H = 210 mm (8.3")

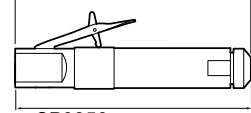


GV5 = 385 mm (15")



CP0456-LESAR = 219 mm (8.6")

CP0456-BESAR = 251mm (9.9")



CP9356 = 238 mm (9.4")

RA1(BL) / RA2C(H) / GV5 / CP-0456 / CP-9356

ACCESSORIES INCLUDED

ITEM	RA1 / RA2	CP0456
• 1/4" air hose nipple for 10mm (3/8") ID hose	615 705 006 0	
• Sealing chisel		P084376

OPTIONAL ACCESSORIES

Shank \varnothing 9.5 x 9mm (3/8" x 23/64")

ITEM	RA1	RA1 BL
1 Chisel, width 9mm (23/64"), length 150mm (5 ²⁹ /32")	615 040 115 0	
2 Chisel, \varnothing 6mm (15/64"), length 250mm (9 ²⁷ /32")	615 804 437 0	
3 Flat chisel, 3mm (1/8"), length 250mm (9 ²⁷ /32")	615 804 438 0	
4 Chisel thickness, 6mm (15/64"), length 145mm (5 ⁴⁵ /64")		615 041 114 0
4 Chisel thickness, 6mm (15/64"), length 200mm (7 ⁷ /8")		615 041 120 0

Shank 126 - \varnothing 15 x 55mm (19/32" x 2¹¹/64")

ITEM	RA2C
5 Chisel, width 16mm (5/8"), length 185mm (7 ⁹ /32")	615 045 118 0
5 Chisel, width 16mm (5/8"), length 250mm (9 ²⁷ /32")	615 804 088 0
6 Pick, length 185mm (7 ⁹ /32")	615 045 218 0

Shank 122 - Hex 12.5 x 55mm (8/16" x 2¹¹/64")

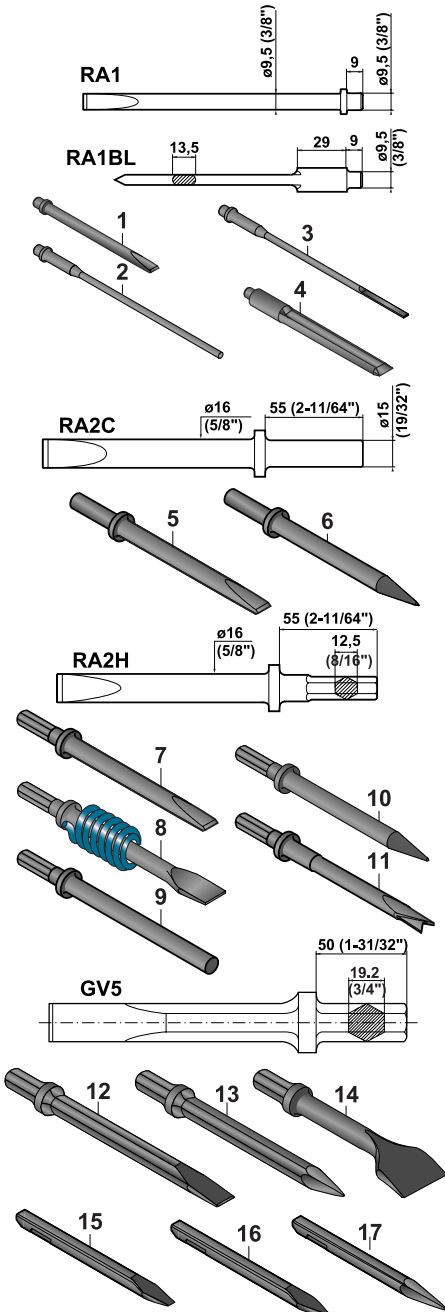
ITEM	RA2H
7 Chisel, width 16mm (5/8"), length 185mm (7 ⁹ /32")	615 046 118 0
7 Chisel, width 16mm (5/8"), length 250mm (9 ²⁷ /32")	615 804 089 0
7 Chisel, width 16mm (5/8"), length 310mm (12 ¹³ /64")	615 804 431 0
7 Chisel, width 16mm (5/8"), length 500mm (19 ¹¹ /16")	615 804 090 0
7 Chisel, width 16mm (5/8"), length 1000mm (29 ³ /8")	615 804 091 0
8 Chisel*, width 24mm (15/16"), length 310mm (12 ¹³ /64")	615 804 440 0*
8 Chisel*, width 50mm (1 ³¹ /32"), length 250mm (9 ²⁷ /32")	615 804 421 0*
*Supplied with retaining spring 615 690 089 0 (former TR0289)	
9 Blank tool, length 175mm (6 ⁵⁷ /64")	615 046 017 0
9 Blank tool, length 240mm (9 ²⁹ /64")	615 046 024 0
10 Pick, length 185mm (7 ⁹ /32")	615 046 218 0
10 Pick, length 250mm (9 ²⁷ /32")	615 804 092 0
11 Blade cutter, length 200mm (7 ⁷ /8")	615 046 920 0

Hex. shank 19.2 x 50mm (3/4" x 1³¹/32")

ITEM	GV5
12 Chisel, width 19mm (3/4"), length 300mm (11 ¹⁵ /16")	615 804 095 0
12 Chisel, width 19mm (3/4"), length 500mm (19 ¹¹ /16")	615 804 096 0
13 Pick, length 300mm (11 ¹⁵ /16")	615 804 093 0
13 Pick, length 500mm (19 ¹¹ /16")	615 804 094 0
14 Scraper, width 60mm (2 ²³ /64"), length 250mm (9 ²⁷ /32")	615 804 097 0

Shank: Qtr. Oct WF 1/2" (CP-0456) - Qtr. B 1/2" (CP-9356)

ITEM	CP-0456	CP-9356
15 Flat Chisel, 15.9mm (5/8") face, length 102mm (4")	P073781	WP123997
15 Flat Chisel, 15.9mm (5/8") face, length 191mm (7 ¹ /2")	P073225	WP123996
15 Flat Chisel, 35mm (1 ³ /8") face, length 102mm (4")	P072213	
15 Flat Chisel, 35mm (1 ³ /8") face, length 165mm (6 ¹ /2")		WP123998
15 Flat Chisel, 35mm (1 ³ /8") face, length 229mm (9")	P084175	
15 Flat Chisel, 35mm (1 ³ /8") face, length 305mm (12")	P084176	
15 Flat Chisel, 35mm (1 ³ /8") face, length 457mm (18")	P084177	
15 Flat Chisel, 44mm (1 ³ /4") face, length 213mm (5 ³ /8")	P070982	
• Angle Scaling, 35mm (1 ³ /8") face, length 165mm (6 ¹ /2")	P084376	WP123999
16 Cape 6.4mm (1/4") face length 191mm (7 ¹ /2")	P073224	
17 Diamond Pt. 6.4mm (1/4") face length 191mm (7 ¹ /2")	P073223	



Chisel Scalars & Weld Flux Chippers



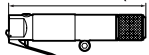
All models: supplied without chisel, except for CP-0456 - *Front Blower type

PIC REF	MODEL	PART NUMBER	BORE & STROKE		SHANK	BLOWS PER MINUTE	WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD	HOSE INT. Ø	
			mm	in.			kg	lb.	l/s	cfm	in.	mm	in.
CHISEL SCALERS													
A	RA1	615 174 018 0	13 x 45	0.51 x 1.77	Round	4000	1.1	2.4	3.0	7.0	1/4	10	3/8
A	RA1 BL	615 174 019 0	13 x 45	0.51 x 1.77	Flatnosed	4000	1.1	2.4	3.0	7.0	1/4	10	3/8
B	RA2C	615 174 020 0	18 x 58	0.71 x 2.28	126	3500	2.0	4.4	4.6	9.7	1/4	10	3/8
B	RA2H	615 174 021 0	18 x 58	0.71 x 2.28	122	3500	2.0	4.4	4.6	9.7	1/4	10	3/8
PNEUMATIC HAMMER													
C	GV5	615 174 017 0	28 x 52.5	1.1 x 2.07	19 x 50	2400	5.1	11.2	8.3	17.6	1/2	13	1/2
WELD FLUX CHIPPERS													
D	CP-0456-LESAR	T013046	23.8 x 25.4	15/16 x 1.0	Qtr. Oct WF 1/2"	4300	1.6	3.5	4.7	10.0	1/4	10	3/8
D	CP-0456-BESAR*	T013212	23.8 x 25.4	15/16 x 1.0	Qtr. Oct WF 1/2"	4300	1.8	4.0	4.7	10.0	1/4	10	3/8
E	CP-9356	T021959	25.4 x 28.6	1.0 x 1 1/8	Qtr. B 1/2"	4600	1.7	3.7	4.8	10.2	3/8	10	3/8

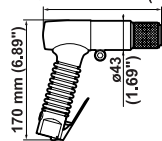


Accessories

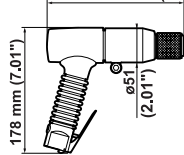
B15B = 201 mm (7.91")
B16B = 231 mm (9.09")



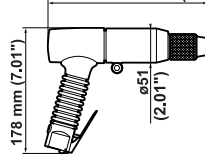
B18B = 173 mm (6.81")



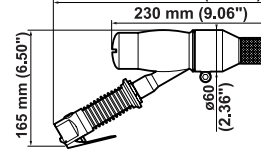
B19B = 191 mm (7.52")



B19B-1 = 218 mm (8.58")



B21B = 310 mm (12.20")



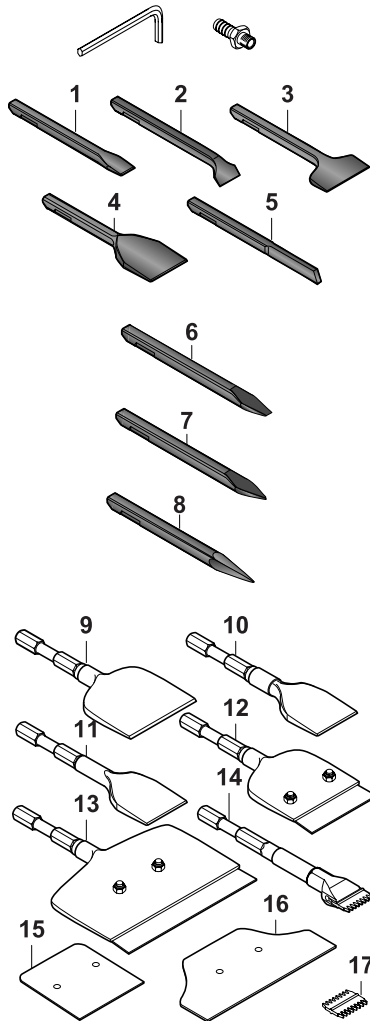
B15B / B16B / B18B / B19B / B19B1 / B21B

ACCESSORIES INCLUDED

- Hex. Key 6mm (1/4")
- 1/4" air hose nipple for 10mm ID hose

PART NO.

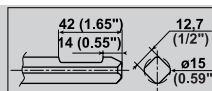
615 802 056 0



OPTIONAL ACCESSORIES

ISO 1/2" Square Shank Chisels

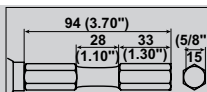
ITEM



ITEM	B15B / B16B B18B / B19B / B21B
1 Chisel, width 19mm (3/4"), length 180mm (7")	615 804 443 0
2 Angle chisel, width 35mm (1 3/8"), length 180mm (7")	615 804 444 0
3 Chisel, width 60mm (3 23/64"), length 180mm (7")	615 804 445 0
4 Spark-resistant chisel, width 50mm (1 31/32")	615 003 900 0
5 Chisel, width 6mm (1/4"), length 180mm (7") for brick joints	615 804 062 0
6 Flat Chisel, 15.9mm (5/8") face, length 102mm (4")	P073781
6 Flat Chisel, 15.9mm (5/8") face, length 191mm (7 1/2")	P073225
6 Flat Chisel, 35mm (1 3/8") face, length 102mm (4")	P072213
6 Flat Chisel, 35mm (1 3/8") face, length 229mm (9")	P084175
6 Flat Chisel, 35mm (1 3/8") face, length 305mm (12")	P084176
6 Flat Chisel, 35mm (1 3/8") face, length 457mm (18")	P084177
6 Flat Chisel, 44mm (1 3/8") face, length 213mm (5 3/8")	P070982
7 Cape 6.4mm (1/4") face length 191mm (7 1/2")	P073224
8 Diamond Pt. 6.4mm (1/4") face length 191mm (7 1/2")	P073223

Hex. Shank 5/8" Chisels

ITEM



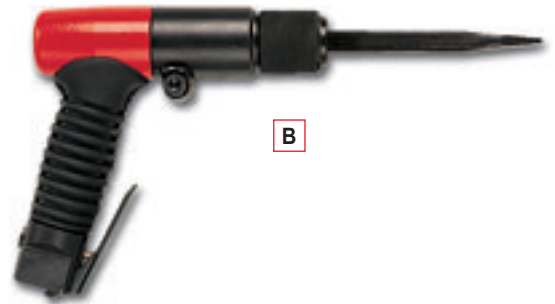
ITEM	B19B1
9 Chisel, width 100mm (3 15/16"), length 180mm (7")	615 804 441 0
10 Chisel, width 50mm (1 31/32"), length 180mm (7")	615 804 442 0
11 Spark-resistant chisel, width 50mm (1 31/32")	615 002 900 0
12 Scaling tool, width 100mm (3 15/16")	615 002 901 0
13 Scaling tool, width 200mm (7 7/8")	615 002 902 0
14 Comb-type chisel, width 38mm (1 1/2"), length 180mm (7")	615 002 903 0
15 Spare blade, width 100mm (3 15/16")	615 250 527 0
16 Spare blade, width 200mm (7 7/8")	615 250 528 0
17 Spare comb, width 38mm (1 1/2")	615 250 539 0



Chippers - Chisel Scalers



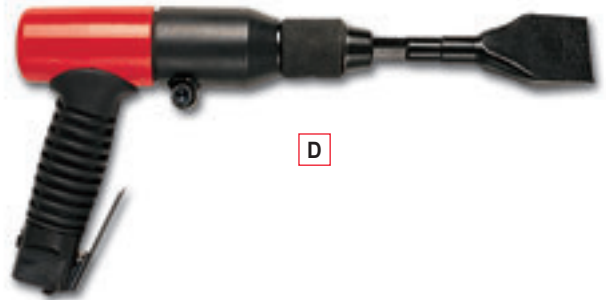
A



B



C



D



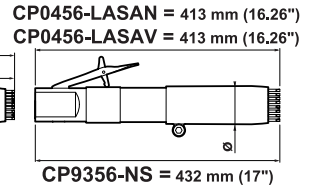
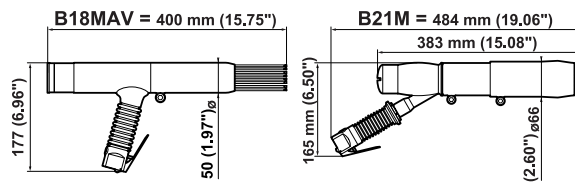
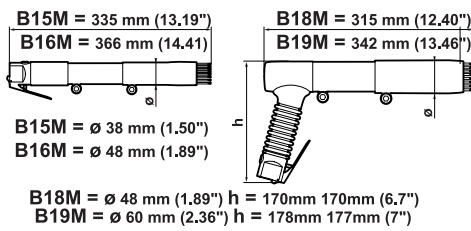
E

All models: Supplied without chisel

PIC REF	MODEL	PART NUMBER	BORE & STROKE		SHANK	BLOWS PER MINUTE	WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD		HOSE INT. Ø	
			mm	in.			inch	Blows/min	kg	lb.	l/s	cfm	in.	mm
A	B15B	615 174 023 0	18.0 x 30.0	0.71 x 1.18	ISO 1/2 square	3800	1.5	3.3	1.4	3.0	1/4	8	5/16	
A	B16B	615 174 025 0	23.5 x 35.6	0.92 x 1.40	ISO 1/2 square	3000	2.0	4.4	2.6	5.5	1/4	10	3/8	
B	B18B	615 174 027 0	23.5 x 35.6	0.92 x 1.40	ISO 1/2 square	3000	2.0	4.4	2.6	5.5	1/4	10	3/8	
C	B19B	615 174 030 0	28.6 x 39.0	1.12 x 1.53	ISO 1/2 square	2200	3.0	6.6	3.8	8.0	1/4	10	3/8	
D	B19B1	615 174 031 0	28.6 x 39.0	1.12 x 1.53	Hex. 5/8	2200	3.0	6.6	3.8	8.0	1/4	10	3/8	
E	B21B	615 174 040 0	33.0 x 49.2	1.30 x 1 ¹⁵ / ₁₆	ISO 1/2 square	2200	4.0	8.8	4.0	8.5	1/4	10	3/8	



Accessories



B15M / B16M / B18M / B18MAV / B19M / B21M

ACCESSORIES INCLUDED

- Hex. Key 6mm
- 1/4" air hose nipple for 10mm (3/8") ID hose

PART NO.
615 802 056 0

OPTIONAL ACCESSORIES

ITEM	B15M	B16M/B18M
1 1/2" square tool retainer	615 250 524 0	615 250 525 0
2 Round adjustable sleeve	615 250 523 0	615 250 515 0
3 Needle holder for 29 needles \varnothing 2mm (5/64")	615 250 531 0	
3 Needle holder for 51 needles \varnothing 2mm (5/64")		615 250 532 0

OPTIONAL ACCESSORIES

ITEM	B19M	B21M
4 1/2" square tool retainer	615 250 538 0	615 250 536 0
5 5/8" hex. tool retainer	615 250 526 0	
6 Round adjustable sleeve	615 250 519 0	615 250 535 0
7 Needle holder for 19 needles \varnothing 4mm (5/32")	615 250 533 0	
7 Needle holder for 65 needles \varnothing 2mm (5/64")	615 250 543 0	
7 Needle holder for 49 needles \varnothing 3mm (1/8")		615 250 537 0

Needles Sets

8 Chisel tip needles, \varnothing 3mm (1/8"), length 178mm (7") (Qty 100)	615 399 819 0
8 Chisel tip needles, \varnothing 4mm (5/32"), length 178mm (7") (Qty 100) except for B18MAV	615 399 820 0
9 Flat tip needles, \varnothing 2mm (5/64"), length 178mm (7") (Qty 100) except for B18MAV	615 399 816 0
9 Flat tip needles, \varnothing 3mm (1/8"), length 178mm (7") (Qty 100)	615 399 817 0
9 Flat tip needles, \varnothing 4mm (5/32"), length 178mm (7") (Qty 100) except for B18MAV	615 399 818 0
10 Pointed tip needles, \varnothing 3mm (1/8"), length 178mm (7") (Qty 100)	615 399 821 0
10 Pointed tip needles, \varnothing 4mm (5/32"), length 178mm (7") (Qty 100) except for B18MAV	615 399 822 0

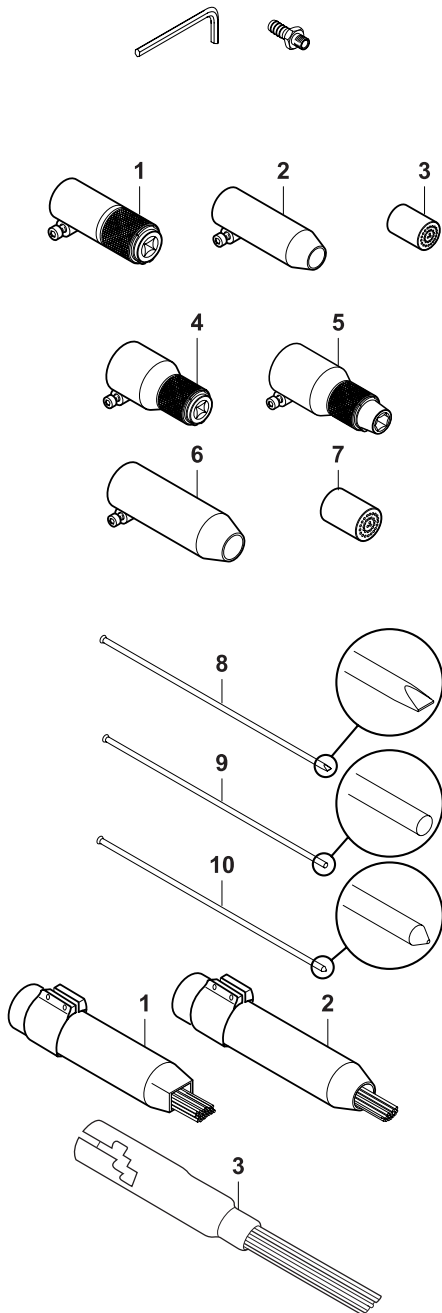
CP-0456 / CP-9356-NS

OPTIONAL ACCESSORIES

ITEM	CP-0456-LASAV	CP-0456-LASAN	CP-9356-NS
1 Rectangular Nose	P103106		
2 Round Nose		P103105	
3 Round Nose			P136983

Needles Sets

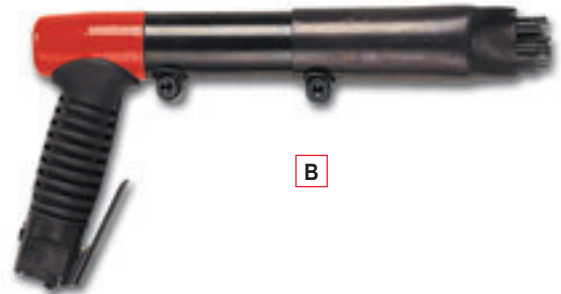
• Steel needle set, \varnothing 3mm (1/8"), length 178mm (7") Qty. 19	P100146
• Steel needle set, \varnothing 2mm (5/64"), length 178mm (7") Qty. 29	NP123905
• Steel needle set, \varnothing 2mm (5/64"), length 178mm (7") Qty. 53	NP123906
• Steel needle set, \varnothing 3mm (1/8"), length 127mm (5") Qty. 19	P136403
• Steel needle set, \varnothing 3mm (1/8"), length 178mm (7") Qty. 12	NP123901
• Steel needle set, \varnothing 3mm (1/8"), length 178mm (7") Qty. 23	NP123902
• Steel needle set, \varnothing 3mm (1/8"), length 178mm (7") Qty. 28	NP123903
• Steel needle set, \varnothing 3mm (1/8"), length 178mm (7") Qty. 250	NP137638
• Stainless, needle set, \varnothing 3mm (1/8"), length 178mm (7") Qty. 19	P106454



Standard Needle Scalars & Vibration-damped Needle Scaler



A



B



C



D



E



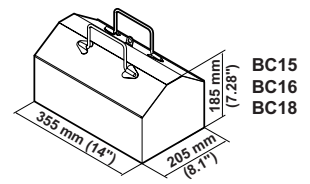
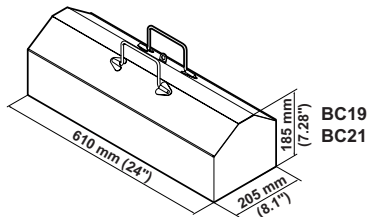
F

All models: Supplied with chisel tip needles and flatnosed sleeve except for B18MAV, CP-0456 & CP-9356 (round sleeve)
*Entire needle attachment can be removed from CP-0456-LASAV, CP-0456-LASAV

PIC REF	MODEL	PART NUMBER	BORE & STROKE		NEEDLE CAPACITY	BLOWS PER MINUTE	WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD	HOSE INT. Ø	
			mm	in.			No. x ø mm (in.)	Blows/min	kg	lb.		l/s	cfm
STANDARD NEEDLE SCALERS													
A	B15M	615 174 024 0	18.0 x 30.0	0.71 x 1.18	12 x 3 (1/8)	3800	1.6	3.5	1.4	3.0	1/4	8	5/16
A	B16M	615 174 026 0	23.5 x 35.6	0.92 x 1.40	19 x 3 (1/8)	3000	2.6	5.7	2.6	5.5	1/4	10	3/8
B	B18M	615 174 028 0	23.5 x 35.6	0.92 x 1.40	19 x 3 (1/8)	3000	2.6	5.7	2.6	5.5	1/4	10	3/8
B	B19M	615 174 032 0	28.6 x 39.0	1.12 x 1.53	28 x 3 (1/8)	2200	3.7	8.2	3.8	8.0	1/4	10	3/8
C	B21M	615 174 041 0	33.0 x 49.2	1.30 x 1 ¹⁵ / ₁₆	35 x 4 (5/32)	2200	5.6	12.4	4.0	8.5	1/4	10	3/8
D	CP-0456-LASAV*	T013049	23.8 x 25.4	1 ⁵ / ₁₆ x 1	19 x 3 (1/8)	4300	2.7	6.0	6.6	13.9	1/4	10	3/8
D	CP-0456-LASAV*	T013050	23.8 x 25.4	1 ⁵ / ₁₆ x 1	19 x 3 (1/8)	4300	2.7	6.0	6.6	13.9	1/4	10	3/8
E	CP-9356-NS	T022165	25.4 x 58.6	1 x 1 ¹ / ₈	19 x 3 (1/8)	4600	2.7	6.0	6.6	13.9	1/4	10	3/8
VIBRATION-DAMPED NEEDLE SCALER													
F	B18MAV	615 174 029 0	23.5 x 35.6	0.92 x 1.40	19 x 3 (1/8)	3000	3.5	7.7	2.6	5.5	1/4	10	3/8

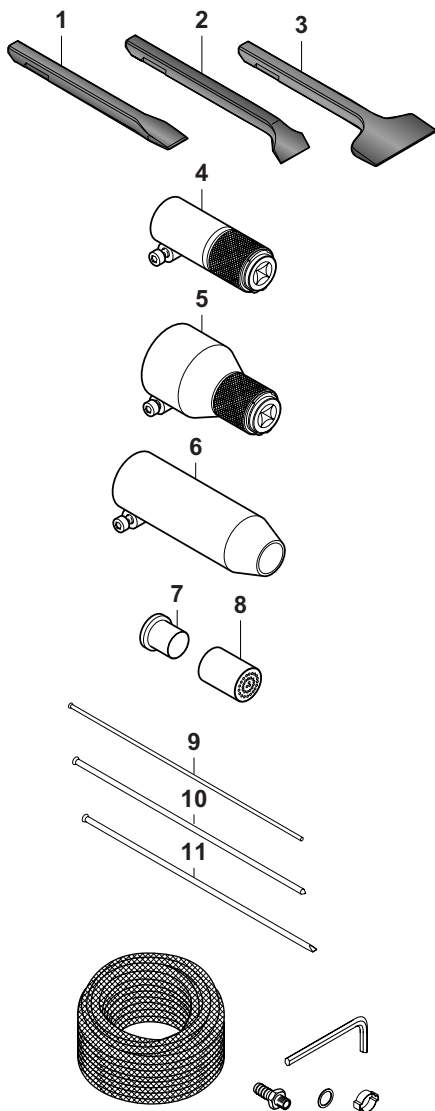


Accessories



BC15 / BC16 / BC18 / BC19 / BC21

ACCESSORIES INCLUDED



ITEM	MODEL					PART NO.
	BC15	BC16	BC18	BC19	BC21	
• Needle scaler B15M	1					
• Needle scaler B16M		1				
• Needle scaler B18M			1			
• Needle scaler B19M				1		
• Needle scaler B21M					1	
1 Chisel, width 19mm (3/4") length 180mm (7")	1	1	1	1	1	615 804 443 0
2 Chisel, width 35mm (1 3/8") length 180mm (7")	1	1	1	1	1	615 804 444 0
3 Chisel, width 60mm (2 23/64") length 180mm (7")	1	1	1	1	1	615 804 445 0
4 1/2" square tool retainer					1	615 250 524 0
4 1/2" square tool retainer		1	1			615 250 525 0
5 1/2" square tool retainer					1	615 250 536 0
5 1/2" square tool retainer				1		615 250 538 0
6 Round adjustable sleeve				1		615 250 519 0
6 Round adjustable sleeve		1	1			615 250 515 0
6 Round adjustable sleeve	1					615 250 523 0
6 Round adjustable sleeve					1	615 250 535 0
7 Anvil		1	1			615 250 513 0
7 Anvil				1		615 250 516 0
7 Anvil	1					615 250 520 0
7 Anvil					1	615 250 534 0
8 ø 2mm (5/64") needle holder	1					615 250 531 0
8 ø 3mm (1/8") needle holder		1	1			615 250 532 0
8 ø 3mm needle holder					1	615 250 537 0
8 ø 2mm (5/64") needle holder				1		615 250 543 0
9 Flat tip needles, ø 4mm (5/32")	29	51	51	65		
9 Flat tip needles, ø 4mm					35	
10 Pointed tip needles, ø 3mm (1/8")	12	19	19	28		
11 Chisel tip needles, ø 3mm (1/8")					49	
• Hose, ID 10mm (3/8"), length 10m	1	1	1	1	1	
• Hex. key 6mm (1/4")	1	1	1	1	1	615 802 056 0
• 1/4" air hose nipple for 10mm (3/8") ID hose	1	1	1	1	1	
• Seal	1	1	1	1	1	
• Clamp	2	2	2	2	2	



Maintenance Kits

Each maintenance kit includes a needle scaler and all the accessories necessary to convert it to a chisel scaler. Various sets of chisels and needles are provided for immediate use whatever the task to be performed.



A



B



C



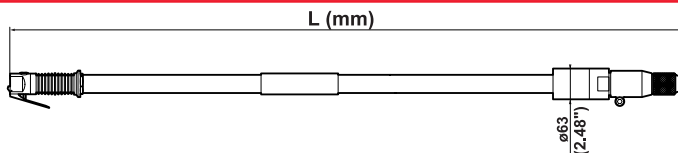
D

*Characteristics in needle scaler version **Characteristics in chisel scaler version

PIC REF	MODEL	PART NUMBER	BORE & STROKE		NEEDLE CAPACITY *	SHANK **	BLOWS PER MINUTE	WEIGHT				AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD		HOSE INT. Ø	
			mm	in.				No. x ø mm	inch	Blows/min	*		**		l/s	cfm	in.
A	BC15	615 174 043 0	18.0 x 30.0	0.71 x 1.18	12 x 3 (1/8")	ISO 1/2 square	3800	1.6	3.5	1.5	3.3	1.4	3.0	1/4	8	5/16	
A	BC16	615 174 044 0	23.5 x 35.6	0.92 x 1.40	19 x 3 (1/8")	ISO 1/2 square	3000	2.6	5.7	2.0	4.4	2.6	5.5	1/4	10	3/8	
B	BC18	615 174 045 0	23.5 x 35.6	0.92 x 1.40	19 x 3 (1/8")	ISO 1/2 square	3000	2.6	5.7	2.0	4.4	2.6	5.5	1/4	10	3/8	
C	BC19	615 174 046 0	28.6 x 39.0	1.12 x 1.53	28 x 3 (1/8")	ISO 1/2 square	2200	3.7	8.2	3.0	6.6	3.8	8.0	1/4	10	3/8	
D	BC21	615 174 047 0	33.0 x 49.2	1.30 x 1 15/16	35 x 4 (5/32")	ISO 1/2 square	2200	5.6	12.3	4.0	8.8	4.0	8.5	1/4	10	3/8	



Accessories



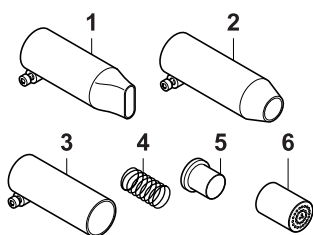
B20-00	B20-0	B20	B20-1	B20L	B20L1
710 mm (27.95")	1100 mm (43.31")	1400 mm (55.12")	1730 mm (68.11")	1410 mm (55.51")	1710 mm (67.32")

B20-00 / B20-0 / B20 / B20-1 / B20L / B20L1

ACCESSORIES INCLUDED

- Hex. Key 6mm (1/4")
- 1/4" air hose nipple for 10mm (3/8") ID hose

PART NO.
615 802 056 0

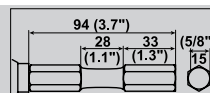


ACCESSORIES TO CONVERT B20 into needle scalers

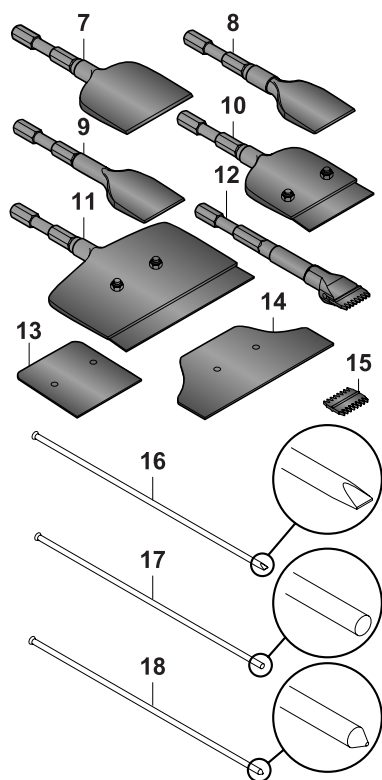
ITEM	PART NO.
1 Flatnosed adjustable sleeve	615 250 518 0
2 Round adjustable sleeve	615 250 519 0
3 Intermediate casing	615 566 543 0
4 Compression spring	615 681 580 0
5 Anvil	615 250 516 0
6 Needle holder for 28 needles \varnothing 3mm (1/8")	615 250 517 0
6 Needle holder for 35 needles \varnothing 4mm (5/32")	615 250 533 0

OPTIONAL ACCESSORIES

Hex. shank 5/8" chisels

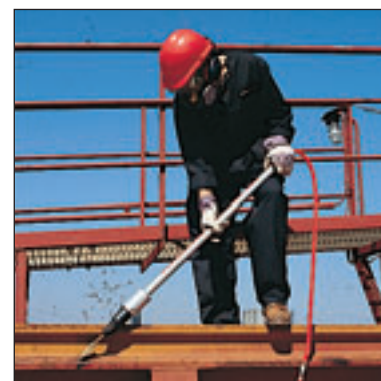


ITEM	PART NO.
7 Chisel, width 100mm (3 ¹⁵ / ₁₆ ") length 180mm (7")	615 804 441 0
8 Chisel, width 50mm (1 ³¹ / ₃₂ ") length 180 m (7")	615 804 442 0
9 Beryllium-copper, spark-resistant chisel, width 50mm (1 ³¹ / ₃₂ ")	615 002 900 0
10 Scaling tool, width 100mm (3 ¹⁵ / ₁₆ ")	615 002 901 0
11 Scaling tool, width 200mm (7 ⁷ / ₈ ")	615 002 902 0
12 Comb-type chisel, width 38mm (1 ¹ / ₂ ") length 180mm (7")	615 002 903 0
13 Spare blade, width 100mm (3 ¹⁵ / ₁₆ ")	615 250 527 0
14 Spare blade, width 200mm (7 ⁷ / ₈ ")	615 250 528 0
15 Spare comb, width 38mm (1 ¹ / ₂ ")	615 250 539 0



Needles

ITEM	PART NO.
16 Chisel tip needles, \varnothing 3mm (1/8") (Qty 100)	615 399 819 0
16 Chisel tip needles, \varnothing 4mm (5/32") (Qty 100)	615 399 820 0
17 Flat tip needles, \varnothing 2mm (5/64") (Qty 100)	615 399 816 0
17 Flat tip needles, \varnothing 3mm (1/8") (Qty 100)	615 399 817 0
17 Flat tip needles, \varnothing 4mm (5/32") (Qty 100)	615 399 818 0
18 Pointed tip needles, \varnothing 3mm (1/8") (Qty 100)	615 399 821 0
18 Pointed tip needles, \varnothing 4mm (5/32") (Qty 100)	615 399 822 0



Long reach scalers



All models: Supplied without chisel

PIC REF	MODEL	PART NUMBER	BORE & STROKE		SHANK	BLOWS PER MINUTE	WEIGHT		AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD	HOSE INT. Ø	
			mm	in.			inch	Blows/min	kg	lb.		l/s	cfm
A	B20-00	615 174 036 0	28.6 x 39.0	1.12 x 1.35	Hex. 5/8	2200	3.7	8.2	2.1	4.5	1/4	10	3/8
B	B20-0	615 174 035 0	28.6 x 39.0	1.12 x 1.35	Hex. 5/8	2200	4.9	10.8	2.1	4.5	1/4	10	3/8
C	B20	615 174 034 0	28.6 x 39.0	1.12 x 1.35	Hex. 5/8	2200	5.5	12.2	2.1	4.5	1/4	10	3/8
D	B20-1	615 174 037 0	28.6 x 39.0	1.12 x 1.35	Hex. 5/8	2200	6.1	13.5	2.1	4.5	1/4	10	3/8
LIGHTWEIGHT VERSION													
E	B20L	615 174 038 0	28.6 x 39.0	1.12 x 1.35	Hex. 5/8	2200	3.4	7.5	2.1	4.5	1/4	10	3/8
F	B20L1	615 174 039 0	28.6 x 39.0	1.12 x 1.35	Hex. 5/8	2200	3.8	8.4	2.1	4.5	1/4	10	3/8



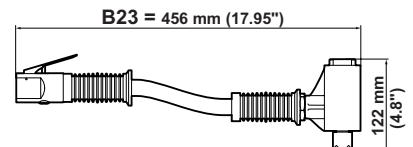
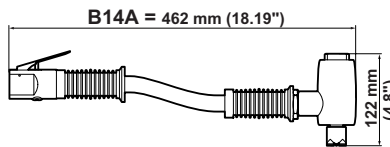
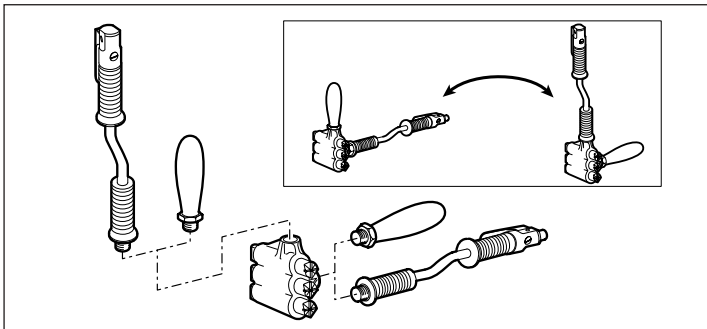
Scalers



A



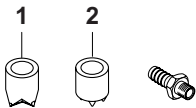
B



ACCESSORIES INCLUDED

- Side handle
- Nipple

	B14A	B23
	615 720 511 0	615 720 511 0



OPTIONAL ACCESSORIES

ITEM	B14A / B23
1 Cross bit, conical shank	615 250 545 0
2 Pointed bit, conical shank	615 250 546 0
• 1/4" air hose nipple for ID hose	615 705 006 0

All models: Supplied with cross bit

PIC REF	MODEL	PART NUMBER	BORE & STROKE		QUANTITY OF HEADS	SHANK	BLOWS PER MINUTE	WEIGHT			AIR CONSUMPTION AT FREE SPEED		AIR INLET THREAD		HOSE INT. Ø	
			mm	in.				Blows/min	kg	lb.	l/s	cfm	in.	mm	in.	
A	B14A	615 174 022 0	27 x 26.5	1.06 x 1.04	1	Conical	2800	2.5	5.5	4.2	9	3/8	10	3/8		
B	B23	615 174 042 0	27 x 26.5	1.06 x 1.04	3	Conical	2800	3.7	8.1	7.5	16	3/8	10	3/8		



Riveting & Drilling - Selection Guide

TOOL TYPE	ACCESSORIES	PAGE
RIVETING HAMMERS		220-223
		
COMPRESSION TOOLS - RIVETING		224-231
		
PISTOL GRIP DRILLS		232-236
		
STRAIGHT GRIP DRILLS		237
		
ANGLE DRILLS - Compact 90° Angle Head - Standard 90° Angle Head - Heavy Duty 90° Angle Head		238-242
		
ANGLE DRILLS - Compact 30° & 90°x90° Angle Head - Standard 45° & 90°x90° Angle Head		243-244
		
TAPPERS		245
		
MULTI DRILLS		246-247
		
SPECIALITY TOOLS - Hole Deburring & Rivet Shaving - Rack Feed Drills		248-251
		
ACCESSORIES		252-255
		
CFD - Portable Feed Drill		256-259
		



Riveting Hammers, Compression Tools Riveting

A complete range of riveting tools to accommodate many hard held applications, from compression riveters to riveting hammers,  can provide riveting tools to suit most needs

Compression Riveting Tools



Durable compact power unit available as single or tandem air cylinder. Also available with the unique Pneumatic™ cylinder for high force applications

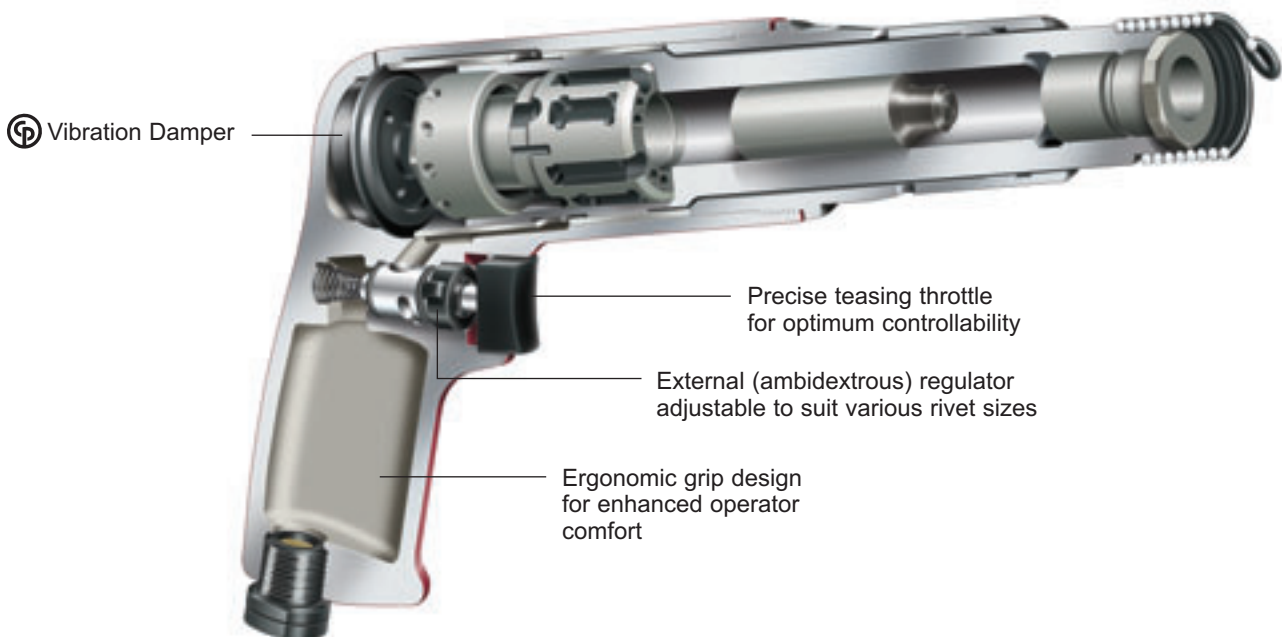
Percussive Riveting Tools

Conventional riveting hammers CP4444 & CP4447 provide the power capable of upsetting aluminium rivets up to $\varnothing 9.5\text{mm}$ (3/8") and steel rivets up to $\varnothing 7.9\text{mm}$ (5/16").

'Vibration Reduced' Percussive Riveting Tools

In pistol form the CP4450 with a capacity up to $\varnothing 6.4\text{mm}$ (1/4") & the new high force CP4475 with a capacity up to $\varnothing 9.5\text{mm}$ (3/8").

The CP4450-S in-line 'vibration reduced' riveting hammer is ideal for over structure application when vertical application is necessary.

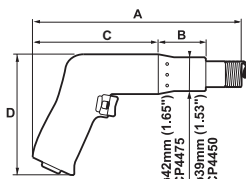




Accessories

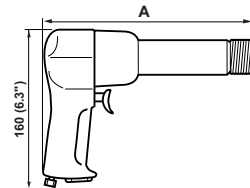
Model	A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.
CP4450-2	213	8.4	32	1.26	102	4.0	138	5.4
CP4450-3	226	8.9	32	1.26	102	4.0	138	5.4
CP4450-4	251	9.9	60	2.36	102	4.0	138	5.4
CP4475-3	275	10.8	54	2.13	180	7.1	140	5.5
CP4475-4	300	11.8	79	3.11	180	7.1	140	5.5
CP4475-6	351	13.8	130	5.12	180	7.1	140	5.5

CP4450 / CP4475

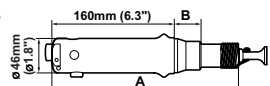


Model	A	
	mm	in.
CP4444-RURAB	170	6.7
CP4444-RUSAB	186	7.3
CP4444-RUTAB	211	8.3
CP4447-RUSAB	227	8.9
CP4447-RUTAB	252	9.9
CP4447-RUVAB	303	11.9

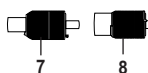
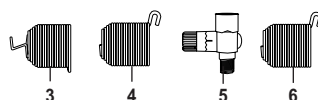
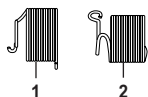
CP4444 / CP4447



CP4450-S



Model	A		B	
	mm	in.	mm	in.
CP4450-S-2	220	8.7	32	1.26
CP4450-S-3	223	9.2	32	1.26
CP4450-S-4	258	10.2	60	2.36



CP4444 / CP4447 / CP4450 / CP4475 / CP4450-S

ACCESSORIES INCLUDED

ITEM	CP4444	CP4447
	CP4450	CP4475
1 Light Wire Quick-Change Retainer	A092007	
2 Wire Quick-Change Retainer		A050282

OPTIONAL ACCESSORIES

ITEM	CP4444	CP4447
	CP4450	CP4475
3 Zip-Quick Retainer	A046094	
4 Beehive Retainer	A046096	
5 Air Inlet Regulation (for CP4450-S only)	CA085203	
6 Beehive Retainer		A047096
7 Nail Driving Attachment for 20-60 Penny Nail Size (for CP4447-RUSAB & CP4475)		P042448
8 Nail Driving Attachment for 12\" Spikes (for CP4447-RUVAB)		P047810

CP4444 / CP4450 / CP4450-S

Type I Rivet Sets ø 10.2mm (0.401")

RIVET HEAD CUPPING	2.4mm (3/32")	3.2mm (1/8")	4.0mm (5/32")	4.8mm (3/16")	6.4mm (1/4")
• Round (AN-430)	P089206	P089207	P089208	P089209	P089210*
• Brazier (AN-455)	P089211	P089212	P089213		P089215*
• Universal (AN-470)	P089221	P089222	P089223	P089224	P089225*
• Soft Blank Set	P071108				
• Hardened Blank Set	P080178				

* Must use Light Wire Quick-Change Retainer, A-092007 with these sets

Type I Flush Rivet Sets ø 10.2mm (0.401")

	A		CP4444/4450
	mm	in	.401 SHANK
•	25.4	1"	A046090
•	31.8	1 1/4"	A089232
•	38.1	1 1/2"	A089233
•	44.5	1 3/4"	A046091

CP4447 / CP4475

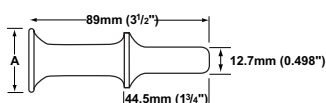
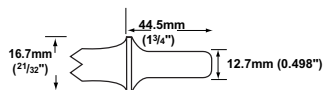
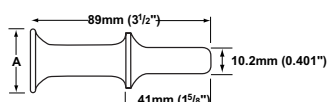
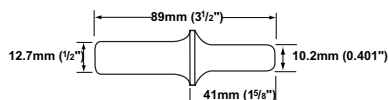
Type D Rivet Sets ø 12.7mm (0.498")

RIVET HEAD CUPPING	RIVET SET PART NO. BY RIVET BODY DIA.		
	4.8mm (3/16")	6.4mm (1/4")	8mm (5/16")
• Round (AN-430)	P089240	P089241	P089242*
• Brazier (AN-455)	P089244	P089245	
• Modified Brazier (AN-456)	P089248	P089244	P089245*
• Universal (AN-470)	P089252	P089253	P089254*
• Soft Blank Set	P070995		
• Hardened Blank Set	P080198		

* Must use Light Wire Quick-Change Retainer, A-050282

Type I Flush Rivet Sets ø 12.7mm (0.498")

	A		CP4447/4475
	mm	in	.498 SHANK
•	31.8	1 1/4"	A047091



Standard & Vibration Reduced Riveting Hammers



Air inlet thread: 1/4" NPT/BSP

PIC REF	MODEL	PART NUMBER	AIRFRAME REF	BLOW PER MINUTE	BORE & STROKE	CHISEL SHANK OPENING	CAPACITY COLD RIVETS		WEIGHT		HOSE INT. Ø	
							Dural	Steel	kg	lb	mm	in.
RIVETING HAMMERS (PISTOL GRIP) - STANDARD												
A	CP4444-RURAB	T022961	2X	2580	12.7 x 50.8mm 1/2" x 2"	TYPE 1 0.401"	3.2mm 1/8"	2.4mm 3/32"	1.0	2.2	10	3/8
A	CP4444-RUSAB	T022962	3X	2160	12.7 x 76.2mm 1/2" x 3"	TYPE 1 0.401"	4.8mm 3/16"	4.0mm 5/32"	1.1	2.3	10	3/8
A	CP4444-RUTAB	T022963	4X	1740	12.7 x 101.6mm 1/2" x 4"	TYPE 1 0.401"	6.4mm 1/4"	4.8mm 3/16"	1.3	2.7	10	3/8
B	CP4447-RUSAB	T022965	5XB	1560	19.1 x 68.3mm 3/4" x 2 11/16"	TYPE D 0.498"	6.4mm 1/4"	4.8mm 3/16"	2.2	4.7	10	3/8
B	CP4447-RUTAB	T022912	9XB	1140	19.1 x 98.4mm 3/4" x 3 7/8"	TYPE D 0.498"	7.9mm 5/16"	6.4mm 1/4"	2.3	5.1	10	3/8
B	CP4447-RUVAB	T022964	7XB	900	19.1 x 147.6mm 3/4" x 5 13/16"	TYPE D 0.498"	9.5mm 3/8"	7.9mm 5/16"	2.7	9.0	10	3/8
RIVETING HAMMERS (PISTOL GRIP) - VIBRATION REDUCED												
C	CP4450-2	T025189	2X	2580	12.7 x 50.8mm 1/2" x 2"	TYPE 1 0.401"	3.2mm 1/8"	2.4mm 3/32"	1.2	2.7	10	3/8
C	CP4450-3	T025190	3X	2160	12.7 x 76.2mm 1/2" x 3"	TYPE 1 0.401"	4.8mm 3/16"	4.0mm 5/32"	1.3	2.8	10	3/8
C	CP4450-4	T025191	4X	1740	12.7 x 101.6mm 1/2" x 4"	TYPE 1 0.401"	6.4mm 1/4"	4.8mm 3/16"	1.5	3.2	10	3/8
D	CP4475-3	T025241	5XB	2000	19.1 x 76.2mm 3/4" x 3"	TYPE D 0.498"	6.4mm 1/4"	4.8mm 3/16"	1.8	3.9	10	3/8
D	CP4475-4	T025242	9XB	1700	19.1 x 101.6mm 3/4" x 4"	TYPE D 0.498"	7.9mm 5/16"	6.4mm 1/4"	2.4	5.3	10	3/8
D	CP4475-6	T025243	7XB	1250	19.1 x 152.4mm 3/4" x 6"	TYPE D 0.498"	9.5mm 3/8"	7.9mm 5/16"	2.8	6.2	10	3/8
RIVETING HAMMERS (IN-LINE) - VIBRATION REDUCED												
E	CP4450-S-2	205 146 712 4	2X	2580	12.7 x 50.8mm 1/2" x 2"	TYPE 1 0.401"	3.2mm 1/8"	2.4mm 3/32"	1.25	2.8	10	3/8
E	CP4450-S-3	205 146 713 4	3X	2160	12.7 x 76.2mm 1/2" x 3"	TYPE 1 0.401"	4.8mm 3/16"	4.0mm 5/32"	1.35	3.0	10	3/8
E	CP4450-S-4	205 146 714 4	4X	1740	12.7 x 101.6mm 1/2" x 4"	TYPE 1 0.401"	6.4mm 1/4"	4.8mm 3/16"	1.45	3.2	10	3/8



Compression Tools – Riveting – Selection



CP0214 – C Yoke

- Single and Tandem cylinder options
- Riveting Capacity –
 - ø 3.2mm (1/8") (single cylinder)
 - ø 4.8mm (3/16") (tandem cylinder)
- Lock-off throttle – reduces the risk of accidental operation



CP0341 – C Yoke

- Patented 'Pneudraulic™' air-hydraulic riveter
- Riveting Capacity –
 - ø 7.14mm (9/32")
- Lock-off throttle – reduces the risk of accidental operation
- Versatile – can accommodate various rivet lengths and joint thickness by adjustment of air pressure (reducing setting times and eliminates the need to use set length spacer shims with the rivet sets)



CP0351 – C Yoke

- Single and Tandem cylinder options
- Riveting Capacity –
 - ø 4.8mm (3/16") (single cylinder)
 - ø 6.4mm (1/4") (tandem cylinder)
- Actuation throttle guard – reduces the risk of accidental operation
- Short stroke adjustment – aids positioning of the tool (limits the return travel of the moving set of the tool on the rivet to reduce the starting clearance between rivet and rivet sets)



CP0214 – Alligator Jaw

- Single and Tandem cylinder options
- Riveting Capacity –
 - ø 3.2mm (1/8") (single cylinder)
 - ø 4.8mm (3/16") (tandem cylinder)
- Lock-off throttle – reduces the risk of accidental operation



CP0351 – Alligator Jaw

- Single and Tandem cylinder options
- Riveting Capacity –
 - ø 4.0mm (5/32") (single cylinder)
 - ø 6.4mm (1/4") (tandem cylinder)
- Actuation throttle guard – reduces the risk of accidental operation
- Short stroke adjustment – aids positioning of the tool (limits the return travel of the moving set of the tool on the rivet to reduce the starting clearance between rivet and rivet sets)

Selection Criteria

• Type of Rivet

- Rivet material
- Rivet body diameter
- Rivet length before and after compression
- Force required to compress rivet (if known)

• What material is the rivet made from?

• What size is the rivet?

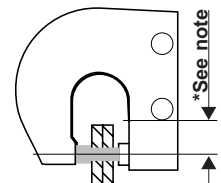
• What is the form of the rivet head?

• Components to assemble

- Access to rivet on assembly

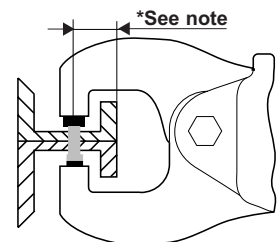
• Open access (up to 54mm (2 1/8") reach)

– 'C' Yoke tool



• Restricted access (up to 232mm (9 1/8") reach)

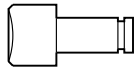
– 'Alligator' Jaw tool



• **Note:** the amount of reach required is determined by the distance from the rivet centreline to the accessible edge of the workpiece



Compression Tools – Riveting – Selection



Compression Rivet Sets

(Complete with retaining rings)

Minimum Order: 6 of any part number.

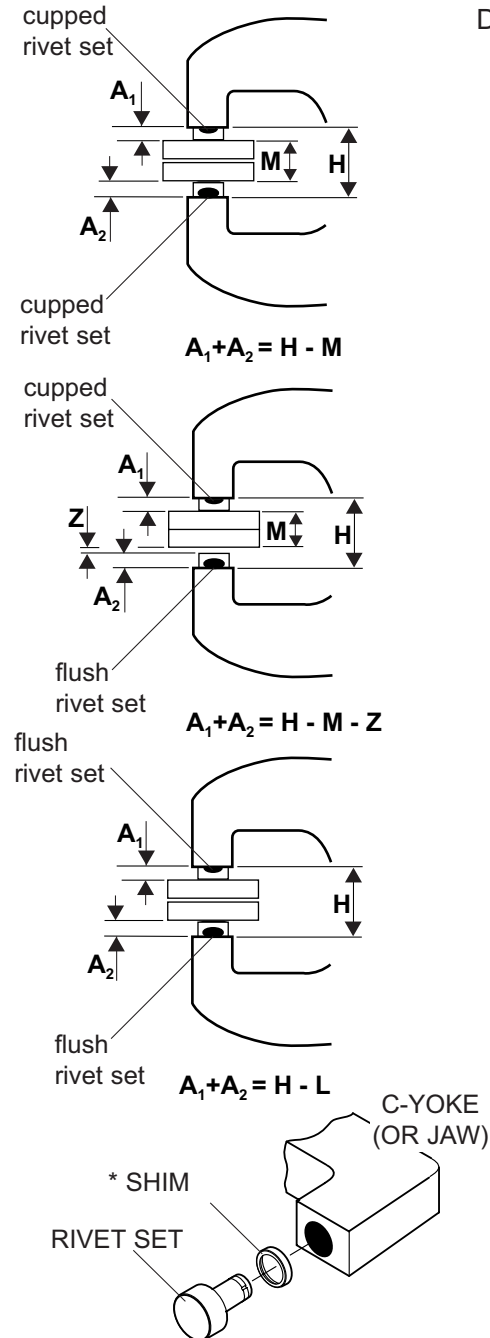
Note: The illustration above shows one rivet set. Two rivet sets are required to be used per tool. Part numbers are for one rivet set only.

SELECTING RIVET SETS TO FIT CP0214, CP0341 & CP0351 RIVETERS

To develop maximum power, the riveter must drive (set) the rivet at the end of the riveter's stroke (with the exception of the CP0341 which develops max power throughout its full stroke).

For maximum power the combined length of the two rivet sets must be of the correct length.

Determine the correct lengths as follows:



1) When two cupped rivet sets are used:

The length of the body dimensions of the rivet sets (A1, A2) should equal the closed height dimension of the yoke (H) minus the total thickness of material being riveted together.

2) When one cupped set and one flush set are used:

The length of the body dimensions of the two rivet sets (A1, A2) should equal the closed height dimension of the yoke (H) minus the total thickness of the material being riveted (M) and the height of the finished rivet head (Z) compressed by the flush set (A).

3) When two flush sets are used:

The length of the body dimensions of the two rivet sets (A1, A2) should equal the closed height dimension of the yoke (H) minus the overall length of the rivet (L) after it is compressed.

If necessary, select rivet sets a little short and shim to the correct length using spacer shims.

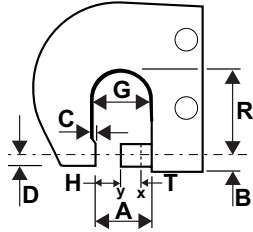
* Set Length Spacer Shims

TYPE RIVET SET SHANK	PART NUMBERS OF HARDENED SHIMS		
	0.4mm thick (1/64")	0.8mm thick (1/32")	1.6mm thick (1/16")
CR-1	P083254	P083255	P083256
CR-2		P083257	P083258

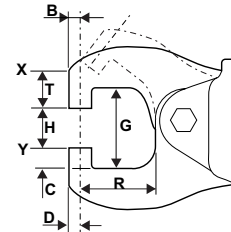


Compression Tools – Technical Data

Jaw & Yoke Terminology: (rivet sets are not in place in this illustration)



- A Throat gap
- B Upper offset
- C Anvil work clearance
- D Lower offset
- G Total yoke gap
- H Closed height
- R Reach
- T Travel



- x Extreme open position
- y Extreme closed position

C Yoke Model	A		C		D		G		H		R	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
CP0214CELEL	32	1 1/4	-	-	5	3/16	32	1 1/4	17.5	11/16	38	1 1/2
CP0214FALEL	32	1 1/4	-	-	5	3/16	32	1 1/4	17.5	11/16	38	1 1/2
CP0351CUDEL	39	1 17/32	-	-	5.5	7/32	29	1 5/32	20	25/32	54	2 1/8
CP0351FUDEL	39	1 17/32	-	-	5.5	7/32	29	1 5/32	20	25/32	54	2 1/8
CP0341CUDEL	57	2 1/4	3	1/8	9	11/32	70	2 3/4	25	1	54	2 1/8

Alligator Jaw Model	A		C		D		G		H		R	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
CP0214ANGEL	54	2 1/8	-	-	5.5	7/32	54	2 1/8	22	7/8	76	3
CP0214ENGEL	54	2 1/8	-	-	5.5	7/32	54	2 1/8	22	7/8	76	3
CP0214ANFEL	48	1 7/8	-	-	5.5	7/32	54	2 1/8	22	7/8	57	2 1/4
CP0214ENFEL	48	1 7/8	-	-	5.5	7/32	54	2 1/8	22	7/8	57	2 1/4
CP0214ANBEL	38	1 1/2	-	-	5.5	7/32	41	1 5/8	22	7/8	38	1 1/2
CP0214ENBEL	38	1 1/2	-	-	5.5	7/32	41	1 5/8	22	7/8	38	1 1/2
CP0214SETEL	-	-	-	-	-	-	-	-	-	-	-	-
CP0214KETEL	-	-	-	-	-	-	-	-	-	-	-	-
CP0351ASVEL	62	2 7/16	-	-	5.5	7/32	56	2 3/16	19	3/4	232	9 1/8
CP0351ESVEL	62	2 7/16	-	-	5.5	7/32	56	2 3/16	19	3/4	232	9 1/8
CP0351ESREL	81	3 3/16	-	-	5.5	7/32	51	2	38	1 1/2	178	7
CP0351ASKEL	57	2 1/4	-	-	5.5	7/32	41	1 5/8	22	7/8	127	5
CP0351ESKEL	57	2 1/4	-	-	5.5	7/32	41	1 5/8	22	7/8	127	5
CP0351ASGEL	38	1 1/2	-	-	5.5	7/32	41	1 5/8	22	7/8	73	2 7/8
CP0351ESGEL	38	1 1/2	-	-	5.5	7/32	41	1 5/8	22	7/8	73	2 7/8

Air inlet: 1/4" NPTF

MODEL	CYLINDER TYPE	RIVET SET TYPE	LENGTH		WEIGHT		SOUND LEVEL	SOUND POWER
			mm	in.	kg	lb		
CP0214ANBEL	Single	CR-1 (ø 4.8mm 3/16")	233	9 3/16	1.7	3 3/4	90	101
CP0214ANFEL	Single	CR-1 (ø 4.8mm 3/16")	254	10	1.9	4 1/4	90	101
CP0214ANGEL	Single	CR-1 (ø 4.8mm 3/16")	273	10 3/4	2.0	4 1/2	90	101
CP0214CELEL	Single	CR-1 (ø 4.8mm 3/16")	262	10 5/16	2.0	4 1/2	90	101
CP0214ENBEL	Tandem	CR-1 (ø 4.8mm 3/16")	303	11 15/16	2.2	4 3/4	90	101
CP0214ENFEL	Tandem	CR-1 (ø 4.8mm 3/16")	324	12 3/4	2.4	5 1/4	90	101
CP0214ENGEL	Tandem	CR-1 (ø 4.8mm 3/16")	343	13 1/2	2.5	5 1/2	90	101
CP0214FALEL	Tandem	CR-1 (ø 4.8mm 3/16")	356	14	2.5	5 1/2	90	101
CP0214KETEL	Tandem	CR-2 (ø 6.4mm 1/4")	356	14	2.5	5 1/2	90	101
CP0214SETEL	Single	CR-2 (ø 6.4mm 1/4")	262	10 5/16	2.0	4 1/2	90	101
CP0341CUDEL	Pneudraulic®	CR-2 (ø 6.4mm 1/4")	505	19 7/8	6.1	13 1/2	85	-
CP0351ASGEL	Single	CR-1 (ø 4.8mm 3/16")	495	19 1/2	7.1	15 3/4	96	107
CP0351ASKEL	Single	CR-1 (ø 4.8mm 3/16")	549	21 5/8	9.0	19 3/4	96	107
CP0351ASVEL	Single	CR-1 (ø 4.8mm 3/16")	654	25 3/4	11.9	26 1/4	96	106
CP0351CUDEL	Single	CR-1 (ø 4.8mm 3/16")	445	17 1/2	5.7	12 1/2	96	107
CP0351ESGEL	Tandem	CR-1 (ø 4.8mm 3/16")	603	23 3/4	8.4	18 1/2	96	107
CP0351ESKEL	Tandem	CR-1 (ø 4.8mm 3/16")	657	25 7/8	10.2	22 1/2	96	107
CP0351ESREL	Tandem	CR-1 (ø 4.8mm 3/16")	708	27 7/8	12.2	27	96	107
CP0351ESVEL	Tandem	CR-1 (ø 4.8mm 3/16")	762	30	13.2	29	96	107
CP0351FUDEL	Tandem	CR-1 (ø 4.8mm 3/16")	552	21 3/4	6.9	15 1/4	96	107
CP0351PU	Single	n/a	546	21 1/2	9.3	20 1/2	96	107
CP0351CABHDY	Single	n/a	445	17 1/2	9.2	20 5/16	96	107



Compression Tools – Riveting



A



B



C



D



E

PIC REF	MODEL	PART NUMBER	CAPACITY				STANDARD YOKE DIMENSIONS				MAX FORCE		MOVING PLUNGER			
			ALUM.		STEEL		REACH		CLOSED HEIGHT		(90 psi/6.2 bar)		MAX. TRAVEL		FINAL PART OF STROKE AT MAX. FORCE	
			mm	in.	mm	in.	mm	in.	mm	in.	kN	lb	mm	in.	mm	in.
A	CP0214CELEL*	T012344	3.2	1/8	2.4	3/32	38.1	1 1/2	17.5	11/16	13.35	3,000	14.3	9/16	1.3	0.050
A	CP0214SETEL**	T023474	3.2	1/8	2.4	3/32	38.1	1 1/2	17.5	11/16	13.35	3,000	14.3	9/16	1.3	0.050
A	CP0214FALEL*	T013152	4.8	3/16	4.0	5/32	38.1	1 1/2	17.5	11/16	26.70	6,000	14.3	9/16	1.6	0.063
A	CP0214KETEL**	T023475	4.8	3/16	4.0	5/32	38.1	1 1/2	17.5	11/16	26.70	6,000	14.3	9/16	1.6	0.063
B	CP0351CUDEL*	T008955	4.8	3/16	4.0	5/32	54.0	2 1/8	19.8	25/32	26.70	6,000	14.3	9/16	3.2	0.125
B	CP0351FUDEL*	T012608	6.4	1/4	5.6	7/32	54.0	2 1/8	19.8	25/32	53.40	12,000	14.3	9/16	3.2	0.125
D	CP0341CUDEL**	T022512	7.1	9/32	6.4	1/4	54.0	2 1/8	25.4	1	60.10	13,500	31.8	1 1/4	Full stroke	
C	CP0214ANFEL*	T018671	2.4	3/32	2.4	3/32	57.1	2 1/4	22.2	7/8	9.79	2,200	11.1	7/8	2.4	0.094
C	CP0214ANGEL*	T018672	2.4	3/32	1.6	1/16	76.2	3	22.2	7/8	8.01	1,800	31.8	1 1/4	1.4	0.056
C	CP0214ANBEL*	T012343	3.2	1/8	2.4	3/32	38.1	1 1/2	22.2	7/8	13.35	3,000	15.9	5/8	1.3	0.050
C	CP0214ENGEL*	T018164	3.2	1/8	2.4	3/32	76.2	3	22.2	7/8	15.13	3,400	31.8	1 1/4	2.6	0.104
E	CP0351ASKEL*	T007773	3.2	1/8	2.4	3/32	127.0	5	22.2	7/8	15.13	3,400	34.0	1 3/8	4.8	0.188
E	CP0351ASVEL*	T009582	3.2	1/8	2.4	3/32	232.0	9 1/8	19.1	3/4	13.35	3,000	42.9	1 11/16	1.6	0.063
C	CP0214ENFEL*	T018163	4.0	5/32	3.2	1/8	57.1	2 1/4	22.2	7/8	19.14	4,300	22.2	7/8	2.4	0.094
E	CP0351ASGEL*	T007783	4.0	5/32	3.2	1/8	73.0	2 7/8	22.2	7/8	23.14	5,200	15.9	5/8	3.2	0.125
C	CP0214ENBEL*	T018678	4.8	3/16	4.0	5/32	38.1	1 1/2	22.2	7/8	26.70	6,000	15.9	5/8	1.6	0.063
E	CP0351ESKEL*	T012603	4.8	3/16	4.0	5/32	127.0	5	22.2	7/8	30.26	6,800	34.0	1 3/8	4.8	0.188
E	CP0351ESREL*	T012604	4.8	3/16	4.0	5/32	178.0	7	38.1	1 1/2	26.70	6,000	42.9	1 11/16	4.8	0.188
E	CP0351ESVEL*	T012605	4.8	3/16	4.0	5/32	232.0	9 1/8	19.1	3/4	26.70	6,000	42.9	1 11/16	1.6	0.063
E	CP0351ESGEL*	T012602	6.4	1/4	4.8	3/16	73.0	2 7/8	22.2	7/8	46.28	10,400	15.9	5/8	3.2	0.125

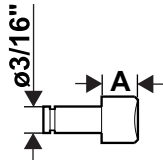


Compression Tools – Riveting - Rivet Sets

RIVET DIAMETER		'A' BODY LENGTH		AN-435 BUTTON	AN-430 ROUND	AN-455 BRAZIER	AN-456 MODIFIED BRAZIER	AN-470 UNIVERSAL	AN-442 FLAT
mm	in.	mm	in.	part no.	part no.	part no.	part no.	part no.	part no.

CR-1 SHANK RIVET SETS FOR CP0214 & CP0351 – CUPPED SETS

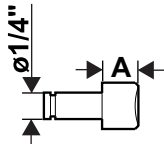
(C-Yoke tools – CP0214 CELEL, FALEL, CUDEL, FUEL + all Alligator Yoke tools)



2.4	3/32"	6.4	1/4"	P091601	P089370	P089390	P089410	P089430	P091621
2.4	3/32"	9.5	3/8"	P091602	P089371	P089391	P089411	P089431	P091622
2.4	3/32"	12.7	1/2"	-	-	-	P089412	P089432	P091623
3.2	1/8"	6.4	1/4"	P091606	P089375	P089395	P053826	P089435	P091626
3.2	1/8"	9.5	3/8"	P091607	P089376	-	P053827	P089436	P091627
3.2	1/8"	12.7	1/2"	P091608	P089377	P089397	-	P089437	P091628
4.0	5/32"	6.4	1/4"	P091611	P089380	P089400	P053831	P089440	P091631
4.0	5/32"	9.5	3/8"	P091612	P089381	P089401	P053832	P089441	P091632
4.0	5/32"	12.7	1/2"	P091613	P089382	P089402	P053833	P089442	P091633
4.8	3/16"	6.4	1/4"	P091616	P089385	P089405	P053836	P089445	P091636
4.8	3/16"	9.5	3/8"	P091617	P089386	P089406	P053837	P089446	P091637
4.8	3/16"	12.7	1/2"	P091618	P089387	P089407	P053838	P089447	P091638

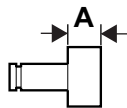
CR-2 SHANK RIVET SETS FOR CP0214 & CP0341 – CUPPED SETS

(C-Yoke tools – CP0214 SETEL, KETEL + CP0341 CUDEL)



3.2	1/8"	6.4	1/4"	-	-	-	-	P089510	P091661
3.2	1/8"	9.5	3/8"	P091642	-	-	-	P089511	-
3.2	1/8"	12.7	1/2"	-	-	-	-	P089512	P091663
4.0	5/32"	6.4	1/4"	-	P089455	-	-	P089515	-
4.0	5/32"	9.5	3/8"	-	-	-	-	P089516	P091667
4.0	5/32"	12.7	1/2"	P091648	-	-	-	P089517	P091668
4.8	3/16"	6.4	1/4"	-	P089460	P089480	-	P089520	P091671
4.8	3/16"	9.5	3/8"	-	P089461	P089481	-	P089521	P491672
4.8	3/16"	12.7	1/2"	P091653	-	P089482	-	P089522	P091673
6.4	1/4"	6.4	1/4"	-	P089465	P089485	-	P089525	P091676
6.4	1/4"	9.5	3/8"	-	P089466	P089486	-	P089526	-
6.4	1/4"	12.7	1/2"	-	P089467	-	-	P089527	P091678

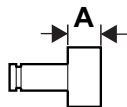
SHANK SIZE	'A' BODY LENGTH					
	3.2mm (1/8")	6.4mm (1/4")	9.5mm (3/8")	12.7mm (1/2")	15.8mm (5/8")	19mm (3/4")



FLUSH SETS for any rivet size

CR-1 (ø 4.8mm 3/16")	P089495	P089496	P089497	P089498	P089499	P089500
CR-2 (ø 6.4mm 1/4")	-	P089501	P089502	P089503	P089504	P089505

TYPE OF RIVET SET SHANK	'A' LENGTH		BODY DIAMETER		PART NUMBER
	mm	in.	mm	in.	



SOFT SET BLANKS

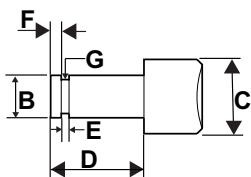
CR-1 (ø 4.8mm 3/16")	19.1	3/4"	15.9	5/8"	P093672
CR-2 (ø 6.4mm 1/4")	19.1	3/4"	19.1	3/4"	P093673

SET LENGTH SPACER SHIMS

TYPE RIVET SET SHANK	PART NUMBERS OF HARDENED SHIMS		
	0.4mm (1/64")	0.8mm (1/32")	1.6mm (1/16")
CR-1	P083254	P083255	P083256
CR-2		P083257	P083258

RIVET SET RETAINER RING

TYPE RIVET SET SHANK	PART NUMBER
CR-1	P071916
CR-2	P071917



* 'C' dimension is for flush set only. 'C' varies on cupped sets according to rivet size and type of head.

TYPE OF RIVET SET SHANK	B		C*		D		E		F		G	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.

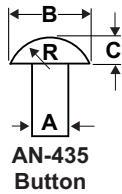
SHANK DIMENSIONS FOR RIVET SETS

For CP0214, CP0351 and CP0341 Compression Riveters

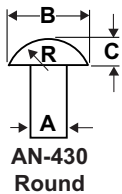
CR-1 (ø 4.8mm 3/16")	4.75-4.72	0.187-0.186	12.7	1/2	12.7	1/2	3.45-3.38	0.136-0.133	1.6	1/16	3.23-3.12	0.127-0.123
CR-2 (ø 6.4mm 1/4")	6.42-6.40	0.249-0.248	15.9	5/8	15.9	5/8	3.45-3.38	0.136-0.133	2.4	3/32	4.80-4.70	0.189-0.185



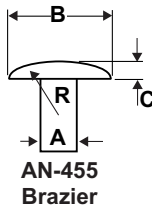
Compression Tools – Rivet Sizes (Reference)



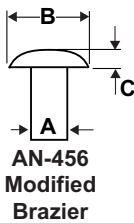
A		B		C		R	
mm	in.	mm	in.	mm	in.	mm	in.
AN-435 A.S.A. BUTTON							
2.4	3/32"	4.22	0.166	1.78	0.070	2.13	0.084
3.2	1/8"	5.56	0.219	2.39	0.094	2.82	0.111
4.0	5/32"	6.93	0.273	4.32	0.117	3.51	0.138
4.8	3/16"	8.33	0.328	3.58	0.141	4.22	0.166
6.4	1/4"	11.10	0.437	4.78	0.188	5.61	0.221
7.9	5/16"	13.87	0.546	5.94	0.234	7.01	0.276



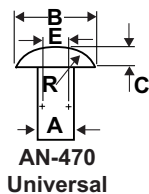
A		B		C		R	
mm	in.	mm	in.	mm	in.	mm	in.
AN-430 ROUND							
2.4	3/32"	4.75	0.187	1.78	0.070	2.49	0.098
3.2	1/8"	6.45	0.250	2.39	0.094	3.30	0.130
4.0	5/32"	7.92	0.312	2.97	0.117	4.11	0.162
4.8	3/16"	9.53	0.375	3.58	0.141	4.95	0.195
6.4	1/4"	12.70	0.500	4.78	0.188	6.60	0.260
7.9	5/16"	16.46	0.648	5.94	0.234	8.26	0.325



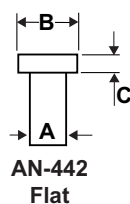
A		B		C		R	
mm	in.	mm	in.	mm	in.	mm	in.
AN-455 BRAZIER							
2.4	3/32"	5.94	0.234	1.19	0.047	4.32	0.170
3.2	1/8"	7.92	0.312	1.60	0.063	5.74	0.226
4.0	5/32"	9.90	0.390	1.98	0.078	7.19	0.283
4.8	3/16"	11.89	0.468	2.39	0.094	8.64	0.340
6.4	1/4"	15.83	0.625	3.18	0.125	11.51	0.453
7.9	5/16"	19.84	0.781	3.96	0.156	14.35	0.565



A		B		C	
mm	in.	mm	in.	mm	in.
AN-456 MODIFIED BRAZIER					
2.4	3/32"	3.96	0.156	7.90	0.031
3.2	1/8"	5.97	0.235	1.19	0.047
4.0	5/32"	7.92	0.312	1.60	0.063
4.8	3/16"	9.91	0.390	1.98	0.078
6.4	1/4"	11.89	0.468	2.39	0.094
7.9	5/16"	15.88	0.625	3.18	0.125



A		B		C		R		E	
mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
AN-470 UNIVERSAL									
2.4	3/32"	4.75	0.187	1.04	0.041	2.08	0.082	1.19	0.047
3.2	1/8"	6.45	0.250	1.37	0.054	2.74	0.108	1.60	0.063
4.0	5/32"	7.92	0.312	1.70	0.067	3.43	0.135	1.98	0.078
4.8	3/16"	9.53	0.375	2.08	0.082	4.17	0.164	2.39	0.094
6.4	1/4"	12.70	0.500	2.72	0.107	5.51	0.217	3.18	0.125
7.9	5/16"	16.46	0.648	3.45	0.136	6.91	0.272	3.96	0.156



A		B		C	
mm	in.	mm	in.	mm	in.
AN-442 FLAT					
2.4	3/32"	4.75	0.187	0.94	0.037
3.2	1/8"	6.45	0.250	1.27	0.050
4.0	5/32"	7.92	0.312	1.57	0.062
4.8	3/16"	9.53	0.375	1.91	0.075
6.4	1/4"	12.70	0.500	2.54	0.100
7.9	5/16"	16.46	0.648	3.18	0.125



Compression Tools – Sheet Metal Punch



CP0351-PU

- Punching Capacity:
 \varnothing 4.8mm (3/16") in aluminium
 thro 4.8mm (3/16") material thickness
- Actuation throttle guard:
 reduces the risk of accidental operation
- Use for a wide range of punching operations where it is preferable to take the tool to the job.
 e.g. large structures such as truck trailers

Capacity:

Maximum hole is \varnothing 13mm (1/2") relative to material and thickness.
 Within maximum force of 24.0 kN – 5,400 lbs, material thickness should not exceed hole diameter.

To determine force required use formula: $F = 3.14 \times D \times T \times S$

where 'F' is force (lbs); 'D' is hole diameter (in.); 'T' is thickness of material (in.); 'S' is tensile strength of material (psi) or 'F' is force (N); 'D' is hole diameter (mm); 'T' is thickness of material (mm); 'S' is tensile strength of material (N/mm²).

Accessories supplied with tool

HOLE SIZE IN ALUMINIUM	PUNCH	DIE	COLLAR
\varnothing 4.8mm (3/16")	P041307	P043009	P041309
\varnothing 5.2mm (13/64")	P112836	P112837	P112838

MODEL	PART NUMBER	MAX. MATERIAL THICKNESS ALUM.		HOLE DIAMETER		MAX. DISTANCE EDGE OF SHEET TO HOLE CENTRELINE		MAX. PUNCHING FORCE (90 psi/6.2 bar)		WORK CLEARANCE PUNCH RETRACTED	
		mm	in.	mm	in.	mm	in.	kN	lb	mm	in.
CP0351PU	T013417	4.8	3/16	4.8	3/16	47.6	17/8	24.0	5400	12.7	1/2
CP0351PU	205 146 721 4	4.8	3/16	5.2	13/64	47.6	17/8	24.0	5400	12.7	1/2



Compression Tools – Edge Former



CP0351-CABH-DY

- Forming Capacity (max material thickness) – \varnothing 6.4mm (1/4")
- Rotary Suspension Bail fitted – eases handling and orientation of tool
- Use for a wide range of flattening of spot welded flanges and removing bends
- Custom yokes and dies can be used for crimping and staking operations
- Automatic cycling frequency is adjustable from 1 cycle per throttle actuation to, up to 200 cycles per minute whilst the throttle actuation is maintained.

Accessories supplied with tool

	PART NUMBER
• Yoke	P059557
• Die	P059556
• Ball bearing Suspension Bail	P010245

MODEL	PART NUMBER	MAX. MATERIAL THICKNESS ALUM.		MAX. CYCLES PER MINUTE	REACH		MAX. COMPRESSIVE FORCE (90 psi/6.2 bar)	
		mm	in.		mm	in.	kN	lb
CP0351-CABH-DY	T020475	6.4	1/4	200	14.4	9/16	26.7	6000



Drills, Tappers, Rack Feed Drills

Pistol Grip, Straight Grip, Angle Drills - Multi Drills

High power - Durable - long life - High precision - Ergonomic
Typical construction (illustration shows DR750)



Pistol Grips Drills

Ideal for all general industrial drilling tasks. Best ergonomic shape, single and double handed use

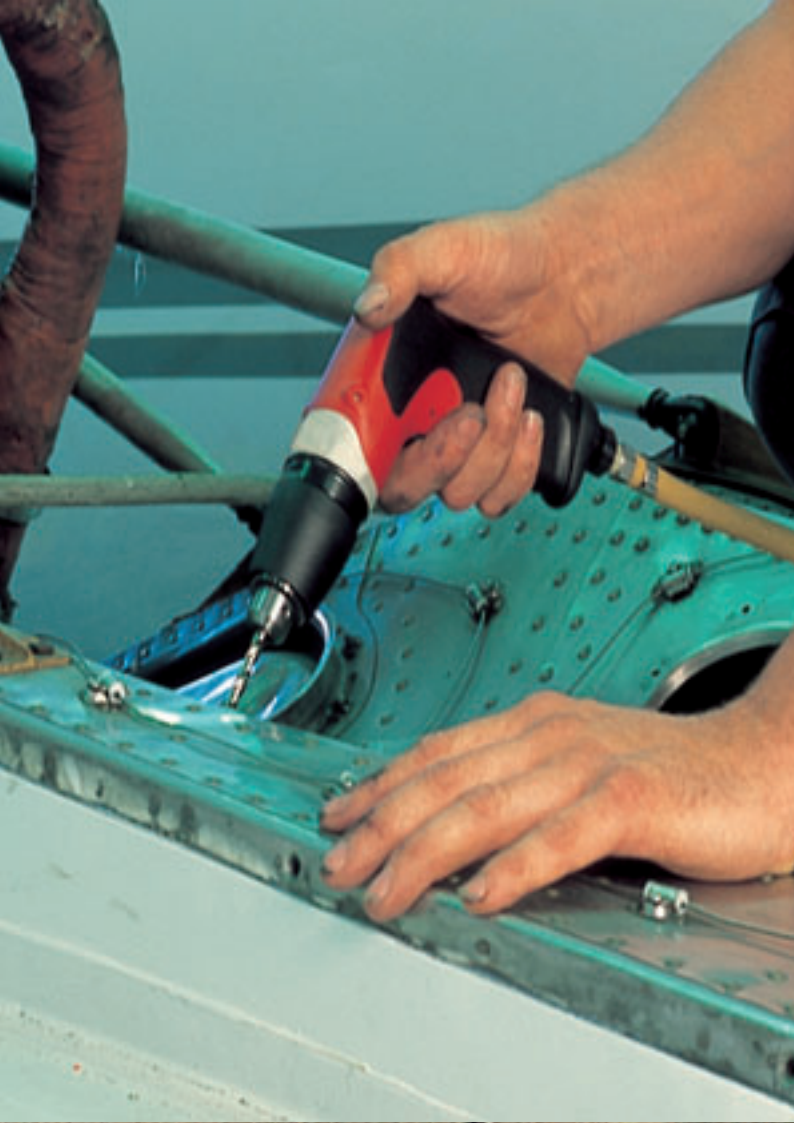
Straight Drills

Mainly smaller diameter drilling. Suitable for production line repetitive operation

Angle Drills

Ideal for restricted access application





Choosing the Right Drill

High power - Durable: long live - High precision - Ergonomic



Choosing the right Drill

Pistol Grip Drills

- Ideal for all general industrial drilling tasks
- Drilling capacity up to 13mm (1/2") Ø steel
- Best ergonomic shape - single and double handed use
- Use of side handle recommended for larger drills with high torque reaction



Straight Drills

- Mainly smaller diameter drilling less than 8mm (5/16") Ø Steel
- Favoured for vertical drilling
- Suitable for production line repetitive operation



Angle Drills

- Most commonly used in aerospace
- Ideal for restricted access application
- Drill capacity up to 8mm (5/16") Ø steel

Choosing the right Chuck

Key Adjustable Chuck

- Ideal for all general industrial drilling tasks
- High precision keyed chucks

Keyless Chucks






- Quick change (hand operated) chuck

Collet Chuck / Spindle

- Generally high speed drilling
- High precision
- Most commonly used in aerospace

Screw Shank

- Female threaded output
- Use with threaded shank drills
- Most commonly used in aerospace

TOOL TYPE	FREE SPEED	TITANIUM	STAINLESS STEEL	HARD CAST IRON, MEDIUM HARD STEEL	SOFT CAST IRON, MILD STEEL	HARD PLASTICS	ALUMINIUM, BRASS, COPPER, BRONZE	COMPOSITE	WOOD, SOFT PLASTICS, CHIPBOARD
	rpm		9-15m/min	10-20m/min	20-35m/min	30-40m/min	50-80m/min	50-100m/min	80-120m/min
		Drill Ø mm (in.)							
PISTOL GRIP									
C22-P-Ø6.5mm (1/4") cap.									
	22600	-	-	-	-	-	2.0 (5/64")	4.0 (5/32")	2.0 (5/64")
	12400	-	-	-	-	-	3.0 (1/8")	-	3.0 (1/8")
	6800	-	-	-	-	-	4.0 (5/32")	5.0 (3/16")	-
	4600	-	-	-	-	3.0 (1/8")	6.0 (1/4")	-	-
	3300	-	-	-	3.0 (1/8")	5.0 (3/16")	-	-	-
	2000	-	-	3.0 (1/8")	6.0 (1/4")	-	-	-	-
	1000	-	5.0 (3/16")	6.0 (1/4")	-	-	-	-	-
	500	3.0 (1/8")	-	-	-	-	-	-	-
D22/23-P-Ø8mm (5/16") cap.									
	20000	-	-	-	-	-	-	4.0 (5/32")	2.0 (5/64")
	10500	-	-	-	-	-	2.0 (5/64")	-	4.0 (5/32")
	6000	-	-	-	-	-	4.0 (5/32")	5.0 (3/16")	6.0 (1/4")
	4600	-	-	-	-	3.0 (1/8")	6.0 (1/4")	-	8.0 (5/16")
	2900	-	-	-	4.0 (5/32")	5.0 (3/16")	8.0 (5/16")	-	-
	1800	-	3.0 (1/8")	4.0 (5/32")	6.0 (1/4")	8.0 (5/16")	-	-	-
	1100	-	4.0 (5/32")	6.0 (1/4")	8.0 (5/16")	-	-	-	-
	700	3.0 (1/8")	7.0 (9/32")	8.0 (5/16")	-	-	-	-	-
400	6.0 (1/4")	8.0 (5/16")	-	-	-	-	-	-	
DR750									
Ø8-13mm (5/16" - 1/2") cap.									
	20000	-	-	-	-	-	2.0 (5/64")	2.0 (5/64")	-
	6000	-	-	-	-	-	4.0 (5/32")	5.0 (3/16")	6.0 (1/4")
	4100	-	-	-	-	3.0 (1/8")	6.0 (1/4")	8.0 (5/16")	10.0 (3/8")
	3300	-	-	-	3.0 (1/8")	4.0 (5/32")	8.0 (5/16")	10.0 (3/8")	12.0* (1/2")
	2700	-	-	3.0 (1/8")	4.0 (5/32")	5.0 (3/16")	10.0 (3/32")	13.0* (1/2")	15.0* (19/32")
	1300	-	4.0 (5/32")	5.0 (3/16")	9.0 (11/32")	11.0* (7/16")	19.0* (3/4")	-	30.0* (1 3/16")
	750	3.0 (1/8")	7.0 (9/32")	8.0 (5/16")	15.0* (19/32")	19.0* (3/4")	30.0* (1 3/16")	-	-
	400	6.0 (1/4")	8.0 (5/16")	10.0 (13/32")	-	-	-	-	-
STRAIGHT CASE									
C22-L-Ø6.5mm (1/4") cap.									
	22600	-	-	-	-	-	2.0 (5/64")	4.0 (5/32")	2.0 (5/64")
	12400	-	-	-	-	-	3.0 (1/8")	-	3.0 (1/8")
	6800	-	-	-	-	-	4.0 (5/32")	5.0 (3/16")	-
	3300	-	-	-	3.0 (1/8")	5.0 (3/16")	-	-	-
	2000	-	-	3.0 (1/8")	6.0 (1/4")	-	-	-	-
	1000	-	5.0 (3/16")	6.0 (1/4")	-	-	-	-	-
	500	3.0 (1/8")	-	-	-	-	-	-	-
	D22/23-L-Ø8mm (5/16") cap.								
	20000	-	-	-	-	-	-	4.0 (5/32")	2.0 (5/64")
	10000	-	-	-	-	-	2.0 (5/64")	-	4.0 (5/32")
	5700	-	-	-	-	-	4.0 (5/32")	5.0 (3/16")	6.0 (1/4")
	4400	-	-	-	-	3.0 (1/8")	6.0 (1/4")	-	8.0 (5/16")
	2800	-	-	-	4.0 (5/32")	5.0 (3/16")	8.0 (5/16")	-	-
	1750	-	3.0 (1/8")	4.0 (5/32")	6.0 (1/4")	8.0 (5/16")	-	-	-
	1050	3.0 (1/8")	4.0 (5/32")	6.0 (1/4")	8.0 (5/16")	-	-	-	-
	400	6.0 (1/4")	8.0 (5/16")	8.0 (5/16")	-	-	-	-	-

* above standard chuck capacity



Pistol Grip Drills

0.2 - 0.28 kW (0.3 - 0.38 hp) - 400 to 22600 rpm



A



B

Accessories: see page 236-239



Model	A		B	
	mm	in.	mm	in.
C220-P-22600	182	7.16	22	0.66
C220-P-12400	198	7.80	22	0.66
C22-P-6800	193	7.60	30	1.18
C22-P-4600	209	8.23	30	1.18
C22-P-3300	193	7.60	30	1.18
C22-P-2000	209	8.23	30	1.18
C22-P-1000	209	8.23	30	1.18
C22-P-500	209	8.23	30	1.18

Model	A	
	mm	in.
D22-P-20000	169	6.65
D22-P-10500	210	8.27
D23-P-6000	175	6.89
D23-P-4600	175	6.89
D23-P-2900	175	6.89
D23-P-1800	197	7.76
D23-P-1100	197	7.76
D23-P-700	175	6.89
D23-P-400	175	6.89

PIC REF	MODEL	PART NUMBER	FREE SPEED	CHUCK SIZE		MOTOR POWER		STALL TORQUE		WEIGHT		AIR FLOW		AIR INLET	HOSE INT. Ø	
				rpm	mm	in.	kW	Hp	Nm	in lb	kg	lb	l/s	cfm	BSP/NPT	mm

TRIGGER START – C SERIES

A	C220-P-22600	1443014	22600	4.0	5/32	0.20	0.30	0.3	2.7	0.69	1.52	7.8	16.3	1/4	6	1/4
A	C220-P-12400	1443024	12400	4.0	5/32	0.20	0.30	0.6	5.3	0.77	1.70	7.8	16.3	1/4	6	1/4
A	C22-P-6800	1443034	6800	6.5	1/4	0.20	0.30	1.1	9.7	0.76	1.67	7.8	16.3	1/4	6	1/4
A	C22-P-4600	1464844	4600	6.5	1/4	0.20	0.30	1.7	15.0	0.84	1.85	7.8	16.3	1/4	6	1/4
A	C22-P-3300	1443044	3300	6.5	1/4	0.20	0.30	2.2	19.5	0.76	1.67	7.8	16.3	1/4	6	1/4
A	C22-P-2000	1443064	2000	6.5	1/4	0.20	0.30	3.5	31.0	0.84	1.85	7.8	16.3	1/4	6	1/4
A	C22-P-1000	1443074	1000	6.5	1/4	0.20	0.30	7.1	62.8	0.84	1.85	7.8	16.3	1/4	6	1/4
A	C22-P-500	1443084	500	6.5	1/4	0.20	0.30	14.6	129.2	0.84	1.85	7.8	16.3	1/4	6	1/4

TRIGGER START – D SERIES

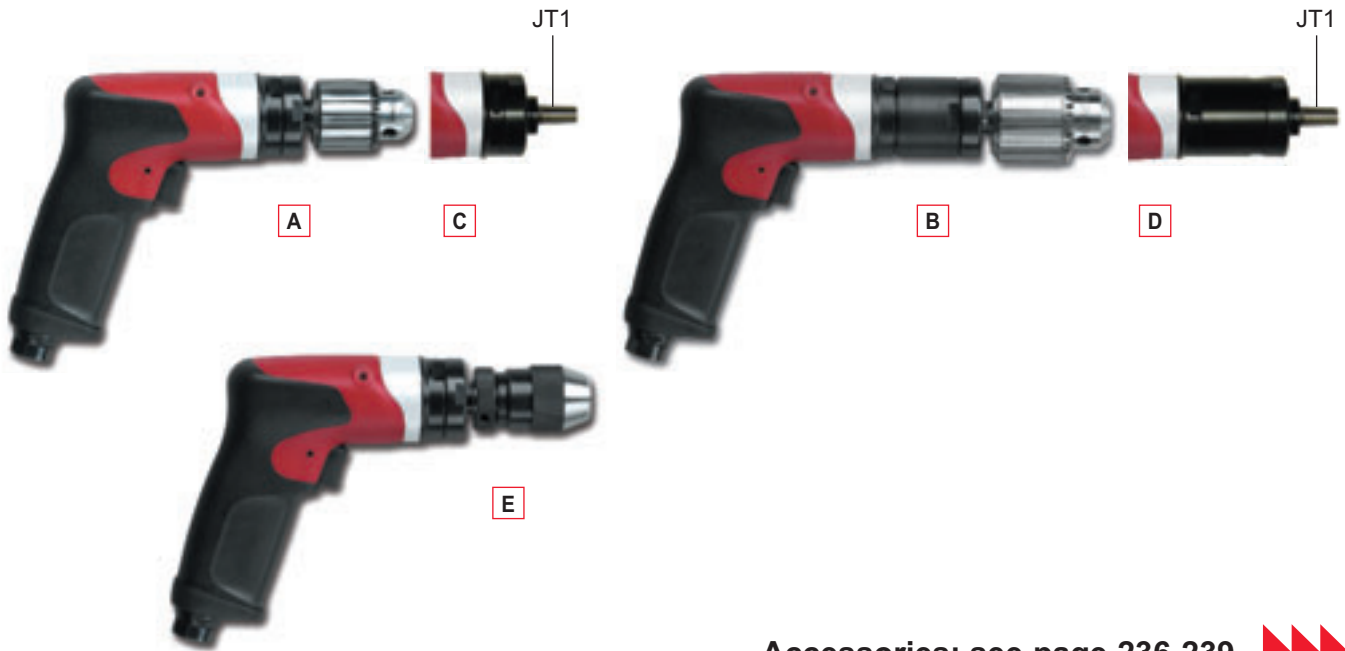
B	D22-P-20000	1289974	20000	6.5	1/4	0.28	0.38	1.0	8.9	0.80	1.76	8.5	18.0	3/8	10	1/4
B	D22-P-10500	1289894	10500	6.5	1/4	0.28	0.38	1.0	8.9	0.90	1.98	8.5	18.0	3/8	10	1/4
B	D23-P-6000	1364374	6000	8.0	5/16	0.28	0.38	2.0	17.7	0.90	1.98	8.5	18.0	3/8	10	1/4
B	D23-P-4600	1364454	4600	8.0	5/16	0.28	0.38	2.0	17.7	0.90	1.98	8.5	18.0	3/8	10	1/4
B	D23-P-2900	1364534	2900	8.0	5/16	0.28	0.38	3.0	26.6	0.90	1.98	8.5	18.0	3/8	10	1/4
B	D23-P-1800	1364794	1800	8.0	5/16	0.28	0.38	5.0	44.3	1.10	2.42	8.5	18.0	3/8	10	1/4
B	D23-P-1100	1364874	1100	8.0	5/16	0.28	0.38	9.0	79.7	1.10	2.42	8.5	18.0	3/8	10	1/4
B	D23-P-700	1364954	700	8.0	5/16	0.28	0.38	15.0	132.8	1.10	2.42	8.5	18.0	3/8	10	1/4
B	D23-P-400	1365004	400	8.0	5/16	0.28	0.38	24.0	212.0	1.10	2.42	8.5	18.0	3/8	10	1/4



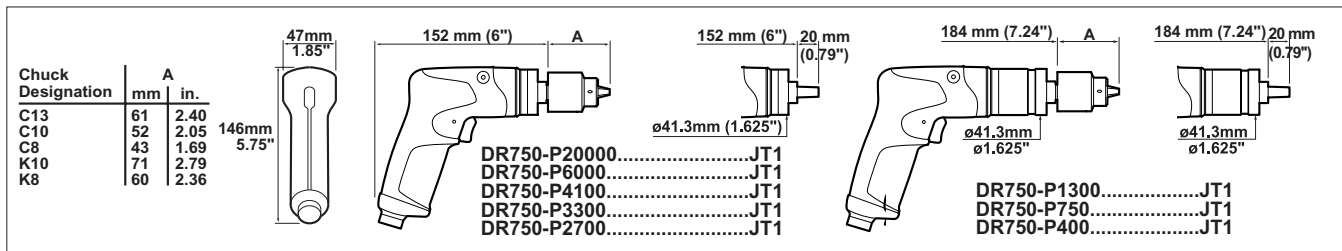
Pistol Grip Drills

High Power Drill

0.75 kW (1 hp) - 400 to 20000 rpm



Accessories: see page 236-239



PIC REF	MODEL	PART NUMBER	FREE SPEED	CHUCK SIZE		MOTOR POWER		STALL TORQUE		WEIGHT		AIR FLOW		AIR INLET	HOSE INT. Ø	
			rpm	mm	in.	kW	Hp	Nm	In lb	kg	lb	l/s	cfm	BSP/NPT	mm	in.

TRIGGER START - KEY CHUCK MODELS

A	DR750-P20000-C8	205 146 659 4	20000	8	5/16	0.75	1.00	1.6	14	1.1	2.4	14	30	1/4	10	3/8
A	DR750-P6000-C8	1465124	6000	8	5/16	0.75	1.00	5.3	46	1.1	2.4	14	30	1/4	10	3/8
A	DR750-P4100-C8	1465114	4100	8	5/16	0.75	1.00	7.1	63	1.1	2.4	14	30	1/4	10	3/8
A	DR750-P3300-C10	1465104	3300	10	3/8	0.75	1.00	9.6	85	1.1	2.4	14	30	1/4	10	3/8
A	DR750-P2700-C10	1465094	2700	10	3/8	0.75	1.00	11.1	99	1.1	2.4	14	30	1/4	10	3/8
B	DR750-P1300-C10	1465084	1300	10	3/8	0.75	1.00	23.9	211	1.6	3.5	14	30	1/4	10	3/8
B	DR750-P750-C13	1465074	750	13	1/2	0.75	1.00	41.0	362	1.6	3.5	14	30	1/4	10	3/8
B	DR750-P400-C13	205 146 658 4	400	13	1/2	0.75	1.00	55.0	487	1.6	3.5	14	30	1/4	10	3/8

TRIGGER START - JACOBS TAPER 1 SPINDLE

C	DR750-P20000-JT1	205 146 667 4	20000			0.75	1.00	1.6	14	0.9	2.0	14	30	1/4	10	3/8
C	DR750-P6000-JT1	205 146 666 4	6000			0.75	1.00	5.3	46	0.9	2.0	14	30	1/4	10	3/8
C	DR750-P4100-JT1	205 146 665 4	4100			0.75	1.00	7.1	63	0.9	2.0	14	30	1/4	10	3/8
C	DR750-P3300-JT1	205 146 664 4	3300			0.75	1.00	9.6	85	0.9	2.0	14	30	1/4	10	3/8
C	DR750-P2700-JT1	205 146 663 4	2700			0.75	1.00	11.1	99	0.9	2.0	14	30	1/4	10	3/8
D	DR750-P1300-JT1	205 146 662 4	1300			0.75	1.00	23.9	211	1.15	2.5	14	30	1/4	10	3/8
D	DR750-P750-JT1	205 146 661 4	750			0.75	1.00	41.0	362	1.15	2.5	14	30	1/4	10	3/8
D	DR750-P400-JT1	205 146 660 4	400			0.75	1.00	55.0	487	1.15	2.5	14	30	1/4	10	3/8

TRIGGER START - KEYLESS CHUCK MODELS

E	DR750-P6000-K8	1465164	6000	8	5/16	0.75	1.00	5.3	46	1.1	2.42	14	30	1/4	10	3/8
E	DR750-P4100-K8	1465154	4100	8	5/16	0.75	1.00	7.1	63	1.1	2.42	14	30	1/4	10	3/8
E	DR750-P3300-K10	1465144	3300	10	3/8	0.75	1.00	9.6	85	1.1	2.42	14	30	1/4	10	3/8
E	DR750-P2700-K10	1465134	2700	10	3/8	0.75	1.00	11.1	99	1.1	2.42	14	30	1/4	10	3/8



Straight Grip Drills

0.2 to 0.28 Kw (0.3 to 0.38 hp) - 400 to 22600 rpm



Interchangeable lever included.

A



B



C

Accessories: see page 236-239



Model	A	Model	A		
	mm	in.	mm	in.	
D22-L/S-20000	212	8.34	C220-L-22600	195	7.68
D22-L/S-10000	253	9.96	C220-L-12400	211	8.31
D23-L-5700	218	8.58	C22-L-6800	206	8.11
D23-L/S-4400	218	8.58	C22-L-3300	206	8.11
D23-L/S-2800	218	8.58	C22-L-2000	222	8.74
D23-L/S-1750	240	9.45	C22-L-1000	222	8.74
D23-L/S-1050	240	9.45	C22-L-500	222	8.74
D23-L/S-400	240	9.45			

PIC REF	MODEL	PART NUMBER	FREE SPEED	CHUCK SIZE	MOTOR POWER	STALL TORQUE	WEIGHT	AIR FLOW	AIR INLET	HOSE INT. Ø						
			rpm	mm	in.	kW	Hp	Nm	in lb	kg	lb	l/s	cfm	BSP/NPT	mm	in.

LEVER START – C SERIES

A	C220-L-22600	1443094	22600	4.0	5/32	0.20	0.30	0.3	2.7	0.55	1.21	7.8	16.5	1/4	6	1/4
A	C220-L-12400	1443104	12400	4.0	5/32	0.20	0.30	0.6	5.3	0.63	1.39	7.8	16.5	1/4	6	1/4
A	C22-L-6800	1443114	6800	6.5	1/4	0.20	0.30	1.1	9.7	0.62	1.37	7.8	16.5	1/4	6	1/4
A	C22-L-3300	1443134	3300	6.5	1/4	0.20	0.30	2.2	19.5	0.62	1.37	7.8	16.5	1/4	6	1/4
A	C22-L-2000	1443144	2000	6.5	1/4	0.20	0.30	3.5	31.0	0.70	1.54	7.8	16.5	1/4	6	1/4
A	C22-L-1000	1443154	1000	6.5	1/4	0.20	0.30	7.1	62.8	0.70	1.54	7.8	16.5	1/4	6	1/4
A	C22-L-500	1443164	500	6.5	1/4	0.20	0.30	14.6	129.2	0.70	1.54	7.8	16.5	1/4	6	1/4

LEVER START – D SERIES

B	D22-L-20000	1253134	20000	6.5	1/4	0.28	0.38	1.0	8.9	0.67	1.48	9.4	20.0	1/4	10	3/8
B	D22-L-10000	1253394	10000	6.5	1/4	0.28	0.38	1.0	8.9	0.75	1.65	9.4	20.0	1/4	10	3/8
B	D23-L-5700	1362914	5700	8.0	5/16	0.28	0.38	2.0	17.7	0.70	1.54	9.4	20.0	1/4	10	3/8
B	D23-L-4400	1363144	4400	8.0	5/16	0.28	0.38	2.0	17.7	0.70	1.54	9.4	20.0	1/4	10	3/8
B	D23-L-2800	1363304	2800	8.0	5/16	0.28	0.38	3.0	26.6	0.84	1.85	9.4	20.0	1/4	10	3/8
B	D23-L-1750	1363564	1750	8.0	5/16	0.28	0.38	6.0	53.1	0.84	1.85	9.4	20.0	1/4	10	3/8
B	D23-L-1050	1363724	1050	8.0	5/16	0.28	0.38	10.0	88.5	0.84	1.85	9.4	20.0	1/4	10	3/8
B	D23-L-400	1363984	400	8.0	5/16	0.28	0.38	25.0	221.3	0.84	1.85	9.4	20.0	1/4	10	3/8

BUTTON START – D SERIES

C	D22-S-20000	1253054	20000	6.5	1/4	0.28	0.38	1.0	8.9	0.67	1.48	9.4	20.0	1/4	10	3/8
C	D22-S-10000	1253214	10000	6.5	1/4	0.28	0.38	1.0	8.9	0.75	1.65	9.4	20.0	1/4	10	3/8
C	D23-S-4400	1363064	4400	8.0	5/16	0.28	0.38	2.0	17.7	0.70	1.54	9.4	20.0	1/4	10	3/8
C	D23-S-2800	1363224	2800	8.0	5/16	0.28	0.38	3.0	26.6	0.70	1.54	9.4	20.0	1/4	10	3/8
C	D23-S-1750	1363484	1750	8.0	5/16	0.28	0.38	6.0	53.1	0.84	1.85	9.4	20.0	1/4	10	3/8
C	D23-S-1050	1363644	1050	8.0	5/16	0.28	0.38	10.0	88.5	0.84	1.85	9.4	20.0	1/4	10	3/8
C	D23-S-400	1363804	400	8.0	5/16	0.28	0.38	25.0	221.3	0.84	1.85	9.4	20.0	1/4	10	3/8



Angle Drill Selection



Considerations

- Size of hole to be drilled
- Cutting speed of material to be drilled
- Application – access to hole position
- Type of drill bit to be used
- Tool orientation
- Operator comfort/preference



There are also other considerations to be taken into account when selecting the right tool for the job.

Select the tool with the appropriate capacity and collet/chuck to suit the size of drill bit and hole to be drilled.

Where cycle time is critical it is advisable to use the higher power angle drills. This ensures that cutting speed is optimised during the drilling process.

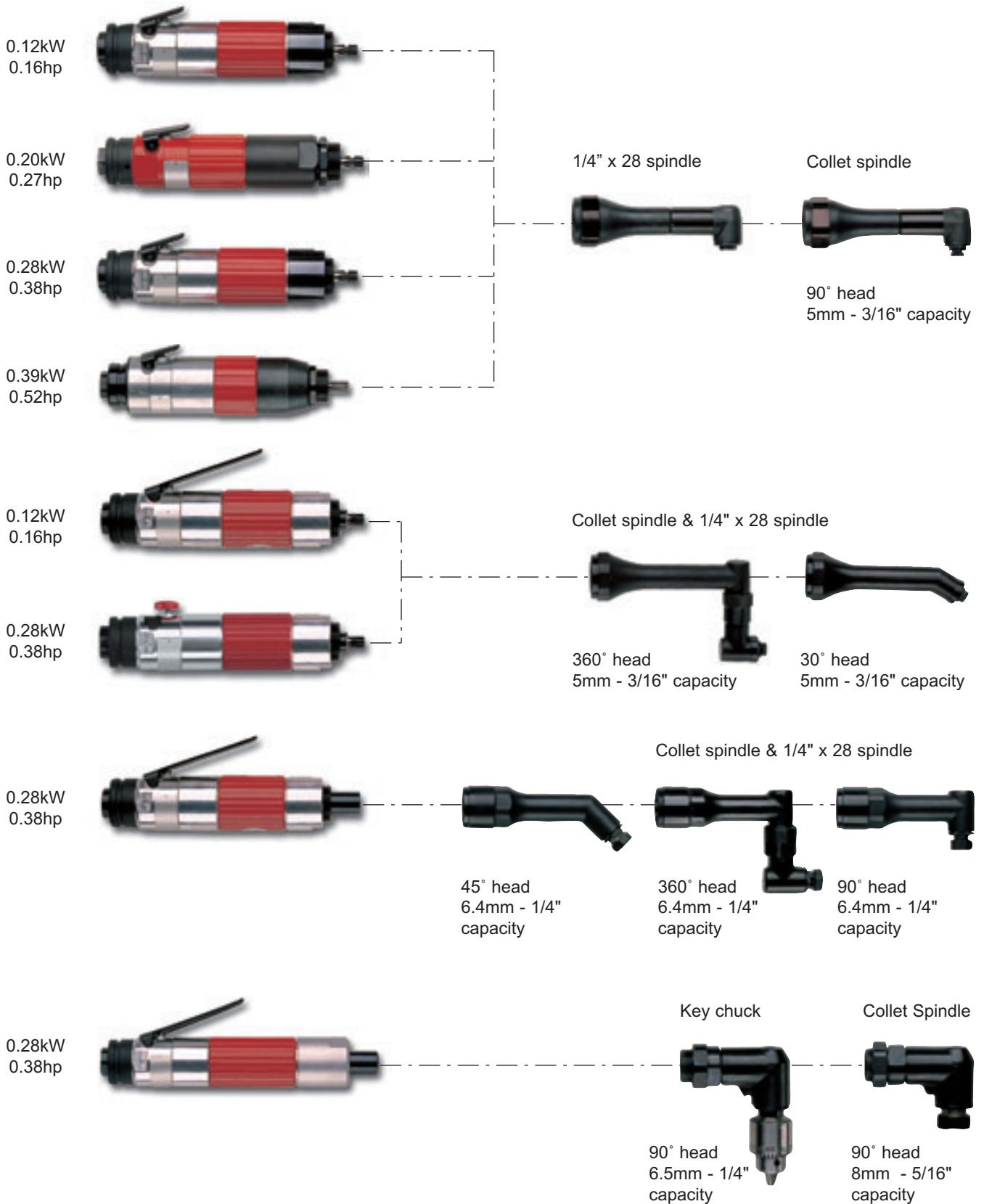
Optimal cutting speed = Optimal cycle time = Productivity

DRILL SELECTION GUIDE – ANGLE DRILL

TOOL TYPE	FREE SPEED	TITANIUM	STAINLESS STEEL	HARD CAST IRON, MEDIUM HARD STEEL	SOFT CAST IRON, MILD STEEL	HARD PLASTICS	ALUMINIUM, BRASS, COPPER, BRONZE	COMPOSITE	WOOD, SOFT PLASTICS, CHIPBOARD
	rpm		9-15m/min	10-20m/min	20-35m/min	30-40m/min	50-80m/min	50-100m/min	80-120m/min
Drill ø mm									
C32 (90° head)	2900	–	–	–	3.0 (1/8")	5.0 (3/16")	5.0 (3/16")	–	–
D32	5200	–	–	–	2.0 (5/64")	5.0 (3/16")	5.0 (3/16")	4.0 (5/32")	5.0 (3/16")
	4000	–	–	–	2.0 (5/64")	5.0 (3/16")	5.0 (3/16")	5.0 (3/16")	–
	2800	–	–	–	3.0 (1/8")	5.0 (3/16")	5.0 (3/16")	–	–
D33 (30° head)	1800	–	–	4.0 (5/32")	5.0 (3/16")	–	–	–	–
	2000	–	–	4.0 (5/32")	3.0 (1/8")	–	–	–	–
D370 (360° head)	3000	–	–	–	5.0 (3/16")	5.0 (3/16")	5.0 (3/16")	5.0 (3/16")	–
	2000	–	–	4.0 (5/32")	3.0 (1/8")	–	–	–	–
	3000	–	–	–	5.0 (3/16")	5.0 (3/16")	5.0 (3/16")	5.0 (3/16")	–
F32 (90° head)	4500	–	–	–	–	3.0 (1/8")	5.0 (3/16")	5.0 (3/16")	5.0 (3/16")
	3100	–	–	–	3.0 (1/8")	5.0 (3/16")	5.0 (3/16")	5.0 (3/16")	–
	2200	–	3.0 (1/8")	4.0 (5/32")	5.0 (3/16")	–	–	–	–
	1200	–	4.0 (5/32")	5.0 (3/16")	–	–	–	–	–
	830	2.0 (5/64")	5.0 (3/16")	–	–	–	–	–	–
	580	5.0 (3/16")	–	–	–	–	–	–	–
D314 (90° head)	4400	–	–	–	–	3.0 (1/8")	6.0 (1/4")	5.0 (3/16")	6.5 (1/4")
	2800	–	–	–	3.0 (1/8")	5.0 (3/16")	6.5 (1/4")	6.5 (1/4")	–
	1750	–	3.0 (1/8")	4.0 (5/32")	6.0 (1/4")	6.5 (1/4")	–	6.5 (1/4")	–
	1050	–	4.0 (5/32")	6.0 (1/4")	6.5 (1/4")	–	–	–	–
	400	6.0	6.5 (1/4")	6.5 (1/4")	–	–	–	–	–
D315 (45° head)	4400	–	–	–	–	3.0 (1/8")	6.0 (1/4")	5.0 (3/16")	6.5 (1/4")
	2800	–	–	–	3.0 (1/8")	5.0 (3/16")	6.5 (1/4")	6.5 (1/4")	–
	1750	–	3.0 (1/8")	4.0 (5/32")	6.0 (1/4")	6.5 (1/4")	–	6.5 (1/4")	–
	1050	–	4.0 (5/32")	6.0 (1/4")	6.5 (1/4")	–	–	–	–
D374 (360° head)	2800	–	–	–	3.0 (1/8")	5.0 (3/16")	6.5 (1/4")	6.5 (1/4")	6.5 (1/4")
D3141 (90° head)	2100	–	3.0 (1/8")	3.0 (1/8")	6.0 (1/4")	8.0 (5/16")	8.0 (5/16")	8.0 (5/16")	8.0 (5/16")
	770	–	7.0 (9/32")	8.0 (5/16")	8.0 (5/16")	–	–	–	–
D3143 (90° head)	2100	–	3.0 (1/8")	3.0 (1/8")	6.0 (1/4")	6.5 (1/4")	6.5 (1/4")	6.5 (1/4")	6.5 (1/4")
	770	–	6.5 (1/4")	6.5 (1/4")	6.5 (1/4")	–	–	–	–



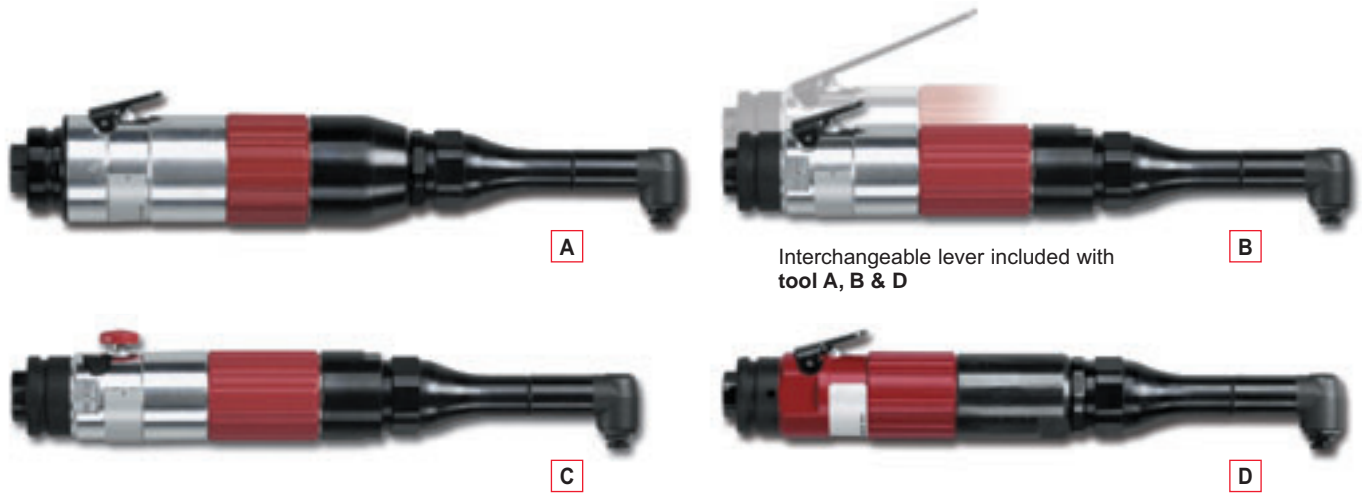
Modular Angle Heads



Angle Drills

Compact 90° Angle Head

0.12 to 0.38 kW (0.16 to 0.50 hp) - 580 to 5200 rpm



Interchangeable lever included with tool A, B & D

Accessories: see page 237

Model	A	
	mm	in.
D32-L-2800C/S	251	9.88
D32-LX-1800C/S	251	9.88
D32-S-5200	251	9.88
D32-S-4000	251	9.88
D32-S-2800	251	9.88

Model	A	
	mm	in.
C32-L-2900C/S	244	9.61

Model	A	
	mm	in.
F32-L-4500C/S	268	10.55
F32-L-3100C/S	268	10.55
F32-L-2200C/S	268	10.55
F32-L-1200C/S	285	11.22
F32-L-830C/S	285	11.22
F32-L-580C/S	285	11.22

PIC REF	MODEL	PART NUMBER	FREE SPEED		MOTOR POWER		WEIGHT		AIR FLOW		AIR INLET		HOSE INT. Ø	
			rpm		kW	Hp	kg	lb	l/s	cfm	BSP/NPT	mm	in.	

COLLET SPINDLE – 5mm (3/16") CAPACITY

Lever Start

A	F32-L-4500C	1462124	4500	0.38	0.50	1.00	2.2	11.5	24.4	1/4	10	3/8
A	F32-L-3100C	1462104	3100	0.38	0.50	1.00	2.2	11.5	24.4	1/4	10	3/8
A	F32-L-2200C	1462084	2200	0.38	0.50	1.00	2.2	11.5	24.4	1/4	10	3/8
A	F32-L-1200C	1462064	1200	0.38	0.50	1.15	2.5	11.5	24.4	1/4	10	3/8
A	F32-L-830C	1462044	835	0.38	0.50	1.15	2.5	11.5	24.4	1/4	10	3/8
A	F32-L-580C	1462024	580	0.38	0.50	1.15	2.5	11.5	24.4	1/4	10	3/8
B	D32-L-2800C	1460764	2800	0.28	0.38	0.72	1.6	9.4	19.9	1/4	10	3/8
B	D32-LX-1800C	1458224	1800	0.12	0.16	0.72	1.6	5.0	10.6	1/4	6	1/4

Button Start

C	D32-S-5200	1465344	5200	0.28	0.38	0.72	1.6	9.4	19.9	1/4	10	3/8
C	D32-S-4000	1465354	4000	0.28	0.38	0.72	1.6	9.4	19.9	1/4	10	3/8
C	D32-S-2800	1465364	2800	0.28	0.38	0.72	1.6	9.4	19.9	1/4	10	3/8

Lever Start

D	C32-L-2900C	1394434	2900	0.20	0.27	0.65	1.4	7.8	16.5	1/4	6	1/4
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1/4" x 28 SPINDLE – 5mm (3/16") CAPACITY

Lever Start

A	F32-L-4500S	1462114	4500	0.38	0.50	1.00	2.2	11.5	24.4	1/4	10	3/8
A	F32-L-3100S	1462094	3100	0.38	0.50	1.00	2.2	11.5	24.4	1/4	10	3/8
A	F32-L-2200S	1462074	2200	0.38	0.50	1.00	2.2	11.5	24.4	1/4	10	3/8
A	F32-L-1200S	1462054	1200	0.38	0.50	1.15	2.5	11.5	24.4	1/4	10	3/8
A	F32-L-830S	1462034	835	0.38	0.50	1.15	2.5	11.5	24.4	1/4	10	3/8
A	F32-L-580S	1462014	580	0.38	0.50	1.15	2.5	11.5	24.4	1/4	10	3/8
B	D32-L-2800S	1460754	2800	0.28	0.38	0.72	1.6	9.4	19.9	1/4	10	3/8
B	D32-LX-1800S	1458204	1800	0.12	0.16	0.72	1.6	5.0	10.6	1/4	6	1/4
D	C32-L-2900S	1394354	2900	0.20	0.27	0.65	1.4	7.8	16.5	1/4	6	1/4



Angle Drills

Standard 90° Angle Head
0.28 kW (0.38 hp) - 400 to 4400 rpm



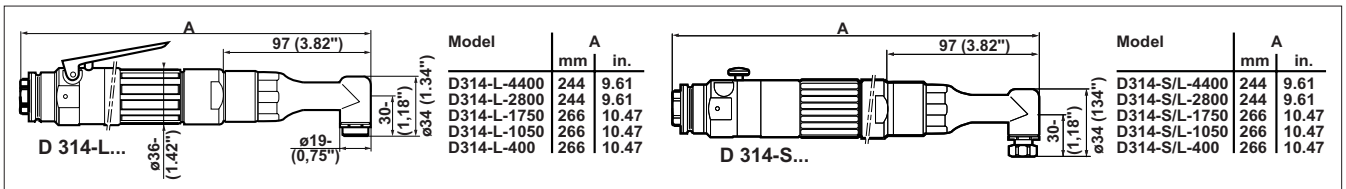
A



Interchangeable lever included.

B

Accessories: see page 237 



PIC REF	MODEL	PART NUMBER	FREE SPEED		MOTOR POWER		WEIGHT		AIR FLOW		AIR INLET	HOSE INT. Ø	
			rpm		kW	Hp	kg	lb	l/s	cfm	BSP/NPT	mm	in.

COLLET SPINDLE – 6.4mm (1/4") CAPACITY

Button Start

A	D314-S-4400	1380814	4400	0.28	0.38	0.77	1.7	9.4	19.9	1/4	6	1/4
A	D314-S-2800	1381204	2800	0.28	0.38	0.77	1.7	9.4	19.9	1/4	6	1/4
A	D314-S-1750	1381884	1750	0.28	0.38	0.90	2.0	9.4	19.9	1/4	6	1/4
A	D314-S-1050	1382274	1050	0.28	0.38	0.90	2.0	9.4	19.9	1/4	6	1/4

Lever Start

B	D314-L-4400	1380994	4400	0.28	0.38	0.77	1.7	9.4	19.9	1/4	6	1/4
B	D314-L-2800	1381384	2800	0.28	0.38	0.77	1.7	9.4	19.9	1/4	6	1/4
B	D314-L-1750	1381964	1750	0.28	0.38	0.90	2.0	9.4	19.9	1/4	6	1/4
B	D314-L-1050	1382354	1050	0.28	0.38	0.90	2.0	9.4	19.9	1/4	6	1/4
B	D314-L-400	1382774	400	0.28	0.38	0.90	2.0	9.4	19.9	1/4	6	1/4

1/4" x 28 SPINDLE – 6.4mm (1/4") CAPACITY

Lever Start

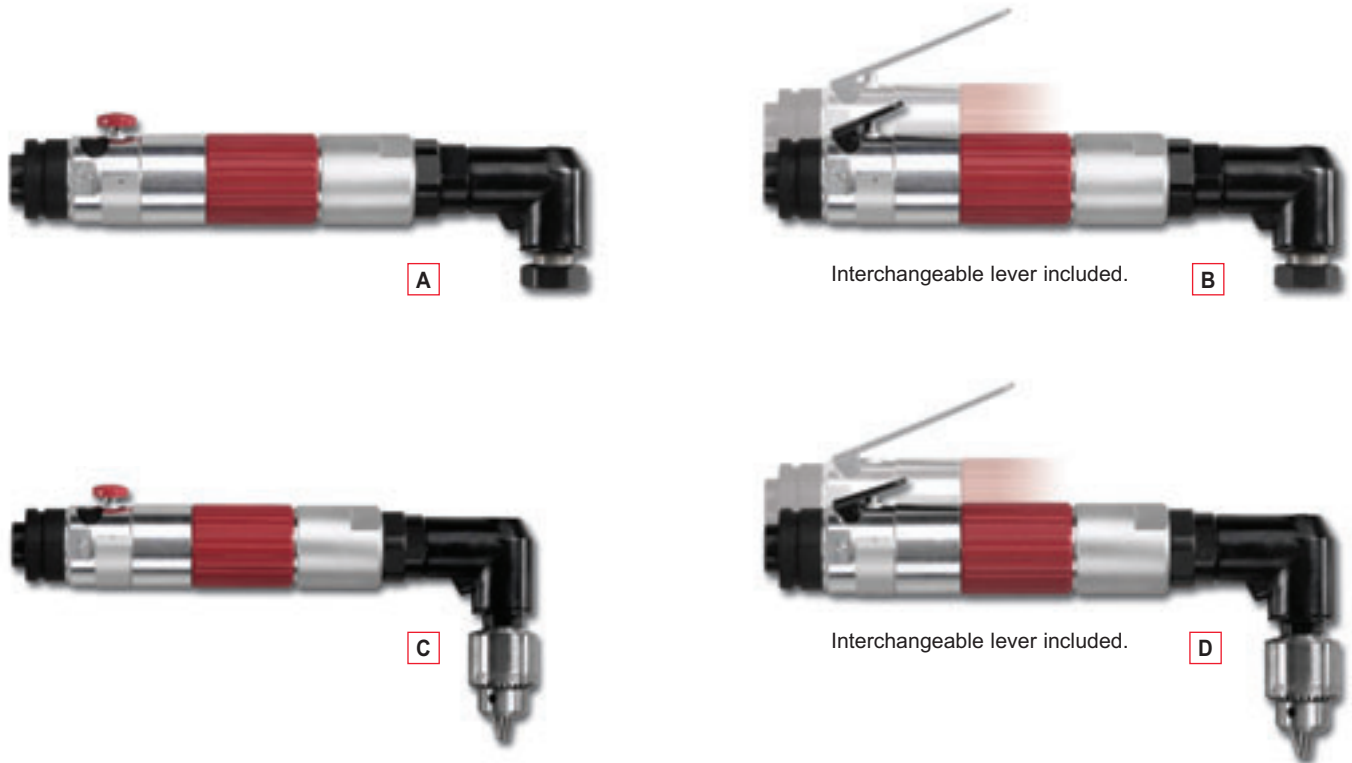
B	D314-L-4400	1456054	4400	0.28	0.38	0.77	1.7	9.4	19.9	1/4	6	1/4
B	D314-L-2800	1456884	2800	0.28	0.38	0.77	1.7	9.4	19.9	1/4	6	1/4
B	D314-L-1750	1456894	1750	0.28	0.38	0.90	2.0	9.4	19.9	1/4	6	1/4
B	D314-L-1050	1456904	1050	0.28	0.38	0.90	2.0	9.4	19.9	1/4	6	1/4
B	D314-L-400	1456914	400	0.28	0.38	0.90	2.0	9.4	19.9	1/4	6	1/4



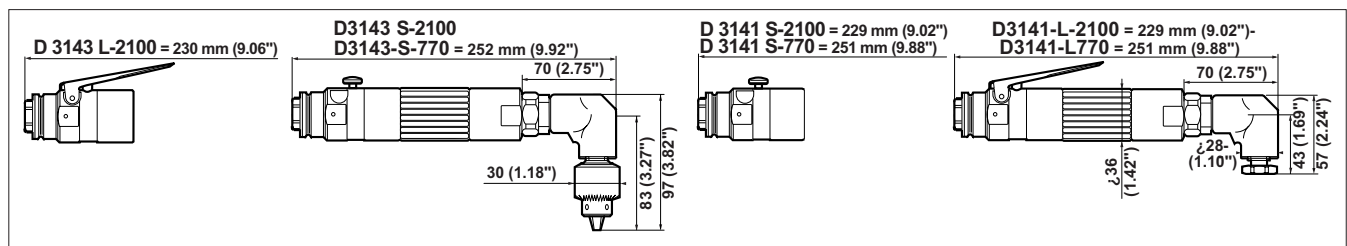
Angle Drills

Heavy Duty 90° Angle Head

0.28 kW (0.38 hp) - 770 - 2100 rpm



Accessories: see page 237 



PIC REF	MODEL	PART NUMBER	FREE SPEED	MOTOR POWER		WEIGHT		AIR FLOW		AIR INLET	HOSE INT. Ø	
			rpm	kW	Hp	kg	lb	l/s	cfm	BSP/NPT	mm	in.

COLLET SPINDLE – 8mm (5/16") CAPACITY

Button Start

A	D3141-S-2100	1383084	2100	0.28	0.38	0.86	1.9	9.4	19.9	1/4	6	1/4
A	D3141-S-770	1383244	770	0.28	0.38	1.00	2.2	9.4	19.9	1/4	6	1/4
Lever Start												
B	D3141-L-2100	1383164	2100	0.28	0.38	0.86	1.9	9.4	19.9	1/4	6	1/4
B	D3141-L-770	1383324	770	0.28	0.38	1.00	2.2	9.4	19.9	1/4	6	1/4

KEY CHUCK – 6.5mm (1/4") CAPACITY

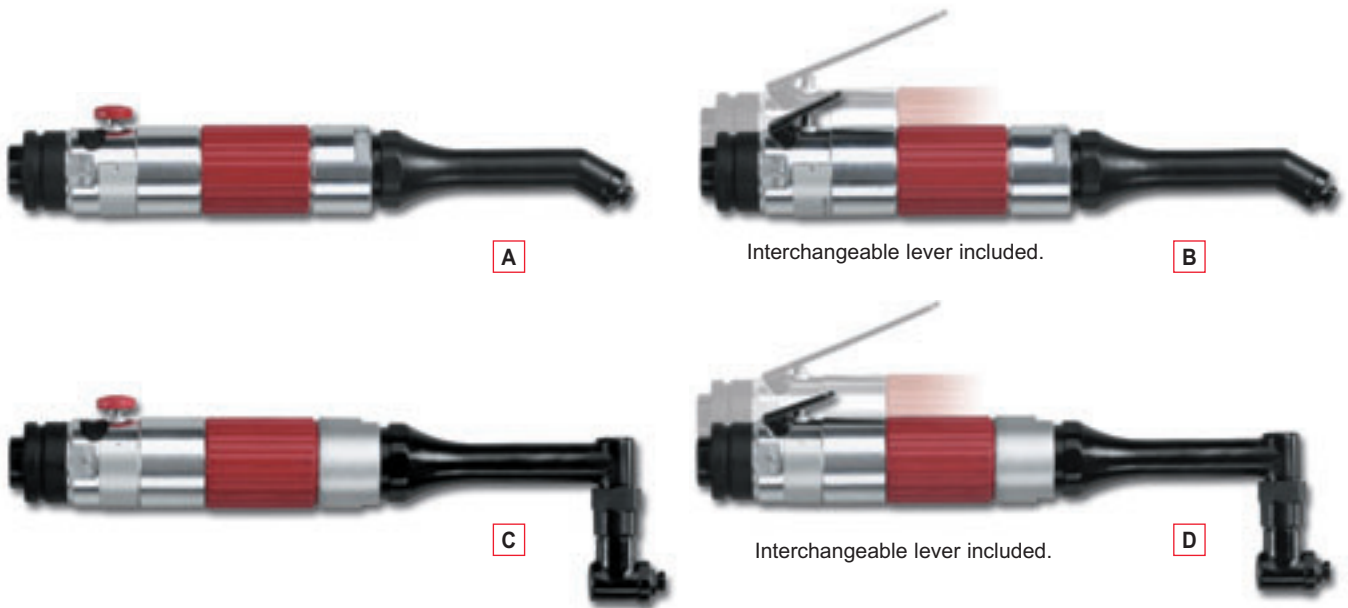
Button Start

C	D3143-S-2100	1383404	2100	0.28	0.38	0.96	2.1	9.4	19.9	1/4	6	1/4
C	D3143-S-770	1383664	770	0.28	0.38	1.00	2.2	9.4	19.9	1/4	6	1/4
Lever Start												
D	D3143-L-2100	1383584	2100	0.28	0.38	0.96	2.1	9.4	19.9	1/4	6	1/4

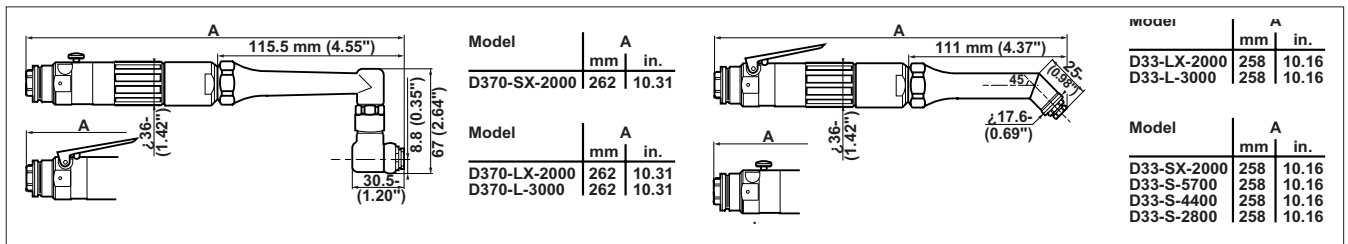


Angle Drills

Compact 30° and 90° x 90° Angle Head 0.12 - 0.28 kW (0.16 - 0.38 hp) - 2000 to 5700 rpm



Accessories: see page 237



PIC REF	MODEL	PART NUMBER	FREE SPEED	MOTOR POWER		WEIGHT		AIR FLOW		AIR INLET	HOSE INT. Ø	
			rpm	kW	Hp	kg	lb	l/s	cfm	BSP/NPT	mm	in.

COLLET SPINDLE – 5mm (3/16") CAPACITY

Button Start

A	D33-SX-2000	1379204	2000	0.12	0.16	0.62	1.4	5.0	10.6	1/4	6	1/4
A	D33-S-5700	1465374	5700	0.28	0.38	0.62	1.4	9.4	19.9	1/4	10	3/8
A	D33-S-4400	1465384	4400	0.28	0.38	0.62	1.4	9.4	19.9	1/4	10	3/8
A	D33-S-2800	1465394	2800	0.28	0.38	0.62	1.4	9.4	19.9	1/4	10	3/8

Lever Start

B	D33-LX-2000	1379384	2000	0.12	0.16	0.62	1.4	5.0	10.6	1/4	6	1/4
B	D33-L-3000	1464764	3000	0.28	0.38	0.62	1.4	9.4	19.9	1/4	10	3/8

1/4" x 28 SPINDLE – 5mm (3/16") CAPACITY

Lever Start

B	D33-LX-2000S	1464834	2000	0.12	0.16	0.62	1.4	5.0	10.6	1/4	6	1/4
B	D33-L-3000S	1464824	3000	0.28	0.38	0.62	1.4	9.4	19.9	1/4	10	3/8

COLLET SPINDLE – 5mm (3/16") CAPACITY

Button Start

C	D370-SX-2000	1379464	2000	0.12	0.16	0.72	1.6	5.0	10.6	1/4	6	1/4
---	--------------	---------	------	------	------	------	-----	-----	------	-----	---	-----

Lever Start

D	D370-LX-2000	1379544	2000	0.12	0.16	0.72	1.6	5.0	10.6	1/4	6	1/4
D	D370-L-3000	1464794	3000	0.28	0.38	0.72	1.6	9.4	19.9	1/4	10	3/8

1/4" x 28 SPINDLE – 5mm (3/16") CAPACITY

Lever Start

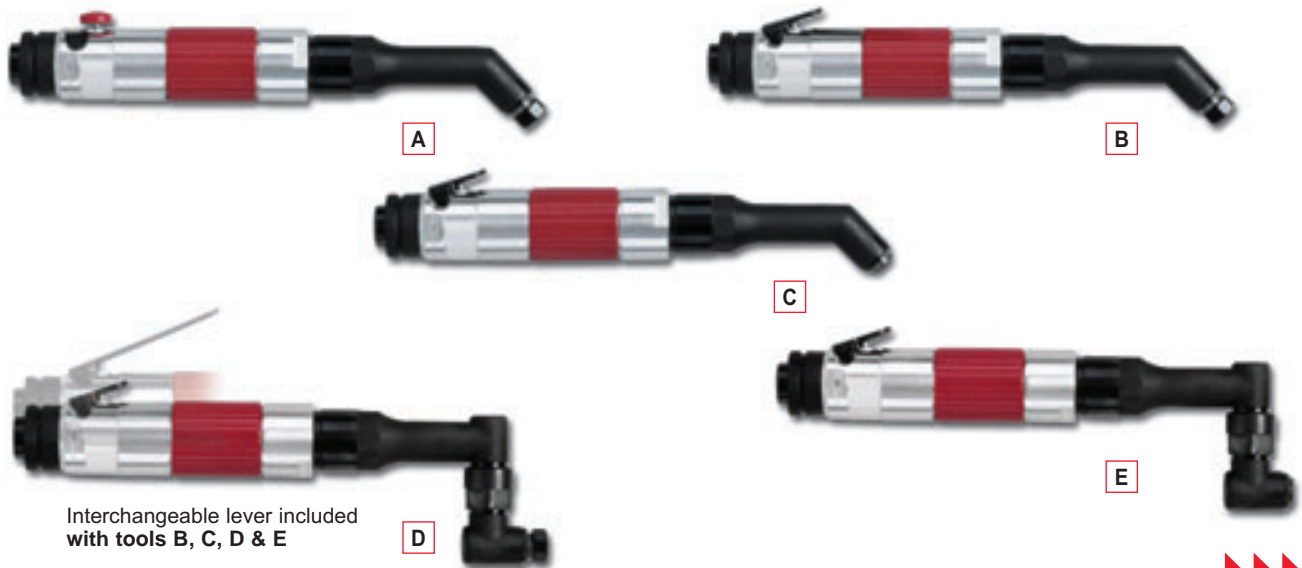
D	D370-LX-2000S	1464804	2000	0.12	0.16	0.72	1.6	5.0	10.6	1/4	6	1/4
D	D370-L-3000S	1464814	3000	0.28	0.38	0.72	1.6	9.4	19.9	1/4	10	3/8



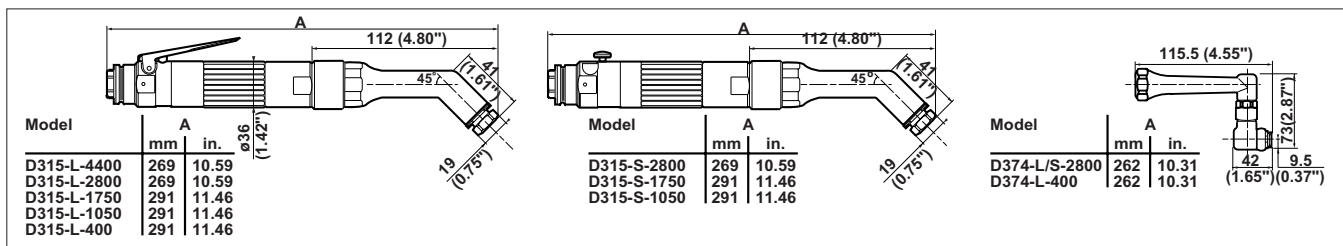
Angle Drills

Standard 45° and 90° x 90° Angle Head

0.28 kW (0.38 hp) - 400 to 4400 rpm



Accessories: see page 237



PIC REF	MODEL	PART NUMBER	FREE SPEED		MOTOR POWER		WEIGHT		LENGTH		AIR FLOW		AIR INLET		HOSE INT. Ø	
			rpm	kW	Hp	kg	lb	mm	in.	l/s	cfm	BSP/NPT	mm	in.		
COLLET SPINDLE – 6.4mm (1/4") CAPACITY																
Button Start																
A	D315-S-2800	1381464	2800	0.28	0.38	0.79	1.7	269	10.59	9.4	19.9	1/4	10	3/8		
A	D315-S-1750	1382014	1750	0.28	0.38	0.79	1.7	291	11.46	9.4	19.9	1/4	10	3/8		
A	D315-S-1050	1382434	1050	0.28	0.38	0.90	2.0	291	11.46	9.4	19.9	1/4	10	3/8		
Lever Start																
B	D315-L-4400	1462134	4400	0.28	0.38	0.79	1.7	269	10.59	9.4	19.9	1/4	10	3/8		
B	D315-L-2800	1381544	2800	0.28	0.38	0.79	1.7	269	10.59	9.4	19.9	1/4	10	3/8		
B	D315-L-1750	1382194	1750	0.28	0.38	0.90	2.0	291	11.46	9.4	19.9	1/4	10	3/8		
1/4" x 28 SPINDLE – 6.4mm (1/4") CAPACITY																
Lever Start																
C	D315-L-4400S	1456934	4400	0.28	0.38	0.79	1.7	269	10.59	9.4	19.9	1/4	10	3/8		
C	D315-L-2800S	1456944	2800	0.28	0.38	0.79	1.7	269	10.59	9.4	19.9	1/4	10	3/8		
C	D315-L-1750S	1456954	1750	0.28	0.38	0.90	2.0	291	11.46	9.4	19.9	1/4	10	3/8		
C	D315-L-1050S	1456964	1050	0.28	0.38	0.90	2.0	291	11.46	9.4	19.9	1/4	10	3/8		
C	D315-L-400S	1456974	400	0.28	0.38	0.90	2.0	291	11.46	9.4	19.9	1/4	10	3/8		
COLLET SPINDLE – 6.4mm (1/4") CAPACITY																
Button Start																
D	D374-S-2800	1381624	2800	0.28	0.38	0.88	1.9	262	10.31	9.4	19.9	1/4	6	1/4		
Lever Start																
D	D374-L-2800	1381704	2800	0.28	0.38	0.88	1.9	262	10.31	9.4	19.9	1/4	6	1/4		
D	D374-L-400	1465334	400	0.28	0.38	0.99	2.2	284	11.18	9.5	19.1	1/4	6	1/4		
1/4" x 28 SPINDLE – 6.4mm (1/4") CAPACITY																
Lever Start																
E	D374-L-2800S	1456994	2800	0.28	0.38	0.88	1.9	262	10.31	9.4	19.9	1/4	6	1/4		
E	D374-L-400S	2051466574	400	0.28	0.38	1.00	2.2	288	11.34	9.4	19.9	1/4	6	1/4		



Tappers



A



B

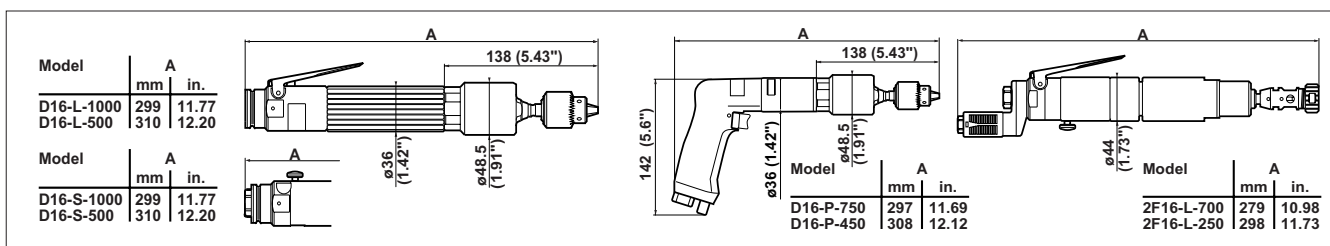


C



D

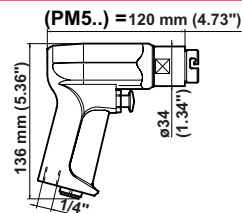
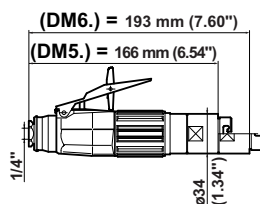
Accessories: see page 238-239



PIC REF	MODEL	PART NUMBER	FREE SPEED	REVERSE SPEED	CHUCK SIZE		MAX. TAPPING TORQUE		WEIGHT		AIR FLOW		AIR INLET	HOSE INT. Ø	
			rpm	rpm	mm	in.	Nm	ft.lb	kg	lb	l/s	cfm	NSP/NPT	mm	in.
D SERIES															
Button Start – push/pull reverse															
A	D16-S-1000	1274544	1000	2000	6.5	1/4	4.3	3.17	1.3	2.86	9.4	19.9	1/4	10	3/8
A	D16-S-500	1274384	500	1000	10.0	3/8	8.6	6.34	1.4	3.08	9.4	19.9	1/4	10	3/8
Lever Start – push/pull reverse															
B	D16-L-1000	1274624	1000	2000	6.5	1/4	4.3	3.17	1.3	2.86	9.4	19.9	1/4	10	3/8
B	D16-L-500	1274464	500	1000	10.0	3/8	8.6	6.34	1.4	3.08	9.4	19.9	1/4	10	3/8
Trigger Start – push/pull reverse															
C	D16-P-750	1288084	750	1500	6.5	1/4	6.2	4.57	1.7	3.75	8.5	18.0	1/4	10	3/8
C	D16-P-450	1287934	450	900	10.0	3/8	11.1	8.18	1.8	3.97	8.5	18.0	1/4	10	3/8
F SERIES															
Lever Start – button reverse – stand mounted															
D	2F16-L-700	1241394	700	700	6.5	1/4	6.7	4.94	1.7	3.75	11.1	23.5	1/4	10	3/8
D	2F16-L-250	1241474	250	250	6.5	1/4	17.5	12.90	1.8	3.97	11.1	23.5	1/4	10	3/8



Accessories



DM5.32 / DM6.9 / DM6.5 / PM5.32

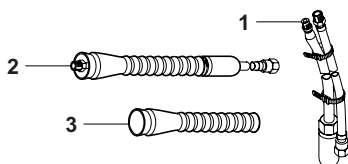
ACCESSORIES INCLUDED

	ANGLE HEAD	DRILLS
• 1/4" air hose nipple for 6mm (1/4") ID hose	615 396 003 0	615 399 494 0
• Wrench 10mm	615 396 237 0	615 399 495 0
• Wrench 14mm	615 801 005 0	615 399 496 0
• Wrench 8-9.5mm (Qty 2)		615 801 030 0

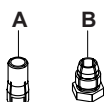


OPTIONAL ACCESSORIES

ITEM	PART NO.
1 Complete Silencer kit PM5	615 399 253 0
2 Complete Silencer kit DM5/DM6	615 399 423 0
3 Exhaust hose	615 875 106 0



Capacity	ANGLE HEAD		ANGLE HEAD	
	A	B	A	B
• ø 1.0mm		2172		2412
• ø 1.1mm		2182		2422
• ø 1.2mm		2192		2432
• ø 1.3mm		2202		2442
• ø 1.4mm		2212		2452
• ø 1.5mm		2222		2462
• ø 1.7mm		2242		2472
• ø 1.8mm		2252		2482
• ø 1.9mm		2262		2492
• ø 2.0mm	615 526 066 0	2272		2502
• ø 2.1mm		2282		2512
• ø 2.2mm		2292		2522
• ø 2.3mm		2302		2532
• ø 2.4mm		2312		2542
• ø 2.5mm	615 526 068 0	2322		2552
• ø 2.6mm		2332		2562
• ø 2.7mm		2342		2572
• ø 2.8mm		2352		2582
• ø 2.9mm		2362		2592
• ø 3.0mm	615 526 069 0	2372		2602
• ø 3.1mm		2382		2612
• ø 3.2mm		2392		2622
• ø 3.3mm		2402		2632
• ø 3.4mm				2642
• ø 3.5mm			615 526 070 0	2652
• ø 3.6mm				2662
• ø 3.7mm				2672
• ø 3.8mm				2682
• ø 3.9mm				2692
• ø 4.0mm			615 526 071 0	2702
• ø 4.1mm				2712
• ø 4.2mm				2722
• ø 4.3mm				2732
• ø 4.4mm				2742
• ø 4.5mm			615 526 073 0	2752
• ø 4.6mm				2762
• ø 4.7mm				2772
• ø 4.8mm				2782
• ø 4.9mm				2792
• ø 5.0mm			615 526 075 0	2802
• ø 5.5mm			615 526 077 0	2812
• ø 6.0mm			615 526 079 0	2822
• ø 6.5mm			615 526 081 0	2832
• ø 7.0mm			615 526 083 0	2842
• ø 7.5mm			615 526 084 0	2852
• ø 8.0mm			615 526 088 0	2862



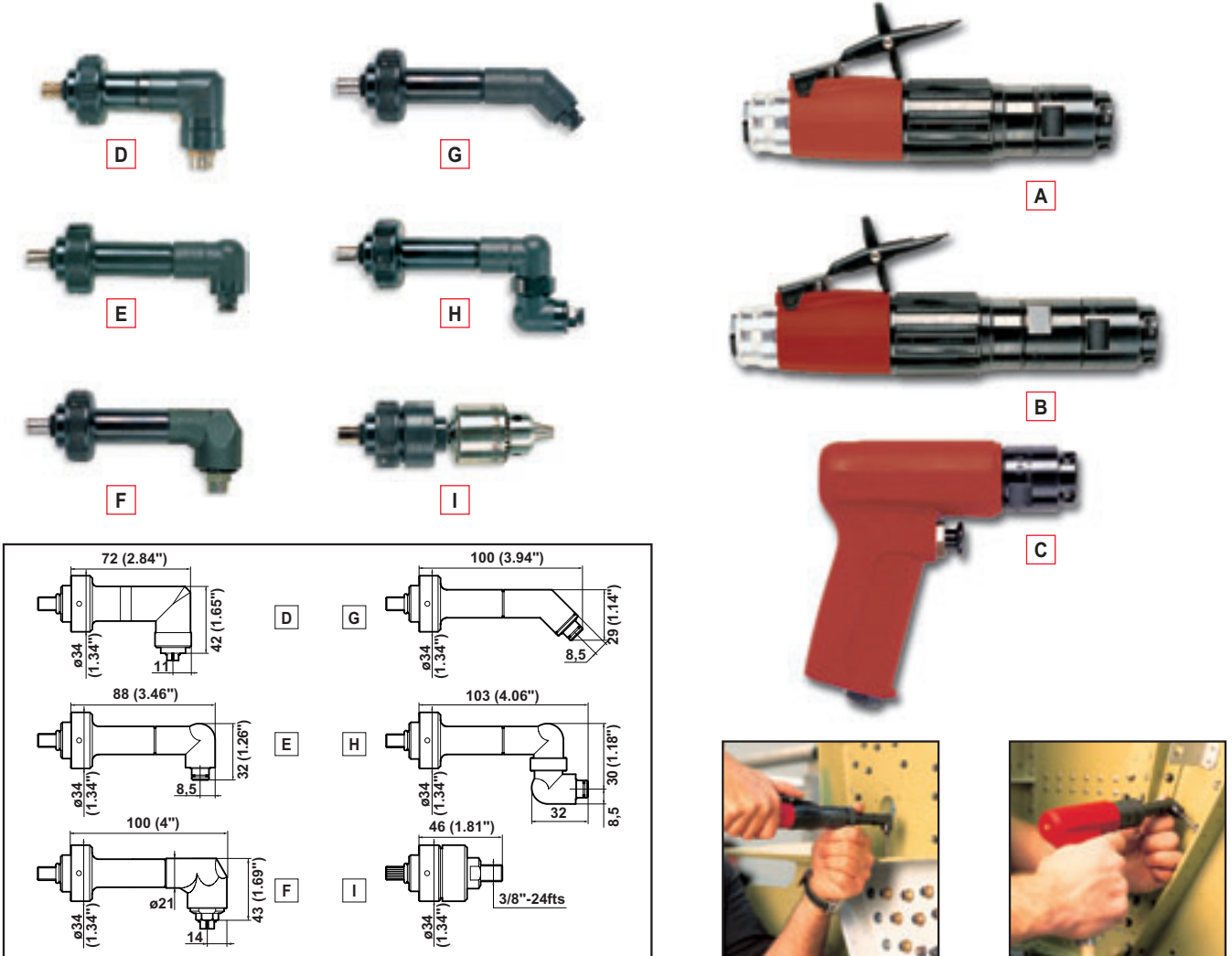
	CHUCK MOUNTING
• Chuck with key (capacity 0 to 6mm)	3/8" x 24 tpi 615 804 415 0
• Quick Chuck capacity 0 to 8mm (5/16")	615 396 145 0 615 804 416 0



Multi Drills

0.3 kW (0.4 hp) - 490 to 3200 rpm

Supplied without collet and chuck



PIC REF	MODEL	PART NUMBER	FREE SPEED	MOTOR POWER		WEIGHT		AIR FLOW		AIR INLET	HOSE ID	
			rpm	kW	Hp	kg	lb	l/s	cfm	BSP/NPT	mm	in.
A	DM5.32	615 176 023 0	3200	0.3	0.4	0.69	1.5	8	17	1/4	6	1/4
B	DM6.9	615 176 025 0	800	0.3	0.4	0.82	1.8	8	17	1/4	6	1/4
B	DM6.5	615 176 024 0	490	0.3	0.4	0.82	1.8	8	17	1/4	6	1/4
C	PM5.32	615 176 034 0	3200	0.3	0.4	0.72	1.6	8	17	1/4	6	1/4

PIC REF	PART NUMBER	DESIGNATION	COLLET MAX. CAPACITY		WEIGHT		RECOMMENDED FREE SPEED
			mm	in.	kg	lb	rpm

ANGLE HEADS

D	615 396 003 0	90° Angle Head	8	5/16	0.25	0.55	800/490
E	615 399 494 0	90° Angle Head	5	3/16	0.20	0.45	3200
F	615 396 237 0	90° Angle Head	8	5/16	0.30	0.65	3200
G	615 399 495 0	45° Angle Head	5	3/16	0.20	0.45	3200
H	615 399 496 0	360° Angle Head	5	3/16	0.25	0.55	3200
I	615 396 145 0	Chuck mounting 3/8" x 24 tpi			0.20	0.45	3200



Speciality Tools

Offset Angle Head

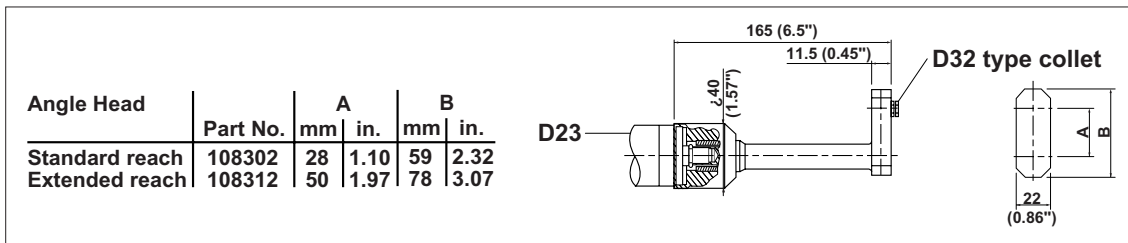
Introduction

Offset Angle Heads are used to provide solutions to drill holes in areas where access is very limited.

Two types of offset angle head module (standard and extended reach) suitable for mounting to the D23 (straight and pistol versions) drill are available.

To order please ensure that you list both the D23 Drill plus the Offset Angle Head to suit your requirements.

e.g.: D23-P-700 + Standard reach Part No. 108302



PIC REF	MODEL	PART NUMBER	FREE SPEED		CHUCK SIZE		MOTOR POWER		STALL TORQUE		WEIGHT		AIR FLOW	AIR INLET	HOSE INT. Ø	
			rpm	mm	in.	mm	in.	kW	hp	Nm	in lb	Kg	lb	l/s	BSP/NPT	mm
PISTOL GRIP DRILLS – TRIGGER START – D SERIES																
A	D23-P-6000	1364374	6000	8.0	0.315	0.28	0.38	2.0	17.7	0.90	1.98	8.5	1/4	10	3/8	
A	D23-P-4600	1364454	4600	8.0	0.315	0.28	0.38	2.0	17.7	0.90	1.98	8.5	1/4	10	3/8	
A	D23-P-2900	1364534	2900	8.0	0.315	0.28	0.38	3.0	26.6	0.90	1.98	8.5	1/4	10	3/8	
A	D23-P-1800	1364794	1800	8.0	0.315	0.28	0.38	5.0	44.3	1.10	2.42	8.5	1/4	10	3/8	
A	D23-P-1100	1364874	1100	8.0	0.315	0.28	0.38	9.0	79.7	1.10	2.42	8.5	1/4	10	3/8	
A	D23-P-700	1364954	700	8.0	0.315	0.28	0.38	15.0	132.8	1.10	2.42	8.5	1/4	10	3/8	
A	D23-P-400	1365004	400	8.0	0.315	0.28	0.38	24.0	212.0	1.10	2.42	8.5	1/4	10	3/8	
STRAIGHT GRIP DRILLS – LEVER START – D SERIES																
B	D23-L-5700	1362914	5700	8.0	0.315	0.28	0.38	2.0	17.7	0.70	1.54	9.4	1/4	10	3/8	
B	D23-L-4400	1363144	4400	8.0	0.315	0.28	0.38	2.0	17.7	0.70	1.54	9.4	1/4	10	3/8	
B	D23-L-2800	1363304	2800	8.0	0.315	0.28	0.38	3.0	26.6	0.84	1.85	9.4	1/4	10	3/8	
B	D23-L-1750	1363564	1750	8.0	0.315	0.28	0.38	6.0	53.1	0.84	1.85	9.4	1/4	10	3/8	
B	D23-L-1050	1363724	1050	8.0	0.315	0.28	0.38	10.0	88.5	0.84	1.85	9.4	1/4	10	3/8	
B	D23-L-400	1363984	400	8.0	0.315	0.28	0.38	25.0	221.3	0.84	1.85	9.4	1/4	10	3/8	
STRAIGHT GRIP DRILLS – BUTTON START – D SERIES																
•	D23-S-4400	1363064	4400	8.0	0.315	0.28	0.38	2.0	17.7	0.70	1.54	9.4	1/4	10	3/8	
•	D23-S-2800	1363224	2800	8.0	0.315	0.28	0.38	3.0	26.6	0.70	1.54	9.4	1/4	10	3/8	
•	D23-S-1750	1363484	1750	8.0	0.315	0.28	0.38	6.0	53.1	0.84	1.85	9.4	1/4	10	3/8	
•	D23-S-1050	1363644	1050	8.0	0.315	0.28	0.38	10.0	88.5	0.84	1.85	9.4	1/4	10	3/8	
•	D23-S-400	1363804	400	8.0	0.315	0.28	0.38	25.0	221.3	0.84	1.85	9.4	1/4	10	3/8	



Hole Deburring & Rivet Shaving



A



B



C



D

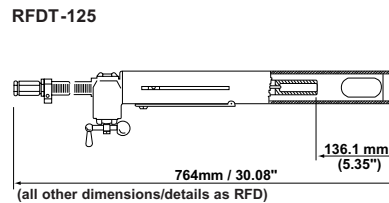
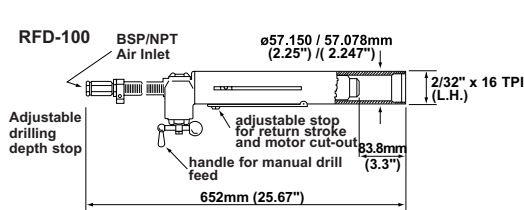
Accessories: see page 239



PIC REF	MODEL	PART NUMBER	FREE SPEED	COLLET SIZE	MAXIMUM CUTTER DIA.		WEIGHT		LENGTH		AIR FLOW		AIR INLET	HOSE INT. Ø	
					mm	in.	kg	lb	mm	in.	l/s	cfm		BSP/NPT	mm
HOLE DEBURRING TOOLS – PUSH TO START															
<i>(integral speed regulator)</i>															
A	A27-A-1300	1406594	100 - 1300	4	–	–	0.24	0.52	172	6.77	2.4	5.0	M5	3	1/8
B	C27-AX-1450	1405414	100 - 1450	6	–	–	0.48	1.05	218	8.58	6.2	13.0	1/4"	6	1/4
RIVET SHAVERS (for accessory 1/4"-26 WHIT)															
C	D156-S-20000	1275194	20000	–	14.3	9/16	1.0	2.2	232	9.13	9.3	19.7	1/4"	10	3/8
D	D156-P-20000	147664	20000	–	14.3	9/16	1.1	2.4	203	7.99	9.3	19.7	1/4"	10	3/8
RIVET SHAVERS (for accessory 1/4"-28 UN)															
C	D156-S-20000	205 146 599 4	20000	–	14.3	9/16	1.0	2.2	232	9.13	9.3	19.7	1/4"	10	3/8
D	D156-P-20000	205 146 600 4	20000	–	14.3	9/16	1.1	2.4	203	7.99	9.3	19.7	1/4"	10	3/8



Accessories



RFD-100 / RFDT-125

ACCESSORIES INCLUDED

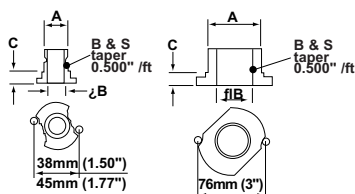
	PART NO.	
	RFD	RFDT
• Chuck with key capacity 13mm (1/2")	29142	
• Extended Nose (1" x 14 TPI LH nose thread)	251043	
• Bayonet Plate – 45mm (1.50") centres	251063	
• Bayonet Plate – 76mm (2.99") centres		35323

OPTIONAL ACCESSORIES

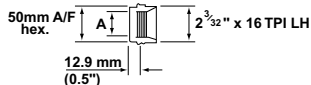
	PART NO.
	RFD
• Chuck Key	29242

Bayonet Plates

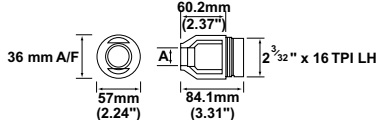
	PART NO.			
	'A'	'ØB'	'C'	
• Locating centres – 38mm (1.50")	3/4" x 16 TPI (LH)	14.2mm (0.559")	9.5mm (3/8")	251053
• Locating centres – 38mm (1.50")	7/8" x 20 TPI (LH)	14.2mm (0.559")	9.5mm (3/8")	30623
• Locating centres – 45mm (1.77")	1" x 14 TPI (LH)	19.05mm (3/4")	9.5mm (3/8")	251063
• Locating centres – 45mm (1.77")	1 1/8" x 20 TPI (LH)	19.05mm (3/4")	9.5mm (3/8")	31113
• Locating centres – 76mm (2.99")	2 3/32" x 16 TPI (LH)	38.1mm (1.150")	12.7mm (1/2")	35323



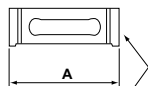
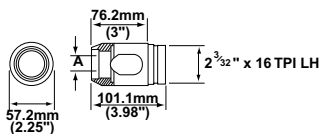
Nose Attachment 1



Nose Attachment 2



Nose Attachment 3



Internal thread
2 3/32" x 16 TPI LH
- both ends

Nose Attachments

Nose type	To suit bayonet plate centres	Thread 'A'	PART NO.
1	38mm (1.50")	3/4" x 16 TPI (LH)	235773
2	38mm (1.50")	3/4" x 16 TPI (LH)	251033
2	45mm (1.77")	1" x 14 TPI (LH)	251043
3	-	1 1/4" x 12 TPI (LH)	235213
3	-	1 1/2" x 12 TPI (LH)	235223
3	-	2" x 16 TPI (LH)	235343

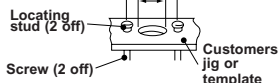
Extension Tubes

Nominal stroke available to drill	Length 'A'	PART NO.
60mm / (2.36")	150mm / (5.90")	250933
80mm / (3.15")	170mm / (6.69")	250923

Jig Plates

Centres 'A'	PART NO.	
	LOCATING STUD	SCREW
38mm (1.50")	17632	17642
45mm (1.77")	17632	17642
76mm (2.99")	18422	18432

For dimension 'ØB' please ask for details of our range of drill bushes.



1. Push nose into jig



2. Give quarter turn counter clockwise to lock



Rack Feed Drills

- The Rack Feed Drill is a semi-fixtured (nose mounted) portable drilling unit. Utilising a manual feed through an integral “rack and pinion” mechanism to accommodate the approach drilling and retract cycles. This provides the user with complete control of the feed rate during drilling and allows the user to “feel” the feed rate required. Versatile and flexible, especially when drilling laminates and sandwich materials.
- RFD is suitable for drilling/reaming various materials used in the Aerospace industries e.g. Inconel, Titanium, Steel, Aluminium and Composites.
- A wide speed range from 60 rpm to 2800 rpm is available allowing the best speed to be selected to suit the application.
- RFD-100 provides 102mm (4”) of adjustable working stroke length with a 13mm (1/2”) chuck capacity.
- RFDT-125 provides 127mm (5”) of adjustable working stroke length with a No. 2 Morse Taper drive spindle.
- Automatic motor start/stop – can be set to operate at any point within stroke setting for maximum economy of air.
- Various nose configurations can be provided.



RFD Selection

DRILL DIA.	MATERIAL			
	Inconel	Titanium	Mild Steel	Aluminium
	Tool type – rpm			
3mm 1/8"	RFD-330/500 RFDT-330/500	RFD-500 RFDT-500	RFD-2800	RFD-2800
5mm 3/16"	RFD-140/330 RFDT-140/330	RFD-330/500 RFDT-330/500	RFD-1850	RFD-2800
6mm 1/4"	RFD-140 RFDT-140	RFD-140/330 RFDT-140/330	RFD-800 RFDT-800	RFD-1850
8mm 5/16"	RFD-140 RFDT-140	RFD-140/330 RFDT-140/330	RFD-800 RFDT-800	RFD-800 RFDT-800
10mm 3/8"	RFD-85/140 RFDT-85/140	RFD-140 RFT-140	RFD-800 RFDT-800	RFD-800 RFDT-800
13mm 1/2"	RFD-60/85 RFDT-60/85	RFD-85/140 RFDT-85/140	RFD-500 RFDT-500	RFD-800 RFDT-800
16mm 5/8"		RFD-85/140 RFDT-85/140	RFD-330 RFDT-330	RFD-800 RFDT-800
19mm 3/4"		RFD-60/85 RFDT-60/85	RFD-85/140 RFDT-85/140	RFD-330/500 RFDT-330/500
25mm 1"			RFD-60/85 RFDT-60/85	RFD-140/330 RFDT-140/330

Use selection data as a guide only

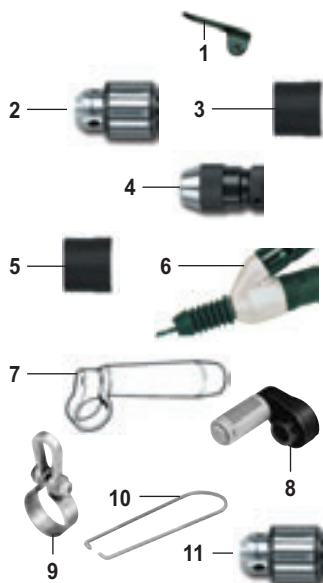
MODEL	PART NUMBER	FREE SPEED	MAX STROKE		OUTPUT SPINDLE	WEIGHT		AIR CONSUMPTION		AIR INLET	HOSE INT. Ø	
		rpm	mm	in.		kg	lb	l/s	cfm	BSP/NPT	mm	in.
RFD-100-2800	681214	2800	102	4		3.9	8.6	11.8	25	1/4	10	3/8
RFD-100-1850	681394	1850	102	4		3.9	8.6	11.8	25	1/4	10	3/8
RFD-100-800	680084	800	102	4	Chuck	3.9	8.6	11.8	25	1/4	10	3/8
RFD-100-500	680164	500	102	4	13mm	3.9	8.6	11.8	25	1/4	10	3/8
RFD-100-330	680244	330	102	4	1/2"	3.9	8.6	11.8	25	1/4	10	3/8
RFD-100-140	1457364	140	102	4	capacity	3.9	8.6	11.8	25	1/4	10	3/8
RFD-100-85	1457374	85	102	4		3.9	8.6	11.8	25	1/4	10	3/8
RFD-100-60	1457384	60	102	4		3.9	8.6	11.8	25	1/4	10	3/8
RFDT-125-800	1445654	800	127	5		5.5	12.1	11.8	25	1/4	10	3/8
RFDT-125-500	1445664	500	127	5	No. 2	5.5	12.1	11.8	25	1/4	10	3/8
RFDT-125-330	1445674	330	127	5	Morse	5.5	12.1	11.8	25	1/4	10	3/8
RFDT-125-140	1445504	140	127	5	Taper	5.5	12.1	11.8	25	1/4	10	3/8
RFDT-125-85	1445514	85	127	5		5.5	12.1	11.8	25	1/4	10	3/8
RFDT-125-60	1445524	60	127	5		5.5	12.1	11.8	25	1/4	10	3/8



Accessories for Pistol & Straight Grip Drills

C220-P-/L-.. / C22-P-/L-.. / D22-P-/L-/S-.. D23-P-/L-/S-..

ACCESSORIES INCLUDED



ITEM	C220-	C22-	D22-	D23-
1 Compact lever	410303	410303		
1 Long lever - the long lever is also for D22	305983	305983		
2 Chuck threaded 5/16"UNF - capacity 4mm (with key)	103082			
2 Chuck threaded 3/8"UNF - capacity 6.5mm (1/4") (with key)		28942		
2 Chuck threaded 3/8"UNF - capacity 8mm (5/16") (without key)				410203
2 Chuck (Jacobs No 1 taper) - capacity 6.5mm (1/4") (with key)			29492	
• Chuck key	29932	29182	29182	410213
3 Chuck Guard			252993	252993
• Clamp Ring - exhaust hose	235203	235203	235203	235203

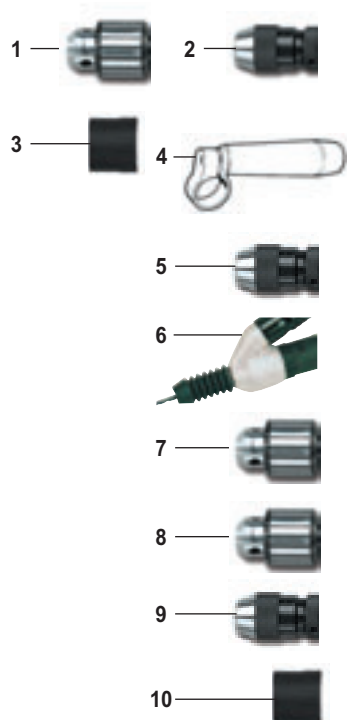
OPTIONAL ACCESSORIES

ITEM	C220-	C22-	D22-	D23-
4 Keyless Chuck threaded 3/8"UNF - capacity 8mm (5/16")		473433		473433
4 Keyless Chuck threaded 3/8"UNF - capacity 13mm (1/2")		205 047 819 3		205 047 819 3
5 Chuck Guard	393793	393793		
6 Dust extraction kit	53242*	53242*	53242	53242
7 Side Handle	359623	359623	70442	70442
8 Offset Exhaust			77722	77722
9 Suspension Shackle (for horizontal tool suspension)	95842	95842	70082	70082
10 Suspension Bail (for vertical tool suspension)	39433	39433	39433	39433
11 Chuck threaded 3/8"UNF - capacity 10mm (3/8")				31132
• Chuck key				29232

* Note: C220 & C22 require chuck guard 393793 to be fitted

DR750-P..

ACCESSORIES INCLUDED



ITEM	DR750...C8	DR750...C10	DR750...C13	DR750...K8 DR750...K10
1 Chuck threaded 3/8"UNF capacity 8mm (5/16") (without key)	410203			
1 Chuck threaded 3/8"UNF - capacity 10mm (3/8") (with key)		31132		
1 Chuck threaded 3/8"UNF - capacity 13mm (1/2") (with key)			473113	
• Chuck key	410213	29232	29242	
2 Keyless Chuck threaded 3/8"UNF - capacity 8mm (5/16") (for K8 model)				473433
2 Keyless Chuck threaded 3/8"UNF - capacity 10mm (3/8") (for K10 model)				473423
3 Chuck Guard	473143	473133		
4 Side handle	473173	473173	473173	473173
• Suspension Bail	473153	473153	473153	473153

OPTIONAL ACCESSORIES

ITEM	DR750.	DR750. JT1 MOUNT	DR750. JT2 MOUNT	DR750. JT6 MOUNT
• Sleeve - JT1 female to JT2 male		12243		
• Sleeve - JT1 female to JT6 male		205 047 882 3		
5 Keyless Chuck threaded 3/8"UNF - capacity 8mm (5/16")	473433			
5 Keyless Chuck threaded 3/8"UNF - capacity 13mm (1/2")	205 047 819 3			
6 Dust extraction kit	205 047 503 3			
7 Chuck threaded 3/8"UNF - capacity 10mm (3/8")	31132			
• Chuck key	29232			
• Flat wrench, 12.7mm (1/2")	15533			
8 Chuck with key (29182) - capacity 6.5mm (1/4")		29492		
8 Chuck with key (29232) - capacity 10mm (3/8")		29042	34752	
8 Chuck with key (29232) - capacity 13mm (1/2")			34332	615 524 004 0
8 Chuck with key (29202) - capacity 16mm (5/8")				615 524 014 0
9 Keyless Chuck - capacity 6.5mm (1/4")		615 524 009 0		
9 Keyless Chuck - capacity 10mm (3/8")		615 524 015 0	615 524 010 0	615 524 012 0
9 Keyless Chuck - capacity 13mm (1/2")			615 524 016 0	615 524 021 0
10 Chuck Guard - use with chuck with key - capacity 6.5mm (1/4")		473143	473143	473143
10 Chuck Guard - use with chuck with key - capacity 10mm (3/8")		473133	473133	473133
No. 2 Morse Taper Spindle			34862	



Accessories for Angle Drills

**F32-L-.. / D32-L-/-LX-/-S-.. / C32-L-.. / D314-S-/-L-.. /
D3141-S-/-L-.. / D3143-S-/-L-... / D33-SX-/-S-/-LX-/-L-.. /
D370-SX-/-LX-/-L-.. / D315-S-/-L-.. / D374-S-/-L-..**

ACCESSORIES INCLUDED

ITEM	F32- / D32- C32-.	D314-S D314-L	D3141-S D3141-L	D3143-S D3143-L	D33- D370-.	D315- D374-.
• ø 4.8mm (3/16") capacity collet	2552				2552	
• ø 6.4mm (1/4") capacity collet		19182				19182
• ø 8mm (5/16") capacity collet			2872			
1 Chuck threaded 3/8" UNF - capacity 6.5mm (1/4")				28942		
2 Compact lever	410303	410303	410303	410303	410303	410303
3 Standard lever	305983	305983	305983	305983	305983	305983
4 Exhaust hose	222458	222458	222458	222458	222458	222458
• Clamp	235203	235203	235203	235203	235203	235203

OPTIONAL ACCESSORIES

ITEM	F32- / D32- C32-.	D314-S D314-L	D3141-S D3141-L	D3143-S D3143-L	D33- D370-.	D315- D374-.
5 Dust extractor kit	94972					
6 Lock off lever	323893	323893	323893	323893	323893	323893
2 Compact lever					410303	410303

Collets capacity	F32 / D32 / C32 D33 / D370	D314 / D315 D374-.	D3141-S. D3141-L.	Collets capacity	F32 / D32 / C32 D33 / D370	D314 / D315 D374-.	D3141-S. D3141-L.
	A	B	C		A	B	C
• ø 0.8mm	2152			• ø 3.9mm	2462		
• ø 0.9mm	2162			• ø 4.0mm (5/32")	2472	19052	2672
• ø 1.0mm	2172			• ø 4.1mm	2482		
• ø 1.1mm	2182			• ø 4.2mm	2492	19062	2682
• ø 1.2mm	2192			• ø 4.3mm	2502		
• ø 1.3mm	2202			• ø 4.4mm	2512	19072	2692
• ø 1.4mm	2212			• ø 4.5mm	2522		
• ø 1.5mm	2222			• ø 4.6mm	2532	19082	2702
• ø 1.6mm	2232	18922		• ø 4.7mm	2542		
• ø 1.7mm	2242			• ø 4.8mm (3/16")	2552	19092	2712
• ø 1.8mm	2252	18932		• ø 4.9mm	2562		
• ø 1.9mm	2262			• ø 5.0mm	2572	19102	2722
• ø 2.0mm	2272	18942		• ø 5.2mm		19122	2732
• ø 2.1mm	2282			• ø 5.4mm		19132	2742
• ø 2.2mm	2292	18952		• ø 5.6mm		19142	2752
• ø 2.3mm	2302			• ø 5.8mm		19152	2562
• ø 2.4mm (3/32")	2312	18962	2592	• ø 6.0mm		19162	2772
• ø 2.5mm	2322			• ø 6.2mm		19172	2782
• ø 2.6mm	2332	18972	2602	• ø 6.4mm (1/4")		19182	2792
• ø 2.7mm	2342			• ø 6.6mm			2802
• ø 2.8mm	2352	18982	2612	• ø 6.8mm			2812
• ø 2.9mm	2362			• ø 7.0mm			2822
• ø 3.0mm	2372	18992	2622	• ø 7.2mm (9/32")			2832
• ø 3.1mm	2382			• ø 7.4mm			2842
• ø 3.2mm (1/8")	2392	19002	2632	• ø 7.6mm			2852
• ø 3.3mm	2402			• ø 7.8mm			2862
• ø 3.4mm	2412	19022	2642	• ø 8.0mm (5/16")			2872
• ø 3.5mm	2422			• ø 1/16"	91442		
• ø 3.6mm	2432	19032	2652	• ø 3/32"	91452		
• ø 3.7mm	2442			• ø 1/8"	91462		
• ø 3.8mm	2452	19042	2662	• ø 5/32"	91472		
				• ø 3/16"	91482		



Accessories for Tappers

D16-S-.. / D16-L-.. / D16-P-.. / 2F16-L-..

ACCESSORIES INCLUDED

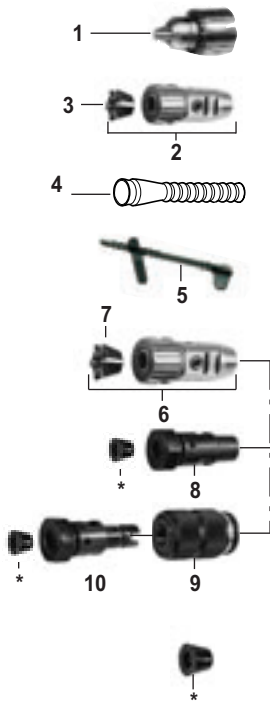
ITEM	PART NUMBER		
	D16-S-1000 D16-L-1000 D16-P-750	D16-S-500 D16-L-500 D16-P-450	2F16-L-700 2F16-L-250
1 Chuck (Jacobs No. 1 taper) - capacity 6.5mm (1/4")	29492		
1 Chuck threaded 3/8" UNF - capacity 10mm (3/8") (with key)		29042	
• Chuck key	29182	29232	
2 Precision collet tap holder			29462
3 Collet capacity M3.5 to M6 (9/64" to 1/4")			29482
4 Exhaust hose (except D16-P-..)	222453	222453	222453
• Clamp	235203	235203	235203

OPTIONAL ACCESSORIES

ITEM	PART NO.
5 Lock off lever	323893
6 Precision collet tap holder (with collet 29472)	29452
7 Collet capacity M4 to M8 (9/64" to 5/32")	29472
7 Collet capacity M3 to M7	29482
7 Collet capacity M6 to M12 (1/4" to 5/32")	97982
8 *Tap Holder	69922
9 Quick Release Chuck	16852
10 *Quick Release Tap Holder	69872

*Collets for Tap Holders:

TAP SIZE		BA	SHANK DIA		PART NO.
mm	in.		mm		
• M2.2 & M2.5		6 & 8	2.8		2612
• M3	1/8"	5	3.2		2632
• M3.5		4	3.6		2652
• M4			4.0		2672
• M4.5		3	4.5		2702
• M5	3/16"	2	5.0		2722
• M5.5	7/32"	1	5.6		2752
• M6	1/4"	0	6.3		2792
• M7	9/32"		7.1		2832
• M8 & M11	5/16" & 7/16"		8.0		2872
• M9 & M12	1/2"		9.0		69882
• M10	3/8"		10.0		69892
• *Wrench for Tap Holder collet nut					29443
• *2mm A/F hexagon key for Tap Holder grub screws					206773



Accessories for Hole Deburring & Rivet Shaving

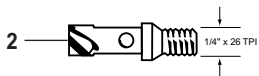
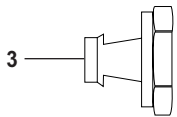
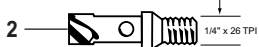
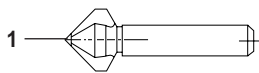
A27-A-.. / C27-AX-.. / D156-S-.. / D156-P-..

ACCESSORIES INCLUDED

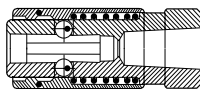
ITEM	PART NO.			
	A27-A	C27-AX	D156-S	D156-P
• Collet – 3mm capacity	2372			
• Collet – 4mm capacity	2472			
• Collet – 6.4mm (1/4") capacity		8482		
1 Cutter (90° point) – 5mm dia	91752			
1 Cutter (90° point) – 10mm dia		91572		
2 Cutter – carbide tipped (11.1mm 7/16" dia)			70602	70602
3 Cutter Guard			18822	18822
• Air Hose (M5 x 1/8" BSP) – 4mm bore	79322			
• Adaptor (1/8" BSP female to 1/8" NPT male)	271463			
• Suspension Bail	280903	39433		
• Exhaust hose	280913	222453	222453	
• Exhaust Hose Clip		235203	235203	
• Collet Nut Wrench	82623	18582		
• Collet Spindle Wrench	268263	159003	15533	15533
• Cutter Guard Wrench			38873	38873

OPTIONAL ACCESSORIES

ITEM	PART NO.	
	D156-S	D156-P
• Suspension Bail	39433	
• Offset exhaust silencer	77722	
2 Cutter – carbide tipped (ø6.4mm ø1/4")	70572	70572
2 Cutter – carbide tipped (ø7.9mm ø5/16")	70582	70582
2 Cutter – carbide tipped (ø9.5mm ø3/8")	70592	70592
2 Cutter – carbide tipped (ø12.7mm ø1/2")	70622	70622
3 Cutter Guard (ø6.4mm ø1/4")	18782	18782
3 Cutter Guard (ø7.9mm ø5/16")	18792	18792
3 Cutter Guard (ø9.5mm ø3/8")	18802	18802
3 Cutter Guard (ø12.7mm ø1/2")	18832	18832
3 Cutter Guard (ø14.3mm ø9/16")	18842	18842



Drilling Accessories



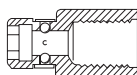
SCREWDRIVER BIT ADAPTOR

TAPER	INSIDE HEX	NOTES	PART NO.
Jacobs No 1	5/16 Hex	Quick release	27742
Jacobs No 1	1/4" Hex	Quick release	31102



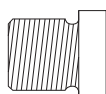
TAPER ADAPTOR

TAPER	TAPER	NOTES	PART NO.
Jacobs No 1	Jacobs No 2		12243
Morse No 1	Morse No 2		30032



SCREWDRIVER BIT ADAPTOR

INSIDE HEX OR TAPER	TAPER/INSIDE HEX	NOTES	PART NO.
3/8" x 24	1/4" Hex E6.3	Positive retention	6154 804 419 0



CHUCK ADAPTORS

INSIDE THREADS	OUTSIDE THREADS	NOTES	PART NO.
3/8" x 24 UN	1/2" x 20 UN		68143



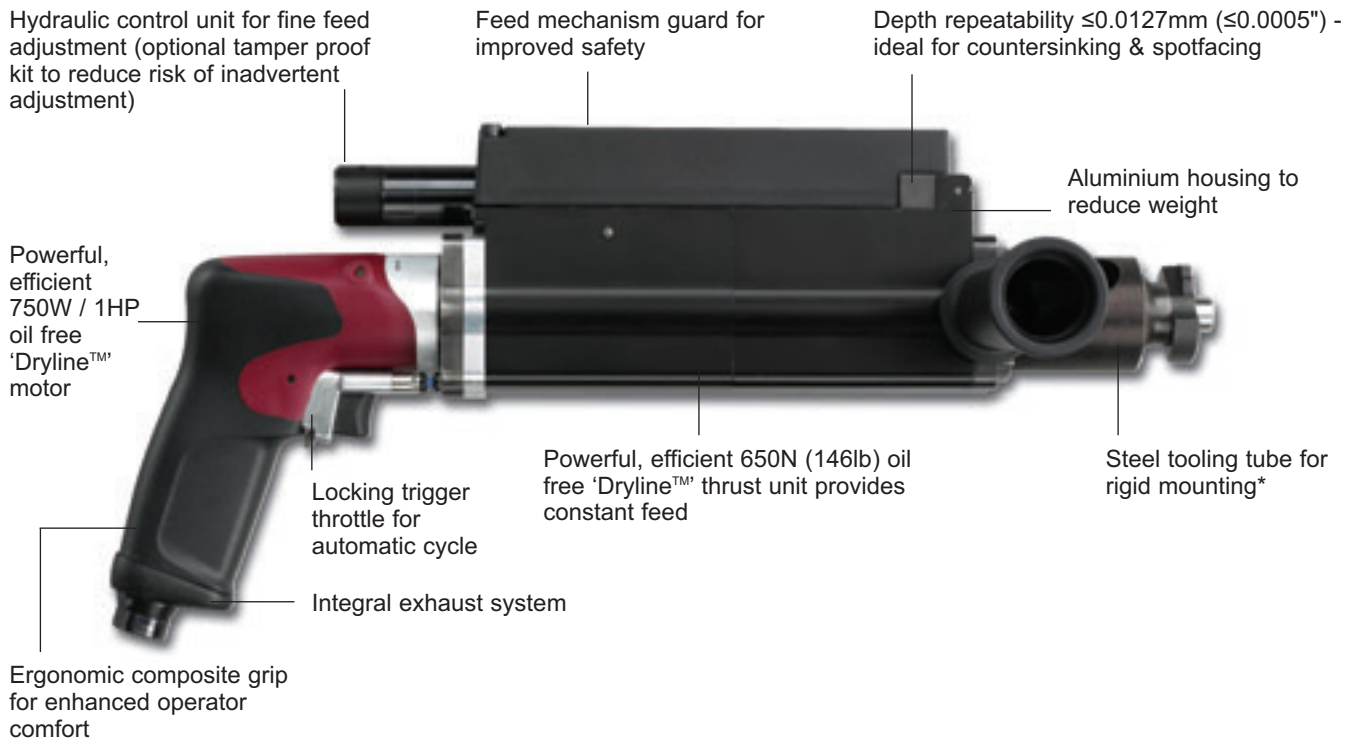
CFD - Portable Feed Drill

Ergonomics & Operator Comfort

- High Power to Weight ratio
- Lightweight for ease of handling to fixture mount

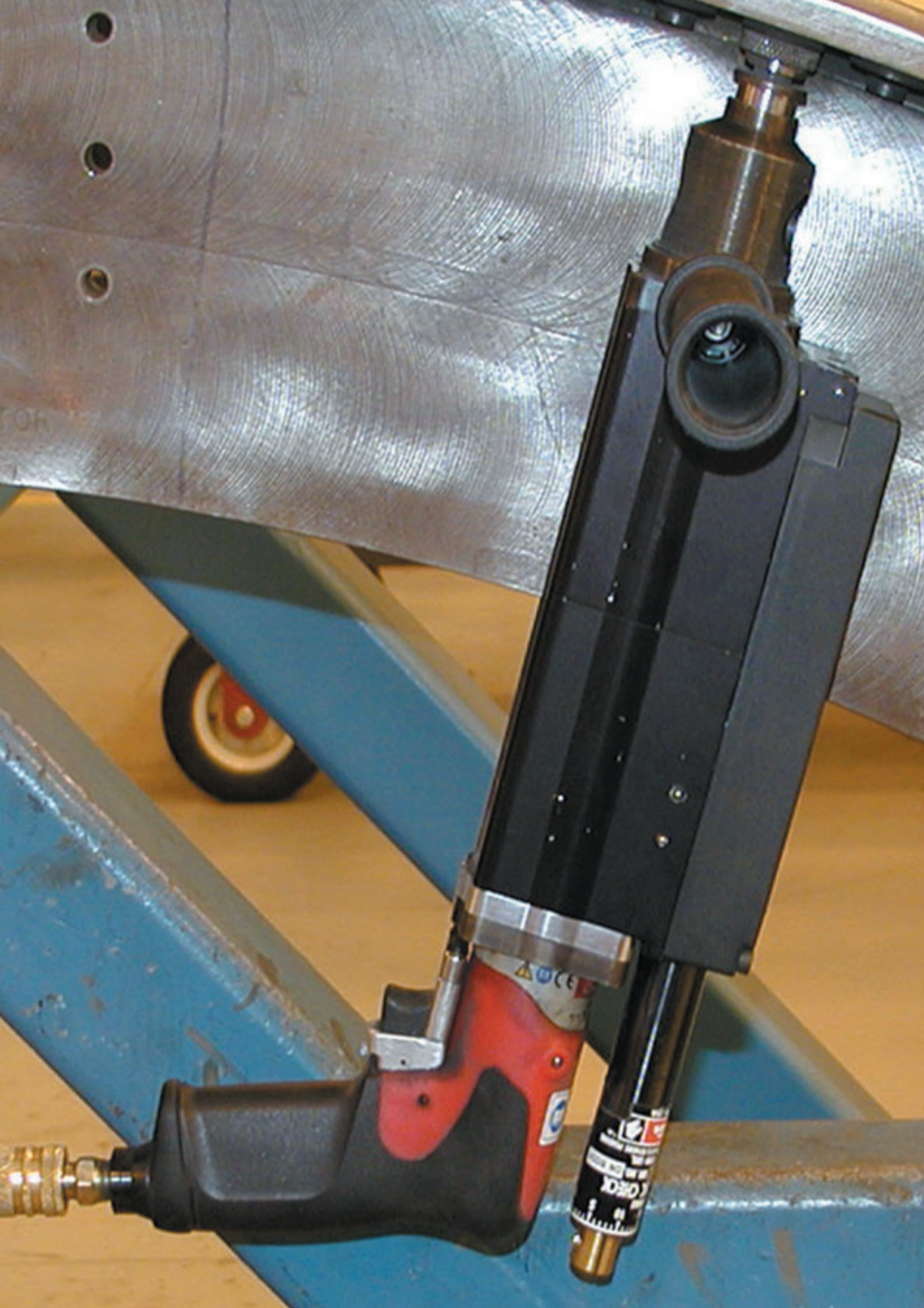
Features

- Powered by a full 750W / 1hp, oil free, motor
- Feed unit provides in excess of 650N (146lbs) thrust
- Working stroke 50mm (2")
- Chuck capacity - $\varnothing 10\text{mm}$ max. ($\varnothing 3/8"$)
- Depth repeatability - $\leq 0.0127\text{mm}$ ($\leq 0.0005"$) (via micrometer adjustment option)
- Integrated (M5 / 10-32) feed ports to activate external accessories e.g. oil mist coolant systems (F port provides signal during forward feed, self collecting mounting) (C port provides positive signal throughout drilling & retract cycle).

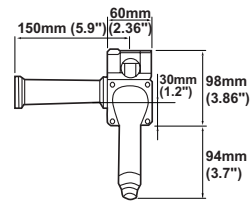
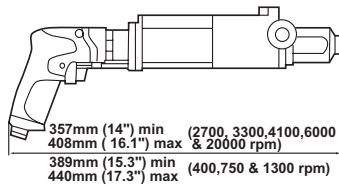


Reliability & Servicing

- Fast delivery
- Modular construction provides ease of servicing
- Minor & major service kits available to ensure a 'right first time' service



Accessories



CFD

ACCESSORIES INCLUDED

ITEM	2000, 6000 & 4100 rpm	3300, 2700, 1300 & 400 rpm
• Chuck threaded $\frac{3}{8}$ "UNF - capacity 8mm - $\frac{5}{16}$ " (without key)	410203	31132
• Chuck threaded $\frac{3}{8}$ "UNF - capacity 10mm ($\frac{3}{8}$ " (with key)	410213	29232
• Chuck Key	469883	469883
1 Tooling Tube $\frac{3}{4}$ " - 16 UN LH thread		

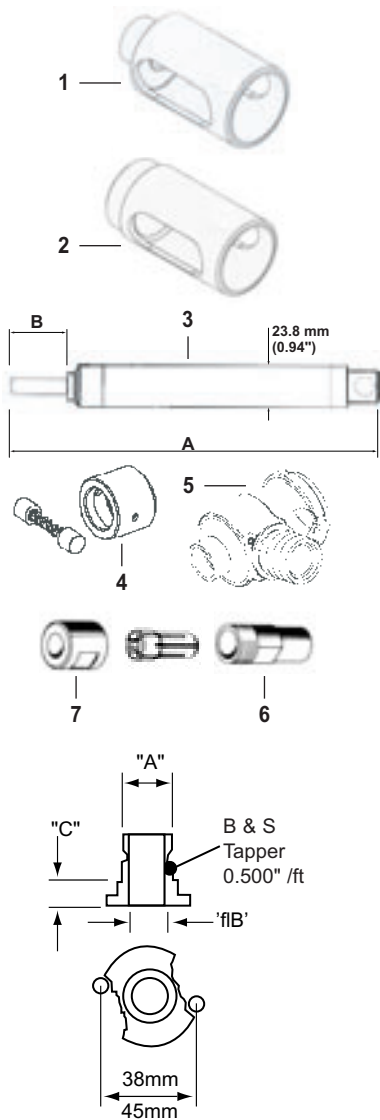
OPTIONAL ACCESSORIES

ITEM	PART NO
2 Tooling Tube blank (for local customisation)	471873
3 Hydraulic Control Unit - 25mm (1" stroke - A = 199mm (7.83") - B = 30.1 (1.19")	91942
3 Hydraulic Control Unit - 50mm (2" stroke - A = 276mm (10.9") - B = 55.5 (2.19")	91952
4 Tamper proof HCU cap	110632
• Micrometer Depth Adjustment Module	205 047 818 3
5 Dust Extraction kit	205 047 806 3
6 Collet spindle	615 523 023 0
7 Collet nut	615 607 144 0
• Collet cap. \varnothing 2.4mm to 3.2mm ($\frac{1}{8}$ "	615 526 061 0
• Collet cap. \varnothing 5.2mm to 6mm ($\frac{7}{32}$ "	615 526 062 0
• Collet cap. \varnothing 5.55mm to 6.35mm ($\frac{1}{4}$ "	615 526 063 0
• Collet cap. \varnothing 7.2mm to 8mm ($\frac{5}{16}$ "	615 526 064 0
• Collet cap. \varnothing 8.7mm to 9.5mm ($\frac{3}{8}$ "	615 526 065 0

Bayonet plates

	A	\varnothing B	C	PART NO.
• Locating centres - 38mm (1.49")	$\frac{3}{4}$ " x 16 TPI (LH)	14.2mm (0.56")	9.5mm ($\frac{3}{8}$ "	251053
• Locating centres - 38mm (1.49")	$\frac{7}{8}$ " x 20 TPI (LH)	14.2mm (0.56")	9.5mm ($\frac{3}{8}$ "	30623
• Locating centres - 45mm (1.77")	1" x 14 TPI (LH)	19.05mm ($\frac{3}{4}$ "	9.5mm ($\frac{3}{8}$ "	251063
• Locating centres - 45mm (1.77")	$1\frac{1}{8}$ " x 20 TPI (LH)	19.05mm ($\frac{3}{4}$ "	9.5mm ($\frac{3}{8}$ "	31113

* Tooling tube ($\frac{3}{4}$ "-16UN LH) is suitable for use with 21000 series drill bushings



Bushes available on request.
Please ask for further details.

CFD – Portable Feed Drill



How to order ...

Constant Feed Drill

+

Hydraulic Control Unit

Pt No. 91942 – 25mm (1") stroke
Pt No. 91952 – 50mm (2") stroke

Max. working stroke 50mm (2")

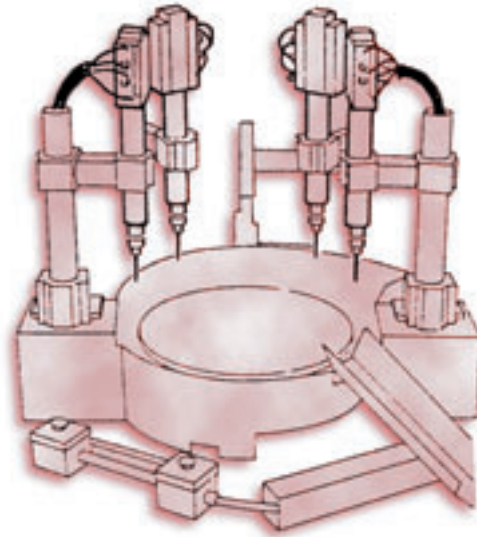
PIC REF	MODEL	PART NUMBER	FREE SPEED	STD. CHUCK SIZE		MOTOR POWER		DYNAMIC THRUST		WEIGHT		AIR FLOW		AIR INLET	HOSE INT. Ø	
			rpm	mm	in.	kW	Hp	N	lbf	kg	lb	l/s	cfm	BSP/NPT	mm	in.
A	CFD-DR750-P20000	205 146 675 4	20000	8	5/16	0.75	1.00	650	146	3.75	8.25	14	30	1/4	10	3/8
A	CFD-DR750-P6000	205 146 674 4	6000	8	5/16	0.75	1.00	650	146	3.75	8.25	14	30	1/4	10	3/8
A	CFD-DR750-P4100	205 146 673 4	4100	8	5/16	0.75	1.00	650	146	3.75	8.25	14	30	1/4	10	3/8
A	CFD-DR750-P3300	205 146 672 4	3300	10	3/8	0.75	1.00	650	146	3.75	8.25	14	30	1/4	10	3/8
A	CFD-DR750-P2700	205 146 671 4	2700	10	3/8	0.75	1.00	650	146	3.75	8.25	14	30	1/4	10	3/8
A	CFD-DR750-P1300	205 146 670 4	1300	10	3/8	0.75	1.00	650	146	4.25	9.35	14	30	1/4	10	3/8
A	CFD-DR750-P750	205 146 669 4	750	10	3/8	0.75	1.00	650	146	4.25	9.35	14	30	1/4	10	3/8
A	CFD-DR750-P400	205 146 668 4	400	10	3/8	0.75	1.00	650	146	4.25	9.35	14	30	1/4	10	3/8

Drilling speed selection guide:

FREE SPEED	TITANIUM		STAINLESS STEEL		SOFT CAST IRON, MILD STEEL		ALUMINIUM, BRASS, COPPER, BRONZE		COMPOSITE	
rpm			9-15 m/min 30-50 ft/min		20-35 m/min 65-115 ft/min		50-80 m/min 165/265 ft/min		50-100 m/min 165-300 ft/min	
Drill Ø mm (in.)										
20000	-	-	-	-	-	-	2	5/64	4	5/32
6000	-	-	-	-	-	-	4	5/32	5	3/16
4100	-	-	-	-	-	-	6	1/4	8	5/16
3300	-	-	-	-	3	1/8	8	5/16	10	3/8
2700	-	-	-	-	4	5/32	10	3/8	-	-
1300	2	5/64	4	5/32	9	11/32	-	-	-	-
750	3	1/8	7	9/32	10	3/8	-	-	-	-
400	3	1/8	7	9/32	10	3/8	-	-	-	-

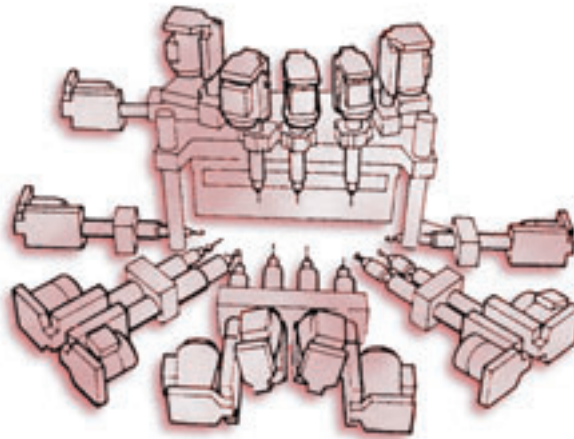


AFD Product Range



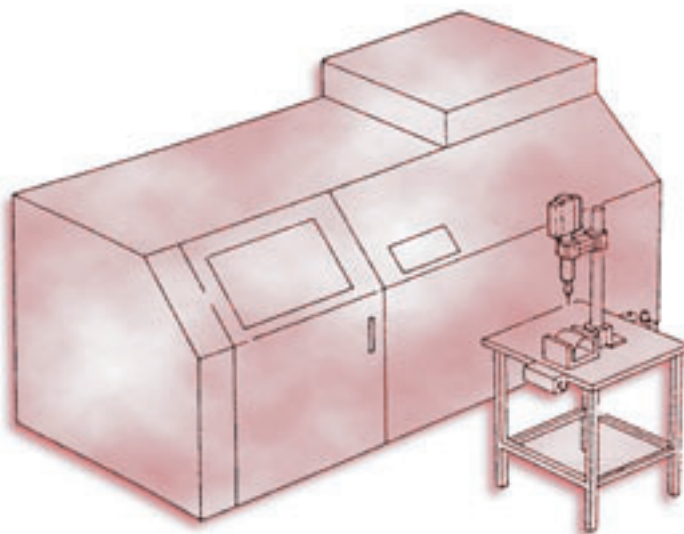
Ease of Incorporation into Machine or Process

- Extensive range of mounting clamps
- Control interfaces to link AFD(E) to other equipment through pneumatics or electrically
- Single signal required for AFD(E) to perform cycle
- Output signals at datum and depth
- Electric motor mounting on 200, 400 and 600 series can be rotated through 180°



Modular Design

- Flexibility of unit function and speed
- Common components in differing models reducing inventory
- Multiple spindle head options
- Drill and tapping options for all models



Comprehensive range of Products

- For single spindle operations to multi spindle processes
- Pneumatic and electric drive from 0.22 to 0.75W (0.3-1.0hp) with thrusts from 320 to 1557N (72-350lbf)
- Reliability through quality



For further information see catalogue LT1212

Electric drive / Pneumatic feed



MODEL	MOTOR POWER		DYNAMIC THRUST		FREE SPEED	WORKING STROKE		FUNCTION
	kW	hp	N	lbf	rpm	mm	in.	
AFDE200	0.25	0.34	320	72	850-11950	90	3.43	Drill/Tapper



MODEL	MOTOR POWER		DYNAMIC THRUST		FREE SPEED	WORKING STROKE		FUNCTION
	kW	hp	N	lbf	rpm	mm	in.	
AFDE410	0.75	1.00	724	163	330-9600	100	3.94	Drill/Tapper



MODEL	MOTOR POWER		DYNAMIC THRUST		FREE SPEED	WORKING STROKE		FUNCTION
	kW	hp	N	lbf	rpm	mm	in.	
AFDE610	0.75	1.00	1557	350	330-6300	100	3.94	Drill/Tapper

Electric drive / Leadscrew feed



MODEL	MOTOR POWER		TAPPING TORQUE		FREE SPEED	WORKING STROKE		FUNCTION
	kW	hp	Nm	lbf ins	rpm	mm	in.	
AFTE480	0.75	1.00	4.4-35.8	39-317	180-1740	60	2.36	Tapper

Pneumatic drive / feed



MODEL	MOTOR POWER		DYNAMIC THRUST		FREE SPEED	WORKING STROKE		FUNCTION
	kW	hp	N	lbf	rpm	mm	in.	
AFD205	0.22	0.30	400	90	650-18700	50	1.97	Drill/Tapper



MODEL	MOTOR POWER		DYNAMIC THRUST		FREE SPEED	WORKING STROKE		FUNCTION
	kW	hp	N	lbf	rpm	mm	in.	
AFD215	0.22	0.30	400	90	650-18700	90	3.43	Drill/Tapper



MODEL	MOTOR POWER		DYNAMIC THRUST		FREE SPEED	WORKING STROKE		FUNCTION
	kW	hp	N	lbf	rpm	mm	in.	
AFD415	0.38	0.51	706	159	490-18000	100	3.94	Drill/Tapper



MODEL	MOTOR POWER		DYNAMIC THRUST		FREE SPEED	WORKING STROKE		FUNCTION
	kW	hp	N	lbf	rpm	mm	in.	
AFD625	0.66	0.85	1557	350	40-3300	100	3.94	Drill/Tapper



Air Motors

Air motors are versatile power sources which can be used to power many kinds of operations requiring a rotational drive. They have many advantages over electric motors, and often become the only feasible method of operation.



Advantages

Desoutter offers a wide range of rotating vane type air motors within a power range of 0.26 kW (0.35 hp) to 0.66 kW (0.85 hp). Most motors can be supplied as single rotation or reversible. Reversible motors have keyed shafts, while single direction motors can be supplied with threaded shafts or alternatives.

1. Compact, with high power to weight ratio. An air motor will often be one third or less than the size of a comparable electric motor. An air motor can be used in a portable application where the weight and/or physical size of the electric motor would preclude portable operations. For example, a 0.63 kW (0.85 hp) air motor running at 2000 rpm weighs 1.4 kg (3 lbs) and is approximately 200mm (8") long and just over 50mm (2") in diameter.
2. The output speed and torque can be simply controlled by regulating

either the air pressure or air flow. No expensive control equipment is required.

3. If a motor is loaded to a stalled condition, and held there for any length of time, no damage is caused to the motor. In certain applications, such as tightening fasteners, one acceptable method of control is to regulate the air pressure so that the motor stalls at the required torque.

4. When the load is released, the air motor will reach free running speed usually within one third to one half of a revolution.

5. No risk of overheating either when continuously run or frequent stop/starts or reversing. Note that this condition assumes the use of an inline lubrication system.

6. Reversing motors require simple control of air pressure into ports in the control top of the motor to determine direction of rotation. To reverse the direction of rotation takes milliseconds to complete.

7. Resists moisture, dust, heat. Is generally explosion proof and can be used safely in most hazardous situations.



For further information see catalogue LT1055



DM6, DM65 Series

0.26 kW (0.35 hp)

Maximum Torque 8 Nm (5.9 lbf ft), Non Reversible



2DM6 Series

0.26 kW (0.35 hp)

Maximum Torque 8 Nm (5.9 lbf ft), Reversible



HM Series

0.45 kW (0.6 hp)

Maximum Torque 41 Nm (30 lbf ft), Non Reversible



HM55 Series

0.63 kW (0.84 hp)

Maximum Torque 41 Nm (30 lbf ft), Non Reversible



2HM5 Series

0.66 kW (0.85 hp)

Maximum Torque 41 Nm (30 lbf ft), Reversible



2H410 Series

0.66 kW (0.85 hp)

Maximum Torque 106 Nm (78 lbf ft), Worm Drive Motors

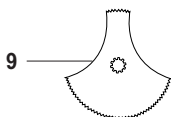
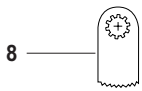
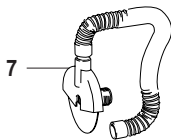
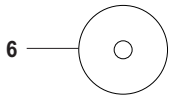
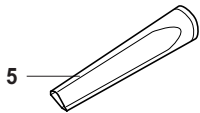
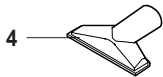
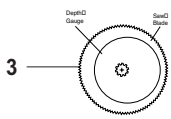
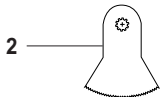
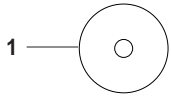


Accessories

D144-T-.. / S144-T-.. / D170-L / AV101

ACCESSORIES INCLUDED

ITEM	APPLICATION	PART NO.			
		D144-T	S144-T	D170-L	AV101
• Exhaust hose		222453		222453	
• Exhaust Hose Clip		235203		235203	
• Spindle Wrench		164433		15533	
• Clamp Nut Wrench		29443			
• Guard Nut Wrench		29653			
• Hex. Key – 4mm (⁹ / ₃₂ " A/F		204903		204903	
1 Saw Blade – diamond coated 64mm (2.5") dia.	Fibreglass	32732			
1 Saw Blade – 80 teeth 45mm (1.77") dia.	Soft Steel <1.2mm (3/64")		76362		
1 Saw Blade 80mm (3.15") dia.	Plastics			90762	
1 Saw Blade – teflon coated 80mm (3.15") dia.	Plastics			90772	
2 Saw Blade 50.8mm (2") radius x 50mm (1.97") wide	Soft Wood			90832	
3 Depth Gauge				27262	
4 Upholstery Nozzle					106443
5 Crevice Nozzle					106533



OPTIONAL ACCESSORIES

ITEM	APPLICATION	PART NO.			
		D144-T	S144-T	D170-L	AV101
6 Saw Blade 64mm (2.5") dia.	Wood	34252			
6 Saw Blade 50mm (1.97") dia.	Soft Steel >1.2mm (3/64") max depth 7mm		76372		
6 Saw Blade 50mm (1.97") dia.	Hard Steel <1.2mm (3/64") max depth 10mm (3/8")		76382		
6 Saw Blade 50mm (1.97") dia.	Aluminium max depth 10mm (3/8")		76392		
7 Dust Extraction Hood includes 3m hose – 32mm (1.26") ID				78472	
6 Saw Blade – diamond tipped 64mm (2.5") dia.	Fibreglass			16962	
6 Saw Blade – diamond tipped 1.2mm (3/64") tooth pitch - 64mm (2.5") dia.	Fibreglass			90722	
6 Saw Blade – diamond tipped 1.2mm (3/64") tooth pitch - 80mm (3.15") dia.	Fibreglass			90732	
6 Saw Blade – 1.5mm (0.06") tooth pitch 51mm (2") dia.	Soft Wood			90782	
6 Saw Blade – 1.8mm (0.07") tooth pitch 64mm (2.5") dia.	Soft Wood			90792	
6 Saw Blade – 1.5mm (0.06") tooth pitch 76mm (3") dia.	Soft Wood			90802	
8 Saw Blade 22mm (0.87") radius x 15mm (19/32") wide	Soft Wood			90822	
9 Saw Blade 63.5mm (2.5") dia. – 60mm (2.36") + 16mm (5/8") segments	Soft Wood			90842	



Miscellaneous



A



B



C



D



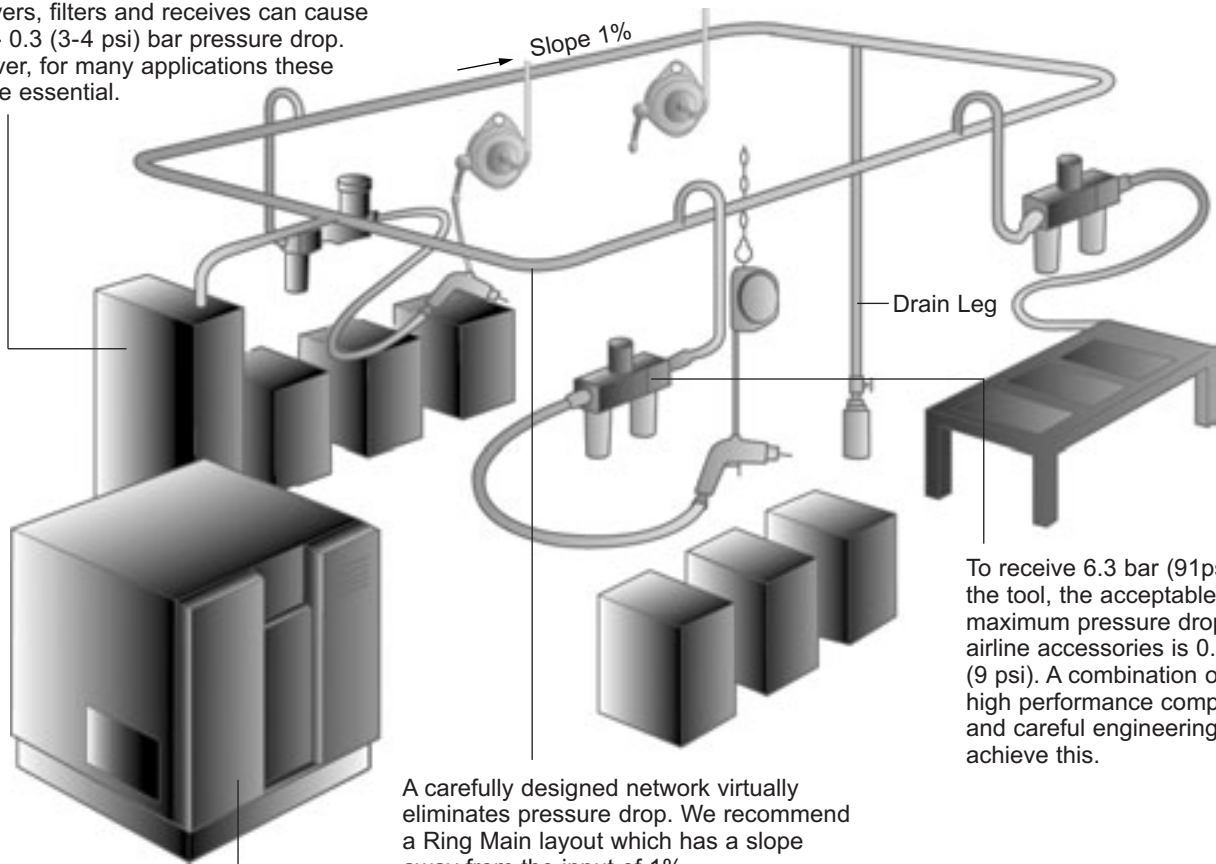
E

PIC REF	MODEL	PART NUMBER	FREE SPEED	OSCILLATING FREQUENCY	BLADE Ø		WEIGHT		LENGTH		AIR CONSUMPTION		AIR INLET THREAD	HOSE INT. Ø	
			rpm	c/min	mm	in.	kg	lb.	mm	in.	l/s	cfm	in.	mm	in.
FIBREGLASS SAW - capacity 13mm (1/2") depth															
A	D144-T-3300	1273234	3300		64	2.5	0.9	2.0	229	9.01	9.4	19.9	1/4 BSP	10	3/8
CIRCULAR SAW - capacity 10mm (3/8") depth (hard steel 1.2mm (3/64") depth)															
B	S144-T-3100	936974	3100		45	1.77	1.4	3.1	245	9.65	9.4	19.9	1/4 BSP	10	3/8
OSCILLATING SAW															
C	D170-L	1261574		19000	80	3.2	0.9	2.0	287	11.30	9.3	19.7	1/4 BSP	10	3/8
VACUUM CLEANER															
D	AV101	128534					0.7	1.54	202	7.95	5.9	12.5	1/4 BSP	6	1/4
VACUUM PEN															
E	V100	129504					0.45	0.99	137	5.39	0.7	0.33	3.6 Spline	4	5/32

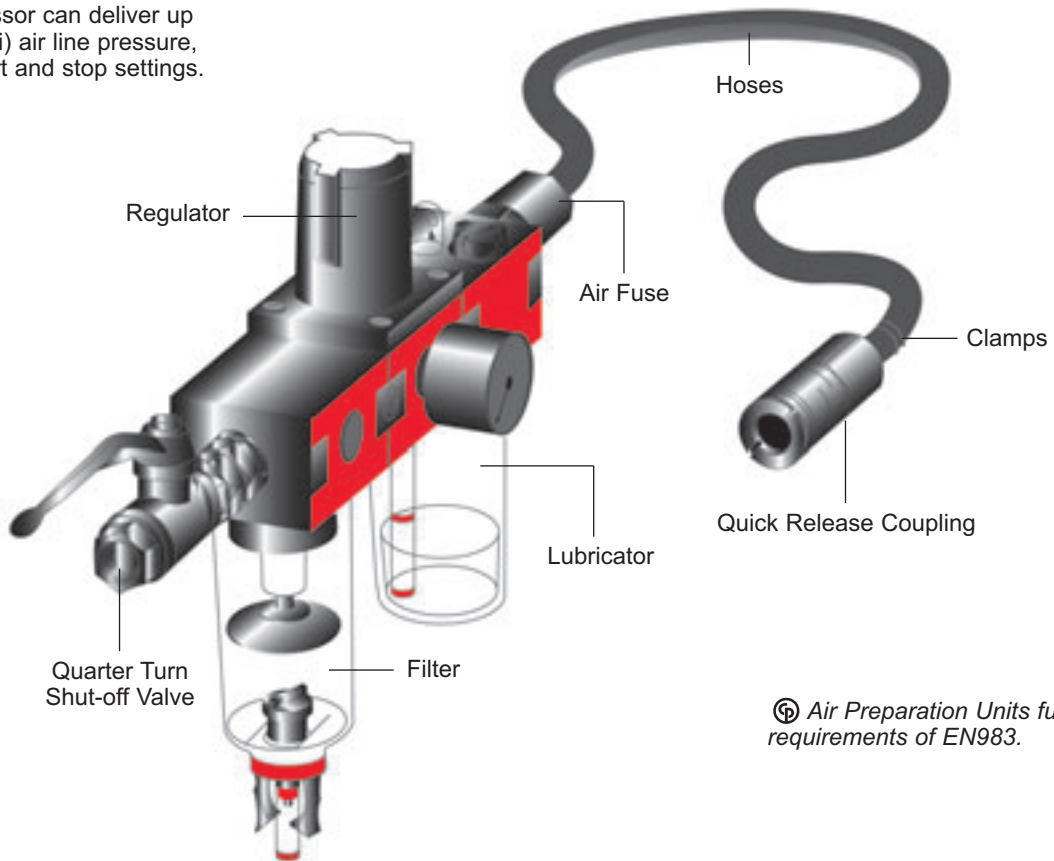


Air Line Network

Air dryers, filters and receives can cause a 0.2 - 0.3 (3-4 psi) bar pressure drop. However, for many applications these may be essential.

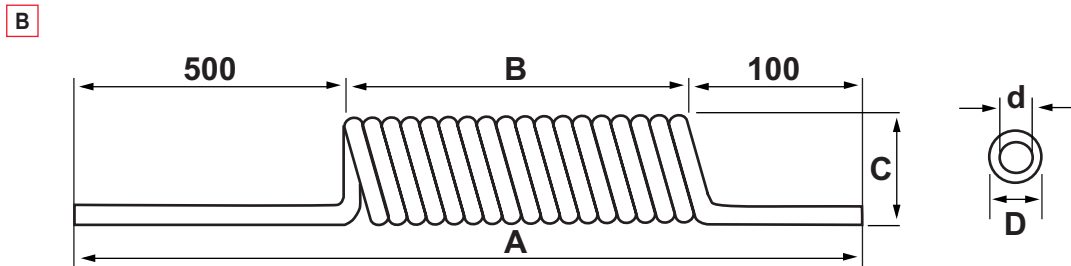
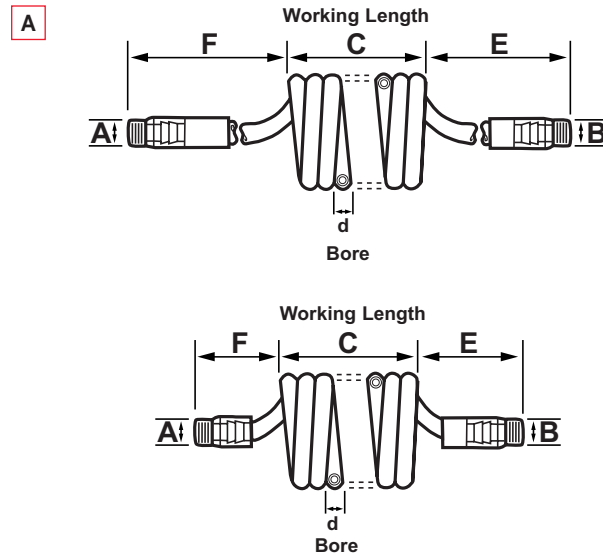


A normal compressor can deliver up to 7.5 bar (109 psi) air line pressure, depending on start and stop settings.



© Air Preparation Units fulfill the requirements of EN983.

Spiral Hoses



ASSEMBLED SPIRAL HOSES

PIC REF	HOSE BORE d		A THREAD	B THREAD	C WORKING LENGTH		F		E		PART NUMBER
	mm	in.	BSP	BSP	metre	ft	mm	in.	mm	in.	
A	6.5	1/4	1/4	1/4	2	6.5	400	15.7	400	15.7	96832
A	6.5	1/4	1/4	1/4	4	13	400	15.7	400	15.7	96852
A	6.5	1/4	1/4	1/4	3	10	0	0	0	0	98072
A	6.5	1/4	1/4	1/4	4	13	0	0	0	0	98082
A	8.5	11/32	1/4	1/4	5	16	0	0	0	0	98092
A	8.5	11/32	3/8	3/8	5	16	0	0	0	0	98102
A	6	1/4	1/8	1/4	1.5	5	500	19.7	200	7.9	99922
A	6	1/4	1/4	1/4	1.5	5	500	19.7	200	7.9	99932

SELF ASSEMBLY SPIRAL HOSES

PIC REF	HOSE BORE d		D		WORKING LENGTH		A		B		C		PART NUMBER
	mm	in.	mm	in.	metre	ft	mm	in.	mm	in.	mm	in.	
B	8.0	5/16	12.0	0.47	2.5	8	780	30.7	180	7.1	65	2.6	102892
B	8.0	5/16	12.0	0.47	5.0	16	990	38.9	390	15.0	65	2.6	102902

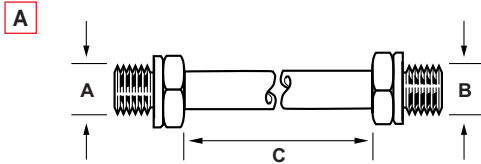
Can be used with barb and nut couplings and nipples, see page 269.

Material: Polyurethane (PUR)
Colour: Blue

Temperature range: -40°C to $+80^{\circ}\text{C}$ (-40°F to $+176^{\circ}\text{F}$)
Max. working pressure at 20°C (68°F): 10 bar (145 psi)
(hose only) When hose is assembled with any end fittings,
design working pressure = 6.3 bar (91 psi)

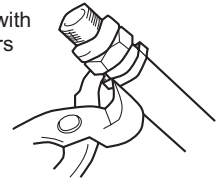


Reinforced Hoses and Hose Fittings



Close the lugs firmly with a pair of O-Clip pincers

'O'-Clip pincers
– Part No. 77282



ASSEMBLED HOSE

PIC REF	HOSE BORE		HOSE OUTSIDE DIAMETER		LENGTH C		MALE THREADS		WORKING PRESSURE (AT 20°C) (68°F)		TEMPERATURE RANGE		PART NUMBER
	mm	in.	mm	in.	metre	ft	A	B	bar	psi	°C	°F	
A	5	3/16	6	1/4	2	6.5	M5	1/8"	6.3	91	-15 to +50	-5 to +122	79322
A	5	3/16	6	1/4	2	6.5	1/8"	1/4"	6.3	91	-15 to +50	-5 to +122	75902
A	5	3/16	6	1/4	3	10	1/8"	1/4"	6.3	91	-15 to +50	-5 to +122	75922
A	6	1/4	8	5/16	3	10	1/4"	1/4"	6.3	91	-15 to +50	-5 to +122	75942
A	6	1/4	8	5/16	5	16	1/4"	1/4"	6.3	91	-15 to +50	-5 to +122	75952
A	10	3/8	14	9/16	3	10	1/4"	1/4"	6.3	91	-15 to +50	-5 to +140	75972
A	10	3/8	14	9/16	5	16	1/4"	1/4"	6.3	91	-15 to +50	-5 to +140	75982
A	6	1/4	8	5/16	3	10	1/8"	1/4"	6.3	91	-15 to +50	-5 to +122	104552

SELF ASSEMBLY HOSE

PIC REF	HOSE BORE		HOSE OUTSIDE DIAMETER		MAXIMUM WORKING PRESSURE (AT 20°C)		TEMPERATURE RANGE		PART NUMBER
	mm	in.	mm	in.	bar	psi	°C	°F	
A	6	1/4	10.5	0.41	18	261	-15 to +60	-5 to +140	271403
A	10	3/8	14	0.55	13	188	-15 to +60	-5 to +140	271413
A	12	1/2	17	0.67	11	160	-15 to +60	-5 to +140	271423

Hose only available in lengths of 10m (33ft) or multiples thereof.

When hose is assembled with any end fittings, design working pressure = 6.3 bar (91psi)

RUBBER ALLOY (RUBBER/PVC) HOSE

HOSE BORE		HOSE OUTSIDE DIAMETER		SUPPLIED LENGTH		PART NUMBER
mm	in.	mm	in.	metre	ft	
10	3/8	18	0.71	30	98	11702
12.5	1/2	22	0.86	30	98	11722

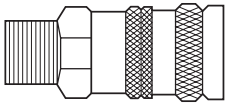
Smooth bore. Excellent corrosion, chemical and abrasive resistance.

Working pressure at 20°C (68°F): 20 bar (290 psi) (hose only). Temperature range: -30°C to +70°C (-22°F to 158°F)

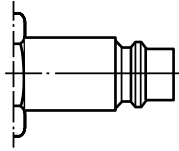
When hose is assembled with any end fittings, design working pressure = 6.3 bar (91psi)



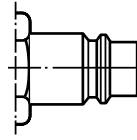
Quick Release Couplings



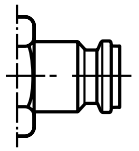
A B C D



E



F



G

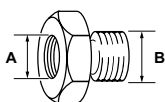
AIR COUPLING

PIC REF	AIR FLOW AT 6 bar (87 psi)		SIZE		DESCRIPTION	MALE THREAD	FEMALE THREAD	BARBED	BARB AND NUT
	l/s	cfm	mm	in.					
A	10	21	6	1/4" BSP	Several German types	-	909 200 939 1	-	-
B	18	38	10	3/8"	310 Series/US Industrial Standard MIL C 4109	-	-	909 200 993 1	-
C	35	73	6	1/4"	320 Series/Euro Standard	-	-	909 200 918 1	-
C	35	73	8	5/16"	320 Series/Euro Standard	-	-	909 201 309 1	-
C	35	73	10	3/8"	320 Series/Euro Standard	-	-	909 200 921 1	-
C	35	73	13	1/2"	320 Series/Euro Standard	-	-	909 200 924 1	-
C	35	73		1/4" BSP	320 Series/Euro Standard	909 200 891 1	909 200 882 1	-	-
C	35	73		3/8" BSP	320 Series/Euro Standard	909 200 894 1	909 200 886 1	-	-
C	35	73		1/2" BSP	320 Series/Euro Standard	909 200 897 1	909 200 888 1	-	-
C	35	73	6.5 x 10 hose		320 Series/Euro Standard	-	-	-	909 201 013 1
C	35	73	8 x 12 hose		320 Series/Euro Standard	-	-	-	909 201 016 1
D	64	134		1/2" BSP	410 Series	909 201 040 1	-	-	-

AIR NIPPLES

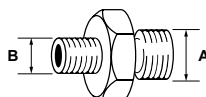
PIC REF	AIR FLOW AT 6 bar (87 psi)		SIZE		DESCRIPTION	MALE THREAD	FEMALE THREAD	BARBED	BARB AND NUT
	l/s	cfm	mm	in.					
E	18	38	8	5/16"	310 Series/US Industrial Standard MIL C 4109	-	-	909 200 957 1	-
E	18	38	10	3/8"	310 Series/US Industrial Standard MIL C 4109	-	-	909 200 960 1	-
E	18	38		1/8" BSP	310 Series/US Industrial Standard MIL C 4109	909 200 969 1	-	-	-
E	18	38		1/4" BSP	310 Series/US Industrial Standard MIL C 4109	909 200 972 1	-	-	-
E	18	38		3/8" BSP	310 Series/US Industrial Standard MIL C 4109	909 200 975 1	-	-	-
F	35	73	6	1/4"	320 Series/Euro Standard	-	-	909 200 927 1	-
F	35	73	8	5/16"	320 Series/Euro Standard	-	-	909 201 022 1	-
F	35	73	10	3/8"	320 Series/Euro Standard	-	-	909 200 930 1	-
F	35	73	13	1/2"	320 Series/Euro Standard	-	-	909 200 933 1	-
F	35	73		1/8" BSP	320 Series/Euro Standard	909 201 306 1	-	-	-
F	35	73		1/4" BSP	320 Series/Euro Standard	909 200 909 1	909 200 900 1	-	-
F	35	73		3/8" BSP	320 Series/Euro Standard	909 200 912 1	909 200 903 1	-	-
F	35	73		1/2" BSP	320 Series/Euro Standard	909 200 915 1	909 200 906 1	-	-
F	35	73	6.5 x 10 hose		320 Series/Euro Standard	-	-	-	909 201 028 1
F	35	73	8 x 12 hose		320 Series/Euro Standard	-	-	-	909 201 031 1
G	64	134		3/8" BSP	410 Series	909 201 336 1	-	-	-

Adaptors and Treaded Fittings



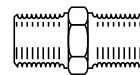
REDUCERS

FEMALE THREAD A	MALE THREAD B	PART NO.
in.	in.	
M5	1/8" BSP	257013
1/8" BSP	1/4" BSP	62972
1/4" NPT	1/4" BSP	181523
1/8" NPT	1/8" BSP	61103
1/2" BSP	3/4" BSP	63792
1/8" BSP	1/8" NPT	271463
1/4" BSP	1/8" BSP	209843



MALE THREAD REDUCER

FEMALE THREAD A	MALE THREAD B	PART NO.
in.	in.	
1/4" BSP	1/8" BSP	101062
3/8" BSP	1/4" BSP	101072



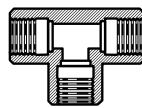
CONNECTORS

MALE THREAD	PART NO.
in.	in.
1/4" BSP	48693
3/8" BSP	48703



ADAPTOR

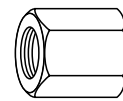
SIZE	PART NO. A	PART NO. B
in.		
3/8" BSP	100032	
1/2" BSP	98662	100042



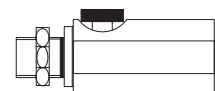
EQUAL TEE

SIZE	PART NO.
in.	
1/4" BSP	63802
3/8" BSP	63822

DOUBLE FEMALE SLEEVE



SIZE	PART NO.
in.	
1/4" BSP	62962



AIR INLET REGULATOR

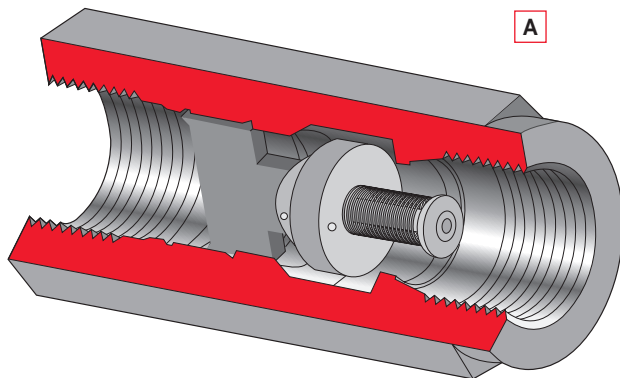
SIZE	PART NO.
in.	
1/4" BSP	81223
1/4" BSP	694



Air Fuses

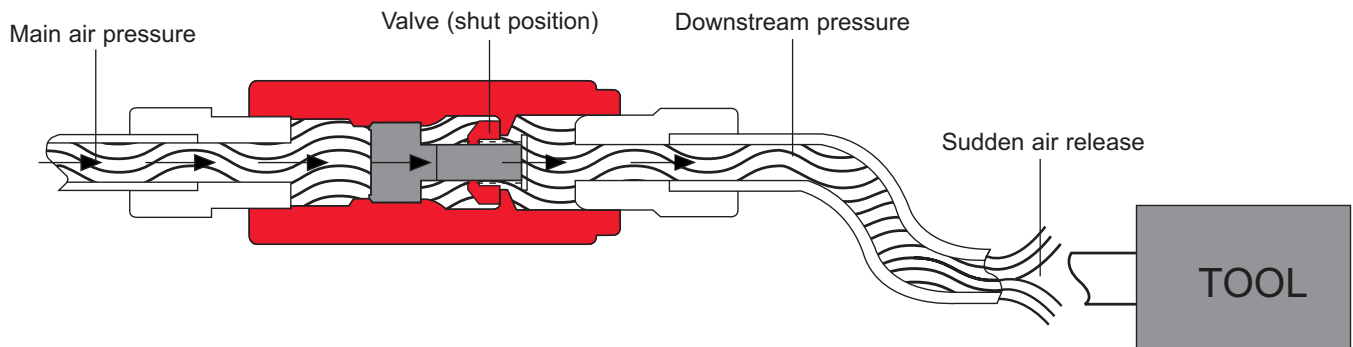
An Air Fuse reduces the likelihood of potentially dangerous hose whip caused when a hose bursts or a fitting becomes detached. Air Fuses quickly shut off the supply and reset automatically as soon as back pressure in the line downstream is restored.

Air Fuses help to meet OSHA requirement 1926.302 (USA) and may eliminate the need for restraining or shielding hose, as required by European Standard EN983.



MATERIALS

Body	Anodised aluminium
Internal parts	Brass
Spring	Stainless steel



AIR FUSES

- Reduces risk of hose whip, helping to protect personnel
- Simple and reliable design
- High life expectancy
- Aluminium anodised body for high corrosion resistance
- Auto-Reset to restart downstream activity with the minimum downtime

PIC REF	PORT SIZE	PRESSURE DROP AT SHUT OFF FLOW		SHUT OFF FLOW RATE AT 7 BAR		TOOL MAXIMUM AIR FLOW		FOR FLOW RATES		PART NUMBER		
		BSP/NPT	bar	psi	l/s	cfm	l/s	cfm	High	Low	BSP	NPT
A	0.25"		0.14	2.03	7	16.4	5	10.5		✓	110392	110472
A	1/4"		0.30	4.35	13	27.3	10	21.0	✓	✓	110402	110482
A	3/8"		0.14	2.03	18	37.8	10	21.0		✓	110422	110492
A	3/8"		0.30	4.35	32	67.2	25	52.5	✓		110432	110502
A	1/2"		0.30	4.35	45	94.5	35	73.5	✓		110442	110522
A	3/4"		0.30	4.35	75	157.5	60	126.0	✓		110452	110532
A	1"		0.30	4.35	86	180.6	70	147.0	✓		110462	110542

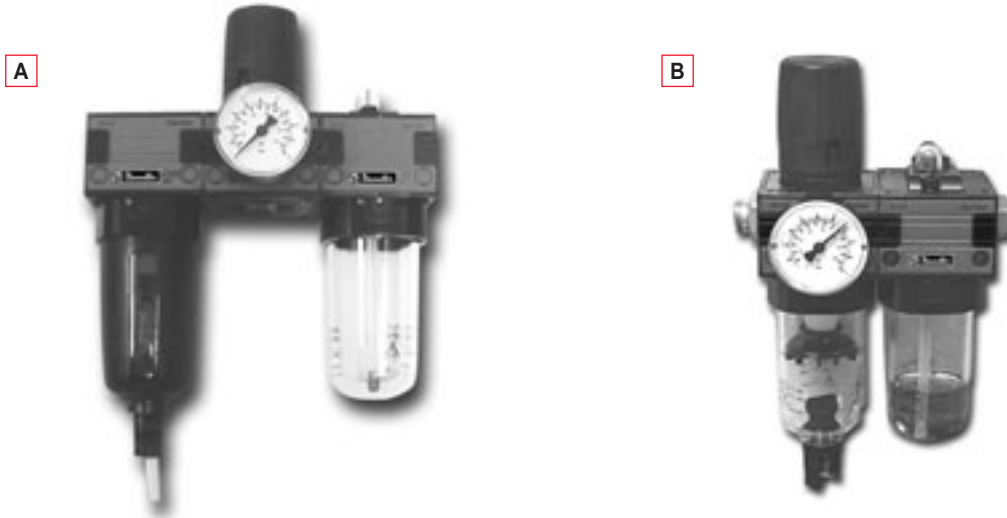
Operating pressure: Maximum - 16 bar (232 psi); Minimum - According to the hose length

Operating temperature: -20°C to +80°C (-4°F to 176°F)

NB: Above data is a guide only. Selection of the correct Air Fuse depends on tool flow rate and hose length. Please call one of our representatives for further assistance.



Air Preparation Units – Combination Sets



TECHNICAL SPECIFICATIONS

FILTER, REGULATOR, LUBRICATOR

- Air Preparation unit comprising:

Filter-Water Separator, Pressure Regulator with gauge, Oil Mist Lubricator, Mounting Bracket

Separate Regulators are recommended where high accuracy of working pressure (eg. on fastening tools) is required.

PIC REF	FILTER, REGULATOR AND LUBRICATOR	PORT SIZE			
		G 1/4"	G 3/8"	G 1/2"	G 1"
A	Recommended Flow at 6 bar – l/s (cfm)			37 (78.4)	
	Operating Pressure Range (bar)			0/16	
	Outlet Pressure min/max (bar)			0,5/8	
	Condensate Capacity max (cl)			5.7	
	Moisture Separation at recommended flow (%)			95	
	Oil Capacity max (cl)			12	
	Oil Refill		Manual – also possible with pressure on		
	Oil/Air Ratio		Degressive (drops/min remains constant)		
	Filter, Standard – white (µm)		All sizes: 30		
	Option – yellow (µm)		All sizes: 5 (see page 274)		

Filter/Regulator with gauge, Oil Mist Lubricator, Mounting Bracket. Filter/regulators are recommended where preventing overspeed of a tool due to high air pressure is required.

B	Recommended Flow at 6 bar – l/s (cfm)	9 (19)	14 (29.7)	37 (78.4)	83 (175.9)
	Operating Pressure min/max.	0/16	0/16	0/16	0/10
	Outlet Pressure min/max (bar)	0,5/8	0,5/8	0,5/8	0,5/10
	Condensate Capacity max (cl)	2.2	5.7	5.7	50
	Moisture Separation at recommended flow (%)	95	95	95	96
	Oil Capacity max (cl)	4.5	12	12	50
	Oil Refill		Manual – also possible with pressure on		
	Oil/Air Ratio		Degressive (drops/min remains constant)		
	Filter, Standard – white (µm)		All sizes: 30		
	Option – yellow (µm)		All sizes: 5 (see page 274)		

ORDERING TABLE

PIC REF	FILTER DRAIN	PORT SIZE	FILTER DRAIN	PORT SIZE	FILTER DRAIN	PORT SIZE	FILTER DRAIN	PORT SIZE
		G 1/4"	G 3/8"	G 1/2"	G 1"			
		part no.		part no.		part no.		part no.
A	–	–	–	–	Semi-Auto	109262	–	–
B	Semi-Auto	109082	Semi-Auto	109152	Semi-Auto	109242	Semi-Auto	109292
B	Manual	109092	Semi-Auto incl.	109162	Semi-Auto incl.	109252	Metal Bowls	
	Bowl Guard		Bowl Guard					

Note: G size ports are compatible with BSP threaded fittings only



Product Range



Shown with optional metal bowl guard.

PIC REF	FILTER WATER SEPARATOR	OIL MIST LUBRICATOR	REGULATOR	PORT SIZE			
				G 1/4"	G 3/8"	G 1/2"	G 1"

FILTER WATER SEPARATOR

• 30µm filter element • Minimum pressure drop • High percentage of water separation • Optional 5µm filter elements – see page 273

A/D	Recommended Flow at 6 bar – l/s (cfm)	9 (19)	14 (29.7)	31 (65.7)	83 (39.2)
	Max Operating Pressure (bar)	16	16	16	10
	Filter, Standard – white (µm)	30	30	30	30
	Filter, Option – yellow (µm)	5	5	5	5
	Condensate Capacity max (cl)	2.2	5.7	5.7	50
	Moisture Separation at recommended flow (%)	95	95	95	96

PIC REF	FILTER WATER SEPARATOR	OIL MIST LUBRICATOR	PORT SIZE			
			G 1/4"	G 3/8"	G 1/2"	G 1"

• Built in flow compensation to correct oil feed rate through fluctuations in air flow • Large sight glass to monitor oil drip rate
• Filter element to ensure clean lubricant is passed into the air line • Can be refilled without shutting off air supply

B	Recommended Flow at 6 bar – l/s (cfm)	9 (19)	14 (29.7)	12 (25.4)	50 (106)
	Max Operating Pressure (bar)	16	16	16	10
	Oil Capacity max (cl)	0,5/8	4,5	12	12,50
	Oil/Air Ratio	Degressive (drops/min remains constant)			
	Oil Refill	Manual – also possible with pressure on			

PIC REF	FILTER WATER SEPARATOR	REGULATOR	PORT SIZE			
			G 1/4"	G 3/8"	G 1/2"	G 1"

• Secondary pressure relief to stabilise line pressure • Adjustable control with locating jaws to prevent accidental rotation

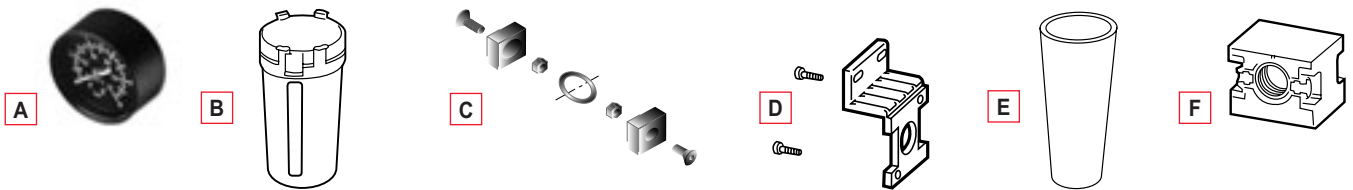
C/D	Recommended Flow at 6 bar – l/s (cfm)	9 (19)	14 (29.7)	32 (67.8)	83 (175.9)
	Input Pressure min/max (bar)	0/16	0/16	0/16	0/16
	Outlet Pressure min/max (bar)	0,5/8	0,5/8	0,5/8	0,5/10
	Pressure Differential min (bar)	0,2	0,2	0,2	0,2

ORDERING TABLE

PIC REF	DESCRIPTION	PORT SIZE			
		G 1/4" part no.	G 3/8" part no.	G 1/2" part no.	G 1" part no.
A	Filter, Semi-Auto Drain	–	109272	–	–
A	Filter, Semi-Auto Drain, Bowl Guard	–	–	109182	–
B	Oil Mist Lubricator	109072	109132	109202	–
C	Regulator	109062	109122	109192	–
D	Filter/Regulators, Semi-Auto Drain	–	109142	109232	–
D	Filter/Regulators, Semi-Auto Drain, Bowl Guard	–	–	109222	–
E	Submicro-Filter Units, manual drain	–	109172	109282	109302

Note: G size ports are compatible with BSP threaded fittings only





PRESSURE GAUGE (included with Air Preparation Unit Sets only)

- 0-10 bar pressure

PIC REF	BSP SIZE	part no.
A	1/8" BSP male thread, 40mm Ø, 0-10 bar	109352
A	1/4" BSP male thread, 50mm Ø, 0-10 bar	109432
A	1/4" BSP male thread, 63mm Ø, 0-16 bar	109482

BOWL GUARD KITS

- Fits around lubricator and filter bowls for added protection (Metal bowls are standard on 1" Port size units)

- Bowl guard with bayonet joint. The bowl guard fits all polycarbonate bowls irrespective of drainage and all lubricator bowls

PIC REF	PORT SIZE
B	3/8" + 1/2" part no. 109392

ASSEMBLY/COUPLING KIT

- Coupling Kit for connecting 2 single units

- Enables air line service equipment to be quickly connected together to form an air preparation unit

PIC REF	PORT SIZE		
	1/4" part no.	3/8" + 1/2" part no.	1" part no.
C	-	109402	109472

MOUNTING BRACKET KITS

- May be fitted to individual units for mounting to a vertical surface

- Included with all Filter/Regulator and Lubricator and Filter, Regulator, Lubricator Combination Sets

PIC REF	PORT SIZE		
	G 1/4" part no.	G 3/8" + 1/2" part no.	G 1" part no.
D	109322	109422	109462

FILTER ELEMENTS

- A filter element of standard type is always delivered with the units
- The filter elements are made of polyethylene

- The standard 30µm filter element is designed for separation of particles larger than about 15µm and is white in colour
- The 5µm filter element is for separation of particles larger than about 5µm and is yellow in colour

PIC REF		PORT SIZE		
		1/4" part no.	3/8" + 1/2" part no.	1" part no.
E	30µm filter element	109342	109372	109452
E	5µm filter element	109332	109362	109442

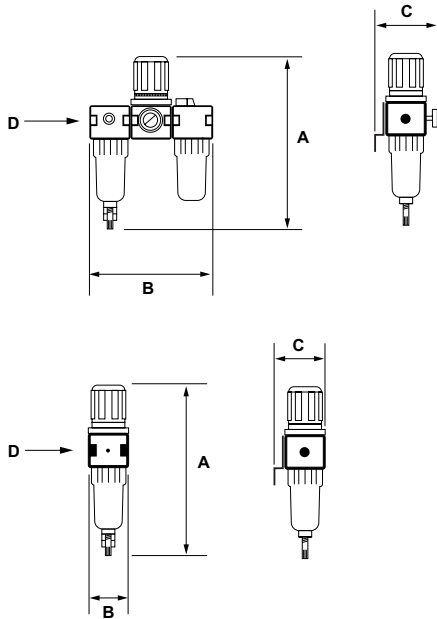
PORTING BLOCK KIT

- Provides an additional port supplying non-lubricated air

PIC REF	PORT SIZE
F	1/2" part no. 109382



Dimensions and Spare Parts



AIR LINE SERVICE EQUIPMENT

PART NUMBER	A		DIMENSIONS B		C		WEIGHT	
	mm	in.	mm	in.	mm	in.	kg	lb
109082, 109092	185	7.3	95	3.7	112.5	4.4	0.75	1.6
109152, 109162, 109242, 109252	253	9.9	127	5.0	125	4.9	1.50	3.3
109262	253	9.9	189	7.4	125	4.9	1.85	4.1
109292	313	12.3	180	7.1	141	5.5	4.40	9.7

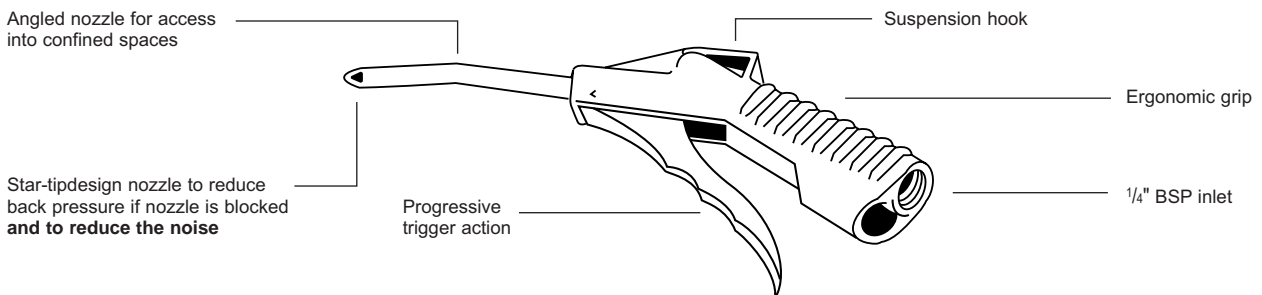
PART NUMBER	A		DIMENSIONS B		C		WEIGHT	
	mm	in.	mm	in.	mm	in.	kg	lb
109062	92.5	3.6	50	2.0	77.5	3.0	0.30	0.7
109072	135.5	5.3	50	2.0	77.5	3.0	0.25	0.6
109102	139.5	5.5	50	2.6	77.5	3.0	0.25	0.6
109122, 109192	115	4.5	65	2.6	89	3.5	0.55	1.2
109132, 109202	177	9.9	65	2.6	89	3.5	0.55	1.2
109142, 109222, 109232	253	7.2	65	2.6	89	3.5	0.75	1.6
109172, 109182, 109272, 109282	185	13.5	65	2.6	89	3.5	0.55	1.2
109302	342.5		97	3.8	109.5	4.3	2.20	4.8

SPARE PARTS FOR AIR LINE SERVICE EQUIPMENT

TO FIT MODEL PORT SIZE	DESCRIPTION	PART NUMBER
1/4" port	Lubricator Bowl	111582
	Filter Bowl	111592
	Filter Bowl – semi automatic drain	111602
	O ring for above	111622
3/8" & 1/2" port	Lubricator Bowl	111632
	Filter Bowl	111642
	Filter Bowl – semi automatic drain	111652
	O ring for above	111662

All bowls are polycarbonate

Blow Gun




BLOW GUN: Part No. 107202

Maximum working pressure: 12 bar
 Air consumption: 142 l/min
 Noise level at 6 bar: 79dB(A)
 Weight: 0.13kg (0.28lb)
 Operating temperature: -20+80°C



Technical Data/Air Tool Oil

SELECTING AIR SERVICE EQUIPMENT


The main criteria when selecting  Air Service equipment is the air consumption of the product to be coupled to it. The table below provides a guide to the maximum number of pneumatic tools of a certain air consumption that can be supplied via the 4 sizes of Air Service Equipment.

	PORT SIZE OF AIR SERVICE EQUIPMENT			
	G 1/4"	G 3/8"	G 1/2"	G 1"
Maximum Air Flow at 6 bar – l/s – (cfm)	9 (19.1)	14 (6.6)	31 (14.6)	83 (39.2)
Air Consumption of Tools at 6 bar				
0-4 l/s (0-8 cfm)	2	3	6#	20#
5-8 l/s (10.6-16.9 cfm)	1	1	3	9#
9-12 l/s (19-25.4 cfm)	–	1	2	5#
13-15 l/s (27.5-31.8 cfm)	–	–	2	4#
16-30 l/s (33.9-63.6 cfm)	–	–	1	2
31-80 l/s (65.7-169.5 cfm)	–	–	–	1

For a lubricated system it is preferable to use 2 or more smaller size Air Service Units to ensure the correct amount of lubrication reaches all the tools or parts of the circuit.

Note: G size ports are compatible with BSP threaded fittings only

RECOMMENDED LUBRICATING OILS – GENERAL PNEUMATIC EQUIPMENT



Satisfactory operation of  Air Line Lubricators and effective lubrication depends upon the proper selection of lubricating oils. Most lubricating oils, preferably having good corrosion and oxidation resistant properties which conform with the following classifications, are suitable.

PNEUMATIC TOOLS

For the lubrication of high speed pneumatic tools, high speed spindles and other light duty requirements, it is recommended that lubricating oils be used which have a kinematic viscosity below 50 cSt at 20°C. See table below.

OIL	GRADE OF OIL	VISCOSITY		SEAL COMPATIBILITY INDEX BS4832
		IP71 AT 40°C	CST AT 20°C	
Castrol B.P.	Hyspin AWS10 HLP40	10 10	18.5 18.9	25 16
Shell	Tellus 15	10	19.5	15
Fina	Cirkan 15	10	21.0	17
Texaco	Spintex 60	10	22.8	34
Total	Azolla 10	–	23	16
Century	P198	15	28	26
Rocol	MO-4	15	29	20
Mobil	Gargoyle Artic Oil Light	15	31.5	17
Esso	Nuto H36	15	33	12.8
Valvoline	R125	22	46	7
Chevron	Spindle Oil 22	22	47.5	21
Gulf	Harmony 41	22	48.1	9
Fuchs	Silkair V622	22	48	–

LUBRICATION OF PNEUMATIC TOOLS – OIL TYPES AVAILABLE

Although many  Power Tools have Dryline™ motors and are therefore able to be run without lubrication, service intervals may be extended by lubrication. Tools which do not have Dryline motors require lubrication. We recommend the use of  air line lubricators, which should be adjusted to give 5 drops/minute with the tool running at free running speed. See table below for available oil/quantities.

DESCRIPTION	USE WITH	PART NUMBER
Lubricating Oil 0.250 ltr – ISO VG15	All power tools (except grinders & impact)	27652
Lubricating Oil 1 ltr – ISO VG15		98532
Airoilene™ Oil 5 ltr – ISO VG22	For grinders and impact wrenches	P089507

SPECIAL AIR TOOL TUNE-UP OIL: PROTECTO-LUBE

Air tools that are used infrequently or in hot/humid conditions can become low on power or may not start. This is due to old oil deposits/contaminants sticking inside the motor. To restore peak performance, we recommend use of Protecto-Lube tune-up oil from time to time.

DESCRIPTION	USE WITH	PART NUMBER
Protecto-Lube oil 0.5 ltr (1pt)	All air tools	CA000046



Balancers - Light & Medium

SPRING SUSPENSION BALANCERS

Additional support chain as standard



PIC REF	MODEL	PART NUMBER	CAPACITY MINIMUM		CAPACITY MAXIMUM		CABLE TRAVEL		WEIGHT		OVERALL HEIGHT	
			kg	lb	kg	lb	m	ft	kg	lb	mm	in.
A	1DU	52542	0	0	0.5	1.1	1.5	4.9	0.6	1.3	230	9.1
A	2DU	50522	0.5	1.1	1.0	2.2	1.5	4.9	0.6	1.3	230	9.1
A	2DUS	54532	0.5	1.1	1.0	2.2	3.0	9.8	0.6	1.3	230	9.1
A	3DU	52862	1.0	2.2	1.5	3.1	1.5	4.9	0.6	1.3	230	9.1
A	4DU	50532	1.0	2.2	2.0	4.4	1.5	4.9	0.6	1.3	230	9.1
A	5DU	50542	1.4	3.1	2.4	5.3	1.5	4.9	0.6	1.3	230	9.1
B	10D	50052	2.0	4.4	5.0	11.0	2.4	7.8	2.7	6.0	369	14.5
B	15D	50062	5.0	11.0	7.0	15.4	2.4	7.8	3.2	7.1	369	14.5
B	22D	50072	6.0	13.2	10.0	22.0	2.4	7.8	3.2	7.1	369	14.5

HOSE REEL SUSPENSION BALANCERS

Hose reel balancer conversion kit for pistol grip tools

3HU and 4HU Balancers - Part No. 107403

Additional support chain as standard



PIC REF	MODEL	PART NUMBER	CAPACITY MINIMUM		CAPACITY MAXIMUM		FLOW RATE		HOSE TRAVEL		WEIGHT		OVERALL HEIGHT	
			kg	lb	kg	lb	l/s	scfm	m	ft	kg	lb	mm	in.
C	1HU	52552	0	0	0.5	1.1	7.1	15.0	1.5	4.9	1.2	2.6	173	6.8
C	3HU	50552	0.5	1.1	1.4	3.1	7.1	15.0	1.25	4.1	1.2	2.6	173	6.8
C	4HU	50562	0.7	1.5	2.0	4.4	7.1	15.0	1.25	4.1	1.4	3.1	173	6.8

SPRING SUSPENSION BALANCERS WITH DRUM LOCK FEATURE

(Operates only on spring failure) Additional support chain as standard



PIC REF	MODEL	PART NUMBER	CAPACITY MINIMUM		CAPACITY MAXIMUM		CABLE TRAVEL		WEIGHT		OVERALL HEIGHT	
			kg	lb	kg	lb	m	ft	kg	lb	mm	in.
D	10S	50572	2.0	4.4	5	11.0	2.4	7.8	2.7	6.0	369	14.5
D	15S	50582	5.0	11.0	7	15.4	2.4	7.8	3.2	7.1	369	14.5
D	22S	50592	6.0	13.2	10	22.0	2.4	7.8	3.2	7.1	369	14.5



REACTION FREE SELF-LOCK BALANCERS

For increased safety use of an additional support chain is advised



PIC REF	MODEL	PART NUMBER	CAPACITY MINIMUM		CAPACITY MAXIMUM		CABLE TRAVEL		WEIGHT		OVERALL HEIGHT	
			kg	lb	kg	lb	m	ft	kg	lb	mm	in.
E	2R	54422	0.7	1.5	1.3	2.9	1.7	5.5	0.5	1.1	124	4.9
E	4R	54432	1.0	2.2	2.0	4.4	1.7	5.5	0.5	1.1	313	12.3
F	5R	54442	1.7	3.7	3.5	7.7	2.4	7.8	2.3	5.1	313	12.3
F	10R	54452	3.0	6.6	6.0	13.2	2.4	7.8	2.3	5.1	313	12.3



The new generation of Industrial Power Tools

CP is proud to announce the new expanded line of heavy-duty industrial power tools. Understanding your needs and improving your productivity are key to our product development process. Our innovative product development centres strive to ensure that we can offer the right tool for your applications.

Through a combination of durability, reliability and 'fit for purpose' products the RediPower line of tools represent excellent value for money.



All CP tools are designed and manufactured to the standards you expect from a quality power tool manufacturer. Irrespective of your requirements for power tool performance & productivity CP are able to offer tools to suit every need whether they are used for intensive industrial production, general production or intermittent use. At CP we understand that you have a choice of power tool supply and we aim to provide you with the information and options necessary to allow you make the correct choice for your production environment.

Furthermore, our own personnel are available regionally and internationally to provide local services. Our comprehensive sales and distribution network ensure that help and advice are always available.



WHICH TOOLS BEST SUIT YOUR NEEDS?

Application	Industrial Tools	RediPower Tools
High Productivity	● ● ●	●
General Productivity	● ● ●	● ●
Light Productivity	● ● ●	● ● ●
Maintenance & Repair Operations	● ● ●	● ● ●
2000 hours Service Interval	● ● ●	●
500 hours Service Interval	● ● ●	● ● ●
Advanced Ergonomics	● ● ●	● ●
Ultimate ● ● ● Good ● ● Not suitable ●		




For more information concerning our RediPower please ask for publication [205 048 401 3](tel:2050484013)

All RediPower tools are designed and developed by CP's Research and Development department.




Safety Instructions

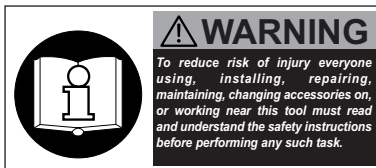
General Safety Instructions for the Operation of Power Tools

The goal of  is to produce tools that help the operator work safely and efficiently.

The most important safety device for this or any other tool is the operator. Care and good judgement are the best protection against injury.

All possible hazards cannot be covered here, but we have tried to highlight some of the important ones.


Individuals should look for and obey Caution, Warning and Danger signs placed on tools, and displayed in the workplace. Operators should read and follow safety instructions packed with each tool. For a copy of these instructions, contact your  local representative.



Learn how each tool works. Even if you have previously used similar tools, carefully check out each tool before you use it. Get the 'feel' of it and know its capabilities, limitations, potential hazards, how it operates and how it stops.

All tools are designed to operate at a line pressure of 6.3 bar +/- 0.15bar in accordance with ISO2787.

Sound levels +/- 3dB(A)* measured in accordance with EN ISO15744. Vibration values* measured in accordance with ISO 8662.

*These declared values were obtained by laboratory testing in compliance with stated standards and are not adequate for risk assessments. Values measured in individual work places may be higher than the declared values. The actual exposure values and risk of harm experienced by an individual are unique and depend upon the way the user works, the workplace and the work station design, as well as upon the exposure time and the physical condition of the user. We  cannot be held liable for the consequences of using declared values, instead of values reflecting the actual exposure, in an individual risk assessment in a work place situation over which we have no control.

Tools are CE marked to comply with European Machinery Directive.

Specifications subject to change without prior notice.

Further occupational health and safety information can be obtained from the following web sites:

<http://www.osha.gov> (USA)

<http://europe.osha.eu.int> (Europe).




COMPRESSED AIR HAZARDS

- Air under pressure can cause injury. Never point an air hose at yourself or anyone else. Never blow your clothes free of dust with compressed air. Always direct exhaust air away from yourself and others in the work area.
- Always check for damaged or loose hoses and fittings before using an air tool, and replace if necessary. Whipping hoses can cause serious injury.
- Disconnect the tool from the air supply when not in use, before changing accessories, setting the torque, or when making repairs.
- Do not exceed rated air pressure to increase the output of the tool. This could cause injury and shorten tool life.
- Do not assemble quick coupler on the tool. Vibration can cause breakage resulting in a whipping air hose. Instead, use quick couplers on the end of a short leader hose.
- When universal twist couplings are used, lock pins must be installed to prevent accidental hose disconnection.
- Air tools are not intended for use in explosive atmospheres and are not insulated for contact with electric power sources.



ELECTRICAL HAZARDS

- Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools and equipment. Unmodified plugs and matching outlets will reduce risk of electric shock.
- Avoid body contact with earthed  grounded metal surfaces. There is an increased risk of electric shock if your body is earthed or grounded.
- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- Do not expose electric power tools and equipment to wet conditions.
- Do not operate power tools in explosive atmospheres. Power tools create sparks which may ignite dust, fumes or flammable liquids.
- Have electric power tools and equipment serviced by a qualified repair person using only identical replacement parts.



PROJECTILE HAZARDS

- Always wear impact resistant eye and face protection when involved with or near the operation or repair of tools.



BREATHING HAZARDS

- Proper breathing protection must be worn when working with materials, which produce airborne particles.



NOISE HAZARDS

- Hearing loss can result from prolonged exposure to excessive sound levels.
- Use hearing protection as recommended by your employer or Occupational Health and Safety Regulations.



VIBRATION HAZARDS

- Repetitive work motions, awkward positions, and exposure to vibration may be harmful to your hands and arms.
- If numbness, tingling, pain or whitening of the skin occurs, stop using tool and consult a physician.



ENTANGLEMENT HAZARDS

- To reduce the risk of injury from entanglement, do not wear loose clothing when using rotating accessories.



ADDITIONAL HAZARDS

- Slip/Trip/Fall is a major cause of serious injury or death. Beware of excessive hose/cord left on the walking or work surface.
- Operators and maintenance personnel must be physically fit to perform job tasks, and handle the bulk, weight and power of the tool.
- Deburring tools should be used to reduce the risk of cuts and abrasions due to burrs.
- Wear gloves to protect hands from sharp edges.

Safety Instructions

Specific Safety Instructions for Power Tool Groups

In addition to the General Safety Instructions, the following are safety instructions and warnings that apply to the safe operation of specific power tool groups.



COMPRESSION TOOLS

- To reduce the risk of injury always keep hands and fingers away from yoke and moving jaws, sets or dies. If possible, hold the tool body with both hands.
- Inspect the yoke daily for cracks. Injury may result if a cracked yoke fails during use.
- All yokes have a life limitation based on cycles and riveting force. This tool and its accessories must not be modified.



DRILLS & TAPPERS

- Keep away from rotating bit and chuck. You can become cut or burned if you come into contact with the drill bit or tap, chips/swarf, or work surface.
- Use intermittent drill feed pressure to avoid long shaved chips/swarf.
- The drill bit or tap can suddenly bind and cause the workpiece or tool to rotate, causing arm and shoulder injuries.
- It is recommended that side handles are used for operator comfort and safety on high torque drilling applications above 4Nm (3 lbft) on straight case tools and 10Nm (7.4 lbft) on pistol grip drills. Drills with a chuck capacity larger than 10mm (3/8") should always be used with a side handle.



PERCUSSIVE TOOLS

(Riveting Hammers, Air Scribe)

- All chisels, rivet sets and other associated accessories should be checked for cracks, excessive wear, or other physical damage before each use. Accessories that show signs of damage should be replaced immediately.
- Never use a tool without the proper accessory retainer.



IMPACT AND IMPULSE WRENCHES

- Never use hand sockets or accessories. Use only impact sockets and accessories in good condition. Sockets in poor condition reduce impact power and could also shatter, resulting in personal injury.
- When using a universal joint, never operate the tool off the work. It may run too fast and cause the joint to be thrown from the tool.
- Always use the simplest hook up possible. Long springy extension bars and adapters absorb impact power and could break loose resulting in personal injury. Instead, use deep sockets wherever possible.
- For tools using the pin and o-ring socket retainer, use the o-ring to securely retain the socket pin or use a one-piece retainer ring to retain the socket.
- Serious injury can result from overtorqued or under-torqued fasteners, which can break, or loosen and separate. Released assemblies can become projectiles. Assemblies requiring a specific torque must be checked using a torque meter.

NOTE: So-called 'click' torque wrenches do not check for potentially dangerous over-torqued conditions.



ANGLE WRENCHES

- Never use hand sockets or accessories. Use only power drive sockets and accessories.
- To reduce the risk of injury, always support the handle securely in the direction opposite of the spindle rotation to minimize torque reaction.



ACCESSORIES

- Always use accessories of correct size and design for the tool. Tool and accessories must not be modified in any way.
- Never use a tool without the proper accessory retainer.
- Do not use a tool or attachment for a purpose not intended by the manufacturer



OTHER TOOLS

(e.g. Screwdrivers, Shears, Saws, etc.)

- Specific instructions/warnings affecting this group of tools are contained in product-specific documents accompanying each product.



ABRASIVE TOOLS

- Before grinding, test grinding wheel by briefly running tool at full throttle. Be sure to use a barrier (such as under a heavy work table) to protect yourself from possible broken wheel parts.
- Never mount a grinding wheel on a sander
- Never use a grinding wheel rated at a speed lower than the air grinder speed.
- All grinding wheels and polishing/sanding accessories should be checked for cracks or other damage before mounting and use.
- Always use the recommended wheel guard to prevent injury when performing grinding operations. If a guard has withstood wheel or disk breakage, it must be replaced.
- Position a guard between the grinding wheel or disc and the operator.
- Use barriers to protect others from fragments and grinding sparks
- Make sure grinding wheels are mounted according manufacturer's specifications: always use correct mounting flanges.
- Never tamper with or remove a speed governor from a tool to make it run faster. Periodically check tool speed with a tachometer.



For more information about ergonomics please ask for the CP Ergosense booklet LT198 or visit www.chicagopneumatic.com and look in the Industrial Tools on line catalogue



Vibration level (m/s²) - Noise level (dB(A))

PAGE	MODEL	PART NO.	VIBRATION LEVEL ISO 8662		NOISE LEVEL ISO 15744 dB(A)	SOUND LEVEL dB(A)
			A (m/s ²)	B (m/s ²)		
13	ERP3L	615 165 193 0	<2.5	<2.5	<70	<70
13	ERP5L	615 165 194 0	<2.5	<2.5	<70	<70
13	ERP10L	615 165 195 0	<2.5	<2.5	<70	<70
13	ERP20L	615 165 196 0	<2.5	<2.5	<70	<70
13	ERP20S	615 165 197 0	<2.5	<2.5	<70	<70
13	ERP30S	615 165 198 0	<2.5	<2.5	<70	<70
13	ERP40S	615 165 263 0	<2.5	<2.5	<70	<70
13	ERP3LT	615 165 227 0	<2.5	<2.5	<70	<70
13	ERP5LT	615 165 228 0	<2.5	<2.5	<70	<70
13	ERP10LT	615 165 229 0	<2.5	<2.5	<70	<70
13	ERP20LT	615 165 230 0	<2.5	<2.5	<70	<70
14	ERA15J	615 165 191 0	<2.5	<2.5	<70	<70
14	ERA20J	615 165 078 0	<2.5	<2.5	<70	<70
14	ERA30J	615 165 079 0	<2.5	<2.5	<70	<70
14	ERA40J	615 165 080 0	<2.5	<2.5	<70	<70
14	ERA60J	615 165 081 0	<2.5	<2.5	<70	<70
14	ERA70J	615 165 082 0	<2.5	<2.5	<70	<70
14	ERA90J	615 165 083 0	<2.5	<2.5	<70	<70
14	ERA115J	615 165 084 0	<2.5	<2.5	<70	<70
14	ERA125J	615 165 085 0	<2.5	<2.5	<70	<70
14	ERA150J	615 165 086 0	<2.5	<2.5	<70	<70
14	ERA200J	615 165 123 0	<2.5	<2.5	<70	<70
15	ERA125-6J	615 165 089 0	<2.5	<2.5	<70	<70
15	ERA250-6J	615 165 092 0	<2.5	<2.5	<70	<70
15	ERA300-6J	615 165 070 0	<2.5	<2.5	<70	<70
15	ERA400-6J	615 165 071 0	<2.5	<2.5	<70	<70
16	ERD5J	615 165 060 0	<2.5	<2.5	<70	<70
16	ERD20J	615 165 072 0	<2.5	<2.5	<70	<70
16	ERD30J	615 165 073 0	<2.5	<2.5	<70	<70
17	ERD50J	615 165 074 0	<2.5	<2.5	<70	<70
17	ERD70J	615 165 075 0	<2.5	<2.5	<70	<70
17	ERD120J	615 165 062 0	<2.5	<2.5	<70	<70
17	ERD150-6J	615 165 205 0	<2.5	<2.5	<70	<70
17	ERD200-6J	615 165 206 0	<2.5	<2.5	<70	<70
17	ERD250-6J	615 165 207 0	<2.5	<2.5	<70	<70
18	EM35-10J	615 165 013 0	<2.5	<2.5	<70	<70
18	EM35-20J	615 165 014 0	<2.5	<2.5	<70	<70
18	EM38-10J	615 165 015 0	<2.5	<2.5	<70	<70
18	EM38-20J	615 165 016 0	<2.5	<2.5	<70	<70
18	EM51-10J	615 165 017 0	<2.5	<2.5	<70	<70
18	EM51-20J	615 165 018 0	<2.5	<2.5	<70	<70
18	EM60-10J	615 165 019 0	<2.5	<2.5	<70	<70
18	EM60-20J	615 165 020 0	<2.5	<2.5	<70	<70
18	EM60-30J	615 165 021 0	<2.5	<2.5	<70	<70
19	EM80-10J	615 165 022 0	<2.5	<2.5	<70	<70
19	EM80-20J	615 165 023 0	<2.5	<2.5	<70	<70
19	EM80-30J	615 165 024 0	<2.5	<2.5	<70	<70
19	EM80-40J	615 165 025 0	<2.5	<2.5	<70	<70
19	EM80-50J	615 165 251 0	<2.5	<2.5	<70	<70
19	EM106-10J	615 165 026 0	<2.5	<2.5	<70	<70
19	EM106-20J	615 165 027 0	<2.5	<2.5	<70	<70
19	EML38-20J	615 165 063 0	<2.5	<2.5	<70	<70
20	EML51-20J	615 165 064 0	<2.5	<2.5	<70	<70
20	EML60-20J	615 165 065 0	<2.5	<2.5	<70	<70
20	EML60-30J	615 165 066 0	<2.5	<2.5	<70	<70
20	EML80-40J	615 165 067 0	<2.5	<2.5	<70	<70
31	ECL1	615 165 235 0	<2.5	<2.5	<70	<70
31	ECL3	615 165 236 0	<2.5	<2.5	<70	<70
31	ECL5	615 165 259 0	<2.5	<2.5	<70	<70
31	ECL8	615 165 237 0	<2.5	<2.5	<70	<70
31	ECL11	615 165 260 0	<2.5	<2.5	<70	<70
31	ECLA11	615 165 261 0	<2.5	<2.5	<70	<70
32	ECP3L	615 165 199 0	<2.5	<2.5	<70	<70
32	ECP5L	615 165 200 0	<2.5	<2.5	<70	<70
32	ECP10L	615 165 201 0	<2.5	<2.5	<70	<70
32	ECP20L	615 165 202 0	<2.5	<2.5	<70	<70
32	ECP20S	615 165 203 0	<2.5	<2.5	<70	<70
32	ECP30S	615 165 204 0	<2.5	<2.5	<70	<70
32	ECP40S	615 165 262 0	<2.5	<2.5	<70	<70
32	ECP3LT	615 165 231 0	<2.5	<2.5	<70	<70
32	ECP5LT	615 165 232 0	<2.5	<2.5	<70	<70
32	ECP10LT	615 165 233 0	<2.5	<2.5	<70	<70
32	ECP20LT	615 165 234 0	<2.5	<2.5	<70	<70
33	ECA15	615 165 192 0	<2.5	<2.5	<70	<70
33	ECA20	615 165 100 0	<2.5	<2.5	<70	<70
33	ECA30	615 165 101 0	<2.5	<2.5	<70	<70
33	ECA40	615 165 102 0	<2.5	<2.5	<70	<70
33	ECA60	615 165 103 0	<2.5	<2.5	<70	<70
33	ECA70	615 165 104 0	<2.5	<2.5	<70	<70
33	ECA90	615 165 105 0	<2.5	<2.5	<70	<70
33	ECA115	615 165 106 0	<2.5	<2.5	<70	<70
33	ECA125	615 165 188 0	<2.5	<2.5	<70	<70
33	ECA150	615 165 189 0	<2.5	<2.5	<70	<70
33	ECA200	615 165 190 0	<2.5	<2.5	<70	<70
34	ECD5	615 165 068 0	<2.5	<2.5	<70	<70
34	ECD20	615 165 093 0	<2.5	<2.5	<70	<70
34	ECD30	615 165 094 0	<2.5	<2.5	<70	<70
34	ECD50	615 165 095 0	<2.5	<2.5	<70	<70
34	ECD70	615 165 096 0	<2.5	<2.5	<70	<70
34	ECD120	615 165 097 0	<2.5	<2.5	<70	<70
35	MC35-10	615 165 107 0	<2.5	<2.5	<70	<70
35	MC35-20	615 165 108 0	<2.5	<2.5	<70	<70
35	MC38-10	615 165 109 0	<2.5	<2.5	<70	<70
35	MC38-20	615 165 110 0	<2.5	<2.5	<70	<70
35	MC51-10	615 165 111 0	<2.5	<2.5	<70	<70
35	MC51-20	615 165 112 0	<2.5	<2.5	<70	<70
35	MC60-10	615 165 113 0	<2.5	<2.5	<70	<70
35	MC60-20	615 165 114 0	<2.5	<2.5	<70	<70
35	MC60-30	615 165 115 0	<2.5	<2.5	<70	<70
35	MC80-10	615 165 116 0	<2.5	<2.5	<70	<70
36	MC80-20	615 165 117 0	<2.5	<2.5	<70	<70
36	MC80-30	615 165 118 0	<2.5	<2.5	<70	<70
36	MC80-40	615 165 119 0	<2.5	<2.5	<70	<70
36	MC106-10	615 165 120 0	<2.5	<2.5	<70	<70

PAGE	MODEL	PART NO.	VIBRATION LEVEL ISO 8662		NOISE LEVEL ISO 15744 dB(A)	SOUND LEVEL dB(A)
			A (m/s ²)	B (m/s ²)		
36	MC106-20	615 165 121 0	<2.5	<2.5	<70	<70
36	MCL38-20	615 165 124 0	<2.5	<2.5	<70	<70
37	MCL51-20	615 165 125 0	<2.5	<2.5	<70	<70
37	MCL60-20	615 165 126 0	<2.5	<2.5	<70	<70
37	MCL60-30	615 165 127 0	<2.5	<2.5	<70	<70
37	MCL80-40	615 165 128 0	<2.5	<2.5	<70	<70
39	SLK003-L1000-S4Q	615 165 252 0	<2.5	<2.5	<70	<70
39	SLK007-L1000-S4Q	615 165 253 0	<2.5	<2.5	<70	<70
39	SLK010-L1000-S4Q	615 165 254 0	<2.5	<2.5	<70	<70
39	SLK011-L1000-S4Q	615 165 255 0	<2.5	<2.5	<70	<70
39	SLK015-L1000-S4Q	615 165 256 0	<2.5	<2.5	<70	<70
39	SLK011-A1000-S4Q	615 165 257 0	<2.5	<2.5	<70	<70
39	SLK015-A1000-S4Q	615 165 258 0	<2.5	<2.5	<70	<70
43	SLE012-A2000-S4Q	1464854	<2.5	<2.5	59	59
43	SLE017-A1500-S4Q	1464864	<2.5	<2.5	59	59
43	SLE023-A1000-S4Q	1464874	<2.5	<2.5	59	59
43	SLE032-A750-S4Q	1464884	<2.5	<2.5	59	59
43	SLE047-A550-S4Q	1464894	<2.5	<2.5	59	59
44	SLE012-L2000-S4Q	1464904	<2.5	<2.5	59	59
44	SLE017-L1500-S4Q	1464914	<2.5	<2.5	59	59
44	SLE023-L1000-S4Q	1464924	<2.5	<2.5	59	59
44	SLE032-L750-S4Q	1464934	<2.5	<2.5	59	59
44	SLE047-L550-S4Q	1464944	<2.5	<2.5	59	59
44	SLE026-A1500-C4Q	1465414	<2.5	<2.5	59	59
44	SLE030-A1000-C4Q	1465424	<2.5	<2.5	59	59
44	SLE036-A750-C4Q	1465434	<2.5	<2.5	59	59
44	SLE045-A550-C4Q	1465444	<2.5	<2.5	59	59
44	SLE026-L1500-C4Q	1465884	<2.5	<2.5	59	59
44	SLE030-L1000-C4Q	1465894	<2.5	<2.5	59	59
44	SLE036-L750-C4Q	1465904	<2.5	<2.5	59	59
44	SLE045-L550-C4Q	1465914	<2.5	<2.5	59	59
45	SLE012-T2000-S4Q	1465004	<2.5	<2.5	59	59
45	SLE017-T1500-S4Q	1465014	<2.5	<2.5	59	59
45	SLE023-T1000-S4Q	1465024	<2.5	<2.5	59	59
45	SLE032-T750-S4Q	1465034	<2.5	<2.5	59	59
45	SLE047-T550-S4Q	1465044	<2.5	<2.5	59	59
45	SLE012-L2000-S90A4H	1464954	<2.5	<2.5	59	59
45	SLE017-L1500-S90A4H	1464964	<2.5	<2.5	59	59
45	SLE023-L1000-S90A4H	1464974	<2.5	<2.5	59	59
45	SLE032-L750-S90A4H	1464984	<2.5	<2.5	59	59
45	SLE047-L550-S90A4H	1464994	<2.5	<2.5	59	59
46	SME021-A1000-S4U	1458554	<2.5	<2.5	61	61
46	SME029-A700-S4U	1458604	<2.5	<2.5	60	60
46	SME039-A500-S4U	1458624	<2.5	<2.5	60	60
46	SME021-A1000-S4U	1462224	<2.5	<2.5	60	60
46	SME029-A700-S4U	1462234	<2.5	<2.5	60	60
46	SME039-A500-S4U	1462244	<2.5	<2.5	60	60
49	SSB060-T750-S4Q	615 165 240 0	<2.5	<2.5	<70	<70
49	SSB120-T360-S4Q	615 165 250 0	<2.5	<2.5	<70	<70
68	2A89-A-1300	1225434	<2.5	<		

Vibration level (m/s²) - Noise level (dB(A))

PAGE	MODEL	PART NO.	VIBRATION LEVEL		NOISE LEVEL ISO 15744	SOUND LEVEL
			ISO 8662 A (m/s ²)	B (m/s ²)		
70	SBP021-T1600-S4Q	1462154	<2.5		73	
70	SBP043-T1100-S4Q	1462164	<2.5		73	
70	SBP047-T550-S4Q	1462174	<2.5		73	
70	SCBP021-T2300-S4Q	1466374	<2.5		73	
70	SCBP021-T1600-S4Q	1466364	<2.5		73	
70	SCBP043-T1100-S4Q	1466354	<2.5		73	
70	SCBP044-T740-S4Q	1466344	<2.5		73	
70	SCBP047-T550-S4Q	1466334	<2.5		73	
70	SCP021-T2300-S4Q	1456734	<2.5		73	
70	SCP021-T1600-S4Q	1456744	<2.5		73	
70	SCP043-T1100-S4Q	1456754	<2.5		73	
70	SCP047-T550-S4Q	1456764	<2.5		73	
70	SDP023-T3500-S4Q	1465574	<2.5		75	
70	SDP035-T2200-S4Q	1465564	<2.5		75	
70	SDP055-T1470-S4Q	1465554	<2.5		75	
70	SDP075-T1100-S4Q	1465544	<2.5		75	
70	SDP100-T800-S4Q	1465534	<2.5		75	
70	SDP140-T510-S4Q	1465524	<2.5		75	
70	SDP160-T320-S4Q	1465514	<2.5		75	
70	SDP045-T180-S4Q	2051467064	<2.5		75	
70	SDT023-T3500-S4Q	1465784	<2.5		75	
70	SDT035-T2200-S4Q	1465774	<2.5		75	
70	SDT055-T1470-S4Q	1465764	<2.5		75	
70	SDT075-T1100-S4Q	1465754	<2.5		75	
70	SDT100-T820-S4Q	1465744	<2.5		75	
70	SDT140-T510-S4Q	1465734	<2.5		75	
70	SDT160-T320-S4Q	1465724	<2.5		75	
70	SCPT021-A2300-S4Q	1458974	<2.5		73	
70	SCPT021-A1600-S4Q	1458934	<2.5		73	
70	SCPT043-A1100-S4Q	1458894	<2.5		73	
70	SCPT047-A550-S4Q	1458854	<2.5		73	
71	SC009-L1600-HLT4M	1459644	<2.5		73	
71	SC021-L1600-HLT4M	1459614	<2.5		73	
71	SC022-L1100-HLT4M	1459654	<2.5		73	
71	SC022-L550-HLT4M	1459664	<2.5		73	
71	SC043-L1100-HLT4M	1459624	<2.5		73	
71	SC047-L550-HLT4M	1459634	<2.5		73	
71	SCP009-T1600-HLT4M	1459704	<2.5		73	
71	SCP021-T1600-HLT4M	1459714	<2.5		73	
71	SCP022-T1100-HLT4M	1459724	<2.5		73	
71	SCP043-T1100-HLT4M	1459734	<2.5		73	
71	SCP022-T550-HLT4M	1459744	<2.5		73	
71	SCP047-T550-HLT4M	1459754	<2.5		73	
73	SCP021-T2300-FAS4Q	1461124	<2.5		73	
73	SCP021-T1600-FAS4Q	1461134	<2.5		73	
73	SCP043-T1100-FAS4Q	1461144	<2.5		73	
74	SC024-AB2300-R4Q	1461154	<2.5		73	
74	SC022-AB1600-R4Q	1461894	<2.5		75	
74	SC044-AB1100-R4Q	1461914	<2.5		75	
74	SC044-AB550-R4Q	1461924	<2.5		75	
74	SC024-A2300-R4Q	1456614	<2.5		73	
74	SC022-A1600-R4Q	1456624	<2.5		73	
74	SC044-A1100-R4Q	1456634	<2.5		73	
74	SC044-A550-R4Q	1456644	<2.5		73	
74	SD023-AB3500-R4Q	1462954	<2.5		73	
74	SD035-AB2200-R4Q	1462944	<2.5		73	
74	SD055-AB1470-R4Q	1462934	<2.5		73	
74	SD075-AB1100-R4Q	1462924	<2.5		73	
74	SD100-AB820-R4Q	1462914	<2.5		73	
74	SD100-AB510-R4Q	1462904	<2.5		73	
74	SD023-AR3500-R4Q	1462894	<2.5		73	
74	SD035-AR2200-R4Q	1462884	<2.5		73	
74	SD055-AR1470-R4Q	1462874	<2.5		73	
74	SD075-AR1100-R4Q	1462864	<2.5		73	
74	SD100-AR820-R4Q	1462854	<2.5		73	
74	SD100-AR510-R4Q	1462844	<2.5		73	
74	SC024-L2300-R4Q	1456694	<2.5		73	
74	SC022-L1600-R4Q	1456704	<2.5		73	
74	SC044-L1100-R4Q	1456714	<2.5		73	
74	SC044-L550-R4Q	1456724	<2.5		73	
74	SD023-LB3500-R4Q	1463214	<2.5		73	
74	SD035-LB2200-R4Q	1463204	<2.5		73	
74	SD055-LB1470-R4Q	1463194	<2.5		73	
74	SD075-LB1100-R4Q	1463184	<2.5		73	
74	SD100-LB820-R4Q	1463174	<2.5		73	
74	SD100-LB510-R4Q	1463164	<2.5		73	
74	SD023-LR3500-R4Q	1463154	<2.5		73	
74	SD035-LR2200-R4Q	1463144	<2.5		73	
74	SD055-LR1470-R4Q	1463134	<2.5		73	
74	SD075-LR1100-R4Q	1463124	<2.5		73	
74	SD100-LR820-R4Q	1463114	<2.5		73	
74	SD100-LR510-R4Q	1463104	<2.5		73	
75	SBP024-T2300-R4Q	1462184	<2.5		73	
75	SBP022-T1600-R4Q	1462194	<2.5		73	
75	SBP044-T1100-R4Q	1462204	<2.5		73	
75	SBP044-T550-R4Q	1462214	<2.5		73	
75	SCP024-T2300-R4Q	1456774	<2.5		73	
75	SCP022-T1600-R4Q	1456784	<2.5		73	
75	SCP044-T1100-R4Q	1456794	<2.5		73	
75	SCP044-T550-R4Q	1456804	<2.5		73	
75	SDP023-T3500-R4Q	1465644	<2.5		75	
75	SDP035-T2200-R4Q	1465634	<2.5		75	
75	SDP055-T1470-R4Q	1465624	<2.5		75	
75	SDP075-T1100-R4Q	1465614	<2.5		75	
75	SDP100-T800-R4Q	1465604	<2.5		75	
75	SDP100-T510-R4Q	1465594	<2.5		75	
75	SDP100-T320-R4Q	1465584	<2.5		75	
75	SCPT024-A2300-R4Q	1458994	<2.5		73	
75	SCPT022-A1600-R4Q	1458954	<2.5		73	
75	SCPT044-A1100-R4Q	1458914	<2.5		73	
75	SCPT044-A550-R4Q	1458874	<2.5		73	
76	SDP023-T3500-D4Q	1465714	<2.5		75	
76	SDP035-T2200-D4Q	1465704	<2.5		75	

PAGE	MODEL	PART NO.	VIBRATION LEVEL		NOISE LEVEL ISO 15744	SOUND LEVEL
			ISO 8662 A (m/s ²)	B (m/s ²)		
76	SDP055-T1470-D4Q	1465694	<2.5		75	
76	SDP075-T1100-D4Q	1465684	<2.5		75	
76	SDP100-T800-D4Q	1465674	<2.5		75	
76	SDP140-T510-D4Q	1465664	<2.5		75	
77	SD140-LA510-S4	1464584	<2.5		73	
77	SD075-LA1100-S4	1464604	<2.5		73	
77	2F189-PX900	1240584	<2.5		82	
77	2F189-PX600	1240744	<2.5		82	
77	SF189-PX400	1240904	<2.5		82	
78	SC021-L2000-S90A4S	1459154	<2.5		73	
78	SC021-L1400-S90A4S	1459144	<2.5		73	
78	SC043-L950-S90A4S	1459134	<2.5		73	
78	SC047-L500-S90A4S	1459124	<2.5		73	
78	SC021-L2200-S45A4S	1459574	<2.5		73	
78	SC021-L1500-S45A4S	1459584	<2.5		73	
78	SC043-L1050-S45A4S	1459594	<2.5		73	
78	SC047-L520-S45A4S	1459604	<2.5		73	
78	SC021-L2200-S45A4H	1459484	<2.5		73	
78	SC021-L1500-S45A4H	1459494	<2.5		73	
78	SC043-L1050-S45A4H	1459504	<2.5		73	
78	SC047-L520-S45A4H	1459514	<2.5		73	
78	SC021-L2000-S90A4H	1459074	<2.5		73	
78	SC021-L1400-S90A4H	1459064	<2.5		73	
78	SC043-L950-S90A4H	1459054	<2.5		73	
78	SC047-L500-S90A4H	1459044	<2.5		73	
78	SD070-LB1100-S90-A4H	1463254	<2.5		73	
78	SD070-LB820-S90-A4H	1463244	<2.5		73	
78	SD070-LB510-S90-A4H	1463234	<2.5		73	
78	SD070-LB320-S90-A4H	1463224	<2.5		73	
78	SD070-LR1100-S90-A4H	1463294	<2.5		73	
78	SD070-LR820-S90-A4H	1463284	<2.5		73	
78	SD070-LR510-S90-A4H	1463274	<2.5		73	
78	SD070-LR320-S90-A4H	1463264	<2.5		73	
78	SD070-LB1100-S90-A4S	1463374	<2.5		73	
78	SD070-LB820-S90-A4S	1463364	<2.5		73	
78	SD070-LB510-S90-A4S	1463354	<2.5		73	
78	SD070-LB320-S90-A4S	1463344	<2.5		73	
78	SD070-LR1100-S90-A4S	1463414	<2.5		73	
78	SD070-LR820-S90-A4S	1463404	<2.5		73	
78	SD070-LR510-S90-A4S	1463394	<2.5		73	
78	SD070-LR320-S90-A4S	1463384	<2.5		73	
78	SD072-LB1080-S90-A10S	1463504	<2.5		73	
78	SD095-LB800-S90-A10S	1463494	<2.5		73	
78	SD130-LB600-S90-A10S	1463484	<2.5		73	
78	SD209-LB370-S90-A10S	1463474	<2.5		73	
78	SD300-LB250-S90-A10S	1463464	<2.5		73	
78	SD072-LR1080-S90-A10S	1463554	<2.5		73	
78	SD095-LR800-S90-A10S	1463544	<2.5		73	
78	SD130-LR600-S90-A10S	1463534	<2.5		73	
78	SD209-LR370-S90-A10S	1463524	<2.5		73	
78	SD300-LR250-S90-A10S	1463514	<2.5		78	
78	4H489-N-750	1301984	<2.5		84	
78	4H489-N-480	1301804	<2.5		84	
78	4H489-N-750	1301724	<2.5		84	
78	4H489-N-480	1301644	<2.5		84	
78	4H489-N-200	1301564	<2.5		84	
79	SC024-L2000-R90A4S	1459194	3.7-8.2		73	
79	SC022-L1400-R90A4S	1459184	2.7-7.2		73	
79	SC044-L950-R90A4S	1459174	3.2-9.9		73	
79	SC044-L500-R90A4S	1459164	4.5-5.2		73	
79	SC024-L2000-R90A4H	1459114	3.7-8.2		73	
79	SC022-L1400-R90A4H	1459104	2.7-7.2		73	
79	SC044-L950-R90A4H	1459094	3.2-9.9		73	
79	SC044-L500-R90A4H	1459084	4.5-5.2		73	
79	SD070-LB1100-R90-A4H	1463334	6.9-8.3		73	
79	SD070-LB820-R90-A4H	1463324	3.8-8.2		73	
79	SD070-LB510-R90-A4H	1463314	2.0-4.6		73	
79	SD070-LB320-R90-A4H	1463304	1.8-3.9		73	
79	SD070-LR1100-R90-A4H	1463654	6.9-8.3		73	
79	SD070-LR820-R90-A4H	1463644	3.8-8.0		73	
79	SD070-LR510-R90-A4H	1463634	2.0-4.6		73	
79	SD070-LR320-R90-A4H	1463624	1.8-3.9		73	
79	SD070-LB1100-R90-A4S	1463454	6.9-8.3		73	
79	SD070-LB820-R90-A4S	1463444	3.7-8.0		73</	

Vibration level (m/s²) - Noise level (dB(A))

PAGE	MODEL	PART NO.	VIBRATION LEVEL ISO 8662		NOISE LEVEL ISO 15744	SOUND LEVEL
			A (m/s ²)	B (m/s ²)		
82	PT030-L9000-I10S	1461404	<2.5		73	
82	PT009-T7800-I4Q	1461414	<2.5		76	
82	PT016-T7800-I4Q	1461784	<2.5		76	
82	PT035-T9000-I10S	1461424	<2.5		77	
82	PT070-T7500-I13S	1461434	<2.5		79	
82	PT115-T6000-I13S	1461444	2.5		78	
82	PT200-T5500-I13S	1461454	2.7		81	
82	PT250-T4000-I19S	1461464	4.5		80	
82	PT010-L5000-S4Q	1462254	<2.5		74	
82	PT014-L6000-S4Q	1462264	<2.5		74	
82	PT010-T5500-S4Q	1462274	<2.5		74	
82	PT014-T6000-S4Q	1462284	<2.5		74	
82	PT040-T6000-S10S	1462294	<2.5		77	
82	PT070-T4000-S13S	1462304	<2.5		81	
82	PT125-T3500-S13S	1462314	3.3		81	
105	CP6031 HABAD	T021887	4.3		88	98
105	CP6031 HABAK	T021884	4.3		88	98
105	CP6031 HABAV	T021885	4.3		88	98
105	CP6300 RSR	T025285	4.3		90	100
105	CP6041 HABAB	T021888	5.7		90	100
105	CP6041 HABAR	T022331	5.7		96	106
105	CP6500 RS	T025214	4.4		96	106
105	CP6500 RSR	T025216	4.4		96	106
105	CP6500 RSS	T025215	4.4		97	107
105	CP6540 RS	T025312	6.9		97	107
105	CP6540 RSR	T025313	6.9		97	107
105	CP6540 RSS	T025314	6.9		95	105
106	CP6060 SASAB	T024059	8.0		95	105
106	CP6060 SASAK	T024060	8.0		95	105
106	CP6060 SASAR	T024058	8.0		100	110
106	CP6760 RS	T025309	7.4		100	110
106	CP6760 RSR	T025311	7.4		100	110
106	CP6760 RSE	T025310	7.4		100	110
106	CP6110 GASED	T024425	10.5		91	101
106	CP6110 GASEL	T024426	10.5		91	101
106	CP6110 PASED	T025100	10.5		93	103
106	CP0610 GALEL	T018046	6.4		97	107
107	CP0611 GASEL	T022580	10.9		97	107
107	CP0611 GASED	T022581	10.9		97	107
107	CP0611 PASED	T022578	10.9		97	107
107	CP0611 PASEL	T022579	10.9		102	112
107	CP6120 GASED	T018237	12.4		102	112
107	CP6120 GASEL	T017755	12.4		102	112
107	CP6120 PASED	T018841	12.4		102	112
107	CP6120 PASEL	T018235	12.4		97	107
107	CP0614 GALEL	T020021	9.5		97	107
107	CP0614 PALED	T020022	9.5		97	107
107	CP0611P RLS	T025413	12.4		102	113
107	CP0611P RLS	T025414	12.4		102	113
109	CP6031 TEBAB	T021951	4.3		88	98
109	CP6031 TEBAB	T021952	4.3		90	100
109	CP6041 TEBAB	T021953	5.7		90	100
109	CP6041 TEBAD	T021954	5.7		90	100
109	CP6041 TEBAS	T021955	5.7		95	105
109	CP6060 TESAB	T024176	8.0		95	105
109	CP0610 TELUD	T018056	8.0		93	103
127	KC1600-30T	615 170 313 0	2.4		71	
127	KC1600-32T	615 170 314 0	2.4		71	
127	KC1600-30	615 170 315 0	2.4		71	
127	KC1600-32	615 170 316 0	2.4		71	
127	KC061000-30	205 146 638 4	2.5		74	
127	KC061000-32	205 146 707 4	2.5		74	
127	05-X-80000	258984	2.7		76	
127	05-X-80000	258564	2.7		76	
129	K340-7	615 170 036 0	1.4	2.0	78	
129	K331-7	615 170 035 0	1.4	2.7	80	
129	K325-7	615 170 034 0	1.3	2.9	74	
129	K320-7	615 170 033 0	1.9	4.0	75	
129	KC340-7	615 170 032 0	1.4		77	
129	KC331-7	615 170 031 0	2.1		77	
129	KC325-7	615 170 030 0	1.9		78	
129	KC320-7	615 170 029 0	2.7		74	
129	KA320E7	615 170 047 0	1.0	0.9	80	
129	KA312E7	615 170 039 0	1.4	1.0	77	
129	KA320-7	615 170 043 0	1.4		78	
129	KA312-7	615 170 037 0	2.1		75	
129	KLA14	615 170 026 0	1.1		77	
131	K628-7	615 170 107 0	0.8	2.0	85	
131	K624-7	615 170 106 0	1.3	2.4	81	
131	K922-7	615 170 119 0	1.0	1.8	81	
131	K619-7	615 170 105 0	1.2	2.4	76	
131	K918-7	615 170 117 0	1.0	2.0	80	
131	K615-7	615 170 104 0	1.1	2.2	76	
131	K915-7	615 170 114 0	1.2	2.4	81	
131	K912-7	615 170 110 0	1.1	2.7	76	
131	K628-7	615 170 126 0	1.7		85	
131	KC624-7	615 170 125 0	1.7		82	
131	KC922-7	615 170 130 0	1.3		81	
131	KC619-7	615 170 124 0	1.7		74	
131	KC918-7	615 170 129 0	1.7		81	
131	KC615-7	615 170 123 0	1.9		74	
131	KC915-7	615 170 128 0	1.8		80	
131	KC912-7	615 170 127 0	2.1		75	
131	K912-300-7	615 170 108 0	1.2	1.3	74	
131	K912-500-7	615 170 109 0	1.7	2.5	74	
133	K340-9	615 170 139 0	1.6	2.8	78	
133	K331-9	615 170 140 0	1.4	2.1	80	
133	K325-9	615 170 141 0	1.2	2.9	74	
133	K320-9	615 170 142 0	1.6	4.2	75	
133	KC340-9	615 170 143 0	1.1		77	
133	KC331-9	615 170 144 0	1.6		77	
133	KC325-9	615 170 145 0	1.6		78	
133	KC320-9	615 170 027 0	2.5		74	
133	KC318-9	615 170 196 0	2.5		72	

PAGE	MODEL	PART NO.	VIBRATION LEVEL ISO 8662		NOISE LEVEL ISO 15744	SOUND LEVEL
			A (m/s ²)	B (m/s ²)		
133	KA320E9	615 170 146 0	1.4	0.9	80	
133	KA312E9	615 170 147 0	1.5	0.9	77	
133	KA320-9	615 170 148 0	1.3		78	
133	KA312-9	615 170 149 0	1.8		75	
133	KA309-9	615 170 266 0	1.8		76	
133	KA613E9	615 170 136 0	1.3	1.6	83	
133	KA613-9	615 170 135 0	1.3		85	
135	KA320-9FE	615 170 206 0	1.3		80	
135	KA312-9FE	615 170 205 0	1.8		78	
137	K628-9	615 170 150 0	1.0	1.9	85	
137	K624-9	615 170 151 0	1.1	2.2	81	
137	K922-9	615 170 152 0	0.9	1.8	81	
137	K619-9	615 170 153 0	1.0	2.2	76	
137	K918-9	615 170 154 0	1.0	2.0	80	
137	K615-9	615 170 155 0	1.1	2.4	76	
137	K915-9	615 170 156 0	1.1	2.2	81	
137	K912-9	615 170 157 0	1.1	2.5	76	
137	KC628-9	615 170 158 0	1.5		85	
137	KC624-9	615 170 159 0	0.8		82	
137	KC922-9	615 170 160 0	1.5		81	
137	KC619-9	615 170 161 0	1.6		74	
137	KC918-9	615 170 162 0	1.6		81	
137	KC615-9	615 170 163 0	1.8		74	
137	KC915-9	615 170 164 0	1.8		80	
137	KC912-9	615 170 165 0	2.0		75	
137	K912-300-9	615 170 169 0	1.3	1.2	74	
137	K912-500-9	615 170 170 0	1.7	2.1	74	
137	KA11120-9	615 170 060 0	1.0	6.0	80	
137	K1180-9	615 170 246 0	0.9	1.1	95	
138	KC624-9RT	615 170 290 0	<2.5		82	
143	KA20120H5	615 170 288 0	1.3	0.75	84	
143	KA20120B5	615 170 301 0	1.0	2.25	84	
143	KA20085H7	615 170 289 0	1.7	0.80	85	
143	KA20085B7	615 170 302 0	1.35	3.3	85	
143	KA20120B5Y	615 170 321 0	1.0	2.25	84	
143	KA20085B7Y	615 170 322 0	1.7	0.80	85	
147	K918C3	615 170 118 0	0.7	5.2	77	
147	K915C25	615 170 115 0	0.4	1.5	77	
147	K912D3	615 170 113 0	0.7	5.2	77	
147	K915C3	615 170 116 0	1.0	6.3	78	
147	K912C3	615 170 111 0	0.6	3.4	81	
147	K912C4	615 170 112 0	0.6	2.5	78	
149	K190B3CW	615 170 005 0	0.6	0.5	82	
149	K190B4	615 170 004 0	1.8	2.9	82	
149	K160B6	615 170 003 0	1.5	2.6	77	
149	K145B6	615 170 002 0	1.3	2.1	75	
149	K260B6	615 170 008 0	1.8	2.3	87	
149	K360B6	615 170 010 0	1.8	2.4	82	
149	K245B8	615 170 006 0	2.0	2.2	81	
149	K345B8	615 170 009 0	1.4	2.1	82	
149	K1120B3CWY	615 170 171 0	1.9	1.2	90	
149	K190B3CWY	615 170 172 0	0.6	0.5	82	
149	K290B3CWY	615 170 174 0	1.0	1.0	87	
149	K160B6Y	615 170 173 0	1.5	2.6	77	
149	K260B6Y	615 170 175 0	1.8	2.3	87	
149	K360B6Y	615 170 177 0	1.8	2.4	82	
149	K338B6Y	615 170 208 0	1.4	2.0	81	
149	K245B8Y	615 170 176 0	2.0	2.2	81	
149	K345B8Y	615 170 178 0	1.4	2.1	82	
151	KA320EC3	615 170 046 0	2.0	1.6	80	
151	KA318EC3	615 170 045 0	2.2	1.0	78	
151	KA313EC4	615 170 050 0	1.8	1.2	79	
151	KA320C3	615 170 042 0	2.5		78	
151	KA318C3	615 170 041 0	2.5		81	
151	KA313C4	615 170 049 0	1.8		79	
151	KA6013EC4	615 170 138 0	1.3	1.5	84	
151	KA613C4	615 170 137 0	0.7		85	
153	KA11135C4F	615 170 057 0	1.9		89	
153	KA11120A4D	615 170 059 0	0.3	1.9	85	
155	KA11120A5F	615 170 052 0	1.8	9.0	84	
155	KA11120B5F	615 170 055 0	1.8	9.0	84	
155	KL1120A5	615 170 013 0	1.5	2.1	84	
155	KL1120B5	615 170 181 0	1.5	2.1	84	
157	KA11120H5K	615 170 028 0	1.8	1.6	82	
157	KA11120A5K	615 170 054 0	1.8	1.6	82	
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Vibration level (m/s²) - Noise level (dB(A))

PAGE	MODEL	PART NO.	VIBRATION LEVEL		NOISE LEVEL ISO 15744	SOUND LEVEL
			ISO 8662 A (m/s ²)	ISO 8662 B (m/s ²)		
167	KC9060-9	615 170 166 0	0.4	0.6	83	
167	KC9035-9	615 170 167 0	0.2	0.6	82	
167	KC9010-9	615 170 168 0	0.5	0.7	82	
167	KC9060-7	615 170 122 0	0.5	0.6	83	
167	KC9035-7	615 170 121 0	0.3	0.7	82	
167	KC9010-7	615 170 120 0	0.5	0.7	84	
169	KA320EG	615 170 048 0	0.7	0.8	77	
169	KA312EG	615 170 040 0	0.4	0.5	76	
169	KA320G	615 170 044 0	0.5		77	
169	KA318G	615 170 310 0	0.5		77	
169	KA312G	615 170 038 0	0.4		78	
169	KA309G	615 170 204 0	1.8		76	
169	KA309C	615 170 203 0	1.8		76	
169	DA6.35	615 176 019 0	0.4		74	
169	DA8.20	615 176 030 0	0.3		75	
171	KL1120A	615 170 022 0	0.5	1.1	83	
171	KL1120B	615 170 207 0	1.3	3.1	83	
171	KL1120B	615 170 207 0	0.5	1.1	83	
173	KA11135C4S	615 170 291 0	0.5	1.1	83	
173	KA11120A	615 170 051 0	0.3	0.5	86	
173	KA11120A	615 170 051 0	0.9	4.7	85	
173	KA11120A	615 170 051 0	0.5	4.9	84	
173	KA11120B	615 170 239 0	0.5	4.9	84	
173	KA11075A	615 170 061 0	1.0	3.0	80	
173	KA11075B	615 170 062 0	1.0	3.0	80	
173	KA11060A	615 170 063 0	1.2	3.2	77	
173	KA11060B	615 170 064 0	1.2	3.2	77	
173	KA11120BY	615 170 305 0	0.4	2.0	86	
173	KA11075BY	615 170 307 0	0.5	2.0	86	
173	KA11060BY	615 170 306 0	0.5	2.0	82	
173	KA11060BY	615 170 306 0	1.2	2.5	80	
175	KA9030A	615 170 098 0	0.5	1.7	83	
175	KA9030B	615 170 099 0	0.5	1.7	83	
175	KA9020A	615 170 096 0	0.8	2.0	80	
175	KA9020B	615 170 097 0	0.8	2.0	80	
175	KA9030A16	615 170 102 0	0.5	1.7	83	
175	KA9030B16	615 170 103 0	0.5	1.7	83	
175	KA9020A16	615 170 100 0	0.8	2.0	83	
175	KA9020B16	615 170 101 0	0.8	2.0	83	
175	KA9030BY	615 170 309 0	0.9	1.9	84	
175	KA9030BY	615 170 309 0	0.6	1.3	82	
175	KA9020BY	615 170 308 0	1.2	2.3	81	
177	KL165B	615 170 011 0	0.5	1.7	77	
177	KL245B	615 170 014 0	1.4	1.5	77	
177	KL265B	615 170 023 0	0.7	1.7	84	
177	KL265B	615 170 023 0	1.1	1.6	86	
177	KL360B	615 170 024 0	1.1	1.6	85	
177	KA165B	615 170 025 0	0.6	1.4	84	
177	KL185BY	615 170 240 0	0.6	1.3	85	
177	KL165BY	615 170 241 0	0.8	1.2	77	
177	KL245BY	615 170 242 0	0.9	1.5	77	
177	KL245BY	615 170 242 0	0.7	1.7	84	
177	KL265BY	615 170 243 0	0.8	1.9	84	
177	KL265BY	615 170 243 0	0.6	1.2	86	
177	KL360BY	615 170 244 0	0.7	1.3	86	
177	KL360BY	615 170 244 0	0.6	1.0	84	
177	KA165BY	615 170 245 0	0.6	1.2	84	
179	KA20120B	615 170 303 0	0.6	1.0	85	
179	KA20085B	615 170 304 0				
181	KL165B	615 170 011 0	2.8	4.4	76	
181	KL245B	615 170 014 0	1.2	2.3	80	
181	KL265B	615 170 023 0	2.2	3.7	85	

PAGE	MODEL	PART NO.	VIBRATION LEVEL		NOISE LEVEL ISO 15744	SOUND LEVEL
			ISO 8662 A (m/s ²)	ISO 8662 B (m/s ²)		
181	KL360B	615 170 024 0	2.2	3.7	85	
181	KL260B6CY	615 170 187 0	1.0	1.4	87	
181	KL360B6CY	615 170 193 0	1.0	1.4	87	
181	KL245B6CY	615 170 188 0	0.7	1.0	85	
181	KL345B6CY	615 170 194 0	0.7	1.0	85	
195	SXRB35	615 170 209 0	<2.5		76	
195	SXRB50	615 170 210 0	<2.5		76	
195	SXRB60	615 170 211 0	<2.5		76	
195	SXRB35C	615 170 215 0	<2.5		78	
195	SXRB50C	615 170 216 0	<2.5		78	
195	SXRB60C	615 170 217 0	<2.5		78	
195	SXRB35V	615 170 212 0	<2.5		85	
195	SXRB50V	615 170 213 0	<2.5		85	
195	SXRB60V	615 170 214 0	<2.5		85	
195	SXRA35	615 170 218 0	<2.5		76	
195	SXRA50	615 170 219 0	<2.5		76	
195	SXRA60	615 170 220 0	<2.5		76	
195	SXRA35C	615 170 224 0	<2.5		78	
195	SXRA50C	615 170 225 0	<2.5		78	
195	SXRA60C	615 170 226 0	<2.5		78	
195	SXRA35V	615 170 221 0	<2.5		85	
195	SXRA50V	615 170 222 0	<2.5		85	
195	SXRA60V	615 170 223 0	<2.5		85	
197	SXOAR1	615 170 233 0	<2.5		76	
197	SXOAT1	615 170 234 0	<2.5		77	
197	SXOAR1C	615 170 237 0	<2.5		76	
197	SXOAT1C	615 170 238 0	<2.5		78	
197	SXOAR1V	615 170 235 0	<2.5		82	
197	SXOAT1V	615 170 236 0	<2.5		81	
199	SC2	615 170 080 0	<2.5		80	
199	SC2-8	615 170 092 0	<2.5		83	
199	SC2-14	615 170 086 0	<2.5		85	
199	SC2P	615 170 077 0	<2.5		81	
199	SC2P8	615 170 089 0	<2.5		82	
199	SC2P14	615 170 083 0	<2.5		85	
199	SC3	615 170 082 0	<2.5		80	
199	SC3-8	615 170 084 0	<2.5		82	
199	SC3-14	615 170 088 0	<2.5		83	
199	SC3P	615 170 079 0	<2.5		79	
199	SC3P8	615 170 091 0	<2.5		82	
199	SC3P14	615 170 085 0	<2.5		83	
199	SC4	615 170 081 0	<2.5		80	
199	SC4-8	615 170 093 0	<2.5		83	
199	SC4-14	615 170 087 0	<2.5		82	
199	SC4P	615 170 078 0	<2.5		81	
199	SC4P8	615 170 090 0	<2.5		82	
199	SC4P14	615 170 084 0	<2.5		84	
199	SMRD60H	615 170 280 0	<2.5		80	
199	SMRD60HC	615 170 281 0	<2.5		82	
199	SMRD60HV	615 170 282 0	<2.5		85	
201	SV3	615 170 066 0	<2.5		80	
201	SV3-8	615 170 074 0	<2.5		78	
201	SV3-14	615 170 070 0	<2.5		82	
201	SV3P	615 170 067 0	<2.5		81	
201	SV3P14	615 170 071 0	<2.5		81	
201	SV3P8	615 170 075 0	<2.5		78	
201	SV4P	615 170 068 0	<2.5		83	
201	SV4P14	615 170 072 0	<2.5		81	
201	SV4P8	615 170 076 0	<2.5		80	
203	PL05-10D	615 170 131 0	0.7		80	
203	PL05-10E	615 170 132 0	0.7		80	
203	PL05-10F	615 17 0133 0	0.7		80	
207	CP9361	T02644	4.2		79	
207	CP9361-1	T011970	4.2		79	
207	VP2X	671094	3.8		70	
209	RA1	615 174 018 0	6.0		89	
209	RA1 BL	615 174 019 0	6.0		89	
209	RA2C	615 174 020 0	8.0		91	101
209	RA2H	615 174 021 0	8.0		91	101
209	GV5	615 174 017 0	12.9		95	106
209	CP-0456-LESAR	T013046	16.0		95	106
209	CP-0456-BESAR	T013212	16.0		95	106
209	CP-9356	T021959	16.7		101	111
211	B15B	615 174 023 0	3.9		86	
211	B16B	615 174 025 0	18.4		86	
211	B18B	615 174 027 0	20.6		86	
211	B19B	615 174 030 0	28.3		92	103
211	B19B1	615 174 031 0	28.3		92	102
211	B21B	615 174 040 0	20.4		87	
213	B15M	615 174 024 0	3.7		97	108
213	B16M	615 174 026 0	10.2		100	111
213	B18M	615 174 028 0	11.9		100	111
213	B19M	615 174 032 0	24.9		101	112
213	B21M	615 174 041 0	30.3		104	115
213	CP-0456-LASAN*	T013049	16.9		97	108
213	CP-0456-LASAV	T013050	16.9		97	108
213	CP-9356-NS	T02165	16.7		101	111
213	B18MAV	615 174 029 0	3.7		98	109
217	B20-0	615 174 036 0	10.5		84	
217	B20-0	615 174 035 0	9.1		83	
217	B20	615 174 034 0	8.1		86	
217	B20-1	615 174 037 0	10.3		84	
217	B20L	615 174 038 0	20.0		84	
217	B20L1	615 174 039 0	20.0		84	
218	B14A	615 174 022 0	5.5		88	
218	B23	615 174 042 0	17.6		92	103
223	CP-4444-RURAB	T022961	4.5		94	105
223	CP-4444-RUSAB	T022962	4.4		94	105
223	CP-4444-RUTAB	T022963	5.1		99	110
223	CP-4447-RUSAB	T022965	10.1		96	107
223	CP-4447-RUTAB	T022912	9.7		92	103
223	CP-4447-RUVAB	T022964	5.5		92	102
223	CP-4450-2	T025189	<2.5		94	105



Vibration level (m/s²) - Noise level (dB(A))

PAGE	MODEL	PART NO.	VIBRATION LEVEL ISO 8662		NOISE LEVEL ISO 15744	SOUND LEVEL
			A (m/s ²)	B (m/s ²)		
223	CP-4450-3	T025190	<2.5		94	105
223	CP-4450-4	T025191	<2.5		94	105
223	CP-4475-3	T025241	3.7		95	106
223	CP-4475-4	T025242	5.1		95	106
223	CP-4475-6	T025243	3.8		95	106
223	CP-4450-S-2	205 146 712 4	5.9		94	105
223	CP-4450-S-3	205 146 713 4	8.3		93	104
223	CP-4450-S-4	205 146 714 4	9.2		94	105
227	CP0214CELEL	T012344	<2.5		90	101
227	CP0214SETEL	T023474	<2.5		90	101
227	CP0214FALEL	T013152	<2.5		90	101
227	CP0214KETEL	T023475	<2.5		90	101
227	CP0351CUDEL	T008955	<2.5		90	101
227	CP0351FUDEL	T012608	<2.5		90	101
227	CP0341CUDEL	T022512	<2.5		90	101
227	CP00214ANFEL	T018671	<2.5		90	101
227	CP0214ANGEL	T018672	<2.5		90	101
227	CP0214ANBEL	T012343	<2.5		90	101
227	CP0214ENGEL	T018164	<2.5		90	101
227	CP0351ASKEL	T007773	<2.5		96	107
227	CP0351ASVEL	T009582	<2.5		96	107
227	CP0214ENFEL	T018163	<2.5		96	107
227	CP0351ASGEL	T007783	<2.5		96	107
227	CP0214ENBEL	T018678	<2.5		96	107
227	CP0351ESKEL	T012603	<2.5		96	107
227	CP0351ESREL	T012604	<2.5		96	107
227	CP0351ESVEL	T012605	<2.5		96	107
227	CP0351ESGEL	T012602	<2.5		96	107
230	CP-0351PU	T013417	<2.5		96	107
230	CP-0351PU	205 146 721 4	<2.5		96	107
231	CP-0351-CABH-DY	T020475	<2.5		96	107
235	C220-P-22600	1443014	<2.5		75	
235	C220-P-12400	1443024	<2.5		75	
235	C22-P-6800	1443034	<2.5		75	
235	C22-P-4600	1464844	<2.5		75	
235	C22-P-3300	1443044	<2.5		75	
235	C22-P-2000	1443064	<2.5		75	
235	C22-P-1000	1443074	<2.5		75	
235	C22-P-500	1443084	<2.5		75	
235	D22-P-20000	1289974	<2.5		78	
235	D22-P-10500	1289894	<2.5		78	
235	D23-P-6000	1364374	<2.5		78	
235	D23-P-4600	1364454	<2.5		78	
235	D23-P-2900	1364534	<2.5		78	
235	D23-P-1800	1364794	<2.5		78	
235	D23-P-1100	1364874	<2.5		78	
235	D23-P-700	1364954	<2.5		78	
235	D23-P-400	1365004	<2.5		78	
236	DR750-P20000-C8	205 146 659 4	<2.5		80	
236	DR750-P6000-C8	1465124	<2.5		84	
236	DR750-P4100-C8	1465114	<2.5		81	
236	DR750-P3300-C10	1465104	<2.5		81	
236	DR750-P2700-C10	1465094	<2.5		81	
236	DR750-P1300-C10	1465084	<2.5		81	
236	DR750-P750-C13	205 146 657 4	<2.5		80	
236	DR750-P400-C13	205 146 658 4	<2.5		80	
236	DR750-P20000-JT1	205 146 667 4	<2.5		80	
236	DR750-P6000-JT1	205 146 666 4	<2.5		80	
236	DR750-P4100-JT1	205 146 665 4	<2.5		80	
236	DR750-P3300-JT1	205 146 664 4	<2.5		80	
236	DR750-P2700-JT1	205 146 663 4	<2.5		80	
236	DR750-P1300-JT1	205 146 662 4	<2.5		80	
236	DR750-P750-JT1	205 146 661 4	<2.5		80	
236	DR750-P400-JT1	205 146 660 4	<2.5		80	
236	DR750-P6000-K8	1465164	<2.5		81	
236	DR750-P4100-K8	1465154	<2.5		81	
236	DR750-P3300-K10	1465144	<2.5		81	
236	DR750-P2700-K10	1465134	<2.5		81	
237	C220-L-22600	1443094	<2.5		76	
237	C220-L-12400	1443104	<2.5		76	
237	C22-L-6800	1443114	<2.5		76	
237	C22-L-3300	1443134	<2.5		76	
237	C22-L-2000	1443144	<2.5		76	
237	C22-L-1000	1443154	<2.5		76	
237	D22-L-500	1443164	<2.5		76	
237	D22-L-20000	1253134	<2.5		77	
237	D22-L-10000	1253394	<2.5		77	
237	D23-L-5700	1362914	<2.5		77	
237	D23-L-4400	1363144	<2.5		77	
237	D23-L-2800	1363304	<2.5		77	
237	D23-L-1750	1363564	<2.5		77	
237	D23-L-1050	1363724	<2.5		77	
237	D23-L-400	1363984	<2.5		77	
237	D22-S-20000	1253054	<2.5		77	
237	D22-S-10000	1253214	<2.5		77	
237	D23-S-4400	1363064	<2.5		77	
237	D23-S-2800	1363224	<2.5		77	
237	D23-S-1750	1363484	<2.5		77	
237	D23-S-1050	1363644	<2.5		77	
237	D23-S-400	1363804	<2.5		77	
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241	D314-L-1050	1456904	<2.5		77	
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