
CVI II
Accept
54.29 Ns
15.0
OK
WAIT BARCODE SCAN
Help (function key)
CVI II

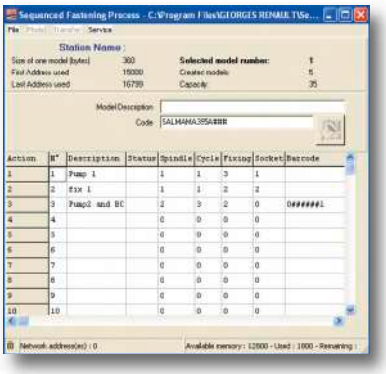

Titanium

CVI II Range
Electric transducerized

Tools

Wide range of torque, high speed for productivity, precision in high torque and low speeds
- Brushless AC motor : virtually maintenance free
- Resolver : smooth angle control at any speed
- 6 leds OK / NOK signals
- Easy and quick maintenance

Easy to integrate



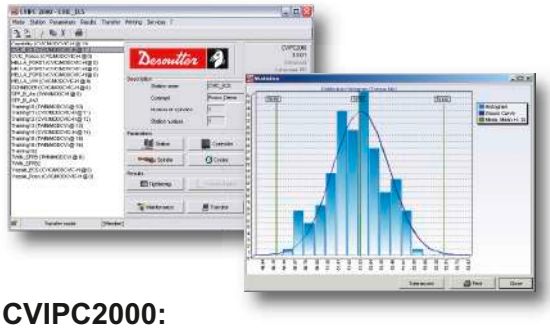
I/O management, sequencing and positionning for error-proofing scenario

Controllers

From simple run down up to complex sequence applications, with up to 20 phases and 250 cycles to optimize speed, accuracy and operator comfort on every joint.

Tightening strategies
- Torque + angle monitoring
- Angle + torque monitoring
- Angle+ torque + torque rate
- Prevailing torque
- Yield point
- Detection of plastic zone area of joint
- Additional torque + angle transducers
  Process monitoring by current control

Communication



CVIPC2000:
- common software to all controllers for easy programming
- statistics screens
- full traceability and networking capabilities
- up to 11600 results stored in the controller

Peripherals and accessories

POSCO positioning system allows quick sequencing with X and Y encoders to respect your batch order

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	999	999	999
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	4	8
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	✔	✔	✔
Self-tapping		✔	✔
EXTERNAL CONNECTIVITY			
Input	6	26	26
Output	8	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 Basic cycle sequencing		✔	✔
SFP Advanced station management		✔	✔
MAINTENANCE			
Access to all tools parameters	✔	✔	✔
Autotest of the complete system	✔	✔	✔
Automatic calibration with Delta		✔	✔
PROGRAMMING			
8 keys + LCD screen	✔		
Full keypad + large LCD screen		✔	✔
CVIPC2000 point to point or via networking	✔	✔	✔

Example order for 1 complete Assembly System

		PART NO.
1	Tool portable angle nutrunner ERAL-2-80	615 165 365 0
1	Cable length 15m	615 917 495 0
1	Controller CVI II	615 932 617 0
1	Start-up kit (UK)	615 928 071 0

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


A


B


C


D

MODCVI-2
Is the modular version of TWINCVI II


E

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	DIMENSIONS WIDTH		HEIGHT		DEPTH		WEIGHT	
			kVA	115/230 V	mm	in.	mm	in.	mm	in.	kg	lb.
A	**CVIS II**	**615 932 618 0**	0.5	Single-phase	280	11.0	345	13.6	385	15.2	17.0	37.5
A	**CVIS II US**	**615 932 642 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
B	**CVI II US**	**615 932 641 0**	0.5	Single-phase	280	11.0	345	13.6	385	15.2	18.5	40.8
B	**CVI II PROFIBUS**	**615 932 620 0**	0.5	Single-phase	280	11.0	345	13.6	385	15.2	18.5	40.8
B	**CVI II ETHERNET**	**615 932 664 0**	0.5	Single-phase	280	11.0	345	13.6	385	15.2	18.5	40.8
B	**CVI II US ETHERNET**	**615 932 666 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
C	**TWINCVI II 1 SERVO**	**615 932 626 0**	0.5	Single-phase	400	15.7	345	13.6	400	15.7	24.0	52.8
C	**TWINCVI II US**	**615 932 640 0**	1.0	Single-phase	400	15.7	345	13.6	400	15.7	26.0	57.3
C	**TWINCVI II PROFIBUS**	**615 932 621 0**	1.0	Single-phase	400	15.7	345	13.6	400	15.7	26.0	57.3
C	**TWINCVI II ETHERNET**	**615 932 665 0**	1.0	Single-phase	400	15.7	345	13.6	400	15.7	26.0	57.3
C	**TWINCVI II US ETHERNET**	**615 932 667 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 or Three-phase	230	9.0	355	14.0	360	14.2	11.0	24.3
D	**MODCVI-2**	**615 932 521 0**	1.0	Single or 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

START-UP KIT to be ordered with the controller

Including: **Plug + Literature**

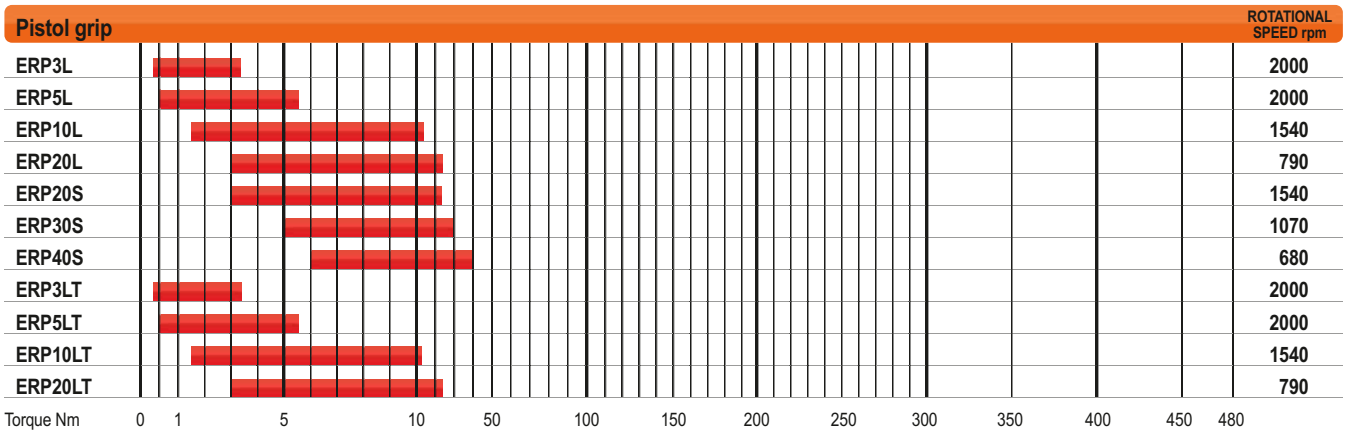
PLUG	LITERATURE	CVIS II	TWINCVI II /CVI II
A	French	**615 928 090 0**	**615 928 070 0**
A	German	**615 928 092 0**	**615 928 072 0**
A	Spanish	**615 928 093 0**	**615 928 073 0**
A	Italian	**615 928 094 0**	**615 928 074 0**
A	English	**615 928 095 0**	**615 928 075 0**
A	Dutch	**615 928 098 0**	
A	Portuguese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

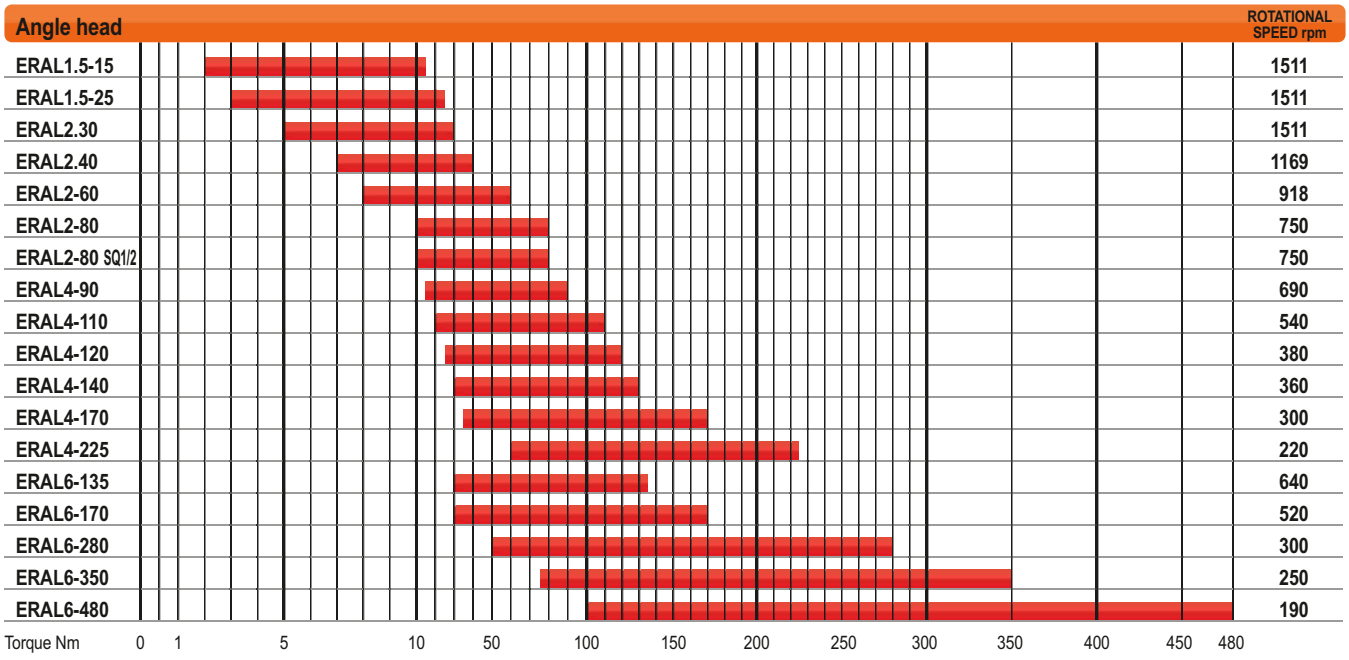
OPTIONAL ACCESSORIES

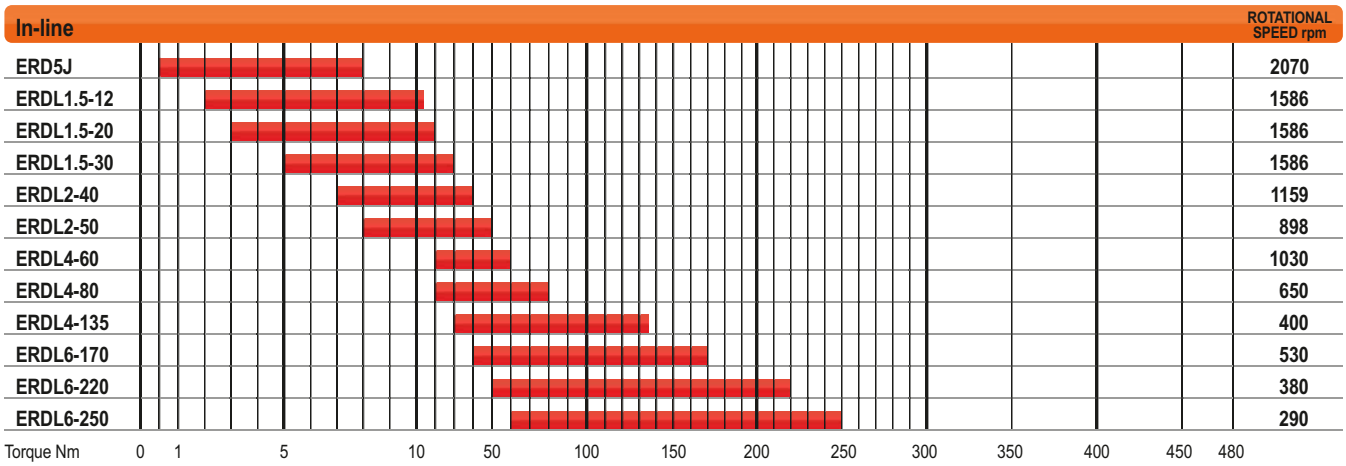
		PART NO.
PC cable, length 2m (78.7")		**615 917 047 0**
Printer cable, length 2m (78.7")		**615 917 057 0**
Wall hanging system		**615 930 519 0**
Power supply 400 Volts		**615 932 460 0**
BRD 'Backup Rescue Device'		**615 936 026 0**
SFP Basic		**615 927 527 0**
SFP Advanced		**615 927 528 0**
CVIPC2000 for CVIS/CVIC	1 Installation	**615 927 521 0**
CVIPC2000 Standard	1 Installation	**615 927 522 0**
CVIPC2000 Advanced	1 Installation	**615 927 523 0**
CVIPC2000 for CVIS/CVIC	5 Installations	**615 927 534 0**
CVIPC2000 Standard	5 Installations	**615 927 526 0**
CVIPC2000 Advanced	5 Installations	**615 927 535 0**
CVIPC2000 Standard	25 Installations	**615 927 537 0**
CVIPC2000 Advanced	25 installations	**615 927 538 0**

Torque Range - Portable electric nutrunners

Performance of Portable electric nutrunners
Series ERP, ERAL, ERD and ERDL

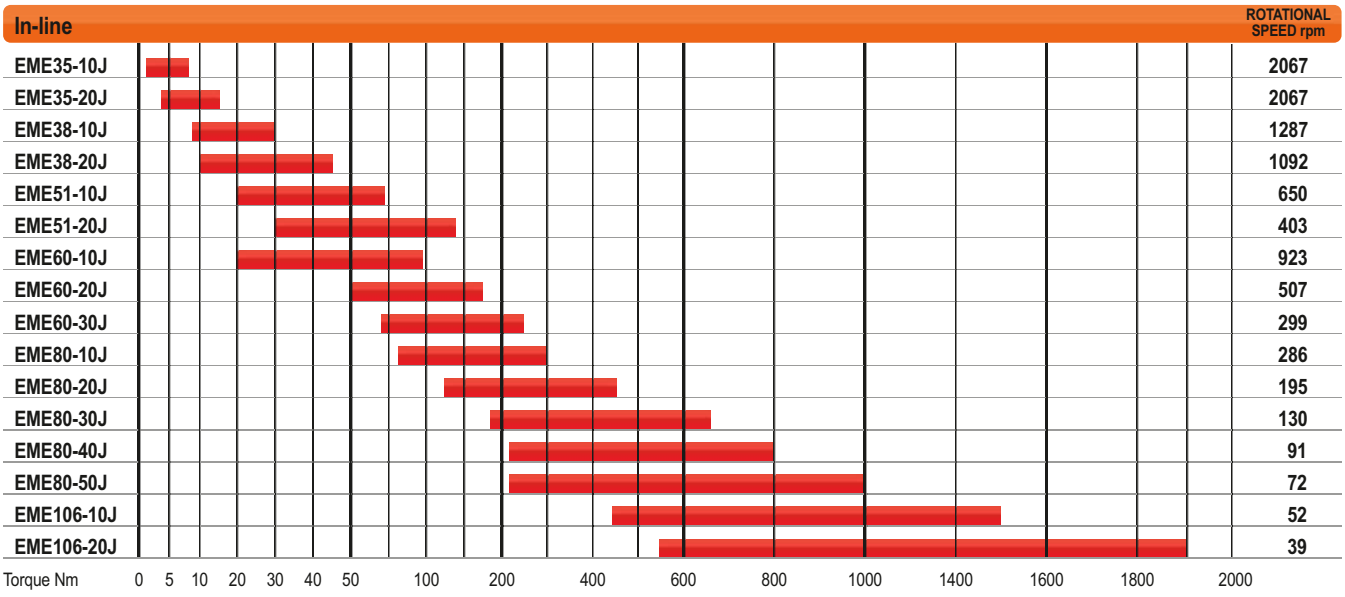


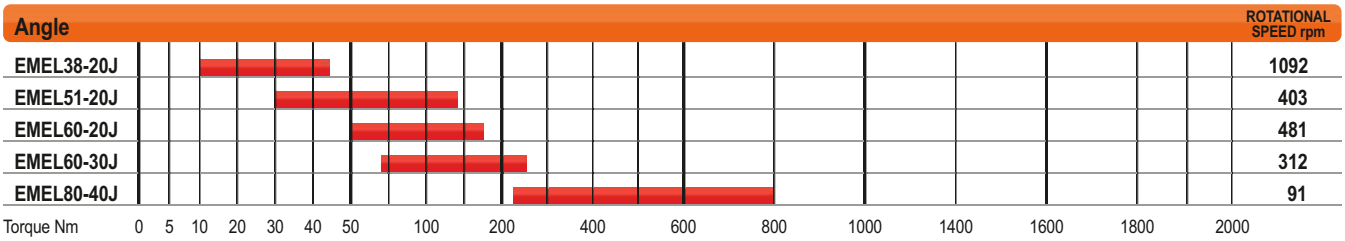




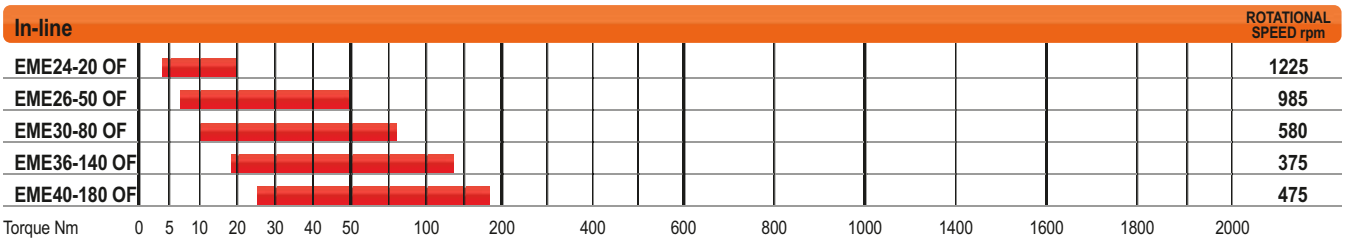
Torque Range - Fixtured electric spindles

Performance of Fixtured electric spindles
Series EME and EMEL





Performance of Fixtured electric spindles with Offset
Series EME.OF



Pistol grip electric nutrunners - CVI II

0.35 to 42 Nm (0.26 to 31 ft.lb) - 680 to 2000 rpm

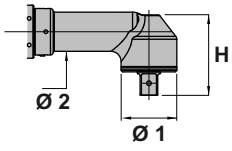
Accessories: see page 29

PIC REF	MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE						ROTATIONAL SPEED	LENGTH		WEIGHT	
				MIN.	RECOM-MENDED	MAX.	MIN.	RECOM-MENDED	MAX.					
			in.	Nm	Nm	Nm	ft.lb	ft.lb	ft.lb	rpm	mm	in.	kg	lb.
A	ERP3L	615 165 193 0	Hex. 1/4 F	0.35	3	3.3	0.26	2.2	2.4	2000	196	7.7	1.0	2.2
A	ERP5L	615 165 194 0	Hex. 1/4 F	0.5	5	5.5	0.37	3.7	4.0	2000	196	7.7	1.0	2.2
A	ERP10L	615 165 195 0	Hex. 1/4 F	1.5	10	12.0	1.10	7.4	8.8	1540	196	7.7	1.1	2.4
A	ERP20L	615 165 196 0	Hex. 1/4 F	3.0	20	23.0	2.20	14.7	17.0	790	196	7.7	1.1	2.4
A	ERP20S	615 165 197 0	Hex. 1/4 F	3.0	20	23.0	2.20	14.7	17.0	1540	221	8.7	1.2	2.6
B	ERP30S	615 165 198 0	Sq. 3/8	5.0	30	30.0	3.70	22.1	22.0	1070	217	8.5	1.2	2.6
C	ERP40S	615 165 263 0	Sq. 3/8	6.0	40	42.0	4.40	29.5	31.0	680	274	10.8	1.7	3.7
D	ERP3LT	615 165 227 0	Hex. 1/4 F	0.35	3	3.3	0.26	2.2	2.4	2000	196	7.7	1.0	2.2
D	ERP5LT	615 165 228 0	Hex. 1/4 F	0.5	5	5.5	0.37	3.7	4.0	2000	196	7.7	1.0	2.2
D	ERP10LT	615 165 229 0	Hex. 1/4 F	1.5	10	12.0	1.10	7.4	8.8	1540	196	7.7	1.1	2.4
D	ERP20LT	615 165 230 0	Hex. 1/4 F	3.0	20	23.0	2.20	14.7	17.0	790	196	7.7	1.1	2.4

Angle head electric nutrunners - CVI II

2 to 480 Nm (1.5 to 354 ft.lb) - 190 to 1511 rpm

MODEL	H		Ø1		Ø2	
	mm	in.	mm	in.	mm	in.
ERAL1.5-15/25	45.5	1.79	28.0	1.10	27.0	1.06
ERAL2-30/40	45.5	1.79	28.0	1.10	27.0	1.06
ERAL2-60	51.5	2.00	35.0	1.36	27.0	1.06
ERAL2-80	57.5	2.26	40.0	1.57	30.5	1.20
ERAL2-80SQ1/2	61.0	2.40	73.5	2.89	45.0	1.77
ERAL4-90/110/120	66.0	2.60	45.0	1.77	37.0	1.46
ERAL4-140/170	69.0	2.70	50.0	1.97	37.0	1.46
ERAL4-225	86.0	3.36	60.0	2.36	42.0	1.65
ERAL6-135/170	69.0	2.72	50.0	1.97	37.0	1.46
ERAL6-280	86.0	3.38	60.0	2.36	42.0	1.65
ERAL6-350/480	89.0	3.50	73.5	2.89	45.0	1.77
ERAL6-480	90.5	3.56	73.5	2.89	45.0	1.77



Accessories: see page 29

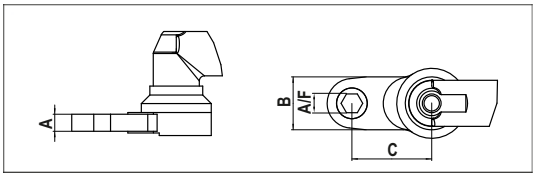
PIC REF	MODEL	PART NUMBER	SQUARE DRIVE	TORQUE MIN.	TORQUE RECOM-MENDED	TORQUE MAX.	TORQUE MIN.	TORQUE RECOM-MENDED	TORQUE MAX.	ROTATIONAL SPEED	LENGTH		WEIGHT	
			in.	Nm	Nm	Nm	ft.lb	ft.lb	ft.lb	rpm	mm	in.	kg	lb.
A	ERAL1.5-15	615 165 356 0	3/8	2	15	18	1.5	11.0	13.3	1511	408	16.1	1.35	3.0
A	ERAL1.5-25	615 165 357 0	3/8	3	20	25	2.2	14.7	18.4	1511	408	16.1	1.35	3.0
A	ERAL2.30	615 165 362 0	3/8	5	20	30	3.7	14.7	22.0	1511	433	17.0	1.55	3.4
A	ERAL2.40	615 165 363 0	3/8	7	30	40	5.2	22.0	29.5	1169	433	17.0	1.6	3.5
A	ERAL2-60	615 165 364 0	3/8	8	45	60	5.9	33.0	44.0	918	443	17.4	1.7	3.7
A	ERAL2-80	615 165 365 0	3/8	10	65	80	7.4	48.0	59.0	750	455	17.9	1.8	4.0
A	ERAL2-80 SQ1/2	615 165 406 0	1/2	10	65	80	7.4	48.0	59.0	750	455	17.9	1.8	4.0
B	ERAL4-90	615 165 384 0	1/2	15	70	90	11.0	51.6	66.0	690	552	21.7	3.5	7.7
B	ERAL4-110	615 165 385 0	1/2	20	90	110	14.7	66.0	81.0	540	552	21.7	3.5	7.7
B	ERAL4-120	615 165 386 0	1/2	25	115	120	18.4	85.0	88.4	380	552	21.7	3.5	7.7
B	ERAL4-140	615 165 387 0	1/2	30	125	140	22.0	92.0	103.0	360	554	21.8	3.7	8.1
B	ERAL4-170	615 165 388 0	1/2	35	150	170	26.0	110.5	125.0	300	554	21.8	3.7	8.1
B	ERAL4-225	615 165 389 0	3/4	60	200	225	44.0	147.0	166.0	220	604	23.8	3.9	8.6
C	ERAL6-135	615 165 390 0	1/2	30	125	135	22.0	92.0	100.0	640	639	25.2	6.2	13.7
C	ERAL6-170	615 165 441 0	1/2	30	150	170	22.0	110.0	125.0	520	639	25.2	6.2	13.7
C	ERAL6-280	615 165 391 0	3/4	50	250	280	37.0	184.0	206.0	300	661	26.0	6.3	13.9
D	ERAL6-350	615 165 392 0	3/4	75	300	350	55.0	221.0	258.0	250	702	27.6	8.0	17.6
D	ERAL6-480	615 165 393 0	3/4	100	400	480	73.0	295.0	354.0	190	702	27.6	8.0	17.6

Offset crowfoot and Offset tube nut tools

Offset crowfoot tools

For restricted access applications.

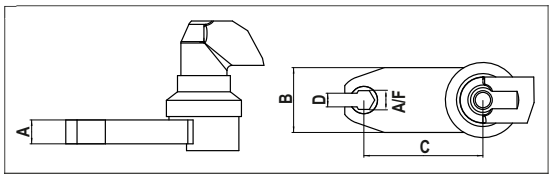
Examples of applications



MODEL	PART NUMBER	TORQUE RANGE		FREE SPEED	WEIGHT		LENGHT		DIMENSIONS A/F	A		B		C	
		Nm	ft.lb	rpm	kg	lb	mm	in.	mm	mm	in.	mm	in.	mm	in.
ERAL2-80 CE10 CC50	615 165 592 0	10-60	7.4-44	750	2.3	5.1	500	19.7	10	24	0.94	30	1.18	50.0	1.97
ERAL2-80 CE10 CC76	615 165 593 0	8-60	5.9-44	750	2.7	5.9	526	20.7	10	24	0.94	30	1.18	76.5	3.01
ERAL2-80 CE13 CC50	615 165 594 0	10-60	7.4-44	750	2.3	5.1	500	19.7	13	24	0.94	30	1.18	50.0	1.97
ERAL2-80 CE13 CC76	615 165 595 0	8-60	5.9-44	750	2.7	5.9	526	20.7	13	24	0.94	30	1.18	76.5	3.01

Offset tube nut tools

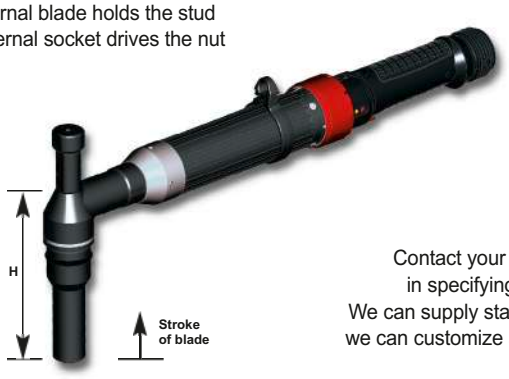
For application requires assembly of a hose, pipe or cable.



MODEL	PART NUMBER	TORQUE RANGE		FREE SPEED	WEIGHT		LENGHT		DIMENSIONS A/F	A		B		C		D	
		Nm	ft.lb	rpm	kg	lb	mm	in.	mm	mm	in.	mm	in.	mm	in.	mm	in.
ERAL2-60 OE11 CC53	615 165 596 0	6.0-42	4.4-31	918	2.2	4.8	503	19.8	11	18	0.71	40	1.57	52.9	2.08	10.4	0.41
ERAL2-60 OE11 CC75	615 165 597 0	5.2-39	3.8-29	918	2.3	5.1	526	20.7	11	18	0.71	40	1.57	75.3	2.96	10.4	0.41
ERAL2-60 OE12 CC53	615 165 598 0	6.0-42	4.4-31	918	2.2	4.8	503	19.8	12	18	0.71	40	1.57	52.9	2.08	10.4	0.41
ERAL2-60 OE12 CC75	615 165 599 0	5.2-39	3.8-29	918	2.3	5.1	526	20.7	12	18	0.71	40	1.57	75.3	2.96	10.4	0.41
ERAL2-60 OE13 CC53	615 165 600 0	6.0-42	4.4-31	918	2.2	4.8	503	19.8	13	18	0.71	40	1.57	52.9	2.08	10.4	0.41
ERAL2-60 OE13 CC75	615 165 601 0	5.2-39	3.8-29	918	2.3	5.1	526	20.7	13	18	0.71	40	1.57	75.3	2.96	10.4	0.41

Hold and Drive tools

Used for car and truck shock absorber assembly amongst others.
Combine two tightening operations in one cycle:
- internal blade holds the stud
- external socket drives the nut



Flush Socket tools

The height of an angle head tool with a socket is crucial for some applications.
The solution: use a flush socket tool where the socket is integrated with the angle head housing.

Contact your Desoutter representative for assistance in specifying the correct head for your application.
We can supply standard products or, if the application requires, we can customize a tool, complete with a drawing and parts list.

In-line electric Nutrunners- CVI II

0.5 to 250 Nm (0.37 to 184 ft.lb) - 290 to 2070 rpm

A

B

C

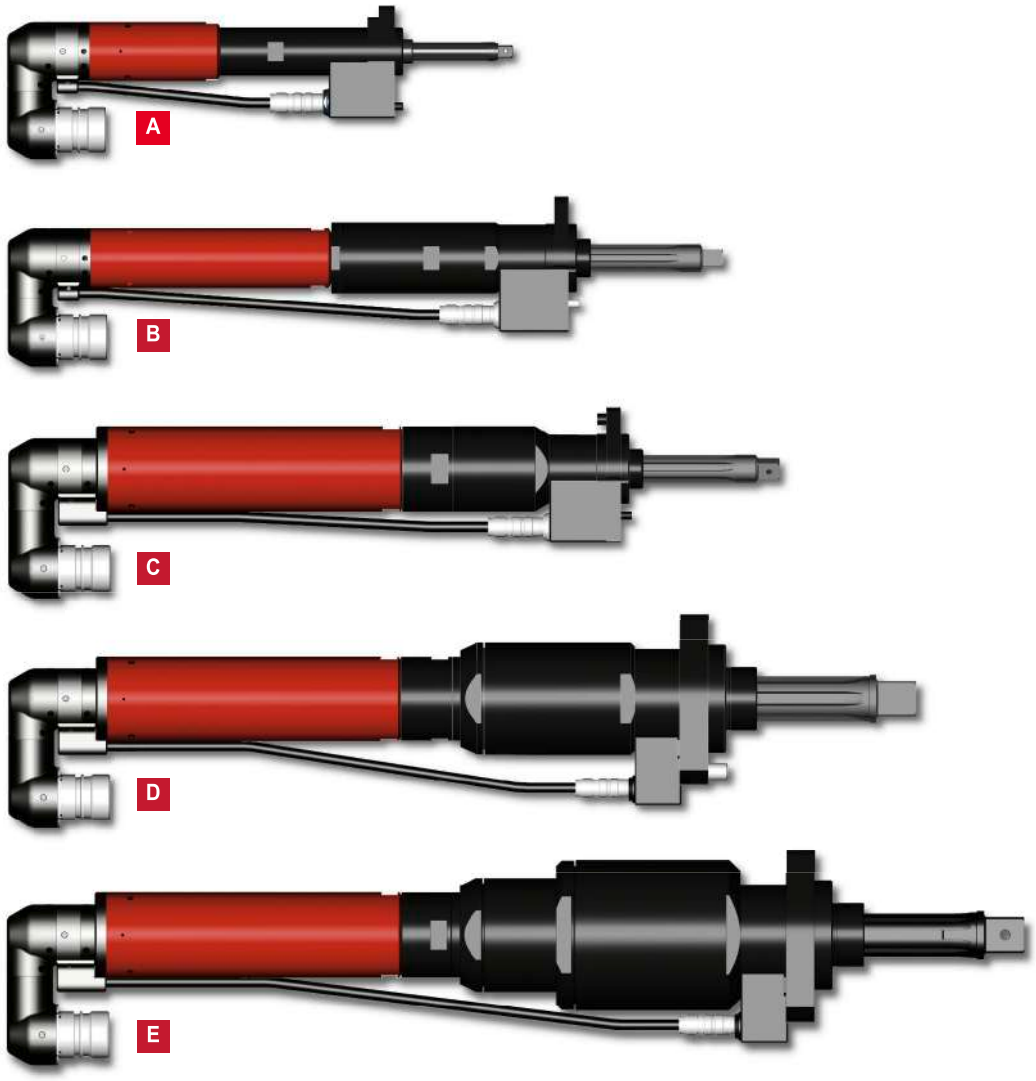
D

Accessories: see page 29

PIC REF	MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE MIN.	TORQUE RECOM-MENDED	TORQUE MAX.	TORQUE MIN.	TORQUE RECOM-MENDED	TORQUE MAX.	ROTATIONAL SPEED	LENGTH		WEIGHT	
			in.	Nm	Nm	Nm	ft.lb	ft.lb	ft.lb	rpm	mm	in.	kg	lb.
•	**ERD5J**	**615 165 060 0**	Hex. 1/4 F	0.5	6	8	0.37	4.4	5.9	2070	379	14.9	1.3	2.9
A	**ERDL1.5-12**	**615 165 366 0**	Hex. 1/4 F	2	10	12	1.5	7.4	8.8	1586	365	14.4	1.3	2.9
A	**ERDL1.5-20**	**615 165 367 0**	Hex. 1/4 F	3	15	20	2.2	11.0	14.7	1586	365	14.4	1.3	2.9
B	**ERDL1.5-30**	**615 165 368 0**	Sq. 3/8	5	20	30	3.7	14.7	22.0	1586	357	14.0	1.3	2.9
B	**ERDL2-40**	**615 165 369 0**	Sq. 3/8	7	30	40	5.2	22.0	29.5	1159	382	15.0	1.5	3.3
B	**ERDL2-50**	**615 165 370 0**	Sq. 3/8	8	40	50	5.9	29.5	36.9	898	382	15.0	1.5	3.3
C	**ERDL4-60**	**615 165 407 0**	Sq. 3/8	20	50	60	14.7	36.8	44.2	1030	475	18.7	2.8	6.2
C	**ERDL4-80**	**615 165 394 0**	Sq. 1/2	20	70	80	14.7	51.6	59.0	650	475	18.7	2.8	6.2
C	**ERDL4-135**	**615 165 395 0**	Sq. 1/2	30	120	135	22.1	88.4	99.6	400	502	19.8	3.3	7.3
D	**ERDL6-170**	**615 165 396 0**	Sq. 1/2	40	150	170	29.5	110.5	125.3	530	590	23.2	5.9	13.0
D	**ERDL6-220**	**615 165 397 0**	Sq. 3/4	50	200	220	36.8	147.4	162.0	380	597	23.5	5.9	13.0
D	**ERDL6-250**	**615 165 398 0**	Sq. 3/4	60	250	250	44.2	184.0	184.0	290	597	23.5	5.9	13.0

Fixtured electric spindles - CVI II

1 to 1900 Nm (0.7 to 1400 ft.lb) - 39 to 2067 rpm



Accessories: see page 28

PIC REF	MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED	TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH		WEIGHT	
			in.	Nm	ft.lb	rpm	mm	in.	mm	in.	mm	in.	kg	lb.
A	EME35-10J	615 165 423 0	3/8	1-8	0.7-5.9	2067	50	1.97	43.2	1.7	283	11.1	1.7	3.7
A	EME35-20J	615 165 424 0	3/8	4-15	2.1-11	2067	50	1.97	43.2	1.7	308	12.1	2.0	4.4
A	EME38-10J	615 165 425 0	3/8	9-30	6.6-22.1	1287	50	1.97	43.2	1.7	355	14.0	2.0	4.4
A	EME38-20J	615 165 426 0	3/8	10-45	7.4-33.2	1092	50	1.97	43.2	1.7	355	14.0	2.0	4.4
B	EME51-10J	615 165 427 0	1/2	20-70	14.7-51.6	650	50	1.97	51.2	2.0	374	14.7	2.9	6.4
B	EME51-20J	615 165 428 0	1/2	30-135	22.1-99.5	403	50	1.97	51.2	2.0	401	15.8	3.5	7.7
C	EME60-10J	615 165 429 0	1/2	20-95	14.7-70	923	50	1.97	60.2	2.4	431	16.9	4.8	10.6
C	EME60-20J	615 165 430 0	3/4	50-175	36.8-129	507	50	1.97	60.2	2.4	431	16.9	4.8	10.6
C	EME60-30J	615 165 431 0	3/4	70-250	51.6-184.2	299	50	1.97	60.2	2.4	467	18.4	5.2	11.5
D	EME80-10J	615 165 432 0	3/4	80-300	59-221	286	60	2.36	80.2	3.2	494	19.5	9.8	21.6
D	EME80-20J	615 165 433 0	3/4	120-450	88-221	195	60	2.36	80.2	3.2	494	19.5	9.8	21.6
D	EME80-30J	615 165 434 0	1	180-650	133-479	130	60	2.36	80.2	3.2	494	19.5	9.8	21.6
D	EME80-40J	615 165 435 0	1	220-800	162-590	91	60	2.36	80.2	3.2	494	19.5	9.8	21.6
D	EME80-50J	615 165 436 0	1	220-1000	162-737	72	60	2.36	80.2	3.2	494	19.5	9.8	21.6
E	EME106-10J	615 165 437 0	1	430-1500	317-1105	52	60	2.36	106.2	4.2	564	22.2	15.0	33.1
E	EME106-20J	615 165 438 0	1	540-1900	398-1400	39	60	2.36	106.2	4.2	564	22.2	15.0	33.1

Fixtured electric spindles - CVI II

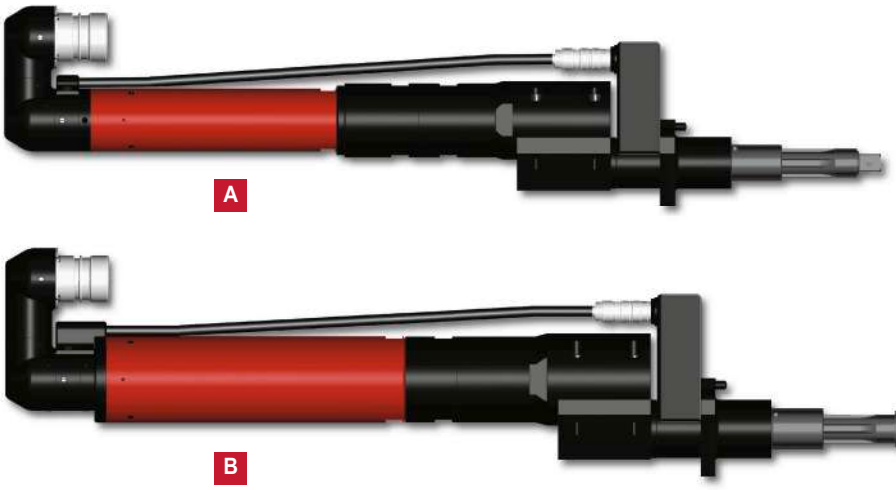
10 to 800 Nm (7.4 to 590 ft.lb) - 91 to 1092 rpm

Accessories: see page 28

PIC REF	MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED	TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH L		WEIGHT	
			in.	Nm	ft.lb	rpm	mm	in.	mm	in.	mm	in.	kg	lb.
A	EMEL38-20J	615 165 517 0	3/8	10-45	7.4-33.2	1092	50	1.97	43.2	1.7	140.5	5.5	3.0	6.6
A	EMEL51-20J	615 165 518 0	1/2	30-135	22-99.5	403	50	1.97	51.2	2.0	166	6.5	4.0	8.8
B	EMEL60-20J	615 165 519 0	3/4	50-175	37-129	481	50	1.97	60.2	2.4	178	7.0	6.0	13.2
B	EMEL60-30J	615 165 520 0	3/4	70-250	52-184	312	50	1.97	60.2	2.4	178	7.0	6.0	13.2
C	EMEL80-40J	615 165 521 0	1	220-800	162-590	91	60	2.40	80.2	3.2	241	9.5	11.0	24.2

Fixtured electric spindles with Offset end - CVI II

4 to 850 Nm (2.9 to 626 ft.lb) - 89 to 1225 rpm



PIC REF	MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED	TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH		WEIGHT	
			in.	Nm	ft.lb	rpm	mm	in.	mm	in.	mm	in.	kg	lb.
A	EME24-20 OF	615 165 512 0	3/8	4-20	2.9-14.7	1225	50	1.97	24	0.95	375.2	14.8	2.7	5.9
A	EME26-50 OF	615 165 513 0	3/8	7-50	5.2-36.8	985	50	1.97	26	1.02	387.5	15.2	2.7	5.9
A	EME30-80 OF	615 165 514 0	1/2	10-80	7.4-59.0	580	50	1.97	30	1.18	414.3	16.3	3.9	8.6
A	EME36-140 OF	615 165 515 0	1/2	19-140	14.0-103	375	50	1.97	36	1.42	454.4	17.7	4.7	10.4
B	EME40-180 OF	615 165 516 0	3/4	25-180	18.4-133	475	50	1.97	40	1.57	481.7	18.9	6.4	14.1
•	EME44-350 OF*	615 165 602 0	3/4	80-350	59-258	217	50	1.97	45	1.77	632.5	24.9	11.0	24.2
•	EME54-600 OF*	615 165 603 0	1	150-600	110-442	125	50	1.97	55	2.17	653.5	25.7	13.0	28.6
•	EME60-850 OF*	615 165 604 0	1	200-850	147-626	89	50	1.97	61	2.40	666.5	26.2	15.0	33.0

*For these models, please contact your local Desoutter sales engineer for more information.

Accessories

EME / EMEL

OPTIONAL ACCESSORIES

Transducer-holder from EME tool	PART NO.
• 3/8" square drive EME35/EME38	615 396 426 0
• 1/2" square drive EME51/EME60.10	615 396 427 0
• 3/4" square drive EME60.20/EME60.30	615 396 428 0
• 3/4" square drive EME80.10/EME80.20	615 396 429 0
• 1" square drive EME80.30/40/50 / EME106	615 396 430 0

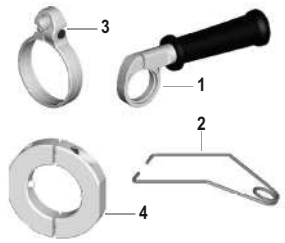
EME adaptation on existing application (separated cable cables torque + motor cable)	PART NO.
• EME adaptation on old cable	615 917 539 0

Cable for EME tools

	MODCVI					
Cable length:	5m (16.4ft)	10m (32.8ft)	15m (49.2ft)	20m (65.6ft)	25m (82ft)	30m (98.4ft)
• Tool cable	615 917 552 0	615 917 554 0	615 917 555 0			
• Extension cable		615 917 154 0	615 917 155 0	615 917 156 0	615 917 157 0	615 917 158 0

	TWINCVI II					
Cable length:	5m (16.4ft)	10m (32.8ft)	15m (49.2ft)	20m (65.6ft)	25m (82ft)	30m (98.4ft)
• Tool cable	615 917 541 0	615 917 542 0	615 917 543 0			
• Extension cable	615 917 083 0	615 917 084 0	615 917 085 0	615 917 086 0	615 917 087 0	615 917 088 0

ERP / ERAL / ERDL



ACCESSORIES INCLUDED	PART NO.	
ITEM	ERP	ERAL / ERDL
1 Side handle	467033	
2 Suspension bail	467003	
3 Horizontal Bail ERAL - ERDL1.5 / 2		615 396 562 0
4 Reaction bar ring ERDL1.5 / 2		615 396 551 5
4 Reaction bar ERDL4		615 595 259 0
4 Reaction bar ERDL6		615 396 297 0
4 Reaction bar ERAL6-350 / -480		615 396 302 0

OPTIONAL ACCESSORIES	PART NO.	
ITEM	ERP	ERAL / ERDL
5 Long lever start (included with ERD5J)		615 396 584 0
6 2nd lever start ERAL-ERDL1.5 / 2		615 396 553 0
7 High resistance side handle ERP	615 397 012 0	
7 Side reaction handle ERAL-ERDL1.5 / ERDL2		615 396 554 0
8 Suspension ring ERAL1.5-2		615 571 063 0
8 Suspension ring ERAL4		615 571 070 0
8 Suspension ring ERAL6		615 571 064 0
9 Reaction bar ring for angle heads		615 396 622 0
9 Reaction bar ring ERAL4-90 to ERAL6-135 / 170		615 396 227 0
9 Reaction bar ring ERAL4-225 / ERAL6-135 / 170		615 396 230 0
10 Rotary connector 90° ER		615 396 299 0
• Extension 200mm ERA(D)L1.5-2		615 396 865 0
• Extension 200mm ERA(D)L 4		615 396 866 0
11 Mounting plate with telescopic spindle		615 396 547 0
12 Plastic cover ERP.S	615 573 074 0	
12 Plastic cover ERP.L	615 573 075 0	
12 Plastic cover ERP.LT	615 573 076 0	
13 Plastic cover AH1 for ERAL1.5-15 / 25 / ERAL2-30 / 40		615 573 064 0
13 Plastic cover AH2 for ERAL2-60		615 573 065 0
13 Plastic cover AH3 for ERAL2-80		615 573 066 0
14 Plastic cover AH4 for ERAL4-90 / 110 / 120		615 573 069 0
14 Plastic cover AH5 for ERAL4-140 / 170 / ERAL6-135		615 573 070 0
14 Plastic cover AH6 for ERAL4-225		615 573 071 0
15 Plastic cover for ERDL1.5 / 2		615 573 067 0

Cable for ERP / ERAL / ERDL

Cable length:	**2.5m** (8.2ft)	**5m** (16ft)	**10m** (32.8ft)	**15m** (49.2ft)	**20m** (65.6ft)	**25m** (82ft)	**30m** (98ft)
• Nutrunners cable		615 917 492 0	615 917 494 0	615 917 495 0			
• Heavy duty nutrunner cables	615 917 570 0	615 917 571 0	615 917 572 0				
• Extension cable		615 917 083 0	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 not included)	615 936 005 0

Cable length:	**1m** (3.3ft)	**5m** (16ft)	**10m** (32.8ft)	**15m** (49.2ft)
• Cable for sockets tray	615 917 241 0	615 917 242 0	615 917 244 0	615 917 245 0

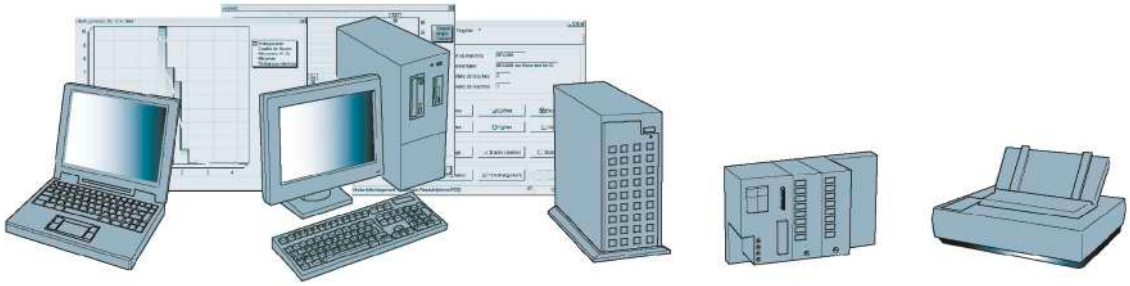
Reporting Box

• Reporting Box	615 936 001 0

Networks

Desoutter CVI Communication protocols

	Ethernet	Fieldbus	
Description			
	• For data reporting • Large amount data • Star topology	• For production control • Small amount of data • Ring topology	• For data reporting • For production control • Star and/or ring topology
Applications			
	• Data storage / traceability • Remote programming • HMI screens	• Station or line control • Data storage • HMI screens	• Data storage • Station or line control • HMI screens
Desoutter			
	• CVINet, CVIPC2000 • CVI open protocol, DLL, API • HMI screens	• Standard fieldbus modules • Profibus, devicenet • HMI screens	• Now available in CVI range • Profilnet, EthernetIP • Ability to use one drop for Ethernet and e.g EthernetIP



Master your production process

- Production system
- CVIPC
- PC

Ethernet

- CVIPC2000
- CVINet data collection
- Open Protocol
- ToolsNet reporting
- IPM protocol
- Ford PPCS protocol
- Chrysler PFCS
- LandRover protocol
- Volvo Station Controller
- Volvo MONT
- VW XML
- Etc …

Fieldbus

- PSA SURMON protocol
- GM protocol
- DeviceNet
- ProfiBus DP
- CC-Link

- ProfiNet
- EtherNetIP general
- ProfiNet Class A general
- ProfiNet Class B general
- ModBus/TCP

CVI

HMI

TWINCVI II CVI II	KIT	PART NUMBER
	PROFIBUS DP	615 929 008 0
	DEVICENET	615 929 014 0
	COMBOX	615 929 029 0

MODCVI	KIT	PART NUMBER
	PROFIBUS DP	615 929 009 0

MODEL	PART NUMBER
Ethernet CVI KIT	615 929 018 0
Cable for TWINCVI controller	615 917 409 0
Smart Ethernet Interface	615 936 040 0

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 Desoutter 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

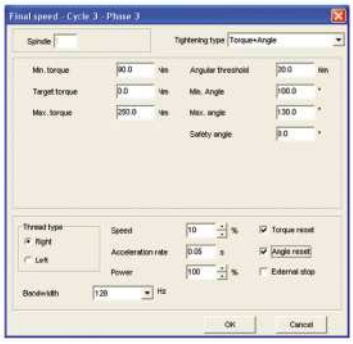
- Access to tool counters, partial number of cycles and total number of cycles performed by the tool
- Test mode to check torque transducer, angle encoder, brushless motor, etc…
- Complete backup/restore of stations

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

Friendly Interface

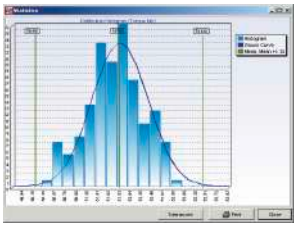
Cycles and phases programming mode

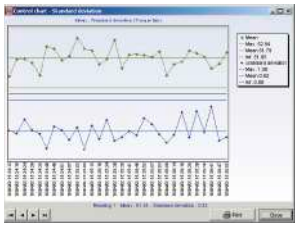
Easy Control

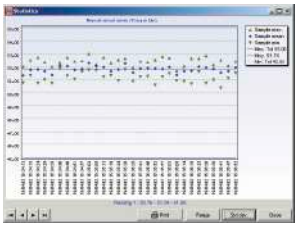


From torque control up to yield point strategy

Complete Statistical Package







MODEL	PART NUMBER
CVIS/CVIC PC2000 1 install	615 927 521 0
CVIS/CVIC PC2000 5 install	615 927 534 0

MODEL	PART NUMBER
CVI PC2000 standard 1 install	615 927 522 0
CVI PC2000 standard 5 install	615 927 526 0
CVI PC2000 standard 25 install	615 927 537 0

MODEL	PART NUMBER
CVI PC2000 advance 1 install	615 927 523 0
CVI PC2000 advance 5 install	615 927 535 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 DataBase.**

*CVI-NET is a multilingual windows software, compatible with the most common databases, **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 saves 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 database for long time saving. The display of one or more curves allows you to analyse and make tightening comparisons.

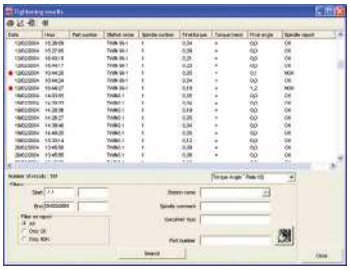
Printing report

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

Easy Control

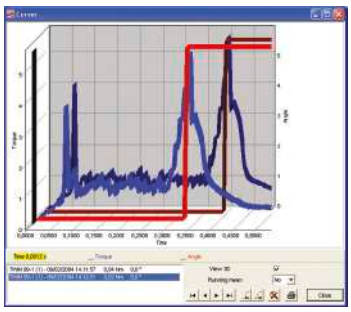
Ethernet connection manager

Friendly Interface



Filtering of results, per VIN number, per date, type of results, etc…

100% Traceability



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

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

The brushless EB 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)

Easy to start

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 15 tightening cycles 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.

Reliability & Quality of tightening

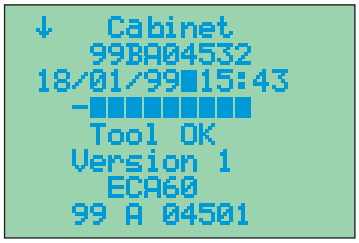
The control of the assembly station by the CVIC eliminates the risk of delivering non conforming parts, (missed screws, re-tightening, etc.).

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'

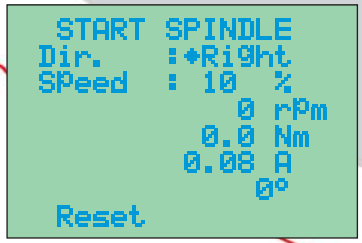
Reduce Cost of maintenance

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

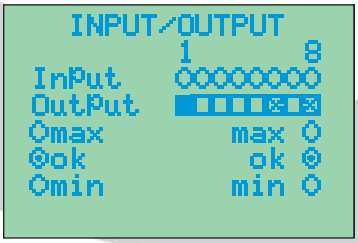
The brushless type motor does not require any maintenance.



Reading of the tool features



Tool rotating test



Reading of input/output

MULTICVIC - Flexible multi-spindle system

Control system 1 to 32 channels

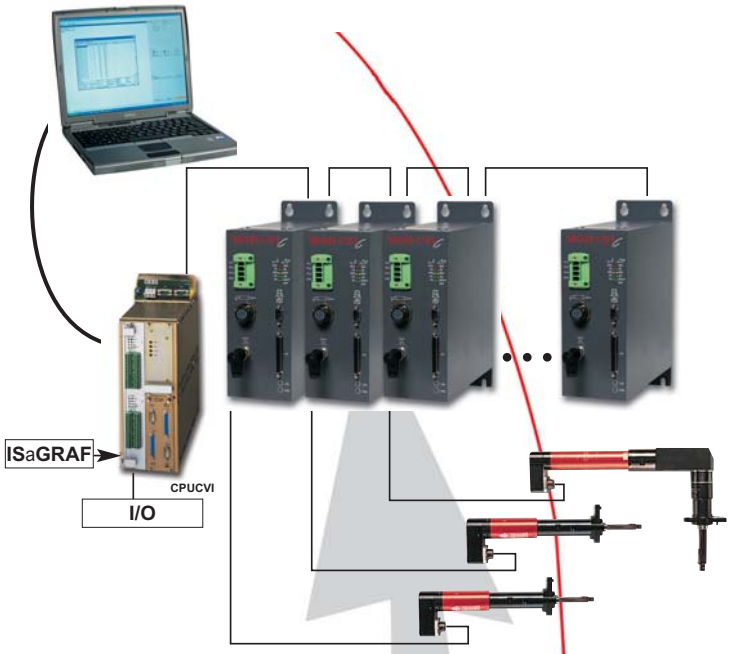
- The MODCVIC is the rack version of the CVIC. It has no screen or keyboard. It is programmed by the CVIS/CVIPC 2000 software.

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

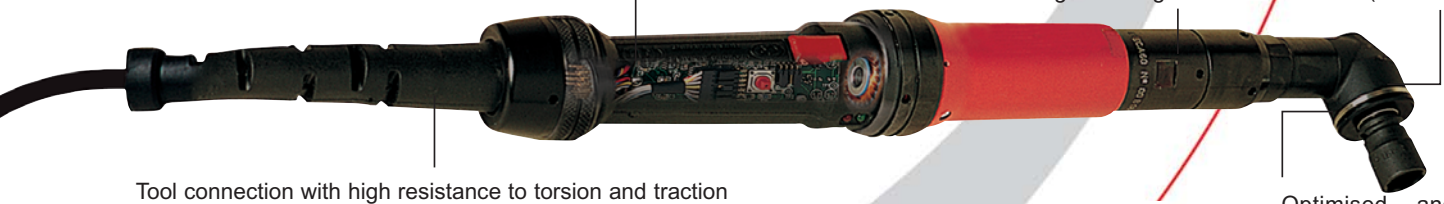
The socket tray allows you to automatically select a tightening cycle by picking the appropriate socket.

Bar code reader

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

Connection ● of peripheral

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.



Long lifetime gearbox

Adapter for geared offset head (crowfoot)

Tool connection with high resistance to torsion and traction

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

Operation ● Comfort

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	VERSIONS H ADVANCED
Quick cycle with self-learning of the joint	✔	✔
Number of cycles in the controller	0	15
Number of cycle in the tool	1	1
Number of phases	3	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)		✔
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	4/5	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	✔	✔

*All CVIPC2000 versions are compatible with CVICs

CVIC - MODCVIC

A

B

PIC REF	MODEL	PART NUMBER	TOOLS	CONSUMPTION (current)		MAINS SUPPLY	WIDTH		DIMENSIONS HEIGHT		DEPTH		WEIGHT	
				115V	230V	50/60 hertz	mm	in.	mm	in.	mm	in.	kg	lb.
CVIC CONTROLLER														
A	**CVIC L-2**	**615 932 608 0**	ECL / ECPL / ECD5 / MC35-10 / ECA15	4A	2A	Single-phase	260	10.2	270	10.6	170	6.7	5	11.0
A	**CVIC H-2**	**615 932 610 0**	ECL / ECPL / ECD5 / MC35-10 / ECA15	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**	ECL / ECPL / ECD5 / MC35-10 / ECA15	4A	2A	Single-phase	100	3.94	320	12.6	270	10.6	4	8.8
B	**MODCVIC H-2**	**615 932 602 0**	ECL / ECPL / ECD5 / MC35-10 / ECA15	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**

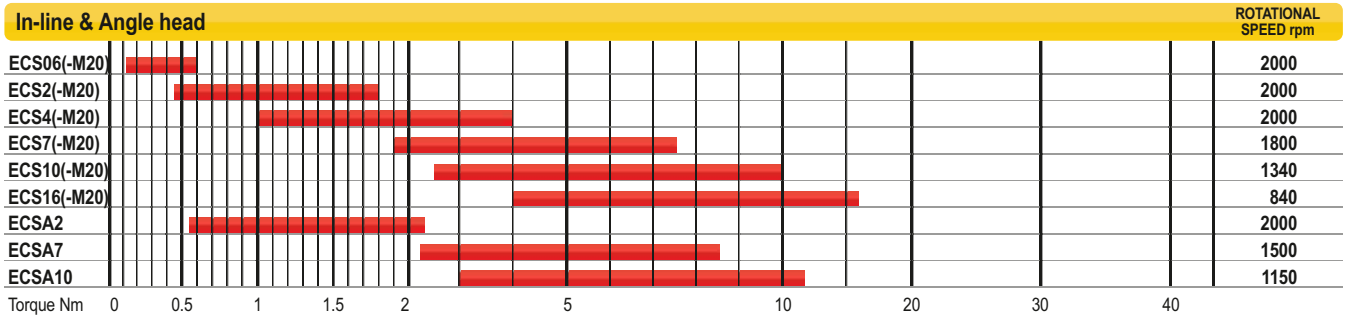
PLUG	LITERATURE	PART NO.
A	French	**615 928 040 0**
C	English	**615 928 041 0**
A	English	**615 928 046 0**
B	English	**615 928 049 0**
A	German	**615 928 042 0**
A	Spanish	**615 928 043 0**
D	Italian	**615 928 044 0**
A	Dutch	**615 928 048 0**
A	Swedish	**615 928 045 0**

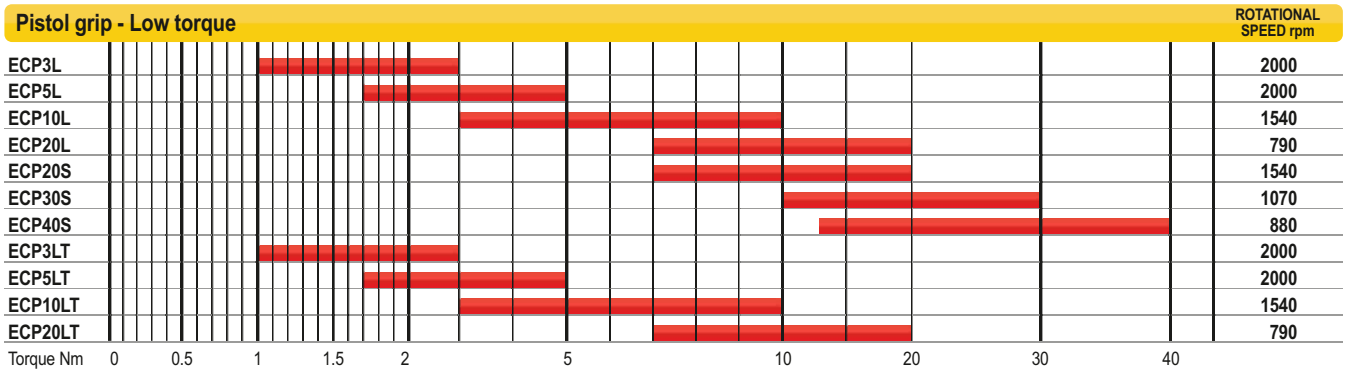
OPTIONAL ACCESSORIES

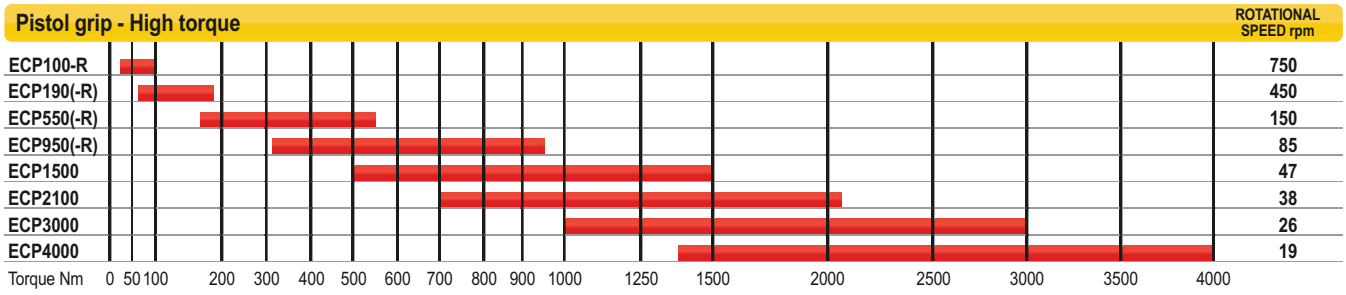
	PART NO.
• CVICPC NETWORK 2000 software	**615 927 523 0**
• PC cable Length 2m (78.7")	**615 917 047 0**
• Printer cable Length 2m (78.7")	**615 917 011 0**
• CVIS/CVICPC2000 1 Installation	**615 927 521 0**
• CVIS/CVICPC2000 5 Installations	**615 927 534 0**
• CVIS/CVICPC2000 25 Installations	**615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

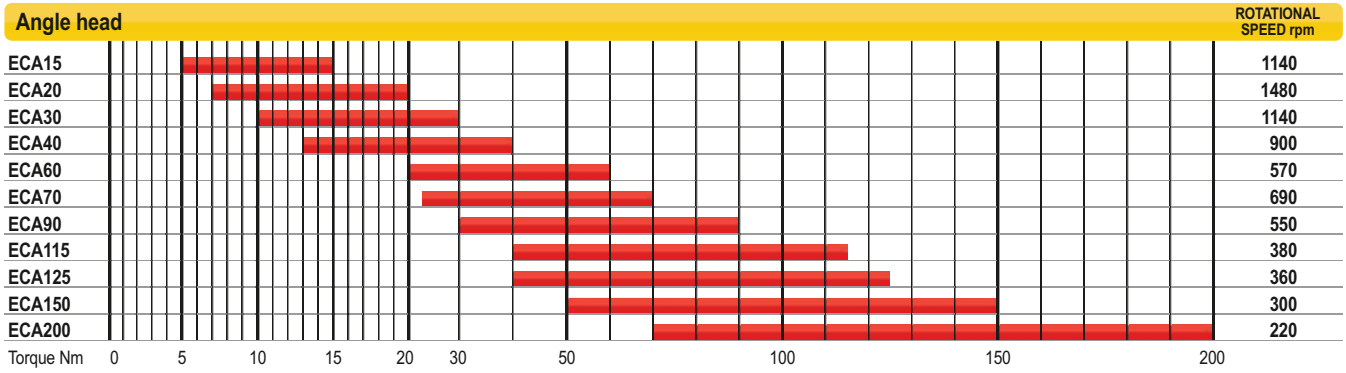
Torque Range

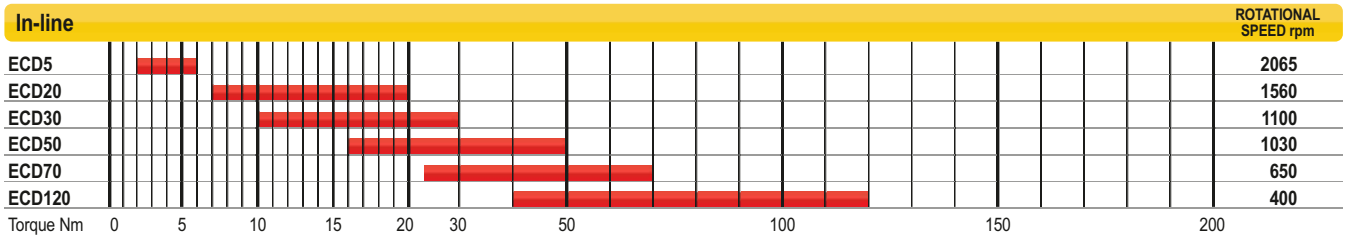
Performances of Portable electric nutrunners
ECS, ECSA, ECP, ECA and ECD Series



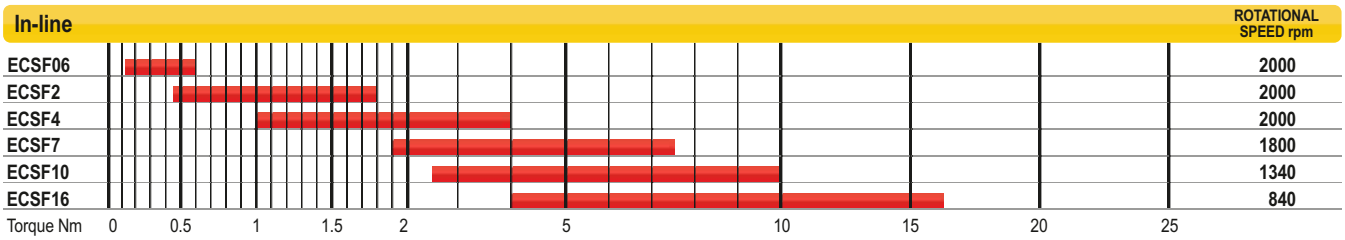


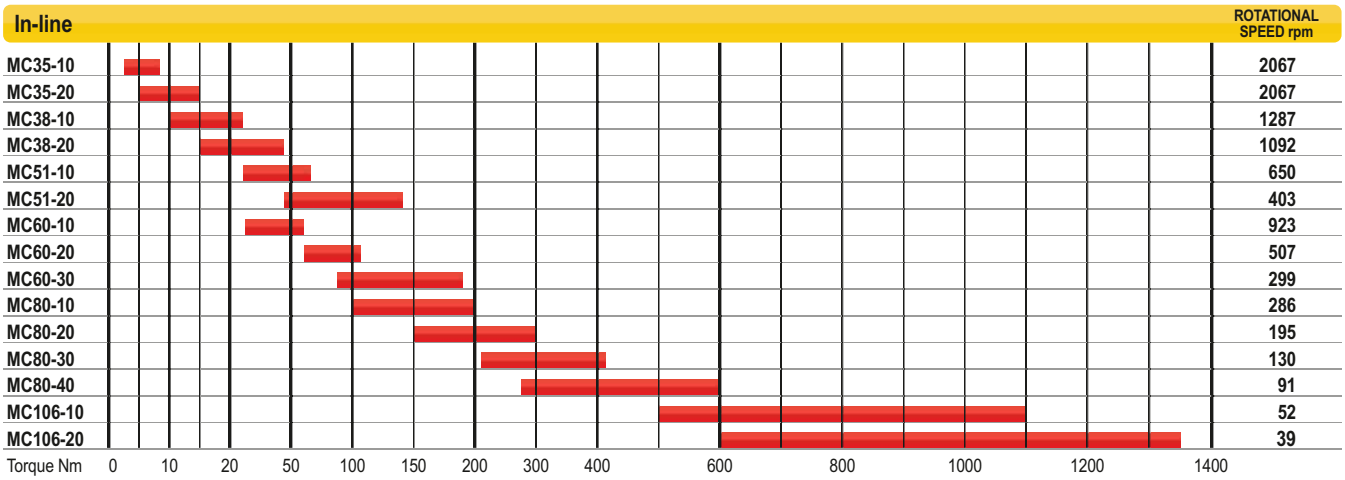


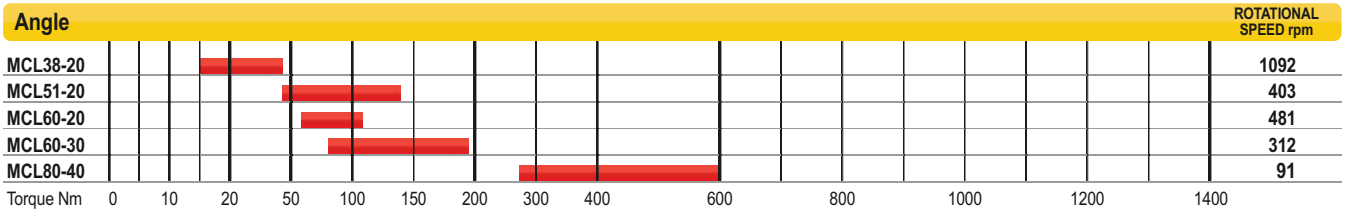




Performances of Fixtured electric spindles
ECSF, MC and MCL Series







Electric Screwdrivers - CVIC

0.12 to 16 Nm (1.1 to 141.6 in.lb) - 840 to 2000 rpm

The ECS series offers outstanding torque accuracy and operator ergonomics, making it the ideal choice for assembly operations that require a high level of quality

Improve your joint visibility

Adapt your tool with accessories

Get the best tightening feedback directly on the tool

Accessories: see page 50

PIC REF	MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE MIN.	TORQUE RANGE MAX.	TORQUE RANGE MIN.	TORQUE RANGE MAX.	ROTATIONAL SPEED	LENGTH		WEIGHT	
			in.	Nm	Nm	in.lb	in.lb	rpm	mm	in.	kg	lb.
ELECTRIC SCREWDRIVERS - IN-LINE												
A	ECS06	615 165 442 0	Hex. 1/4 F	0.12	0.6	1.1	5.3	2000	285	11.2	0.6	1.3
A	ECS2	615 165 443 0	Hex. 1/4 F	0.45	1.8	4.0	15.9	2000	285	11.2	0.6	1.3
A	ECS4	615 165 445 0	Hex. 1/4 F	1.00	4.0	8.8	35.4	2000	285	11.2	0.6	1.3
A	ECS7	615 165 446 0	Hex. 1/4 F	1.90	7.5	16.8	66.4	1800	285	11.2	0.7	1.5
A	ECS10	615 165 444 0	Hex. 1/4 F	2.50	10.0	22.1	88.5	1340	285	11.2	0.7	1.5
A	ECS16	615 165 459 0	Hex. 1/4 F	4.00	16.0	35.4	141.6	840	285	11.2	0.7	1.5
ELECTRIC SCREWDRIVERS - IN-LINE												
B	ECS06-M20	615 165 454 0	Hex. 1/4 F	0.12	0.6	1.1	5.3	2000	285	11.2	0.6	1.3
B	ECS2-M20	615 165 455 0	Hex. 1/4 F	0.45	1.8	4.0	15.9	2000	285	11.2	0.6	1.3
B	ECS4-M20	615 165 456 0	Hex. 1/4 F	1.00	4.0	8.8	35.4	2000	285	11.2	0.6	1.3
B	ECS7-M20	615 165 457 0	Hex. 1/4 F	1.90	7.5	16.8	66.4	1800	285	11.2	0.7	1.5
B	ECS10-M20	615 165 458 0	Hex. 1/4 F	2.50	10.0	22.1	88.5	1340	285	11.2	0.7	1.5
B	ECS16-M20	615 165 460 0	Hex. 1/4 F	4.00	16.0	35.4	141.6	840	285	11.2	0.7	1.5
ELECTRIC SCREWDRIVERS - ANGLE HEAD												
C	ECSA2	615 165 447 0	Hex. 1/4 F	0.55	2.2	4.9	19.5	2000	329	12.9	0.6	1.3
C	ECSA7	615 165 448 0	Hex. 1/4 F	2.20	8.5	19.5	75.2	1500	329	12.9	0.7	1.5
C	ECSA10	615 165 449 0	Hex. 1/4 F	3.00	11.5	26.6	101.8	1150	329	12.9	0.7	1.5

Pistol grip electric nutrunners - CVIC

1 to 40 Nm (0.7 to 29.1 ft.lb) - 790 to 2000 rpm

Accessories: see page 50

PIC REF	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	lb.
A	ECP3L	615 165 199 0	Hex 1/4 F	1.0-3.0	0.7-2.2	2000	2000	196	7.7	1.0	2.2
A	ECP5L	615 165 200 0	Hex 1/4 F	1.7-5.0	1.3-3.7	2000	1515	196	7.7	1.0	2.2
A	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
A	ECP20L	615 165 202 0	Hex 1/4 F	7.0-20	5.2-15	790	515	196	7.7	1.1	2.4
A	ECP20S	615 165 203 0	Hex 1/4 F	7.0-20	5.2-15	1540	1000	221	8.7	1.2	2.6
B	ECP30S	615 165 204 0	Sq 3/8	10-30	7.4-22	1070	700	217	8.5	1.2	2.6
C	ECP40S	615 165 262 0	Sq 3/8	13-40	9.6-29	880	575	263	10.4	2.1	4.5
D	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
D	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
D	ECP10LT	615 165 233 0	Hex 1/4 F	3.0-10	2.2-7.4	1540	1515	196	7.7	1.1	2.4
D	ECP20LT	615 165 234 0	Hex 1/4 F	7.0-20	5.2-15	790	515	196	7.7	1.1	2.4

Electric High Torque Pistol Grip - CVIC

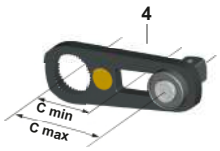
30 to 4000 Nm (22 to 2950 ft.lb) - 19 to 750 rpm

For your quality-critical applications
Impact and impulse tools have been a production favourite for many years. This innovative electric pistol tool allows you to have total quality control without sacrificing productivity.

Offering all benefits of Electric Brushless Tools
Maintenance free motor
Less than 70 dB(A)
Environment friendly (no air, no oil)
Repeatability and no need to re-torque
One Tool = up to 15 different torque settings

PIC REF	MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE MIN.	TORQUE RANGE MAX.	TORQUE RANGE MIN.	TORQUE RANGE MAX.	ROTATIONAL SPEED	LENGTH		WEIGHT	
			in.	Nm	Nm	ft.lb	ft.lb	rpm	mm	in.	kg	lb.
NON REVERSIBLE												
A	ECP190	615 165 399 0	1/2	60	190	44	140	450	314	12.4	3.0	6.6
A	ECP550	615 165 400 0	3/4	175	550	129	405	150	351	13.8	3.7	8.1
A	ECP950	615 165 401 0	1	310	950	228	700	85	379	14.9	4.0	8.8
B	ECP1500	615 165 524 0	1	500	1500	368	1105	47	413	16.3	6.9	15.2
C	ECP2100	615 165 525 0	1 1/2	700	2100	516	1548	38	485	19.1	14.2	31.3
C	ECP3000	615 165 526 0	1 1/2	1000	3000	737	2212	26	485	19.1	14.2	31.3
C	ECP4000	615 165 527 0	1 1/2	1330	4000	980	2950	19	485	19.1	14.2	31.3
REVERSIBLE												
D	ECP100-R	615 165 523 0	1/2	30	100	22	73	750	328	12.9	3.4	7.5
D	ECP190-R	615 165 451 0	1/2	60	190	44	140	450	328	12.9	3.4	7.5
D	ECP550-R	615 165 452 0	3/4	175	550	129	405	150	365	14.4	4.3	9.5
D	ECP950-R	615 165 453 0	1	310	950	228	700	85	395	15.6	4.6	10.2

Electric High Torque Pistol Grip - CVIC



	615 596 014 0 mm (in.)	615 596 018 0 mm (in.)	615 596 111 0 mm (in.)
C min	76 (3)	73.5 (2.9)	80 (3.15)
C max	126 (4.96)	126.5 (4.98)	150 (5.9)

For item 7 - ECP950 with extended reaction arm please contact your local Desoutter sales engineer.

OPTIONAL ACCESSORIES	1 STRAIGHT REACTION BAR	2 BLANK REACTION BAR	3 S TYPE REACTION BAR	4 SLIDING DRIVE REACTION BAR	5 SUSPENSION BAIL	6 PROTECTION SLEEVE
ECP100-R / ECP190 / ECP190-R	615 596 009 5	615 596 010 0	615 596 011 0	N/A	615 571 072 0	615 573 131 5
ECP550 / ECP550-R	615 596 012 5	615 596 013 0	615 596 015 0	615 956 014 0	615 571 072 0	615 573 131 5
ECP950 / ECP950-R	615 596 016 5	615 596 017 0	615 596 019 0	615 596 018 0	615 571 072 0	615 573 131 5
ECP1500	615 596 109 5	615 596 110 0	615 596 112 0	615 596 111 0	615 571 072 0	615 573 131 5
ECP2100 / ECP3000 / ECP4000	N/A	INCLUDED	N/A	N/A	N/A	615 573 131 5

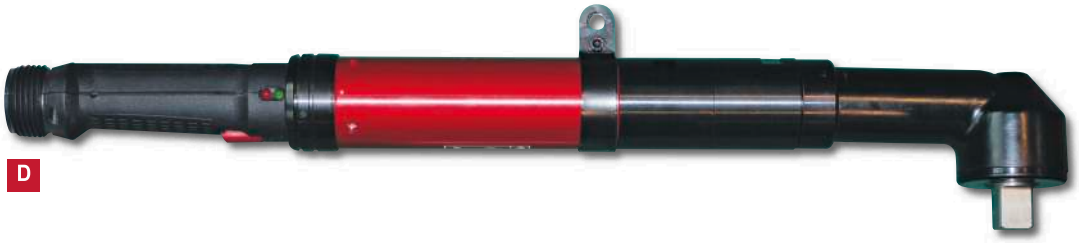
Angle head electric nutrunners - CVIC

5 to 200 Nm (3.7 to 147.5 ft.lb) - 200 to 1480 rpm

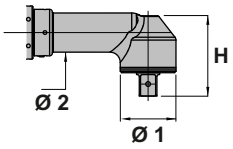

A


B


C


D

MODEL	H		Ø1		Ø2	
	mm	in.	mm	in.	mm	in.
ECA15	45.5	1.8	28	1.10	27.0	1.06
ECA20 - ECA30	45.5	1.8	28	1.10	27.0	1.06
ECA40	51.5	2.0	35	1.40	27.0	1.06
ECA60	57.5	2.3	40	1.60	30.5	1.20
ECA70- ECA90 - ECA115	66.0	2.6	45	1.77	37.0	1.46
ECA125 - ECA150	69.0	2.7	50	1.97	42.0	1.65



Accessories: see page 50

PIC REF	MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		LENGTH		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	kg	lb.
A	ECA15	615 165 192 0	3/8	5-15	3.7-11	1140	855	406	16.0	1.3	2.9
A	ECA20	615 165 100 0	3/8	7-20	5.2-15	1480	1110	431	16.9	1.7	3.7
A	ECA30	615 165 101 0	3/8	10-30	7.4-22	1140	855	431	16.9	1.7	3.7
B	ECA40	615 165 102 0	3/8	13-40	9.6-29	900	675	441	17.4	1.8	4.0
B	ECA60	615 165 103 0	3/8	20-60	14.7-44	570	427	453	17.8	1.9	4.2
C	ECA70	615 165 104 0	1/2	23-70	16.9-52	690	517	538	21.2	3.3	7.3
C	ECA90	615 165 105 0	1/2	30-90	22.1-66	550	412	538	21.2	3.3	7.3
C	ECA115	615 165 106 0	1/2	39-115	28.7-85	380	285	538	21.2	3.3	7.3
C	ECA125	615 165 188 0	1/2	40-125	29.5-92	360	270	541	21.3	3.6	7.9
C	ECA150	615 165 189 0	1/2	50-150	36.8-111	300	225	541	21.3	3.6	7.9
D	ECA200	615 165 190 0	3/4	70-200	51.6-147	200	165	591	23.3	3.8	8.4

In-line electric Nutrunners - CVIC

2 to 120 Nm (1.5 to 88.5 ft.lb) - 400 to 2065 rpm

A

B

C

Accessories: see page 50

PIC REF	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	lb.
A	ECD5	615 165 068 0	Hex. 1/4	2-6	1.5-4.4	2065	1548	346	13.6	1.0	2.4
B	ECD20	615 165 093 0	Hex. 1/4	7-20	5.2-15	1560	1170	388	15.3	1.5	3.3
B	ECD30	615 165 094 0	Sq 3/8	10-30	7.4-22	1100	825	380	15.0	1.5	3.3
C	ECD50	615 165 095 0	Sq 3/8	16-50	11.8-37	1030	300	456	17.9	2.6	5.7
C	ECD70	615 165 096 0	Sq 1/2	23-70	16.9-52	650	487	461	18.1	2.6	5.7
C	ECD120	615 165 097 0	Sq 1/2	40-120	29.5-88	400	772	488	19.2	3.1	6.8

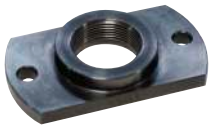
Fixtured electric spindles - CVIC

0.12 to 16 Nm (1.1 to 141.6 in.lb) - 840 to 2000 rpm

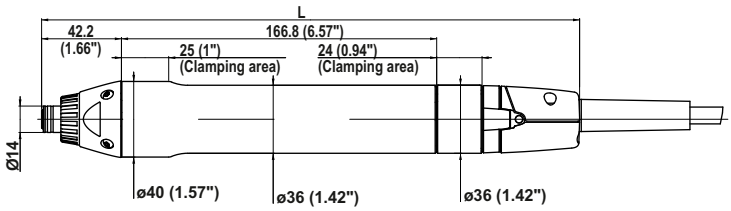
A

Offset head for application with close centers (minimum 19mm)

Automatically adjust the stroke for multispindle applications with spring loaded shafts



Mount your spindle easily on a support using the adapted flange



Accessories: see page 50

PIC REF	MODEL	PART NUMBER	OUTPUT DRIVE	TORQUE RANGE		ROTATIONAL SPEED	LENGTH L		WEIGHT	
			in.	Nm	in.lb	rpm	mm	in.	kg	lb.
A	ECSF06	615 165 501 0	Hex. 1/4 F	0.12-0.6	1.1-5.3	2000	285	11.2	0.6	1.3
A	ECSF2	615 165 502 0	Hex. 1/4 F	0.45-1.8	4.0-15.9	2000	285	11.2	0.6	1.3
A	ECSF4	615 165 503 0	Hex. 1/4 F	1.0-4.0	8.8-35.4	2000	285	11.2	0.6	1.3
A	ECSF7	615 165 504 0	Hex. 1/4 F	1.9-7.5	16.8-66.4	1800	285	11.2	0.7	1.5
A	ECSF10	615 165 505 0	Hex. 1/4 F	2.5-10	22.1-88.5	1340	285	11.2	0.7	1.5
A	ECSF16	615 165 506 0	Hex. 1/4 F	4.0-16	35.4-141.6	840	285	11.2	0.7	1.5

Fixtured electric spindles - CVIC

2.5 to 1350 Nm (1.8 to 995 ft.lb) - 39 to 2067 rpm

Accessories: see page 51

For MC.. tools with Offset heads, please contact your local Desoutter sales engineer for more information.

PIC REF	MODEL	PART NUMBER	SQUARE DRIVE	TORQUE RANGE		ROTATIONAL SPEED AT		TELESCOPIC		MIN. CENTRE DISTANCE		LENGTH		WEIGHT	
			in.	Nm	ft.lb	rpm/230 V	rpm/110 V	mm	in.	mm	in.	mm	in.	kg	lb.
A	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
A	MC35-20	615 165 108 0	3/8	5-15	3.7-11	2067	1344	50	1.97	43.2	1.7	301	11.8	2.0	4.4
A	MC38-10	615 165 109 0	3/8	10-30	7.4-22	1287	837	50	1.97	43.2	1.7	347	13.7	2.0	4.4
A	MC38-20	615 165 110 0	3/8	15-45	11-33	1092	710	50	1.97	43.2	1.7	347	13.7	2.0	4.4
B	MC51-10	615 165 111 0	1/2	25-70	18-52	650	423	50	1.97	51.2	2.0	366	14.4	2.9	6.4
B	MC51-20	615 165 112 0	1/2	45-135	33-99	403	262	50	1.97	51.2	2.0	393	15.4	3.5	7.7
B	MC60-10	615 165 113 0	1/2	30-60	22-44	923	600	50	1.97	60.2	2.4	417	16.4	4.8	10.6
B	MC60-20	615 165 114 0	3/4	60-110	44-81	507	330	50	1.97	60.2	2.4	417	16.4	4.8	10.6
B	MC60-30	615 165 115 0	3/4	80-190	59-140	299	195	50	1.97	60.2	2.4	453	17.8	5.2	11.5
C	MC80-10	615 165 116 0	3/4	100-195	74-144	286	186	60	2.36	80.2	3.2	480	18.9	9.8	21.6
C	MC80-20	615 165 117 0	3/4	150-300	110-221	195	127	60	2.36	80.2	3.2	480	18.9	9.8	21.6
C	MC80-30	615 165 118 0	1	220-420	162-309	130	85	60	2.36	80.2	3.2	480	18.9	9.8	21.6
C	MC80-40	615 165 119 0	1	270-550	199-405	91	59	60	2.36	80.2	3.2	480	18.9	9.8	21.6
D	MC106-10	615 165 120 0	1	500-1100	368-811	52	34	60	2.36	106.2	4.2	556	21.9	15.0	33.1
D	MC106-20	615 165 121 0	1	600-1350	442-995	39	25	60	2.36	106.2	4.2	556	21.9	15.0	33.1

Fixtured electric spindles - CVIC

15 to 550 Nm (11 to 405 ft.lb) - 91 to 1092 rpm

Accessories: see page 51

PIC REF	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.
A	MCL38-20	615 165 124 0	3/8	15-45	11-33	1092	710	50	1.97	43.2	1.7	140.5	5.5	3	6.6
B	MCL51-20	615 165 125 0	1/2	45-135	33-99	403	262	50	1.97	51.2	2.0	166.0	6.5	4	8.8
B	MCL60-20	615 165 126 0	3/4	60-110	44-81	481	313	50	1.97	60.2	2.4	178.0	7.0	6	13.2
B	MCL60-30	615 165 127 0	3/4	80-190	59-140	312	203	50	1.97	60.2	2.4	178.0	7.0	6	13.2
C	MCL80-40	615 165 128 0	1	270-550	199-405	91	59	60	2.40	80.2	3.2	241.0	9.5	11	24.2

Posco 500 Positioning System

Cost effective error proofing

Comprised of a control unit and encoder equiped tool stand, the Posco 500 system ensures that operators perform tightening operations in the right sequence at the right torque, with the right tool in the right position.

Flexibility and control

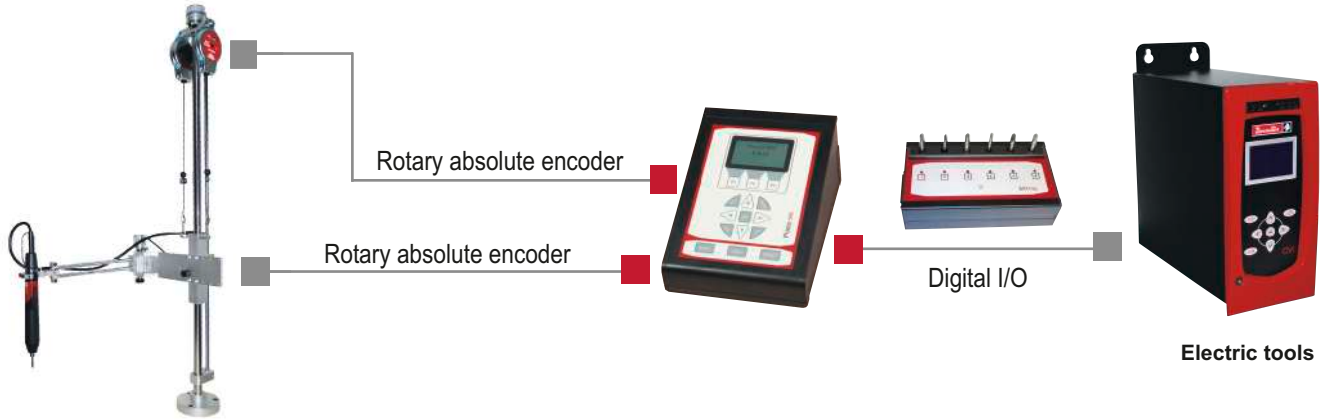
Used in conjunction with an encoder equipped tool stand, the system ensures that the tool is positioned properly during the operation. The ability to use digital input and output signals will confirm to your PLC that the job is done.

Increased operator versatility

Because it guides the operator step by step, it reduces the amount of training each operator requires and allows operators to move between operations without impacting the level of quality.

Easy programming

The Posco 500 system lets you program a sequence of operations by “self learning mode” and ensures that the steps are completed in the right order and in the right conditions.



Electric tools

Tool stand with X/Y encoders with an x-/y-axis as an option

TOOL STANDS	PART NO.
D53-20S X/Y	**615 397 018 0**
D53-20 X/Y	**615 396 933 0**
D53-20 X	**615 396 931 0**
D53-20 Y	**615 396 932 0**
D53-70 X/Y	**615 396 936 0**
D53-70 X	**615 396 934 0**
D53-70 Y	**615 396 935 0**

TOOL HOLDERS Up to 20Nm	PART NO.
Tool holder Ø25-41mm (1-1.6")	**615 396 616 0**
Tool holder Ø40-50mm (1.57-1.97")	**615 396 628 0**

CABLES	PART NO.
Cable Posco 500 / Bit-Tray	**615 917 533 0**
Cable Posco 500 / I-O CVI	**615 917 534 0**
Cable Y RS232	**615 917 536 0**

LICENCES	PART NO.
Barcode license	**615 927 571 0**
Advanced programming license	**615 927 572 0**
PC connection - 1 licence	**615 927 573 0**
PC connection - 5 licences	**615 927 574 0**
PC connection - 10 licences	**615 927 575 0**
FAS support license	**615 936 048 0**

POSCO 500	PART NO.
Posco 500 controller desk	**615 932 656 0**
Posco 500 controller desk with I/O ext	**615 932 658 0**
Posco 500 controller wall with I/O ext	**615 932 659 0**

OTHERS	PART NO.
Bit-Tray module	**615 929 025 0**
Mounting SET	**615 930 777 0**
AC/DC adapter 90-260V/24V 30W	**615 936 047 0**
I/O add-on board	**615 929 026 0**

Accessories

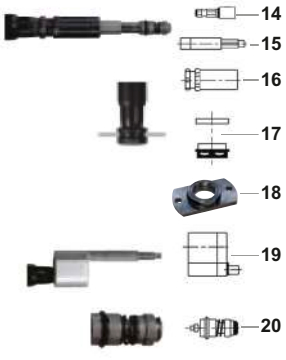
ECS / ECP / ECA / ECD

ACCESSORIES INCLUDED

ITEM		PART NO.
1	Side handle for ECP L/S/LT versions	467033
2	Fixed suspension bail for ECP.LT	467003
2	Fixed suspension bail for ECS	205 049 537 3
3	Stationary suspension bail for ECA15/20/30/40/60 / ECD	615 571 056 0
3	Stationary suspension bail for ECA90/115/125/150/200	615 571 050 0
•	Socket ball retainer 3/8" for ECA15/20/30/40/60	615 770 028 0
4	Reaction bar for ECD20/30	615 396 191 0
4	Reaction bar for ECD50/70/120	615 595 259 0
5	Long lever start for ECD5	615 396 584 0

OPTIONAL ACCESSORIES

ITEM		PART NO.
6	Reaction handle for ECS	615 397 016 0
7	High resistance Side handle for ECP L/S/LT versions	615 397 012 0
8	Rotary right angle tool connector for EC	615 396 300 0
3	Stationary suspension bail for ECSA	615 571 080 0
•	Suspension bail on a swivel for ECP L/S	615 396 121 0
9	Suspension bail on a swivel for ECP HT	615 571 072 0
10	Suspension bail on a swivel for ECA20/30/40/60 / ECD5/20/30	615 396 228 0
10	Suspension bail on a swivel for ECA70/90/115/125/150/200 / ECD506	615 396 229 0
•	Top cable length 4m for ECP.LT	615 917 420 0
•	Reaction bar ring for ECD20/30	615 396 191 0
11	Reaction bar ring for ECA60	615 396 226 0
11	Reaction bar ring for ECA70/90/115/125/150	615 396 227 0
•	Reaction bar ring for ECA200	615 396 230 0
12	Long lever start for ECA / ECD	615 396 584 0
•	Tool clamp for ECD5	615 396 616 0
•	Tool clamp for ECS	615 396 616 0
13	Protection sleeve for ECP HT	615 573 131 5



Spring Loaded Shafts and Bearings Support for ECS-M20/ECSF		
14	Bit Adaptor	103782
15	Spring Loaded Shaft 25mm (1") stroke, 3/8" Sq Drive	108352
16	Shaft Support and Nose Mount	108412
Nose Mounts for ECS-M20/ECSF		
17	Nose Mount	205 052 876 3
18	Flange	205 052 875 3
Offset Head and Spring Loaded Shaft for ECS-M20/ECSF		
15	Spring loaded shaft 25mm (1") strocke, 3/8" square drive	108352
19	Offset Head, Offset 30mm (1.18")	384993
Screwdriver Bit Adaptor for ECS/ECSA/ECS-M20/ECSF		
20	3/8" Square to 1/4" Hex Power Adaptor	108322

ECS / ECP / ECA / ECD

Cable for ECP / ECA / ECD

Cable length:	3m (9.8ft)	5m (16ft)	10m (32.8ft)	15m (49.2ft)	20m (65.6ft)	25m (82ft)	30m (98ft)
• Nutrunners cable	615 917 461 0	615 917 462 0	615 917 464 0	615 917 465 0			
• Extension cable for ECS also		615 917 222 0	615 917 224 0	615 917 225 0	615 917 226 0	615 917 227 0	615 917 228 0

Sockets Tray & Bits Tray

• Socket tray (sockets not supplied)	615 936 005 0
• Bit tray (bits not included)	615 929 535 0

Cable length:	1m (3.3ft)	2m (6.4ft)	5m (16ft)	10m (32.8ft)	15m (49.2ft)
• Cable for socket tray	615 917 241 0		615 917 242 0	615 917 244 0	615 917 245 0
• Cable for bit tray		615 917 535 0			

Reporting Box

• Reporting Box	615 936 001 0

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

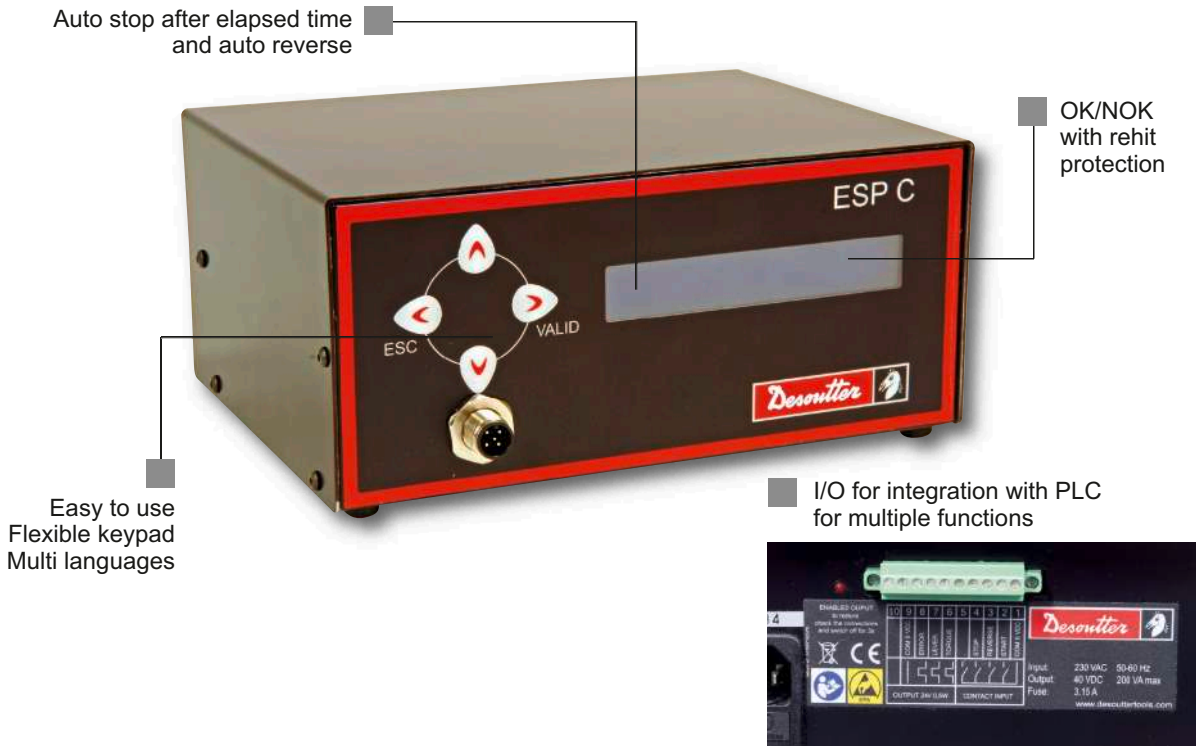
• 3/8" square drive MC35/MC38	615 396 426 0
• 1/2" square drive MC51/MC60.10	615 396 427 0
• 3/4" square drive MC60.20/MC60.30	615 396 428 0
• 3/4" square drive MC80.10/MC80.20	615 396 429 0
• 1" square drive MC80.30/40/MC106	615 396 430 0

Cable for MC & MCL tools

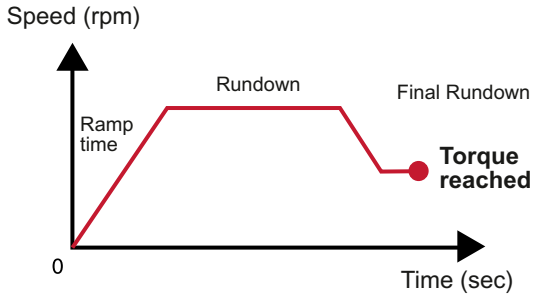
Cable length:	5m (16ft)	10m (32.8ft)	15m (49.2ft)	20m (65.6ft)	25m (82ft)	30m (98ft)
• Tool cable	615 917 232 0	615 917 234 0	615 917 235 0	615 917 236 0	615 917 237 0	615 917 238 0
• Tool extension cable	615 917 222 0	615 917 224 0	615 917 225 0	615 917 226 0	615 917 227 0	615 917 228 0


Desoutter
SLC

ESP C
Total and flexible control



Speed control at all steps of operation: start, rundown and final phase



Parameters Torque adjustment, Ramp time adjustment, rundown speed, rundown and final time in hard joint, automatic reverse, rehit protection, timeout, language selection (FR,EN,D,P,ESP and I)
Outputs Torque reached, Tool in cycle, Error signal
Inputs External start, external reverse and external stop

MODEL	PART NUMBER	TORQUE RANGE		SUPPLY VOLTAGE	DIMENSIONS WIDTH		HEIGHT		DEPTH		WEIGHT	
		Nm	In.lb		mm	in.	mm	in.	mm	in.	kg	lb
ESP C 220 V	**615 165 480 0**	0.5-15	4.4-132.7	AC 230 50Hz	195	7.7	89	3.5	154	6.0	3.4	7.4
ESP C 110 V	**615 165 484 0**	0.5-15	4.4-132.7	AC120 60Hz	195	7.7	89	3.5	154	6.0	3.4	7.4
ESP C LT 220 V	**615 165 481 0**	0.5-7.0	4.4-61.9	AC230 50Hz	195	7.7	89	3.5	154	6.0	3.4	7.4
ESP C LT 110 V	**615 165 485 0**	0.5-7.0	4.4-61.9	AC120 60Hz	195	7.7	89	3.5	154	6.0	3.4	7.4

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

PLUG	DESCRIPTION	PART NO.
A	UK	**615 917 202 0**
B	USA	**615 917 203 0**
C	European	**615 917 201 0**

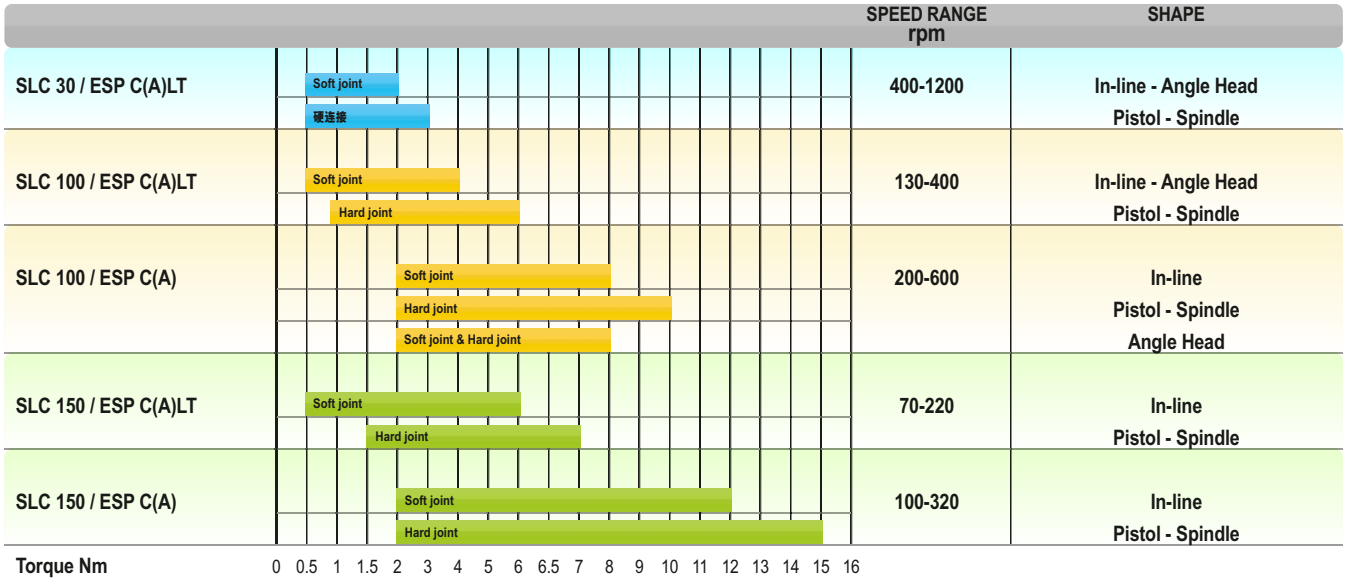
Example of order

		PART NO.
Tool	**SLC030-P1200-C4Q**	**615 165 488 0**
Programmable controller	**ESP C LT 220V**	**615 165 481 0**
Start-up kit	**UK**	**615 917 202 0**

High power screwdrivers

Torque Range

Performance of Electric Screwdrivers - Series SLC

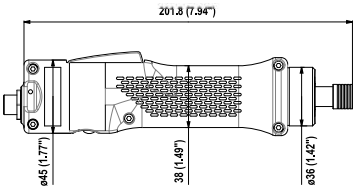


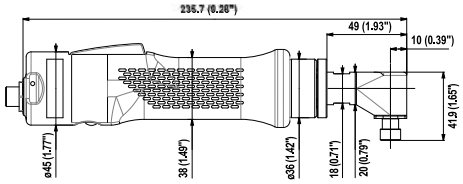
SLC - In-line and Angle head screwdrivers

0.5 to 15 Nm (4.4 to 132.7 in.lb) - 70 to 1200 rpm

A

B



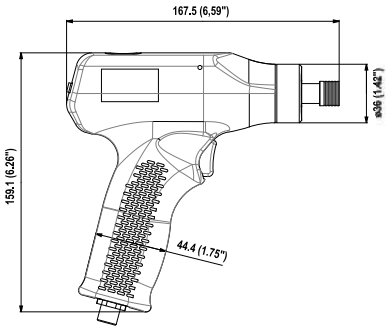


Accessories: see page 63

PIC REF	MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE Soft	Soft	Hard	Hard	WEIGHT		CONTROLLER
			in.	rpm	Nm	in.lb	Nm	in.lb	kg	lb	
IN-LINE - LOW VOLTAGE - CURRENT CONTROL - SHUT OFF											
A	SLC030-L1200-C4Q	615 165 500 0	1/4	400-1200	0.5-2	4.4-17.7	0.6-3	5.3-26.5	0.5	1.1	ESP C(A) LT
A	SLC100-L600-C4Q	615 165 466 0	1/4	130-400	0.5-4	4.4-35.4	0.8-6	7.1-53.1	0.5	1.1	ESP C(A) LT
			1/4	200-600	2.0-8	17.7-70.8	2.0-10	17.7-88.5	0.5	1.1	ESP C(A)
A	SLC150-L320-C4Q	615 165 467 0	1/4	70-220	0.5-6	4.4-53.1	1.5-7	13.3-61.9	0.5	1.1	ESP C(A) LT
			1/4	100-320	2.0-12	17.7-106.2	2.0-15	17.7-132.7	0.5	1.1	ESP C(A)
ANGLE HEAD - LOW VOLTAGE - CURRENT CONTROL - SHUT OFF											
B	SLC030-L1200-C90A4H	615 165 478 0	1/4	400-1200	0.5-2	4.4-17.7	0.6-3	5.3-26.5	0.7	1.5	ESP C(A) LT
B	SLC100-L600-C90A4H	615 165 479 0	1/4	130-400	0.5-4	4.4-35.4	0.8-6	7.1-53.1	0.7	1.5	ESP C(A) LT
			1/4	200-600	2.0-8	17.7-70.8	2.0-10	17.7-88.5	0.7	1.5	ESP C(A)

SLC - Pistol grip screwdrivers

0.5 to 15 Nm (4.4 to 132.7 in.lb) - 70 to 1200 rpm

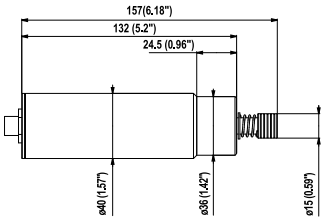


Accessories: see page 63

PIC REF	MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE Soft	Soft	Hard	Hard	WEIGHT		CONTROLLER
			in.	rpm	Nm	in.lb	Nm	in.lb	kg	lb	
PISTOL GRIP - LOW VOLTAGE - CURRENT CONTROL - SHUT OFF											
A	SLC030-P1200-C4Q	615 165 488 0	1/4	400-1200	0.5-2	4.4-17.7	0.6-3	5.3-26.5	0.6	1.3	ESP C(A) LT
A	SLC100-P600-C4Q	615 165 462 0	1/4	130-400	0.5-4	4.4-35.4	0.8-6	7.1-53.1	0.6	1.3	ESP C(A) LT
			1/4	200-600	2.0-8	17.7-70.8	2.0-10	17.7-88.5	0.6	1.3	ESP C(A)
A	SLC150-P320-C4Q	615 165 463 0	1/4	70-220	0.5-6	4.4-53.1	1.5-7	13.3-61.9	0.6	1.3	ESP C(A) LT
			1/4	100-320	2.0-12	17.7-106.2	2.0-15	17.7-132.7	0.6	1.3	ESP C(A)
PISTOL GRIP WITH TOP CONNECTOR - CURRENT CONTROL - SHUT OFF											
B	SLC030-T1200-C4Q	615 165 489 0	1/4	400-1200	0.5-2	4.4-17.7	0.6-3	5.3-26.5	0.6	1.3	ESP C(A) LT
B	SLC100-T600-C4Q	615 165 464 0	1/4	130-400	0.5-4	4.4-35.4	0.8-6	7.1-53.1	0.6	1.3	ESP C(A) LT
			1/4	200-600	2.0-8	17.7-70.8	2.0-10	17.7-88.5	0.6	1.3	ESP C(A)
B	SLC150-T320-C4Q	615 165 465 0	1/4	70-220	0.5-6	4.4-53.1	1.5-7	13.3-61.9	0.6	1.3	ESP C(A) LT
			1/4	100-320	2.0-12	17.7-106.2	2.0-15	17.7-132.7	0.6	1.3	ESP C(A)

SLC - Automation - Remote start

0.5 to 15 Nm (4.4 to 132.7 in.lb) - 70 to 1200 rpm



Accessories: see page 63

PIC REF	MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED	TORQUE RANGE Soft	Soft	Hard	Hard	WEIGHT		CONTROLLER
			in.	rpm	Nm	in.lb	Nm	in.lb	kg	lb	
AUTOMATION - REMOTE START											
A	SLC030-F1200-C4Q	615 165 490 0	1/4	400-1200	0.5-2	4.4-17.7	0.6-3	5.3-26.5	0.5	1.1	ESP C(A) LT
A	SLC100-F600-C4Q	615 165 468 0	1/4	130-400	0.5-4	4.4-35.4	0.8-6	7.1-53.1	0.5	1.1	ESP C(A) LT
			1/4	200-600	2.0-8	17.7-70.8	2.0-10	17.7-88.5	0.5	1.1	ESP C(A)
A	SLC150-F320-C4Q	615 165 469 0	1/4	70-220	0.5-6	4.4-53.1	1.5-7	13.3-61.9	0.5	1.1	ESP C(A) LT
			1/4	100-320	2.0-12	17.7-106.2	2.0-15	17.7-132.7	0.5	1.1	ESP C(A)

SLK: High value, simple solution

Flexible

- Integrated ring for quick installation of vertical suspension bail.
- Tool-free torque adjustment.
- Reverse action switch with stop position.

Productive

- Ventilation slots for cool operation.
- Linear torque adjustment with external chuck.

Easy to maintain

- Simple maintenance thanks to quick brush replacement.
- Spare brushes included.

Comfortable

- Long, rounded trigger with easy access for operator's hand.
- Soft rubber grip provides non-slip operation.
- Flared shape and conical cross section give superior hand comfort during operation.
- Finger stop reduces risk of hand slip off and allows the operator to quickly position hand on the tool and remain focussed on the application.

ESD CERTIFIED

Adapted to electronics and appliance assembly, SLK Series low-voltage screwdrivers are ESD certified to ensure protection of electronic components.

SLK - Low Voltage screwdrivers

0.02 to 4.7 Nm (0.18 to 41.6 in.lb) - 530 to 1000 rpm

Power Controllers

PIC REF	MODEL	PART NUMBER	DESCRIPTION	DIMENSIONS WIDTH		HEIGHT		DEPTH		WEIGHT	
				mm	in.	mm	in.	mm	in.	kg	lb
E	ESP1	615 932 635 0	1 screwdriver - Input 100-240V	75	2.95	55	2.17	160	6.30	0.5	1.1
F	ESP2	615 932 636 0	2 screwdrivers - Input 100-240V	118	4.65	85	3.35	210	8.27	2.5	5.5

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

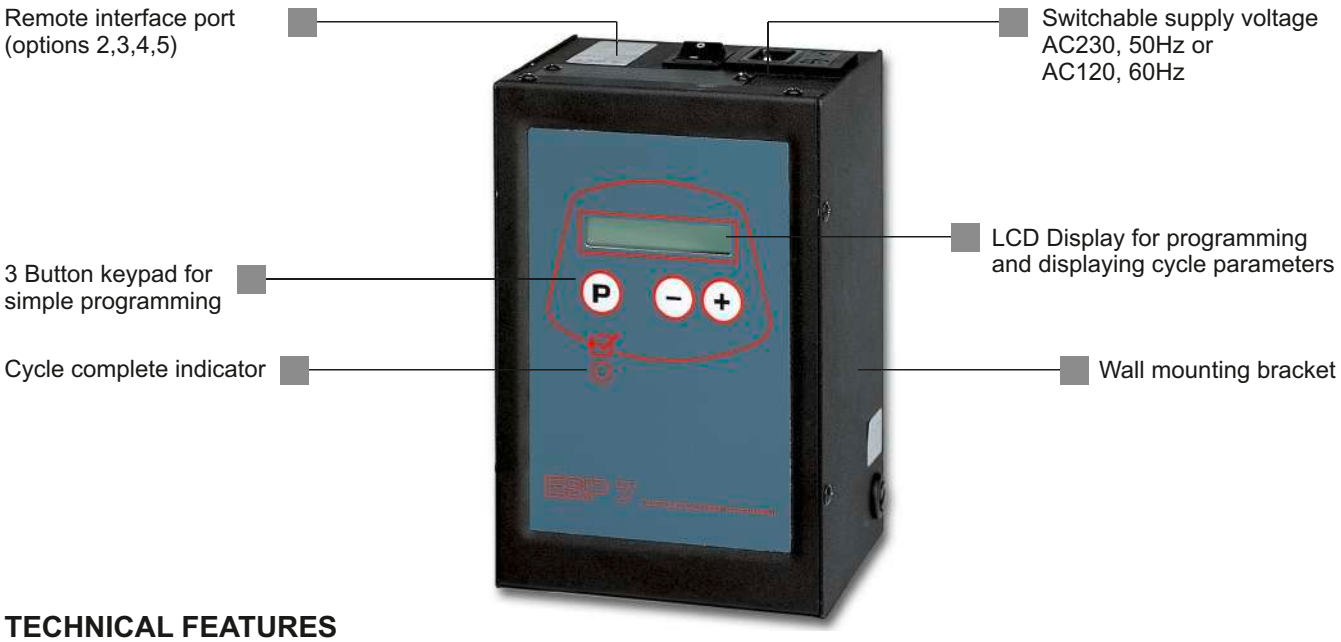
PLUG	DESCRIPTION	PART NO.
A	UK	615 917 202 0
B	USA	615 917 203 0
C	European	615 917 201 0

Accessories: see page 63

Recommended duty cycle, maximum 15 screws per minute

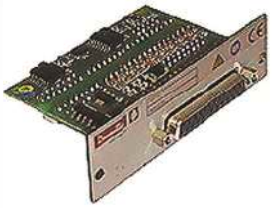
PIC REF	MODEL	PART NUMBER	OUTPUT HEX	FREE SPEED		TORQUE RANGE		LENGTH		WEIGHT		VOLTAGE VDC	CONTROLLER
			in.	Hi rpm	Lo rpm	Nm	in.lb	mm	in.	kg	lb		
PUSH START - LOW VOLTAGE - CLUTCH CONTROL - SHUT OFF													
A	SLK011-A1000-S4Q	615 165 257 0	1/4	1000	700	0.10-1.18	0.88-10.4	218	8.6	0.48	1.06	24 or 32	ESP1 or 2
A	SLK015-A1000-S4Q	615 165 258 0	1/4	1000	700	0.29-1.57	2.57-13.9	218	8.6	0.48	1.06	24 or 32	ESP1 or 2
•	SLK017-A1000-S4Q	615 165 562 0	1/4	1000	700	0.39-1.76	3.45-15.6	260	10.2	0.60	1.32	24 or 32	ESP1 or 2
B	SLK022-A1000-S4Q	615 165 473 0	1/4	1000	700	0.60-2.25	5.31-19.9	308	12.1	0.69	1.52	24 or 32	ESP1 or 2
•	SLK023-A750-S4Q	615 165 563 0	1/4	750	520	0.59-2.35	5.22-20.8	260	10.2	0.60	1.32	24 or 32	ESP1 or 2
•	SLK029-A530-S4Q	615 165 564 0	1/4	530	370	0.78-2.94	6.9-26.0	260	10.2	0.60	1.32	24 or 32	ESP1 or 2
B	SLK031-A750-S4Q	615 165 474 0	1/4	750	500	1.00-3.14	8.85-27.8	308	12.1	0.69	1.52	24 or 32	ESP1 or 2
B	SLK047-A530-S4Q	615 165 475 0	1/4	530	350	1.50-4.70	13.28-41.6	308	12.1	0.69	1.52	24 or 32	ESP1 or 2
LEVER START - LOW VOLTAGE - CLUTCH CONTROL - SHUT OFF													
C	SLK003-L1000-S4Q	615 165 252 0	1/4	1000	700	0.02-0.34	0.18-3.01	224	8.8	0.27	0.59	24 or 32	ESP1 or 2
C	SLK007-L1000-S4Q	615 165 253 0	1/4	1000	700	0.05-0.69	0.44-6.11	224	8.8	0.27	0.59	24 or 32	ESP1 or 2
C	SLK010-L670-S4Q	615 165 254 0	1/4	670	470	0.10-0.98	0.88-8.67	224	8.8	0.27	0.59	24 or 32	ESP1 or 2
•	SLK011-L1000-S4Q	615 165 255 0	1/4	1000	700	0.10-1.18	0.88-10.4	239	9.4	0.48	1.06	24 or 32	ESP1 or 2
•	SLK015-L1000-S4Q	615 165 256 0	1/4	1000	700	0.29-1.57	2.57-13.9	239	9.4	0.48	1.06	24 or 32	ESP1 or 2
E	SLK017-L1000-S4Q	615 165 559 0	1/4	1000	700	0.39-1.76	3.45-15.6	260	10.2	0.60	1.32	24 or 32	ESP1 or 2
D	SLK022-L1000-S4Q	615 165 470 0	1/4	1000	700	0.60-2.25	5.31-19.9	308	12.1	0.70	1.55	24 or 32	ESP1 or 2
E	SLK023-L750-S4Q	615 165 560 0	1/4	750	520	0.59-2.35	5.22-20.8	260	10.2	0.60	1.32	24 or 32	ESP1 or 2
E	SLK029-L530-S4Q	615 165 561 0	1/4	530	370	0.78-2.94	6.9-26.0	260	10.2	0.60	1.32	24 or 32	ESP1 or 2
D	SLK031-L750-S4Q	615 165 471 0	1/4	750	500	1.00-3.14	8.85-27.8	308	12.1	0.70	1.55	24 or 32	ESP1 or 2
D	SLK047-L530-S4Q	615 165 472 0	1/4	530	350	1.50-4.70	13.28-41.6	308	12.1	0.70	1.55	24 or 32	ESP1 or 2

ESP7 controller for SLE screwdrivers



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	✔	✔	✔	✔	✔
Counting function	✔	✔	✔	✔	✔
CONTROL CARDS					
Slow start speed control		✔	✔	✔	✔
Rundown speed control		✔	✔		✔
Final speed control		✔	✔	✔	✔
Reverse speed control		✔	✔		✔
Auto reverse			✔	✔	✔
Current control				✔	✔
4 Parameter groups			✔	✔	✔
FAS capability (lever and push start tool)					✔
Remote interface port		✔	✔	✔	✔



MODEL	PART NUMBER	FOR TOOLS	SWITCHABLE SUPPLY VOLTAGE		DIMENSIONS WIDTH		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**

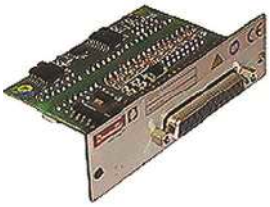
PLUG	DESCRIPTION	PART NO.
A	UK	615 917 202 0
B	USA	615 917 203 0
C	European	615 917 201 0

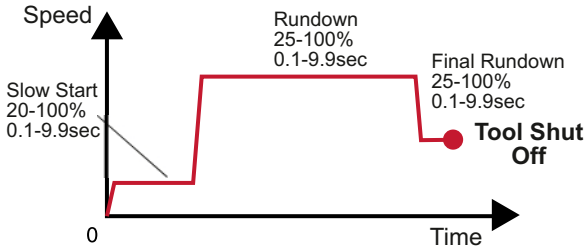
Example of order

		PART NO.
Tools - Clutch controlled types only	**SLE017-A1500-S4Q**	**1464864**
Programmable controller	**ESP7**	**111362**
Control Card	**Option 2**	**108242**
Start-up kit	**UK**	**615 917 202 0**

Control Options

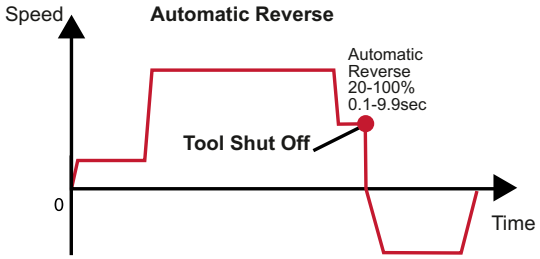
OPTION 2 – Clutch Controlled Shut Off with Speed Control

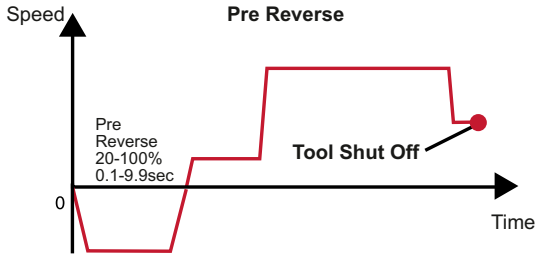




Parameters Tool start mode, external forward, reverse or stop signal functions, slow start time and speed, rundown time and speed, final rundown time and speed, reverse speed
Outputs Cycle finished, cycle not finished, ground 24V DC
Inputs External forward, external reverse, external stop, +24V DC

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

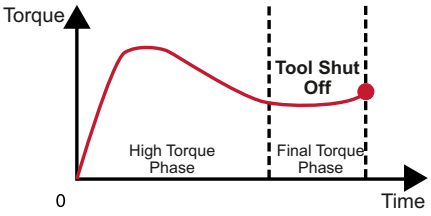




Parameters As per Option 2 plus program selection (maximum of 4), pre reverse time, automatic reverse time after shut off, current percentage (current control only)
Outputs Cycle finished, cycle not finished, ground 24V DC
Inputs External forward, external reverse, external stop, program selection, +24V DC

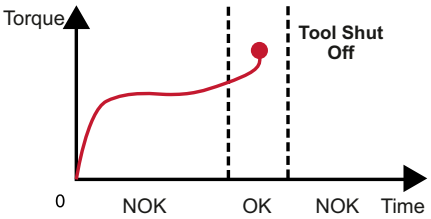
OPTION 5 – Clutch or Current Controlled Shut Off with Speed Control and Automatic Reverse Option, High Torque Current Control and Fastening Assurance

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.



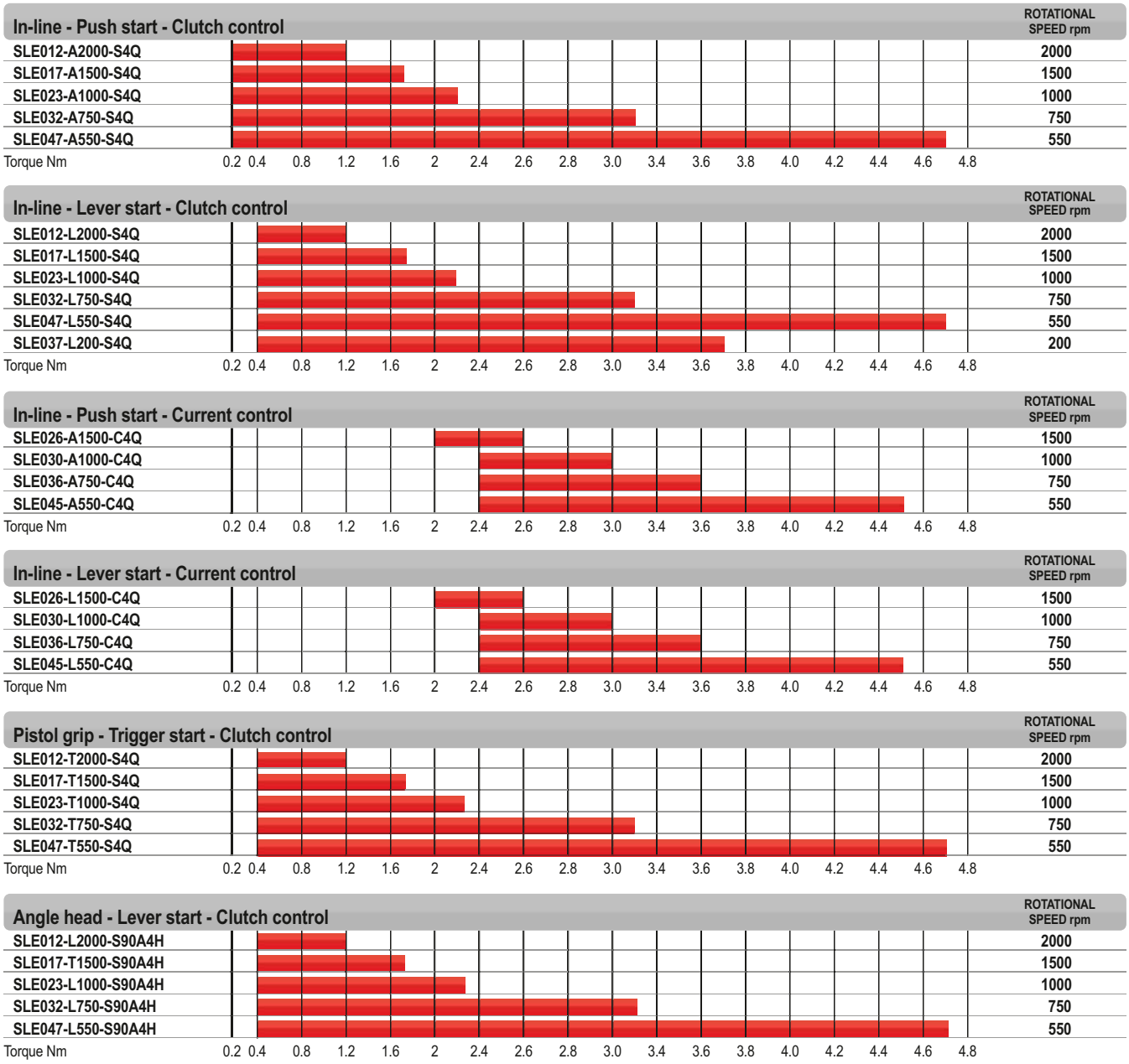
Fastening Assurance System
The fastening assurance system provides the ability to verify that all the fasteners in an assembly have been correctly fastened. By comparing the timing of electrical signals from the screwdriver with set parameters, the fastening cycle can be monitored and output signals 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)

High power screwdrivers

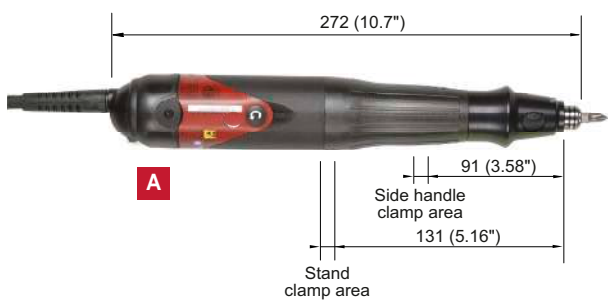
Torque Range

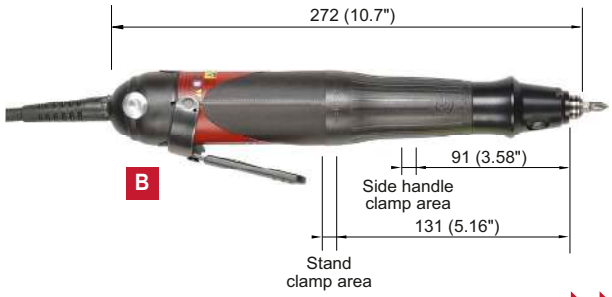
Performance of Electric Screwdrivers - series SLE



SLE - In-line screwdrivers

0.2 to 4.7 Nm (1.8 to 41.6 in.lb) - 200 to 2000 rpm



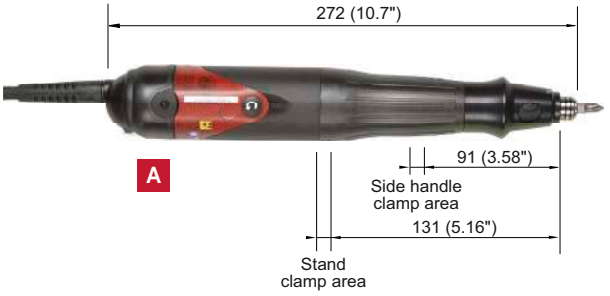


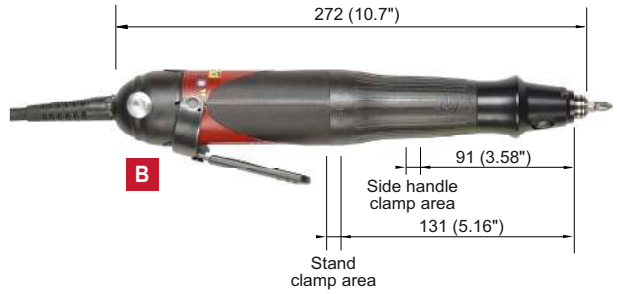
Accessories: see page 63

PIC REF	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												
A	**SLE012-A2000-S4Q**	**1464854**	1/4	2000	0.2-1.2	1.8-10.6	0.4-1.2	3.5-10.6	0.64	1.4	40	ESP7
A	**SLE017-A1500-S4Q**	**1464864**	1/4	1500	0.2-1.7	1.8-15.0	0.4-1.7	3.5-15.0	0.64	1.4	40	ESP7
A	**SLE023-A1000-S4Q**	**1464874**	1/4	1000	0.2-2.3	1.8-20.3	0.4-2.3	3.5-20.3	0.64	1.4	40	ESP7
A	**SLE032-A750-S4Q**	**1464884**	1/4	750	0.2-3.2	1.8-28.3	1.5-3.2	13.3-28.3	0.64	1.4	40	ESP7
A	**SLE047-A550-S4Q**	**1464894**	1/4	550	0.2-4.7	1.8-41.6	1.5-4.7	13.3-41.6	0.64	1.4	40	ESP7
LEVER START - LOW VOLTAGE - CLUTCH CONTROL - SHUT OFF												
B	**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
B	**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
B	**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
B	**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
B	**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
B	**SLE037-L200-S4Q**	**615 165 373 0**	1/4	200	0.4-3.7	3.5-32.3	1.1-3.7	9.7-32.8	0.68	1.5	40	ESP7

SLE - In-line screwdrivers

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



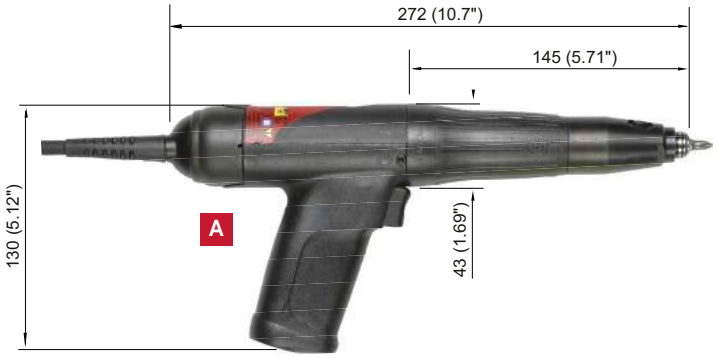


Accessories: see page 63

PIC REF	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 - CURRENT CONTROL - SHUT OFF												
A	**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
A	**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
A	**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
A	**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												
B	**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
B	**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
B	**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
B	**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 screwdrivers

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

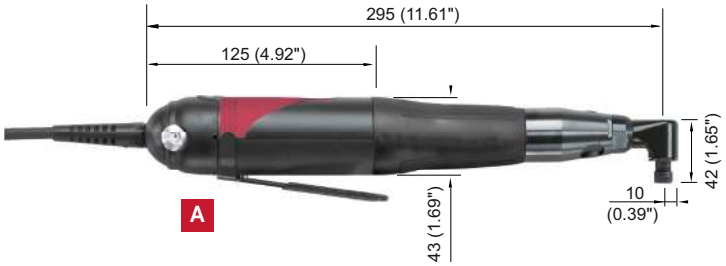


Accessories: see page 63

PIC REF	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												
A	**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
A	**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
A	**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
A	**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
A	**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

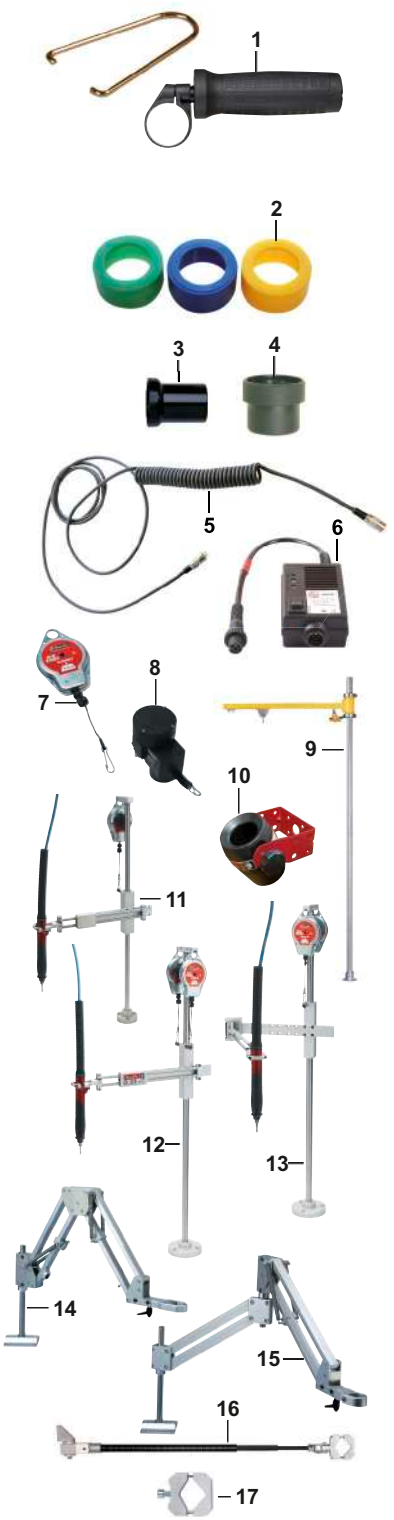
SLE - Angle head screwdrivers

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



Accessories: see page 63

PIC REF	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												
A	**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
A	**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
A	**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
A	**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
A	**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



SLC / SLK / SLE

ACCESSORIES INCLUDED

ITEM	SLC	SLK	SLE
• Suspension bail	615 360 222 0		443703
1 Side handle for 550rpm			467033
• Clutch Adjustment Keys			69773/443713
• Tool / Controller cable L = 2.5m (8.2ft)	615 360 223 0		
• Cable L = 1.83m (6ft)		615 360 001 0	

OPTIONAL ACCESSORIES

ITEM	SLC	SLK	SLE
1 Side Handle	615 397 016 0	615 396 861 0	467033
• Clutch cover for angle head			443863
2 Color ring (3)	615 397 008 5		
3 Torque fixing ring for SLK003 / 007 / 010		615 225 053 0	
3 Torque fixing ring for SLK011 / 015		615 225 054 0	
3 Torque fixing ring for SLK017 / 023 / 029		615 225 096 0	
3 Torque fixing ring for SLK022 / 031 / 047		615 225 090 0	
4 Adaptor for SLK003 / 007 / 010		615 225 065 0	
4 Adaptor for SLK011 / 015		615 225 066 0	
4 Adaptor for SLK022 / 031 / 047		438963	
• Kit of 3 color fixing ring for SLK022 / 031 / 047		615 225 091 0	
• Cable extension L = 2m (6.6ft)	615 917 593 0		
5 Spiral cable L = 2m (6.6ft)	615 917 594 0		
• M20 adaptor	615 567 132 0		
• Cable L = 2.74m (9ft)		615 360 217 0	
6 Slow-start control module - SSCM1		615 932 644 0	
• Lever Conversion Kit			467853
Trigger Conversion Kit (4 parts required)			
• Pistol Grip			473803
• Switch Assembly			473743
• Trigger Assembly			473843
• Spring			473923
Clutch Spring for SLE In-line model, Push start - Clutch control			
• Clutch Spring for low torque, 0.2-0.4 Nm (1.8-3.5 in.lb)			179923
Balancers and Holster			
7 Spring Suspension Balancer	50522	50522	50522
8 Reaction Free Self Lock Balancer	54422	54422	54422
• Suspension Shackle			615 571 056 0
• Suspension Shackle Rotary			615 396 228 0
9 Bench Mounted Swing Arm	66542	66542	66542
10 Tool Holster DTH-42	107892	107892	107892
Bench Stands (for more information see pages 114-117)			
11 D53-10 Stand	615 804 571 0	615 804 571 0	615 804 571 0
12 D53-20 Stand	388163	388163	388163
12 D53-20X Stand extended reach	388173	388173	388173
13 D53-20S Swivel stand	615 804 572 0	615 804 572 0	615 804 572 0
• Tool clamp (nose mount)	615 396 616 0		615 396 616 0
• Tool clamp (top mount)	615 396 628 0		615 396 628 0
14 D57 Balancing Arm	408903	408903	408903
14 D57X Balancing Arm, extended reach	408913	408913	408913
15 D58 Balancing Arm with Swivel	408923	408923	408923
• Tool clamp (nose mount)	615 396 614 0	615 396 614 0	
• Tool clamp (top mount)	615 396 629 0		615 396 629 0
Telescopic Reaction Arm (for more information see page 117)			
16 TRA12 Telescopic Reaction Arm	615 396 532 0	615 396 532 0	615 396 532 0
16 TRA25 Telescopic Reaction Arm	615 396 533 0	615 396 533 0	615 396 533 0
17 TRA Circular adaptor for stand	615 595 380 0	615 595 380 0	615 595 380 0
Vacuum Pick Up - Order Pick Up kit, Finder Sleeve and Vacuum Source			
• Clutch cover threaded			443833
• Vacuum Pick Up Kit			108892
• Finder Sleeve Blank – Plastic			464103
• Finder Sleeve Blank – Steel			464093
• Vacuum Source for use with DU Balancer. Reporting box			51482
• Vacuum Source AV201 for use with Filter/Regulator Unit			112063