

Electric pistol high torque nutrunner

Product Instructions

Model

ERP250

ERP500

ERP750

ERP1000

ERP1700

Part number

6151658830

6151658840

6151658850

6151658860

6151658870



Download the latest version of this document at
www.desouttertools.com/info/6159923510

**⚠ WARNING****Read all safety warnings and instructions**

Failure to follow the safety warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference

Table of Contents

Product Information	3
General Information.....	3
Safety signal words.....	3
Warranty.....	3
Website	3
Information about spare parts	3
Dimensioning	4
CAD files	4
Overview	4
Product description	4
Technical data.....	5
Accessories.....	7
Service Overview	9
Maintenance program	9
Spare parts.....	9
Installation.....	10
Installation Requirements.....	10
Selecting the torque reaction bar	10
Shaping the torque reaction bar.....	10
Installing the torque reaction bar.....	12
Changing the cable connector orientation.....	13
Installation Instructions.....	13
Mounting the suspension ring	13
Mounting the side handle	14
Connecting the power cable.....	14
Connecting the tool to the controller	15
Operation.....	16
Configuration Instructions.....	16
Torque and speed limits.....	16
Operating Instructions	16
Starting the tool	16
Viewing the tightening reports.....	17
Changing the rotation direction	17
Service.....	18
Maintenance Instructions	18
Instructions for transducerized tools	18
Read before maintenance.....	18
Read before maintenance.....	18
Preventive Maintenance.....	18
Recommissioning	19
Checking before putting back into service.....	19

Product Information

General Information

WARNING Risk of Property Damage or Severe Injury

Ensure that you read, understand and follow all instructions before operating the tool. Failure to follow all the instructions may result in electric shock, fire, property damage and/or severe bodily injury.

- ▶ Read all Safety Information delivered together with the different parts of the system.
- ▶ Read all Product Instructions for installation, operation and maintenance of the different parts of the system.
- ▶ Read all locally legislated safety regulations regarding the system and parts thereof.
- ▶ Save all Safety Information and instructions for future reference.

Safety signal words

The safety signal words Danger, Warning, Caution, and Notice have the following meanings:

DANGER	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	NOTICE is used to address practices not related to personal injury.

Warranty

- Product warranty will expire 12 months after the product is first taken into use, but will in any case expire at the latest 13 months after delivery.
- Normal wear and tear on parts is not included within the warranty.
 - Normal wear and tear is that which requires a part change or other adjustment/overhaul during standard tools maintenance typical for that period (expressed in time, operation hours or otherwise).
- The product warranty relies on the correct use, maintenance, and repair of the tool and its component parts.
- Damage to parts that occurs as a result of inadequate maintenance or performed by parties other than Desoutter or their Certified Service Partners during the warranty period is not covered by the warranty.
- To avoid damage or destruction of tool parts, service the tool according to the recommended maintenance schedules and follow the correct instructions.
- Warranty repairs are only performed in Desoutter workshops or by Certified Service Partners.

Desoutter offers extended warranty and state of the art preventive maintenance through its Tool Care contracts. For further information contact your local Service representative.

For electrical motors:

- Warranty will only apply when the electric motor has not been opened.

Website

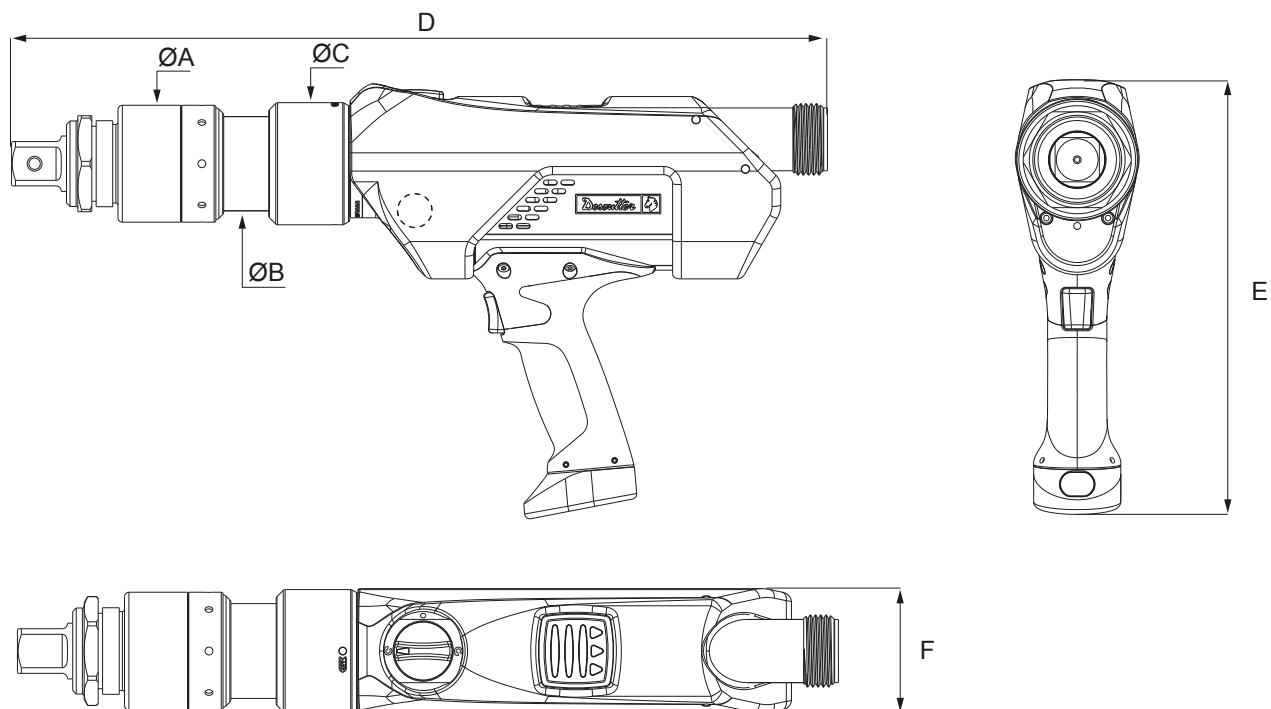
Information concerning our Products, Accessories, Spare Parts and Published Matters can be found on the Desoutter website.

Please visit: www.desouttertools.com.

Information about spare parts

Exploded views and spare parts lists are available in Service Link at www.desouttertools.com.

Dimensioning



	ERP250	ERP500	ERP750	ERP1000	ERP1700
A (mm)	54	67	67	67	84
A (")	2.13	2.64	2.64	2.64	3.31
B (mm)	54	54	54	54	54
B (")	2.13	2.13	2.13	2.13	2.13
C (mm)	70	70	70	70	70
C (")	2.76	2.76	2.76	2.76	2.76
D (mm)	407	438	455	468	501
D (")	16.02	17.24	17.91	18.43	19.72
E (mm)	275	275	275	275	275
E (")	10.83	10.83	10.83	10.83	10.83
F (mm)	71	71	71	71	71
F (")	2.80	2.80	2.80	2.80	2.80

CAD files

For information about the dimensions of a product, see the Dimensional drawings archive:

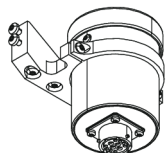
<http://resource-center.desouttertools>

Overview

Product description

ERP high torque nutrunners are intended to be connected to a CVI3 Function or CVI3 Vision controller.

It is required to mount the following adaptor between the tool and the controller.

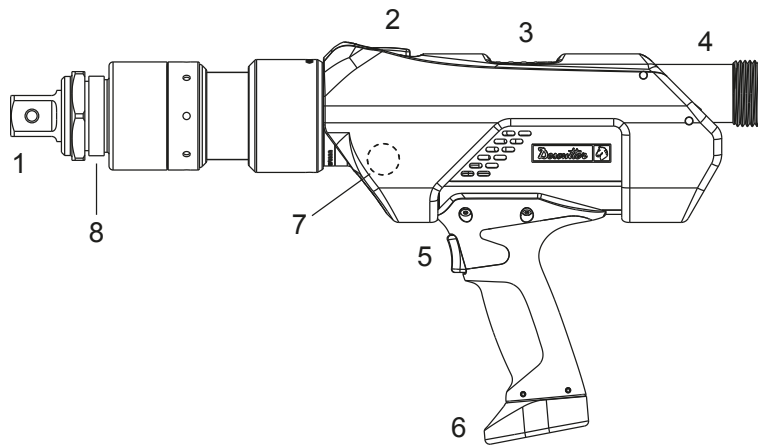


ERS / ERPHT adapter

6159365370

i The setup of the tool is done by using CVI CONFIG.

Description



- 1 Output
- 2 Direction selector
- 3 LEDs
- 4 90° cable connector
- 5 Trigger
- 6 Headlight
- 7 Mounting location of the side handle
- 8 Spline

Tool cable

Length m	Length ft	Part number
3	9.8	6159174610
5	16	6159174620
10	32.8	6159174640
15	49.2	6159174650

Extension tool cable

Length m	Length ft	Part number
5	16	6159172220
10	32.8	6159172240

Technical data

Minimum firmware and software releases

Product	Release
CVI3 Function	V 1.9.6.x
CVI3 Vision	V 1.9.6.x
ERS / ERPHT adapter	V 3.02.16
CVI MONITOR	V 1.7.1.1
CVI CONFIG	V 2.2.8.1

Torque range Nm

	Min. torque (Nm)	Max. torque (Nm)
ERP250	75	250
ERP500	150	500
ERP750	225	750
ERP1000	300	1000
ERP1700	510	1700

Torque range ft.lb

	Min. torque (ft.lb)	Max. torque (ft.lb)
ERP250	55	184
ERP500	110	368
ERP750	165	553
ERP1000	221	737
ERP1700	376	1253

Rated speed rpm

	Rated speed (rpm)
ERP250	822
ERP500	347
ERP750	245
ERP1000	205
ERP1700	85

Voltage

3-230AC Veff.

Power

500 Watt

0.67hp

IP rating

54

Weight

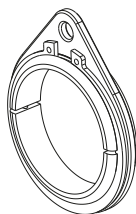
	Weight (kg)	Weight (lb)
ERP250	5.1	11.2
ERP500	5.8	12.8
ERP750	6.2	13.7
ERP1000	6.4	14.1
ERP1700	8.3	18.3

Number of splines

	Number of splines
ERP250	3
ERP500	4
ERP750	5
ERP1000	5
ERP1700	9

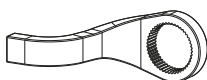
Accessories

Suspension ring



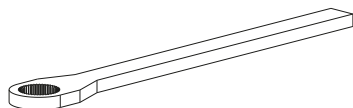
Part number 6158121230

S-type reaction bar



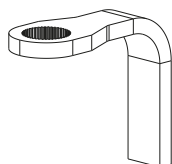
Part number	Number of splines	Max. torque allowed Nm	Max. torque allowed ft.lb	Weight kg	Weight lb
6158120685	3	300	221.27	0.4	0.9
6158120695	4	500	368.80	0.6	1.3
6158120705	5	1000	737.56	0.6	1.3
6158120715	9	1600	1180.10	1.7	3.7

Straight reaction bar



Part number	Number of splines	Max. torque allowed Nm	Max. torque allowed ft.lb	Weight kg	Weight lb
6158120975	3	250	184.40	1.2	2.6
6158120545	4	500	368.80	1.4	3.1
6158120555	5	900	663.80	4	P8.8
6158120565	9	1600	1180.10	6.8	15

Aluminium L-type reaction bar

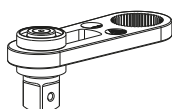


Part number	Number of splines	Max. torque allowed Nm	Max. torque allowed ft.lb	Weight kg	Weight lb
6158120725	3	200	147.51	0.7	1.5

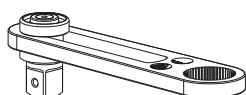
Part number	Number of splines	Max. torque allowed Nm	Max. torque allowed ft.lb	Weight kg	Weight lb
6158120735	4	500	368.80	0.5	1.1

Square reaction bar

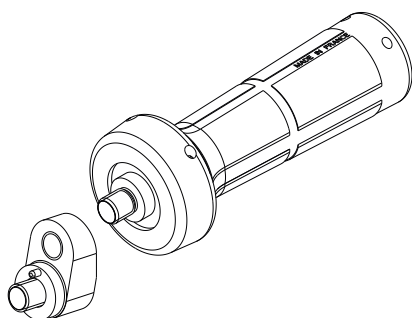
Part number	Number of splines	Max. torque allowed Nm	Max. torque allowed ft.lb	Weight kg	Weight lb
6158120575	3	300	221.27	0.4	0.9
6158120585	4	500	368.80	0.8	1.8
6158120595	5	900	663.80	0.8	1.8
6158120605	9	1600	1180.10	1.5	3.3

Short sliding drive reaction bar

Part number	Number of splines	Max. torque allowed Nm	Max. torque allowed ft.lb	Weight kg	Weight lb
6158121135	3	250	184.40	0.9	2
6158120625	4	500	368.80	1.2	2.6
6158120645	5	900	663.80	1.4	3.1
6158120665	9	1600	1180.10	2.3	5.1

Extended sliding drive reaction bar

Part number	Number of splines	Max. torque allowed Nm	Max. torque allowed ft.lb	Weight kg	Weight lb
6158120635	4	500	368.80	1.5	3.3
6158120655	5	900	663.80	1.8	4
6158120675	9	1600	1180.10	3.5	7.7

Side handle

Part number 6155760850

Service Overview

Maintenance program

Please consult us on the **Tool Care** program that includes production support and maintenance solutions.

Spare parts

Exploded views and spare parts lists are available at <https://www.desouttertools.com/resource-centre>.

The use of spare parts other than those originally supplied by the manufacturer may result in a drop in performance or in increased maintenance and level of vibration and in the full cancellation of the manufacturer's liability.

Installation

Installation Requirements

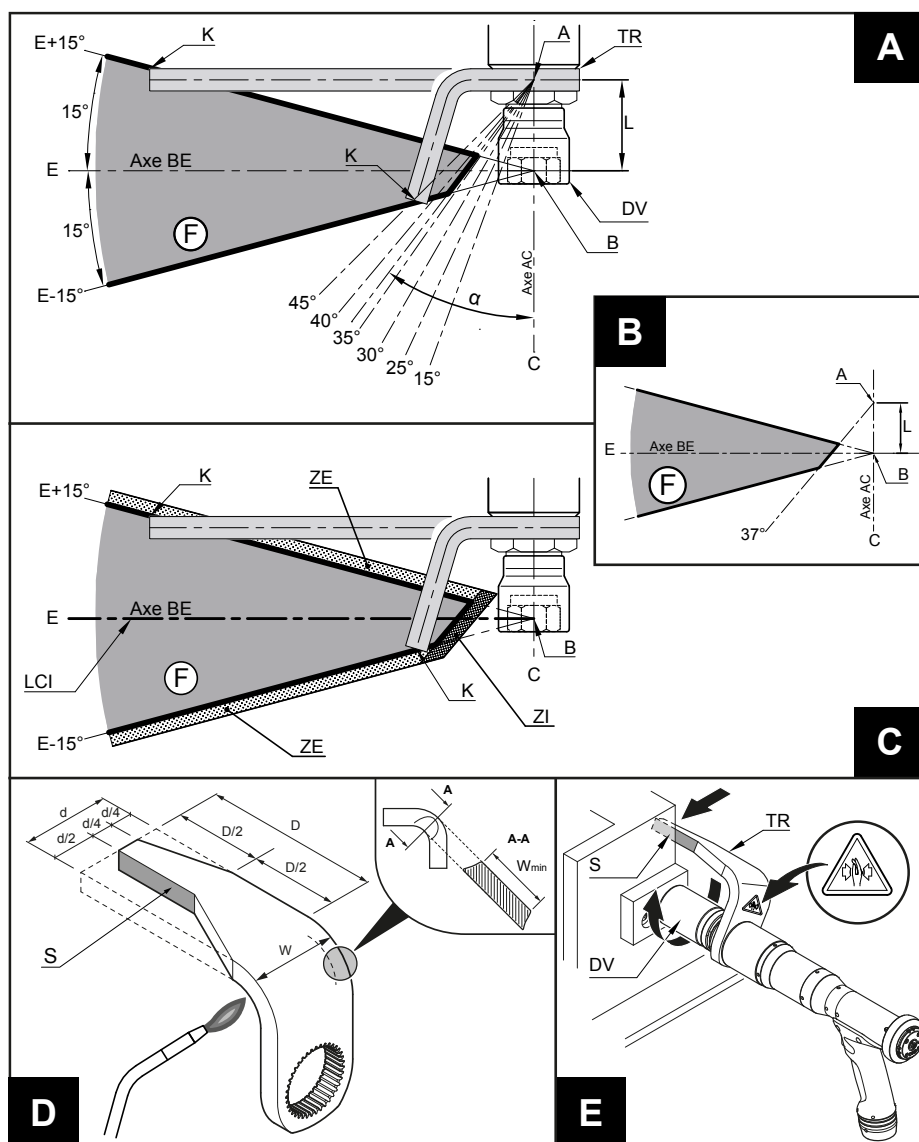
Selecting the torque reaction bar

The reaction bar is used to absorb the reaction torque of the tool during the tightening phase. It ensures the tightening is done at the preselected torque. The reaction bar is a steel bar that should be shaped depending on the application and the chosen tightening socket. Its weight can be reduced by cutting off any unnecessary metal. The contact surface with the reaction bar must be able to withstand the reaction torque of the tool. The reaction bar is made according to the location of this contact surface and the tightening torque. Each individual reaction bar is adapted to one single tool. The reaction bars are not interchangeable from one tool to another.

Select the reaction bar type according to the tables above in this manual making sure that the tightening torque programmed does not exceed the maximum torque accepted by the reaction arm.

- i** Desoutter shall not be held liable if the tool is used with any reaction bar other than a Desoutter-branded one.
For other models, contact the reaction arm supplier.

Shaping the torque reaction bar



Selecting the contact area

To avoid output bearing and reaction bar overloads (TR), the contact point has to be within the shaded area (F) (see Figure A). To determine the area (F), carry out a plan on a sheet of paper (see Figure B).

1. Measure the distance (L) between the reaction bar grooved base (TR) and the centre of the nut in its final position (DV).
2. Mark out this distance on the sheet of paper by using two points. Point A is the reaction bar base (TR), point B being the centre of the nut in its final position (DV).
3. Refer to the table below to identify the minimum angle associated to the applicable tightening torque. Draw a line at an angle α with the centre line (A-C).

ERP250

Torque (Nm)	75	100	150	200	250
Angle α (°)	21	27	37	46	55
Min. width: 29.5 mm					

ERP500

Torque (Nm)	250	300	400	500	550
Angle α (°)	30	35	44	50	52
Min. width: 39.5 mm					

ERP750/ERP1000

Torque (Nm)	500	600	700	800	950	1,000
Angle α (°)	32	36	43	47	53	55
Min. width: 66.5 mm						

ERP1700

Torque (Nm)	700	1,000	1,250	1,500	1,600
Angle α (°)	21	30	35	38	41
Min. width: 86.5 mm					

4. Draw a line (B-E) at right angles (90° to the centre line (A-C)) from point (B).
5. Starting at the same point (B), draw two lines at angles of +15° and -15° respectively from the line (B-E).
6. Highlight the F area by drawing the outlines.
7. Define the shape of the reaction bar (TR) so that the contact point (K) falls within the F area.

❗ The ideal location of the contact point is on the B-E line. In Figure C, see the ideal contact line (LCI).

If the contact point K is located on an angle lower than α , the output bearing may be overloaded and the reaction bar might be distorted. In Figure C, see the prohibited area (ZI).

If the contact point K is outside the +/-15 degrees, there is a risk of rapid wear of the socket and torque accuracy for the selected torque is not guaranteed. In Figure C, see the area to avoid (ZE).

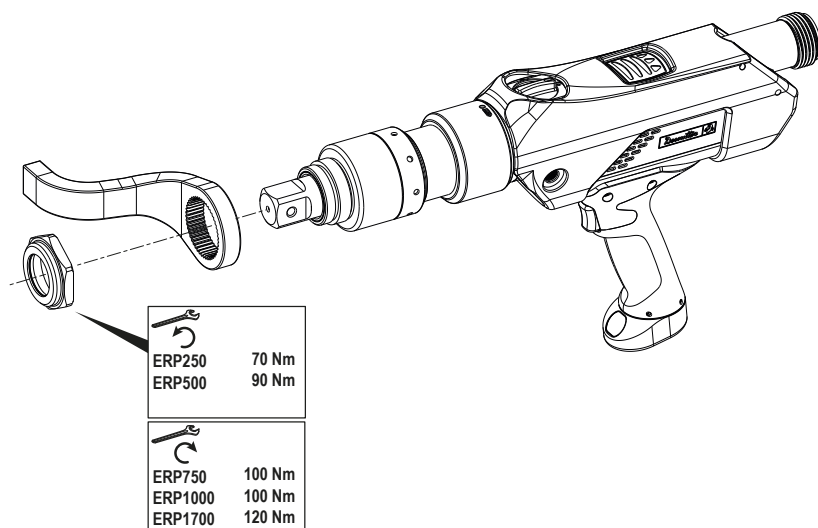
Bending the torque reaction arm

1. Heat the spot to red colour. It is recommended to concentrate the heat to the inside radius so that the external width (W) remains over Wmin. (see Figure D and torque/angle table)
2. After bending, allow to cool slightly down to room temperature.
3. In order to lighten the reaction bar, it is recommended to cut it out as shown in Figure D.

❗ After the bending, clean and degrease the surface where the safety pictogram is to be attached then attach it.

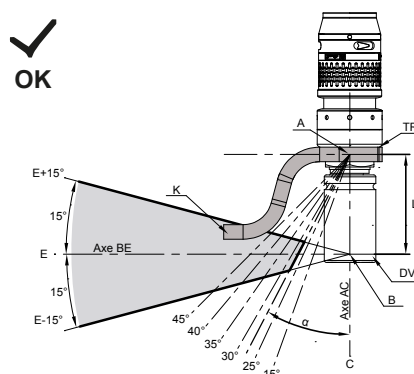
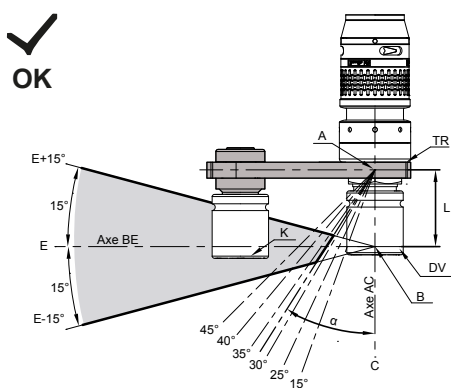
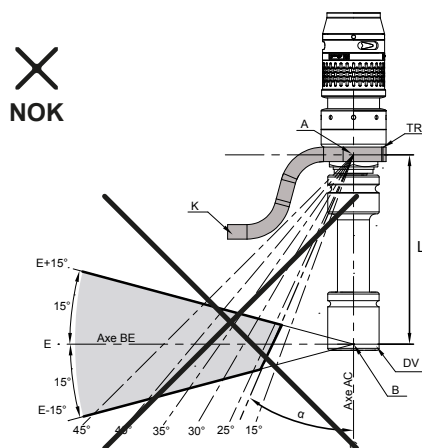
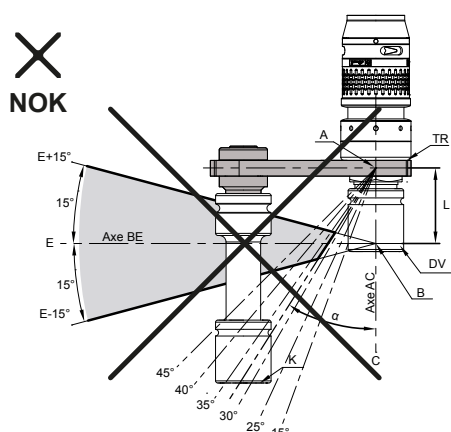
Identify the surface that will be in contact with the bracket. In Figure D, see the contact surface.

Installing the torque reaction bar



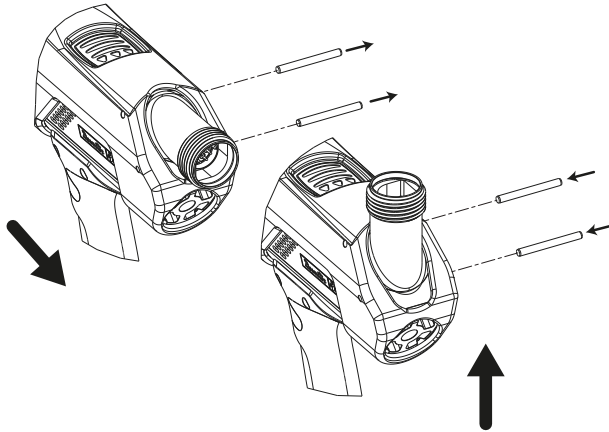
Mount the torque reaction bar before powering on the tool.

1. Unscrew the nut of the gear housing.
2. Place the reaction bar on the gear housing.
3. Tighten the nut of the gear housing according to the torque values given in the diagram.



Follow the instructions given in the above diagram.

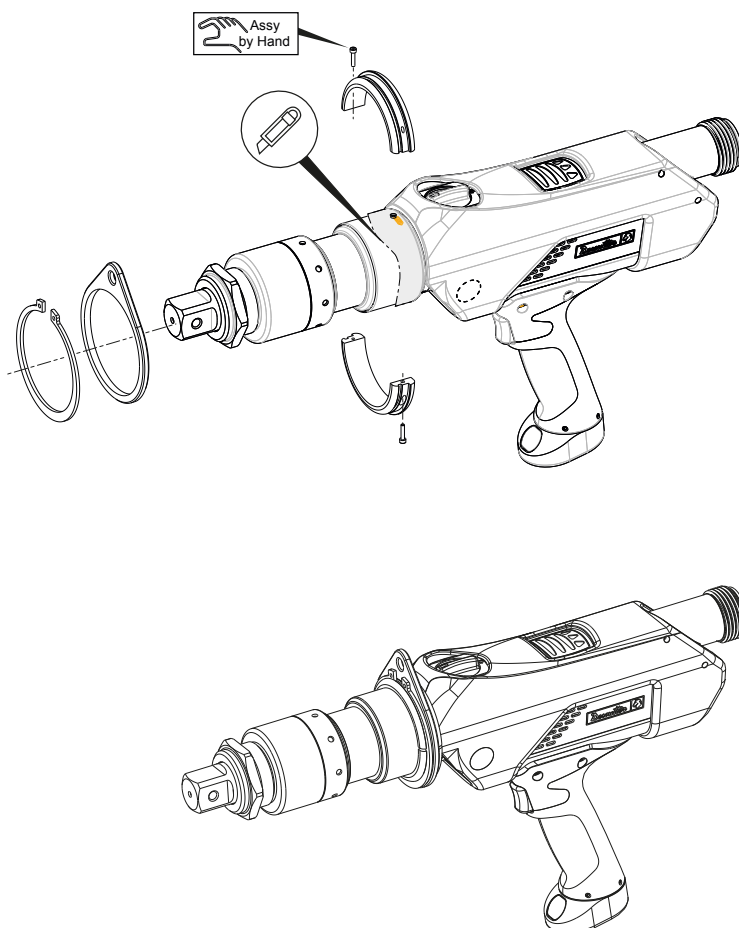
Changing the cable connector orientation



If required, change the orientation of the cable connector as described above.

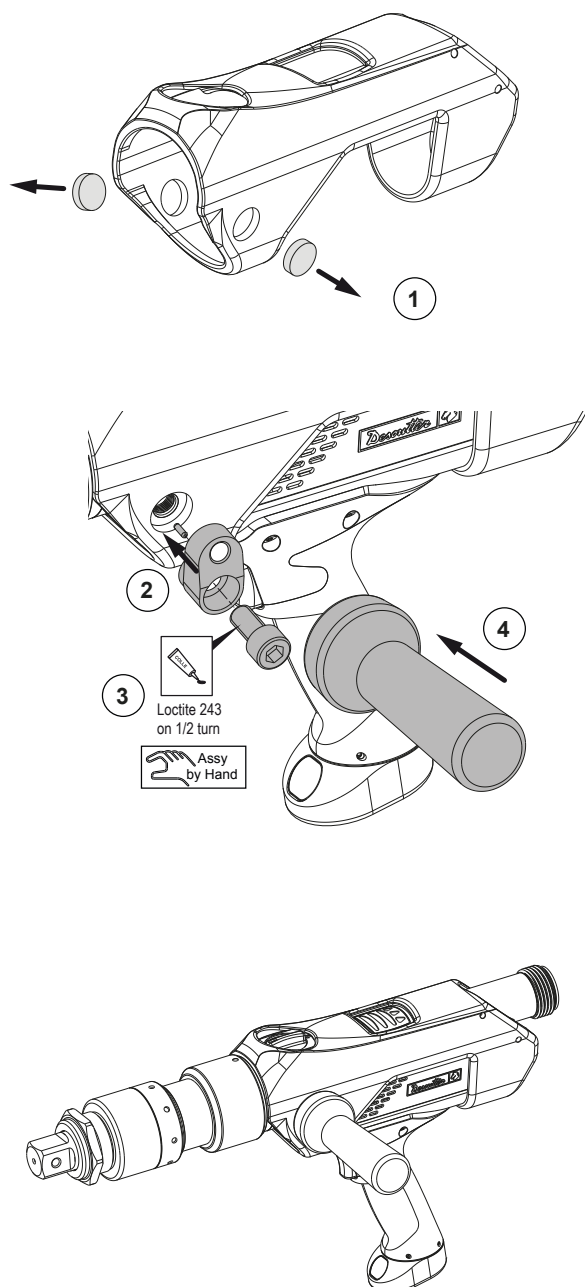
Installation Instructions

Mounting the suspension ring



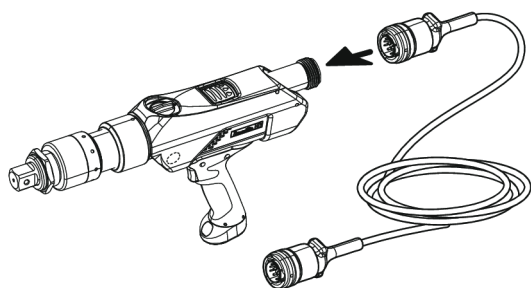
If required, mount the suspension ring as described above.

Mounting the side handle



Follow the instructions given in the above diagram.

Connecting the power cable



Connect the power cable to the tool and lock the nut by hand.

Connecting the tool to the controller

- ① Switch off the controller before connecting or disconnecting the tool cable and the adaptor from the controller.

Refer to the user manual **6159921160** available at <https://www.desouttertools.com/resource-centre>.

Operation

Configuration Instructions

Torque and speed limits

To reach the best performance, respect the following operating ranges.

Torque and speed limits for "Rundown"

	Max. torque Nm	Min. rotational speed rpm	Max. rotational speed rpm
ERP250	18	493	822
ERP500	37	208	347
ERP750	56	147	245
ERP1000	75	123	205
ERP1700	127	51	85

Torque and speed limits for "Final torque"

	Min. torque Nm	Max. torque Nm	Max. rotational speed rpm
ERP250	75	250	95
ERP500	150	500	40
ERP750	225	750	28.5
ERP1000	300	1,000	23
ERP1700	510	1,700	10

Operating Instructions

Starting the tool

Fit the tool with a suitable socket.

Select the appropriate program on the controller.

Hold the tool by means of the handle, place the reaction bar on a suitable reaction point and apply to the fastener to be tightened.

WARNING Risk of Injury

As the reaction force increases in proportion to the tightening torque, there is a risk of severe bodily injury of the operator as a result of unexpected behavior of the tool.

- Make sure that the tool is in perfect working order and the controller is programmed correctly.

WARNING Risk of Burns



The motor may heat up during heavy duty cycles.

- Wear gloves.

WARNING Crushing Hazard

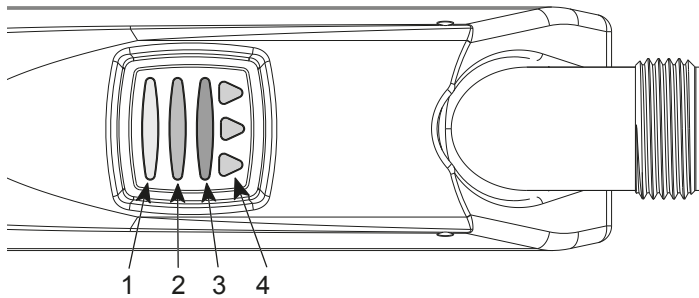


Do a check of the rotational direction of the tool before start! A start in an unexpected rotational direction can cause bodily injury or property damage

- ▶ Make sure that the rotational direction of the tool is correct before starting the tool.
- ▶ Keep your hands away from the reaction bar while the tool is used.

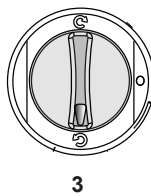
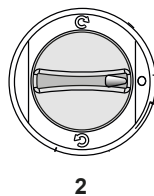
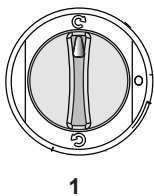
Press the trigger to start the tool.

Viewing the tightening reports



Item	Color	Description
1	Red	The tightening report is NOK
2	Green	The tightening report is OK
3	Yellow	The LED turns on according to the user configuration.
4	Blue	The LED turns on according to the user configuration.

Changing the rotation direction



Item	Direction
1	Clockwise
2	Neutral
3	Counterclockwise

NOTICE Do not turn the direction selector while the tool is running. The cycle will be aborted instantly.

Service

Maintenance Instructions

Instructions for transducerized tools

- Do not damage the wires when pulling out the connectors.
- Do not pull out the torque transducer wires.
- Ensure that wires are not crushed.

Read before maintenance

WARNING Connection Hazard

The tool can start unexpectedly and cause severe bodily injury.

- Prior to any maintenance task, disconnect the tool.

Maintenance should be performed by **qualified personnel only**.

Follow standard engineering practices and refer to exploded views for disassembling and reassembling the different parts of the system.

Take into account the following instructions given in the exploded views.

Be cautious: when reassembling, tighten the right direction.



Left hand thread



Right hand thread

When reassembling:



Apply the recommended glue.



Tighten to the required torque.



Lubricate with the required grease or oil. Do not apply too much grease on gears or bearings; a thin coat shall be sufficient.

Read before maintenance

Maintenance should be performed by **qualified personnel only**.

Follow standard engineering practices and refer to exploded views for disassembling and reassembling the different parts of the system.

Preventive Maintenance

Recommendations

Overhaul and preventive maintenance are recommended at regular intervals once per year or after a maximum number of tightenings (refer to the table below) depending on which occurs sooner.

Heavy duty

Heavy duty use can require more frequent overhaul and Preventive Maintenance intervals. Please contact your local Desoutter Service team to get a customized maintenance plan.

Maintenance frequency

	Regular overhaul tightenings
ERP250	250000
ERP500	250000
ERP750	250000

Regular overhaul tightenings	
ERP1000	125000
ERP1700	125000

Recommissioning

Prior to putting the different parts of the system back into service, check that the main settings have been correctly set up and that the safety devices work properly.

Checking before putting back into service

Prior to putting the equipment back into service, check that its main settings have not been modified and that the safety devices work properly.

Founded in 1914 and headquartered in France, Desoutter Industrial Tools is a global leader in electric and pneumatic assembly tools serving a wide range of assembly and manufacturing operations, including Aerospace, Automotive, Light and Heavy Vehicles, Off-Road, General Industry.

Desoutter offers a comprehensive range of Solutions -tools, service and projects- to meet the specific demands of local and global customers in over 170 countries.

The company designs, develops and delivers innovative quality industrial tool solutions, including Air and Electric Screwdrivers, Advanced Assembly Tools, Advanced Drilling Units, Air Motors and Torque Measurement Systems.

Find more on www.desouttertools.com



More Than Productivity