

PST – PULSE STATIC TRANSDUCER

Valid from Serial No. 011800581



Model	Part number	
PST 2 Nm – 13 (see figure 1)	6159352200	
PST 5 Nm – 13 (see figure 1)	6159352210	
PST 10 Nm – 13 (see figure 1)	6159352220	
PST 25 Nm – 36 (see figure 2)	6159352230	
PST 50 Nm – 36 (see figure 2)	6159352240	
PST 100 Nm – 36 (see figure 2)	6159352250	
PST 250 Nm – 36 (see figure 2)	6159352260	
PST 500 Nm – 50 (see figure 2)	6159352270	
PST 1000 Nm – 50 (see figure 2)	6159352280	
PST 2000 Nm – 50 (see figure 2)	6159352290	

Figure 1

Figure 2

Download the latest version of this document at
www.desouttertools.com/?s=6159921800



	<div>  WARNING </div> <p>Read all safety warnings and instructions <i>Failure to follow the safety warnings and instructions may result in electric shock, fire and/or serious injury.</i></p> <p>Save all warnings and instructions for future reference</p>
--	--

Table of Contents

EN	Product information	3
EN	Overview	5
EN	Installation	8
EN	Operation	10
EN	Service	11
EN	Decommissioning.....	12

Product information

General information



WARNING Risk of injury

Read all safety warnings and all instructions.

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

Ensure that you read and understand all instructions:

- Safety Information delivered together with the different parts of the system.
- Product Instructions for installation, operation and maintenance of the different part of the system.
- All locally legislated safety regulations with regard to the system and parts thereof.

Save all warnings and instructions for future reference.

Safety signal words

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

DANGER	DANGER indicates a hazardous situation which, if not avoided, will result in the death or serious injury.
WARNING	WARNING indicates a hazardous situation which, if not avoided, could result in the 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 shall 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 during the standard tools maintenance for that period taking into consideration the number of tightenings and average applied torque.
- 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 ToolCover contracts. For further information contact your local Service representative.

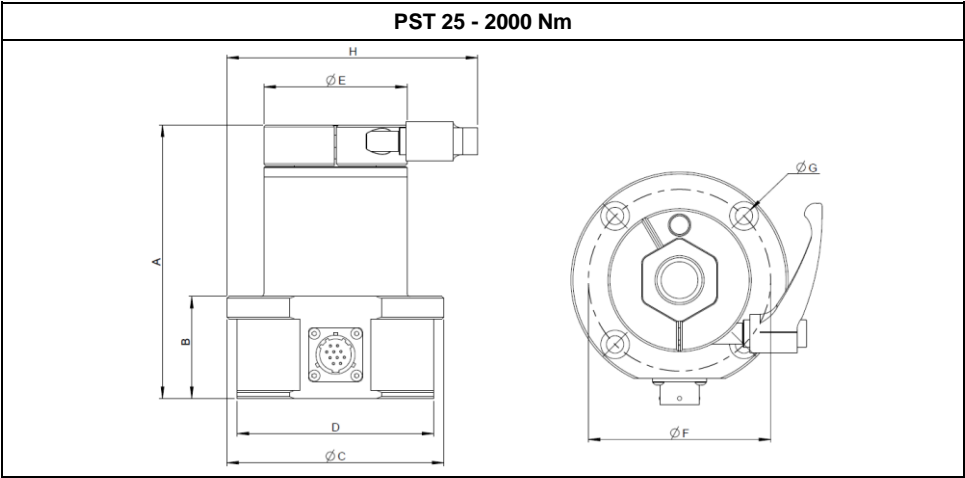
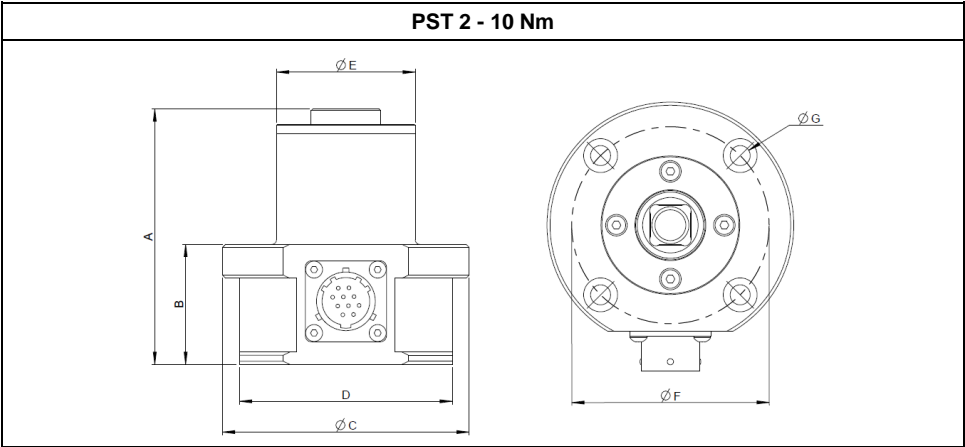
Website

Service Link: <https://www.desouttertools.com/service/service-link>

Log in to Desoutter: www.desouttertools.com

You can find information concerning our products, accessories, spare parts and published matters on our Website.

Dimensioning

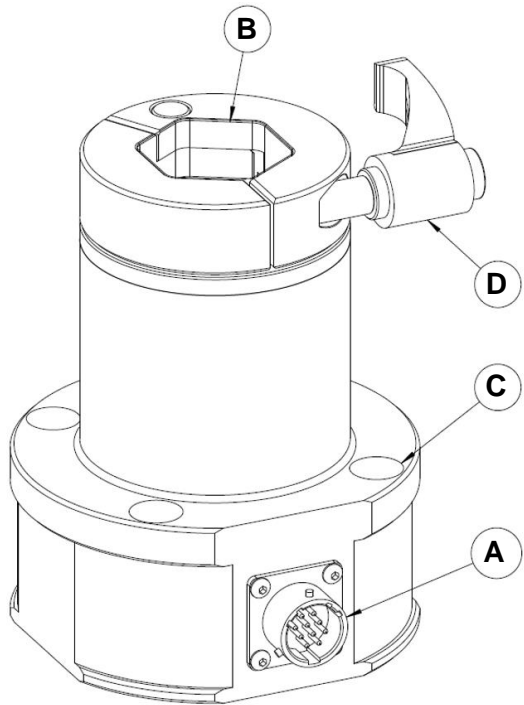


Product Description	Torque range [Nm] ([ft.lbs])	A (mm)	B (mm)	Ø C (mm)	D (mm)	Ø E (mm)	Ø F (mm)	Ø G (mm)	H (mm)	Input	Weight (kg)
PST 2 Nm – 13	0.2-2 (0.15-1.5)	83	39	80	69	45	64	4 x Ø 6.5	-	Sq ½" ▽ 11.5	1.4
PST 5 Nm – 13	0.5-5 (0.37-3.7)	83	39	80	69	45	64	4 x Ø 6.5	-	Sq ½" ▽ 11.5	1.4
PST 10 Nm – 13	1-10 (0.74-7.4)	83	39	80	69	45	64	4 x Ø 6.5	-	Sq ½" ▽ 11.5	1.4
PST 25 Nm – 36	2.5-25 (1.8-18)	134	50	106	96	70	89	4 x Ø 8.5	123	Hex 36 ▽ 16.5	4
PST 50 Nm – 36	5-50 (3.7-37)	134	50	106	96	70	89	4 x Ø 8.5	123	Hex 36 ▽ 16.5	4
PST 100 Nm – 36	10-100 (7.4-74)	134	50	106	96	70	89	4 x Ø 8.5	123	Hex 36 ▽ 16.5	4
PST 250 Nm – 36	25-250 (18.4-184)	134	50	106	96	70	89	4 x Ø 8.5	123	Hex 36 ▽ 16.5	4
PST 500 Nm – 50	50-500 (36.9-369)	170	50	148	136	108	125	6 x Ø 8.5	180	Hex 50 ▽ 22.5	10.1
PST 1000 Nm – 50	100-1000 (73.8-738)	170	50	148	136	108	125	6 x Ø 8.5	180	Hex 50 ▽ 22.5	10.1
PST 2000 Nm – 50	200-2000 (147.5-1475)	170	50	148	136	108	125	6 x Ø 8.5	180	Hex 50 ▽ 22.5	10.1

Overview

Product description

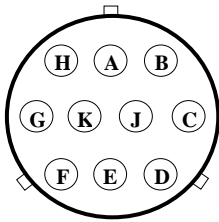
- A. Cable connector
- B. Square/Hexagon socket
- C. Fixing holes
- D. Lever (hexagon socket only)



Technical information

- | | |
|---|-----------------------------|
| • Torque measurement range | 2 – 2000Nm |
| • Bridge resistance | 350 Ohm |
| • Output sensitivity | 2 mV/V |
| • Static accuracy (from 10% to 100% of the transducer capacity) | ± 0.35% FSD |
| • Stability of Zero Offset with Temperature | ± 0.1% FSD/°C |
| • Overload capacity torque | 125% of the nominal torque |
| • Operation temperature | 5°C to 40°C (41°F to 104°F) |
| • Operating humidity (non condensing) | 10 - 75% |
| • IP Index (except connector) | 40 |

Connector PIN OUT



PIN	FUNCTION
H	MISO
A	MOSI
B	CLOCK
G	CDE.CAL
K	AGN

PIN	FUNCTION
J	CS.ANGLE
C	CS.MEM
F	-15V
E	+15V

Transducer built in memory

The built in memory consist in a eeprom, which stores the following data:

- Serial number
- Type
- Production date
- Programming date
- Nominal torque [Nm]
- Overload torque [Nm]
- Max torque [Nm]
- Limits [Nm]
- Sensitivity
- Angular resolution
- Transducer – tightening counter

Accessories

Part Number	Item Description
6159174300	Connecting cable (2m)
6159174330	Connecting cable (5m)
6159174320	Spiral connecting cable (2m fully extended)

Joint simulator to be used with PST:

Part Number	Model	Rated capacity (Nm)	Drive	Tool interface
6151655290	DJS for DST and PST 2Nm SOFT	2	Sq 1/2	Hex 1/4
6151655300	DJS for DST and PST 2Nm HARD	2	Sq 1/2	Hex 1/4
6151655310	DJS for DST and PST 5Nm SOFT	5	Sq 1/2	Hex 1/4
6151655710	DJS for DST and PST 5Nm HARD	5	Sq 1/2	Hex 1/4
6159363770	DJS for PST 10Nm SOFT	10	Sq 1/2	Hex 1/4
6159363780	DJS for PST 10Nm HARD	10	Sq 1/2	Hex 1/4
6159363790	DJS for PST 25Nm SOFT	25	Hex 36	Sq 3/8
6159363800	DJS for PST 25Nm HARD	25	Hex 36	Sq 3/8
6159363810	DJS for PST 50Nm SOFT	50	Hex 36	Sq 1/2

Part Number	Model	Rated capacity (Nm)	Drive	Tool interface
6159363820	DJS for PST 50Nm HARD	50	Hex 36	Sq 1/2
6159363650	DJS for PST 100Nm SOFT	100	Hex 36	Sq 1/2
6159363660	DJS for PST 100Nm HARD	100	Hex 36	Sq 1/2
6159363840	DJS for PST 250Nm SOFT	250	Hex 36	Sq 1/2
6159363850	DJS for PST 250Nm HARD	250	Hex 36	Sq 1/2
6159363690	DJS for PST 500Nm SOFT	500	Hex 50	Sq 3/4
6159363700	DJS for PST 500Nm HARD	500	Hex 50	Sq 3/4
6159363860	DJS FOR PST 1000Nm	1000	Hex 50	Sq 1
6159363930	DJS FOR PST 2000Nm	2000	Hex 50	Sq 1 1/2

Adapter to be used with PST:

Part Number	Drive in	Drive out
6159361130	Sq 1/2" M	Sq 1/4" F
6159361110	Sq 1/2" M	Sq 3/8" F
6159364350	Hex 1/4 F	Sq 1/4 F
6159363980	Hex 36 M	Sq 3/8" F
6159363990	Hex 36 M	Sq 1/2" F
6153972110	Sq 3/8" F	Sq 3/8" F
6159361150	Sq 3/8 F	Sq 1/4" F
6159361190	Sq 3/8" F	Hex 1/4"M
6151655730	Sq 1/2 F	Sq 1/2 F
6159361120	Sq 1/2 F	Sq 3/8 F
6159364310	Hex 50 M	Sq 1/2" F
6159364320	Hex 50 M	Sq 3/4" F
6159364330	Hex 50 M	Sq 1" F
6151655760	Sq 3/4" F	Sq 3/4" F
6159361300	Sq 3/4" F	Sq 1/2" F
6159361170	Sq 1" F	Sq 1" F
6159361260	Sq 1" F	Sq 3/4" F
6159364360	Sq 1 1/2" F	Sq 1 1/2" F
6159364370	Sq 1 1/2" F	Sq 1" F

Installation

Installation instructions

PST – Pulse Static Transducer is designed for testing Wrenches, Click Wrenches, Tightening Tools and especially are recommended for Pulse Tools (Shut-Off / No Shut-Off).

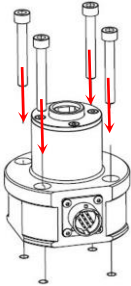
Select the correct size of PST, which is within the maximum torque capacity of the tool used.

For Pulse Tools, we recommend to use the correct size of PST, provided that the torque applied by the pulse tool is within the 70% of the nominal torque of the transducer. This is due to the fact that the impulses made by the pulse tool are higher than the nominal torque value.

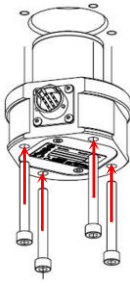
Make sure to mount the PST base on a stable horizontal “steel base” to avoid/minimise any vibration or movement of the system. Install the PST either on or under the stable horizontal “steel base”.

PST 2 – 10 Nm

PST installed on the stable horizontal “steel base” with 4 M6x45 fixing bolts

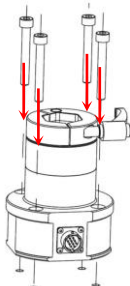


PST installed under the stable horizontal “steel base” with 4 M6x50 fixing bolts

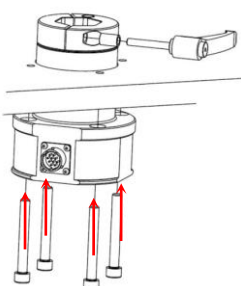


PST 50 – 2000 Nm

PST installed on the stable horizontal “steel base” with 4 M8x55 fixing bolts



PST installed under the stable horizontal “steel base” with 4 M8x65 fixing bolts

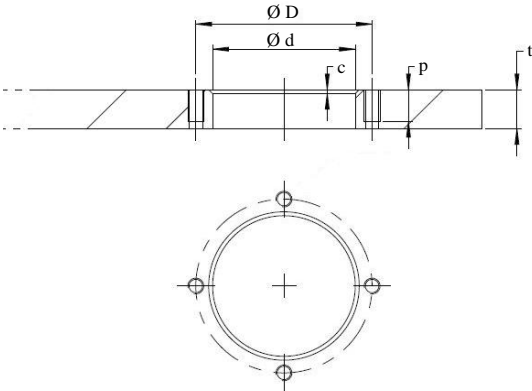


Fix the PST 2-10Nm on the workbench / profile or stable horizontal “steel base” with 4 M6x45 fixing bolts.
Fix the PST 2-10Nm under the workbench / profile or stable horizontal stable horizontal “steel base” with 4 M6x50 fixing bolts.

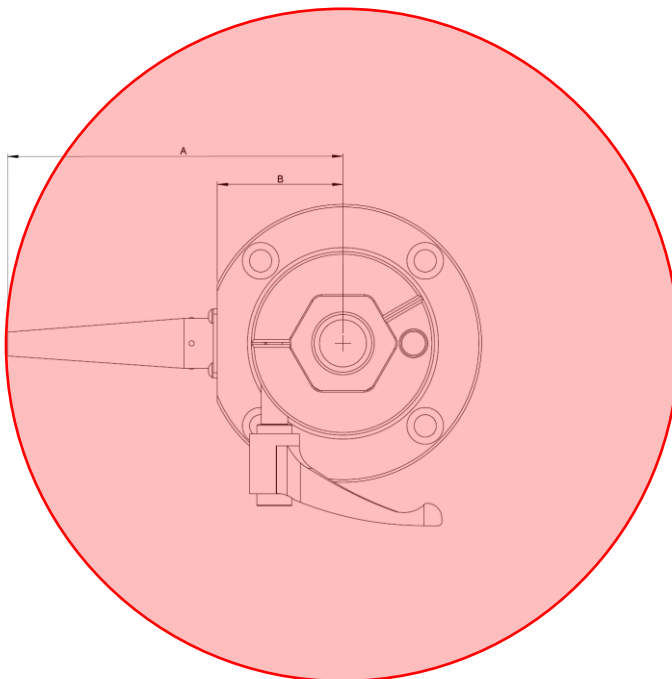
Fix the PST 50-2000Nm on the workbench / profile or stable horizontal “steel base” with 4 M8x55 fixing bolts.
Fix the PST 50-2000Nm under the workbench / profile or stable horizontal “steel base” with 4 M8x65 fixing bolts.

Below are data related to the fixing holes on the stable horizontal “steel base”.

	2 – 10 Nm	25 – 250 Nm	500 – 2000 Nm
Ø D (mm)	64	89	125
Ø d (mm)	47	72	110
Number of holes	4	4	6
Hole dimension	M6	M8	M8
Bolt tightening torque (Nm)	9	23	23
c (mm)	2	2	2.5
p min (mm)	10	14	14
t min (mm)	10	14	20



NOTICE! Do not install the PST near any surface that could limit its action range. Respect the following guidelines in order to make sure that there is a clearance between the transducer cable and any external surface:

**PST 2 – 10 Nm**

A = 134.5mm

B = 34.5mm

PST 50 – 250 Nm

A = 155mm

B = 48mm

PST 500 – 2000 Nm

A = 170mm

B = 69.5mm

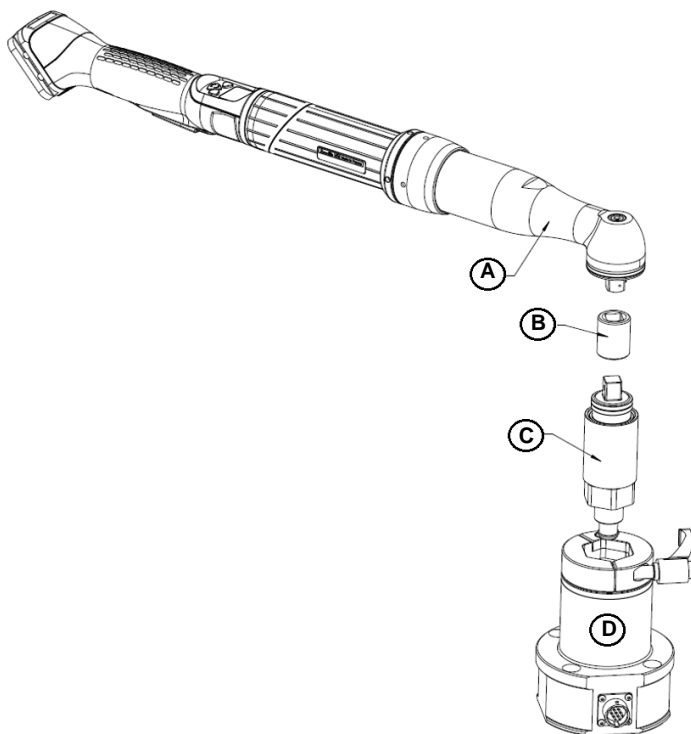
Connect the PST to the measuring instrument (*Delta data analyzer*) through the connecting cable. For more information about the *Desoutter Delta*, refer to “*Delta User Guide*” (Desoutter User Guides are available at <http://www.desouttertools.com/resource-centre>).

Operation

Configuration instructions

In sequence, vertically align the DJS, the adapter and the nutrunner on the input drive of the PST.

- A. Nutrunner
- B. Adapter
- C. DJS Joint simulator
- D. PST Transducer



Operating instructions

Operate the tool on the DJS making sure to align the tool/DJS to avoid any influence from side forces which may affect the measuring result.

Perform from five to ten tightenings before executing tests in order to distribute the grease uniformly inside the DJS and warm it up.

Service

Maintenance Instructions

Cleaning

Keep the *PST – Pulse Static Transducer* clean.

After use, remove any trace of oil, grease and dust from the *PST – Pulse Static Transducer*.

Use an anti-static cleaning cloth to remove dust from the *PST – Pulse Static Transducer*.

Avoid using harsh detergents to clean the *PST – Pulse Static Transducer*.

Calibration

Desoutter recommends performing a complete calibration at least once every year. You can shorten this interval based on the demands of your application.

For more information about the calibration process, refer to the certificate delivered with the product.

Spare parts

Exploded views and spare parts lists are available at <http://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.

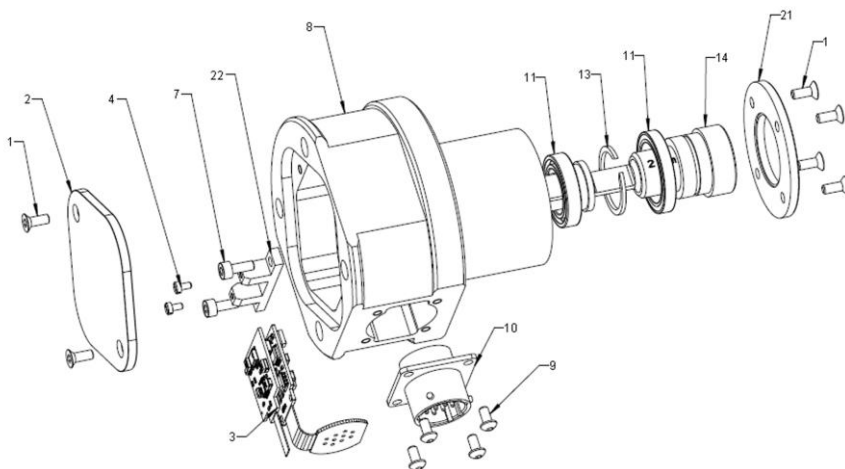
Decommissioning

Recycling instructions

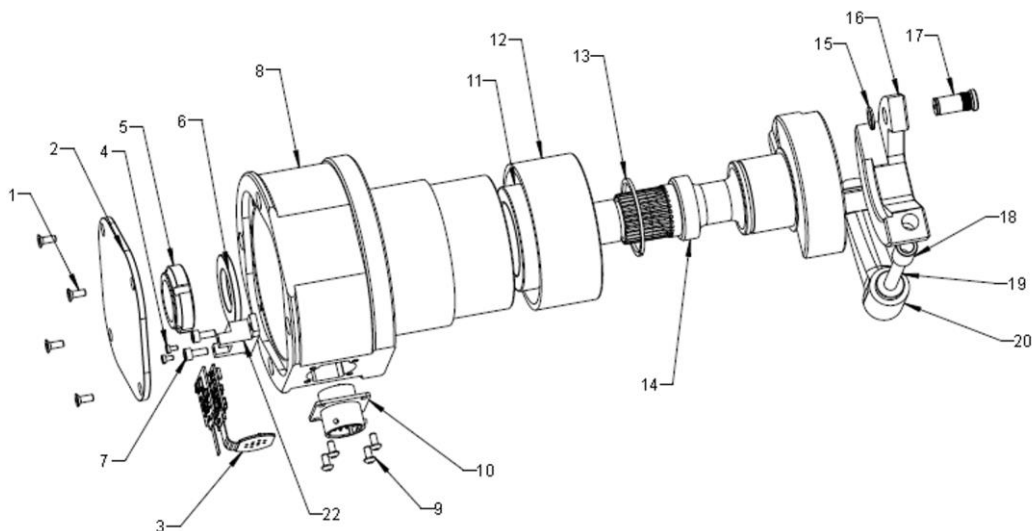
When a product has served its purpose, it has to be recycled properly. Dismantle the product and recycle the components in accordance with local registration.

Recycling information

PST 2 – 10 Nm



PST 50 – 2000 Nm



	PART	RECYCLE AS
1	<i>Screw</i>	<i>Steel</i>
2	<i>Lower cover</i>	<i>Aluminium</i>
3	<i>Electronic Equipment</i>	<i>WEEE</i>
4	<i>Screw</i>	<i>Steel</i>
5	<i>Self-Locking nut</i>	<i>Steel</i>
6	<i>Washer</i>	<i>Steel</i>
7	<i>Screw</i>	<i>Steel</i>
8	<i>Body</i>	<i>Steel</i>
9	<i>Screw</i>	<i>Steel</i>
10	<i>Cable connector</i>	<i>WEEE</i>
11	<i>Ball bearing</i>	<i>Steel</i>
12	<i>Ring</i>	<i>Aluminium</i>
13	<i>Retaining ring</i>	<i>Steel</i>
14	<i>Transducer</i>	<i>Steel</i>
15	<i>Washer</i>	<i>Steel</i>
16	<i>Exagon locking system</i>	<i>Steel</i>
17	<i>Pin</i>	<i>Steel</i>
18	<i>Handle spacer</i>	<i>Steel</i>
19	<i>Handle threaded bar</i>	<i>Steel</i>
20	<i>Handle</i>	<i>FGR PA</i>
21	<i>Upper cover</i>	<i>Aluminium</i>
22	<i>PCB support</i>	<i>PA</i>

Original instructions

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 project – 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 Screwdriver, Advanced Assembly Tools, Advanced Drilling Units, Air Motors and Torque Measurement Systems.

Find more on www.desouttertools.com



More Than Productivity