

## Operating Instruction Booklet

### E-Torque Wrench

**MS7DMS  
MS2DMS**

**387798 A  
387798 B**

Dear Customer:

This tool is the result of more than 75 years of experience in the design and manufacturing of pneumatic tools for the industrial market.

We kindly ask that you read these operating instructions carefully so that you will be able to use this tool safely and for many years to come.

If you need additional information, please contact your DEPRAG Representative, one of our international support offices or us direct at DEPRAG. We will be happy to answer any questions. Please visit our web site: [www.deprag.com](http://www.deprag.com)

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## 1 General Safety Tips



**Before operating tool make sure to carefully read and observe this operating instruction.**

Generally, the operator of the equipment and/or machinery is responsible for the equipment's perfect condition and operation, while observing all necessary safety regulations. The equipment and/or machinery has been constructed in accordance with the newest level of technology while recognizing all necessary safety-related requirements. Nevertheless, while operating the equipment and/or machinery there is a risk of bodily harm to the operator as well as damage to equipment and/or machinery and other property.

Operate the equipment and/or machinery only if equipment/machinery

- Is used for the task it was designed for
- is in perfect working condition and safe to use.

It is important to observe the technical data of the equipment, especially in regards to the environmental temperatures. The designated area of use for this equipment is clearly described in chapter *Designated Equipment Use* and those requirements have to be observed as well. Prerequisite for the safe conduct and the uninterrupted operation of the equipment, is the knowledge of the basic safety tips and the safety regulations. Additionally, all current regulations for a safe operational area, for accident-prevention guidelines of electrical and mechanical installations, as well as noise suppression demands must be observed. During any maintenance or repair work, a clean work surface is recommended. Also, it is not recommended to either eat or smoke during repair or maintenance. Arbitrary changes made to the equipment, which alters its designated use, voids the warranty and cancels the manufacturers liability.

- The tool is not insulated to protect against an electrical power surge.
- It is not recommended to use this tool in explosive hazardous environments, unless it was specifically designed for such a use.

The operating instruction booklet, especially the safety symbols and safety tips attached to the equipment or included in the documentation, must be observed at all times by all persons getting into contact with the equipment.

## 1.1 General Technical Measuring-Information



### NOTE

The Transducer (measuring platform/Dynamometer) has to be positioned on a solid base, which does not allow any movement.

At that time the transducer should be free of external forces or vibrations (such as the distortion of the measuring platform resulting from incorrect installation or binding exhaust hose).

After each start-signal, the charge amplifier will reset and perform a zero calibration. External forces, momentum, or vibration can distort the torque measurement.

### Terminology:

<b>Measuring value:</b>	Submitted torque from transducer
<b>Calibration value:</b>	Sensitivity of transducer e. g. C1000

For quality assurance and to provide necessary documentation and records during a quality audit, we recommend the calibration and certification of this equipment every 12-months.

For our torque-measuring instruments and torque-sensors as well as complete measuring cells, we offer calibration services directly from DEPRAG.

We are always available for inquiries; please do not hesitate to contact us!

## 1.2 Owner Obligation

The owner is obliged to only let persons operate the equipment, who

- are familiar with basic work environment safety rules and accident-preventing regulations. Also, those persons must have been instructed in the correct use of the equipment.
- have read and understood all safety and warning notifications in the Operating Instruction Booklet, as well as all other documentation pertaining to this equipment.
- check and confirm at regular intervals, that a safety oriented operation is guaranteed.

Only qualified and authorized personnel is allowed to operate, maintain and repair this equipment. A malfunction, which impairs operator safety, must be immediately removed.

## 1.3 Operator Obligation

Personnel, who is engaged in the operation of the equipment, must always be committed to

- observe the basic safety and accident preventing regulations,
- read and observe the safety and warning notifications of this operating instruction booklet.

## 1.4 Warranty and Liability

Unless otherwise specified, our “General Sales and Delivery Conditions” apply. Warranty and liability claims in regards to persons or equipment damages are invalid, if one or several of the following causes apply:

- Use of the equipment in a non-designated application.
- Improper installation, operation, service or maintenance of the machine.
- Operation of the machine with either defective or removed safety and protection devices.
- Non-observance of the requirements stated in the operating instruction booklet, in regards to transportation, storage, mounting, installation, operation, maintenance and service of the equipment.
- Structural change or adjustment on the equipment to a non-designated use.
- Inadequate supervision of wear parts.
- Improper repair, inspection or maintenance.
- Catastrophic cases because of a war, acts of god or other reasons which are beyond our control.

## 1.5 Symbol Description



Read and observe the Operating Instruction Booklet, prior to and during operation of tool.



### DANGER

Reference to an immediate danger to a person. May lead to serious injuries or even death, if unobserved!



Properly recycle environmentally damaging grease, cooling agents or detergents.



### RECOMMENDATIONS

Important or additional information on the equipment or in the documentation.



Use eye protection or wear safety goggles.

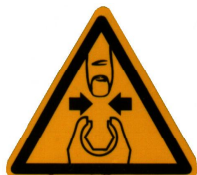


Wear hearing protection.



Warning against hand-injuries.

Attention: Keep away your hands from areas, which are marked with this symbol!



Hands may be crushed, seized or otherwise injured.



ESD-protected area

Equipment may be damaged or destroyed by an electrostatic discharge.



Maintenance and repair on hydraulic and pneumatic equipment may only be performed by specially trained personnel!  
Disconnect equipment from air supply, prior to repair of pneumatic or hydraulic equipment.



Provide regular preventive maintenance on hoses and airlines. Exchange hose lines, even if there is no visible damage! (Observe corresponding requirements of the manufacturer!)

After repair and maintenance, check the following items:

- make sure all detached and re-attached connections are solid.
- confirm that removed covers, screens or filters were re-installed
- During disconnecting or reconnecting of an air-operated equipment, injury may occur due to a whipping air-hose

After conclusion of maintenance or repair and prior to start of operation, make sure to

- remove all materials, tools and other supplies needed for the maintenance or repair from work area of the equipment
- remove leaking liquid or oils
- make sure all safety devices on the equipment work perfectly!

## 1.6 Observe Environmental Regulations



When working on or with the equipment, it is imperative to observe all requirements in regards to waste-disposal and proper recycling.

Especially during installation, repair or maintenance, water damaging agents such as

- lubricating grease and oil
- hydraulic fluid
- cooling agents
- solvent-containing cleaning agents

must not leak into the ground or into the sewage system!

Such materials must be stored, transported, contained and recycled in suitable containers.



## 2 Designated Equipment Use

The E-Torque-Wrench has been solely designed and manufactured for the industrial measuring of torque values, using strain-gauge transducers (designated use).

## 3 DMS-Bridge

The electrical resistance of each gauge changes with deformation. The cause of the deformation can be strength, pressure, torque, movement, angle, etc. The resistance of a deformed strain gauge is composed by its base-resistance  $R$  (unloaded) and the resistance-alteration caused by the deformation  $\Delta R$ .

## 4 Connection of a E-Torque Wrench



### Attention

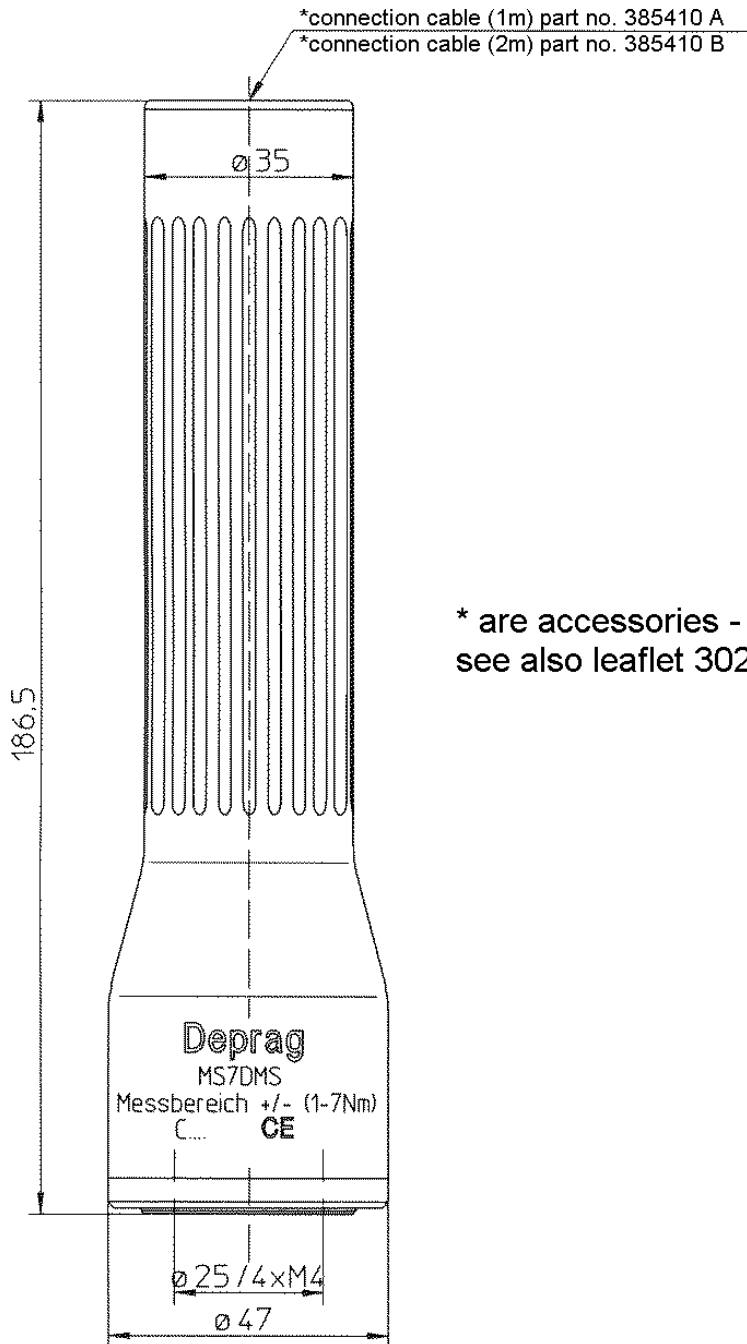
**All with sealing wax secured screws may not be opened – this will void the warranty!**

1. Input calibration value, e. g. 1000 (engraved on the e-torque-wrench) into the measuring electronic according to the Operating Instructions.
2. Connect the e-torque-wrench with the measuring electronic (without load), using connection cable 385410 A/B/C (length: 1/2/3 m, accessory - optional equipment).
3. Install accessories, such as screwplate, bit- or socket-adapter to the e-torque-wrench.

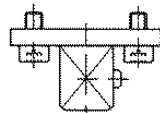
All E-Torque-Wrenches are intended for the connection to our torque measuring instrument DME25DMS (see *leaflet D 3022 E*).

For quality control, we offer for all measuring platforms the corresponding calibration certificates.

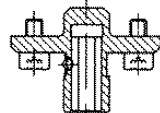
## 5 Dimensional Drawing



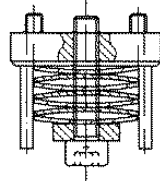
\* are accessories - optional equipment  
see also leaflet 3020 resp. 3022



\* socket adapter according to DIN 3121 (1/2")  
part no. 120488 A



\* bit adapter according to DIN 3126 (1/4")  
part no. 120489 A



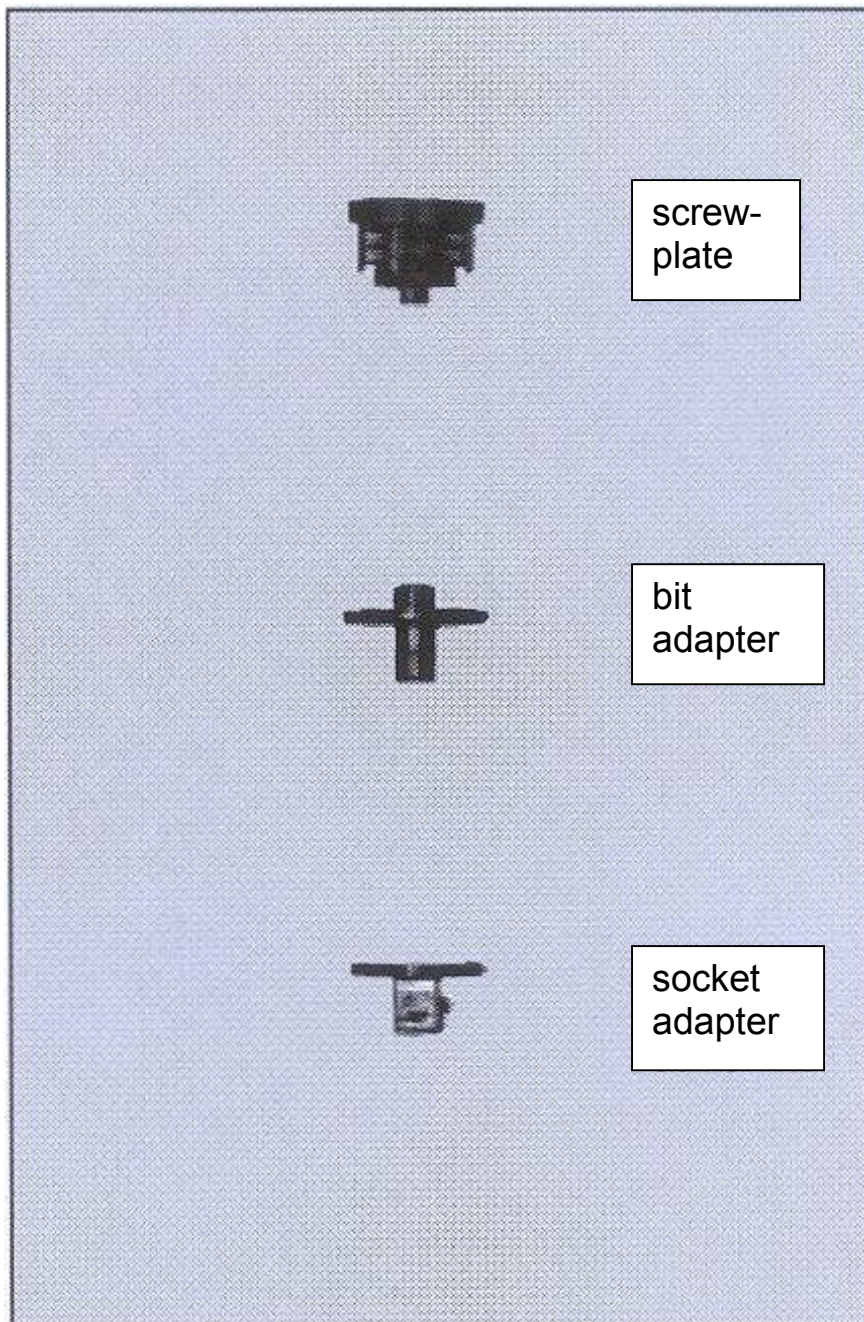
\* screwplate M3 part no. 120425 B  
M4 part no. 120426 B  
M5 part no. 120427 B

## 6 Delivery Capacity

Please check the delivery capacity in regards to its completeness.

QUANTITY	NAME	PART No.
1	Operating Instruction Booklet	011731EN
1	Torque Wrench	387798 A / B

## 7 Accessories



## 7.1 Necessary Accessories – Optional Equipment

NAME	MS2DMS	MS7DMS
<b>Electronic Torquemeter DME25DMS</b> (see leaflet D 3022 E)	385409 A	
<b>Connection Cable <sup>1)</sup></b> Length: 1 m / 2 m / 3 m	385410 A / B / C	
<b>Screwplate M3 <sup>2)</sup></b> (for above allen bit AF 2.5)	120425 B	
<b>Screwplate M4 <sup>2)</sup></b> (for above allen bit AF 3)	120426 B	
<b>Screwplate M5 <sup>2)</sup></b> (for above allen bit AF 4)	-	120427 B

<sup>1)</sup> for connection of transducer and electronic torquemeter

<sup>2)</sup> inserting tools see leaflet D 3320 E

## 7.2 Further Accessories – Optional Equipment

NAME	MS2DMS	MS7DMS
<b>Bit Adapter <sup>2)</sup></b> according to DIN 3126 - F6,3 (1/4“)	120489 A	
<b>Socket Adapter <sup>2)</sup></b> according to DIN 3121 - E12,5 (1/2“)	120488 A	

<sup>2)</sup> inserting tools see leaflet D 3320 E

All leaflets are available for download from our web site: [www.deprag.com](http://www.deprag.com)

## 7.3 Factory calibration on special order

Calibration of a measurement transducer (measurement platform or measuring wrench)

Calibration of a torque measuring instrument

Calibration of a measurement chain (a measurement transducer and one torque measuring instrument)

The factory calibration includes testing, calibration, a calibration certificate or a measuring protocol, which is traceable to national standards in accordance with DIN EN ISO 9001.

## 8 Storage

Unused machines should be stored in a dry, locked area.

## 9 Technical Data

**Manufacturer** DEPRAG SCHULZ GMBH u. CO.  
**Address** Kurfürstenring 12 - 18 Postfach 1352  
D-92224 Amberg D-92203 Amberg  
**Phone** 09621/371-0  
**Fax** 09621/371-120

<b>TYPE (STRAIGHT DESIGN)</b>	<b>MS2DMS</b>	<b>MS7DMS</b>
<b>PART NO.</b>	<b>387798 B</b>	<b>387798 A</b>
<b>Measuring range (Nm/in.lbs)</b>	±0.1 to ±2 / ±0.9 to ±18	±1 to ±7 / ±9 to ±62
<b>Admissible overload capacity (%)</b>	100	
<b>Accuracy class</b>	1	
<b>Sensibility (mV/V)</b>	1.5	1.8
<b>Operational temperature range (°C / °F)</b>	0 to +60 / 32 to 140	
<b>Parameter temperature coefficient (% / K)</b>	0.01	
<b>Zero signal temperature coefficient (% / K)</b>	0.02	
<b>Supply voltage (DC) (V)</b>	5	
<b>Length (mm)</b>	186.5	
<b>Weight (kg/lbs)</b>	0.5 / 1.1	
<b>Connecting plug</b>	4-pole	

## 10 Disposal

Disassemble the machine for the required disposal complete. Observe local and environmental regulations for the separation and recycling of materials.

## 11 Conformity Declaration

### EC-Conformity Declaration according to the EC-Machine-Guidelines 98/37/EC, Amendment IIA

We,

DEPRAG SCHULZ GMBH & CO.  
PO Box 1352  
D-92203 Amberg

hereby confirm, that the design of the

Torque Wrench

**MS2DMS**

**MS7DMS**

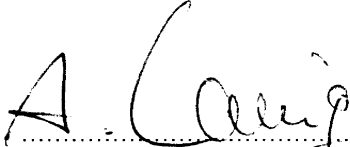
conforms to the following, relevant regulation:

- EC-Machine-Guidelines, Version 98/37/EC, Amendment No. 1 and No. 2.2.

Applicable Standard:

- EN ISO 12100-1 and 12100-2

Amberg, 09.05. 2007

  
Dipl. Ing. (FH) A. Latig  
Mr. Design Dept.

## 12 Service Locations and Authorized Partners

### ARGENTINA

#### ERIN s.a.

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Fax: +32 9342 0678  
Internet: <http://www.awp-p.com>  
e-mail: [willems@awp-p.com](mailto:willems@awp-p.com)

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Fax: +55 (0) 51 / 3590.1856  
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Fax: +45 36 77 77 40  
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Internet: [www.deprag.co.uk](http://www.deprag.co.uk)  
e-mail: [sales@deprag.co.uk](mailto:sales@deprag.co.uk)

### HUNGARY

#### ADLER '91

Export/Import Kereskedelmi  
Takarék u. 18/B  
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Tel./Fax: +36 (0) 93 / 314 633  
e-mail: [adler91adlovits@chello.hu](mailto:adler91adlovits@chello.hu)

#### Nóniusz Tool Trading House Ltd.

Köbányai út. 47/6  
H-1101 Budapest  
Tel.: +36 (0) 1 / 260 030 30  
Fax: +36 (0) 1 / 260 060 83  
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e-mail: [noniusz@noniusz.hu](mailto:noniusz@noniusz.hu)

### INDIA

LEAPTECH Corporation  
812 Cosmos, Sector – 11  
CBD Belapur  
New Mumbai – 400 614  
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Fax: +91 / 22 / 2756.2881  
Internet: [www.leaptechcorp.com](http://www.leaptechcorp.com)  
e-mail: [leaptech@vsnl.net](mailto:leaptech@vsnl.net)

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C.V. Raman Nagar  
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#### FARA SANAT Co.

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Fax: +98 (0) 21 / 673.4757

#### NACCARSON AIR TOOLS Co., Ltd.

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#### Production Equipment Ltd.

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Internet: [www.atax.it](http://www.atax.it)

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Fax: +81 (0) 3 / 3542.2420  
e-mail: [mail@gesco.co.jp](mailto:mail@gesco.co.jp)

## KOREA (South)

**Handtools**  
**DONG WON POWER-TECH.INC.**  
108-10 Moonjung-Dong  
Songpa-Ku  
Seoul, Korea  
Tel.: +82 (0) 2 / 409.1344  
Fax: +82 (0) 2 / 409.1345  
e-mail: [kilpyungdw@dreamwiz.com](mailto:kilpyungdw@dreamwiz.com)

## Screwdriving / Assembly Technology

**Fatec Co.Ltd.**  
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165-8 Dongkyo-dong  
Mapo-gu Seoul,  
Korea  
Tel.: +82 (0) 2 / 2 688.2152  
Fax: +82 (0) 2 / 2 688.2893  
Internet: [www.fatec.co.kr](http://www.fatec.co.kr)  
e-mail: [fatec@fatec.co.kr](mailto:fatec@fatec.co.kr)

## LITHUANIA

**HIDROTEKA**  
Engineering Services  
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LT- 51333 Kaunas  
Tel.: 00370 / 37 / 452.969  
Fax: 00370 / 37 / 760.500  
Internet: <http://www.hidroteka.lt>  
e-mail: [hidroteka@hidroteka.lt](mailto:hidroteka@hidroteka.lt)

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**AWP**  
Parelhoenstraat 24  
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Mobil: +32 473 345907  
Fax: +32 9342 0678  
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e-mail: [willems@awp-p.com](mailto:willems@awp-p.com)

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**FI INNOVATION RESOURCES SDN.BHD**  
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## PORTUGAL

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## SINGAPORE

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