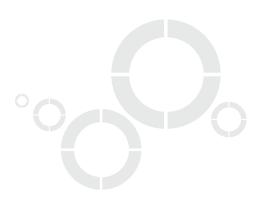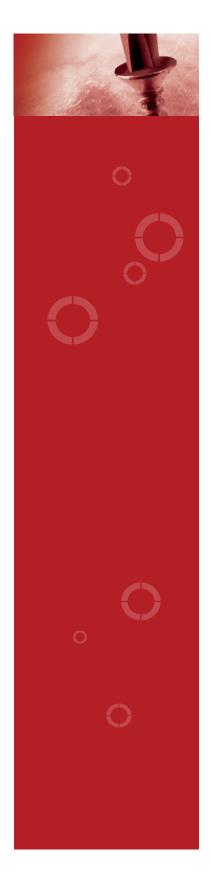# DOGA®
Productive solutions

ASSEMBLY TOOLS AND SYSTEMS

Torque Measuring
Instruments

Range

Torque Testers

Equipped with a built-in transducer the EZ smart series is ideal to control and set torque delivered by tightening tools (Air and electric screwdrivers, Torque Wrenches, Impulse tools…). Thanks to its embeded software readings are automaticaly stored and Cm / Cmk statistics calculated against preset tolerances. External transducers may be used as well thanks to its transducers input.

Torque Read-outs

Versatile, compact and easy to use the TA smart series and TA SB smart series can be connected to our Static or Rotary transducers. The MTA torque read-out is ideal to create tool tests for each of your tightening tools, proceed with regular control and organize / store data collection for ISO and SPS documentation.

Torque Transducers

NST series : a complete range of static transducers from 0,1 to 3389 Nm.
B series : a complete range of rotary transducers with dedicated cable for MTA and TA read-out and EZ torque testers.

Torque Testers

EZ Smart Series

- Easy to use scroll Menu • External transducers may be plugged • 500 readings memory
- USB output • Cm/Cmk statistics inside • Pulse tools measuring mode

Equipped with a built-in static transducer the EZ series are used to calibrate quickly and accurately every kind of tightening tool. Reading memory can be transfered to any kind of computer or printer through its RS 232 output. Thanks to its built-in statistics program, Cm and Cmk can be immediatly know (according to AFNOR standard) and modified according to the requested tolerances.

Model	Capacity (Nm)	Accuracy (Nm)	Power Supply	Code
EZ2 V3	2	±2%		**4-7600510**
EZ5 V3	5	±1%	Secteur/Accus	**4-7600511**
EZ20 V3	20	±1%		**4-7600512**

With COFRAC control certificate

Model	Capacity (Nm)	Accuracy (Nm)	Power Supply	Code
EZ2 V3	2	±2%		**4-7600318**
EZ5 V3	5	±1%	Secteur/Accus	**4-7600319**
EZ20 V3	20	±1%		**4-7600320**

Example of printed statistics report :

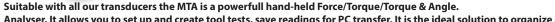|		
0036 + 4.382 n.m = 1.721s	11:49	12 Mai 11
0037 + 4.246 n.m = 1.834s	11:49	12 Mai 11
0038 + 4.367 n.m = 1.529s	11:50	12 Mai 11
0039 + 4.352 n.m = 1.312s	11:50	12 Mai 11
0040 + 4.653 n.m = 1.544s	11:51	12 Mai 11
NOMINAL TORQUE	4.400 N.m	
TOLERANCE +	4.400 + 0.400	
TOLERANCE -	4.400 - 0.400	
SAMPLE	005	
STANDARD DEVIATION = 0.066	AVERAGE = 4.483	
MIN = 4.246	MAXI = 4.653	
Cm = 2.024	C.M.K. = 1.873	

Torque Read-Outs

MTA Torque & Angle Analyser

- Transducers automatic recognition
- 7 measuring modes
- Suitable with Force, Torque, Angle Transducers
- Real time clock and USB interface
- Graphic functions on PC interface
- 5000 readings memory
- Delivered with 3 softwares without licence
  - ❶ PC interface program
    Calibration, tool test, graphic
  - ❷ Torque meter booloader
  - ❸ Statistics program (via Excel)

4 transducers multiplexer

Suitable with all our transducers the MTA is a powerfull hand-held Force/Torque/Torque & Angle.
Analyser. It allows you to set up and create tool tests, save readings for PC transfer. It is the ideal solution to organize and store data collection for ISO and SPC documentation.
It may be connected simultaneously to 4 different transducers via a multiplexer. Use of bar code reader is also possible to select quickly the tool test for each of your tool on the assembly line.

Model	Power Supply	Code
MTA	Main/Battery	**4-7600010**
Multiplexer 4V		**4-7600117**

Bar code reader :
Easy to select one tool test thanks to a bar code sticker fixed on each tool (ideal for periodical control).
When a multiplexer is connected the bar code reading will automatically select the necessary transducer.

Model	Code
Bar code reader	**4-7600118**

Torque Read-Outs

TA Smart Series

• Easy to use scroll Menu • 500 readings memory • RS 232 output
• Mini/Maxi Torque limits with relay • Cm/Cmk statistics inside • Impulse tools measuring mode

TA SMART Torque Read-Out features both user friendly program and very accurate electronics.
It is suitable with any 2mV/V static or rotary strain gauges transducer.
Thanks to its built-in statistics program, Cm/Cmk or Cp/Cpk can be immediatly known (according to AFNOR standard) and modified according to the requested tolerances.

Model	Power Supply	Code
TA V2 Smart	Main/Cell V9	**4-7600284**

TA SB Smart Series

• Easy to use scroll Menu • 500 readings memory • RS 232 output
• Mini/Maxi Torque limits with relay • Cm/Cmk statistics inside • Impulse tools measuring mode

TA SB SMART Torque Read-Out features both user friendly program and very accurate electronics.
It is suitable with 5 volts brushless rotary transducer (SB Series see page 10).
Thanks to its built-in statistics program, Cp/Cpk can be immediatly known (according to AFNOR standard) and modified according to the requested tolerances.

Model	Power Supply	Code
TA SB V2 Smart	Main/Cell V9	**4-7600286**

Torque transducers

NST static transducers

NST static transducers are designed to check torque settings of your tools.

Suitable with our EZ SMART, TA SMART and MTA torque read-out, NST transducers are robust, precise and easy to use.

Auto recognition (ARCII) when connected to the MTA.

Model	Torque Range (Nm)	Accuracy	Drive	Code
NST1	0,11 - 1,13	±1%	1/4" Female square	**4-7600071**
NST3	0,28 - 2,82	±1%	1/4" Female square	**4-7600072**
NST10	1,13 - 11,3	±1%	1/4" Female square	**4-7600073**
NST50	5,65 - 56,5	±1%	3/8" Female square	**4-7600074**
NST100	13,6 - 135,6	±1%	1/2" Female square	**4-7600075**
NST300	33,9 - 339	±1%	1/2" Female square	**4-7600076**
NST500	67,8 - 678	±1%	3/4" Female square	**4-7600077**
NST1000	135,6 - 1355	±1%	1" Female square	**4-7600090**
NST3000	339 - 3389	±1%	1/2" Female square	**4-7600091**

B Series : Rotary transducers with brushes

Ideal to measure the torque really achieved on the joints, the B Series transducers are suitable with EZ smart testers, TA Smart read-out, MTA analyser.
Equipped with self-lubricating brushes and accurate ball bearings.
ARCII auto recognition with MTA analyzer.
Aluminium housing and stainless steel shaft.
Overload capacity : 125% of the nominal torque.

For MTA analyser

Model	Capacity (Nm)	Accuracy (Nm)	Drive	Code
B2H IS MTA	2	±1%	1/4" Hexagonal	**4-3100151**
B5H IS MTA	5	±1%	1/4" Hexagonal	**4-3100152**
B10H IS MTA	10	±1%	1/4" Hexagonal	**4-3100153**
B10Q 1/4 IS MTA	10	±1%	1/4" Square	**4-3100154**
B20H IS MTA	20	±1%	1/4" Hexagonal	**4-3100155**
B20Q 1/4 IS MTA	20	±1%	1/4" Square	**4-3100156**
B25Q 3/8 IS MTA	25	±1%	3/8" Square	**4-3100157**
B75Q 3/8 IS MTA	75	±1%	3/8" Square	**4-3100158**
B180Q 1/2 IS MTA	180	±1%	1/2" Square	**4-3100159**
B250Q 3/4 IS MTA	250	±1%	3/4" Square	**4-3100160**
B500Q 3/4 IS MTA	500	±1%	3/4" Square	**4-3100161**

Each transducer is equipped with a connection cable for MTA.

Torque transducers

For EZ testers or TA read-out

Model	Capacity (Nm)	Accuracy (Nm)	Drive	Code
B2H IS SPEC	2	±1%	1/4" Hexagonal	**4-3100140**
B5H IS SPEC	5	±1%	1/4" Hexagonal	**4-3100141**
B10H IS SPEC	10	±1%	1/4" Hexagonal	**4-3100142**
B10Q 1/4 IS SPEC	10	±1%	1/4" Square	**4-3100143**
B20H IS SPEC	20	±1%	3/8" Square	**4-3100144**
B20Q 1/4 IS SPEC	20	±1%	1/4" Square	**4-3100145**
B25Q 3/8 IS SPEC	25	±1%	3/8" Square	**4-3100146**
B75Q 3/8 IS SPEC	75	±1%	3/8" Square	**4-3100147**
B180Q 1/2 IS SPEC	180	±1%	1/2" Square	**4-3100148**
B250Q 3/4 IS SPEC	250	±1%	3/4" Square	**4-3100149**
B500Q 3/4 IS SPEC	500	±1%	3/4" Square	**4-3100150**

Each transducer is delivered with connection cable for EZ or TA.

Sole transducers

Model	Capacity (Nm)	Accuracy (Nm)	Drive	Code
B2H IS	2	±1%	1/4" Hexagonal	**4-7670000**
B5H IS	5	±1%	1/4" Hexagonal	**4-7670001**
B10H IS	10	±1%	1/4" Hexagonal	**4-7670002**
B10Q 1/4 IS	10	±1%	1/4" Square	**4-7670003**
B20H IS	20	±1%	3/8" Square	**4-7670004**
B20Q 1/4 IS	20	±1%	1/4" Square	**4-7670005**
B25Q 3/8 IS	25	±1%	3/8" Square	**4-7670006**
B75Q 3/8 IS	75	±1%	3/8" Square	**4-7670007**
B180Q 1/2 IS	180	±1%	1/2" Square	**4-7670008**
B250Q 3/4 IS	250	±1%	3/4" Square	**4-7670009**
B500Q 3/4 IS	500	±1%	3/4" Square	**4-7670010**

Delivered without connection cable.

Accessories

Test joints for EZ testers

The test joints allow to simulate hard, semi elastic or elastic assembly. They take into account the rotation speed of the tool and simulate your assembly conditions for an optimized adjustment.

Standard

Model	Fastening simulator	Drive	Code
SVS13F	Hard	Male Hexagonal 1/4"	**4-7602000**
SVS13SE	Semi-elastic	Male Hexagonal 1/4"	**4-7602001**
SVS13E	Elastic	Male Hexagonal 1/4"	**4-7602002**

For small torque (M2, M3, M4 screws)

Model	Drive	Code
SAV13 M2	M2 Hex. Int screw	**4-7600502**
SAV13 M3	M3 Hex. Int screw	**4-7600503**
SAV13 M4	M4 Hex. Int screw	**4-7600504**

Accessories

Test joints for NST transducers

The test joints allow to simulate hard, semi elastic or elastic assembly. They take into account the rotation speed of the tool and simulate your assembly conditions for an optimized adjustment.

For small torque (M2, M3, M4 screws)

Model	Tool drive	Transducer connection	Code
SPEC-NST M2	M 2 Hex. Int screw	1/4"	**4-7600200**
SPEC-NST M3	M 3 Hex. Int screw	1/4"	**4-7600201**
SPEC-NST M4	M 4 Hex. Int screw	1/4"	**4-7600202**

Standard

Model	Tool drive	Transducer connection	Code
Test joint for NST 1/3/10	Male Hex. 1/4	1/4"	**4-7660000**
Test joint for NST 50	Hexagonal 19 mm A/F	3/8"	**4-7660001**
Test joint for NST 100/300	Hexagonal 24 mm A/F	1/2"	**4-7660002**
Test joint for NST 500	Hexagonal 36 mm A/F	3/4"	**4-7660003**
Test joint for NST 1000	Hexagonal 46 mm A/F	1"	**4-7660004**
Test joint for NST 3000	Hexagonal 55 mm A/F	1" 1/2	**4-7660005**

NST transducers connection cables

Model	Lenght	Plug	Code
EZ and TA	2 m	Male 5 pins Lumberg	**4-3125000**
MTA	2 m	Male 15 pins SubD	**4-7600050**

B transducers connection cables

Model	Lenght	Plug	Code
EZ and TA	2 m	Male 5 pins Lumberg	**4-3130001**
MTA*	2 m	Male 15 pins SubD	**4-3130000**

* ARCII chips activation - **Code 4-7600113** not included

SB transducers connection cables

Model	Lenght	Plug	Code
TA SB	2 m	Male 5 pins Lumberg	**4-3125002**
MTA	2 m	Male 15 pins SubD	**4-7600052**