

# Torque Calibration

## Introduction

This section covers the comprehensive range of Torque Calibration equipment manufactured by Gedore Torque.

Torque calibration equipment is used for the testing, calibration and recalibration of Torque Tools. This ensures that torque equipment operates to peak performance and guarantees absolute and consistent accuracy and adherence to national and international standards. It also ensures that potential tooling problems are identified before they arise, ensuring that lifetime ownership costs are minimised. Torque Calibration equipment is also used to predict the behaviour of fasteners and to recommend optimum torque.

As an alternative to purchasing calibration equipment, the Gedore Torque service centre offers a wide range of Calibration Services. These can be carried out at our UKAS accredited Calibration Laboratory.

## Torque Calibration Analysers

Torque Calibration equipment is based upon Torque Calibration Analysers, of which there are two basic types: Electronic and Mechanical.

### Electronic Torque Calibration Analysers

Our modern range of Digital Torque Calibration Equipment is highly accurate, reliable and easy to use. It enables the user to download test results, test power tools, select different units of measurement and carry out calibration beyond the scope of mechanical calibration devices.

### Mechanical Torque Calibration Analysers

Mechanical Torque Analysers offers the user a low cost, robust and easy to use device, that's designed to set and calibrate low range torque tools. These Analysers will give many years of accurate and reliable service.

## Functions of Torque Calibration Analysers

This chart summarises the functions of the various Torque Calibration Analysers. Further details are on the following pages.

Torque Calibration Analysers	Screwdriver Testing	Wrench Testing	Powered Tool Testing	Memory Capability	PC Download Capability	Interchangeable Sensors
CAPTURE System	✓	✓	✓	✓	✓	✓
CAPTURE Hub	✓	✓	✓	✓	✓	✓
MTP	✓	-	-	-	-	-
MTS	✓	✓	-	-	-	-
DREMOTEST E	✓	✓	-	-	✓	-

## CAPTURE Display

This intuitive easy to use Display can be integrated with your existing Sensors. This enables you to benefit from the industry-leading CAPTURE system, whilst minimising investment.

**Cost-effective.** Minimise investment, as the CAPTURE Display is designed to integrate with customers' existing industry standard nominal 2mV/V Sensors

**Carry Case included.** To protect the CAPTURE Display when not in use it is supplied complete in a high impact plastic carry case

**Ease of use.** Designed to allow users to become productive quickly due to its intuitive features, such as easy to navigate menus, tool database and Plug & Play integration with CAPTURE Sensors

**Fully Inclusive.** The following items are included with the Display and are stored in the Carry Case - USB Power Cable (for charging from Mains or PC and also used for data transfer), Power Supply (multi-national), Calibration Certificate, Start Up Guide and Instructions

**Long Life Battery.** Work for longer between battery charges as the unit is fitted with a long life Lithium-ion battery and has an auto power down mode

**Memory.** CAPTURE Display can store 500 tools and 2000 data readings in the onboard memory

**Versatility.** Design allows static laboratory use and mobile data collection using an onboard memory and rechargeable battery. The data can then be transferred to PC via USB connection



CAPTURE Display



CAPTURE Manager

Order Code	Model
038700	CAPTURE Display
038710	CAPTURE Manager - PC Software
038703	CAPTURE Display - 4 Way Switch
036226	CAPTURE Cable - CAPTURE Display to Custom Sensor
036246	CAPTURE Cable - CAPTURE Display to CAPTURE Sensor
036251	CAPTURE Cable - CAPTURE Display to SDX Screwdriver
036256	CAPTURE Cable - CAPTURE Display to ETX Wrench

## CAPTURE Sensor

Torque Range from 0.1 to 1500 N.m

The CAPTURE Sensor is part of the industry-leading CAPTURE system, providing highly accurate torque measurement for Hand and Power Torque Tools.

CAPTURE Sensor CS 10



CAPTURE Sensor with optional rundown fixture

**Calibrated range:** 10% to 100% of capacity

**Carry Case.** To protect the Sensor when not in use it is supplied in a high impact plastic carry case

**Flexible.** Built-in flexibility as the sensor can be mounted horizontally or vertically without the need for any accessories

**Ease of Use.** Fast to set up when used with a CAPTURE Display due to the imbedded Quicktec technology that passes all the Sensor information to the Display

**Optional Torque Loading System.** Remove human error from testing by using the CAPTURE Sensor with the ISO 1500/90° Torque Loading System (**Adaptor required – see page 79**)

**Quick Change Plate.** For users with limited space who need to change Sensors between tests the Quick Change Plate increases calibration productivity

**UKAS Certification.** Sensors come complete with a UKAS certificate to BS 7882: class 1 or better

Order Code	Model	Range	Drive	k mm H x W x D	mm H x W x D	Hole Centres (mm)	Mounting Hole Size	Fixings Supplied
038802	CS 1.5	0.1-1.5 N.m	1/4	62 x 85 x 65	0.50	56	M8 x 1.25 (10 Deep Min)	M8 x 50 *
038805	CS 2	0.2-2 N.m	1/4	62 x 85 x 65	0.50	56	M8 x 1.25 (10 Deep Min)	M8 x 50 *
037110	RF 2 Rundown	0.2-2 N.m	1/2	-	0.50	-	-	M4 x 8
038807	CS 5	0.5-5 N.m	1/4	62 x 85 x 65	0.50	56	M8 x 1.25 (10 Deep Min)	M8 x 50 *
037120	RF 5 Rundown	0.5-5 N.m	1/2	-	0.50	-	-	M4 x 8
038810	CS 10	1-10 N.m	1/4	62 x 85 x 65	0.50	56	M8 x 1.25 (10 Deep Min)	M8 x 50 *
038815	CS 25	2.5-25 N.m	3/8	62 x 85 x 65	0.50	56	M8 x 1.25 (10 Deep Min)	M8 x 50 *
037130	RF 25 Rundown	2.5-25 N.m	1/2	-	0.50	-	-	M4 x 8
038820	CS 50	5-50 N.m	3/4	62 x 85 x 65	0.57	56	M8 x 1.25 (10 Deep Min)	M8 x 50 *
038825	CS 100	10-100 N.m	1	62 x 85 x 65	0.60	56	M8 x 1.25 (10 Deep Min)	M8 x 50 *
038830	CS 250	25-250 N.m	1 1/2	82 x 120 x 87	1.45	79	M12 x 1.75 (16 Deep Min)	M12 x 1.75 *
038835	CS 500	50-500 N.m	2	82 x 120 x 87	1.6	79	M12 x 1.75 (16 Deep Min)	M12 x 1.75 *
038845	CS 1500	150-1500 N.m	3	100 x 165 x 134	4.00	125	M16 x 2.0 (20 Deep Min)	M16 x 90 *

\* Socket Cap Head Screw

## CAPTURE Hub

The Gedore Torque CAPTURE Hub is the latest addition to the industry-leading Capture range of calibration equipment and is available from 2017. A lineside torque analyser for production power tools, it provides highly accurate measurement

both clockwise or anti clockwise, as well as hand tools if required, and incorporates an integrated Screen and Sensor. It is portable enough to be used as part of a mobile calibration centre and robust enough to be used in a production environment.



### CAPTURE Hub: the latest addition to the Capture range

**Calibrated range.** 10% to 100% of capacity

**Easy to Repair.** Modular design allows for simple component replacement

**Cost-effective.** Minimise investment, as the CAPTURE Hub is designed to be a standalone solution, or to integrate with customers' existing Capture components as well as other industry standard nominal 2mV/V Sensors

**Ease of use.** Intuitive software design is similar to CAPTURE Display allowing existing Capture users to be familiar with the architecture and new users to become productive quickly, with its easy to use menus and Plug & Play functionality

**Flexibility.** The CAPTURE Hub can integrate with CAPTURE Manager PC software (Order Code 038710) and users with extra Sensors can plug them directly into the external port on the side of the CAPTURE Hub. The unit can also be mounted horizontally or vertically to meet the existing setups of customers

**Long Life Battery.** Work for longer between battery charges as the unit is fitted with an improved long life Lithium-ion battery and has a customisable auto power down mode

**Carry Case.** To protect the CAPTURE Hub when not in use it is supplied in a high impact plastic carry case

**Calibration Certificate.** All CAPTURE Hub systems are supplied complete with in house Certificate which is traceable to International Standards. Accuracy +/-1% of reading. UKAS certification is available on request at additional cost

**Versatility.** The design allows static laboratory use and mobile data collection using an on-board memory and rechargeable battery. This means that the system can be used as part of mobile calibration centre and also at the point of use. The data can be transferred to PC via USB connection

**Yet more versatility.** Can be used with Optional Torque Loading System. Remove human error from testing by using the CAPTURE Hub with the ISO-A Loading System (**Adaptor required – see page 79**)

**Tool Storage and memory.** The CAPTURE Hub can store 50 tools and 2000 readings



Rundown fixture

**For more information:** Tool Selector; [gedore-torque.com/tool-selector](http://gedore-torque.com/tool-selector) Telephone; +44 (0) 1483 894 476  
Videos; [www.youtube.com/gedore-torque](http://www.youtube.com/gedore-torque) Email; [salesandrepairs@gedore-torque.com](mailto:salesandrepairs@gedore-torque.com)

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Order Code	Model	Range	Drive	k mm H x W x D	kg	Hole Centres (mm)
036910	CH 1	0.1-1 N.m	1/2"	50 x 200 x 110	0.50	56
036920	CH 2	0.2-2 N.m	1/2"	50 x 200 x 110	0.50	56
037110	RF 2 Rundown	0.2-2 N.m	1/2"	62 x 93 x 32	0.50	
036930	CH 5	0.5-5 N.m	1/2"	50 x 200 x 110	0.50	56
037120	RF 5 Rundown	0.5-5 N.m	1/2"	62 x 78 x 32	0.50	
036940	CH 25	2.5-25 N.m	3/8"	50 x 200 x 110	0.50	56
037130	RF 25 Rundown	2.5-25 N.m	1/2"	62 x 120 x 32	0.50	

## CAPTURE Manager

The CAPTURE Manager is PC Software that allows storage, management and analysis of tools and data readings. It is part of the

industry-leading CAPTURE system, providing highly accurate torque measurement for Hand and Power Torque.

### Data management and analysis.

Manage tool and test data through the CAPTURE Manager PC software. The software also makes analysing the data quick and easy through integration with Microsoft Excel®

### Data storage.

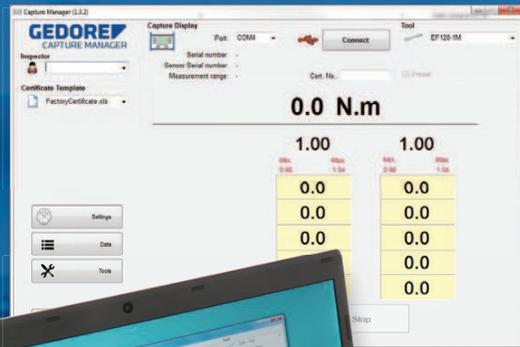
The CAPTURE Manager PC software allows unlimited storage of tools and data readings that can be uploaded and downloaded to the CAPTURE Display via USB connection

### Test Wizard.

Ensures tools are performing to the required standard through the ISO 6789 test wizard. This clear and easy to use feature guides the user through the test procedure

### Tool Calibration Certificates.

Tool traceability can be achieved as the CAPTURE Manager PC software can generate customised calibration certificates to the requirements of ISO 6789



CAPTURE Manager



## Rotary Torque Sensors

Torque range from 0.2 to 1400 N.m

These Sensors provide highly accurate torque measurement for Hand and Power Torque Tools. They can be used in conjunction with our CAPTURE Display or with your current Torque Analyser. Connect between tool and joint, to measure the actual torque being applied from the joint to the fastener.

**Accurate measurement.** These Sensors are designed to ensure your tightening process is within acceptable limits with a high degree of certainty. The Rotary Torque Sensor is the ideal torque-auditing tool for testing the actual torque being applied on the assembly application. By connecting a rotary torque sensor between an electric or pneumatic tool and assembly application, you can monitor the torque being applied from the tool to fastener or bolt

**Inline connection.** Designed to be placed inline with the tooling, they measure the actual torque being applied on the assembly application, accurate to 0.3% of maximum torque applied. By connecting a rotary torque sensor between an electric or pneumatic tool and assembly application, you can monitor the torque being applied from the tool to fastener or bolt

**UKAS certificates.** Rotary Sensors come complete with UKAS certificates to BS7882

**Versatile.** These Sensors are designed to be compatible with most industry standard devices

**Work with most Torque Analysers.** A cost effective solution, as in most cases, there is no need to upgrade



To download detailed Product Card go to [www.gedore-torque.com](http://www.gedore-torque.com)

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Want to know how to use this tool?



Order Code	Model	Calibrated Range		Maximum RPM		Width	Height	Depth	kg
		ISO	Drive	Continuous	Intermittent	mm	mm	mm	
036510	XR 2 HD	0.2-2 N.m	1/2"	5000	11000	116	56.0	68.0	0.21
036520	XR 5 HD	0.5-5 N.m	1/2"	5000	11000	116	56.0	68.0	0.21
036530	XR 20 HD	2-20 N.m	1/2"	5000	11000	116	56.0	68.0	0.21
036540	XR 20 SD	2-20 N.m	3/8"	5000	11000	71.5	56.0	71.5	0.20
036550	XR 75 SD	7.5-75 N.m	3/8"	2500	10000	77.0	56.0	74.0	0.24
036560	XR 180 SD	18-180 N.m	1/2"	2500	7600	87.0	58.0	82.5	0.43
036570	XR 500 SD	50-500 N.m	3/4"	2000	5000	106	60.0	93.5	0.78
036580	XR 1400 SD	140-1400 N.m	1"	1000	4400	125	64.5	104	1.50

Order Code  
038710 CAPTURE Manager - PC Software

## MTP & MTS Mechanical Torque Testers

Torque range from 0 to 25 N.m

Mechanical Torque Calibration Analysers that can be used in a many different situations to provide accurate measurement of torque values for hand-operated Torque Tools. These testers are portable, robust and do not require power.

## MTP & MTS Mechanical Torque Testers

MTP 10 & MTS 35, 130, 400, 1200 & 2500

**Accurate measurement.** Designed to monitor low torque values for Hand operated Torque Tools, providing +/-2% accuracy

**Ease of use.** Perfect for use by operators of any skill level, as the robust design eliminates the fear of damage caused by overloading

**Fast results.** The MTS Testers are designed to quickly give confidence that your Torque Tools are operating within limits. The easy to read analogue dial, peak torque and limit pointers all work together to give the operator instant confirmation of tool performance

**Long tool life.** High quality and robust design, with a two year warranty

**End Fittings.** Compatible with Setting adaptors see page 84

**Versatile.** Able to operate in a wide variety of environments and situations from shop floor to field operations as the MTS and MTP have no requirement for power

**Servicing.** Regular servicing is essential to ensure precision and consistent accuracy



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Order Code	Model	ISO	Calibrated Range		Drive	kg	Accuracy
			Imperial	Imperial			
058100	MTP 10	0-10 cN.m	0.5 cN.m	0-14 ozfin	1 ozfin	0.98	+/- 2%
058110	MTS 35	7-35 cN.m	0.5 cN.m	10-50 ozfin	0.5 ozfin	3.20	+/- 2%
058120	MTS 130	26-130 cN.m	2 cN.m	36-180 ozfin	2 ozfin	3.20	+/- 2%
058130	MTS 400	0.8-4 N.m	0.05 N.m	7-36 lbf-in	0.5 lbf-in	3.20	+/- 2%
058140	MTS 1200	2.4-12 N.m	0.2 N.m	24-120 lbf-in	2 lbf-in	3.20	+/- 2%
058150	MTS 2500	5-25 N.m	0.5 N.m	44-220 lbf-in	5 lbf-in	3.20	+/- 2%

## DREMOTEST E Torque Calibration Analysers

Torque range from 0.2 to 3000 N.m

Robust, accurate Torque Calibration Analysers that are ideal for Hand Torque Tools covering a wide torque range, in a Workshop or Repair environment.

**Accurate measurement.** Easy to use, robust Torque Calibration Analysers providing +/-1% accuracy

**Data management capability.** A RS 232 output allows data to be exported to Hyper Terminal Software

**Full set of Accessories.** Drive adaptor, mains lead, connectors and Certificate of Calibration all included

**Long Service Life.** Simple lightweight design, backed up by a full Aftersales and Recalibration Service

**Versatility.** Five models available covering a range from 0.2 to 3000 N.m

**Value for money.** A comprehensive package, at a competitive price compared to traditional Mechanical Analysers



DREMOTEST E 12

DREMOTEST E 55

Order Code	Model	Calibrated Range			Drive	kg	Accuracy
		ISO	Resolution	Imperial			
2288311	DREMOTEST E 12	0.2-12 N.m	0.001 N.m	1.8-106 lbf.in	0.001 lbf.in	2.60	+/- 1%
1947699	DREMOTEST E 55	0.9-55 N.m	0.01 N.m	0.7-40 lbf.ft	0.01 lbf.ft	2.60	+/- 1%
1856111	DREMOTEST E 320	9-320 N.m	0.1 N.m	7-236 lbf.ft	0.1 lbf.ft	2.60	+/- 1%
1947702	DREMOTEST E 1100	90-1100 N.m	1 N.m	66-811 lbf.ft	1 lbf.ft	10.0	+/- 1%
2529858	DREMOTEST E 3000	500-3000 N.m	1 N.m	369-2214 lbf.ft	144 lbf.ft	26.0	+/- 1%

## ISO 1500/90° & ISO-A

### Torque Loading Systems

Versatile Torque Loading Systems that enable precise Torque calibration and testing, up to a surprisingly high level of torque, to be undertaken on your own premises. Accurate and easy to use, the possibility of human error or variation is eliminated.

**Accurate.** These Torque Loading Systems enable the accurate testing of all Torque Wrenches within their given range, whilst removing the possibility of human error or variation

**Adaptable.** An easy adjustment system to suit the individual Torque Wrench being calibrated

**Easy to use.** 1200:1 Gearbox requires low operator effort, therefore torques as high as 1500 N.m can be achieved with ease

**Improved in-house capability.** Torque calibration and testing can be carried out on your own premises, eliminating the need to use external suppliers

**ISO accreditation.** Meets the International Standard ISO 6789 for the calibration of Torque Wrenches



ISO 1500/90° Torque Loading System



ISO-A Torque Loading System

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Order Code	Model	Maximum Capacity		Maximum Tool Length		kg
		ISO	Imperial	k	mm	
014300	ISO 1500/90° Torque Loading System	1500 N.m	1107 lbf.ft	1350		32.0
014400	Torque Master ISO-A Torque Loading System	30 N.m	22 lbf.ft	300		8.75
D18204	E-tp Mounting Kit	30 N.m	22 lbf.ft	300		1.60
D18205	CAPTURE Sensor & CAPTURE Hub ISO-A Mount	30 N.m	22 lbf.ft	300		3.40
038771	CAPTURE Sensor ISO 1500/90° Adaptor	1500 N.m	1107 lbf.ft	-		2.60

## Special Torque Tool Projects

### Introduction

Our 80 years experience and expertise as the leading producer of torque tools mean that we are able to meet the needs of our customers for tools to meet the most exacting and specialised torque applications.

At our UK site, the world's most advanced and fully-integrated torque tool manufacturing facility, we are able to combine innovative expert engineering design skills with our high quality core product range to produce bespoke tools.

For our customers, this means that whatever challenges they are facing, we are able to find cost-effective solutions. For the Royal Navy (see right-hand facing page), we were able to help save money and lives. Your needs may be less dramatic, but we will take them just as seriously.

#### **In this section you will find further information about:**

Custom Tool Kit Designs

Tailor-made Torque Screwdrivers and Wrenches

Private Label Torque Tools

#### **HMS Illustrious: the power of precision**

*The correct application of torque guarantees the safety, reliability and longer life of products. This was certainly the case when Gedore Torque worked with the Ministry of Defence and the Royal Navy to build a custom tool kit for maintaining lifejackets on ships like the famous aircraft carrier, HMS Illustrious. With more than 1,000 crew and Flight Arm personnel on HMS Illustrious alone, that's a serious task. Said Petty Officer Keith Spiller, responsible for the project, 'At the end of the day, by applying exactly the correct level of torque to the equipment, we're saving lives – and we're also saving money.'*

