

# Mecmesin

testing to perfection

## Digital Force & Torque Gauges



# Advanced Force Gauge


## Outstanding accuracy combined with extensive features

The Advanced Force Gauge (AFG) is the most versatile and fully-featured digital force gauge on the market. It can be used hand-held or fixed to a manual or motorised test stand to allow testing under controlled speed conditions. The AFG is fitted with a high-precision “internal” loadcell accurate to  $\pm 0.1\%$  of full scale. For added flexibility the AFG is able to recognise data from a range of external ‘Smart’ force and torque sensors, so you can use it as a universal display for remote applications (see pages 5 to 10).

### Key Features:

- Accuracy  $\pm 0.1\%$  of full-scale
- 10 capacities - from 2.5 N to 2500 N
- Peak capture - Ultimate max + 1st peak
- Data output - RS232, digimatic and analogue
- Pass/Fail Alarms - audible and visual
- Overload warning with trend bar
- Wide range of grips and fixtures

**RS232, Mitutoyo, Analogue data output** for easy data transmission. A calibrated analogue output can be supplied as an option

 RS232 to Bluetooth adaptor (optional extra)

**Recognises data from a range of external force & torque transducers** see pages 5-10

**View the 1st peak and ultimate peak readings**  
On-board memory stores up to 500 readings

**Highly Accurate to  $\pm 0.1\%$  full-scale**

**Internal loadcell stud for quick and easy change of accessories and fixtures.** Loadcell stud 10-32 UNF male (5/16 UNC male for AFG 1000 N & 2500 N)

**Audible & visual pass/fail alarms** set a threshold for immediate alert when limits are exceeded

**Measurements made in N, kN, mN, lbf, ozf, kgf and gf** with a sampling rate of 5000 Hz

**Reversible display** - view readings even when the gauge is positioned away from you

**Rugged metal housing** ideal for factory or outdoor use



## AFG Specification Table - Capacity & Resolution (eg 250 N x 0.05 N)

Model	Part No.	mN	N	kN	gf	kgf	ozf	lbf
AFG 2.5	850-412	2500 x 0.5	2.5 x 0.0005	-	250 x 0.05	-	9 x 0.002	0.55 x 0.0001
AFG 5	850-413	5000 x 1	5 x 0.001	-	500 x 0.1	0.5 x 0.0001	18 x 0.005	1.1 x 0.0002
AFG 10	850-414	10000 x 2	10 x 0.002	-	1000 x 0.2	1 x 0.0002	35 x 0.01	2.2 x 0.0005
AFG 25	850-415	25000 x 5	25 x 0.005	-	2500 x 0.5	2.5 x 0.0005	90 x 0.02	5.5 x 0.001
AFG 50	850-416	50000 x 10	50 x 0.01	-	5000 x 1	5 x 0.001	180 x 0.05	11 x 0.002
AFG 100	850-417	-	100 x 0.02	-	10000 x 2	10 x 0.002	350 x 0.1	22 x 0.005
AFG 250	850-418	-	250 x 0.05	-	25000 x 5	25 x 0.005	900 x 0.2	55 x 0.01
AFG 500	850-419	-	500 x 0.1	-	50000 x 10	50 x 0.01	1800 x 0.5	110 x 0.02
AFG 1000	850-420	-	1000 x 0.2	1 x 0.0002	-	100 x 0.02	3500 x 1	220 x 0.05
AFG 2500	850-421	-	2500 x 0.5	2.5 x 0.0005	-	250 x 0.05	9000 x 2	550 x 0.1

- Accuracy  $\pm 0.1\%$  of full scale
- Full scale deflection of loadcell typically 0.5 mm
- Operating temperature 10°C - 35°C

AFG shown mounted to the MultiTest-*d* motorised test stand



The dual level design of the keypad ensures that operation of this powerful gauge is simple, thereby making it ideal for use from production shop floor to R&D.

Housed in an ergonomically shaped, rugged aluminium case, the AFG is powered by either mains-adaptor or standard rechargeable AAA batteries.

All models carry CE marking and are supplied in a robust carrying case with standard accessories and a calibration certificate traceable to UK national standards.

See page 14 for details of accessories supplied.

versatile  
rugged  
accurate



Pull test on anchorage points



Compression test on medical device

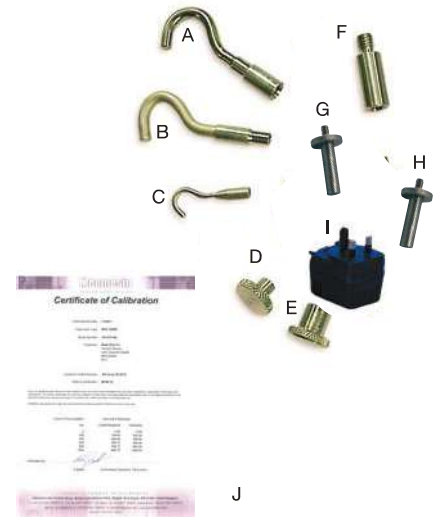


AFG and accessories shown in carry case

# Accessories

Each Mecmesin gauge comes with a set of standard accessories to help perform basic tension or compression tests.

A wide selection of accessories exclusive to Mecmesin are available. See our Accessory Catalogue for an extensive range of grips and fixtures, to enable you to complete thousands of different tests. Alternatively make use of our experienced team of engineers to provide a customised grip to solve your particular problem.



- A** 6 mm Ø - 5/16 UNC thread (432-122)
- B** 6 mm Ø - 10-32 UNF (F) (432-120)
- C** 3.2 mm Ø - 10-32 UNF (F) (432-118)
- D** 19 mm Ø - 10-32 UNF (F) (432-121)
- E** 19 mm Ø - 5/16 UNC (F) (432-125)

- F** 30 mm long - 5/16 UNC (F-M) (432-008)
- G** 30 mm - 10-32 UNF (F) to 10-32 UNF (M) (432-006)
- H** 30 mm - 10-32 UNF (F) to M6 (M) (432-007)
- I** Mains adaptor/charger (304-004) - 220V 2-pin round (304-005) - 220V 3-pin square (304-006) - 110V 2-pin flat
- J** Calibration certificate traceable to national standards

\* Part numbers shown in brackets

**Table of standard accessories delivered with each gauge:**

Model	Capacity	A	B	C	D	E	F	G	H	I	J
AFG	2.5, 5, 10, 25, 50 N			•	•			•	•	•	•
AFG	100, 250, 500 N		•		•			•	•	•	•
AFG	1000, 2500 N	•				•	•			•	•
BFG	10, 50 N			•	•			•	•	•	•
BFG	200, 500 N		•		•			•	•	•	•
BFG	1000, 2500 N	•				•	•			•	•
CFG+	50 N			•	•			•	•		
CFG+	200 N		•		•			•	•		
CFG+	500 N		•		•			•	•		

## Service & Calibration

Mecmesin ensures all customers receive a high level of on-going service and support. This includes offering a prompt and cost-effective calibration service. Though calibrations can be completed in our comprehensive in-house facility, customers also have the option of our on-site calibration service.



## Mecmesin - a world leader in affordable force and torque testing solutions

Since 1977, Mecmesin has assisted thousands of companies achieve enhanced quality control in design and production. The Mecmesin brand represents excellence in accuracy, build, service, and value. In production centres and research labs worldwide, designers, engineers, operators, and quality managers endorse Mecmesin force and torque testing systems for their high performance across countless applications.

[www.mecmesin.com](http://www.mecmesin.com)



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The Mecmesin global distribution network guarantees your testing solution is rapidly delivered and efficiently serviced, wherever you are.



FS 58553

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE

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