

CHATILLON® DG Series Mechanical Force Gauge

Operating Instructions

The DG Series mechanical force gauge is ideal for a wide range of force testing applications. Based on our popular DPPH Series force gauge, the DG Series features a 2.25-inch dial for improved resolution and readability, peak hold button, ergonomic shape and improved accuracy of $\pm 0.5\%$ of full scale. The DG gauge is an excellent, economical solution for tensile or compression testing.

The DG series gauge can be used as a hand held device with a handle adapter assembly that can be purchased separately. Gauges may be mounted to a test stand for even greater control and consistent results in repetitive testing applications. Easy to read concentric dial measures clockwise direction only. Dial rotates 360-degrees for taring. A peak hold button captures peak readings. Available in lbf, kgf or N units of measure. DG Series gauges come complete with protective carrying case and a set of stainless steel attachments. A Certificate of Calibration with Data is supplied standard.



CAUTION

The DG Series is a unidirectional force gauge. When applying a load to the instrument the dial indicator **MUST** rotate in the clockwise direction.

OPERATION

The zero point of the gauge may not always be in the 12 o'clock position due to gravity effects and the weight of fixtures or grips on the force gauge shaft. To zero the gauge, rotate the bezel on the dial indicator so that the indicator pointer lines up with the zero on the dial face.

Gauges are designed for axial loading. Ensure the load is not applied at an angle or an error can be introduced in the force readings. The gauges are designed to have a 10% tare for fixtures and grips. If this 10% tare is exceeded, the force gauge may not measure up to full scale.

Compression Testing

For compression testing, assemble the appropriate attachment or grip to the bottom shaft of the force gauge. For compression testing the shaft should be pushed into the gauge, causing the indicator to rotate in the clockwise direction. Attachments should be applied "finger-tight". Do NOT overtighten.



Tensile Testing

For tension testing, assemble the appropriate hook, attachment or grip to the top shaft of the force gauge. For tension testing the shaft should be pulled out of the top of the force gauge, causing the indicator to rotate in the clockwise direction. Attachments should be applied "finger-tight". Do NOT overtighten.



CAUTION

Do not apply a load to the DG Series force gauge so the indicator rotates in the counterclockwise direction. If excessive loads are applied in the counterclockwise direction, damage may occur to the force gauge.

PEAK HOLD

The DG Series force gauge has a maximum hold feature. This allows the peak force to be held after the load is removed.

Activate Peak Hold

To activate this feature, rotate the knob to "MAX ON" position.

Reset Peak Hold

To reset the reading, simply rotate the switch to "MAX OFF" and then return back to "MAX ON" position. To deactivate this feature, rotate the knob to the "MAX OFF" position.



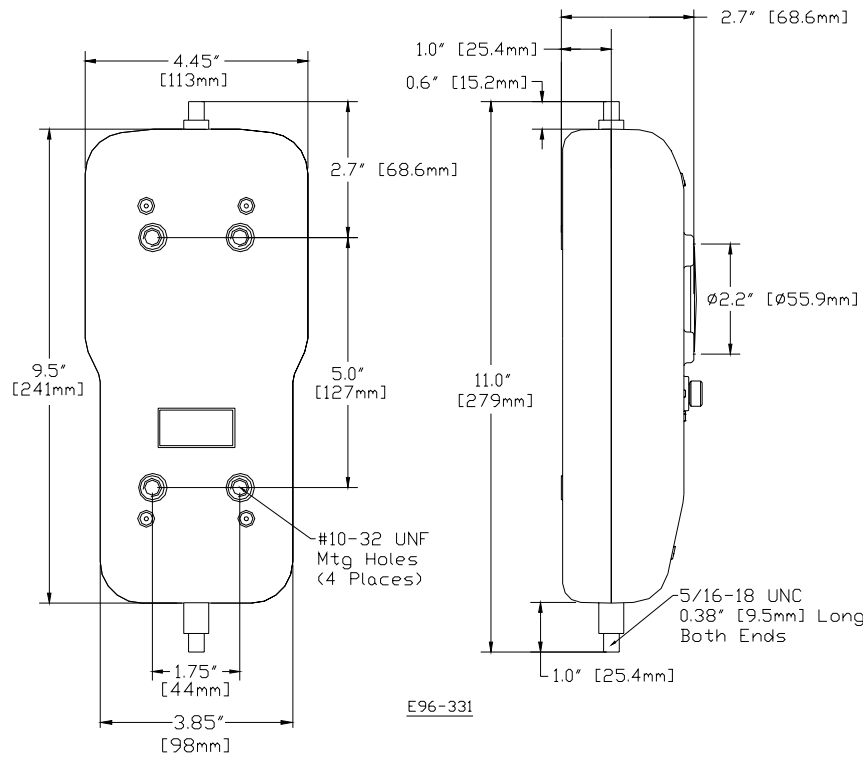
SPECIFICATIONS

Accuracy:	±0.5% of Full Scale
Overload Capacity:	110% of Rated Capacity
Maximum Overload:	150% of Rated Capacity
Tare Capacity:	10% of Rated Capacity
Dial Resolution:	0.5% of Full Scale
Deflection:	10mm (.394 inches) at Full Scale
Operating Temperature:	+40°F to +110°F (+5°C to +45°C)
Instrument Weight:	4.7 lbs (2.12 kg)
Shipping Weight with case:	8.4 lbs (3.80 kg)
Warranty:	2 Years

TEST STAND MOUNTING

The DG Series force gauge has four #10-32 female threads for mounting to CHATILLON test stands. Ensure the #10-32 screws are not too long, otherwise it may bind and damage the force gauge.

The screw thread length going into the back of the gauge should not exceed 3/8 inch.



ORDERING INFORMATION

Decimal Dials (LBF)

Model	Capacity x Resolution
DG-200	200 x 1.0 lbf
DG-300	300 x 1.5 lbf
DG-400	400 x 2.0 lbf
DG-500	500 x 2.5 lbf

S.I. Dials (Newtons)

Model	Capacity x Resolution
DG-1000N	1000 x 5.0 N
DG-2500N	2500 x 12.5 N

Metric Dials (KGF)

Model	Capacity x Resolution
DG-100KG	100 x 0.50 kgf
DG-250KG	250 x 1.25 kgf

ACCESSORIES

Part No.	Description
SPK-FMG-008C	Chisel Point
SPK-FMG-009B	Point
SPK-FMG-010B	Notch
SPK-FMG-011B	Flat
SPK-FMG-012C	Hook, Stationary, 500 lbf
SPK-FMG-013B	Extension Rod, 6"
NC002728	Carrying Case, DG
NC002737	Operator's Manual, DG
SPK-DG-HANDLE ¹	Handle Assembly
ML3868 ¹	Hook, Swivel, 500 lbf



Notes: ¹ Optional accessories.

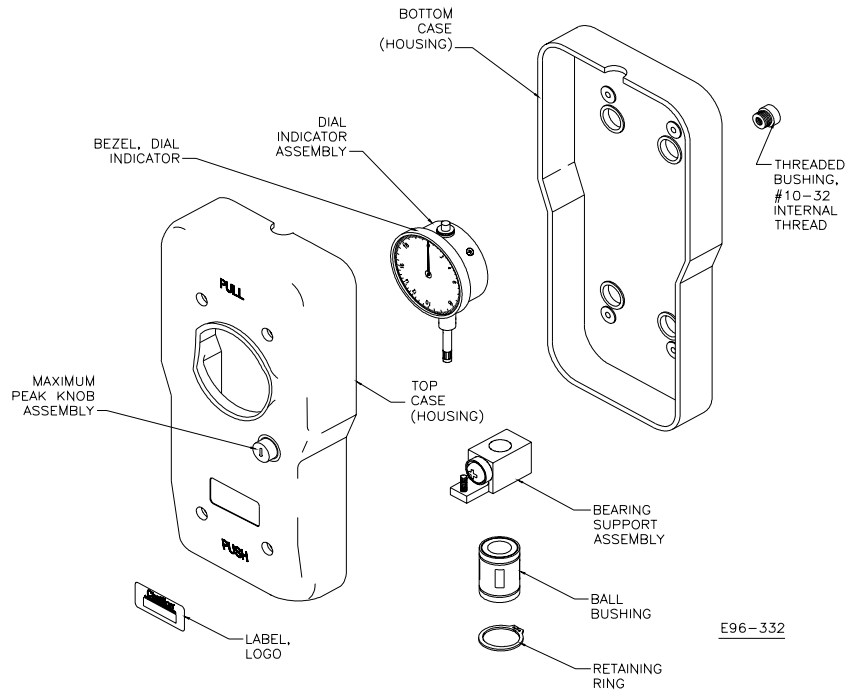
MAINTENANCE

Gauge accuracy should be checked periodically to ensure the gauge is within its calibration limits. The calibration can be verified by applying known weights (adjusted for local gravity) to the extension hook. If adjustment is required, the gauge should be returned to AMETEK for calibration.

SPARE PARTS

Description	Part Number
Dial Indicator Assembly, DG-200	NC002677-09
Dial Indicator Assembly, DG-300	NC002677-10
Dial Indicator Assembly, DG-400	NC002677-11
Dial Indicator Assembly, DG-500	NC002677-12
Dial Indicator Assembly, DG-100KG	NC002677-21
Dial Indicator Assembly, DG-250KG	NC002677-22
Dial Indicator Assembly, DG-1000N	NC002677-32
Dial Indicator Assembly, DG-2500N	NC002677-33

Description	Part Number
Bezel, Dial Indicator	NC002716
Bearing Support Assembly	NC002738
Top Case (Housing)	NC002730
Bottom Case (Housing)	NC002731
Maximum Peak Hold Knob Assembly	NC002678
Threaded Bushing, #10-32 Internal Thread	NC002691
Label, Gauge Model	NC002621
Ball Bushing	910-04-001
Retaining Ring, Ball Bushing	900-46-010



PRODUCT WARRANTY

This instrument is warranted against defects in workmanship, material and design for two (2) years from the date of delivery to the extent that AMETEK will, at its sole option, repair or replace the instrument or any part thereof which is defective provided, however, that the warranty shall not apply to instruments subjected to tampering or abuse, or exposed to highly corrosive conditions.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED AND AMETEK HEREBY DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. AMETEK SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, ANY ANTICIPATED OR LOST PROFITS.

This warranty is voidable if the purchaser fails to follow any and all instructions, warnings or cautions in the instrument's operation manual.

If a manufacturing defect is found, AMETEK will replace or repair the instrument or replace any defective part thereof without charge; however, AMETEK's obligation hereunder does not include the cost of transportation which must be borne by the customer. AMETEK assumes no responsibility for damage in transit, and any claims for such damage should be presented to the carrier by the purchaser.



TEST STAND APPLICATIONS

The DG Series is ideal for test stand applications. Shown above with the MT150L Series mechanical test stand and used to perform spring rate testing.

AMETEK
TEST AND CALIBRATION INSTRUMENTS

Internet Addresses:
www.ametek.com
www.chatillon.com
www.lloyd-instruments.co.uk

Americas

AMETEK Test and Calibration

Instruments Division

8600 Somerset Drive

Largo, Florida 33773

USA

Tel +1-727-536-7831

Tel +1-800-527-9999 (USA only)

Fax +1-727-539-6882

Europe

AMETEK Lloyd Instruments

Forum House

12 Barnes Wallis Road

Segensworth East

Fareham

Hampshire PO 15 5TT

Tel +44 (0) 1489-486399

Fax +44 (0) 1489-8851118

AMETEK Lloyd Instruments SA

3 Avenue des Coudriers

Zone d'Activite de l'Observatoire

7810 Montigny-Le-Bretonneux

France

Tel +33-1-3057-4774

Fax +33-1-3057-5033

AMETEK Precision

Instruments Europe GmbH

Rudolf-Diesel-Strasse 16

D-40670, Meerbusch

Germany

Tel +49-2-159-9136 0

Fax +49-2-159-9136 39

Asia Pacific

AMETEK Lloyd Instruments

No. 7 Sherwood Place

Alexander Heights

6064 Perth

Australia

Tel +61-8-9343-5725

Fax +61-8-9343-5723

AMETEK Singapore Pvt. Ltd.

10 Ang Mo Kio Street 65

#05-12 TECHPOINT

Singapore

569059

Tel +65 484 2388

Fax +65 481 6588

AMETEK and CHATILLON are registered trademarks of AMETEK, Inc.
LLOYD INSTRUMENTS is an AMETEK Inc. trademark

Information within this document is subject to change without notice.

**ISO 9001
ISO 17025
Manufacturer**