

# User's Guide



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## DFG81 AND DFG82 Mechanical Force Gauges



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**USA and Canada:** Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®  
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It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

**WARNING:** These products are not designed for use in, and should not be used for, patient connected applications.

## GENERAL OPERATION

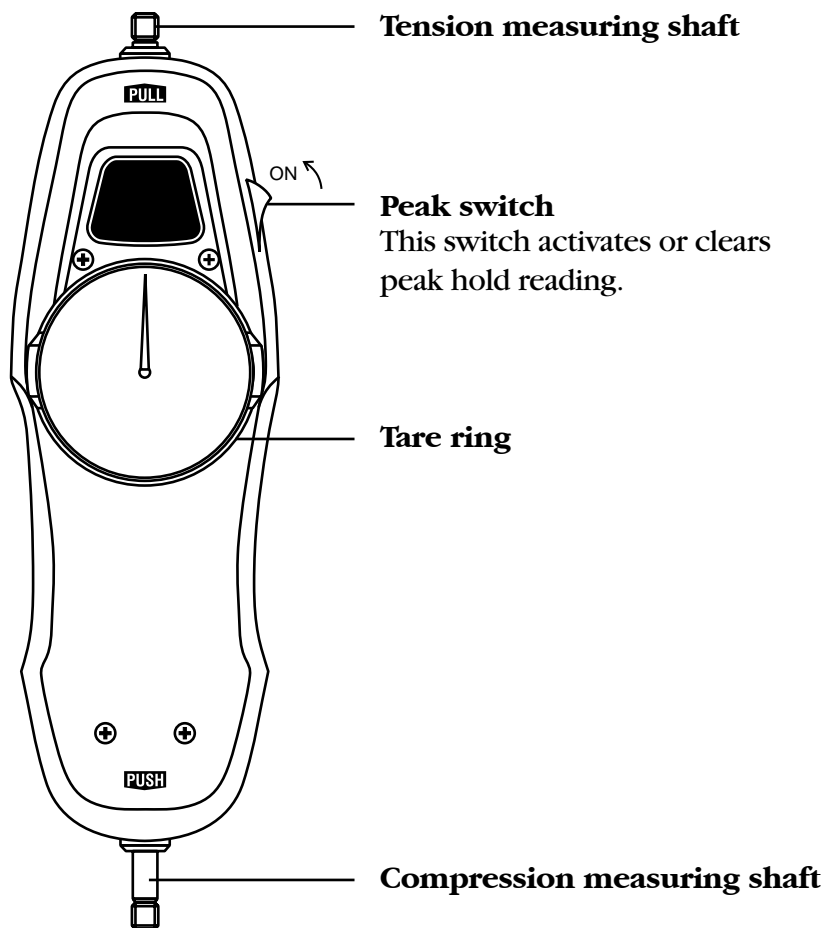
1. Press Peak Switch OFF.
2. Hand tighten (no tool!) selected attachment to the measuring shaft.
3. Rotate Tare Ring to read "0" to tare the weight of attachment and measuring shaft orientation.
4. Begin measuring.

**Real Time Mode:** the Peak Switch is OFF and the gauge displays force as it changes. During Real Time Mode, you can hold a critical reading by turning the Peak Switch to the ON position.

**Peak Mode:** the Peak Switch is ON and the gauge will retain highest reading taken which will not change until a higher value is measured. Turn the Peak Switch OFF to zero the gauge and turn it ON again to measure Peak values.

## PRECAUTIONS

1. Do not exceed capacity of unit.
2. Do not use the tension shaft to measure compression or the compression shaft to measure tension.
3. When mounting DFG81/DFG82 to stand, use M3 mounting screws with a maximum insertion depth of 8mm into the gauge.
4. Accuracy may be affected if unit is exposed to high humidity, dust or extreme shock.
5. Do not apply oil or chemical soap which causes corrosion or dust adhesion.
6. Do not remove warranty seal or disassemble gauge. Disassembly voids warranty.



**DFG82 Ranges (Resolution) Accuracy: DFG82±0.1% F.S.**

Pounds		Kilograms		Newtons	
Model	Capacity (Resolution)	Model	Capacity (Resolution)	Model	Capacity (resolution)
DFG82-2	2 lb (0.01 lb)	DFG82-1 KG	1 kg (5 g)	DFG82-10 N	10 N (0.05 N)
DFG82-5	5 lb (0.025 lb)	DFG82-2 KG	2 kg (10 g)	DFG82-20 N	20 N (0.1 N)
DFG82-10	10 lb (0.05 lb)	DFG82-3 KG	3 kg (20 g)	DFG82-30 N	30 N (0.2 N)
DFG82-20	20 lb (0.1 lb)	DFG82-5 KG	5 kg (25 g)	DFG82-50 N	50 N (0.25 N)
		DFG82-10 KG	10 kg (50 g)	DFG82-100 N	100 N (0.5 N)
DFG82-30	30 lb (0.2 lb)	DFG82-20 KG	20 kg (100 g)	DFG82-200 N	200 N (1 N)
DFG82-50	50 lb (0.25 lb)	DFG82-30 KG	30 kg (200 g)	DFG82-300 N	300 N (2 N)
DFG82-100	100 lb (0.5 lb)	DFG82-50 KG	50 kg (250 g)	DFG82-500 N	500 N (2.5 N)

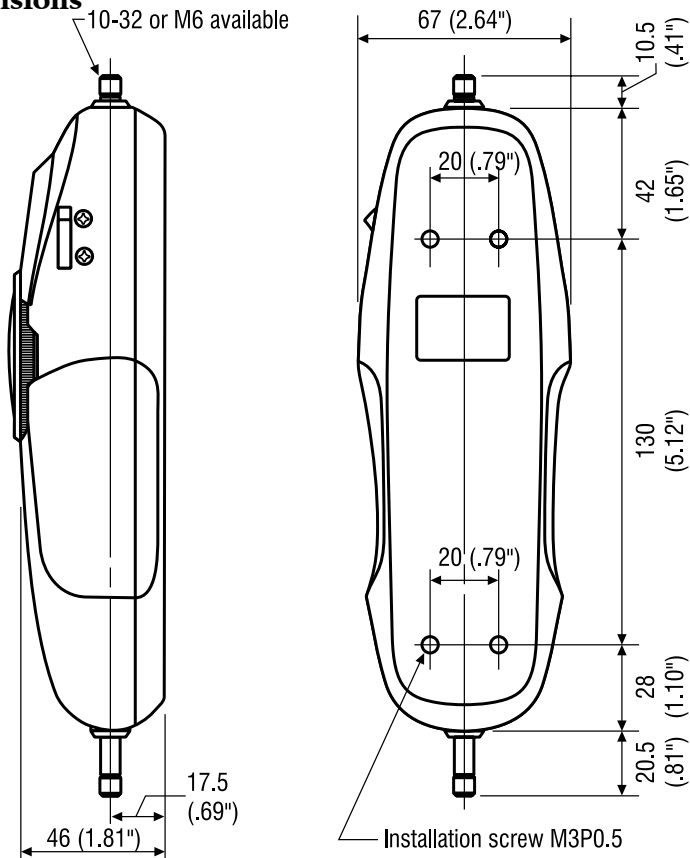
Overload capacity: 165 lbs. for all ranges    Stroke: 10 mm F.S.

**DFG81 Ranges (Resolution) Accuracy: DFG81 ±0.3% F.S.**

Pounds		Kilograms		Newtons	
Model	Capacity (Resolution)	Model	Capacity (Resolution)	Model	Capacity (Resolution)
DFG81-2	2 lb (0.02 lb)	DFG81-1 KG	1 kg (10 g)	DFG81-10 N	10 N (0.1 N)
DFG81-5	5 lb (0.05 lb)	DFG81-2 KG	2 kg (20 g)	DFG81-20 N	20 N (0.2 N)
DFG81-10	10 lb (0.1 lb)	DFG81-3 KG	3 kg (25 g)	DFG81-30 N	30 N (0.25N)
DFG81-20	20 lb (0.2 lb)	DFG81-5 KG	5 kg (50 g)	DFG81-50 N	50 N (0.5 N)
		DFG81-10 KG	10 kg (100 g)	DFG81-100 N	100 N (1 N)
DFG81-30	30 lb (0.25 lb)	DFG81-20 KG	20 kg (200 g)	DFG81-200 N	200 N (2 N)
DFG81-50	50 lb (0.5 lb)	DFG81-30 KG	30 kg (250 g)	DFG81-300 N	300 N (2.5 N)
DFG81-100	100 lb (1 lb)	DFG81-50 KG	50 kg (500 g)	DFG81-500 N	500 N (5 N)

Overload capacity: 165 lbs. for all ranges    Stroke: 10mm F.S.

**Dimensions**



**When installing be sure to keep the depth to 8mm**



## WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit should malfunction, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

**OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.**

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

## RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. P.O. number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. P.O. number to cover the COST of the repair,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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- ☑ Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- ☑ Wire: Thermocouple, RTD & Thermistor
- ☑ Calibrators & Ice Point References
- ☑ Recorders, Controllers & Process Monitors
- ☑ Infrared Pyrometers

## PRESSURE, STRAIN AND FORCE

- ☑ Transducers & Strain Gauges
- ☑ Load Cells & Pressure Gauges
- ☑ Displacement Transducers
- ☑ Instrumentation & Accessories

## FLOW/LEVEL

- ☑ Rotameters, Gas Mass Flowmeters & Flow Computers
- ☑ Air Velocity Indicators
- ☑ Turbine/Paddlewheel Systems
- ☑ Totalizers & Batch Controllers

## pH/CONDUCTIVITY

- ☑ pH Electrodes, Testers & Accessories
- ☑ Benchtop/Laboratory Meters
- ☑ Controllers, Calibrators, Simulators & Pumps
- ☑ Industrial pH & Conductivity Equipment

## DATA ACQUISITION

- ☑ Data Acquisition & Engineering Software
- ☑ Communications-Based Acquisition Systems
- ☑ Plug-in Cards for Apple, IBM & Compatibles
- ☑ Datalogging Systems
- ☑ Recorders, Printers & Plotters

## HEATERS

- ☑ Heating Cable
- ☑ Cartridge & Strip Heaters
- ☑ Immersion & Band Heaters
- ☑ Flexible Heaters
- ☑ Laboratory Heaters

## ENVIRONMENTAL MONITORING AND CONTROL

- ☑ Metering & Control Instrumentation
- ☑ Refractometers
- ☑ Pumps & Tubing
- ☑ Air, Soil & Water Monitors
- ☑ Industrial Water & Wastewater Treatment
- ☑ pH, Conductivity & Dissolved Oxygen Instruments