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TECHNOLOGY GROUP

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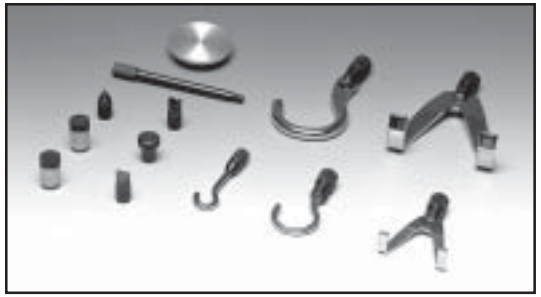
Find the *Wagner FDL2* at our website: *Click HERE*



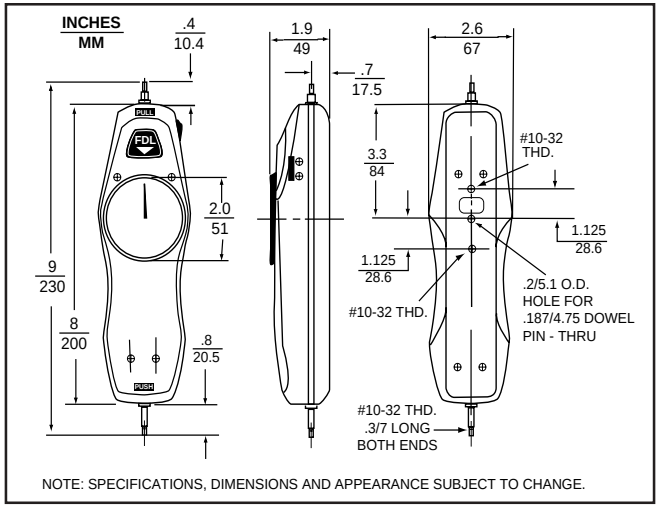
FDL shown on FTS test stand.

Warranty and Limitation of Liability: Wagner Instruments expressly warrants to its buyer for one year from the date of purchase that the goods sold shall be free from defects in workmanship and materials under normal conditions. Wagner Instruments will, at its option, replace, repair, or refund in full, the purchase price of the instrument or any part thereof which in our opinion is defective, provided the instrument has not been subjected to tampering, abuse or exposed to highly corrosive conditions. An instrument that has been improperly used cannot be considered under this warranty. We make no warranties, expressed or implied, including, without limitation, any warranties of fitness or merchantability, except as expressly set forth above, we shall not be liable for any anticipated or lost profits, incidental damages, consequential damages, costs, time charges, or other losses in connection with the instrument or replacement parts thereof. If a manufacturing defect is found, we will replace or repair the instrument or any defective part thereof without charge; however, our obligation hereunder does not include the cost of transportation which must be borne by the customer. We assume no responsibility for damage in transit, and any claims for such damage should be presented to the carrier by the purchaser. In addition, we may, at our option, take back the defective instrument and refund, in full settlement, the purchase price thereof.

1/97 fdl1000



Optional accessories.





FDL shown with optional handles.

WAGNER FORCE DIAL™
Push-Pull Force Gage

OPERATION MANUAL
FDL SERIES



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FORCE DIAL™
MODEL FDL FORCE GAGE

- **CAPACITIES: 2 TO 100 LB**
- **TENSION & COMPRESSION**
- **DUAL GRADUATIONS**
- **PEAK FORCE HOLD**
- **EASY-TO-READ 2" DIAL**
- **ACCURACY: ± 0.3% F.S.**
- **AMERICAN STANDARD THREADS**

The Wagner Force Dial™ Model FDL features dual graduations and an ergonomic design. It is available in seven models with dual graduations in pounds and kilograms ranging from 2 through 100 pounds and an impressive ±0.3% accuracy.The FDL mounts directly onto Wagner test stands and since mounting holes on the FDL are American standard threads, it is easily mounted onto other single column test stands with optional mounting adapters. Optional handles and a variety of gripping fixtures are available.

MODEL	CAPACITY/GRADUATION	
FDL 2	2 lb x 0.02 lb	1 kg x 0.01 kg
FDL 6	6 lb x 0.05 lb	3 kg x 0.025 kg
FDL 10	10 lb x 0.1 lb	5 kg x 0.05 kg
FDL 20	20 lb x 0.2 lb	10 kg x 0.1 kg
FDL 40	40 lb x 0.25 lb	20 kg x 0.2 kg
FDL 60	60 lb x 0.5 lb	30 kg x 0.25 kg
FDL 100	100 lb x 1 lb	50 kg x 0.5 kg

ACCESSORIES

FD/HDL	Handles
FD/RT	Rubber Tip
FD/HS	Hinged Hook - Small
FD/HL	Hinged Hook - Large
FD/CS	Hinged Cradle - Small
FD/CL	Hinged Cradle - Large
FD/A-1	Aluminum Hook - Small
FD/A-2	Flat Head
FD/A-3	Cone Point
FD/A-4	Chisel Head
FD/A-5	Vee Tip
FD/A-6	Extension Rod

OPERATION

- Prior to using the FDL, the accuracy should be verified by testing with weights - see “CALIBRATION” section.
- Forces must be applied to the load shaft only in an axial manner. Applying a load at an angle can cause an error in readings and possibly damage the gage.
- Force measurements can be made with the FDL in any position - pull at the top and push at the bottom - since changes in the pointer’s zero system due to the effect of gravity are compensated by rotating the dial bezel.
- Attachments installed on the shaft should be tightened by finger. Use of a tool may create a torque load on the shaft causing internal damage to the gage.
- Lubrication of the FDK/FDN is not recommended since oil will accumulate dust resulting in increased friction and decreased accuracy.
- Use of the FDL below 25% of full scale may produce inaccurate results. Another model with a lower capacity may be necessary. The FDL is built to the accuracy stated herein, but may be used in the lower range of the dial if the gage is tested in that range and found to meet user requirements.
- Call Wagner Instruments with questions regarding the use of the FDL in your application.

PEAK FORCE HOLD

- The maximum force applied to the FDL may be retained for convenient reading by use of the maximum reading hold switch located on the upper right side of the gage. The peak reading is saved by the pointer remaining at the maximum force applied after the force has been removed. To activate the peak feature press the switch to “ON”. To release the peak and return the pointer to zero, press the switch to “OFF”.

CALIBRATION

- The overall accuracy of the FDL is ±0.3% of full scale. To calculate the possible error in lb or kg of your FDL multiply the gage capacity by .003.

  Example for an FDL 100:

  100 lb x 0.003 = ± 0.3 lb

  Thus, the possible error can be ±0.3 lb at any reading on the dial from 0-100 lb.
- Prior to shipping, the FDL is calibrated with certified test weights. Since rough handling during shipment may affect the accuracy of the FDL, it is recommended that the accuracy be verified prior to use by suspending one or more known weights on the FDL.
- Periodical testing of the FDL accuracy should be performed with certified test weights. It is suggested that weights be suspended on the securely mounted gage at 1/4, 1/2, 3/4 and full capacity.
- Do not attempt to re-calibrate the FDL. If it is found inaccurate contact Wagner Instruments.
- When using the FDL, position the pointer by rotating the dial to the “ZERO” position before applying force to the gage.

MOUNTING

- Mounting holes are provided on the rear surface of the FDL for mounting the gage to a test stand or fixtures. The mounting hole pattern is compatible with many existing test stands. The pattern contains 2 #10-32 threaded holes, 2 1/4 ” apart on the vertical centerline. A third 3/16” unthreaded clearance hole is provided for a dowel pin, found on some test stands for suspension of the force gage. Mounting screws should not penetrate the gage by more than 5/16”.

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