Chatillon® force measurement

Digital Force Gauge
DFX II Series

» **Four Models**
(10 lbf, 50 lbf, 100 lbf, and 200 lbf)

» **Normal and Peak Operating Modes**

» **Selectable Units of Measurement**
- ozf, gf, lbf, kgf and N
- Units may be locked to prevent changing

» **Measurement Accuracy**
- Accuracy ±0.3% Full Scale
- Mechanical Overload Protection to 150% Full Scale

» **Simple Operator Interface**
- High Resolution Display
- Menus, Prompts and Dedicated Function Keys for Easy Use
- Load Bargraph

» **Selectable Display Languages**
English, Spanish, French, German, Portuguese and Chinese

» **Battery Operated with Automatic Shutoff Power Saver**
- 70 to 100 hours of continuous use with rechargeable NIMH battery pack
- Supplied with Universal Battery Eliminator (US, UK, Euro style plugs)

» **Supplied with standard Certificate of Conformance**
- Optional Certificate of Calibration with NIST available

» **1 Year Warranty**

The CHATILLON® DFX Series is an economical digital force gauge ideal for applications where users are interested in basic peak force measurement. The DFX is available in four capacities (10lbf, 50 lbf, 100 lbf, 200 lbf) and features an integral loadcell with a measurement accuracy of better than 0.3% full scale. The DFX Series operates using a rechargeable NiMH battery pack and can operate using the supplied universal charger as well. The battery eliminator is supplied with a US, UK and EURO style plug. Under battery operation, the DFX Series will operate for 70 to 100 hours of continuous use. A large, easy-to-read, high resolution dot matrix LCD display supports a variety of standard gauge functions including normal and peak readings. Loads are displayed in ozf, gf, lbf, kgf and N units. The display language may be setup to indicate in English, Spanish, French, German, Portuguese and Chinese. The DFX Series' calibration procedure is included in the gauge's setup. The DFX Series force gauges come with a carrying case, universal battery charger, flat and hook adapters. The DFX Series is supplied with an optional Certificate of Calibration with NIST data.

ISO 9001 Manufacturer

AMETEK®
TEST & CALIBRATION INSTRUMENTS

Because You Expect More from a Chatillon Gauge...

Battery Status
View the current battery power remaining on your rechargeable battery pack.

Normal Display
Shows the current load being applied to the sensor. Indicates load direction.

Peak Display
Shows the peak (maximum) load that was applied to the sensor during a test.

Overload Display
Shows the overload history for the force gauge. Indicates the number of overloads that occurred in both the tension and compression direction.

Load Bargraph
Shows the load being applied to the internal sensor graphically. Indicates overload conditions and zero offset.

Rugged Construction
Cast aluminum housing and integral mechanical overload protection are designed into the DFX.

Simple Accessory Connection
Gauge has either #10-32 or 5/16-18 male threads depending on gauge capacity. Supplied standard with Flat adapter and Hook. A wide assortment of optional accessories are available.

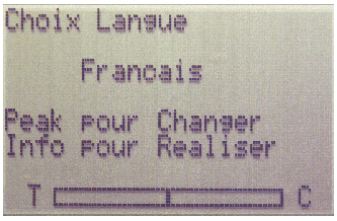
Power Save Mode
Gauge has a power save feature that automatically shuts down power to the gauge when there has been no activity. Saves battery life.

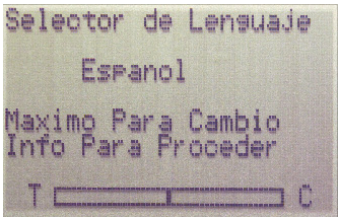
Units Lock
Select the desired units of measurement. Units may be "locked" to your desired measurement type: ozf, gf, lbf, kgf or N.

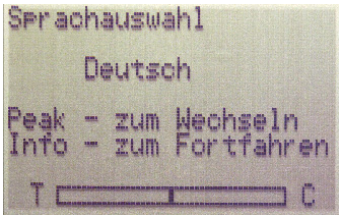
Load Direction Indicator
Shows the direction of load being applied to the internal sensor.

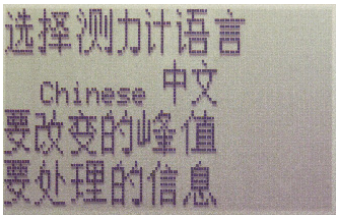
Simple Keypad
Gauge operation simple using fours keyes: Peak, Units, Zero and Info.

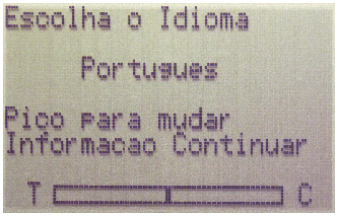
PEAK- change from Normal to Peak mode
UNITS- select desired units of measurement
ZERO- used to zero or tare
INFO- for gauge setup and status reviews











Universal Battery Charger
Universal Battery Charger includes a US, UK and EURO plug.
Connects to a 120V/240V source outlet.

Language Setup
Let's you select the desired display language for your DFX. Information may be displayed in English, Spanish, French, German, Portuguese and Chinese.

Configuration Procedure
Let's you validate or calibrate your DFX. The calibration procedure is included in the gauge setup. Just follow the step-by-step prompts.

Ordering

DFX II Series with Certificate of Calibration (NIST)

Model	ozf	gf	lbf	kgf	N
DFX2-010-NIST	160 x 0.2	5000 x 5	10 x 0.01	5 x 0.005	50 x 0.05
DFX2-050-NIST	800 x 1	25000 x 20	50 x 0.05	25 x 0.02	250 x 0.2
DFX2-100-NIST	1600 x 2	50000 x 50	100 x 0.1	50 x 0.05	500 x 0.5
DFX2-200-NIST	-	-	200 x 0.2	100 x 0.1	1000 x 1

DFX Series with Certificate of Conformance

Model	ozf	gf	lbf	kgf	N
DFX2-010	160 x 0.2	5000 x 5	10 x 0.01	5 x 0.005	50 x 0.05
DFX2-050	800 x 1	25000 x 20	50 x 0.05	25 x 0.02	250 x 0.2
DFX2-100	1600 x 2	50000 x 50	100 x 0.1	50 x 0.05	500 x 0.5
DFX2-200	-	-	200 x 0.2	100 x 0.1	1000 x 1

DFX II shown with the LTCM-100 Tester

DFX Series Accessories

Item	Capacity	Part No.	Included
Flat, #10-32	100 lbf (500 N)	SPK-FMG-011A	Standard[1]
Flat, 5/16-18	500 lbf (2.5 kN)	SPK-FMG-011B	Standard[1]
Hook, #10-32	50 lbf (225 N)	SPK-FMG-012A	Standard[1]
Hook, #10-32	100 lbf (500 N)	SPK-FMG-012B	Standard[1]
Hook, 5/16-18	200 lbf (2.5 kN)	SPK-FMG-012C	Standard[1]
Universal Battery Charger		SPK-DF2-UNIV	Standard
Carrying Case		SPK-DF-118	Standard
Chisel Point, #10-32	100 lbf (500 N)	SPK-FMG-008A	Optional
Chisel Point, 5/16-18	200 lbf (1 kN)	SPK-FMG-008B	Optional
Point, #10-32	100 lbf (500 N)	SPK-FMG-009A	Optional
Point	200 lbf (1 kN)	SPK-FMG-009B	Optional
Notch, #10-32	100 lbf (500 N)	SPK-FMG-010A	Optional
Notch	200 lbf (1 kN)	SPK-FMG-010B	Optional
Extension Rod, 6”	100 lbf (500 N)	SPK-FMG-013A	Optional
Extension Rod, 6”	200 lbf (1 kN)	SPK-FMG-013B	Optional
Adapter, #10-32 to #10-32		17160	Optional
5/8” Eye End Adapter to #10-32		SPK-EYE-1032F	Optional
Handle Assembly		SPK-DF-HANDLE	Optional
Pistol Grip		SPK-FMG-141	Optional
Soft Carrying Case		NC002845	Optional

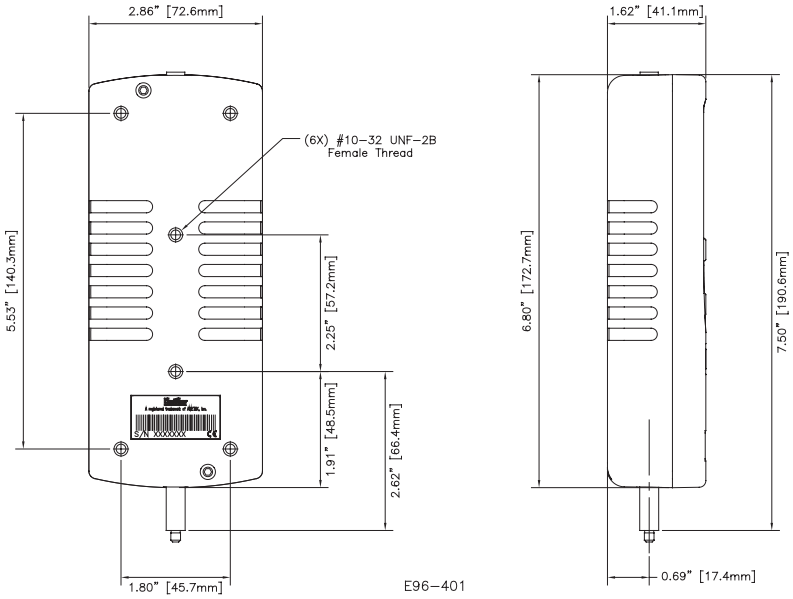
Note: [1] Accessories are Model dependent.

Test Stand Adapters

Item	Capacity	Part No.	Included
MT150 Series	150 lbf (660 N)	SPK-MT-0001	Optional
MT500 Series	500 lbf (2500 N)	SPK-MT-0004	Optional
LTCM Series	100 lbf (500 N)	Not Required	
TT Tester	500 lbf (2500 N)	NC002582	Optional

DFX II Gauge with standard accessories

Dimensions - DFX Series



Specifications

Accuracy:	±0.3% of full scale
Certification:	Certificate of Conformance (std). NIST Traceable and 17025 calibration (opt)
Data Sampling Rate:	1000 Hz
Peak Capture Rate:	1000 Hz
Display Update Rate:	250mS
Tare Capacity:	110% full scale
Overload Protection:	150% full scale
Display Characteristics:	High resolution, dot-matrix LCD, 8 lines, 21 characters,
Automatic Shut Down:	30 minutes. May be disabled.
Power:	NiMH battery pack or use with Universal Battery Charger
Battery Life:	Approximately 70 to 100 hours, continuous use.
Instrument Weight:	1.5 lbs (0.7 kg)
Shipping Weight:	4 lbs (1.8 kg) with accessories
Warranty:	1 year
Storage Temperature:	0 to 130^{0}F (-17 to 54^{0}C)
Operating Temperature:	40 to 110^{0}F (4 to 43^{0}C)
Temperature Stability:	Better than 0.03% of rated output per ^{0}F
Relative Humidity:	20% to 85%

Conformance

The Chatillon DFX Series has been accessed against the essential health and safety requirements of the Low Voltage and the EMC Directives listed and found to be in compliance.

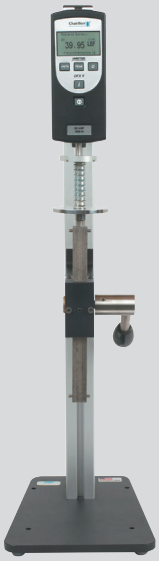
BS EN 61010-1:2001	Safety Requirement for Electrical Equipment
BS EN 61000-6-3:2001	EMC Generic Emission Standard
BS EN 61000-6-1:2001	EMC Generic Immunity Standard

Loadcell Deflection Specifications

The following are the specified loadcell deflection values at full capacity.

Capacity	Deflection
10 lbf (50N)	0.010" ±0.004"
50 lbf (250N)	0.010" ±0.004"
100 lbf (500N)	0.010" ±0.004"
200 lbf (1000N)	0.010" ±0.004"

ISO 9001/2000
ISO/IEC17025
Manufacturer



AMETEK Test & Calibration Instruments
A business unit of AMETEK Measurement & Calibration Technologies offering the following industry leading brands for test and calibration instrumentation.

Chatillon Force Measurement
Chatillon has been a hallmark in the industry since 1835. The hand held gauges and motorized testers have earned their reputation for quality, reliability and accuracy and they represent the de facto standard for force measurement.

Lloyd Instruments
Materials Testing Solutions
Materials testing machines and software from Lloyd Instruments guarantee the highest level of performance and capability for production testing, quality control, laboratory testing, research and education to provide expert materials testing solutions.

Davenport Polymer Test Equipment
Allows critical polymer parameters to be determined, including melt flow index and melt flow rate, intrinsic viscosity (IV) measurement of moisture-sensitive PET polymers and polymer density measurement.

Texture Analysers
The comprehensive program provides the platform to perform rapid, general food testing and detailed texture analysis on a diverse range of foods.

Newage Testing Instruments
Newage offers a comprehensive range of hardness testers, durometers, optical systems and software for measurement, data acquisition and analysis.

JOFRA Calibration Instruments
The inventor of the portable high precision dry-block temperature calibrators. The calibration instruments program also covers precision thermometers and temperature baths, temperature sensors hand held instruments for pressure calibration and process signal calibrators for easy control loop calibration, measurements and simulation.

M&G Pressure Testers & Pumps
Pneumatic floating-ball or hydraulic piston dead weight testers with accuracies to 0.015% of reading.

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