

# DFX Series Digital Force Gauge

Specification Sheet

SS-FM-3010-0807

August 2007

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 (10 lbf, 50 lbf, 100 lbf, 200 lbf) and features an integral loadcell with a measurement accuracy of better than 0.5% full scale. The DFX Series operates using two (2) 9Vdc alkaline batteries or using the standard battery eliminator. The battery eliminator is supplied with a US, UK and EURO style plug. Under battery operation, the DFX Series will operate for over 120 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, battery eliminator, flat and hook adapters. The DFX Series is supplied with an optional Certificate of Calibration with NIST data.

## Features

- ❑ 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  $\pm 0.5\%$  Full Scale
  - Mechanical Overload Protection to 150% Full Scale
- ❑ Simple Operator Interface
  - High Resolution Display
  - Menus, Prompts and Function Keys for Easy Use
  - Load Bargraph
- ❑ Selectable Display Languages (English, Spanish, French, German, Portuguese, Chinese)
- ❑ Battery Operated with Automatic Shutoff Power Saver
  - Over 120 hrs of continuous use with two 9Vdc alkaline batteries
  - 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 Direct Replacement for the  
Chatillon DFM Series!**



**You Get More with Your CHATILLON Gauge.**

# Because You Expect More from a Chatillon Gauge...

## Battery Status

View the current battery power remaining on your two 9Vdc alkaline batteries.

## 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.

## Universal Battery Eliminator

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



## 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.

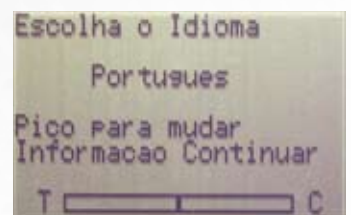
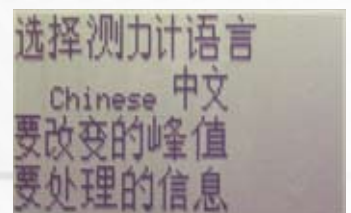
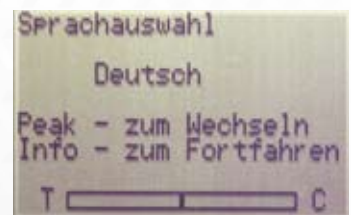
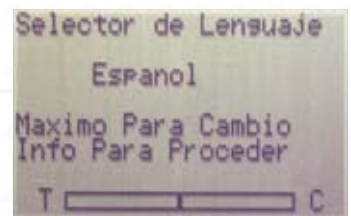
## Load Direction Indicator

Shows the direction of load being applied to the internal sensor.

## Simple Keypad

Gauge operation simple using four keys: 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



## 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 Series with Certificate of Calibration (NIST)

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



DFX 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 <sup>1</sup>
Flat, 5/16-18	500 lbf (2.5 kN)	SPK-FMG-011B	Standard <sup>1</sup>
Hook, #10-32	50 lbf (225 N)	SPK-FMG-012A	Standard <sup>1</sup>
Hook, #10-32	100 lbf (500 N)	SPK-FMG-012B	Standard <sup>1</sup>
Hook, 5/16-18	200 lbf (2.5 kN)	SPK-FMG-012C	Standard <sup>1</sup>
Battery Eliminator (US, UK, EURO Plug)		SPK-DFX-UBE	Standard
Carrying Case		SPK-DFX-159	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

Note: <sup>1</sup> 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
TCM201 Series	225 lbf (1000 N)	SPK-FM200-019	Optional
TCD200 Series	225 lbf (1000 N)	SPK-FM200-019	Optional

### Specialty Medical Kits

Item	Part No.
DFX Dynamometer, Basic Medical	M-DFX-200
DFX Dynaometer, Advanced Medical	K-DFX-200

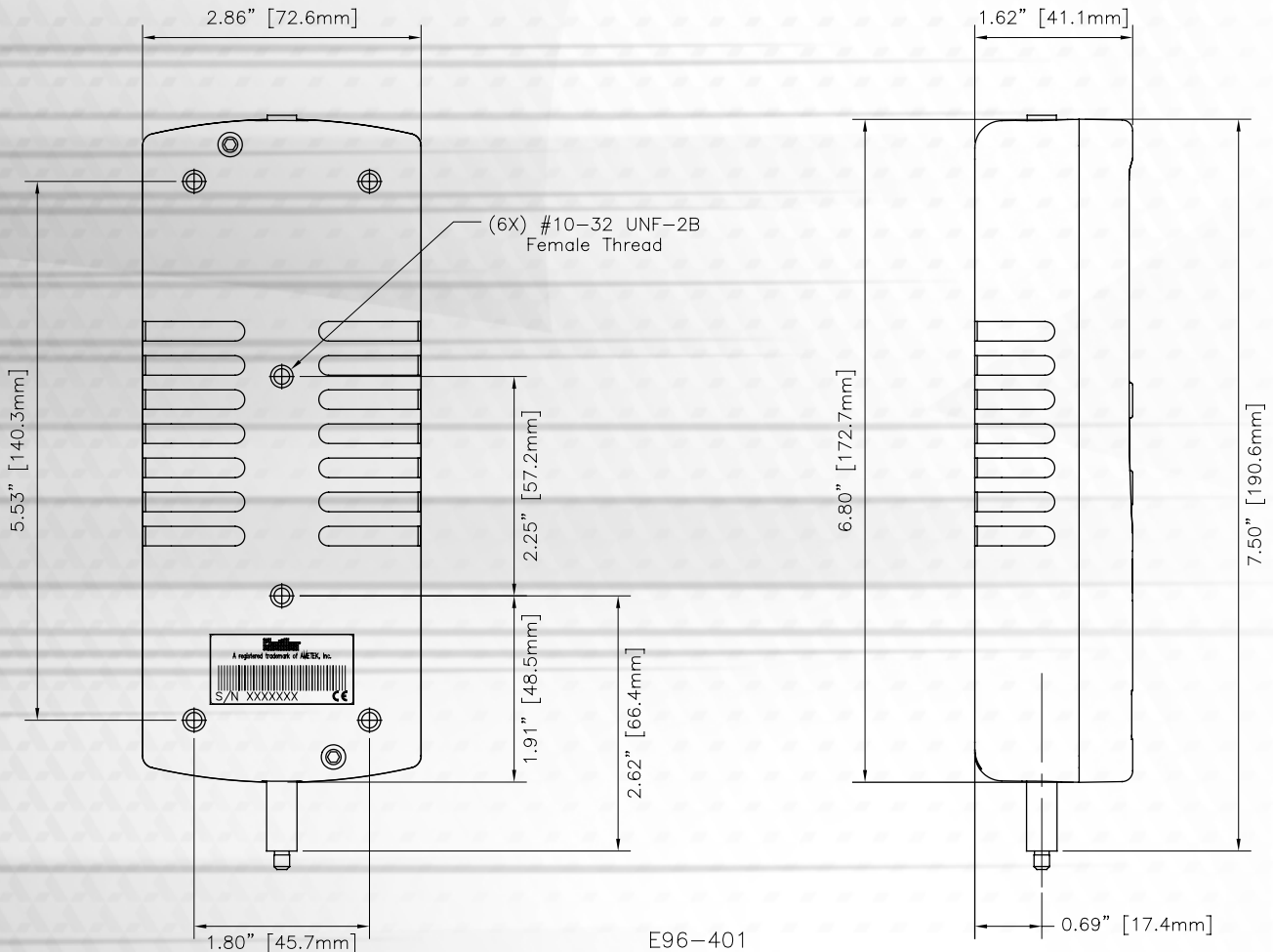


DFX Gauge with standard accessories



K-DFX-200 Advanced Medical Package

## Dimensions - DFX Series



## Specifications

<b>Accuracy:</b>	±0.5% of full scale
<b>Certification:</b>	Certificate of Conformance (standard). Calibration with NIST Data, IEC/ISO17025 (optional).
<b>Data Sampling Rate:</b>	1000 Hz
<b>Peak Capture Rate:</b>	1000 Hz
<b>Display Update Rate:</b>	250mS
<b>Tare Capacity:</b>	110% full scale
<b>Overload Protection:</b>	150% full scale
<b>Display Characteristics:</b>	High resolution, dot-matrix LCD, 8 lines, 21 characters,
<b>Automatic Shut Down:</b>	30 minutes. May be disabled.
<b>Power:</b>	Two (2) 9Vdc Alkaline Batteries or Battery Eliminator
<b>Battery Life:</b>	Approximately 120 hours, continuous use.
<b>Instrument Weight:</b>	1.5 lbs (0.7 kg)
<b>Shipping Weight:</b>	4 lbs (1.8 kg) with accessories
<b>Warranty:</b>	1 year

<b>Storage Temperature:</b>	0° to 130°F (-17° to 54°C)
<b>Operating Temperature:</b>	40° to 110°F (4° to 43°C)
<b>Temperature Stability:</b>	Better than 0.03% of rated output per °F
<b>Relative Humidity:</b>	20% to 80%

### Conformance

The Chatillon DFX Series has been assessed 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

The DFX Series is a RoHS and WEEE compliant device.

### 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"

# AMETEK

MEASUREMENT & CALIBRATION TECHNOLOGIES

For the authorized Chatillon Distributor or Manufacturer's Representative near you, go to [www.chatillon.com](http://www.chatillon.com)

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