



METROLOGY SOLUTIONS

The DFC may be used as a high-accuracy handheld force gage or as a digital controller for use with the FMM Digital Force Testers. As a controller, the DFC Series serves as the universal interface to your digital force tester. Set up your tests and configure load limits, distance limits, break limits, crosshead travel direction, crosshead speed and more all through the gage.

The DFC features a measurement accuracy of 0.1% full scale with internal data sampling at 25kHz. Display resolution is 10,000:1. The DFC features Bluetooth®, USB and RS-232 communications plus digital I/O.

Save up to 99 test results in internal memory. View historical and statistical results.

The DFC features a high-resolution 320 x 240 pixel color display with an adjustable backlight. The instrument is powered using a lithium ion battery. The gage is charged using the standard USB cable supplied. Information can be displayed in multiple languages: English, Deutsch, Portugues, Spanish, French, Italian, Chinese and more.

The DFC is supplied with a full set of testing adapters, USB cable and a NIST-traceable certificate of calibration. The DFC has a standard 3-year warranty.

Specification	DFC				
Accuracy, Full Scale	0.10%				
Data Sampling (Hz)	25,000				
Display Resolution	10,000:1				
Safe Overload, Full Scale	200%				
Maximum Tare	10%				
Communications					
Bluetooth®	Yes				
USB 2.0	Yes				
RS-232	Yes				
Digital I/O	2 channels				
Memory, saved results max.	99				
Operating Mode					
Machine Control1	Yes				
Real Time	Yes				
Peak Compression	Yes				
Peak Tension	Yes				
Load Limit	Yes				
Break Limit	Yes				
Load Average	Yes				
Load-Time Average	Yes				
Cyclic Count, Max.	99,999				
Cyclic Duration, Max.	27 Hrs.				
Hold Duration, Max.	27 Hrs.				
Coefficient of Friction	Yes				
Power, Environmental					
Battery Type	Lithium Ion				
Battery Life, @ 20% brightness	>30 hours				
Charge Time, using 110/240V	<3 hours				
Display (OLED)	320 x 240				
Operating Temperature	40°F to 110°F (4°C to 43°C)				
Thread, for adapters (Metric)	M6, M10				
Instrument Weight (approx.)	3 lbs (1.36 kgs)				
CE Compliance					
EN61010-1					
Safety for Electrical Equipment					
EN61000-6-3					
EMC Generic Emissions					
ENG1000-6-1					
EMC Generic Immunity					



Machine control is exclusive to the DFC. When connected to the FMM Digital Force Tester, configuration of force gage and tester is performed through the gage.







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FOR ADVANCED AND BASIC TESTING APPLICATIONS

The DFC Digital Force Gage can be used as a handheld instrument for basic applications or as a force sensor when used with a FMM Digital Force Tester, MTL and MTH Manual Tester. Listed are the various test methods that can be performed:

- · Limit Testing Use load, distance or a break condition and report results at the limit including maximum load and distance at maximum load.
- Load Average Testing The load average test measures the load from the start and end of a test sequence.
- Time Average Testing Set a time duration for a test. When load is measured at the start of the test, the test concludes at the end of the time duration. Average load is measured.
- Cyclic Count Testing Define the number of cycles, up to 99,999 to be completed.
- Cyclic Duration Testing Define the duration of cycles, up to 27 hours to be completed.
- · Constant Hold Testing Hold at a distance or load for creep and relaxation results. The maximum duration is 27 hours.

DFC - Advanced Force Controller										
	Load Capacity				Full Scale Deflection		Thread	Accessory		
Model	N	KGF	LBF	0ZF	GF	in	mm	mm	Kit	
DFC-2	10	1	2	32	900	0.013	0.33	M6 x 1-6H	SPK-FG-A	
DFC-5	25	2	5	80	2200	0.007	0.18	M6 x 1-6H	SPK-FG-A	
DFC-10	50	5	10	160	5000	0.006	0.15	M6 x 1-6H	SPK-FG-S	
DFC-20	100	10	20	320	9000	0.008	0.20	M6 x 1-6H	SPK-FG-S	
DFC-50	250	25	50	800	23,000	0.015	0.39	M6 x 1-6H	SPK-FG-S	
DFC-100	500	50	110	1600	45,000	0.024	0.60	M6 x 1-6H	SPK-FG-S	
DFC-200	1000	100	225	-	-	0.021	0.54	M6 x 1-6H	SPK-FG-M	
DFC-500	2500	250	550	-	-	0.028	0.70	M10 x 1.5-5H	SPK-FG-L	



NOTES

Load measurement accuracy is $\pm 0.1\%$ of load cell capacity. Display resolution is 10,000:1.









