AMETEK®

SENSORS, TEST & CALIBRATION

Chatillon® force measurement

- High quality Digital and Analog Force Gauges
- High-precision Force Testing Machines
- Specialized Force Testing Software
- Extensive range of grips, fixtures, couplings and sensors

FORCE MEASUREMENT INSTRUMENTS

About Us

AMETEK Sensors, Test & Calibration is one of the world's leading manufacturers of Force Measurements Instruments. This includes a wide variety of testing as for the Industries of; Plastics, Metals, Textile, Rubber, Paper, Food, Chemical, Aerospace, Defense, Automotive, Military, Packaging, Construction Cosmetics and many more…

We design, manufacture and deliver products under the well known brands; Chatillon Force Measurement, Chatillon Scales, Lloyd Material Testing, Davenport Polymer Testing and Newage Hardness Testing.

Chatillon has a global network of sales and service centers and authorized distributors who have expertise to provide assistance with the most challenging force testing applications. Our force measurement products are used in a host of applications and markets within production, quality assurance and R&D.

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COMPLETE RANGE OF INSTRUMENTS AND FORCE TESTING MACHINES DESIGNED TO SOLVE BOTH **SIMPLE AND COMPLEX** FORCE MEASUREMENT APPLICATIONS

Material Analysis

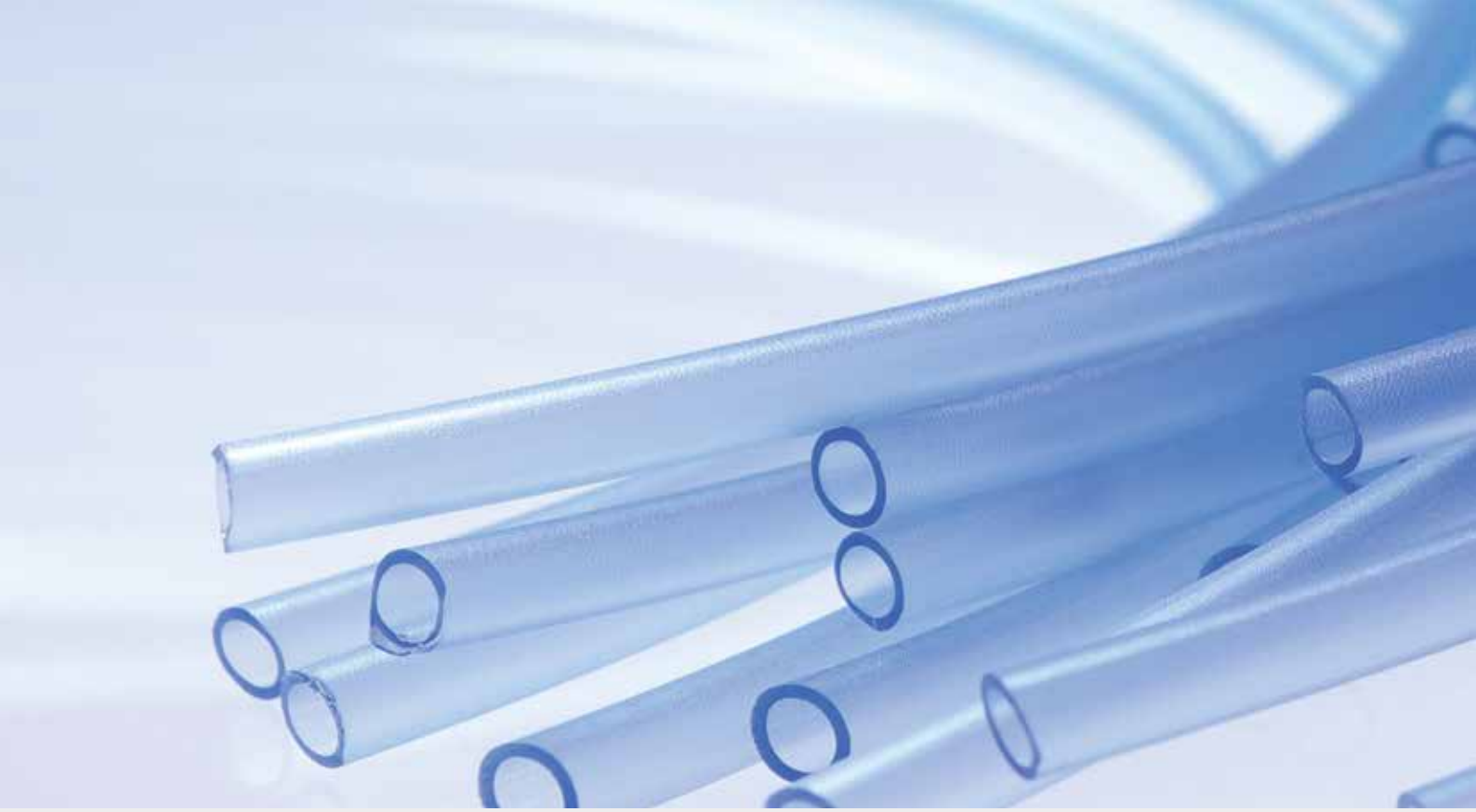
Automation and Reporting

Repeatable Speed and Load Travel

Intuitive User Friendly Screens and Menus

Break Detection, Statistics (SPC), Automatic Data Capture

Force Measurement; peak and average



Applications

The versatility of our instruments and fixtures allow you to test a variety of materials to specific applications.

Customers crave innovation, reliability, performance and high quality. Companies expect shorter product-to-market cycle times, lower manufacturing costs and improved profitability. Basically, you're expected to do more with less while ensuring customer safety, satisfaction and, ultimately, loyalty.

Our products will help you deliver dependable and reliable products that meet customers requirements and standards.

Medical Device Manufacturing

- Adhesives
- Artificial Skin
- Aspirators
- Balloons
- Compression Stockings
- Dental Materials
- Dialysis Catheters
- Electrosurgical Cables
- Feeding Tubes
- Guidewires
- Hypodermic Needles
- Medical Implants
- Lancets
- Luer Fittings
- Medical Tape
- Metered Dose Inhalers
- Ostomy Bags
- Prosthetics
- Syringes
- Staples
- Stents
- Sutures
- Surgical Screws
- Tapes

Components

- Automotive Tubing
- Bricks & Tile
- Building Materials
- Clutch Release Systems
- Crimp Strength
- Electronic Connectors
- Electronic Switches
- Electronics Insertion/Extraction
- Keypads
- Magnets
- Membranes
- Pushbuttons
- Seat Belts
- Snaps & Connectors
- Springs
- Textiles
- Wire
- Wire Terminal Connections

Packaging

- Ampules
- Bottle Tops
- Blister Packs
- Burst Strength Testing
- Containers- Compression
- Containers- Constant Load
- Enclosures- Continuous Thread
- Enclosures- Snap Engagement
- Fasteners
- Fiberboard Strength
- Film Bond Strength
- Film Elastic Recovery
- Film Elastic Strength
- Film Penetration
- Foils
- Paperboard Tensile Strength
- Paperboard Bending
- Paperboard Burst Strength
- Paperboard Crush Resistance
- Peel Adhesion
- Polymers
- Pouches
- Tape Holding Strength
- Tape Tensile Strength
- Tape Unwinding Force
- Labels
- Seals

Food Texture and Analysis

- Adhesiveness
- Chewiness
- Cohesiveness
- Extensibility
- Firmness
- Fracturability
- Gumminess
- Resilience
- Stiffness
- Tackiness
- Toughness

Feel free to contact our experts for additional applications!

DIGITAL FORCE TESTERS

CS2 SERIES

- User friendly and intuitive 2-in-1 touch screen tablet
- Large, flexible work area
- Sample testing and quality assurance
- 2.5N to 5kN load cells

SPECIFICATIONS	
Max. Crosshead Travel	500 / 800mm (19.7 / 31.5 in)
Crosshead speed	0.01 to 1270mm/min (0.001 to 50 in/min)
	0.01 to 1016mm/min (0.001 to 40 in/min)
Speed Accuracy	±1% of selected speed
Data Sampling Rate	1000Hz
Operating temp.	5 to 35°C / 40 to 95°F

OPTIONAL ACCESSORIES
Wide range of Grips and Fixtures
Over 50 Interchangeable CLC Load Cells
CS to CS2 Upgrade kit - SPK CS2 0057

FORCE CAPACITY		
	LBF	N
CS2-225	225	1000
CS2-1100	1124	5000

The CS2 Series is a revolutionary tabletop tester optimized for production and R&D testing applications, including medical devices, plastics, packaging, textiles, rubber and electronics to name a few. No personal computer is required, no proprietary software is required, and no knowledge of programming languages is required.

Both models provide you with an easy-to-use, intuitive and straight-forward method for tensile testing, compression testing, sheer testing, flexural testing, peel testing or advanced multistage testing that conforms to ISO or ASTM testing procedures.

Both models have an adjustable T-Slot Table with US and Metric threads. With its one click operation on a robust and reliable touch screen, the CS2 Series is an excellent choice for simple testing applications.
For more information on the tablet see page 22.

DIGITAL FORCE GAUGES

DFS II SERIES

- Capacities from 0.5 to 500 lbf / 2.5 to 2500 N
- USB, RS-232 and analog communication
- Normal and Peak operating modes
- Integral or remote load cell
- Accuracy ±0.1% of Full Scale
- Sharp and % Break Contact Closure
- Force Test Software

See the Force Gauge Connection Diagrams at page 42.

FORCE RANGE			
	LBF	N	KGF
DFS2-250G	0.5x0.0001	2.5x0.0005	1x0.0001
DFS2-002	2x0.0002	10x0.001	1x0.0001
DFS2-010	10x0.001	50x0.005	5x0.0005
DFS2-025	25x0.002	100x0.01	10x0.001
DFS2-050	50x0.005	250x0.02	25x0.002
DFS2-100	100x0.01	500x0.05	50x0.005
DFS2-200	200x0.02	1000x0.1	100x0.01
DFS2-500	500x0.05	2500x0.2	250x0.02

SPECIFICATIONS	
Accuracy	±0.1% of Full Scale
Max. overload	150% of rated capacity
Tare capacity	10% of rated capacity
Resolution	1:10000
Data sampling rate	10 KHz
Peak capture rate	10 KHz
Display update rate	10 Hz
Operating temp.	5 to 45°C / 40 to 110°F

The DFS II Series offers the best price performance of any digital force gauge available.

This compact force gauge is designed for basic and advanced applications. Ideal for hand-held, field or test stand applications, and can be equipped with integral load cells or external self-recognizing load and torque cells.

The gauge offers six different display languages.

A large, high resolution, full color LCD display supports a variety of standard gauge functions including normal and peak readings, high/low limits, set points (with output contacts for external alarms or other devices), pass/fail results, statistical results, load averaging, load comparisons, % and sharp break detection, loadcell actuation and direction. Loads are displayed in ozf, gf, lbf, kgf and N units. For more information on the ForceTest Software see page 23

DIGITAL FORCE GAUGES

DFE II SERIES

- Capacities from 2 to 500 lbf / 10 to 2500 N
- USB, RS-232 and analog communication
- Normal and Peak operating modes
- Selectable units of measurement
- Accuracy ±0.25% of Full Scale

See the Force Gauge Connection Diagrams at page 42.

SPECIFICATIONS	
Accuracy	±0.25% of Full Scale
Max. overload	150% of rated capacity
Tare capacity	10% of rated capacity
Resolution	1:1000, 1:5000
Data sampling rate	7 KHz
Peak capture rate	7 KHz
Display update rate	10 Hz
Operating temp.	5 to 45°C / 40 to 110°F

FORCE RANGE			
	LBF	N	KGF
DFE2-002	2x0.001	10x0.01	1x0.001
DFE2-010	10x0.01	50x0.01	5x0.001
DFE2-025	25x0.01	100x0.1	10x0.01
DFE2-050	50x0.01	250x0.1	25x0.01
DFE2-100	100x0.1	500x0.1	50x0.01
DFE2-200	200x0.1	1000x1	100x0.1
DFE2-500	500x0.1	2500x1	250x0.1

The DFE II Series marks a new era in digital force measurement. This compact, easy-to-use force gauge is designed for economy applications without compromising functionality. Ideal for hand-held, field or test stand applications.

The gauge features an integral load cell, a large, easy-to-read, high resolution full color LCD display supports a variety of standard gauge functions including normal and peak readings, high/low limits, set points, pass/fail results, statistical results, load cell actuation and direction. Loads are displayed in ozf, gf, lbf, kgf and N units.

The display language may also be selected between English, Spanish, French, German, Portuguese, and Chinese.

DIGITAL FORCE GAUGES

DFX II SERIES

- Four models to choose from 10 to 200 lbf / 50 to 1000 N
- Normal and Peak operating modes
- Selectable units of measurement
- Economical
- Accuracy ±0.3% Full Scale

See the Force Gauge Connection Diagrams at page 42.

FORCE RANGE			
	LBF	N	KGF
DFX2-010	10x0.01	50x0.05	5x0.005
DFX2-050	50x0.05	250x0.2	25x0.02
DFX2-100	100x0.1	500x0.5	50x0.05
DFX2-200	200x0.2	1000x1	100x0.1

SPECIFICATIONS	
Accuracy	±0.3% of Full Scale
Max. overload	150% of rated capacity
Tare capacity	10% of rated capacity
Resolution	1:1000
Data sampling rate	1 KHz
Peak capture rate	1 KHz
Display update rate	4Hz
Operating temp.	5 to 45°C / 40 to 110°F

The DFX II Series is an economical digital force gauge ideal for applications where users are interested in basic peak force measurement.

It features an integral loadcell with a measurement accuracy better than 0.3% of full scale, and operates by using a rechargeable NiMH battery pack or by using the supplied universal charger. Under battery operation, the gauge will operate for 70 to 100 hours of continuous use and also has an automatic power shutoff extending the recharge intervals. A large, easy-to-read, high resolution 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 gauge offers six different display languages, and the calibration procedure is included in the gauge's setup.

DEDICATED REMOTE LOAD SENSOR

DFS-R II SERIES

- Normal and Peak operating modes
- Ideal for test bench integration
- Selectable units of measurement
- Choose from 2,5N to 5KN capacity load cell

SPECIFICATIONS	
Accuracy	±0.1% of Full Scale
Max. overload	150% of rated capacity
Tare capacity	10% of rated capacity
Resolution	1:10000
Data sampling rate	10 KHz
Peak capture rate	10 KHz
Display update rate	10 Hz
Operating temp.	5 to 45°C / 40 to 110°F

FORCE RANGE			
	LBF	N	KGF
DFS2-R-250G	0.5x0.0001	2.5x0.0005	1x0.0001
DFS2-R-002	2x0.0002	10x0.001	1x0.0001
DFS2-R-010	10x0.001	50x0.005	5x0.0005
DFS2-R-025	25x0.002	100x0.01	10x0.001
DFS2-R-050	50x0.005	250x0.02	25x0.002
DFS2-R-100	100x0.01	500x0.05	50x0.005
DFS2-R-200	200x0.02	1000x0.1	100x0.01
DFS2-R-500	500x0.05	2500x0.2	250x0.02
DFS2-R-1000	1000x0.01	5000x0.2	500x0.05

The DFS-R II Series with dedicated remote load cell is the ideal solution for applications that require measurements in confined areas where the gage can't fit.

The gauge can be handheld or remotely mounted and the load cell placed where the load needs to be applied. This allows the gage to be placed remotely where you need it for easy reading. All functions of the gauge will operate identically to a gage with an integral load cell.

All DFS II load cells are available with the addition of a 1,000 lbf (5KN) capacity.

NON-DEDICATED REMOTE FORCE OR TORQUE MEASUREMENT

DFS-R-ND II SERIES

- Flexible and portable
- Normal and Peak operating modes
- Ideal for field use
- Selectable units of measurement
- Interchangeable force or torque sensor up to 10,000lbf or 200 in-lb

SPECIFICATIONS	
Accuracy	±0.25 to ±0.3% of Full Scale
Max. overload	150% of rated capacity
Tare capacity	10% of rated capacity
Resolution	1:10000
Data sampling rate	10 KHz
Peak capture rate	10 KHz
Display update rate	10 Hz
Operating temp.	5 to 45°C / 40 to 110°F

If you need flexibility in your applications, the Chatillon DFS-R-ND II Series with non-dedicated remote load and torque sensors are the answer. An economical solution compared to dedicated load cells you now gain flexibility with interchangeable load and torque sensors.

As the dedicated load cell, the gauge can be handheld or remotely mounted. The advantage of this configuration gives the user the flexibility of measuring force or torque with a single gauge.

This is the gauge of choice for maximum flexibility: one unit and interchangeable sensor can do it all.

MOTORIZED TEST STANDS

LTCM SERIES

- Ideal solution for production environments
- Compact benchtop design, large work area
- Simple operation with intuitive controls
- Adjustable mechanical limits
- Remote footswitch control and operation

See the Force Gauge Connection Diagrams at page 42.

Gauges are sold separately

OPTIONAL ACCESSORIES	
NC00291	Remote Control Footswitch
ENC0125	DF II Series Gauge Interface Cable
SPK-TCMI00-EXT	Crosshead Travel, Extension Arm (19 in/48cm of additional height)
SPK-LTCM-O67	Expanded Work Table*
	SLC Load Sensor Adapter Kit*
SPK-LTCM-068	Splinter Shield Kit*

**)Only LTCM-500*

SPECIFICATIONS	
Crosshead Speed	5 to 500 mm/min (0.2 to 20 in/min)
Speed Acuracy	±3% unloaded
Travel	380 mm (15 in) / 750 mm (29 in)
Operating temp.	5 to 45°C / 40 to 110°F

FORCE CAPACITY		
	LBF	N
LTCM100	110	500
LTCM500	550	2500

The LTCM Series is an economical, motorized tester optimized for production floor operation and when combined with a DF II Series digital force gauge, it provides users with an easy-to-use testing system.

It is ruggedly built and designed to promote simple operation. It features a large working area and a 130mm (5 in) throat ideal for large sample sizes. The LTCM500 has an adjustable T-Slot Table with US and Metric threads.

Crosshead travel is controlled from a simple console or using an optional footswitch controller. The series is very flexible with crosshead speeds up to 500mm (20 in) per minute and a travel distance of up to 750mm (29 in).

When combined with a DFS II Series force gauge, you have a complete force measurement system with load accuracy of better than 0.1% Full Scale.

MECHANICAL TEST STANDS

MT SERIES

- Two models with lever or handwheel actuator
- Large working area
- Compact and modular design
- Basic solution for repeat testing
- Column height up to 1500mm

Gauges are sold separately

See the Force Gauge Connection Diagrams at page 42.

GAUGE KITS	
SPK-MT-001	LG Gauges
SPK-MT-002	DF IS, DPPH
SPK-MT-004	DFX, DFE, DFS
SPK-MT-005	DG Gauge

OPTIONAL ACCESSORIES	
SPK-MT-Digital	Digital Travel Indicator
SPK-MT-RULER	Ruler Assembly
	Gauge Mounting Kit
SPK-MT-WALL-HORZ	Wall/Horizontal Mounting Kit
SPK-MT- L*	Lever Actuator Assembly
SPK-MT- H*	Handwheel Actuator Assembly

**)150 or 500 depending on model*

FORCE CAPACITY		
	LBF	N
MT150	150	660
MT500	500	2500

SPECIFICATIONS	
Travel rates	Lever: 75mm (3 in) per revolution
	Handwheel: 12mm (0.5 in) per revolution
Column Height	Standard: 750mm (29.5 in)
	Extended: 1000mm (39.4 in)
	Ultra: 1500mm (59 in)
Maximum Stroke	150mm (6 in) *Longer strokes available*
Operating temp.	5 to 45°C / 40 to 110°F

The MT Series mechanical test stands are an easy-to-use solution for force measurement applications up to 500 lbf (2.5kN). The test stand may be equipped with a quick-action lever or precision handwheel for controlling crosshead speed and travel.

The MT test stand can be bench mounted, wall mounted or positioned horizontally. Vertical clearances are available from 750mm (29.5 inch) up to 1500mm (60 inch). Standard stroke is 150 mm (6 inch), although longer strokes can be accommodated as a special order.

PNEUMATIC TEST STANDS

TT SERIES

- Simple to operate
- Meets MIL-T-7928 (ASG) requirements
- 150mm (6 in) stroke
- Precision Ram Speed Control
- Electrical connectors, terminals, leads etc.

Gauges are sold separately

SPECIFICATIONS	
Load capacity	550 lbf (2500N)
Sample size	25 to 380mm (1 to 15 in) length
	7/32" outside diameter
Crosshead speed	0.1/min. to 6/min
Travel	150mm (6 in)
	Jaw opens to 7/32 in
	Jaw closes to 1/2 in
Air Supply	60 psi (4.2 bar) for 225 lbf (1000N)
	125 psi (8.7 bar) for 550 lbf (2500N)
	160 psi (11.2 bar) maximum
Operating temp.	5 to 45°C / 40 to 110°F

OPTIONAL ACCESSORIES	
ML1797	Foot Pedal Controller
ML4242	Jaw Replacement Kit

FORCE CAPACITY		
	LBF	N
TT	550	2500

The TT Series is a pneumatically-operated tester for measuring breaking strength of electrical leads, terminals, connectors, wire wraps, etc.

The TT Series operates using clean, dry air with a maximum air pressure up to 160 psig (11.2 bar).

It meets MIL-T-7928 (ASG) requirements for crimped, solderless lugs, and may be used for tensile or compression testing. The rapid test speed makes it ideal for production line testing, incoming inspection testing or for the R&D laboratory.

The TT Series is available in two models: one with a foot-actuated switch; the other with a hand-actuated switch.

MECHANICAL FORCE GAUGES

LG SERIES

- Lbf, ozf, kgf and N models
- Peak load button to memorize peak load
- Tensile and Compression testing
- Tare ring

	FORCE RANGE
LG-002	2 x 0.01 lbf
LG-005	5 x 0.025 lbf
LG-080	80 x 4 ofz
LG-010	10 x 0.05 lbf
LG-020	20 x 0.1 lbf
LG-030	30 x 0.15 lbf
LG-050	50 x 0.25 lbf
LG-075	75 x 0.375 lbf
LG-100	100 x 0.5 lbf
LG-10N	10 x 0.05 N
LG-20N	20 x 0.1 N
LG-30N	30 x 0.15 N
LG-50N	50 x 0.25 N
LG-100N	100 x 0.5 N
LG-200N	200 x 1 N
LG-300N	300 x 1.5 N
LG-500N	500 x 2.5 N
LG-1KG	1 x 0.005 kgf
LG-2KG	2 x 0.01 kgf
LG-3KG	3 x 0.015 kgf
LG-5KG	5 x 0.025 kgf
LG-10KG	10 x 0.05 kgf
LG-20KG	20 x 0.1 kgf
LG-30KG	30 x 0.15 kgf
LG-50KG	50 x 0.25 kgf

See the Force Gauge Connection Diagrams at page 42.

OPTIONAL ACCESSORIES	
SPK-DG-HANDLE	Handle assembly

SPECIFICATIONS	
Accuracy	±0.5% of Full Scale
Overload capacity	110% of rated capacity
Max. Overload	150% of rated capacity
Tare capacity	10% of rated capacity
Dial resolution	0.5% of Full Scale
Deflection	10mm / .394 in at Full Scale
Operating temp.	5 to 45°C / 40 to 110°F

The LG Series is ideal for a wide range of low capacity force testing applications.

The ergonomically shaped LG gauge features a large, 2.25 inch dial indicator for improved resolution and readability, including a peak load switch to capture the maximum force achieved during a test.

This gauge is an ideal and economical solution for low capacity of tensile and compression testing.

MECHANICAL FORCE GAUGES

DG SERIES

- Lbf, kgf and N models
- Tensile and Compression testing
- Tare ring
- Peak load button to memorize peak load

See the Force Gauge Connection Diagrams at page 42.

SPECIFICATIONS	
Accuracy	±0.5% of Full Scale
Overload capacity	110% of rated capacity
Max. Overload	150% of rated capacity
Tare capacity	10% of rated capacity
Dial resolution	0.5% of Full Scale
Deflection	10mm / .394 in at Full Scale
Operating temp.	5 to 45°C / 40 to 110°F

FORCE RANGE	
DG-200	200 x 1 lbf
DG-300	300 x 1.5 lbf
DG-400	400 x 2 lbf
DG-500	500 x 2.5 lbf
DG-1000N	1000 x 5 N
DG-2500N	2500 x 12.5 N
DG-100Kg	0.5 kgf
DG-250Kg	1.25 kgf

The DG Series is ideal for a wide range of high capacity force testing applications up to 500 lbf / 2.5 kN.

The ergonomically shaped DG gauge features a large, 2.25 in dial indicator for improved resolution and readability, including a peak load switch to capture the maximum force attained during a test.

The housing is made of durable plastic featuring a universal mounting plate.

This gauge is an ideal and economical solution for high capacity tensile and compression testing.

ERGONOMIC FORCE GAUGES

Muscle Strength & Functional Capacity

- Used in Physical & Muscle Strength applications
- Job Task Analysis
- Use with any Chatillon Force Gauge
- Waist belt for field portability of attachments
- Portable Kits

Gages included with DMG-200/500 & K-DMG-200/500 Kits!

AVAILABLE KITS	
K-DMG-200/500	Complete Kit with accessories including; Handle & 200/500 Lbf DG Gauge
DMG-200/500	Basic Kit including; Handle & 200/500 Lbf DG Gauge
MSCK-Travel	Complete Travel Kit with accessories; Pistol Grip and Handle in case without Gauge
MSCK	Muscle Strengh Capacity Kit; in case without Handle and Gauge
FCEK	Complete Functional Capacity Evaluator Kit; with Pistol Grip, Fanny Pack without Gauge
MSE-100-M	LG Series with Avoirdupois Dial for Ergonomic Applications

The Ergonomic force kits are ideal for; job task analysis, functional capacity and muscle strength analysis.

The different ergonomic kits are popular for usage in the field and at physical therapy facilities. These kits can be used with both our mechanical LG and DG Series or the Digital DF II Series force gauges.

Comparison chart on page 20.
Additional accessory details on page 35.

QUICK COMPARISON CHART

Analog and Digital Force Gauges

	LG Series	DG Series	DFX II Series	DFE II Series	DFS II Series
Accuracy (±% of full scale)	0.5	0.5	0.3	0.25	0.1
Resolution (Capacity; Resolution Points)	0.5% of FS	0.5% of FS	1:1000	1:1000 or 1:5000	1:10000
Force Ranges*	10-500N (2-100lbf)	1000-2500N (200-500lbf)	50-1000N (10-200lbf)	10-2500N (2-500lbf)	2.5-2500N (0.5-500lbf)
Units of Measurement	N/lbf/kgf	N/lbf/kgf	N/lbf/kgf/gf/ozf	N/lbf/kgf/gf/ozf	N/lbf/kgf/gf/ozf
Sampling	-	-	1KHz	7KHz	10KHz
Peak Rate	-	-	40-1KHz	10-100-1K-7KHz	10-100-1K-7k-10KHz
Display Update Rate	-	-	4Hz	4 or 10Hz	4-10Hz
Overload Capacity of 150%	✓	✓	✓	✓	✓
10% of Tare Capacity of FS	✓	✓	✓	✓	✓
Communication Outputs	-	-	-	RS-232/USB	RS-232/USB/
Mitutoyo Interface	-	-	-	✓	✓
Display Type	Dial indicator	Dial indicator	LCD	Hi Res Color	Hi Res Color
Typical Battery Life	-	-	70-100 hours	16-20 hours	12-20 hours
Auto Dimming	-	-	-	✓	✓
Measurement Unit Lock	-	-	✓	✓	✓
Data Results Storage	-	-	✓	✓	✓
Auto Shut Down	-	-	✓	✓	✓
NIST Calibration Certificate	✓	✓	✓	✓	✓
Overload "Counting-history"	-	-	✓	✓	✓
Adjustable load limit w/buzz	-	-	-	✓	✓
Average load/time	-	-	-	-	✓
Statistical Calculations	-	-	-	✓	✓
Interface to PC using Nexygen	-	-	-	✓	✓
Peak Detection	✓	✓	✓	✓	✓
Break Detection	-	-	-	-	Sharp & % Break
Contact Closure feature	-	-	-	-	✓
Pass & Fail Results	-	-	-	✓	✓
Password Protection	-	-	-	✓	✓
Load Bargraph	-	-	✓	✓	✓
Multi Language	-	-	✓	✓	✓
Optional Dedicated & Detachable Load/Torque Cells	-	-	-	-	✓

HYDRAULIC FORCE GAUGES

ERICHSEN WUPPERTAL

- N and kgf models
  – 7 available models to choose from
- Economical force measurement
- Verify your press force
- Ideal to monitor Load Distribution
- Accuracy +/- 1.6% of F.S.

Hydraulic gauges are a low-cost method for obtaining general force measurements. With a wide range of styles and sizes, these gauges are popular in many industries and particularly popular for use in hazardous environments.

The hydraulic gauges can be used for occasional force checks, continuous loading, or permanent installation. Every model has a robust construction and most are suitable for use in rough operating conditions on machines and in production.

COMMUNICATION AND DATA ANALYSIS SOFTWARE

CS2 TABLET

The CS2 Series digital force testers feature a 2-in-1 laptop console with a user-friendly, robust and reliable 11" touch screen for use in production environments. The screen offers both graphical and tabular results along with a very intuitive user interface regardless of the operator skill level.

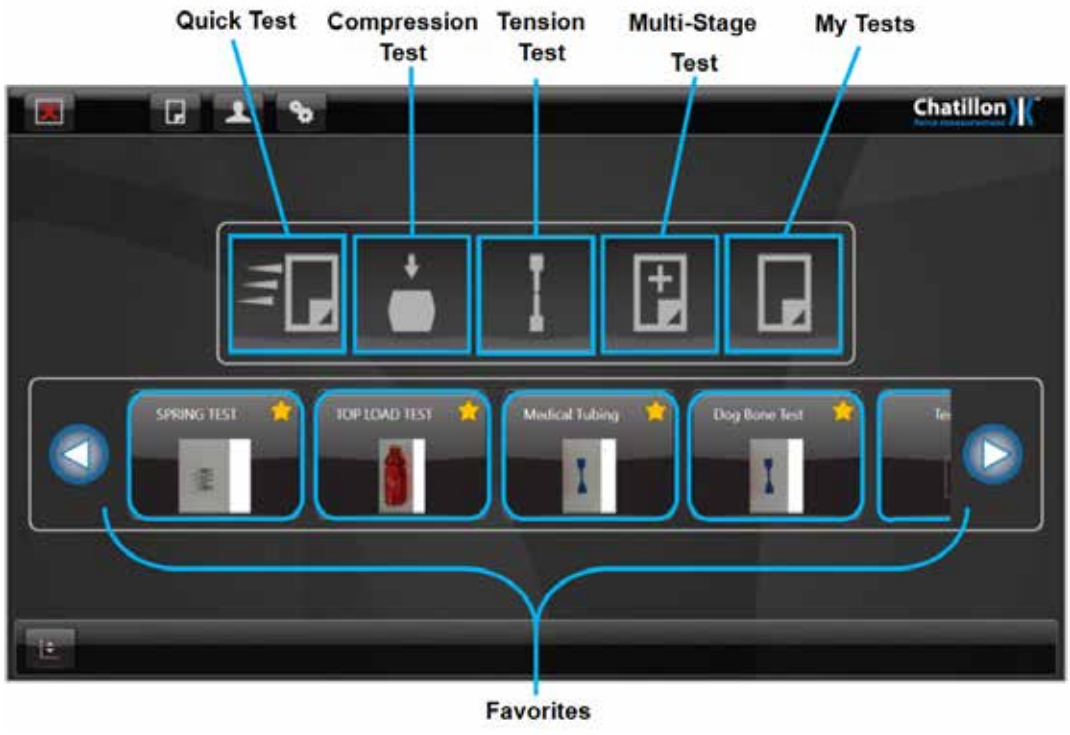
The set-up parameters include limit testing (load, distance and time), break testing, cyclic and loop testing, multi-stage / user defined testing, spring rate calculation and height measurement.

The laptop console may also be removed from the test device and used seperately as a laptop dedicated for the CS2.

Create an easier workflow by defining Favorites, or quick access frequently used test setups. For easy test selection you can insert sample pictures as icons. Switch seamlessly between test graphs, batch results and statistics even while executing batch sequences. Export data directly from the screen on demand or use automatic archiving.

FEATURES:

- Limit testing to load, displacement, height or time
- Break testing - sharp or percentage
- Multi-stage, cyclic tests and height measurements
- Peel testing
- Spring Testing
- Capture 2nd Peak
- RS-232 Auto Result Export



ForceTest Software

- Automatic communication setup
- Export data as CVS or PDF file
- Live Data View
- Save test setup and achieve faster workflow
- Time and Date stamped data
- Free 30 day trial version available at www.ametektest.com

ForceTest software provides seamless serial data communications between a Windows-based personal computer and the entire DF II Series or LTCM Series with a DF II Series gauge.

Measurement data is sent from the gauge using RS232 serial connection or USB with auto-detect to an Excel file on the PC. User defined data is easily extracted and exported as CVS or graphics and tables in a PDF.

The intuitive user interface enables the user to take control of the test, and to recreate tests when needed without deep knowledge of the software.

Grips and Fixtures

JACOBS CHUCKS

Jacobs Chuck fixture are ideal for holding small cylindrical samples during tensile or compression testing. They are commonly used for testing wire samples.

GF-51 Sample size: 4mm (0.16 in) diameter
Capacity: 20 lbf (100N)
Thread: #10-32F

GF-52 Sample size: 6mm (0.25 in) diameter
Capacity: 20 lbf (100N)
Thread: #10-32F

Note: Both include a; 1/4-28M to #10-32M adapter and #10-32M Set Screw

COMPRESSION PLATENS

Circular compression platens are made of aluminium and may be used for general purpose compression testing.

17109 Sample size: 50mm (2 in) diameter
Capacity: 225 lbf (1000N)
Thread: #10-32F

17012 Sample size: 75mm (3 in) diameter
Capacity: 550 lbf (2500N)
Thread: 5/16-18F

01/4460 156mm diameter (6,14 in) (pair)
Aluminum, Flat with groves
Top Load Testing. Sold in pair, one smooth, pother with groves as shown here

RECTANGULAR PLATENS

Provide more surface area and are ideal for testing foam, composites, metals, wood products, packaging materials, etc.

TG-37 Sample size: 175 x 115mm (7 x 4.5 in)
Capacity: 110 lbf (500N)
Thread: 5/8" eye end upper, 5/8" eye end bottom

Grip opening may vary depending on Grip Face thickness, see data sheets

WEDGE ACTION GRIPS

These miniature wedge action grips are ideal for tensile testing wire, filaments, fibers, cables, etc. Grips have serrated teeth for extra gripping power as tensile force is applied.

GF-11 Sample size: 12mm (0.5 in)
Capacity: 110 lbf (500N)
Thread: #10-32 Male or 1/4"-28 Male

ML1700 Sample size: 5.6mm (0.2 in)
Capacity: 450 lbf (2000N)
Thread: 5/16-18F

WEDGE GRIP WITHOUT FACES

A range of wedge action grips for general tension testing of metals and plastic. The wedge design of the grip means the grip tightens on the sample as the force increases, initial force can be applied by various methods such as side lever, capstan action wheel or screw action. Faces are interchangeable for different samples types and dimensions.

01/4644 Sample size: 40x10x10mm (1.5x0.4x0.4 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8" Female Eye End

LEVER ACTUATED

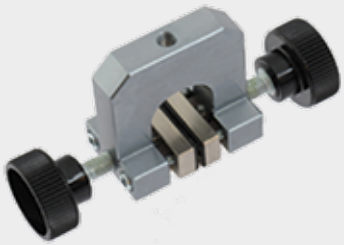
A range of wedge action grips for general tension testing of metals and plastic. The wedge design of the grip means the grip tightens on the sample as the force increases, initial force can be applied by various methods such as side lever, capstan action wheel or screw action. Faces are interchangeable for different samples types and dimensions.

01/4650 Sample size: 34x40x9mm (1.3x1.5x0.3 in)
Capacity: 2200 lbf (10KN)
Thread: 5/8" Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets

VICE GRIP, 0-8MM OPENING

A vice grip with manual tightening action by thumb screw grips are dual action. Ideal for paper, thin film and general tensile and peeling applications where forces are low.



01/4221 Sample size: 8x10x100mm (0.3x0.4x3x9 in)
Capacity: 22 lbf (100N)
Thread: 5mm Threaded Female

SMALL PINCER GRIP

A range of small vice action pincer grips, available as direct connect and options of a connecting chain for self alignment. Ideal for testing of small component parts where access is an issue such as electrical and electronic components.

01/4191 Sample size: 10x25x25mm (0.4x1x1 in)
Capacity: 450 lbf (2000N)
Thread: 5/8" Female Eye End

VICE GRIP, 0-30MM OPENING

A vice grip with manual tightening action by T-bar, grip is dual action and allows for offset sample alignment for shear testing. Ideal for all types of samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal, foils, wood, fabrics and composites (depends on rating).

01/4265 Sample size: 30x30x100mm (1.1x1.1x3.9 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8" Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets

VICE ACTION GRIP

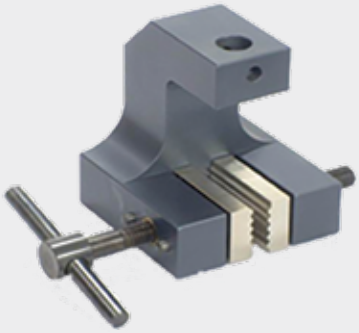
This lightweight, spring-loaded, rubber faced clamp grips very light loads. Ideal for paper, film, foils, etc.

TG-33 Sample size: 25mm (1 in) width, 2mm (0.08 in) thickness
Capacity: 1.1 lbf (5N)
Thread: 5/8"F eye end upper, 5/8"F eye end bottom

QUICK RELEASE TENSILE GRIP

Ideal for tensile testing paper, rubber, plastic, film textiles, etc. the grip is a general purpose tensile grip. It is supplied standard with 100mm x 50mm crosscut faces. Faces are interchangeable. A large thumbscrew is used to secure the sample. Optional jaw faces are available and may be ordered separately.

TG-26 Sample size: 150mm (6 in) width, 12mm (0.5 in) thickness
Capacity: 225 lbf (1000N)
Thread: 5/8"F eye end upper, 5/8"F eye end bottom



VICE GRIP, 0-15MM OPENING

A vice grip with manual tightening action either by thumb screw or T-bar, grips are dual action and allow for offset sample alignment for shear testing. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal, foils, wood, fabrics and composites (depends on rating).

01/4304 Sample size: 15x30x50mm (0.6x1.1x2 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8" Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets

VICE GRIP, 0-10MM OPENING

A vice grip with manual tightening action either by thumb screw or T-bar, grips are dual action and allow for offset sample alignment for shear testing. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal, foils, wood, fabrics and composites (depends on rating).

01/4291 Sample size: 10x30x30mm (0.4x1.1x1.1 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8" Female Eye End

ECCENTRIC ROLLER GRIP, 50 MM

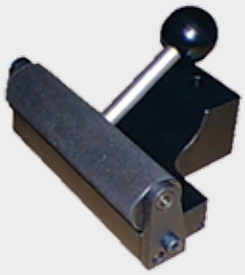
A self tightening eccentric roller grip, the grip tightens as the sample is pulled. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal and foils

01/4184 Sample size: 7x50mm (0.3x2 in)
Capacity: 220 lbf (1000N)
Thread: 5/8" Female Eye End

ECCENTRIC ROLLER GRIP, 100 MM

A self tightening eccentric roller grip, the grip tightens as the sample is pulled. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal and foils.

01/4186 Sample size: 7x100mm (0.3x4 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8" Female Eye End



ECCENTRIC ROLLER GRIP, 50 MM

A self tightening eccentric roller grip, the grip tightens as the sample is pulled. Ideal for all types of flat samples, rubber, plastic film, plastic dumbbells, paper and cardboard, sheet metal and foils.

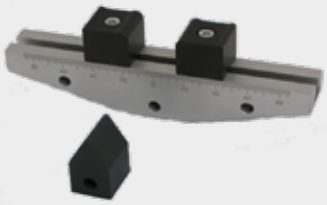
01/4187 Sample size: 7x50mm (0.3x2 in)
Capacity: 1100 lbf (5000N)
Thread: 5/8" Female Eye End

ECCENTRIC ROLLER GRIP, 50 MM

A range of self tightening eccentric roller grip, the grip tightens as the sample is pulled. Ideal for all types of flat samples, rubber, plastic film, paper and cardboard and foils.

01/4185 Sample size: 7x50mm (0.3x2 in) with plain roller & rubber lined surface
Capacity: 220 lbf (1000N)
Thread: 5/8" Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets



3-POINT BEND FIXTURE

This low force bending jig is supplied as standard with a set of three anvils, one upper and two lower. Upper anvils have single radii and Lower anvil sets are reversible with different radii on each side.
Other anvil sets are also available as additional accessories.

01/4104 Sample size: 4-150mm (0.15-6 in)
Capacity: 560 lbf (2500N)
Thread: 5/8" Female Eye End

CIRCULAR ADHESIVE FIXTURE

Includes top and bottom fixture for general purpose compressive testing or adhesive determination. Top fixture is self aligning. Top and Bottom fixture may be ordered separately.

GF-8 Sample size: 75mm (3 in) diameter
Capacity: 550 lbf (2500N)
Thread: 1/4"-20 Male Upper; 3/8"-16 Female bottom with Gauge and tester coupling hardware included

CLEVIS FIXTURE

The GF-2 comes with an upper and lower fixture. The fixture has a concave diameter that centeres the smaple and secures the pins while under load. The throat clearance with pin installed is 12mm (0.5 in) a the centerline. Ideal for spring tensile testing. Top and Bottom fixture may be ordered separately.

GF-2 Sample size: 12mm (0.5 in) width
Capacity: 550 lbf (2500N)
Thread: 1/4"-20 Male Upper; 3/8"-16 Female bottom with Gauge and tester coupling hardware included

Grip opening may vary depending on Grip Face thickness, see data sheets

BOTTLE TOP TORQUE

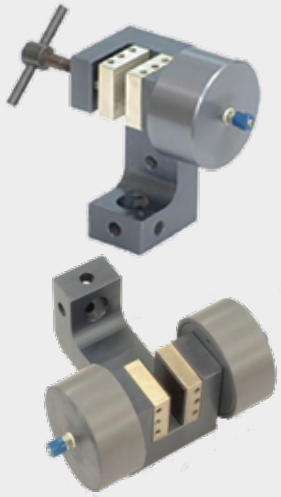
This single fixture is used with the STS torque sensor to determine bottle top torque results. A manual screw mechanism is used to affix to the bottle top.

B200309 Sample size: 38mm (1 1/2 in) min, 70mm (2 3/4 in) max
Capacity: 100 lbf-in (10N-m)
Thread: 1/4" Hex

PNEUMATIC VICE GRIP

A small pneumatic vice grip suitable for low force tensile and peeling applications. One side is closed with a thumb screw and the other is pneumatic. 1KN @ 7 bar, M5 pneumatic connector.
All pneumatic grips are suitable for use with the foot and hand controls.

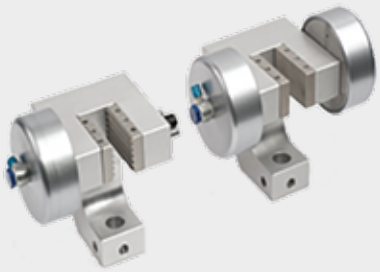
01/4421 Single Sided & 01/4422 Dual Sided
Sample size: 10x30x30mm (0.4x1.1x1.1 in)
Capacity: 220 lbf (1000N), Single Sided
Thread: 5/8" Female Eye End



PNEUMATIC VICE GRIP

A Pneumatic grip ideal for general purpose tensile testing up to 5KN, the grip has a manual adjust on one side and a pneumatic actuator on the other side, useful for shear testing where the sample requires an offset. Pneumatic pressure 2.6KN @ 7 bar, M5 pneumatic connector.
All pneumatic grips are suitable for use with the foot and hand controls

01/4435 Single Sided & 01/4436 Dual Sided
Sample size: 15x30x50mm (0.6x1.1x2 in)
Capacity: 1100 lbf (5000N), Single Sided
Thread: 5/8" Female Eye End



Grip opening may vary depending on Grip Face thickness, see data sheets

CAM FIXTURE

This fixture is used for testing tensile strength on wire, filament, magnetic tape, etc. The sample is inserted between the holding block and secured by the cam. Cam and holding block may be separated for cleaning.

ML1821 Sample size: 6mm (0.25 in) width
Capacity: 30 lbf (130N)
Thread: #10-32F

WIRE CONNECTOR FIXTURE

Used to test wrapped wire connections and terminations. The fixture has a "L" shape that may be notched by the user to any desired dimension. During a test, the fixture is slipped over the terminal post below the wire wrap. When tension load is applied, the fixture engages the wrap and pulls it off the connection post.

ML4244 Capacity: 30 lbf (130N)
Thread: #10-32F

SPOOL FIXTURE

Ideal for difficult to handle samples such as very fine wires, medical wire, dental wire, etc. The sample is threaded into the locking groove and wrapped around the spool. A tension wire holds the specimen securely on the spool.

ML1949 Sample size: 6mm (0.25 in) width
Capacity: 30 lbf (130N)
Thread: #10-32F

WIRE & CORD FIXTURE

Used to test insulated wire, cord, stranded cable, etc. The sample is wrapped around the smaller semi-circular block and looped over the larger block. This is a single fixture. Use two for securing sample during tensile test, or combine with a suitable bottom grip, e.g. GF9-BOT.

ML1977 Sample size: 12mm (0.5 in) width
Capacity: 550 lbf (2500N)
Thread: 5/16-18F

Grip opening may vary depending on Grip Face thickness, see data sheets

WIRE TURRET ASSEMBLY

This assembly is ideal for testing wire terminals, connectors and other end fittings. A rotating turret has 9 grooves to accept wire sizes from 28 gauge to 10 gauge. A ring stud behind the turret is supplied for ring-type terminals.

ML1785 Wire gauge size:ample size: From 0.06 up to 0.21 in
Capacity: 550 lbf (2500N)
Thread: 5/16-18F

TERMINAL TESTING FIXTURE

Specifically designed to test the ultimate strength of wire connectors and terminals. Upper fixture consists of a self aligning wheel with 9 equally spaced slots to accept standard terminal shank sizes. Ring terminals are secured with a pin. Bottom fixture has an eccentrically mounted, self-tightening knurled roller which accepts wire diameters up to 3mm (0.13 in).

GF-10 Sample size: From 0.8 to 6mm (0.03 to 0.25 in)
Capacity: 110 lbf (500N)
Thread: 1/4"-20 Male Upper; 3/8"-16 Female bottom with Gauge and tester coupling hardware included

WIRE & CORD LOCKING FIXTURE

Three non-locking pins designed for a "Figure 8" wrap help ensure a center break. Designed for fast installation and release. Throat clearance with pins installed and clearance between pins is 9.5mm (0.4 in). Top fixture is self aligning. Top and Bottom Fixtures may be ordered separately.

GF-5 Sample size: 9.5mm (0.4 in) diameter
Capacity: 550 lbf (2500N)
Thread: 1/4"-20 Male Upper; 3/8"-16 Female bottom with Gauge and tester coupling hardware included

BOLLARD GRIP

A thin rope, yarn and thread bollard grip, ideally it should be used with an extensometer to calculate true strain in the sample. Pneumatic versions are available. The 01/4625 is designed for the tensile strength of fibers, wires, yarns, threads and ropes it is fitted with a crosscut face as standard with no optional faces.

01/4625 Sample size: 5mm (0.2 in) diameter/15mm (0.6 in) width
Capacity: 1100 lbf (5000N)
Thread: 5/8" Female Eye End

Grip opening may vary depending on Grip Face thickness, see data sheets

SCREW ACTION GRIP

The Bollard grip is suitable for a wide range of samples such as fiber, yarn, thread, rope, string, and strapping tape. The grips are designed so that the sample can be wrapped around the bollard and clamped at one end, this helps reduce the sample suffering a jaw break and spreads the load around the bollard by introducing friction to the sample.
Ideally it should be used with an extensometer to calculate true strain in the sample.

01/4623 Sample size: 5mm (0.2 in) diameter/8mm (0.3 in) width
Capacity: 1100 lbf (5000N)
Thread: 5/8" Female Eye End

GROOVED SNUBBER FIXTURE

Grooved snubber and post design ensures centerline breaks of flexible wires and cable up to 1.6mm (0.06 in) diameter. The 25mm (1 in) diameter snubber is mounted on a swiveling plate so that the sample aligns when force is applied. Top and Bottom fixture may be ordered separately.

GF-3 Sample size: 1.6mm (0.06 in) diameter
Capacity: 225 lbf (1000N)
Thread: 1/4"-20 Male Upper; 3/8"-16 Female bottom with Gauge and tester coupling hardware included

MINIATURE BOLLARD

Includes top and bottom fixture for lightweight loads. Ideal for extremely small wire and filament. Fixtures have a 11mm (0.4 in) dimater snubber which is part of a precision machined swivelling mechanism that ensures sample alignment. May order Top and Bottom fixtures separately.

GF-4 Sample size: 0.8mm (0.03 in) diameter
Capacity: 55 lbf (250N)
Thread: 1/4"-20 Male Upper; 3/8"-16 Female bottom with Gauge and tester coupling hardware included

Grip opening may vary depending on Grip Face thickness, see data sheets

BALL PROBES

Used for a variety of texture analysis tests. Ideal for fruit, vegetable and confectionary product testing including ripeness. Provides a uniform compression force distributed at a normal angle to the surface area of the ball. Gives an averaging effect over the local area being tested.

FG/BA Ball Diameter: From 2 to 10mm (0.25 to 1 in)
Capacity: 110 lbf (500N)
Thread: M6

CONE PROBES

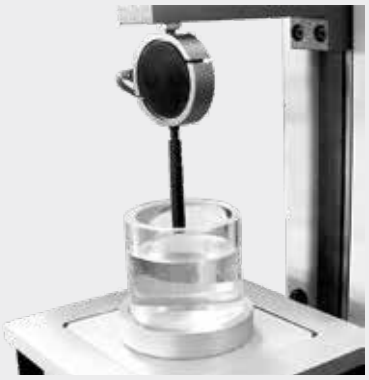
Used for penetration testing on products including cosmetics, pharmaceuticals, pastes, ointments, sealants and mastics. Useful for determining the speadability of dairy products including butter, margarine and cheese spreads.

FG/CO Cone Angle: 15 to 90°
Capacity: 110 lbf (500N)
Thread: M6

CYLINDER PROBES

Used to determine the deformation characteristics of materials including gelatine, e.g. gel strength (Bloom Value) and gel elasticity. Cylinder probes are also useful for applying a shear force to a gel to determine break strength.

FG/CY Cylinder Diameter: From 1 to 10mm (0.25 to 4.0 in)
Capacity: 110 lbf (500N)
Thread: M6



Grip opening may vary depending on Grip Face thickness, see data sheets

Force Gauge Accessories

Chisel Point Adapters		
Ordering No.	Thread	Capacity
SPK-FMG-008B	5/16-18F	500 lbf
SPK-FMG-008A	#10-32F	100 lbf

Point Adapters		
Ordering No.	Thread	Capacity
SPK-FMG-009B	5/16-18F	500 lbf
SPK-FMG-009A	#10-32F	100 lbf

Notch Adapters		
Ordering No.	Thread	Capacity
NC000725	5/16-18F	500 lbf
SPK-FMG-010A	#10-32F	100 lbf
NC000721	5/16-18F	500 lbf
SPK-FMG-010B	5/16-18F	500 lbf

Flat Adapters		
Ordering No.	Thread	Capacity
SPK-FMG-011B	5/16-18F	500 lbf
SPK-FMG-011A	#10-32F	100 lbf

Hooks		
Ordering No.	Thread	Capacity
SPK-FMG-012A	#10-32F	50 lbf
SPK-FMG-012B	#10-32F	100 lbf
SPK-FMG-012C	5/16-18F	500 lbf

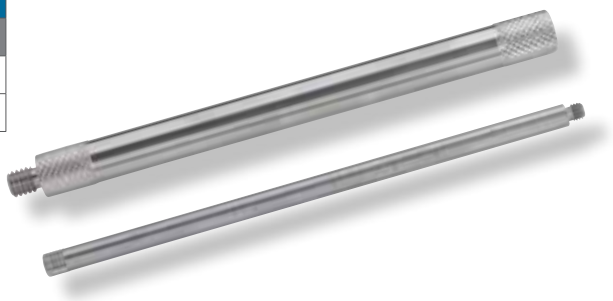
Thread Coupling included

Hooks, Swivel		
Ordering No.	Thread	Capacity
ML3868	5/16-18F	500 lbf
ML3869	5/16-18F	200 lbf
ML3850	#10-32F	100 lbf
ML3867	#10-32F	50 lbf

Hooks, Clasp		
Ordering No.	Thread	Capacity
NC002500	5/16-18F	500 lbf

Torque accessories		
Ordering No.	Thread	Capacity
SPK-DTG-039	1/2 Drive	200 lb-in
SPK-DTG-038	3/8 Drive	200 lb-in
SPK-DTG-037	1/4 Drive	200 lb-in
SPK-DTG-040	Hex Blade	200 lb-in

Extension rods		
Ordering No.	Thread	Capacity
SPK-FMG-013A	#10-32F	100 lbf
SPK-FMG-013B	5/16-18F	500 lbf



Ergonomic Kit Comparison

Description	K-DMG-200/500	MSCK-Travel	DMG-200/500	MSCK	FCEK	MSE100-M
LG Gauge						✓
DG 200 & 500Lbf Gauge	✓	-	✓	-	-	-
Handle Assembly	✓	✓	✓	-	-	✓
Extention Rod	✓	✓	-	✓	✓	-
Clasp	✓	✓	-	✓	✓	-
Cable with Eyelets	✓	✓	-	✓	✓	-
Small V-Notch (0.625")	✓	✓	-	✓	-	-
Large V-Notch (1")	✓	✓	-	✓	✓	-
Palm Button (Nylatron GS)	✓	✓	-	✓	-	-
Round Fixture, Disk (Padded)	✓	✓	-	✓	✓	-
Rectangle Fixture, Large (Padded)	✓	✓	-	✓	-	-
Rectangular Fixture, Small (Padded)	✓	✓	-	✓	-	-
Curved Fixture, Rectangular (Padded)	✓	✓	-	✓	✓	-
Coupling 1/2-20F to 5/16-18F with Knurl Nut	✓	✓	-	✓	Knurl Nut	-
Carrying Case	✓	✓	✓	✓	-	✓
Pistol Grip	-	✓	-	-	✓	-
Fanny Waist Belt Pack	-	-	-	-	✓	-

Job Task Analysis accessories				
No.	Thread	Capacity	Description	Ref
SPK-FMG-142	5/16-18	500 lbf	Compression fixture, Curved Profile	1
SPK-FMG-143	5/16-18	500 lbf	Compression fixture, Flat Circular	2
SPK-FMG-144	5/16-18	500 lbf	Palm fixture	3
SPK-FMG-145	5/16-18	500 lbf	Compression fixture, Large Profile	4
SPK-FMG-146	5/16-18	500 lbf	Compression fixture, Small Profile	5
NC002844		500 lbf	Grasping Loop	6

Handles & Assemblies	
Ordering No.	Description
SPK-FMG-Handle	Assembly, for LG series
SPK-DG-Handle	Assembly, for DG series
SPK-DF-Handle	Assembly, for DF II series
SPK-FMG-106	Handle, Alu, 4 in (pair)
SPK-FMG-107	Handle, Alu, 6 in (pair)
SPK-FMG-141	Pistol Grip, for DF II series
NC002825	Vinyl Grip, for SPK-DF-Handle

Carrying cases	
Ordering No.	Gauge type
NC002753	LG series
NC003115	DG series
SPK-DF-118	DF II series
SPK-FMG-149	MSCK Travel Kit Case
NC002845	Fanny Pack, soft case

Thread Adapters

Thread Coupling Hardware			
	P/N	From	To
1	3127	#10-32M	#10-32M x 3/16"
2	3157	#10-32M	#10-32M x 3/4"
3	NC002686	5/16-18M	5/16-18M x 1"
4	P-10020	5/16-18M	#10-32F
5	P-10269	#10-32M	5/16-18F
6	17039	#10/32M	1/4-28M
7	NC000686	#10/32M	5/16-18M
8	NC000296	1/4-28M	5/16-18M
9	17162	1/2-20M	5/16-18M
10	17160	#10/32F	#10/32F
11	17057	#10/32F	1/4-20F
12	17056	1/4-20F	5/16-18F
13	13048	1/4-28F	5/16-18F
14	SPK-EYE-1032F	#10/32F	5/8"Eye Fem
15	ADT/0115	5/16-18F	5/8"Eye Fem
16	SPK-AFG-1032F	#10/32F	5/8"Eye Fem
17	SPK-AFG-2520F	1/4-20F	5/8"Eye Fem
18	SPK-AFG-2528F	1/4-28F	5/8"Eye Fem
19	NC000612	Grip Pin	-
20	SPK-EYE-1032M	#10/32F	5/8"Eye Fem
20	SPK-EYE-2528M	2528M	5/8"Eye Fem

Gauge Adapters

SPK-MT-0001
For LG

SPK-MT-0002
For DFIS, DPPH

SPK-MT-0004
For DFX, DFE, DFS Series

SPK-DG-TT

SPK-MT-0005
For DG

NC002582

SPK-MT-Remote

NC000300

Gauge-Tester Interface Adapters					
Gauge	MT150	MT500	TT	LTCM-100	LTCM-500
LG series	SPK-MT-0001	SPK-MT-0001	NC002582	Direct	Direct
DG series	SPK-MT-0005	SPK-MT-0005	SPK-DG-TT	n/a	n/a
DFX II	SPK-MT-0001	SPK-MT-0004	NC002582	Direct	Direct
DFE II	SPK-MT-0001	SPK-MT-0004	NC002582	Direct	Direct
DFS II	SPK-MT-0001	SPK-MT-0004	NC002582	Direct	Direct
DFS II-R	SPK-MT-Remote	SPK-MT-Rem500	NC002582	NC000300	NC000300
DFS II-R-ND	SPK-MT-0001	SPK-MT-0004	NC002582	NC000300	NC000300

NOTE: The table is based on using the lower capacity Gauge with the lower capacity test frame.

Interface Cables

Personal Computer Cable			
Part No.	Input	Output	Length
NC000850-1	Hirose (12 pin round)	DB 9 Pin Female	3 m/9 ft
NC000850-2	Hirose (12 pin round)	DB 9 Pin Female	7 m/20 ft
NC000875	DB 9 Pin Female	DB 9 Pin Female	3 m/9 ft

Tester Cable			
Part No.	Input	Output	Length
ENC0125	Hirose (12 pin round)	DB 9 Pin Female	3 m/9 ft
NC000647	Hirose (12 pin round)	DB 9 Pin Female	2 m/6 ft

Mitutoyo Cable			
Part No.	Input	Output	Length
NC000654	DB 9 Pin Female	Mitutoyo 10 DIP	1.5 m/5 ft
ENC0157	Hirose (12 pin round)	Mitutoyo 10 DIP	2 m/6 ft

Universal DF II Gauge Cable			
Part No.	Input	Output	Length
SPK-DF-UNIV	Hirose (12 pin round)	Un-terminated	2m/6 ft

USB Adapter			
Part No.	Input	Output	Length
SPK-DF-USB	DB 9 pin Male	USB	280mm/11 in
SPK-FMG-USB	Micro USB	USB	1.8m/6 ft
RS232/CBT/ 1400/00	USB	USB	2.4m/8 ft
9/0936	DB9 pin Fem	DB9 pin Fem	1.8m/6 ft

Included in Packaging

CS2 SERIES
Calibration Certificate
Tester Mounting Hardware
Manual

MT SERIES
Stationary Hook
Compression Platen
Set Screw, 5/16-18 x 1 in
Set Screw, #10-32 x 3/4 in
Thread Adapter
Coupler
5/8" Eye Adapter Male
Hex Key
Manual

TT SERIES
DF II Series Gauge Adapter Plate
Foot Pedal *Model ML3353 only*
Manual

DFS II SERIES*
Flat Adapter
Hook
Chisel Point
Point Adapter
Notch Adapter
Extension Rod
USB Cable
Universal Battery Charger
ForceTest Software
Carrying Case
Calibration Certificate
Manual

DG SERIES*
Stationary Hook
Chisel Point
Point Adapter
Notch Adapter
Flat Adapter
Extension Rod
Carrying Case
Calibration Certificate
Manual

LTCM SERIES*
Stationary Hook[1]
Compression Platen
Hex Key, 5/32 in
Hex Key, 5 mm *Only LTCM-500*
Power Cable
Set Screw, #10-32 x 3/4 in
Manual

DFX II SERIES*
Flat Adapter
Hook
Universal Battery Charger
Carrying Case
Calibration Certificate
Manual

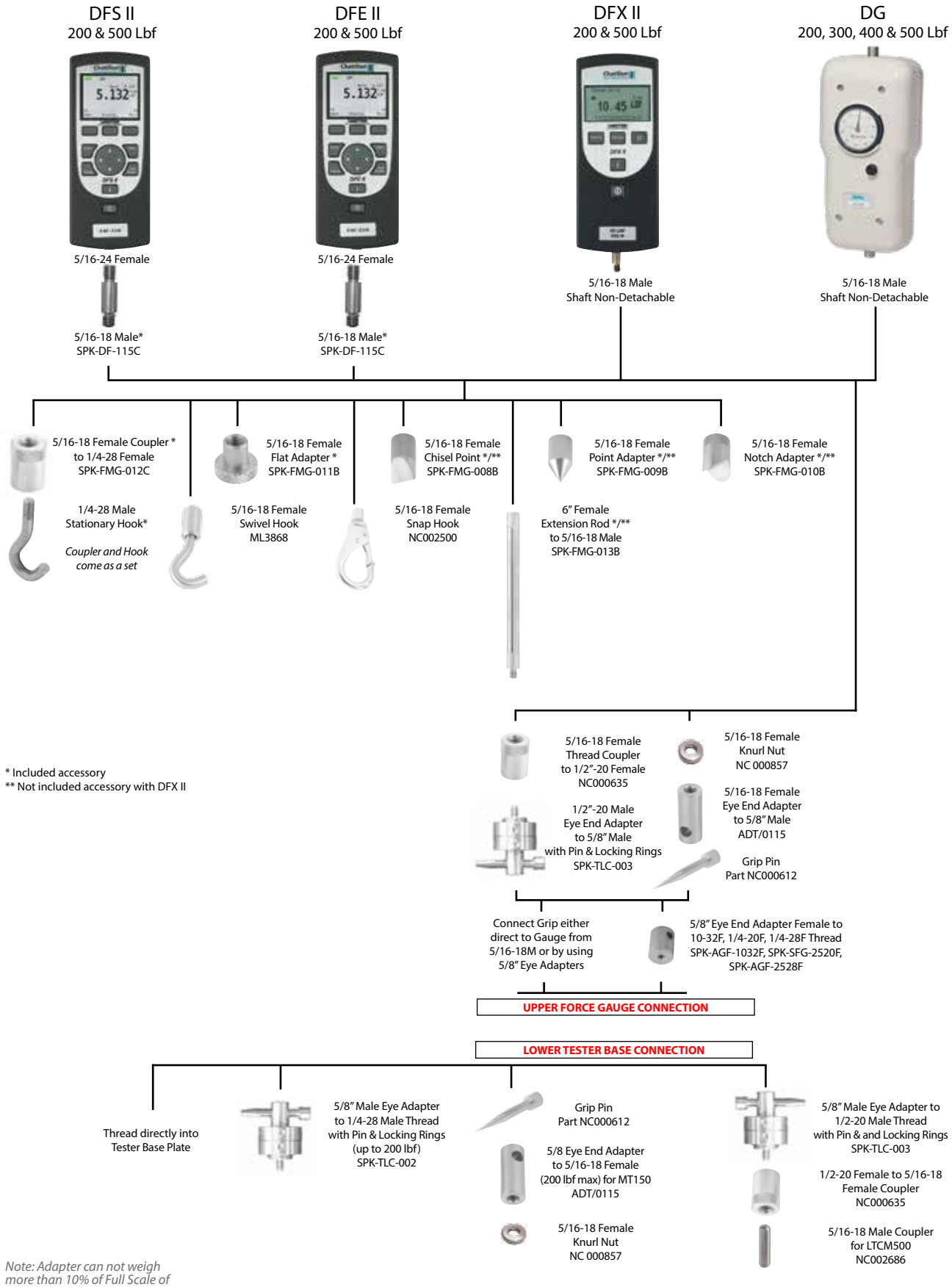
DFE II SERIES*
Flat Adapter
Hook
Chisel Point
Point Adapter
Notch Adapter
Extension Rod
USB Cable
Universal Battery Charger
Carrying Case
Calibration Certificate
Manual

LG SERIES*
Stationary Hook
Chisel Point
Point Adapter
Notch Adapter
Flat Adapter
Extension Rod
Carrying Case
Calibration Certificate
Manual

**) Adapter size depends on capacity of Gauge.*
1) LTCM 100 only

Items can change without notice

1 to 2.5 KN (200 to 500 Lbf), Connection Diagram

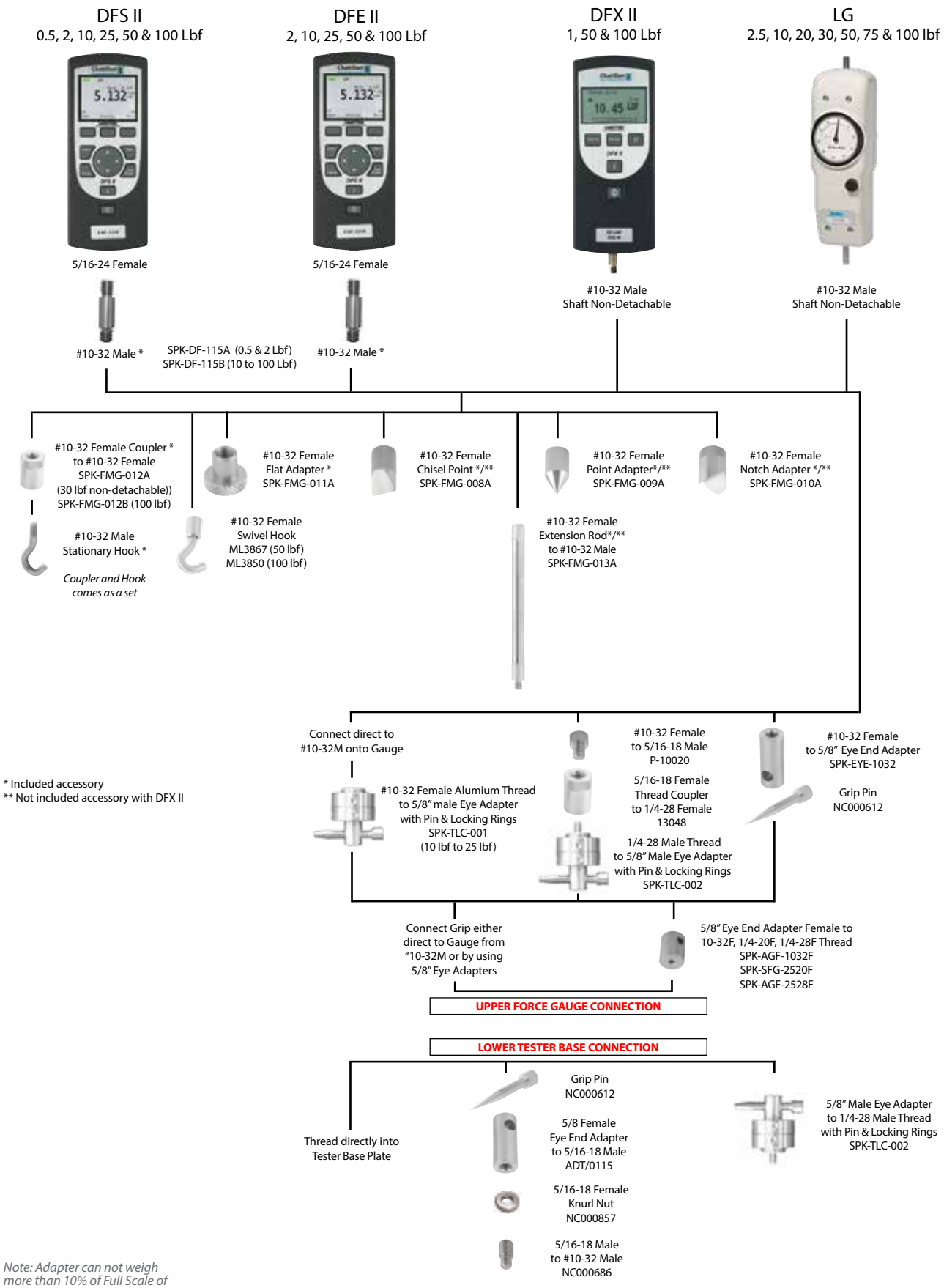


Note: Adapter can not weigh more than 10% of Full Scale of force gauge

MT500 (5/16-18F) Standard
Hook Assembly (SPK-FMG-012C),
Compression Platen Ø3 in (17012),
Set Screw 5/16-18 X 1 in (NC002686),
Coupling 1/4-28 F to 5/16-18 F (13048),
5/16-18 F to 5/8 in Eye End (ADT/0115)

LTCM500 Standard
Hook, Stationary (SPK-FMG-012C)
Compression Platen 3-inch (17012)
DF Gauge Adapter Plate (NC002905)
Gauge Mtg. Screws, #10-32 x 3/4 (1613)

Connection Diagram, 2 to 500 N (0.5 to 100 Lbf)



* Included accessory
** Not included accessory with DFX II

Note: Adapter can not weigh more than 10% of Full Scale of force gauge

MT150 (5/16-18F) Standard
Hook Assembly (SPK-FMG-012B)
Compression Plate Ø3 in (17012)
Set Screw 5/16-18 X 1 in (NC002686)
Adapter 5/16-18 M to #10-32 F (P-10020)
Coupling 1/4-28 F to 5/16-18 F (13048)
5/16-18 F to 5/8 in Eye End, (ADT/0115)
Set Screw #10-32 X 3/4 in (3157)

LTCM100 Standard
#10-32 threaded holes (x13)
Hook Assembly (SPK-FMG-012B)
Compression Plate Ø2 in (17109)
Hexkey 5/32" (NC002924)
Set Screw, #10-32 x 3/4" (1613)

ABOUT AMETEK.

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

LLOYD Material Testing
Material Testing Solutions
Material testing machines and software from Lloyd 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.

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

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

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

Crystal Pressure
Digital pressure gauges and calibrators that are accurate, easy-to-use and reliable. Designed for use in the harshest environments; most products carry an IS, IP67 and DNV rating.

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

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