



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 ■

Repeatability & Reproducibility ↑





Material Analysis

Automation and Reporting

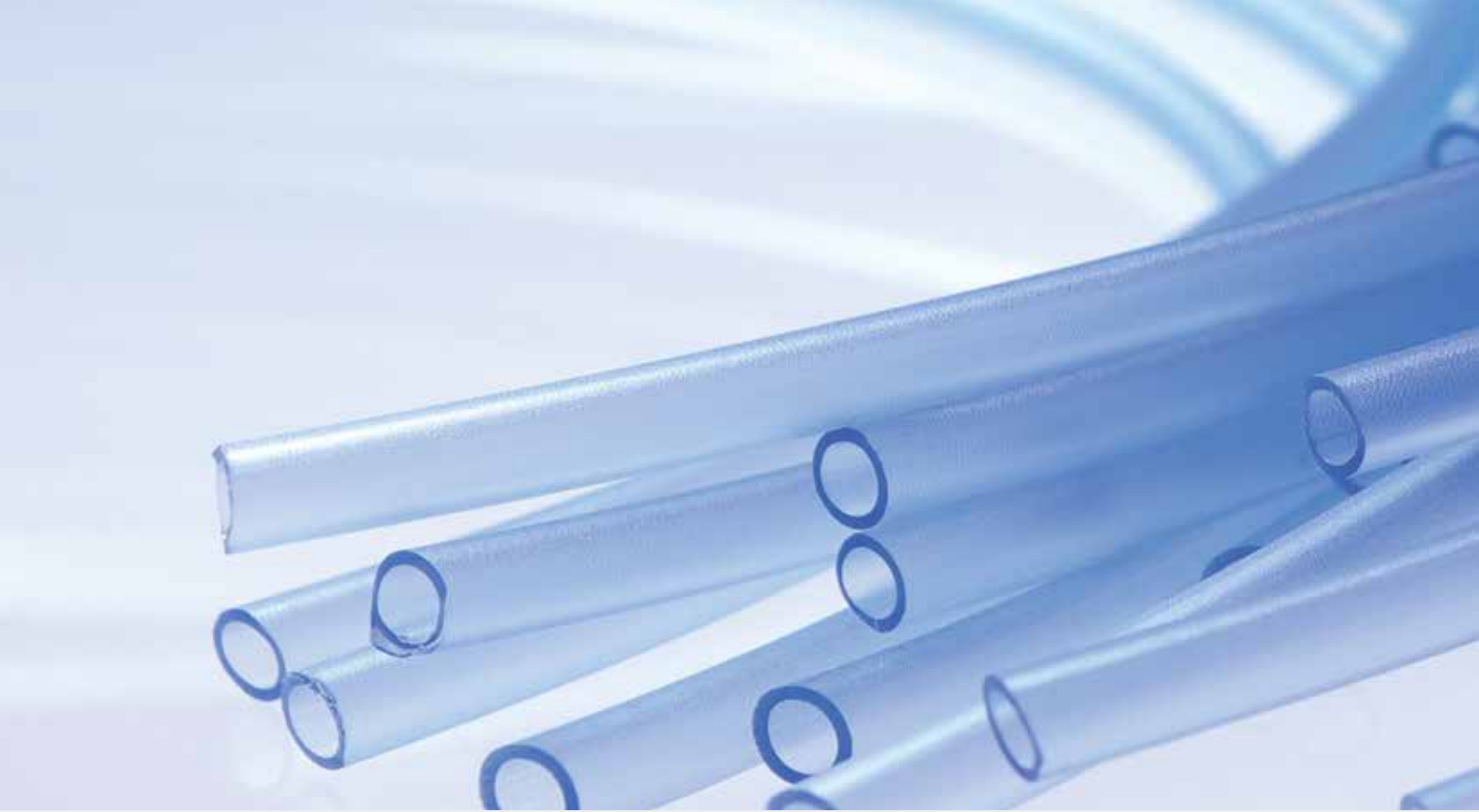
Repeatable Speed and Load Travel

Intuitive User Friendly Screens and Menus

Break Detection, Statistics (SPC), Automatic Data Capture

Force Measurement; peak and average

Features & Functions



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

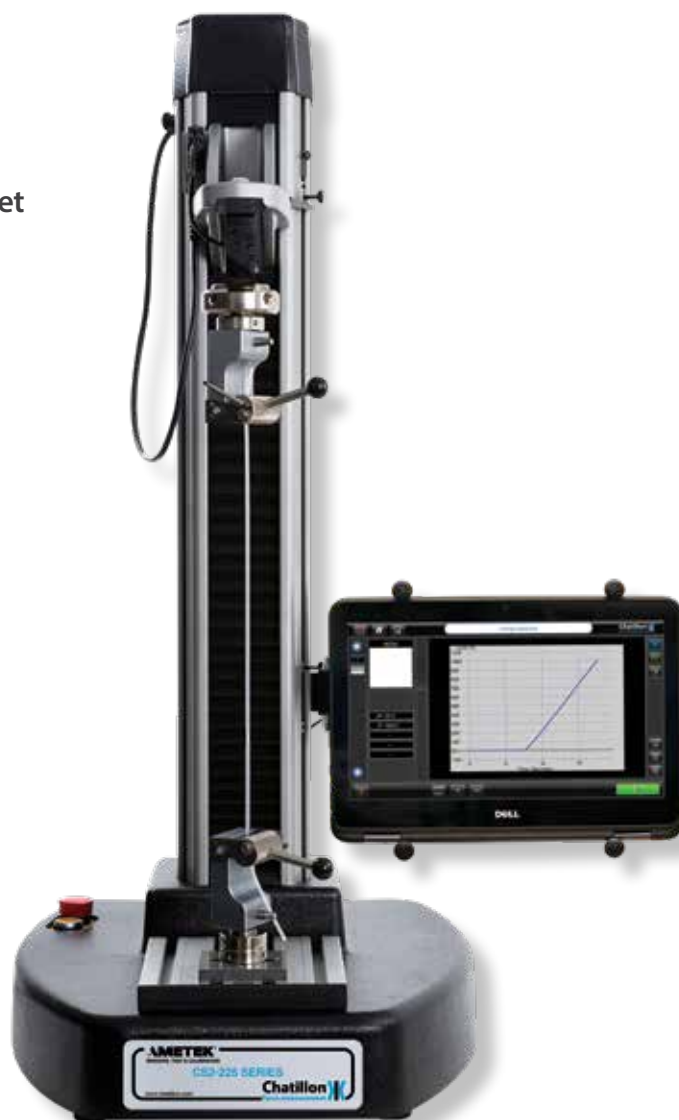
- Adhesiveness
- Chewiness
- Cohesiveness
- Extensibility
- Firmness
- Fracturability
- Gumminess
- Resilience
- Stiffness
- Tackiness
- Toughness

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

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,

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

compression testing, shear 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 $\pm 0.1\%$ 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	$\pm 0.1\%$ 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 $\pm 0.25\%$ of Full Scale



See the Force Gauge Connection Diagrams at page 42.

SPECIFICATIONS	
Accuracy	$\pm 0.25\%$ 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 $\pm 0.3\%$ 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	$\pm 0.3\%$ 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

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

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.

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

FORCE CAPACITY		
	LBF	N
LTCM100	110	500
LTCM500	550	2500

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
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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 Strength 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 	DFF II Series 	DFS II Series 
Accuracy ($\pm\%$ 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 $\pm 1.6\%$ 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



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.

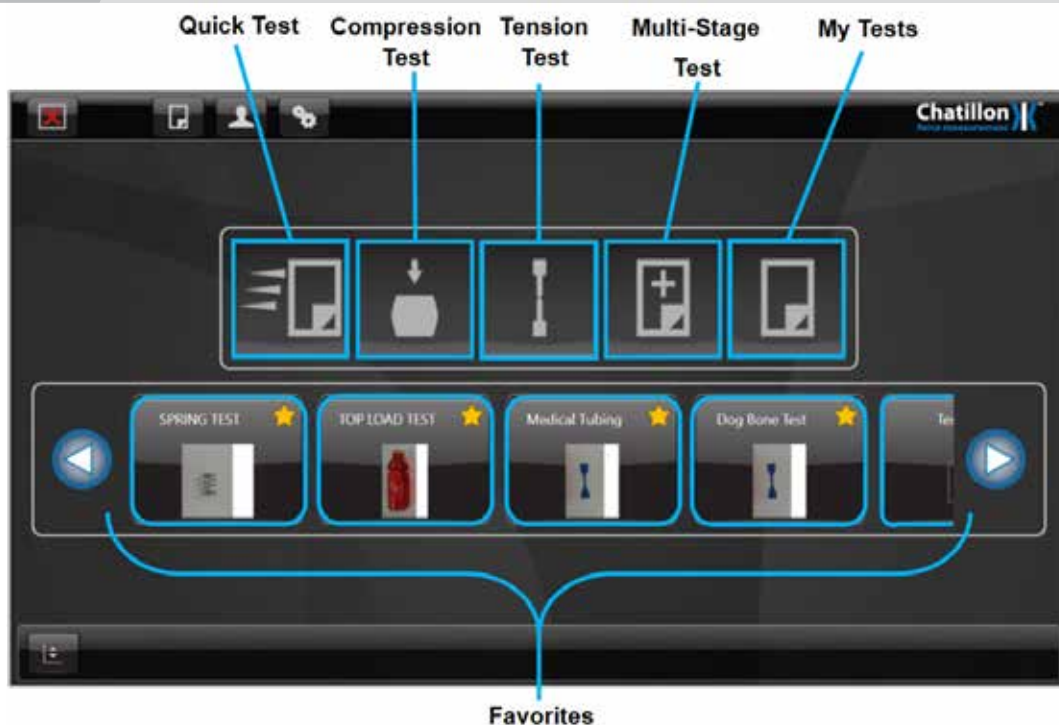
The set-up parameters include limit testing (load, distance and time), break testing, cyclic and loop testing, multi-stage / user defined testing, spring rate calculation and height measurement.

The laptop console may also be removed from the test device and used separately 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
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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.

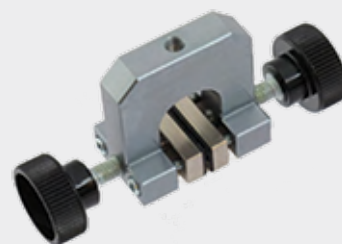
01/4650 Sample size: 34x40x9mm (1.3x1.5x0.3 in)
Capacity: 2200 lbf (10KN)
Thread: 5/8" Female Eye End

*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 PINCHER 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.

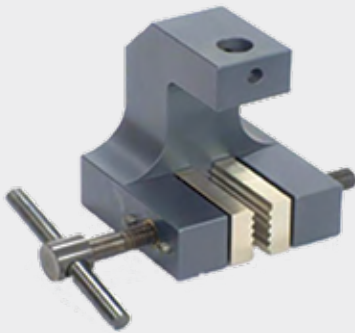
TG-33 Sample size: 25mm (1 in) width, 2mm (0.08 in) thickness
Capacity: 1.1 lbf (5N)
Thread: 5/8" F eye end upper, 5/8" F eye end bottom



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



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

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

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



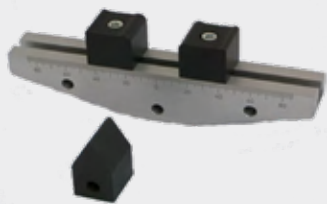
ECCENTRIC ROLLER GRIP, 50 MM

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 centers the sample and secures the pins while under load. The throat clearance with pin installed is 12mm (0.5 in) at 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



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

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

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.

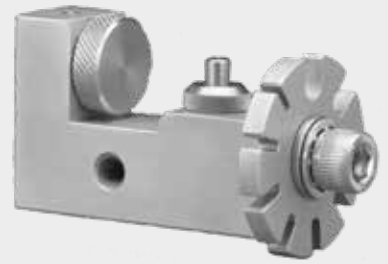
ML1977 Sample size: 12mm (0.5 in) width
Capacity: 550 lbf (2500N)
Thread: 5/16-18F

*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



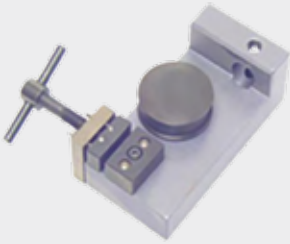
BOLLARD GRIP

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) diameter 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 spreadability of dairy products including butter, margarine and cheese spreads.

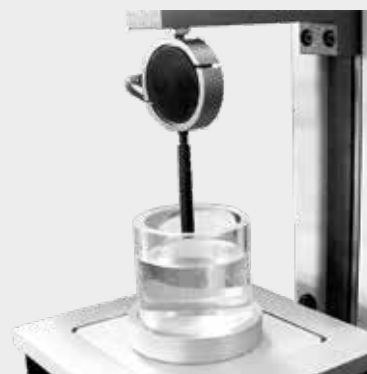
FG/CO Cone Angle: 15 to 90°
Capacity: 110 lbf (500N)
Thread: M6



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

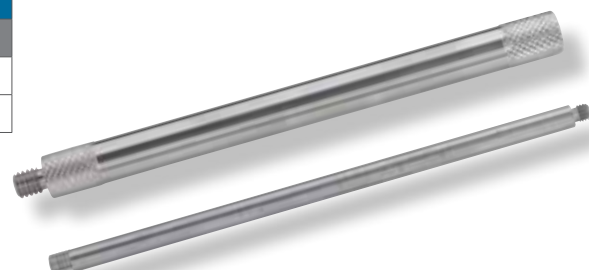
Thread Coupling included

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



1



2



3



4



5



6



7



8



9



10



11



12



13



14



15



16



17



18



19



20



Gauge Adapters



SPK-MT-0001
For LG



SPK-MT-0002
For DFIS, DPPH



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



SPK-MT-0005
For DG



SPK-MT-Remote



SPK-DG-TT



NC002582



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 Hook¹
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*

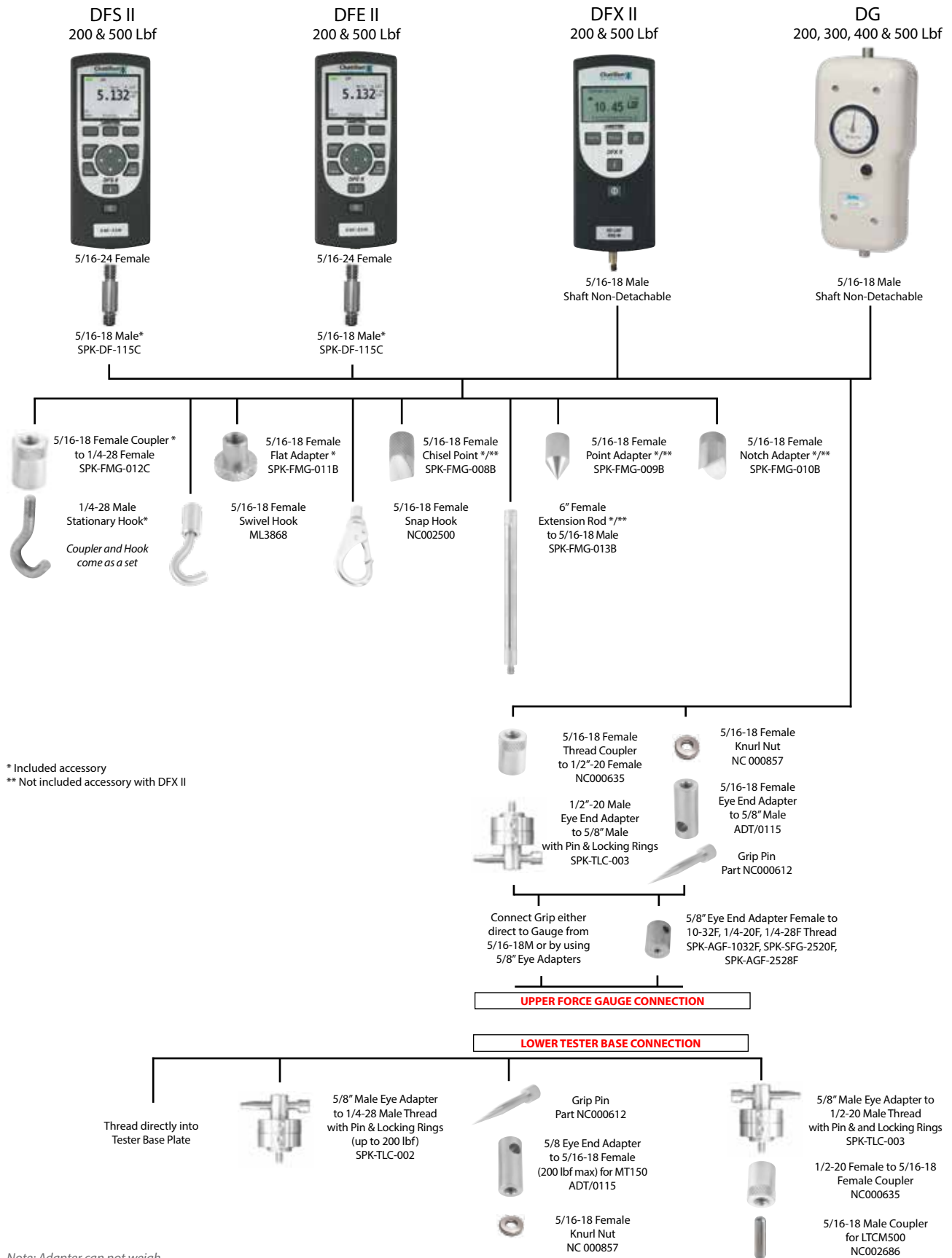
Stationary Hook
Chisel Point
Point Adapter
Notch Adapter
Flat Adapter
Extension Rod
Carrying Case
Calibration Certificate
Manual

*) 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)

DFS II
0.5, 2, 10, 25, 50 & 100 Lbf



5/16-24 Female



#10-32 Male *

SPK-DF-115A (0.5 & 2 Lbf)
SPK-DF-115B (10 to 100 Lbf)

DFF II
2, 10, 25, 50 & 100 Lbf



5/16-24 Female



#10-32 Male *

DFX II
1, 50 & 100 Lbf

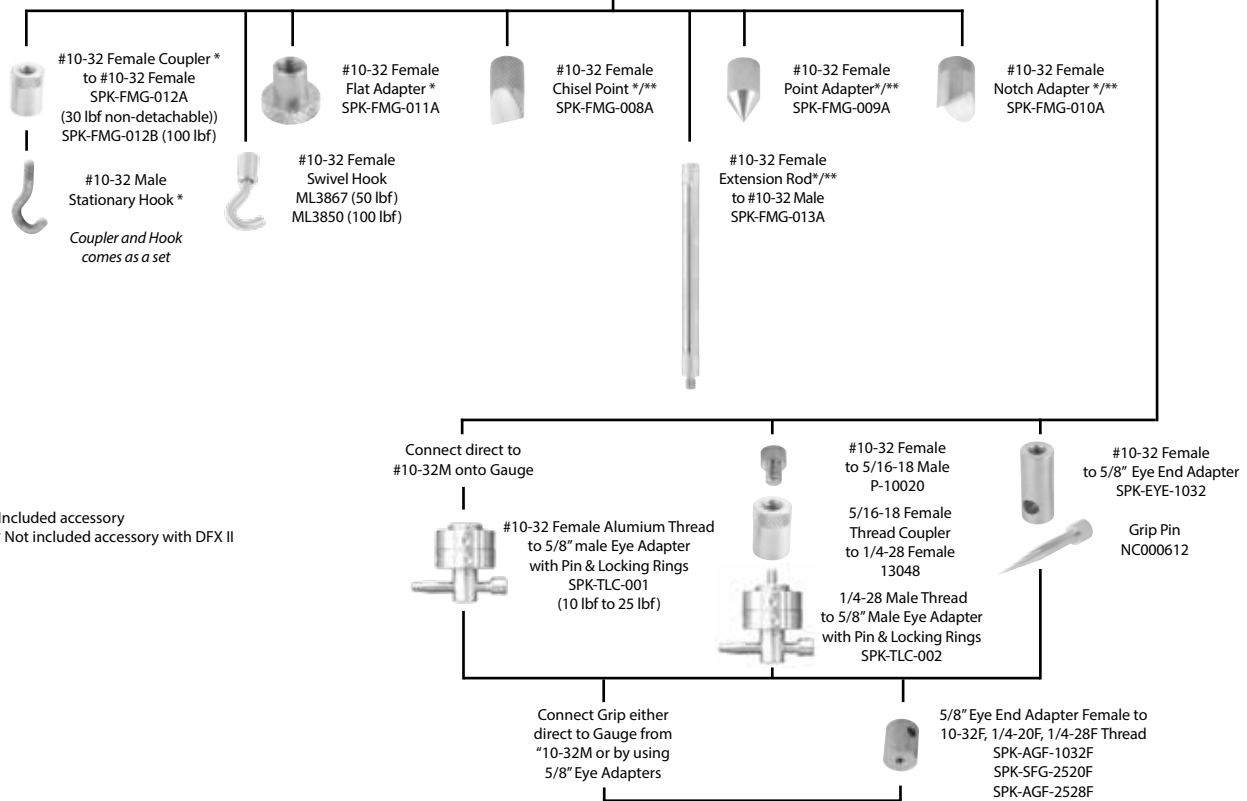


#10-32 Male
Shaft Non-Detachable

LG
2.5, 10, 20, 30, 50, 75 & 100 lbf



#10-32 Male
Shaft Non-Detachable



* Included accessory

** Not included accessory with DFX II

UPPER FORCE GAUGE CONNECTION

LOWER TESTER BASE CONNECTION



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.

Lesoshoppe.com
your reliable & trusted business partner

Lesoshoppe Sdn Bhd (Central)

Lot 12A, Jalan Gitar 33/3,
Elite Industrial Estate, Section 33,
40350 Shah Alam, Malaysia.
+603-51212673

Lesoshoppe Sdn Bhd (Northern)

Plot 85B, Lintang Bayan Lepas 9,
Bayan Lepas Industrial Park,
Phase 4, 11900 Penang.
+604-6432080

Lesoshoppe Sdn Bhd (Southern)

No-19, Jalan Cantik 3,
Taman Pelangi Indah,
81800 Ulu Tiram, Johor, Malaysia
+607-8619511

Lesoshoppe Sdn Bhd (Sarawak)

9th Floor, Bangunan Binamas,
Jalan Padungan, 93100 Kuching,
Sarawak, Malaysia
+6082-549721

Lesoshoppe Sdn Bhd (Sabah)

No.1-2-1B, 2nd Floor, Block B,
Kolam Centre Phase 2,
Jalan Lintas, Luyang,
88300 Kota Kinabalu, Sabah
+60168398627

enquiry@lesoshoppe.com



LLOYD K[™]
materials testing

- High-Precision Universal Test Machines
- Extensive Range of Grips, Jigs, Probes and Fixtures
- Application Expertise and Customized Solutions
- 1 kN to 100 kN
- Application Software

**MATERIALS
TESTING
EQUIPMENT.**

MEASURING UP TO **YOUR STANDARDS**
– EASY AND ACCURATE SOLUTIONS
TO THE CHALLENGES
YOU FACE EVERY DAY ■



About Us

AMETEK Sensors, Test & Calibration (STC) is one of the world's leading manufacturers and developers of instruments for testing the tensile strength, compressibility, hardness, elasticity, peeling, and adhesion ability of a wide range of materials. Our product portfolio spans from handheld force gauges up to 100 kN universal testing machines.

Lloyd Instruments universal testing machines are used to determine the physical and mechanical properties of raw materials and components, as well as for product testing of finished goods.

Chatillon is a leading manufacturer and global supplier of force measurement instruments and testers for use in production, quality and R&D in a host of applications and markets.

This brochure covers our range of Lloyd Instruments universal testing machines. For more information about our range of Chatillon force measurement instruments please see the Chatillon brochure.

Contents

5	Benefits Markets	20	Twin Column Testing Machines
6	Applications	21	A World of Knowledge
14	Material Test and Data Analysis Software	22	Accessories
16	Complete Test Solution	24	Load Cells
18	Application Specific Testing Machines	25	Extensometers
19	Single Column Testing Machines	26	Splinter Shields
		27	Thermal Cabinets

A man in a white lab coat and glasses is shown in profile, holding a handheld electronic device. The background is a blurred laboratory setting with various pieces of equipment. The text is overlaid on the lower half of the image.

CUSTOMIZED TEST SOLUTIONS
ARE OUR SPECIALTY
— NO MATTER YOUR TEST NEED,
WE'LL GIVE YOU
THE RIGHT **SOLUTION.**

The Benefits of Materials Testing

Your customers demand innovation, reliability and consistently high quality. Your company demands shorter product-to-market cycle times, lower manufacturing costs and improved profitability. Basically, you're expected to do more with less.

Product testing is an integral part of your company's strategy to ensure customer safety, satisfaction and, ultimately, loyalty. Materials testing instruments are important tools in this process. These instruments measure your product's performance, safety, quality and compliance. Ultimately, product testing is key to ensure that your company avoids obstacles that can damage your valuable relationship with your customers.

AMETEK STC materials testing instruments meet these demands. We help you deliver dependable, reliable and quality products that meet your internal requirements as well as international standards. We offer a comprehensive product line engineered to be easy to set up, easy to operate and even easier to maintain.

Markets

Our product range is very versatile and our universal test machines combined with dedicated grips and fixtures can be used to solve a variety of specific test applications.

Applications

- The following section details common applications and key international standards by industry sector.

Our application knowledge and expertise is immense.

If you don't see your application here, please contact us.

.....

Products & Components

Testing of products and components often requires test methods that are not based on international standards.

NEXYGEN^{Plus} software can be configured for any multi-stage test method that is required. Configurable user access rights and audit trails benefit customers working in the medical device or pharmaceutical industries.

Markets served include:

Medical device, automotive, pipes, building materials, electronics, aerospace, packaging, defence and many more.



Test Type	Standard / Application
Tensile strength, elongation to break, yield strength, modulus, Poisson's ratio	ASTM D638, ASTM D1708, ASTM D2990, ASTM D3291, ASTM D3807, ASTM D3846, ASTM D3914, ASTM D4321, ASTM D4475, ASTM D4476, ISO 527, BS 2782, DIN 53504
Compression	ASTM D695, ASTM D2412, ISO 604, BS 2782
Flexural	ASTM D790, ISO 178, BS 2782
Shear	ASTM D732
Friction	ASTM D1894

The testing of raw materials requires highly accurate and repeatable data to allow preparation of material data sheets. A wide range of grips is available, including pneumatic grips for reducing operator fatigue and constant pressure gripping. Our extensometers enable our customers to accurately measure parameters such as modulus, yield strength and elongation to failure.

Plastics

For flexural and compression tests, our machines can compensate for load frame and fixture deflection ensuring highly accurate data acquisition.

The LD Series strain rate control accuracy exceeds the requirements of ISO527.

Test Type	Standard / Application
Tensile strength, elongation, yield strength	ASTM D882, ISO 527
Static and kinetic coefficients of friction	ASTM D1894, ISO 8295
Tearing strength	ASTM D1004, ASTM D1938, ISO 6383
90° and 180° peeling of heat bonded seals	Seal Strength
Puncture resistance	ASTM D5748, EN 14477
Cardboard compression, flexural, ECT, BCT, FCT, SCT	ISO 5628, ISO 3037, ISO 12048, EN 23035, ISO 9895

The testing of packaging requires an extremely versatile materials testing system due to the varying requirements within industries such as pharmaceutical, cosmetics, food and beverages.

A single system from us will allow you to test in compliance with all standards shown above and many more.



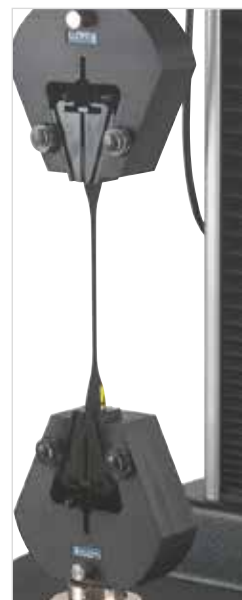
Packaging

Test Type	Standard / Application
Tensile	ISO 37, ASTM D412, ASTM D413, ASTM D429, ASTM D4482
Tear	ASTM D624

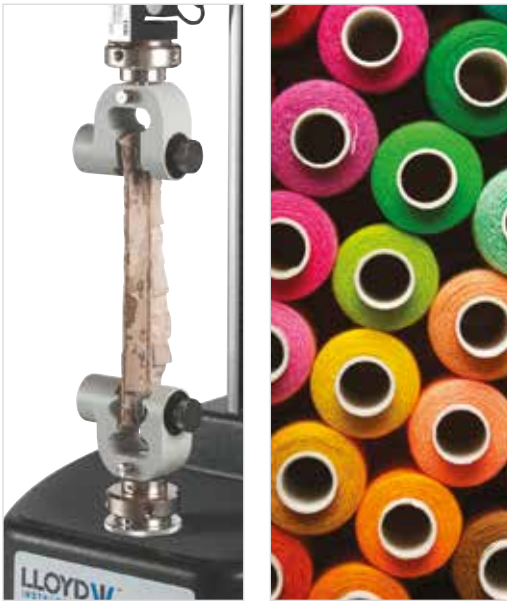
Testing of rubber materials requires machines capable of measuring high strain and testing at temperatures above and below ambient.

We offer extended column machines ideal for rubber applications that are compatible with long travel contacting and non-contacting extensometers.

Thermal chambers for testing between -70°C and +300°C are also available for the study of material properties at temperatures other than ambient.



Rubber



Textiles

Test Type	Standard / Application
Tensile textiles	ASTM D1682, EN ISO 13934, ASTM D1578, EN ISO 13935, EN 29073, EN ISO 2062
Tensile geo-textiles	ASTM D4884, ASTM D4632, ASTM D4595, EN ISO 10319, EN ISO 10321

Test Typical Products

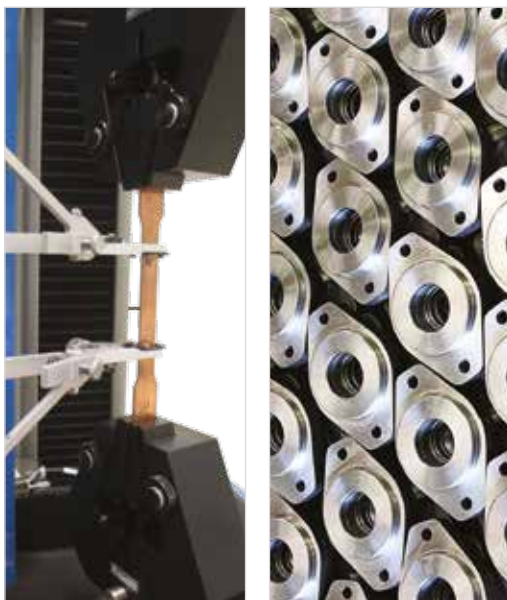
Geo-textiles	Knitted products	Ropes
Fibre and yarns	Thermal insulation	Nets
Coated textiles	Non-wovens	Webbing

Test Type

Seam slippage	Tensile strength	Compressive strength
Puncture resistance	Tear resistance	Trouser tear
Coated textiles	Non-wovens	Webbing

Testing textiles can include testing the strength of woven cloth, slippage in woven fabrics, seam strength, and tests on yarns and attachments such as buttons and poppers.

Some of the most common test types within textile testing are tear resistance, compressive strength, tensile strength, and puncture resistance, all of which are among the many types of tests that can be performed on our high-precision test machines.



Metals

Test Type	Standard / Application
Tensile	EN 10002, EN ISO 8496, ISO 6892, ASTM E8, ASTM A370
N value	ISO 10275
Bending	ASTM E290, ASTM E1012, EN 13523, EN ISO 7438, EN ISO 8491
Erichsen cupping test	DIN 50101

The key to accurately measuring the properties of metals is highly accurate strain rate control. The LD Series exceeds the strain rate accuracy requirements of all relevant international standards.

For metals testing, we offer a wide range of extensometers including video extensometers to measure such parameters as Young's modulus and proof stress.

Standard test methods within NEXYGEN*Plus* software allow simple and fast test creation to international standards.

Test Type	Standard / Application
180° peel	FTM1
90° peel	FTM2
Low speed release	FTM3
Loop tack	FTM9
Dynamic shear	FTM18

Our LS Series can be configured to test in accordance with the FINAT methods.



Adhesive Tapes

Test Type	Standard / Application
Compression	IASTM D3574, ISO 3386, BS 4098
Tensile	ASTM D3574

Several compression/relaxation tests can be performed on foam samples, measuring the forces at various percentages of compression to international standards.



Foams



Test Type	Standard / Application
Tensile wet & dry	EN 1607, EN 1608, ASTM C203
Flexural	EN 12089, ASTM C446, ASTM C203
Compression	EN 826, ASTM C165, EN 1605, EN 12089
Friction	TAPPI

Tests such as Z direction fibre strength, bending, friction and compressibility can be easily performed using NEXYGEN*Plus* software.

Data from all tests can be combined into a single material properties data sheet.

Paper and Board



Test Types		
TPA	Consistency	Gumminess
Adhesiveness	Crispness	Hardness
Chewiness	Firmness	Springiness
Cohensiveness	Gel strength	Stickiness

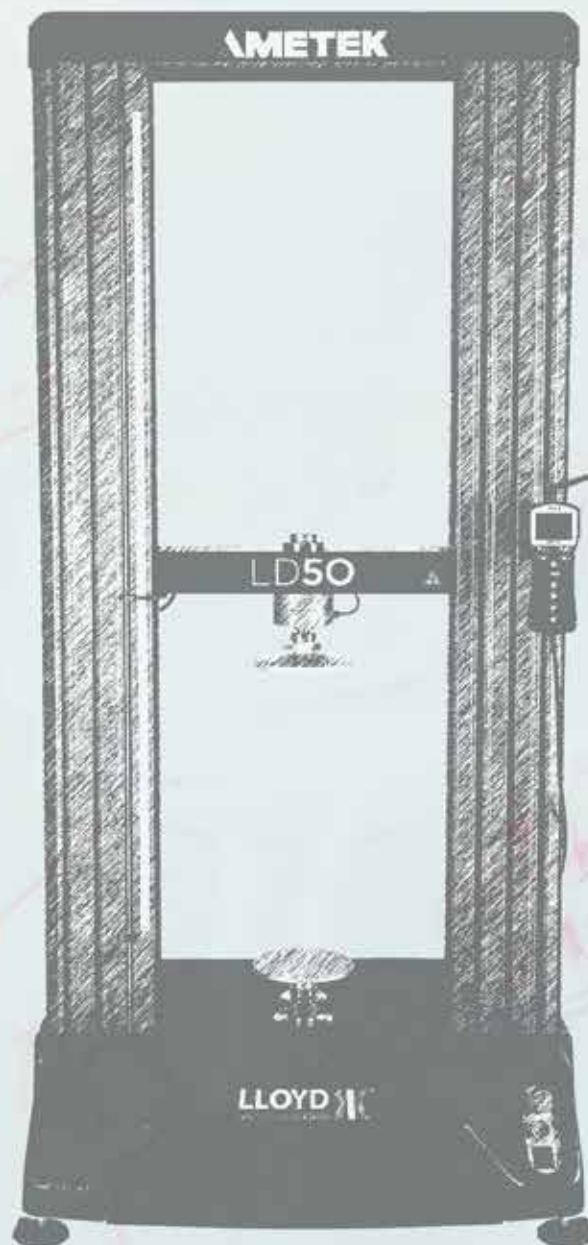
We also supply the dedicated food texture analyser TA1 which features all the benefits of the LS Series and NEXYGEN*Plus*.

Food



QUALITY AND INTEGRITY

ARE A PART OF OUR DNA, AND
WE WOULD LIKE TO HELP MAKE
IT PART OF YOURS AS WELL. ■





Analysis Software

MATERIAL TEST AND DATA ANALYSIS SOFTWARE

NEXYGEN *PLUS*

The flexible and easy-to-use software allows the operator to control and monitor all aspects of the system from a single intuitive user interface. This ensures fast, reliable, and powerful testing in addition to fingertip control of data analysis features.

THE PACKAGE INCLUDES:

- + Integrated Standards library featuring common ISO, EN and ASTM methods
- + Comprehensive multi-stage test wizard
- + SPC trend and histogram charts
- + Video and still picture capture system
- + Compatible with Windows® packages
- + Data export utility for connection to LIMS and SPC packages
- + Seamless integration with Microsoft Office®

Test Library

Getting started with NEXYGEN*Plus* could not be simpler thanks to the extensive built-in library of test methods covering food, cosmetics and packaging tests to AACC, ASTM, DIN, EN, ISO, and other international standards.

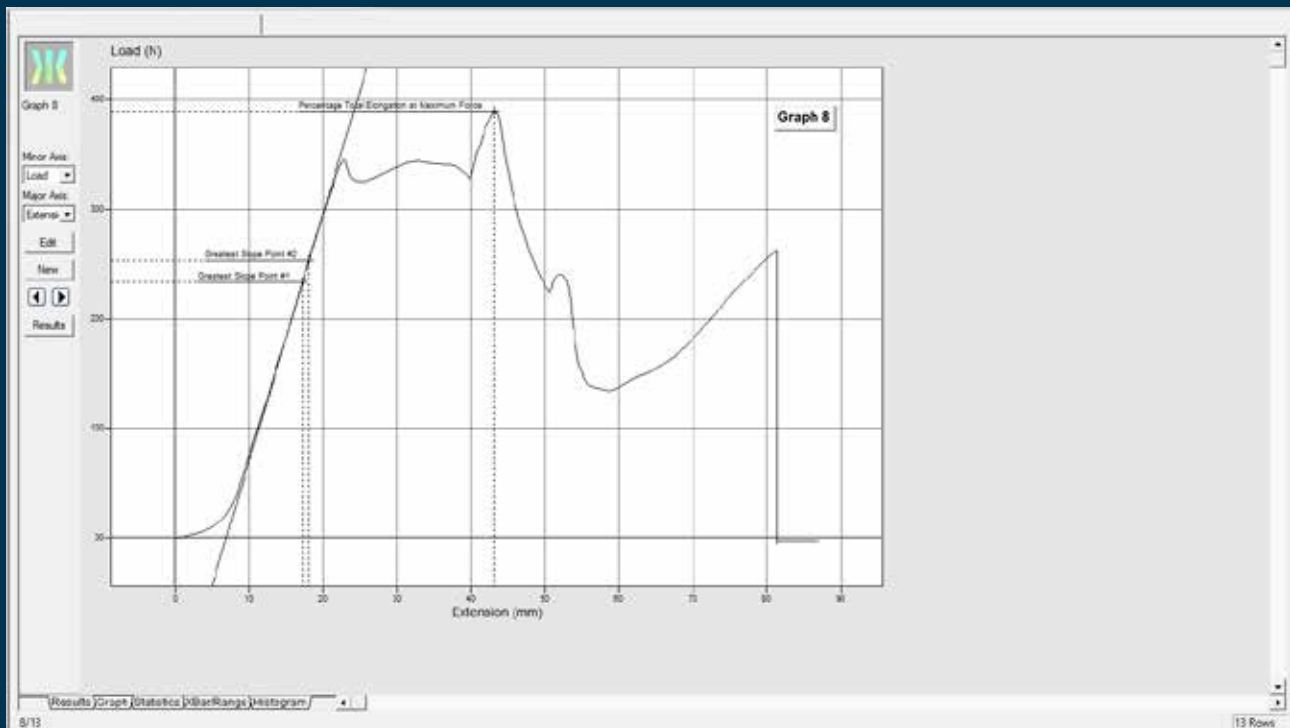
Our philosophy is to offer an advanced test library covering all available modules to every customer, in addition to complete test wizards for tension, compression, tearing, peeling, friction and flexural tests.

The standard user configurable test can be used to create specialist multi-stage tests and is particularly beneficial for testing springs, plastics, rubber, and medical devices.

Video and Still Picture Capture

Whether for advanced texture analysis or presentation of test results, video and stills capture is a unique convincing feature. Entire tests can be videoed and replayed for detailed post-test analysis.

Alternatively, still images can be taken at specific points during the test. The still images are recorded on the graph for easy analysis. These powerful features can be utilised by simply connecting a webcam or analogue video camera to a PC.



Test Data Integrity and Audit Trails

The security and audit trail feature enables supervisors to manage user access and data traceability. NEXYGEN^{Plus} utilizes Windows Active Directory users allowing system administrators to manage user access.

Electronic signatures and the ability to restrict user access rights increase security and avoid costly errors. Integrated audit trails covering operator usage and test results ensure critical changes to test procedures are recorded in a simple retrievable format.

Reporting and Exporting Data

NEXYGEN^{Plus} features a simple to use report designer linked to Microsoft Word. Layouts, fonts and images can all be manipulated using the full power of Microsoft Word[®]. Microsoft Office[®] integration allows seamless

transfer of data to familiar Windows[®] packages such as Word[®] and Excel[®] for further analysis. Data can also be exported to your favourite LIMS, SPC or data management systems by using our versatile data export facility.

A FLEXIBLE SYSTEM TO FIT YOUR SPECIFIC NEEDS

Your Complete Testing Solution

– For material test today
and in the future

The modular design of Lloyd Instruments test machines allows you the flexibility to customize your testing experience, ensuring that your test machine will meet your needs today and into the future.

Combined with the NEXYGEN*Plus* analysis software you have a powerful test system capable of providing reliable, high quality testing for many years to come.

With the availability of thousands of interchangeable test fixtures and an extensive range of accessories, the test machines from Lloyd Instruments can virtually perform any type of test quickly, safely, and accurately.



CHOOSE THE RIGHT UNIVERSAL TESTING MACHINE

All Lloyd Instruments machines are universal testing machines that can be used as is or coupled with the powerful NEXYGEN*Plus* software for advanced analysis. The machine can be used stand-alone or be connected to robots for automated testing, helping to reduce costs and save time.

Standard NEXYGEN*Plus* features:

- All available test methods
- Facility to build your own methods
- Powerful reporting engine compatible with Microsoft® Excel® and Word®
- Data export engine for use with LIMS and SPC systems

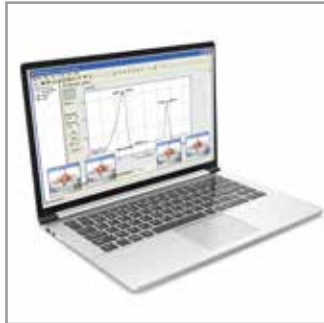




TAILOR TO YOUR NEEDS

Every application is unique. Lloyd Instruments' wide range of accessories give you the most effective and accurate test system. When a universal testing machine is chosen, a Lloyd Instruments Application Engineer will support you in selecting the load cell, grips and additional accessories needed for your specific test solution.

- Interchangeable grips and fixtures for any application.
- Wide range of easily interchangeable load cells of different capacities to give you the highest accuracy measurements.
- Contact and non-contact extensometers for precision strain measurement on materials such as plastic, metal and rubber.
- Safety shields for protection when testing brittle materials.
- Thermal chambers for testing material properties both above and below ambient temperatures.



FAST AND EASY ANALYSIS

The flexible NEXYGENPlus analysis software boosts your testing solution and offers fast analysis that is easy to read, process or even pass on to others for further analysis.

- Complete standards library for a wide range of applications.
- Video and still picture capture system for post observation and -analysis.
- Seamless integration with Excel and other Microsoft® Office programs.
- Data export utility for connection to LIMS and SPC packages.



AUTOMATE YOUR TESTING

Take your testing to new levels of flexibility and productivity. The materials testers from Lloyd Instruments are designed to automate your workflow, helping to reduce costs and save time, while providing high precision, accuracy, and reliability.

APPLICATION SPECIFIC TESTING MACHINES

Specific Needs, Unique Solutions

– Experts in designing
test solutions that work
for you



up to 1 kN



Traceability



Mountable



Digital



Analysis Software



Ready for Use

Friction Tester

The FT1 friction tester is a perfect choice to easily measure static and kinetic coefficients of friction.

It conforms to international standards for friction testing including ASTM D1894, ISO 8295 and TAPPI T549.

Texture Analyser

The TA1 texture analyser is a cost effective, easy to use solution for performing rapid, detailed texture analysis tests. An extensive range of jigs, probes and fixtures designed from years of experience is available. In addition, the machine can be fitted with multi-purpose grips for testing the strength and integrity of food packaging.

SINGLE COLUMN TESTING MACHINES

LS SERIES

Powerful Material Test Machines

– For advanced material
testing up to 5 kN



up to 5 kN



Traceability



Mountable



Digital



Analysis Software



Ready for Use

■ Accuracy +/- 0.5% of reading
down to 1% of cell capacity

■ For quality control,
education and R&D

■ Modern linear
guide technology

High-precision solutions that, when combined with our extensive range of grips, fixtures, extensometers and software, create a powerful materials testing system. Suitable for a wide range of applications and test types, including medical devices, plastics, packaging, textiles, rubber, and electronics to name a few.

The series features an integral control console with a multi-function keypad and an easy-to-read backlit LCD to display load and extension information. The control console displays prompts and menus, which guide you through machine operations. It can work as a standalone system but when used in collaboration with NEXYGENPlus software it allows the operator to control and monitor all aspects of the system from a single front end.

TWIN COLUMN BENCH MOUNTED

LD SERIES

Designed to Perform. Built to Last.

– For flexible materials testing up to 100 kN



up to 100 kN



Traceability



Mountable



Digital



Analysis Software



Ready for Use

■ Data sampling rate 1000Hz

■ For simple to complex multi-stage tests

■ Extended models available

The modular design of the Lloyd Instruments test machines allows you the flexibility to customize your testing experience, ensuring that your test machine will meet your needs today and into the future.

With the availability of thousands of highly accurate, interchangeable grips and fixtures as well as an extensive range of accessories, the test machines from Lloyd Instruments can virtually perform any type of test quickly, safely, easily, and accurately. Match it with the NEXYGEN^{Plus} analysis software and you have a powerful machine capable of providing powerful, high quality testing for many years to come.

A WORLD OF KNOWLEDGE

AMETEK
SENSORS, TEST & CALIBRATION

USA - English

Registered User Login

MATERIALS PRODUCTS LEARNING ZONE SUPPORT NEWS CONTACT US

LLOYD materials testing
Chatillon force measurement

Force Gauges

Materials

Test Types

Grips

Test Stands

AMETEKTEST AT A GLANCE
AMETEK Sensors, Test & Calibration - Measuring Up to Your Standards!
AMETEK Sensors, Test & Calibration supplies materials testing machines and force measurement instruments that provide the highest level of performance and capability for production testing, quality control, laboratory testing, research and education. Chatillon and Lloyd Instruments are just some of the world-renowned brands.

RECENT NEWS

Easy, Low Cost Plastic Testing
The CS2 Series force testing machines are ideal for plastic testing when accuracy, repeatability and

The New Generation of Force Testers Is Here
Chatillon introduces the new, enhanced CS2 Series of force testing machines for tensile

At AMETEK STC we have decades of experience with materials testing. We share our knowledge with testing professionals all over the world on a daily basis through seminars, exhibitions and training sessions.

Our website, AmetekTest.com, functions as a digital portal packed with application notes, case stories, articles, product information, industrial solutions, videos, standards overview, answers to frequently asked questions and much more. The information is available for you to use at any time, just like our technical experts are just one call away if you need guidance when looking for a testing solution that fits your specific application.

Join the AMETEK STC community on LinkedIn and be first in line for news, articles, application notes, and tips and tricks for materials testing professionals.



AMETEK
SENSORS, TEST & CALIBRATION

MATERIALS

Plastic Testing Solutions
Rubber Testing Solutions
Tensile Testing Solutions
Force Testing Solutions
Bending/Torsion Testing Solutions
Automotive Component Testing Solutions
Electronics Testing Solutions
Paper and Cardboard Testing Solutions
Power Testing Solutions
Composites Testing Solutions
Welding Testing Solutions
Medical Testing Solutions

Case Stories

Lamborghini - Testing Lamborghini Engine Valve Springs

Support

Food Grips and Fixtures

Battery Testing

Learning Zone

Videos

Accessories

GRIPS, JIGS, FIXTURES AND PROBES



Bending / Flexural Jigs

Bending grips / flexural grips for 3-point and 4-point bending.



Compression Plates

Compression plates for compression testing.



Eccentric Roller Grips

Eccentric roller grips for flat samples such as rubber, plastic film and paper.



Hydraulic Grips

Hydraulic grips with single or double actuator.



Peel and Friction Grips

The peel and friction grips come in different designs and are ideal for peeling samples at 90°, 180°, performing T-peel and COF.



Pincer Grips

Pincer grips for small component parts.



Vice Grips

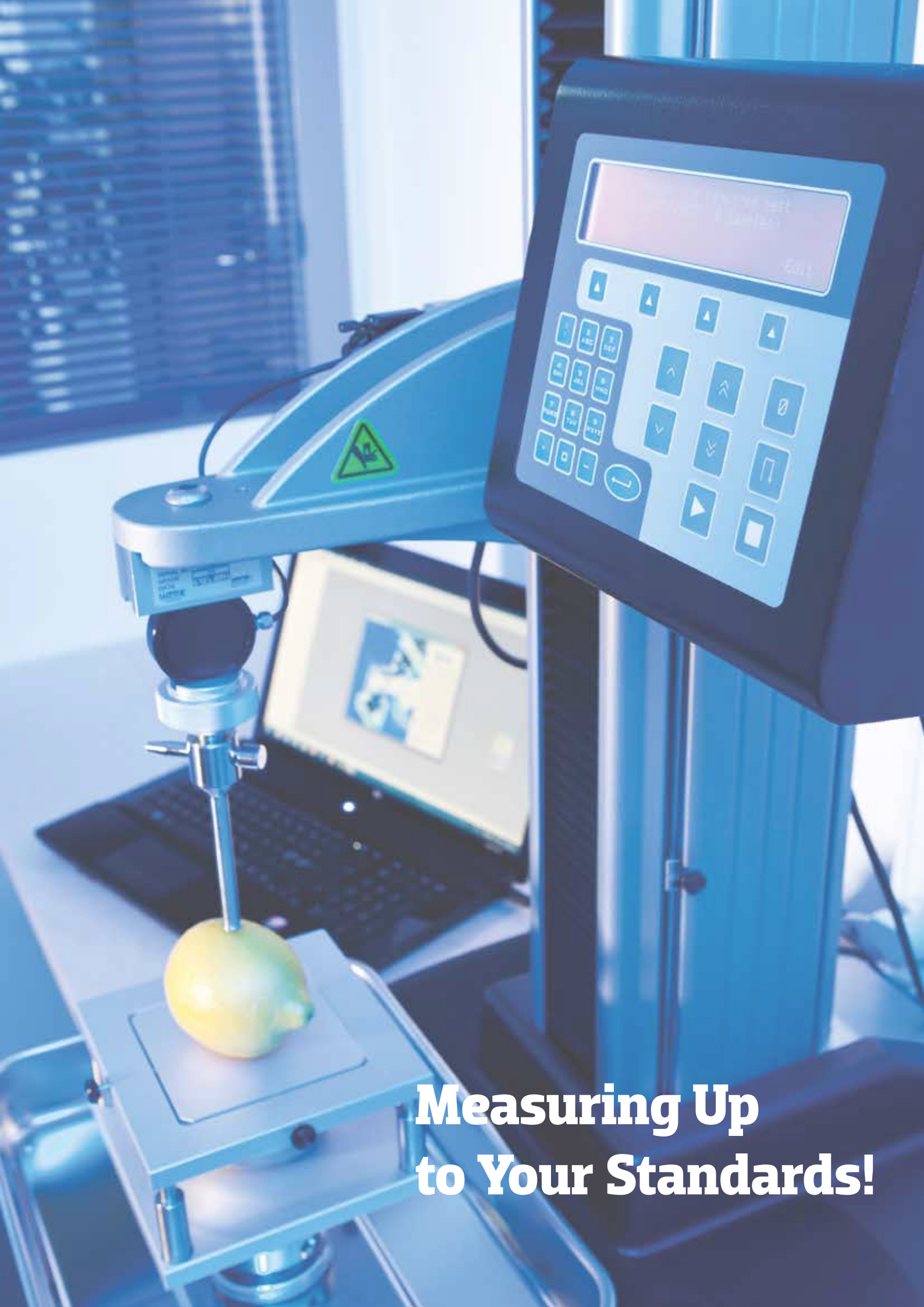
Vice grips for all types of samples.



Wedge Grips

Wedge grips for testing the tension of plastic and metals.

We also offer scissor grips, bollard grips, thread head grips and more. If we don't have it, we can probably make it. Please contact us for more details and custom solutions.



**Measuring Up
to Your Standards!**

LOAD CELLS

XLC/YLC Load Cells

Compatible with the LS Series, LD Series, TA texture analysers, and FT1 friction tester. The load cells are S-Beam designed with anti-rotation collars to keep the load train from twisting. Easy adjustment for better axial alignment.

Capacity:

max 10 kN. Accuracy: $\pm 0.5\%$ from 1% to 100% of the stated load cell range.

OLC (Pancake) Load Cells

Compatible with the LD Series. The load cells improve accuracy at the cross axis and due to its compact shape it helps increase work area.

Capacity:

max 100 kN. Accuracy: $\pm 0.5\%$ from 1% to 100% of the stated load cell range.





EXTENSOMETERS

Video Extensometers

The VE1 is a high precision video extensometer that uses a non-contacting optical measurement based on a digital camera and real time image processing to measure longitudinal and transversal strain during tensile tests.

Long Travel Extensometers

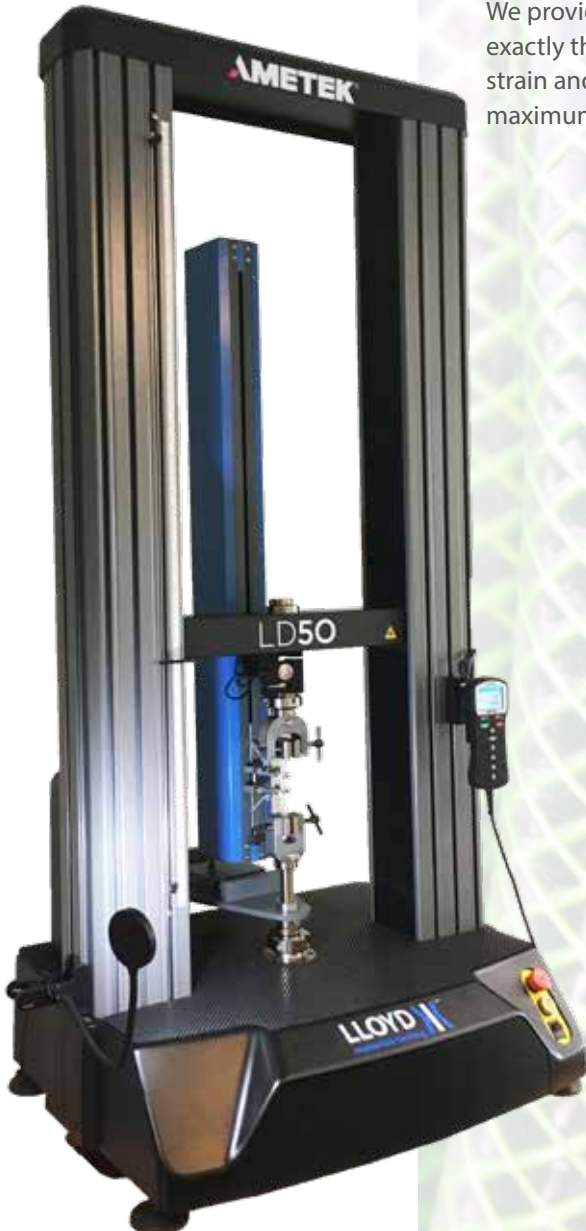
Long travel extensometers are ideal for use when testing high-elongation materials. We supply two different long travel extensometers; one for plastic and rubber and one for rigid, semi-rigid and ductile materials.

Deflection Gauge Extensometers

A wide range of deflection gauge extensometers are ideal to measure deformation in three- and four-point bend tests and in compression testing applications. We offer a wide range in many shapes and sizes.

Contacting Extensometers

We provide a wide variety of general purpose contacting extensometers in exactly the size you need. These extensometers are designed for accurate strain and extension measurement of a wide range of materials up to a maximum sample thickness of 25 mm.



SPLINTER SHIELDS

Splinter shields are available to protect the user when testing brittle samples which are liable to fragment. These shields help prevent sample splinters from leaving the test area when performing a test.

Sliding shields are lowered onto the test area once the sample is mounted. Hinged shields can be easily opened, allowing full access to the test area from the front or back of the machine.

Splinter shields are available for single-column and twin-column test machines.

POGO test frames are unique to AMETEK STC. By fitting the POGO frame below the machine base it becomes possible to test very large samples. Please contact AMETEK STC for more information.



THERMAL CABINETS

Designed for testing samples under predefined temperature conditions, we offer a range of thermal cabinets, providing a temperature range from -70 to 300°C within a large general purpose test area.

The cabinets have a glass observation panel in the front door that allows the specimen to be inspected during test. The cabinet is mounted on a rail system which allows for the thermal chamber to be pushed to the rear, clear of the crosshead so normal ambient tests are possible.

Thermal cabinets can be used with all of our twin-column test machines.



ABOUT AMETEK STC

AMETEK Sensors, Test & Calibration

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

LLOYD Instruments Materials Testing

Materials 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.

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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