

Series F

Digital Force Testers

M IntelliMESUR®



MARK-10

Force and Torque Measurement Engineered Better

Force Measurement Re-imagined

Series F Tension / Compression Test Frames are engineered for force testing applications up to 1,500 lbF (6.7 kN). Select from a broad range of force sensor capacities and an expansive array of grips and fixtures.

Set up tests, record data, and analyze data via IntelliMESUR® software. From basic tests to multi-step sequencing, IntelliMESUR® is fully integrated with Series F systems. Select from a pre-configured tablet control panel or standalone software for your own Windows device.



Virtually limitless applications

From food packaging to electronics, from consumer products to aerospace manufacturing, Mark-10 force test frames are at home in laboratory and production environments in virtually every industry worldwide.



Peel testing



Wire tensile testing



Compression spring testing



90° peel testing



Score bend testing



Tension spring testing

Engineered For Performance

There's a Series F test frame for every need and budget. Select from a wide range of force capacities, heights, and form factors.



F105 | F305 | F505

F755 | F1505

F755S | F1505S

F505H

	F105	F305	F505	F505H	F755	F755S	F1505	F1505S
Force Capacity:	100 lbF [0.5 kN]	300 lbF [1.3 kN]	500 lbF [2.2 kN]	500 lbF [2.2 kN]	750 lbF [3.4 kN]	750 lbF [3.4 kN]	1,500 lbF [6.7 kN]	1,500 lbF [6.7 kN]
Travel Distance:	18.0 in [457 mm]	18.0 in [457 mm]	18.0 in [457 mm]	18.0 in [457 mm]	32.0 in [813 mm]	14.2 in [360 mm]	32.0 in [813 mm]	14.2 in [360 mm]

Multi-step tests

Building upon basic test wizards, easily incorporate any combination of steps, with the ability to loop a sequence of steps. Select from:

- Move to load
- Move to distance
- Move to break
- Hold a load or position
- Loop / cycle
- Datum
- Prompts
- Save current load or position
- Zero load or position
- Return to Home position



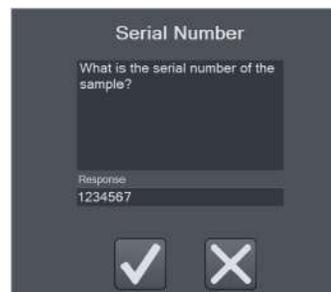
Insert and re-order steps as necessary

Operator prompting

Prompts can appear at the beginning of each test, batch, or run.

Ask prompts ask the operator for information which is saved in the results table - for example, a lot number. Type the response or use a barcode scanner.

Tell prompts provide instructions to the operator, and can include an image.



Ask Prompt



Tell Prompt

Take your measurements to new heights

Use **Height Mode** to determine height at a specific load, commonly used in spring testing. A datum may be set to define the reference point.



Deflection compensation

Series F test frames and force sensors are deflection-compensated at the factory, resulting in system distance measurement accuracy of ± 0.002 in / 0.05 mm at any load and at any position along the frame.

To further compensate grips and attachments, use IntelliMESUR®'s deflection compensation utility. The deflection offset file can be associated with the test setup file.





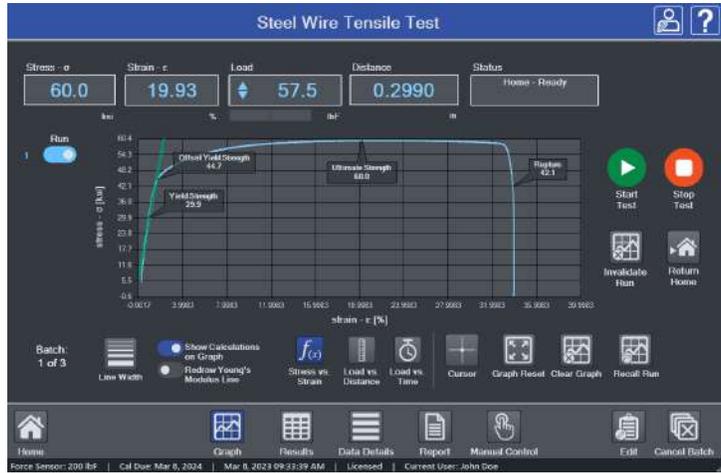
Materials Testing Calculations Module (IMF002)

Characterize and analyze the behavior of materials, components, and assemblies with a suite of materials testing calculations, including:

- Stress and strain
- Tensile strength
- Shear strength
- Young's modulus (auto-calculate or manually draw)
- Yield point
- Offset yield (user-specified percentage)
- Rupture
- Percent elongation
- Flexural modulus
- Force per unit width
- Wide variety of results based on the above calculations, such as stress at maximum strain, strain at rupture, etc.

IntelliMESUR® formats calculations into a Results table, with corresponding statistics for multiple runs. View a stress-strain curve with annotated calculations. Display up to 10 runs simultaneously for visual comparison.

Note: Calculations are not available for multi-step tests.

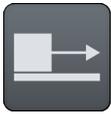


View a stress-strain curve with annotated materials testing calculations via the optional Materials Testing Calculations Module.

Run No.	Status	Date	Time	Max Stress (ksi)	Rupture (ksi)	Strain at Rupture	Young's Modulus (ksi)	Yield Strength (ksi)	Strain at Yield Strength	Off Yl Strain (%)
1	Complete	Mar 8, 2023	09:32:44 AM	60.0	42.1	0.34	2325.46	29.9	0.01	4
2	Complete	Mar 8, 2023	09:35:48 AM	59.8	42.2	0.32	2478.12	28.7	0.01	5
3	Complete	Mar 8, 2023	09:37:22 AM	60.5	43.5	0.32	2726.19	29.9	0.01	4

Minimum	Maximum	Mean	Std Dev	Variance
59.8	60.5	60.1	0.2544	0.0647
42.1	43.5	42.6	0.6377	0.4067
0.30	0.35	0.33	0.0098	0.0001
2325.5	2726.2	2607.7	165.1328	27289.81
29.9	29.9	29.9	0.0000	0.0000
0.00	0.01	0.01	0.0000	0.0000

View a broad range of common materials testing calculations results in tabular format, with corresponding statistics for multiple runs, via the optional Materials Testing Calculations module.



COF testing module (IMF001)

Measure static and dynamic COF for a wide range of materials, per ASTM D1894 and other relevant standards. Specify the sled weight and configure data collection start and stop triggers. This module can be ordered upfront or enabled in the field via activation code.



An F305-IMT advanced test frame configured with a G1086 coefficient of friction fixture.



Specify sled weight and data collection start and stop triggers during test setup.

SPECIFICATIONS

	F105	F305	F505	F505H	F755	F755S	F1505	F1505S
Load capacity*:	100 lbF [0.5 kN]	300 lbF [1.3 kN]	500 lbF [2.2 kN]		750 lbF [3.4 kN]		1,500 lbF [6.7 kN]	
Maximum travel:	18.0 in [457 mm]				32.0 in [813 mm]	14.2 in [360 mm]	32.0 in [813 mm]	14.2 in [360 mm]
Speed range:	0.02 - 45 in/min [0.5 - 1,100 mm/min]				0.001 - 60 in/min [0.02 - 1,525 mm/min]		0.001 - 70 in/min [0.02 - 1,800 mm/min]	
Load accuracy (% of full scale):	Test frame: $\pm 0.1\%$ Force sensor: Series F505: $\pm 0.1\%$ Series R07: $\pm 0.15\%$							
Load sampling rate:	20,000 Hz							
Data acquisition rate:	1,000 Hz							
Speed accuracy:	$\pm 0.2\%$ of setting, virtually no variation with load							
Distance accuracy:	± 0.002 in [0.05 mm], factory-compensated at up to full load							
Distance resolution:	0.0005 in / 0.01 mm							
Limit switch repeatability:	± 0.001 in / 0.03 mm							
Overload protection:	Motor stops at 120% of full scale of the force sensor							
Power:	Universal input 100-240 VAC, 50/60 Hz, 120W				Universal input 100-240 VAC, 50/60 Hz, 300W		Universal input 100-240 VAC, 50/60 Hz, 450W	
Fuse type:	1.2 A, 250V, 3AG, SLO BLO				4A, 3AG, SLO BLO			
Weight:	60 lb [27 kg]		70 lb [32 kg]		184 lb [83 kg]	149 lb [68 kg]	197 lb [89 kg]	157 lb [71 kg]
Shipping weight:	75 lb [34 kg]		85 lb [39 kg]		235 lb [107 kg]	195 lb [88 kg]	247 lb [112 kg]	205 lb [93 kg]
Environmental conditions:	<ul style="list-style-type: none"> ▪ Indoor use only ▪ Up to 6,500 ft [2,000 m] above sea level ▪ Temperature range: 40 - 95°F [5 - 35°C] ▪ Humidity range: up to 80% relative humidity at 31°C, decreasing linearly to 50% relative humidity at 40°C, non condensing ▪ Mains supply voltage fluctuations up to $\pm 10\%$ of the nominal voltage ▪ Transient overvoltages up to the levels of Overvoltage Category II ▪ Use in environments up to Pollution Degree 2 							
Conformance:	CE							
Warranty:	3 years [see individual statement for further details]							

- * Load capacity is reduced at higher speeds in the following models:
- F305: limited to 200 lbF [1 kN] above 24 in [610 mm]/min
 - F505 / F505H: limited to 300 lbF [1.3 kN] above 24 in [610 mm]/min
 - F755 / F755S: limited to 500 lbF [2.3 kN] above 35 in [900 mm]/min
 - F1505 / F1505S: limited to 1,000 lbF [4.5 kN] above 60 in [1,525 mm]/min

Series FS05 Force Sensors

Compatible with Models F105, F305, F505, and F505H. Adapter part no. AC1083 is required for Models F755, F755S, F1505, and F1505S.



Model No.	Capacity x Resolution						
	lbF	ozF	gF	kgF	N	kN	mN
FS05-012	0.12 x 0.00002	2 x 0.0005	50 x 0.01	-	0.5 x 0.0001	-	500 x 0.1
FS05-025	0.25 x 0.0001	4 x 0.002	100 x 0.05	-	1 x 0.0005	-	1000 x 0.5
FS05-05	0.5 x 0.0002	8 x 0.005	250 x 0.1	-	2.5 x 0.001	-	2500 x 1
FS05-2	2 x 0.001	32 x 0.02	1000 x 0.5	1 x 0.0005	10 x 0.005	-	-
FS05-5	5 x 0.002	80 x 0.05	2500 x 1	2.5 x 0.001	25 x 0.01	-	-
FS05-10	10 x 0.005	160 x 0.1	5000 x 2	5 x 0.002	50 x 0.02	-	-
FS05-20	20 x 0.01	320 x 0.2	10000 x 5	10 x 0.005	100 x 0.05	-	-
FS05-50	50 x 0.02	800 x 0.5	25000 x 10	25 x 0.01	250 x 0.1	-	-
FS05-100	100 x 0.05	1600 x 1	50000 x 20	50 x 0.02	500 x 0.2	-	-
FS05-200	200 x 0.1	3200 x 2	-	100 x 0.05	1000 x 0.5	1 x 0.0005	-
FS05-300	300 x 0.1	4800 x 2	-	150 x 0.05	1500 x 0.5	1.5 x 0.0005	-
FS05-500	500 x 0.2	8000 x 5	-	250 x 0.1	2500 x 1	2.5 x 0.001	-

Series R07 Force Sensors

Compatible with Models F755, F755S, F1505, and F1505S. Cannot be used with Models F105, F305, F505, and F505H.



Model No.	Capacity x Resolution					
	lbF	ozF	gF	kgF	N	kN
MR07-50	50 x 0.02	800 x 0.5	25000 x 10	25 x 0.01	250 x 0.1	-
MR07-100	100 x 0.05	1600 x 1	50000 x 20	50 x 0.02	500 x 0.2	-
MR07-200	200 x 0.1	3200 x 2	-	100 x 0.05	1000 x 0.5	1 x 0.0005
MR07-300	300 x 0.2	4800 x 5	-	150 x 0.1	1500 x 1	1.5 x 0.001
MR07-500	500 x 0.2	8000 x 5	-	250 x 0.1	2500 x 1	2.5 x 0.001
MR07-750	750 x 0.5	12000 x 10	-	375 x 0.2	3750 x 2	3.75 x 0.002
MR07-1000	1000 x 0.5	16000 x 10	-	500 x 0.2	5000 x 2	5 x 0.002
MR07-1500	1500 x 1	24000 x 20	-	750 x 0.5	7500 x 5	7.5 x 0.005

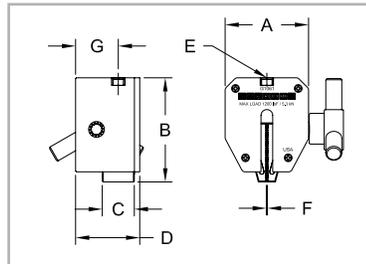
All dimensions shown as in [mm]

Tensile / Pull

Wedge grips

Heavy-duty grips designed for a range of tensile testing requirements up to 2,000 lbf [10 kN]. Self-tightening stainless steel serrated or rubber jaw faces engage the sample through a spring loaded knob and rack and pinion type mechanism. The jaws ride on rollers, eliminating jamming common in conventional wedge grips.

Model No.	A	B	C	D	E	F	G
G1061-1			0.375 [9.5]	0.95 [24.1]	5/16-18 UNC		0.62 [15.7]
G1061	1.95 [49.5]	2.45 [62.2]	0.75 [19.1]	1.50 [38.1]	1/2-20 UNF	0 - 0.25 [0 - 6.4]	1.00 [25.4]
G1061-2							
G1061-3			1.00 [25.4]	1.75 [44.5]	1/2-20 UNF	0 - 0.20 [0 - 5.1]	1.13 [28.7]



Model No.	Capacity lbf [N]	Weight lb [kg]	Jaw Material / Hardness	Included Adapters
G1061-1	200 [900]	0.50 [0.23]	416 SS / 55 RC	5/16-18M to #10-32F, #10-32 M/M stud*, 5/16-18 M/M stud*
G1061	1200 [5,300]	0.80 [0.36]		
G1061-2	2,000 [9,000]	0.90 [0.41]	Neoprene rubber Durometer = 70	1/2-20M to 5/16-18F, 1/2-20 M/M stud*, 5/16-18 stud*
G1061-3	50 [250]			



* Includes jam nuts

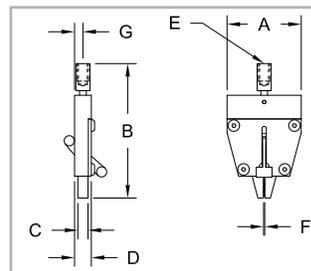
Miniature wedge grip

For general low force pull testing applications. The serrated, self tightening steel jaws are easily opened with a spring-loaded lever.

A	B	C	D	E	F	G
1.37 [34.8]	2.49 [63.1]	0.19 [4.8]	0.32 [8.1]	#10-32 UNF	0 - 0.09 [0 - 2.3]	0.15 [3.9]

Model No.	Capacity lbf [N]	Weight lb [kg]
G1062	100 [500]	0.08 [0.04]

Includes a #10-32 M/M stud with jam nuts

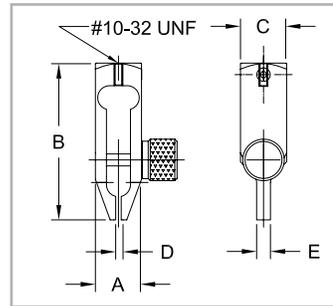


Miniature component grip

For testing small and hard-to-reach electronic and mechanical components. Slender profile allows this grip to be used in a wide range of applications.

Model No.	Capacity lbF [N]	Weight lb [kg]	A	B	C	D	E
G1003	30 [150]	0.05 [0.02]	0.5 [12.7]	1.7 [43.2]	0.5 [12.7]	0 - 0.07 [0 - 1.8]	0.15 [3.8]

Includes a #10-32 M/M stud with jam nuts

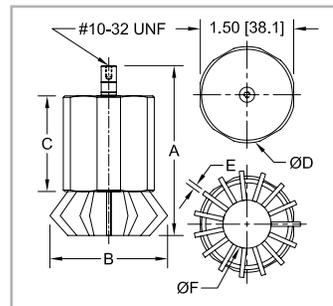


Multi-jaw grip

For gripping round or odd shaped items. Jaws expand and retract by rotating the housing.

Model No.	Cap. lbF [N]	Weight lb [kg]	ØA	B	C	ØD	E	ØF
G1056	100 [500]	0.30 [0.14]	3.50 [88.9]	2.30 [58.4] MAX	1.63 [41.4]	1.55 [39.4]	0.075 [1.91]	0.40 - 1.25 [10.2 - 31.7]

Includes a #10-32 M/M stud with jam nuts

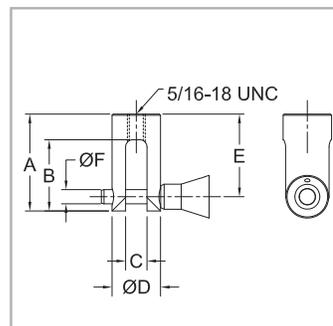


Clevis grip

This grip is designed for ergonomic assessment, spring testing, and other pull testing applications.

Model No.	Capacity lbF [N]	Weight lb [kg]	A	B	C	D	E	ØF
G1077	500 [2,500]	0.29 [0.13]	1.70 [43.2]	1.25 [31.8]	0.38 [9.7]	0.85 [21.6]	1.45 [36.8]	0.25 [6.3]

Includes a 5/16-18M to #10-32F thread adapter, 5/16-18 M/M stud with jam nuts, and #10-32 M/M stud with jam nuts

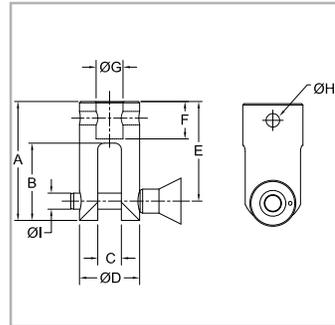


High capacity clevis grip

This high capacity grip is designed for spring testing and pulling testing applications. Integrated eye end.

Model No.	Capacity lbF [kN]	Weight lb [kg]
G1090	2,000 [9]	0.78 [0.35]

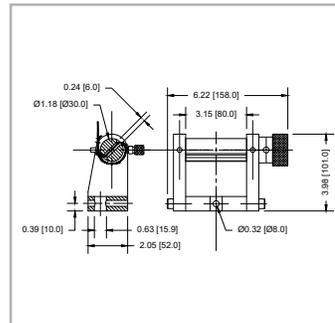
A	B	C	ØD	E	F	ØG	ØH	ØI
2.77 [70.4]	1.80 [45.7]	0.55 [14.0]	1.40 [35.6]	2.32 [58.9]	0.87 [22.1]	0.63 [15.9]	0.32 [8.0]	0.38 [9.7]



Ribbon wrap grip

Secures textile webbing, tape, and braided materials typically used in construction, shipping, and other industrial uses. Integrated eye end.

Model No.	Capacity lbF [kN]	Weight lb [kg]
G1111	2,000 [10]	5.2 [2.4]



Packaging / Peel / Friction

Film and paper grips

For gripping film, paper, and other thin materials for tensile and peel testing. Adjustable serrated interlocking jaws grip the sample securely.

Model No.	Capacity lbF [N]	Weight lb [kg]	A	B	C	D
G1008		0.31 [0.14]	1.25 [31.8]	2.50 [63.5]	1.2 [30.5]	0 - 0.15 [0 - 3.8]
G1015-1	100 [500]	0.65 [0.29]	3.00 [76.2]			
G1015-2		0.80 [0.36]	5.00 [127.0]	3.00 [76.2]	1.90 [48.3]	0 - 0.50 [0 - 12.7]
G1015-3		0.90 [0.41]	7.00 [177.8]			

Includes a #10-32 M/M stud with jam nuts

Pneumatic film and paper grip

Fully enclosed, air-powered grip for seal strength testing of packaging, elongation testing of various materials, and other tensile testing requirements. Serrated interlocking jaws effectively grip samples for up to 100 lbF of force. The grip features a unique integrated open/close valve for quick sample engagement and disengagement. An air connection kit, consisting of tubing and fittings needed to connect two grips, is available separately. A membrane repair kit is also available. See below.

Model No.	Capacity	Weight lb [kg]	Max. pressure PSI (MPa)	Air input thread	A
G1046	100 lbF [500 N] at 100 PSI [0.86 MPa]	0.58 [0.26]	125 [0.86]	#10-32 UNF	0 - 0.13 [0 - 3.3]

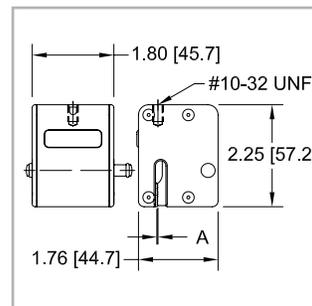
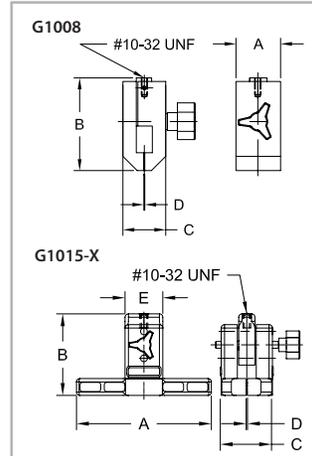
Includes a #10-32 M/M stud with jam nuts, one spare rubber membrane*, one alcohol wipe, and two cotton swabs

Model No.	Description
AC1019	Air connection kit for G1046
AC1044*	Maintenance kit for G1046*

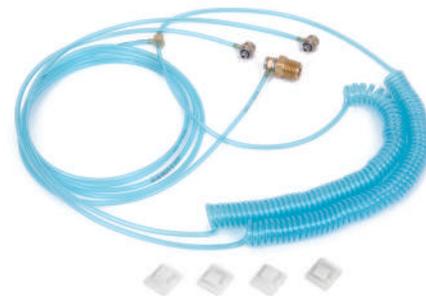
The optional maintenance kit* consists of:

1. Rubber membrane (qty. 5)
2. Alcohol wipe (qty. 5)
3. Cotton swab (qty. 12)
4. Wrench set

* The flexible internal membrane actuating the movable jaw has a variable life expectancy dependent upon the maximum air pressure used and the quality of the compressed air. It should be free from impurities, solvents and oils. Since field conditions are outside of Mark-10's control, the standard 3-year warranty does not apply to the flexible membrane. For convenience, a spare membrane and alcohol wipe is included with every new grip. A membrane repair kit may be purchased from Mark-10.



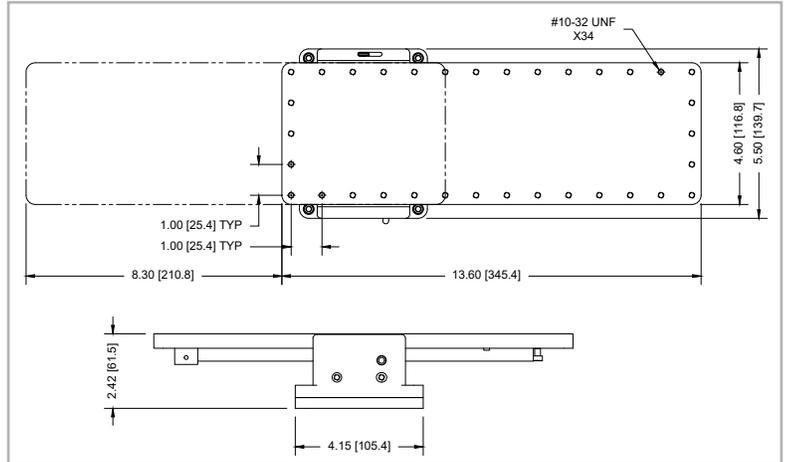
The optional air connection kit consists of:



- Coiled tubing, 1/8" OD, 1/16" ID, 8" retracted length (qty. 2)
- Y-splitter (qty. 1)
- Straight tubing, 1/8" OD, 1/16" ID, 5' length (qty. 1)
- Elbow fitting, tubing termination (qty. 2)
- Elbow fitting, tubing to #10-32M (qty. 1)
- Thread adapter, #10-32F to 1/4" NPT M (qty. 1)
- Adhesive-backed guide (qty. 4)

90° peel fixture

For testing adhesive strength of tapes, films, and packaging. Maintains a 90° angle between the table and direction of pull. An integrated limit switch automatically stops the motion of the following motorized test stands when the working table has reached its end of travel: ESM303, ESM1500(S)LC*, ESM750(S)LC*. Optional adjustable angle accessories are available.



Model No.	Description	Capacity lbF [N]	Weight lb [kg]
G1109	90° peel fixture	100 [500]	6.0 [2.7]
AC1078	Adjustable angle pulley adapter	30 [150]	1.4 [0.6]
AC1079	Adjustable angle mount	100 [500]	1.7 [0.8]
AC1080	Adapter, G1023 / G1058 grip to G1109	100 [500]	0.4 [0.2]
AC1087	Adapter, G1109 to ESM1500(S)LC / ESM750(S)LC test stands	-	-

Compatible with:

- Model ESM303 motorized test stand, when used with a force gauge
- Models ESM1500LC, ESM1500SLC, ESM750LC, ESM750LC, ESM750SLC motorized test stands, when used with AC1087 adapter

Not compatible with:

- Model ESM303 motorized test stand, when used with the AC1062 load cell/indicator mounting kit
- Models ESM1500FG, ESM1500SFG, ESM750FG, ESM750SFG motorized test stands

*AC1087 adapter required



AC1078



AC1079



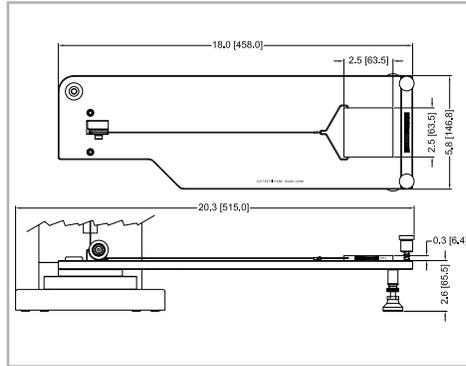
AC1080

Coefficient of friction fixture

For determining friction properties of paper, film, and other thin flexible materials. Conforms to ASTM D1894 and other relevant standards. Includes work table, 200 g sled, cable, and low-friction pulley. Static and kinetic coefficients can be measured using the M5-2-COF gauge.

Model No.	Description
G1086	Coefficient of friction fixture

Compatible with the following test frame models: F105, F305, F505, F755, F755S, ESM303. Adapters available for other models.



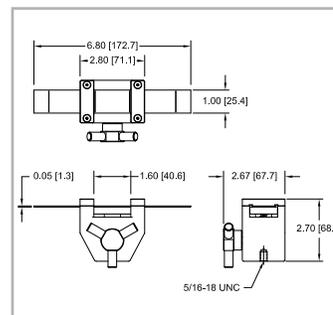
Loop tack fixture

Designed for tack force testing of pressure-sensitive adhesives, in conformance with ASTM D6195 and related standards. A looped sample is loaded onto the test strip, and the closed end of the loop is secured by an upper grip (not included - suggested model: G1008, pictured below). The test strip may be indexed in three positions, allowing for three tests to be performed between cleaning cycles.

Model No.	Capacity lbF [N]	Weight* lb [kg]	Test strip material
G1098	100 [500]	1.10 [0.5]	T304 SS, per ASTM A666

* Including one test strip

Includes a 5/16-18 M/M stud with jam nuts.



Score bending fixture

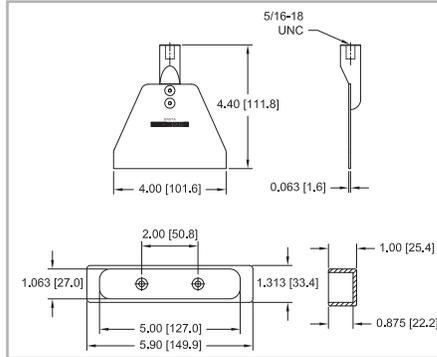
Used to produce a 90° bend in fiber board materials and plastics to conform to TAPPI standard T829. Set of upper and lower dies.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1071	50 [250]	Upper die: 0.15 [0.67] Lower die: 0.30 [0.14]

Upper die includes a 5/16-18M to #10-32F thread adapter and #10-32 M/M stud with jam nuts.

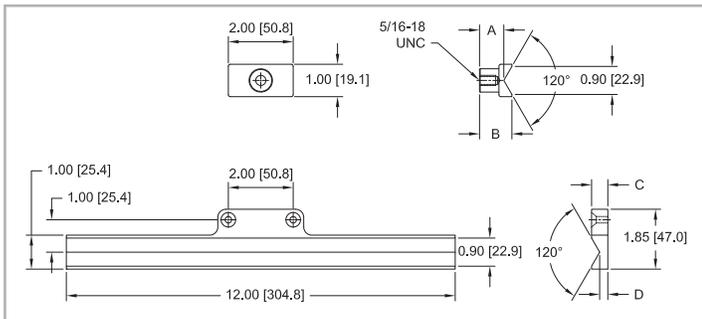
Lower die includes mounting hardware for the following test stands: ESM303, ESM1500/750 (w/AC1055 plate), ES30, TSC1000, TSF, ES10/ES20 (w/AC1060 plate).

Recommended for use with a motorized test stand.



Opening force fixture

Used to determine the opening force of flat folded cartons along score lines. Set of upper and lower dies.



Model No.	Capacity lbF [N]	Weight lb [kg]	A	B	C	D
G1072	50 [250]	Upper die: 0.06 [0.03] Lower die: 0.10 [0.05]	0.75 [19.1]	1.00 [25.4]	0.50 [12.7]	0.25 [6.4]

Upper die includes a 5/16-18M to #10-32F thread adapter and #10-32 M/M stud with jam nuts.

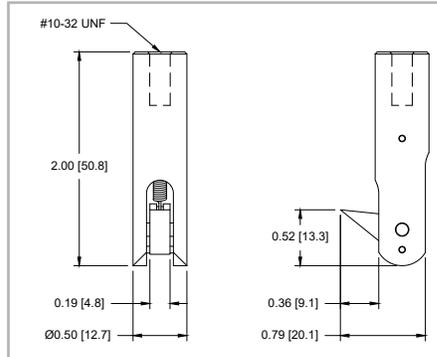
Lower die includes mounting hardware for the following test stands: ESM303, ESM1500/750 (w/AC1055 plate), ES30, TSC1000, TSF, ES10/ES20 (w/AC1060 plate). Recommended for use with a motorized test stand.

Flip Cap Pull Grip

Designed to engage the tab on a flip cap for pull-off force measurements. A spring-loaded hook retracts as it is lowered into the starting position, then snaps into place below the tab.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1104	20 lbF [100 N]	0.10 lb [0.04 kg]

Includes a #10-32 M/M stud with jam nuts

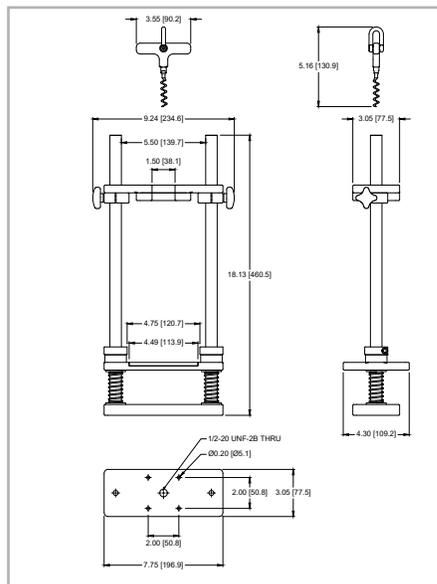


Cork Pull Fixture

Designed to extract a cork stopper out of a bottle for pull force measurements, in conformance with ISO 9727.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1105	200 lbF [1000 N]	9.5 lb [4.3 kg]

Includes a G1035 large hook, G1018-2 swivel adapter, and test stand mounting hardware. Recommended for use with a motorized test stand.



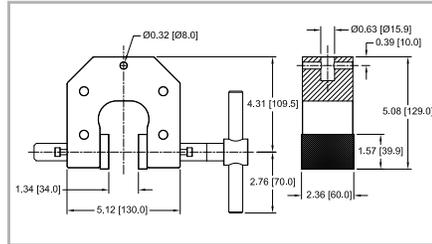
Vise / Parallel Jaw

Parallel jaw / vise-action grip, large

For general tensile and pull testing applications. Includes an adjustable stop to ensure consistent sample placement. Integrated eye end.

Model No.	Capacity lbF [kN]	Weight lb [kg]	Housing Material	Jaw Material
G1100	2,000 [9 k]	5.9 lb [2.7]	Aluminum	Hardened steel, 58 RC

3.94 in [100.0 mm] extended length jaws are available. See website for details.

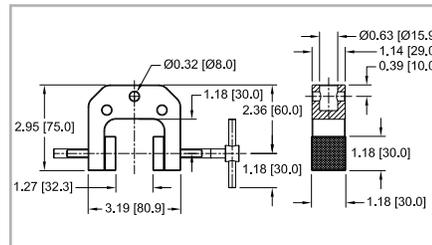


Parallel jaw / vise-action grip, medium

For general tensile and pull testing applications. Integrated eye end.

Model No.	Capacity lbF [N]	Weight lb [kg]	Housing Material	Jaw Material
G1101	200 [1,000]	1.0 lb [0.5]	Aluminum	Hardened steel, 58 RC

Extended length jaws are available: 1.97 in [50.0 mm], 3.15 in [80.0 mm], 3.94 in [100.0 mm]. See website for details.

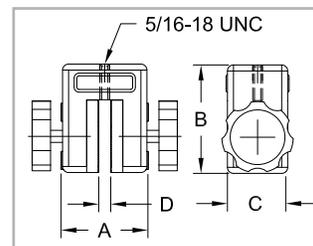


Parallel jaw / vise-action grip

For general tensile and pull testing applications.

Model No.	Capacity lbF [N]	Weight lb [kg]	A	B	C	D
G1013	200 [1,000]	0.65 [0.29]	1.75 [44.5]	2.25 [57.2]	1.25 [31.8]	0 - 0.25 [0 - 6.3]

Includes a 5/16-18M to #10-32F adapter and #10-32 M/M stud with jam nuts

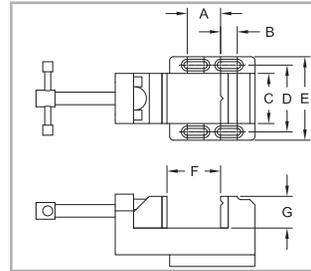


Vise grip, standard

General purpose vise, for a wide range of tension and compression testing applications.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1074	500 [2,500]	2.0 [0.9]

A	B	C	D	E	F	G
1.00 [25.4]	0.50 [12.7]	1.50 [38.1]	2.00 [50.8]	2.50 [63.5]	0 - 1.50 [0 - 38.1]	1.00 [25.4]



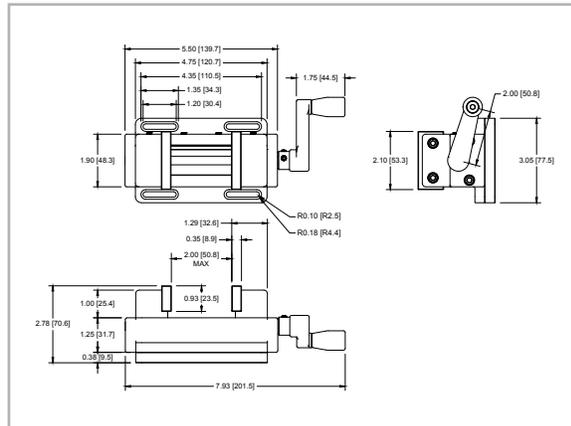
Includes mounting hardware and adapters to mount to the following test stands: ESM303, ESM1500/750 (w/AC1055 plate), ES30, TSC1000, TSF, ES10/ES20 (w/AC1060 plate)

Vise grip, self-centering

General purpose vise, for a wide range of tension and compression testing applications. Self-centering, replaceable jaws can be field-modified to improve sample gripping characteristics.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1106	500 [2,500]	3.00 [1.36]

- Includes mounting hardware and adapters to mount to the following test stands: ESM303, ESM1500/750 (w/AC1055 plate), ES30, TSC1000, TSF, ES10/ES20 (w/AC1060 plate).



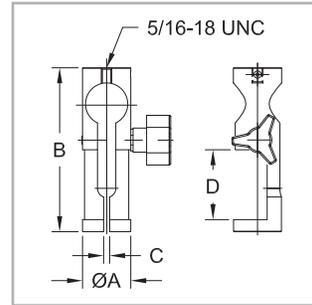
Wire / Rope / Yarn / Tubing

Wire terminal grips

For securing wire terminals, cables, connectors, and other samples for pull testing.

Model No.	Capacity lbF [N]	Weight lb [kg]	ØA	B	C	D
G1001	200 [1,000]	0.29 [0.13]	1.00 [25.4]	3.40 [86.4]	0 - 0.125 [0 - 3.1]	1.45 [36.8]
G1001-1					0.125 - 0.25 [3.1 - 6.3]	
G1001-2					0.25 - 0.375 [6.3 - 9.5]	

◀ Includes a 5/16-18M to #10-32F adapter and #10-32 M/M stud with jam nuts

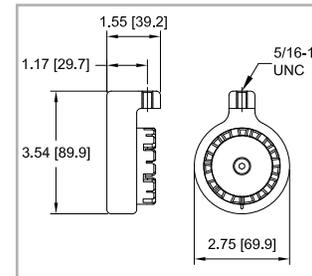


Wire terminal grip, turret style

For securing wire terminals, cables, connectors, and other samples for pull testing. Indexing wheel contains grooves of varying widths to accommodate a wide range of sample shapes and sizes.

Model No.	Capacity lbF [N]	Groove Widths	Weight lb [kg]
G1076	500 [2,500]	0.03 [0.7], 0.04 [1.0], 0.06 [1.5], 0.08 [2.0], 0.09 [2.3], 0.11 [2.8], 0.12 [3.0], 0.14 [3.5], 0.15 [3.8], 0.17 [4.3], 0.18 [4.5], 0.20 [5.1], 0.21 [5.3], 0.23 [5.8], 0.25 [6.3]	1.00 [0.45]

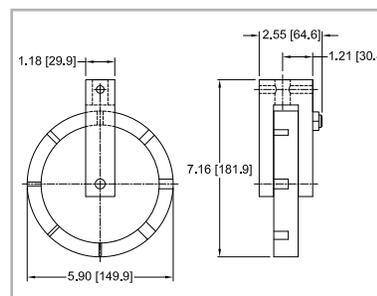
Includes a 5/16-18M to #10-32F adapter and #10-32 M/M stud with jam nuts



High capacity wire terminal grip

For securing wire terminals, cables, connectors, and other samples for pull testing. Indexing wheel contains grooves of varying widths to accommodate a wide range of sample shapes and sizes. Integrated eye end.

Model No.	Capacity lbF [kN]	Groove Widths	Weight lb [kg]
G1093	2,000 [9]	0.08 [2.0], 0.12 [3.0], 0.16 [4.0], 0.20 [5.0], 0.24 [6.0], 0.31 [8.0], 0.39 [10.0], 0.46 [11.8]	6.4 [2.9]



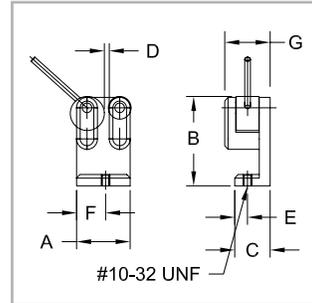
Dual roller grips

For securing the ends of wire, cable, and tubing samples for pull testing. Engaging and disengaging samples is quick and easy via an efficient cam design and convenient side slot for sample insertion. Serrated steel rollers produce effective gripping characteristics.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1002	500 [2,500]	0.19 [0.09]
G1002-1		0.24 [0.11]

Model No.	A	B	C	D	E	F	G
G1002	1.18 [30.0]	2.00 [50.8]	0.75 [19.1]	0 - 0.22 [0 - 5.6]	0.25 [6.4]	0.64 [16.5]	1.0 [25.4]
G1002-1	1.30 [33.0]			0.10 - 0.34 [2.5 - 8.6]			

Includes a #10-32 M/M stud with jam nuts



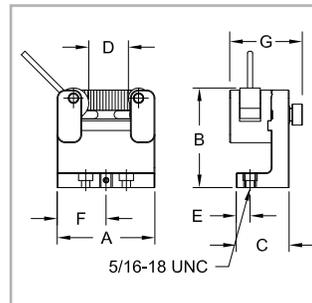
Adjustable dual roller grip

For securing tubing, cables, and odd shaped samples for pull testing applications. Engaging and disengaging samples is quick and easy, with a side slot for sample insertion and serrated steel rollers. Rollers can be repositioned as required for the application.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1085	500 [2,500]	0.51 [0.23]

Model No.	A	B	C	D	E	F	G
G1085	2.40 [61.0]	2.45 [62.2]	1.30 [33.0]	0 - 1.00 [0 - 25.4]	0.34 [8.6]	1.20 [30.5]	1.78 [45.3]

Includes a 5/16-18 M/M stud with jam nuts

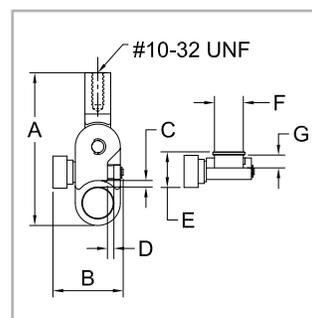


Miniature filament grip

For securing small diameter wires and filaments. The sample wraps around the bollard and the loose end is secured by the adjustable jaw. Integrated swivel ensures sample alignment under load.

Model No.	Cap. lbF [N]	Weight lb [kg]	A	B	C	D	E	F	G
G1078	50 [250]	0.06 [0.03]	2.38 [60.4]	1.09 [27.7]	0.10 [2.5]	0.10 [2.5]	0.55 [14.1]	Ø0.45 [11.4]	0.20 [5.1]

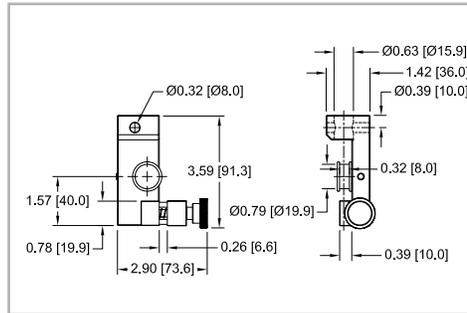
Includes #10-32 M/M stud with jam nuts



Wire / rope grip, medium

For securing wire and rope. The sample wraps around the bollard and the loose end is secured by the adjustable rubber-faced jaw. Integrated eye end.

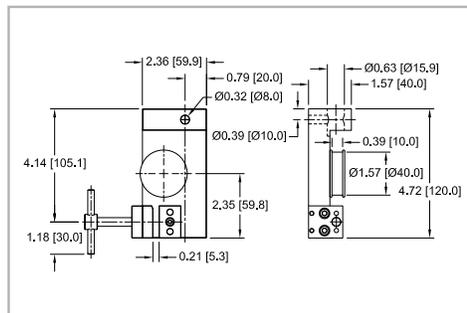
Model No.	Capacity lbF [N]	Weight lb [kg]
G1103	200 [1,000]	0.6 [0.3]



Wire / rope grip, large

For securing wire and rope. The sample wraps around the bollard and the loose end is secured by an adjustable jaw. Integrated eye end.

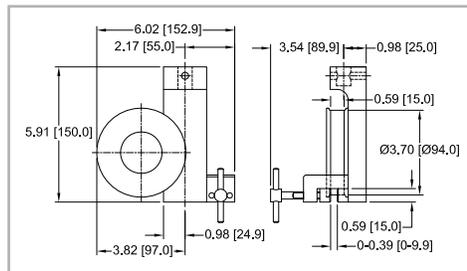
Model No.	Capacity lbF [N]	Weight lb [kg]
G1102	1,000 [5,000]	1.8 [0.8]



Wire / rope grip, high capacity

For high capacity wire and rope pull testing applications. Secures the free end of the sample via a bollard and vise. Integrated eye end.

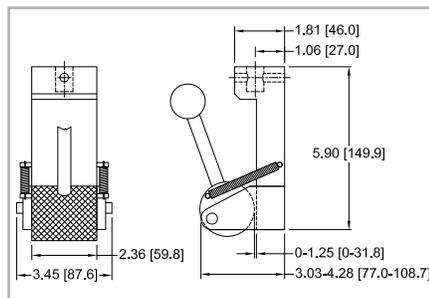
Model No.	Capacity lbF [kN]	Weight lb [kg]
G1092	2,000 [9]	6.0 [2.7]



High capacity eccentric roller grip

Features a serrated cam for effectively securing wires, plastics, textiles, and other materials in pull testing applications. Integrated eye end.

Model No.	Capacity lbF [kN]	Weight lb [kg]
G1094	2,000 [9]	7.4 [3.4]



Compression / Bend / Push

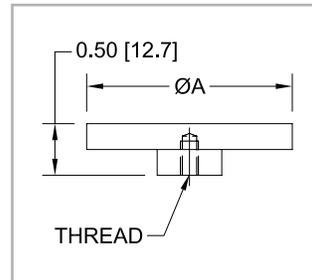
Compression plates

For compressing springs, foams, cartons, aerosol cans, and many other products.

Model No.	Cap. lbF [N]	Weight lb [kg]	ØA	Thread	Material
G1009	200 [1,000]	0.08 [0.04]	2.0 [51.0]	#10-32 UNF	Aluminum
G1009-1	500 [2,500]	0.27 [0.12]	3.0 [76.2]	5/16-18 UNC	

G1009 includes a #10-32 M/M stud with jam nuts

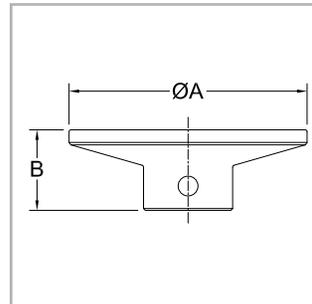
G1009-1 includes a 5/16-18M/M stud with jam nuts



High capacity compression plates

These high capacity compression plates are ideal for testing springs, foams, and other materials. Concentric circular grooves aid in centering the sample. Select from two sizes. Integrated eye end mount. Eye end adapters are available to adapt to Mark-10 load cells, force gauges, and test stands.

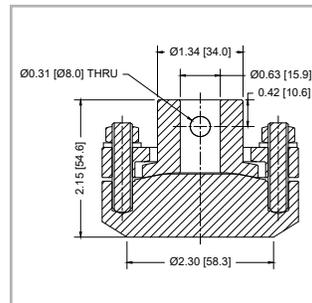
Model No.	Capacity lbF [kN]	Weight lb [kg]	ØA	B	Material
G1087	2,000 [9]	1.50 [0.68]	3.78 [96.0]	1.28 [32.5]	303 SS
G1087-1	2,000 [9]	0.63 [0.29]	2.20 [55.9]	1.18 [30.0]	



Self-aligning compression plate

This self-aligning compression plate adjusts to the angle of the sample via four adjustable screws and nuts. Ideal for ensuring parallelism and complete sample engagement, particularly for low-deflection springs and other materials with high spring rates. Integrated eye end mount. Eye end adapters are available to adapt to Mark-10 load cells, force gauges, and test stands.

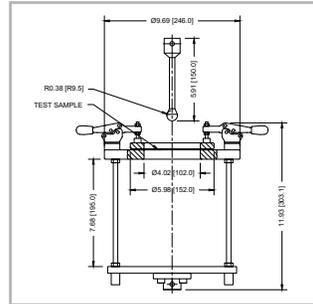
Model No.	Capacity lbF [kN]	Weight lb [kg]	Material
G1123	2.80 [1.27]	2.80 [1.27]	Steel 58 HRC, nickel-plated



Puncture fixture

For determining puncture resistance of plastic films and other thin materials. Includes fixture and probe. Integrated eye end.

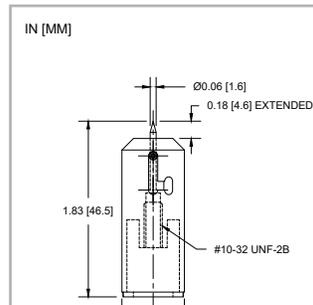
Model No.	Capacity lbF [kN]	Weight lb [kg]
G1110	1,000 [5]	Fixture: 19.0 [8.6] Probe: 0.4 [0.2]



Puncture fixture G1099

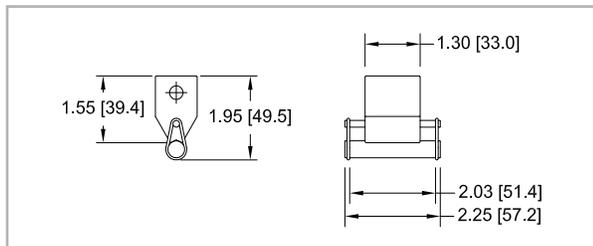
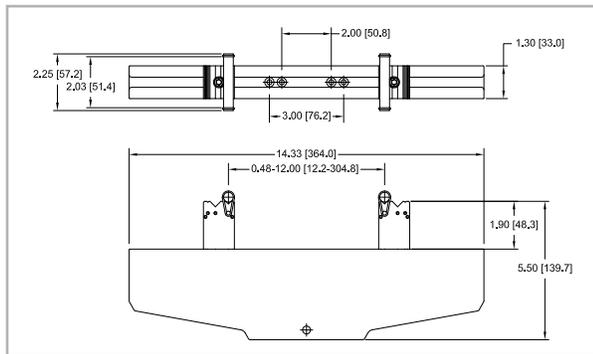
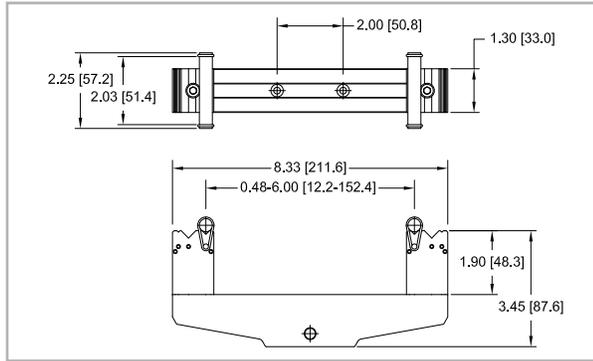
For determining puncture resistance of gypsum board and other materials.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1099	20 [100]	0.04 [0.02]



Bend fixtures

Family of fixtures for 3-point and 4-point bend testing of plastics, metals, ceramics, tubing, and many other materials. Two base sizes are available, along with an upper anvil, and optional roller diameters. Use a base-anvil combination for 3-point bend testing or two bases for 4-point bend testing.



Model No.	Capacity lbf [kN]	Weight lb [kg]	Housing material	Block material	Roller material	Includes
G1095	500 [2.5]	3.0 [1.3]	2024 Al	303 SS	416 SS, hardened	Two 10 mm dia. rollers and o-rings
G1096	2,000 [10]	7.1 [3.2]	2024 Al	303 SS	416 SS, hardened	Two 10 mm dia. rollers and o-rings
G1097	2,000 [10]	0.5 [0.2]	303 SS	-	416 SS, hardened	10 mm. dia. roller and o-rings

Includes mounting hardware to mount to the following test stands: ESM303, ESM1500/750 (w/AC1055 plate), ES30, TSC1000, TSF, ES10/ES20 (w/AC1060 plate). May also be mounted via integrated eye end.

Optional Items

Model No.	Description
AC1067	Rollers for bend fixtures, 1 mm dia., set of 4
AC1067-1	Rollers for bend fixtures, 2 mm dia., set of 4
AC1067-2	Rollers for bend fixtures, 5 mm dia., set of 4

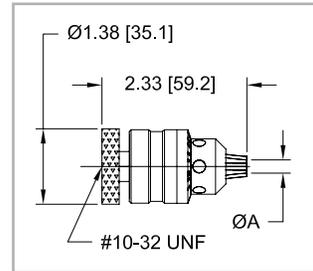


Jacobs chuck pin vises

For securing pins, round samples, and fixtures.

Model No.	Capacity lbF [N]	Weight lb [kg]	ØA
G1010	30 lbF [150 N]	0.35 [0.16]	0.062 - 0.375 [1.6 - 9.5]
G1010-1		0.25 [0.11]	0.028 - 0.25 [0.7 - 6.3]
G1010-2		0.66 [0.30]	0.078 - 0.5 [2.0 - 12.7]

Includes a #10-32 M/M stud with jam nuts

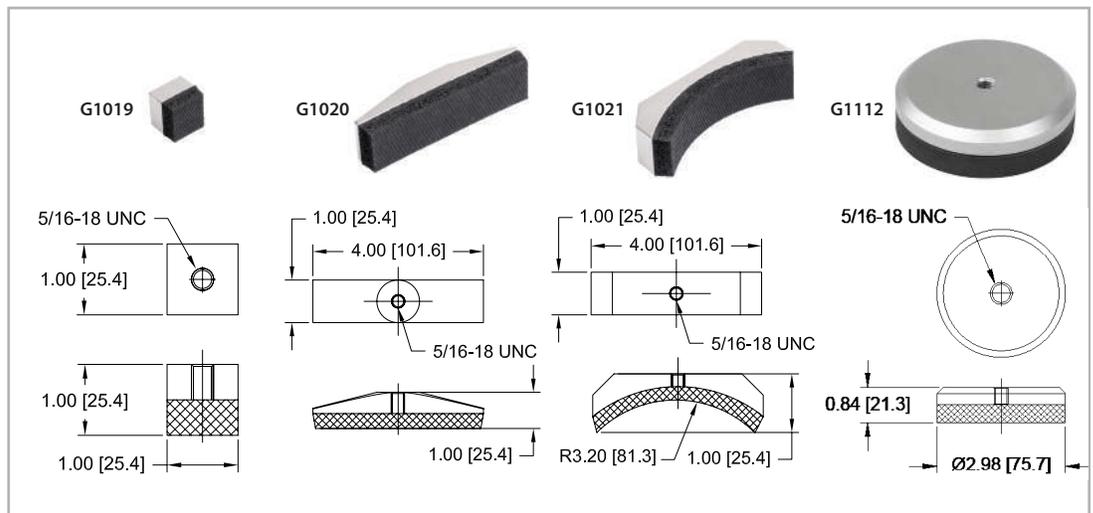


Padded attachments

For applications in physical therapy and ergonomics, including muscle strength testing, job task requirements, and more.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1019	500 [2,500]	0.03 [0.01]
G1020	500 [2,500]	0.13 [0.06]
G1021	500 [2,500]	0.25 [0.11]
G1112	500 [2,500]	0.28 [0.13]

Includes a 5/16-18M to #10-32F thread adapter, 5/16-18 jam nut, and #10-32 jam nut.

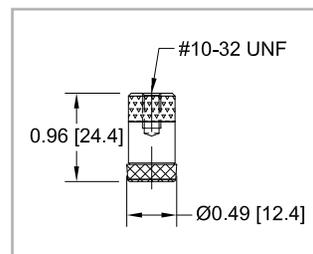


Rubber tip

Simulates a finger for testing pushbuttons, membrane switches, touch-screen panels, keyboards, etc.

Model No.	Capacity lbF [N]	Weight lb [kg]
G1011	50 [250]	0.01 [0.004]

Includes a #10-32 M/M stud with jam nuts



Syringe compression fixture

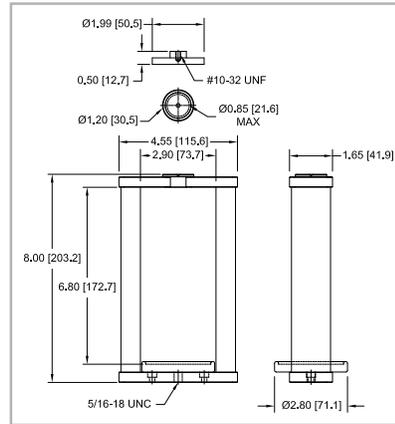
For testing compression force of a syringe plunger, as per ISO 7886-1 and other relevant standards.

Consists of:

1. Frame
2. Replaceable blank inserts (4)
3. Cup tray
4. G1009 compression plate

Model No.	Capacity lbF [N]	Weight lb [kg]
G1089	100 [500]	1.89 [0.86]

Includes 5/16-18 M/M stud with jam nuts



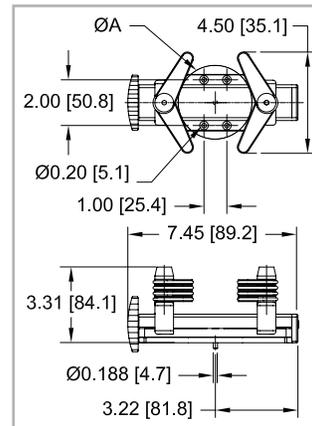
Torque / Force

Universal bottle grip

For gripping bottles and containers in closure torque testing applications. Eight rubber edged gripping arms secure a wide range of sample shapes and sizes and may be individually positioned at angles up to 180°. Mounts directly to Series TST torque test stands, most force test stands, and G1045 90° peel fixture for applications such as top load testing and 90° peel testing.

Model No.	Capacity lbFin [Nm]	Weight lb [kg]	ØA
G1023	100 [11.3]	1.50 [0.7]	4.80 [122.0] MAX

Model No.	Description
G1068	Adapter, G1023 to force test stand / G1045 fixture



G1023 includes mounting hardware for Series TST test stands or G1068 adapter.

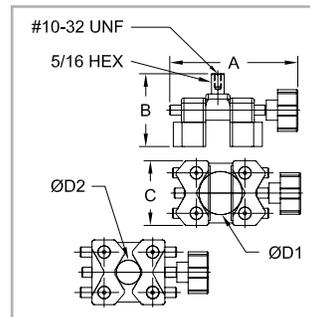
G1068 includes mounting hardware for the G1023 fixture and the following test stands: ESM303, ESM1500/750 (w/AC1055 plate), ES30, TSC1000, TSF, ES10/ES20 (w/ AC1060 plate)

Universal V-jaw grip

For gripping round objects. Serrated, reversible aluminum jaws effectively grip a wide range of sample shapes and sizes. Mounts directly to Jacobs chucks, force gauges, and test stands.

Model No.	Torque Capacity lbFin [Nm]	Force Capacity lbF [N]	Weight lb [kg]
G1053	100 [11.3]	100 [500]	0.39 [0.18]

A	B	C	ØD1*	ØD2*
3.1 [78.7]	1.77 [45.0]	1.6 [40.6]	1.10 - 1.55 [27.9 - 39.4]	0.65 - 1.10 [16.5 - 27.9]



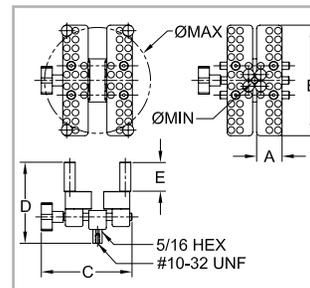
* Reverse the jaws to switch from ØD1 to ØD2
Includes a #10-32 M/M stud with jam nuts

Universal cap grip

For securing caps, lids, and other similar items for torque and pull testing. Accommodates a wide range of sample sizes, and can be used manually with a torque gauge or mounted to a test stand.

Model No.	Capacity	Weight lb [kg]
G1058	100 lbFin [11.3 Nm] or 50 lbF [250 N]	0.65 [0.29]

A	B	C	D	E	ØMIN - ØMAX
0.9 [22.9]	3.8 [96.5]	3.2 [81.3]	2.8 [71.1]	1.0 [25.4]	0.20 - 3.50 [5.1 - 89.0]



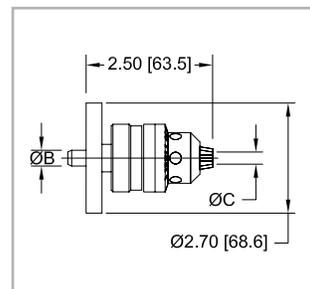
Includes #10-32 M/M stud with jam nuts

Jacobs chuck grips

For securing round samples, fixtures, or bits in torque applications.

Model No.	Capacity lbF [N]	Weight lb [kg]	ØA	ØB	ØC
G1022-1	100 lbFin [11.3 Nm]	0.50 [0.23]	N/A	0.188 [4.7]	0.028 - 0.250 [0.7 - 6.3]
G1022-2					0.062 - 0.375 [1.6 - 9.5]
G1022-3					0.078 - 0.500 [2 - 12.7]

Includes mounting hardware for Series TST torque test stands

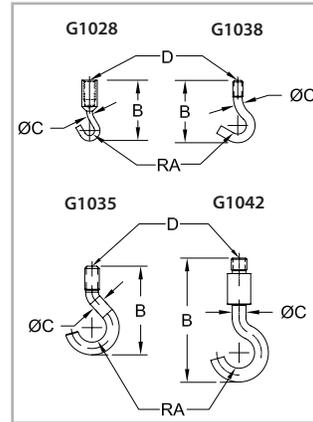


Basic Attachments & Adapters

Hooks

For general pull testing applications.

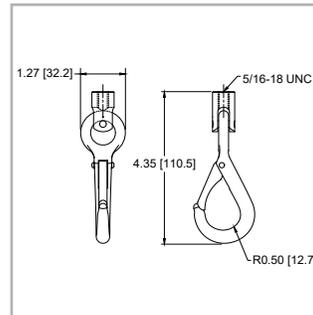
Model No.	Capacity lbF [N]	Weight	RA	B	ØC	D
G1028	20 [100]	0.010 [0.005]	0.05 [1.3]	1.00 [25.4]	0.10 [2.5]	#10-32F
G1038	200 [1,000]	0.020 [0.009]	0.20 [5.1]	1.50 [38.1]	0.19 [4.8]	#10-32M
G1035	500 [2,500]	0.050 [0.023]	0.30 [7.6]	1.90 [48.3]	0.28 [7.1]	5/16-18M
G1042	1,000 [4500]	0.320 [0.145]	0.5 [12.7]	4.10 [104.1]	0.45 [11.4]	1/2-20M



Snap hook

For general pull testing applications. Features a snap clasp, for added safety in pull testing applications. Swiveling action ensures proper alignment.

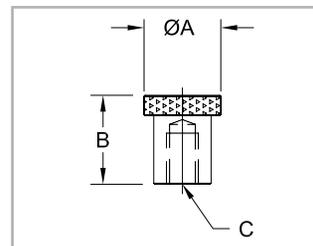
Model No.	Capacity lbF [N]	Weight lb [kg]
G1107	500 [2,500]	0.3 [0.14]



Flat heads

For compression testing of buttons, small springs, membrane switches, etc.

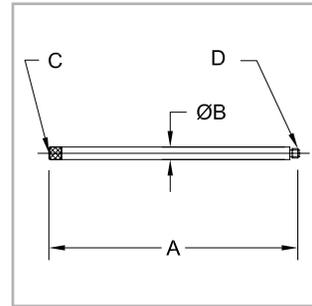
Model No.	Capacity lbF [N]	Weight lb [kg]	ØA	B	C
G1029	200 [1,000]	0.01 [0.005]	0.5 [12.7]	0.5 [12.7]	#10-32F
G1036	500 [2,500]	0.06 [0.027]	0.75 [19.1]	0.87 [22.1]	5/16-18F



Extension rods

For use between force gauge, grips, and attachments. Suitable for tension and compression applications.

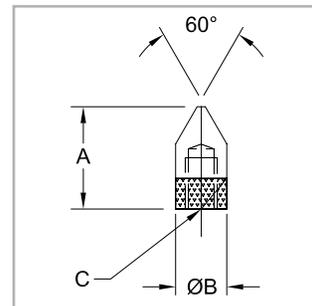
Model No.	Capacity lbF [N]	Weight lb [kg]	A	ØB	C	D
G1024	200 [1,000]	0.05 [0.023]	5.0 [127.0]	0.25 [6.4]	#10-32F	#10-32M
G1024-1		0.02 [0.009]	2.0 [50.8]			
G1024-2		0.01 [0.005]	1.0 [25.4]			
G1031	500 [2,500]	0.25 [0.113]	5.0 [127.0]	0.50 [12.7]	5/16-18F	5/16-18M
G1031-1		0.10 [0.045]	2.0 [50.8]			
G1031-2		0.25 [0.113]	1.0 [25.4]			



Chisel points

For compression testing applications.

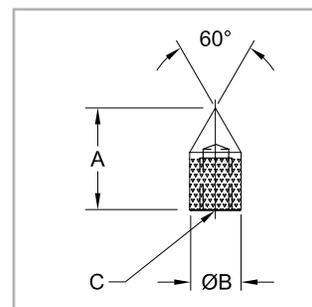
Model No.	Capacity lbF [N]	Weight lb [kg]	A	ØB	C
G1025	200 [1,000]	0.003 [0.001]	0.50 [12.7]	0.25 [6.4]	#10-32F
G1032	500 [2,500]	0.040 [0.018]	1.00 [25.4]	0.50 [12.7]	5/16-18F



Cone points

For various compression and testing applications.

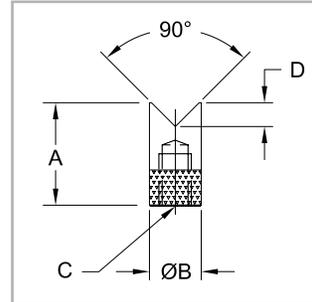
Model No.	Capacity lbF [N]	Weight lb [kg]	A	ØB	C
G1026	200 [1,000]	0.003 [0.001]	0.50 [12.7]	0.25 [6.4]	#10-32F
G1033	500 [2,500]	0.030 [0.014]	1.00 [25.4]	0.50 [12.7]	5/16-18F



V-grooves

For compression testing of round or odd-shaped samples.

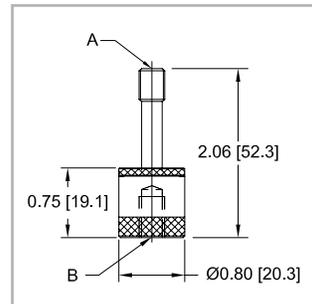
Model No.	Capacity lbF [N]	Weight lb [kg]	A	ØB	C	D
G1027	200 [1,000]	0.004 [0.002]	0.50 [12.7]	0.25 [6.4]	#10-32F	0.08 [2.0]
G1034	500 [2,500]	0.040 [0.018]	1.00 [25.4]	0.50 [12.7]	5/16-18F	0.25 [6.4]



Swivel adapters

For use between grips and force gauges to provide a swiveling action for proper sample alignment.

Model No.	Capacity lbF [N]	Weight lb [kg]	A	B
G1018-1	200 [1,000]	0.12 [0.05]	#10-32M	#10-32F
G1018-2	500 [2,500]	0.27 [0.12]	5/16-18M	5/16-18F



Thread adapters & couplings

Model No.	Capacity lbF [N]	Length In [cm]	Thread A	Thread B	
 G1050	100 [500]	0.75 [19.1]	#4-40M	#10-32F	
 G1051		0.55 [14.0]	#4-40M	#10-32M	
 G1039	200 [1,000]	0.75 [19.1]	#10-32F	#10-32F	
 G1030		0.50 [12.7]	5/16-18M	#10-32F	
 G1057		1.00 [25.4]	#10-32F	M6F	
 G1060		0.50 [12.7]	#10-32M	#10-32M	
 G1047		0.75 [19.1]	#10-32M	M4F	
 G1048		0.75 [19.1]	M4M	#10-32F	
 G1054		0.75 [19.1]	M6M	#10-32F	
 G1063		1.30 [33.0]	#10-32M	5/16-18F	
 G1040		0.92 [23.4]	5/16-18M	5/16-18M	
 G1037		1.00 [25.4]	5/16-18F	5/16-18F	
 G1049		1.25 [31.8]	M6M	5/16-18F	
 G1059		500 [2,500]	1.13 [28.7]	5/16-18F	1/2-20F
 G1041			1.06 [26.9]	1/2-20M	5/16-18M
 G1066			0.75 [19.1]	5/16-18F	1/2-20M
 G1067	0.75 [19.1]		1/2-20M	10-32F	
 G1069	1.25 [31.8]		5/16-18F	1/4-28M	
 G1091	1,000 [5,000]	1.30 [33.0]	1/2-20F	1/2-20F	
 G1044		Adapter plate, 1/2-20F. Compatible with the following test stands: ESM303, ESM1500 (w/AC1055 plate), TSF, TSB100, TSC1000, and ES10/ES20 (w/AC1060 plate). Mounting hardware included.			
 G1113	100 [500]	0.75 [19.1]	M3M	#4-40F	
 AC 1082	100 [500]	0.75 [19.1]	#10-32M	#10-32M	
 AC 1082-1	500 [2,500]	1.00 [25.4]	5/16-18M	5/16-18M	
 AC 1082-2	2,000 [9,000]	1.50 [38.1]	1/2-20M	1/2-20M	

For use between gauges, load cells, test stands grips, and attachments. Suitable for tension and compression applications.

