

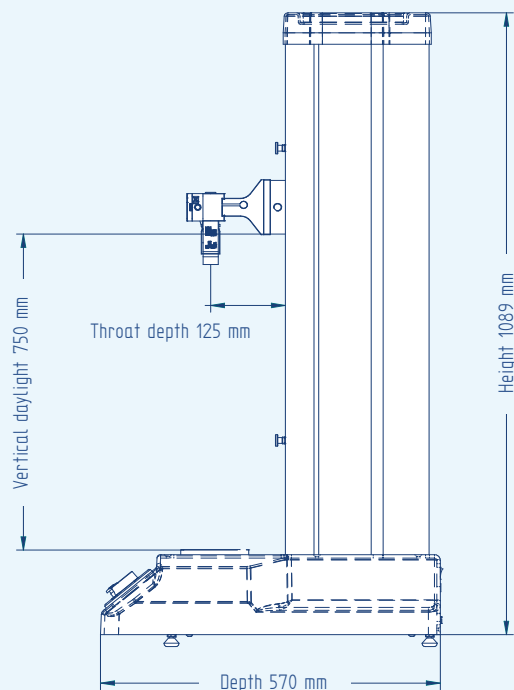
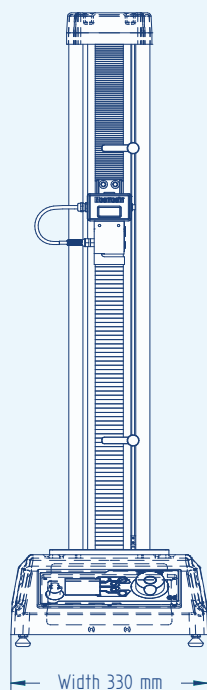
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OmniTest™ Technical Datasheet

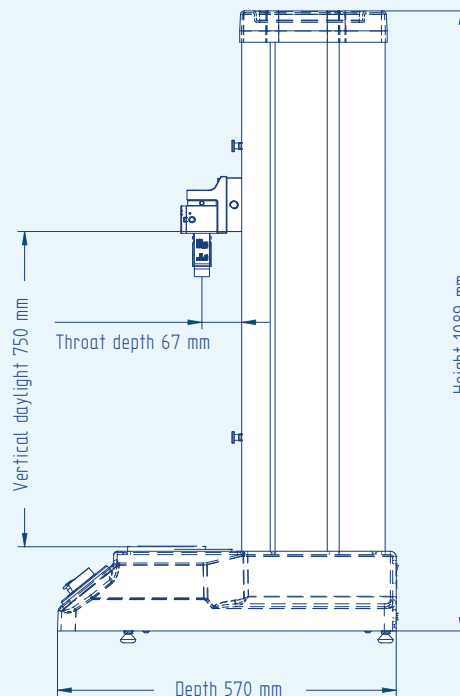
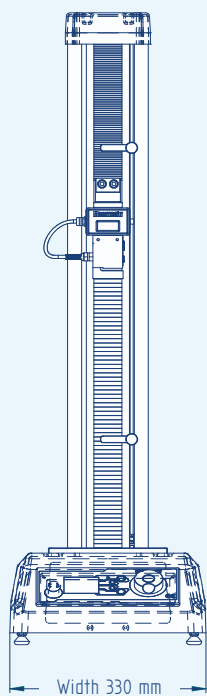


OmniTest 5



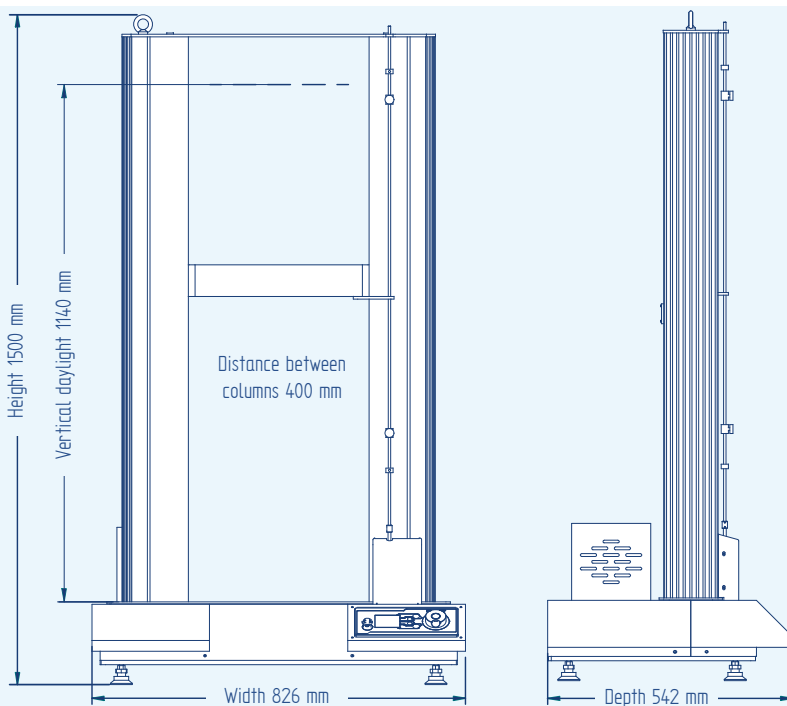
OmniTest 5 Dimensions

OmniTest 7.5



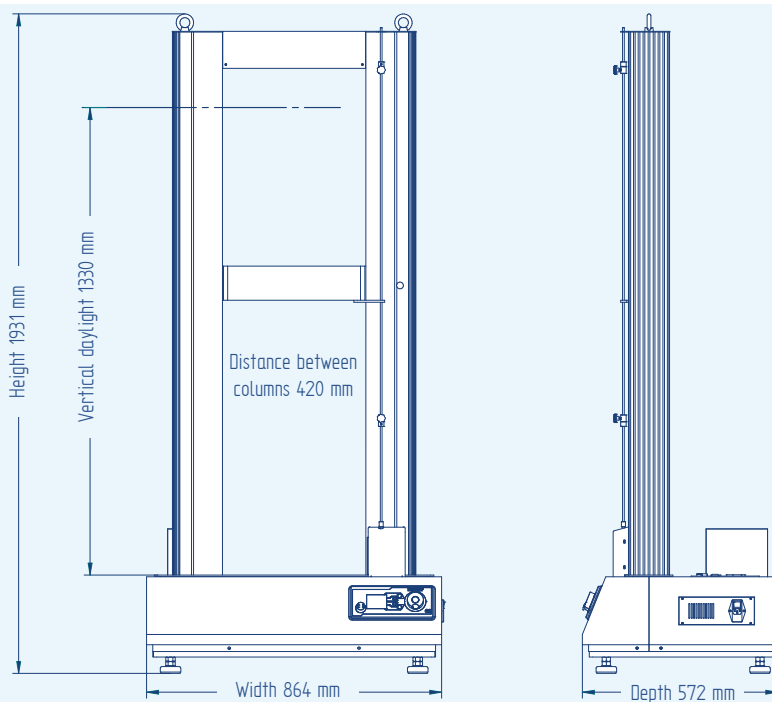
OmniTest 7.5 Dimensions

OmniTest 10 & OmniTest 25



OmniTest 10 and OmniTest 25 Dimensions

OmniTest 50



OmniTest 50 Dimensions

Specifications

OmniTest		5	7.5	10	25	50
Rated capacities	kN	5	7.5	10	25	50
	kfg	500	765	1000	2500	5000
	lbf	1100	1686	2200	5500	11000
Number of ballscrews		1	1	2	2	2
Data-acquisition rate		500 Hz				
Internal sampling rate (load)		20 kHz				
Displacement*						
Crosshead travel‡		650 mm (25.6")	650 mm (25.6")	950 mm (37.4")	950 mm (37.4")	1100 mm (43.3")
Resolution		1 µm				
Accuracy		±0.1% of indicated position or ±10 microns, whichever is greatest				
Speed						
Calibrated Speed range	mm/min	0.01 - 1200	0.01 - 1200	0.01 - 1000†	0.01 - 1000 to 10 kN† 0.01 - 500 from 10 kN to 25 kN†	0.01 - 400 to 25 kN†† 0.01 - 250 from 25 kN to 50 kN† / ††
	in/min	0.0004 - 47.2	0.0004 - 47.2	0.0004 - 39.4†	0.0004 - 39.4 to 10 kN† 0.0004 - 19.7 from 10 to 25 kN†	0.0004 - 15.7 to 25 kN†† 0.0004 - 9.8 from 25 kN to 50 kN† / ††
Speed resolution		0.001 mm/min (0.00004 in/min)				
Accuracy		±2% of indicated speed or ±20 µ/min, whichever is greater				
Dimensions						
Distance between columns		–	–	400 mm (15.7")	400 mm (15.7")	420 mm (16.5")
Throat depth‡		125 mm (4.9")	67 mm (2.6")	–	–	–
Height		1089 mm (42.9")	1089 mm (42.9")	1500 mm (59.1")	1500 mm (59.1")	1931 mm (76")
Width		330 mm (13.0")	330 mm (13.0")	826 mm (32.5")	826 mm (32.5")	864 mm (34")
Depth		570 mm (22.4")	570 mm (22.4")	542 mm (21.3")	542 mm (21.3")	572 mm (22.5")
Vertical daylight‡		750 mm (29.5")	750 mm (29.5")	1140 mm (44.9")	1140 mm (44.9")	1330 mm (52.4")
Weight		70 kg (155 lbs)	70 kg (155 lbs)	140 kg (309 lbs)	140 kg (309 lbs)	285 kg (628 lbs)
Electrical supply						
Voltage		230V AC 50 Hz or 110V AC 60 Hz				
Maximum power requirements		150 watts	150 watts	400 watts	450 watts	450 watts
Enhanced Load Sensors (ELS)						
Accuracy		When calibrated as part of a system, ±0.5% of reading down to 2% of range, suitable for use with Class 0.5 systems according to the requirements of ISO 7500-1				
Resolution		1:50000 filtered from 24 bit				
Environment specification						
Operating temperature		10°C to 40°C				
Operating relative humidity		30% - 80% (non-condensing)				

* Correction for system compliance is available
‡ Measured without fixtures

† OmniTest 10, 25 & 50. Max time when set to travel at 0.01 mm/min (0.0004 in/min) = 10 minutes when working at constant force.
†† OmniTest 50. Slowest speed: 0 - 35 kN = 0.01 mm/min (0.0004 in/min), 35 - 40 kN = 0.1 mm/min (0.004 in/min), 40 - 45 kN = 1 mm/min (0.04 in/min), 45 - 50 kN = 10 mm/min (0.4 in/min) when working at constant force.
‡ Measured on centreline of load sensor

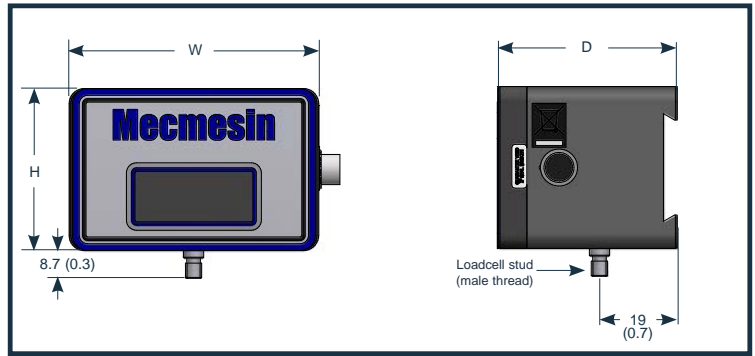
Software and communications	
Connectivity	USB port, extensometer input, 2 x low voltage additional sensor inputs with future expansion capability
PC requirements (recommended)	Intel Core i5 processor, 8 GB RAM, one USB 2.0 or 3.0 port, SSD hard drive with 10 GB free space, screen resolution 1920x1080 full HD
PC requirements (minimum)*,‡	Intel/AMD dual core processor with 2 GHz or faster clock speed, 4 GB RAM, one USB 2.0 or 3.0 port, hard drive with 10 GB free space, screen resolution 1080x720
Operating system (OS)	Compatible OS: Windows 7 or Windows 10 (32 or 64 bit) Recommended OS: Windows 10 Pro 64 bit
Data output	You can export as PDF, XLSX, CSV, TXT, Email and image files

*,‡ Although the minimum specification will allow VectorPro to operate, the user experience is not guaranteed to be optimal.

OmniTest Load Sensors

Enhanced Load Sensor ELS

The ELS comprises a sturdy dovetailed-mounting box with an internal loadcell c/w small fixing thread and occupies minimal space. Fits directly to the crosshead of OmniTest 5 and 7.5, or to the Twin-Column Dovetail Adaptor (432-256).



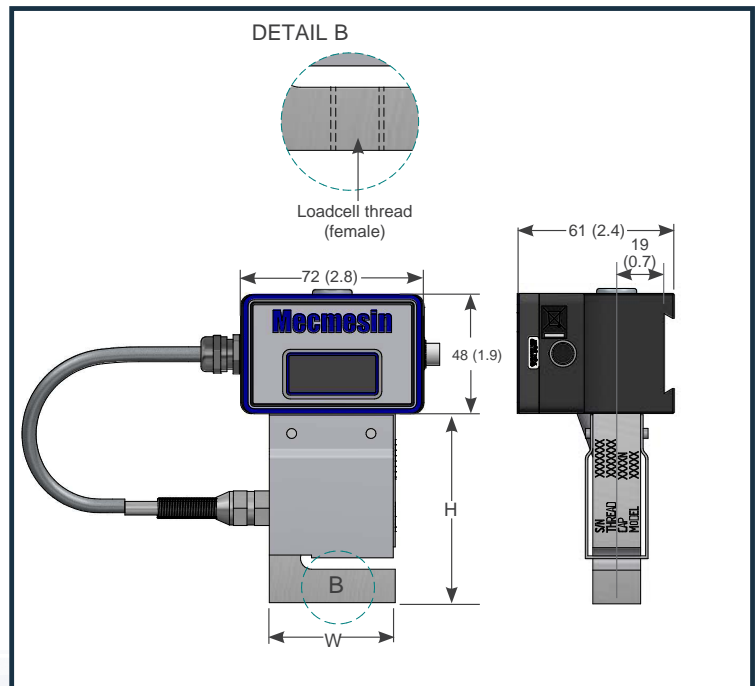
NOTE: Compatible with all test stands of equal or higher capacity than loadcell.

All measurements are in millimetres and (inches)

ELS capacity	Part No.	All ELS capacities	
2 N	880-034	Overall daylight reduction when used with OmniTest 10, 25 and 50	99 (3.9)
5 N	880-035	Thread	#10-32UNF
10 N	880-036	Overall daylight reduction when used with OmniTest 5 and 7.5	15 (0.6)
25 N	880-037	Loadcell width (W)	72 (2.8)
50 N	880-038	Loadcell depth (D)	46.5 (1.8)
100 N	880-039	Loadcell height (H)	48 (1.9)
250 N	880-040		
500 N	880-041		

Enhanced Load Sensor ELS-S

The ELS-S comprises the same dovetailed-mounting box with an external S-beam loadcell situated below - it provides a more rigid secure connection for large, heavy grips and fixtures.



NOTE: Compatible with all test stands of equal or higher capacity than loadcell.

All measurements are in millimetres and (inches)

ELS-S capacity	Part No.	Thread	Overall daylight reduction	Loadcell width (W)	Loadcell depth (D)	Loadcell height (H)
100 N	880-020	M6 x 1	70 (2.7)	51 (2)	13 (0.5)	64 (2.5)
200 N	880-021	M6 x 1	70 (2.7)	51 (2)	13 (0.5)	64 (2.5)
500 N	880-022	M6 x 1	82 (3.2)	51 (2)	19 (0.7)	76 (2.9)
1000 N	880-023	M10 x 1.5	82 (3.2)	51 (2)	19 (0.7)	76 (2.9)
2500 N	880-024	M12 x 1.75	82 (3.2)	51 (2)	25 (1)	76 (2.9)
5000 N	880-025	M12 x 1.75	82 (3.2)	51 (2)	25 (1)	76 (2.9)

Twin-Column Dovetail Adaptor

Part No: 432-256

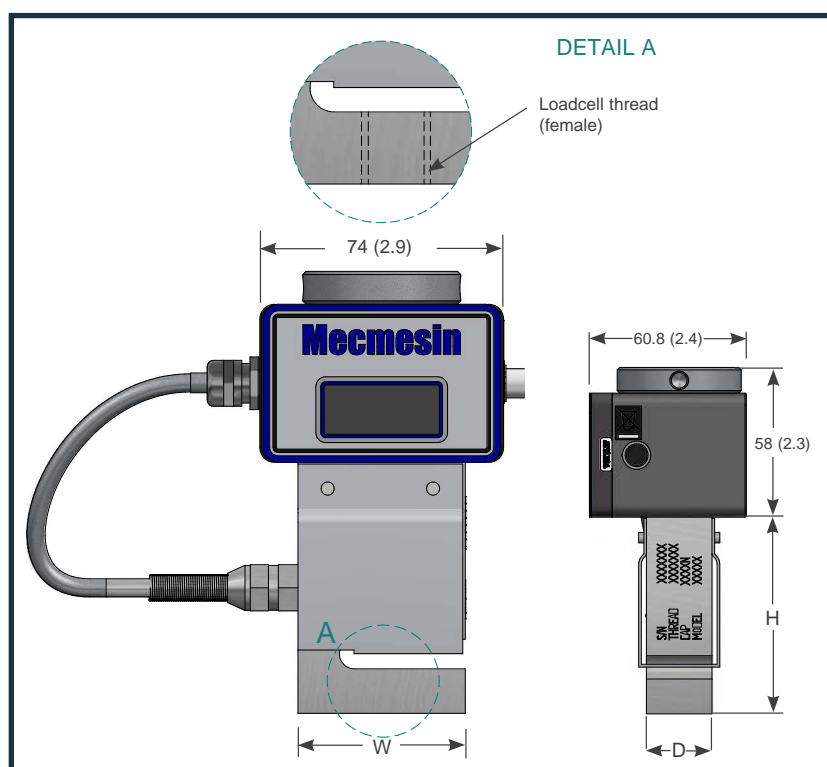
Note for use with ELS and ELS-S loadcells.

Supplied as standard with OmniTest 10, 25 and 50.



Enhanced Load Sensor ELS-T

The ELS-T comprises a mounting box with an external S-beam loadcell situated below it - it is designed for use with twin-column test frames for testing of higher loads and provides a rigid secure connection for large, heavy grips and fixtures.



For use with twin-column stands and OmniTest 7.5 only

All measurements are in millimetres and (inches)

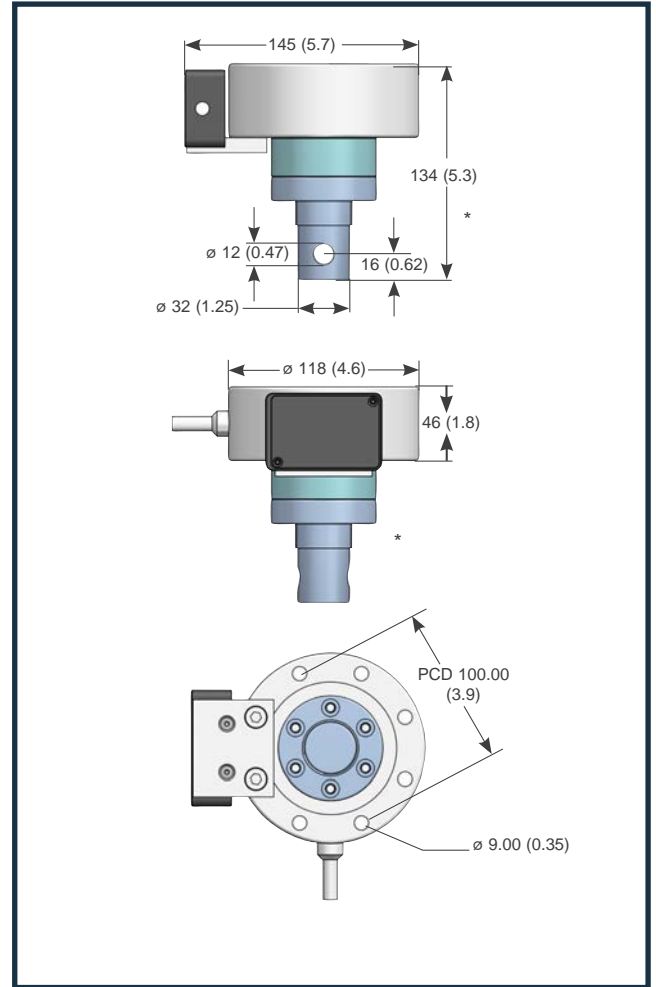
ELS-T capacity	Part No.	Thread (A)	Overall daylight reduction (Twin Column)	Overall daylight reduction (OmniTest 7.5)	Loadcell width (W)	Loadcell depth (D)	Loadcell height (H)
100 N	880-045	M6 x 1	122 (4.8)	67 (2.6)	51 (2)	13 (0.5)	64 (2.5)
200 N	880-046	M6 x 1	122 (4.8)	67 (2.6)	51 (2)	13 (0.5)	64 (2.5)
500 N	880-047	M6 x 1	134 (5.3)	79 (3)	51 (2)	19 (0.7)	76 (3)
1000 N	880-048	M10 x 1.5	134 (5.3)	79 (3)	51 (2)	19 (0.7)	76 (3)
2500 N	880-049	M12 x 1.75	134 (5.3)	79 (3)	51 (2)	25 (1)	76 (3)
5 kN	880-050	M12 x 1.75	134 (5.3)	79 (3)	51 (2)	25 (1)	76 (3)
7.5 kN	880-051	M12 x 1.75	134 (5.3)	79 (3)	51 (2)	25 (1)	76 (3)
10 kN	880-026	M12 x 1.75	134 (5.3)	79 (3)	51 (2)	25 (1)	76 (3)
25 kN	880-027	M16 x 2	166 (6.5)	111 (4)	51 (2)	25 (1)	108 (4.3)

Enhanced Load Sensor ELS-P

The ELS-P comprises a mounting box with an external Pancake loadcell situated below it - it is designed for use with the OmniTest 50 kN twin-column test frame for testing of higher loads and provides greater immunity to extraneous "off-axis" loads.



Note: ELS-P loadcells are mounted directly to the moving crosshead of the OmniTest 50. Adaptors are supplied to allow fitting of ELS and ELS-S /-T loadcells directly to the moving crosshead. Alternatively they can be fitted in series with ELS-P loadcell.



All measurements are in millimetres and (inches)

ELS-P capacity	Part No.	Thread	Overall daylight reduction	Loadcell diameter (ϕ)	Loadcell height
20 kN	880-028	M18 x 1.5	134 (5.3)	118 (4.6)	134 (5.3)
50 kN	880-029	M18 x 1.5	134 (5.3)	118 (4.6)	134 (5.3)

Load Measurement Accuracy

ELS, ELS-S, ELS-T and ELS-P loadcells.

When calibrated as part of a system,
 $\pm 0.5\%$ of reading down to 2% of range.
 Class 0.5 according to requirements of ISO 7500-1



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