

Mecmesin

testing to perfection

MultiTest-i

Technical Datasheet



MultiTest 0.5-*i*, 1-*i* & 2.5-*i*



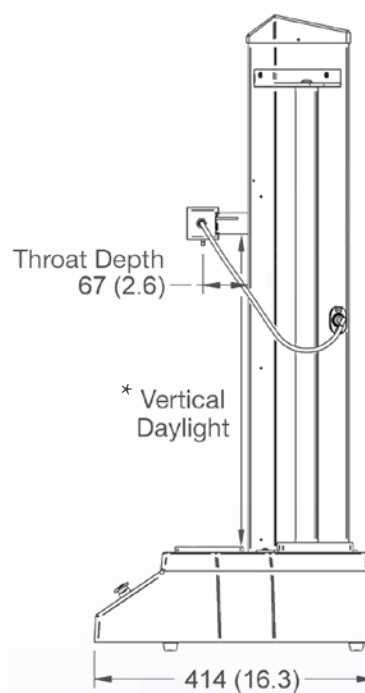
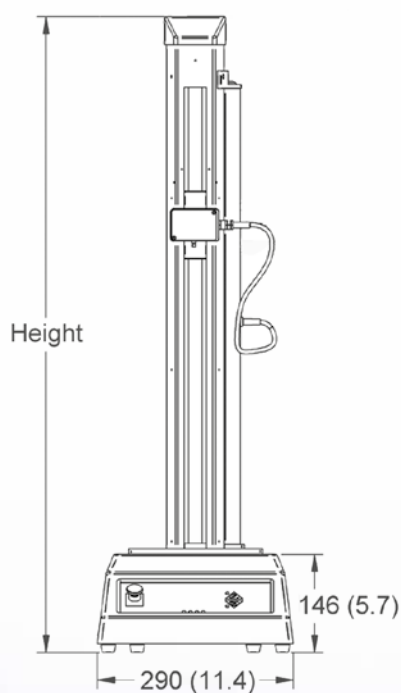
0.5 kN



1 kN



2.5 kN

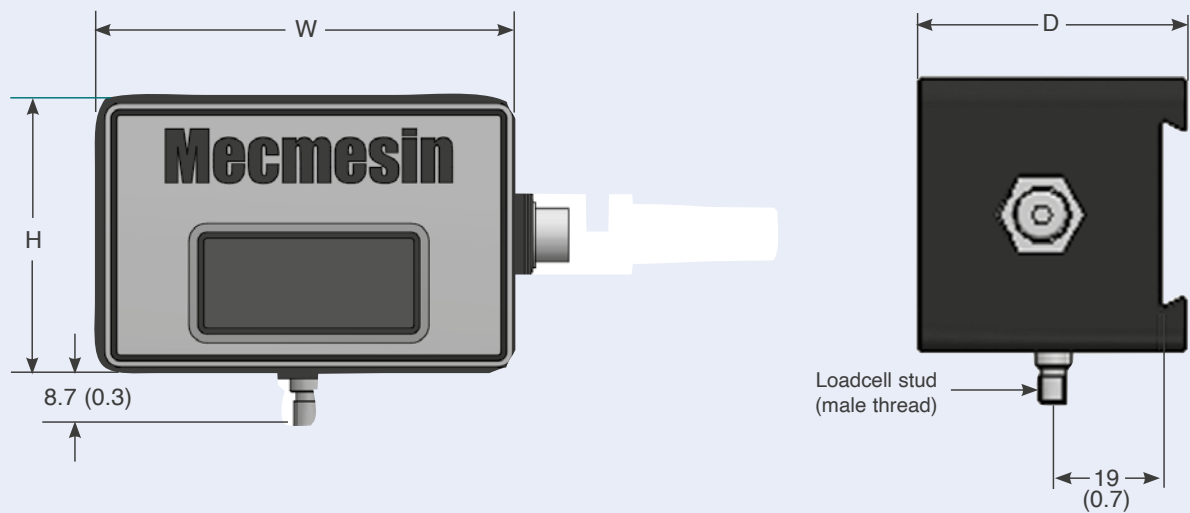


All measurements are in millimetres and (inches)

	Height	Width (test frame only)	Max Width (with console fitted)	Depth	Vertical Daylight*
MultiTest 0.5-xt	1616 mm (64)	290 mm (11.4)	546 mm (21.5)	414 mm (16.3)	1267mm (49.9")
MultiTest 1-xt	1416 mm (56)	290 mm (11.4)	546 mm (21.5)	414 mm (16.3)	1067mm (42")
MultiTest 2.5-xt	941 mm (37)	290 mm (11.4)	546 mm (21.5)	414 mm (16.3)	588mm (23.1")

* Measured without loadcell or grips

Intelligent Loadcell ILC



NOTE: Compatible with all test stands of equal or higher capacity than loadcell.
Requires adaptor 432-256 to fit to MultiTest 10-*i*, 25-*i* and 50-*i*.

All measurements are in millimetres and (inches)

ILC capacity	Part No.	Thread	Overall daylight reduction	Loadcell width (W)	Loadcell depth (D)	Loadcell height (H)	Total daylight reduction using twin-column dovetail (432-256)
2 N	879-009	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
5 N	879-010	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
10 N	879-001	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
25 N	879-002	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
50 N	879-003	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
100 N	879-004	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
250 N	879-005	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
500 N	879-006	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)

See page 3 for ILC-S loadcells (100 N to 5000 N)

ILC Load Measurement Accuracy

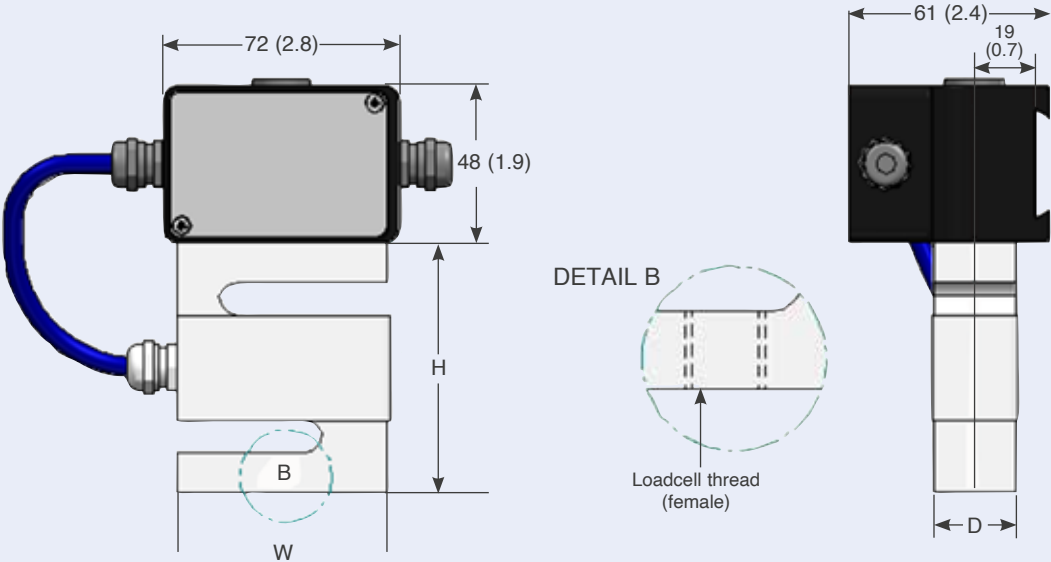
% of full scale (fs)	N
± 0.1% fs	2 N - 500 N

MultiTest 5-i

Intelligent Loadcell ILC-S

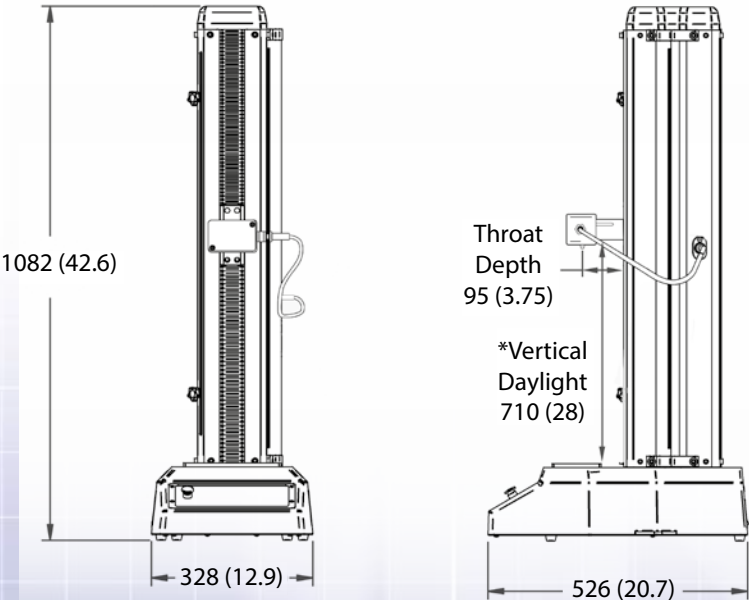


NOTE: Compatible with all test stands of equal or higher capacity than loadcell
Requires adaptor 432-256 to fit to MultiTest 10-i, 25-i and 50-i



ILC-S capacity	Part No.	Thread	Overall daylight reduction	Loadcell width (W)	Loadcell depth (D)	Loadcell height (H)	Total daylight reduction using twin-column dovetail (432-256)
100 N	879-064	M6 x 1	70 (2.7)	51 (2)	13 (0.5)	64 (2.5)	154 (6)
200 N	879-065	M6 x 1	70 (2.7)	51 (2)	13 (0.5)	64 (2.5)	154 (6)
500 N	879-066	M6 x 1	82 (3.2)	51 (2)	19 (0.7)	76 (2.9)	166 (6.5)
1000 N	879-067	M10 x 1.5	82 (3.2)	51 (2)	19 (0.7)	76 (2.9)	166 (6.5)
2500 N	879-008	M12 x 1.75	82 (3.2)	51 (2)	25 (1)	76 (2.9)	166 (6.5)
5000 N	879-024	M12 x 1.75	82 (3.2)	51 (2)	25 (1)	76 (2.9)	166 (6.5)

All measurements are in millimetres and (inches)
* measured without loadcell or grips



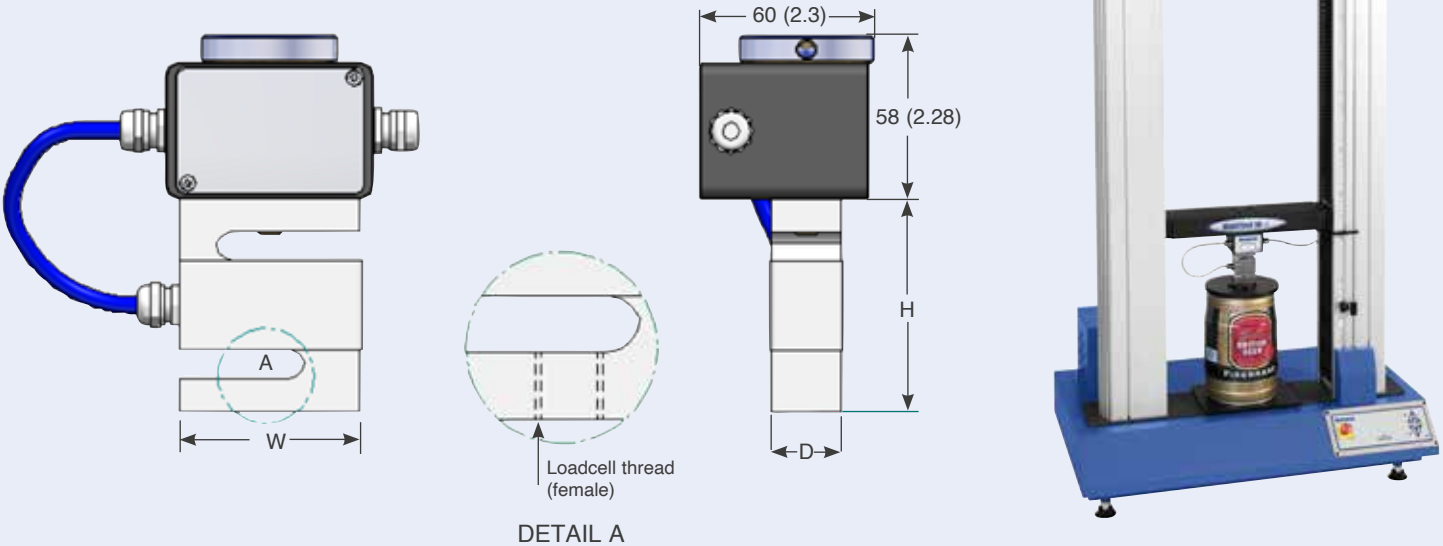
ILC-S Load Measurement Accuracy

% of full scale (fs)	N
± 0.1% fs	100 N - 2500 N
± 0.2% fs	5000 N

MultiTest 10-*i* & 25-*i*

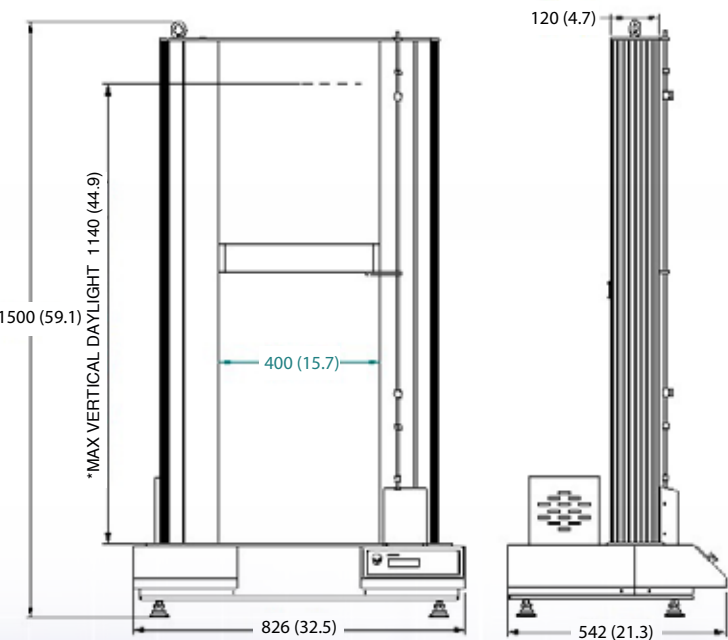
Intelligent Loadcell ILC-T

For use with twin-column stands only



ILC-T capacity	Part No.	Thread	Overall daylight reduction	Loadcell width (W)	Loadcell depth (D)	Loadcell height (H)
10 kN	879-025	M12 x 1.75	134 (5.3)	51 (2)	25 (1)	76 (2.9)
25 kN	879-026	M16 x 2	147 (5.8)	76 (2.9)	38 (1.5)	89 (3.5)

All measurements are in millimetres and (inches)
* measured without loadcell or grips



Twin-Column Dovetail Adaptor

Note: For use with ILC and ILC-S loadcells
Supplied as standard with MultiTest 10-*i* & 25-*i*



Rated capacity	Part No.
5 kN	432 - 256

ILC-T Load Measurement Accuracy

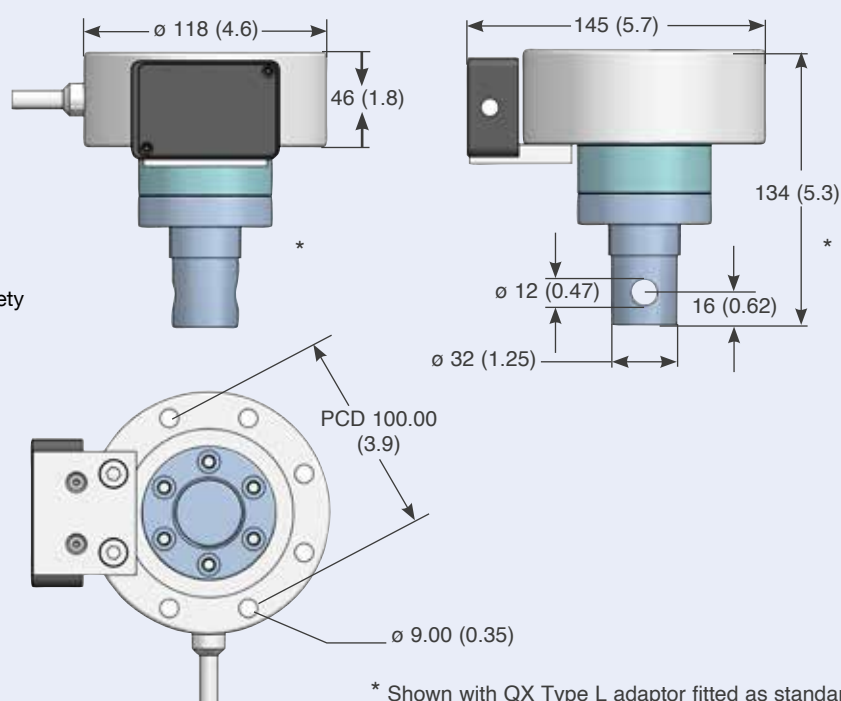
% of full scale (fs)	N
± 0.2% fs	10 kN - 25 kN

MultiTest 50-i

Intelligent Loadcell ILC-P



Shown with safety guard and grips (not supplied as standard)



* Shown with QX Type L adaptor fitted as standard

ILC-P capacity	Part No.	Thread	Overall daylight reduction	Loadcell diameter (ø)	Loadcell height (H)
20 kN	879-077	M18 x 1.5	134 (5.3)	118 (4.6)	134 (5.3)
50 kN	879-076	M18 x 1.5	134 (5.3)	118 (4.6)	134 (5.3)

All measurements are in millimetres and (inches)

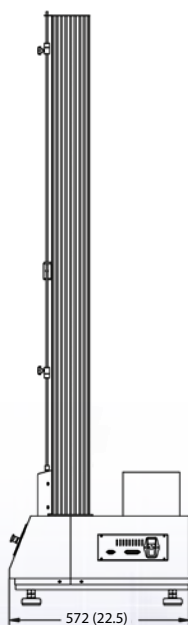
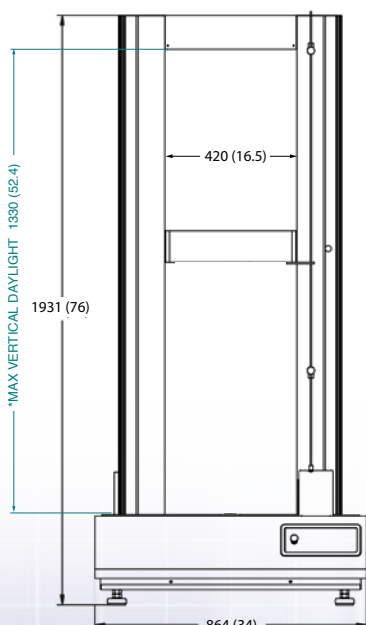
* measured without loadcell or grips

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

Twin-Column Dovetail Adaptor

NOTE: For use with ILC and ILC-S loadcells.

Supplied as standard with MultiTest 50-i



Rated capacity	Part No.
5 kN	432 - 256

ILC-P Load Measurement Accuracy

% of full scale (fs)	N
± 0.2% fs	20 kN - 50 kN

Specifications

MultiTest- <i>i</i>		0.5	1	2.5	5	10	25	50
TEST FRAME								
Rated capacity	N	500	1000	2500	5000	10000	25000	50000
	kgf	50	100	250	500	1000	2500	5000
	lbf	110	220	550	1100	2200	5500	11000
Number of ballscrews		1	1	1	1	2	2	2
Speed	mm/min	1 - 1000	1 - 1000	1 - 1000*	1 - 500	1 - 1000	1 - 1000**	1 - 400***
range	in/min	(0.04 - 40)	(0.04 - 40)	(0.04 - 40)	(0.04 - 20)	(0.04 - 40)	(0.04 - 40)	(0.04 - 15)
Crosshead speed accuracy		±0.2% of indicated speed or ±20 μ/min, whichever is greater*****						
Distance between columns		-	-	-	-	400 mm (15.7")	400 mm (15.7")	420 mm (16.5")
Throat depth†		67 mm (2.6")	67 mm (2.6")	67 mm (2.6")	95 mm (3.7")	-	-	-
Vertical daylight ††		1267 mm (49.9")	1067 mm (42")	588 mm (23.1")	710 mm (28.0")	1140 mm (44.9")	1140 mm (44.9")	1330 mm (52.4")
Height		1616 mm (64")	1416 mm (56")	941 mm (37")	1082 mm (42.6")	1500 mm (59.1")	1500 mm (59.1")	1931 mm (76")
Width		290 mm (11.4")	290 mm (11.4")	290 mm (11.4")	328 mm (12.9")	826 mm (32.5")	826 mm (32.5")	864 mm (34")
Depth		414 mm (16.3")	414 mm (16.3")	414 mm (16.3")	526 mm (20.7")	542 mm (21.3")	542 mm (21.3")	572 mm (22.5")
Weight		31 kg (68 lbs)	27.5 kg (61 lbs)	24 kg (53 lbs)	38 kg (84 lbs)	140 kg (309 lbs)	140 kg (309 lbs)	285 kg (628 lbs)
Max. power requirement		120 watts	200 watts	250 watts	150 watts	450 watts	450 watts	450 watts
Voltage		230 V AC 50 Hz or 110 V AC 60 Hz						
LOAD MEASUREMENT								
Available loadcell ranges	N	2 to 50000 (14 models)						
	kgf	0.2 to 5000 (14 models)						
	lbf	0.45 to 11000 (14 models)						
Loadcell measurement accuracy		±0.1% of full scale for loadcells from 2 N to 2.5 kN***** ±0.2% of full scale for loadcells from 5 kN to 50 kN*****						
Loadcell measurement resolution		1:6500						
DISPLACEMENT								
Crosshead travel††		1186 mm (46.7")	986 mm (38.8")	507 mm (20")	590 mm (23.2")	950 mm (37.4")	950 mm (37.4")	1100 mm (43.3")
Positional accuracy per 300 mm (11.81") of travel		±130 μm (±0.005")				±100 μm (±0.004")		
Displayed resolution		±0.01 mm (±0.0004")						
SOFTWARE								
Digital display of load/length/speed		Yes						
Communication with test stand		Via RS232 port or USB port (converter supplied)						
Computer requirements		100 Mb available HD, CD-ROM plus available RS232 port/USB port						
Operating system (OS)		Compatible OS installed as listed; Windows® 2000, XP, Vista 7, 8 & 10						
Sampling rate		Selectable from 1 kHz, 500 Hz, 100 Hz, 50 Hz and 10 Hz						
Secondary input		Event Input (switch), Digital control I/O Ports						
Data output		LPT1 (Printer port), RS232 Port (direct or via USB/Network converter in ASCII format) ASCII file (Export to spreadsheet, SPC package etc...)						

* 2.5 kN - above 2 kN, the recommended maximum speed is 750 mm/min (30 in/min)
 ** 25 kN - above 10 kN, the recommended maximum speed is 500 mm/min (20 in/min)
 *** 50 kN - above 25 kN, the recommended maximum speed is 250 mm/min (10 in/min)
 **** As the device is used in varying environmental conditions, the uncertainty of measurement could be as much as 0.1% of full scale.

† Measured on centre line of loadcell

†† Measured without loadcell or grips

***** Machine wear can be expected over time and may potentially adversely affect both speed and displacement measurement. Machine wear is dependent on factors such as the frequency of usage, harsh operating environments, and the types of test performed (e.g., sudden breaks of stiff materials may cause energy recoil which affects mechanical parts etc.). A full overhaul of the test frame may be required to bring the test system back to its original manufacturer's specification.

Common Specifications

Operating temperature	10 - 35°C (50 - 95°F)
Humidity range	Normal industry and laboratory conditions
Compensation for system movement	Yes
Loadholding	Yes
Graphical representation	Yes
Output of test results to PC/Printer/Datalogger	Yes - includes auto-export to Microsoft™ Excel and via USB/Network Ports or Wireless Network RS232 via USB/Network converter in ASCII format
Communication with PLC/Digital Control Interface	Yes - via programmable digital ports, 6 Inputs + 6 Outputs

Options

Column gaiter
Safety guard

available upon request

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE



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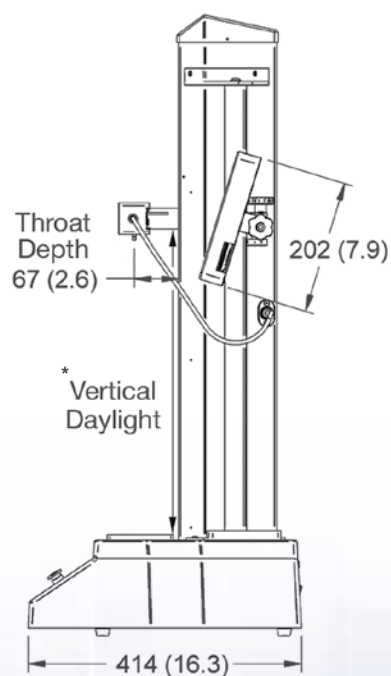
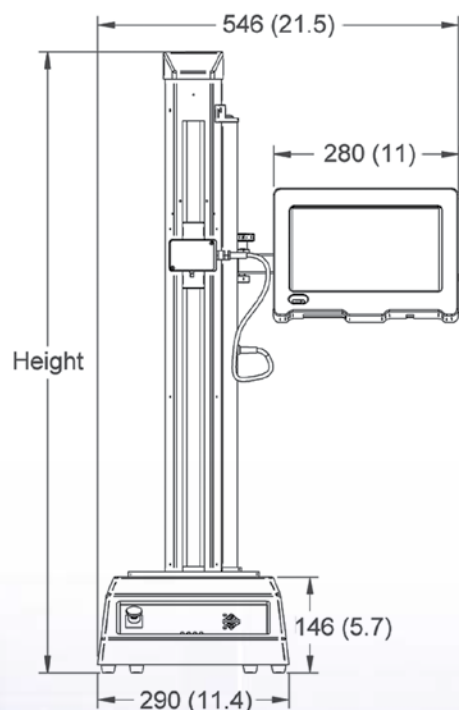
Mecmesin

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MultiTest-xt Technical Datasheet



MultiTest 0.5-xt, 1-xt & 2.5-xt

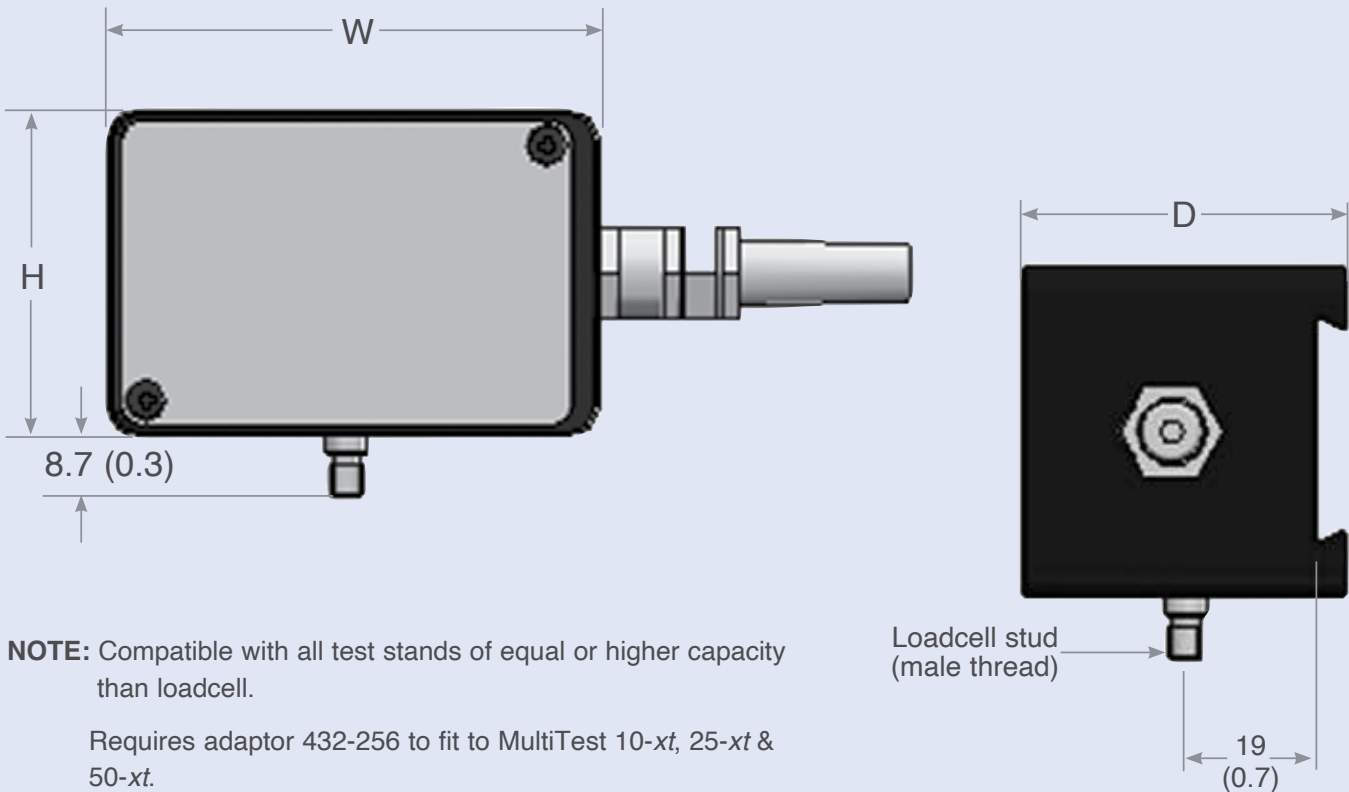


All measurements are in millimetres and (inches)

	Height	Width (test frame only)	Max Width (with console fitted)	Depth	Vertical Daylight*
MultiTest 0.5-xt	1616 mm (64)	290 mm (11.4)	546 mm (21.5)	414 mm (16.3)	1267 mm (49.9)
MultiTest 1-xt	1416 mm (56)	290 mm (11.4)	546 mm (21.5)	414 mm (16.3)	1067 mm (42)
MultiTest 2.5-xt	941 mm (37)	290 mm (11.4)	546 mm (21.5)	414 mm (16.3)	588 mm (23.1)

* Measured without loadcell or grips

Intelligent Loadcell ILC



All measurements are in millimetres and (inches)

ILC capacity	Part No.	Thread	Overall daylight reduction	Loadcell width (W)	Loadcell depth (D)	Loadcell height (H)	Total daylight reduction using twin-column dovetail (432-256)
2 N	879-009	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
5 N	879-010	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
10 N	879-001	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
25 N	879-002	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
50 N	879-003	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
100 N	879-004	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
250 N	879-005	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)
500 N	879-006	#10-32UNF	15 (0.6)	72 (2.8)	46.5 (1.8)	48 (1.9)	99 (3.9)

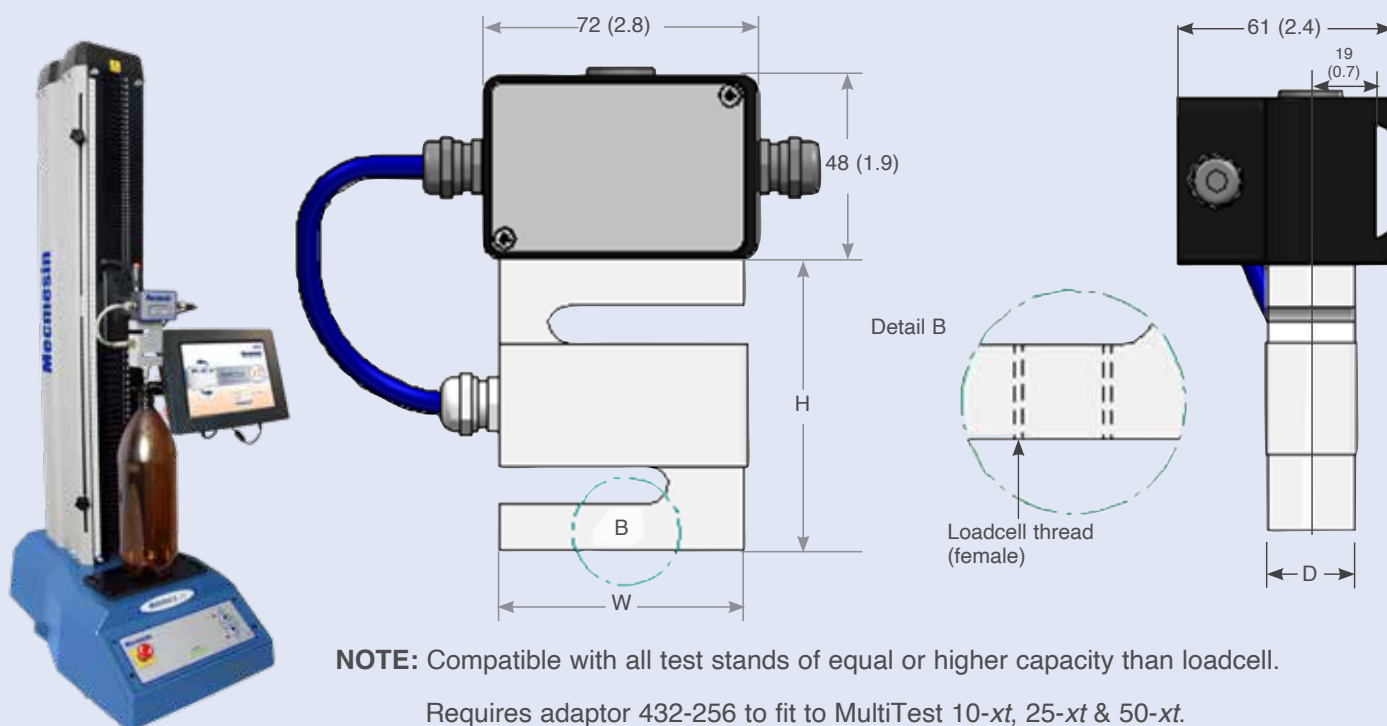
See page 3 for ILC-S loadcells (100 N to 5000 N)

ILC Load Measurement Accuracy

% of full scale (fs)	N
± 0.1% fs	2 N - 500 N

MultiTest 5-xt

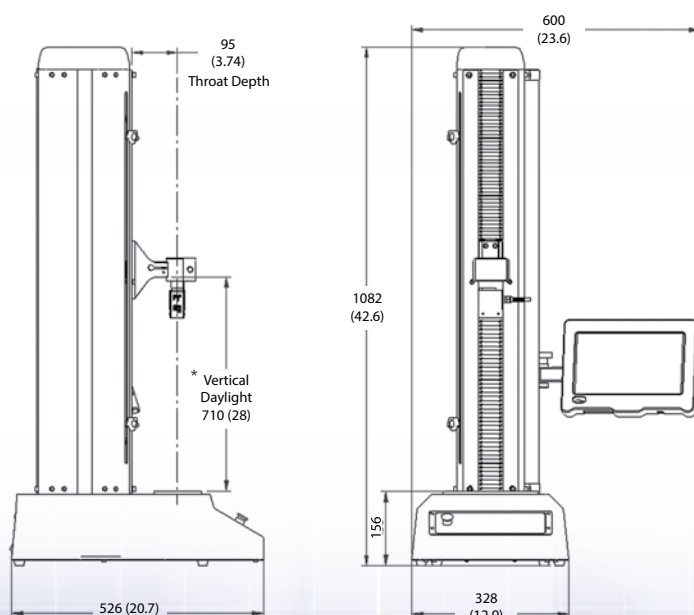
Intelligent Loadcell ILC-S



ILC-S capacity	Part No.	Thread	Overall daylight reduction	Loadcell width (W)	Loadcell depth (D)	Loadcell height (H)	Total daylight reduction using twin-column dovetail (432-256)
100 N	879-064	M6 x 1	70 (2.7)	51 (2)	13 (0.5)	64 (2.5)	154 (6)
200 N	879-065	M6 x 1	70 (2.7)	51 (2)	13 (0.5)	64 (2.5)	154 (6)
500 N	879-066	M6 x 1	82 (3.2)	51 (2)	19 (0.7)	76 (2.9)	166 (6.5)
1000 N	879-067	M10 x 1.5	82 (3.2)	51 (2)	19 (0.7)	76 (2.9)	166 (6.5)
2500 N	879-008	M12 x 1.75	82 (3.2)	51 (2)	25 (1)	76 (2.9)	166 (6.5)
5000 N	879-024	M12 x 1.75	82 (3.2)	51 (2)	25 (1)	76 (2.9)	166 (6.5)

All measurements are in millimetres and (inches)

* measured without loadcell or grips

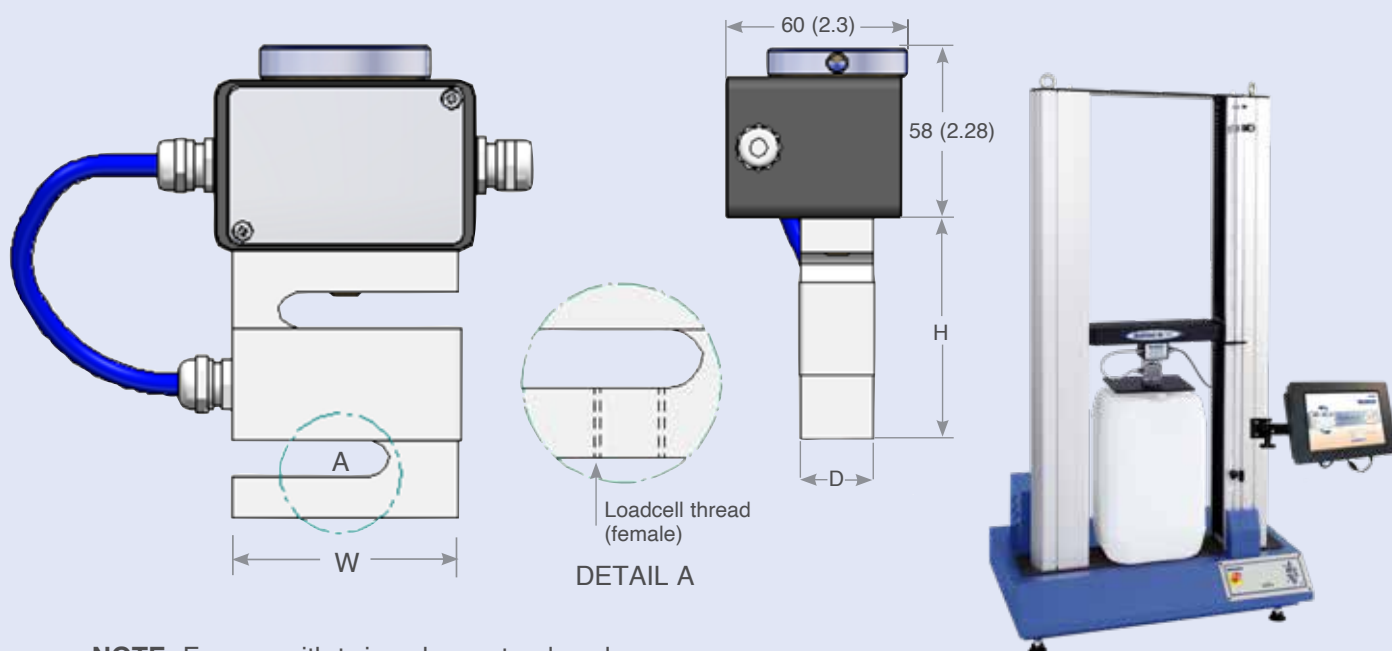


ILC-S Load Measurement Accuracy

% of full scale (fs)	N
± 0.1% fs	100 N - 2500 N
± 0.2% fs	5000 N

MultiTest 10-xt & 25-xt

Intelligent Loadcell ILC-T

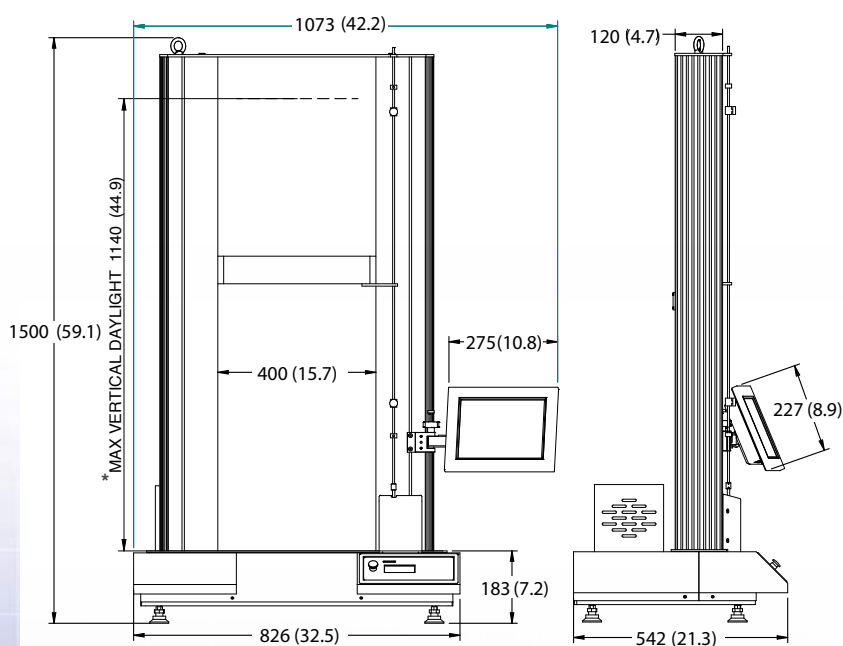


NOTE: For use with twin-column stands only

ILC-T capacity	Part No.	Thread	Overall daylight reduction	Loadcell width (W)	Loadcell depth (D)	Loadcell height (H)
10 kN	879-025	M12 x 1.75	134 (5.3)	51 (2)	25 (1)	76 (2.9)
25 kN	879-026	M16 x 2	147 (5.8)	76 (2.9)	38 (1.5)	89 (3.5)

All measurements are in millimetres and (inches)

* measured without loadcell or grips



Twin-Column Dovetail Adaptor

Note: For use with ILC and ILC-S
Supplied as standard with MultiTest 10-*i* & 25-*i*



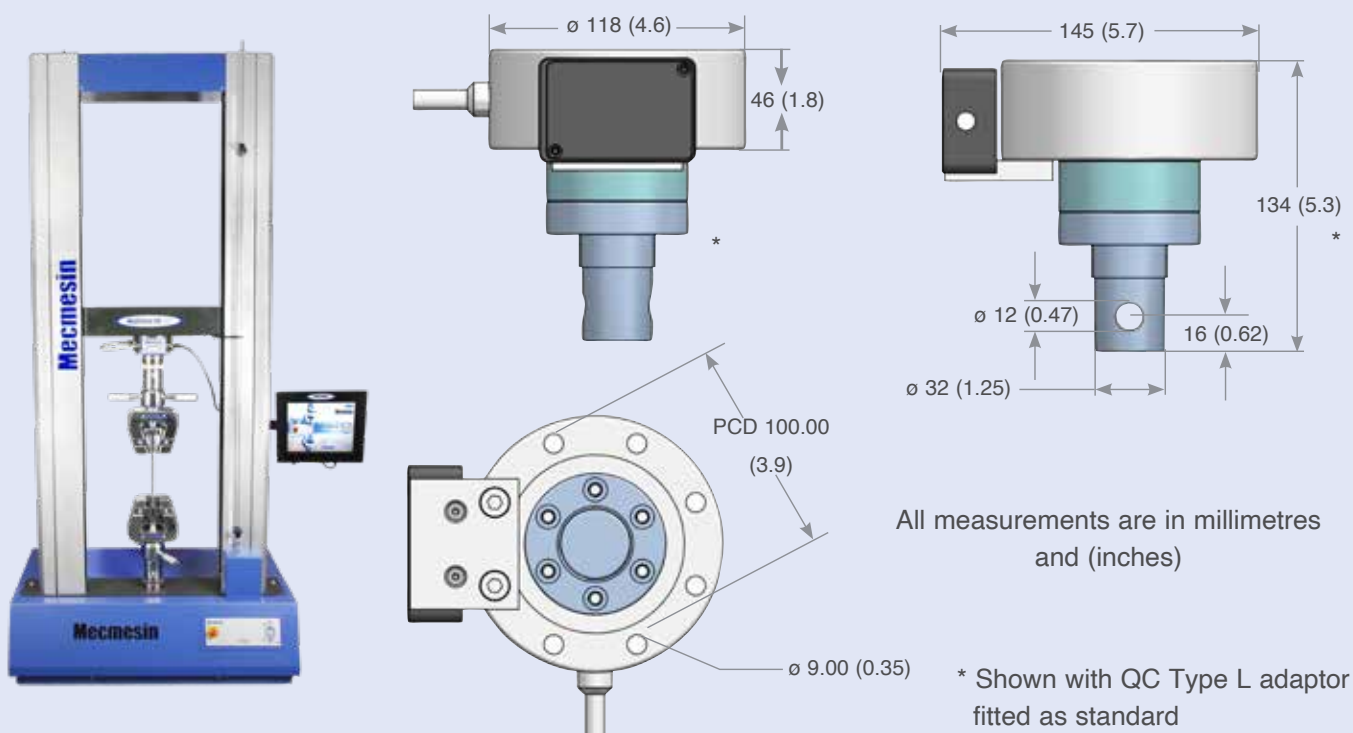
Rated capacity	Part No.
5 kN	432 - 256

ILC-T Load Measurement Accuracy

% of full scale (fs)	N
± 0.2% fs	10 kN - 25 kN

MultiTest 50-xt

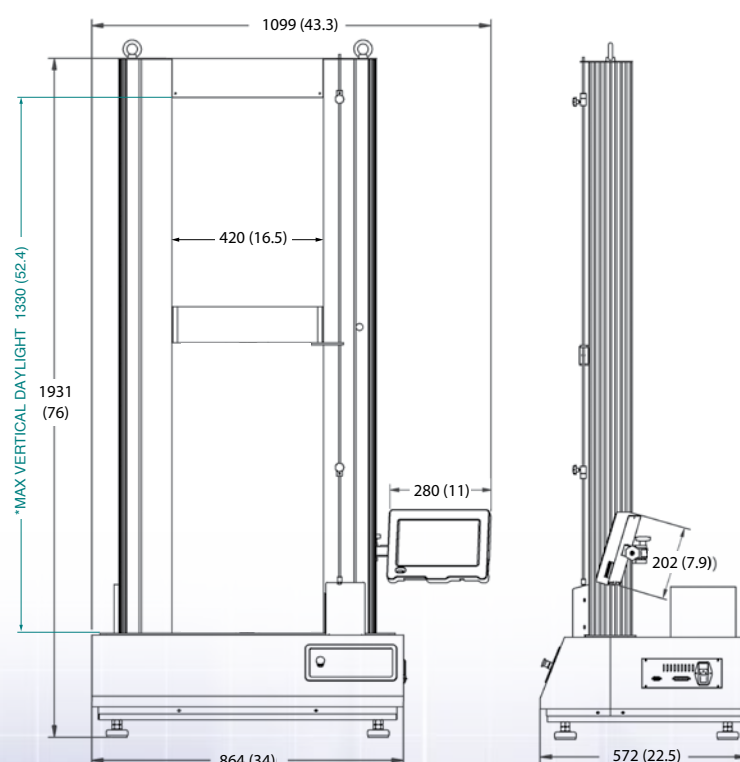
Intelligent Loadcell ILC-P



ILC-P capacity	Part No.	Thread	Overall daylight reduction	Loadcell diameter (ø)	Loadcell height (H)
20 kN	879-077	M18 x 1.5	134 (5.3)	118 (4.6)	134 (5.3)
50 kN	879-076	M18 x 1.5	134 (5.3)	118 (4.6)	134 (5.3)

All measurements are in millimetres and (inches)

* measured without loadcell or grips



Note: Adaptors are supplied to allow fitting of additional ILC and ILC-S / T loadcells to ILC-P loadcells or directly to moving crosshead.

Twin-Column Dovetail Adaptor

NOTE: For use with ILC and ILC-S loadcells.

Supplied as standard with MultiTest 50-xt



Rated capacity	Part No.
5 kN	432 - 256

ILC-P Load Measurement Accuracy

% of full scale (fs)	N
± 0.2% fs	20 kN - 50 kN

Specifications

MultiTest-xt		0.5	1	2.5	5	10	25	50
TEST FRAME								
Rated capacity	N	500	1000	2500	5000	10000	25000	50000
	kgf	50	100	250	500	1000	2500	5000
	lbf	110	220	550	1100	2200	5500	11000
Number of ballscrews		1	1	1	1	2	2	2
Speed range	mm/min	1 - 1000	1 - 1000	1 - 1000*	1 - 500	1 - 1000	1 - 1000**	1 - 400***
	in/min	(0.04 - 40)	(0.04 - 40)	(0.04 - 40)	(0.04 - 20)	(0.04 - 40)	(0.04 - 40)	(0.04 - 15)
Crosshead speed accuracy		±0.2% of indicated speed						
Distance between columns		-	-	-	-	400 mm (15.7")	400 mm (15.7")	420 mm (16.5")
Throat depth†		67 mm (2.6")	67 mm (2.6")	67 mm (2.6")	95 mm (3.7")	-	-	-
Vertical daylight ††		1267 mm (49.9")	1067 mm (42")	588 mm (23.1")	710 mm (28.0")	1140 mm (44.9")	1140 mm (44.9")	1330 mm (52.4")
Height		1616 mm (64")	1416 mm (56")	941 mm (37")	1082 mm(42.6")	1500 mm (59.1")	1500 mm (59.1")	1931 mm (76")
Width (test frame only)		290 mm (11.4")	290 mm (11.4")	290 mm (11.4")	328 mm(12.9")	826 mm (32.5")	826 mm (32.5")	864 mm (34")
Max width (with console fitted)		546 mm (21.5")	546 mm (21.5")	546 mm (21.5")	615 mm (24.2")	1073 mm (42.2")	1073 mm (42.2")	1099 mm (43.3")
Depth		414 mm (16.3")	414 mm (16.3")	414 mm (16.3")	526 mm (20.7")	542 mm (21.3")	542 mm (21.3")	572 mm (22.5")
Weight		36 kg (79 lbs)	32.5 kg (72 lbs)	29 kg (64 lbs)	43 kg (95 lbs)	145 kg (320 lbs)	145 kg (320 lbs)	290 kg (639 lbs)
Max. power requirement		120 watts	200 watts	250 watts	150 watts	450 watts	450 watts	450 watts
Voltage		230 V AC 50 Hz or 110 V AC 60 Hz						
LOAD MEASUREMENT								
Available loadcell ranges	N	2 to 50,000 (14 models)						
	kgf	0.2 to 5,000 (14 models)						
	lbf	0.45 to 11,000 (14 models)						
Loadcell measurement accuracy		±0.1% of full scale for loadcells from 2 N to 2.5 kN ±0.2% of full scale for loadcells from 5 kN to 50 kN						
Loadcell measurement resolution		1:6500						
DISPLACEMENT								
Crosshead travel††		1200 mm (47.3")	1000 mm (39.4")	500 mm (19.7")	590 mm (23.2")	950 mm (37.4")	950 mm (37.4")	1100 mm (43.3")
Positional accuracy per 300 mm (11.81") of travel		±130 μm (±0.005")				±100 μm (±0.004")		
Displayed resolution		±0.01 mm (±0.0004")						

* 2.5 kN - recommended maximum speed = 750 mm/min (30in/min) above 2 kN

** 25 kN - recommended maximum speed = 500 mm/min (20in/min) above 10 kN

*** 50 kN - recommended maximum speed = 250 mm/min (10in/min) above 25 kN

**** As the device is used in varying environmental conditions, the uncertainty of measurement could be as much as 0.1% of full scale.

† measured on centre line of loadcell †† measured without loadcell or grips

Note: See Technical Datasheet 431-390 for dimension drawings

***** Machine wear can be expected over time and may potentially adversely affect both speed and displacement measurement. Machine wear is dependent on factors such as the frequency of usage, harsh operating environments, and the types of test performed (e.g., sudden breaks of stiff materials may cause energy recoil which affects mechanical parts etc.). A full overhaul of the test frame may be required to bring the test system back to its original manufacturer's specification.

Common Specifications

Operating temperature	10C - 35C (50F - 95F)
Humidity range	Normal industry and laboratory conditions
Sampling rate (Hz)	Selectable from 1000, 500, 100, 50, 10
Compensation for system movement	Yes
Loadholding	Yes
Digital display of Load/Position/Speed	Yes
Output of test results to PC/Printer/Datalogger	Yes, via USB/Network Ports or Wireless Network
Communication with PLC/Digital Control Interface	RS232 via USB/Network converter in ASCII Format Yes, via programmable digital ports , 6 Inputs + 6 Outputs

Options

Column gaiter
Safety guard

available upon request

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