

INDUSTRIAL SERIES

HDX MODELS

Industrial Series HDX Models are designed for high-capacity tension, compression, bend/flex, and shear testing. Featuring a dual test space and long test stroke, these frames are available in 1,000 kN (225,000 lbf) and 1,500 kN (337,500 lbf) capacities. Understanding the critical importance of operator safety, Instron's HDX Models incorporate high-quality materials, components, and craftsmanship.

Features and Benefits

- Two test space design makes changing between tension and compression testing safer and more efficient – no need to remove heavy fixtures
- Open-front grip design improves operator safety and throughput, and allows a limited number of jaw faces to cover a large range of specimen sizes
- Long test stroke accommodates a variety of test fixtures and applications
- Ergonomic handset with a fine position adjustment wheel, two programmable softkeys, start, stop and return functions, and variable speed jog
- Powerful, yet user-friendly materials testing software provides repeatable and reproducible results for simple to sophisticated testing requirements
- Variable pressure hydraulic power supply provides pressure on demand, reducing heat generation, increasing oil life, and eliminating the need for water cooling
- External hydraulic power supply provides convenient table top working surface
- Available capacities:
 - 1000 kN (225,000 lbf)
 - 1500 kN (337,500 lbf)

Testing Applications

- Metals - Bar, Plate, Pipe & Tube, Rebar, Structural
- Wire - Rod, Strand
- Fasteners
- Concrete - Cubes, Cylinders, Beams
- Wood

Standards

HDX Models conform to many international standards:

- ASTM A370, A615, C39, C109, E4, E8, E9, E83, E290, F606
- ISO 6892-1, 6892-2, 7438, 7500-1, 9513, 15630-1
- BS4449
- EN10002-1, 10002-2
- JIS Z2241, Z2248



Accessories

- Tensile Grips - button head, threaded-end
- In-Head Grip Jaws/Faces - flat, round
- Bend/Flex and Shear Fixtures
- Fastener Fixtures
- Compression Platens - plane and self-aligning
- Extensometers, Deflectometers
- Low-Capacity Load Cells
- Interlocked Safety Enclosures
- T-Slot Tables
- Furnaces

Specifications

		1000 HDX	1500 HDX
Load Capacity	kN	1,000	1,500
	kgf	100,000	150,000
	lbf	200,000	300,000
Maximum Test Speed	mm/min	100	114
	in/min	3.9	4.5
Actuator Stroke	mm	254	305
	in	10	12
Crosshead Adjusting Speed	mm/min	300	305
	in/min	11.8	12
Horizontal Opening (between columns)	mm	741	762
	in	29.2	30
Floor Space Requirements (w × d)	mm	1228 × 832	1279 × 962
	in	48.4 × 32.8	50.4 × 37.9
Compression Table Size (w × d)	mm	784 × 356	812 × 457
	in	30.9 × 14	31.9 × 18
Compression Opening			
G1B	mm	0 - 1003	0 - 1219
	in	0 - 39.5	0 - 48
G7B	mm	0 - 1003	0 - 1067
	in	0 - 39.5	0 - 42
G7C	mm	0 - 1511	0 - 1676
	in	0 - 59.5	0 - 66
Maximum Tension Opening			
G1B	mm	0 - 5124	76 - 1295
	in	0 - 60	3 - 51
G7B	mm	0 - 1016	0 - 1067
	in	0 - 40	0 - 42
G7C	mm	0 - 1524	0 - 1676
	in	0 - 60	0 - 66
Maximum Operating Height			
G1B	mm	3380	3610
	in	133	142
G7B	mm	3380	3610
	in	133	142
G7C	mm	3890	4216
	in	153	166
Tension Specimen Lengths¹			
G1B	mm	400 - 1824	425 - 1638
	in	15.7 - 71.8	16.7 - 64.5
G7B	mm	400 - 1321	400 - 1372
	in	15.7 - 52	15.7 - 54
G7C	mm	400 - 1829	400 - 1981
	in	15.7 - 72	15.7 - 78
Net Weight (Frame)			
G1B	kgs	3675	5540
	lbs	8100	12200
G7B	kgs	4175	6175
	lbs	9200	13600
G7C	kgs	4405	6410
	lbs	9700	14115
Column Notches			
G1B 4* notches provide crosshead adjustment of	mm	3675	5540
	in	8100	12200
G7B	mm	4175	6175
	in	9200	13600
G7C	mm	4405	6410
	in	9700	14115

Crosshead/Height Options

- G1B - Closed crossheads, manual clamping
- G7B - Open crossheads, hydraulic clamping, standard height option
- G7C - Open crossheads, hydraulic clamping, extended height option

Common Specifications

Data Acquisition Rate by Software
Up to 1 kHz synchronous on load and strain

Load Measurement Accuracy
± 0.5% of reading down to 1/500 of load cell capacity.

Strain Measurement Accuracy
± 0.5% of reading down to 1/50 of full range with ASTM E83 Class B-1, B-2 or ISO 9513 Class 0.5 extensometer.

Position Measurement Accuracy

Standard Encoder
6.35 µm (0.00025 in) resolution. Position accuracy of ± 1% or 0.254 mm (0.01 in) displacement (whichever is greater).

High Resolution Encoder
1.27 µm (0.00005 in) resolution. Position accuracy of ± 0.5% or 0.13 mm (0.005 in) displacement (whichever is greater).

Hydraulic Power Supply Voltage Options
208/230 VAC, 3 Ph, 50/60 Hz
380/400/415 VAC, 3 Ph, 50/60 Hz
460 VAC, 3 Ph, 50/60 Hz

Spare Parts Kits

- W-1353-A 1000HDX Basic Kit
- W-1353-B 1000HDX Recommended Kit
- W-1353-C 1000HDX Comprehensive Kit
- W-1388-A 1500DX Basic Kit
- W-1388-B 1500DX Recommended Kit
- W-1388-C 1500DX Comprehensive Kit

¹ Minimum tension specimen length measured using 152 mm (6 in) clearance between adjustable and tension crosshead, piston fully retracted, and 80% specimen engagement in grip faces when grip faces are flush with crosshead. Maximum tension specimen length measured using maximum clearance between adjustable and tension crossheads, piston fully extended, and 100% specimen engagement in grip faces when grip faces are flush with crosshead.

Increments on 1000HDX are 254 mm (10 in); Increments on 1500HDX are 305 mm (12 in); *3 notches on 1500HDX-G1B

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