

## INDUSTRIAL SERIES

### HVL Models

Instron® Industrial Series HVL 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 2000 kN (450,000 lbf) capacities. Understanding the critical importance of operator safety, Instron's HVL 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
- Long test stroke accommodates a variety of test fixtures and applications
- Semi-open crossheads with hydraulic lever action grips for easy specimen loading and clamping
- 5900 Productivity panel with multiple function keys and displays improves ergonomics and allows the operator to perform common testing functions and view key test information without returning to the computer
- 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 supplied with convenient tabletop working surface
- Available capacities: 2000 kN (450,000 lbf)

### TESTING APPLICATIONS

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

### STANDARDS

HVL Models conform to many international standards:

- ASTM A370, A615, C39, C109, E4, E8, E9, E83, E290, F606
- ISO 6892-1, 6892-2, 7438, 9513, 15630-1
- EN10002-1, 10002-2, 10002-4
- JIS Z2248
- BS4449



## SPECIFICATIONS

		400HVL	400WHVL
Load Capacity	kN kgf lbf	2,000	2,000
		200,000	200,000
		450,000	450,000
Maximum Test Speed	mm/min in/min	114	114
		4.5	4.5
Actuator Stroke	mm in	228	304
		9	12
Horizontal Opening (between columns)	mm in	609	762
		24	30
Floor Space Requirements (W × D) *Pit Mounting	mm in	1296 × 712	1279 × 962*
		51 × 28	56 × 73

## TENSION OPENING

		400HVL	400WHVL
G2A	mm in	76 - 838	76 - 1828
		3 - 33	3 - 72
G2D	mm in	76 - 1753	-
		3 - 69	-

## COMPRESSION OPENING

		400HVL	400WHVL
G2A	mm in	254 - 1016	280 - 2032
		10 - 40	11 - 80
G2D	mm in	254 - 1727	-
		10 - 68	-

## COMPRESSION TABLE SIZE (W × D)

		400HVL	400WHVL
G2A	mm in	609 × 762	762 × 762
		24 × 30	30 × 30
G2D	mm in	609 × 762	-
		24 × 30	-

## MAXIMUM OPERATING HEIGHT

		400HVL	400WHVL
G2A	mm in	3417	3976
		134.5	156.5
G2D	mm in	4331	-
		170.5	-

## TENSION SPECIMEN LENGTHS

		400HVL	400WHVL
G2A	mm in	448 - 1134	448 - 2124
		17.6 - 44.6	17.6 - 83.6
G2D	mm in	448 - 1753	-
		17.6 - 69	-

## NET WEIGHT

		400HVL	400WHVL
G2A	kgs lbs	6,035	8,325
		13,300	18,350
G2D	kgs lbs	6,870	-
		15,140	-

## ACCESSORIES

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

## COMMON SPECIFICATIONS

- Data Acquisition Rate by Software: Up to 1 kHz synchronous on load and strain
- Load Measurement Accuracy:  $\pm 0.5\%$  of reading down to 1/500 of load cell capacity
- Strain Measurement Accuracy: Meets or surpasses the following standards: ASTM E8, ISO 9513, and EN 10002-4
- Position Measurement Accuracy: 6.35  $\mu\text{m}$  (0.00025 in) resolution
- Position accuracy:  $\pm 1\%$  or 0.254 mm (0.01 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

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