

Instron® Industrial Series HVL Models are designed for high-capacity tension, compression, bend/flex, and shear testing. Available in 2000 kN (450,000 lbf) capacity in standard and wide models, this frame features a dual test space. 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 table top 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





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

### Tension Opening

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

### Compression Opening

G1A	mm	51 - 812	25 - 1778
	in	2 - 32	1 - 70
G1D	mm	51 - 1727	-
	in	2 - 68	-
G2A	mm	254 - 1016	280 - 2032
	in	10 - 40	11 - 80
G2D	mm	254-1727	-
	in	10-68	-

### Compression Table Size (W × D)

G2A	mm	609 × 762	762 × 762
	in	24 × 30	30 × 30
G2D	mm	609 × 762	-
	in	24 × 30	-

### Maximum Operating Height

G2A	mm	3417	3976
	in	134.5	156.5
G2D	mm	4331	-
	in	170.5	-

### Tension Specimen Lengths

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

### Net Weight

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

## 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  
Meets or surpasses the following standards: ASTM E8, ISO 9513, and EN 10002-4

Position Measurement Accuracy  
6.35 µm (0.00025 in) resolution. Position accuracy: ±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

## 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

