

6800 SERIES

Single Column Universal Testing Machines

The 6800 Series universal testing machines are designed to perform tensile, compression, flex, peel, puncture, friction, shear tests, and more. The systems are compatible with hundreds of grips and fixtures found in Instron's expansive accessories catalog, with specific configurations designed to perform many of the most popular ASTM and ISO tests.

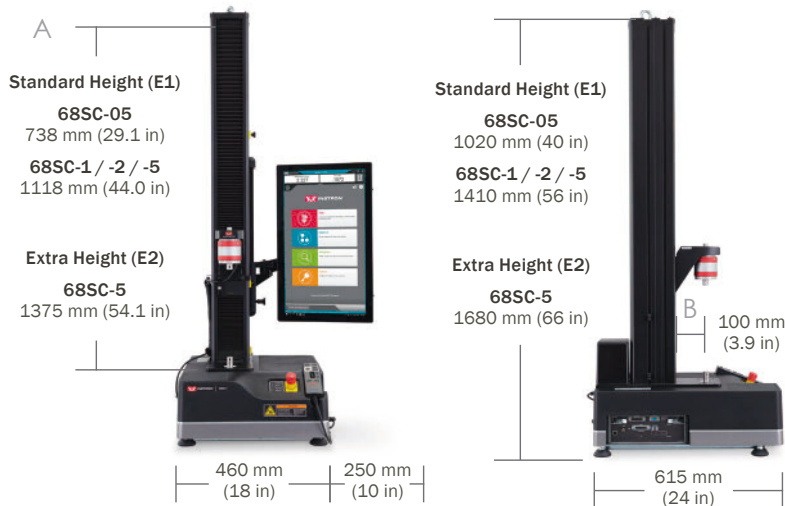
FEATURES AND BENEFITS

For low force applications, the 6800 single column series provides up to 5 kN capacity available in standard and extra height options. Powered by Bluehill Universal, the 6800 Series systems are simple, smarter, and safer than ever before, featuring:

- **Auto Positioning:** Saves the correct fixture separation starting location for each test method. This ensures all operators run each test exactly the same way across all shifts every day.
- **Operator Protect:** Instron's patent-pending Operator Protect architecture. An intelligent workflow keeps equipment and operators safer by controlling system status from setup to test completion.
- **Safety Coaching:** Clear visual feedback regarding system status at all times. Users will easily understand when the system is in a safe setup mode, and clearly reminded to exit the test space once these safety limits are removed.
- **Smart-Close Air Kit** (optional): Finger pinch hazards from pneumatic grips are reduced through lower grip-closing pressure and restricted speed during the setup phase of your test.
- **Collision Mitigation:** Reduce damage to equipment and delicate specimens by stopping the crosshead if force is detected upon return or during a jog.
- An **all-new ergonomic handset** mounted directly into the base of frame with customizable Soft Keys, Specimen Protect, and Fine Position adjustment wheel
- Pre-loaded bearings, precision ball screws, an extra thick crosshead and base beam, and low-stretch drive belts to ensure **superior performance and longevity**
- Maintenance-free **brushless AC servomotors** enabling cyclic, creep, and relaxation testing for up to 10 days



SPECIFICATIONS



Data Acquisition Rate at the PC:
Up to 5 kHz simultaneous on force, displacement, and strain channels.

Load Measurement Accuracy:
± 0.5% of reading down to 1/1000th of load cell capacity with 2580 Series load cells (with Advanced Performance Option).

± 0.5% of reading down to 1/500th of load cell capacity with 2580 Series load cells.

± 0.5% of reading to 1/250th
± 1.0% of reading to 1/500th of load cell capacity with 2525 or 2530 Series load cells

Strain Measurement Accuracy:
Meets or exceeds ASTM E83, BS 3846, ISO 9513, and EN 10002-4 standards.

Displacement Measurement Accuracy:
±0.01 mm or 0.05% of displacement (whichever is greater).

Testing Speed Accuracy:
(Zero or constant load) ±0.1% of set speed.

Single Phase Voltage:
100, 120, 220, or 240 VAC ±10%, 47 to 63 Hz.

Operating Temperature:
+5 to +40 °C (+41 to +104 °F)

Storage Temperature:
-25 to +55 °C (-13 to +131 °F)

Ingress Protection (IP) Rating:
IP 2X. Protective measures may be required if excessive dust, corrosive fumes, electromagnetic fields, or hazardous conditions are encountered.

Humidity Range:
+10 to +90%, non-condensing at 20 °C

		68SC-05	68SC-1	68SC-2	68SC-5
Force Capacity	kN	0.5	1	2	5
	lbf	112	225	450	1125
Crosshead Travel	mm	505	868	868	868 (E1), 1112 (E2)
	in	19.9	34.2	34.2	34.2 (E1), 43.8 (E2)
Vertical Test Space (A)	mm	738	1118	1118	1118 (E1), 1375 (E2)
	in	29.1	44.0	44.0	44.0 (E1), 54.1 (E2)
Horizontal Test Space (B)	mm	100	100	100	100
	in	3.9	3.9	3.9	3.9
Maximum Speed	mm/min	2540	2540	2540	2540
	in/min	100	100	100	100
Minimum Speed	mm/min	0.001	0.001	0.001	0.001
	in/min	0.00004	0.00004	0.00004	0.00004
Maximum Return Speed	mm/min	2540	2540	2540	2540
	in/min	100	100	100	100
Position Control Resolution	nm	9.5	9.5	9.5	9.5
	µin	0.38	0.38	0.38	0.38
Frame Axial Stiffness	kN/mm	8.5	8.5	8.5	8.5
	lb/in	48500	48500	48500	48500
Maximum Force at Full Speed	kN	0.5	1	2	2.5
	lbf	112	225	450	562
Maximum Speed at Full Force	mm/min	2540	2540	2540	1270
	in/min	100	100	100	50
Footprint (h × w × d)*	mm	1020 × 460 × 615	1410 × 460 × 615	1410 × 460 × 615	1410 × 460 × 615
	in	40 × 18 × 24	56 × 18 × 24	56 × 18 × 24	56 × 18 × 24
Weight	kg	55	62	62	62 (E1), 67 (E2)
	lb	121	136	136	136 (E1), 148 (E2)
Maximum Power Requirements	VA	700	700	700	700

* The footprint width is for the system only. The Operator Dashboard monitor may add 250 mm (10 in) to the overall width of the frame. The extra height (E2) option for the 68SC-5 adds 27 cm (10 in) to the overall height of the frame.

www.instron.com



Worldwide Headquarters
825 University Ave, Norwood, MA 02062-2643, USA
Tel: +1 800 564 8378 or +1 781 575 5000

European Headquarters
Coronation Road, High Wycombe, Bucks HP12 3SY, UK
Tel: +44 1494 464646