INSTRON®

The difference is measurable®

5980 SERIES

Dual Column Floor Model

5980 Series systems perform tensile, compression, bend, creep, and cyclic tests on all raw materials and finished goods. These testing instruments are engineered for precision, built for durability, and offer flexibility for changing requirements. They are designed with features that increase testing efficiency and improve the testing experience for the operator.

5980 floor models are robust, heavy-duty frames commonly used for testing high-strength metals and alloys, advanced composites, aerospace and automotive structures, bolts, fasteners, and plate steels. A key advantage of the 5980 floor models is the stiffness of the frame that is especially important when testing high-strength materials such as aerospace composites, metal alloys, and crystalline polymers. Pre-loaded bearings and precision ball screws, a thick crosshead and base beam, and low-stretch drive belts contribute to better performance by producing more accurate modulus and strain values, and minimizing the energy stored during a test.

Easier access to the test area is a very important benefit for the operator. When testing large metal specimens, fasteners, or composite parts, operators often struggle to reach the test area of large frames in order to load a specimen - especially when the grips or fixtures are large. These systems are designed with a lower base height that allows the operator to stand closer to the grips and fixtures, reducing the need to hold heavy test specimens away from the body.

FEATURES AND BENEFITS

- Meets or exceeds requirements of all national and international standards; namely ISO, ASTM, BS, DIN, EN, and AFNOR
- Thousands of accessories to meet test requirements in almost any application or industry: biomedical, automotive, electronics, plastics, metals, composites, elastomers, aerospace, textiles, and many more
- Supported by the largest global service organization in the industry; delivering high-quality calibrations, training, preventative maintenance, and technical support
- Ergonomic handset with a fine position adjustment wheel, two programmable softkeys, start, stop and return

BLUEHILL® UNIVERSAL AND INSTRON® CONNECT

Designed from the ground up for touch, Instron's static testing software, Bluehill Universal, is easy-to-use, increases testing efficiency, and contains modular features that enable users to run the most complex of tests.

With ISO 9001 accreditation, our goal is to provide the best ownership experience by delivering the highest quality products, expert support, and world-class service. Instron Connect provides users with a powerful communication platform via a secure connection between the Instron system at your facility and Instron's global technical support engineers. With Instron Connect, users receive faster remote technical support, reduce risk with schedule verification and preventive maintenance reminders, and are effortlessly able to keep up to date with the latest software features.

SPECIFICATIONS

		5988	5989
Force capacity[1]	kN	400	600
	lbf	89920	134880
Vertical Test Space[3]	mm	2050	2000
	in	80.7	78.7
Horizontal Test Space[4]	mm	763	763
	in	29.9	29.9
Testing Speed Range Min-Max (Return)	mm/min	0.0001-508 (508)	0.0001-508 (508)
	in/min	0.000004 - 20 (20)	0.000004-20 (20)
Position Control Resolution	nm	4	4
	µin	0.15	0.15
Frame Axial Stiffness	kN/mm	480	650
	lb/in	2740900	3711600
Maximum Force at Full Speed	kN	300	400
	lbf	67445	89700
Maximum Speed at Full Force	mm/min	305	305
	in/min	12	12
Height	cm	313	313
	in	123	123
Width[5]	cm	159	159
	in	63	63
Depth	cm	96	96
	in	38	38
Weight	kg	2255	2516
	lbs	4960	5535
Maximum Power Requirement	VA	4800	4800

Notes:

1. Meets or exceeds ASTM E4, BS 1610, DIN 51221, ISO 7500/1, EN 10002-2. JIS B7721, JIS B7733, and AFNOR A03-501 standards. Instron recommends that systems are verified on-site at the time of installation as required by ASTM E4 (par. 20.3) and ISO 7500-1 section 9) standards.
2. All systems conform to all relevant European standards and carry a CE mark.
3. Vertical test space on all systems is the distance from the top surface of the base platen to the bottom surface of the moving crosshead, excluding load cell grips and fixtures.
4. Horizontal test space on dual column systems is the distance between the inside edge of the columns.
5. This is the system footprint width. The Operator Dashboard monitor may add 300 mm (12 in) to the overall width of the frame.
6. These specifications were developed in accordance with Instron's standard procedures and are subject to change without notice.
7. Extra-high or wide load frames and extra-high or low speed drive systems are also available. Contact your nearest Instron office for details.

Common Specifications

Force Measurement Accuracy:
± 0.4% of reading down to 1/100 of load cell capacity with 2525, 2530 or 2580 Series load cells

± 0.5% of reading down to 1/1000 of load cell capacity with 2580 Series load cells

± 0.5% of reading to 1/250 of load cell capacity with 2525 or 2530 Series load cells. [1]

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

Strain Measurement Accuracy:
Meets or surpasses the following standards: ASTM E83, ISO 9513, and EN 10002-4.

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

Data Acquisition Rate at the PC:
Up to 2.5 kHz simultaneous on force, displacement, and strain channels, 1 kHz (Standard)

Facility Requirements and Operating Environment

Three Phase Voltage:
208, 240, 400 or 480 VAC ±10%; 47 to 63 Hz. Power supply must be free of spikes, surges or sags exceeding 10% of the average voltage. For 5988 and 5989 frames, 3-phase wye with neutral is required.

Operating Temperature:
+10 to +38°C (+50 to +100°F)

Storage Temperature:
-40 to +66°C (-40 to +150°F)

Humidity Range:
+10 to +90%, non-condensing

Atmosphere:
Designed for use under normal laboratory conditions. Protective measures may be required if excessive dust, corrosive fumes, electromagnetic field, or hazardous conditions are encountered.

INSTRON

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