

3400 SERIES

Floor Model Universal Testing Machines

The 3400 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 higher force applications, the 3400 floor model system provides up to 100 kN capacity available in short base and tall base options. Powered by Bluehill Universal, the 3400 Series systems are simple, smarter, and safer than ever before, featuring:

- **Built to Perform:** The frame has been fortified against shock and vibration which allows for continuous testing at the maximum rated frame capacity and the maintenance free brushless AC servomotors support continuous cyclic, creep, and relaxation testing for up to 10 days.
- **Built to Last:** Reduction in debris ingress has been achieved thru gasketing and a patent-pending airflow design. Internal electrical and mechanical hardware is located safely away from directly beneath the test area. The 12mm metal work surface is treated with an abrasion-resistant coating for durability.
- **Ergonomic Design:** A contoured design allows the operator easy access to the test space for fixture assembly as well as a comfortable reach to the control panel and touchscreen.
- **User Safety Enhancements:** Patent pending Operator Protect architecture keeps operators safer by controlling system status and speeds throughout setup and testing via intelligent workflows. Safety Coaching visually alerts the operator to when the machine is in a safe setup mode and clearly identifies when the safety limits have been removed for testing.
- **Collision Mitigation:** Reduce damage to equipment and delicate specimens by stopping crosshead motion if force is detected upon jog or return.
- **Unmatched Support:** We service and calibrate more than 30,000 Instron systems in active use worldwide every year.



SPECIFICATIONS

34FM-100

Force Capacity	kN	100
	lbf	22480
Crosshead Travel	mm	1407
	in	55.3
Vertical Test Space (A)*	mm	1494
	in	58.8
Horizontal Test Space (B)	mm	575
	in	22.6
Maximum Speed	mm/min	508
	in/min	20
Minimum Speed	mm/min	0.001
	in/min	0.00004
Maximum Return Speed	mm/min	600
	in/min	23.6
Footprint Dimensions (h x w x d)**	mm	2264 (B1), 2587 (B2) x 1132 x 783
	in	90 (B1), 101.85 (B2) x 44.89 x 30.9
Position Control Resolution	nm	2.215625
	µin	0.087
Frame Axial Stiffness	kN/mm	300
	lb/in	1713044
Maximum Force at Full Speed	kN	50
	lbf	11240
Maximum Speed at Full Force	mm/min	254
	in/min	10
Weight	kg	786.2 (B1), 848.4 (B2)
	lb	1733 (B1), 1870 (B2)
Maximum Power Requirements	VA	2400

* Standard height and short base dimensions only. See diagrams for additional variations. 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.

Data Acquisition Rate at the PC:

Up to 1 kHz simultaneous on force, displacement, and strain channels.

Load Measurement Accuracy:

± 0.5% of reading down to 1/200th of load cell capacity

± 1.0% of reading down to 1/500th of load cell capacity

Displacement Measurement Accuracy:

±0.02 mm or 0.15% of displacement (whichever is greater)

Testing Speed Accuracy:

(Zero or constant load) ±0.2% of set speed.

Single Phase Voltage:

100, 120, 220, or 240 VAC ±10%, 47 to 63 Hz.

Three Phase Voltage :

208 to 240 VAC ±10%, 47 to 63 Hz. Compatible with both 3-phase, 4-wire, wye and delta configurations

Operating Temperature:

+5 to +40 °C (+41 to +104 °F)

Storage Temperature:

-25 to +55 °C (-13 to +131 °F)

Humidity Range:

+10 to +90%, non-condensing at 20 °C

Ingress Protection (IP) Rating:

IP 2X. Protective measures may be required if excessive dust, corrosive fumes, electromagnetic fields, or hazardous conditions are encountered.

These specifications were developed in accordance with Instron's standard procedures and are subject to change without notice. All systems conform to all relevant European standards and carry a CE mark.



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