INSTRON®

The difference is measurable®

3400 SERIES

Table 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

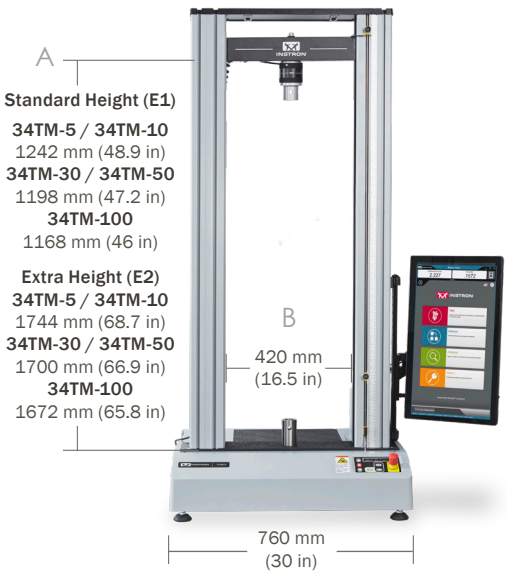
For both low and high force applications, the 3400 table model series provides up to 100 kN capacity available in standard and extra height options. Powered by Bluehill® Universal software, the 3400 Series systems are simple, smarter, and safer than ever before, featuring:

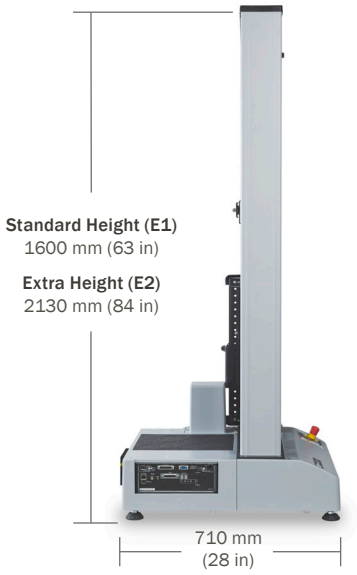
- **Operator Protect:** Instron's patented Operator Protect architecture. An intelligent workflow keeps equipment and operators safer by controlling system status from setup to test completion.
- **Safety Coaching:** Clear visual feedback regarding system status at all times. Users will easily understand 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 operator panel** with LED status indicators, jog, start, stop and return keys
- Maintenance-free **brushless AC servomotors** enabling cyclic, creep, and relaxation testing for up to 10 days (up to 0.5 Hz at 25 °C)

INSTRON
TEN YEAR
MECHANICAL SYSTEMS
WARRANTY

Every purchase of a new 3400 Series system now includes a **10-YEAR MECHANICAL SYSTEMS WARRANTY** — the first of its kind in the materials testing industry.

SPECIFICATIONS





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 1/250th of load cell capacity

Or

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

Displacement Measurement Accuracy: ±0.02 mm of 0.15% of displacement (whichever is greater)

Testing Speed Accuracy: (Zero or constant load) ±0.2% of set speed.

UL Certified and CE Compliant: All standard 34TM frames are UL Certified*, comply with all applicable European standards, and are CE marked.

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: -20 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.

*Applies to 34TM frames shipped on or after October 26, 2026.

		34TM-5	34TM-10	34TM-30	34TM-50	34TM-100
Force Capacity	kN	5	10	30	50	100
	lbf	1125	2250	6750	11250	22480
Crosshead Travel	mm	1172 (E1), 1651 (E2)	1172 (E1), 1651 (E2)	1128 (E1), 1607 (E2)	1128 (E1), 1607 (E2)	1097 (E1), 1582 (E2)
	in	46.1 (E1), 65.0 (E2)	46.1 (E1), 65.0 (E2)	44.4 (E1), 63.3 (E2)	44.4 (E1), 63.3 (E2)	43.2 (E1), 62.3 (E2)
Vertical Test Space (A)	mm	1242 (E1), 1744 (E2)	1242 (E1), 1744 (E2)	1198 (E1), 1700 (E2)	1198 (E1), 1700 (E2)	1168 (E1), 1672 (E2)
	in	48.9 (E1), 68.7 (E2)	48.9 (E1), 68.7 (E2)	47.2 (E1), 66.9 (E2)	47.2 (E1), 66.9 (E2)	46 (E1), 65.8 (E2)
Horizontal Test Space (B)	mm	420	420	420	420	420
	in	16.5	16.5	16.5	16.5	16.5
Maximum Speed	mm/min	1016	508	508	508	508
	in/min	40	20	20	20	20
Minimum Speed	mm/min	0.05	0.05	0.05	0.05	0.05
	in/min	0.002	0.002	0.002	0.002	0.002
Maximum Return Speed	mm/min	1500	610	610	508	508
	in/min	59	24	24	20	20
Footprint Dimensions (h × w × d)*	mm	1610 × 760 × 710	1610 × 760 × 710	1610 × 760 × 710	1610 × 760 × 710	1640 × 760 × 710
	in	63 × 30 × 28	63 × 30 × 28	63 × 30 × 28	63 × 30 × 28	65 × 30 × 28
Position Control Resolution	nm	129	64.7	33.8	24.1	16.78
	µin	5.09	2.55	1.33	0.95	0.66
Frame Axial Stiffness	kN/mm	38	38	72	74	180
	lb/in	217,000	217,000	411,100	422,000	1,027,000
Maximum Force at Full Speed	kN	5	10	30	25	50
	lbf	1125	2250	6750	5620	11250
Maximum Speed at Full Force	mm/min	1016	508	508	250	250
	in/min	40	20	20	10	10
Weight	kg	122 (E1), 136 (E2)	122 (E1), 136 (E2)	140 (E1), 154 (E2)	152 (E1), 166 (E2)	266 (E1), 295 (E2)
	lb	268 (E1), 299 (E2)	268 (E1), 299 (E2)	308 (E1), 339 (E2)	334 (E1), 365 (E2)	586 (E1), 650 (E2)
Maximum Power Requirements	VA	700	700	800	1100	1200

* The footprint width is for the system only. The Operator Dashboard monitor may add 300 mm (12 in) to the overall width of the frame. The extra height (E2) option adds 530 mm (21 in) to the overall height of the frame.

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