

Industrial Series KPX Models are designed for high-capacity tension, compression, bend/flex, and shear testing. Featuring an ultra-large single test space and adjustable crosshead options, these frames deliver exceptional flexibility for a wide range of applications and are available in capacities ranging from 600 kN (135,000 lbf) to 3,500 kN (800,000 lbf). Understanding the critical importance of operator safety, Instron's KPX Models incorporate high-quality materials, components, and craftsmanship.

Features and Benefits

- Adjustable crosshead options allow the ultra-large test space to be adapted to a wide range of test specimens, applications, and accessories
- Linear guidance system maintains precise alignment of the load string over the entire stroke of the actuator
- Co-axially mounted encoder accurately measures actuator travel at the center of the load string
- Convenient working height and ergonomic controls improve operator productivity and comfort
- Machine base design reduces operator fatigue by allowing the operator to get close to the load string centerline when installing specimens
- Long stroke, high-speed actuator accommodates both tension and compression testing applications
- Optional open-front hydraulic wedge-action and side-acting grips improve operator safety and throughput, and allow a limited number of jaw faces to cover a large range of specimen sizes
- Productivity panel with multiple function keys and displays 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
- Available frame capacities:
 - 600 kN (135,000 lbf)
 - 1000 kN (225,000 lbf)
 - 1500 kN (337,500 lbf)
 - 2000 kN (450,000 lbf)
 - 3500 kN (800,000 lbf)

Testing Applications

- Metals - Bar, Plate, Pipe & Tube, Rebar, Structural
- Wire - Rod, Strand
- Concrete
- Fasteners
- Wood
- Composites
- Components



Standards

KPX Models conform to many international standards, including (but not limited to):

- ASTM A370, A615, C39, C109, E4, E8, E9, E83, E290, F606
- ISO 6892-1, 6892-2, 7438, 7500-1, 9513, 15630-1
- BS 4449
- EN10002-1, 10002-2
- JIS Z2241, Z2248

Accessories

- Hydraulic Wedge Action and Side-Acting Grips
- Bend/Flex and Shear Fixtures
- Extensometers, Deflectometers
- Tee Slot Tables
- Fastener Fixtures

		600KPX	1000KPX	1500KPX	2000KPX	3500KPX
Load Capacity	kN	600	1,000	1,500	2,000	3,500
	kgf	60,000	100,000	150,000	200,000	350,000
	lbf	135,000	225,000	337,500	450,000	800,000
Test Stroke	mm	508	610	610	610	660
	in	20	24	24	24	26
Maximum Test Speed	mm/min	203	203	203	203	102
	in/min	8	8	8	8	4
Maximum Jog Speed	mm/min	203	203	203	203	152
	in/min	8	8	8	8	6
Horizontal Test Opening	mm	762	762	876	876	765 ¹
	in	30	30	34.5	34.5	30.1
Machine Base Depth	mm	381	438	438	940	1019
	in	15	17.25	17.25	37	40
Optional Tee Slot Table Dimensions	mm	641 × 641	711 × 711	711 × 711	711 × 711	-
	in	25 × 25	28 × 28	28 × 28	28 × 28	-

Crosshead Style	600KPX	1000KPX	1500KPX	2000KPX	3500KPX
Fixed Position Crosshead, No Grips	-	-	-	J4	J4
Fixed Position Crosshead, With Grips	-	-	-	-	J5
Hydraulically Adjustable Crosshead	J3	J3	J3	J3	-
Manually Adjustable Crosshead	J1	J1	J1	-	-

600KPX		J1D	J3B	J3D
Vertical Test Opening ²	mm	0 - 2,540	254 - 1,930	254 - 2,540
	in	0 - 100	10 - 76	10 - 100
Maximum Machine Height	mm	4,405	3,795	4,405
	in	173	149	173
Machine Weight	kg	2,315	2,435	2,535
	lbs	5,100	5,365	5,585

1000KPX		J1C	J1D	J3C	J3D
Vertical Test Opening	mm	0 - 2,921	0 - 3,226	889 - 2,921	889 - 3,226
	in	0 - 115	0 - 127	35 - 115	35 - 127
Maximum Machine Height	mm	4,995	5,300	4,995	5,300
	in	197	209	197	209
Machine Weight	kg	3,310	3,375	3,585	3,660
	lbs	7,290	7,430	7,900	8,060

1500KPX		J3C	J3D
Vertical Test Opening ²	mm	889 - 2,921	889 - 3,226
	in	35 - 115	35 - 127
Maximum Machine Height	mm	5,135	5,440
	in	202	214
Machine Weight	kg	5,160	5,265
	lbs	11,370	11,600

2000KPX		J3A	J3D
Vertical Test Opening ²	mm	0 - 2,311	0 - 3,226
	in	0 - 91	0 - 127
Maximum Machine Height	mm	4,675	5,590
	in	184	220
Machine Weight	kg	9,040	9,635
	lbs	19,930	21,240

3500KPX		J5A
Vertical Test Opening	mm	102 - 762 ³
	in	4 - 30
Maximum Machine Height	mm	4,195
	in	165
Machine Weight	kg	14,300
	lbs	31,500

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 for 600KPX, 1500KPX, and 2000KPX
± 0.5% of reading down to 1/100 of load cell capacity for 3500KPX

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

Position Accuracy
≤ ±0.13mm (0.005 in) or ± 0.1% of displayed reading, whichever is greater

Position Control Resolution Options
Coaxial High Resolution Encoder - 1 µm (0.00004 in)
Ultra-High Resolution Encoder - Consult Factory

Hydraulic Power Supply Voltage Options
208/230 VAC, 3 Ph, 50/60 Hz
380/400/415 VAC, 3 Ph, 50/50 Hz
460 VAC, 3 Ph, 50/60 Hz

Spare Parts Kits
W-1853-A 1000KPX Basic Kit
W-1853-B 1000KPX Recommended Kit
W-1853-C 1000KPX Comprehensive Kit
W-1854-A 600KPX Basic Kit
W-1854-B 600KPX Recommended Kit
W-1854-C 600KPX Comprehensive Kit
W-1855-A 1500KPX Basic Kit
W-1855-B 1500KPX Recommended Kit
W-1855-C 1500KPX Comprehensive Kit
W-1856-A 2000KPX Basic Kit
W-1856-B 2000KPX Recommended Kit
W-1856-C 2000KPX Comprehensive Kit

Notes:

- 3500-J5A Horizontal Test Opening is 900 mm (35.5 in)
- Measured between bottom of load cell and top of machine base
- Measured between grip bodies

Load Cell Options

600KPX		
L1	kN	300
	kgf	30,000
	lbf	67,500
L2	kN	400
	kgf	40,000
	lbf	89,900
L3	kN	600
	kgf	60,000
	lbf	135,000

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

Industrial Products Group
900 Liberty Street, Grove City, PA 16127, USA
Tel: +1 724 458 9610