

Industrial Series DX Models are designed for high-capacity tension, compression, bend/flex, and shear testing. Featuring a dual test space and a single footprint, these frames are available in capacities of 300 kN (67,500 lbf) and 600 kN (135,000 lbf). Understanding the critical importance of operator safety, the Instron® DX Models incorporate high-quality materials, components, and craftsmanship.

Features and Benefits

- Load frame, hydraulic power supply, and controller combined in a single package saves valuable lab floor space while providing a protective environment for hydraulic and electrical components
- Two test space design makes changing between tension and compression testing safer and more efficient – no need to remove heavy fixtures
- Open-front grip design improves operator safety and throughput, and allows a limited number of jaw faces to cover a large range of specimen sizes
- Convenient working height and ergonomic controls increase operator productivity and comfort
- 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 capacities:
 - 300 kN (67,500 lbf)
 - 600 kN (135,000 lbf)

Testing Applications

- Metals - Bar, Plate, Pipe & Tube, Rebar, Structural
- Wire Rod
- Fasteners
- Concrete - Cubes, Cylinders, Beams
- Wood

Standards

DX 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
- BS4449
- EN10002-1, 10002-2
- JIS Z2241, Z2248



Accessories

- In-Head Grip Jaws/Faces - flat, round
- Bend/Flex and Shear Fixtures
- Compression Platens - plane and self-aligning
- External Load Strings:
 - Button Head, Shoulder End Holders
 - Fastener Fixtures
 - Low-Capacity Load Cells
- Extensometers, Deflectometers
- Interlocked Safety Enclosures
- T-Slot Tables
- Furnaces

Specifications

		300DX	600DX
Crosshead Style	Closed	G1E, G1F	G1E, G1F
	Open	G7E, G7F	G7F, G7G
Load Capacity	kN	300	600
	kgf	30,000	60,000
	lbf	67,500	135,000
Maximum Test Speed	mm/min	76	76
Actuator Stroke	mm	152	152
	in	6	6
Crosshead Adjusting Speed	mm/min	380	380
	in/min	15	15
Horizontal Opening (Between Columns)	mm	381	526
	in	15	20.7
Vertical Compression Opening (Minimum Compression includes Stroke, Measured between Crosshead and Table)	mm	25 - 533	6 - 540
	in	1 - 21	.025 - 21.25
Compression Table Size	mm	356 × 356	556 × 279
	in	14 × 14	21.9 × 11
Floor Space Requirements (W × D)	mm	759 × 736	974 × 970
	in	29.9 × 28.9	38.4 × 38.2

Tension Opening (Adjustable)

G1E	mm	0 - 914	44 - 914
	in	0 - 36	1.75 - 36
G1F	mm	0 - 1524	44 - 1321
	in	0 - 60	1.75 - 52
G7E	mm	0 - 711	-
	in	0 - 28	-
G7F	mm	0 - 1321	0 - 965
	in	0 - 52	0 - 38
G7G	mm	-	0 - 1372
	in	-	0 - 54

Maximum Operating Height

G1E	mm	2440	2505
	in	96	99
G1F	mm	3050	2910
	in	120	115
G7E	mm	2540	-
	in	100	-
G7F	mm	3150	2910
	in	124	115
G7G	mm	-	3315
	in	-	131

Tension Specimen Lengths¹

G1E	mm	270 - 1067	350 - 1168
	in	10.6 - 42	13.8 - 46
G1F	mm	270 - 1676	350 - 1575
	in	10.6 - 66	13.8 - 62
G7E	mm	270 - 864	-
	in	10.6 - 34	-
G7F	mm	270 - 1473	300 - 1168
	in	10.6 - 58	11.8 - 46
G7G	mm	-	300 - 1575
	in	-	11.8 - 62

Net Weight

G1E	kgs	965	2170
	lbs	2130	4780
G1F	kgs	995	2210
	lbs	2195	4865
G7E	kgs	1145	-
	lbs	2520	-
G7F	kgs	1175	2270
	lbs	2585	5000
G7G	kgs	-	2305
	lbs	-	5080

Notes:

- Minimum tension specimen length measured using 152 mm (6 in) clearance between adjustable and tension crosshead, piston fully retracted, and 80% specimen engagement in grip faces when grip faces are flush with crosshead. Maximum tension specimen length measured using maximum clearance between adjustable and tension crossheads, piston fully extended, and 100% specimen engagement in grip faces when grip faces are flush with crosshead.

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

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

Position Measurement Accuracy

Standard Encoder
6.35 µm (0.00025 in) resolution. Position accuracy of ±1% or 0.254 mm (0.01 in) displacement (whichever is greater)

High-Resolution Encoder
1.27 µm (0.00005 in) resolution. Position accuracy of ±0.5% or 0.13 mm (0.005 in) displacement (whichever is greater)

Hydraulic Power Supply

Voltage Options

115V±10%, 1 Ph, 60 Hz, 30 Amp
230V±10%, 1 Ph, 60 Hz, 15 Amp
220V±10%, 1 Ph, 50 Hz, 15 Amp

Spare Parts Kits

W-1338-A 300DX Basic Kit
W-1338-B 300DX Recommended Kit
W-1338-C 300DX Comprehensive Kit
W-1337-A 600DX Basic Kit
W-1337-B 600DX Recommended Kit
W-1337-C 600DX Comprehensive Kit



300DX-G1 with Tension Rods and Split Insert Tensile Grips for Testing .505 Specimens

Grip Faces for G7 Style Crossheads



G7 - Open Front with Hydraulic Actuation



G7 Style Jaws for Round Specimens



G7 Style Jaws for Flat Specimens

Flat Specimens

300 kN		W-5246-A	W-5246-B	W-5246-C
Specimen Thickness Range	mm	0 - 16	16 - 32	32 - 50
	in	0 - 0.63	0.63 - 1.25	1.25 - 2.0
Maximum Specimen Width	mm	70	70	70
	in	2.75	2.75	2.75
Jaw Dimensions (W × L)	mm	70 × 76	70 × 76	70 × 76
	in	2.75 × 3	2.75 × 3	2.75 × 3
Tooth Profile (Per Inch)	Horizontal Cut	20	20	20

600 kN		W-5197-A	W-5197-B
Specimen Thickness Range	mm	0 - 30	30 - 60
	in	0 - 1.18	1.18 - 2.36
Maximum Specimen Width	mm	100	100
	in	4	4
Jaw Dimensions (W × L)	mm	100 × 100	100 × 100
	in	4 × 4	4 × 4
Tooth Profile (Per Inch)	Horizontal Cut	20	20

Round Specimens

300 kN		W-5247-A	W-5247-B	W-5247-C	W-5247-D
Specimen Diameter Range	mm	3 - 10	10 - 20	20 - 30	30 - 40
	in	0.118 - 0.39	0.39 - 0.78	0.78 - 1.18	1.18 - 1.57
Jaw Length	mm	76	76	76	76
	in	3	3	3	3
Tooth Profile (Per Inch)	Horizontal Cut	20	20	10	10

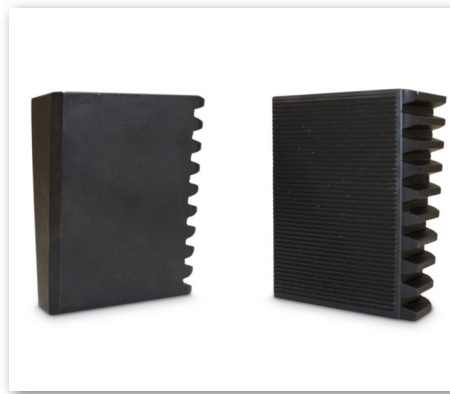
600 kN		W-5198-A	W-5198-B	W-5198-C
Specimen Diameter Range	mm	3 - 10	10 - 35	35 - 57
	in	0.12 - 0.39	0.39 - 1.38	1.38 - 2.25
Jaw Length	mm	100	100	100
	in	4	4	4
Tooth Profile (Per Inch)	Horizontal Cut	20	20	10

Note:
Minimum engagement is the minimum depth of specimen insertion in the jaw for clamping, defined as 80% of the jaw length

Wedge Grip Jaws for G1 Style Crossheads



G1 - Closed with Manual Crank and Pinion



G1 Style Jaws for Flat Specimens



G1 Style Jaws for Round Specimens

Flat Specimens

300 kN

W-1214

Specimen Thickness Range	mm	0 - 25
	in	0 - 1
Maximum Specimen Width	mm	50
	in	2
Jaw Dimensions (W × L)	mm	50 × 76
	in	2 × 3
Tooth Profile (Per Inch)	Horizontal Cut	16

600 kN

W-1408

W-1408-A*

W-1409

W-1409-A*

Specimen Thickness Range	mm	0 - 45	0 - 45	0 - 45	0 - 45
	in	0 - 1.75	0 - 1.75	0 - 1.75	0 - 1.75
Maximum Specimen Width	mm	70	70	70	70
	in	2.75	2.75	2.75	2.75
Jaw Dimensions (W × L)	mm	70 × 125	70 × 125	70 × 125	70 × 125
	in	2.75 × 5	2.75 × 5	2.75 × 5	2.75 × 5
Tooth Profile (Per Inch)	Horizontal Cut	8	8	16	16

*Diamond Cut Tooth Profile

Round Specimens

300 kN

W-1215

W-1215-A

Specimen Diameter Range	mm	12 - 32	5 - 13
	in	0.5 - 1.25	0.2 - 0.5
Jaw Length	mm	76	76
	in	3	3
Tooth Profile (Per Inch)	Horizontal Cut	16	16

600 kN

W-1410

W-1410-A

W-1411

Specimen Diameter Range	mm	12.7 - 57	7 - 25	12.7 - 57
	in	0.5 - 2.25	0.25 - 1	0.5 - 2.25
Jaw Length	mm	125	125	125
	in	5	5	5
Tooth Profile (Per Inch)	Horizontal Cut	10	16	16

Note:
Minimum engagement is the minimum depth of specimen insertion in the jaw for clamping, defined as 80% of the jaw length

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