

INDUSTRIAL SERIES

DX MODELS

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 are CE compliant and 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, large toe kick, 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, 13849-1, 12100
- 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

Specification Table

Model	Crosshead Style		Load Capacity			Maximum Test Speed		Actuator Stroke	
	Open	Closed	kN	kgf	lbf	mm/min	in/min	mm	in
300 DX									
	G7	G1	300	30,000	67,500	150	6	152	6
600 DX									
	G7	G1	600	60,000	135,000	80	3.2	152	6

Model	Crosshead Adjusting Speed		Vertical Compression Opening*		Compression Table Size		Floor Space Requirements (W×D)	
	mm/min	in/min	mm	in	mm	in	mm	in
300 DX								
	380	15	25-533	1-21	356×356	14×14	786×993	29.9×28.9
600 DX								
	380	15	6-540	.025-21.25	556×279	21.9×11	974×1205	38.4×38.2

Model	Tension Opening (Adjustable)		Maximum Operating Height		Tension Specimen Lengths ¹		Net Weight	
	mm	in	mm	in	mm	in	kgs	lbs
300 DX								
G1E1	0-914	0-36	2440	96	270-1067	10.6-42	1110	2440
G1E2	0-1524	0-60	3050	120	270-1676	10.6-66	1140	2510
G7E1	0-711	0-28	2595	102	270-864	10.6-34	1290	2840
G7E2	0-1321	0-52	3205	126	270-1473	10.6-58	1330	2910
600 DX								
G1E1	44-914	1.75-36	2505	99	350-1168	13.8-46	2270	5000
G1E2	44-1321	1.75-52	2910	115	350-1575	13.8-62	2310	5085
G7E1	0-965	0-38	2910	115	300-1168	11.8-46	2390	5265
G7E2	0-1372	0-54	3315	131	300-1575	11.8-62	2430	5350

Notes:

1. 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

High-Resolution Encoder
300DX resolution: 1.27 µm (0.00005 in)
600DX resolution: 1.0 µm (0.00004 in)
Position accuracy of ±0.5% or 0.13 mm (0.005 in) displacement (whichever is greater)

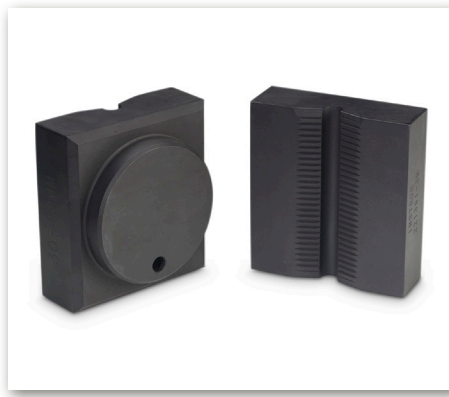
Hydraulic Power Supply
Voltage Options
200-250 VAC, 3PH, 50/60 HZ, 15 Amps
380-415 VAC, 3PH, 50/60 HZ, 10 Amps
440-480 VAC, 3PH, 50/60 HZ, 10 Amps



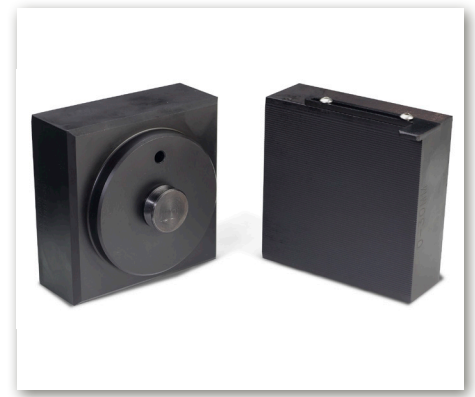
300DX-G1 with Tension Rods and Split Insert Tensile Grips for Testing .505 Specimens



G7 - Open Front with Hydraulic Actuation



G7 Style Jaws for Round Specimens



G7 Style Jaws for Flat Specimens

Flat Specimens

Model	Specimen Thickness Range		Maximum Specimen Width		Jaw Dimensions (W×L)		Tooth Profile (Per Inch)
	mm	in	mm	in	mm	in	Horizontal Cut

300 kN

W-5246-A	0-16	0-0.63	70	2.75	70×76	2.75×3	20
W-5246-B	16-32	0.63-1.25	70	2.75	70×76	2.75×3	20
W-5246-C	32-50	1.25-2.0	70	2.75	70×76	2.75×3	20

600 kN

W-5197-A	0-30	0-1.18	100	4	100×100	4×4	20
W-5197-B	30-60	1.18-2.36	100	4	100×100	4×4	20

Round Specimens

Model	Specimen Diameter Range		Jaw Length		Tooth Profile (Per Inch)
	mm	in	mm	in	Horizontal Cut

300 kN

W-5247-A	3-10	0.118-0.39	76	3	20
W-5247-B	10-20	0.39-0.78	76	3	20
W-5247-C	20-30	0.78-1.18	76	3	20
W-5247-D	30-40	1.18-1.57	76	3	20

600 kN

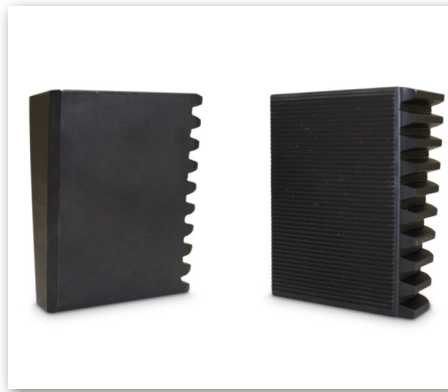
W-5198-A	3-10	0.12-0.39	10	4	20
W-5198-B	10-35	0.39-1.38	10	4	20
W-5198-C	35-57	1.38-2.25	10	4	20

Note:

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



G1 - Closed with Manual Crank and Pinion



G1 Style Jaws for Flat Specimens



G1 Style Jaws for Round Specimens

Flat Specimens

Model	Specimen Thickness Range		Maximum Specimen Width		Jaw Dimensions (W×L)		Tooth Profile (Per Inch)
	mm	in	mm	in	mm	in	Horizontal Cut
300 kN							
W-1214	0-25	0-1	50	2	50×76	2×3	16
600 kN							
W-1408	0-45	0.175	70	2.75	70×125	2.75×5	8
W-1408-A*	0-45	0.175	70	2.75	70×125	2.75×5	8
W-1409	0-45	0.175	70	2.75	70×125	2.75×5	8
W-1409-A*	0-45	0.175	70	2.75	70×125	2.75×5	8

Round Specimens

Model	Specimen Diameter Range		Jaw Length		Tooth Profile (Per Inch)
	mm	in	mm	in	Horizontal Cut
300 kN					
W-1215	12-32	0.5-1.25	76	3	16
W-1215-A	5-13	0.2-0.5	76	3	16
600 kN					
W-1410	12.7-57	0.5-2.25	125	5	10
W-1410-A	7-25	0.25-1	125	5	16
W-1411	12.7-57	0.5-2.25	125	5	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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