

Hydraulic Wedge-Action Grips

Instron® hydraulic wedge grips provide an innovative solution for high-capacity testing and deliver enhanced gripping performance, usability, and operator safety.

Principle of Operation

These grips utilize both hydraulic clamping pressure and wedge-action design principles. An integrated hydraulic piston applies force for the initial “bite” on the specimen. Simultaneously, the wedge design of the pockets cause the gripping force to increase in direct proportion to specimen tension as force is applied during a test.

An optional load string adapting kit can be added to simplify fixture change-overs when running compression or bend tests, or using a secondary tension load string. This kit includes two plates that are bolted onto the grip bodies eliminating the need to remove the grips from the machine.

Features

- Rated capacity of 300 kN (67,500 lbf), 600 kN (135,000 lbf), 1000 kN (225,000 lbf), 1500 kN (337,500 lbf), and 2000 kN (450,000 lbf) in tension
- Grips are powered by the machine’s hydraulic pumping unit and do not require secondary power supply, which reduces the cost and saves floor space
- Ergonomic control handset includes user-friendly, 3-position switches for upper and lower grip operation and a magnetic backplate enhancing operator convenience and productivity
- Fully open-front design provides easy specimen loading and unloading saving time and improving safety
- Jaws separate from jaw carrier making them easy to install with no need to re-grease when changing jaw face
- Full range of specimen sizes can be tested by small number of jaw faces
- No filler plates required since jaw sets accommodate a specific range of specimen sizes
- Grip bodies have grease fittings designed for cleaner re-greasing of carrier and grip pocket
- Ideal for testing a variety of metal specimens
- Protective dust covers shield moving surfaces from debris reducing the risk of seal damage and oil leaks

Application Range

- Static tensile tests on a wide range of materials
- Type of loading: tensile, static, and tension-tension cyclic tests
- Specimen types: reinforcement bar, round bar, flats
- Compression testing when using optional load string adapter plates
- Not suitable for through-zero testing





300 kN Hydraulic Wedge Grips



1500 kN Hydraulic Wedge Grips



2000 kN Hydraulic Wedge Grips

Specifications

		W-5245	W-5360	W-5340	W-5330	W-5320
Capacity	kN lbf	300 67,500	600 135,000	1,000 225,000	1,500 337,500	2,000 450,000
Initial Clamping	kN lbf	11.1 2,500	31.1 7,000	53.4 12,000	53.4 12,000	82.3 18,500
Dimensions (W x L x D)	mm in	445 × 302 × 127 17.5 × 11.875 × 5	546 × 451 × 203 21.5 × 17.75 × 8	660 × 457 × 273 26 × 18 × 10.75	813 × 648 × 495 32 × 25.5 × 19.5	813 × 594 × 408 32 × 23.375 × 16.06
Weight (Per Grip)	kg lb	123 270	327 720	680 1,500	1,140 2,500	1,250 2,750
Upper and Lower Fittings		Type II f RH (M48 × 2p)	Type II Af RH (M72 × 3p RH)	Bolted flange	Bolted flange	Bolted flange
Operating Temperature Range	°C °F	+10 to +38 +50 to +100	+10 to +38 +50 to +100	+10 to +38 +50 to +100	+10 to +38 +50 to +100	+10 to +38 +50 to +100
Operating Pressure Range	bar psi	13.8 - 34.5 200 - 500	13.8 - 34.5 200 - 500	13.8 - 34.5 200 - 500	13.8 - 34.5 200 - 500	13.8 - 34.5 200 - 500
Secondary Load String Adapter Kit		W-5186	W-5196	W-5325/W-5335	W-5325/W-5335	W-5324

Flat Jaws

300 kN Grips

		W-5246-A	W-5246-B	W-5246-C
Specimen Thickness	mm	0 - 16	16 - 32	32 - 50
	in	0 - 0.63	0.63 - 1.25	1.25 - 2.0
Jaw Dimensions (W x L)	mm	70 × 76	70 × 76	70 × 76
	in	2.75 × 3	2.75 × 3	2.75 × 3

600 kN Grips

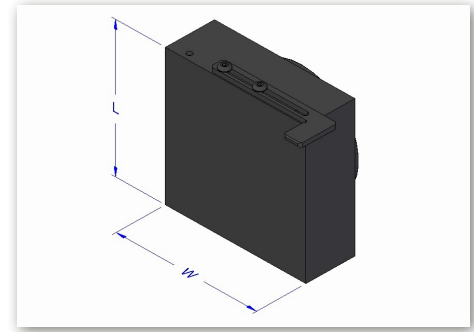
		W-5197-A	W-5197-B	
Specimen Thickness	mm	0 - 30	30 - 60	-
	in	0 - 1.18	1.18 - 2.36	
Jaw Dimensions (W x L)	mm	100 × 100	100 × 100	-
	in	4 × 4	4 × 4	

1000 kN and 1500 kN Grips

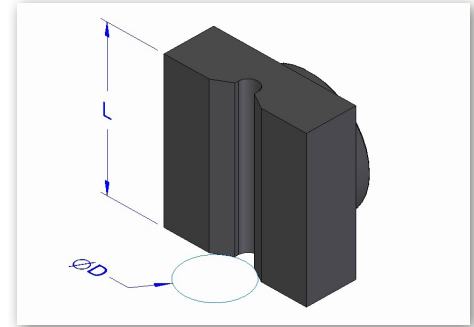
		W-5331-A	W-5331-B	
Specimen Thickness	mm	0 - 35	35 - 70	-
	in	0 - 1.4	1.4 - 2.75	
Jaw Dimensions (W x L)	mm	100 × 150	100 × 150	-
	in	4 × 6	4 × 6	

2000 kN Grips

		W-5322-A	W-5322-B	
Specimen Thickness	mm	0 - 45	45 - 90	-
	in	0 - 1.77	1.77 - 3.54	
Jaw Dimensions (W x L)	mm	125 × 190	125 × 190	-
	in	5 × 7.5	5 × 7.5	



Flat Jaw



Round Jaw

Round Jaws

300 kN Grips

		W-5247-A	W-5247-B	W-5247-C	W-5247-D
Specimen Diameter	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

600 kN Grips

		W-5198-A	W-5198-B	W-5198-C	
Specimen Diameter	mm	3 - 10	10 - 35	35 - 57	-
	in	0.118 - 0.39	0.39 - 1.38	1.38 - 2.25	
Jaw Length	mm	100	100	100	-
	in	4	4	4	

1000 kN and 1500 kN Grips

		W-5332-A	W-5332-B	W-5332-C	
Specimen Diameter	mm	12 - 45	45 - 70	3 - 12	-
	in	0.5 - 1.75	1.75 - 2.75	0.12 - 0.47	
Jaw Length	mm	150	150	150	-
	in	6	6	6	

2000 kN Grips

		W-5323-A	W-5323-B	W-5323-C	
Specimen Diameter	mm	6 - 20	20 - 57	57 - 90	-
	in	0.24 - 0.78	0.78 - 2.24	2.24 - 3.54	
Jaw Length	mm	190	190	190	-
	in	7.5	7.5	7.5	

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