

50 kN UNIVERSAL HYDRAULIC WEDGE-ACTION GRIPS

2742-450

The Instron 50 kN hydraulic wedge action grips are designed for use in static materials testing applications. The interchangeable grip jaw faces accommodate both flat or round specimens. The grip design maintains a constant gripping force on the test specimen, regardless of the applied test forces. This controlled gripping force is applied by the grips as long as there is adequate hydraulic pressure supply that is active and connected.

PRINCIPLE OF OPERATION

An external hydraulic supply provides pressure to open and close the grips, each grip functions independently of the other.

When gripping pressure is applied, the relative vertical position of the specimen/jaw faces remains unchanged, which reduces load applied to the specimen during the gripping process. Once the grip faces contact the specimen, the hydraulic pressure produces a vertical force on the grip head.

The grip force will remain constant as the design automatically compensates for specimen thickness changes.

APPLICATION RANGE

- Type of loading: Static
- Specimen material: Metals, plastics, and composites
- Specimen geometries: Rounds (not buttonhead) or flat specimens with or without shoulder tab

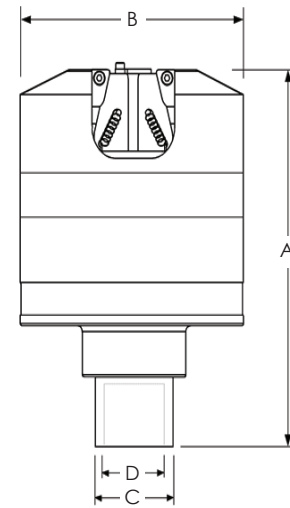
FEATURES

- Rated capacity: ± 50 kN (22 kip)
- Side-entry design with full access for easy specimen insertion
- Interchangeable jaw faces suitable for gripping various material types
- Suitable for a wide range of specimen thickness without the need to change jaw faces
- Jaw faces for flat and round specimen geometries
- Optional adjustable specimen stops on flat faces provide repeatable and accurate specimen centering
- Suitable for tension and compression testing up to 50 kN
- Operated from a stand-alone grip controller
- Temperature range: +4 to +65 °C (+39 to +149 °F)



SPECIFICATIONS

Static Load Capacity	kN	50
	kip	11
Hydraulic Pressure Range	bar	0 to 207
	psi	0 to 3000
Overall Height (A) - Jaws Open	mm	260.9
	in	10.27
Overall Height (A) - Jaws Closed	mm	243.2
	in	9.57
Overall Diameter (B)	mm	142
	in	5.59
Piston Diameter (C)	mm	60
	in	2.36
Upper Fitting		1/2 in clevis (Type Dm)
Lower Fitting		1/2 in clevis (Type Dm)
Construction		Machined Steel with an Electroless Nickel Finish
Weight (Per Grip, without Jaw Faces)	kg	16.5
	lb	36
Temperature Range	°C	+4 to +65
	°F	39.2 to 149
Operating Principle		Double Acting Piston, Wedge



ACCESSORIES

2501-258	Low Profile Wedge Adapter for 2742-450 and 2743-401 wedge grips to Df
2501-260	Wedge Adapter for 2742-450 and 2743-401 Grips to Df
2718-550	Stand Alone Grip Controller and Hydraulic Power Supply

Notes:

- Requires external hydraulic power supply

JAW FACES

Catalog Number	Jaw Face Type	Specimen Thickness		Surface	Clamping Area (W × H)	
		mm	in		mm	in
2704-521	Flat	0 to 7.8	0 to 0.31	Serrated, 1 mm Pitch	50 × 57	2.0 × 2.25
2704-522	Flat	7.1 to 15.7	0.28 to 0.62	Serrated, 1 mm Pitch	50 × 57	2.0 × 2.25
2704-527	Flat	16.5 to 25.2	0.65 to 0.99	Serrated, 1 mm Pitch	50 × 57	2.0 × 2.25
2704-529	Flat	15 to 21	0.59 to 0.82	Serrated, 1 mm Pitch	50 × 57	2.0 × 2.25
2704-525	Flat	0 to 7.8	0 to 0.31	Carbide Coated	50 × 57	2.0 × 2.25
2704-526	Flat	7.1 to 15.7	0.28 to 0.62	Carbide Coated	50 × 57	2.0 × 2.25
2704-523	Vee	6.1 to 11.9	0.24 to 0.47	V - Serrated	57	2.25
2704-524	Vee	9.9 to 16.0	0.39 to 0.63	V - Serrated	57	2.25
2704-528	Vee	16.0 to 20.0	0.63 to 0.78	V - Serrated	57	2.25

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