



Series 2742 ± 30 kN (6.8 kip) Fatigue-Rated Hydraulic Wedge Grips

Catalog Number 2742-301

Features

- Rated capacity: ± 30 kN (6.8 kip)
- Side-entry design with full access for easy specimen insertion from the side
- Interchangeable jaw faces suitable for gripping different types of materials
- 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 to provide accurate specimen centering
- Suitable for tension, compression and fatigue testing up to full reverse-stress dynamic rating
- Operated from a load frame mounted hydraulic grip manifold or via a stand-alone grip controller
- Temperature range: $+4$ °C to $+65$ °C ($+39$ °F to $+149$ °F)

Description

The Instron® 30 kN hydraulic wedge action grips may be used in static or dynamic materials testing applications, interchangeable wedge-shape grip faces accommodating either flat or round specimens.

The grips maintain a constant gripping force on the specimen regardless of the test forces acting upon it, as long as there is hydraulic pressure to the grips.

Principle of Operation

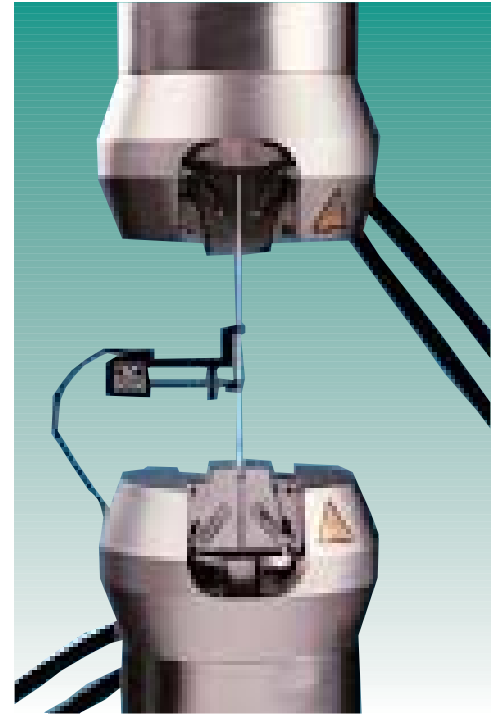
Each grip functions independently of the other, an external hydraulic supply providing pressure to both open and close the grips.

When gripping pressure is applied, the relative vertical position of the specimen/ jaw faces remains unchanged to prevent specimen load generation 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 or dynamic, reverse stress.
- Specimen material: Metallics, plastics, composites.
- Specimen geometries: Round section (not buttonhead) or flat specimens with or without shoulder tab.



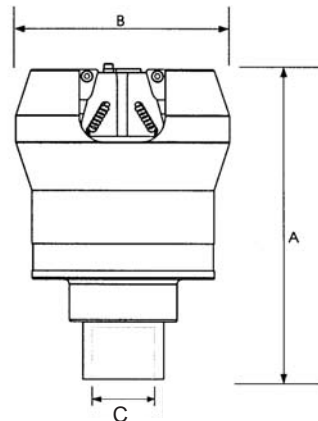
± 30 kN (6.8 kip) fatigue-rated hydraulic wedge grips

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Specifications

Catalog Number	2742-301
Dynamic Load Capacity	±30 kN (6.8 kip)
Static Load Capacity	±30 kN (6.8 kip)
Hydraulic Pressure Range	0 to 204 bar (0 to 3000 psi)
Overall Height - A	187 mm (7.36 in)
Overall Diameter - B	125 mm (4.92 in)
Internal Thread (For Attachment) - C	M30 x 2-6H Right Hand (Type IE)
Construction	Machined steel with an electroless nickel finish
Weight (Per Grip)	9.08 kg (20 lb)
Temperature Range	+4 °C to +65 °C (+39 °F to +150 °F)
Operating Principle	Double acting piston, wedge
Gripping Force	Adjustable to 35 kN (8 kip)



▲ Grip dimensions

Accessories

Catalog Number	Description
2718-111	207 bar (3000 psi) hydraulic grip controller and manifold. Suitable for use on 8801, 8802, 8803, 8804 and 8871, 8872, 8874. Includes hoses for connection to the grips and to the systems hydraulic supply. Not suitable for use with furnaces or temperature chambers.
2718-211, 2718-212, 2718-311, 2718-312	Free-standing electric pump and grip controls for use with servoelectric load frames or when used with furnaces or temperature chambers. Operating voltage 115 VAC or 240 VAC.

Catalog Number	Specimen Thickness	Surface Profile	Clamping Area (W x H)	Application
2703-801	0 mm to 6.4 mm (0 in to 0.25 in)	Serrated, diamond, 0.6 mm pitch	25 mm x 38 mm (1.0 in x 1.5 in)	Metals, plastics, GRP and CRP specimens with and without shoulder tab ends
2703-802	6.4 mm to 12.7 mm (0.25 in to 0.50 in)	Serrated, diamond, 0.6 mm pitch	25 mm x 38 mm (1.0 in x 1.5 in)	Metals, plastics, GRP and CRP specimens with and without shoulder tab ends
2703-803	3 mm to 8 mm diameter (0.1 in to 0.3 in)	V-slot, sharkstooth, 1 mm pitch	38 mm (1.5 in) gripping length	Round specimens with and without shoulder tabs, pipe/tubes with plugs
2703-804	8 mm to 12 mm diameter (0.3 in to 0.5 in)	V-slot, dharkstooth, 1mm pitch	38 mm (1.5 in) gripping length	Round specimens with and without shoulder tabs, pipe/tubes with plugs
2703-805	0 mm to 6.4 mm (0 in to 0.25 in)	Carbide-coated	25 mm x 38 mm (1.0 in x 1.5 in)	Metals, plastics, GRP and CRP specimens with and without shoulder tab ends
2703-806	6.4 mm to 12.7 mm (0.25 in to 0.50 in)	Carbide-coated	25 mm x 38 mm (1.0 x 1.5 in)	Metals, plastics, GRP and CRP specimens with and without shoulder tab ends

Scope of supply: One set of jaw faces (set of four faces)

Note:

Requires an attachment kit for mounting the hydraulic grips to the load cell and machine base or actuator.



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