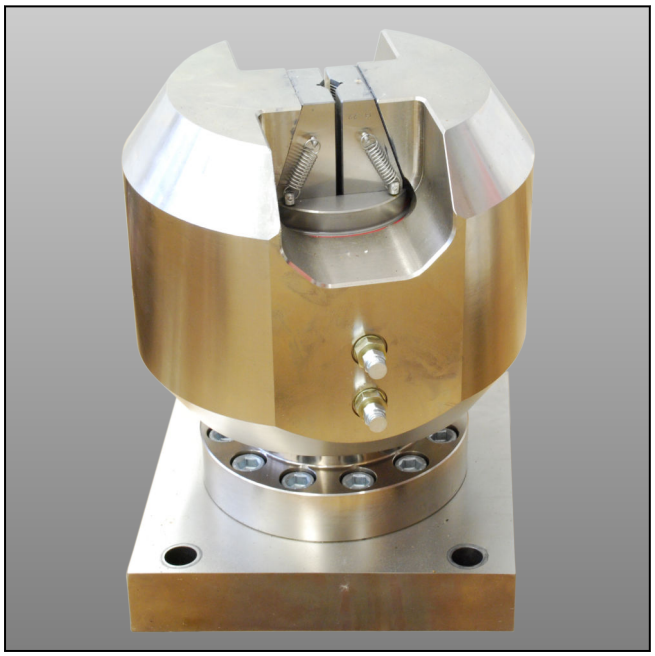
Zwick / Roell

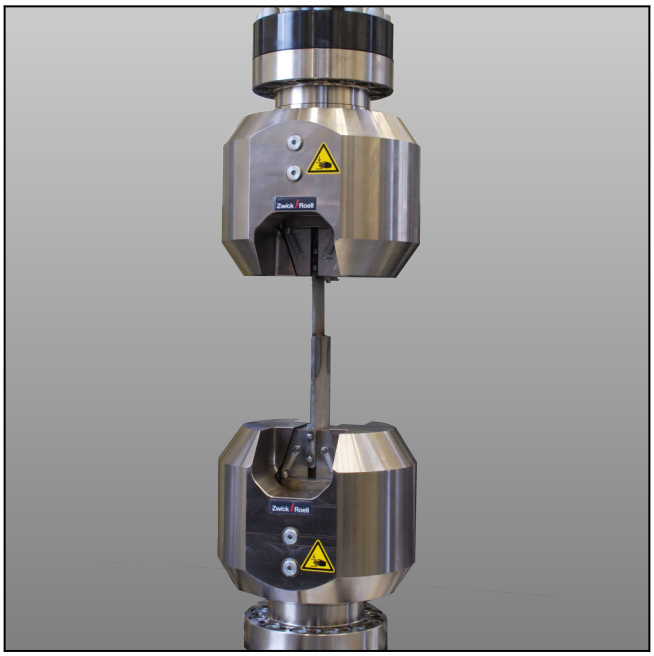
Product Information

BOW 250 kN hydraulic wedge grips

CTA: 76903 76904



BOW-250 hydraulic wedge grips



BOW-250 hydraulic wedge grips with specimen

Range of application

These hydraulic wedge grips are used in materials testing machines to transmit tensile and compression loads to specimens. They are suitable both for static tensile and compression tests and for dynamic tests in the pulsating tensile/compressive stress range under alternating load. Depending on the jaw surface, specimens made of a wide range of materials can be gripped.

Description of operation

The grips operate on the 'body over wedge' principle. During gripping the hydraulic pressure present causes an axial displacement of the body of the grip, producing a uniform lateral movement of the jaws towards the specimen. No axial displacements of any kind occur between specimen and jaws, eliminating unwanted axial forces.

The symmetrical design and accurate guidance of the jaws in the body housing enable accurate, central, reproducible alignment of the specimen to the tensile axis, minimizing possible flexural stresses.

The grips are designed for 210 bar and can be connected to 210-bar and 280-bar systems via the grip control unit.

An integrated pressure reduction unit enables gripping pressure to be matched to the material being tested, allowing the grips to be used with plastics, fiber composites, wood etc. as well as metals.

Advantages and features

- open-sided design for fast, easy specimen and jaw changes
- versatile in use for flat and round specimens with different dimensions
- large clamping-range requires only small selection of jaws
- secure, play-free gripping under every type of load
- electro-hydraulic actuation for easy button-push operation
- symmetrical jaw guides for automatic specimen centering,
- easy installation in testing machine via flange connection; centering disc guarantees alignment in the machine
- temperature-chamber version allows testing in the -70 to +250°C range

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Technical data

Wedge grips Item No.	088934	088936	
Dynamic nominal force	±250	±250	kN
Torsional moment M_{max}	-	-	Nm
Temperature range	+4 to +35	-70 to +250	°C
Design pressure	210	210	bar
Specimen diameter, max.	30	30	mm
Specimen thickness, max.	30	30	mm
Installation height	325	1)	mm
Specimen grip diameter	280	280	mm
Weight per grip	90	190	kg
Connection size	Ø165; 12 x M16	Ø165; 12 x M16	

1) Upon request: The height depends on the temperature chamber used.

- Specimen grips consist of 2 grip heads
- Set of jaws and grip control unit additionally required

Accessories

Set of jaws for 250kN BOW hydraulic wedge grips

Specimen shape	Thickness/ diameter	Jaw width	Jaw height	Serrations	Hardness HRC	Item No.
flat	0 - 12 mm	60 mm	80 mm	parallel, 2 mm	56 - 58	**086029**
flat	9 - 21 mm	60 mm	80 mm	parallel, 2 mm	56 - 58	**086035**
flat	18 - 30 mm	60 mm	80 mm	parallel, 2 mm	56 - 58	**086038**
flat	0 - 12 mm	60 mm	80 mm	diamond, 0.75 mm	56 - 58	**1009265**
flat	9 - 21 mm	60 mm	80 mm	diamond, 0.75 mm	56 - 58	**1009266**
flat	18 - 30 mm	60 mm	80 mm	diamond, 0.75 mm	56 - 58	**1009267**
round	6 - 14 mm	-	80 mm	parallel, 1 mm	56 - 58	**086040**
round	14 - 22 mm	-	80 mm	parallel, 1 mm	56 - 58	**086046**
round	22 - 30 mm	-	80 mm	parallel, 1 mm	56 - 58	**086048**

Grip control unit

Description	Item number
Grip control unit for opening and closing Includes gripping pressure reduction unit with manometer and hydraulic hoses Connection to 210-bar or 280-bar oil pressure supply	**924778**

All data at ambient temperature.