INSTRON®

The difference is measurable.

2716 Series Pneumatic Wedge Action Grips | 2716-111, 2716-121

The Pneumatic Wedge Action Grips, available in 100 or 200 kN, provide a convenient method of clamping both large round and flat specimen shapes, up to a 50 mm (2 in) diameter, or flat specimens up to 40 mm (1.57 in) thick respectively. V-face grips are used for round specimens by design and have a reduced area at the center that compromises their ability to absorb high-energy breaks without fracture. This grip uses a split V-face configuration that allows the break energy to be dissipated without damaging the faces.

The compact design of these pneumatic wedge grips provides optimum use of the test area when installed on Instron® floor model testing systems. Specially suited for industrial environments where dust and metal chips may be present, these grips have protective dust covers that fit easily over the faces to shield the moving surfaces. Optional piggyback adapter plate furnishes an efficient method for mounting secondary load strings for lower capacity testing without removing the larger grip.



Features

- Rated capacity: 100 and 200 kN (10,000 and 20,000 kgf, 22,500 and 45,000 lbf)
- Automatic pneumatic control with grip mounted operating knob allows rapid specimen loading and unloading
- Easy front loading of specimens up to 40 mm (1.57 in) thick
- Large face size range adjusts to both round and flat specimen shapes: round specimens up to a 50 mm (2 in) diameter flat specimens up to 40 mm (1.57 in) thick
- Quick face changes without regreasing
- Self-tightening wedge design eliminates slippage under loads
- Compact design for optimum use of test space
- Specimen centering device ensures accurate alignment
- Dust shields protect against specimen debris

Principle of Operation

The grips are operated with either a control knob mounted on the grip or an Instron standard pneumatic control kit. Powered by pneumatic control, the faces are moved by a pneumatic piston that eliminates a costly hydraulic pump and its control. When under load the wedge action provides additional clamping pressure to minimize specimen slippage.

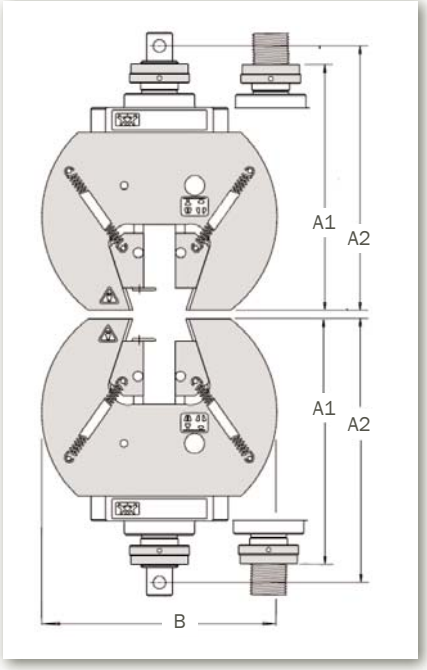
A unique carrier/ face mounting system allows for easy face insert changes. The carrier is placed on the grips and held on by springs from the grip body and against the driving piston. The faces sit on the carriers, which are held by a few thumb screws. The lubrication of the jaw face carriers eliminates the need to remove either the faces or the carriers for greasing. Each face set can accommodate a wide range of specimen types, offering flexibility with a minimum number of face changes.

Application Range

- Type of loading: Tension (not suitable for through-zero/reverse stress or fatigue testing)
- Specimen material: Wires, plastics, metals, elastomers
- Specimen shapes: Flat, round

Specifications

		2716-111	2716-121
Capacity	kN	100	200
	kgf	10,000	20,000
	lbf	22,500	45,000
Grip Weight	kg	52	52
	lb	114	114
Maximum Operating Pressure	bar	8.5	8.5
	psi	120	120
Lower Grip Mounting		0.5 in clevis pin (Type Dm)	M48 × 2 mLH (Type II mLH)
Upper Grip Mounting		0.5 in clevis pin (Type Dm)	M48 × 2 mLH (Type II mLH)
Temperature Range	°C	+5 to +65	+5 to +65
	°F	+40 to +150	+40 to +150
Maximum Width of Grip (B)	mm	300	300
	in	11.8	11.8
Lower Grip Effective Height	mm	A2: 313	A1: 305
	in	A2: 12.3	A1: 12
Upper Grip Effective Height	mm	A2: 313	A1: 305
	in	A2: 12.3	A1: 12



Notes
1. The catalog number provides two grips.
2. Grips may require a coupling to connect to load cell or machine base.
3. Upper grip may require a flexible coupling for certain applications.

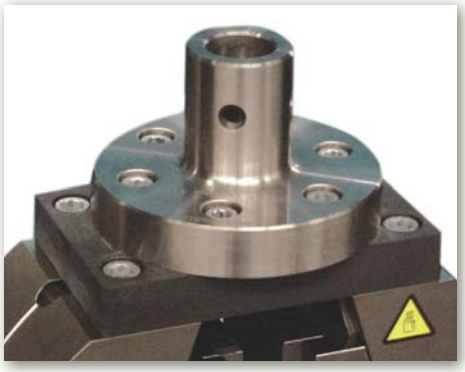
Accessories

2501-194	Piggyback adapter. Converts top of 2716 -110, 2716-120 to M30 × 2 fLH (Type I fLH) and standard 6 × M10 on 100 mm BC. Capacity: 100 kN (10,000 kg, 22,500 lb)
2501-223	Adapter plate for mounting 2716 -110, 2716-120 to XX86, XX88 test instruments
2501-224	Spacer for using 2665 HRD or 3117 furnaces with 2716-110, 2716-120 grips
2810-018	Air compressor, portable 115 VAC
2810-060	Air compressor, portable 230 VAC
2701-004	Pneumatic foot switch
2701-065	Automatic air control kit for 4400, 5500, 5800 (excluding 4411) and upgrades (excluding 1130, 4500, 6000 and TTs)

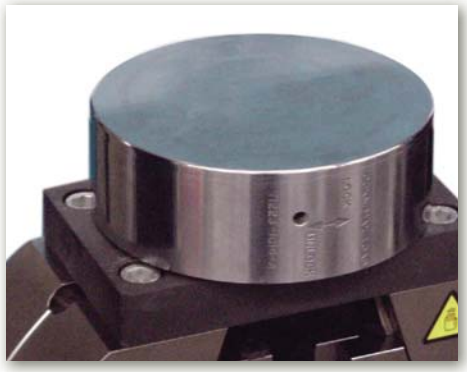
Jaw Faces

	Specimen Thickness		Surface	Clamping Area (W × H)		Application
	mm	in		mm	in	
2703-180	0 to 20	0 to 0.78	Diamond serrated Pitch 1 mm (25 - teeth per in)	76 × 63.5	3 × 2.5	Metal, plastic, and fiber reinforced plastic specimens, and thin sheet and, or hard metal above 45 Rc specimens with or without shoulder tab ends
2703-181	20 to 40	0.78 to 1.57	Diamond serrated Pitch 1 mm (25 - teeth per in)	76 × 63.5	3 × 2.5	Metal, plastic, and fiber reinforced plastic specimens, and thin sheet and, or hard metal above 45 Rc specimens with or without shoulder tab ends
2703-185	0 to 20	0 to 0.78	Diamond serrated Pitch 1.5 mm (16 - teeth per in)	76 × 63.5	3 × 2.5	Soft steel below 45 Rc, plastic and reinforced plastic specimens with or without shoulder tab ends
2703-186	20 to 40	0.78 to 1.57	Diamond serrated Pitch 1.5 mm (16 - teeth per in)	76 × 63.5	3 × 2.5	Soft steel below 45 Rc, plastic and reinforced plastic specimens with or without shoulder tab ends
2703-182	6 to 17.8	0.24 to 0.70	V-serrated 3 Pitch 1 mm (25 - teeth per in)	63.5	2.5 height on a 130° included angle V-groove	Round specimens with or without shoulder tabs, and pipe/ tube plugs
2703-183	16 to 34	0.63 to 1.34	V-serrated 3 Pitch 1 mm (25 - teeth per in)	63.5	2.5 height on a 130° included angle V-groove	Round specimens with or without shoulder tabs, and pipe/ tube plugs
2703-184	33 to 50.8	1.3 to 2	V-serrated 3 Pitch 1 mm (25 - teeth per in)	63.5	2.5 height on a 130° included angle V-groove	Round specimens with or without shoulder tabs, and pipe/ tube plugs

Notes
1. The catalog number provides four faces.
2. All faces are hardened to 60 Rc to 65 Rc, excluding rubber-coated and if otherwise specified.
3. Threaded and V-style faces are used for round specimens.



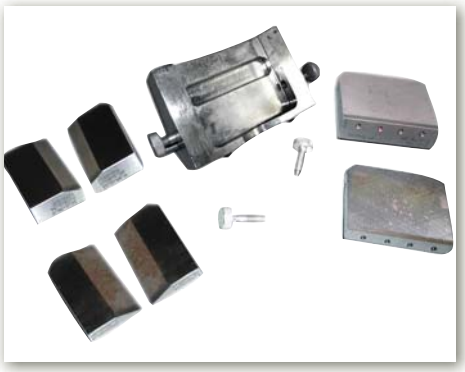
Grip with Type D base adapter for additional lower capacity testing



Grips with platen



Grips with flexure fixture



Faces: V-serrated, flat serrated and carrier

www.instron.com/accessories

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