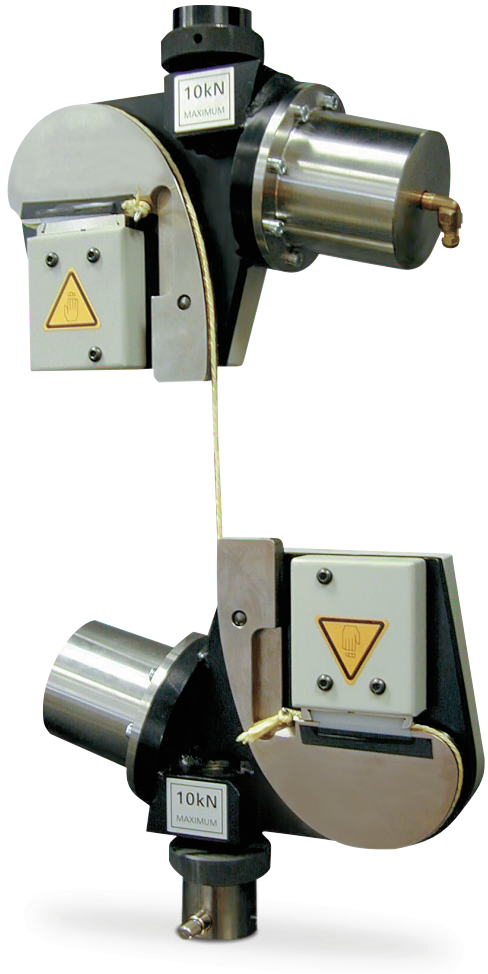
INSTRON®

The difference is measurable®

Pneumatic Cord and Yarn Grips | Catalog Number CP110730A

Pneumatic tire cord grips provide a convenient method for clamping tire cord and braided wire to reduce the problem associated with testing these materials. A guide pin allows for easy loading onto a graduated radius cam. This cam provides a stress reduced clamping area on the specimen. The clamping mechanism can be activated either automatically or through a foot switch. This allows hands-free grip operation enabling the specimen to be held with both hands, for easy loading. Pneumatic cord and yarn grips provide selectable clamping force to accommodate different materials and excellent follow up action which compensates for decay of the holding force due to specimen creep.



Features and Benefits

- Rated capacity: 10 kN (1,000 kgf, 2,250 lbf)
- Pneumatic clamping of the specimen with follow-up clamping action
- Adjustable gripping force to reduce breakage at the clamping point
- Suitable for testing a wide range of tire cords, braided wire and mono-filements
- Follow up action to reduce slippage
- Quick grip release for increased productivity
- Optional automatic air kit with pretension and remote control for easy loading and improved efficiency

Application Range

- Type of loading: Tension. Not suitable for through zero/ reverse stress or fatigue testing.
- Specimen material: Tire cord, braided wire, mono-filaments
- Specimen shapes: Round

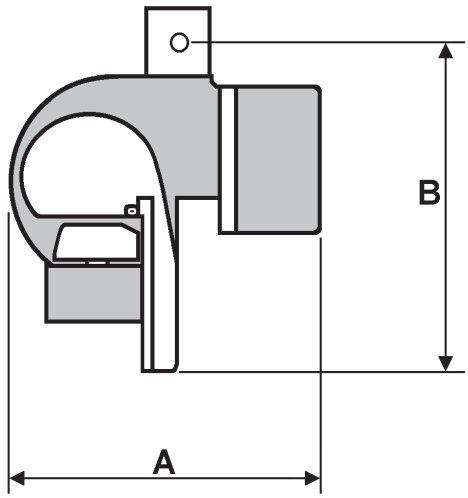
Principle of Operation

Where the gripping area of mono-filaments, tire cord and braided wire is small in relation to the strength, normal techniques using standard grip faces usually result in specimen failures adjacent to the jaw faces. The pneumatic tire cord grips have been designed specifically to overcome the problem of jaw breaks by incorporating a capstan design which evenly distributes the gripping force over the surface of a curved half capstan through friction. In addition, the pneumatically cushioned gripping force applied to the ends of the specimen compensates for the decay of force due to specimen creep.

The pneumatics activate a moveable face, which acts upon a contoured fixed gripping face. This serves as a capstan and provides support for the specimen, making the transition from the free stressed length of specimen to the rigidly clamped portion gradually rather than abruptly, thus minimizing breakage of the specimen adjacent to the jaw face. The capstan also incorporates a guide pin, which assists in rapid specimen loading. The polished finish prevents damage to individual fibers during specimen insertion. The specimen is placed over the top of the guide pin and clamped. This is then passed over one capstan onto the opposing capstan and over its guide pin. The specimen will naturally sit in the proper gripping position. The grips are operated by a pneumatic footswitch, for leaving both hands-free for specimen insertion. An automatic air kit is also available for both hands-free, automated, and pretension testing via software or system default settings.

Specifications

Catalog Number		CP110730
Maximum Capacity	kN	10
	kgf	1000
	lbf	2250
Mechanical Connection		
Upper Fitting	in	½ cevis pin (Type Dm)
Lower Fitting	in	½ cevis pin (Type Dm)
Overall Width (A)	mm	245
	in	9.6
Effective Length (B)		
Upper Grip	mm	230
	in	9.1
Lower Grip	mm	230
	in	9.1
Weight (Upper Grip)	kg	10
	lb	22
Temperature Range	°C	-10 to +80
	°F	+14 to +176
Working Principle		Pneumatic single moving face clamping
Gripping Force	N	18
	kgf	1835
	lbf	4040
Clamping Length	mm	50
	in	1.97
Gripping Surface		Serrated
Maximum Air Pressure	bar	6.2
	PSI	90
Maximum Specimen Length at Zero Grip Separation	mm	760
	in	29.9
Maximum Specimen Diameter	mm	5
	in	0.2



Notes:
1. Grip catalog provides two grips.
2. Upper grip may require mechanical attachment coupling to connect to the load cell or machine base.
3. Automatic air control kit or pneumatic footswitch will be required for operation of these grips.
4. Alternate face sizes or surfaces are not available for this grip.

Accessories

Catalog Number	Description
2810-018	Air compressor, portable 115 V AC
2810-060	Air compressor, portable 230 V AC
2701-004	Pneumatic footswitch
2701-065	Automatic air control kit for 3300,4400, 5500,5900(excluding 4411) and upgrades (excluding 1130, 6000, 4500 and TTs)



Automatic air control kit for pre-tension control



Pneumatic foot switch

www.instron.com

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