

Type 1 and Type 2 Pantograph Grips

Pantograph grips use a simple spring design to hold and apply pressure to specimens during tensile testing. These grips are mainly used for tensile testing plate specimens of rubber, textiles, or soft plastics.

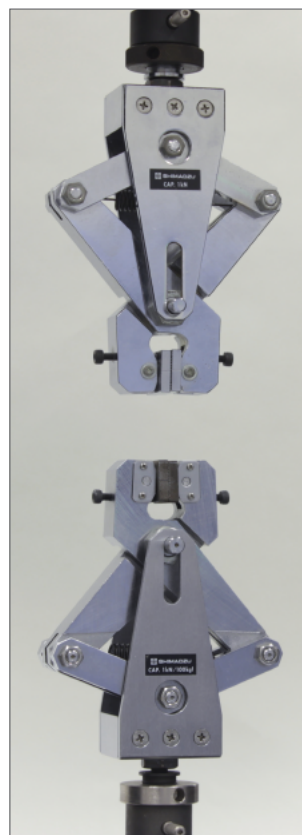
There are two types of pantograph grips: type 1 and type 2. Type 1 pantograph grips suit wider, thinner samples, whereas type 2 pantograph grips are better for narrower and thicker samples. Both grip types are fitted with parallel-grooved grip faces to enhance soft specimen clamping.

Relevant Materials

Rubber, Soft Plastics, Textiles

Relevant Specimens

Plates



type 1



type 2

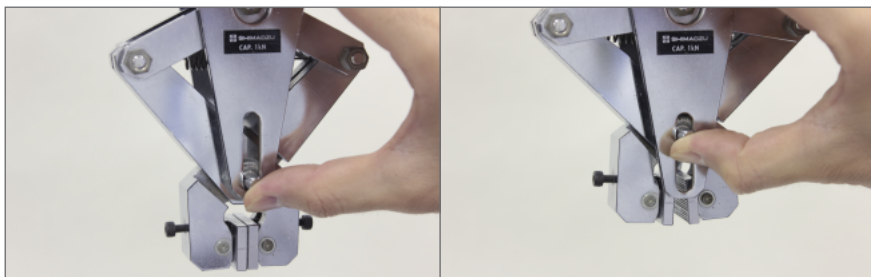
Operation

To open the grip faces on type 1 pantograph grips, the arms below the grip faces are moved toward the grip base. The specimen is held at the point, where, before opening, the grip faces touched. The arms are then allowed to slowly move back to their original position, causing the grip faces to clamp the specimen.

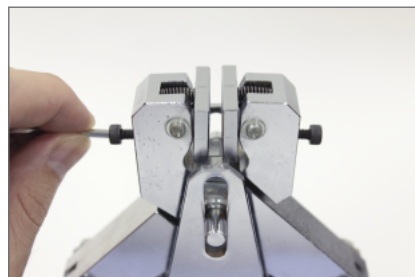
For type 2 pantograph grips, the bar at the back of the grips is lifted away from the grip base to open the grip faces. The specimen is then placed between the grip faces and the bar at the back of the grips is slowly released to its original position. This action closes the grip faces, clamping the specimen in place.

The grip face movement on both types of pantograph grips is facilitated by a spring mechanism. In addition, when a tensile load is applied, the clamping force increases due to a self-tightening action, helping keep the specimen secure within the grip faces.

• Type 1

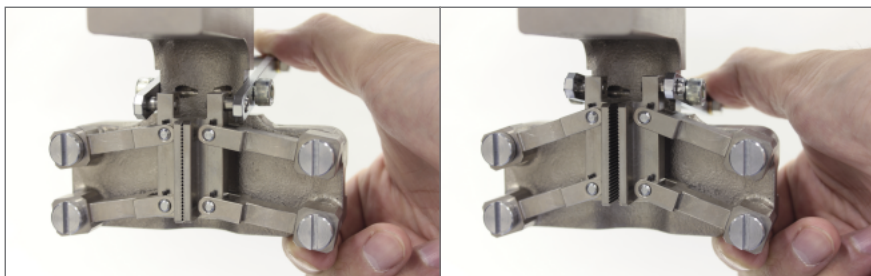


Grip operation



Adjustable angle of the grip face

• Type 2



Grip operation



Spring mechanism

Specification



5 kN



1 kN

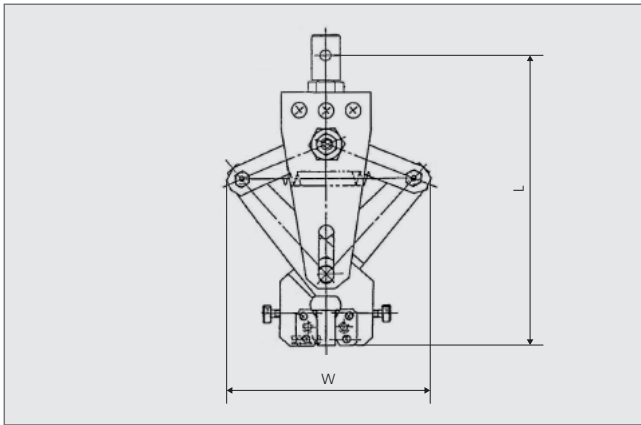


5 kN

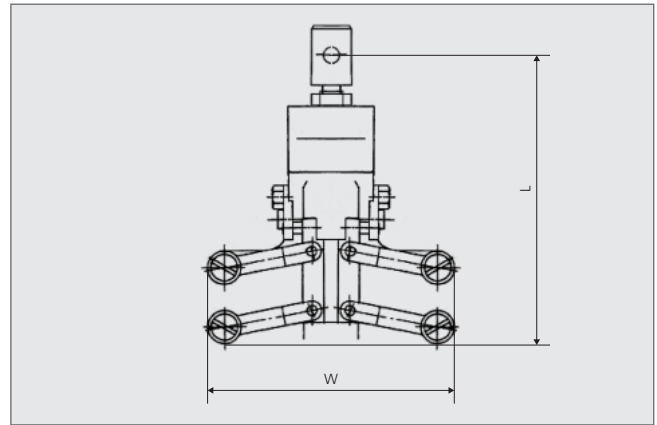


1 kN

Maximum Grip Capacity			Applicable Specimen Thickness	Grip Face Size		Temperature Range	Grip Size		Upper Grip Mass	Upper Grip Ø Fitting (Ø pin)	Lower Grip Ø Fitting (Ø pin)
				Width	Length		Width	Length			
kN	kgf	lbf	mm (in)	mm (in)	mm (in)	°C (°F)	mm (in)	mm (in)	kg (lb)	mm	mm
Type 1 Pantograph Grips											
5	500	1,100	0 to 5 (0 to 0.20)	40 (1.6)	30 (1.2)	-70 to 250 (-94 to 482)	175 (6.9)	238 (9.4)	3.2 (7.0)	16 (6.5)	16 (6.5)
1	100	220	0 to 4 (0 to 0.16)	30 (1.2)	20 (0.79)	-70 to 250 (-94 to 482)	110 (4.3)	174 (6.9)	1.7 (3.7)	16 (6.5)	16 (6.5)
Type 2 Pantograph Grips											
5	500	1,100	0 to 7 (0 to 0.28)	26 (1.0)	40 (1.6)	-70 to 250 (-94 to 482)	120 (4.7)	142 (5.6)	3.6 (8.0)	16 (6.5)	16 (6.5)
1	100	220	0 to 6 (0 to 0.24)	26 (1.0)	35 (1.4)	-70 to 250 (-94 to 482)	105 (4.1)	132 (5.2)	1.8 (4.0)	16 (6.5)	16 (6.5)



Type 1 Pantograph Grip



Type 2 Pantograph Grip

Ordering Information

P/N	Description
Type 1 Pantograph Grip Sets Includes: upper and lower type 1 pantograph grips with parallel-grooved grip faces	
343-07505-01	5 kN type 1 pantograph grip set
343-07594-10	1 kN type 1 pantograph grip set
Type 2 Pantograph Grip Sets Includes: upper and lower type 2 pantograph grips with parallel-grooved grip faces	
344-13436-10	5 kN type 2 pantograph grip set
343-07624-10	1 kN type 2 pantograph grip set

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