

Submersible Pneumatic Versa Grips | S5054X

Submersible pneumatic versa grips provide an easy and efficient method for gripping test specimens, ranging from thin film polymers to biological tissues, in a fluid bath for tension and torsion mechanical testing.

Pneumatic grips are preferred over other mechanical grips for several reasons. Pneumatic jaw faces automatically adjust for different specimen thicknesses to ensure that the line of tensile force remains concentric with the grip body and that the gripping pressure applied remains constant throughout the test. The grips are also compatible with a variety of jaw faces, ranging in size and surface, such as smooth ground, line contact and serrated.

Grip control may incorporate a footswitch allowing hands-free operation for speed and simplicity of use. In addition, grip opening and closing can be controlled from the testing machine, providing features such as automatic pretension and grip release on specimen break.

These grips are manufactured from stainless steel and were designed for use with the S4129B temperature controlled liquid heater and recirculator and Perspex® quick-latching bath to allow for versatility in testing conditions.

Features and Benefits

- Rated Capacity:
S5054A / B / E / F / G: 2 kN (440 lb, 200 kgf)
S5054C / D: 1 kN (220 lb, 100 kgf)
- Front entry gripping area for ease-of-specimen loading
- Interchangeable jaw faces suitable for gripping different types of material
- Self centering action allows for different specimen thickness without adjustment
- Adjustable clamping force
- Clamping force maintained on specimen to reduce slippage
- Automatic grip control with pretension control for ease-of-loading
- Manufactured from stainless steel to allow for submersion of grips in fluid
- Removable fluid bath for simulation of environmental conditions
- Suitable for tension and torsion applications
- Rugged design for minimum maintenance



Principle of Operation

The pneumatic action grips clamp the specimen through a dual lever arm, actuated by air cylinders built into the grip body. The gripping force can be varied with air pressure to accommodate different material types and strengths. This constant gripping pressure is maintained on the specimen to compensate for any changes in specimen thickness during the test and to prevent slipping of the material.

The grips may be opened and closed with a footswitch for hands-free operation. An automatic air kit is available for both hands-free and automated testing via software. The interchangeable jaw faces are mounted on a slide via screws on a series of holes for different specimen thickness, allowing an accurate setting for the opening of jaw faces.

The grips include a Perspex quick-latching tank with an outer diameter of 123 mm, liquid hose connections via CPC connections and a 1/8 in NPT thermocouple port.



S5054D submersible versa grips

Specifications

Catalog Number	Maximum Capacity			Mechanical Connection Upper	Mechanical Connection Lower
	kN	lb	kg		
S5054A	2	440	200	Type Om	Type Om
S5054B	2	440	200	6-M8	Bolts on 75 PCD
S5054C	1	220	100	Type Om	Type Om
S5054D	1	220	100	Type Om	Type Dm
S5054E	2	440	200	Type Om	Type Dm
S5054F	2	440	200	Type Om	Type Om
S5054G	2	440	200	M20X1.5	Female thread for bolts

Accessories

Catalog Number	Description
2810-018	Air compressor, portable 115 V AC
2810-060	Air compressor, portable 30 V AC
2701-004	Pneumatic footswitch
2701-065	Automatic air control kit for 4400, 5500 (excluding 4411) and upgrade (excluding 1130, 6000, 4500 and TT's)
2701-067	Automatic air control kit for 4411 and retrofits on 1130
S4129B	Temperature controlled liquid heater-recirculator

www.instron.com



Worldwide Headquarters
825 University Ave, Norwood, MA 02062-2643, USA
Tel: +1 800 564 8378 or +1 781 575 5000

European Headquarters
Coronation Road, High Wycombe, Bucks HP12 3SY, UK
Tel: +44 1494 464646

Instron Industrial Products
900 Liberty Street, Grove City, PA 16127, USA
Tel: +1 724 458 9610

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