

# P5500 Series

Hydraulic and pneumatic  
comparison test pumps, media  
separators and accessories

Technical Data

## Hydraulic comparison test pumps

The Pressurements Series of hydraulic test pumps are used for checking pressure measuring instruments against master test gauges, indicators or transducers. These cost effective instruments, which include several features from our popular line of hydraulic deadweight testers, are capable of easily generating high pressures and provide precise control for important calibration requirements.

### Model P5515

- Built-in pump for large volume applications and system priming
- High quality screw press for fine pressure control
- Acrylic reservoir for visibility of fluid level and quality
- Test port adapters which require no PTFE tape or wrenches
- Built-in drain plug for removal of old fluid
- Sturdy carrying case with lid
- Operational with a wide range of fluids



### Model P5514

- Bench mount design
- Screw press for fine pressure adjustments
- Test connections can be made without the need for PTFE tape or wrenches
- Operates with a wide range of fluids



The standard O-ring seals are Nitrile; Viton or Ethylene Propylene seals are available for use with solvents, fuel oils, brake fluids or other similar aggressive fluids.

Model	O-ring	Model	O-ring
P5515	Nitrile	P5514	Nitrile
P5515-V	Viton	P5514-V	Viton
P5515-EP	Ethylene Propylene	P5514-EP	Ethylene Propylene

## Hydraulic comparison test pumps

	Model P5515	Model P5514
Pressure range	0 psi to 20 000 psi (1 400 bar)	0 psi to 10 000 psi (700 bar)
Test port adapters	(2 sets) 1/8 in, 1/4 in, 3/8 in and 1/2 in NPT or BSP	(2 sets) 1/8 in, 1/4 in, 3/8 in and 1/2 in NPT or BSP
Weight	16 kg (36 lb)	5 kg (11 lb)
Dimensions (W x D x H)	440 mm x 300 mm x 215 mm (17.5 in x 12 in x 8.5 in)	279.4 mm x 279.4 mm x 254 mm (11 in x 11 in x 10 in)
Reservoir volume	150 cm <sup>3</sup> (9.2 in <sup>3</sup> )	75 cm <sup>3</sup> (4.6 in <sup>3</sup> )
Screw press displacement	5.5 cm <sup>3</sup> (0.34 in <sup>3</sup> )	20 cm <sup>3</sup> (1.2 in <sup>3</sup> )
Pump displacement	4.7 cm <sup>3</sup> (0.29 in <sup>3</sup> ) per stroke	

By DAkkS according to DIN EN ISO / IEC 17025: 2005 accredited laboratory.  
The accreditation is valid only for the certificate system D-K-15055-01-00 listed  
accreditation scope.



## Pneumatic comparison test pumps

These pneumatic comparison test pumps are designed for testing pressure measuring instruments against master test instruments. These cost effective instruments provide precise control for important calibration requirements and include many features found in our popular line of pneumatic deadweight testers.

### Model P5510

- Dual pressure/ vacuum capability
- Bench mount design
- Built-in handpump as pressure/vacuum source
- High quality needle valve for fine control
- Test port adapt - ers which require no PTFE tape or wrenches



### Model P5513

- High pressure pneumatic operation
- Screw press for fine pressure adjustments
- Optional built-in hand pump
- High quality needle valves for fine control
- Test port adapters which require no PTFE tape or wrenches
- Sturdy carrying case with lid



Note: Standard unit requires pressure source i.e. nitrogen bottle for operation. Optional built-in hand pump with screw press provides pressures to 500 psi (35 bar) volume dependent

## Pneumatic comparison test pumps

	Model P5510	Model P5513
Pressure range	0 psi to 300 psi (20 bar)	0 psi to 3 000 psi (210 bar)
Vacuum range	0 in to 24 in Hg (800 mbar)	
Test port adapters	(2 sets) 1/8 in, 1/4 in, 3/8 in and 1/2 in NPT or BSP	(2 sets) 1/8 in, 1/4 in, 3/8 in and 1/2 in NPT or BSP
Weight	3.5 kg (7.5 lb)	8 kg (17 lb)
Dimensions (W x D x H)	240 mm x 330 mm x 180 mm (9.5 in x 13 in x 7 in)	440 mm x 300 mm x 215 mm (17.5 in x 12 in x 8.5 in)
Gas supply connection		1/4 NPT female
Optional built-in hand pump		300 psi (20 bar), 500 psi (30 bar) with screw press operation (volume dependent)

## Media separators

Liquid/liquid and liquid/gas media separators are provided as a barrier between the deadweight tester operating fluid and that of the device under test.

### Liquid to liquid

#### Model P5521/5522

These liquid-to-liquid separators connect directly to the test port of a hydraulic deadweight tester or comparison test pump. A flexible diaphragm separates the fluids, protecting the calibrator from contamination and allows calibration of the device in its specific working fluid.



### Liquid to gas

#### Model P5523

For high pressure pneumatic calibrations this unit interfaces with hydraulic deadweight testers providing a rateless liquid-to-gas separation. Driven by a pneumatic pressure source (nitrogen bottle) and controlled by needle valves, high pressure gas is balanced against the liquid in a hydraulic deadweight tester through a series of fluid traps.



Note: since fluid mist may be transferred during operation we do not recommend this device for oxygen-safe instruments using an oil operated deadweight tester.

## Media separators

	Liquid to liquid Model P5521/5522	Liquid to gas Model P5523
Pressure range	Model 5521: 0 psi to 10 000 psi (700 bar) Model 5522: 0 psi to 7 000 psi (480 bar) for Skydrol and other aggressive fluids	0 psi to 3 000 psi (210 bar)
Test port adapters	Uses adapters supplied with calibrator	(2 sets) 1/8 in, 1/4 in, 3/8 in and 1/2 in NPT or BSP
Weight	3.5 kg (7.5 lb)	11 kg (24 lb)
Dimensions	(W x H) 100 mm x 150 mm (4 in x 6 in)	(W x D x H) 440 mm x 300 mm x 215 mm (17.5 in x 12 in x 8.5 in)
Calibrator connection	3/8 BSP male (mating adapter supplied)	
Gas supply connection		1/4 NPT female
Body material	Aluminum bronze	
Diaphragm	5521- Viton * 5522-Ethylene Propylene	
Reservoir material	Hard-anodized aluminum	

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## Dirt/moisture traps

Dirt/moisture traps provide an effective barrier against the transfer of moisture and dirt from an instrument under test to the sensitive piston/cylinder assembly of a pneumatic deadweight tester. Unexpected particle contamination or fluid inside the device under test will be prevented from entering the deadweight system, avoiding downtime for maintenance or repair. Designed for operation in the vertical position these traps are simple to dismantle and easy to clean.

#### Model P5531

Designed to mount directly on the deadweight tester and featuring an acrylic chamber for visibility of contaminants this unit utilizes the standard test port adapters for easy instrument connections.



#### Model P5532

This high pressure version is provided with an aluminum central chamber for safety and utilizes the standard test port adapters.

## Dirt/moisture traps

	Model P5531	Model P5532
Pressure range	0 psi to 500 psi (35 bar)	0 psi to 3 000 psi (210 bar)
Body material	Stainless steel	Stainless steel
Chamber material	Acrylic	Aluminum
O-Rings	Nitrile	Nitrile
Test port connection	As supplied with calibrator	As supplied with calibrator
Deadweight connection	3/8 in BSP male (mating adapter supplied)	3/8 in BSP male (mating adapter supplied)

## Accessories

### Model 5544 Two gauge stand

This adapter mounts directly to the test port of the calibrator and allows for the calibration of two instruments at the same time or the connection of a reference test instrument. Maximum working pressure is 10 000 psi (700 bar).



### 5540 Metric and 5541 BSP Adapter sets

5540 Metric: M14 x 1.5, M20 x 1.5, 1/8 in and 1/4 in BSP  
5541 BSP: 1/8 in, 1/4 in, 3/8 in and 1/2 in BSP  
NPT: 1/8 in, 1/4 in, 3/8 in and 1/2 in NPT

### Model 5543 Angle adapter

To calibrate gauges with the pressure connection on the rear (e.g. panel mount gauges) In their correct operating position, an angle adaptor should be used. The angle adapter uses the standard gauge adapters and positions the gauges at 90°. The maximum working pressure of this Unit is 10 000 psi (700 bar).



### Model P5551 Pointer remover/punch

This tool is designed to quickly remove and consistently refit the pointer of a pressure gauge.

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## Accessories

	Model 5544	Model 5543
Body material	Brass and stainless steel	Stainless steel
O-Rings	Nitrile	Nitrile
Test port adapters	(1 set) 1/8 in, 1/4 in, 3/8 in and 1/2 in NPT or BSP and as supplied with calibrator	As supplied with calibrator
Calibrator test connection	1/2 in BSP male (mating adapter supplied)	
Calibrator connection		3/8 in BSP male (mating adapter supplied)

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