FLUKE®
Calibration

Technical data

P5500 Series

Hydraulic and pneumatic comparison test pumps, media separators and accessories

Hydraulic comparison test pumps

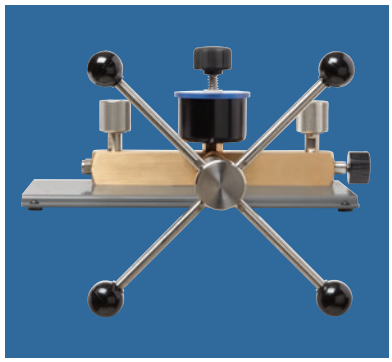
Fluke Calibration hydraulic test pumps are used for checking pressure measuring instruments against master test gauges, indicators or transducers. These cost effective instruments, which include several features from our popular line of hydraulic deadweight testers, are capable of easily generating high 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
- Compatible with a wide range of fluids including sebacate, mineral oil, and distilled water.

Model P5514B



- Bench mount design
- Vernier control for fine pressure adjustments
- Tool-free test connectors
- Compatible with a wide range of fluids including sebacate, mineral oil, and distilled water

The standard O-ring seals are Viton. Ethylene Propylene seals are available for use with phosphate-ester-based fluids.

Model	O-ring	Model	O-ring
P5515-140M	Viton	P5514B-70M	Viton
P5515-140M-EP	Ethylene Propylene	P5514B-70M-EP	Ethylene Propylene

Hydraulic comparison test pumps		
	Model P5515	Model P5514B
Pressure range	0 psi to 20,000 psi (140 MPa)	0 psi to 10,000 psi (70 MPa)
Test port adapters	M20 X 1.5, M14 X 1.5, 1/8, 1/4, 3/8, and 1/2 NPT and BSP (plus 1 additional 1/4 NPT adapter)	1/4 NPT Female (quantity 2), 1/2 NPT Female, 1/4 BSP Female, 1/2 BSP Female
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 cm3 (9.2 in3)	75 cm3 (4.6 in3)
Screw press displacement	5.5 cm3 (0.34 in3)	20 cm3 (1.2 in3)
Priming Pump displacement	4.7 cm3 (0.293 in) per stroke	

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 hand pump as pressure/vacuum source
- High quality needle valve for fine control
- Test port adapters which require no PTFE tape or wrenches



Model P5513

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



Note: P5513 requires a pressure source, such as a nitrogen bottle, for operation.

Pneumatic comparison test pumps		
	Model P5510-2M	Model P5513-20M
Pressure range	0 psi to 300 psi (2 MPa)	0 psi to 3,000 psi (21 MPa)
Vacuum range	0 in to 27 in Hg (915 mbar 90% vacuum)	
Test port adapters	M20 X 1.5, M14 X 1.5, 1/8, 1/4, 3/8, and 1/2 NPT and BSP (plus 1 additional 1/4 NPT adapter)	M20 X 1.5, M14 X 1.5, 1/8, 1/4, 3/8, and 1/2 NPT and BSP (plus 1 additional 1/4 NPT adapter)
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

2700G Reference Pressure Gauge

- Provides best-in-class 0.02% FS accuracy
- Available in ranges up to 10,000 psi (70 MPa)
- Can be used with P5500 Series Comparison Test Pumps for a complete pressure calibration solution



Note: Detailed product information about the 2700G, including a product data sheet, is available on the Fluke Calibration website at www.flukecal.com/2700G.

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 interface



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.

*Not compatible with P5514B

Media separators/interfaces

	Liquid to liquid Model P5521/5522	Liquid to gas Model P5523
Pressure range	**Model P5521**: 0 psi to 10,000 psi (70 MPa) **Model P5522**: 0 psi to 7,000 psi (48 MPa) for phosphate-ester-based fluids	0 psi to 3,000 psi (21 MPa)
Test port adapters	Uses adapters supplied with calibrator	Uses adapters supplied with calibrator
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	

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 contaminates 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 (3.5 MPa)	0 psi to 3,000 psi (21 MPa)
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

P5544-STD 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 (70 MPa).





Adapter sets*

- **P5540 Metric**: M14 x 1.5, M20 x 1.5, 1/8 in and 1/4 in BSP
- **P5541 BSP**: 1/8 in, 1/4 in, 3/8 in and 1/2 in BSP
- **P5542 NPT**: 1/8 in, 1/4 in, 3/8 in and 1/2 in NPT
- **PK-P3000-ADPTR-SD**: M14 x 1.5, M20 x 1.5, 1/8, 14/, 3/8, and 1/2 in BSP and NPT



Model P5543 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 (70 MPa).

Model P5551 Pointer remover/punch

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



Accessories		
	Model P5544	Model P5543
Body material	Brass and stainless steel	Stainless steel
O-Rings	Viton®	Viton®
Test port adapters	M14 x 1.5, M20 x 1.5, 1/8, 14/, 3/8, and 1/2 in BSP and NPT	As supplied with calibrator
Calibrator connection	1/2 in BSP male (mating adapter supplied)	3/8 in BSP male (mating adapter supplied)

*Not compatible with 5514B

Fluke Calibration. *Precision, performance, confidence.™*

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