

Ametek/Jofra PK II and RK Portable Pneumatic Deadweight Testers

- Self-Regulating Ball Type Deadweight Testers
- Stable Pressure at Output
- No Need to Adjust Input Pressure
- Ceramic Ball Acts as Flow and Pressure Relief
- Add or Remove SS Weights to Adjust Output
- Standard Accuracy to $\pm 0.05\%$ of Reading
- Optional Accuracies to $\pm 0.015\%$ of Reading
- Local Gravity Calibration Available
- Most Models Self-Contained in Single Case – Including Weights
- Choice of Engineering Units- PSI, BAR, kPa, kg/cm², inH₂O, cmH₂O, inHg, mmHg



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Each Unit Includes: Tester base, ceramic ball, weight set, carrying case(s), manual, and manufacturer's NIST traceable certification

Specifications

Accuracy:	0.05% of reading, NIST traceable – $\pm 0.025\%$ and 0.015% available (specify on order)
Repeatability:	$\pm 0.005\%$ of indicated reading
Temp. Coefficient:	$\pm 0.00167\%$ of reading/ $^{\circ}\text{C}$ (based on 23 $^{\circ}\text{C}$)
Gravity:	980.665 gals (international Standard) – Local Gravity available (specify when ordering)
WC	20 $^{\circ}\text{C}$ (ISA) standard – 60 $^{\circ}\text{F}$ (AGA) available (specify when ordering)
Test Connections:	1/4" NPT (PK) and 1/8" NPT (RK)
Max Supp. Pressure:	100 PSI (PK) and 450 PSI (RK)
Flow Rate:	1 SCFH @ 4 inH ₂ O output 11 SCFH @ 30 PSI output
Size/Weight: (PK)	Small case: 15 x 10.5 x 7" HWD / to 28 lb Large case: 15 x 14.5 x 9" HWD / to 28 lb
Size/Weight: (RK)	Tester: 15 x 10.5 x 8" HWD / to 31.5 lb Weights: 8.5 x 12 x 11.5" HWD / to 61.5 lb

Ordering Information

Order #	Range	Increment	Price
MPPK2-20-SS	1 to 20 PSI	1 PSI	
MPPK2-30-SS	1 to 30 PSI	1 PSI	
MPPK2-2B.01-SS	0.01 to 2 BAR	0.005 BAR	
MPPK2-201N-SS	1 to 200 kPa	0.5 kPa	
MPPK2-304WC-SS	4 to 304 inH ₂ O	1 inH ₂ O	
MPPK2-654WC-SS	4 to 654 inH ₂ O	1 inH ₂ O	
MPPK2-854WC-SS	4 to 854 inH ₂ O	1 inH ₂ O	
MPRK-100	1 to 101 PSI	1 PSI	
MPRK-200	1 to 201 PSI	1 PSI	
MPRK-300	1 to 301 PSI	1 PSI	
MPRK-20M	0.1 to 20 kg/cm ²	0.01 kg/cm ²	
MPRK-2B	0.01 to 2 BAR	0.01 BAR	
MPRK-4B	0.01 to 4 BAR	0.01 BAR	
MPRK-8B	0.01 to 8 BAR	0.01 BAR	
MPRK-12B	0.01 to 12 BAR	0.01 BAR	
MPRK-200N	1 to 211 kPa	1 kPa	
MPRK-1200N	1 to 1,211 kPa	1 kPa	
MPRK-100WC	4 to 104 inH ₂ O	1 inH ₂ O	
MPRK-300WC	4 to 314 inH ₂ O	1 inH ₂ O	
MPRK-1100WC	4 to 1,114 inH ₂ O	1 inH ₂ O	
MPRK-2000CM	10 to 2,010 cmH ₂ O	10 cmH ₂ O	

Calibration Instruments

Druck/Pressurements Portable Pneumatic Deadweight Tester

This pneumatic tester gives you unbeatable accuracy in a SUPER rugged package

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- Ranges to 850 "H₂O
- Ceramic Ball and Nozzle for Enhanced Performance
- 400 PSI Overpressure Protection
- Accuracies to 0.015%
- Rugged, Durable Case

This floating ball deadweight tester is a highly accurate primary pressure standard ideally suited for portable calibration. Supplied in ranges to 850 "H₂O with either 0.05%, 0.025% or 0.015% accuracy, these deadweight testers were designed to improve on previous designs.

- Both the ball and nozzle are ceramic, which greatly reduces the effects of temperature on the system's performance
- All ranges are protected with 400 PSI overpressure protection to prevent internal damage
- A sturdy stainless steel weight carrier adds low-end stability
- The exhaust vent discharges outside the instrument case, reducing condensation
- A unique stabilization coil was also developed to make on-site contamination removal possible, avoiding costly returns and failed site calibrations
- Each unit is housed in a durable case that can be tripod-mounted
- Tester can be used with the lid closed for draft protection
- Stainless steel leveling screws are accessible from the top plate

These testers are supplied with stainless steel weight masses as standard and can be calibrated to your local gravity at no additional cost. Additionally, they can be supplied in any of the three standard water density factors:

- 4°C (ISO)
- 60°F (AGA)
- 20°C (ISA)

Just specify your local gravity and water density factors when ordering. If these factors are unspecified, testers will be supplied calibrated to 980.665 standard gravity, and water density of 20°C.

Low Pressure, High Resolution Option: These testers can be supplied with a 3" H₂O starting pressure and 0.5" H₂O fine increment weights.

Specifications

Accuracy:	0.05%, 0.025%, 0.015% of reading
Weight Material:	Series 3 non-magnetic austenitic stainless steel
Gravity:	As specified on order. If unspecified then International Standard 980.665.
Pressure Connections:	1/4" female NPT
Ball and Nozzle Material:	Ceramic
Starting Pressure	
Standard:	5 "H ₂ O
Optional:	3 "H ₂ O (low pressure option)
Minimum Weight Increment	
Standard:	5 "H ₂ O
Optional:	0.5 "H ₂ O
Supply Pressure:	35 PSI minimum, 100 PSI maximum
Size:	14 x 10 x 7" LDH
Weight:	17 to 26 lbs



T9000-400 ▲

Calibration Instruments

Ordering Information

Order #	Mfg #	Description	Price
MP24288P-5	T9000-100-050	Deadweight 5 to 100 "H ₂ O, 0.05%	
MP24288P-25	T9000-100-025	Deadweight 5 to 100 "H ₂ O, 0.025%	
MP24288P-15	T9000-100-015	Deadweight 5 to 100 "H ₂ O, 0.015%	
MP24291P-5	T9000-250-050	Deadweight 5 to 250 "H ₂ O, 0.05%	
MP24291P-25	T9000-250-025	Deadweight 5 to 250 "H ₂ O, 0.025%	
MP24291P-15	T9000-250-015	Deadweight 5 to 250 "H ₂ O, 0.015%	
MP24294P-5	T9000-400-050	Deadweight 5 to 400 "H ₂ O, 0.05%	
MP24294P-25	T9000-400-025	Deadweight 5 to 400 "H ₂ O, 0.025%	
MP24294P-15	T9000-400-015	Deadweight 5 to 400 "H ₂ O, 0.015%	
MP24297P-5	T9000-700-050	Deadweight 5 to 700 "H ₂ O, 0.05%	
MP24297P-25	T9000-700-025	Deadweight 5 to 700 "H ₂ O, 0.025%	
MP24297P-15	T9000-700-015	Deadweight 5 to 700 "H ₂ O, 0.015%	
MP24298P-5	T9000-850-050	Deadweight 5 to 850 "H ₂ O, 0.05%	
MP24298P-25	T9000-850-025	Deadweight 5 to 850 "H ₂ O, 0.025%	
MP24298P-15	T9000-850-015	Deadweight 5 to 850 "H ₂ O, 0.015%	

NOTE: To order low pressure option add -LP to the catalog number and add the option price from table below to the deadweight base price.

Low Pressure Option ADD -LP

For Accuracy	Low Pressure Option Price
0.050%	
0.025%	
0.015%	

Druck/Pressurements Pneumatic Deadweight Tester

- Models to 2000 PSI
- Excellent Standard Accuracy, 0.015%
- 0.010% Accuracy Available
- Oil-Free Design
- Optional Built-in Hand Pump

Compact Testers Are Easy to Use

When very high accuracy is required, the deadweight tester is the preferred calibration technique for pressure instrumentation. This family of testers provides standard accuracy to $\pm 0.015\%$ and is optionally available with accuracy of $\pm 0.010\%$.

The 5781P includes a built-in hand pump for fast pressurization, and the weights are stored within the case, making this 100 PSI model convenient for on-site testing. The other instruments operate from an external air supply.

Add The Hand Pump Option:

The optional built-in hand pump removes the requirement for an outside pressure source. It allows large—volume systems to be quickly and easily primed, and it greatly expedites pressure generation

Typical Applications:

Calibration of pressure gauges, transmitters, transducers, transfer standards, recorders, etc.; direct, high-accuracy measurement of pressure in systems and processes.

Each Unit Includes: $1/8"$, $1/4"$, $3/8"$, $1/2"$ NPT female adapters (PM30004, PM30003, PM30002, PM30001), spare seals (B1802, B1902), manufacturer's NIST certificate of accuracy, individual piston certificate, computer weight mass printout, and instruction manual.



T2400

Specifications

Accuracy:	$\pm 0.015\%$ of indicated pressure
Minimum Increment:	1 PSI
Case Size:	$7\frac{3}{4} \times 18\frac{3}{4} \times 12\frac{3}{4}$ " HWD
Instrument Weight:	22 lbs/10 kg
Weight Set Weight:	10 to 66 lbs, depending on model

Ordering Information

Order #	Mfg #	Description	Price
MP5781P	T2400	Deadweight Tester, 3 to 100 PSI, with Standard Hand Pump	
MP5782P	T1400	Deadweight Tester, 3 to 400 PSI	
MP5783P	T2300	Deadweight Tester, 3 to 500 PSI	
MP5784P	T2700	Deadweight Tester, 10 to 1000 PSI	
MP5785P	T2900	Deadweight Tester, 10 to 2000 PSI	

NOTE: For hand pump option, add -P to the catalog number and to the price.

Transcat Accredited Calibration with Data	CALL
Transcat Accredited Calibration without Data	CALL

Druck/Pressurements Vacuum/Pressure, Deadweight Tester

- Vacuum Model Provides 30 "Hg
- Combination Vacuum/Pressure Models to 500 PSI
- Compact Design
- Simple to Use
- Optional Built-In Hand Pump and/or Vacuum Pump

Versatile Testers Offer Vacuum or Vacuum/Pressure Capability

The piston-cylinder deadweight tester is generally regarded as the most accurate calibration method for pressure instrumentation, and is often reserved for use as a primary or secondary pressure standard. This family of testers offers $\pm 0.015\%$ accuracy as standard, and is also available in optional $\pm 0.010\%$ accuracy models.

The 5786P vacuum-only model delivers capability to 30 "Hg, and is an excellent choice to replace fragile mercury or other liquid columns. The combination vacuum/pressure models have a convenient selector valve for choosing either function.

The optional vacuum pump draws approximately 27 "Hg. Applications requiring more than this should use an external vacuum source. The optional hand pump generates pressure up to 150 PSI.

Specifications

Accuracy:	$\pm 0.015\%$ of indicated pressure (0.010% optional)
Minimum Standard	
Weight Increment:	1 "Hg, 1 "H ₂ O or 1 PSI
Case Size:	$7\frac{3}{4} \times 18\frac{3}{4} \times 12\frac{3}{4}$ " HWD
Instrument Weight:	10 to 66 lbs, depending on model

Each Unit Includes: $1/8"$, $1/4"$, $3/8"$, $1/2"$ NPT female adapters (PM30004, PM30003, PM30002, PM30001), spare seals (B1802, B1902), computer weight mass printout, manufacturer's NIST certificate of accuracy, individual piston certificate, and instruction manual.



T3500

Ordering Information

Order #	Mfg #	Description	Price
MP5786P	T2600	Deadweight Tester, Vacuum, 1 to 30 "Hg	
MP5787P	T3550	Deadweight Tester, Vacuum/Pressure, 30 "Hg/400 "H ₂ O	
MP5788P	T3400	Deadweight Tester, Vacuum/Pressure, 30 "Hg/400 PSI	
MP5789P	T3500	Deadweight Tester, Vacuum/Pressure, 30 "Hg/500 PSI	

NOTE: For vacuum pump option, add -V to the catalog number and to the price.

For hand pump option, add -P to the catalog number and to the price.

For both the vacuum and hand pump option, add -PV to the catalog number and to the price.

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Druck/Pressurements Hydraulic Deadweight Testers

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- Oil or Water-Operated Models
- Ranges to 10,000 PSI
- Dual-Piston Design
- NIST Traceable
- Optional Built-In Hand Pump

This family of testers offers excellent standard accuracy of $\pm 0.015\%$, and a wide selection of ranges.

The dual-piston design allows calibration up to 10,000 PSI, with the appropriate piston being automatically selected without the use of complicated valving or test-slowsing piston exchange. The overhanging weight carrier is designed to protect the carbide piston, and improves rotational spin, sensitivity, and stability.

Models are available in both oil and water-operated versions, which can handle pressures to 10,000 PSI. Water-operated types are used in situations where oil contamination of the unit under test cannot be tolerated.

Common features include a bonded seal at the test station to allow the user to hand-tighten the instrument under test and eliminates the need for gasket tape or wrenches. Adapters in a variety of common sizes make it easy to connect an assortment of instruments to the calibrator. Adjustable feet and a bubble level glass make it simple to level the unit to insure maximum accuracy in use.

Add the Hand Pump Option

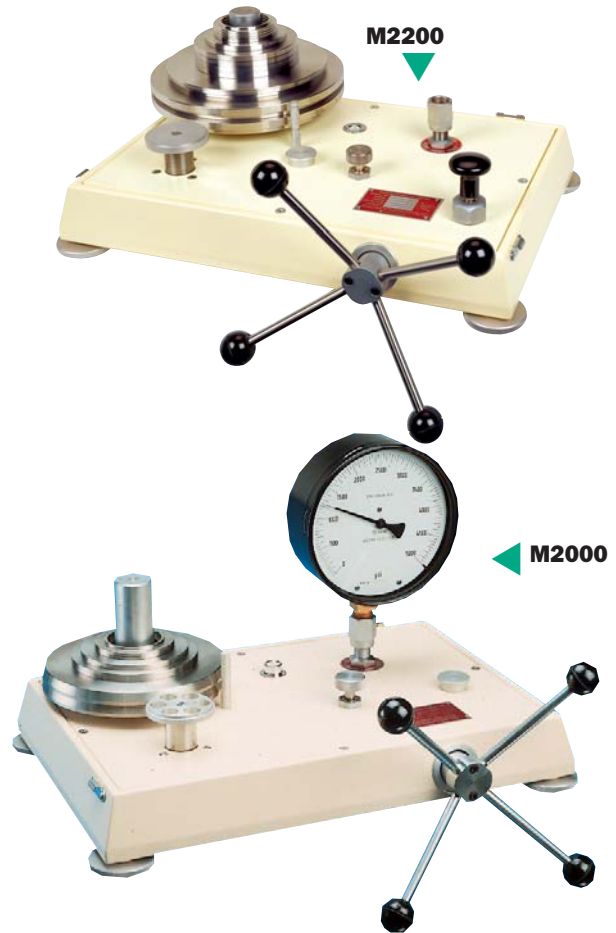
The optional hand pump can be added to any of the models listed. It allows large-volume systems to be quickly and easily primed, and it greatly expedites pressure generation. It requires no additional valve operation. The effortless, small-bore, high-pressure ram screw is then used to fine tune the pressure, similar to a vernier.

Typical Applications:

Calibration of pressure gauges, transmitters, transducers, transfer standards, recorders, etc.; direct, high accuracy measurement of pressure in systems and processes.

Each Unit Includes:

$\frac{1}{8}$ ", $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ " NPT female adapters (PM30004, PM30003, PM30002, PM30001), spare seals, high- and low-pressure pistons, hydraulic test fluid, NIST certificate of overall accuracy, individual piston certificates, computer printout of weight masses, carrying case, and instruction manual.



Calibration Instruments

Need Calibration Labels?

See Page A24



Specifications

Accuracy:	$\pm 0.015\%$ of indicated pressure standard; $\pm 0.010\%$ of indicated pressure optional
Minimum Weight Increment:	Low Pressure Piston 1 PSI High Pressure Piston x10 or x20 (for models above 5000 PSI)
Weight Material:	Series 3 non-magnetic austenitic stainless steel
Piston Material: Oil Operated	Tungsten Carbide
Piston Material: Water Operated	Stellite (up to 500 PSI) Tungsten Carbide (above 500 PSI)
Pressure Connection:	$\frac{1}{8}$ ", $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ " NPT
Reservoir Volume:	250 cc
Barrel Volume:	5.5 cc with ram extended
Pump Displacement:	4.8 cc/stroke
Instrument Size:	18.5 x 12.5 x 8" LDH
Instrument Weight:	26 lbs/11.8 kg
Weight Set Weight:	66 lbs/29.9 kg

Ordering Information

Order #	Mfg #	Description	Price
MP5773P	M1901	Deadweight Tester, 10 to 1000 PSI, Oil Operated	
MP5774P	M1902	Deadweight Tester, 10 to 2000 PSI, Oil Operated	
MP5775P	M2000	Deadweight Tester, 10 to 5000 PSI, Oil Operated	
MP5776P	M2200	Deadweight Tester, 10 to 10,000 PSI, Oil Operated	
MP5773PW	W1901	Deadweight Tester, 10 to 1000 PSI, Water Operated	
MP5774PW	W1902	Deadweight Tester, 10 to 2000 PSI, Water Operated	
MP5775PW	W2000	Deadweight Tester, 10 to 5000 PSI, Water Operated	
MP5776PW	W2200	Deadweight Tester, 5 to 10000 PSI, Water Operated	

NOTE: For built-in hand pump option, add -P to the catalog number and to the price

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CALL

Ametek Type T Hydraulic Deadweight Testers

- Hand-Actuated, Dual Volume Hydraulic Pump
- Standard Accuracy to $\pm 0.10\%$ of Reading
- Available Accuracies to $\pm 0.015\%$ of Reading
- Water or AAA Tester Oil Media – Others can be Used
- Engineered for Lab or Field Use – Proven use in 24/7 Production Environment

Each Unit Includes: Pump, piston(s), weight sets, tools, manifold, adapters, carrying cases, and manufacturer's NIST traceable certification

Specifications and Ordering Information

Mfg #	T-100	T-50	T-150/TESTER
Ranges:	10 - 1,000 / 100 -10,000 PSI	10 - 500 / 100 - 5,000 PSI	10 -1,500/ 100 - 15,000 PSI
Accuracy:	$\pm 0.10\%$ of reading, NIST traceable		
Increments:	5 / 50 PSI		
Pistons:	2		
Type of pump:	Lever action, hand-actuated, dual volume pump		
Wetted Surfaces:	300 series SS, Monel		
O-Rings:	Buna-N		
Test Connections:	Union type – 1/4" NPT, 1/2" NPT, 7/16" UNF		
Weight Material:	Hard, non-magnetic, alloy		
Size/Weight:	19.75 x 31.25 x 9" HWD / 160 lb	19.75 x 31.25 x 9" HWD / 105 lb	19.75 x 31.25 x 9" HWD / 215 lb
Order #	MP6148P	MP6149P	MP6150P
Price			



T-100 ▲

Accessories

Order #	Mfg #	Description	Price
MP4711P	MGAAA/GAL	AAA Tester Oil (not supplied with tester)	
MP4718P	T-250	O-Ring kit, Buna-N, Type T pump	
MP4719P	T-258	O-Ring kit, Buna-N, Type T piston/cylinder	

Ametek HydraLite Hydraulic Deadweight Testers

- Hand-Actuated, Screw-Type Hydraulic Pump
- Ratcheting Handle Allows Easy Pressure Control
- Standard Accuracy $\pm 0.10\%$ of Reading
- Available Accuracies $\pm 0.05\%$ of Reading
- 300 Series SS, Brass, and Aluminum Construction
- AAA Tester Oil Media

Each Unit Includes: Pump, piston(s), weight set, tools, instrument post, adapters, manual, and manufacturer's NIST traceable certification

Specifications

Mfg #	HL-36
Ranges:	10 to 600 and 100 to 3,000 PSI, $\pm 0.10\%$ of reading
Accuracy:	$\pm 0.10\%$ of reading, NIST traceable– $\pm 0.05\%$ of reading available (specify when ordering)
Increments:	0.1 / 0.5 PSI
Gravity:	980.665 gals (International Standard)
Pistons:	2
O-Rings:	Buna-N
Test Connections:	Union type – _" NPT, _" NPT
Weight Material:	Hard, non-magnetic alloy and aluminum
Size/Weight:	9 x 9 x 10" HWD / 45 lb

Ordering Information

Order #	Mfg #	Description	Price
MP6151P	HL-36	Deadweight Tester, Type HL, 10 to 3,000 PSI	
-1/C		Accuracy adder to $\pm 0.05\%$ of reading	
MPK-1562	K-1562	Tripod – Heavy duty	
MP4711P	MGAAA/GAL	AAA Tester Oil (not supplied with tester)	
MP4720P	T-536	O-Ring kit, Buna-N, Type HL	



HL-36 ▲

Ametek Hydraulic Deadweight Tester, Dual Column

These dual column testers allow instant range changes—no need to change pistons

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- Five Models Cover Most-Used Ranges
- Accurate to 0.1% of Indicated Pressure
- 0.025% Accuracy Optional

Dual Column Testers Offer Fast Range Changes

This series of dual column deadweight testers provides NIST traceable pressure standards for gauges, indicators, and recorders. The testers are easy to set up and use and are ideal for both laboratory and field applications.

These units feature separate columns for high and low pressure measuring piston/cylinder assemblies. You can change ranges quickly using a built-in crossover valve rather than a piston change on single column models. The dual volume pump delivers high pressures with minimum effort.

Ordering information is for 0.1% accuracy, and calibration is to standard gravity. Calibration to 0.05% or 0.025% is optionally available, as is calibration to your local gravity (recommended). Call Transcat for details.

Each Unit Includes: Hydraulic pump (oil or water), weights and case (specified in ordering information), tools, dual column (High and Low), manufacturer's NIST certificate, and instructions.



▲ **3482P—You can change ranges quickly**

Specifications

	3481P	3482P	3483P
Ranges—PSI:	10 to 500 100 to 5000	10 to 1000 100 to 10,000	10 to 1500 100 to 15,000
Number of Weight Sets:	1	2	3
Accuracy:		0.1% at indicated pressure NIST-traceable	
Increments:		5 and 50 PSI	
Type of Pump:		Lever	
Fill Fluid:		Distilled water	
Wetted Parts:		300-Series stainless steel, Monel	
Test Connections:		Union-type— $\frac{1}{4}$ " NPT, $\frac{1}{2}$ " NPT, $\frac{1}{8}$ " UNF (male and female)	
Weight Material:		Hard, non-magnetic die cast alloy	
Shipping Dimensions and Weights			
	Pump:	22 x 10 x 9" at 20 lbs	
	Dual Column:	16 x 16 x 16" at 35 lbs	
	Weight Sets:	12 x 12 x 9" at 60 lbs	

Ordering Information

Order #	Mfg #	Description	Price
MP3481P	DM-T-50	Dual Column Deadweight Tester, 10 to 5,000 PSI	
MP3482P	DM-T-100	Dual Column Deadweight Tester, 10 to 10,000 PSI	
MP3483P	DM-T-150	Dual Column Deadweight Tester, 10 to 15,000 PSI	
MP4711P	AAA OIL	AAA Tester Oil (1 gal)	

Transcat Accredited Calibration with Data

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Calibration Instruments



You can find digital pressure indicators on pages D5-D10

Ashcroft Hydraulic Deadweight Testers

- Dual Range
- Accurate to Within 0.1% of Produced Pressure

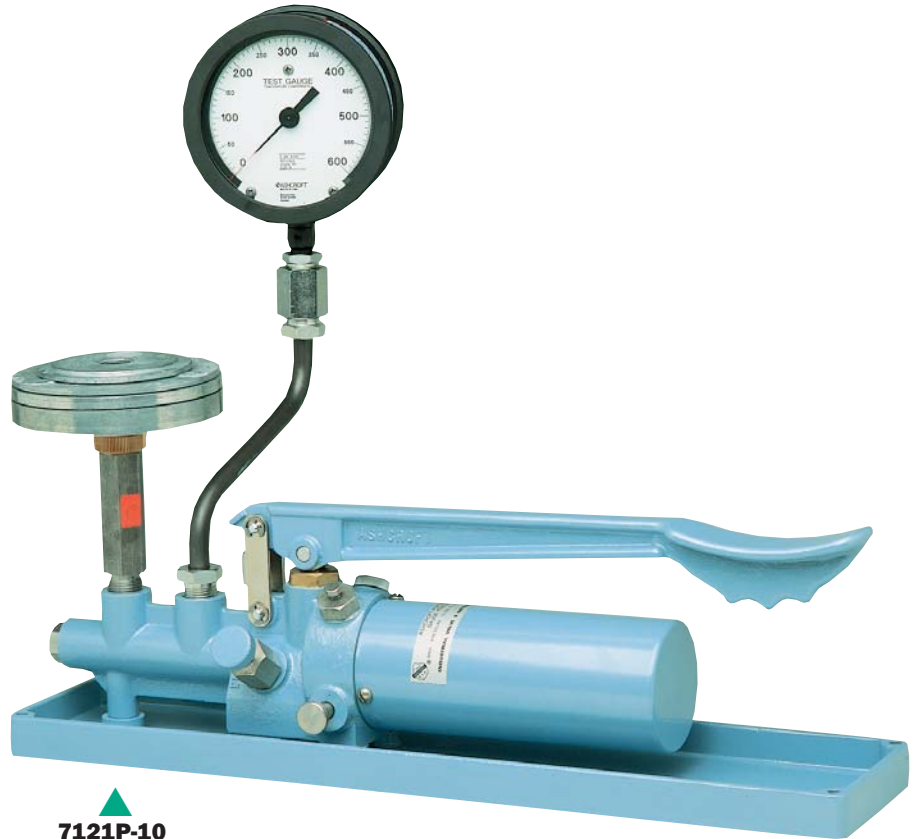
Test, Calibrate, or Repair Pressure

Measuring Devices

This self-contained unit includes tools and carrying case. As a primary pressure, standard accuracy is 0.1% of the pressure produced. Each unit is calibrated to standard gravity and is certified.

The tester consists of a hydraulic pump and a manifold which is pressurized during operation. One manifold connection includes a cylinder and free-floating precision-machined piston with a plate for holding calibrated weights. A second connection accommodates a gauge or other device to be calibrated or checked. Each unit is supplied with two interchangeable piston/cylinder assemblies. One is a low pressure piston, $\frac{1}{16}$ square inch mean effective area for pressures below 2000 PSI (14,000 kPa). The other is a high pressure piston, $\frac{1}{60}$ square inch area for pressures through 10,000 PSI (70,000 kPa).

Each Unit Includes: Hand jack set (A3220), spare o-rings (4722P), $\frac{1}{4}$ and $\frac{1}{2}$ " NPT female fittings, offset pipes for back and bottom connection gauges, manufacturer's NIST traceable certificate, and instructions.



7121P-10

Specifications

Ranges:	See below
Accuracy:	±0.1% of produced pressure
Operating Pressure:	15 PSI to 10,000 PSI (70,000 kPa) maximum
Materials	
Body:	Aluminum alloy
Piston and Cylinder:	Stainless steel
Weights:	Non-magnetic die cast zinc alloy
Operating Fluids:	SAE 20 automotive or machine oil
Reservoir Volume:	Approx. 1.5 pints (0.7 liters)

Ordering Information

Order #	Range, PSI		Price
	Low	High	
MP7121P-10	15/200	75/1000	
MP7121P-20	15/400	75/2000	
MP7121P-30	15/600	75/3000	
MP7121P-50	15/1000	75/5000	
MP7121P-100	15/2000	75/10,000	
	Range, kPa		Price
	Low	High	
MP7124P-100	100/2000	500/10,000	
MP7124P-150	100/3000	500/15,000	
MP7124P-350	100/7000	500/35,000	
MP7124P-700	100/14,000	500/70,000	
Order #	Description	Price	
MP4721P	SAE 20 Oil (1 Gallon)		
MP4723P	Pump Overhaul Kit		
Transcat Accredited Calibration with Data			CALL



You can find hand pumps, tubing and fittings

on pages A92-A99.