



Deadweight Testers

PRIMARY STANDARD

Deadweight Testers are the basic primary standard for the accurate measurement of pressure. Chandler Testers are used to measure the pressure exerted by a gas or liquid and can also generate a test pressure for the calibration of pressure gauges, electronic pressure calibrators, transducers, transmitters, recorders, etc. No other device can match the stability, repeatability and accuracy of the Deadweight Tester.

HIGH SENSITIVITY

When the weights are applied to the piston, the entire assembly is rotated slowly. This rotation minimizes frictional effects and permits vertical motion of the piston with extremely small variations in pressure. Measurements to 1/10 psi (1 kPa) can be made.

OPERATION

The Chandler Engineering Deadweight Tester utilizes the well proven piston system consisting of a vertically mounted precision lapped stainless steel piston and sleeve with a metal to metal seal. This superior design eliminates friction and oil leakage created by o-ring seals used in lower cost testers. A bubble level and adjustable feet are provided to enable the operator to level the instrument.

HIGH ACCURACY

Deadweight Testers blend ruggedness with high accuracy. Variations over time typical of strain gauges or spring gauges are eliminated. Their operation depends only on balancing known weights against the force exerted by an unknown pressure acting on a piston of precisely known area. The weights are applied manually until the piston is floating with no net vertical movement. Each piston's area is determined by comparison against a piston of known area traceable to the National Institute of Standards and Technology. The mass of the balancing weights is also traceable to NIST.



FEATURES

- ✓ **Accurate** - 0.05% of indicated pressure, traceable to the National Institute of Standards and Technology (NIST), 0.02% available
- ✓ **Reliable** - hardened stainless steel pistons and corrosion resistant materials.
- ✓ **Screw Pump** - allows fine pressure adjustments
- ✓ **Certificate of Calibration**
- ✓ **Gas or Liquid pressure measurement**
- ✓ **Repair Service** - spare parts available.



General Specifications

- Accuracy:** 0.05% of indicated pressure
- Certificate of Calibration:** Furnished for 0.05%
- Calibration Temperature:** 77°F (25°C)
Calibration based on std gravity of 980.665
- Calibration Meets:** MIL-C-45662A
- Temperature Limit:** 40° to 120°F (4° to 50° C)
- Humidity:** 0 to 95% RH
- Vibration:** Small amplitude, high frequency only
- Environment:** Minimize dust and corrosive atmosphere
- Piston Material:** Hardened Stainless Steel
- Pressure Tubing Material:** Stainless Steel
- Weight Material:** Brass
- Fill Fluid:** Non-toxic ISO Grade 68 Premium Oil, standard. Synthetic fluid optional

Options

- Stainless Steel Weights
- Dual Range Piston/Cylinder
- 0.02% Certificate of Calibration
- Oxygen Service Cleaning
- Oil Water Separator
- Metric Adapters
- Synthetic Operating Fluid for O2, Water or Steam Service
- Local Gravity Calibration

Furnished with every Deadweight

- Carrying Case with Instruction Manual
- Set of Weights
- Operating Fluid
- Gauge Pointer Remover
- Gauge Pointer Driver
- 1/4 in and 1/2 in NPT adapters
- Certificate of Calibration for 0.05% accuracy
- One Year Guarantee

Furnished with Precision Pressure STD Tester

- Vinyl dust Cover in Lieu of Carrying Case
- Wrench Set
- Spare-o-rings and Seals
- Electric Motor to spin Weights

Oil-Water Separators

Model 02-0071 – Rated for pressure of 5,000 psi (34,500 kPa) designed for use with Models 02-001 and Models 23-001 Deadweight Testers.

Model 05-0194 – Rated for pressure of 5,000 psi (34,500kPa) is a stand-alone unit. It can be used with the Chandler Deadweight Gauge or Tester. It come complete with inlet, outlet and drain valves. You will also receive 10 ft of 1/8 in diameter SS tubing for connection.

Model 05-0202 – Rated for 10,000 psi (69,000 kPa). It is similar to the Model 05-0194 and supplied complete with valves and SS tubing for connection.

Model 55-0036 – Rated for 6,000 psi (41,400 kPa) designed especially for use with the Model 55-100 Tester.

	Standard			Featherweight	Pressure Standard
SERIES	23	02	55	61	58
Max Pressure PSI	2,000	5,000	20,000	2,000	30,000
Min Pressure PSI	5	50	50	3	10
Dual Range Option	No	Yes	Yes	Yes	Yes
Motor Drive Option	No	No	No	Yes	Standard
Size Inches	19x6x13	22x8x14	22x14x8	20x10x12	17x23x13
Size CM	48x15x33	55x20x35	55x35x45	50x25x30	48x58x33
Weight Lbs**	32-85	60-90	114-250	45	120-325
Weight Kg**	15-38	27-40	50-110	20	54-146



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