

6100

Absolute and Gauge Pressure Deadweight Tester

- Pressure Range 0.03 to 70 bar
0.5 to 1000 psi
- Pressure ranges are both Absolute and Gauge
- Accuracy from 0.005% of reading
- Manufactured to local gravity (on request)
- Integral pressure control system
- Traceable to International Standards



Utilising primary pressure measurement, with accurately calibrated weight masses loaded onto a gas lubricated piston. The weights balance the upward force created by the pressure within the system.

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The Model 6100 instrument base controls the system pressure with inlet and outlet needle valves, and a variable volume adjuster.

A test port (with adaptors) is provided for mounting the instrument under test, and a variable speed motor drive system rotates the piston and weights.

The operator simply has to connect the necessary pressure/vacuum sources and a sensor to measure the chamber reference pressure. There is also a facility to fit an optional temperature probe.

Pressurements model 6100 operates over an extremely wide pressure range.

Three standard ranges (piston and weight set) are available to fit the instrument base:-

Low (L) Range	30 to 2000 mbar	0.5 to 30 psi
Mid (M) Range	0.25 to 20 bar	3 to 300 psi
High (H) Range	20 to 70 bar	300 to 1000 psi

Specifications

Accuracy:	0.015%, 0.01%, 0.005% of reading traceable to NPL U.K. and NIST U.S.A.
Pressure range absolute & gauge	30 mbar to 70 bar/0.5 to 1000 psi
Gravity:	As requested on order, if unspecified then 980.665 cm/s ²
Standard resolution:	Low Range 10 mbar, 0.01 kgf/cm ² , 0.1 psi, 1 kPa
(Weight Increment)	Mid Range 0.05 bar, 0.05 kgf/cm ² , 1 psi, 5 kPa
	High Range 0.2 bar, 0.2 kgf/cm ² , 1 psi, 20 kPa
Optional extra resolution	Low Range 5 mbar, 0.005 kgf/cm ² , 0.05 psi, 0.5 kPa
(Fractional weights aluminium)	Mid Range 0.01 bar, 0.01 kgf/cm ² , 0.1 psi, 1 kPa
Smaller resolutions available on request	High Range 0.05 bar, 0.05 kgf/cm ² , 0.5 psi, 5 kPa
Sensitivity	To 1 PPM*
Repeatability	To 3 PPM*
Reproducibility	To 6 PPM/Year* *at full scale
Piston drop rate	4mm per minute, maximum
High range	6mm per minute, maximum
Piston material	(Low) Ceramic
	(Mid & High) Tungsten carbide
Cylinder material	Hardened Martensitic Steel, Tungsten carbide (High)
Weight material	Series 3 non-magnetic austenitic stainless steel
Specific gravity of weights	7.9g/cm ³
Reference temperature	20°C
Temperature range	(Operating) 12 to 28°C
	(Storage) -40 to 70°C
Pressure medium	Clean dry gas, nitrogen or similar
Test port adaptors	1/8", 1/4", 3/8", 1/2" BSP or NPT Female
Connection ports	1/4" BSP or NPT Female
Chamber evacuation port	NW25
Chamber reference port	NW10
Instrument pressure rated	700 bar/10000 psi
Power requirement	AC 220/240V or AC 110/120V, 50/60 HZ
Tester dimensions	Lid closed 47 x 32 x 20 cm L x D x H
	Chamber fitted 47 x 32 x 38 cm L x D x H
Equipment weight	
(Base and chamber only)	12 kg
Low range piston & weights	6 kg
Mid range piston & weights	18 kg
High range piston & weights	15 kg

A complete range of industrial and differential Deadweight Testers are available



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