

Dead Weight Piston Gauge Pressure standard up to 80 Mpa

A patented technology for the dead weight piston gauge pressure standard is indigenously designed, developed and fabricated at NPL. The system is a complete and self-contained compact unit. It is portable, simple and easy to use. This can be used as a stable, reliable pressure generating or measuring system in the range of 2-800 bar (0.2 – 80 MPa). All controls are easily accessible and clearly labelled. The hydraulic circuit is so designed that the pressure column containing the piston-cylinder assembly can either be isolated from rest of the pressure generating system, or the device under test. The force is applied to the piston by ring weights stacked on a weight, which is in direct contact with the weight table and the piston. The large diameter of the weights provide sufficient inertia for the long de-acceleration rate of the piston, and hence easy to make pressure measurement without disturbing the piston

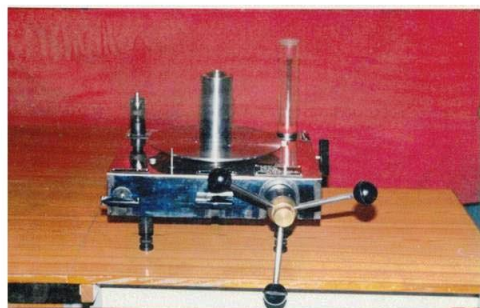
Accuracy:

The instrument has a sensitivity and repeatability better than 5 ppm between 10% and 100% of maximum pressure. An overall estimated uncertainty in measured pressure is better than $\pm 0.02\%$. An improved accuracy can also be achieved, if required, by using the effective area value of the piston gauge pressure standard which is derived from the national pressure standard along with necessary correction for temperature, surface tension, buoyancy, head etc.

Applications : Research laboratories, Central Standard Laboratories of manufacturing Organizations, like, Production Testing, Quality Assurance, Incoming Inspection, Calibration of master gauges from, Power Plants, Aerospace, Defence, Oil Exploration, Process Industries etc.



PATENTED TECHNOLOGY COMMERCIALIZED



PISTON GAUGE PRESSURE STANDARD

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