



tinsley
PRECISION INSTRUMENTS

DUAL PISTON DEAD WEIGHT TESTERS

Calibrate with precision!

Tinsley deadweight testers are the basic primary standards for pressure calibration. The principle of operation is as per the international guidelines and are world-wide acceptable.

Tinsley dead weight testers provide an unmatched performance with the best stability, repeatability, accuracy and are ideal for calibrating pressure instruments.

Dead weight tester comprises of highly accurate piston and cylinder assembly which enables achieving of an optimal accuracy for the dead weight tester.

The cylinder is mounted in a column and the piston can rotate and move freely in up and down motion. The calibrated masses are mounted on top of the piston. When pressure is applied on the bottom of the piston to lift the piston with masses, it creates a balance between the force made by the masses (downwards) and the force made by the pressure (upwards) and the effective area of the piston cylinder assembly.

$$p = \frac{F}{A}$$

p : pressure
 F : force
 A : area (of the piston)

58-DTP-DL Series hydraulic dual piston type deadweight testers are highly reliable, accurate, oil driven and provide user friendly operation. The dead weight tester design includes the base plate, trimming screws, connecting assembly, valves, oil cup, spirit level, hand wheel for operation.

There are three designs available to provide the user the optimal performances as per their requirements and easiness. The first design of both pistons isolated offers the user the feasibility to use both pistons simultaneously, thereby, using the dead weight tester at two pressure points at the same time. Few users may be interested in our second design which offers two non-isolated pistons. The third design to be launched shortly provides interchangeable pistons for use in the dead weight tester.

58-DTP-DL Models and Technical Specifications :

Accuracy	: 0.02% in standard version 0.015% in HA version and 0.005% in EHA version
Operating temperature	: 20°±5°C
Temperature coefficient	: 0.000017 /°C
Gravity	: Calibration can be performed at local gravity (specify your local gravity, in order)
Operating oil used	: Transformer Oil (9-12 centistokes at 20°C) for low pressure piston side and Castor Oil (900-1100 centistokes at 20°C) for high pressure piston side.

CONTACT US

1 Warner Drive
Springwood Industrial Estate
Braintree, Essex
CM7 2YW

Tel: 01376 335271
E-mail: info@tinsley.co.uk

www.tinsley.co.uk

Model No.			58-DTP-DL-SS-1/600		58-DTP-DL1-SS-1/600	
Design.			Isolated Dual piston		Non-isolated Dual Piston	
			Low Pressure Piston side	High Pressure Piston side	Low Pressure Piston side	High Pressure Piston side
Pressure Range		bar	1 ~ 60	10 ~600	1 ~ 60	10 ~600
Nominal Area of Piston		cm ²	0.5	0.1	0.5	0.1
Carrier and Piston	Nominal Mass	Kg	0.5	1	0.5	1
	Pressure	bar	1	10	1	10
Standard Weight set	Nominal Mass	Kg	0.5 & 2.5	1 & 5	0.5 & 2.5	
	Pressure	bar	1 & 5	10 & 50	1 & 5	
	Qty.	pcs	4 ; 11	4 ; 11	4 ; 11	

Pressure port : M20 x 1.5

Features : Compact, light in weight, light in pumping, fine adjustment, lower start pressure, higher performance, roller bearing, best quality sebacate hydraulic fluid, high quality weight set.

Ordering code

Model 58-DTP-DL-SS-1/600 : Dual piston isolated

Model 58-DTP-DL1-SS-1/600 : Dual piston non-isolated

Standard accuracy 0.02% shall be supplied
Add suffix HA for 0.015% accuracy requirement or
Add suffix EHA for 0.005% accuracy requirement

Pressure values and engineering units of mass sets are made to customer design / requirement (bar, kg per cm sq., psi, MPa etc.).

Higher ranges upto 1000 bar also available for specific applications

Scope of delivery

All dual piston deadweight testers are delivered fully operational with stainless steel mass sets, carry case for dead weight tester, carry case for mass sets, tools, oil in a bottle, oil filters, O-rings, spirit level, spare seals, keys, set of connectors, spanners, pointer remover, pointer punch, operating manual, traceable calibration certificate.

Optional : Below options are available separately, if ordered :

- Stainless steel mass sets of other values (user defined) in carry case
- Stainless steel fraction weight sets in carry case
- Program for temperature and gravity corrections
- Calibration Software