



**tinsley**  
PRECISION INSTRUMENTS

# 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 Series hydraulic 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

## 58-DTP Models and Technical Specifications :

Model No.		58-DTP0061	58-DTP0601	58-DTP2501	58-DTP6001	
Pressure Range	bar	0.4~ 6	1 ~ 60	5 ~ 250	10 ~600	
Nominal Area of Piston	cm <sup>2</sup>	1	0.5	0.2	0.1	
Carrier and Piston	Nominal Mass	Kg	0.4	0.5	1	1
	Pressure	bar	0.4	1	5	10
Standard Weight set	Nominal Mass	Kg	0.1 & 0.5	0.5 & 2.5	1 & 5	1 & 5
	Pressure	bar	0.1 & 0.5	1 & 5	5 & 25	10 & 50
	Qty.	pcs	6 ; 10	4 ; 11	4 ; 9	4 ; 11

**Accuracy** : 0.02% in standard version  
0.015% in HA version and  
0.005% in EHA version

## 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](http://www.tinsley.co.uk)

<b>Operating temperature</b>	: 20°±5°C
<b>Temperature coefficient</b>	: 0.000017 /°C
<b>Gravity</b>	: Calibration can be performed at local gravity (specify your local gravity, in order)
<b>Operating oil used</b>	: Transformer Oil (9-12 centistokes at 20°C) for 58-DTP0061; 58-DTP0601; 58-DTP2501 Castor Oil (900-1100 centistokes at 20°C ) for 58-DTP6001
<b>Pressure port</b>	: M20 x 1.5
<b>Features</b>	: Compact, light in weight, light in pumping, fine adjustment, lower start pressure, higher performance, rolling bearing, best quality sebacate hydraulic fluid, high quality weight set.

## Ordering code

### Model 58-DTPX

#### X : Range suffix

<b>0061</b>	: 0.4 bar to 6 bar
<b>0601</b>	: 1 to 60 bar
<b>2501</b>	: 5 to 250 bar
<b>6001</b>	: 10 to 600 bar

**Standard accuracy 0.02% shall be supplied.**

**Add suffix HA for 0.015% accuracy requirement ( Model 58-DTPX-HA ) or**

**Add suffix EHA for 0.005% accuracy requirement ( Model 58-DTPX-EHA )**

*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 deadweight testers are delivered fully operational with 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 :

- Mass sets of other values (user defined) in carry case
- Stainless steel weight sets in carry case (standard weights or user defined)
- Fraction weight sets in carry case
- Program for temperature and gravity corrections
- Calibration Software