

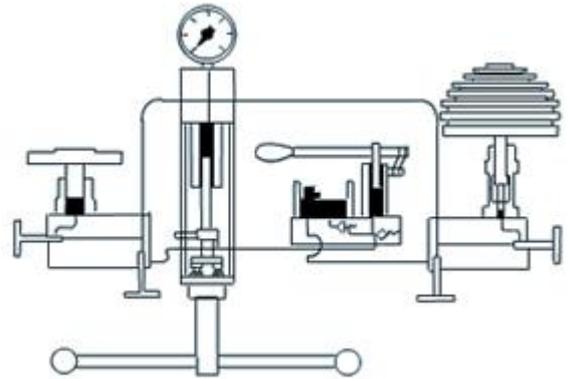
# JAPSIN INSTRUMENTATION



ISO 9001:2015 CERTIFIED ORGANISATION  
COMPLETE RANGE OF FLOW, LEVEL,  
TEMPERATURE & PRESSURE INSTRUMENTS



## Dead Weight Pressure Gauge Tester > DW 30 Series



Models of DW 30 series are provided with 2 free piston assemblies for giving Low Pressure range with smaller steps and High Pressure range with larger steps in a single instrument with substantial cost saving. The ratio of areas of LP and HP Free Pistons is generally 10:1. Ratio of 5:1 or 20:1 can also be provided.

**WORKING PRINCIPLE:** The Dead Weight Pressure Gauge Testers make use of the relationship between pressure acting on the known area of a vertically free floating piston producing a force balanced by known dead weight.

**MAIN COMPONENTS of the tester are :-**

**Screw Pump:** It is used to generate pressure in the circuit of adequate capacity and is operated by a spoked handle which permits easy and accurate setting of pressure.

**Priming Pump:** (provided only in High Pressure Calibrators) : It is a lever operated pump used for providing continuous oil delivery for filling up large gauges or even external piping. This pump is capable of developing 5% — 10% of the instrument range. Isolating valves are provided at both ends. It forms a unique closed circuit for effective air removal.

**Free Piston Assembly:** It is made of special steel, hardened, tempered, ground and lapped to accurate size and very fine surface finish provides true floating action.

**Set of Weights:** Each weight is directly marked in convenient values of pressure and is easily stacked on the weight carrier which is placed on to the free piston. Dual range Dead Weight Testers (DW 30 series) have dual markings on each weight for low & high pressure ranges respectively. The calibration can be provided in various units of pressure measurement namely kgf/cm<sup>2</sup>, bar, lbf/in<sup>2</sup>, kPa, KN/m<sup>2</sup> as per customer requirement. Weights are available in two material options : MS Phosphated black & SS 304. Storage box is provided for storing weights safely.

**Gauge Connector:** of 1/2" BSP (female) union for connecting the gauge to be tested. Gauges with other connecting threads may be connected using adaptors provided.

**Base Plate:** The instrument is mounted on a sturdy base plate provided with levelling screws. The entire circuit is covered by a sheet metal cover.

**Incremental Weights:** to provide smaller steps (better least count) is available for all models at extra cost.

**Calibration / Traceability:** Calibration is done against Master Dead Weight Pressure Gauge Tester certified and characterised by National Physical Laboratory, New Delhi using cross-float method. Our instruments are of the accuracies +/- 0.1%, +/- 0.05% & +/- 0.03% and are backed by test certificates traceable to National Standard to meet the requirements of ISO 9000, QS 14000 and other Inspection Agencies.

MODEL		RANGE (kgf / cm <sup>2</sup> )			RANGE (lbf / in <sup>2</sup> )			RANGE (bar)			RANGE (MPa)		
		Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.
DW30													
REGULAR	L.P.	0.2	0.05	16	2	1	200	0.2	0.05	16	0.02	0.005	1.6
	H.P.	10	0.5	160	100	10	2000	10	0.5	160	1	0.05	16
INC	L.P.	0.2	0.002	16	2	0.05	200	0.2	0.002	16	0.02	0.0002	1.6
	H.P.	10	0.02	160	100	0.5	2000	10	0.02	160	1	0.002	16

MODEL		RANGE (kgf / cm <sup>2</sup> )			RANGE (lbf / in <sup>2</sup> )			RANGE (bar)			RANGE (MPa)		
		Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.
DW31													
REGULAR	L.P.	0.4	0.1	25	5	1	360	0.4	0.1	25	0.04	0.01	2.5
	H.P.	24	1	250	240	10	3600	24	1	250	2.4	0.1	25
INC	L.P.	0.4	0.005	25	5	0.05	360	0.4	0.005	25	0.04	0.0005	2.5
	H.P.	24	0.05	250	240	0.5	3600	24	0.05	250	2.4	0.005	25

MODEL		RANGE (kgf / cm <sup>2</sup> )			RANGE (lbf / in <sup>2</sup> )			RANGE (bar)			RANGE (MPa)		
		Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.
DW32													
REGULAR	L.P.	0.4	0.1	40	5	1	550	0.4	0.1	40	0.04	0.01	4
	H.P.	34	1	400	500	10	5500	34	1	400	3.4	0.1	40
INC	L.P.	0.4	0.005	40	5	0.05	550	0.4	0.005	40	0.04	0.0005	4
	H.P.	34	0.05	400	500	0.5	5500	34	0.05	400	3.4	0.005	40

MODEL		RANGE (kgf / cm <sup>2</sup> )			RANGE (lbf / in <sup>2</sup> )			RANGE (bar)			RANGE (MPa)		
		Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.
DW33													
REGULAR	L.P.	1	0.2	55	10	2	800	1	0.2	55	0.1	0.02	5.5
	H.P.	50	2	600	600	20	8000	50	2	600	5	0.2	60
INC	L.P.	1	0.01	55	10	0.1	800	1	0.01	55	0.1	0.001	5.5
	H.P.	50	0.1	600	600	1	8000	50	0.1	600	5	0.01	60

MODEL		RANGE (kgf / cm <sup>2</sup> )			RANGE (lbf / in <sup>2</sup> )			RANGE (bar)			RANGE (MPa)		
		Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.
DW34													
REGULAR	L.P.	1	0.2	75	10	2	1200	1	0.2	75	0.1	0.02	7.5
	H.P.	50	2	800	600	20	12000	50	2	800	5	0.2	80
INC	L.P.	1	0.01	75	10	0.1	1200	1	0.01	75	0.1	0.001	7.5
	H.P.	50	0.1	800	600	1	12000	50	0.1	800	5	0.01	80

MODEL		RANGE (kgf / cm <sup>2</sup> )			RANGE (lbf / in <sup>2</sup> )			RANGE (bar)			RANGE (MPa)		
		Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.	Min.	Step	Max.
DW35													
REGULAR	L.P.	1	0.2	100	10	2	1500	1	0.2	100	0.1	0.02	10
	H.P.	50	2	1000	600	20	15000	50	2	1000	5	0.2	100
INC	L.P.	1	0.01	100	10	0.1	1500	1	0.01	100	0.1	0.001	10
	H.P.	50	0.1	1000	600	1	15000	50	0.1	1000	5	0.01	100