

DOS series

oil deadweight testers

DOS0015

The oil operated deadweight tester DOS0015 has an accuracy of 0.015% of reading. This is a typical deadweight tester for industrial use and the weight set is transferred into a pressure unit. A traceable certificate is standard and a RVA certificate is possible as an option. The certificate shows the effective area as well as a list of the weight of each mass. The deadweight tester can be leveled with adjustable feet. An extra set of adjustable feet are included for fixing the deadweight tester to a bench. Five different pistons are available to cover ranges from 0.25 – 25 bar up to 10 – 1400 bar. Also ranges in psi, kPa, MPa and kg/cm² are available.



Ranges

A list of masses corresponding with the ranges is listed below.

bar	Piston number and measuring range					equivalent of mass in bar						
mass set	No. 1					0.25	0.025	0.05	0.25	0.5	2.5	5
	No. 2					0.5	0.05	0.1	0.5	1	5	10
	No. 3					1	0.1	0.2	1	2	10	20
	No. 4					5	0.25	0.5	2.5	5	25	50
	No. 5					10	0.5	1	5	10	50	100
kg	Range [bar]	Range [bar]	Range [bar]	Range [bar]	Range [bar]	carrier	number of masses					
20	0.25 - 25	0.5 - 50	1 - 100	5 - 250	10 - 500	1	1	4	1	4	1	4
24	0.25 - 30	0.5 - 60	1 - 120	5 - 300	10 - 600	1	1	4	1	4	1	5
28	0.25 - 35	0.5 - 70	1 - 140	5 - 350	10 - 700	1	1	4	1	4	1	6
32	0.25 - 40	0.5 - 80	1 - 160	5 - 400	10 - 800	1	1	4	1	4	1	7
36	0.25 - 45	0.5 - 90	1 - 180	5 - 450	10 - 900	1	1	4	1	4	1	8
40	0.25 - 50	0.5 - 100	1 - 200	5 - 500	10 - 1000	1	1	4	1	4	1	9
44	0.25 - 55	0.5 - 110	1 - 220	5 - 550	10 - 1100	1	1	4	1	4	1	10
48	0.25 - 60	0.5 - 120	1 - 240	5 - 600	10 - 1200	1	1	4	1	4	1	11
52	0.25 - 65	0.5 - 130	1 - 260	5 - 650	10 - 1300	1	1	4	1	4	1	12
56	0.25 - 70	0.5 - 140	1 - 280	5 - 700	10 - 1400	1	1	4	1	4	1	13

psi	Piston number and measuring range					equivalent of mass in psi						
mass set	No. 1					5	0.5	1	5	10	50	100
	No. 2					10	1	2	10	20	100	200
	No. 3					20	2	4	20	40	200	400
	No. 4					100	5	10	50	100	500	1000
	No. 5					200	10	20	100	200	1000	2000
kg	Range [psi]	Range [psi]	Range [psi]	Range [psi]	Range [psi]	carrier	number of masses					
22	5 - 400	10 - 800	20 - 1600	100 - 4000	200 - 8000	1	1	4	1	4	1	3
28	5 - 500	10 - 1000	20 - 2000	100 - 5000	200 - 10000	1	1	4	1	4	1	4
33	5 - 600	10 - 1200	20 - 2400	100 - 6000	200 - 12000	1	1	4	1	4	1	5
39	5 - 700	10 - 1400	20 - 2800	100 - 7000	200 - 14000	1	1	4	1	4	1	6
44	5 - 800	10 - 1600	20 - 3200	100 - 8000	200 - 16000	1	1	4	1	4	1	7
50	5 - 900	10 - 1800	20 - 3600	100 - 9000	200 - 18000	1	1	4	1	4	1	8
55	5 - 1000	10 - 2000	20 - 4000	100 - 10000	200 - 20000	1	1	4	1	4	1	9

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DOS0015 Dual Piston

The oil operated deadweight tester DOS0015 dual piston has the same features as the normal DOS0015. By using two different size of pistons a larger measuring range is achieved. The pistons can be inter changed easily within minutes. A wooden box is used to safely store the piston and cylinders.



Ranges

Both pistons cylinders could be used on one weight set. The piston cylinders are made in such a way that the same weight creates for instance for the low range 10 bar and for the high range 100 bar.

For each combination of pistons the table gives a list of masses corresponding with the ranges.

Piston number		No. 1	No. 2	No. 3	No. 4	No. 5
Ratio	1:	1	2	4	10	20

Example

If a deadweight tester is needed for 0.5 up to 1000 bar a dual piston can be used.

See the table on page 5:

mass set of 40 kg (first column)

piston no. 2 gives 0.5 ... 100 bar

piston no. 5 gives 10 ... 1000 bar

Above table gives the piston ratio.

piston no. 2: ratio 2

piston no. 5: ratio 20

The ratio between both pistons is 2:20 or 1:10. This means that a weight (in this example the largest weight. See table on page 5 the the most right column) for piston no. 2 is 10 bar and the same weight makes 100 bar for the piston no.5

Transport cases



Aluminum case



Flight case