



✓ Applications

This primary standard Range are designed to test, adjust and calibrate measuring instruments, mechanical or electronic pressure by comparison (pressure gauges, pressure transmitters or sensors or switches)

The dead weight tester consist of a pressure generator, a piston/cylinder unit, a set of weigh identified. The capstan is used to generate a pressure pushing the fluid through the piston. This pressure is balanced by the piston/cylinder assembly which allows to compare the instrument to be calibrated to the pressure values generated by the standard.

This reference instrument are used in factory or calibration laboratory. They are robust and easy to use and have a high long-term stability.

✓ Technical specifications of the range BH3

- **Calibration :** Our dead weight tester are calibrated under the following conditions of use :
Temperature 20°C - Pressure atmos. 1013.25 hPa - Humidity 50% - acceleration 9.80665 m/s²
In case you don't use it under the conditions mentioned above, it is necessary to recalculate the pressure generated by the dead weight according to the different variables.
- **Fluid :** Mineral or synthetic oil depending on model, colorless, compatible with medical or food uses – tank volume 125 cm³
- **Check/adjust the seat :** leveling bubble and adjustable feet – other optional fittings
- **Connecting for the instrument to be tested :** swivel G1/2 standard
- **Motorization :** Driving of the rotating weight with display of the position of the piston leds luminous
- **Crankcase :** Light alloy aluminium AG3 + high-resistance paint
- **Capstan :** removable for transport
- **Piston/cylinder :** Single or twin piston tungsten carbide and/or treated steel - **Repeatability :** 3.10⁻⁵ - **Sensitivity :** 1.10⁻⁵ - **Precision dead weight :** 10⁻⁴
- **Weight :** stainless steel – **Total weight** of the set of weights from 25 kg to 100 kg depending on model – Ergonomic shape of the masses, easy loading of the masses on the bell - **Marking** corresponding with the measuring unit choose (bar, mbar, KPa, PSI etc..)
Gravity : standard (9.80665 m/s²) or local gravity without supplement
- **Operating temperature:** 18 to 28°C – 64 to 82°F

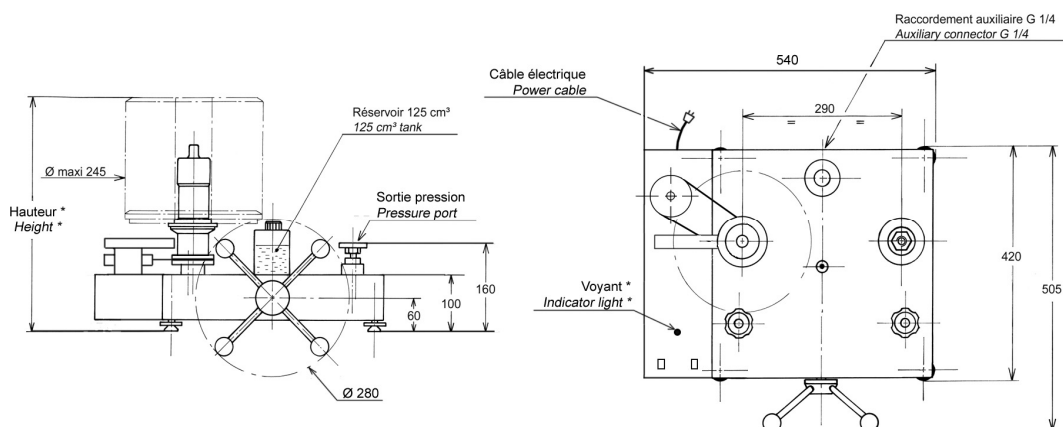
✓ Technical product specifications

- **Model :** BH3-3000B - Dead weight tester single piston with motorization
- **Measuring range :** 40 to 3000 bar / 600 to 44000 PSI / 4000 to 300000 kPa
- **Uncertainty of the pressure measured by the DWT:** 0.03 + (2.10⁻⁴ x P) (with P in bar)
- **Accuracy :** 0.02% of the scale
- **Weight dead weight without masses :** 24 kg
- **Base generator :** CH2-3000B
- **Fluid :** Oil Sebacate - fluid density : 915 kg/m³
- **Typical cross-section of the piston :** 1.96315 mm²
- **Material Piston/Cylinder :** P = tungsten carbide / C = tungsten carbide
- **Number of piston :** 1

✓ Divers

- **Delivery details** : a manual are provided in English or French with the device + a factory calibration certificate traceable to the national standards + data sheet +Certificate + 0.5 liter of mineral Oil
- **Maintenance** : Our technical service department is at your disposition for the revision, calibration or service your unit – Calibration device recommended every 2 or 5 years depending on your use.

✓ Dimensions of device



Height with standard set of weight : (bar, KPa) : 445 mm (PSI) : 420 mm

Unit used : mm

✓ Standard weight sets and intermediate

Standard set			
	Pressure (bar)	Total weight	Typical value (g)
Unit : BAR or kg/cm ² (Ref. MB0052)	400	5	8000
	360	1	7200
	200	2	4000
	80	2	1600
	40	1	800
	20	1	400
	10	1	200
	40		800
Pressure Weight bell			
TOTAL	3030	13	±61 kg

Intermediate set in option			
	Pressure (bar)	Total weight	Typical value (g)
BAR or kg/cm ² (Ref. MB0054)	8	1	160
	4	1	80
	2	1	40
	0.8	2	16
	0.4	1	8
	0.2	1	4
TOTAL	16.2	7	324 g

Standard set			
	Pressure (PSI)	Total weight	Typical value (g)
Unit : PSI (Ref. MB0057)	4000	9	5520
	3400	1	4968
	2000	1	2760
	800	2	1104
	400	1	552
	200	1	276
	600		828
Pressure Weight bell			
TOTAL	44200	15	±61 kg

Intermediate set in option			
	Pressure (PSI)	Total weight	Typical value (g)
PSI (Ref. MB0059)	80	2	110.4
	40	1	55.2
	20	1	27.6
	8	2	11
	4	1	5.5
	2	1	2.75
TOTAL	242	8	333.85 g

Standard set			
	Pressure (Kpa)	Total weight	Typical value (g)
Unit : kPa	40000	5	8000
	36000	1	7200
	20000	2	4000
	8000	2	1600
	4000	1	800
	2000	1	400
	1000	1	200
	4000		800
Pressure Weight bell			
TOTAL	303000	13	±61 kg

	(Kpa)		(g)
	800	1	160
	400	1	80
	200	1	16
	80	2	8
	40	1	4
	20	1	2
TOTAL	1620	7	324 g

Other units are available on request

✓ Options of the dead weight tester

- intermediate weight set or Standard weight set additional for different units
- Calibration of the instrument : Points statement AREMECA or certificate of calibration DAkkS or COFRAC
- Tin oil : 1 liter, 2 liters or 5 liters of oil
- Calculator module with dynamic display of the piston position, automatic display of the pressures generated by the scale as a function of temperature, atmospheric pressure and hygrometry, with transfer of data to a computer for total traceability and calibration certificate edition. (-> BH4)

✓ Suitcase for set of weight



transport metal boxes

(OP0101) : 260 x 260 x 310 mm - weight empty : 6 kg

Suitcase for post planning and transportation

(OPxxxx) large : 355 x 505 x 310 mm - weight empty : 13 kg

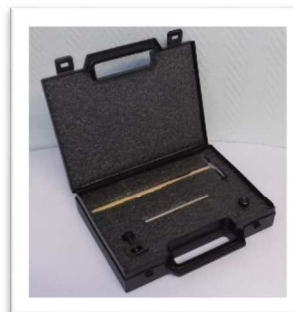
+ (OPxxxx) small : 290 x 250 x 310 mm - weight empty : 5 kg

- Suitcase for the dead weight (ref.OP0002) :



✓ Accessories (Ask for our specific documentation)

- Accessory case (ref.OP0057)
- Setting gauge kit (ref.OP0125)
- Kit drain tank (ref.OP0025)
- Separator all fluids up to 800 bar (ref.OP0023)
- Bench cleaning (ref.OP0062)
- Suitcase with pear + needle up (OP0228)



- **Connectors up to 1200 bar** : suitcase connectors M (ref.OP0174) – suitcase connectors G (ref.OP0171) - suitcase connectors NPT (ref.OP0172) - suitcase connectors BSP-TR (ref.OP0173) - suitcase with 17 connectors M + G + NPT + BSP-TR (ref.OP0037) – unit connector
- **Connectors 2000 bar** : suitcase connectors HP (ref.OP0220) with M16x150 + M20x150 + 9/16UNF-18 M/M + G1/2 + 9/16UNF-18 M/F



✓ Transport and packaging

(Datasheet is available on request or on our website : www.aremeca-instrumentation.com)

Models single piston

Models	Accuracy	Measuring range		
		Bar ou kg/cm ²	PSI	kPa
BH3-5000B	10 ⁻⁴	40 to 5000	600 to 72500	4000 to 500000
BH3-4000B	10 ⁻⁴	40 to 4000	600 to 60000	4000 to 400000
BH3-2500B	10 ⁻⁴	40 to 2500	600 to 36200	4000 to 250000
BH3-2000B	10 ⁻⁴	40 to 2000	600 to 30000	4000 to 200000
BH3-1200B sp	10 ⁻⁴	2 to 1200	30 to 16000	200 to 120000
BH3-600B sp	10 ⁻⁴	2 to 600	30 to 10000	200 to 60000
BH3-300B sp	10 ⁻⁴	1 to 300	15 to 4000	100 to 30000
BH3-150B	10 ⁻⁴	0.5 to 150	10 to 2000	50 to 15000
BH3-60B	10 ⁻⁴	0.2 to 60	3 to 800	20 to 6000
BH3-30B	10 ⁻⁴	0.1 to 30	2 to 400	10 to 3000

Dual piston models : these dead weight tester integrating two pistons can get two ranges from a single set of weight

Models	Accuracy	Measuring range		
		Bar ou kg/cm ²	PSI	kPa
BH3-1200B dp	10 ⁻⁴	1 to 60 + 20 to 1200	10 to 800 + 200 to 16000	100 to 6000 2000 to 120000
BH3-600B dp	10 ⁻⁴	1 to 60 + 10 to 600	10 to 800 + 100 to 8000	100 to 6000 1000 to 60000
BH3-300B dp	10 ⁻⁴	1 to 60 + 5 to 300	10 to 800 + 50 to 4000	100 to 6000 500 to 30000