



$$P = F/S$$

✓ 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 and of a computer on which is posted : the position of the piston and the value of pressure generated by the dead weight according to the various physical quantities.

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 BH4

- **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
- **Connecting for the instrument to be tested :** swivel G1/2 standard – other optional fittings
- **Motorization :** training the weight in rotation by electric engine
- **Measure of the temperature :** Precision ± 0.1°C
- **Measure of the atmospheric pressure :** Precision ± 1hPa / range 0 to 1600 mbar / resolution = 1mbar
- **Measure of the hygrometry :** Precision ± 10% / range 0 to 100% / resolution = 1% d'HR
- **Calculator RS232 /mains 220v, 50Hz:**
 - with dynamic display of the position of the piston
 - with automatic display of the pressure generated by the dead weight according to the temperature, the atmospheric pressure and the hygrometry
 - with a connection for the transfer of the data on computer, allowing a total traceability
- **Crankcase :** Light alloy aluminium AG3 + high-resistance paint
- **Capstan :** removable for transport
- **Piston/cylinder :** Single piston treated stainless - **Répeatability** : 1.10⁻⁵ - **Sensitivity** : 3.10⁻⁵
- **Precision dead weight** : 5.10⁻⁵
- **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

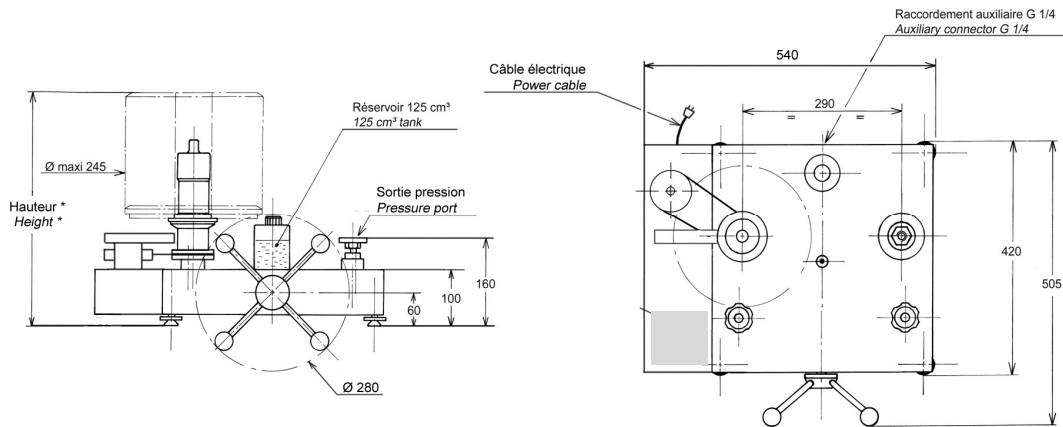
✓ **Technical product specifications**

- **Model :** BH4-1200B SP - Dead weight tester single piston
- **Measuring range :** 20 to 1200 bar / 200 to 16000 PSI / 2000 to 120000 kPa
- **Uncertainty of the pressure measured by the DWT :** $0.0005 + (5 \cdot 10^{-5} \times P)$ (with P in bar)
- **Accuracy :** 0.005% of the scale
- **Weight dead weight without masses :** 24 kg
- **Base generator :** CH2-1250B
- **Fluid :** Oil Sebacate - fluid density : 915 kg/m³
- **Typical cross-section of the piston :** 3.92450 mm²
- **Material Piston/Cylinder :** P = tungsten carbide / C = treated steel
- **Number of piston :** 1

✓ **Various**

- **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) : 450 mm (PSI) : 465 mm Unit used : mm

✓ **Standard weight sets** (for other units contact us)

Standard set			
	Pressure (bar)	Total weight	Typical value (g)
Unit : BAR (Ref. MB0020)	200	4	8000
	180	1	7200
	100	1	4000
	40	2	1600
	20	1	800
	10	1	400
	4	2	160
	2	1	80
Initial pressure bell	20	x	800
TOTAL	1222	13	±49 kg

Optional :
- Set of weights adjustment from 1 mg to 50g with COFRAC certificat (Ref.OP237-200)

Standard set			
	Pressure (PSI)	Total weight	Typical value (g)
Unit : PSI (Ref. MB0022)	2000	6	5520
	1800	1	4968
	1000	1	2760
	400	2	1104
	200	1	552
	100	1	276
	40	2	110.4
	20	1	55.2
Initial pressure bell	200	x	552
TOTAL	16230	15	±45 kg

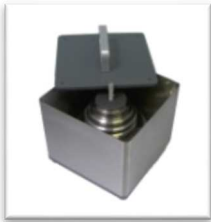


Standard set			
	Pressure (Kpa)	Total weight	Typical value (g)
Unit : kPa	20000	4	8000
	18000	1	7200
	10000	1	4000
	4000	2	1600
	2000	1	800
	1000	1	400
	400	2	160
	200	1	80
	Initial pressure bell	2000	x
TOTAL	122200	13	±49 kg

✓ Options of the dead weight tester

- adjustment weight set or Standard weight set additional for different units
- Certificate of calibration DAkkS or COFRAC to valid the accuracy up to 5.10-5
- Tin oil : 1 liter, 2 liters or 5 liters of oil

✓ 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



✓ **Transport and packaging**

- **Packaging** : woodpack is provided for the shipping

Designation/Reference	Dimension / carton or shipping crate	Weight empty / total weight (packaging + materiel)
Dead weight without weight	470 x 470 x 240 mm	Carton empty 1.5 kg Total weight ±26 kg
Standard weight set	300 x 300 x 170 mm	Carton empty 1.5 kg Total weight ±51 kg
Wood packaging SB0003	980 x 700 x 400 mm	Suitcase empty 20 kg Total weight ±97 kg (dead weight + weight set + packaging)



SB0003

- **Note** : shipping is extra.

✓ **Other models available in the range BH4**

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

Models single piston

Models	Accuracy	Measuring range		
		Bar or kg/cm ²	PSI	kPa
BH4-5000B	10 ⁻⁵	40 to 5000	600 to 72500	4000 to 500000
BH4-4000B	10 ⁻⁵	40 to 4000	600 to 60000	4000 to 400000
BH4-3000B	10 ⁻⁵	40 to 3000	600 to 44000	4000 to 300000
BH4-2500B	10 ⁻⁵	40 to 2500	600 to 36200	4000 to 250000
BH4-2000B	10 ⁻⁵	40 to 2000	600 to 30000	4000 to 200000
BH4-600B sp	10 ⁻⁵	2 to 600	30 to 10000	200 to 60000
BH4-300B sp	10 ⁻⁵	1 to 300	15 to 4000	100 to 30000
BH4-120B	10 ⁻⁵	0.5 to 120	10 to 1740	50 to 12000
BH4-60B	10 ⁻⁵	0.2 to 60	3 to 800	20 to 6000
BH4-30B	10 ⁻⁵	1 to 30	10 to 400	100 to 3000