



✓ **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

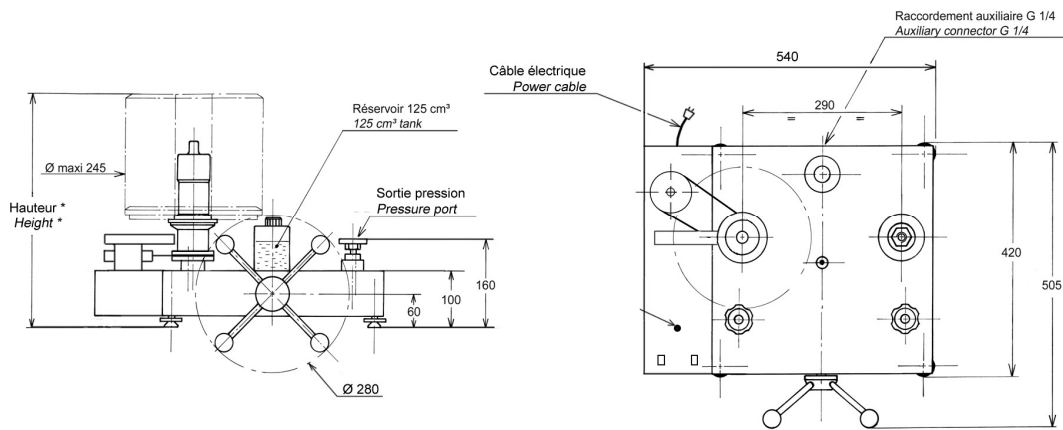
✓ **Technical product specifications**

- **Model :** BH4-30B - Dead weight tester single piston
- **Measuring range :** 1 to 30 bar / 10 to 400 PSI / 100 to 3000 kPa
- **Uncertainty of the pressure measured by the DWT :** $0.0002 + (5 \cdot 10^{-5} \times P)$ (with P in bar)
- **Accuracy :** 0.005% of the scale
- **Weight dead weight without masses :** 24 kg
- **Base generator :** CH2-125B
- **Fluid :** Oil Sebacate - fluid density : 915 kg/m^3
- **Typical cross-section of the piston :** 78.4825 mm^2
- **Material Piston/Cylinder :** P = treated steel / 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 or kg/cm² (Ref. MB0024) | 10 | 1 | 8000 |
| | 9 | 1 | 7200 |
| | 5 | 1 | 4000 |
| | 2 | 2 | 1600 |
| | 1 | 1 | 800 |
| | 0.5 | 1 | 400 |
| | 0.2 | 2 | 160 |
| | 0.1 | 1 | 80 |
| Initial pressure bell | 1 | x | 800 |
| TOTAL | 31.15 | 11 | ±26 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. MB0076) | 100 | 2 | 5520 | |
| | 90 | 1 | 4968 | |
| | 50 | 1 | 2760 | |
| | 20 | 2 | 1104 | |
| | 10 | 1 | 552 | |
| | 5 | 1 | 276 | |
| | 2 | 2 | 110.4 | |
| | 1 | 1 | 55.2 | |
| | Initial pressure bell | 5 | x | 552 |
| | TOTAL | 407.5 | 12 | ±23 kg |

| Standard set | | | |
|-----------------------|----------------|--------------|-------------------|
| | Pressure (Kpa) | Total weight | Typical value (g) |
| Unit : kPa | 1000 | 1 | 8000 |
| | 900 | 1 | 7200 |
| | 500 | 1 | 4000 |
| | 200 | 2 | 1600 |
| | 100 | 1 | 800 |
| | 50 | 1 | 400 |
| | 20 | 2 | 160 |
| | 10 | 1 | 80 |
| Initial pressure bell | 100 | x | 800 |
| TOTAL | 3115 | 11 | ±26 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 ±28 kg |
| Wood packaging SB0003 | 980 x 700 x 500 mm | Suitcase empty 20 kg Total weight ±74 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 |
| BH4-1200B sp | 10 ⁻⁵ | 2 to 1200 | 30 to 16000 | 200 to 120000 |
| 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 |