



✓ **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/s<sup>2</sup>  
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 cm<sup>3</sup>
- **Check/adjust the seat :** leveling bubble and adjustable feet
- **Connecting for the instrument to be tested :** swivel G1/2 standard – other optional fittings
- **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 :** 2.10<sup>-5</sup> - **Sensitivity :** 1.10<sup>-5</sup> - **Precision dead weight :** 10<sup>-4</sup>
- **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/s<sup>2</sup>) or local gravity without supplement
- **Operating temperature:** 18 to 28°C – 64 to 82°F

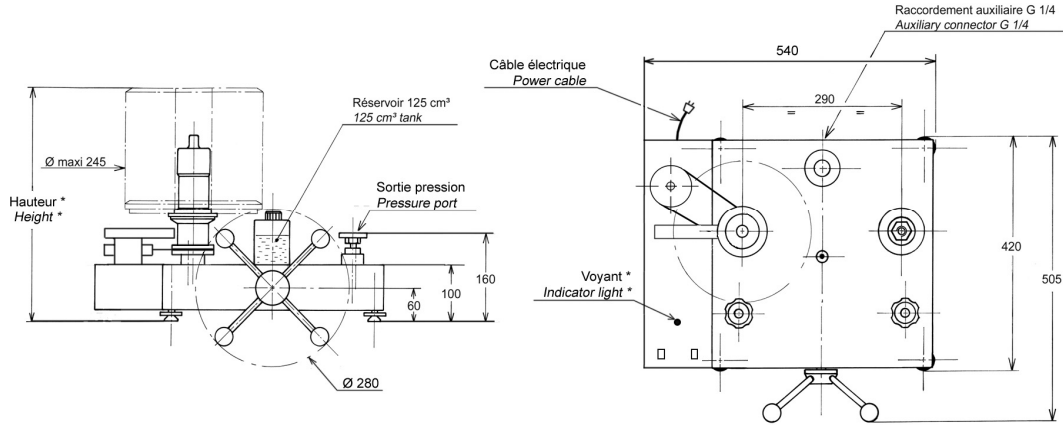
✓ **Technical product specifications**

- **Model :** BH3-600B sp - Dead weight tester single piston with motorization
- **Measuring range :** 2 to 600 bar / 30 to 10000 PSI / 200 to 60000 kPa
- **Uncertainty of the pressure measured by the DWT :** 0.002 + (1.10<sup>-4</sup> x P) (with P in bar)
- **Accuracy :** 0.01% of the scale / **option : 0.007% with certificate COFRAC or DKD**
- **Weight dead weight without masses :** 24 kg
- **Base generator :** CH2-1250B
- **Fluid :** Oil H40 - fluid density : 860 kg/m<sup>3</sup>
- **Typical cross-section of the piston :** 3.92450 mm<sup>2</sup>
- **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) : 340 mm (PSI) : 350 mm

Unit used : mm

✓ **Standard weight sets and intermediate**

| Standard set                                    |                             |              |                   |
|---|-----------------------------|--------------|-------------------|
|   | Pressure (bar)              | Total weight | Typical value (g) |
| <b>Unit : BAR or kg/cm²</b><br>(Ref. MB0024)    | 200                         | 1            | 8000              |
|   | 180                         | 1            | 7200              |
|   | 100                         | 1            | 4000              |
|   | 40                          | 2            | 1600              |
|   | 20                          | 1            | 800               |
|   | 10                          | 1            | 400               |
|   | 4                           | 2            | 160               |
|   | 2                           | 1            | 80                |
|   | 1                           | 1            | 40                |
|   | Initial pressure large bell | 20           | x                 |
| Initial pressure Small bell + weight adaptation | 2                           | x            | 80                |
| <b>TOTAL</b>                                    | <b>623</b>                  | <b>11</b>    | <b>±25 kg</b>     |

| Intermediate set in option            |                |              |                   |
|---------------------------------------|----------------|--------------|-------------------|
|                                       | Pressure (bar) | Total weight | Typical value (g) |
| <b>BAR or kg/cm²</b><br>(Ref. MB0025) | 0.4            | 2            | 16                |
|                                       | 0.2            | 1            | 8                 |
|                                       | 0.1            | 1            | 4                 |
|                                       | 0.05           | 1            | 2                 |
| <b>TOTAL</b>                          | <b>1.15</b>    | <b>5</b>     | <b>46 g</b>       |

| Standard set                                    |                             |              |                   |
|---|-----------------------------|--------------|-------------------|
|   | Pressure (PSI)              | Total weight | Typical value (g) |
| <b>Unit : PSI</b><br>(Ref. MB0027)              | 2000                        | 3            | 5520              |
|   | 1800                        | 1            | 4968              |
|   | 1000                        | 1            | 2760              |
|   | 400                         | 2            | 1104              |
|   | 200                         | 1            | 552               |
|   | 100                         | 1            | 276               |
|   | 40                          | 2            | 110.4             |
|   | 20                          | 1            | 55.2              |
|   | 10                          | 1            | 27.6              |
|   | Initial pressure large bell | 200          | x                 |
| Initial pressure Small bell + weight adaptation | 30                          | x            | 83                |
| <b>TOTAL</b>                                    | <b>10240</b>                | <b>13</b>    | <b>±29 kg</b>     |

| Intermediate set in option  |                |              |                   |
|-----------------------------|----------------|--------------|-------------------|
|                             | Pressure (PSI) | Total weight | Typical value (g) |
| <b>PSI</b><br>(Ref. MB0029) | 4              | 2            | 11                |
|                             | 2              | 1            | 5.5               |
|                             | 1              | 1            | 2.75              |
|                             | 0.5            | 1            | 1.25              |
| <b>TOTAL</b>                | <b>11.5</b>    | <b>5</b>     | <b>31.5 g</b>     |

| Standard set                                    |                             |              |                   |
|---|-----------------------------|--------------|-------------------|
|   | Pressure (Kpa)              | Total weight | Typical value (g) |
| <b>Unit : kPa</b>                               | 20000                       | 1            | 8000              |
|   | 18000                       | 1            | 7200              |
|   | 10000                       | 1            | 4000              |
|   | 4000                        | 2            | 1600              |
|   | 2000                        | 1            | 800               |
|   | 1000                        | 1            | 400               |
|   | 400                         | 2            | 160               |
|   | 200                         | 1            | 80                |
|   | 100                         | 1            | 40                |
|   | Initial pressure large bell | 2000         | x                 |
| Initial pressure Small bell + weight adaptation | 200                         | x            | 80                |
| <b>TOTAL</b>                                    | <b>62300</b>                | <b>11</b>    | <b>±25 kg</b>     |

| Intermediate set in option |                |              |                   |
|----------------------------|----------------|--------------|-------------------|
|                            | Pressure (Kpa) | Total weight | Typical value (g) |
| <b>kPa</b>                 | 40             | 2            | 16                |
|                            | 20             | 1            | 8                 |
|                            | 10             | 1            | 4                 |
|                            | 5              | 1            | 2                 |
| <b>TOTAL</b>               | <b>115</b>     | <b>5</b>     | <b>46 g</b>       |

Other units are available on request

✓ **Options of the dead weight tester**

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- 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**

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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)

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- 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)                                    |
|-----------------------------------|--------------------------------------|---|
| <b>Dead weight without weight</b> | 470 x 470 x 240 mm                   | Carton empty 1.5 kg<br>Total weight ±26 kg  |
| <b>Standard weight set</b>        | 300 x 300 x 170 mm                   | Carton empty 1.5 kg<br>Total weight ±28 kg  |
| <b>Wood packaging</b><br>SB0003   | 980 x 700 x 400 mm                   | Suitcase empty 20 kg<br>Total weight ±74 kg<br>(dead weight + weight set + packaging) |



SB0003

- **Note** : shipping is extra.

✓ **Other models available in the range BH3**

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

Models single piston

| Models       | Accuracy         | Measuring range           |              |                |
|--------------|------------------|---------------------------|--------------|----------------|
|              |                  | Bar ou kg/cm <sup>2</sup> | PSI          | kPa            |
| BH3-5000B    | 10 <sup>-4</sup> | 40 to 5000                | 600 to 72500 | 4000 to 500000 |
| BH3-4000B    | 10 <sup>-4</sup> | 40 to 4000                | 600 to 60000 | 4000 to 400000 |
| BH3-3000B    | 10 <sup>-4</sup> | 40 to 3000                | 600 to 44000 | 4000 to 300000 |
| BH3-2500B    | 10 <sup>-4</sup> | 40 to 2500                | 600 to 36200 | 4000 to 250000 |
| BH3-2000B    | 10 <sup>-4</sup> | 40 to 2000                | 600 to 30000 | 4000 to 200000 |
| BH3-1200B sp | 10 <sup>-4</sup> | 2 to 1200                 | 30 to 16000  | 200 to 120000  |
| BH3-300B sp  | 10 <sup>-4</sup> | 1 to 300                  | 15 to 4000   | 100 to 30000   |
| BH3-150B     | 10 <sup>-4</sup> | 0.5 to 150                | 10 to 2000   | 50 to 15000    |
| BH3-60B      | 10 <sup>-4</sup> | 0.2 to 60                 | 3 to 800     | 20 to 6000     |
| BH3-30B      | 10 <sup>-4</sup> | 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 <sup>2</sup> | PSI                         | kPa                           |
| BH3-1200B dp | 10 <sup>-4</sup> | 1 to 60 +<br>20 to 1200   | 10 to 800 +<br>200 to 16000 | 100 to 6000<br>2000 to 120000 |
| BH3-600B dp  | 10 <sup>-4</sup> | 1 to 60 +<br>10 to 600    | 10 to 800 +<br>100 to 8000  | 100 to 6000<br>1000 to 60000  |
| BH3-300B dp  | 10 <sup>-4</sup> | 1 to 60 +<br>5 to 300     | 10 to 800 +<br>50 to 4000   | 100 to 6000<br>500 to 30000   |