



$$P = F/S$$

✓ **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. 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 BH2**

- **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
- **Rotating weigh :** Manual rotation of weights (or motorized if option OP0004 or OP0301)
- **Crankcase :** Light alloy aluminium AG3 + high-resistance paint
- **Capstan :** removable for transport
- **Piston/cylinder :** Single or twin piston tungsten carbide and/or treated steel depending the model –
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

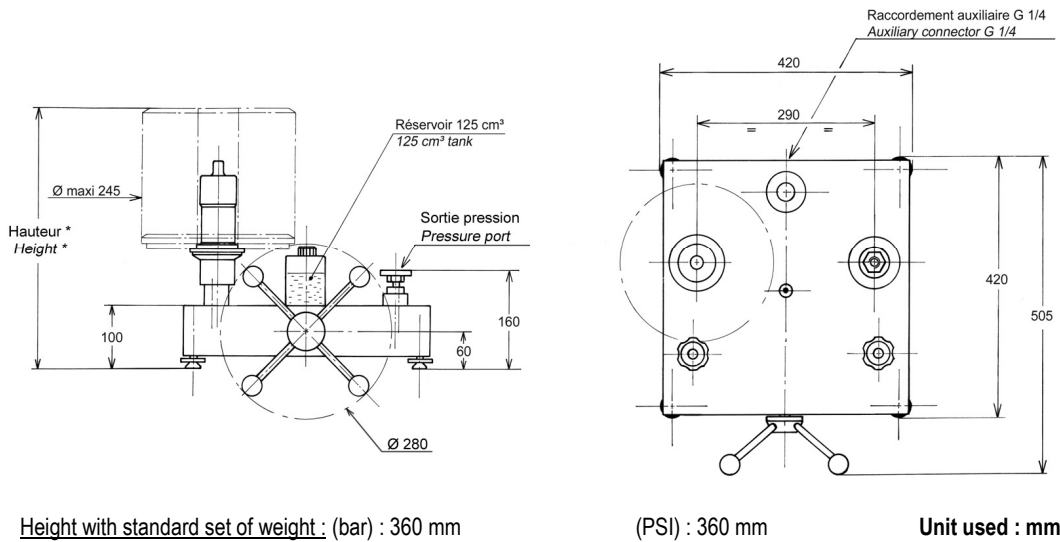
✓ **Technical product specifications**

- **Model :** BH2-700B sp - dead weight single piston
- **Measuring range :** 2 to 700 bar / 30 to 10000 PSI / 200 to 70000 kPa
- **Uncertainly of the pressure measured by the DWT :** 0.002 + (1.10⁻⁴ x P) (with P in bar)
- **Accuracy :** 0.01% of the scale, certificate Aréméca (if option COFRAC : 0.007%)
- **Weight dead weight without masses :** 22 kg / 24 kg if option OP0004 or OP0301
- **Base generator :** CH2-1250B
- **Fluid :** Oil H40 - fluid density : 860 kg/m³
- **Typical cross-section of the piston :** 3.92450 mm²
- **Material Piston/Cylinder :** P = tungsten carbide / C = treated steel
- **Number of piston :** 1

- Unit supplied with : Operating instructions / AREMECA calibration certificate traceable to national standards / unit data sheet / 0.5 liter mineral oil / G1/2 outlet connector / tools

Note: All our documents are delivered in French + English

✓ **Standard device dimensions**



Height with standard set of weight : (bar) : 360 mm

(PSI) : 360 mm

Unit used : mm

CHOOSING OPTIONS

Gravitation option OFFERED :: we will adjust your weight set to the standard or special G (give us the desired value).

Unit option OFFERED : choose the unit of the main weight set (e.g. PSI, BAR, Kg/cm²...) delivered with the DWT

Intermediate weight set option : the intermediate weight set is offered as an option, the unit will be the same as the one selected for the main weight set.

| Standard set | | | |
|---|-----------------------------|--------------|-------------------|
| | Pressure (bar) | Total weight | Typical value (g) |
| Unit : BAR or kg/cm² (Ref. MB0024) + masse 100 bar | 200 | 1 | 8000 |
| | 180 | 1 | 7200 |
| | 100 | 2 | 4000 |
| | 40 | 2 | 1600 |
| | 20 | 1 | 800 |
| | 10 | 1 | 400 |
| | 4 | 2 | 160 |
| | 2 | 1 | 80 |
| | 1 | 1 | 40 |
| | Great initial pressure bell | 20 | x |
| Initial pressure | 2 | x | 80 |
| Small bell + weight adaptation | | | |
| TOTAL | 723 | 12 | ±25 kg |

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

| Standard set | | | |
|------------------------------------|-----------------------------|--------------|-------------------|
| | Pressure (PSI) | Total weight | Typical value (g) |
| Unit : PSI (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 |
| | Great initial pressure bell | 200 | x |
| Initial pressure | 30 | x | 83 |
| Small bell + weight adaptation | | | |
| TOTAL | 10240 | 13 | ±31 kg |

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

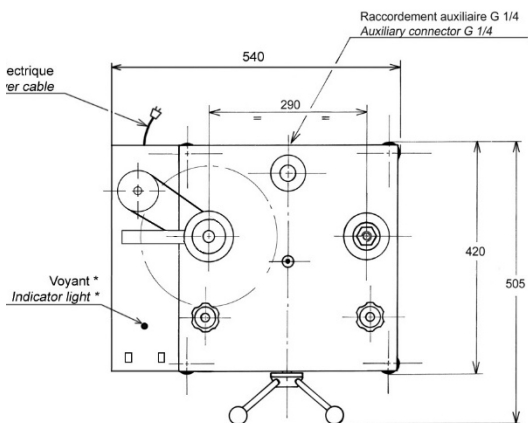
Other units are available on request

Optional COFRAC or DAkkS/DKD accredited calibration certificate. Note: an AREMECA factory certificate is delivered with the DWT. A COFRAC certificate will improve the results of your device (performed at the national laboratory).

Optional adaptation to corrosive products : skydroll type, brake fluid etc...

Maintenance option : Our technical department is at your disposal to set up a maintenance contract for your device, as well as to schedule a calibration service - Calibration of the device is recommended every 2 to 5 years, depending on your use.

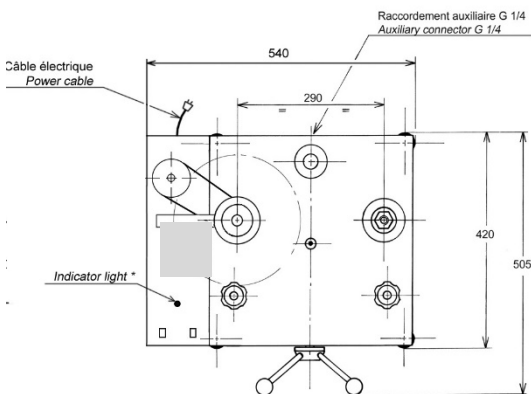
Option OP0004 : Motorization / LED display kit



This option enhances the scale's functionality with :

- an automatic weight set motorization, which ensures regular rotation of the weights, avoids jolts on the piston, limits operator handling and improves scale stability during measurements
- a position sensor that displays the position of the piston. The operator can easily check that the balance is in equilibrium simply by checking the LED display, and no longer needs to check that the DWT is floating under the weight pan.

Option OP0301 : calculator + sensors + motorization / visualization



This option ensures traceability of your measurements and integrates numerous functions::

- automatic display of pressures generated by the DWT as a function of temperature and atmospheric pressure
- weight set motorization
- bargraph display of piston position
- unit conversion capability
- operator assistance in the measurement process
- data transfer to computer for full traceability and calibration certificate.

Carrying case option :

| | |
|--|--|
| | <p>Ref OP0101 - Metal box for mass transport Dimensions : 260 x 260 x 310 mm - unloaded weight : 6 kg 7 weights max per box</p> |
| | <p>Ref OP0257 – carrying case for the masses</p> |
| | <p>Workstation layout : large: 355 x 505 x 310 mm - empty weight: 13 kg small: 290 x 250 x 310 mm - empty weight: 5 kg 1 or more boxes will be necessary depending on your DWT – Consult us !</p> |
| | <p>Ref OP0002 - Transport case for the balance or comparison bench. (BH5 or CH3 models contact us !)</p> |

✓ **Accessories**



Ref OP0057 Accessories suitcase

Ref OP0023 Separator liquid/liquid

Ref OP0025 drain kit for oil

ref OP0037 Suitcase with 17 adaptors type M + G + NPT + BSP-TR / Pressure max 1200 bar

Ref OP0062 Cleaning bench

Ref OP0171 Suitcase adaptors type G / Ref OP0172 Suitcase adaptors type NPT / Ref OP0173 Suitcase adaptors type BSP-TR / Ref OP0174

Suitcase adaptors type M

✓ **Transport and packaging**

| Designation/Reference | Dimension / carton or shipping crate | total weight (packaging + materiel) |
|------------------------------------|--------------------------------------|--|
| Wooden over-wrapping | | (DWT + set of weights + cardboard packaging) |
| DWT without options or accessories | 79 x 48 x 34 cm | Total weight ±77 kg |
| If option OP0004 or OP0301 -> | 98 x 70 x 50 cm | Total weight ±83 kg |



- Note: Shipping is extra. Size may vary if accessories are purchased with the unit.

✓ **Other models available in the range BH2**

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

Models single piston

| Models | Accuracy | Measuring range | | |
|--------------|------------------|-----------------|--------------|----------------|
| | | Bar ou kg/cm² | PSI | kPa |
| BH2-5000B | 10 ⁻⁴ | 40 to 5000 | 600 to 72500 | 4000 to 500000 |
| BH2-4000B | 10 ⁻⁴ | 40 to 4000 | 600 to 60000 | 4000 to 400000 |
| BH2-3000B | 10 ⁻⁴ | 40 to 3000 | 600 to 44000 | 4000 to 300000 |
| BH2-2500B | 10 ⁻⁴ | 40 to 2500 | 600 to 36200 | 4000 to 250000 |
| BH2-2000B | 10 ⁻⁴ | 40 to 2000 | 600 to 30000 | 4000 to 200000 |
| BH2-1200B sp | 10 ⁻⁴ | 2 to 1200 | 30 to 16000 | 200 to 120000 |
| BH2-300B sp | 10 ⁻⁴ | 1 to 300 | 15 to 4000 | 100 to 30000 |
| BH2-150B | 10 ⁻⁴ | 0.5 to 150 | 10 to 2000 | 50 to 15000 |
| BH2-60B | 10 ⁻⁴ | 0.2 to 60 | 3 to 800 | 20 to 6000 |
| BH2-30B | 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/cm² | PSI | kPa |
| BH2-1200B dp | 10 ⁻⁴ | 1 to 60 + 20 to 1200 | 10 to 800 + 200 to 16000 | 100 to 6000 2000 to 120000 |
| BH2-600B dp | 10 ⁻⁴ | 1 to 60 + 10 to 600 | 10 to 800 + 100 to 8000 | 100 to 6000 1000 to 60000 |
| BH2-300B dp | 10 ⁻⁴ | 1 to 60 + 5 to 300 | 10 to 800 + 50 to 4000 | 100 to 6000 500 to 30000 |

You'll find other devices and accessories on our website: www.aremeca-instrumentation.com