

✓ 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.

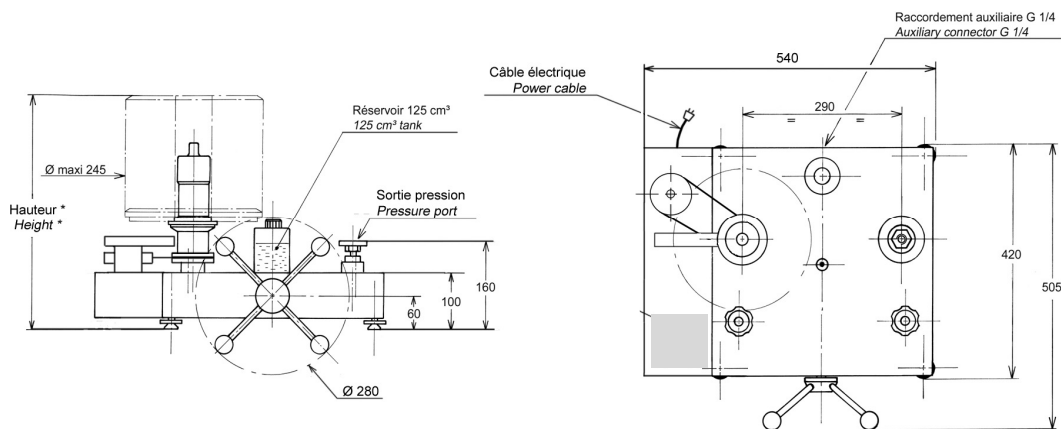
✓ Technical specifications of the range BH4

- **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 HP + M16x150 – other optional fittings
- **Motorization :** motorized weight set drive by electric engine
- **Measure of the temperature :** Precision $\pm 0.1^{\circ}\text{C}$
- **Measure of the atmospheric pressure :** Precision $\pm 1\text{hPa}$ / range 0 to 1600 mbar / resolution = 1mbar
- **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 aluminum AG3 + high-resistance paint
- **Capstan :** removable for transport
- **Piston/cylinder :** Single or twin piston tungsten carbide and/or treated steel depending the model —
Répeatability : $2 \cdot 10^{-5}$ - **Sensitivity :** $1 \cdot 10^{-5}$ - **Precision dead weight :** $8 \cdot 10^{-5}$
- **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 :** BH4-3000B - Dead weight tester single piston
 - **Measuring range :** 40 to 3000 bar / 600 to 44000 PSI / 4000 to 300000 kPa
 - **Uncertainty of the pressure measured by the DWT :** $8.10^{-5} \times P$ (with P in bar)
 - **Accuracy :** 0.008% of the scale
 - **Weight dead weight without masses :** 24 kg
 - **Base generator :** CH2-4000B
 - **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
- 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, kPa) : 445 mm (PSI) : 420 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) delivered with the DWT
- ☐ **Option OP237-200** : weights set adjustment with cofrac certificate

Standard set			
	Pressure (bar)	Total weight	Typical value (g)
Unit : BAR or kg/cmé (Ref. MB0052)	400	5	8000
	360	1	7200
	200	2	4000
	80	2	1600
	40	1	800
	20	1	400
	10	1	200
	8	1	160
	4	1	80
	2	1	40
	Initial pressure bell	40	800
TOTAL		3004	± 60 kg

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
	80	2	110.4
	40	1	55.2
	20	1	27.6
	Initial pressure bell	600	828
TOTAL		43820	± 60 kg

Optional :

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

Note : the calculator is able to transcribe the results of the weight set in bar, in the unit of your choice

- ☐ **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).

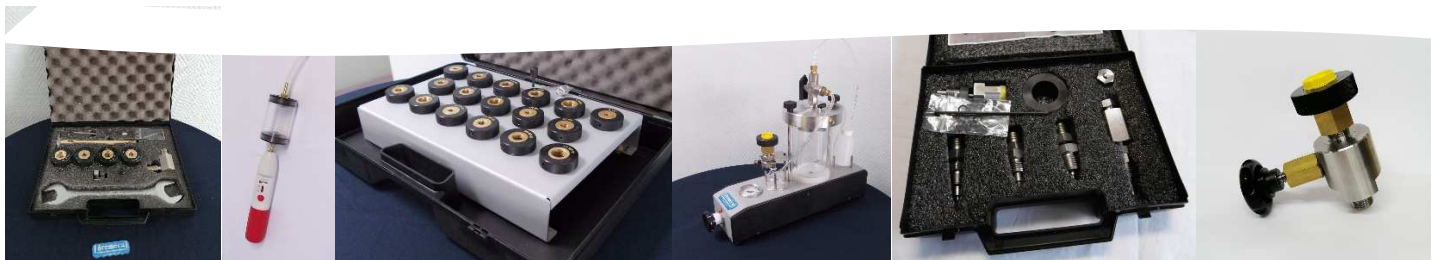
☐ **Optional adaptation to corrosive products** : skydroll type, brake fluid etc...

☐ **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.

☐ **Carrying case option** :

 	Ref OP0101 - Metal box for mass transport Dimensions : 260 x 260 x 310 mm - unloaded weight : 6 kg 7 weights max per box
 	Ref OP0257 – carrying case for the masses
 	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 !
 	Ref OP0002 - Transport case for the balance or comparison bench. (BH5 or CH3 models contact us !)

✓ Accessories



Ref OP0057 Accessories suitcase

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 OP0220 Suitcase with 5 adaptors HP in M16x150

Ref OP0194 fine adjustment valve

✓ 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 ±108 kg
If option	98 x 70 x 50 cm	Total weight to defined

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



✓ **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
BH4-2500B	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
BH4-30B	10 ⁻⁵	1 to 30	10 to 400	100 to 3000

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