

$$P = F/S$$

#### ✓ 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 connected to a compressed air source, a piston/cylinder unit, a set of weigh identified. The capstan can adjust the pressure by the gas through the piston. This pressure is balanced by the piston / cylinder which compares the instrument to calibrate the values of pressures 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 BA2

- 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.
- Source Pressure :	Dry air - gas connection ¼ cylindrical female - This balance needs to be connected to a pressure source.
- 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 :	Training masses : manual rotation
- Crankcase :	Light alloy aluminium AG3 + high-resistance paint
- Capstan :	removable for transport
- Piston/cylinder :	Single piston treated steel or stainless steel + hard chrome - <b>Répeatability</b> : 3.10 <sup>-5</sup> - <b>Sensitivity</b> : 1.10 <sup>-5</sup> - <b>Precision dead weight</b> : 10 <sup>-4</sup>
- Weight :	non magnetic stainless steel – <b>Total weight</b> of the set of weights from 4 kg to 48 kg depending on model –Ergonomic shape of the masses, easy loading of the masses on the bell - <b>Marking</b> corresponding with the measuring unit choose (bar, mbar, KPa, PSI etc..) <b>Gravity</b> : standard (9.80665 m/s <sup>2</sup> ) or local gravity without supplement
- Operating temperature:	18 to 28°C – 64 to 82°F

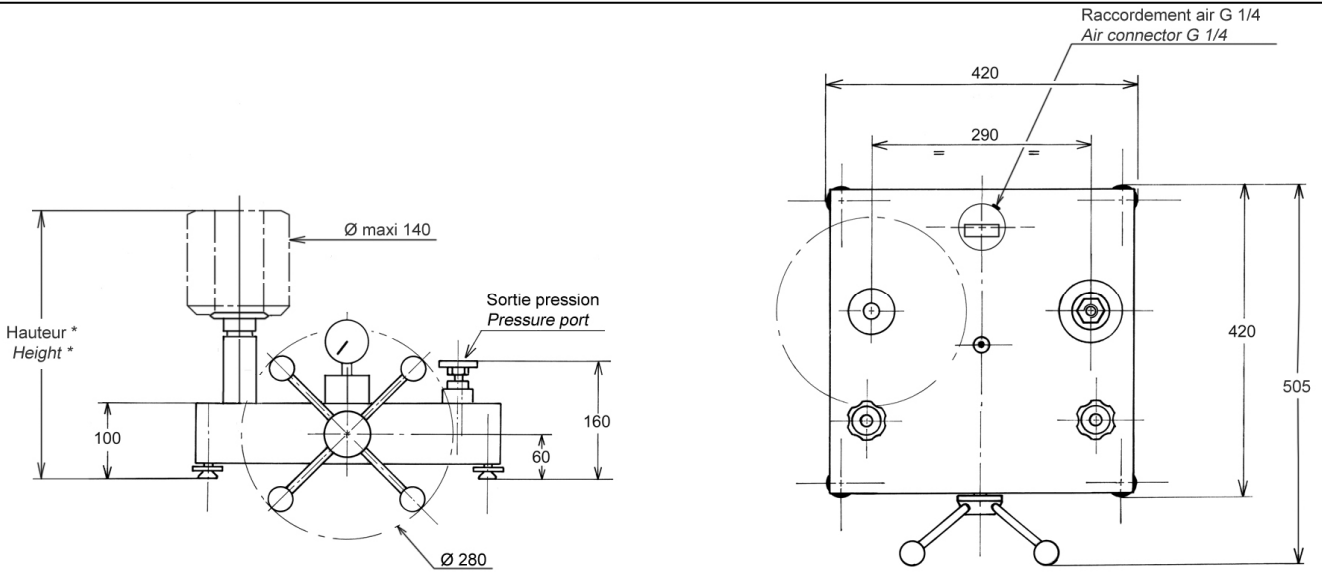
#### ✓ Technical product specifications

- Model :	BA2-1B – dead weight single piston
- Measuring range :	15 to 1000 mbar / 1.5 to 100 kPa
- Uncertainty of the pressure measured by the DWT :	0.00005 + (3.10 <sup>-4</sup> x P) (with P in bar)
- Accuracy :	0.03% of the scale / option : 0.007% with certificate COFRAC or DKD
- Weight dead weight without weight :	22 kg
- Base generator :	CA2-200B
- Typical cross-section of the piston :	392.016 mm <sup>2</sup>
- Material Piston/Cylinder :	P = treated steel / C = stainless steel + hard chrome
- Number of piston :	

✓ **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
- **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 : (mbar, mmH<sub>2</sub>O, kPa) : 315 mm

Unit used : mm

✓ **Standard weight sets and intermediate**

Standard set			
Unit : mBAR (Ref. MB0008)	Pressure (mbar)	Total weight	Typical value (g)
	400	1	1600
	200	2	800
	100	1	400
	40	2	160
	20	1	80
	10	1	40
	5	1	20
Adaptation weight	5	1	209
Adaptation weight*	85	1	340
Initial Pressure	15		60
<b>TOTAL</b>	<b>1030</b>	<b>9</b>	<b>±4 kg</b>

Intermediate set			
mBAR	Pressure (mbar)	Total weight	Typical value (g)
	No set of intermediate weight		
<b>TOTAL</b>			

Standard set			
Unit : mmH <sub>2</sub> O	Pressure (mmH <sub>2</sub> O)	Total weight	Typical value (g)
	4000	1	1600
	2000	2	800
	1000	1	400
	400	2	160
	200	1	80
	100	1	40
	50	1	20
Adaptation weight	50	1	209
Adaptation weight*	85	1	340
Initial Pressure	150		60
<b>TOTAL</b>	<b>10300</b>	<b>9</b>	<b>±4 kg</b>

Intermediate set			
mmH <sub>2</sub> O	Pressure (mmH <sub>2</sub> O)	Total weight	Typical value (g)
	No set of intermediate weight		
<b>TOTAL</b>			

Standard set			
Unit : kPa	Pressure (Kpa)	Total weight	Typical value (g)
	40	1	1600
	20	2	800
	10	1	400
	4	2	160
	2	1	80
	1	1	40
	0.5	1	20
Adaptation weight	0.5	1	209
Adaptation weight*	8.5	1	340
Initial Pressure	1.5		60
<b>TOTAL</b>	<b>103</b>	<b>9</b>	<b>±4 kg</b>

Intermediate set			
kPa	Pressure (kPa)	Total weight	Typical value (g)
	No set of intermediate weight		
<b>TOTAL</b>			

Other units are available on request

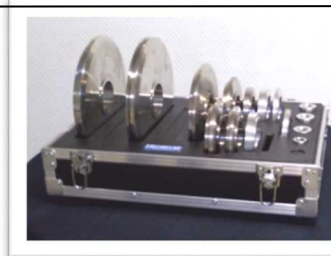
✓ **Options of the dead weight tester**

---

- 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
- Kit Motorization (driving of masses in rotation) / Visualization (position of the piston by indicator lights) (-> BA3)
- 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. (-> BA4)

✓ **Options for weight set**

---



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

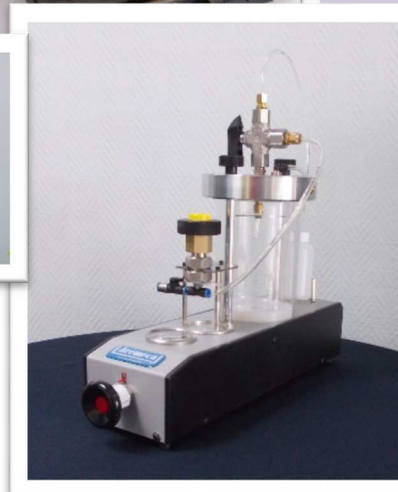
- **Suitcase for the dead weight (ref.OP0002) :**



✓ **Accessories** (Ask for our specific documentation)

---

- Accessory case (ref.OP0057)
- Setting gauge kit (ref.OP0125)
- Kit drain tank (ref.OP0025)
- 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



✓ **Shipping 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 Total weight ±20 kg
<b>Standard weight set</b>	300 x 300 x 170 mm	Carton empty 1.5 kg Total weight ± 6 kg
<b>Wood packaging</b> SB0002	790 x 480 x 340 mm	Suitcase empty 20 kg Total weight ± 46 kg (dead weight + weight set + packaging)



SB0002

- **Note** : shipping is extra.

✓ **Other models available in the range BA2**

(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 or kg/cm <sup>2</sup>	PSI	kPa
BA2-200B	10 <sup>-4</sup>	2.5 to 200	25 to 3000	250 to 20000
BA2-120B	10 <sup>-4</sup>	1 to 120	10 to 1600	100 to 12000
BA2-60B	10 <sup>-4</sup>	0.5 to 60	5 to 800	50 to 6000
BA2-10B	10 <sup>-4</sup>	0.15 to 10	2.5 to 150	15 to 1000
BA2-1VB	10 <sup>-4</sup>	-15 mbar to -900 mbar		-1.5 to -90