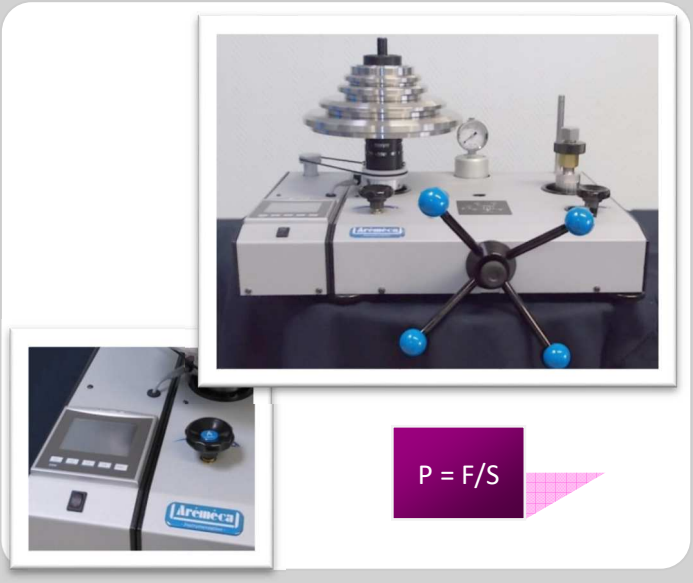
Datasheet

BA4-120B

Automatic Dead weight tester - Hi-tech / Pneumatic



✓ Applications

Range of Dead weight tester is designed to test, adjust and calibrate measuring instruments, mechanical or electronic pressure by comparison (pressure gauges, pressure transmitters or sensors or switches)

They are constituted by a generator of pressure, connected to a compressed source of air, a unity piston/cylinder, of a set of weight 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 allows to adjust the pressure by compressing the gas through the piston. This pressure is balanced by the set piston/cylinder what allows to compare the instrument to be calibrated in the values of pressures generated by the standard and indicated on the calculator. These dead weight are intended for the calibration in relative pressure.

The Dead weight are robust and easy to use and have a high long-term stability..

✓ Technical specifications

- **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 variables²
- **Fluid** :	The system of automatic lubrification integrated into the dead weight avoids the risks of contamination piston/cylinder. Colorless, compatible mineral oil with medical or food uses - volume of the tank 20 cm^3
- **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
- Motorization :	training the weight in rotation by electric engine
- Measure of the temperature :	Precision ± 0.1°C
- Measure of the atmospheric pressure :	Precision ± 1HPa
- Measure of the hygrometry :	Precision ± 10%
- Calculator :	- 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 piston treated steel or tungsten carbide - **Répeatability** : 1.10^{-5} - **Sensitivity** : $0,5.10^{-5}$ - **Precision dead weight** : 5.10^{-5}
- **Weight** :	non magnetic stainless steel – **Total weight** of the set of weights from 33 kg to 48 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

Fabricant : AREMECA - ZI Sud Rue Marc Seguin - 41100 VENDOME
Tel : +33 (0)2.54.80.79.30 - Fax : +33 (0)2.54.80.79.31 - Mail : aremeca@wanadoo.fr - Web : www.aremeca-instrumentation.com ou www.aremeca.fr
N° de TVA intracom : FR19 349237412 - IBAN : FR76 1870 7007 8900 9215 0743 004 - SWIFT (BIC) : CCBPFRPPUER

✓ Technical product specifications

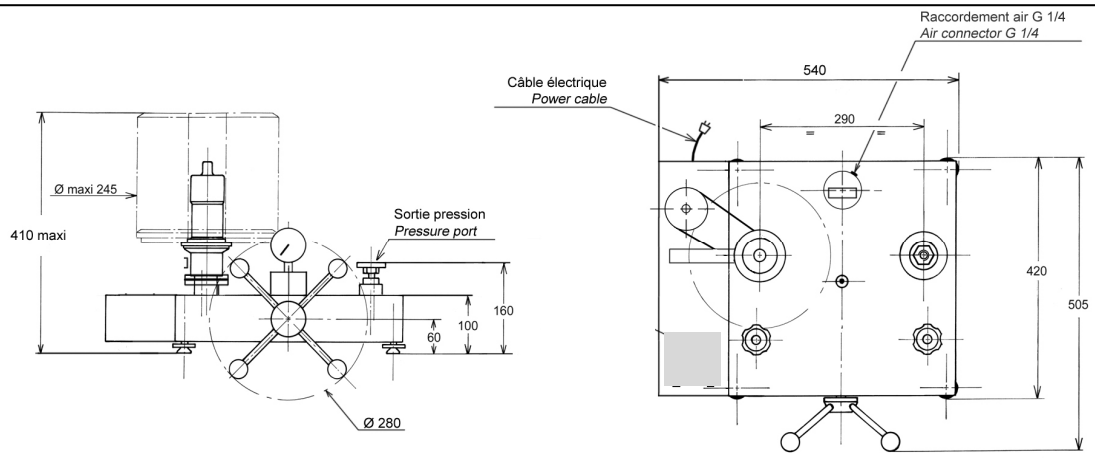
- **Model** :	BA4-120B - dead weight simple piston
- **Measuring range** :	1 to 120 bar / 10 to 1600 PSI / 100 to 12000 kPa
- **Uncertainly of the pressure measured by the DWT** :	0.0005 + ($0.5.10^{-4}$ x P) (with P en bar)
- **Accuracy :**	0.005% of the scale
- **Weight dead weight without weight** :	24 kg
- **Base generator** :	CA2-200B
- **Typical cross-section of the piston** :	39.2280 mm²
- **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) : 411 mm (PSI) : 386 mm **Unit used : mm**

✓ Standard weight sets

Standard set			
	Pressure (bar)	Total weight	Typical value (g)
Unit : BAR (Ref. MB0001)	20	4	8000
	19	1	7600
	10	1	4000
	4	2	1600
	2	1	800
	1	1	400
Initial Pressure bell + weight adaptation	1		400
TOTAL	120	10	±48 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. MB0013)	200	6	5520
	190	1	5244
	100	1	2760
	40	2	1104
	20	1	552
	10	1	276
Initial Pressure bell	10		276
TOTAL	1600	12	±44 kg

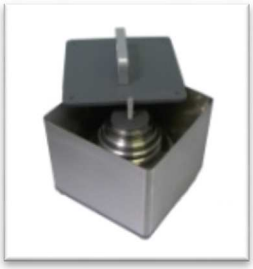
Other units are available on request

Standard set			
Unit : kPa	Pressure (Kpa)	Total weight	Typical value (g)
	2000	4	8000
	1900	1	7600
	1000	1	4000
	400	2	1600
	200	1	800
	100	1	400
Initial Pressure bell + weight adaptation	100		400
TOTAL	12000	10	±48 kg

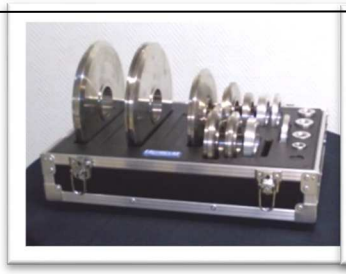
✓ Options of the dead weight tester

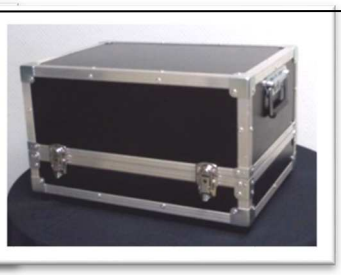
- adjustment weight set or Standard weight set additional for different units
- Calibration of the instrument : Points statement AREMECA or certificate of calibration DAkkS or COFRAC
- Tin oil : 1 liter, 2 liters or 5 liters of oil

✓ Options for weight set



transport metal boxes
(OP0101) : 260 x 260 x 310 mm - weight empty : 6 kg



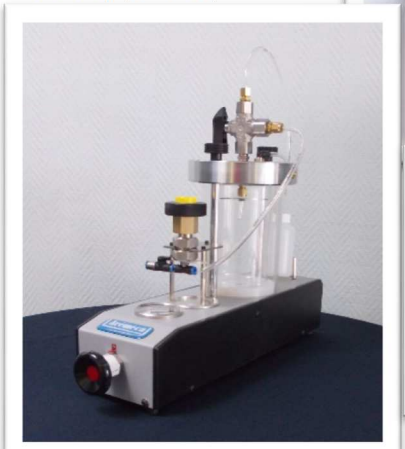


Suitcase for post planning and transportation
(OPxxxx) large : 355 x 505 x 310 mm - weight empty : 13 kg
+ (OPxxxx) small : 290 x 250 x 310 mm - weight empty : 5 kg

- 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)
Dead weight without weight	470 x 470 x 240 mm	Carton empty 1.5 kg Total weight ±24 kg
Standard weight set	300 x 300 x 170 mm	Carton empty 1.5 kg Total weight ± 51 kg
Wood packaging SB0003	980 x 700 x 500 mm	Suitcase empty 20 kg Total weight ± 95 kg (dead weight + weight set + packaging)

SB0003

- **Note** : shipping is extra.

✓ Other models available in the range BA4

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

Models simple piston

		Measuring range		
Models	Accuracy	Bar or kg/cm²	PSI	kPa
BA4-200B	10^{-4}	2.5 to 200	25 to 3000	250 to 20000
BA4-60B	10^{-4}	0.5 to 60	5 to 800	50 to 6000