



BPA (5,7,12 & 50)

Automatic Water Meter Test Bench

The BPA series is specially adapted for testing domestic water meters on assembly lines

OVERVIEW

The BPA7-2-5 is an automatic calibration test bench for domestic water meters, designed to equip meter assembly lines. The verification principle is based on piston prover technology applied as the measuring device and flow generator.

The BPA7-2-5 calibration test bench is made of a double test line enabling the connection of up to 5 water meters in series, including sizes DN15, DN20 and DN25 mm. The test process is performed on one line, while the meters are replaced on the second allowing for maximum productivity.

The system control and the recording and processing of measurement values is managed electronically via a computer system (including a central unit, screen, printer and hardware interface).

The tests carried out follow a specific test program in dialogue with the operator and includes the routines for process control/ monitoring, measuring data recording/ evaluation and storage, error calculation, and measurement data processing. (printer protocol, editing of error curves, statistics)

TECHNICAL INFORMATION

The powered piston of the BPA7-2-5 is made of stainless steel and includes high quality water tight joints which guarantee more than 500,000 cycles under normal working conditions. The piston is also equipped with a leakage detection sensor and a high standard mobile bearing mounted on the piston rod.

Stainless steel water tanks are used to store water ready for use and also to collect it after it has passed through the meters. They both contain a filter to protect the piston.

Meters are equipped with reflective disks so that the volume of water can be measured using optical scanning heads.

The angle seat globe valves are manufactured from stainless steel or bronze and are pneumatically operated. They can also be fitted with additional sensors to detect leakages.

The BPA7-2-5 is also equipped with a vacuum pump that is required to eliminate the residual air present in the meters before test.

A 0.2KW electric pump with an incorporated electronic level is used to return the water to the feeder tank once it has passed through the meters

ELECTRONIC SYSTEM

For the data acquisition and control of the test bench a high specification PC (minimum of a pentium IV processor) is supplied alongside a printer. User friendly menu-driven software is installed as standard and has been designed to execute all tests and store the data on the hard disk or any removable media.

The electronic rack is made up of the following components:

- » Counting card
- » Opto-electronic card
- » Conversion card
- » Encoder card
- » Power supply
- » Electro-valves card
- » Relays card

Technical Specifications

	BPA5-2-5	BPA7-2-5	BPA12-2-5	BPA50-2-5
Maximum nominal/working volume	15 dm ³	30 dm ³	54 dm ³	300 dm ³
Maximum nominal/working flow rate	5 m ³ /h	7 m ³ /h	12 m ³ /h	50 m ³ /h
Volume accuracy	< 0,15%	< 0,15%	< 0,15%	< 0,15%
Volume resolution	9.012 x 10 ⁻⁵ dm ³ / pulse	7.210 x 10 ⁻⁵ dm ³ / pulse	17 x 10 ⁻⁵ dm ³ / pulse	69 x 10 ⁻⁵ dm ³ / pulse
Flow reading error	< ± 1%	< ± 1%	< ± 1%	< ± 1%
Flow reading resolution	0.15 l/h (5000-350) 0.02 l/h (350-3)	0.24 l/h (7000-400) 0.013 l/h (400-5)	0.37 l/h (12000-1100) 0.037 l/h (1100-15)	1.78 l/h (50000-5500) 0.178 l/h (5500-23)
Meter sizes	DN 15, 20 and ½", ¾"	DN 15, 20, 25 and ½", ¾", 1"	DN 15, 20, 25 and ½", ¾", 1"	5/8", 5/8" x ¾", ¾", 1", 1 ½" 2"
Number of meters	5 DN20	8 DN15/20 or 5 DN25	5 DN5, 15, 20 or 25	5 DN50
Control and acquisition system	PC	PC	PC	PC
Dimensions of the bench	Length - 3200mm	Length - 4000mm	Length - 4000mm	Length - 6700mm
	Width - 1240mm	Width - 1030mm	Width - 1100mm	Width - 2550mm
	Height (transport) - 2000m	Height (transport) - 2000m	Height (transport) - 2000m	Height (transport) - 2200m
	Height (installed) - 3100mm	Height (installed) - 3890mm	Height (installed) - 3890mm	Height (installed) - 3310mm
Weight (approx)	1500kg	1700kg	2000kg	3000kg

BPA7-2-5 test bench



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