

# Water meter test benches



**TESTING EQUIPMENT WITH A PISTON PROVER**

**TYPE PP**



## Technical description

Test benches with a Piston Prover type PP are electronic equipments designed for calibration of household and domestic water and heat meters with dimensions DN15 to DN40 (optionally DN50 or DN65) within a flow rate range from 0,0005 up to 32 m<sup>3</sup>/h, with cold or warm water.

With their specific parameters our computer controlled Piston Prover test benches meet today's highest technical requirements and provide even higher productivity output. These test benches are suitable for all customer groups - metrology institutes with emphasis on max. possible measurement accuracy, service providers requiring high level of flexibility as well as meter manufacturers focusing on the highest possible meter quantity to calibrate while preserving the required accuracy level.

All benches are equipped with user friendly software providing visualization of all processes and offering a large number of user settings including own print out protocol designs or measurement data export. Various statistic functions as well as a continuous calculation of measuring uncertainty are an internal part of our software. Each equipment comprises a basic modular arrangement and may be further equipped with various accessories and options, which can be defined by the customer in order to meet his specific requirements.

The requested flow rates may be achieved by two different methods:

1. by the Piston Prover, providing the flow rate as well as the testing volume.
2. by a pump with a frequency converter, electromagnetic flow meter (EMF), regulation valve and in case of higher flow rates even with a diverter and a scale (balance).

The main advantage of this system is the relative intersection of both above mentioned methods, which enables cross comparison and provides the user with useful information.

Our Piston Prover test benches are available in 2 basic versions:

**Single:** 1 line for 5, 10 or 15 pcs of water meters (DN15, length 110mm)

**Semi:** 2 lines with a common supply and standard part. This arrangement allows an effective operation, where the operator is able to change, clamp and purge meters in the second line while the first is performing tests.

\* other versions available on request

Depending on customer's requirements, PP type benches may be equipped with various accessories (e.g. purging with vacuum, digital communication with meters, pressure test, etc.)

Particular models differ in their max. flow rate and their water meter DN coverage. Basic versions are designed to be equipped with one PP (piston prover) and one EMF (master meter), which can directly be calibrated by the PP. It might also be equipped with a standard 300kg scale and diverter for measurements at higher flow rates and with bigger testing volumes.

## Technical parameters

Type of test bench	PP30	PP100	PP30 + 300kg scale
Flow rate range	0,0005 – 7 m <sup>3</sup> /h	0,001 – 32 m <sup>3</sup> /h	0,0005 – 32 m <sup>3</sup> /h
Max. working pressure (bar)	16	12	16
Suitable for meter sizes (DN)	15 - 25	15 - 40 (50)	15 - 40 (50)
Temperature of testing medium	cold water 10 – 30°C warm water 50°C ± 5°C optionally 5°C up to 90°C (R&D)		
Measurement uncertainty (k=2)	0,01 – 0,2 %		

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