ENGINEERING
TOMORROW

Data sheet

PFM 1000 Measuring Instrument

Description

PFM 1000

Using the differential pressure measured by the measuring component in the system, PFM 1000 calculates the flow that runs through the component (balancing valve or measuring orifice).

The application corrects the calculated flow also for anti-freeze mixes in cooling systems.
The flow can be measured in all branches of the whole hydraulic system and the whole system can be balanced.
The PFM 1000 has been designed to create hydraulic balance in heating, cooling and domestic hot water systems. It enables measuring of static pressure, differential pressure and flow.

PFM1000 components

- Main measuring unit
- Measuring needles & hoses
- Smartphone for displaying results and analysis (not included)

The main pressure sensor is extremely robust with a sturdy frame. Inside the pressure sensor is a differential pressure gauge with an integrated true differential pressure sensor for accurate digital data processing.
Conectivity between measuring unit and smartphone is wireless via Bluetooth.

PFM1000 can be connected to ANDROID and iOS devices using app downloaded from PLAY STORE (Android) or APPLE STORE (iOS)

Features

- Acurate pressure measuring with true pressure sensor with 24 bit pressure procesing.
- Digital compenstion of temperature effects and the pressure sensor nonlinearity.
- Correction of flow calculation based on antifreeze liquid characteristics.
- Compatible with Android (7,0+) and iOS devices.
- Wireless data transferfrom measuring unit to mobile Bluetooth Low Energy technology.
- User-friendly interface.
- Easy balancing valve selection from a photographic menu.
- A record of the measured values with the capacity of up to 2,000 recordings.
- Can be used as data logger
- Very robust construction, can withstand fall from hight of 2m.

Usage

The PFM 1000 must be connected on the high side as well as on the low side of the valve using the appropriate needles, connectors and hoses.
If you are to measure under high static pressure it is recommended to connect the red hose first in order to protect the membrane inside the pressure sensor. If you connect the blue hose first the pressure sensor may be damaged.
You can read flow and pressure on the Android / iOS smartphone which is separate from the pressure sensor.

How to measure:

1. Select manufacturer
2. Select the type of valve
3. Select the dimension of the valve
4. Select pre-setting
5. Connect the valve to the pressure sensor
6. Zero adjust
7. Measure the flow

Data sheet **PFM 1000 Measuring Instrument**

Ordering

Type	Pressure	Code No.
PFM 1000 measuring instrument	10 bar	**003Z8260**
PFM 1000 measuring instrument	20 bar	**003Z8261**

All versions are upgradable with additional pressure sensors and routers.

Accessories

Type	Set / pcs.	Code No.
Set of the hoses PFM1000 - 2x1,5m	1 set	**003Z8262**
Set of the filters PFM1000	2 pcs	**003Z8263**
Set of the needls PFM1000	2 pcs	**003Z8264**
Adapter R21	2 pcs	**003Z8267**

Technical data

Type	Specification
Pressure range	0-1000 kPa ~ 0-10 bar 0-2000 kPa ~ 0-20 bar
Nominal pressure	10 or 20 bar
Max. over pressure	120% of nominal pressure: 1200kpa ~12 bar 2400kpa ~ 24 bar
Reliability, linearity and hysteresis error	0.15 % of range
Error for the pressure range 0 till 5 kPa after pressure zero setting	± 50 Pa for nominal pressure range 1 MPa
	± 100 Pa for nominal pressure range 2 MPa
Temperature error	0.25 % of range
Medium temperature[1)]	- 5 to 90 °C
Ambient temperature	- 5 to 50 °C
Storage temperature	+ 5 to 50 °C
Ambient humidity	95% r.h., non-condensing
Power supply	AAA Alkaline batteries or NiMH rechargeable batteries
Operating time	Max. 45 hours
Power consuption	20mA
Wireless data tetansfer	Bluetooth Low Energy 5.0
Dimensions w x h x d	180 x 80 x 52 mm
Weight	440 g
IP rated enclosure	IP 65
Calibration validity	24 months

[1)] measured at the end of measuring hoses, length 1.5m, Hot water flows thru PFM1000 hydraulic parts during Pressure zero procedure. Maximum time duration of zeroing when temperature of the medium exceeds 50°C is 10 seconds.

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