

Experimental Gas Meter

Operating Instructions

Wet Type – Standard PVC and V2A Series for Pressures up to 50 mbar



Figure:
PVC model

1. Preparations

After the inlet and outlet connection pieces 1 + 2 of the meter have been connected to the piping, the meter is aligned by means of its screw legs 3 in accordance with the bubble level 4.

- a) Rough Filling (only required for the startup of the meter).
Remove hood to the overflow channel 5 and the filling pipe 6. Fill in sealing liquid into the filler neck 6 until the liquid exits from the overflow channel 5 (overflow level). Attach hoods again; rotate the measuring drum several times to ensure that it is wet.
- b) Fine Filling (required for each filling and refilling).
The measuring drum shall be wetted as described above. Then depressurize both **intake and outlet sides** of the meter. Remove hoods again, as described above, and fill in sealing liquid slowly until it drains off at the overflow 5 (draining

time of at least three minutes from the time when the sealing liquid starts to drip). The meter has been filled correctly as soon as the level of the sealing liquid has reached the lower edge of the overflow disk. After the overflow channel 5 and the filling pipe 6 have been shut again, the meter is ready to operate.

To maintain the measuring accuracy, it is recommended to check the level of the sealing liquid each day and to adjust it, if required.

CAUTION! Please do never turn the needle by hand.

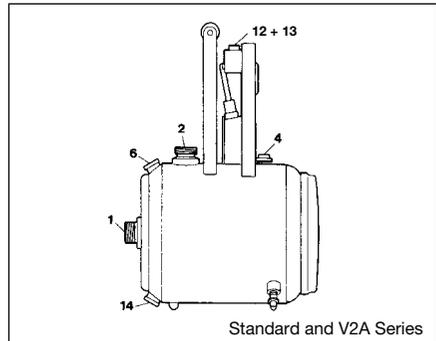
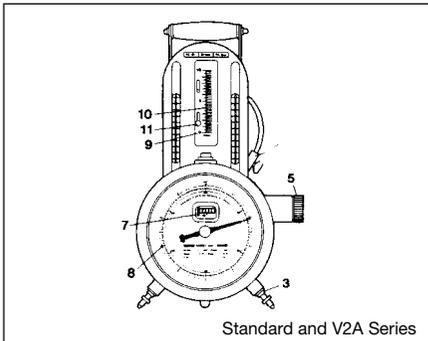


Figure: Standard model

- | | |
|---------------------------------------|----------------------------------------------------------|
| 1 Inlet | 9 Manometer zero point |
| 2 Outlet | 10 Pressure Manometer scale |
| 3 Screw legs | 11 Thumb wheel for the adjustment of the manometer scale |
| 4 Bubble level | 12 Filler neck for manometer liquid |
| 5 Overflow channel | 13 Hood with breather boring |
| 6 Filling pipe | 14 Outlet nozzle |
| 7 Push button for resting the counter | |
| 8 Mark for forward run | |

2. Adjustment of Pointer and Roller-Type Counter

Prior to the measurement, the roller-type counter should be set to zero. For that purpose, the pointer is positioned on the mark no. 8. Then the roller counter is set to zero by pressing the push button 7. Please ensure that all rollers exactly display zero; if required, press several times.

3. Use and Refilling of the Manometer

With the meter being depressurized, match the zero point 9 of the manometer liquid with the zero point of the pressure manometer scale 10. Tighten scale by means of

the thumb wheel 11. In the event that the manometer is to be refilled, the refilling operation can be carried out after the upper hood 12 behind the manometer box is opened.

The manometer has been designet only for a special liquid supplied by ELSTER with: $\gamma = 0.88$. The plastic models do not have a shut-off valve towards to the manometer. If the manometer shall not be used (e.g. in case of pressure values exceeding the display range 9, the hood 13, which includes a breather boring, must be replaced with an impervious one.

4. Emptying of the Counter

In the event that the meter is to be emptied, open the outlet nozzle 14 at the back bottom (downwards), and drain off the liquid.

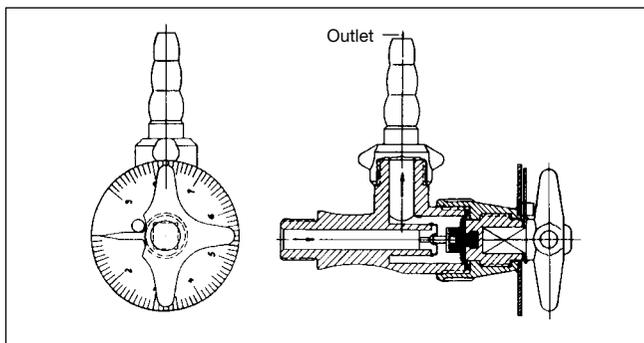
5. Fine Adjustment Nozzle for Experimental Gas Meters

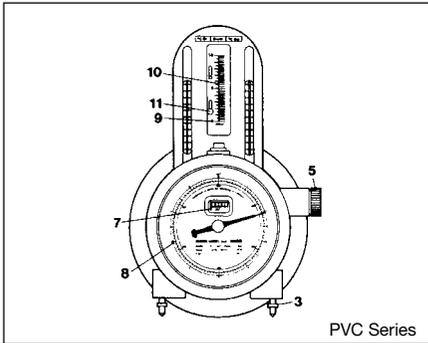
The fine adjustment nozzle shown below can be supplied for experimental gas meters of the brass, stainless steel (V2A), and plastic models.

The fine adjustment nozzle is destined for the regulation of small flow rates. At an input pressure of 6 mbar, the maximum flow rate will amount to no more than about 150 liters per hour. The lower limit is defined by the meter.

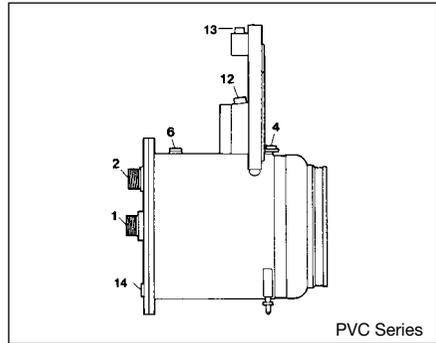
In order to use the fine adjustment nozzle, it is recommended to use a table for entering the pointer position on the scale and the associated flow rates at a given input pressure.

Note: When using the fine adjustment nozzle, the main outlet of the meter must be shut off.





PVC Series



PVC Series

Figure: PVC model

- | | |
|---------------------------------------|-------------------------------------------------------------|
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| 3 Screw legs | 11 Thumb wheel for the adjustment of the manometer scale |
| 4 Bubble level | 12 Filler neck for manometer liquid |
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6. High-Pressure Models

With respect to the high-pressure models of the ELSTER experimental gas meters, the sections 1, 2 and 4 of the operating instructions shall apply.

These meter models do not have a top unit in order to accommodate the manometer and the thermometer; however, the meters are equipped with appropriate connection pieces.

7. Service and Recalibration

In order to maintain uniform measurements of a high-level quality, it is recommended to have the measuring devices checked and calibrated every two (2) years.

Service address:

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