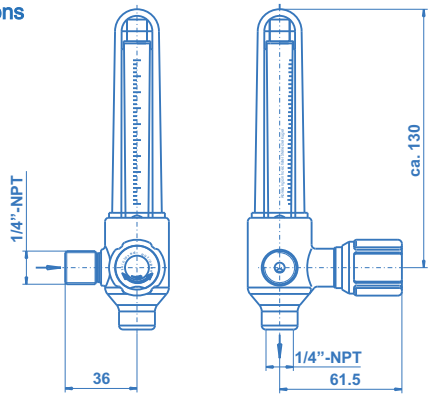
Flowmeter FLM32

Flowmeter
FLM32

Dimensions



Product features

- Flowmeter for use on pressure regulators with inert high-purity gases up to quality 6.0 for exact adjustment and indication of the flow rate
- Laboratory-style design
- Ergonomical and compact design
- With integrated control valve

Technical data

Inlet pressure (2 types):	1,4 or 4 bar resp.
Materials	
Body:	chrome-plated brass
Soft goods:	Viton (FKM)
Flowmeter:	glass
Outer tube:	Polycarbon
Control spindle:	Stainless steel
Connectors	
Inlet:	1/4"-NPT male
Outlet:	1/4"-NPT female
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-6}$ mbar l/s He
Weight	ca. 0,4 kg

Table of flow rates for FLM32 with %-scale at 1,4 bar and 4 bar resp.
Flow rates at full scale (blue figures for a calibrating pressure of 1,4 bar)

Inlet pressure (bar gauge) [bar]	l/h nitrogen at a calibrating pressure 4 bar	1,4 bar
0,5	164	237
1	190	274
1,4	208	300
2	232	-
2,5	251	-
3	268	-
3,5	285	-
4	300	-

Equation a) $Q = f_1 \times Q_{100\%}$

with $f_1 = \sqrt{\frac{P_{SOLL}}{P_{KAL}}}$

P ➡ absolute

For other gases:
Equation b) $Q = f_2 \times Q_{N2}$

Example: gas type nitrogen
With an outlet pressure of 1,4 bar set at the pressure regulator the control valve is opened until the top of the ball is level with the 100% mark on the metering glass. Now 300 l/h N_2 flow through the flowmeter. At 50 % this means 150 l/h etc. The setting should not be below the 10% mark.

For Outlet pressure values P_{SOLL} below the calibrating pressure P_{KAL} the 100%-flow rate may be calculated using **Equation a)**, where the pressure values must be applied in **absolute pressure** values.

For other gas types the 100%-flow rate for the applicable outlet pressure and calibrating pressure can be calculated from the N_2 flow rate using **Equation b)**.

The **factor f_2** (see table) can be calculated using

$$f_2 = \sqrt{\frac{\text{density}_{\text{reference gas}}}{\text{density}_{\text{process gas}}}}$$

where $\text{density}_{\text{reference gas}}$ is the density of nitrogen.

factor f_2			
synth. air	0.983	argon	0.837
CO_2	0.792	hydrogen	3.75
methane	1.32	helium	2.63
oxygen	0.965		

Data sheet DES FLM32 - Edition 1014

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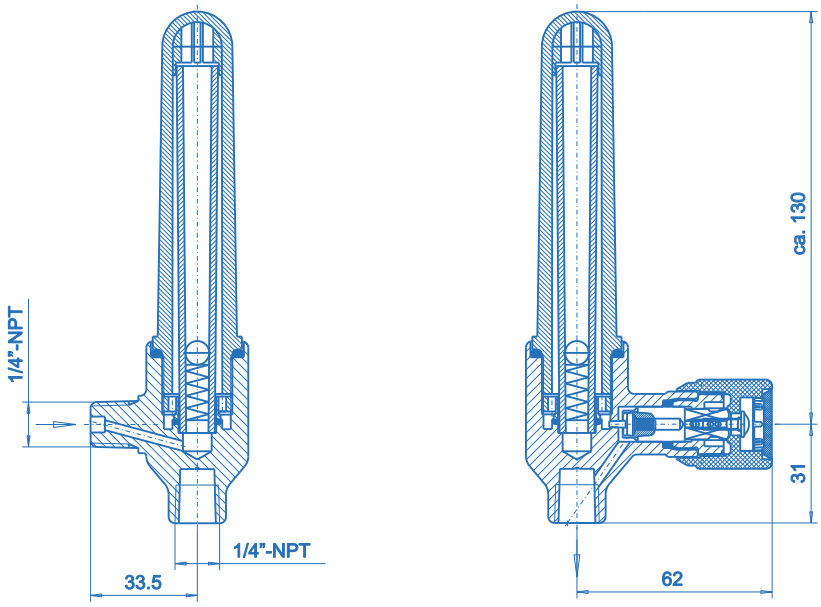
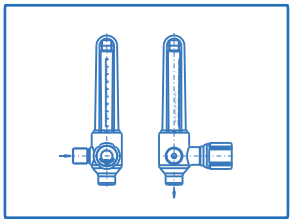
Flowmeter FLM32

Sectional drawing



Ordering information:
Flowmeter FLM32

FLM32 - 1,4



Series

FLM32 - Flowmeter FLM32

Calibrating pressure

1,4 - 1,4 bar
4 - 4 bar

Specifications

- SPECTROLAB - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROLAB - components undergo a 100% Helium-leak-test.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control valve.
- The function of the valve, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

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Subject to alteration without prior notice

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