Model P and Px flow meters

Single-tube and multiple-tube glass rotameters with 65 mm or 150 mm scale length

Model P is a single-tube variable-area flow meter for low flow rates. Model Px puts two to six tubes in one frame to meter several gas or liquid streams side by side, or to manifold them. Flow tubes and floats are interchangeable, and each tube can carry a built-in valve.



±2 % FS	65, 150 mm	1–6	13.8 bar g	121 °C
Standard accuracy	Scale lengths	Tubes per meter	Maximum pressure	Maximum temperature

Performance

Standard accuracy [1]	±2 % FS on mm scales ±5 % FS on the direct-reading scales of tubes 042 and 032 Px: to ISA RP 16-1.2.3, specification 2-S-10; manifolded models excepted
Calibrated accuracy	±1 % FS, optional
Repeatability	±0.25 %
Useful flow range [2]	10:1 minimum with one float Better than 20:1 with a combination of two floats
Scales	Millimetre scale or direct reading, designed to reduce parallax and eye fatigue

Operating conditions

Maximum pressure	13.8 bar g (200 psig)
Maximum temperature	121 °C (250 °F)

Mechanical

Flow tubes [3]	Heavy-walled borosilicate glass, rib-guided or fluted
Floats (Model P)	Glass, sapphire, 316 stainless steel, Carboloy or tantalum
Mounting fittings	Aluminium, black anodised, or 316 stainless steel Model P also in brass, chrome plated
Side panels	Aluminium, black anodised
Front shield	Polycarbonate; Model P with a longitudinal magnifier lens
Back plate	White acrylic, 1/8 in thick
Seals	NBR on aluminium and brass meters, FKM on stainless steel meters Optional FKM, PTFE/FFKM or EPR
Connections	1/8" NPT female, inlet and outlet Optional 1/4" FNPT, hose nipple, compression or VCR fittings
Tubes per meter	Model P: 1; Model Px: 2, 3, 4, 5 or 6
Mounting	Panel; bench-top with the optional acrylic tripod, which has a spirit level and levelling screws
Mixed tubes	Flow tubes of different ranges can share one frame

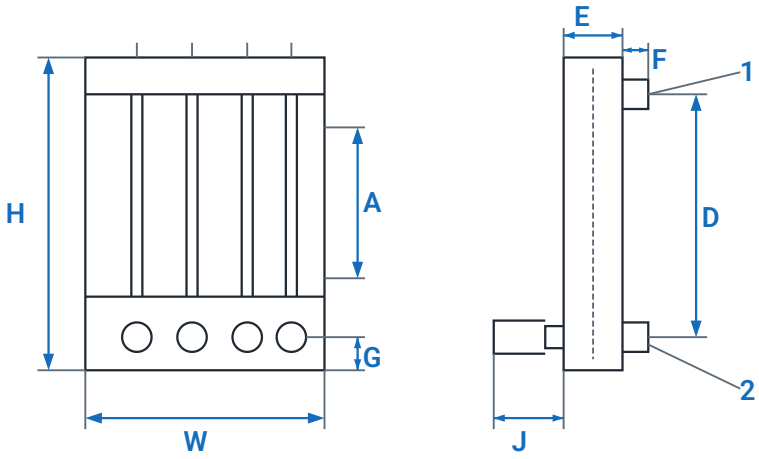
Valves and manifolds

Built-in valves	CV needle valve, MFV high-precision metering valve with non-rising stem, or no valve
When to choose MFV	Where fine control and resolution matter, above all with very low-flow tubes
Valve position	Gas: at the inlet (bottom), recommended Liquids: inlet or outlet Vacuum service: outlet only Not specified at order: inlet
Manifold (Px)	At inlet or outlet; the valves always sit in the opposite end block
Flow patterns (Px)	Parallel isolated channels Parallel channels mixed in a manifold One fluid in, each channel exhausted separately

Ordering key

Position	Code	Meaning
Series	P	Model P or Px flow meter
Tubes	1–6	Number of tubes; 1 = Model P
Scale length	6, 1	65 mm or 150 mm
Material	A, B, S	Aluminium, brass or 316 stainless steel
Valve	3	No valve
MFV valve	1, 5	1: inlet; 5: outlet
CV valve	4, 6	4: inlet; 6: outlet
Seals	V, B, E, T	FKM (std. stainless), NBR (std. aluminium, brass), EPR, PTFE/FFKM
Fittings	A, B	1/8" (std.) or 1/4" female NPT
Hose nipples	C, D	1/8" or 1/4" hose nipple
Other fittings	E, F, H	1/8" or 1/4" compression; VCR
Manifold	0, 1, 2	None (std. for one tube), bottom, top
Tube	end of key	Tube code, added last; ask Analyt-MTC for codes

Order from Analyt-MTC with the order code. Example P11A4-BB0: one tube, 150 mm, aluminium, CV inlet, NBR seals, 1/4" female NPT, no manifold, then the tube code.



1 Port, 1/8" NPT

2 Port fitting thread 9/16-18; 5/8" panel hole

E Body depth, 28.6 mm

F Port fitting beyond the back, 13.9 mm

G Bottom port axis above the base, 12.7 mm

J Open valve knob, in front, 47.0 mm

Front view of a four-tube Px meter (Model P is the one-tube case) and side view, schematic. Designs and dimensions can change without notice.

Options and accessories

Calibrated accuracy ±1 % FS (see Performance)	
Acrylic tripod, 1 tube	TP1
Acrylic tripod, 2, 4 or 6 tubes, isolated or manifold at top	TP2
Acrylic tripod, 3 or 5 tubes, isolated or manifold at bottom	TP3
Acrylic tripod, three single-tube meters	TP5
Universal benchtop baseplate	35780

Dimensions in inches

Scale length A	Height H	Port spacing D	W, 1 tube	W, 2 tubes	W, 3 tubes	W, 4 tubes	W, 5 tubes	W, 6 tubes
65 mm	5.500	4.500	1.250	2.250	3.250	4.250	5.250	6.250
150 mm	9.813	8.813	1.250	2.250	3.250	4.250	5.250	6.250

Notes

1. FS = full scale, the top of the tube scale.
2. Flow capacity depends on the flow tube and float. Ask Analyt-MTC about the tube and float for your medium and flow range.
3. Check that the materials suit your medium before you order; that choice is yours.

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