Model S single-tube flow meters

Variable-area rotameters with quick tube change, for panel or bench mounting



The Model S is a single-tube rotameter built for fast tube changes. Several flow tubes can share one case, and a non-rotating adapter keeps the glass from turning while you tighten it. Tubes, floats, valves and accessories are the same as on the Model P. Choose a built-in needle valve, a high-precision metering valve, or no valve.

±2 % FS	±0.25 %	10:1	13.8 bar g	121 °C
Standard accuracy on mm scales	Repeatability	Useful flow range with one float	Maximum operating pressure (200 psig)	Maximum operating temperature

Performance

Standard accuracy	mm scales: ±2 % FS, except tubes 042 and 032 Direct-reading scales and tubes 042, 032: ±5 % FS
Calibrated accuracy	±1 % FS, optional
Repeatability	±0.25 %
Useful flow range	10:1 minimum with one float Better than 20:1 with two floats fitted
Sizes	Scale length 65 mm or 150 mm, single tube

Operating conditions

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

Mechanical

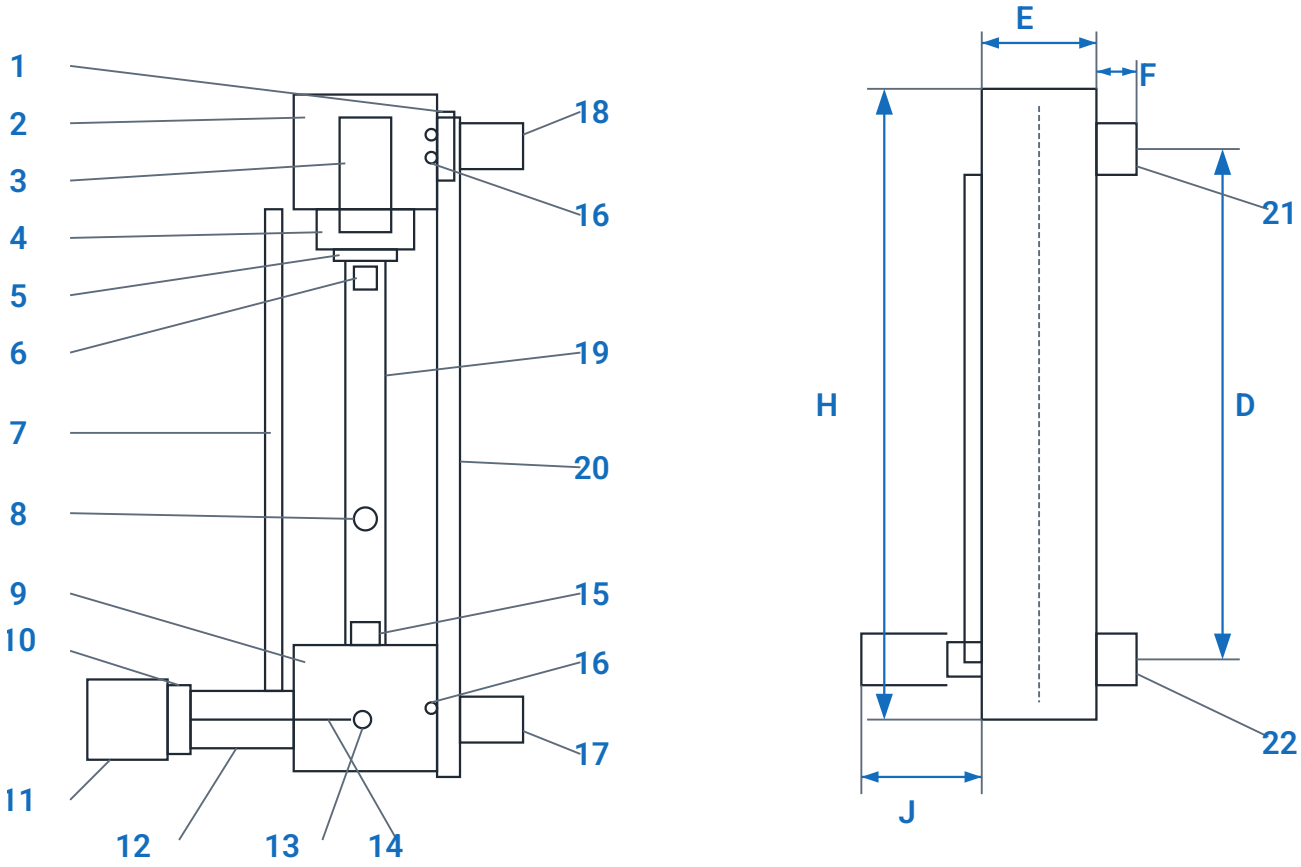
Flow tubes	Heavy-walled borosilicate glass
Floats	Glass, sapphire, 316 stainless steel, Carboloy or tantalum
Wetted mounting fittings [1]	Black anodised aluminium, chrome-plated brass or 316 stainless steel
Side panels	Black anodised aluminium
Front shield	Polycarbonate with a longitudinal magnifier lens
Back plate	White acrylic, 1/8 in thick
O-rings and packing	NBR on aluminium and brass meters, FKM on stainless steel meters Optional: FKM, PTFE/FFKM, EPR
Connections	1/8" NPT female inlet and outlet Optional: 1/4" FNPT, hose nipples, compression fittings
Mounting	Panel or bench; tripod TP1 for single-tube meters

Valves

Valve types	Needle valve (CV), built in High-precision metering valve (MFV), non-rising stem Or no valve
Choosing an MFV	For fine control and high resolution, especially with very low flow tubes
Valve position, gas	Inlet (bottom) recommended
Valve position, liquid	Inlet or outlet (top)
Valve position, vacuum	Outlet (valve must be on the outlet)
Valve position if unspecified	Inlet

Tubes and reading

Tube scales	Millimetre scales and direct-reading scales
Interchangeability	Flow tubes and floats can be exchanged
Reading aid	Magnifier lens in the front shield; scales laid out to limit parallax
Tube change	Non-rotating adapter keeps the glass tube from turning when tightened
Tube selection	Millimetre tubes: flow capacity tables 6 to 9 Direct-reading tubes: flow capacity tables 11 to 22



1	Mounting nut	8	Float	15	Locator
2	Upper end fitting	9	Lower end fitting	16	O-rings
3	Tube adapter	10	Guide bushing	17	Female adapter, inlet
4	Lock bushing	11	Knob	18	Female adapter, outlet
5	Packing	12	Bonnet	19	Flow tube
6	Retaining plug	13	Orifice	20	Back plate
7	Front shield	14	Valve spindle		

Left: sectional view, valve at the inlet (bottom). Right: side view. Schematic; designs and dimensions can change without notice.

Dimensions in inches

Scale length A	Height H	Centre to centre D
65 mm	6.156	5.156
150 mm	10.46	9.469

Side view and ports, mm

Letter	Dimension	Value
21	Port	1/8" NPT
22	Port fitting thread	9/16-18
E	Body depth	28.6
F	Port fitting beyond the back	13.9
J	Open valve knob, in front of the body	47.0

Ask Analyt-MTC for certified drawings.

Ordering key

Position	Code	Meaning
Series	S	Model S flow meter
Tubes	1	One tube
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" or 1/4" female NPT
Hose nipples	C, D	1/8" or 1/4" hose nipple
Other fittings	E, F, G	1/8" or 1/4" compression; VCR
Manifold	0	None
Tube	end of key	Tube code, added last; ask Analyt-MTC for codes

Order from Analyt-MTC with the order code. Example S16S1-VA0: one tube, 65 mm, stainless steel, MFV inlet, FKM seals, 1/8" female NPT, no manifold, then the tube code.

Options and accessories

Calibrated accuracy ±1 % FS	
High-precision metering valve (MFV), inlet or outlet	
Needle valve (CV), inlet or outlet	
EPR or PTFE/FFKM seals	
Hose nipple, compression or VCR fittings	
Tripod for single-tube meter	TP1

Notes

1. FS = of full scale. You are responsible for choosing materials that suit your fluid; if in doubt, ask Analyt-MTC before you order.
2. Flow tube numbers and scales are listed in the rotameter technical information.

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