

P220 Series

Glass Tube Variable Area Flowmeter



The P220 Series Flowmeters are designed for low flow rates of both liquids and gases.

The P220 Series covers a broad range of applications, from purging to monitoring of industrial processes.

The P220 offers 316 Stainless Steel construction for all wetted parts.

For challenging corrosive applications, the P220 offers PTFE seals as an option.



Contact Information: Product Features:

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- Ideal for general purpose use, as well as use for field test equipment
- Suitable for both liquids and gases
- 316 Stainless Steel construction for challenging corrosive applications
- Front panel mounting hardware
- Easy-to-read scale
- Scale tube length of 100mm
- Optional alarm output

Specification

Materials

Wetted	
Body	Standard: <ul style="list-style-type: none"> 316 Stainless Steel
Tapered Tube	Heat-resistant Glass
Float	316 Stainless Steel, Glass, PTFE or Ruby
Packing	Standard: <ul style="list-style-type: none"> NBR (Nitrile Rubber) Optional: <ul style="list-style-type: none"> FPM (Fluorinated Propylene Monomer) CR (Neoprene)
Fitting	Standard: <ul style="list-style-type: none"> 316 Stainless Steel
Valve	Standard: <ul style="list-style-type: none"> 316 Stainless Steel
Non-wetted	
Cover	Polycarbonate
Support	Aluminum
Connection Size and Type	Standard: <ul style="list-style-type: none"> NPT or RC 1/4" With locknuts for front panel mounting

Proper material to be selected according to the specification.

Performance

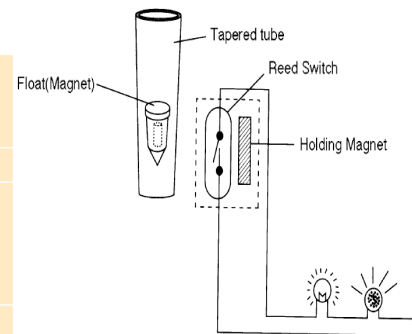
Flowrate Scale Ranges	
Water¹	
Minimum	0.1–0.8 Gal/h (0.3–3 L/h)
Maximum	6.3–32 Gal/h (24–120 L/h)
Air²	
Minimum	0.01–0.1 ft ³ /h (0.3–3 L/h) (nor)
Maximum	13–127 ft ³ /h (360–3600 L/h) (nor)
Turndown	10:1
Accuracy	±3% F.S.
Approximate Weight	1.3 lbs. (0.6 kg)
Flow Direction	Bottom Rear to Top Rear
Alarm Type	Self-holding Reed Switch
Operating Conditions	
Max. Operating Pressure	116 psig (8 barg)
Max. Operating Temperature	
<ul style="list-style-type: none"> NBR (Nitrile Rubber) CR (Neoprene) 	176°F (80°C)
<ul style="list-style-type: none"> FPM (Fluorinated Propylene Monomer) 	248°F (120°C)

¹Liquid equivalent to water density 1.0g/cm³, viscosity 1.0cp

²Gases equivalent to Air @ 0 °C 1 atm

Reed Switch Specification

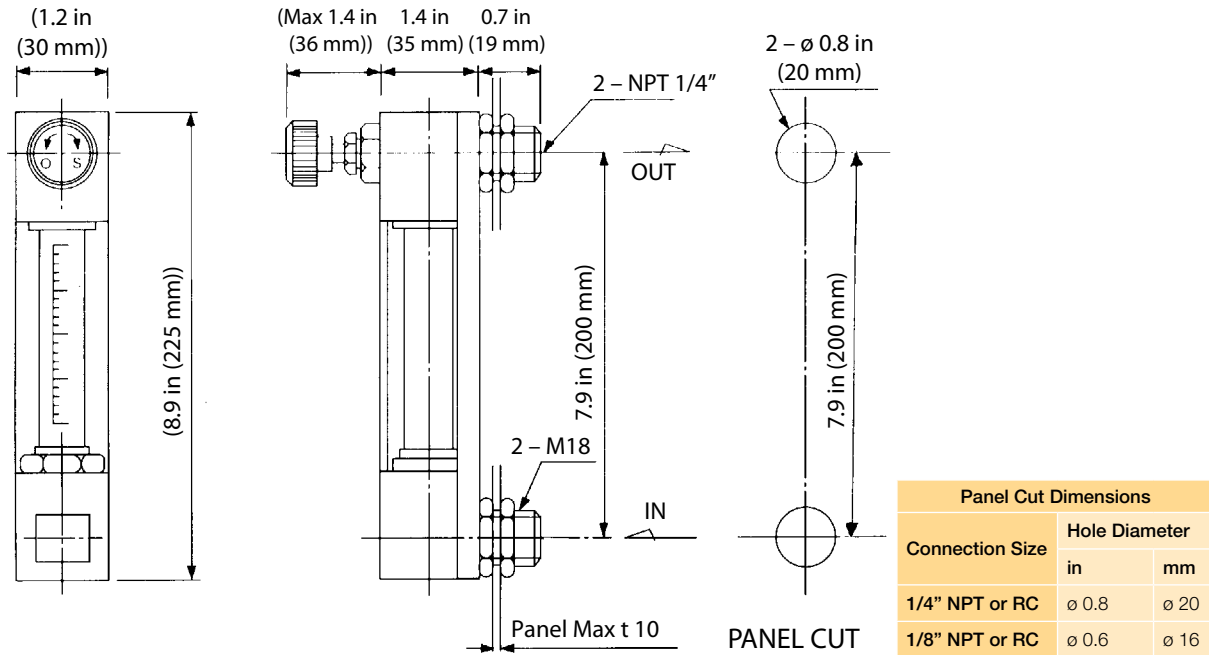
Number Of Point	1 point(High or Low) 2 point alarm also available as an option. Consult factory for details.
Alarm Setting Range	Standard 20 to 80% of full scale(H:50 to 80%, L:20 to 50%)
Contact	Reed switch(Self-holding type) Max. Contact capacity: AC10VA, DC10W Max. Voltage: AC125V, DC100V Max. Current: 0.5A
Connection	Lead wire connection of 50cm. (2m is also available)
Reset-Span	25% Full Scale
Ambient Temperature	-10 to 60°C



Caution must be taken when mounting multiple alarmed meters. Close proximity may cause interference with alarm signal.

Dimensional Drawing

Standard Valve provided at outlet, with locknuts for front panel mounting



Use non-magnetized material for panel with Reed Switch alarm output

Flow Range Alarm Settings

Air ¹ Flow Rate Table			
If LO, LC, HO, or HC alarm output			
Air		Alarm Setting Range	
ft ³ /h	L/h (nor)	ft ³ /h	L/h (nor)
0.1-1.1	3-30	0.2-0.8	6-24
0.2-2.1	6-60	0.4-1.7	12-48
0.4-4.2	12-120	0.8-3.4	24-96
0.6-6.4	18-180	1.3-5.1	36-144
1.1-11	30-300	2.1-8.5	60-240
2.1-21	60-600	4.2-17	120-480
4.2-42	120-1200	8.5-34	240-960
6.4-64	180-1800	13-51	360-1440
8.5-85*	240-2400*	17-68	480-1920
21-106	600-3000	21-85	600-2400

Water ² Flow Rate Table			
If LO, LC, HO, or HC alarm output			
Water		Alarm Setting Range	
Gal/h	L/h	Gal/h	L/h
0.1-0.8	0.3-3	0.2-0.6	0.6-2.4
0.2-1.6	0.6-6	0.3-1.3	1.2-4.8
0.3-3.2	1.2-12	0.6-2.5	2.4-9.6
0.5-4.8	1.8-18	1-3.8	3.6-14
0.8-8.9	3-30	1.6-6.3	6-24
1.6-16	6-60	3.2-13	12-48

²Water measured with viscosity of 1 mPa·s

¹Air measured at 0 psig and 32°F (0°C)

*10:2 if range is more than 85 ft³/h (nor) (2400 L/h) (nor)

Part Number Selection

Model: P22

Application Information:

Flow / Direction	1	Bottom rear to top rear Gas flow rates >30 L/hr up to 3600 L/hr All Liquids ranges from 0.3-3 L/hr to 12-120 L/hr
	2	Bottom rear to top rear Gas flow rates < 30 L/hr
	Z	Special
Valve	A	None
	B	Bottom
	C	Top
	Z	Special
Alarm Output	1	None
	2	Reed Switch - Contact closes (becomes ON) when value is more than set point
	3	Reed Switch - Contact opens (becomes OFF) when value is more than set point
	4	Reed Switch - Contact closes (becomes ON) when value is less than set point
	5	Reed Switch - Contact opens (becomes OFF) when value is less than set point
	Z	Special
Wetted Parts	A	316 Stainless Steel (Standard)
	Z	Special
Packing Material	1	Fluorinated Propylene Monomer (FPM/FKM)
	2	Nitrile (NBR)
	3	Neoprene (CR)
	Z	Special
Connection Type	A	NPT thread (standard)
	B	RC thread (Typical for Non-USA Market)
	Z	Special
Connection Size	1	1/8"
	2	1/4"
	Z	Special
Mounting Options	A	None (Standard with locknuts for front panel mounting)
	Z	Special

Example: 22 1 A 1 A 1 A 1 A

Liquid equivalent to water density 1.0g/cm³, viscosity 1.0cp
Gases equivalent to Air @ 0 °C 1 atm

Fluid Name:
Operating Density or Specific Gravity:
Viscosity:

Flowrate
Maximum:
Operating Or Normal:
Scale Range:

Pressure
Maximum:
Operating or Normal:

Temperature
Maximum:
Operating or Normal:

Alarm Settings
Alarm 1:
Alarm 2:

Other Options

⚠ WARNING - USER RESPONSIBILITY

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