Peregrine

INSTRUMENTATION

PI-8120 SERIES

METAL TUBE FLOW METER

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Features

- Excellent low-flow performance
- Versatile design may be used for gas, steam, and liquids
- Low pressure loss for gas and steam applications
- Suitable for high pressure and high temperature applications
- Turn-down ratio of 10:1
- Local indication and intelligent remote LCD display
- Easy-to-read analog pointer style indicator
- Intrinsically safe & explosion proof for hazardous area applications

Description

Peregrine PI-8120 rugged metal tube variable area flowmeters (rotameters) are ideal for high pressure, high temperature and other demanding flow applications where safety is a concern. Features include: globally-recognized approvals for use in hazardous environments; analog and digital LCD local display options, multiple process connection options; several available materials of construction for metering of aggressive fluids and corrosion resistance; HART enabled 4-20mA output to provide for remote monitoring and control. The PI-8120's excellent repeatability makes it a good choice for batching applications. For versions without electronic output, no power supply is required. The PI-8120's low-pressure drop provides additional value by allowing for economical pump selection.

Specifications

Size:	15 ~ 150mm (1/2" to 6")
Measuring Range:	Water (20℃/68°F) 15 ~ 150,000 l/h Air (20℃/68°F, 0.1013MPa) 0.7 ~ 1000 m^3/h (3.09 ~ 4403 gpm)
Temperature:	Standard (E) -40°C ~ +200°C, -104°F ~ +392°F, PTFE: -40°C ~ 80°C, -104°F ~ 176°F.
High temperature (H):	+200°C ~ +400°C, +392°F ~ +752°F
Pressure Loss:	6.5 ~ 15.6 KPa
Pressure: Standard:	1.6MPa/232psi (DN65 - DN150) 4.0MPa/580psi (DN15 - Dn50) High: 2.5MPa//363psi (DN65 - DN100) 6.4MPa/928psi (DN15 - DN50)
Viscosity:	15mm~20mm (0.6"~0.8") - < 30 CP 25mm ~ 40 mm (1"~1.6") - < 250 CP 50mm ~ 200mm (2"~8") - < 300 CP Top enter、Top exit
Wetted parts:	304SS standard, 316SS optional Tantalum (flow tube) PTEE (flow tube) PTFE lining
Flanges:	ANSI and DIN-type available
Accuracy:	±1.5%(Standard) ±2.5%(PTFE liner)

Repeatability:	±0.5% of reading
Signal Output:	4-20mA (2-wire)
Local Display:	Mechanical Indicator (standard)
Digital Display:	Rate 0 ~ 50000 Total: 0 ~ 99999999 (with decimal)
Power Supply:	Standard:24VDC, two wire4~20mA(18VDC~30VDC) 3.6VDC @ 5.2 Amp Hours Lithium
Approvals:	Isolation: Exd II Ct5 Intrinsic Safety: Exia II C
Alarms:	High / Low limit alarm maximum 1A @ 24VDC
Data Storage	EEPROM (up to 10 years)
Flow Orientation	Top enter/top exit, Standard Bottom enter/Top exit Right enter/Left exit Left enter/Right exit
Protection	IP 67
Housing Material:	Aluminum
Cable Connector:	M20x1.5 or ½" NPT

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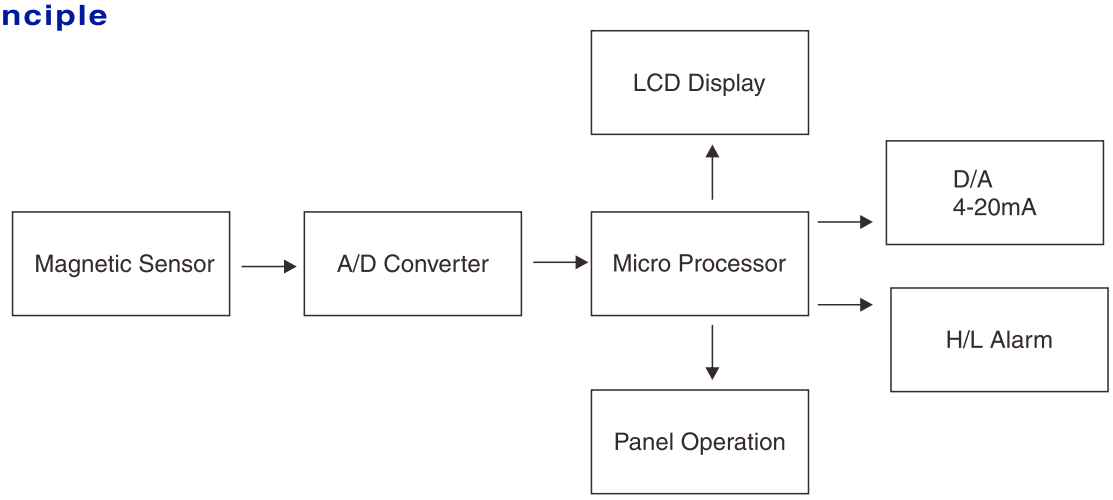
Principle



Flow range for various fluids (L/H)

Meter	Float	Water (LPH)		Air
Nominal Diameter inch/ mm	Model code	Material of measuring tube Metal	Material of measuring tube Metal w/ PTFE liner	in SCMH
1/2"/ DN15	F8001-15.0	2.5~25		0.07~0.7
	F8001-15.1	4.0~40	2.5~25	0.11~1.1
	F8001-15.2	6.0~60	4.0~40	0.18~1.8
	F8001-15.3	10~100	6.0~60	0.28~2.8
	F8001-15.4	16~160	10~100	0.4~4.0
	F8001-15.5	25~250	16~160	0.7~7.0
	F8001-15.6	40~400	25~250	1.0~10
	F8001-15.7	60~600	40~400	1.6~16
1"/ DN25	F8001-25.0	100~1,000	60~600	3~30
	F8001-25.1	160~1,600	100~1,000	4.5~45
	F8001-25.2	250~2,500	160~1,600	7~70
	F8001-25.3	400~4,000	250~2,500	11~110
2"/DN50	F8001-50.0	600~6,000	400~4,000	18~180
	F8001-50.1	1,000~10,000	600~6,000	25~250
	F8001-50.2	1,600~16,000	1,000~10,000	40~400
3"/ DN80	F8001-80.0	2,500~25,000	1,600~16,000	75~750
	F8001-80.1	4,000~40,000	2,500~25,000	100~1,000
4" / DN100	F8001-100.0	6,000~60,000	4,000~40,000	150~1,500
	F8001-100.1		6,000~60,000	
6" / DN150	F8001-150.0	15,000~150,000	8,000~80,000	

Table 1: Model code for float in different flow range

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Flow range for various fluids (GPH)

Meter	Float	Water (GPH)		Air
Bore Size inch/mm	Model code	Material of measuring tube Metal	Material of measuring tube Metal w/ PTFE liner	in SCFM
1/2"/ DN15	F8001-15.0	0.011 to 0.110		0.0003 to 0.0031
	F8001-15.1	0.018 to 0.176	0.011 to 0.110	0.0005 to 0.0048
	F8001-15.2	0.026 to 0.264	0.018 to 0.176	0.0008 to 0.0079
	F8001-15.3	0.044 to 0.440	0.026 to 0.264	0.0012 to 0.0123
	F8001-15.4	0.070 to 0.704	0.044 to 0.440	0.0017 to 0.0176
	F8001-15.5	0.110 to 1.101	0.070 to 0.704	0.0031 to 0.0308
	F8001-15.6	0.176 to 1.761	0.110 to 1.101	0.0044 to 0.0440
	F8001-15.7	0.264 to 2.642	0.176 to 1.761	0.0070 to 0 0704
1"/ DN25	F8001-25.0	0.440 to 4.403	0.264 to 2.642	0.0132 to 0.1321
	F8001-25.1	0.704 to 7.045	0.440 to 4.403	0.0198 to 0.1981
	F8001-25.2	1.145 to 11.007	0.704 to 7.045	0.0308 to 0.3082
	F8001-25.3	1.761 to 17.611	1.145 to 11.007	0.0484 to 0.4843
2"/DN50	F8001-50.0	2.642 to 26.417	1.761 to 17.611	0.0793 to 0.7925
	F8001-50.1	4.403 to 44.029	2.642 to 26.417	0.1101 to 1.1007
	F8001-50.2	7.045 to 70.446	4.403 to 44.029	0.1761 to 1.7611
3"/ DN80	F8001-80.0	11.007 to 110.072	7.045 to 70.446	0.3302 to 3.3029
	F8001-80.1	17.611 to 176.115	11.007 to 110.072	0.4404 to 4.4039
4" / DN100	F8001-100.0	26.417 to 264.17	17.611 to 176.115	0.6605 to 6.6058
	F8001-100.1		26.417 to 264.17	
6" / DN150	F8001-150.0	66.001 to 660.01	35.200 to 352.20	

Table 1: Model code for float in different flow range

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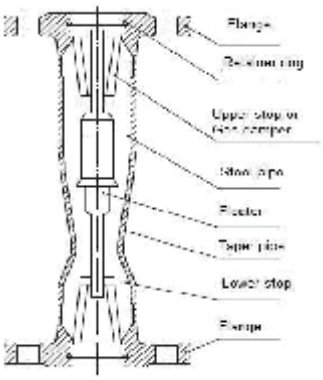
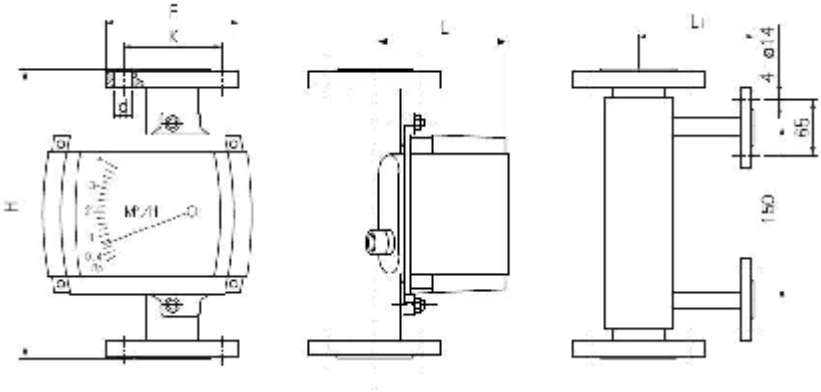
Bottom enter and top exist

Principle



Dimension



Vertical Installation Size (mm/ inches)												
Diameter Size		F		K		d	H		L		L1	
DN15	1/2"	95	3.74"	65	2.56"	4-ø14	250	10"	125	5.00"	100	4"
DN25	1"	115	4.53"	85	3.35"	4-ø14	250	10"	138	5.43"	100	4"
DN50	2"	165	6.50"	125	5.00"	4-ø18	250	10"	168	6.62"	120	4.72"
DN80	3"	200	7.87"	160	6.30"	8-ø18	250	10"	198	7.80"	140	5.51"
DN100	4"	220	8.66"	180	7.09"	8-ø18	250	10"	230	9.05	150	6"
DN150	6"	285	11.22"	211	8.31"	8-ø18	250	10"	230	9.05"	150	6"

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Please contact your Peregrine application engineer

You also need to provide the following information:

Type of fluid	Please provide the name of your fluid, including operating density and viscosity
Full scale flow	Maximum and minimum flow rates, units must be m3/hr, LPM or GPM
Line Size	Please indicate the pipe size as well as connection type (flange, threaded, etc)
Pressure & Temperature	We will calibrate your flowmeter as close to your operating conditions as possible.

Model Selection Guide

PI-8120	Z	Local indicator															Indicator
	D	Remote output															
	ZX	Local indicator (Inside & outside taper pipe integration)															
	DX	Remote output (Inside & outside taper pipe integration)															
		xx	15、25、50、80、100、150 (Refer to table 1)														Model code （ Float）
			S4	Stainless steel 304			F	Fluoroplastics lining									Measuring tube material
			S6	Stainless steel 316			Ti	Titanium alloy									
			S6L	Stainless steel 316L			HC	Hastalloy C									
				R	Multifunction indicator,explosion-proof type(Round housing)												Indicator type
				S	Pointer nonlinear indicate instant flow (Square housing)												
				RB	Stainless steel multifunction indicator,explosion-proof type												
				SB	Stainless steel body indicator nonlinear indicate instant flow												
						E2	Indicator ,ESK transmission,LCD display,backlight										Remote transmitter
						E3	Indicator ,ESK transmission										
						E4	Indicator ,ESK transmission,HART										
						E5	Pointer,ESK transmission,LCD display,backlight,HART										
							Exi	Intrinsic safety type									Explosion proof type
							Exd	Explosion-proof (only for M8 & M8B indicator)									
								K0	No alarm								Switch alarm output
								K1	With a upper switch alarm point								
								K2	With a floor switch alarm point								
								K3	With two-switch alarm point								
									B1	Vertical installation							Structure Note:show flow and header direction in order
									B2	Horizontal installation							
									B3	Side inlet side outlet							
									B4	Side inlet side outlet							
									B5	Bottom inlet side outlet							
										T	Clamp type						Accessory
										H	High temp.(special for LZD)						
											S	-40℃~+200℃ (-104°F to +392°F)					Medium temperature
											H	-40℃~+400℃ (-104°F to +752°F)					
											G	-40℃~+80℃(-104°F to +176°F) for PTFE liner					
												≤ 6.4MPa					Working pressure
													g/cm3				Medium density
														G	Gas		Medium type
														L	Liquird		
															A	ANSI	Process Connection
															J	JIS	
															D	DIN	
															C	Clamp-on	
															N	NPT	

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Peregrine Additives & Lubricants
6318 Union Avenue, Shreveport, LA 71106
318.222.2224 ■ 318.222.7222 Fax
palube.com