



Discontinue

Flow sensor for compressed air (flow rate sensor)

PF500D to PF8000D / PF16000E Series

Flow sensor for compressed air with various functions

- Flow rate range: 25 to 500, 50 to 1000, 100 to 2000
200 to 4000, 400 to 8000 and 800 to 16000Nℓ/min



CAD DATA AVAILABLE.

Specifications

Descriptions		PF500D -10	PF500D -15	PF1000D -10	PF1000D -15	PF2000D -10	PF2000D -15	PF4000D -15	PF4000D -25	PF8000D -25	PF8000D -40	PF16000E -50
Spec.	Division range N ℓ/min	25 to 500		50 to 1000		100 to 2000		200 to 4000		400 to 8000		800 to 16000
	Port size	Rc3/8	Rc1/2	Rc3/8	Rc1/2	Rc3/8	Rc1/2	Rc1/2	Rc1	Rc1	Rc1½	Rc2
Working conditions	Applicable fluid	Compressed air / N ₂ gas										
	Working air quality	Atmospheric dew point -17°C or less (* 1)										
	Max. working pressure MPa	1.5										
	Min. working pressure MPa	0.1										
	Withstanding pressure MPa	2.25										
	Ambient temperature and humidity	0 to 50°C, 85%RH or less										
Accuracy	Fluid temperature °C	0 to 40										
	Linearity	± 1.5%F.S (0.7MPa, 20°C)										± 2.5%F.S. * 2
	Pressure characteristics	± 1.5%F.S (0.1 to 1.5MPa, 0.7MPa standard)										
	Temperature characteristics	± 2.0%F.S (0 to 40°C, while 20°C standard)										
	Output response time sec	Approx. 1.25										Approx. 2.5
	Display	5 digits LED display										
Output	Min. display flow rate * 3	10N ℓ/min		20N ℓ/min		30N ℓ/min		50N ℓ/min		100N ℓ/min		0.2Nm³/min
	Integrating flow rate	Max. 9 digits However, display switched by change key										
	Analog output	Standard: DCO to 5V Option: DC4 to 20mA, 1 to 5V and 0 to 10V										
	Switch output	Relay contact (1ch, a contact)										
	Pulse output (option) * 4	10N ℓ/pulse								100N ℓ/pulse		
	Power supply	AC100V ± 10%(Max. 10W)										
Installation	Cable	Auxiliaries (3m connector, 0.5mm² conductor)										
	Set value holding function	Semipermanent due to EEPROM										
	Installation attitude	Both vertical and horizontal (resin cover facing downward excluded)										
	Installation strait piping section	Not required										Upper stream: 10D Down stream : 5D * 5
	Protective structure	Equivalent to IP64 (sensor section only)										
	Mass kg	1.5						2.0		2.2		5.0

* 1: If foreign matter, moisture or oil is contained in the compressed air, detecting flow rate is failed, so " sensor error " is displayed.

Install a filter, refrigerating type dryer and oil mist filter before a flow sensor.

* 2: Same conditions as PF8000D; 0.7MPa, 20°C are applied.

* 3: If lower than min. flow rate range, 0 is indicated. Also, for indicated value under flow rate range, accuracy is not guaranteed.

* 4: Refer to descriptions of integrating pulse output on Page 1022 for details of pulse output.

* 5: 1D shows pipe inner diameter, so prepare 10D= approx. 530mm and 5D= approx. 265mm long strait piping section.

JIS symbol



How to order

PF 4000D - 15 - A1

A Flow rate range

B Port size

C Output

Symbol		Model					
		PF500D	PF1000D	PF2000D	PF4000D	PF8000D	PF16000E
A Flow rate range							
500D	25 to 500Nℓ/min	●					
1000D	50 to 1000Nℓ/min		●				
2000D	100 to 2000Nℓ/min			●			
4000D	200 to 4000Nℓ/min				●		
8000D	400 to 4000Nℓ/min					●	
16000E	800 to 16000Nℓ/min						●
B Port size							
10	Rc3/8	●	●	●			
15	Rc1/2		●	●			
25	Rc1				●		
40	Rc1½					●	
50	Rc2						●
C Output							
Blank	Analog output DC0 to 5V (standard)	●	●	●	●	●	●
A1	Analog output DC4 to 20mA	●	●	●	●	●	●
A2	Analog output DC1 to 5V	●	●	●	●	●	●
A3	Analog output DC0 to 10V	●	●	●	●	●	●
A6	Integrating pulse output	●	●	●	●	●	●

Above circled combination can be manufactured.

[Example of model number]

PF4000D-15-A1

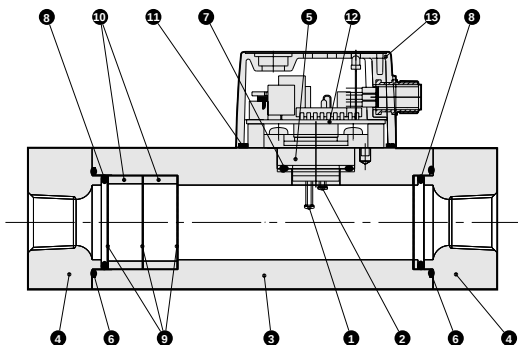
Model: PF4000D

- A Flow rate range : 200 to 4000Nℓ/min
B Port size : Rc1/2
C Output : Analog output DC4 to 20mA

Refrigerating type dryer
Desiccant type dryer
high polymer membrane dryer
Air filter
Automatic drain other
F.R.L (Module)
F.R.L (Separate)
Small F.R.
Precise R.
Electro pneumatic R.
Auxiliary
Flow control valve
Silencer
Check valve / others
Joint / tube
Vacuum F.
Vacuum R.
Vacuum generator
Vacuum auxiliary / pad
Mechanical pressure SW
Electronic pressure SW
Electronic dif. pres. SW
Sealing / close contact conf. SW
Pressure SW for coolant
Flow sensor for air
Total air system
Water cooling refrigerator
Flow sensor for water
Flow sensor For compressed air

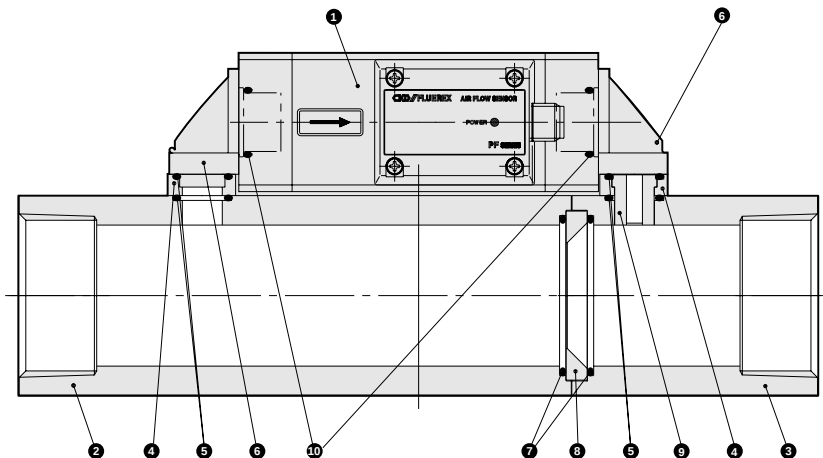
Internal structure and parts list

- PF500D to PF8000D



No.	Parts name	Material	No.	Parts name	Material
1	Platinum thin film sensor 1	Ceramic / platinum	8	O ring	NBR / Nitrile rubber
2	Platinum thin film sensor 2	Ceramic / platinum	9	Mesh	SUS304 / Stainless steel
3	Body	A6063 / Aluminum alloy	10	Collar	A6063 / Aluminum alloy
4	Attachment	A6063 / Aluminum alloy	11	Gasket	NBR / Nitrile rubber
5	Sensor base	PBT / PBT	12	Sensor circuit board	—
6	O ring	NBR / Nitrile rubber	13	Sensor cover	ABS / ABS resin
7	O ring	NBR / Nitrile rubber			

- PF16000E



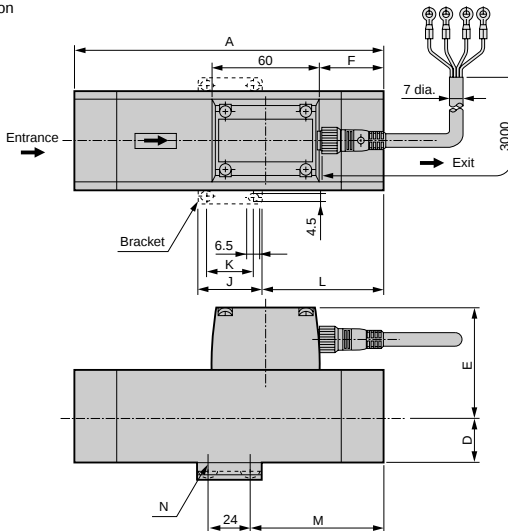
No.	Parts name	Material	No.	Parts name	Material
1	Separate flow sensor section	Refer to the figure above.	6	Sub attachment	SUS304 : Stainless steel
2	Body 1	A6063 : Aluminum alloy	7	O ring	NBR : Nitrile rubber
3	Body 2	A6063 : Aluminum alloy	8	Orifice	C3604 : Copper alloy
4	Spacer	A6063 : Aluminum alloy	9	Aspirator	C3604 : Copper alloy
5	O ring	NBR : Nitrile rubber	10	O ring	NBR : Nitrile rubber

Dimensions

- PF500D to PF8000D
Sensor section



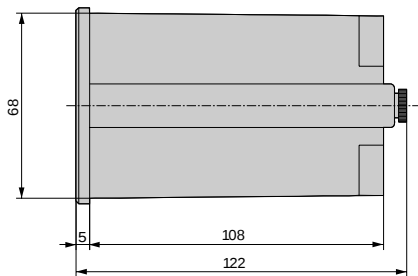
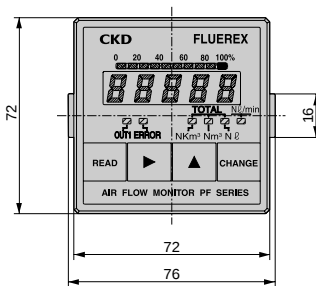
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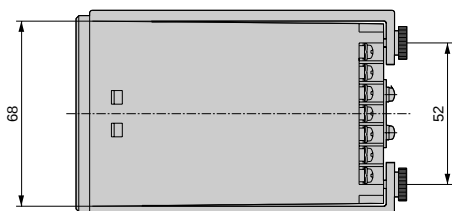
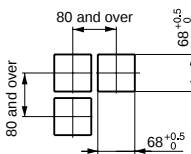
End of model no.	Port size
-10	Rc3/8
-15	Rc1/2
-25	Rc1
-40	Rc1 1/2

Model no.	A	B	C	D	E	F	G	H	I	J	K	L	M	N
PF500D / 1000D / 2000D-**	135	52	82	22.5	59.5	24	72	64	33	36	26	49.5	55.5	M4 thread length 4.5
PF4000D-**	176	57	91	27	64	38	72	64	33	36	26	70	76	M4 thread length 4.5
PF8000D-**	188	66	99	31	68	44	84	74	42	40	28	74	82	M5 thread length 3.6

Monitor section



- Panel cut dimension
Standard panel cut dimension is shown as below.
(Note) Appropriate panel plate thickness is 1 to 4mm.



Refrigerating type dryer
Desiccant type dryer
High polymer membrane dryer

Air filter
Automatic drain other
F.R.L. (Module)

F.R.L. (Separate)
Small F.R.

Precise R.
Electro pneumatic R.

Auxiliary

Flow control valve

Silencer

Check valve / others

Joint / tube

Vacuum F.

Vacuum R.

Vacuum generator

Vacuum auxiliary / pad

Mechanical pressure SW

Electronic pressure SW

Electronic dif. pres. SW

Sealing / close contact conf. SW

Pressure SW for coolant

Flow sensor for air

Total air system

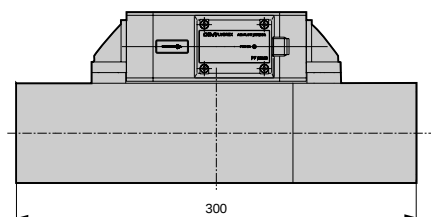
Water cooling refrigerator

Flow sensor for water

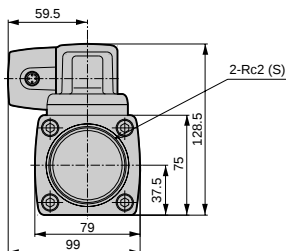
Flow sensor for compressed air

- PF16000E
Sensor section

 (File name: Page 1026 or Ending 30)



Note 2: When installation, the flow direction must be as same as flow direction on name plate.



CKD FLUEREK

0 20 40 60 80 100%

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TOTAL

Nm³/min

N m³

OUT ERROR

N m³ Nm³ N m³

READ

▶

▲

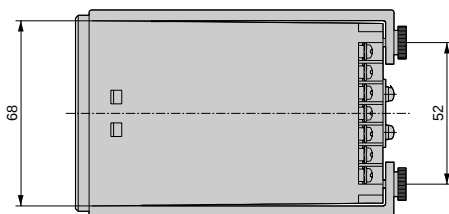
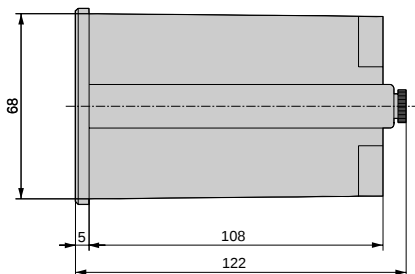
CHANGE

AIR FLOW MONITOR PF SERIES

72

76

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