

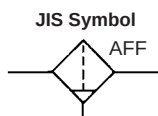
Main Line Filter

Series AFF

Series AFF is mounted to main piping to remove impurities like oil, water and foreign matter in compressed air. It improves the function of downward dryer, extends the life of precision filter and prevents trouble with the equipment.



AFF□B



Fluid	Compressed air
Max. operating pressure	1.0MPa
Min. operating pressure*	0.05MPa
Proof pressure	1.5MPa
Ambient and fluid temperature	5 to 60°C
Filtration degree	3μm (95% particle size collection)
Element life	2 years (1 year for A type) or when pressure drop reaches 0.1MPa

*With N.O. auto drain: 0.15MPa

Accessory (Option)/For AFF2B to AFF75B

Applicable model	AFF2B	AFF4B	AFF8B	AFF11B	AFF22B	AFF37B	AFF75B
Bracket assembly (with cap bolt, with spring washer)	BM51	BM52	BM53	BM54	BM55	BM56	BM57

Model

Model	AFF2B	AFF4B	AFF8B	AFF11B	AFF22B	AFF37B	AFF75B
Rated flow ⁽¹⁾ (ℓ/min(ANR))	300	750	1500	2200	3500	6000	12000
Port size	1/8, 1/4, 3/8	1/4, 3/8, 1/2	3/8, 1/2, 3/4	1/2, 3/4, 1	3/4, 1	1, 1 1/2	1 1/2, 2
Weight (kg)	0.38	0.55	0.9	1.4	2.1	4.2	10.5



Note 1) Max. flow is at 0.7MPa. Max. flow depends on operating pressure.
Please refer to p.4.4-3 for flow characteristics and to p.4.4-1 for graph of max. flow.

How to Select Model

Follow the procedure given below to select the model in accordance with the inlet pressure and maximum air flow rate requirements.

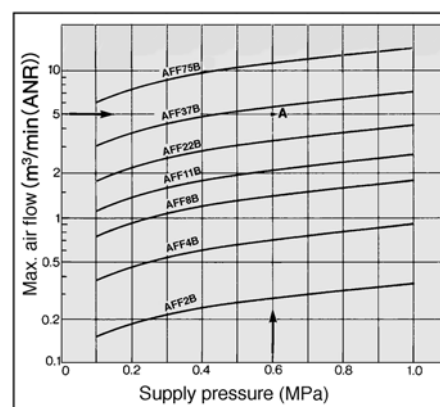
(Example) Inlet pressure: 0.6MPa

Maximum air flow rate: 5m³/min(ANR)

- Using the "Graph of Max. Flow", find point A, at which the input pressure and the maximum air flow rate intersect.
- To select one with the maximum air flow rate line that is located above the obtained intersection point A, the model will be AFF37B.

Note) Make sure to select a model with the maximum air flow rate line that is located above the obtained intersection point. A model with the maximum air flow rate line that is located below the obtained intersecting point will have an excess flow rate, and will cause problems.

Graph of Max. Flow



P.4.4-7

HA□

ID□

AMG

AFF

AM□

FQ1

Related products

Series *AFF*

How to Order AFF2B to AFF75B

AFF

8B

03

B

J

Body size

2B	1/8 basis
4B	1/4 basis
8B	3/8 basis
11B	1/2 basis
22B	3/4 basis
37B	1 basis
75B	1 1/2 basis

Thread

—	Rc(PT)
F	G(PF)
N	NPT

Port size

01	1/8 ^B	06	3/4 ^B
02	1/4 ^B	10	1 ^B
03	3/8 ^B	14	1 1/2 ^B
04	1/2 ^B	20	2 ^B

Accessory (Option)*

Symbol	Description
—	No accessories
B	Bracket
C	N.C. Auto drain
D	N.O. Auto drain

Optional specifications*

J	Drain guide 1/4 ^B Female thread
R	IN/OUT reversed
T	Element Service Indicator

*Please refer to the following table for combination of accessory and option specifications.

Note) Please refer to p.4.6-6 for "How to Order" case assembly.

Option

⊙ Available □ Unavailable ○ Depends on model

Accessories/Optional specifications		Accessories					Opt. specs							Applicable model						
		C	D	J	R	T	AFF2B	AFF4B	AFF8B	AFF11B	AFF22B	AFF37B	AFF75B							
Accessories	N.C. auto drain	C				⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙							
	N.O. auto drain	D				⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙							⊙
Optional specifications	Drain guide 1/4 ^B	—J				⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙							
	IN/OUT reversed	—R	⊙	⊙	⊙		⊙	⊙	⊙	⊙	⊙	⊙	⊙							⊙
	Element service indicator	—T	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙							⊙

⚠ Precautions

Be sure to read before handling.
Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalogue, and refer to p.4.0-5 to 4.0-7 for more detailed precautions of every series.

Design

- ⚠ Caution

① Design this product in a location that is not likely to create pulsations. If the internal/external pressure difference exceeds 0.1MPa, the element could break.

② When using an auto drain, drain pipes must be connected within the following range:
Normally closed (N.C.) } Tube fittings are provided. Therefore, use a 10mm
Normally open (N.O.) } external tube, and keep the pipe length within 5m.

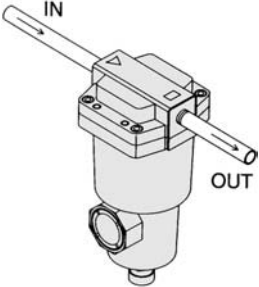
③ When using a normally open (N.O.) auto drain, because the valve does not close until the air pressure becomes higher than 0.15MPa, the air could keep discharging from the drain discharge section of an air compressor with a small air discharge volume. Therefore, make sure to use a normally closed (N.C.) auto drain with a compressor under 3.7kW.

④ The bracket that is provided with the product is for supporting the product itself. Separate supports must be provided for piping and other connection devices.

Installation

⚠ Caution

① Verify the direction of the compressed air flow and the "▷" mark that indicates the inlet side of the product before connecting. It cannot be used with its direction reversed.



- Maintenance

⚠ Caution

① For AFF2B to AFF75B models, the element replacement period is when the pressure drop has reached 0.1MPa or 2 years have elapsed, whichever comes first. The pressure drop can be verified by using a product that is equipped with an element service indicator (-T) or with a differential pressure gauge (order made specification).

② When it is time to replace the element, also replace the O ring and the gasket.

③ When using AFF2B to AFF75B equipped with a drain valve, drain guide, or a ball valve, discharge the drainage before the drain fluid surface reaches the center of the sight glass. If it is not discharged properly, the drainage will flow out to the secondary side.

Main Line Filter Series **AFF**

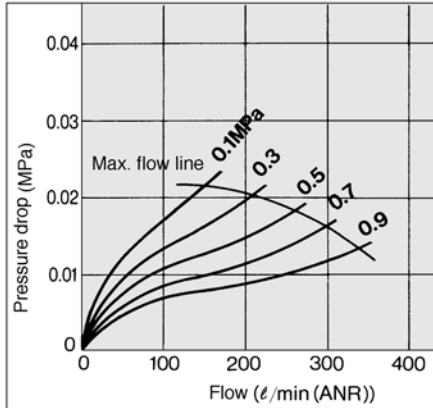
Flow Rate/Select less than max. flow line for model selection

———— Oil saturated state of element

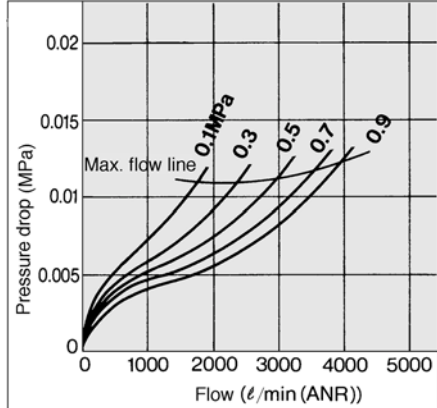


Note) If compressed air is over max. flow, main line filter cannot be operated well or element may be damaged.

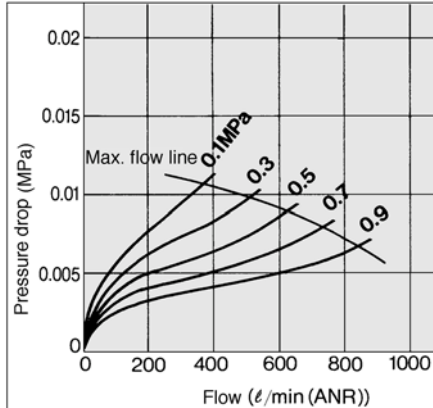
AFF2B $\frac{1}{8}B$



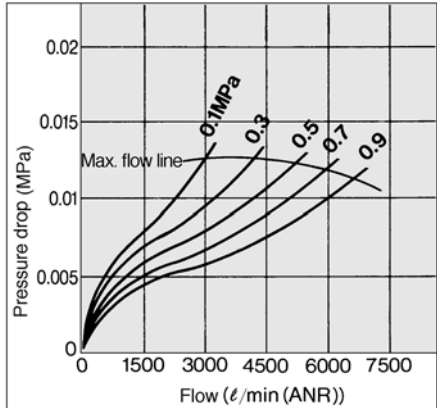
AFF22B $\frac{3}{4}B$



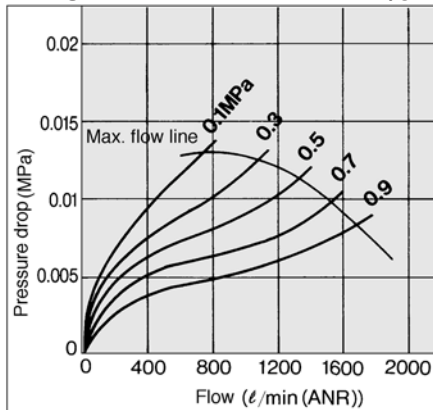
AFF4B $\frac{1}{4}B$



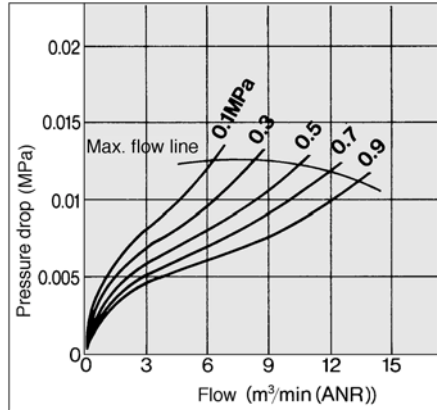
AFF37B $1B$



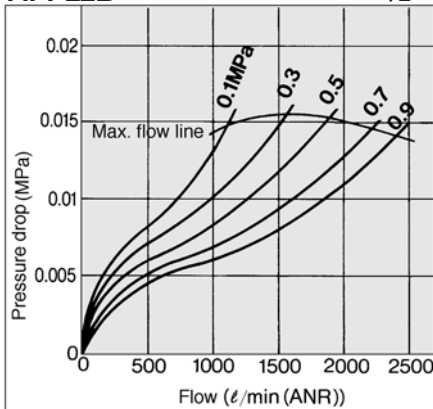
AFF8B $\frac{3}{8}B$



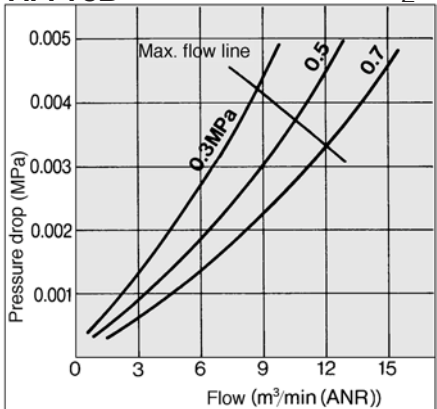
AFF75B $1\frac{1}{2}B$



AFF11B $\frac{1}{2}B$



AFF75B $2B$



HA ☐

ID ☐

AMG ☐

AFF ☒

AM ☐

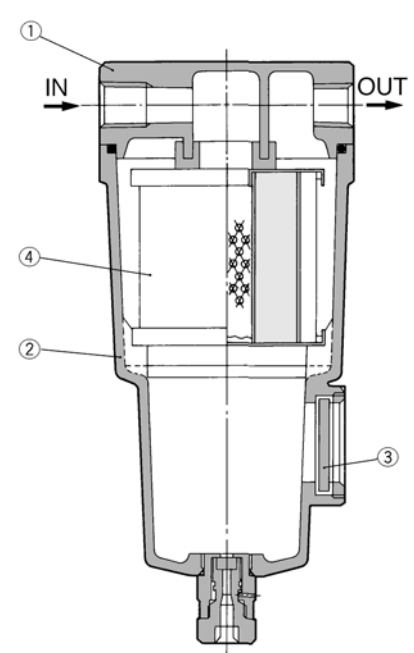
FQ1 ☐

Related products

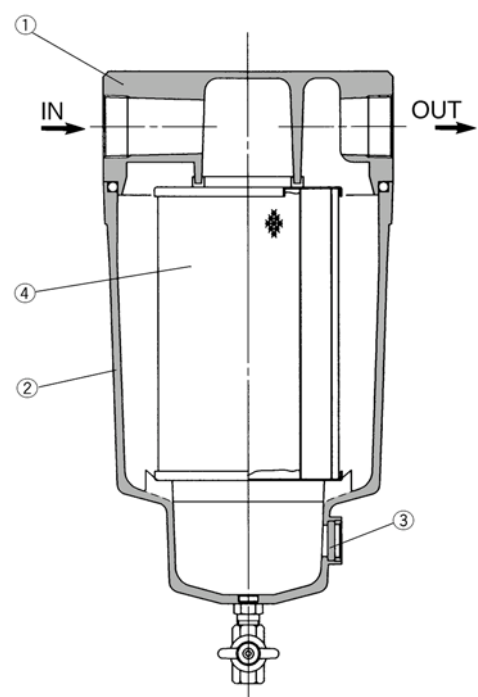
Series AFF

Construction

AFF2B to AFF37B



AFF75B



Component Parts

No.	Description	Material	Remark
①	Body	Aluminum die cast	Chromate treatment. Epoxy coating on inner surface
②	Housing	Aluminum die cast*	
③	Sight glass	Tempered glass	

*Aluminum casting for AFF75B

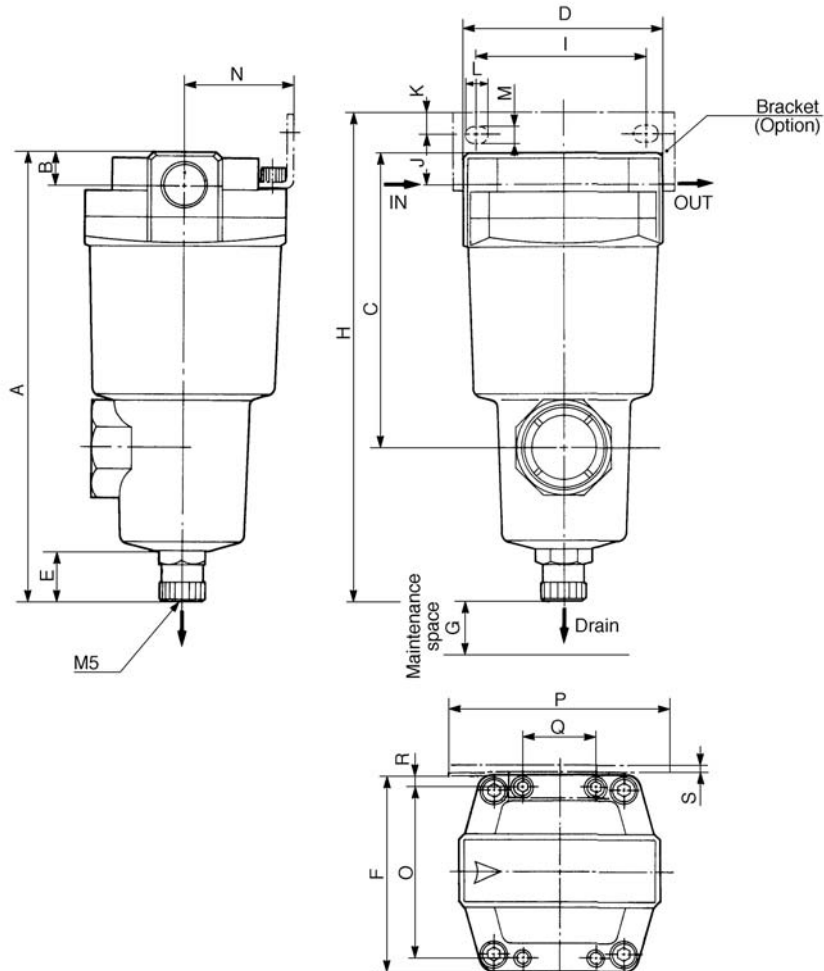
Replacement Parts

No.	Description	Material	Model						
			AFF2B	AFF4B	AFF8B	AFF11B	AFF22B	AFF37B	AFF75B
④	Element assembly	Cotton paper NBR	AFF-EL2B	AFF-EL4B	AFF-EL8B	AFF-EL11B	AFF-EL22B	AFF-EL37B	AFF-EL75B

*With gasket, With O ring

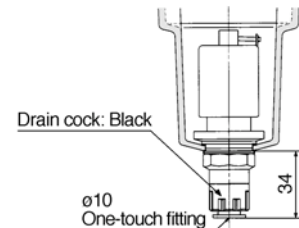
 Note: Construction shows sight glass, but mounting position is different from actual position. Please refer to p.4.4-5 and 4.4-6 for more details.

AFF2B to AFF37B Dimensions

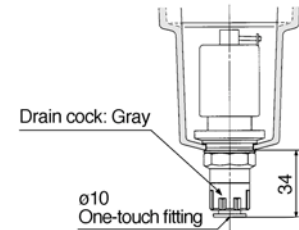


Accessories

D: With auto drain (N.O. style)



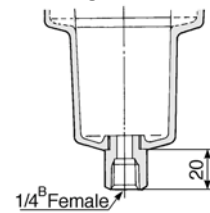
C: With auto drain (N.C. style)



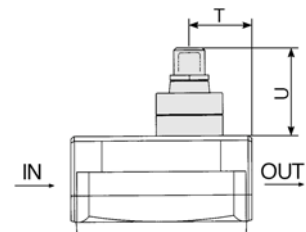
*N.C. style of AFF 37B is not applicable.

Optional Specifications

J: With drain guide



T: Element service indicator



Model	Port size (Nominal size B)	A	B	C	D	E	F	G	Mounting dimensions											Element Service Indicator		
									H	I	J	K	L	M	N	O	P	Q	R	S	T	U
AFF2B	1/8, 1/4, 3/8	159	13	100	63	20	63	10	166	56	15	5	9	5.5	35	54	70	26	4.5	1.6	24	37
AFF4B	1/4, 3/8	172	13	113	76	20	76	10	187	66	20	8	12	6	40	66	84	28	5	2.0	27	37
	1/2	178	16	119	76	20	76	10	187	66	17	8	12	6	40	66	84	28	5	2.0	27	37
AFF8B	3/8, 1/2	204	16	145	90	20	90	10	218	80	22	8	14	7	50	80	100	34	5	2.3	32	37
	3/4	210	19	151	90	20	90	10	218	80	19	8	14	7	50	80	100	34	5	2.3	32	37
AFF11B	1/2, 3/4	225	19	166	106	20	106	10	241	90	25	10	14	9	55	88	110	50	9	3.2	37	37
	1	232	22	173	106	20	106	10	241	90	21	10	14	9	55	88	110	50	9	3.2	37	37
AFF22B	3/4, 1	259	22	200	122	20	122	10	277	100	30	10	16	9	65	102	130	60	10	4.5	39	37
AFF37B	1, 1 1/2	311	32	253	160	20	160	10	334	150	40	15	20	11	85	136	180	76	12	4.5	55	37

HA ☐

ID ☐

AMG ☐

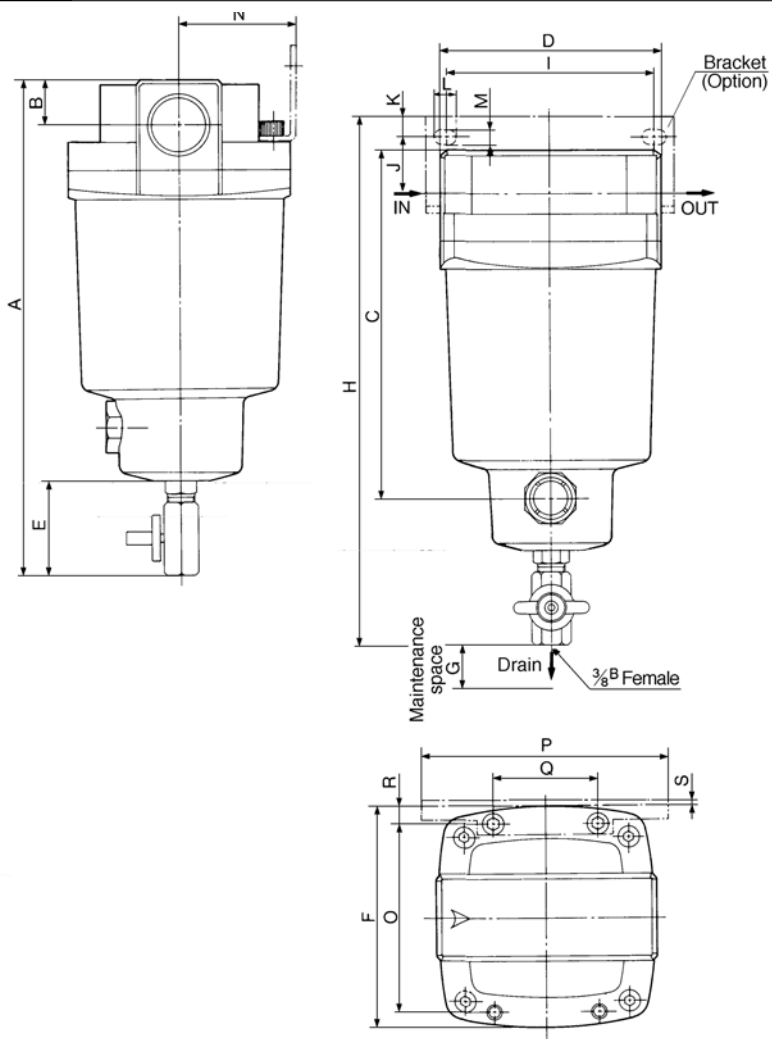
AFF ☒

AM ☐

FQ1 ☐

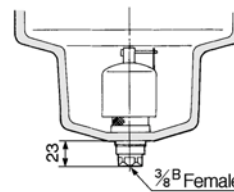
Related products

AFF75B Dimensions



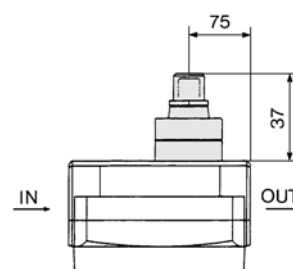
Accessories

D: With auto drain (N.O. style)
AFF75B



Optional Specifications

T: Element service indicator



Model	Port size (Nominal size B)	A	B	C	D	E	F	G	Mounting dimensions											
									H	I	J	K	L	M	N	O	P	Q	R	S
AFF75B	1½, 2	460.5	42	348	220	57.5	220	10	463.5	180	30	15	24	13	120	184	220	110	18	6.0

Series *AFF* Made to Order

Consult SMC for detailed specifications, size and delivery.



① With differential pressure gauge (GD40-2-01)

A differential pressure gauge that keeps track of the filter life is installed on the filter itself. This facilitates piping and achieves a compact design.

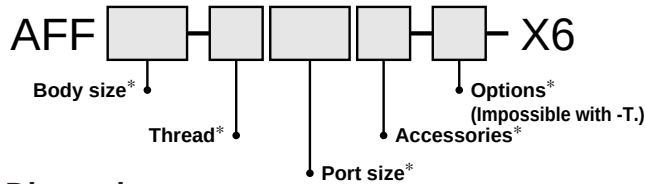
Specifications

Applicable Model	AFF2B to 75B
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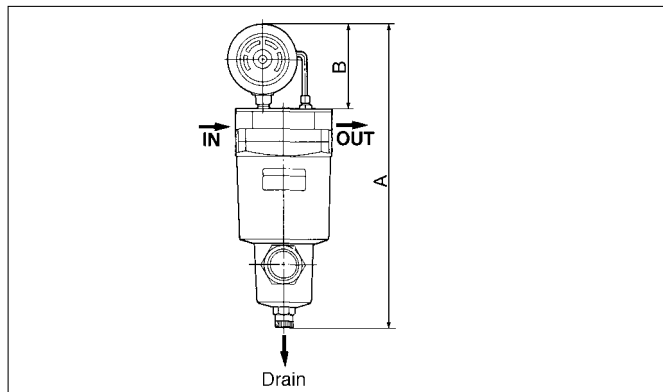
How to Order



*Refer to p.4.4-2 for "How to Order" standard specifications.



Dimensions



Model	Port size	A	B
AFF2B	1/8, 1/4, 3/8	239	80
AFF4B	1/4, 3/8	252	80
	1/2	258	80
AFF8B	3/8, 1/2	284	80
	3/4	290	80
AFF11B	1/2, 3/4	305	80
	1	312	80

Model	Port size	A	B
AFF22B	3/4, 1	339	80
AFF37B	1, 1 1/2	391	80
AFF75B	1 1/2, 2	540.5	80

⚠ Precautions

Be sure to read before handling.
Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalogue, and refer to p.4.0-5 to 4.0-7 for more detailed precautions of every series.

Design

⚠ Precautions

① This product cannot be operated in a location in which pulsations occur frequently.

Installation

⚠ Precautions

① Installation method

- 1) The HIGH and LOW marks on the back of the differential pressure gauge indicate the high-pressure and low-pressure sides, respectively. Connect the HIGH side to the primary side of the filter or other devices and the LOW side to their secondary side. Do not use the stop valve to prevent damage to the differential pressure gauge if the valve is inadvertently left open or closed.
- 2) Install the differential pressure gauge vertically.
- 3) The piping of the differential pressure gauge must be connected securely because it will break if it becomes detached.

HA ☐

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AMG

AFF

AM ☐

FQ1

Related products