

# In-line Air Filter

# ZFC Series



## How to Order



ZFC **5** **4** - **B** -

### Body size

Symbol	Body size	Filtration area
1	5 L/min	140 mm <sup>2</sup>
3	10 L/min	470 mm <sup>2</sup>
5	20 L/min	750 mm <sup>2</sup>
7	100 L/min	1260 mm <sup>2</sup>

### Applicable tubing O.D.

#### Metric size

Symbol	Applicable tubing O.D.	ZFC1	ZFC3	ZFC5	ZFC7
1	ø2	●	—	—	—
2	ø3.2	●	●	—	—
3	ø4	—	●	●	—
4	ø6	—	—	●	●
5	ø8	—	—	—	●
6	ø10	—	—	—	●
7	ø12	—	—	—	●

#### Inch size

Symbol	Applicable tubing O.D.	ZFC1	ZFC3	ZFC5	ZFC7
A	ø1/8"	●	●	—	—
B	ø5/32"	—	●	●	—
D	ø1/4"	—	—	●	●
E	ø5/16"	—	—	—	●
F	ø3/8"	—	—	—	●

### Made to order

Refer to page 8 for details.

Symbol	Specifications
X01	Different diameters (IN side < OUT side)
X02	Different diameters (IN side > OUT side)
X03	Blue element
X04	Filtration: 10 µm
X05	FKM/Oil free (Seal)
X06	Nylon

### Option

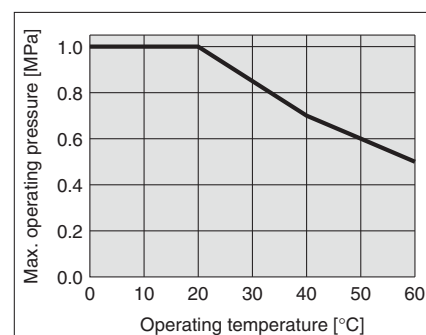
Nil	None
B	With bracket

## Specifications

Model		ZFC1□	ZFC3□	ZFC5□	ZFC7□						
Port size (Applicable tubing O.D.)	Metric size	ø2	ø3.2	ø3.2	ø4	ø4	ø6	ø6	ø8	ø10	ø12
	Inch size	—	ø1/8"	ø1/8"	ø5/32"	ø5/32"	ø1/4"	ø1/4"	ø5/16"	ø3/8"	—
Fluid	Air, Nitrogen										
Operating pressure	-100 kPa to 1.0 MPa (at 20°C)										
Flow rate (Positive pressure) [L/min] *1	15	45	50	80	100	200	250	450	550	650	
Flow rate (Vacuum pressure) [L/min]	2	5	7	10	10	20	30	70	80	100	
Proof pressure [MPa]	1.5 (at 20°C)										
Operating and ambient temperature range [°C]	0 to 60										
Filtration [µm]	5 (Filtration efficiency 95%)										
Element replacement differential pressure [MPa]	0.1 (Vacuum pressure 20 kPa)										
Filtration area [mm <sup>2</sup> ]	140		470		750				1260		
Applicable tubing material	Nylon, Soft nylon, Polyurethane										
Weight [g]	2.5		4.5		10.5		20.0		25.0		
Internal capacity [cm <sup>3</sup> ]	0.5		1.7		4.5		6.0		7.0		
Total length [mm]	45.0		60.5		53.9		68.3		79.6		
Total width [mm]	8.5		11.2		19.0				23.6		
Bracket total length [mm]	10.0		11.5		23.0				27.3		
Case material	Polycarbonate										

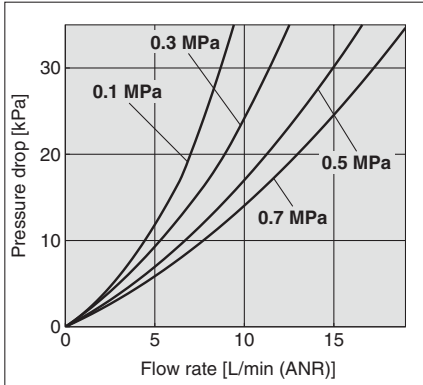
\*1 Flow rate (positive pressure) conditions: Supply pressure of 0.7 MPa, Pressure drop of 30 kPa

## Max. Operating Pressure and Operating Temperature

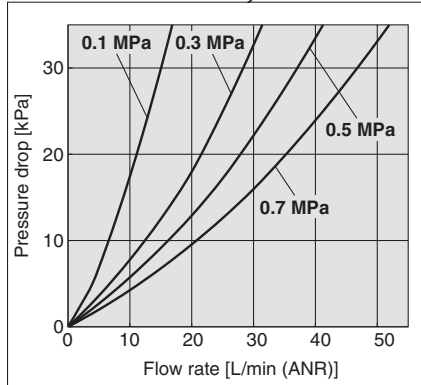


**Flow Rate Characteristics**

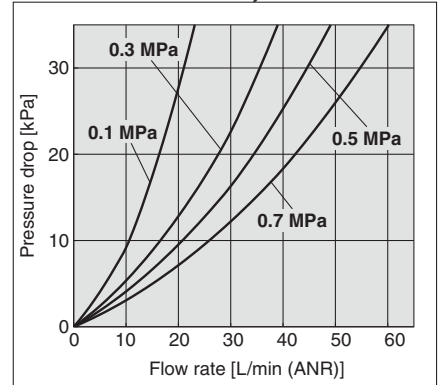
**ZFC11  $\varnothing 2$**



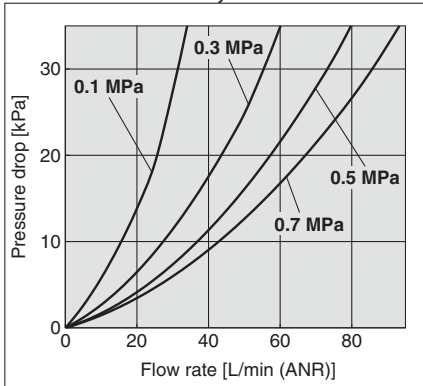
**ZFC12/1A  $\varnothing 3.2, \varnothing 1/8''$**



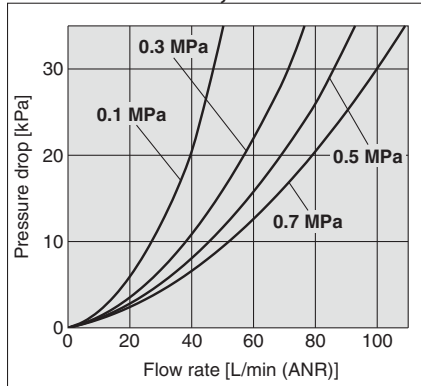
**ZFC32/3A  $\varnothing 3.2, \varnothing 1/8''$**



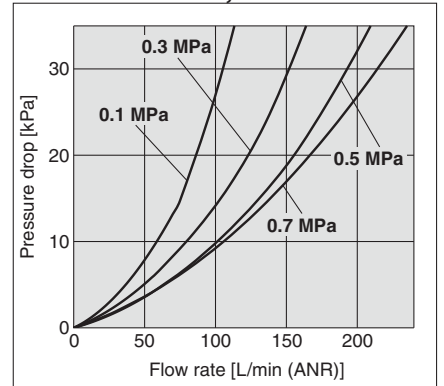
**ZFC33/3B  $\varnothing 4, \varnothing 5/32''$**



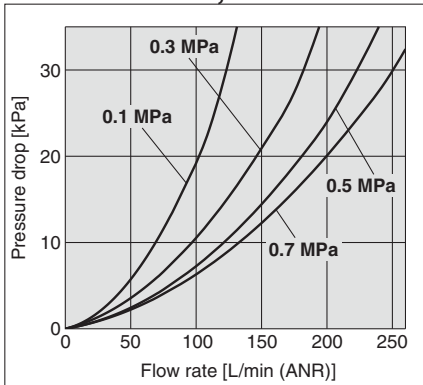
**ZFC53/5B  $\varnothing 4, \varnothing 5/32''$**



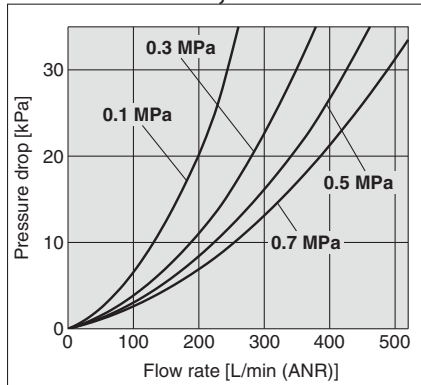
**ZFC54/5D  $\varnothing 6, \varnothing 1/4''$**



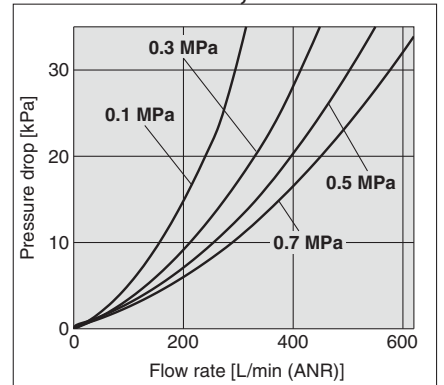
**ZFC74/7D  $\varnothing 6, \varnothing 1/4''$**



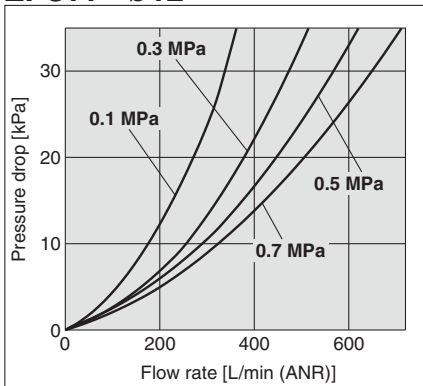
**ZFC75/7E  $\varnothing 8, \varnothing 5/16''$**



**ZFC76/7F  $\varnothing 10, \varnothing 3/8''$**



**ZFC77  $\varnothing 12$**



# ZFC Series

## Construction

### Component Parts

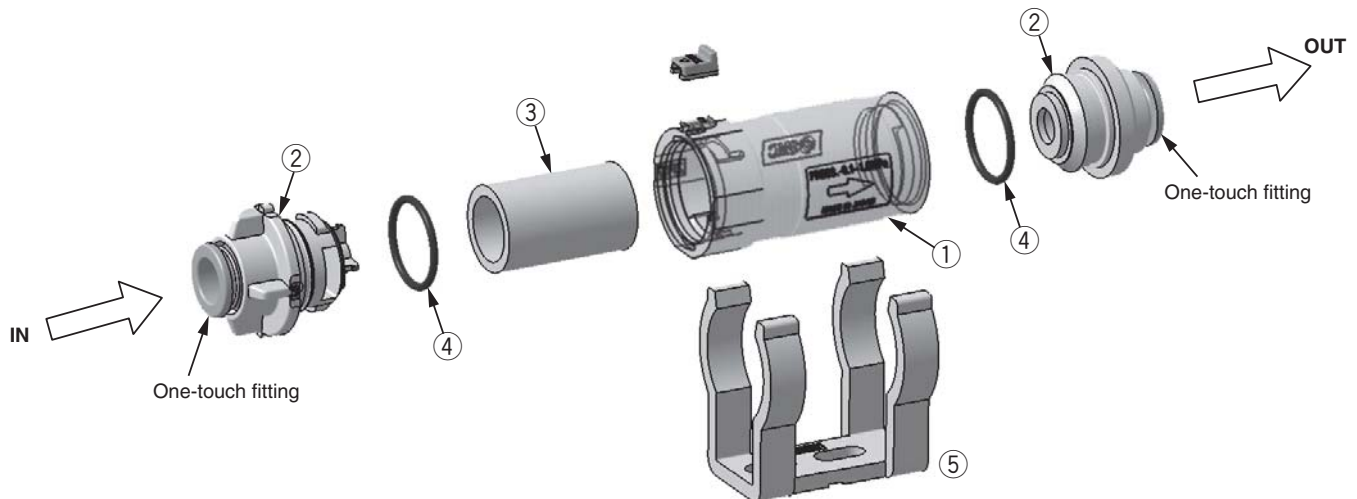
No.	Description	Material	Quantity
1	Case	PC	1
2	Cover	Resin PBT	2
3	Element	Sintered resin	1
4	O-ring	HNBR	2
5	Bracket	Resin PBT	1

### Replacement Element Part No. (10 elements included)

Part no.	Applicable filter	Element size	Quantity
ZFC-EL-1	ZFC1	ø5 x ø3 x L11	10
ZFC-EL-2	ZFC3	ø6 x ø4 x L25	10
ZFC-EL-3	ZFC5	ø12 x ø8 x L20	10
ZFC-EL-4	ZFC7	ø16 x ø12 x L25	10

### Replacement Bracket Part No.

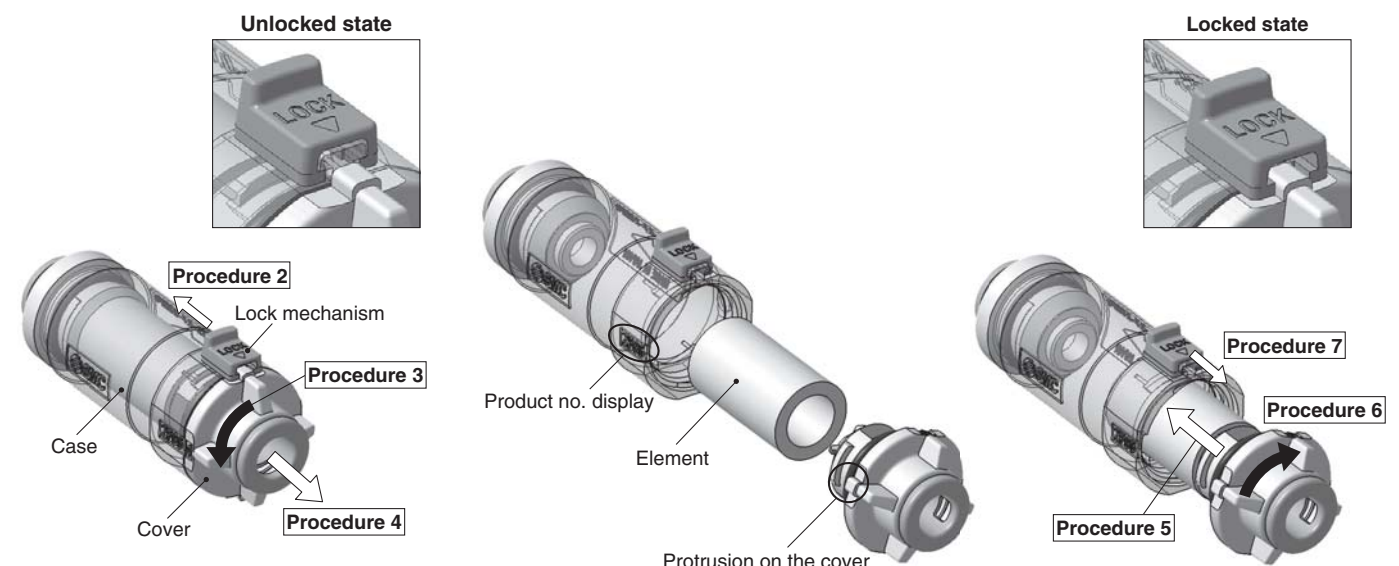
Part no.	Applicable filter	Quantity
ZFC-BR001	ZFC1	1
ZFC-BR002	ZFC3	1
ZFC-BR003	ZFC5	1
ZFC-BR004	ZFC7	1



## Element Replacement

### Procedure

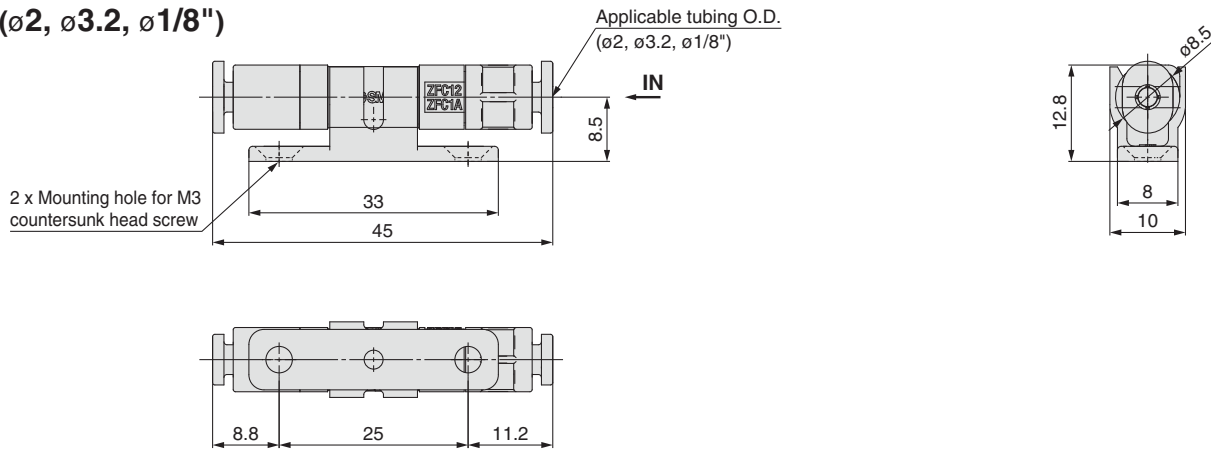
1. Stop operation and reduce the filter's internal pressure to atmosphere.
2. Slide the lock mechanism in the direction of the arrow to release the lock. (The ZFC1 series is not equipped with a lock mechanism.)
3. Rotate the cover counterclockwise at least 90 degrees.
4. Pull the cover out of the case to remove the element. Remove dust and other debris remaining inside the case by blowing it out with air etc. (Also, confirm that the O-ring is not damaged.)
5. Attach the new element to the cover and insert it into the case.
6. Align the raised part of the cover with the product no. display of the body, and push the cover to the end of the body. Rotate it clockwise until it stops.
7. Set the lock mechanism and check that the cover is locked completely.



**Dimensions**

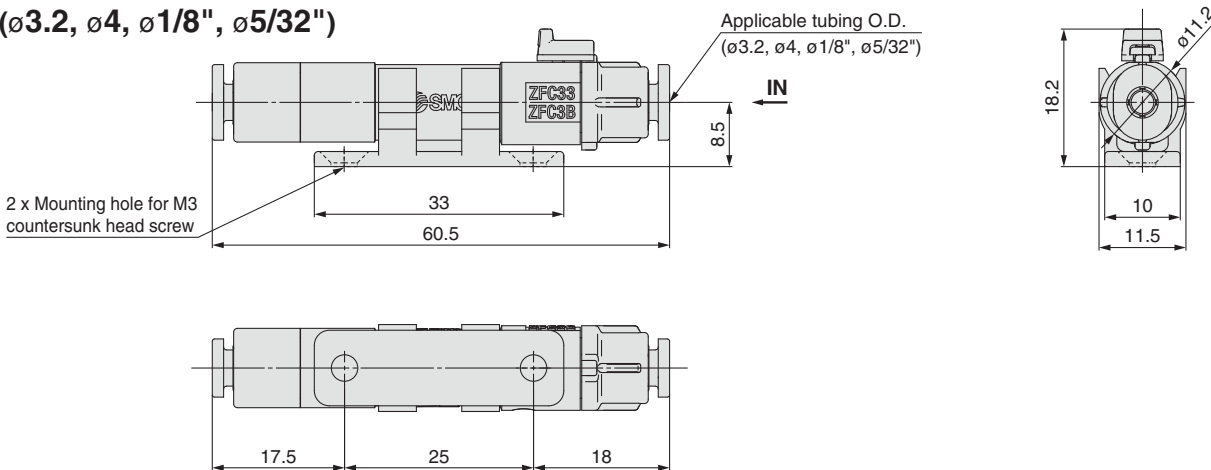
**ZFC1**

( $\varnothing 2$ ,  $\varnothing 3.2$ ,  $\varnothing 1/8"$ )



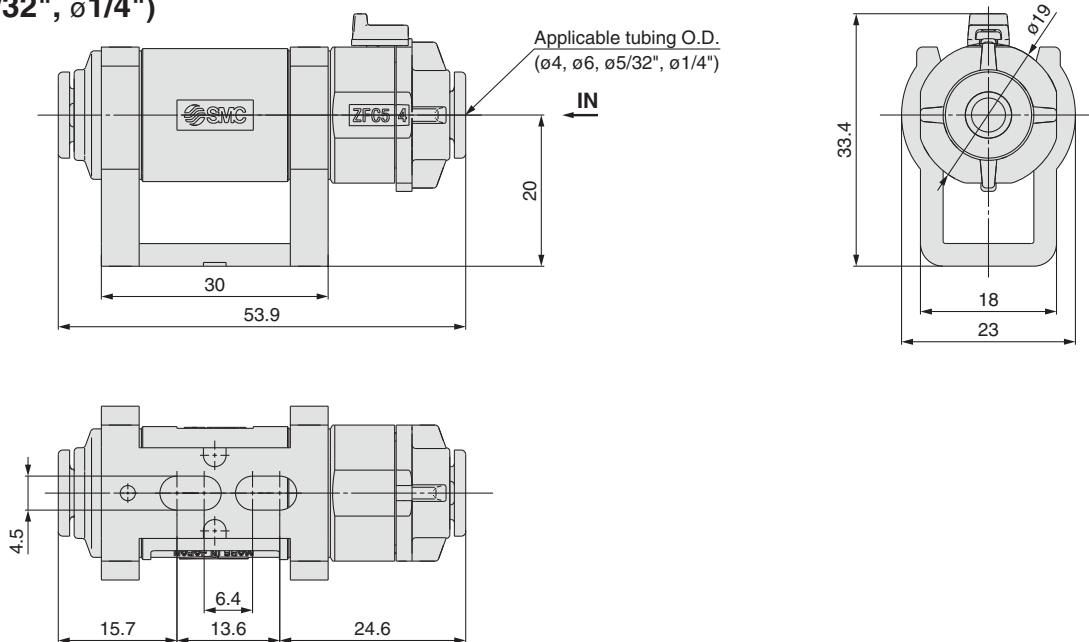
**ZFC3**

( $\varnothing 3.2$ ,  $\varnothing 4$ ,  $\varnothing 1/8"$ ,  $\varnothing 5/32"$ )



**ZFC5**

( $\varnothing 4$ ,  $\varnothing 6$ ,  $\varnothing 5/32"$ ,  $\varnothing 1/4"$ )

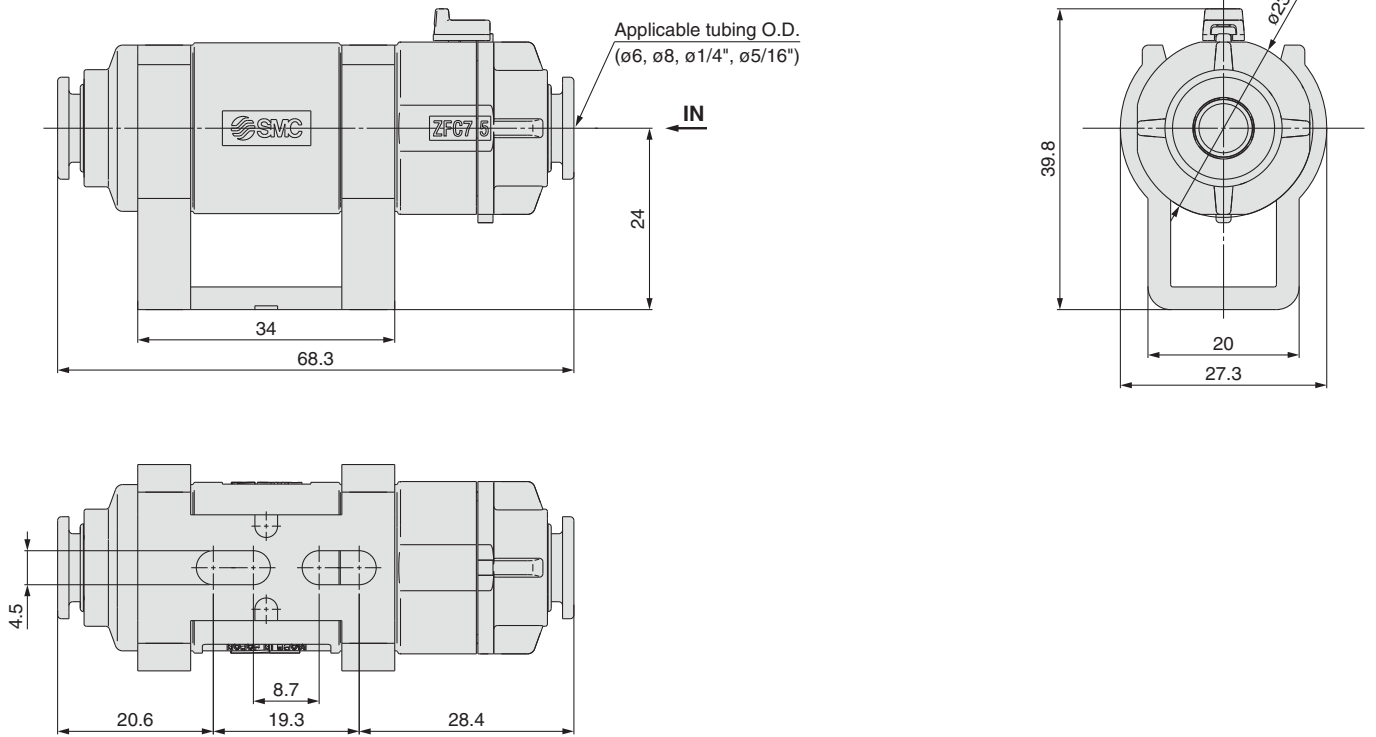


# ZFC Series

## Dimensions

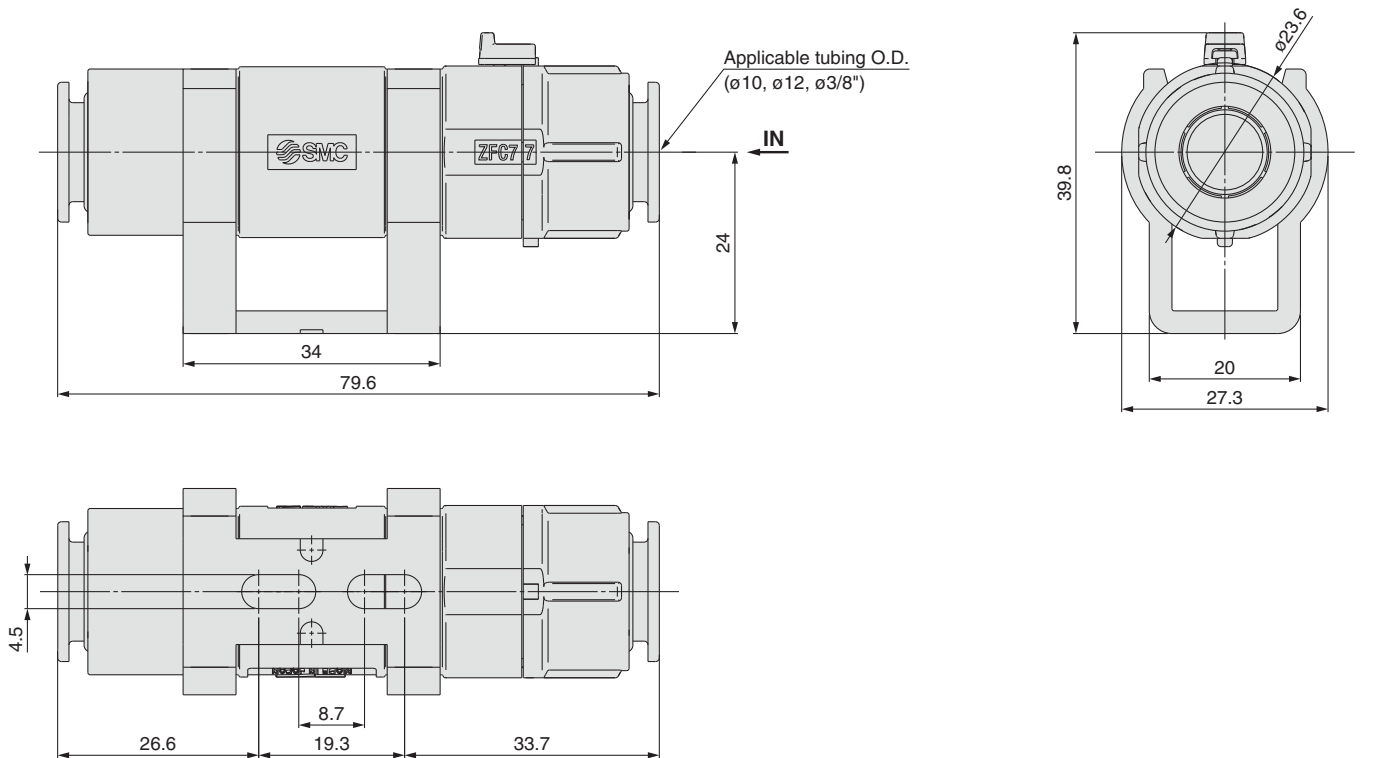
### ZFC7

( $\phi 6$ ,  $\phi 8$ ,  $\phi 1/4$ ",  $\phi 5/16$ " )



### ZFC7

( $\phi 10$ ,  $\phi 12$ ,  $\phi 3/8$ " )



# ZFC Series

## Made to Order

Please contact SMC for detailed dimensions, specifications and lead times.



### 1 Different diameters (IN side < OUT side) **-X01**

IN side applicable tubing O.D. (Metric size):  $\phi 2$  to  $\phi 4$   
 OUT side applicable tubing O.D. (Metric size):  $\phi 3.2$  to  $\phi 6$

ZFC **53** - **X01**  
 • IN side < OUT side

Applicable tubing O.D.

Symbol	IN port	OUT port
11	$\phi 2$	$\phi 3.2$
32	$\phi 3.2$	$\phi 4$
53	$\phi 4$	$\phi 6$

Option

Nil	None
B	With bracket



### 2 Different diameters (IN side > OUT side) **-X02**

IN side applicable tubing O.D. (Metric size):  $\phi 8$  to  $\phi 12$   
 OUT side applicable tubing O.D. (Metric size):  $\phi 6$  to  $\phi 10$

ZFC7 **5** - **X02**  
 • IN side > OUT side

Applicable tubing O.D.

Symbol	IN side	OUT side
5	$\phi 8$	$\phi 6$
6	$\phi 10$	$\phi 8$
7	$\phi 12$	$\phi 10$

Option

Nil	None
B	With bracket



### 3 Blue element **-X03**

Easy to recognize white foreign matter on the element by coloring the element.

Standard product **-X03**  
 • Blue element

Replacement Element Part No.  
 (Element: 1 pc.)

Series	Part no.
ZFC1□-□- <b>X03</b>	ZFC-EL019
ZFC3□-□- <b>X03</b>	ZFC-EL020
ZFC5□-□- <b>X03</b>	ZFC-EL015
ZFC7□-□- <b>X03</b>	ZFC-EL016

### 4 Filtration: 10 $\mu\text{m}$ **-X04**

Standard product **-X04**  
 • Filtration: 10  $\mu\text{m}$

Replacement Element Part No.  
 (Element: 1 pc.)

Series	Part no.
ZFC1□-□- <b>X04</b>	ZFC-EL021
ZFC3□-□- <b>X04</b>	ZFC-EL022
ZFC5□-□- <b>X04</b>	ZFC-EL017
ZFC7□-□- <b>X04</b>	ZFC-EL018

### 5 Seal material: FKM Oil free: Seal **-X05**

Standard product **-X05**  
 Note) Applicable only to the body sizes 5 and 7.

### 6 Case material: Nylon **-X06**

Standard product **-X06**  
 • Case material: Nylon