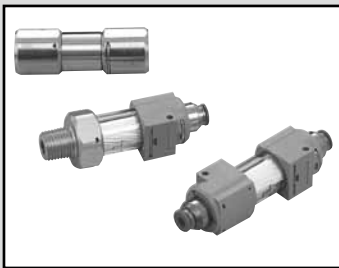


F.R.L  
F (Filtr)  
R (Reg)  
L (Lub)  
PresSW  
Shutoff  
SlowStart  
FimResistFR  
Oil-ProHR  
MedPresFR  
No Cu/  
PTFE FRL  
Outdrs FR  
F.R.L  
(Related)  
CompFRL  
LgFRL  
PrecsR  
VacF/R  
Clean FR  
ElecPneur  
AirBoost  
SpdContr  
Silncr  
CheckV/  
other  
Jnt/tube  
AirUnt  
PresCompn  
Mech/  
ElecPresSw  
ContactSW  
AirSens  
PresSW  
Cool  
AirFloSens/  
Contr  
WaterRtSens  
TotAirSys  
(Total Air)  
TotAirSys  
(Gamma)  
RefrDry  
DesicDry  
HiPolymDry  
MainFiltr  
Dischrg  
etc  
Ending



Inline clean filter

# FCS500 Series

● Port size: Rc1/8, Rc1/4, R1/8, R1/4  
Push-in fitting  $\phi 4$ ,  $\phi 6$ ,  $\phi 8$

JIS symbol



## Specifications

1 MPa  $\approx$  145.0 psi, 1 MPa = 10 bar

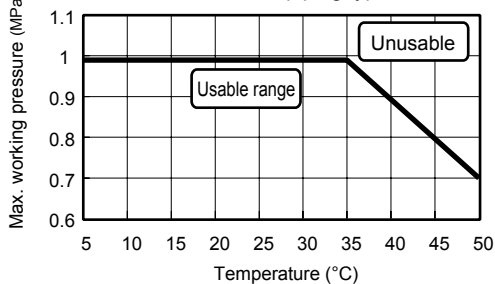
Descriptions	Standard element resin type		P9 element stainless steel	
	FCS500-(*)(*2)	FCS500-(*)(*2)	FCS500-66-P90 FCS500-66-P94	FCS500-88-P90 FCS500-88-P94
Working fluid	Compressed air, N <sub>2</sub>			
IN side bore size (*1)	Select from $\phi 4$ , $\phi 6$ and $\phi 8$	Select from $\phi 4$ , $\phi 6$ , $\phi 8$ , R1/8 and R1/4	Rc1/8	Rc1/4
OUT side bore size (*2)			Rc1/8	Rc1/4
Proof pressure MPa	1.5 ( $\approx$ 220 psi, 15 bar)	1.5 ( $\approx$ 220 psi, 15 bar)	2.25 ( $\approx$ 330 psi) (compressed air), 1.5 ( $\approx$ 220 psi) (N <sub>2</sub> )	
Differential pressure-resistant MPa	0.5 (0.2 at 45 (113°F) to 50 (122°F)°C)	0.5 (0.2 at 45 (113°F) to 50 (122°F)°C)	0.5 ( $\approx$ 73 psi, 5 bar)	
Working pressure MPa	-0.095 ( $\approx$ -14 psi) to 0.99 ( $\approx$ 140 psi) *2	-0.095 ( $\approx$ -14 psi) to 0.99 ( $\approx$ 140 psi) *2	-0.095 to 1.5 (compressed air), -0.095 to 0.99 (N <sub>2</sub> )	
Ambient / fluid temperatures °C	5 (41°F) to 50 (122°F)	5 (41°F) to 50 (122°F)	5 (41°F) to 45 (113°F)	
Filtration rating $\mu\text{m}$	0.01 (removal efficiency 99.99%)			
Processing flow rate $\ell/\text{min}$ (ANR) *1	50 (H8H8 type: 80)	50 (H88A and 8AH8 types: 80)	50	80
Weight g	45	45	100	100
Material	Body	Polyamide	Polyamide, aluminum (alumite treatment)	
	Case	Clear polyamide	Clear polyamide	
	Element	Polypropylene + urethane		
Assembling/inspection/packaging	Integrated production in cleanroom			
Cleaning	Degreasing			

\*1: Initial flow rate at primary pressure 0.7 MPa and pressure drop 0.03 MPa.

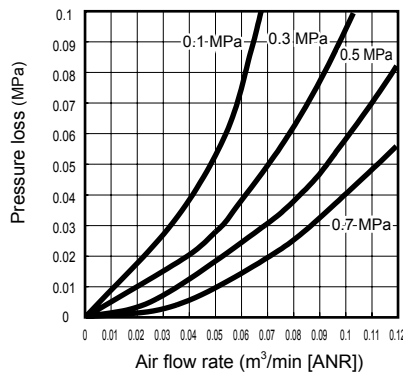
\*2: Maximum working pressure varies with working temperature. Check graphs showing the relationship of working temperature and maximum working pressure.

## Flow characteristics

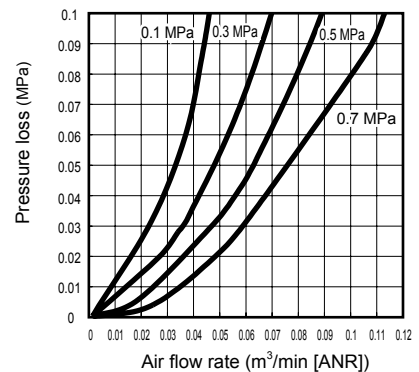
Relation of the working temperature and maximum working pressure for element resin and male thread piping types



● FCS500-H8H8 ● FCS500-H88A ● FCS500-8AH8  
● FCS500-88-P90/P94

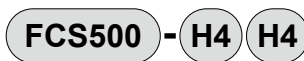


● FCS500-H4H4 ● FCS500-H6H6 ● FCS500-H4G4  
● FCS500-66-P90/P94 (products including  $\phi 4$  and  $\phi 6$  fittings, and R1/8 and Rc1/8 connections)



### How to order

● Resin type



Model No.  
(clean-room specifications)  
(oil-prohibited specifications)

**A** IN side port size

**B** OUT side port size

A IN side port size	
H4	φ4
H6	φ6
H8	φ8
6A	R1/8
8A	R1/4

B OUT side port size	
H4	φ4
H6	φ6
H8	φ8
6A	R1/8
8A	R1/4

- \*1: Two mounting screws (M2.5 x 25) and two spring washers are included with the product.  
(These are not included when 6A or 8A is selected for the IN or OUT side connection port size.)
- \*2: When using male thread piping for both IN and OUT sides, confirm that piping does not apply a lateral load or bending torque during installation.

● Stainless steel



Model No.  
(clean room specifications)  
(oil-prohibited specifications)

**A** Port size

**B** Attached

**C** Clean-room specifications

A Port size	
66	IN side/OUT side port size Rc1/8
88	IN side/OUT side port size Rc1/4

B Attached	
Blank	None
B	Bracket, set screw

C Clean-room specifications		
	Structure/treatment	Material limitations
P90	Stainless steel Oil free	-
P94	Stainless steel Oil free	Use of copper-, silicon-, or halogen-based materials (e.g. fluorine, chlorine, or bromine) is not possible.

Note: " P94 " is a custom order product.

● Discrete bracket model No.

**FCS500-B** Weight: 6g  
(Bracket x1, set screw (M4×6) x2)

### Specifications for rechargeable battery (Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process

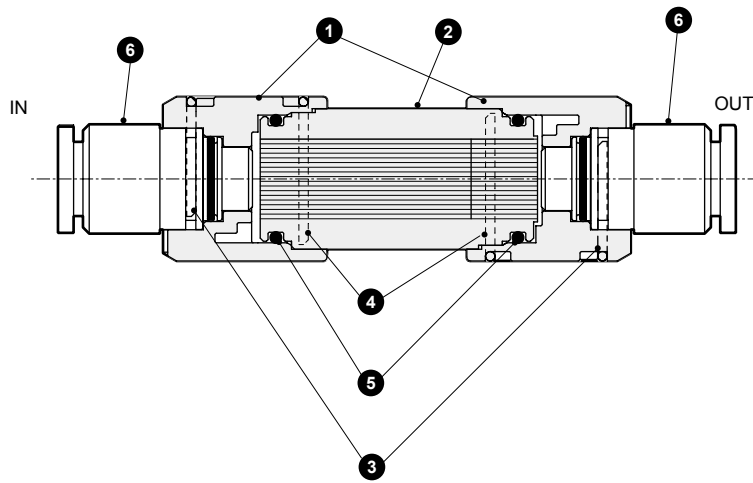


- F.R.L
- F (Filtr)
- R (Reg)
- L (Lub)
- PresSW
- Shutoff
- SlowStart
- FimResistFR
- Oil-ProhR
- MedPresFR
- No Cu/PTFE FRL
- Outdrs FR
- F.R.L (Related)
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- SpdContr
- Silncr
- CheckV/other
- Jnt/tube
- AirUnt
- PrecsCompn
- Mech/ElecPresSw
- ContactSW
- AirSens
- PresSW Cool
- AirFloSens/Contr
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

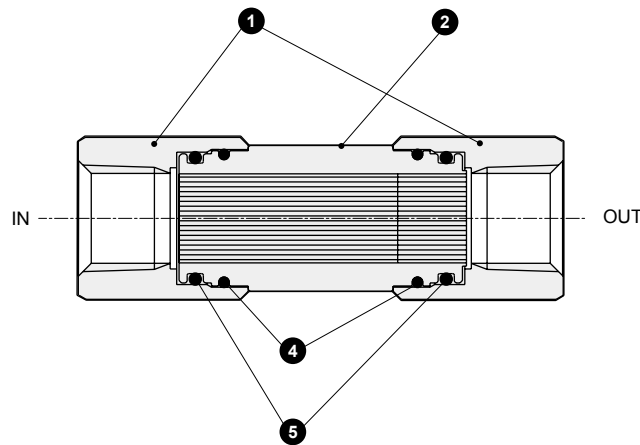
- F.R.L
- F (Filtr)
- R (Reg)
- L (Lub)
- PresSW
- Shutoff
- SlowStart
- FimResistFR
- Oil-ProhR
- MedPresFR
- No Cu/  
PTFE FRL
- Outdrs FR
- F.R.L  
(Related)
- CompFRL
- LgFRL
- PrecsR
- VacFR
- Clean FR
- ElecPneuR
- AirBoost
- SpdContr
- Silncr
- CheckV/  
other
- Jnt/tube
- AirUnt
- PrecsCompn
- Mech/  
ElecPresSw
- ContactSW
- AirSens
- PresSW  
Cool
- AirFloSens/  
Contr
- WaterRtSens
- TotAirSys  
(Total Air)
- TotAirSys  
(Gamma)
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg  
etc
- Ending

## Internal structure and parts list

### ● Resin type



### ● Stainless steel



**Cannot be disassembled**

### ● Parts list

No.	Part name		Standard element resin type	Male thread piping	P9* element stainless steel
1	Body		Polyamide	Polyamide, aluminum (alumite treatment)	Stainless steel
2	Element	Housing	Clear polyamide	Clear polyamide	Stainless steel
		Filter	Polypropylene	Polypropylene	Polypropylene
		Filler material	Urethane	Urethane	Urethane
3	Pin		Stainless steel		
4	Pin		Stainless steel		
5	O-ring		Fluoro rubber		Fluoro rubber (clean-room specs P90) HNBR (clean-room specs P94)
6	Cartridge fitting		Copper alloy (nickeling) Hydrogenated nitrile rubber		-

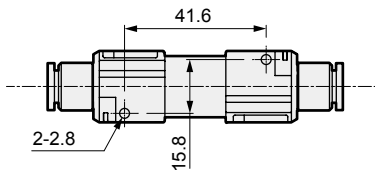
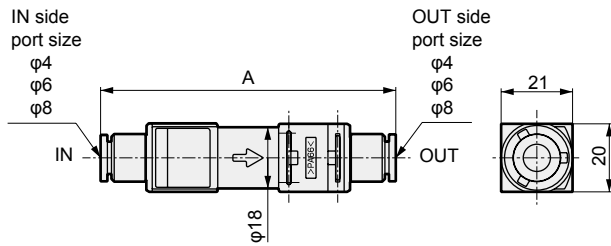
### Dimensions



● Resin type

Port size

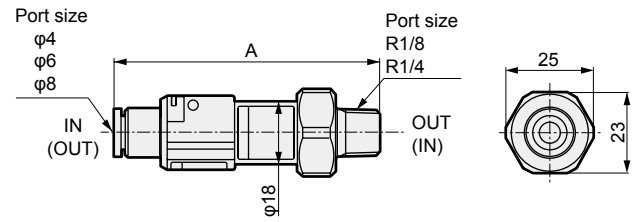
IN side (cartridge fitting) - OUT side (cartridge fitting)



● Male thread piping

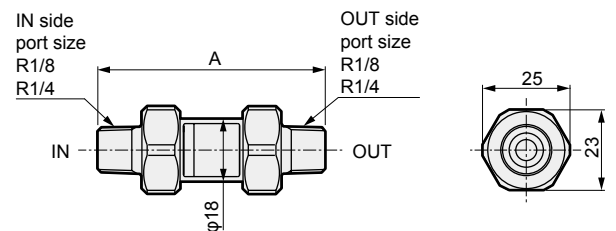
Port size

Cartridge fitting - male thread



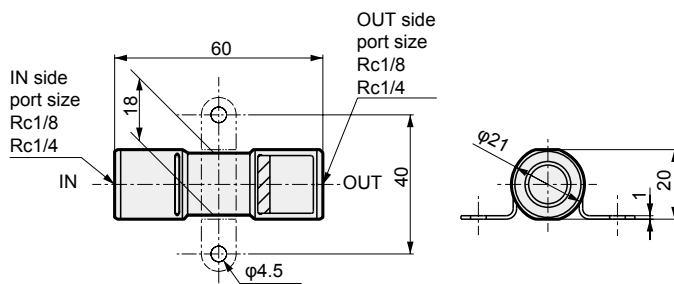
Port size

Male thread - male thread

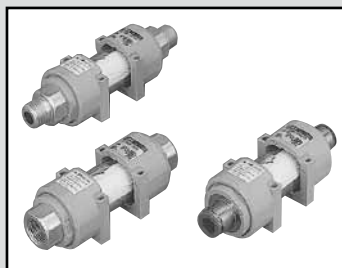


Model No.	FCS500 (standard element, resin type/male thread piping)													
Bore size model No.	H4H4	H4H6 H6H4	H4H8 H8H4	H46A 6AH4	H48A H86A 6AH8 8AH4	6A6A	6A8A 8A6A	H6H6	H6H8 H8H6	H66A 6AH6	H68A 8AH6	8A8A	8AH8 H88A	H8H8
Dimension A	80.5	83	84	69.5	73	58.5	62	85	86	72	75	65	76	87

● Stainless steel



- F.R.L
- F (Filtr)
- R (Reg)
- L (Lub)
- PresSW
- Shutoff
- SlowStart
- FimResistFR
- Oil-ProhR
- MedPresFR
- No Cu/  
PTFE FRL
- Outdrs FR
- F.R.L  
(Related)
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- SpdContr
- Silncr
- CheckV/  
other
- Jnt/tube
- AirUnt
- PrecsCompn
- Mech/  
ElecPresSw
- ContactSW
- AirSens
- PresSW  
Cool
- AirFloSens/  
Contr
- WaterRtSens
- TotAirSys  
(Total Air)
- TotAirSys  
(Gamma)
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg  
etc
- Ending



Inline clean filter

# FCS1000 Series

- Port size: Rc1/4, Rc3/8, R1/4, R3/8  
Push-in fitting  $\phi 8$ ,  $\phi 10$ ,  $\phi 12$

JIS symbol



## Specifications

1 MPa  $\approx$  145.0 psi, 1 MPa = 10 bar

Descriptions	Resin		Stainless steel (custom order)
	FCS1000-(*)(*2)		FCS1000-(*)(*2)-P90 FCS1000-(*)(*2)-P94
Working fluid	Compressed air, N <sub>2</sub>		
IN side bore size (*1)	Select from push-in fittings $\phi 8$ , $\phi 10$ , $\phi 12$ ,		Select from Rc1/4 and Rc3/8
OUT side bore size (*2)	R1/4, R3/8, Rc1/4 and Rc3/8		
Proof pressure MPa	1.5 ( $\approx$ 220 psi, 15 bar)		2.25 ( $\approx$ 330 psi) (compressed air), 1.5 ( $\approx$ 220 psi) (N <sub>2</sub> )
Differential pressure-resistant MPa	0.5 ( $\approx$ 73 psi, 5 bar)		
Working pressure MPa	-0.095 ( $\approx$ -14 psi, -0.95 bar) to 0.99 ( $\approx$ 140 psi, 9.9 bar)		-0.095 to 1.5 (compressed air), -0.095 to 0.99 (N <sub>2</sub> )
Ambient / fluid temperatures °C	5 (41°F) to 45 (113°F)		
Filtration rating $\mu\text{m}$	0.01 (removal efficiency 99.99%)		
Processing flow rate l/min(ANR)	300 to 400 *1		
Weight kg	Push-in fitting	Other than push-in fitting	0.5
	0.15	0.11	
Material	Body	Polyamide	
	Case	Clear polyamide	
	Element	Polypropylene + urethane	
Assembling/inspection/packaging	Integrated production in cleanroom		
Cleaning	Degreasing		

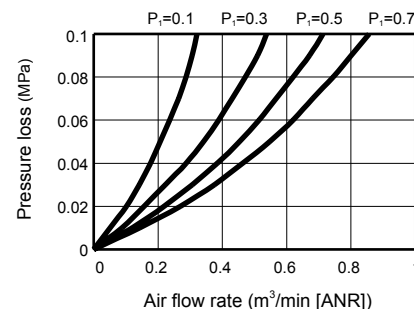
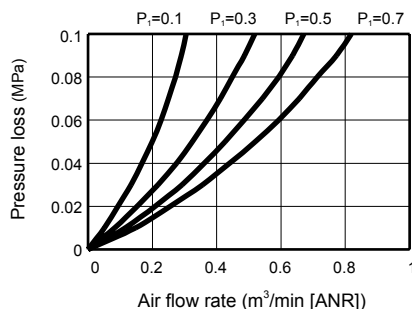
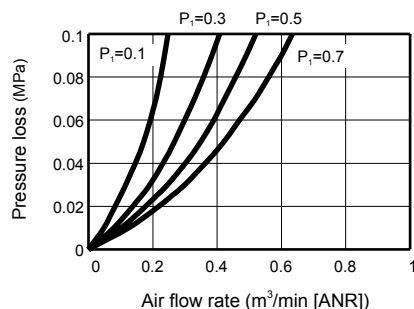
\*1: Initial flow rate at primary pressure 0.7 MPa and pressure drop 0.03 MPa. (Differs according to port size.)

## Flow characteristics

- FCS1000-H8H8
- FCS1000-8A8A

- FCS1000-H10H10
- FCS1000-10A10A
- FCS1000-88
- FCS 1000-88-P90/P94

- FCS1000-H12H12
- FCS1000-1010
- FCS 1000-1010-P90/P94



### How to order

● Resin type

**FCS1000** - **H8** **H8**

Model No.  
(clean-room specifications)  
(oil-prohibited specifications)

**A** IN side port size

**B** OUT side port size

A IN side port size	
H8	φ8
H10	φ10
H12	φ12
8A	R1/4
10A	R3/8
8	Rc1/4
10	Rc3/8

B OUT side port size	
H8	φ8
H10	φ10
H12	φ12
8A	R1/4
10A	R3/8
8	Rc1/4
10	Rc3/8

\*1: Two mounting screws (M3 x 40), two plain washers, and two spring washers are included with the product.

● Stainless steel (custom order)

**FCS1000** - **8** **8** - **P90**

Model No.  
(clean-room specifications)  
(oil-prohibited specifications)

**A** IN side port size

**B** OUT side port size

**C** Clean-room specifications

A IN side port size	
8	Rc1/4
10	Rc3/8

B OUT side port size	
8	Rc1/4
10	Rc3/8

C Clean-room specifications		
	Structure/treatment	Material limitations
P90	Stainless steel material used Oil free	-
P94	Stainless steel material used Oil free	Use of copper-, silicon-, or halogen-based materials (e.g. fluorine, chlorine, or bromine) is not possible.

● Single unit model number for replacement element (1 element, 2 O-rings)

· For resin: **FCS1000-E**

· Stainless steel

For P90: **FCS1000-E-P90** (custom order)

For P94: **FCS1000-E-P94** (custom order)

### Specifications for rechargeable battery

(Catalog No. CC-1226A)

● Design compatible with rechargeable battery manufacturing process

**FCS1000** - ..... - **P40**

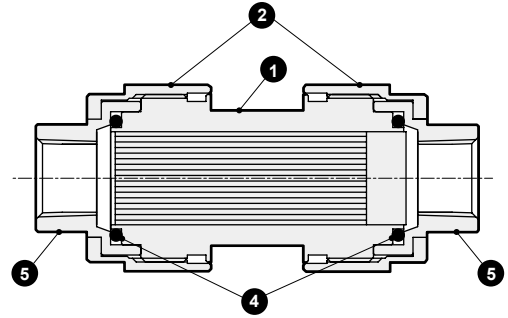
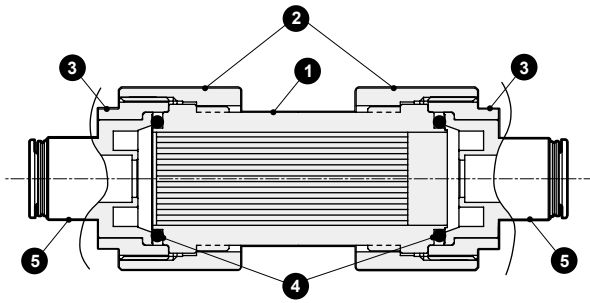
F.R.L
F (Filtr)
R (Reg)
L (Lub)
PRES SW
Shutoff
SlowStart
FilmResistFR
Oil-ProhR
MedPresFR
No Cu/PTFE FRL
Outdrs FR
F.R.L (Related)
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
SpdContr
Silncr
CheckV/other
Jnt/tube
AirUnt
PrecsCompn
Mech/ElecPresSw
ContactSW
AirSens
PRES SW Cool
AirFloSens/Contr
WaterRtSens
TotAirSys (Total Air)
TotAirSys (Gamma)
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

# FCS1000 Series

## F.R.L Internal structure and parts list

F (Filtr) ● Resin type ● Stainless steel

- R (Reg)
- L (Lub)
- PresSW
- Shutoff
- SlowStart
- FimResistFR
- Oil-ProhR
- MedPresFR
- No Cu/  
PTFE FRL
- Outdrs FR
- F.R.L  
(Related)
- CompFRL
- LgFRL
- PrecsR
- VacFR
- Clean FR
- ElecPneuR
- AirBoost
- SpdContr
- Silncr
- CheckV/  
other
- Jnt/tube
- AirUnt
- PrecsCompn
- Mech/  
ElecPresSw
- ContactSW
- AirSens
- PresSW  
Cool
- AirFloSens/  
Contr
- WaterRtSens
- TotAirSys  
(Total Air)
- TotAirSys  
(Gamma)
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg  
etc
- Ending



**Cannot be disassembled**

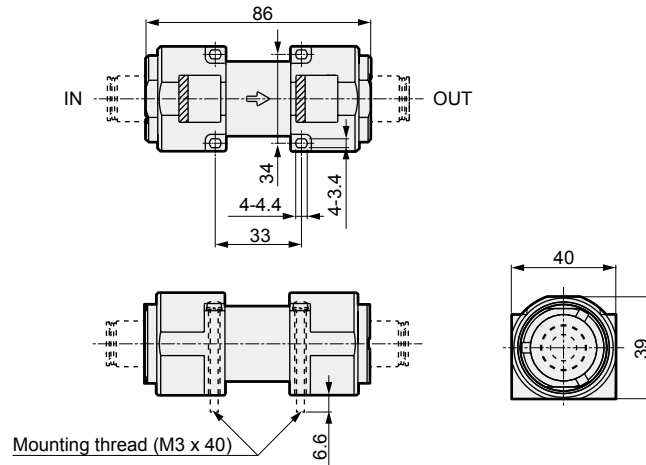
### ● Parts list

No.	Part name	Resin	Stainless steel
1	Housing	Clear polyamide	Stainless steel
	Filter	Polypropylene	
	Filler material	Urethane	
2	Body	Polyamide	Stainless steel
3	Plug	Polyamide	-
4	O-ring	Fluoro rubber	Fluoro rubber (for clean-room specifications P90) Nitrile rubber (for clean-room specifications P94)
5	Cartridge fitting (Port size $\phi 8$ , $\phi 10$ , $\phi 12$ )	Copper alloy (nickeling) Hydrogenated nitrile rubber	-
	Adaptor (Port size Rc1/4, Rc3/8, R1/4, R3/8)	Aluminum (alumite treatment)	Stainless steel

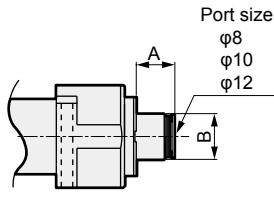
## Dimensions



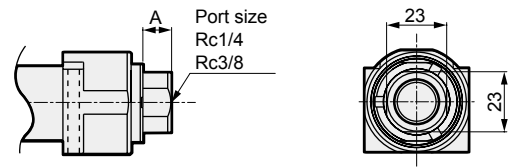
● Resin type



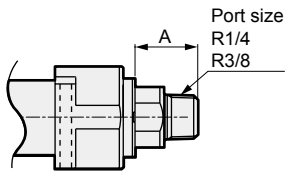
· Push-in fitting (φ8, φ10, φ12)



· Rc thread (Rc1/4, Rc3/8)

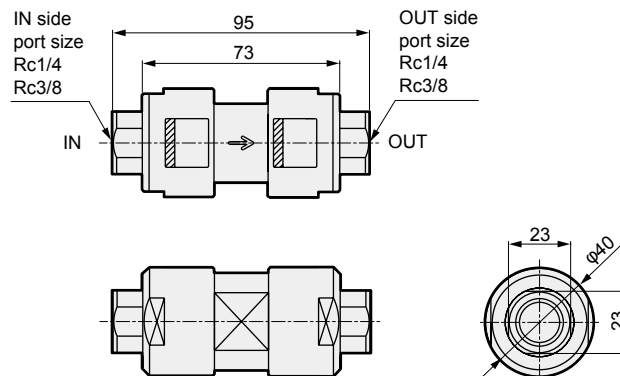


· R thread (R1/4, R3/8)



Connection model No.	Port size	A	B
H8	φ8 Push-in fitting	12	φ17.5
H10	φ10 Push-in fitting	14.5	φ17.5
H12	φ12 Push-in fitting	16	φ19.5
8A	R1/4	24	-
10A	R3/8	24	-
8	Rc1/4	11	-
10	Rc3/8	11	-

● Stainless steel



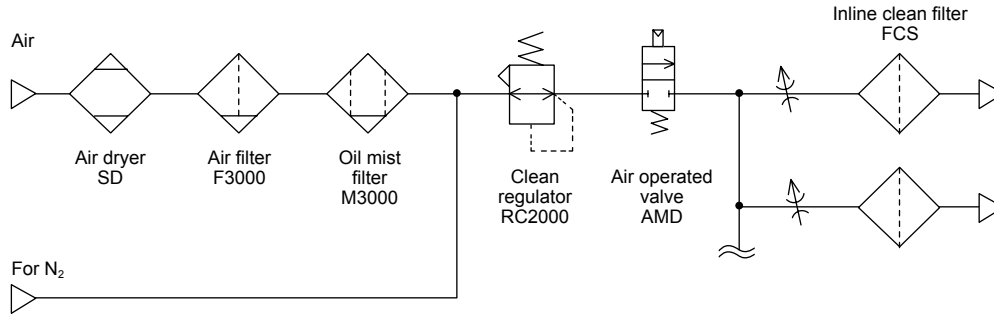
- F.R.L
- F (Filtr)
- R (Reg)
- L (Lub)
- PresSW
- Shutoff
- SlowStart
- FimResistFR
- Oil-ProhR
- MedPresFR
- No Cu/ PTFE FRL
- Outdrs FR
- F.R.L (Related)
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- SpdContr
- Silncr
- CheckV/ other
- Jnt/tube
- AirUnt
- PrecsCompn
- Mech/ ElecPresSw
- ContactSW
- AirSens
- PresSW Cool
- AirFloSens/ Contr
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending



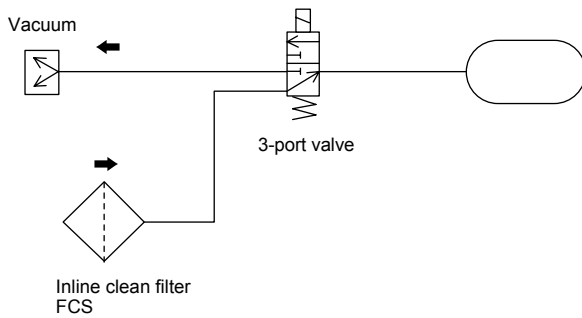
F.R.L
F (Filtr)
R (Reg)
L (Lub)
PresSW
Shutoff
SlowStart
FimResistFR
Oil-ProhR
MedPresFR
No Cu/ PTFE FRL
Outdrs FR
F.R.L (Related)
CompFRL
LgFRL
PrecsR
VacFR
Clean FR
ElecPneuR
AirBoost
SpdContr
Silncr
CheckV/ other
Jnt/tube
AirUnt
PrecsCompn
Mech/ ElecPresSw
ContactSW
AirSens
PresSW Cool
AirFloSens/ Contr
WaterRtSens
TotAirSys (Total Air)
TotAirSys (Gamma)
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

## Applications and example of compatible circuit

● Application 1: Use as a precision filtration blow filter to filter out air and N<sub>2</sub> gas in order to provide clean air.



● Application 2: Use as a vacuum break filter for vacuum break circuit air blow and clean air supply.



## Custom product

Available as a custom product. Contact CKD for details.

### FCS500 Integrated connection

- This integrated connection with no sealed parts is ideal for leakage testers.
- Flow rate: 10 l/min. (ANR) \*1
- Port size: R1/8



### FCS500 Large flow rate

- FCS500 Series increased flow rate specifications
- Flow rate: 100 to 120 l/min (ANR) \*1
- Port size: φ6, φ8 push-in fitting, R1/8, R1/4



### FCS500 L type fitting

- L type push-in fitting saves space during piping
- Flow rate: 50 to 80 l/min (ANR) \*1
- Port size: φ4, φ6, φ8 radial push-in fitting



### FCS1000 Stainless steel large flow rate

- Flow rate: 450 l/min. (ANR) \*1
- Port size: Rc1/4, Rc3/8

\*1: Initial flow rate at primary pressure 0.7 MPa and pressure drop 0.03 MPa.  
Contact CKD regarding other piping methods or bore sizes.



### FCS Large flow rate and large bore size

- Flow rate: 2000 l/min. (ANR) or more \*2
- Port size: Rc1
- Body material: Aluminum (alumite treatment)

\*2: Initial flow rate at primary pressure 0.7 MPa and pressure drop 0.03 MPa.  
Contact CKD for other flow rates or bore sizes.



F.R.L
F (Filtr)
R (Reg)
L (Lub)
PresSW
Shutoff
SlowStart
FmResistFR
Oil-ProhR
MedPresFR
No Cu/ PTFE FRL
Outdrs FR
F.R.L (Related)
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
SpdContr
Silncr
CheckV/ other
Jnt/tube
AirUnt
PrecsCompn
Mech/ ElecPresSw
ContactSW
AirSens
PresSW Cool
AirFloSens/ Contr
WaterRtSens
TotAirSys (Total Air)
TotAirSys (Gamma)
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending