



## IBS PRODUCTS

**Check Valve  
Relief Valve  
Needle Valve**

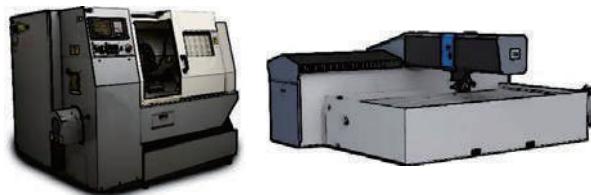


Fluid control technology and 20 years —  
IBS Group is a professional in the field of fluid control.  
We will provide the best solution for your needs.

# Applications

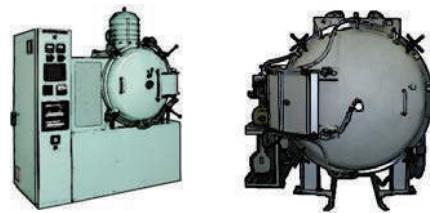
**Our products are active daily  
in various industries and fields.**

## General Machine



Milling machine, NC lathe, Machining center, Lasers, Water jets, Boilers, Various industrial machines

## Industrial Furnace



General industrial furnace, Heating furnace, Vacuum furnace, Combustion device, Incubator

## Medical Equipment



Endoscope cleaning device, Oxygen concentrator, Anesthesia machine, Blood analyzer, Body fluid test device, Sterilizer

## Analytical / Measuring Equipment



Analyzer, Component gas analysis, Gas analyzer, Gas detector, Environmental measurement equipment

## Energy



Household fuel cells, Rechargeable batteries, Gas engines, Generator, Wind power generating, Solar power generating

## Water (Liquid) Treatment Equipment



Pure water generator, Pure water recycling device, Reverse osmosis membrane water purifier, Seawater desalination equipment, Commercial washer, Chiller, Dispenser, Ultrasonic cleaner

## Device related with Gas Generator



Compressor, Compact pressure vessel, Various gas generators

## Others



Oxygen Capsule



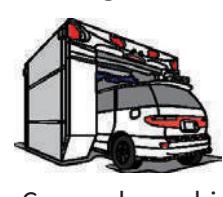
Gasoline measuring instrument



Forklift



Glove Box



Car wash machine

# Model Lineup

## ■ Check Valve

Model / Parts Number	Valve Body	Pipe Size	Max Operation Pressure	Set Pressure	Page
CM[M]Series <General Purpose>	Brass (Ni Plating) SUS316	R1/8~R1"	4.9MPa	5kPa(Standard)	P4
C/CF Series <General Purpose>	Brass SUS316	C Series : R1/8~R1" CF Series : Rc1/8~Rc1"	4.9MPa	7kPa(Standard)	P5
CH Series <High Pressure>	Brass SUS316	Rc1/4~Rc1/2	CHB:10MPa CHT:13MPa	7kPa	P6
HVC Series <High Flow>	Brass SUS316	Rc1/8~Rc1"	HVCB:8MPa HVCT:13MPa	7kPa(Standard)	P7
CAM Series <Set Pressure Adjustable>	Brass SUS316	R1/4、R1/2	20MPa	20kPa~4100kPa	P8
C5 Series <Fluororesin>	PTFE	Rc3/8~Rc3/4	400kPa	Around 20kPa (Standard)	P9
CD Series <Fluororesin PFA>	PFA	1/4 Tube~1/2 Tube	350kPa	Around 10kPa	P10
C8 Series <Resin POM>	POM (Polyacetal)	Rc1/4~Rc1/2	500kPa	3kPa	P11
CC Series <Resin Cartridge> <small>CC φ13 CC φ20</small>	POM:13mm Denatured PPO: 20mm	φ13mm、φ20mm	750kPa	3kPa	P12
CP Series <Resin PP>	PP (Polypropylene)	φ3	300kPa	7kPa	P13

## ■ Relief Valve

Model / Parts Number	Valve Body	Pipe Size	Proof Pressure	Set Pressure	Page
RA Series <Vent to Atmosphere, Low Pressure>	Brass (Ni Plating) SUS316	R1/8~R1"	1.62MPa	3~1080kPa※1	P14
RL Series <Inline, Low Pressure>	Brass SUS316	1/4"~1-1/4" (R(IN)xRc(OUT))	1.62MPa	3~1080kPa※2	P15
RC Series <Deflector Cap(Vent to Atmosphere, Low Pressure)>	Brass (Ni Plating) SUS316	R1/8~R3/4	1.62MPa	30~1080kPa※1	P16
RHA Series <Vent to Atmosphere, High Pressure>	Brass	R1/8、R1/4	6.8MPa	1000~4200kPa	P17
RHL Series <Inline, High Pressure>	Brass	1/8"~1/4" (R(IN)xRc(OUT))	6.8MPa	1000~4200kPa	P18
RM1 Series <External Set Pressure Adjustable>	Brass SCS14 (Equivalent to SUS316)	IN R1/4×OUT Rc1/4	3.0MPa	50~1500kPa	P19
RM2 Series <External Set Pressure Adjustable>	Brass SCS14 (Equivalent to SUS316)	IN R1/4×OUT Rc1/4	3.0MPa	50~1500kPa	P20
RD Series <Fluororesin PFA>	PFA	3/8 Tube、1/2 Tube	600kPa	50~400kPa	P21

※1 Set pressure for 1/8 "is from 3 ~ 970 kPa.   ※2 Set pressure for 1/4 "is from 3 ~ 970 kPa.

## ■ Needle Valve

Model / Parts Number	Valve Body	Pipe Size	Max Operation Pressure	Page
Standard  Bite Fitting FMNV1 Series <Precision>	Brass (Ni Plating) SUS316	Rc1/4 (Standard)	1.0MPa	P22
For Panel Mount  For Piping FMNV2 Series <Precision, Multi-Dial>	Brass (Ni Plating) SUS316	Rc1/4 (Standard)	1.0MPa	P23

# NEW CM[M] Series <General Purpose>

Gas•Liquid

**Features**

- Centering function suppresses chattering and improves repeatability and reliability
- Adopting O-ring seal and metal touch method to maintain stable sealing
- Variety of seal materials
- Applied nickel plantings as standard feature to improve corrosion resistance (brass products)

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve



Brass



Stainless

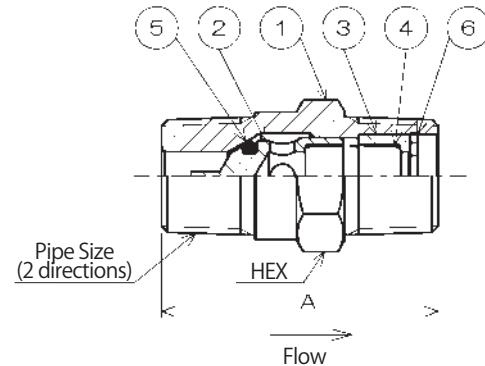
**Description**

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	R1/8~R1"
Operation pressure	-0.1~4.9MPa
Proof pressure	7.4MPa
Set pressure	5kPa (Standard)
Body material	Brass (Ni Plating) / SUS316
Seal material	Fluororubber FKM (Standard)
Remarks	<ul style="list-style-type: none"> <li>■ Piping installation posture is free. However, if using this product with set pressure of 1 kPa, counter pressure may be required depending on the posture.</li> <li>■ For other fluids use, check the compatibility of the product's wetted materials and the operation fluid.</li> </ul>

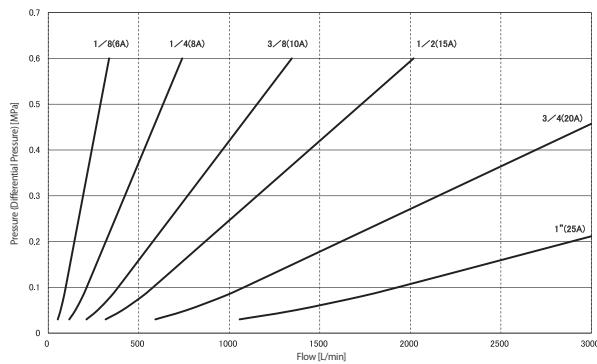
**Dimensions / Materials**

Dimension Table	Pipe Size (R)	A	HEX	CV Value (Reference)
				<mm>
	1/8	33.0	13.0	0.25
	1/4	40.0	14.0	0.55
	3/8	40.0	19.0	1.00
	1/2	48.0	22.0	1.50
	5/8	59.0	29.0	2.60
	1"	68.0	35.0	5.00

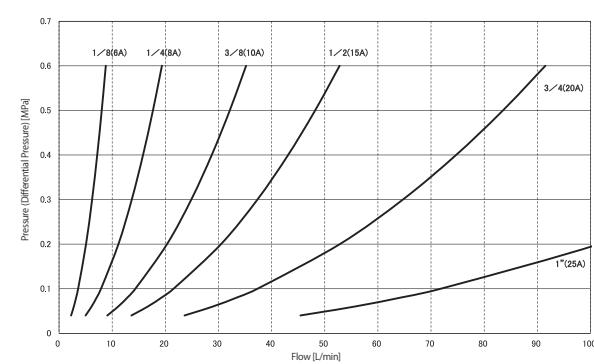
Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
	①	Body	Brass(Ni Plating)	SUS316
	②	Valve Disc	Brass(Ni Plating)	SUS316
	③	Guide Bush		SUS316
	④	Spring		SUS316
	⑤	O-ring	FKM[V](Standard)	
	⑥	Snap Ring		SUS304

**Flow Characteristics**

## AIR(Representative Value)



## WATER(Representative Value)

**Ordering Information**

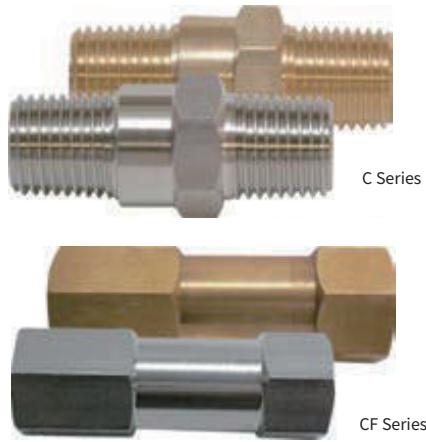
CMM	B	3	V	*	*	Set Pressure(OP)	Oxygen Cleaning(OP)
Item Code CMM Male	Body Material B Brass(Ni Plating) T SUS316	Pipe Size 1 1/8 2 1/4 3 3/8 4 1/2 6 3/4 8 1"	Seal Material	Code	Name	Operation Media Temperature(Reference)	(Blank) 5kPa(Standard)
						Brass[B] SUS316[T]	1 1kPa
				V	FKM	-0 ~ +120 -0 ~ +150	20 20kPa
FMNV1				N	NBR	-10 ~ +60 -10 ~ +60	50 50kPa
FMNV2				E	EPDM	-40 ~ +90 -40 ~ +90	
				S	Silicon	-40 ~ +120 -40 ~ +150	
				K	Karlez	-0 ~ +120 -0 ~ +200	
							Please contact us for other materials.
							※Please contact us when operation temperature is under -20 °C or over 100 °C.
							General Cleaning Oil Free
							NO

# C/CF Series <General Purpose>

Gas・Liquid

## Features

- Low priced with a simple structure
- Double-touch method using O-ring and material seal reduces load on sealing material
- Variety of pipe sizes and seal materials



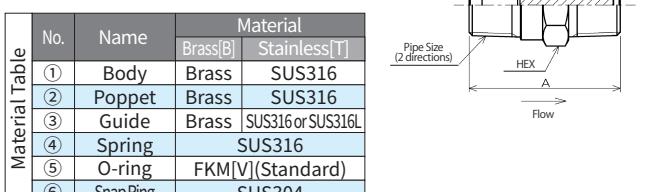
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts	
Pipe size	C Series: R1/8~R1"	CF Series: Rc1/8~Rc1"
Operation pressure	-0.1~4.9MPa	
Proof pressure	7.35MPa	
Set pressure	7kPa (Standard)	
Body material	Brass / SUS316	
Seal material	Fluororubber FKM (Standard)	
Remarks	<ul style="list-style-type: none"> <li>■ Operation differential pressure ~ 0.3MPa. (when the outlet is open to atmosphere)</li> <li>※ For liquid use, [CM series] recommended.</li> <li>■ Optional Set Pressure: 1, 20, 50kPa.</li> <li>※ The mounting position is limited to upward facing exit when 1kPa.</li> <li>■ Available for disc filter built-in type (C Series only).</li> </ul>	

## Dimensions / Materials

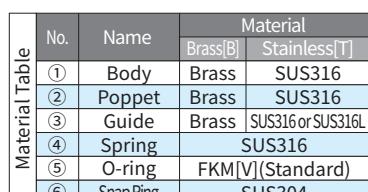
**C Series**  
Dimension Table

Pipe Size(R)	A	HEX	CV Value (Reference)
1/8	33.5	13.0	0.28
1/4	40.2	16.0	0.60
3/8	40.5	19.0	1.05
1/2	48.0	22.0	1.60
3/4	59.0	29.0	3.20
1"	68.0	35.0	5.40



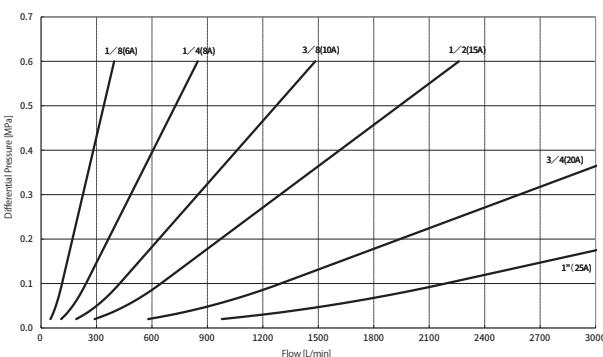
**CF Series**  
Dimension Table

Pipe Size(Rc)	A	HEX	CV Value (Reference)
1/8	38.0	13.0	0.28
1/4	52.0	17.0	0.60
3/8	54.0	19.0	1.05
1/2	64.0	22.0	1.60
3/4	75.0	29.0	3.20
1"	89.0	35.0	5.40

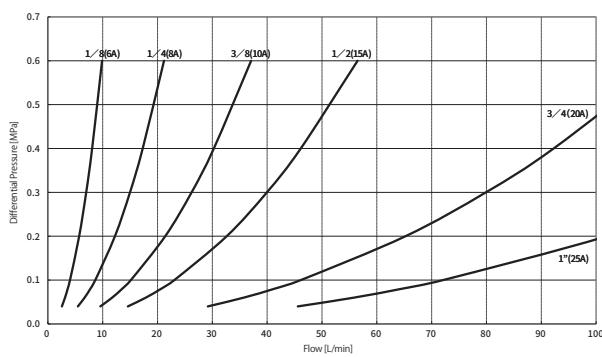


## Flow Characteristics

AIR (Representative Value)

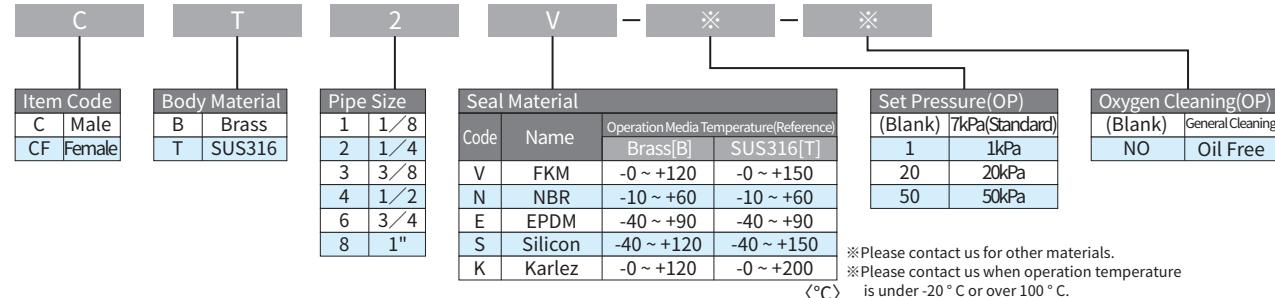


WATER (Representative Value)



## Ordering Information

### Common to C and CF



# CH Series <High Pressure>

Gas•Liquid

## Features

- For High Pressure use (available up to 13 MPa for SUS316 specifications)
- Double-touch method using O-ring and metal seal reduces load on seal material
- All stainless steel type metal materials are SUS316

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve



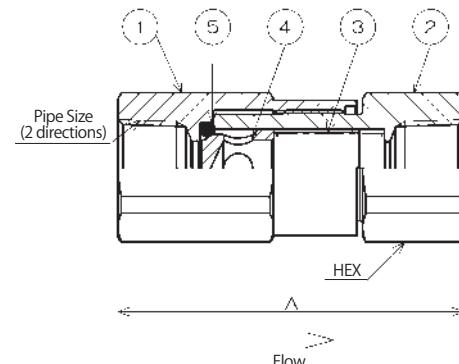
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts	
Pipe size	Rc1/4~Rc1/2	
Operation pressure	CHB:0~10MPa	CHT:0~13MPa
Proof pressure	CHB:15MPa	CHT:20MPa
Set pressure	7kPa	
Body material	Brass / SUS316	
Seal material	Fluororubber FKM (Standard)	
Remarks	Please contact us for other set pressure.	

## Dimensions / Materials

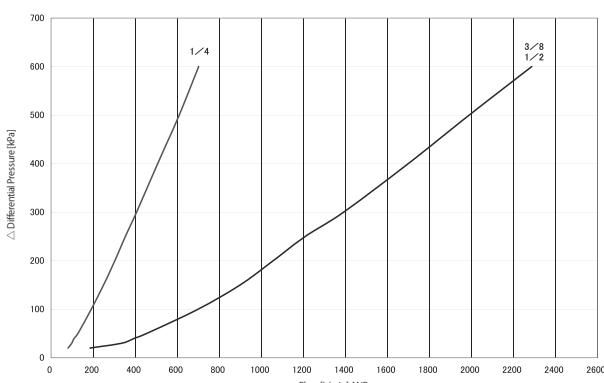
Dimension Table	Pipe Size (Rc)	A	HEX	CV Value (Reference)	
				Brass[B]	Stainless[T]
	1/4	46.0	19.0	0.50	
	3/8	60.0	24.0	1.50	
	1/2	73.0	27.0	1.50	

Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
	①	Body1	Brass	SUS316
	②	Body2	Brass	SUS316
	③	Poppet	Brass	SUS316
	④	Spring	SUS316	
	⑤	O-ring	FKM[V](Standard)	

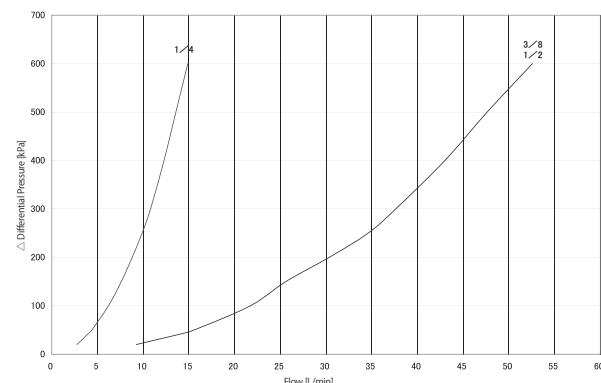


## Flow Characteristics

AIR (Representative Value)



WATER (Representative Value)



## Ordering Information

CH	T	3	V	※
Item Code CH High Pressure	Body Material B Brass T SUS316	Pipe Size 2 1/4 3 3/8 4 1/2	Seal Material Code Name Operation Media Temperature(Reference) Brass[B] SUS316[T]	Oxygen Cleaning(OP) (Blank) General Cleaning NO Oil Free
			V FKM -0 ~ +120 -0 ~ +150	
			N NBR -10 ~ +60 -10 ~ +60	
			E EPDM -40 ~ +90 -40 ~ +90	
			S Silicon -40 ~ +120 -40 ~ +150	
			K Karlez -0 ~ +120 -0 ~ +200	

°C

※Please contact us for other materials.

※Please contact us when operation temperature is under -20 °C or over 100 °C.

# HVC Series<Large Flow>

Gas•Liquid

## Features

- Large flow specification with full bore structure
- Variety of pipe sizes and seal materials
- Designed to reduce load on seal material



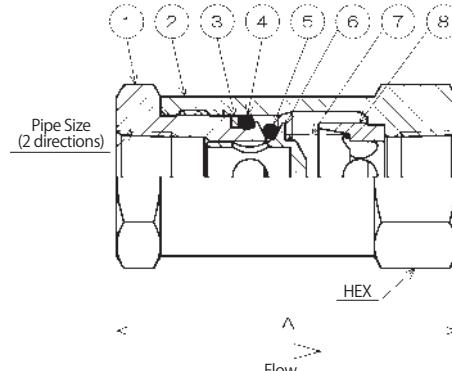
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts	
Pipe size	Rc1/8~Rc1"	
Operation pressure	HVCB:0~8MPa	HVCT:0~13MPa
Proof pressure	HVCB:12MPa	HVCT:20MPa
Set pressure	7kPa (Standard)	
Body material	Brass / SUS316	
Seal material	Fluororubber FKM (Standard)	
Remarks	<ul style="list-style-type: none"> <li>■ Please contact us for pipe size (1"-1/4 ~ 2").</li> <li>■ Optional set pressure: 1, 20, 50kPa are also available.</li> <li>(Material is SUS316 or SUS304)</li> <li>■ Please contact us for liquid use.</li> <li>■ Please contact us for oil free specification.</li> <li>■ The mounting posture is limited to upward facing exit when selecting 1kPa.</li> </ul>	

## Dimensions / Materials

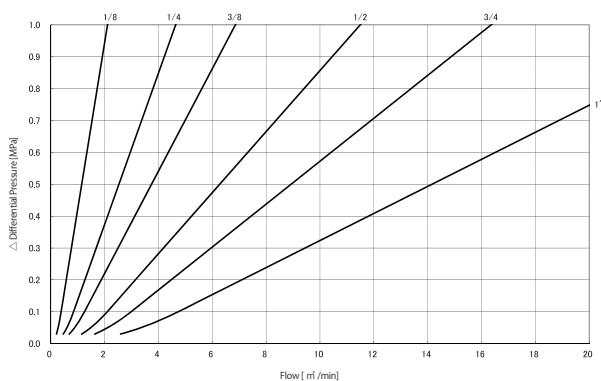
Dimension Table	Pipe Size (Rc)	A	HEX	CV Value (Reference)	
				Brass[B]	SUS316[T]
	1/8	43.0	21.0	0.95	
	1/4	57.0	27.0	2.10	
	3/8	62.0	29.0	3.10	
	1/2	75.0	41.0	5.20	
	3/4	86.0	46.0	7.40	
	1"	101.0	50.0	11.70	

Material Table	No.	Name	Material	
			Brass[B]	SUS316[T]
	①	Body1	Brass	SUS316
	②	Body2	Brass	SUS316
	③	Backup Ring	PTFE	
	④	O-ring(Body)	FKM[V](Standard)	
	⑤	O-ring(Valve)	FKM[V](Standard)	
	⑥	Poppet	Brass	SUS316
	⑦	Spring	SUS316(Standard Cracking)	
	⑧	Spring Guide	Brass	SUS316

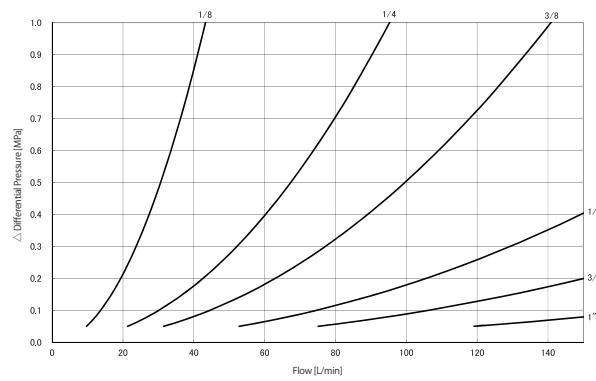


## Flow Characteristics

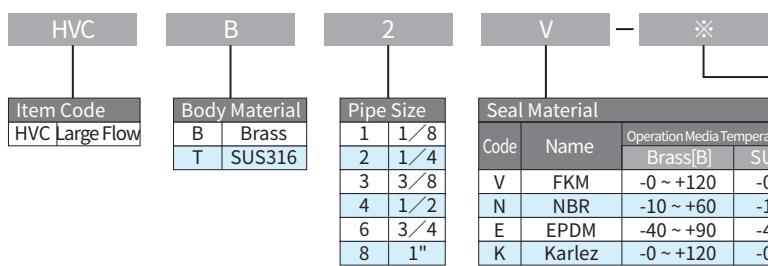
AIR (Representative Value)



WATER (Representative Value)



## Ordering Information



\*Please contact us for other materials.  
\*\*Please contact us when operation temperature is under -20 °C or over 100 °C.

# CAM Series <Set Pressure Adjustable>

Gas•Liquid

## Features

- Set Pressure adjustable
- Best for small-quantity such as prototypes and research
- High pressure available (Max Operation Pressure: 20MPa)
- Compact and lightness design

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve



## Description

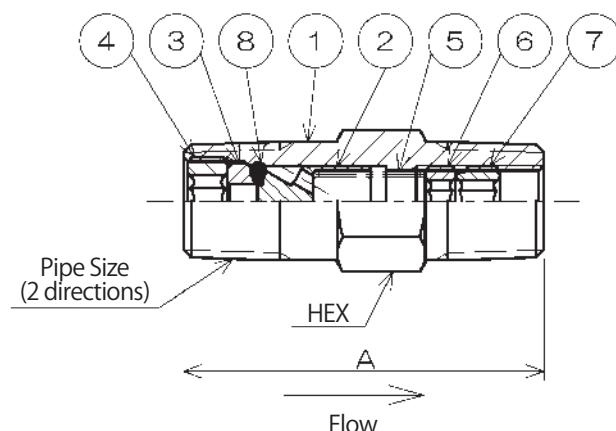
Operation fluid	Gas / liquid that does not corrode wetted parts	
Pipe size	R1/4	R1/2
Operation pressure	0~20MPa	
Proof pressure	30MPa	
Set pressure	20kPa~4100kPa	
Adjusting tool	Hex wrench (nominal)1/4=4mm、1/2=8mm	
Body material	Brass / SUS316	
Seal material	Fluororubber FKM (Standard)	
Remarks	<ul style="list-style-type: none"> <li>■ Please contact us for female screw.</li> <li>■ Adjusting tool is not included.</li> <li>■ Please contact us for oil free specification.</li> </ul>	

## Dimensions / Materials

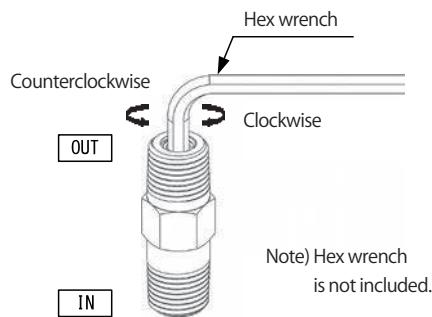
<mm>				
Dimension	Pipe Size (R)	A	HEX	CVValue (Reference)
	1/4	41.0	14.0	0.35
	1/2	65.0	23.0	1.25

Material Table

No.	Name	Material	
		Brass[B]	Stainless[T]
①	Body	Brass	SUS316
②	Poppet	Brass	SUS316
③	Valve Seat	Brass	SUS316
④	Seat Fixing Nut	Brass	SUS316
⑤	Spring	SUS301	
⑥	Pressure Adjusting Nut	Brass	SUS316
⑦	Fixing Nut	Brass	SUS316
⑧	O-ring	FKM[V](Standard)	



## Adjustment method



- Turn the fixing nut counterclockwise to loosen it, using a hex wrench.
- Insert a hex wrench to the pressure adjusting nut to adjust set pressure.  
Clockwise: Higher  
Counterclockwise: Lower
- Pull a hex wrench back to the bottom of the fixing nut and turn it clockwise to lock it.
- Check the set pressure.

## Ordering Information

CAM B 2 V - B

Item Code	
CAM	Set Pressure Adjustable

Body Material	
B	Brass
T	SUS316

Pipe Size	
2	1/4
4	1/2

Seal Material		Operation Media Temperature (Reference)
Code	Name	
V	FKM	-0 ~ +120 °C
N	NBR	-10 ~ +60 °C
E	EPDM	-40 ~ +90 °C
K	Karlez	-0 ~ +120 °C

Spring Code		Set Pressure(kPa)
Code	Set Pressure(kPa)	
A	20 ~ 100	
B	110 ~ 350	
C	360 ~ 1000	
D	1010 ~ 2400	
E	2410 ~ 4100	

Note) If you have a request of set pressure, please specify the set pressure <kPa> after spring code.  
(The engraving of requested set pressure does not mark on valve.)

Example) CAMB2V-B-300

300kPa

(min setting unit 10kPa)

\*Please contact us for other materials.  
\*\*Please contact us when operation temperature is under -20 °C or over 100 °C.

\*) If not specified, the product will be shipped at the lower limit of the set range.

# C5 Series <Fluororesin>

Gas•Liquid

## Features

- All wetted materials : Fluororesin
- Applied fluororesin special spring
- Available for use with wide range of fluids such as chemicals, solvents and corrosive fluids by selecting various seal materilas



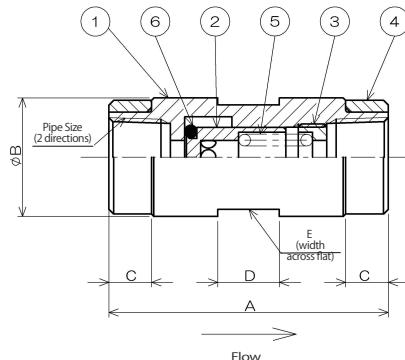
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	Rc3/8~Rc3/4
Operation pressure	0~400kPa
Proof pressure	500kPa
Set pressure	Around 20kPa(Standard)
Body material	PTFE
Seal material	Fluororubber(Standard)
Remarks	Please contact us for other tube fittings or pipe size.

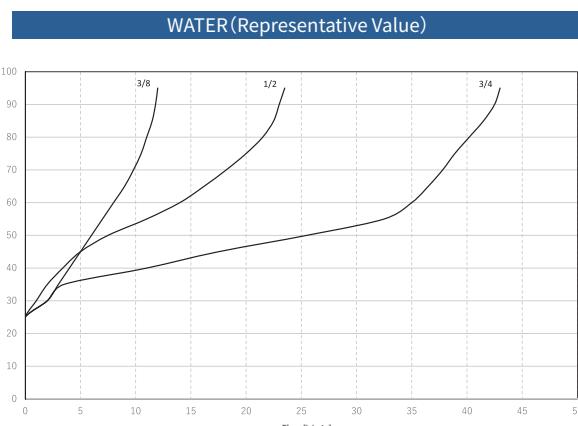
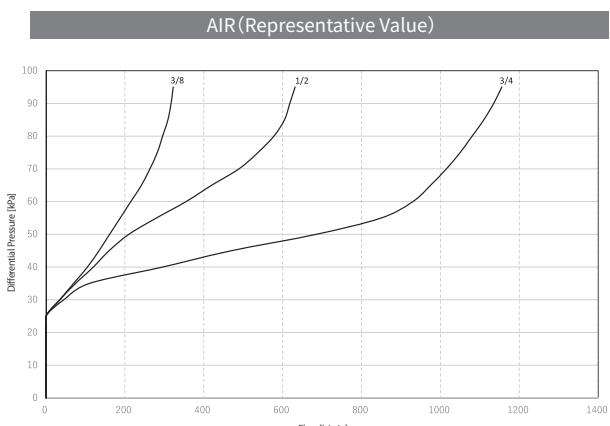
## Dimensions / Materials

Dimension Table	Pipe Size (Rc)	<mm>				
		A	B	C	D	E width across flat
	3/8	59.0	25.0	9.0	13.0	22.0
	1/2	74.0	30.0	16.0	16.0	26.0
	3/4	85.0	37.0	18.0	15.0	34.0

Material Table	No.	Name	Material
	①	Body	PTFE
②	Disc	PTFE	
③	Stopper	PFA	
④	Cap	PVDF	
⑤	Spring	Teflon Mold	
⑥	O-ring	FKM[V](Standard)	



## Flow Characteristics



## Ordering Information

C5 - 3 - V - \*

Item Code  
C5 | Fluororesin

Pipe Size  
3 | 3/8  
4 | 1/2  
6 | 3/4

Seal Material  
Code | Name  
V | FKM  
E | EPDM  
K | Karlez

Set Pressure(OP)  
Cracking Value(kPa) | Pipe Size  
20kPa | Blank  
50kPa | 3/8, 1/2  
200kPa | 1/2  
300kPa | 1/2

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

RA

RL

RC

RHA

RHL

RM1

RM2

RD

FMNV1

FMNV2

# CD Series <Fluororesin PFA>

Gas•Liquid

## Features

- Wetted material: PFA or PTFE
- Any fitting specifications are available
- Applied fluororesin special spring
- Best use for applications requiring chemical resistance

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve



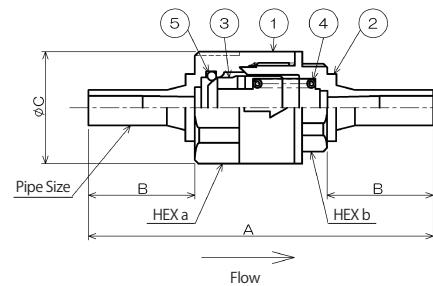
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts		
Tube size	1/4	3/8	1/2
Operation pressure	0~350kPa		
Proof pressure	400kPa		
Set pressure	Around 10kPa		
Operation temperature range	5~80°C		
Operation environment range	5~60°C		
Body material	PFA		
Seal material	Fluororubber FKM (Standard)		
Remarks	<ul style="list-style-type: none"> <li>■ Seal material fluororubber as standard.</li> <li>■ Please refer to each fitting manufacturer's descriptions or method for piping.</li> </ul>		

## Dimensions / Materials

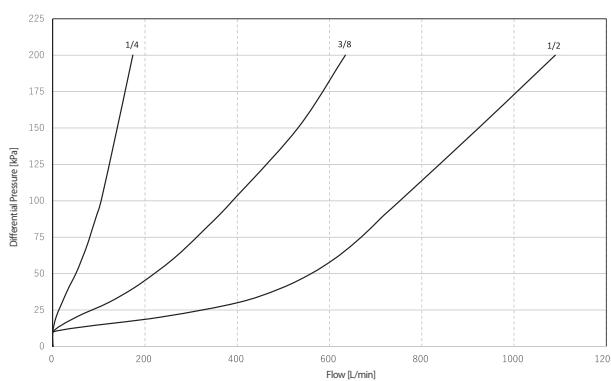
Dimension Table	Tube Size	A	B	C	HEX		CV Value (Reference)
					a	b	
	1/4	72.0	22.0	20.0	18.0	14.0	0.3
	3/8	92.5	28.5	30.0	28.0	22.0	1.0
	1/2	134.5	49.5	30.0	28.0	22.0	1.4

Material Table	No.	Name	Material	HEX	
				a	b
①	Body1	PFA			
②	Body2	PFA			
③	Poppet	PFA			
④	Spring	Teflon Mold			
⑤	O-ring	FKM[V](Standard)			

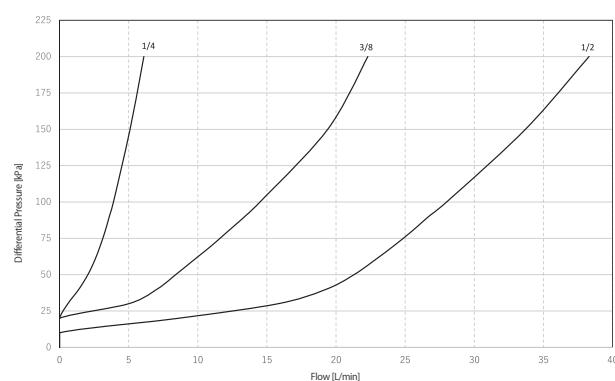


## Flow Characteristics

AIR (Representative Value)



WATER (Representative Value)



## Ordering Information

CD - T2 - V

Item Code	
CD	PFA

Tube Size	
T2	1/4
T3	3/8
T4	1/2

Seal Material	
Code	Name
V	FKM
P	Perfluor
K	Karlez

# C8 Series <Resin POM>

Gas・Liquid

## Features

- Resin and lightness
- Free piping posture

- Various liquids including tap water are available for use
- Low set pressure



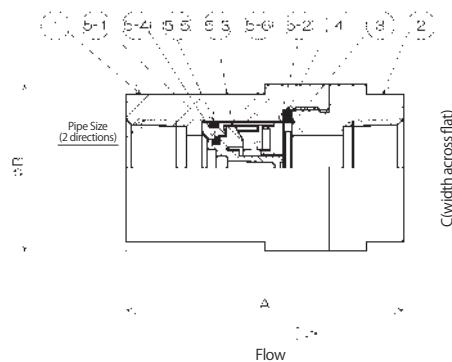
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	Rc1/4～Rc1/2
Operation pressure	-0～500kPa
Proof pressure	800kPa
Set pressure	3kPa
Operation temperature range	5～55°C
Body material	POM (Polyacetal)
Seal material	Fluororubber FKM (Standard)
Remarks	<ul style="list-style-type: none"> <li>■ Note for the leakage from screws and piping stress when installing.</li> <li>■ Do not use for more than 1 hour continuously when operation temperature is over 45 °C.</li> <li>■ Please contact us for other fluids.</li> <li>■ Please contact us for other materials.</li> </ul>

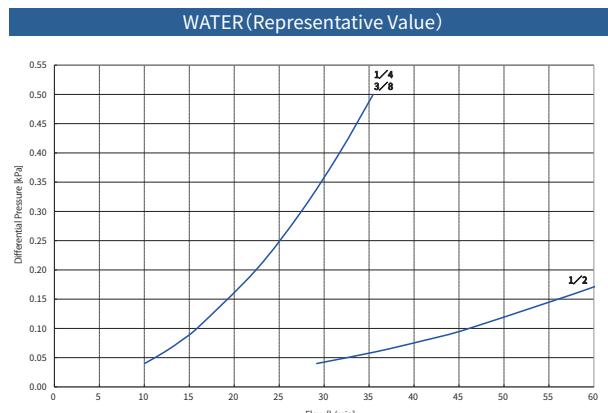
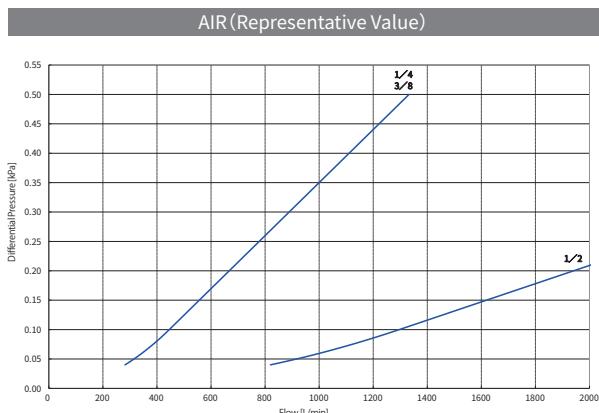
## Dimensions / Materials

Dimension Table	Pipe Size (Rc)	<mm>		
		A	B	C width acrossflat
	1/4	55.0	32.0	28.0
	3/8	57.0	34.0	30.0
	1/2	60.0	36.0	32.0

Material Table	No.	Name	Material
			POM[J] Denatured PPO
	①	Body1	POM
	②	Body2	POM
	③	Spacer	POM
	④	O-ring	FKM[V](Standard)
	⑤-1	Casing Body	POM Denatured PPO
	⑤-2	Valve Holder	POM Denatured PPO
	⑤-3	CheckValveBody	POM Denatured PPO
	⑤-4	O-ring	FKM[V](Standard)
	⑤-5	O-ring	FKM[V](Standard)
	⑤-6	Spring	SUS304



## Flow Characteristics



## Ordering Information

C8J	D	4	V	
Item Code C8J	Internal Valve Material Code J D	Pipe Size 1/4, 3/8 1/2	Seal Material V FKM	
Item Code C8J	Internal Valve Material Code J D	Pipe Size 1/4, 3/8 1/2	Seal Material V FKM	
Resin POM	POM Denatured PPO			

# CC Series <Resin Cartridge>

Gas•Liquid

**Features**

- Cartridge type
- Lightweight and low price
- Low set pressure

- Best for installing compact devices
- Various liquids including tap water are available for use



CC φ13



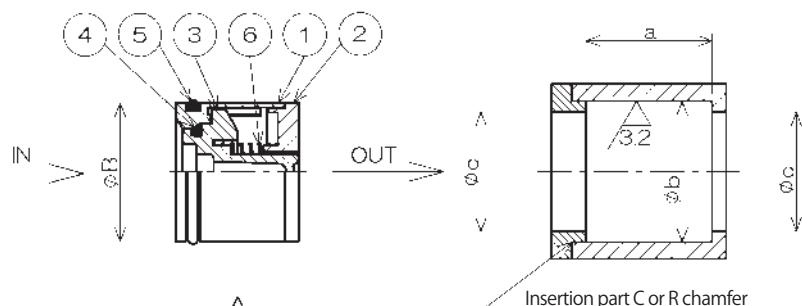
CC φ20

**Description**

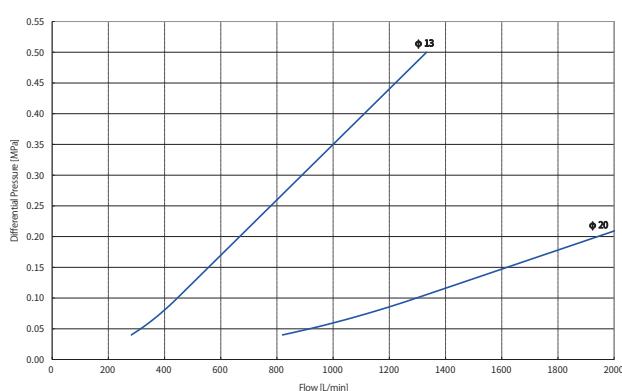
Operation fluid	Gas / liquid that does not corrode wetted parts	
Pipe size	φ13mm	φ20mm
Operation pressure	0~750kPa	
Proof pressure	1.75MPa	
Set pressure	3kPa	
Operation temperature range	0~60°C	
Body material	POM:13mm	Denatured PPO:20mm
Seal material	Fluororubber FKM (Standard)	
Remarks	<ul style="list-style-type: none"> <li>■ MOQ is from 10 pieces.</li> <li>■ Do not use for more than 1 hour continuously when operation temperature is over 45 °C.</li> <li>■ Please contact us for other fluids.</li> <li>■ Please contact us for other materials.</li> </ul>	

**Dimensions / Materials**

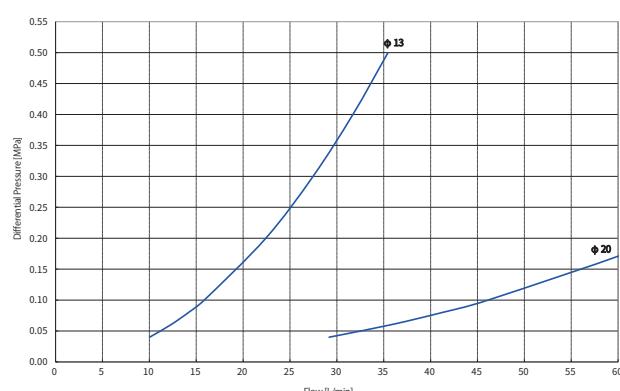
Mounting dimension example	<mm>		
	Nominal Diameter	A	B
	Φ13mm	16.0	12.8
	Φ20mm	17.6	19.8
Material Table	<mm>		
	Nominal Diameter	a	b +0.1 -0.1
	Φ13mm	16.5	13.0
	Φ20mm	18.0	20.1
	C		
	Φ13mm	10.0	
	Φ20mm	17.0	

**Flow Characteristics**

AIR (Representative Value)



WATER (Representative Value)

**Ordering Information**

Φ13mm Model

CC-J-13-V

Φ20mm Model

CC-D-20-V

# CP Series<Resin PP>

Gas・Liquid

## Features

- Compact, lightness and low-priced
- PP valve body has excellent corrosion resistance
- Stable sealing performance with spring method
- Applied fluororubber as standard specification

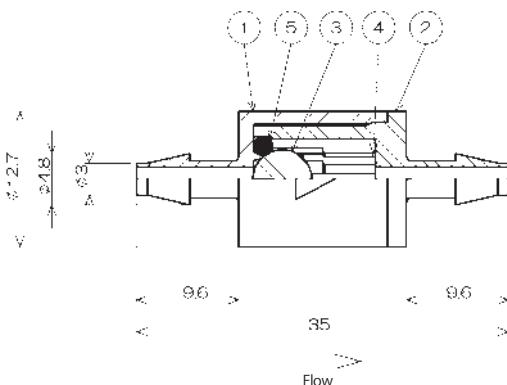


## Description

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	φ3
Operation pressure	0～300kPa
Proof pressure	400kPa
Set pressure	7kPa
Operation temperature range	5～45°C
Body material	PP (Polypropylene)
Seal material	Fluororubber FKM (Standard)
Remarks	<ul style="list-style-type: none"> <li>■ Order quantity is in units of 10 pieces.</li> <li>■ Please contact us for using with other fluids.</li> <li>■ Please contact us when using for other materials or specifications.</li> <li>■ Applicable to soft tube inner diameter φ3 to φ4.</li> <li>■ Please contact us when set pressure is under 7kPa.</li> </ul>

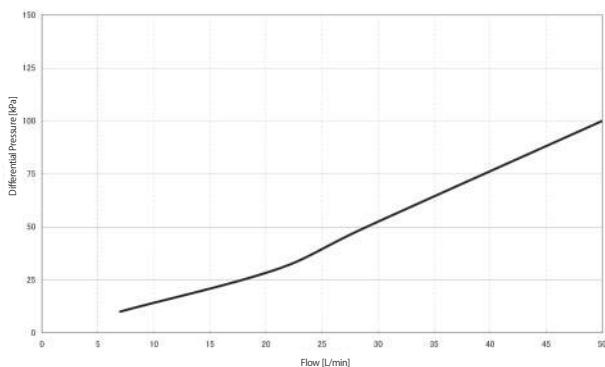
## Dimensions / Materials

Material Table		
No.	Name	Material
①	Body1	PP
②	Body2	PP
③	Valve Ball	SUS304
④	Spring	SUS304
⑤	O-ring	FKM[V]

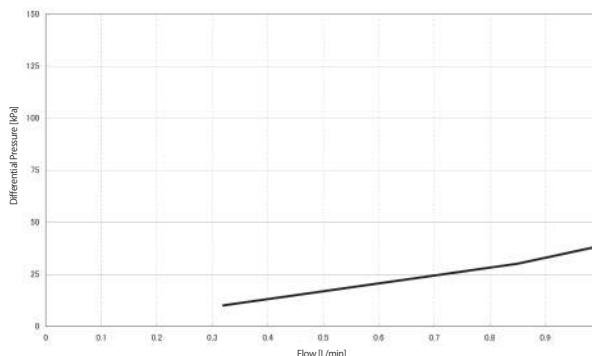


## Flow Characteristics

AIR(Representative Value)



WATER(Representative Value)



## Ordering Information

CPPS4MV

Check Valve

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve

FMNV1

FMNV2

# RA Series <Vent to Atmosphere, Low Pressure>

Gas•Liquid

## Features

- High-precision cracking performance and high sealing performance
- Best for the fluids that can vent to atmosphere
- Variety of pipe sizes
- Compact and lightness
- Adjust set pressure at the factory

## Description

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

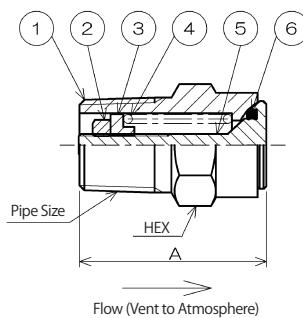
CP

Relief Valve



Dimension Table	Pipe Size (R)	A		HEX
		25.5 ±2.0	13.0	
	1/8	25.5 ±2.0	13.0	
	1/4	31.0 ±2.0	17.0	
	3/8	33.0 ±2.0	19.0	
	1/2	44.8 ±3.0	26.0	
	5/8	52.4 ±3.0	29.0	
	1"	72.8 ±3.0	38.0	

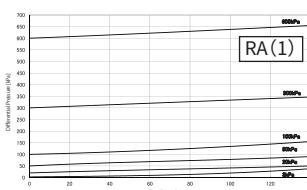
Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
	①	Body	Brass(Ni Plating)	SUS316
	②	Nut	SUS316L	
	③	Guide	Brass or Stainless	SUS316 or SUS316L
	④	Spring	SUS304 or SUS316	
	⑤	Poppet	Brass	SUS316
	⑥	Special Seal	FKM[V](Standard)	



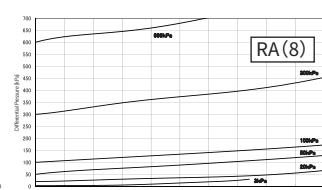
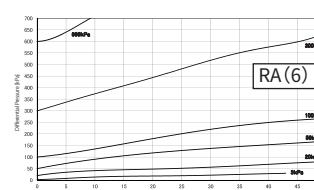
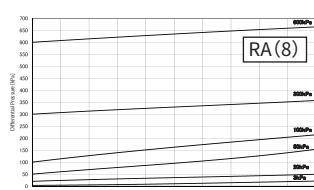
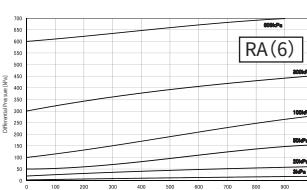
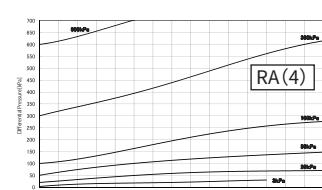
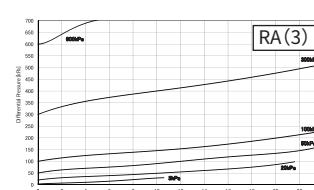
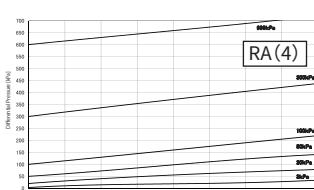
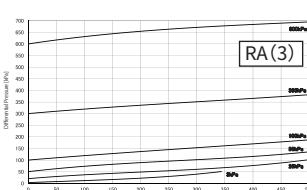
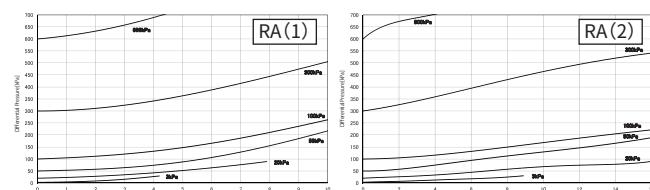
## Dimensions / Materials

## Flow Characteristics

AIR (Representative Value)



WATER (Representative Value)



※ () in the Flow Characteristics graph shows valve pipe size.

## Ordering Information

RA

T

2

V

— 500 —

※

FMNV1

Item Code	
RA	Vent to Atmosphere

Body Material	
B	Brass

Pipe Size	
1	1/8
2	1/4
3	3/8
4	1/2
6	3/4
8	1"

Code	Name	Operation Media Temperature (Reference)	
		Brass[B]	SUS316[T]
V	FKM(Standard)	-0 ~ +120	-0 ~ +150
D	Perfluor	-0 ~ +120	-0 ~ +150
N	NBR	-10 ~ +60	-10 ~ +60
E	EPDM	-40 ~ +90	-40 ~ +90

Set Pressure (kPa)	
Example) In case of 0.05MPa (50kPa): 50 In case of 1.0MPa (1000kPa): 1000	

Oxygen Cleaning(OP)	
(Blank)	General Cleaning

NO	Oil Free
----	----------

※ Please contact us for other materials.

※ Please contact us when operation temperature is under -20 °C or over 100 °C.

※ Some seal materials are not available depending on pipe size.

# RL Series<Inline, Low Pressure>

Gas•Liquid

## Features

- High-precision cracking performance and high sealing performance
- Best for collecting drainage / exhaust gas after relief by piping OUT side
- IN / OUT side is a straight shape. Installation is easy and slim piping design is available
- Adjust set pressure at the factory



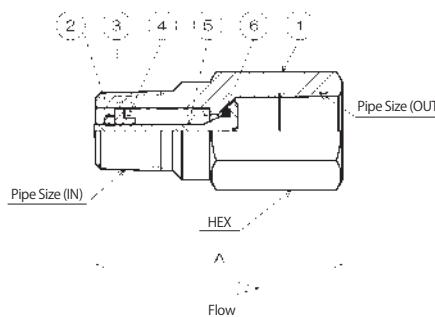
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	1/4"~1-1/4"(R(IN)xRc(OUT))
Proof pressure	1.62MPa
Set pressure	3~1080kPa ※ It for pipe size 1/4" is from 3 to 970 kPa. ※ 3~29kPa is available as an option.
Body material	Brass / SUS316
Seal material	Fluororubber FKM (Standard)
Remarks	When set pressure is under 5kPa, the mounting posture is limited to upward facing exit.

## Dimensions / Materials

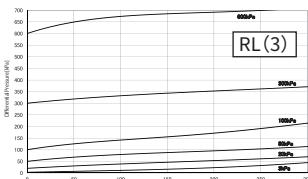
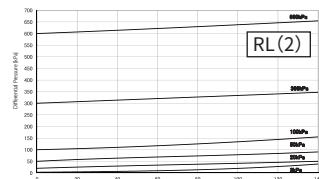
Dimension Table	<mm>		
	Pipe Size IN(R) × OUT(Rc)	A	HEX
1/4	41.0	19.0	
3/8	53.0	22.0	
1/2	60.0	27.0	
3/4	69.0	32.0	
1"	90.0	38.0	
1"-1/4	115.0	50.0	

Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
①	Body	Brass	SUS316	
②	Nut	SUS316L		
③	Guide	Brass or Stainless	SUS316 or SUS316L	
④	Spring	SUS304 or SUS316		
⑤	Poppet	Brass	SUS316	
⑥	Special Seal	FKM[V](Standard)		

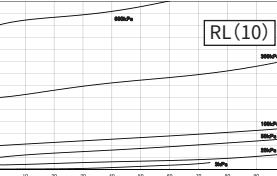
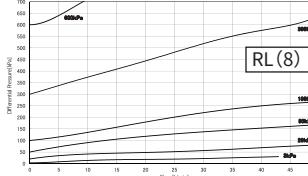
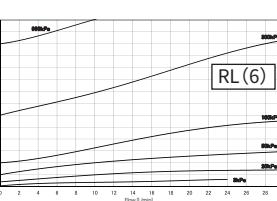
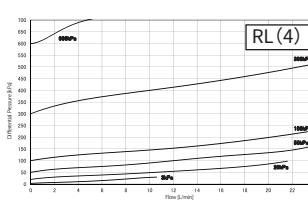
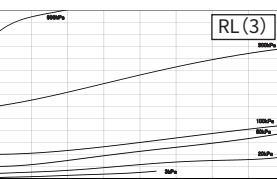
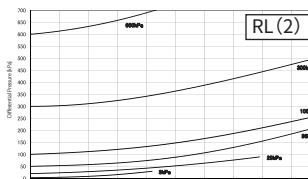


## Flow Characteristics

AIR (Representative Value)



WATER (Representative Value)



\*() in the Flow Characteristics graph shows valve pipe size.

## Ordering Information

RL	T	2	V	—	500	—	*	Set Pressure (kPa)	Oxygen Cleaning(OP)
Item Code	Body Material	Pipe Size	Seal Material	Code	Name	Operation Media Temperature (Reference)	Example) In case of 0.05MPa (50kPa): 50 In case of 1.0MPa (1000kPa): 1000	Set Pressure (kPa)	Oxygen Cleaning(OP)
RL	B Brass	2 1/4	Brass[B] SUS316[T]	V	FKM(Standard)	-0 ~ +120	-0 ~ +150	(Blank)	GeneralCleaning
Inline	T SUS316	3 3/8	D Perfluor	D	-0 ~ +120	-0 ~ +150	NO	OilFree	
		4 1/2	N NBR	N	-10 ~ +60	-10 ~ +60			
		6 3/4	E EPDM	E	-40 ~ +90	-40 ~ +90			
		8 1"							
		10 1"-1/4							

\*Please contact us for other materials.

\*Please contact us when operation temperature is under -20 °C or over 100 °C.

\*Some seal materials are not available depending on pipe size.

# RC Series <Deflector Cap(Vent to Atmosphere, Low Pressure)>

Gas•Liquid

## Features

- Available for restriction of discharge direction by deflector cap
- Control contamination by foreign substances into the valve under outdoor exposure use
- High-precision cracking performance and high sealing performance
- Adjust set pressure at the factory

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve



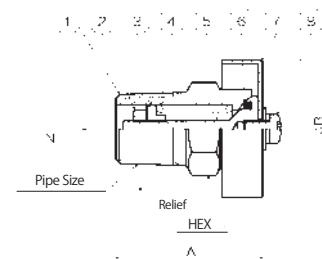
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	R1/8~R3/4
Proof pressure	1.62MPa
Set pressure	30~1080kPa ※It for pipe size 1/8 "is from 30 ~ 970 kPa.
Body material	Brass (Ni Plating) / SUS316
Seal material	Fluororubber FKM (Standard)
Remarks	<ul style="list-style-type: none"> <li>■ The mounting position is limited to upward facing exit.</li> <li>■ Body material for Brass is Ni Plating.</li> <li>■ Please contact us for pipe size 1".</li> </ul>

## Dimensions / Materials

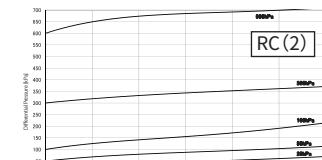
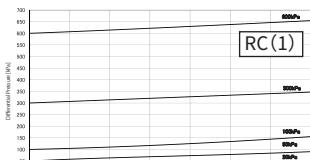
Dimension Table	Pipe Size (R)	<mm>		
		A	B	HEX
	1/8	26.5 ±2.0	18.0	13.0
	1/4	32.0 ±2.0	25.0	17.0
	3/8	34.0 ±2.0	32.5	19.0
	1/2	45.8 ±3.0	37.2	26.0
	3/4	53.4 ±3.0	37.2	29.0

Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
①	Body	Brass(Ni Plating)	SUS316	
②	Nut		SUS316L	
③	Guide	Brass or Stainless	SUS316 or SUS316L	
④	Spring		SUS304 or SUS316	
⑤	Poppet	Brass	SUS316	
⑥	Special Seal	FKM[V](Standard)		
⑦	Cap	Aluminum alloy (anodized)		
⑧	Screw		SUS304 or SUS316	

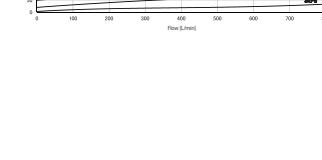
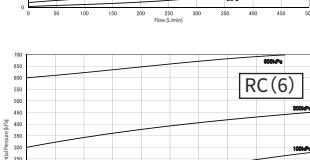
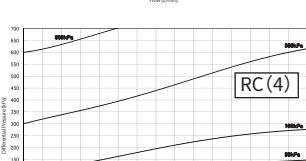
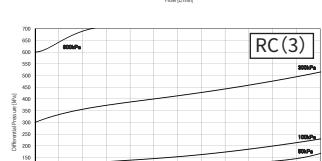
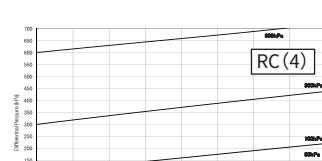
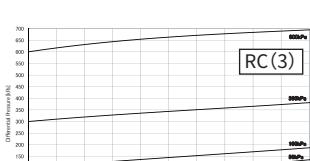
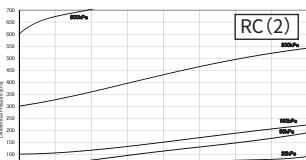
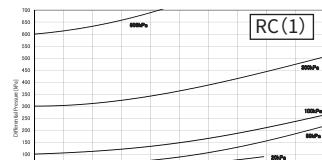


## Flow Characteristics

AIR (Representative Value)

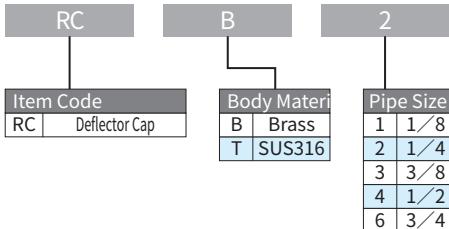


WATER (Representative Value)



※() in the Flow Characteristics graph shows valve pipe size.

## Ordering Information



※Please contact us for other materials.

※Please contact us when operation temperature is under -20 °C or over 100 °C.

※Some seal materials are not available depending on pipe size.

(°C)

# RHA Series <Vent to Atmosphere, High Pressure>

Gas•Liquid

## Features

- High pressure type (max set pressure: 4.2MPa)
- Compact and lightweight
- Adjust set pressure at the factory
- Available for corrosive fluids depending on seal material



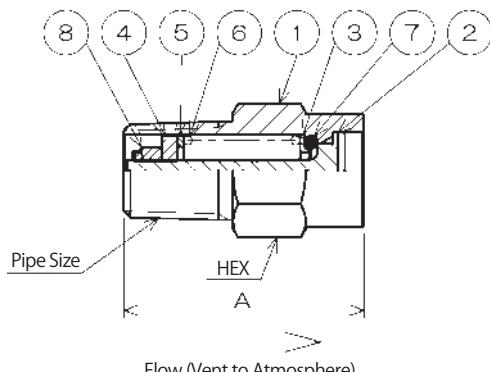
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts	
Pipe size	R1/8	R1/4
Proof pressure	6.8MPa	
Set pressure	1000~4200kPa	
Body material	Brass	
Seal material	Fluororubber FKM (Standard)	
Remarks	<ul style="list-style-type: none"> <li>■ Please contact us for stainless.</li> <li>■ Please contact us for oil-free specification.</li> </ul>	

## Dimensions / Materials

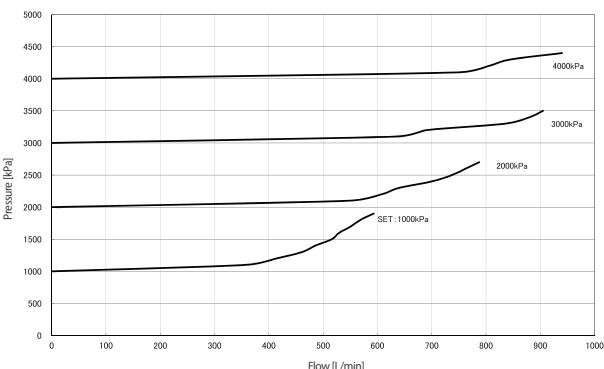
Dimension Table		
Pipe Size (R)	A	HEX
1/8	28.0	13.0
1/4	33.0	16.0

Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
①	Body	Brass	SUS316	
②	Poppet	Brass	SUS316	
③	O-ring Guide	Brass	SUS316	
④	Guide	Brass	SUS316	
⑤	Spring Seat		SUS316	
⑥	Spring		SUS301	
⑦	O-ring	FKM[V](Standard)		
⑧	(Nylon)Nut	SUS303(66 Nylon) or SUS316L		※depending on your selection



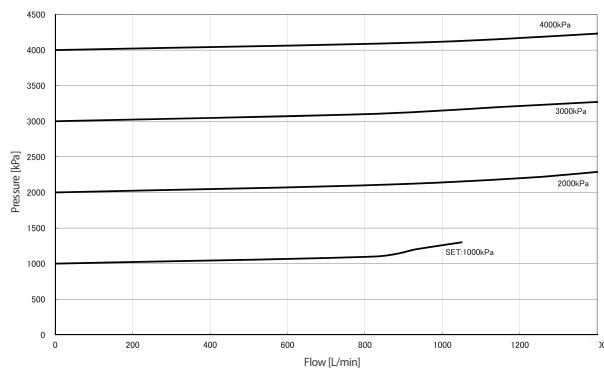
## Flow Characteristics

AIR(Representative Value) RHA(1)

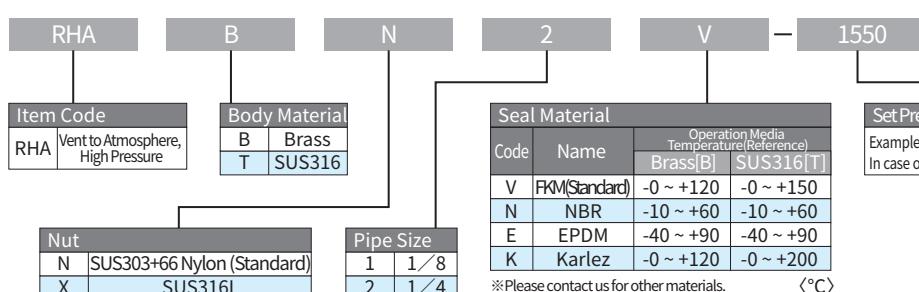


※The model number () in the flow characteristics graph is the pipe size of the valve.

AIR(Representative Value) RHA(2)



## Ordering Information



Seal Material		
Code	Name	Operation Media Temperature (Reference)
		Brass[B] SUS316[T]
V	FKM[Standard]	-0 ~ +120 -0 ~ +150
N	NBR	-10 ~ +60 -10 ~ +60
E	EPDM	-40 ~ +90 -40 ~ +90
K	Karlez	-0 ~ +120 -0 ~ +200

※Please contact us for other materials.  
※Please contact us when operation temperature is under -20°C or over 100°C.

Set Pressure (kPa)		
Example) In case of 0.05MPa (50kPa): 50		
In case of 1.0MPa (1000kPa): 1000		

# RHL Series<Inline, High Pressure>

Gas•Liquid

## Features

- High pressure type (max set pressure: 4.2MPa)
- Best for collecting drainage / exhaust gas after relief by piping OUT side
- Adjust set pressure at the factory
- Available for corrosive fluids depending on seal material

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve



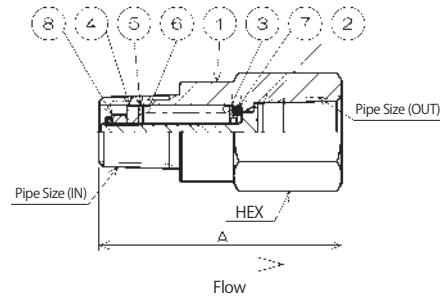
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	1/8"~1/4" (R(IN)xRc(OUT))
Proof pressure	6.8MPa
Set pressure	1000~4200kPa
Body material	Brass
Seal material	Fluororubber FKM (Standard)
Remarks	<ul style="list-style-type: none"> <li>■ Please contact us for stainless.</li> <li>■ Please contact us for oil-free specification.</li> </ul>

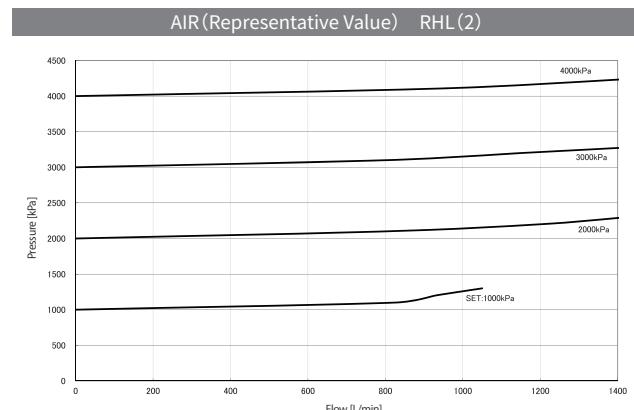
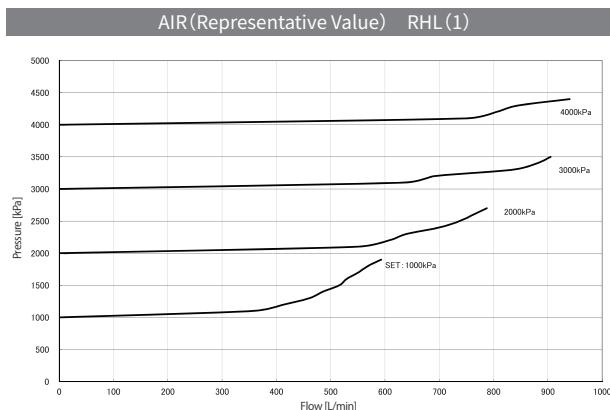
## Dimensions / Materials

Dimensions	Pipe Size IN(R) X OUT(Rc)			A	HEX
	1/8	37.0	13.0		
	1/4	45.0	19.0		

Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
	①	Body	Brass	SUS316
	②	Poppet	Brass	SUS316
	③	O-ring Guide	Brass	SUS316
	④	Guide	Brass	SUS316
	⑤	Spring Seat	SUS316	
	⑥	Spring	SUS301	
	⑦	O-ring	FKM[V](Standard)	
	⑧	(Nylon)Nut	SUS303(66 Nylon) or SUS316L	depending on your selection



## Flow Characteristics



※ () in the Flow Characteristics graph shows valve pipe size.

## Ordering Information

RHL	B	N	2	V	-	1550
Item Code RHL Inline, High Pressure	Body Material B Brass					
	T SUS316					
Nut N SUS303+66 Nylon (Standard)	Pipe Size 1 1/8					
X SUS316L	2 1/4					

Seal Material		
Code	Name	Fluid Temperature(Reference)
V	FKM(Standard)	Brass[B] SUS316[T] -0 ~ +120 -0 ~ +150
N	NBR	-10 ~ +60 -10 ~ +60
E	EPDM	-40 ~ +90 -40 ~ +90
K	Karlez	-0 ~ +120 -0 ~ +200

Set Pressure (kPa)
Example) Incase of 0.05MPa (50kPa): 50 In case of 1.0MPa (1000kPa): 1000

※Please contact us for other materials.

℃

※Please contact us when operation temperature is under -20 °C or over 100 °C.

# RM1 Series<External Set Pressure Adjustable>

Gas・Liquid

## Features

- Special seal suppresses valve oscillation
- External set pressure adjustable (pressure adjusted at factory)
- Applied SCS 414 (equivalent to SUS 316) which has excellent corrosion resistance to the stainless steel body
- Liquids use available, inline and large flow rate specifications (compared to our products)



Standard

With pull ring

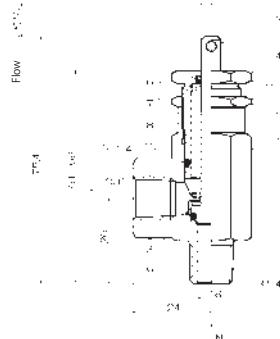
With toggle lever

## Description

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	R(IN) 1/4×Rc(OUT)1/4
Proof pressure	3.0MPa
Set pressure	50～1500kPa
Operation temperature range	0～90°C (FKM)
Operation environment range	0～60°C
Body material	Brass / SCS14(Equivalent to SUS316)
Seal material	Fluororubber FKM (Standard)
Remarks	<ul style="list-style-type: none"> <li>■ Pull ring or toggle lever as an option.</li> <li>■ Please contact us when using other materials.</li> <li>■ Please select RM2 series for other fluids.</li> <li>■ Please contact us for oil-free specification.</li> </ul>

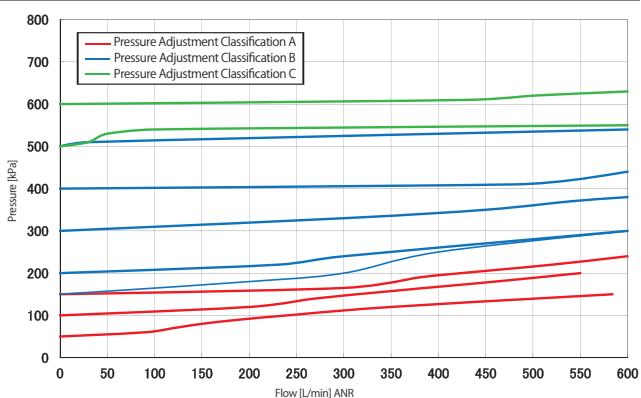
## Dimensions / Materials

Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
	①	Body	Brass	SCS14
	②	Poppet	SUS316	
	③	Backup Ring	SUS316	
	④	Adjust Nut	Brass	SUS316
	⑤	Lock Nut	SUS303	
	⑥	Special Packing	FKM[V](Standard)	
	⑦	Spring Seat	SUS316	
	⑧	Spring	SUS304 or SUS301	
	⑨	O-ring	FKM[V](Standard)	
	⑩	O-ring	FKM[V](Standard)	

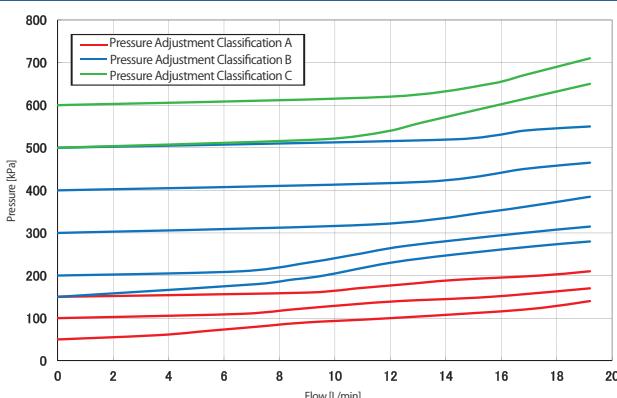


## Flow Characteristics

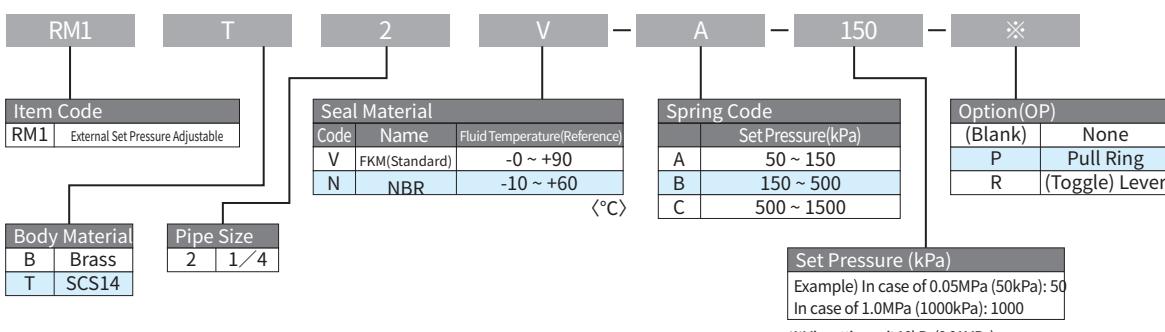
AIR (Representative Value)



WATER (Representative Value)



## Ordering Information



# RM2 Series<External Set Pressure Adjustable>

Gas•Liquid

## Features

- Designed to reduce the external leaks than the RM1 series
- Seal materials EPDM and Karlez are also available and can be used with chemicals, solvents, corrosive fluids
- External set pressure adjustable(pressure adjusted at factory)
- Large flow specification (compared to our products)

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve

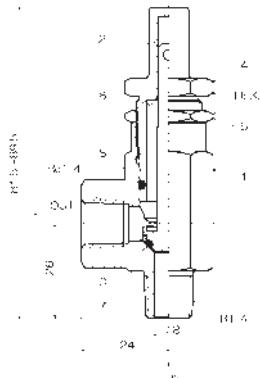


## Description

Operation fluid	Gas / liquid that does not corrode wetted parts
Pipe size	R(IN)1/4× Rc(OUT)1/4
Proof pressure	3.0MPa
Set pressure	50~1500kPa
Operation temperature range	0~90°C (FKM)
Operation environment range	0~60°C
Body material	Brass / SCS14(Equivalent to SUS316)
Seal material	Fluororubber FKM (Standard)
Remarks	<ul style="list-style-type: none"> <li>■ Please contact us when set pressure is under 50kPa.</li> <li>■ Please contact us when using for other materials or pipe size.</li> <li>■ Please select RM1 series if manual release mechanism required.</li> <li>■ Please contact us for oil-free specification.</li> </ul>

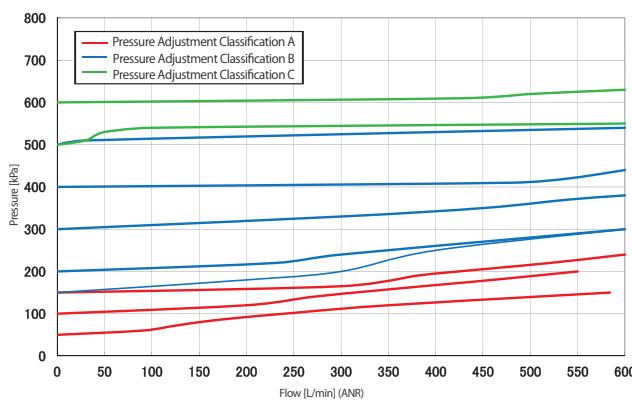
## Dimensions / Materials

Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
	①	Body	Brass	SCS14
	②	Poppet	SUS316	
	③	Backup Ring	SUS316	
	④	Adjust Nut	Brass	SUS316
	⑤	Lock Nut	SUS303	
	⑥	Spring	SUS304 or SUS301	
	⑦	O-ring	FKM[V](Standard)	
	⑧	O-ring	FKM[V](Standard)	

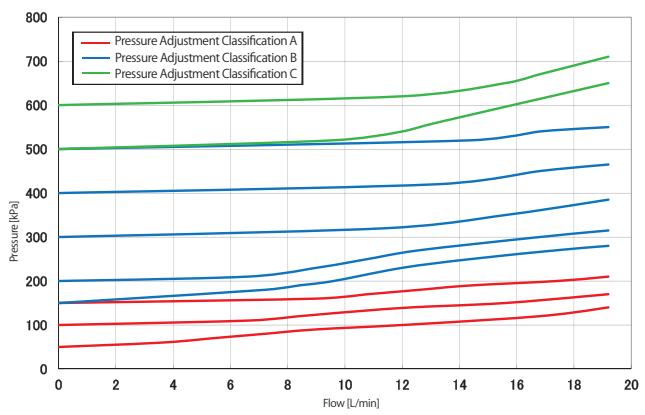


## Flow Characteristics

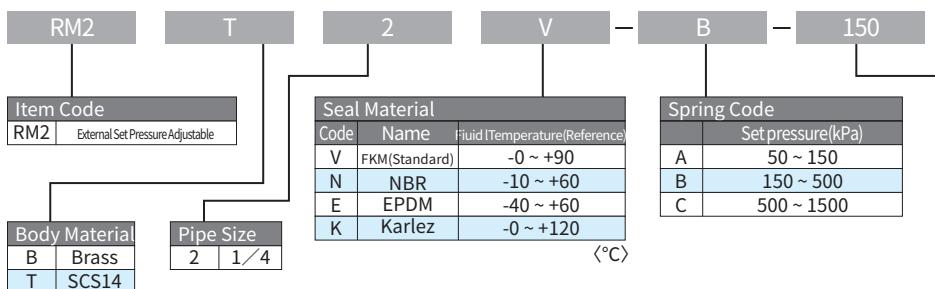
AIR(Representative Value)



WATER(Representative Value)



## Ordering Information



# RD Series <Fluororesin PFA>

Gas•Liquid

## Features

- Easy set pressure adjustable
- Any fitting specifications available
- Designed for corrosion and chemical resistance, using bellows method and seal material perfluoro

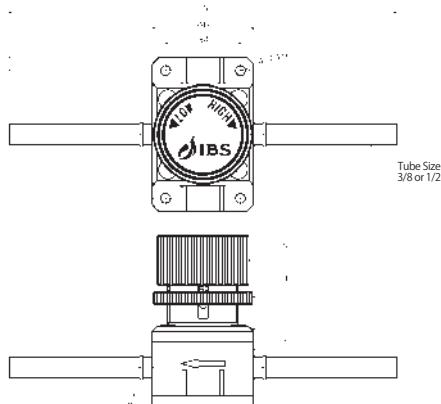


## Description

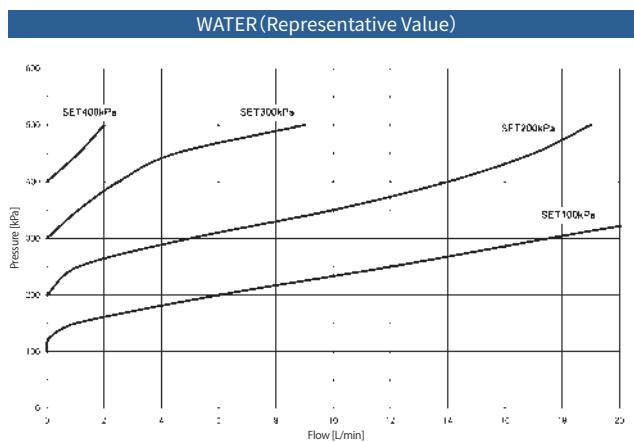
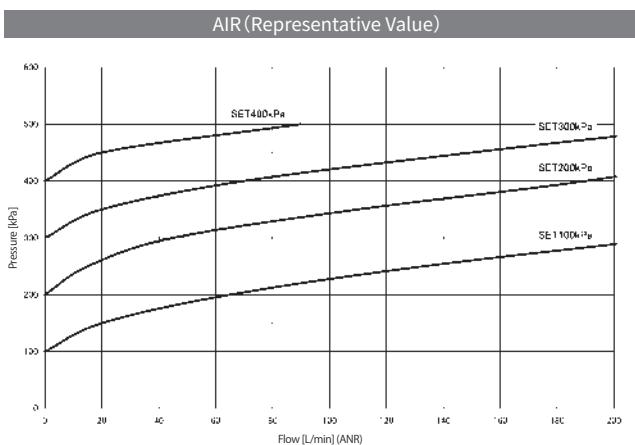
Operation fluid	Gas / liquid that does not corrode wetted parts	
Tube size	3/8(Φ9.53×Φ6.35)	1/2(Φ12.7×Φ9.53)
Proof pressure	600kPa	
Set pressure	50~400kPa	
Operation temperature range	5~70°C	
Operation environment range	5~60°C	
Body material	PFA	
Seal material	Perfluor(Standard)	
Remarks	<ul style="list-style-type: none"> <li>■ PTFE, PFA, PP for wetted parts.</li> <li>■ Please contact us if perfluoro is not available to your application.</li> <li>■ Please refer to each fitting manufacturer's descriptions or methods for piping.</li> </ul>	

## Dimensions / Materials

Material Table		
No.	Name	Material
①	Body	PFA
②	Bonnet	PP
③	Knob	PP
④	Stopper	PP



## Flow Characteristics



## Ordering Information

RDA	-	T3	-	P
Item Code		Tube Size		Seal Material
RDA	PFA	T3	3/8	P Perfluor
		T4	1/2	

Check Valve

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve

FMNV1

FMNV2

# FMNV1 Series <Precision>

Gas•Liquid

## Features

- Needle part with non-rotating structure, allowing smooth and precise flow control
- Wide variety of needle lineups meets the usage conditions available
- Selectable the shape meeting your piping conditions from 2 body shapes
- Variety of seal materials

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

RM2

RD

Needle Valve



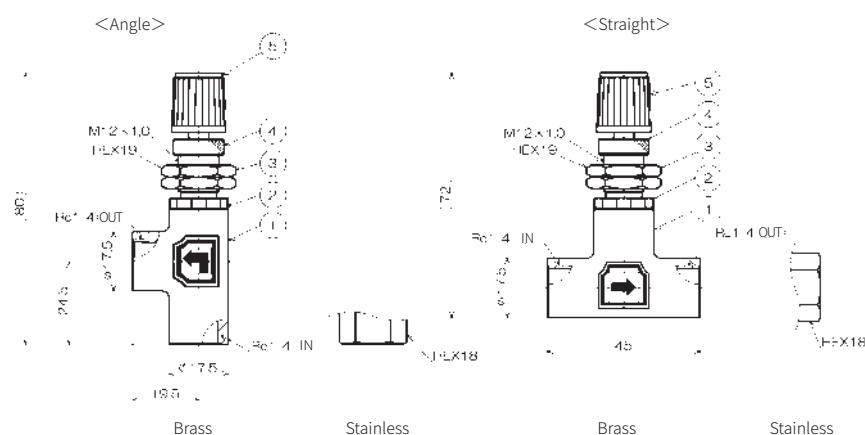
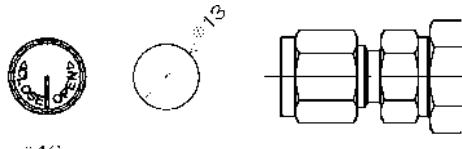
## Description

Operation fluid	Gas / liquid that does not corrode wetted parts	
Pipe size	Rc1/4 (Standard)	
Operation pressure	1.0MPa	
Proof pressure	1.5MPa	
Operation fluid range	Brass:0~60°C(FKM)	SUS:0~120°C(FKM)
Body material	Brass (Ni Plating) / SUS316	
Wetted Materials	Brass, SUS316, PTFE, FKM(Standard)	SUS316, PTFE, FKM(Standard)
Knob rotation speed	About 13 rotations	
Seal material	Fluororubber FKM(Standard)	
Remarks	Tube bite fitting specification is available only for stainless. Please contact us for detailed dimensions.	

## Dimensions / Materials

Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
	①	Valve Body	Brass(Ni Plating)	SUS316
	②	Needle Body	Brass(Ni Plating)	SUS316
	③	Panel Nut	Brass(Ni Plating)	
	④	Cover Nut	Brass(Ni Plating)	
	⑤	Knob	Nylon(Standard)	

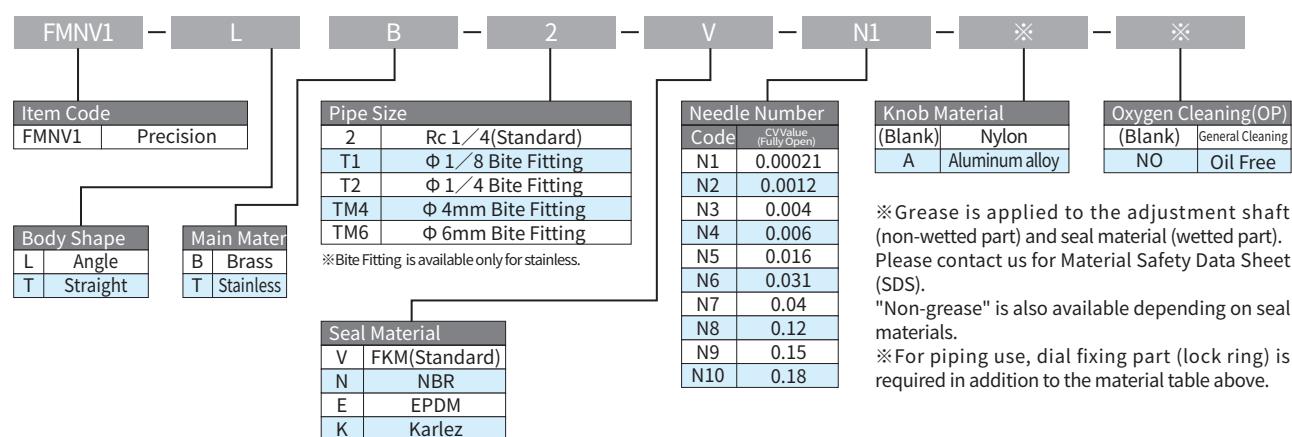
Knob Dimensions      Panel cut Dimensions      Bite Fitting  
※Please contact us for more



## Flow Characteristics

※Refer to pages 24 and 25

## Ordering Information



FMNV1

FMNV2

# FMNV2 Series <Precision with Multi-Dial>

Gas•Liquid

## Features

- With the same needle function as FMNV1, easily and reliably controllable the flow rate with a multi-dia display for rotation speed
- Multi-Dial has a lock lever and can be locked with one action
- Compatible with panel mount installation, easy to install
- Similar to FMNV1, a wide variety of needle ranges and seal materials available according to fluids requested



For Panel Mount



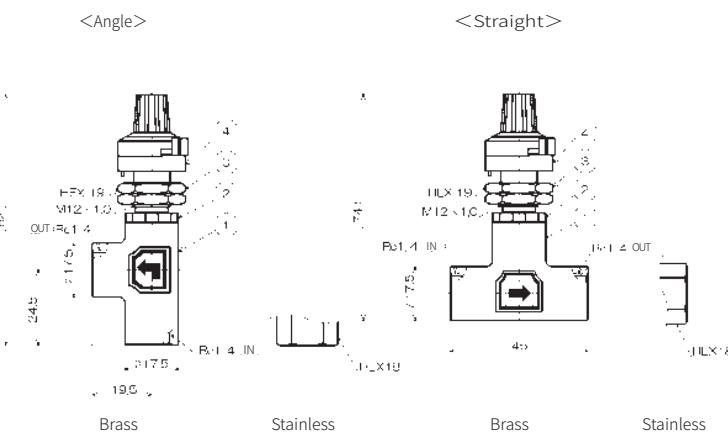
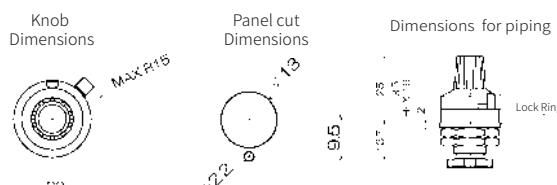
For Piping

## Description

Operation fluid	Gas / liquid that does not corrode wetted parts	
Pipe size	Rc1/4 (Standard)	
Operation pressure	1.0Mpa	
Proof pressure	1.5MPa	
Operation fluid range	Brass:0~60°C (FKM)	SUS:0~120°C (FKM)
Body material	Brass (Ni Plating) / SUS316	
Wetted Materials	Brass, SUS316, PTFE, FKM (Standard)	SUS316, PTFE, FKM (Standard)
Knob rotation Speed	About 13 rotations (Dial display: 20 rotations)	
Seal material	Fluororubber FKM (Standard)	
Remarks	<ul style="list-style-type: none"> <li>Panel mount installation for standard, and select option F "piping" for other uses.</li> <li>Tube bite fitting specification is only for stainless. Please contact us for detailed dimensions.</li> </ul>	

## Dimensions / Materials

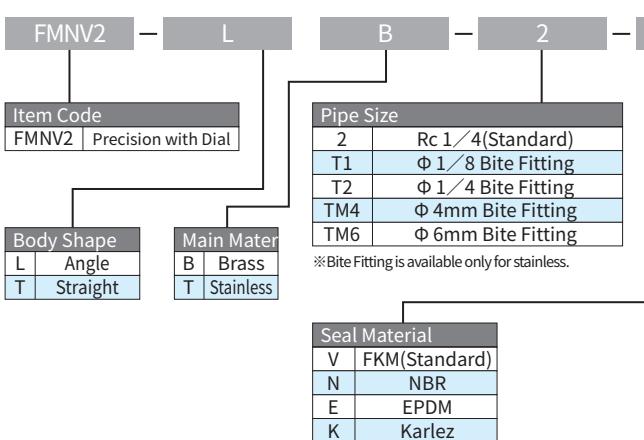
Material Table	No.	Name	Material	
			Brass[B]	Stainless[T]
	①	Valve Body	Brass(Ni Plating)	SUS316
	②	Needle Body	Brass(Ni Plating)	SUS316
	③	Panel Nut	Brass(Ni Plating)	
	④	Multi-Dial	Nylon+Aluminum etc	



## Flow Characteristics

※Refer to pages 24 and 25

## Ordering Information



Needle Number Code	CVValue (Fully Open)
N1	0.00021
N2	0.0012
N3	0.004
N4	0.006
N5	0.016
N6	0.031
N7	0.04
N8	0.12
N9	0.15
N10	0.18

※Grease is applied to the adjustment shaft (non-wetted part) and seal material (wetted part). Please contact us for Material Safety Data Sheet (SDS).

"Non-grease" is also available depending on seal materials.

※For piping use, dial fixing part (lock ring) is required in addition to the material table above.

## Flow Characteristics(Representative Value) FMNV1 / FMNV2 | AIR

Body Shape | Angle

Pipe Size | Rc1/4

Operation Media | AIR

CM [M]

C/CF

CH

HVC

CAM

C5

CD

C8

CC

CP

Relief Valve

RA

RL

RC

RHA

RHL

RM1

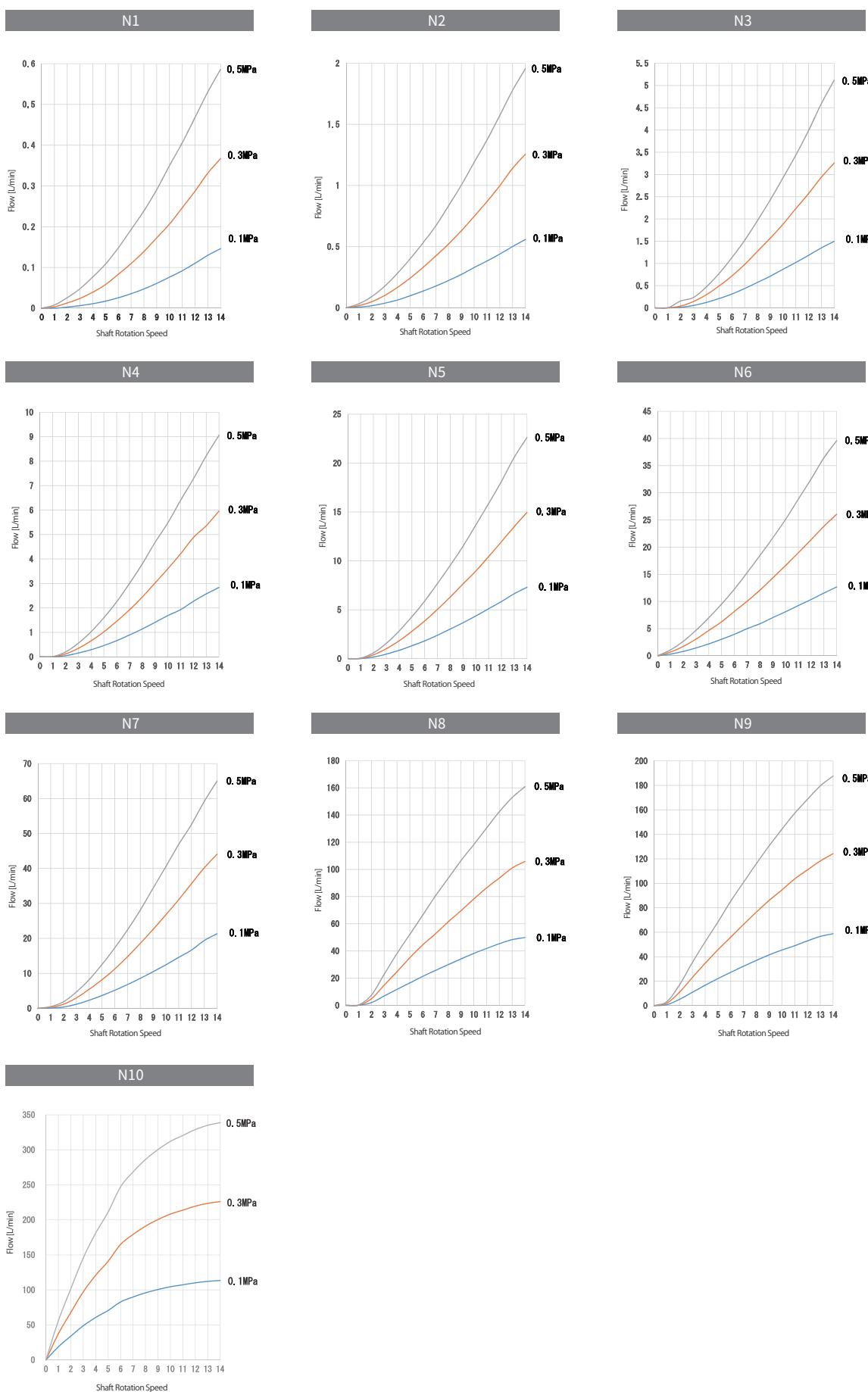
RM2

RD

Needle Valve

FMNV1

FMNV2

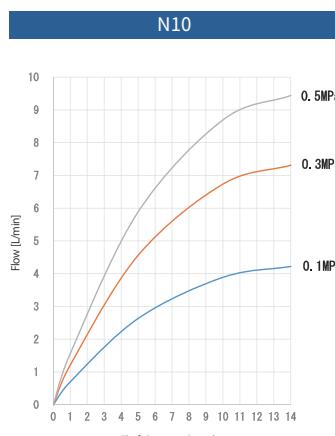
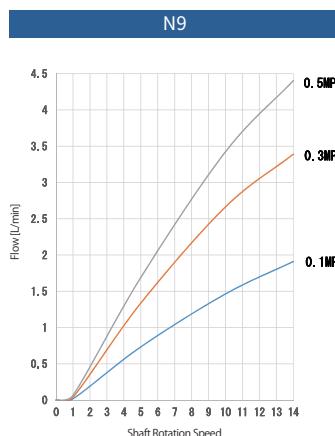
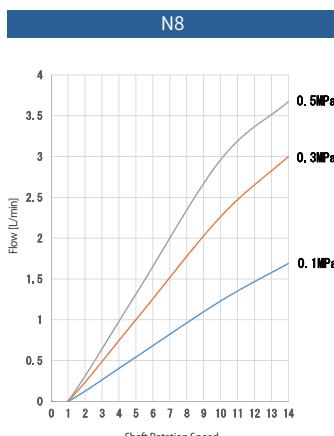
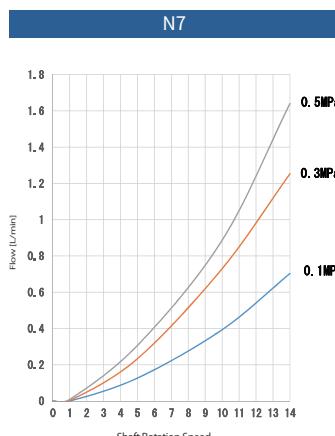
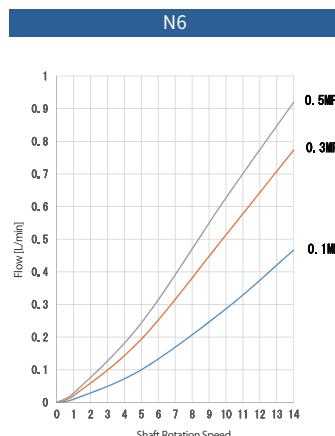
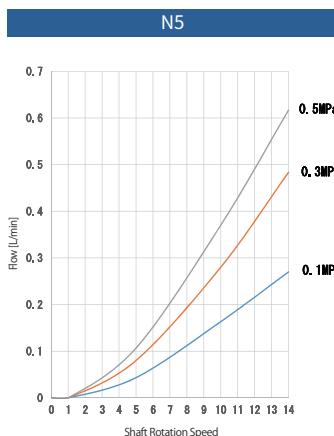
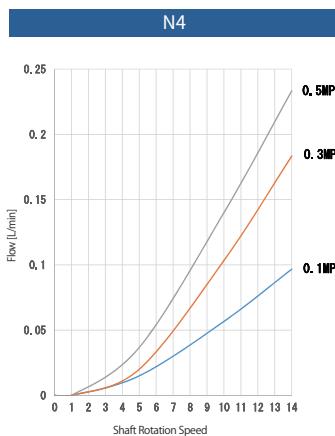
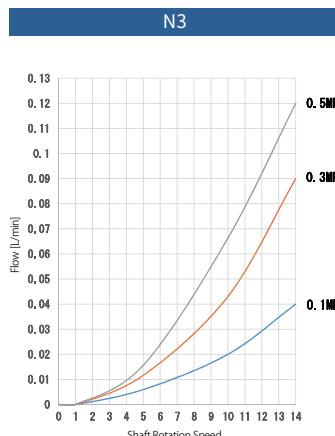
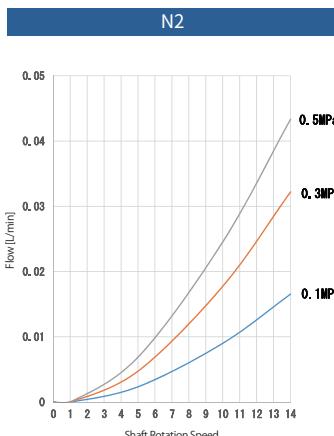
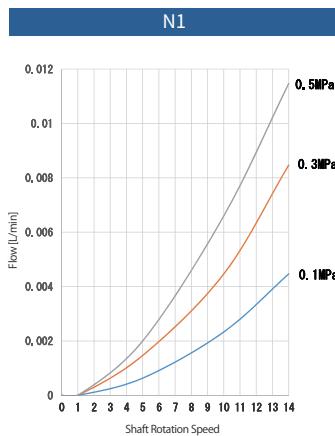


# Flow Characteristics(Representative Value) FMNV1 / FMNV2 | WATER

Body Shape | Angle

Pipe Size | Rc1/4

Operation Media | WATER



■ This Flow Characteristics graph shows the value at 0.1, 0.3, 0.5MPa pressurization when OUT port vents to atmosphere.

There may be differences from this Flow Characteristics graph depending on the conditions of use.

Please refer to this as a reference.

■ In some needle range, there are differences in Flow Characteristics depending on body shape.

Please confirm the following characteristics graph from our website.

- Straight (T) type
- Liquid condition (water)

■ Straight (T) type is more difficult to flow than angle (L) type due to the difference in body structure.

When using at over 5L / min, please select angle (L) type.

# Design Data Sheet

To IBS Sales Department

Please send by email or from “<https://www.ask-ibs.jp/contact/>”.

Osaka Office

E-mail. sales-os@ask-ibs.jp

Chubu Office

E-mail. sales-ch@ask-ibs.jp

Tokyo Office

E-mail. sales-tk@ask-ibs.jp

International Sales

E-mail. info-intl.sales@ibs-grp.com

## Contact Information

Date	Company Name
Department	Contact Name
TEL	FAX
E-mail	

## Details

1. End User Name

[ ]

2. Equipment Name

[ ]

3. Environment

Indoor  Built-in device  Outdoor

Other( )

4. Operation Media

Air  Nitrogen  Water

Other( )

5. Operation Pressure

\_\_\_\_\_  MPa  kPa  kgf/cm<sup>2</sup>

6. Flow Rate

\_\_\_\_\_  L/min  cc/min  m<sup>3</sup>/h

7. Operation Temperature

\_\_\_\_\_ °C

8. Frequency of use (valve opening cycle)

Times/ Year  Month  Hour  Minute

9. Other requests

[ ]

10. Piping Flow Diagram / Outline Diagram

[ ]

## **1. Precautions for use**

---

Please be sure to read the instruction manual before use to ensure correct use.

Also we are not responsible for any failure in case of not following description.

- Be careful not to freeze when using under 5 °C.
- Do not disassemble the product.
- Install in a place or direction that does not pose a danger to human body.
- Install in a place where inspections can be easily performed.
- Please note that we cannot accept returns or exchanges in principle.
- Avoid using on a line where the flow is severely disturbed.
- The valve may vibrate or make noise depending on operation pressure and flow rate.
- The initial set pressure may be higher than usual at the beginning of use or using after leaving for a long time.
- Please use after confirming the compatibility (corrosion) between operation media and product material.
- Shape and dimensions are subject to revise without notice for improvement in products.

## **2. Precautions when installing**

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Please note the following when installing the product.

- Excessive tightening may cause malfunctions due to deformation or breakage of screw connection part.
- When piping, please install in an appropriate flow direction.  
Also please use appropriate seal materials and tools for piping.
- Please flush thoroughly when installing and after piping.
- Please remove dust, dirt, etc. from the line in the piping before installing.  
If foreign substances such as dust or sealing tape gets mixed in the middle of the piping, it may cause malfunctions. Please use with a clean fluid.
- Be sure to check the operation after piping and be careful not to leak from each connection.

## **3. Product Warranty**

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- The warranty period of our products is one year from the date of delivery.

If any malfunctions occur due to our responsibility within the warranty period, we will replace only the delivered product.

- The secondary damage caused by malfunctions of our delivered products does not covered by our responsibility and warranty.

Warranty is not applicable for the following cases.

- Failure or damages caused by inappropriate use, inappropriate conditions and inappropriate handling
- Failure or damages caused by modified or repaired by someone other than our company
- Failure or damages caused by severe use
- Failure or damages caused by natural disaster, fire or unavoidable factors etc
- Not recognized as our product

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