

## Check Valves & Relief Valves

### Model Selection

#### ● Check Valve 《Material: Fluororesin》

Structure	Body material	Wetted parts	Cracking pressure	Connection	Model
Spring	PFA	PFA, PTFE, Kalrez® O-ring	Approx. 10kPa	Tube Fitting	CK
		PFA, PTFE, Kalrez® O-ring	Approx. 20kPa	Rc thread	FT
	PTFE	PFA, PTFE, Kalrez® O-ring	Approx. 20kPa	Tube fitting nut space-saver type	FTX300P
		PTFE, Kalrez® O-ring	Approx. 5kPa	Rc thread	FTL
Spring (High Temperature)	PTFE	PTFE, Kalrez® O-ring	Approx. 10kPa	Tube Fitting (1/4", 3/8", 1/2")	CK-SHT
			Approx. 30kPa	Tube fitting nut space-saver type (3/4")	

#### ● Mini Check Valve 《Material: Fluororesin & Polypropylene》

Type	Body material	Wetted parts	Cracking pressure	Connection	Model
Duckbill	PCTFE (PTFE)	PCTFE or PTFE, Perfluor	Low Pressure	W Fitting Luer Lock fitting	MFTD
	PP	PP, Perfluor		Tube	MFP

#### ● Relief Valve 《Material: Fluororesin》

Type	Body material	Wetted parts	Relief adjustment pressure	Connection	Model
Standard	PFA	PFA, PTFE	50~400kPa	Tube Fitting	RBF
High temperature (Max. 180℃)	PTFE	PTFE	50~250kPa	Pillar connection	RBF-SHT

#### ● Check Valve 《Material: SUS》

Structure	Body material	Wetted parts	Cracking pressure	Connection	Model
Spring	SUS316	SUS316 SUS304 Kalrez® O-ring	Approx. 7kPa	Rc thread	SCV

#### ● Relief Valve 《Material: SUS》

Type	Body material	Wetted parts	Cracking pressure	Connection	Model
atmosphere release type	SUS316	SUS316 SUS304 X ring	Approx. 100kPa Approx. 200kPa Approx. 300kPa	R, Rc Thread	SAT
In-line type					SLT

#### Caution

- ⊙ When you use the check and relief valves with gas, there might be a noise and vibration. (It is not malfunction.)
- ⊙ When you use the valve after a long time, initial cracking pressure might be higher. Please confirm it beforehand.

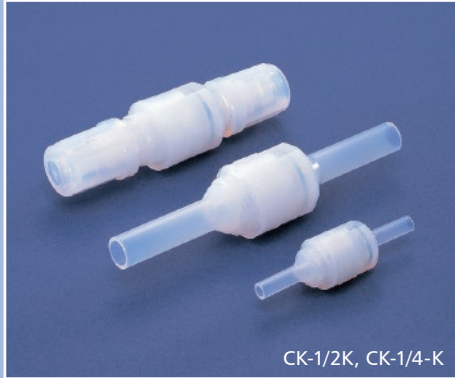
#### ● Special instructions



- ⊙ In case selling products with inner diameters of more than 10mm to a specific country or region, It is required an export license from the Ministry of Economy, Trade and Industry.

# Check Valves

## Model CK Check Valve

**RoHS2**


CK-1/2K, CK-1/4-K

### Features

- This is a valve not to make reverse flow.
- Available to various chemicals because wetted parts are PFA, PTFE and Kalrez® O-ring.
- Well Performance against corrosion because of special fluororesin spring.
- Easy to mount because of small footprint.

**Caution** When you use with gas, there might be a noise and vibration. (It is not malfunction.)

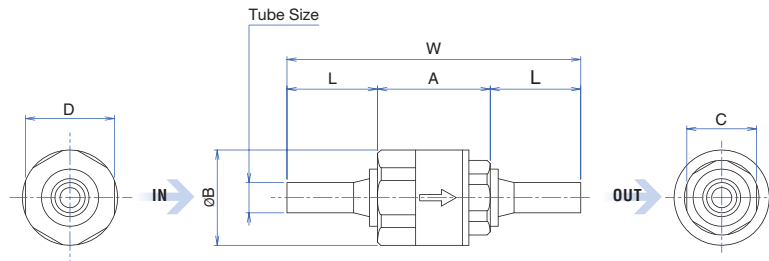
### Specifications

Fluids	Fluid pressure	Withstanding pressure	Cracking pressure	Fluid temperature	Ambient temperature	Mounting position	Wetted parts
Gas and liquid (DI water, Chemicals)	0~350kPa	400kPa	Approx. 10kPa	5~80°C	5~60°C	In any direction	PFA, PTFE and Kalrez® O-ring

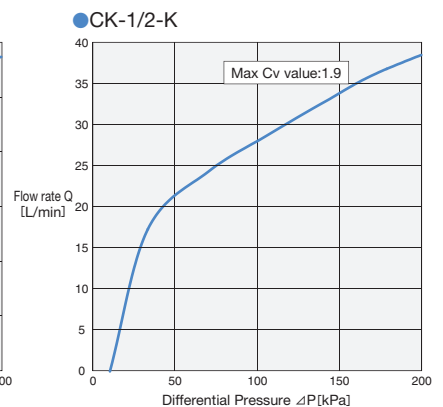
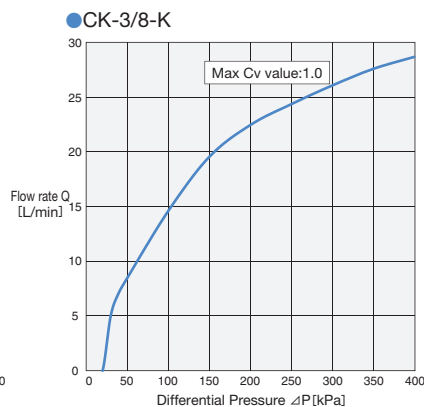
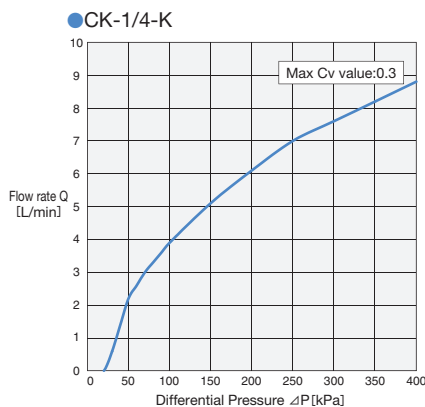
### Models / Dimensions

Type	Tube Size	A	øB	6 Chamfers		L	W
				C	D		
CK-1/4-K	1/4" (ø6.35×ø3.95)	28	20	14	18	22	72
CK-3/8-K	3/8" (ø9.53×ø6.35)	35.5	30	22	28	28.5	92.5
CK-1/2-K	1/2" (ø12.7×ø9.53)	35.5	30	22	28	49.5	134.5

- CK-1/4-K
- CK-3/8-K
- CK-1/2-K



### Flow Characteristics



Fluid:DI water Fluid/Ambient temperature:Room temp.

※The data is reference value, not a guaranteed value.

# Model CK-SHT Check Valve



CK-3/8-K-SHT

### Features

- This is a valve not to make reverse flow.
- Available to various chemicals because wetted parts are PFA, PTFE and Kalrez® O-ring.
- Well Performance against corrosion because of special fluororesin spring.
- Easy to mount because of small footprint.
- It can be used up to Max. 180°C.

**Caution** When you use with gas, there might be a noise and vibration. (It is not malfunction.)

### Specifications

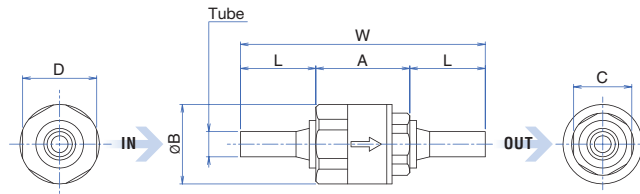
Fluids	Fluid pressure	Withstanding pressure	Cracking pressure	Fluid temperature	Ambient temperature	Mounting position	Wetted parts
Gas and Liquid (DI water, Chemicals)	0~400kPa	500kPa	Approx. 10kPa (3/4" - Approx. 30kPa)	15~180°C	15~60°C	In any direction	PFA, PTFE and Kalrez® O-ring

※The above specifications exclude fittings, and the heat and pressure resistance of fittings are depending on the manufacturer.

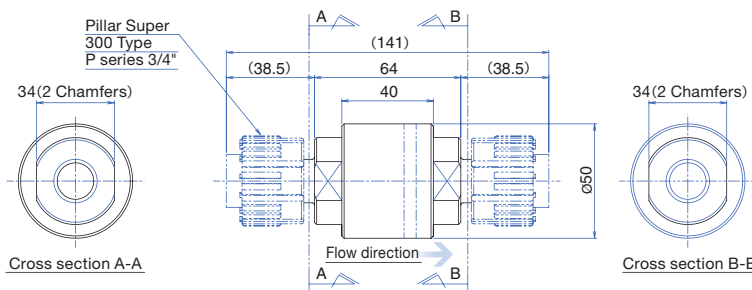
### Models / Dimensions

Type	Tube	Connection type	A	øB	6 Chamfers		L	W	O-ring
					C	D			
CK-1/4-K-SHT	1/4" (ø6.35×ø3.95)	Tube fitting	45.2	30	22	28	19	(83.2)	Kalrez®
CK-3/8-K-SHT	3/8" (ø9.53×ø6.35)		35.5	30	22	28	28.5	92.5	
CK-1/2-K-SHT	1/2" (ø12.7×ø9.53)		35.5	30	22	28	49.5	134.5	
CK-3/4UP300P-K-SHT	3/4" (ø19.05×ø15.9)	Tube fitting nut space-saver type	—	—	—	—	—	—	

- CK-1/4-K-SHT
- CK-3/8-K-SHT
- CK-1/2-K-SHT



- CK-3/4UP300P-K-SHT

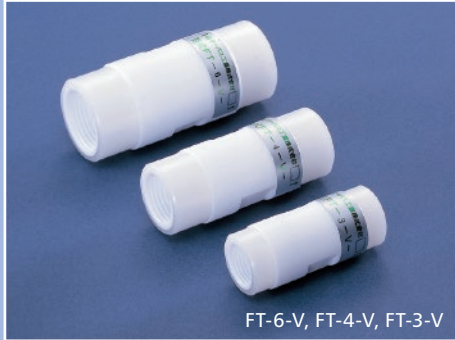


### Special instructions

- ⚠ Be sure to use within the ambient temperature range.
- In case selling products with inner diameters of more than 10mm to a specific country or region, it is required an export license from the Ministry of Economy, Trade and Industry.

# Check Valves

## Check Valve Model FT

**RoHS2**


### Features

- This is a valve not to make reverse flow.
- Available to various chemicals because wetted parts are fluororesin materials.
- Well Performance against corrosion because of special fluororesin spring
- We offer Rc thread connection to meet various customers demands.

**Caution** When you use with gas, there might be a noise and vibration. (It is not malfunction.)

### Specifications

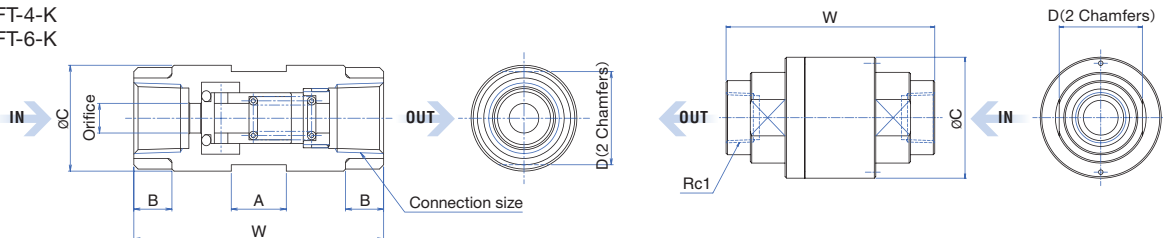
Fluids	Fluid pressure	Withstanding pressure	Cracking pressure	Fluid temperature	Ambient temperature	Mounting position	Wetted parts
Gas and liquid (DI water, Chemicals)	0~400kPa	500kPa	Approx. 20kPa	5~80°C	5~60°C	In any direction	PFA, PTFE and Kalrez® O-ring

### Models / Dimensions

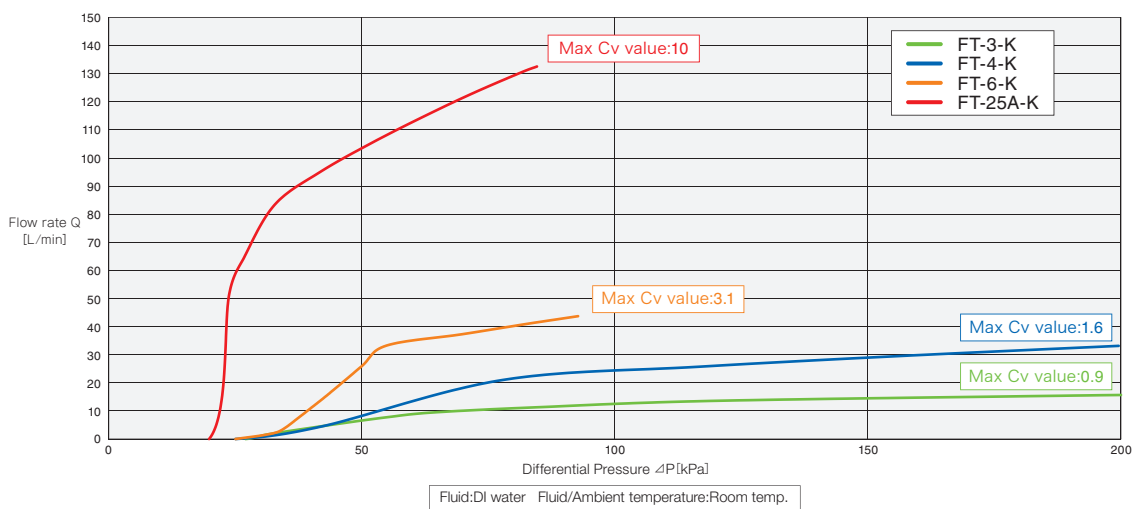
Type	Connection size	A	B	∅C	D(2 Chamfers)	W	Orifice
FT-3-K	Rc3/8	13	9	25	22	59	∅7
FT-4-K	Rc1/2	16	16	30	26	74	∅10
FT-6-K	Rc3/4	15	18	37	34	85	∅14
FT-25A-K	Rc1	—	—	80	55	138	∅23

- FT-3-K
- FT-4-K
- FT-6-K

- FT-25A-K



### Flow Characteristics



### Special instructions



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# Model FTL Check Valve

**RoHS2**



FTL-3-K-RS

### Type

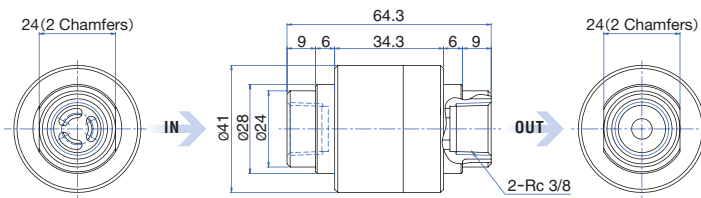
**FTL-3-K-RS**

O-ring material K:Kalrez®  
 Connection size 3/Rc 3/8

### Specifications

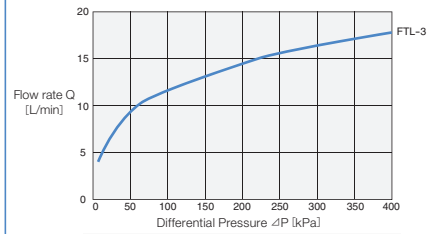
Fluid pressure	0~400kPa	Fluid temperature	5~70°C	Connection	Rc thread
Withstanding pressure	500kPa	Ambient temperature	5~60°C	Wetted parts	PTFE, Kalrez® O-ring
Cracking pressure	Approx. 5kPa	Fluid	Gas and liquid (DI water, Chemicals)	Mounting position	In any direction

### Dimensions



**Caution** When you use with gas, there might be a noise and vibration. (It is not malfunction.)

### Flow Characteristics



※The data is reference value, not a guarantee value.

# Check Valve Model FTX300P

**RoHS2**

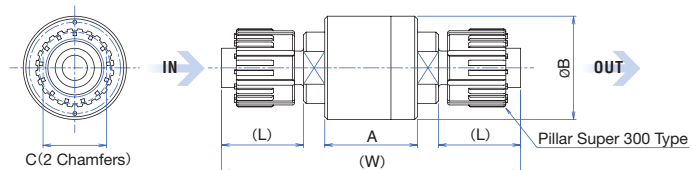


FTX300P-3/4-P-RS

### Dimensions

Type	Connection size	A	∅B	C(2 Chamfers)	(L)	(W)	Orifice	O-ring
FTX300P-3/4-K-RS	3/4" (∅19.05×∅15.9)	57	51	30	40	161	∅15.9	Kalrez®
FTX300P-25-K-RS	1" (∅25.4×∅22.2)	60	61	40	47	184	∅22.2	Kalrez®

●FTX300P-□-K-RS



### Specifications

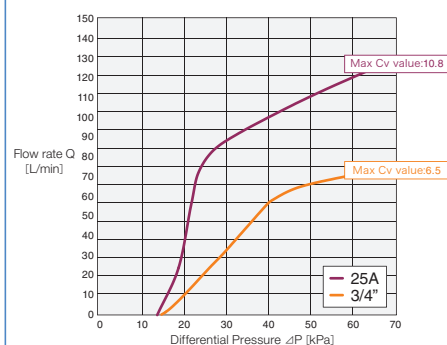
Fluid pressure	0~400kPa	Fluid temperature	5~80°C
Withstanding pressure	500kPa	Ambient temperature	5~60°C
Cracking pressure	Approx. 20kPa	Fluid	Gas and liquid (DI water, Chemicals)
Connection	Tube fitting nut space-saver type		
Wetted parts	PFA, PTFE and Kalrez® O-ring		
Mounting position	In any direction		

**Caution** When you use with gas, there might be a noise and vibration. (It is not malfunction.)

### Special instructions

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### Flow Characteristics



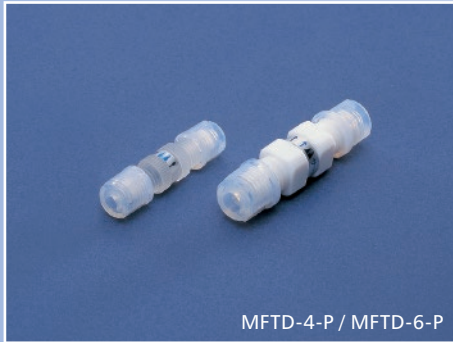
※The data is reference value, not a guaranteed value.

## Mini Check Valves

## Model MFTD Mini Check Valve

MOQ : 10

RoHS2



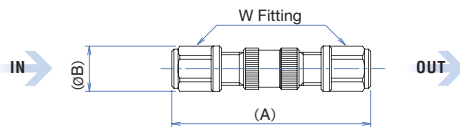
## Type

- Ø3 tube fitting  
**MFTD-3-P** → Rubber P:Perfluor  
→ Tube OD 3:Ø3
- Ø4 tube fitting  
**MFTD-4-P** → Rubber P:Perfluor  
→ Tube OD 4:Ø4
- Ø6 tube fitting  
**MFTD-6-P** → Rubber P:Perfluor  
→ Tube OD 6:Ø6

## Specifications

Withstanding pressure	Fluid temperature	Cracking pressure	Wetted parts
100kPa	Room temperature	Low pressure	MFTD-3-P, MFTD-4-P: PCTFE, PTFE and Perfluor MFTD-6-P: PTFE and Perfluor

## Dimensions



Type	(A)	(B)	Tube od
MFTD-3-P	48	11	Ø3
MFTD-4-P	49	13	Ø4
MFTD-6-P	62.5	16.3	Ø6

## Model MFTD Mini Check Valve

MOQ : 10

RoHS2



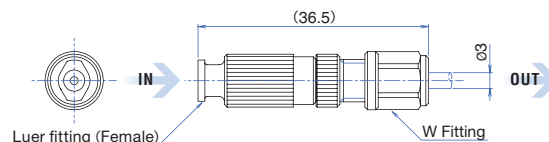
## Type

- MFTD-3-RB-P** → Rubber P:Perfluor  
→ Tube OD 3:Ø3

## Specifications

Withstanding pressure	Fluid temperature	Cracking pressure	Wetted parts
100kPa	Room temperature	Low pressure	PCTFE, PTFE and Perfluor

## Dimensions



※Refer to P.158 for W fitting and Luer fitting.

# Model MFTD Mini Check Valve

MOQ : 10

RoHS2



MFTD-WRL-P / MFTD-W-3-P

### Type

- Luer tapered type

## MFTD-WRL-P

→ Rubber P:Perfluor

- W fitting type

## MFTD-W-3-P

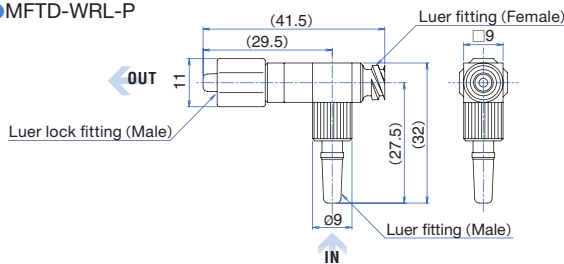
→ Rubber P:Perfluor  
→ Tube OD 3:Ø3

### Specifications

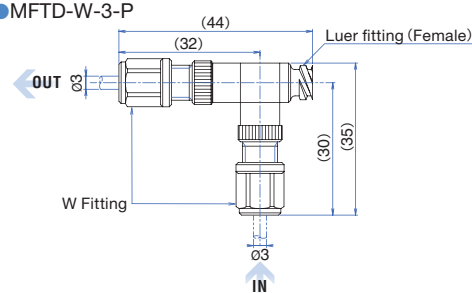
Withstanding pressure	Fluid temperature	Cracking pressure	Wetted parts
100kPa	Room temperature	Low pressure	MFTD-WRL-P: PCTFE and Perfluor MFTD-W-3-P: PCTFE, PTFE and Perfluor

### Dimensions

- MFTD-WRL-P



- MFTD-W-3-P



# Mini Check Valve Model MFP

MOQ : 10

RoHS2



MFP-3-P

### Type

- For Ø3 tube fitting

## MFP-3-P

→ Rubber P:Perfluor

→ Tube ID 3: Hose end Ø3

- For Ø6 tube fitting

## MFP-6-P

→ Rubber P:Perfluor

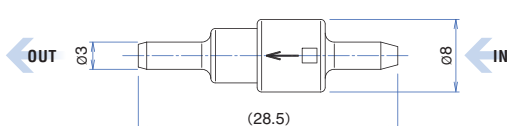
→ Tube ID 6: Hose end Ø4.6

### Specifications

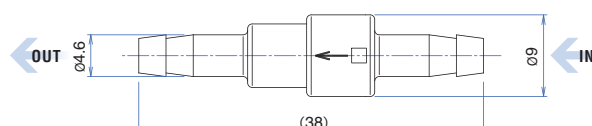
Withstanding pressure	Fluid temperature	Cracking pressure	Wetted parts
100kPa	Room temperature	Low pressure	PP and Perfluor

### Dimensions

- MFP-3-P



- MFP-6-P



\*Refer to P.158 for W fitting and Luer lock fitting.

# Relief Valves

## Relief Valve Model RBF

**RoHS2**


RBF-1/2, RBF-3/8

### Features

- Without O-ring structure relief valve, housing material is PFA.
- Relief pressure rate can be adjusted by rotating knob.
- 50~400kPa relief pressure can be set according to usage.
- Wetted parts are all fluororesin material.
- Tube fitting will adapt to variety of your connector applications.

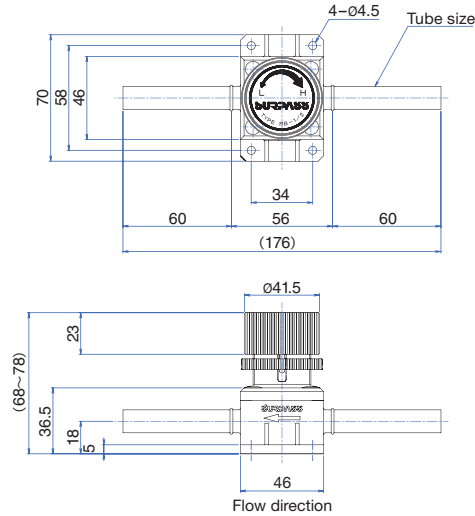
### Specifications

Fluid	Relief pressure rate	Withstanding pressure	Fluid temperature	Ambient temperature	Connection	Wetted parts
Gas and Liquid (DIW and chemicals)	50~400kPa	600kPa	5~70°C	5~60°C	Tube fitting	PFA, PTFE

### Models / Dimensions

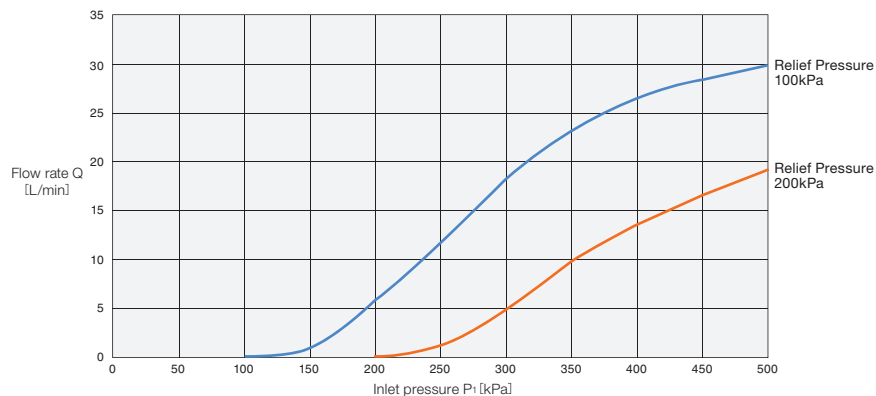
Type	Tube size
RBF-3/8	3/8" (Ø9.53×Ø6.35)
RBF-1/2	1/2" (Ø12.7×Ø9.53)

- RBF-3/8
- RBF-1/2



### Flow Characteristics

- RBF-3/8
- RBF-1/2



Fluid: DI water Fluid/Ambient temperature: Room temp.  
 ※ Cv value: 0.93 (Full Open)

※ The data is reference value, not a guaranteed value.



# Model RBF-SHT Relief Valve



RBF-1/2P300P-SHT

## Features

- Relief pressure rate can be adjusted by rotating knob.
- 50~400kPa relief pressure can be set according to usage.
- Wetted parts are all fluororesin material.
- It can be used up to Max. 180°C.

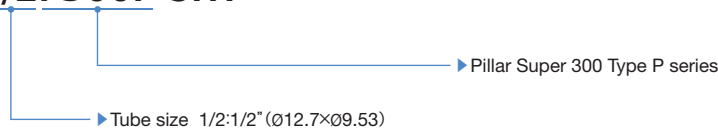
## Specifications

Fluid	Relief pressure rate	Withstanding pressure	Fluid temperature	Ambient temperature	Connection	Wetted parts
Gas and Liquid (DIW and chemicals)	50~250kPa	350kPa	15~180°C	15~60°C	Tube fitting	PTFE

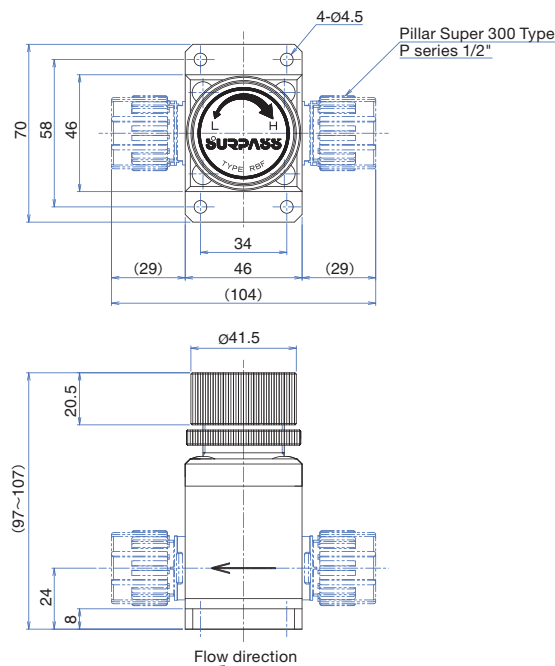
※The above specifications exclude fittings, and the heat and pressure resistance of fittings are depending on the manufacturer.

## Type

### RBF-1/2P300P-SHT



## Dimensions



**● Special Instructions**

⚠ Be sure to use within the ambient temperature range.

# Check Valves

## Model SCV Check Valve

**RoHS2**


SCV-4-K

### Features

- We could make a Longer lifespan by "double touch method" (O-ring and metal sealing)
- Spring material is all SUS316.

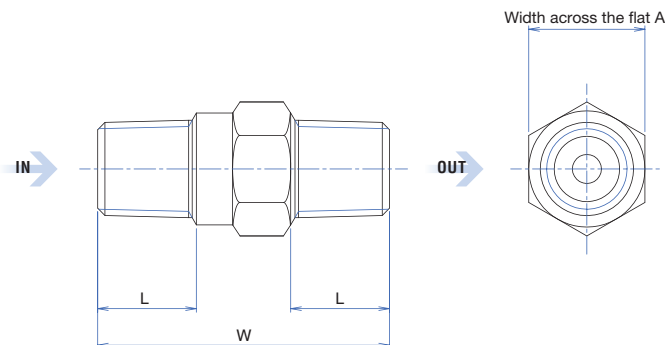
**Caution** When you use the check and relief valves with gas, there might be a noise and vibration. (It is not malfunction.)

### Specifications

Fluids	Fluid pressure	Withstanding pressure	Cracking pressure	Connection	Wetted parts
Liquids, Gases	Vacuum~4.9MPa	7.35MPa	Approx. 7kPa	Rc thread	SUS316, SUS304, Kalrez® O-ring

### Models / Dimensions

Type	Connection size	L	W	Width across the flat A	O-ring
SCV-1-K	Rc1/8	10	33.5	13	Kalrez®
SCV-2-K	Rc1/4	13.6	40.2	16	
SCV-3-K	Rc3/8	13.8	40.5	19	
SCV-4-K	Rc1/2	18	48	22	
SCV-6-K	Rc3/4	22	59	29	
SCV-25-K	Rc1	21	68	35	



# Relief Valve Model SAT / SLT

**RoHS2**



SAT-4-V, SLT-4-V

### Features

- Accurate cracking pressure and sealing become available.
- Save the mounting space because of small footprint.

**Caution** When you use the check and relief valves with gas, there might be a noise and vibration. (It is not malfunction.)

### Specifications

Fluids	Fluid pressure	Withstanding pressure	Connection	Wetted parts
Liquids, Gases	Vacuum~1.08MPa	1.62MPa	R, Rc thread	SUS316, SUS304, X-ring

### Models / Dimensions

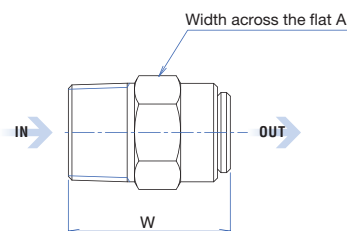
#### Atmosphere Release Type

Type	Connection Size	Width across the flat A	W	Cracking Pressure	X-ring
SAT-1-P-100	Rc1/8	13	25.5	Approx. 100kPa	Perfluor
SAT-1-P-200	Rc1/8	13	25.5	Approx. 200kPa	
SAT-1-P-300	Rc1/8	13	25.5	Approx. 300kPa	
SAT-2-P-100	Rc1/4	17	31	Approx. 100kPa	
SAT-2-P-200	Rc1/4	17	31	Approx. 200kPa	
SAT-2-P-300	Rc1/4	17	31	Approx. 300kPa	
SAT-3-P-100	Rc3/8	19	33	Approx. 100kPa	
SAT-3-P-200	Rc3/8	19	33	Approx. 200kPa	
SAT-3-P-300	Rc3/8	19	33	Approx. 300kPa	
SAT-4-P-100	Rc1/2	26	44.8	Approx. 100kPa	
SAT-4-P-200	Rc1/2	26	44.8	Approx. 200kPa	
SAT-4-P-300	Rc1/2	26	44.8	Approx. 300kPa	
SAT-6-V-100	Rc3/4	29	52.4	Approx. 100kPa	FKM
SAT-6-V-200	Rc3/4	29	52.4	Approx. 200kPa	
SAT-6-V-300	Rc3/4	29	52.4	Approx. 300kPa	
SAT-25-V-100	Rc1	38	72.8	Approx. 100kPa	
SAT-25-V-200	Rc1	38	72.8	Approx. 200kPa	
SAT-25-V-300	Rc1	38	72.8	Approx. 300kPa	

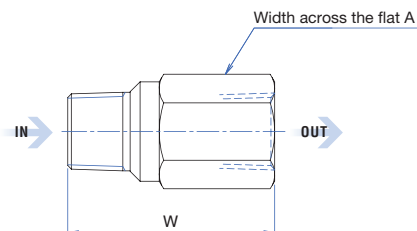
#### In-line Type

Type	Connection Size	Width across the flat A	W	Cracking Pressure	X-ring
SLT-2-P-100	R1/4 and Rc1/4	19	41	Approx. 100kPa	Perfluor
SLT-2-P-200	R1/4 and Rc1/4	19	41	Approx. 200kPa	
SLT-2-P-300	R1/4 and Rc1/4	19	41	Approx. 300kPa	
SLT-3-P-100	R3/8 and Rc3/8	22	53	Approx. 100kPa	
SLT-3-P-200	R3/8 and Rc3/8	22	53	Approx. 200kPa	
SLT-3-P-300	R3/8 and Rc3/8	22	53	Approx. 300kPa	
SLT-4-P-100	R1/2 and Rc1/2	29	60	Approx. 100kPa	
SLT-4-P-200	R1/2 and Rc1/2	29	60	Approx. 200kPa	
SLT-4-P-300	R1/2 and Rc1/2	29	60	Approx. 300kPa	
SLT-6-P-100	R3/4 and Rc3/4	32	69	Approx. 100kPa	
SLT-6-P-200	R3/4 and Rc3/4	32	69	Approx. 200kPa	
SLT-6-P-300	R3/4 and Rc3/4	32	69	Approx. 300kPa	
SLT-25-V-100	R1 and Rc1	38	90	Approx. 100kPa	FKM
SLT-25-V-200	R1 and Rc1	38	90	Approx. 200kPa	
SLT-25-V-300	R1 and Rc1	38	90	Approx. 300kPa	

#### SAT



#### SLT



# Check Valves & Relief Valves

## ● Safety Instructions



- Before using the product, read the instruction manual carefully and use it correctly. We are not liable for accidents that occurred during use other than those described in the instruction manual.
- Use this product within the specified range.
- Confirm the compatibility of the product material with the type of fluid and ambient atmosphere before use.
- Do not use fluids that contain refuse or foreign matter, as this may interfere with normal function.
- Abrasive or coagulate fluids may interfere with normal function, and take measures to prevent stacking residue on the wetted parts.
- It is not recommended any fluids splash to the main body.
- Periodic inspection should be performed for safety when using chemical solution with high permeability for long time.
- Do not use the product in a harsh environment where fluid temperature changed rapidly or a heat cycle occurs, as this may cause damage to the product.
- Do not use the product in an environment where excessive pressure or water hammer is generated.
- Do not place heavy objects on the product top.
- When tubing, allow the fluid to flow in the direction mark (→) imprinted on the main unit.
- Connect this product not to apply any bending, tensile or compression, and other forces on the valve.
- Do not use the product with excessive vibration or shock.
- When mounting a male thread to join parts, use a paring female thread made of PTFE, PFA, PCTFE, PE or PP instead of the rigid materials such as metallic. Tighten the male thread with correct value of torque. Excessive tightening may break the product.
- Do not disassemble the product.
- Cabitaion may lead to sound vibration noise.(Especially gases usage)
- After long term peiod of not-usage, initial cracking pressure might be higher than usual. Please open the valve beforehand.
- If static electricity is generated, the equipment may seriously damage. Please use after applying antistatic measures.
- Be sure to use this product within the ambient temperature range.
- Do not warm up the product directly from the outside. It may cause external or internal leakage failure.

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- Pillar Super 300 Type P series is a trademark of Nippon Pillar Co., Ltd.