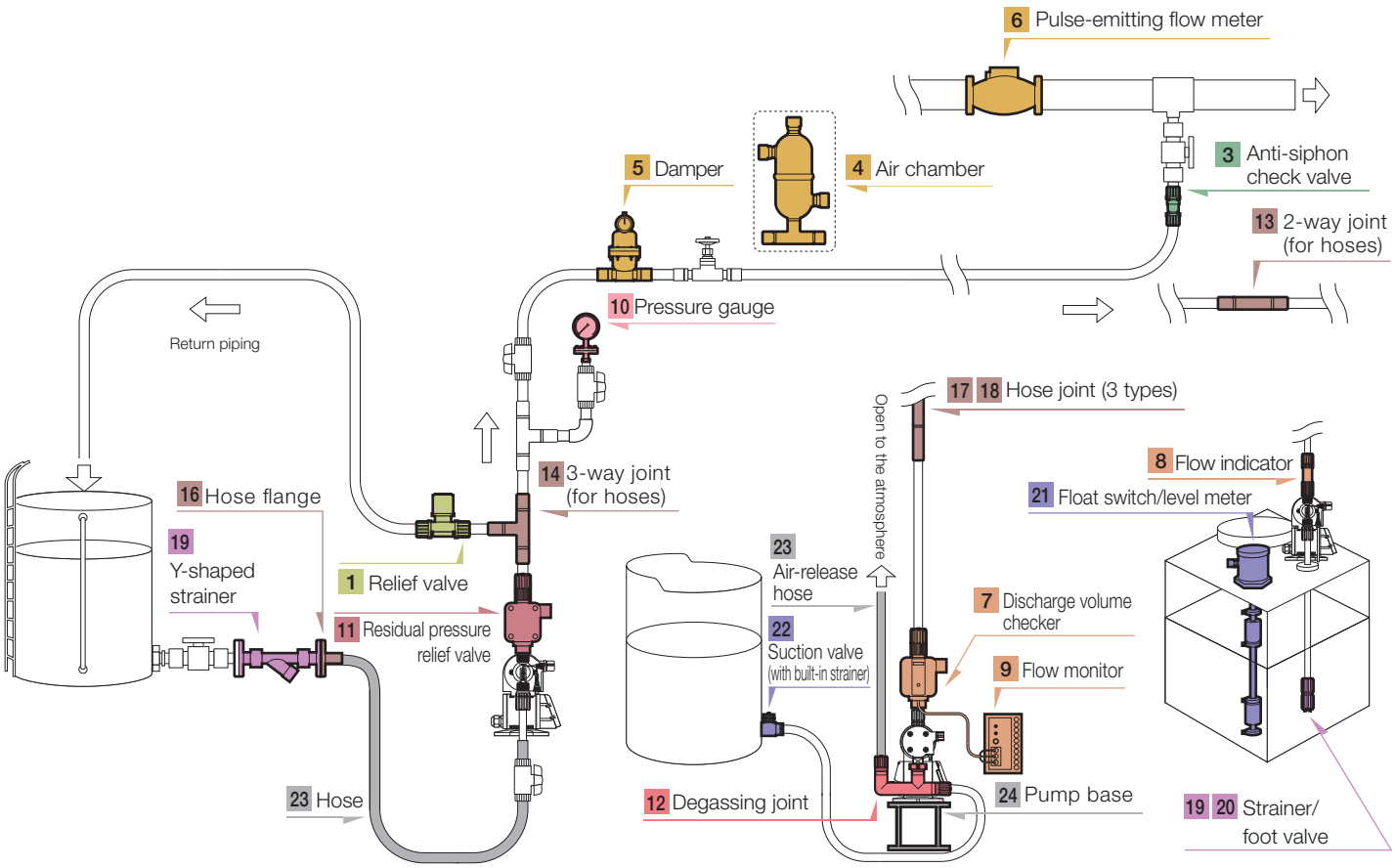
TACMINA

Metering Pump Accessories

www.tacmina.com

Metering Pump Accessories for Drawing Out the Performance of Pumps

Hose Piping



Installation Precautions

- Select products that match the pump model to enable the pump to fully exhibit its intended performance.
- The products listed in this catalog have been developed for TACMINA pumps. The accuracy and performance of these products are not guaranteed when they are used in combination with products made by other companies.
- To prevent accidents caused by the selection of incorrect products, contact TACMINA when purchasing products.
- The information included in this catalog is focused on products with standard specifications. Contact TACMINA for details on special specifications such as different materials and connection methods.
- For details such as the operating methods of these products, see documentation such as the operation manual of the pump or of these products.
- For product improvement, the specifications and other information may be changed without notification.

- Structurally, a dead space exists in ball-type valves. Vaporizable liquids such as hydrogen peroxide water (H_2O_2) and hypochlorous acid soda (NaClO) may vaporize within this dead space, leading to an abnormal increase in pressure within the valve. This abnormal increase in pressure causes vaporization, resulting in pressurized gas that may explode if the valve is damaged, which can cause shards to go flying, resulting in an extremely hazardous situation. When handling vaporizable liquids, do not leave the valve closed for long periods of time. If leaving the valve closed for a long period of time, drain all the remaining liquid from the valve.

1 Relief valve ····· Pages 5 and 6

Diaphragm pumps always discharge the suctioned liquid. Therefore, if the discharge-side piping is blocked, while the pump is operating, the pressure will continue to increase until something breaks. A relief valve automatically releases excessive pressure that occurs in the discharge-side piping due to issues such as clogged foreign matter and valve closures. In this way, relief valves prevent accidents such as pump and piping damage.

2 Back pressure valve ···· Pages 7and 8

The overfeeding phenomenon and the siphoning phenomenon are prevented by sealing the liquid outlet with a diaphragm and applying just enough force (back pressure) to overcome the force of inertia of the liquid.

✻ Overfeeding phenomenon
A phenomenon that occurs in flows with pulsation. With this phenomenon, liquid continues flowing even when it should be stopped and is discharged at a volume larger than the rated volume due to the discharge momentum (inertia).

✻ Siphoning phenomenon
A phenomenon where the chemical is naturally sucked out and continues to flow even when the pump is stopped because the position of the end of the pump's discharge-side piping is lower than the level of the liquid in the suction-side tank.

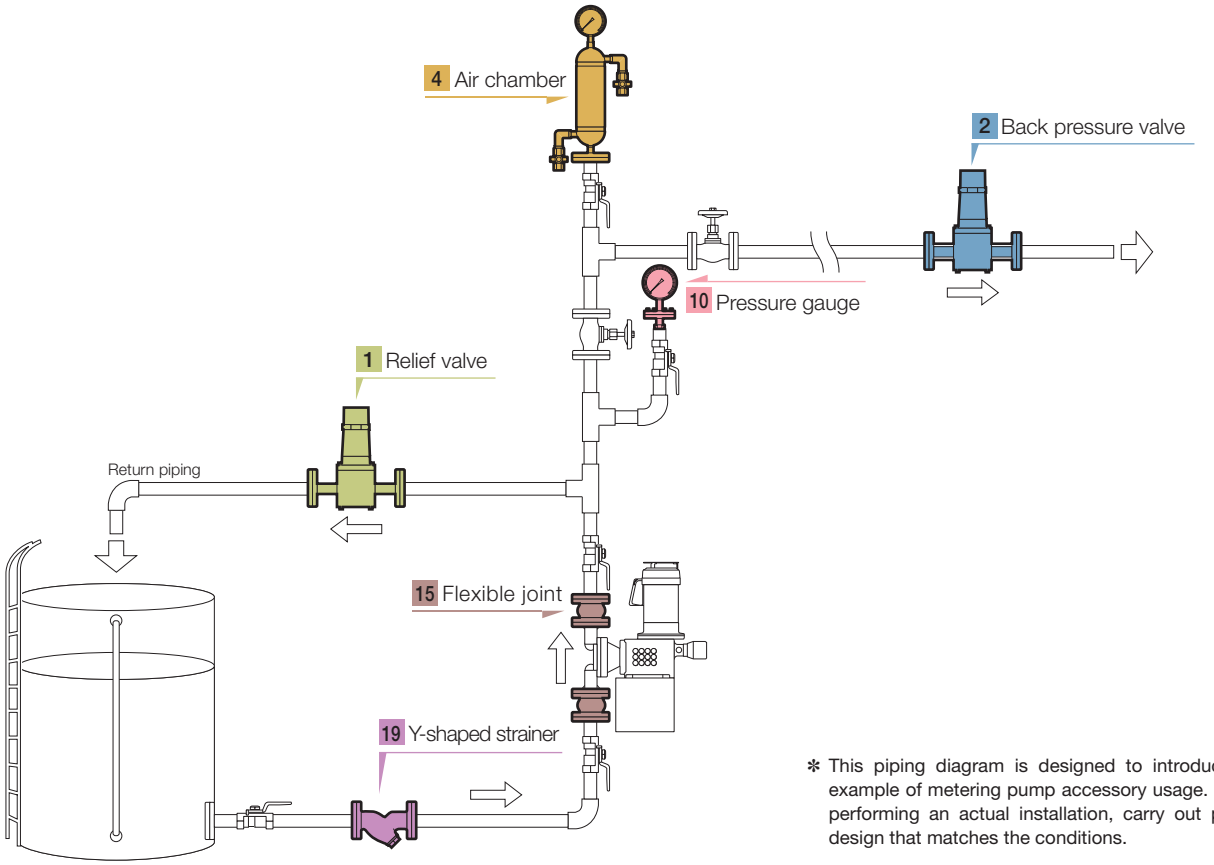
3 Anti-siphon check valve ·· Pages 9 and 10

This accessory not only prevents the overfeeding phenomenon and the siphoning phenomenon but also has a check valve function that prevents the liquid from being discharged from the main pipe. When injecting chemicals into a boiler pipe, if the boiler stops and the temperature drops, a negative pressure (a vacuum) develops within the boiler. This causes the chemical to be suctioned even when the pump is stopped. An anti-siphon check valve applies a back pressure slightly higher than 0.1 MPa to prevent the chemical from being suctioned.

4 Air chamber ····· Pages 11 and 12

This accessory uses the elasticity of air to attenuate the pulsation of a reciprocating pump. This makes it possible to reduce piping vibrations, the overfeeding phenomenon, and other such problems related to pulsation. Note that in order to use an air chamber, it is necessary to install a throttle valve for pressure adjustment.
✻ If the amount of air within an air chamber is reduced, it loses its ability to reduce pulsations, so it is necessary to periodically recharge the air chamber with air. TACMINA produces "Smoothflow pumps," which are diaphragm pumps that do not require an air chamber.

Stainless Steel Piping



✻ This piping diagram is designed to introduce an example of metering pump accessory usage. When performing an actual installation, carry out piping design that matches the conditions.

5 Damper ····· Page 13
This accessory prevents piping vibrations and is very effective during long-distance transfers of chemicals. Furthermore, the liquid does not come into direct contact with the air, which reduces the frequency of maintenance such as air chamber recharging.

6 Pulse-emitting flow meter ····· Page 14
This is a flow meter that does not require a power supply. Combining this accessory with a TACMINA pulse signal input metering pump creates a simple and inexpensive flow rate proportional injection system.

7 Discharge volume checker ·· Pages 15 and 16
This accessory is resistant to acids and alkalis and can be used to monitor the pump's injection operation at a low cost. Two types are available: a type that is connected directly to the pump and a hose connection type. Combining this accessory with the PZi Series of metering pumps makes it possible to monitor the discharge volume, display the accumulated discharge volume, and perform metered batch dosing.

8 Flow indicator ····· Page 16
Attaching this accessory to the discharge side of a metering pump makes it easy to check the discharge operation, which is useful in preventing injection failures. Types that are equipped with a photoelectric sensor can automatically output an alarm when an injection failure occurs.

9 Flow monitor ····· Page 17
This is a discharge alarm for metering pumps and is used in combination with a discharge volume checker and a flow indicator that is equipped with a photoelectric sensor. This accessory monitors for metering pump discharge errors by outputting an alarm when it does not receive a signal within the specified time interval during pump operation.

10 Diaphragm pressure gauge ···· Page 18
This accessory is used to monitor the pressure inside a pipe and to adjust back pressure valves and relief valves.

11 Residual pressure relief valve ···· Page 18
Installing this accessory on the discharge side of a pump makes it possible to safely release the pressure within the piping when abnormal pressure occurs. This also makes it possible to safely discharge the residual pressure and residual liquid during maintenance.

12 Degassing joint ····· Page 19
With sodium hypochlorite and similar materials that easily generate decomposed gas, the gas lock phenomenon occurs and makes the pump unable to discharge. Installing a degassing joint on the pump's suction side separates the suctioned bubbles and liquid to prevent the bubbles from entering the pump head.
✻ Gas lock: A state in which gas enters the pump head and prevents the pump from transferring liquid.

13 2-way joint ····· Page 19
Use this accessory to connect hoses to each other.

14 3-way joint ····· Page 20
Use this accessory to fork hose piping.

15 Flexible joint ····· Page 20
Use this accessory to prevent loads from being applied to the pump such as due to piping vibrations and piping loads.

16 Hose flange ····· Page 20
Use this accessory as the adapter between a hose and flange piping.

17 Screw-type hose joint ····· Page 21
No hose band is required. Just tighten the hose nut to reliably connect hoses together.

18 Socket hose joint ····· Page 21
This joint is used to connect a hose to a TS socket. This accessory can be used to easily and reliably connect these parts together with no hose band required.

19 Strainer ····· Page 22
When the liquid is suctioned from the top of the tank, attach this accessory to the tip of the suction-side hose to prevent the intrusion of debris.

20 Foot valve ····· Page 23 and 24
This is the check valve-equipped strainer that is attached to the tip of the suction-side hose when the liquid is suctioned from the top of the tank.

21 Float switch/level meter ···· Page 25
This accessory can be used to stop the pump and generate an alarm to indicate that the liquid needs to be refilled when the amount of chemical liquid remaining in the tank is low. Two types are available: a float type with a selectable number of sensors (one or two) and an electrode type that has excellent chemical resistance.

22 Suction valve ····· Page 26
Attach this accessory to the chemical tank outlet to easily and reliably connect the tank and the piping. The built-in strainer also prevents the intrusion of debris.

23 Hose ····· Page 30
Hoses made from a wide range of materials (such as PVC, PE, FEP, and PTFE) and having a wide range of diameters are available.

24 Pump base ····· Page 30
These bases are dedicated for use with pumps and reliably fix pumps in place.

25 Pump cover ····· Page 30
This is a pump cover made from transparent PVC. It protects the pump from rain and wind.

CONTENTS

Relief valve (safety valve, pressure relief valve)

Diaphragm pumps always discharge the suctioned liquid. Therefore, if the discharge-side piping is blocked, while the pump is operating, the pressure will continue to increase until something breaks. A relief valve automatically releases excessive pressure that occurs in the discharge-side piping due to issues such as clogged foreign matter and valve closures. In this way, relief valves prevent accidents such as pump and piping damage.

RV

TRV

TRV

Product specifications

RV Series

Model	Connection	Pressure adjustment range (MPa)	Standard set pressure (MPa)	Material		Weight (kg)
				Body	Diaphragm	
RV-F15-VE	JIS 10K 15A	0.3 to 1.2	0.5	PVC	EPDM	1
RV-F15-VT				PVC	PTFE	1
RV-F15-ST				SUS304	PTFE	3
RV-F15-6T				SUS316	PTFE	3
RV-F15-FT				PVDF	PTFE	1
RV-F20-VE	JIS 10K 20A	0.3 to 0.7	0.3	PVC	EPDM	2
RV-F20-VT				PVC	PTFE	2
RV-F20-ST				SUS304	PTFE	6
RV-F20-6T				SUS316	PTFE	6
RV-F20-FT				PVDF	PTFE	2
RV-F25-VE	JIS 10K 25A		0.6	PVC	EPDM	5
RV-F25-VT				PVC	PTFE	5
RV-F25-ST				SUS304	PTFE	10
RV-F25-6T				SUS316	PTFE	10
RV-F25-FT				PVDF	PTFE	5
RV-F40-VE	JIS 10K 40A		0.65	PVC	EPDM	5
RV-F40-VT				PVC	PTFE	5
RV-F40-ST				SUS304	PTFE	12
RV-F40-6T				SUS316	PTFE	12
RV-F40-FT				PVDF	PTFE	5
RV-F50-VE	JIS 10K 50A	0.15 to 0.65	0.35	PVC	EPDM	8
RV-F50-VT				PVC	PTFE	8
RV-F50-ST				SUS304	PTFE	14
RV-F50-6T				SUS316	PTFE	14
RV-F65-VE	JIS 10K 65A			PVC	EPDM	13
RV-F65-VT				PVC	PTFE	13
RV-F65-ST				SUS304	PTFE	18
RV-F65-6T				SUS316	PTFE	18

✻ For details on our high-pressure relief valve with residual pressure relief function (set pressure: 2.4 MPa), see the separate, dedicated pamphlet for this accessory.

TRV Series

Model	Connection	Pressure adjustment range (MPa)	Standard set pressure (MPa)	Material			Weight (kg)
				Body	Diaphragm	O-ring	
TRV-VE-4H	Φ4 x Φ9	0.3 to 1.2	0.5	PVC	EPDM	EPDM	0.3
TRV-VE-6H	Φ6 x Φ11						0.3
TRV-VE-12H	Φ12 x Φ18						0.3
TRV-VE-15F	JIS 10K 15A						0.3
TRV-VE-4 x 9/Z	Φ4 x Φ9*1						0.4
TRV-VE-6 x 11/Z	Φ6 x Φ11*1						0.4
TRV-VE-12 x 18/Z	Φ12 x Φ18*1						0.4
TRV-VF-4H	Φ4 x Φ9				Special fluoro rubber	Fluoro rubber	0.3
TRV-VF-6H	Φ6 x Φ11						0.3
TRV-VF-12H	Φ12 x Φ18						0.3
TRV-VF-15F	JIS 10K 15A						0.3
TRV-VF-4 x 9/Z	Φ4 x Φ9*1						0.4
TRV-VF-6 x 11/Z	Φ6 x Φ11*1						0.4
TRV-VF-12 x 18/Z	Φ12 x Φ18*1						0.4

✶1 The outlet side is R3/8 or R1/2.

✻ For details on our high-pressure relief valve with residual pressure relief function (set pressure: 2.4 MPa), see the separate, dedicated pamphlet for this accessory.

Model code

RV — F 15 — V E

1 2 3 4 5

1 Series name
RV : Relief valve

2 Connection
F : Standard

3 Body size
15
20
25
40
50
65

4 Body liquid end material
V : PVC
S : SUS304
6 : SUS316
F : PVDF

5 Diaphragm material
E : EPDM
T : PTFE

TRV — V E — 15 F

1 2 3 4 5

1 Series name
TRV : Relief valve

2 Body liquid end material
V : PVC

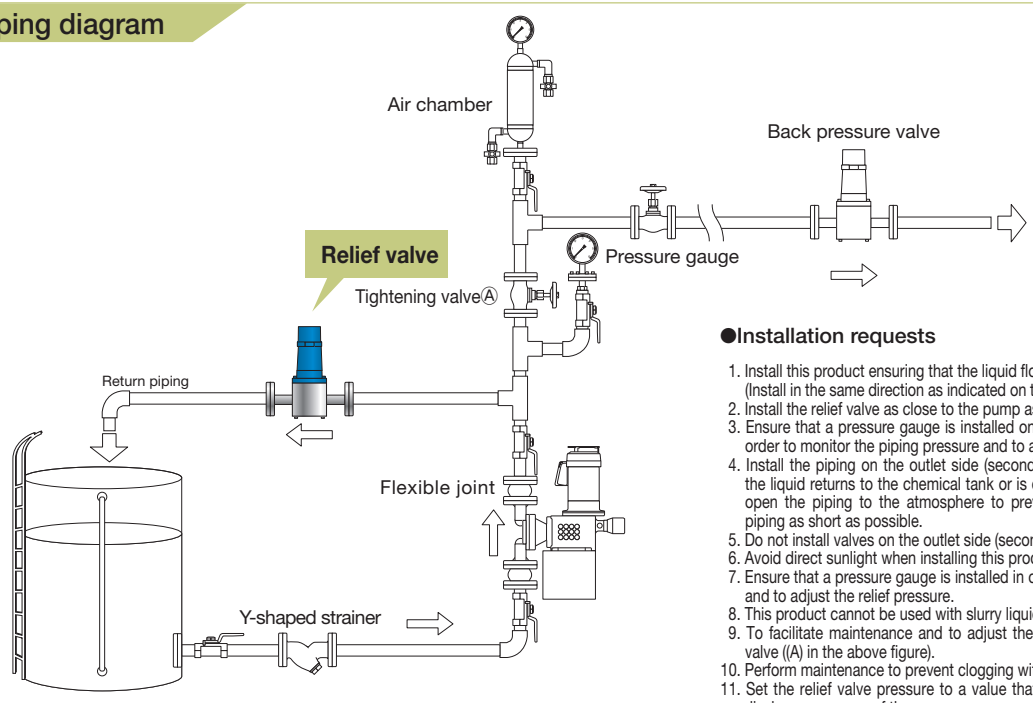
3 Diaphragm material
E : EPDM
F : Special fluoro rubber

4 Inlet diameter
4 : Φ4 x Φ9
6 : Φ6 x Φ11
12 : Φ12 x Φ18
15 : JIS 10K 15A

5 Connection type
H : Hose
F : Flange
X : Special

✻ Model code combinations are determined in advance. For details, contact TACMINA.

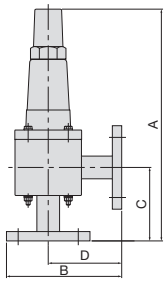
Piping diagram



●Installation requests

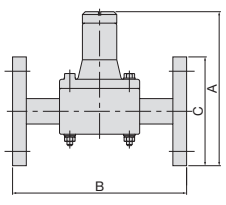
1. Install this product ensuring that the liquid flows in the injection direction. (Install in the same direction as indicated on the injection direction arrow labels.)
2. Install the relief valve as close to the pump as possible.
3. Ensure that a pressure gauge is installed on the discharge side of the pump in order to monitor the piping pressure and to adjust the relief pressure.
4. Install the piping on the outlet side (secondary side) of the relief valve so that the liquid returns to the chemical tank or is discharged properly. In either case, open the piping to the atmosphere to prevent back pressure and make the piping as short as possible.
5. Do not install valves on the outlet side (secondary side) of the relief valve.
6. Avoid direct sunlight when installing this product outdoors.
7. Ensure that a pressure gauge is installed in order to monitor the piping pressure and to adjust the relief pressure.
8. This product cannot be used with slurry liquids.
9. To facilitate maintenance and to adjust the relief pressure, install a tightening valve ((A) in the above figure).
10. Perform maintenance to prevent clogging with contaminants.
11. Set the relief valve pressure to a value that is 120% or less of the maximum discharge pressure of the pump.
12. Only use this product to protect metering pumps made by TACMINA and the piping.

External dimensions



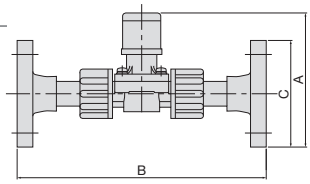
RV Series

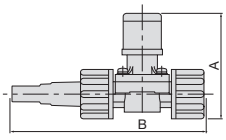
Model	A(mm)	B(mm)	C(mm)	D(mm)
RV-F25-VE/RV-F25-VT RV-F25-ST/RV-F25-6T RV-F25-FT	347	172.5	110	110
RV-F40-VE/RV-F40-VT RV-F40-ST/RV-F40-6T RV-F40-FT	362	195	125	125
RV-F50-VE/RV-F50-VT RV-F50-ST/RV-F50-6T	407	232.5	155	155
RV-F65-VE/RV-F65-VT RV-F65-ST/RV-F65-6T	407	242.5	155	155

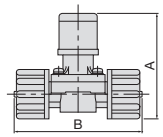


RV Series

Model	A(mm)	B(mm)	C
RV-F15-VE/RV-F15-VT RV-F15-6T/RV-F15-ST	134.5	152	Φ95
RV-F20-VE/RV-F20-VT RV-F20-6T/RV-F20-ST RV-F20-FT	149	196	Φ100







TRV Series

Model	A(mm)	B(mm)
TRV-VE-4H/TRV-VF-4H TRV-VE-6H/TRV-VF-6H	94	114
TRV-VE-12H/TRV-VF-12H	94	116

TRV Series

Model	A(mm)	B(mm)	C
TRV-VE-15F/TRV-VF-15F	119.5	222	Φ95

TRV Series

Model	A(mm)	B(mm)
TRV-VE-4 x 9/Z / TRV-VF-4 x 9/Z	94	174
TRV-VE-6 x 11/Z / TRV-VF-6 x 11/Z TRV-VE-12 x 18/Z / TRV-VF-12 x 18/Z	94	175

Back pressure valve

The overfeeding phenomenon*1 and the siphoning phenomenon*2 are prevented by sealing the piping outlet with a diaphragm and applying just enough force (back pressure) to overcome the force of inertia of the liquid.

*1 A phenomenon that occurs in flows with pulsation. With this phenomenon, liquid continues flowing even when it should be stopped and is discharged at a volume larger than the rated volume due to the discharge momentum (inertia).

*2 A phenomenon where the chemical is naturally sucked out and continues to flow even when the pump is stopped because the position of the end of the pump's discharge-side piping is lower than the level of the liquid in the suction-side tank.

BV

TBV

TBV

Product specifications

BV Series

Model	Connection	Pressure adjustment range (MPa)	Standard set pressure (MPa)	Material		Weight (kg)
				Body	Diaphragm	
BV-F15-VE	JIS 10K 15A	0.1 to 0.3	0.1	PVC	EPDM	1
BV-F15-VT				PVC	PTFE	1
BV-F15-ST				SUS304	PTFE	3
BV-F15-6T				SUS316	PTFE	3
BV-F15-FT				PVDF	PTFE	1
BV-F20-VE	JIS 10K 20A			PVC	EPDM	2
BV-F20-VT				PVC	PTFE	2
BV-F20-ST				SUS304	PTFE	6
BV-F20-6T				SUS316	PTFE	6
BV-F20-FT				PVDF	PTFE	2
BV-F25-VE	JIS 10K 25A	0.1 to 0.25		PVC	EPDM	5
BV-F25-VT				PVC	PTFE	5
BV-F25-ST				SUS304	PTFE	10
BV-F25-6T				SUS316	PTFE	10
BV-F25-FT				PVDF	PTFE	5
BV-F40-VE	JIS 10K 40A			PVC	EPDM	5
BV-F40-VT				PVC	PTFE	5
BV-F40-ST				SUS304	PTFE	12
BV-F40-6T				SUS316	PTFE	12
BV-F40-FT				PVDF	PTFE	5
BV-F50-VE	JIS 10K 50A	0.1 to 0.15		PVC	EPDM	8
BV-F50-VT				PVC	PTFE	8
BV-F50-ST				SUS304	PTFE	14
BV-F50-6T				SUS316	PTFE	14
BV-F65-VE	JIS 10K 65A			PVC	EPDM	13
BV-F65-VT				PVC	PTFE	13
BV-F65-ST				SUS304	PTFE	18
BV-F65-6T				SUS316	PTFE	18

* For the BV-F25, BV-F40, BV-F50, and BV-F65 models,it is possible to design special valves that can exceed the pressures listed in the pressure adjustment range,so please contact us for details.
Possible adjustable pressure ranges for special design valve.(0.26 to 0.3 MPa for BV-F25 and BV-F40, 0.16 to 0.25 MPa for BV-F50 and BV-F65)

TBV Series

Model	Connection	Pressure adjustment range (MPa)	Standard set pressure (MPa)	Material			Weight (kg)
				Body	Diaphragm	O-ring	
TBV-VE-4H	φ4×φ9	0.05 to 0.3	0.1	PVC	EPDM	EPDM	0.3
TBV-VF-4H					Special fluoro rubber	Fluoro rubber	0.3
TBV-VE-6H	φ6×φ11				EPDM	EPDM	0.3
TBV-VF-6H					Special fluoro rubber	Fluoro rubber	0.3
TBV-VE-6×11/Z	φ6×φ11*1				EPDM	EPDM	0.4
TBV-VF-6×11/Z					Special fluoro rubber	Fluoro rubber	0.4
TBV-VE-12H	φ12×φ18				EPDM	EPDM	0.3
TBV-VF-12H					Special fluoro rubber	Fluoro rubber	0.3
TBV-VE-12×18/Z	φ12×φ18*1				EPDM	EPDM	0.4
TBV-VF-12×18/Z					Special fluoro rubber	Fluoro rubber	0.4
TBV-VE-15F	JIS 10K 15A				EPDM	EPDM	0.3
TBV-VF-15F					Special fluoro rubber	Fluoro rubber	0.3
TBV-VE-15F/Z	JIS 10K 15A*1				EPDM	EPDM	0.3
TBV-VF-15F/Z					Special fluoro rubber	Fluoro rubber	0.3
TBV-VE-19×26/Z	φ19×φ26*1				EPDM	EPDM	0.4
TBV-VF-19×26/Z					Special fluoro rubber	Fluoro rubber	0.4

*1 The outlet side is R3/8 or R1/2.

Model code

BV — F 15 — V E

TBV — V E — 15 F

BV

1 Series name
BV : Back pressure valve

2 Connection
F : Standard

3 Body size
15
20
25
40
50
65

4 Body liquid end material
V : PVC
S : SUS304
6 : SUS316
F : PVDF

5 Diaphragm material
E : EPDM
T : PTFE

TBV

1 Series name
TBV : Back pressure valve

2 Body liquid end material
V : PVC

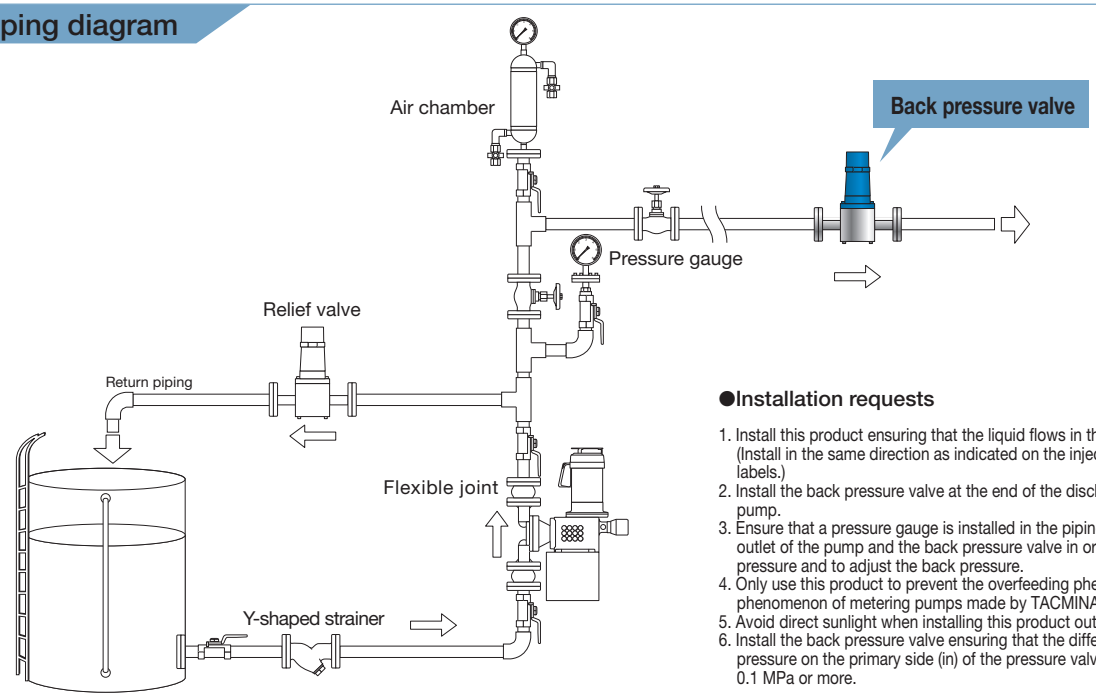
3 Diaphragm material
E : EPDM
F : Special fluoro rubber

4 Inlet diameter
4 : Φ4 x Φ9
6 : Φ6 x Φ11
12 : Φ12 x Φ18
15 : JIS 10K 15A

5 Connection type
F : Flange
H : Hose (special order)
X : Other

✻ Model code combinations are determined in advance. For details, contact TACMINA.

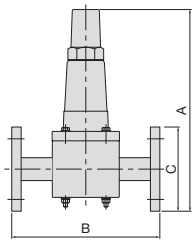
Piping diagram



●Installation requests

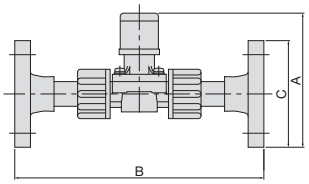
1. Install this product ensuring that the liquid flows in the injection direction. (Install in the same direction as indicated on the injection direction arrow labels.)
2. Install the back pressure valve at the end of the discharge side piping of the pump.
3. Ensure that a pressure gauge is installed in the piping between the discharge outlet of the pump and the back pressure valve in order to monitor the piping pressure and to adjust the back pressure.
4. Only use this product to prevent the overfeeding phenomenon and siphoning phenomenon of metering pumps made by TACMINA.
5. Avoid direct sunlight when installing this product outdoors.
6. Install the back pressure valve ensuring that the difference between the pressure on the primary side (in) of the pressure valve and the set pressure is 0.1 MPa or more.

External dimensions



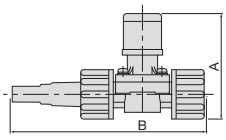
BV Series

Model	A(mm)	B(mm)	C
BV-F15-VE/BV-F15-VT BV-F15-ST/BV-F15-6T BV-F15-FT	134.5	152	Φ95
BV-F20-VE/BV-F20-VT BV-F20-ST/BV-F20-6T BV-F20-FT	149	196	Φ100
BV-F25-VE/BV-F25-VT BV-F25-ST/BV-F25-6T BV-F25-FT	299.5	220	Φ125
BV-F40-VE/BV-F40-VT BV-F40-ST/BV-F40-6T BV-F40-FT	307	250	Φ140
BV-F50-VE/BV-F50-VT BV-F50-ST/BV-F50-6T	329.5	310	Φ155
BV-F65-VE/BV-F65-VT BV-F65-ST/BV-F65-6T	339.5	310	Φ175



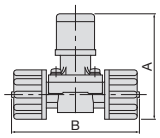
TBV Series

Model	A(mm)	B(mm)	C
TBV-VE-15F/TBV-VF-15F	119.5	222	Φ95



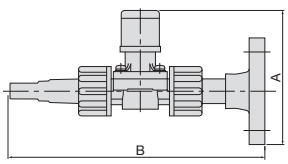
TBV Series

Model	A(mm)	B(mm)
TBV-VE-6 x 11/Z TBV-VF-6 x 11/Z	94	174
TBV-VE-12 x 18/Z TBV-VF-12 x 18/Z	94	175
TBV-VE-19 x 26/Z TBV-VF-19 x 26/Z	94	206



TBV Series

Model	A(mm)	B(mm)
TBV-VE-4H/TBV-VF-4H TBV-VE-6H/TBV-VF-6H	94	114
TBV-VE-12H/TBV-VF-12H	94	116



TBV Series

Model	A(mm)	B(mm)
TBV-VE-15F/Z TBV-VF-15F/Z	119.5	228

Anti-siphon check valve (anti-siphon valve, siphon valve)

This accessory not only prevents the overfeeding phenomenon and the siphoning phenomenon but also has a check valve function that prevents the liquid from being discharged from the main pipe. When injecting chemicals into a boiler pipe, if the boiler stops and the temperature drops, a negative pressure (a vacuum) develops within the boiler. This causes the chemical to be suctioned even when the pump is stopped. An anti-siphon check valve applies a back pressure slightly higher than 0.1 MPa to prevent the chemical from being suctioned.


TSV


SC1


SC1


SV


TSV


SC3


SC5


SC6


SV

Model code

TSV — V E — 12 H / 15F — BV

1 2 3 4 5 6 7

1 Series name
TSV : Anti-siphon check valve

2 Body liquid end material
V : PVC
X : Special

3 Diaphragm material
E : EPDM
F : Special fluoro rubber
X : Special

4 Inlet connection shape
4 : Φ4 x Φ9
5 : Φ5 x Φ9
6 : Φ6 x Φ11
12 : Φ12 x Φ18
19 : Φ19 x Φ26
15 : JIS 10K 15A

5 Inlet connection type
H : PVC hose
P : PE hose
F : Flange
X : Special

6 Outlet connection type
This is omitted when a nozzle is used for the outlet connection type.

7 Ball valve
None : Without ball valve
BV : With ball valve

SC1 — 4 F — BV C

1 2 3 4 5

1 Series name
SC□ : Anti-siphon check valve

2 Inlet diameter
4 : Φ4 x Φ9★
6 : Φ6 x Φ11
★ 4 × 6 for the SC3

3 Body liquid end material
E : EPDM
F : Fluoro rubber

4 Ball valve
None : Without ball valve
BV : With ball valve

5 Anti-flow cap
None : Without anti-flow cap
C : With anti-flow cap

SV — S F — 5 H — A

1 2 3 4 5 6

1 Series name
SV□ : Anti-siphon check valve

2 Body material
F : PVDF
S : SUS304
6 : SUS316
X : Special

3 Siphon packing material
E : EPDM
F : ETFE
X : Special

4 Inlet connection shape
5 : Φ5 x Φ9
6 : Φ6 x Φ11
10 : Φ10 x Φ12
12 : Φ12 x Φ15
6 x 8 : Φ6 x Φ8
12 x 18 : Φ12 x Φ18

5 Inlet connection type
H : Hose

6 Head material
A : PVC
B : SUS304

✻ Model code combinations are determined in advance. For details, contact TACMINA.

Product specifications

TSV Series

Model	Inlet side	Outlet side	Standard set pressure (MPa)	Material			
				Body	Diaphragm	Check ball	O-ring
TSV-VE-4H	Φ4 x Φ9	R1/2 or R3/8	0.1	PVC	EPDM	EPDM	EPDM
TSV-VE-5H	Φ5 x Φ9						
TSV-VE-5H-BV	Φ5 x Φ9						
TSV-VE-6H	Φ6 x Φ11						
TSV-VE-6H-BV	Φ6 x Φ11						
TSV-VE-12H	Φ12 x Φ18						
TSV-VE-12H-BV	Φ12 x Φ18						
TSV-VE-19H	Φ19 x Φ26						
TSV-VE-15F	JIS10K15A	R1/2 or R3/8					
TSV-VE-15F/15F	JIS10K15A	JIS10K15A					
TSV-VF-4H	Φ4 x Φ9	R1/2 or R3/8			Special fluoro rubber	Special fluoro rubber	Fluoro rubber
TSV-VF-5H	Φ5 x Φ9						
TSV-VF-5H-BV	Φ5 x Φ9						
TSV-VF-6H	Φ6 x Φ11						
TSV-VF-6H-BV	Φ6 x Φ11						
TSV-VF-12H	Φ12 x Φ18						
TSV-VF-12H-BV	Φ12 x Φ18						
TSV-VF-19H	Φ19 x Φ26						
TSV-VF-15F	JIS10K15A	R1/2 or R3/8					
TSV-VF-15F/15F	JIS10K15A	JIS10K15A					

SC Series

Model	Inlet side	Outlet side	Standard set pressure (MPa)	Material		
				Body	O-ring	Anti-flow cap
SC1-4E	Φ4 x Φ9	R1/2	0.15	PVC	EPDM	–
SC1-4E-BV	Φ4 x Φ9	R1/2 or R3/8				
SC1-4F	Φ4 x Φ9	R1/2			Fluoro rubber	
SC1-4F-BV	Φ4 x Φ9	R1/2 or R3/8				
SC1-4F-BVC	Φ4 x Φ9	R1/2				Special fluoro rubber
SC1-4F-C	Φ4 x Φ9	R1/2				
SC1-6E	Φ6 x Φ11	R1/2			EPDM	–
SC1-6E-BV	Φ6 x Φ11	R1/2 or R3/8				
SC1-6F	Φ6 x Φ11	R1/2			Fluoro rubber	
SC1-6F-BV	Φ6 x Φ11	R1/2 or R3/8				
SC1-6F-BVC	Φ6 x Φ11	R1/2				Special fluoro rubber
SC1-6F-C	Φ6 x Φ11	R1/2				
SC3-4E	Φ4 x Φ6	R1/2	0.12	SCS13	EPDM	–
SC3-6E	Φ6 x Φ8	R1/2				
SC5-6X8-E	Φ6 x Φ8	R1/2	0.15	PVDF	Fluoro rubber	
SC5-6X8-F	Φ6 x Φ8	R1/2				
SC6-12 x 18-E	Φ12 x Φ18	R1/2 or R3/8		PVC	EPDM	
SC6-12 x 18-F	Φ12 x Φ18	R1/2 or R3/8			Fluoro rubber	
SC7-12 x 15-T	Φ12 x Φ15	R1/2 or R3/8		PVDF	Special fluoro rubber	

SV Series

Model	Inlet side	Outlet side	Standard set pressure(MPa)	Material			
				Body	Siphon packing	Check ball	O-ring
SV-FF-10H	Φ10 x Φ12	R1/2 or R3/8	0.1	PVDF	ETFE	PTFE	PTFE
SV-FF-12H	Φ12 x Φ15						
SV-FF-6X8	Φ6 x Φ8						
SV-SF-5H-A	Φ5 x Φ9			SUS304			
SV-SF-5H-B	Φ5 x Φ9						
SV-SF-6H-A	Φ6 x Φ11						
SV-SF-6H-B	Φ6 x Φ11						

Model	Inlet side	Outlet side	Standard set pressure(MPa)	Material			
				Body	Siphon packing	Check ball	O-ring
SV-SF-10H-A	Φ10 x Φ12	R1/2 or R3/8	0.1	SUS304	ETFE	PTFE	PTFE
SV-SF-12H-A	Φ12 x Φ15						
SV-SF-12 x 18H-A	Φ12 x Φ18						
SV-SF-12 x 18H-B	Φ12 x Φ18						
SV-6F-10H	Φ10 x Φ12			SUS316			
SV-6F-6X8	Φ6 x Φ8						
SV2-FF-6 x 8	Φ6 x Φ8			PVDF			

✻ An accessory with boiler specifications is also available.

Air chamber

This accessory uses the elasticity of air to attenuate the pulsation of a reciprocating pump. This makes it possible to reduce piping vibrations, the overfeeding phenomenon, and other such problems related to pulsation. Note that in order to use an air chamber, it is necessary to install a throttle valve for pressure adjustment.

✻ If the amount of air within an air chamber is reduced, it loses its ability to reduce pulsations, so it is necessary to periodically refill the air chamber with air.
TACMINA produces "Smoothflow pumps," which are diaphragm pumps that do not require an air chamber.

Stainless steel

PVC

✻ The pressure gauge in the photograph is optional.

Model code

AC – 05 – V E – F 15 – S

1 2 3 4 5 6 7

1 Series name
AC : Air chamber

2 Capacity
05 : 0.5L
3 : 3L
7 : 7L
10 : 10L
15 : 15L

3 Body material
V : PVC
S : SUS304
6 : SUS316
X : Special

4 O-ring/packing material
E : EPDM
F : Fluoro rubber
N : None
X : Special

5 Joint
F : Flange
HP : PVC hose
HT : PTFE hose

6 Connection diameter
15 : 15A
20 : 20A
25 : 25A
40 : 40A
50 : 50A
65 : 65A
4 x 9 : Φ4 x Φ9
6 x 11 : Φ6 x Φ11
10 x 12 : Φ10 x Φ12
12 x 15 : Φ12 x Φ15
12 x 18 : Φ12 x Φ18

7 Overall specifications
S : Standard
X : Special

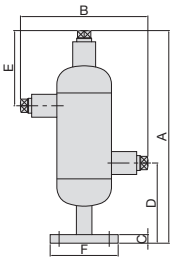
✻ Model code combinations are determined in advance. For details, contact TACMINA.

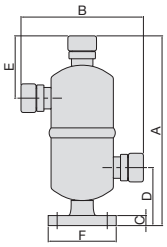
Product specifications

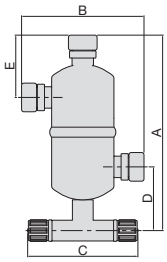
Model	Capacity (L)	Material		Joint	Connection diameter	Weight (Kg)	Applicable models
		Body	O-ring/packing				
AC-05-VE-F15-S	0.5	PVC	EPDM	Flange	15A	3	SXDA1/SXWA1-31/61/12/22/32/62/82(standard specifications) FXD1/FXW1-003/006/01/02/03/06/08(standard specifications)
AC-05-VF-F15-S			Fluoro rubber			3	
AC-05-SN-F15-S		SUS304	None			5	
AC-05-6N-F15-S		SUS316				5	
AC-3-VE-F20-S	3	PVC	EPDM		20A	4.5	SXDA1/SXWA1-62/82(high-viscosity specifications) FXD1/FXW1-06/08(high-viscosity specifications)
AC-3-VF-F20-S			Fluoro rubber			4.5	
AC-3-SN-F20-S		SUS304	None			7.5	
AC-3-6N-F20-S		SUS316				7.5	
AC-3-VE-F25-S		PVC	EPDM		25A	4.5	SXDA1/SXWA1-13/23/33/43(standard specifications)
AC-3-VF-F25-S			Fluoro rubber			4.5	SXDA1/SXWA1-13/23/33(high-viscosity specifications)
AC-3-SN-F25-S		SUS304	None			7.5	FXD1/FXW1-1/2/3/4(standard specifications) FXD1/FXW1-1/2/3(high-viscosity specifications)
AC-3-6N-F25-S		SUS316				7.5	ZD1/ZW1—33/63/83
AC-7-VE-F40-S	7	PVC	EPDM		40A	5.5	ZD1/ZW1-14/14L/153/24/24L RYD1/RYW1-14
AC-7-VF-F40-S			Fluoro rubber			5.5	
AC-7-SN-F40-S		SUS304	None			10.5	
AC-7-6N-F40-S		SUS316				10.5	
AC-10-VE-F50-S	10	PVC	EPDM		50A	6	ZD1/ZW1-34
AC-10-VF-F50-S			Fluoro rubber			6	
AC-10-SN-F50-S		SUS304	None			13	
AC-10-6N-F50-S		SUS316				13	
AC-15-VE-F65-S	15	PVC	EPDM		65A	9	RYD1/RYW1-14
AC-15-VF-F65-S			Fluoro rubber			9	
AC-15-SN-F65-S		SUS304	None			18	
AC-15-6N-F65-S		SUS316				18	
AC-05-VE-HP4 x 9-S	0.5	PVC	EPDM	Hose	Φ4 x Φ9	3	SXDA1/SXWA1-31/61/12(standard specifications)
AC-05-VF-HP4 x 9-S			Fluoro rubber			3	FXD1/FXW1-003/006/01(standard specifications)
AC-05-VE-HP6 x 11-S			EPDM		Φ6 x Φ11	3	SXDA1/SXWA1-22/32(standard specifications)
AC-05-VF-HP6 x 11-S			Fluoro rubber			3	FXD1/FXW1-02/03(standard specifications)
AC-05-VE-HP12 x 18-S			EPDM		Φ12 x Φ18	3	SXDA1/SXWA1-62/82(standard specifications)
AC-05-VF-HP12 x 18-S			Fluoro rubber			3	FXD1/FXW1-06/08(standard specifications)
AC-05-SN-HT10 x 12-S		SUS304	None		Φ10 x Φ12	5	SXDA1/SXWA1-31/61/12/22/32(standard specifications)
AC-05-6N-HT10 x 12-S		SUS316				5	FXD1/FXW1-003/006/01/02/03(standard specifications)
AC-05-SN-HT12 x 15-S		SUS304			Φ12 x Φ15	5	SXDA1/SXWA1-62(standard specifications)
AC-05-6N-HT12 x 15-S		SUS316				5	FXD1/FXW1-06(standard specifications)

✻ Liquid temperature: 0°C to 40°C for PVC, 0°C to 80°C for SUS (flange), 0°C to 40°C for SUS (hose) [no freezing for all temperature ranges]
✻ Maximum operating pressure: 0.5 MPa for PVC, 0.98 MPa for SUS (flange), 0.5 MPa for SUS (hose)
✻ The motor attachment direction (vertical/horizontal) does not affect the selection. (Example: If the FXD1 is listed under the applicable models, the FYD1 is also applicable.)
✻ The presence/absence of a relief mechanism does not affect the selection. (Example: If the FXD1-01 is listed under the applicable models, the FXD1-01R is also applicable.)

External dimensions







Flange joint stainless steel type

Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F
AC-05-6N-F15-S	297	178	12	112	105	Φ95
AC-05-SN-F15-S	297	178	12	112	105	Φ95
AC-3-6N-F20-S	497	217	14	116.5	90.5	Φ100
AC-3-SN-F20-S	497	217	14	116.5	90.5	Φ100
AC-3-6N-F25-S	497	217	14	116.5	90.5	Φ125
AC-3-SN-F25-S	497	217	14	116.5	90.5	Φ125
AC-7-SN-F40-S	540.5	268	16	143	118	Φ143
AC-7-6N-F40-S	540.5	268	16	143	118	Φ143
AC-10-6N-F50-S	505	316	16	182	131	Φ155
AC-10-SN-F50-S	505	316	16	182	131	Φ155
AC-15-6N-F65-S	707	316	18	182	131	Φ175
AC-15-SN-F65-S	707	316	18	182	131	Φ175

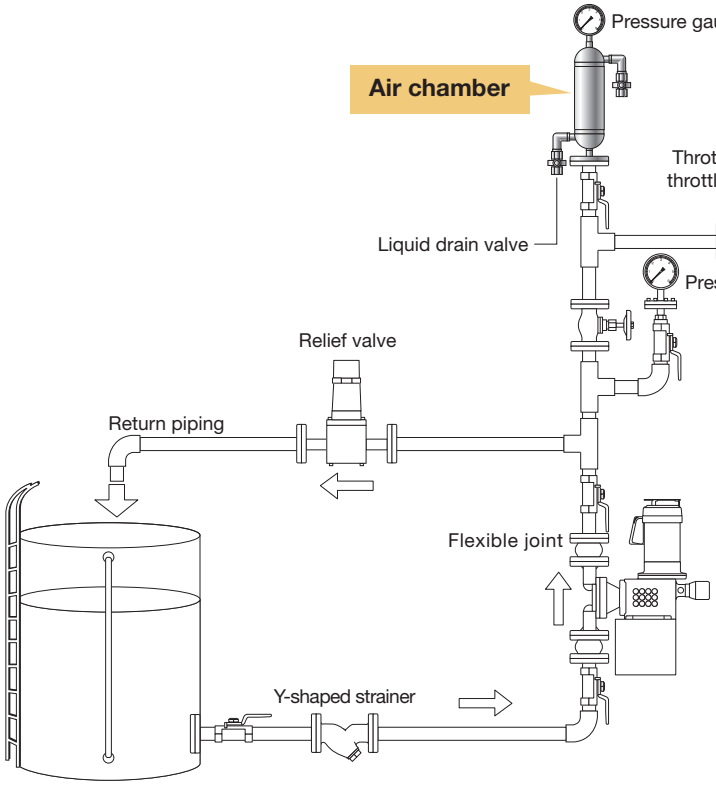
Flange joint PVC type

Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F
AC-05-VE-F15-S	265	171	14	81	87	Φ95
AC-05-VF-F15-S	265	171	14	81	87	Φ95
AC-3-VE-F20-S	586	214	15	98	100	Φ100
AC-3-VF-F20-S	586	214	15	98	100	Φ100
AC-3-VE-F25-S	592	214	15	104	100	Φ125
AC-3-VF-F25-S	592	214	15	104	100	Φ125
AC-7-VE-F40-S	578.5	270	16	156.5	137	Φ140
AC-7-VF-F40-S	578.5	270	16	156.5	137	Φ140
AC-10-VE-F50-S	793	270	20	166	137	Φ155
AC-10-VF-F50-S	793	270	20	166	137	Φ155
AC-15-VE-F65-S	1102	270	22	168	137	Φ175
AC-15-VF-F65-S	1102	270	22	168	137	Φ175

Hose joint

Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
AC-05-VE-HP4 x 9-S	273	171	154	89	87
AC-05-VF-HP4 x 9-S	273	171	154	89	87
AC-05-VE-HP6 x 11-S	273	171	154	89	87
AC-05-VF-HP6 x 11-S	273	171	154	89	87
AC-05-VE-HP12 x 18-S	273	171	150	89	87
AC-05-VF-HP12 x 18-S	273	171	150	89	87
AC-05-SN-HT10 x 12-S	322	178	94	130	115
AC-05-6N-HT10 x 12-S	322	178	94	130	115
AC-05-SN-HT12 x 15-S	322	178	94	115	115
AC-05-6N-HT12 x 15-S	322	178	94	115	115

Piping diagram



●Installation requests

1. Install the air chamber in a position within 1 meter directly above the pump's discharge outlet.
2. Use an installation base or a similar support to fix the air chamber in place.
3. Install a pressure gauge within the discharge-side piping or on the air chamber.
4. Install a relief valve within the discharge-side piping.
5. Be sure to install a throttle valve or throttle resistance on the secondary side of the air chamber.
   This reduces the pulsations on the secondary side from the throttle valve.
6. Be sure to install liquid drain piping.
7. In cold areas, exercise caution regarding freezing.
8. When installing this accessory outdoors, consider its location to ensure that it is not subjected to direct sunlight.

Damper(for use with the PZiG)

This accessory prevents piping vibrations and is very effective during long-distance transfers of chemicals.
Furthermore, the liquid does not come into direct contact with the air, which reduces the frequency of maintenance such as air chamber refilling.

PVC

Model code

DM – 1 – V E – 12 x 18 – PVC – H

1 2 3 4 5 6 7

1 Series name
DM : Damper

2 Applicable models
1 : For use with the PZiG

3 Connecting section material
V : PVC
F : PVDF
X : Special

4 Bladder/bellows material
E : EPDM
F : Fluoro rubber
T : PTFE

5 Connection diameter
12 x 18
12 x 15
20A
X : Special

6 Connection hose material
PVC : For use with soft PVC hoses
PTFE : For use with PTFE hoses
(no indications are given for uses other than those with hoses)

7 Joint
H : Hose
U : Union

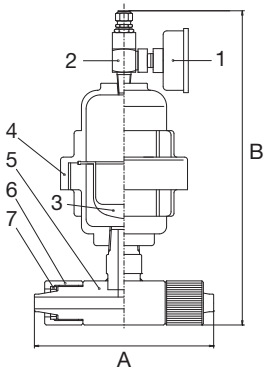
✻ Model code combinations are determined in advance. For details, contact TACMINA.

Product specifications

Model	Capacity (mL)	Material		Joint	Connection diameter	Applicable models
		Body	Bladder/bellows			
DM-1-VE-12 x 18-PVC-H	163	PVC	EPDM	Hose	ϕ12 x ϕ18	PZiG Series
DM-1-VF-12 x 18-PVC-H			Fluoro rubber			
DM-1-FT-12 x 15-PTFE-H		PVDF	PTFE		ϕ12 x ϕ15	
DM-1-VF-20A-U		PVC	Fluoro rubber	Union	20A	

✻ The air supply valve is American (Schrader) type.

External dimensions/structural drawing



✻ The DM-1V□-12 x 18 is shown in the illustration.
The appearance and structure varies depending on the model.

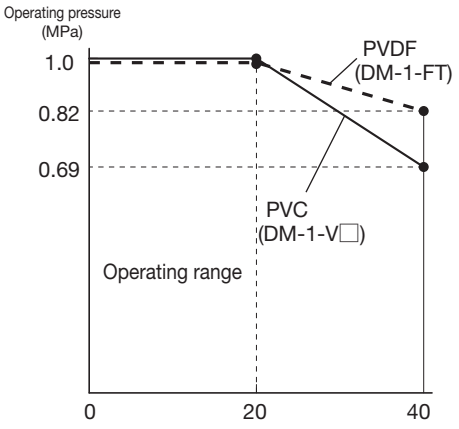
External dimensions

Model	A	B
DM-1-VE-12 x 18_PVC-H	122	214
DM-1-VF-12 x 18_PVC-H	122	214
DM-1-FT-12 x 15_PTFE-H	110	197
DM-1-VF-20A-U	234	229

Structure

No.	Part name
1	Pressure gauge
2	Filling valve
3	Bladder (rubber membrane)
4	Accumulator
5	Hose 3-way joint
6	Hose nut
7	Pressing ring

Operating range



Ambient temperature and transferrable temperature (°C)

✻ Use the accessory within the operating range shown in the graph.

Pulse-emitting flow meter

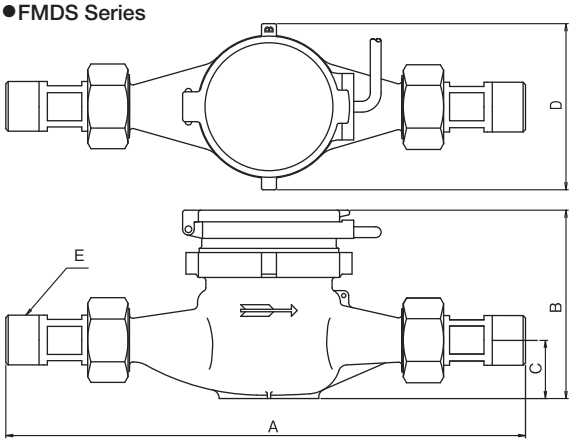
This is a flow meter that does not require a power supply. Combining this accessory with a TACMINA pulse signal input metering pump creates a simple and inexpensive flow rate proportional injection system.

Product specifications

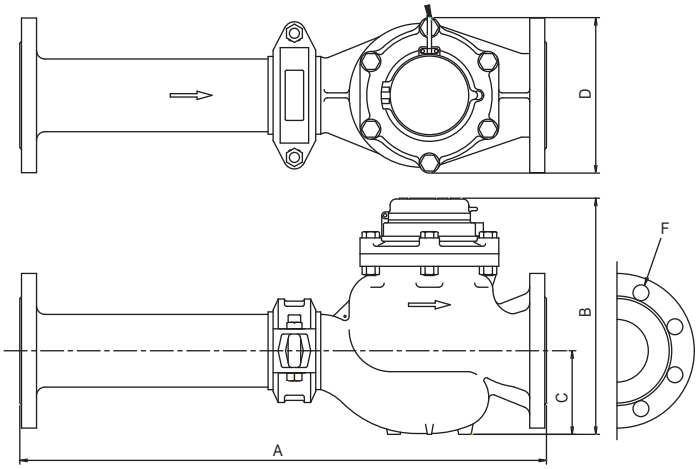
Model	Connection diameter	Minimum operating flow rate (m^3/h)	Suitable operating flow rate range (m^3/h)	Maximum operating flow rate		Pulse output unit (L/Pulse)	Set weight(kg)
				m^3/day	m^3/month		
FMDS13SⅡ	R1/2	0.05	0.15 to 1.2	7.5	125	0.1	1.6
FMDS20Ⅱ	R3/4	0.05	0.2 to 1.6	10	170	0.1	1.8
FMDS25Ⅱ	R1	0.06	0.23 to 1.8	11	190	0.1	2
FMDS30Ⅱ	R1 1/4	0.15	0.4 to 6	36	630	1	2.7
FMDS40Ⅱ	R1 1/2	0.18	0.4 to 6.5	39	700	1	3
EDY50	R2	0.3	0.6 to 9.6	43	1,000	1	5.1
NVW-50RC	JIS 10K 50A	0.09	1.25 to 15	90	2,100	5	26.5
VW-65RCⅡ	JIS 10K 65A	0.3	1.75 to 20	120	3,300	5	31.4
NVW-75RC	JIS 10K 75A	0.12	2.5 to 30	180	4,200	5	23.4
NVW-100RC	JIS 10K 100A	0.15	4 to 48	288	6,700	5	27.1
VW-125RC	JIS 10K 125A	1.2	5 to 60	360	8,300	50	80.7
VW-150RC	JIS 10K 150A	1.2	7.5 to 90	540	12,500	50	103.7

External dimensions

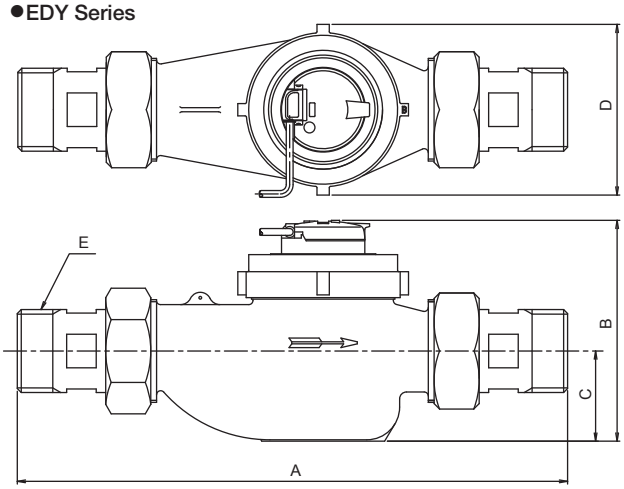
●FMDS Series



●NVW/VW Series



●EDY Series



Model	A	B	C	D	E	F	
						d	n
FMDS13SⅡ	251	116	34	100	R1/2	-	-
FMDS20Ⅱ	298	114	35	100	R3/4	-	-
FMDS25Ⅱ	351	114	35	100	R1	-	-
FMDS30Ⅱ	362	126	40	108	R1 1/4	-	-
FMDS40Ⅱ	387	131	45	108	R1 1/2	-	-
EDY50	403	162	66	125	R2	-	-
NVW-50RC	560	233	80	155	-	ϕ19	4
VW-65RCⅡ	580	283	100	186	-	ϕ19	4
NVW-75RC	630	283	100	186	-	ϕ19	8
NVW-100RC	750	325	120	210	-	ϕ19	8
VW-125RC	797	409	160	270	-	ϕ23	8
VW-150RC	1000	446	189	310	-	ϕ23	8

Discharge volume checker

This accessory is resistant to acids and alkalis and can be used to check the pump's injection operation at a low cost. Two types are available: a type that is connected directly to the pump and a hose connection type.

Model code

FC − 1 − V E − 4 H / 4 H

1 2 3 4 5 6

1 Main sensor material

V:PVC (polyvinyl chloride)
O:PPO (NORYL)

2 O-ring material

E:EPDM
F:Fluoro rubber

3 Suction-side connection diameter

4:ϕ4(ϕ4×ϕ9)
6:ϕ6(ϕ6×ϕ11)

4 Suction-side connection type

H:Hose connection type
P:Pump direct connection type
B:Boiler direct connection type
C:Direct connection type dedicated for sodium hypochlorite injection
CPW: Direct connection type dedicated for use with the DCLPW/CLPW

5 Discharge-side connection diameter

4:ϕ4×ϕ9
6:ϕ6×ϕ11

6 Discharge-side connection type

H:Hose connection type
B:Boiler hose connection type

Product specifications

Pump direct connection type

Model	Applicable models
FC-1-VE-4B/4B	PW-30-VTCET
	V-10/40
	CS2-10N/30N-VTCET
FC-1-VE-4P/4H	PW-30-VTCE
	FXD1/FXW1-003/006/01-VECE
	V-10/40
	CS2-10N/30N-VTCE
FC-1-OF-4P/4H	PW-30-VTCF
	FXD1/FXW1-003/006/01-VTCF
	V-10/40
	CS2-10N/30N-VTCF
FC-1-OF-6CPW/4H	DCLPW-30-ATCF
	CLPW-30-ATCF
	DCLV-10/40
	CLV-10/40
FC-1-VE-6P/6H	PW-60/100-VTCE
	FXD1/FXW1-02/03-VECE
	V-70/100/300
	CS2-60N/100N/300N-VTCE
FC-1-OF-6P/6H	PW-60/100-VTCF
	FXD1/FXW1-02/03-VTCF
	V-70/100/300
	CS2-60N/100N/300N-VTCF
FC-1-OF-6CPW/6H	DCLPW-60/100-ATCF
	CLPW-60/100-ATCF
	DCLV-70/100
	CLV-70/100

✻ When using this accessory with the CLPW Series/DCLPW Series, CLV Series/DCLV Series, if air-mixed liquid is being discharged and the prescribed volume is not discharged, the signal is also output when only air and no liquid is discharged such as when the tank is empty.
✻ The motor attachment direction (vertical/horizontal) does not affect the selection. (Example: If the FXD1 is listed under the applicable models, the FYD1 is also applicable.)
✻ The number of pump heads does not affect the selection. (Example: If the FXD1 is listed under the applicable models, the FXD2 is also applicable.)
✻ The presence/absence of a relief mechanism does not affect the selection. (Example: If the PW-30 is listed under the applicable models, the PW-30R is also applicable.)
✻ The control function does not affect the selection. (Example: If the PW is listed under the applicable models, the PWM/PWT is also applicable.)

Flow rate range	0.2 to 1.8 L/min (1 to 50 mPa•s) [during continuous flow]
Pulse constant	1 mL/pulse
Accuracy	±10%
Normal operating pressure	1.0MPa
Liquid temperature	-10°C to 50°C (no freezing)
Ambient temperature	0°C to 40°C
Liquid viscosity	1 to 50 mPa•s
Output	Open collector (collector capacity: 30 V, 30 mA) Green LED lights when pulse output is high
Power supply	4.5 VDC to 25 VDC (20 mA max.), red LED lights when the power supply is ON

Notes) 1. Install the flow meter so that it is horizontal and its display is perpendicular to the flow meter.
2. If there is the chance that particulate matter may mix into the liquid, do not use this accessory.
3. The pressure loss is 0.05 MPa (for water at the maximum flow rate).
4. The transfer distance is 50 m or less.
5. Small capacities cannot be measured on the secondary side of the air chamber.

Main applicable liquids

Chemical name	Conditions	Recommended model
Hydrochloric acid	10% or less, room temperature (23°C)	FC-1-VE
Sulfuric acid	10% or less, room temperature (23°C)	
Caustic soda	30% or less, room temperature (23°C)	
Ammonia water	Room temperature (23°C)	
Methyl alcohol	Room temperature (23°C)	
Acetic acid	Room temperature (23°C)	
Sodium hypochlorite	12% or less, room temperature (23°C)	FC-1-OF

✻ When using boiler cleaning chemicals, the ingredients vary from one manufacturer to another, so contact the chemical manufacturer for details such as the applicable materials.
✻ The applicable liquids and conditions vary depending on the pump that is used. See the pump specifications.

Liquid end materials

Model	Connection type	Material										
		Discharge volume sensor					Joint	Check ball	O-ring	Valve seat	Ball stopper	Air-release valve
		Bottom case	Plate	Inner case	Rotor	O-ring						
FC-1-VE-4H/4H	Hose connection	PVC	PVC	PPS	PPS	EPDM	PVC	Ceramic	EPDM	EPDM	PVC	HDPE
FC-1-OF-4H/4H		PPO	PPO	PPO	PPO	Fluoro rubber			Fluoro rubber	Special fluoro rubber		
FC-1-VE-6H/6H		PVC	PVC	PPS	PPS	EPDM			EPDM	EPDM		
FC-1-OF-6H/6H		PPO	PPO	PPO	PPO	Fluoro rubber			Fluoro rubber	Special fluoro rubber		
FC-1-VE-4B/4B	Pump direct connection	PVC	PVC	PPS	PPS	EPDM			EPDM	PTFE		
FC-1-VE-4P/4H		PVC	PVC	PPS	PPS	EPDM			EPDM	EPDM		
FC-1-OF-4P/4H		PPO	PPO	PPO	PPO	Fluoro rubber			Fluoro rubber	Special fluoro rubber		
FC-1-OF-4C/4H		PPO	PPO	PPO	PPO	Fluoro rubber			Fluoro rubber	Special fluoro rubber		
FC-1-OF-6CPW/4H		PPO	PPO	PPO	PPO	Fluoro rubber			Fluoro rubber	Special fluoro rubber		
FC-1-VE-6P/6H		PVC	PVC	PPS	PPS	EPDM			EPDM	EPDM		
FC-1-OF-6P/6H		PPO	PPO	PPO	PPO	Fluoro rubber			Fluoro rubber	Special fluoro rubber		
FC-1-OF-6C/6H		PPO	PPO	PPO	PPO	Fluoro rubber			Fluoro rubber	Special fluoro rubber		
FC-1-OF-6CPW/6H		PPO	PPO	PPO	PPO	Fluoro rubber			Fluoro rubber	Special fluoro rubber		

Flow indicator(flow sight glass)

Attaching this accessory to the discharge side of a metering pump makes it easy to check the discharge operation, which is useful in preventing injection failures.
Types that are equipped with a photoelectric sensor can automatically output an alarm when an injection failure occurs.

Pump direct connection

Equipped with a photoelectric sensor

Product specifications

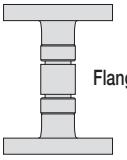
Model	Part number	Connection diameter	Dimension (mm)	Connection method	Material				Applicable models
					Body	Valve stopper	Check ball	O-ring/packing	
B-1	UN0826	Φ4 x Φ9	116	Hose on both ends	PVC	PE	PTFE	EPDM	PW-30, CLPW-30 DCLPW-30, FXD1-003 V-10/40, CS2-10/30
	UN0827							Fluoro rubber	
	UN0828		112	Pump direct connection				EPDM	
	UN0829							Fluoro rubber	
B-2	UN0348	Φ4 x Φ9	126	Hose on both ends	PVC	PE	PTFE	EPDM	FXD1-006/01
	UN0355							Fluoro rubber	
	UN0504		118	Pump direct connection				EPDM	
	UN0505							Fluoro rubber	
	UN0347	Φ6 x Φ11	126	Hose on both ends				EPDM	PW-60/100/200 CLPW-60/100 DCLPW-60/100,FXD1-02/03 V/CLV/DCLV-70/100/300
	UN0354							Fluoro rubber	
	UN0830		118	Pump direct connection				EPDM	
	UN0831							Fluoro rubber	
	UNT0057	Φ12 x Φ18	126	Pump direct connection				EPDM	PZD/PZi/PZiG-300/500
	UNT0232							Fluoro rubber	
	UN0353			Hose on both ends				EPDM	FXD1-06/08 V-600 CS2-600
	UN0360							Fluoro rubber	
	UN0491		121	Pump direct connection				EPDM	
	UN0495							Fluoro rubber	
	UN0328	JIS 10K 15A	134	Flange on both ends				EPDM	FXD1-003/006/01/02/03/06/08
	UN0330							Fluoro rubber	
B-2 Equipped with a photoelectric sensor*1	UN0506	Φ4 x Φ9	153	Pump direct connection	PVC	PE	Ceramic	EPDM	PW-30, CLPW-30, DCLPW-30, FXD1-003/006/01 V/CLV/DCLV-10/40, CS2/CLCS2-10/30
	UN0507							Fluoro rubber	
	UN0496	Φ6 x Φ11						EPDM	PW-60/100/200, CLPW-60/100, DCLPW-60/100
	UN0500							Fluoro rubber	FXD1-02/03, V/CLV/DCLV-70/100/300, CS2/CLCS2-60/100/300
	UNT0460	Φ12 x Φ18	161					EPDM	PZD/PZi/PZiG-300/500
	UNT0387							Fluoro rubber	
	UN0499		156					EPDM	FXD1-06/08, V-600 CS2-600
	UN0503							Fluoro rubber	
B-3	UN1146	JIS 10K 15A	217	Flange on both ends	PVC	PVC	PTFE	EPDM	FXD1-1/2, V-1000 CS2-1000
	UN1145							Fluoro rubber	
	UN0331	JIS 10K 20A	215			PE		EPDM	—
	UN0333							Fluoro rubber	
	UN0332	JIS 10K 25A						EPDM	FXD1-3/4
	UN0334							Fluoro rubber	

*1 This accessory can be used in combination with the flow monitors on the next page.
✻ When using this accessory with the CLPW Series/DCLPW Series, CLV Series/DCLV Series, if air-mixed liquid is being discharged and the prescribed volume is not discharged, the check ball also moves when only air and no liquid is discharged such as when the tank is empty. (If the accessory is equipped with a photoelectric sensor, a signal is output.)
✻ The motor attachment direction (vertical/horizontal) does not affect the selection. (Example: If the FXD1 is listed under the applicable models, the FYD1 is also applicable.)
✻ The number of pump heads does not affect the selection. (Example: If the FXD1 is listed under the applicable models, the FXD2 is also applicable.)
✻ The presence/absence of a relief mechanism does not affect the selection. (Example: If the PW-30 is listed under the applicable models, the PW-30R is also applicable.)
✻ The control function does not affect the selection. (Example: If the PW is listed under the applicable models, the PWM/PWT is also applicable.)

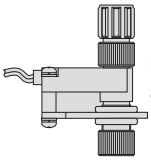
Outer appearance drawings

Pump direct connection

Hose on both ends



Flange on both ends



Equipped with a photoelectric sensor

Flow monitor

This is a discharge alarm for metering pumps and is used in combination with a discharge volume checker and a flow indicator that is equipped with a photoelectric sensor. This accessory monitors for metering pump discharge errors by outputting an alarm when it does not receive a signal within the specified time interval during pump operation.

Product specifications

Model	FM-01
Time setting	5 to 55 sec, or 5 to 300 sec
Sensor power supply	DC12V 30mA
Alarm	Output contact 1C

Contact rating	200 VAC, 1 A (resistive load)
Power supply	100/200 VAC ±10% (terminal selection)
Power consumption	Approx. 5 VA

Diaphragm pressure gauge

This accessory is used to monitor the pressure inside a pipe and to adjust back pressure valves and relief valves.

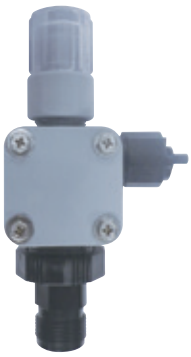
Product specifications

Pressure range(MPa)		Connecting section dimensions			Material		
Metal film	Non-metal film	Thread type	Type 1 flange	Type 2 flange	Indicator	Diaphragm	Main section
0.05 to 0.1	0.03 to 0.1	G3/8B, G1/2B R3/8, R1/2	JIS 10K 15A or larger	JIS 10K 80A or larger	Φ75 Φ100	SUS316 PTFE	SUS304 SUS316 PVC
0.1 to 5	0.1 to 5			JIS 10K 65A or larger			
0.6 to 7	0.1 to 5			JIS 10K 40A or larger			
10 to 25	10 to 25			JIS 10K 65A or larger			

✻ Combinations are determined in advance. For details, contact TACMINA.

Residual pressure relief valve

Installing this accessory on the discharge side of a pump makes it possible to safely release the pressure within the piping when abnormal pressure occurs. This also makes it possible to safely discharge the residual pressure and residual liquid during maintenance.



Model code

ZV – V E – 4P / 4 H

1 2 3 4 5 6

1 Series name
ZV : Residual pressure relief valve

2 Body material
V : PVC

3 O-ring material
E : EPDM
F : Fluoro rubber

4 Pump suction side check ball size
4P : 4
6P : 6

5 Discharge-side connection diameter for residual pressure relief valve
4 : Φ4 x Φ9／Φ4 x Φ6✶1
6 : Φ6 x Φ11

6 Discharge-side connection shape
H : Hose joint
B : Boiler joint

✻ Model code combinations are determined in advance. For details, contact TACMINA.
✶1 Φ4 x Φ6 is available with the ZV-VE-4P/4B.

Product specifications

Model	Applicable models
ZV-VE-4P/4H	PW-30-VTCE
	V-10/40-VTCE
	CS2-10/30-VTCE
	CS2-10/30-VTCF
	FXD1/FXW1-003/006/01-VECE
ZV-VF-4P/4H	PW-30-VTCF
	V-10/40-VTCF
	CS2-10/30-VTCF
	CLCS2-10/30-ATCF
	FXD1/FXW1-003/006/01-VTCF
ZV-VE-6P/6H	PW-60/100-VTCE
	V-70/100-VTCE
	CS2-60/100-VTCE

Model	Applicable models
ZV-VF-6P/6H	PW-60/100-VTCF
	V-70/100-VTCF
	CS2-60/100-VTCF
	CLCS2-60/100-ATCF
	DCLPW/CLPW-60/100-ATCF
	CLV/DCLV-70/100-ATCF
ZV-VF-6P/4H	DCLPW/CLPW-30-ATCF
	DCLV/CLV-10/40-ATCF
ZV-VE-4P/4B	PW-30-VTCET
	V-10/40-VTCET
	CS2-10/30-VTCET

✻ The presence/absence of a relief mechanism does not affect the selection. (Example: If the PW-30 is listed under the applicable models, the PW-30R is also applicable.)
✻ The number of pump heads does not affect the selection. (Example: If the FXD1 is listed under the applicable models, the FXD2 is also applicable.)
✻ The motor attachment direction (vertical/horizontal) does not affect the selection. (Example: If the FXD1 is listed under the applicable models, the FYD1 is also applicable.)
✻ The control function does not affect the selection. (Example: If the PW is listed under the applicable models, the PWM/PWT is also applicable.)

Degassing joint

With sodium hypochlorite and similar materials that easily generate decomposed gas, the gas lock phenomenon*1 occurs and makes the pump unable to discharge.
Installing a degassing joint on the pump's suction side separates the suctioned bubbles and liquid to prevent the bubbles from entering the pump head.

*1 A state in which gas enters the pump head and prevents the pump from transferring liquid.

✻ Be sure to use the “tank-over-pump” configuration for degassing joints.

D Series

S Series
PZiG Series
PZ Series

Model code

D – 4 H / H – F
1 2 3 4 5

1 Series name
D : D Series

2 Inlet diameter
4 : Φ4 x Φ9
6 : Φ6 x Φ11

3 Inlet connection shape
H : Hose

4 Air-release connection shape
H : Hose

5 O-ring material
E : EPDM
F : Fluoro rubber

S – H 12 / H – F – □
1 2 3 4 5 6

1 Series name
S : S Series
PZiG : PZiG Series
PZ : PZ Series

2 Inlet connection shape
H : Hose

3 Inlet diameter
6 : Φ6 x Φ11
12 : Φ12 x Φ18

4 Air-release connection shape
H : Hose
F : Flange*1

5 O-ring material
E : EPDM
F : Fluoro rubber

6 Overall specifications
S : Standard
X : Special

✻ Model code combinations are determined in advance. For details, contact TACMINA.
*1 Applies to the S Series.

Product specifications

Model	Inlet diameter	Air-release connection diameter	Applicable models
D-4H/H-E	Φ4 x Φ9	3/8" x 1/4"	PW/CLPW-30, FXD1-003/006/01 V/CLV-10/40, CS2/CLCS2-10/30
D-4H/H-F			
D-6H/H-E	Φ6 x Φ11		PW/CLPW-60/100 V/CLV-70/100, CS2/CLCS2-60/100
D-6H/H-F			
S-6H/H-E	Φ6 x Φ11	Φ12 x Φ18	FXD1-02/03 V-300, CS2-300
S-6H/H-F			
S-H12/H-E	Φ12 x Φ18		FXD1-06/08/1/2 V-600/1000 CS2-600/1000
S-H12/H-F			
S-H12/F-E		JIS10K15A	
S-H12/F-F			
PZiG-H12/H-E-X	Φ12 x Φ18	Φ12 x Φ18	PZiG-300/500
PZiG-H12/H-F-X			
PZ-H12/H-F-X			PZD/PZi-300/500
PZ-H12/H-E-X			

✻ The presence/absence of a relief mechanism does not affect the selection.
(Example: If the PW-30 is listed under the applicable models, the PW-30R is also applicable.)
✻ The number of pump heads does not affect the selection.
(Example: If the FXD1 is listed under the applicable models, the FXD2 is also applicable.)
✻ The motor attachment direction (vertical/horizontal) does not affect the selection.
(Example: If the FXD1 is listed under the applicable models, the FYD1 is also applicable.)
✻ The control function does not affect the selection.
(Example: If the PW is listed under the applicable models, the PWM/PWT is also applicable.)

Hose 2-way joint

Use this accessory to connect hoses to each other.

Model code

4PVC – PVC
1 2

1 Series name
4PVC : Φ4 x Φ9PVC hose
6PVC : Φ6 x Φ11PVC hose
12PVC : Φ12 x Φ18PVC hose
19PVC : Φ19 x Φ26PVC hose
10PTFE : Φ10 x Φ12PTFE hose
12PTFE : Φ12 x Φ15PTFE hose

2 Body material
PVC : PVC
304 : SUS304
316 : US316

✻ Model code combinations are determined in advance. For details, contact TACMINA.

Product specifications

Model	Applicable hose	Body material	Model	Applicable hose	Body material
4PVC-PVC	Φ4 x Φ9 PVC hose	PVC	10PTFE-304	Φ10 x Φ12 PTFE hose	SUS304
6PVC-PVC	Φ6 x Φ11 PVC hose		10PTFE-316	Φ10 x Φ12 PTFE hose	SUS316
12PVC-PVC	Φ12 x Φ18 PVC hose		12PTFE-304	Φ12 x Φ15 PTFE hose	SUS304
19PVC-PVC	Φ19 x Φ26 PVC hose		12PTFE-316	Φ12 x Φ15 PTFE hose	SUS316

Hose 3-way joint

Use this accessory to diverge hose piping.

Model code

4PVC – PVC

1 2

1 Series name
4PVC : Φ4 x Φ9PVC hose
6PVC : Φ6 x Φ11PVC hose
12PVC : Φ12 x Φ18PVC hose
19PVC : Φ19 x Φ26PVC hose
10PTFE : Φ10 x Φ12PTFE hose
12PTFE : Φ12 x Φ15PTFE hose

2 Body material
PVC : PVC
304 : SUS304
316 : SUS316

✻ Model code combinations are determined in advance. For details, contact TACMINA.

Product specifications

Model	Applicable models	Body material	Model	Applicable models	Body material
4PVC-PVC	Φ4 x Φ9 PVC hose	PVC	10PTFE-304	Φ10 x Φ12 PTFE hose	SUS304
6PVC-PVC	Φ6 x Φ11 PVC hose		10PTFE-316	Φ10 x Φ12 PTFE hose	SUS316
12PVC-PVC	Φ12 x Φ18 PVC hose		12PTFE-304	Φ12 x Φ15 PTFE hose	SUS304
19PVC-PVC	Φ19 x Φ26 PVC hose		12PTFE-316	Φ12 x Φ15 PTFE hose	SUS316

Flexible joint

Use this accessory to prevent loads from being applied to the pump such as due to piping vibrations and piping loads.

Product specifications

Model	Connection diameter	Face-to-face dimension (mm)	Material		Maximum operating pressure (MPa)
			Liner	Flange	
B7760	25A	70	PTFE	SS400 + Unichrome plating	1.0
B7761	32A	74			
B7762	40A	74			
B7763	50A	104			
B7764	65A	106			

Hose flange

Use this accessory as the adapter between a hose and flange piping.

Product specifications

Part number	Applicable hose	Flange size	Body material	Part number	Applicable hose	Flange size	Body material
UN0821	Φ4 x Φ9 PVC hose	JIS 10K 15A	PVC	UN0701	Φ10 x Φ12 PTFE hose	JIS 10K 10A	SUS304
UN0822		JIS 10K 20A		UN0709			SUS316
UN0823		JIS 10K 25A		UN0702		JIS 10K 15A	SUS304
UN0837	Φ6 x Φ11 PVC hose	JIS 10K 15A		UN0710			SUS316
UN0838		JIS 10K 20A		UN0703		JIS 10K 20A	SUS304
UN0839		JIS 10K 25A		UN0711			SUS316
UN0694	Φ12 x Φ18 PVC hose	JIS 10K 15A		UN0704		JIS 10K 25A	SUS304
UN0695		JIS 10K 20A		UN0712			SUS316
UN0696		JIS 10K 25A		UN0705	Φ12 x Φ15 PTFE hose	JIS 10K 10A	SUS304
UN0698	Φ19 x Φ26 PVC hose	JIS 10K 15A		UN0713			SUS316
UN0699		JIS 10K 20A		UN0706		JIS 10K 15A	SUS304
UN0700		JIS 10K 25A		UN0714			SUS316
				UN0707		JIS 10K 20A	SUS304
				UN0715			SUS316
				UN0708		JIS 10K 25A	SUS304
				UN0716			SUS316

Screw-type hose joint

No hose band is required. Just tighten the hose nut to reliably connect hoses together.

Model code

6PVC – R1 – PVC

1 2 3

1 Applicable hose

4PVC : Φ4 x Φ9PVC hose
6PVC : Φ6 x Φ11PVC hose
12PVC : Φ12 x Φ18PVC hose
19PVC : Φ19 x Φ26PVC hose
10PTFE : Φ10 x Φ12PTFE hose
12PTFE : Φ12 x Φ15PTFE hose

2 Thread size

R 1
R 1 / 2
R 3 / 4
R 3 / 8

3 Body material

PVC : PVC
304 : SUS304
316 : SUS316

✻ Model code combinations are determined in advance. For details, contact TACMINA.

Product specifications

Model	Applicable hose	Thread size	Body material	Model	Applicable hose	Thread size	Body material
4PVC-R1/4-PVC	Φ4 x Φ9PVC hose	R1/4	PVC	10PTFE-R1/2-304	Φ10 x Φ12PTFE hose	R1/2	SUS304
4PVC-R3/8-PVC		R3/8		10PTFE-R1/2-316		R1/2	SUS316
4PVC-R1/2-PVC		R1/2		10PTFE-R3/4-304		R3/4	SUS304
4PVC-R3/4-PVC		R3/4		10PTFE-R3/4-316		R3/4	SUS316
4PVC-R1-PVC		R1		10PTFE-R1-304		R1	SUS304
6PVC-R1/2-PVC	Φ6 x Φ11PVC hose	R1/2		10PTFE-R1-316		R1	SUS316
6PVC-R3/4-PVC		R3/4		12PTFE-R1/2-304	Φ12 x Φ15PTFE hose	R1/2	SUS304
6PVC-R1-PVC		R1		12PTFE-R1/2-316		R1/2	SUS316
12PVC-R1/2-PVC	Φ12 x Φ18PVC hose	R1/2		12PTFE-R3/4-304		R3/4	SUS304
12PVC-R3/4-PVC		R3/4		12PTFE-R3/4-316		R3/4	SUS316
12PVC-R1-PVC		R1		12PTFE-R1-304		R1	SUS304
19PVC-R1/2-PVC	Φ19 x Φ26PVC hose	R1/2		12PTFE-R1-316		R1	SUS316
19PVC-R3/4-PVC		R3/4					
19PVC-R1-PVC		R1					

Socket hose joint

This joint is used to connect a hose to a TS socket. This accessory can be used to easily and reliably connect these parts together with no hose band required.

Product specifications

Part number	Applicable hose	TS socket size	Body material	Part number	Applicable hose	TS socket size	Body material
UN0932	Φ4 x Φ9 PVC hose	15A	PVC	UN0973	Φ12 x Φ18 PVC hose	15A	PVC
UN0933		20A		UN0974		20A	
UN0934		25A		UN0975		25A	
UN0961	Φ6 x Φ11 PVC hose	15A		UN0977	Φ19 x Φ26 PVC hose	15A	
UN0962		20A		UN0978		20A	
UN0963		25A		UN0979		25A	

Strainer

When the liquid is suctioned from the top of the tank, attach this accessory to the tip of the suction-side hose to prevent the intrusion of debris.

TST-P-12 x 18-V

Model code

TST – 6 – 10

1 2 3

1 Series name
TST : Strainer

2 Body connecting section material
V : PVC
P : PP, FRPP
S : SUS304
6 : SUS316
F : PVDF
T : PTFE
X : Special

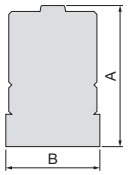
3 Hose size
10 : Φ10 x Φ12
12 : Φ12 x Φ15
12 : Φ12 x Φ18
12 x18 : Φ12 x Φ18

✻ Model code combinations are determined in advance. For details, contact TACMINA.

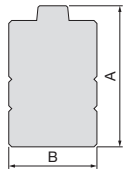
Product specifications

Model	Body liquid end part	Hose size
TST-V-12V	PVC	Φ12 x Φ18
TST-6-10T	SUS316	Φ10 x Φ12
TST-6-12T	SUS316	Φ12 x Φ15
TST-F-10T	PVDF	Φ10 x Φ12
TST-F-12T	PVDF	Φ12 x Φ15
TST-S-10T	SUS304	Φ10 x Φ12
TST-S-12T	SUS304	Φ12 x Φ15
TST-P-12 x 18-V	PP, FRPP	Φ12 x Φ18

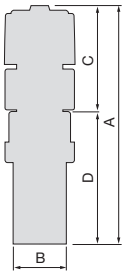
External dimensions



Model	A(mm)	B(mm)
TST-V-12V	48	32



Model	A(mm)	B(mm)
TST-6-10T	48	26
TST-6-12T	50	26
TST-F-10T	48	30
TST-F-12T	50	30
TST-S-10T	48	26
TST-S-12T	50	26



Model	A(mm)	B(mm)	C(mm)	D(mm)
TST-P-12 x 18-V	117	34	52	65

PVC Y-shaped strainer

Prevents entry of dirt and other foreign matter.

Product specifications

Part number	Nominal diameter	Face-to-face dimension(mm)	Body material	Packing material	Part number	Nominal diameter	Face-to-face dimension(mm)	Body material	Packing material
B6049	JIS 10K 15A	206	Transparent PVC	EPDM	B4979	JIS 10K 40A	336	Transparent PVC	EPDM
B5085				Fluoro rubber	B7569				Fluoro rubber
B8395	JIS 10K 20A	254		EPDM	B7568	JIS 10K 50A	361		EPDM
B8394				Fluoro rubber	B7570				Fluoro rubber
B4981	JIS 10K 25A	280		EPDM	B8397	JIS 10K 80A	477		EPDM
B5065				Fluoro rubber	B8396				Fluoro rubber

✻ Screen: PVC 40 mesh

Stainless steel Y-shaped strainer

Prevents entry of dirt and other foreign matter.

Product specifications

Part number	Nominal diameter(mm)	Face-to-face dimension(mm)	Body material	Cap	Gasket	Screen
B7676	10	110	SCS13A	SCS13A SUS304	Filler-containing PTFE	40 mesh stainless-steel wire screen reinforced with 304 stainless-steel plate
B7675	15	120				
B7674	20	130				
B7578	25	150				
B7579	32	170				
B7580	40	190				
B7581	50	220				

Foot valve (strainer-equipped foot valve)

This is the check valve-equipped strainer that is attached to the tip of the suction-side hose when the liquid is suctioned from the top of the tank.

✻ For sodium hypochlorite and other liquids that easily bubble, use a Y-shaped strainer.


TFT


TFT


FV


FV


FV

Model code

TFT — 6 6 C — 10

1 2 3 4 5

1 Series name
TFT : Foot valve

2 Body liquid end material
V : PVC
P : PP, FRPP
S : SUS304
6 : SUS316
F : PVDF
T : PTFE
X : Special

3 Main valve seat material
V : PVC
P : PP, FRPP
S : SUS304
6 : SUS316
F : Fluoro rubber
T : PTFE
E : EPDM
X : Special

4 Check ball material
E : EPDM
F : Fluoro rubber
S : SUS304
6 : SUS316
H : Hastelloy C
T : PTFE
C : Ceramic
X : Special

5 Hose size
05 : Φ5 x Φ9
06 : Φ6 x Φ11
10 : Φ10 x Φ12
12 : Φ12 x Φ18★1
6 x 8 : Φ6 x Φ8
★1 If the body liquid end material is PVDF, the hose size will be ⌀12 x ⌀15.

FV1 — 4 E — □

1 2 3

1 Connection diameter
4 : Φ4 x Φ9
6 : Φ6 x Φ11

2 O-ring material
E : EPDM
F : FPM

3 Main valve seat material
None : Same as O-ring material
T : PTFE

FV□ — F F C — 10

1 2 3 4

1 Body connecting section material
F : PVDF
X : Special

2 Main valve seat material
F : Fluoro rubber
T : PTFE
E : EPDM
X : Special

3 Check ball material
C : Ceramic
X : Special

4 Hose size
10 : Φ10 x Φ12
6 x 8 : Φ6 x Φ8

✻ Model code combinations are determined in advance. For details, contact TACMINA.

Product specifications

TFT Series

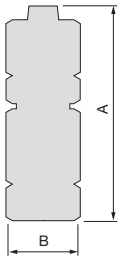
Model	Material			Hose size
	Body liquid end part	Main valve seat section	Check ball	
TFT-PEC-12	FRPP	EPDM	Ceramic	Φ12 x Φ18
TFT-PFC-12	FRPP	Special fluoro rubber		Φ12 x Φ18
TFT-STC-10	SUS304	PTFE		Φ10 x Φ12
TFT-STC-12	SUS304	PTFE		Φ12 x Φ15
TFT-66C-10	SUS316	SUS316		Φ10 x Φ12
TFT-FTC-10	PVDF	PTFE		Φ10 x Φ12
TFT-FTC-12	PVDF	PTFE		Φ12 x Φ15
TFT-TTC-10	PTFE	–		Φ10 x Φ12
TFT-FC-6 x 8	PVDF	–		Φ6 x Φ8
TFT-6C-6 x 8	SUS316	–		Φ6 x Φ8

FV Series

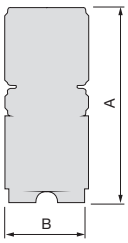
Model	Material			Hose size
	Body liquid end part	Main valve seat section	O-ring	
FV1-4E	PVC	EPDM	EPDM	Φ4 x Φ9
FV1-4ET		PTFE	EPDM	
FV1-4F		Fluoro rubber	Fluoro rubber	
FV1-6E		EPDM	EPDM	Φ6 x Φ11
FV1-6ET		PTFE	EPDM	
FV1-6F		Fluoro rubber	Fluoro rubber	

Model	Material			Hose size
	Body liquid end part	Main valve seat section	Check ball	
FV1-FFC-10	PVDF	–	Ceramic	Φ10 x Φ12
FV2-FEC-6 x 8		EPDM		Φ6 x Φ8
FV2-FFC-6 x 8		Fluoro rubber		
FV2-FTC-6 x 8		PTFE		

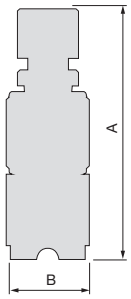
External dimensions



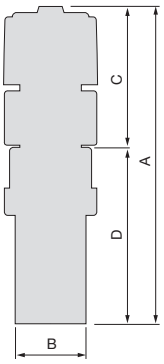
Model	A(mm)	B(mm)
TFT-FC-6 x 8	73	30
TFT-66C-10/TFT-6C-6 x 8 TFT-STC-10T/TFT-TTC-10	77	30
TFT-FTC-10/TFT-FTC-12 TFT-STC-12	80	30



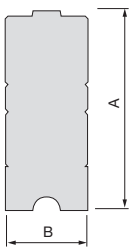
Model	A(mm)	B(mm)
FV1-4E/FV1-4F/FV1-6/FV1-6	70	30



Model	A(mm)	B(mm)
FV2-FEC-6 x 8/FV2-FFC-6 x 8 FV2-FTC-6 x 8	91	30



Model	A(mm)	B(mm)	C(mm)	D(mm)
TFT-PEC-12/TFT-PFC-12	117	34	52	65



Model	A(mm)	B(mm)
FV1-FFC-10	73	30

Float switch/level meter

This accessory can be used to stop the pump and generate an alarm to indicate that the liquid needs to be rrefilled when the amount of chemical liquid remaining in the tank is low. Two types are available: a float type with a selectable number of sensors (one or two), and an electrode type that has excellent chemical resistance.

・Float switch

For solution tanks, PE tanks, PVC (iron-frame) tanks, and PVC tanks (for GLX)

For chemical injection system PTS (with mounting cap)

・Electrode-type level meter ＊1

＊1 Contact TACMINA for details.

Float switches for solution tanks, PE tanks, PVC (iron-frame) tanks, and PVC tanks (for GLX)

Model code

FSW	1	–	G50	–	1L
1	2		3		4

1 Series name
FSW : Float switch

2 No. of contacts
1 : 1 contact
2 : 2 contacts
3 : 3 contacts＊2
＊2 Three-contact models are made-to-order.

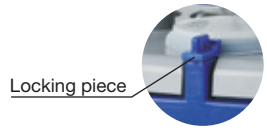
3 Tank type
See product specifications

4 Operation details
1L : ON at the lower limit
2L : ON at the lower limit, ON at the lowermost limit
HL : ON at the upper limit, ON at the lower limit

Product specifications

Model	Applicable tank	Tank capacity(L)	Output signal
FSW1-S50-1L	Solution tank (new model)＊3 / Solution tank (for GLX)	50	ON at the lower limit
FSW2-S50-2L			ON at the lower limit, ON at the lowermost limit
FSW2-S50-HL			ON at the upper limit, ON at the lower limit
FSW1-S100-1L		100	ON at the lower limit
FSW2-S100-2L			ON at the lower limit, ON at the lowermost limit
FSW2-S100-HL			ON at the upper limit, ON at the lower limit
FSW1-S200-1L		200	ON at the lower limit
FSW2-S200-2L			ON at the lower limit, ON at the lowermost limit
FSW2-S200-HL			ON at the upper limit, ON at the lower limit
FSW1-S300-1L		300	ON at the lower limit
FSW2-S300-2L			ON at the lower limit, ON at the lowermost limit
FSW2-S300-HL			ON at the upper limit, ON at the lower limit
FSW1-S500-1L		500	ON at the lower limit
FSW2-S500-2L			ON at the lower limit, ON at the lowermost limit
FSW2-S500-HL			ON at the upper limit, ON at the lower limit
FSW1-S1000-1L		1000	ON at the lower limit
FSW2-S1000-2L			ON at the lower limit, ON at the lowermost limit
FSW2-S1000-HL			ON at the upper limit, ON at the lower limit
FSW1-K50-1L	Solution tank (previous model)＊3	50	ON at the lower limit
FSW2-K50-2L			ON at the lower limit, ON at the lowermost limit
FSW2-K50-HL			ON at the upper limit, ON at the lower limit
FSW1-K100-1L		100	ON at the lower limit
FSW2-K100-2L			ON at the lower limit, ON at the lowermost limit
FSW2-K100-HL			ON at the upper limit, ON at the lower limit
FSW1-E50-1L	PE tank＊4	50	ON at the lower limit
FSW2-E50-2L			ON at the lower limit, ON at the lowermost limit
FSW2-E50-HL			ON at the upper limit, ON at the lower limit
FSW1-E100-1L		100	ON at the lower limit
FSW2-E100-2L			ON at the lower limit, ON at the lowermost limit
FSW2-E100-HL			ON at the upper limit, ON at the lower limit
FSW1-P50-1L	PVC tank	50	ON at the lower limit
FSW2-P50-2L			ON at the lower limit, ON at the lowermost limit
FSW2-P50-HL			ON at the upper limit, ON at the lower limit
FSW1-P100-1L		100	ON at the lower limit
FSW2-P100-2L			ON at the lower limit, ON at the lowermost limit
FSW2-P100-HL			ON at the upper limit, ON at the lower limit
FSW1-P200-1L	PVC tank	200, 300	ON at the lower limit
FSW2-P200-2L			ON at the lower limit, ON at the lowermost limit
FSW2-P200-HL			ON at the upper limit, ON at the lower limit
FSW1-P500-1L		500	ON at the lower limit
FSW2-P500-2L			ON at the lower limit, ON at the lowermost limit
FSW2-P500-HL			ON at the upper limit, ON at the lower limit
FSW1-P1000-1L		1000	ON at the lower limit
FSW2-P1000-2L			ON at the lower limit, ON at the lowermost limit
FSW2-P1000-HL			ON at the upper limit, ON at the lower limit
FSW1-T100-1L	Iron-frame PVC tank	100	ON at the lower limit
FSW2-T100-2L			ON at the lower limit, ON at the lowermost limit
FSW2-T100-HL			ON at the upper limit, ON at the lower limit
FSW1-T200-1L		200	ON at the lower limit
FSW2-T200-2L			ON at the lower limit, ON at the lowermost limit
FSW2-T200-HL			ON at the upper limit, ON at the lower limit
FSW1-T500-1L		500	ON at the lower limit
FSW2-T500-2L			ON at the lower limit, ON at the lowermost limit
FSW2-T500-HL			ON at the upper limit, ON at the lower limit
FSW1-T1000-1L		1000	ON at the lower limit
FSW2-T1000-2L			ON at the lower limit, ON at the lowermost limit
FSW2-T1000-HL			ON at the upper limit, ON at the lower limit
FSW1-G50-1L	PVC tank (for GLX)	50	ON at the lower limit
FSW2-G50-2L			ON at the lower limit, ON at the lowermost limit
FSW2-G50-HL			ON at the upper limit, ON at the lower limit
FSW1-G100-1L		100	ON at the lower limit
FSW2-G100-2L			ON at the lower limit, ON at the lowermost limit
FSW2-G100-HL			ON at the upper limit, ON at the lower limit
FSW1-G200-1L		200	ON at the lower limit
FSW2-G200-2L			ON at the lower limit, ON at the lowermost limit
FSW2-G200-HL			ON at the upper limit, ON at the lower limit
FSW1-P200-1L	PVC tank	500, 1000	ON at the lower limit
FSW2-P200-2L			ON at the lower limit, ON at the lowermost limit
FSW2-P200-HL			ON at the upper limit, ON at the lower limit

＊3 Both new and old solution tank (50 L, 100 L) models are available. Corresponding models differ. The new model has a locking piece at the injection port.
＊4 The FSW float switch cannot be installed on a PE tank (25 L).



Float switch for chemical injection system PTS

Product specifications

Part number	Tank capacity(L)	Output signal
STPTS0010	30	ON at the lower limit
STPTS0013		ON at the upper limit, ON at the lower limit
STPTS0016		ON at the lower limit, ON at the lowermost limit
STPTS0011	50	ON at the lower limit
STPTS0014		ON at the upper limit, ON at the lower limit
STPTS0017		ON at the lower limit, ON at the lowermost limit
STPTS0012	120	ON at the lower limit
STPTS0015		ON at the upper limit, ON at the lower limit
STPTS0018		ON at the lower limit, ON at the lowermost limit

Suction valve

Attach this accessory to the chemical tank outlet to easily and reliably connect the tank and the piping.
The built-in strainer also prevents the entry of debris.

For chemical tanks

Model code

4 x 9	–		–	V	–	E
1		2		3		4

1 Applicable hose
4 x 9 : Φ4 x Φ9
6 x 11 : Φ6 x Φ11
9 x 15 : Φ9 x Φ15
12 x 18 : Φ12 x Φ18

2 Applicable tank
PTS : Chemical injection system PTS Series
PTU : Chemical injection unit PTU Series
PES : Solution tank
None : Chemical tank

3 Body material
V : PVC

4 Packing material
E : EPDM
F : Fluoro rubber
(Special fluoro rubber)

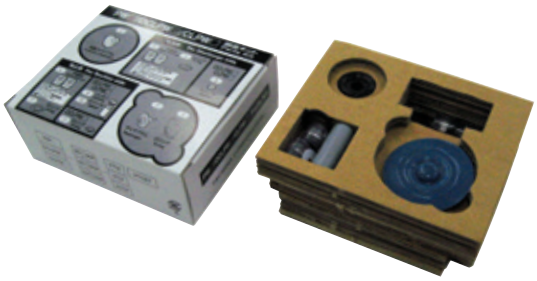
✻ Model code combinations are determined in advance. For details, contact TACMINA.

Product specifications

Model	Applicable tank	Applicable hose	Body material	Packing material
4×9-PTS-VE	Chemical injection system PTS	ϕ4 x ϕ9	PVC	EPDM
4×9-PTS-VF				Fluoro rubber
6×11-PTS-VE		ϕ6 x ϕ11		EPDM
6×11-PTS-VF				Fluoro rubber
12×18-PTS-VE		ϕ12 x ϕ18		EPDM
12×18-PTS-VF				Fluoro rubber
4 x 9-PTU-VE	Chemical injection unit PTU	Φ4 x Φ9		EPDM
4 x 9-PTU-VF				Fluoro rubber
6 x 11-PTU-VE		Φ6 x Φ11		EPDM
6 x 11-PTU-VF				Fluoro rubber
4 x 9-PES-VE	Solution tank	Φ4 x Φ9		EPDM
4 x 9-PES-VF				Special fluoro rubber
6 x 11-PES-VE		Φ6 x Φ11		EPDM
6 x 11-PES-VF				Special fluoro rubber
9 x 15-PES-VE		Φ9 x Φ15		EPDM
9 x 15-PES-VF				Special fluoro rubber
12 x 18-PES-VE		Φ12 x Φ18		EPDM
12 x 18-PES-VF				Special fluoro rubber
4 x 9-VE	Chemical tank	Φ4 x Φ9		EPDM
4 x 9-VF				Special fluoro rubber
6 x 11-VE		Φ6 x Φ11		EPDM
6 x 11-VF				Special fluoro rubber
9 x 15-VE		Φ9 x Φ15		EPDM
9 x 15-VF				Special fluoro rubber
12 x 18-VE		Φ12 x Φ18		EPDM
12 x 18-VF				Special fluoro rubber

Parts kit (for metering pumps)

Regular replacement of consumables keeps the metering pump in optimal condition, allowing for a sufficient demonstration of performance.
Having all necessary regular replacement parts available in a set is more economical than purchasing individual parts separately. Components are less likely to be lost when part of a package, and inventory management is easy.



Product specifications

For PW/PZ Series models

Model	Applicable models	Kit details
BK0053	PW-30-VTCE	Diaphragm x1,
BK0054	PW-30-VTCF	Protective diaphragm x1,
BK0056	PW-30-VTCET	O-ring x2,
BK0057	PW-60-VTCE	Ball stopper x4,
BK0058	PW-60-VTCF	Check ball x4,
BK0060	PW-100-VTCE	Valve seat x4,
BK0061	PW-100-VTCF	O-ring for outer circumference of pump head x1
BK0055	CLPW-30-ATCF	Diaphragm x1,
BK0059	CLPW-60-ATCF	Protective diaphragm x1, O-ring x2, Ball stopper x4, Check ball x4, Valve seat x4,
BK0062	CLPW-100-ATCF	Packing x1, Spacer x2, O-ring for outer circumference of pump head x1
BK0063	DCLPW-30-ATCF	Diaphragm x1,
BK0064	DCLPW-60-ATCF	Protective diaphragm x1, O-ring x2, Ball stopper x4, Check ball x4, Valve seat x4, Packing x1, Spacer x2,
BK0065	DCLPW-100-ATCF	O-ring for outer circumference of pump head x1, Degassing joint connection O-ring x1
BK0001	PZ□-30-VTCE	Diaphragm x1, Protective diaphragm (with spacer) x1, O-ring x2, Ball stopper x4, Check ball x4, Valve seat x4
BK0040	PZ□-30-VTCET	
BK0002	PZ□-30-VTCF	
BK0003	PZ□-60-VTCE	
BK0004	PZ□-60-VTCF	
BK0005	PZ□-100-VTCE	
BK0006	PZ□-100-VTCF	
BK0014	CLPZ□-30	Diaphragm x1, Protective diaphragm (with spacer) x1, O-ring x2, Ball stopper x4, Check ball x4, Valve seat x4, Packing x1, Spacer x2
BK0015	CLPZ□-60	
BK0016	CLPZ□-100	
BK0017	ARPZ□-31	Diaphragm set x1,
BK0018	ARPZ□-61	Discharge-side joint / Suction-side joint /
BK0019	ARPZ□-12	Air-release joint valve seat assembly x1

✻ The presence/absence of a relief mechanism does not affect the selection. (Example: If the PW-30 is listed under the applicable models, the PW-30R is also applicable.)
✻ The control function does not affect the selection. (Example: If the PW is listed under the applicable models, the PWM/PWT is also applicable.)

For CS2 Series models

Model	Applicable models	Kit details
BKCS2-10E	CS2-10N-VTCE	Diaphragm x1, O-ring x2, Ball stopper x4, Check ball x4, Valve seat x4
BKCS2-10ET-BW	CS2-10N-VTCET	
BKCS2-10F	CS2-10N-VTCF	
BKCS2-30E	CS2-30N-VTCE	
BKCS2-30ET-BW	CS2-30N-VTCET	
BKCS2-30F	CS2-30N-VTCF	
BKCS2-60E	CS2-60N/100N-VTCE	
BKCS2-60ET-BW	CS2-60N/100N-VTCET	
BKCS2-60F	CS2-60N/100N-VTCF	
BKCS2-300E	CS2-300N-VTCE	
BKCS2-300F	CS2-300N-VTCF	
BKCS2-10CL	CLCS2-10N	Diaphragm x1, O-ring x2, Ball stopper x4, Check ball x4, Valve seat x4, Packing x1, Spacer x2
BKCS2-30CL	CLCS2-30N	
BKCS2-60CL	CLCS2-60N/100N	Diaphragm x1, O-ring x2, Ball stopper x4, Check ball x4, Valve seat x4, Packing x1, Spacer x1

✻ The presence/absence of a relief mechanism does not affect the selection. If the CS2-10N is listed under the applicable models, the CS2-10R is also applicable.

For GLV/GLX Series models

Model	Applicable models	Kit details
BKGL0001	GLV-05 GLX-06	Suction joint set x1, Valve seat assembly x2, Slide ring x2, O-ring x9, Packing x2, Check ball x1
BKGL0002	GLV-10/20/30 GLX-12/25/40	
BKGL0003	GLV-150/300	
BKGL0004	GLX-200	
BKGL0005	GLX-400	
BKGL0006	GLX-90	

For V Series models

Model	Applicable models	Kit details
BKV-10E	V-10-VTCE	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-10B	V-10-VTCET-BW	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-10F	V-10-VTCF	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-10C	CLV-10	Diaphragm×1, O-ring×2, O-ring(for valve seat on discharge side)×1, Ball stopper(discharge side)×2, Check Ball(discharge side)×2, Valve seat(discharge side)×2, Spacer(discharge side)×1, O-ring(for valve seat on suction side)×1, Ball stopper(suction side)×2, Check Ball(suction side)×2, Valve seat(suction side)×2, Spacer(suction side)×1, Seat packing(suction side)×1, Protective diaphgram×1
BKV-10D	DCLV-10	Diaphragm×1, O-ring×2, O-ring(for valve seat on discharge side)×1, O-ring(for degassing joint)×1, Ball stopper(discharge side)×2, Check Ball(discharge side)×2, Valve seat(discharge side)×2, Spacer(discharge side)×1, O-ring(for valve seat on suction side)×1, Ball stopper(suction side)×2, Check Ball(suction side)×2, Valve seat(suction side)×2, Spacer(suction side)×1, Seat packing(suction side)×1, Protective diaphgram×1
BKV-40E	V-40-VTCE	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-40B	V-40-VTCET-BW	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-40F	V-40-VTCF	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-40C	CLV-40	Diaphragm×1, O-ring×2, O-ring(for valve seat on discharge side)×1, Ball stopper(discharge side)×2, Check Ball(discharge side)×2, Valve seat(discharge side)×2, Spacer(discharge side)×1, O-ring(for valve seat on suction side)×1, Ball stopper(suction side)×2, Check Ball(suction side)×2, Valve seat(suction side)×2, Spacer(suction side)×1, Seat packing(suction side)×1, Protective diaphgram×1

✻ The Connection method is for Hosejoint models. For details on Flangejoint models, contact your dealer or TACMINA.
✻ The presence/absence of a relief mechanism does not affect the selection. If the V-10 is listed under the applicable models, the V-10R is also applicable.

For V Series models

Model	Applicable models	Kit details
BKV-40D	DCLV-40	Diaphragm×1, O-ring×2, O-ring(for valve seat on discharge side)×1, O-ring(for degassing joint)×1, Ball stopper(discharge side)×2, Check Ball(discharge side)×2, Valve seat(discharge side)×2, Spacer(discharge side)×1, O-ring(for valve seat on suction side)×1, Ball stopper(suction side)×2, Check Ball(suction side)×2, Valve seat(suction side)×2, Spacer(suction side)×1, Seat packing(suction side)×1, Protective diaphgram×1
BKV-70E	V-70/100-VTCE	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-70B	V-70/100-VTCET-BW	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-70F	V-70/100-VTCF	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-70C	CLV-70/100	Diaphragm×1, O-ring×2, O-ring(for valve seat on discharge side)×1, Ball stopper(discharge side)×2, Check Ball(discharge side)×2, Valve seat(discharge side)×2, Spacer(discharge side)×1, O-ring(for valve seat on suction side)×1, Ball stopper(suction side)×2, Check Ball(suction side)×2, Valve seat(suction side)×2, Spacer(suction side)×1, Seat packing(suction side)×1, Protective diaphgram×1
BKV-70D	DCLV-70/100	Diaphragm×1, O-ring×2, O-ring(for valve seat on discharge side)×1, O-ring(for degassing joint)×1, Ball stopper(discharge side)×2, Check Ball(discharge side)×2, Valve seat(discharge side)×2, Spacer(discharge side)×1, O-ring(for valve seat on suction side)×1, Ball stopper(suction side)×2, Check Ball(suction side)×2, Valve seat(suction side)×2, Spacer(suction side)×1, Seat packing(suction side)×1, Protective diaphgram×1
BKV-300E	V-300-VTCE	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1
BKV-300F	V-300-VTCF	Diaphragm×1, O-ring×2, O-ring(for valve seat)×2, Ball stopper×4, Check Ball×4, Valve seat×4, Protective diaphragm×1

✻ The Connection method is for Hosejoint models. For details on Flangejoint models, contact your dealer or TACMINA.
✻ The presence/absence of a relief mechanism does not affect the selection. If the V-10 is listed under the applicable models, the V-10R is also applicable.

For S Series models

Model	Applicable models	Kit details
BKSA31-VEC	SXDA1-31-VEC	Drive diaphragm x1, Oil seal retaining ring set x1, Valve seat assembly x2, O-ring x2
BKSA61-VEC	SXDA1-61/12-VEC SYDA1-31/61/12-VEC	
BKSA22-VEC	SXDA1/SYDA1-22/32-VEC	
BKSA62-VEC	SXDA1/SYDA1-62/82-VEC	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2
BKSA13-VEC	SXDA1/SYDA1-13/23-VEC	
BKSA33-VEC	SXDA1/SYDA1-33/43-VEC	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2
BKSA31-VES	SXDA1-31-VES	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2, High-viscosity spring x2
BKSA61-VES	SXDA1-61/12-VES SYDA1-31/61/12-VES	
BKSA22-VES	SXDA1/SYDA1-22/32-VES	
BKSA62-VES	SXDA1/SYDA1-62/82-VES	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2, High-viscosity spring x2
BKSA13-VES	SXDA1/SYDA1-13/23-VES	
BKSA33-VES	SXDA1/SYDA1-33/43-VES	
BKSA31-VTC	SXDA1-31-VTC	Drive diaphragm x1, Oil seal retaining ring set x1, Valve seat assembly x2, O-ring x2
BKSA61-VTC	SXDA1-61/12-VTC SYDA1-31/61/12-VTC	
BKSA22-VTC	SXDA1/SYDA1-22/32-VTC	
BKSA62-VTC	SXDA1/SYDA1-62-VTC	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2
BKSA13-VTC	SXDA1/SYDA1-13/23-VTC	
BKSA33-VTC	SXDA1/SYDA1-33/43-VTC	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2
BKSA31-VTS	SXDA1-31-VTS	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2, High-viscosity spring x2
BKSA61-VTS	SXDA1-61/12-VTS SYDA1-31/61/12-VTS	
BKSA22-VTS	SXDA1/SYDA1-22/32-VTS	
BKSA62-VTS	SXDA1/SYDA1-62-VTS	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2, High-viscosity spring x2
BKSA13-VTS	SXDA1/SYDA1-13/23-VTS	
BKSA33-VTS	SXDA1/SYDA1-33/43-VTS	
BKSA31-STS	SXDA1-31-STS	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2
BKSA61-STS	SXDA1-61/12-STS SYDA1-31/61/12-STS	
BKSA22-STS	SXDA1/SYDA1-22/32-STS	
BKSA62-STS	SXDA1/SYDA1-62-STS	
BKSA13-STS	SXDA1/SYDA1-13/23-STS	
BKSA33-STS	SXDA1/SYDA1-33/43-STS	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2
BKSA31-FTC	SXDA1-31-FTC	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2
BKSA61-FTC	SXDA1-61/12-FTC SYDA1-31/61/12-FTC	
BKSA22-FTC	SXDA1/SYDA1-22/32-FTC	
BKSA62-FTC	SXDA1/SYDA1-62-FTC	
BKSA13-FTC	SXDA1/SYDA1-13/23-FTC	
BKSA33-FTC	SXDA1/SYDA1-33/43-FTC	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2
BKSA31-CL	SXDA1-31-CL	Drive diaphragm x1, Oil seal retaining ring set x1, Valve seat assembly x2
BKSA61-CL	SXDA1-61/12-CL SYDA1-31/61/12-CL	

✻ The presence/absence of a relief mechanism does not affect the selection.
(Example: If the SXDA1-31 is listed under the applicable models, the SXDA1-31R is also applicable.)

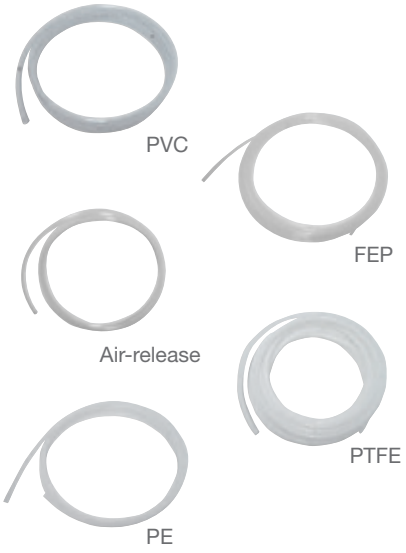
For F Series models

Model	Applicable models	Kit details
BK0069	FXD1-003-VECE	Drive diaphragm x1, Oil seal retaining ring set x1, Valve seat assembly x2, O-ring x2
BK0070	FXD1-003-VTCF	
BK0071	FXD1-006/01-VECE FYD1-003/006/01-VECE	
BK0072	FXD1-006/01-VTCF FYD1-003/006/01-VTCF	
BK0073	FXD1-02/03-VECE FYD1-03-VECE	
BK0074	FXD1-02/03-VTCF FYD1-03-VTCF	
BK0075	FXD1-003-VESE	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2, High-viscosity spring x2
BK0076	FXD1-003-VTSF	
BK0077	FXD1-006/01-VESE FYD1-003/006/01-VESE	
BK0078	FXD1-006/01-VTSF FYD1-003/006/01-VTSF	
BK0079	FXD1-02/03-VESE FYD1-03-VESE	
BK0080	FXD1-02/03-VTCF FYD1-03-VTSF	
BK0081	FXD1-003-STST	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2
BK0082	FXD1-006/01-STST FYD1-003/006/01-STST	
BK0083	FXD1-02/03-STST FYD1-03-STST	
BK0084	FXD1-003-FTCE	Drive diaphragm x1, Oil seal retaining ring set x1, Valve seat assembly x2, O-ring x2
BK0085	FXD1-003-FTCF	
BK0086	FXD1-003-FTCT	
BK0087	FXD1-006/01-FTCE FYD1-003/006/01-FTCE	
BK0088	FXD1-006/01-FTCF FYD1-003/006/01-FTCF	
BK0089	FXD1-006/01-FTCT FYD1-003/006/01-FTCT	
BK0090	FXD1-02/03-FTCE FYD1-03-FTCE	
BK0091	FXD1-02/03-FTCF FYD1-03-FTCF	
BK0092	FXD1-02/03-FTCT FYD1-03-FTCT	
BK0093	FXD1/FYD1-06/08-VECE	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2
BK0094	FXD1/FYD1-06-VTCF	
BK0095	FXD1/FYD1-1/2-VECE	
BK0096	FXD1/FYD1-1/2-VTCF	
BK0097	FXD1/FYD1-06/08-VESE	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2, High-viscosity spring x2
BK0098	FXD1/FYD1-06-VTSF	
BK0099	FXD1/FYD1-1/2-VESE	
BK0100	FXD1/FYD1-1/2-VTSF	
BK0101	FXD1/FYD1-06-STST	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x5, Valve stopper x2
BK0102	FXD1/FYD1-1/2-STST	
BK0103	FXD1/FYD1-06-FTCT	
BK0104	FXD1/FYD1-1/2-FTCT	
BK0105	FXD1-3/4-VECE FYD1-4-VECE	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2
BK0106	FXD1-3/4-VTCF FYD1-4-VTCF	
BK0107	FXD1-3/4-VESE FYD1-4-VESE	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2, High-viscosity spring x2
BK0108	FXD1-3/4-VTSF FYD1-4-VTSF	
BK0109	FXD1-3/4-STST FYD1-4-STST	Drive diaphragm x1, Oil seal retaining ring set x1, Check ball x2, O-ring x6, Ball guard x2
BK0110	FXD1-3/4-FTCT FYD1-4-FTCT	

✻ The presence/absence of a relief mechanism does not affect the selection.
(Example: If the FXD1-003 is listed under the applicable models, the FXD1-003R is also applicable.)

Hose

Hoses made from a wide range of materials (such as PVC, PE, FEP, and PTFE) and in a wide range of sizes are available.



Product specifications

Part number	Name	Size	Material
B2726	PVC braided hose	Φ4 x Φ9	PVC
B0600		Φ5 x Φ9	
B0601		Φ6 x Φ11	
B0603		Φ9 x Φ15	
B0604		Φ12 x Φ18	
B0605		Φ19 x Φ26	
B0606	Air-release hose	Φ4 x Φ6	
B2152		Φ4 x Φ8	
B4070	PE hose	Φ6 x Φ8	PE
B0612		Φ6 x Φ9	
B4117	FEP tube	Φ6 x Φ8	FEP
B4071	PTFE hose	Φ6 x Φ8	PTFE
B0607		Φ10 x Φ12	
B0608		Φ12 x Φ15	
B2739	Nylon tube	Φ4 x Φ6	PA
B4170		Φ6 x Φ8	

Pump cover

This is a pump cover made from transparent PVC. It protects the pump from rain and wind.


TA0616


TA0617

Product specifications

Part number	Material	Dimension(mm)	Applicable models	Specifications
TA0616	Transparent PVC	250 x 200 x 300	PW-30/60/100/200	Sealed type
TA0617		155 x 200 x 220		Open type
X9272		270 x 200 x 350	PZ□-300/500	Sealed type
X8296		160 x 200 x 255		Open type

Pump base

These bases are dedicated for use with pumps and reliably fix pumps in place. ✻ Contact TACMINA separately for pump cover installations.

Product specifications

Part number	Material	Applicable models	Dimension(mm)	NOTE
TA0200	SS400	F	150 x 150 x 115	For 1 pump
TA0236	PVC		250 x 136 x 150	For 1 box, 2 heads
BPL0002		F, BPL	177.5 x 177.5 x 159	For 1 pump
TA0982		V	170 x 130 x 100	For 1 pump
TA0983			170 x 340 x 100	For 2 pumps
TA0984			170 x 540 x 100	For 3 pumps
TA0985			170 x 740 x 100	For 4 pumps
TA0986			170 x 940 x 100	For 5 pumps
TA0632		CS2	120 x 130 x 100	For 1 pump
TA0674			125 x 340 x 100	For 2 pumps
TA0675			125 x 540 x 100	For 3 pumps
TA0676			125 x 740 x 100	For 4 pumps
TA0677			125 x 940 x 100	For 5 pumps
TA0526		□PW□-30□/60□/100□	130 x 120 x 100	For 1 pump
TA0668			120 x 360 x 100	For 2 pumps
TA0669			120 x 590 x 100	For 3 pumps
TA0670			120 x 820 x 100	For 4 pumps
TA0671			120 x 1050 x 100	For 5 pumps
TA0526		PW□-200 PZ□-300/500	130 x 120 x 100	For 1 pump
TA0679			120 x 360 x 100	For 2 pumps
TA0680			120 x 590 x 100	For 3 pumps
TA0681			120 x 820 x 100	For 4 pumps
TA0682			120 x 1050 x 100	For 5 pumps

Product designs and specifications are subject to change without notice for product improvement.

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