

Swing Check Valve

User's Manual

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(1) General operating instruction

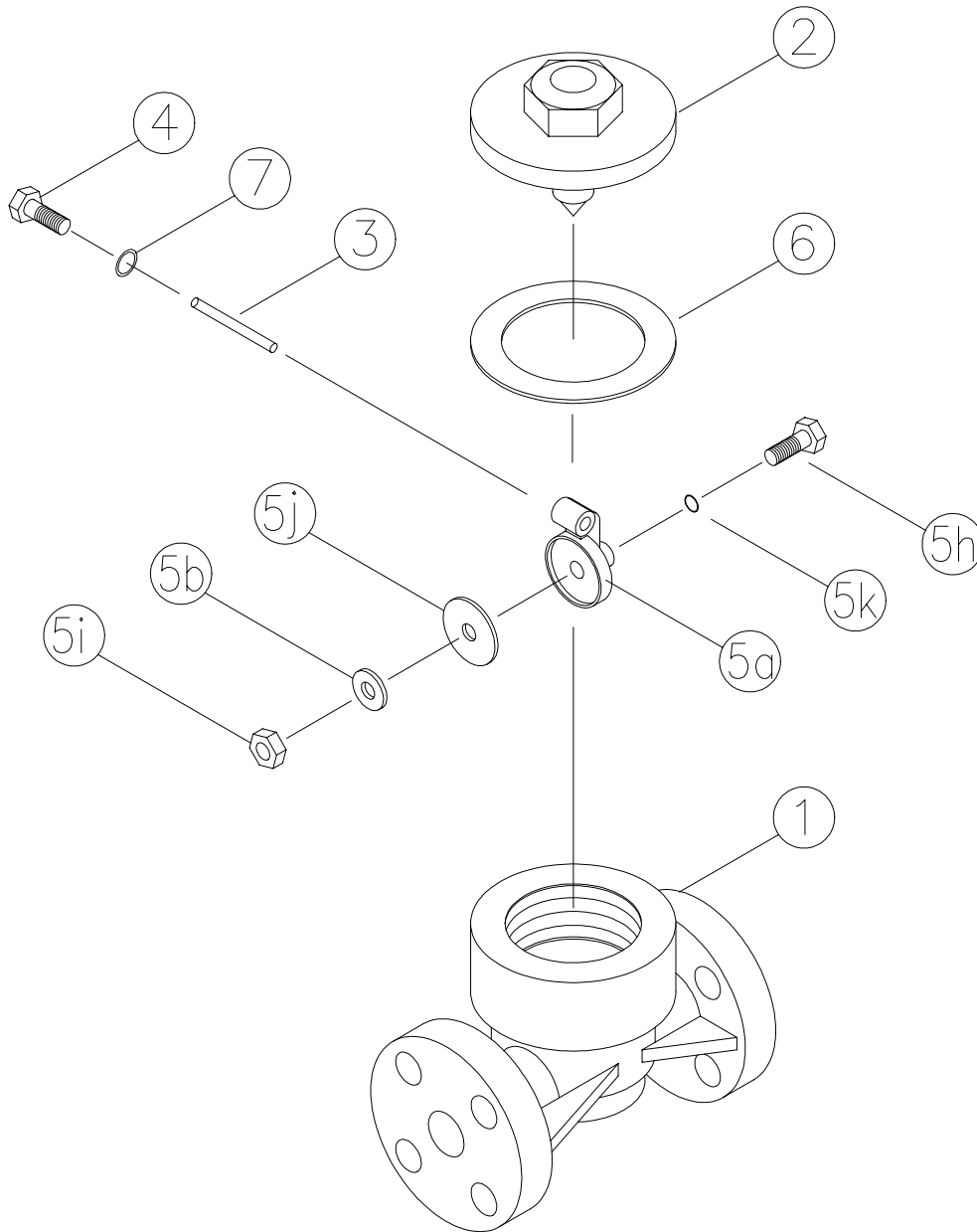
- Operate the valve within the range of the published working temperature and pressure.
(The valve can be damaged by operation beyond the maximum allowable range of temperature vs pressure.)
- To select a valve in appropriate materials, refer to “CHEMICAL RESISTANCE ON ASAHI AV VALVE”.
(Some chemicals give heavy damage to valve materials.)
- The valve is not designed to carry any external load of any kind. Never stand on or place anything heavy on the valve at anytime.
- The valve should be installed such that there is sufficient space for periodic inspection & maintenance.
- Do not store or install the valve near any heat source or hot surface.
- The valve should be operated by hand.

(2) General instructions for transportation, unpacking and storage

- Leave the valve in its original packaging until needed for installation.
- Avoid contact with any coal tar creosote, insecticides, vermicides or paint.
(The force of swelling may damage the valve.)
- The valve is not designed to handle any kind of impact. Avoid throwing or dropping the valve.
- Avoid scratching the valve with any sharp object.

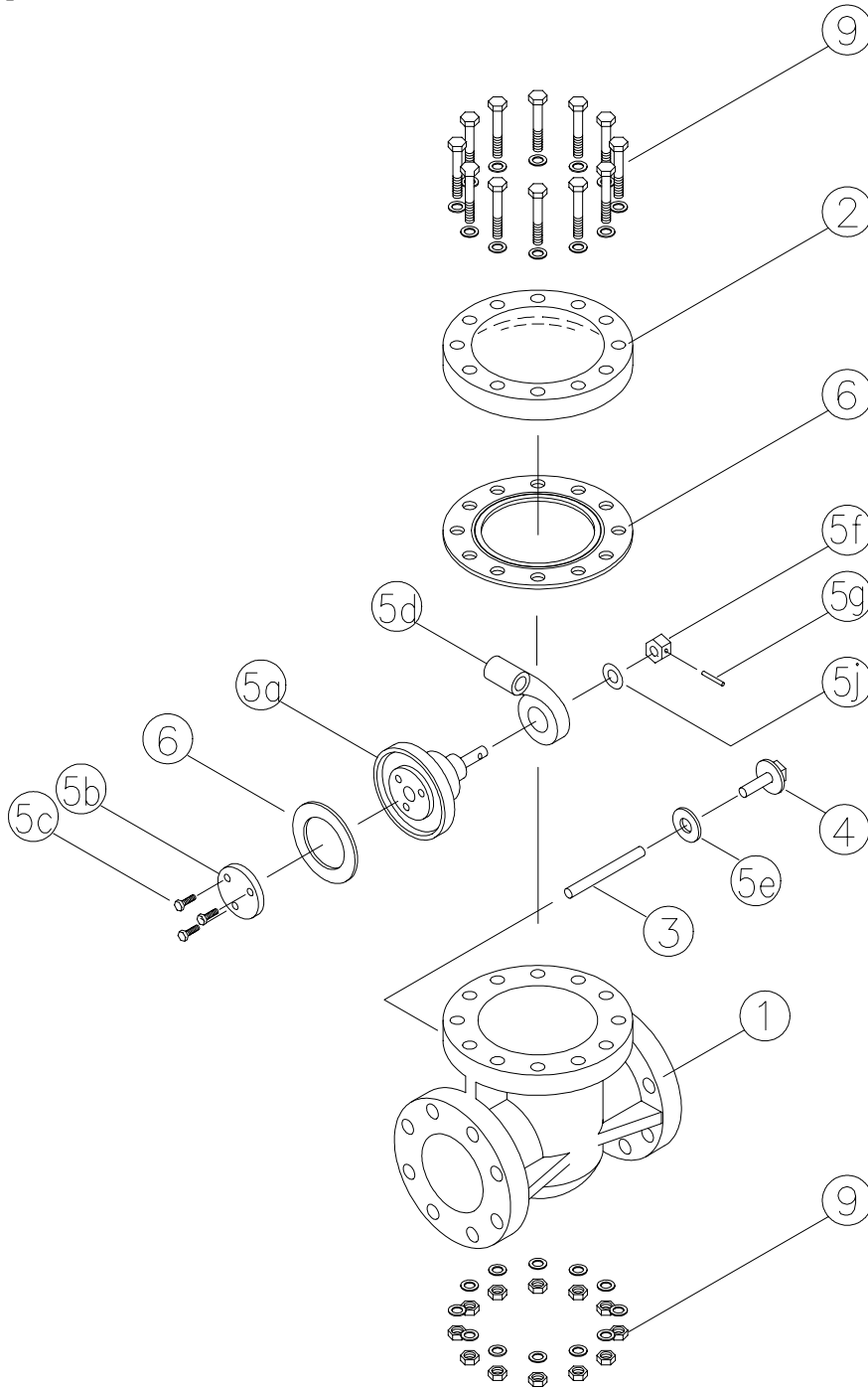
(3) Name of parts

Gasket type 15, 20mm(1/2", 3/4")



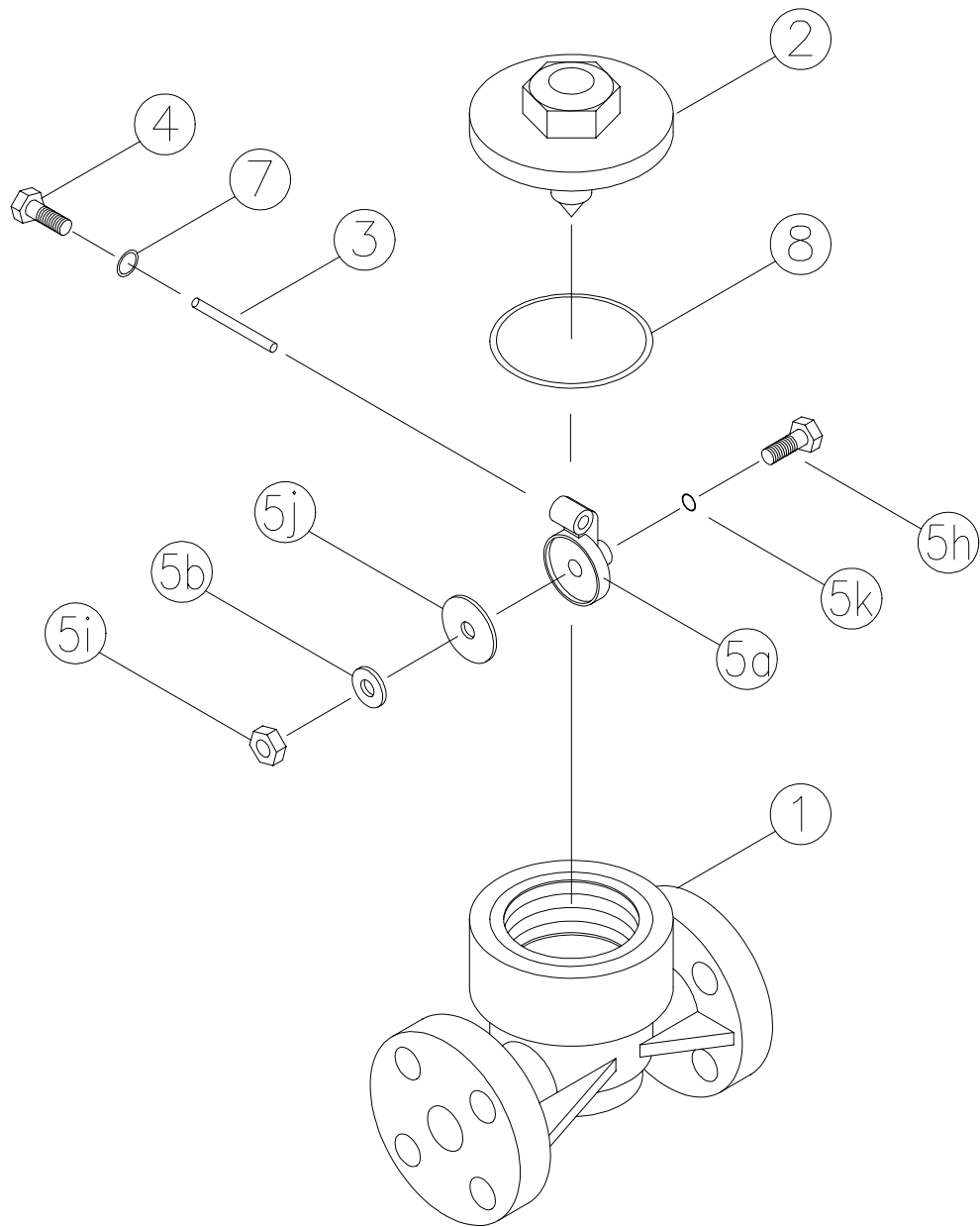
No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION		
①	Body	⑤	⑤a	Disc	⑤	⑤j	Seat
②	Bonnet		⑤b	Seat holder	⑤	⑤k	O-ring (A)
③	Shaft		⑤c	Bolt (B)	⑥		Gasket (A)
④	Plug		⑤d	Nut (B)	⑦		Gasket (B)
			⑤e				

Gasket type 25-200mm(1"-8")



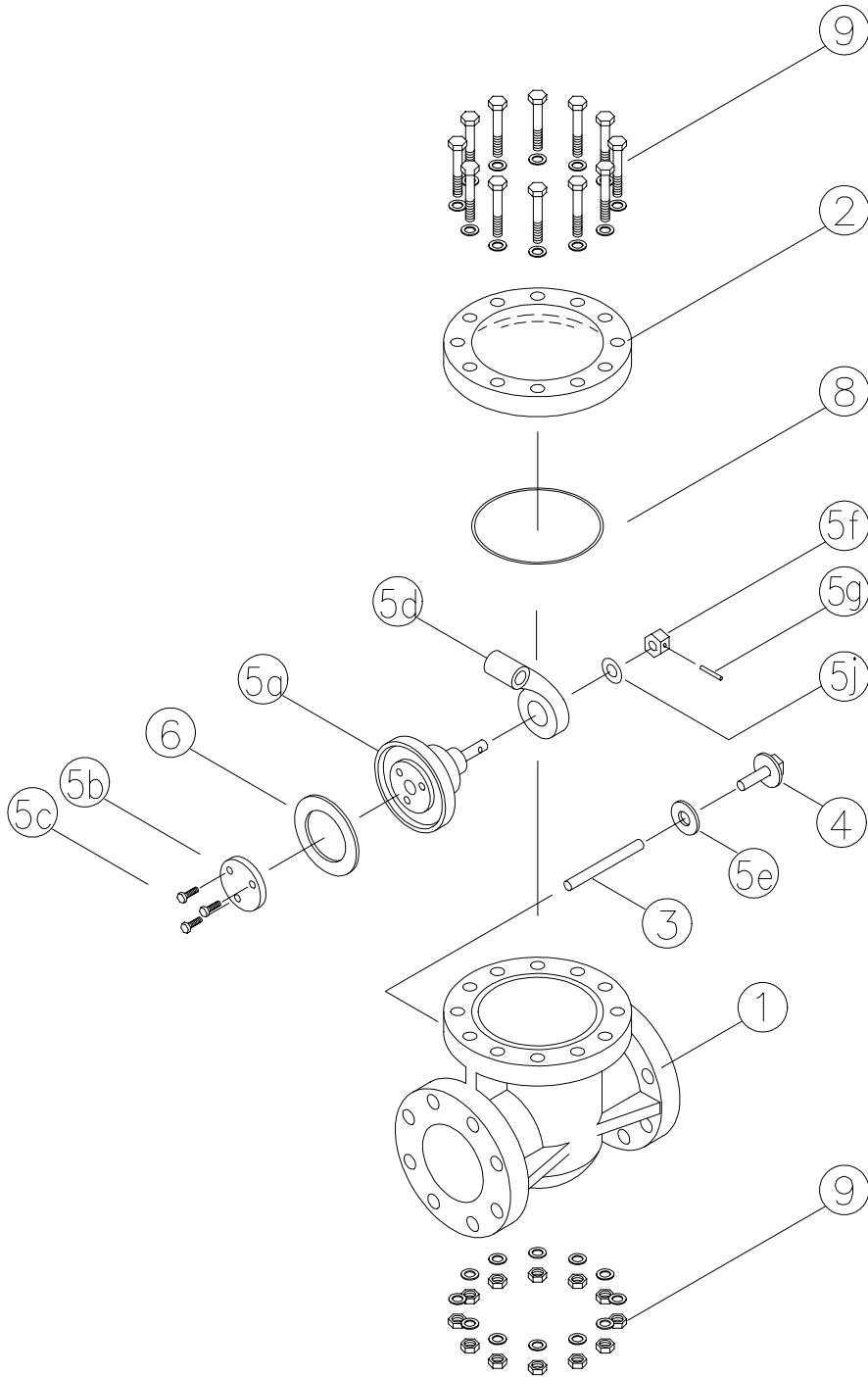
No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION		
①	Body	⑤	⑤b	Seat holder	⑤	⑤j	Seat
②	Bonnet		⑤c	Bolt (A)	⑤	⑤k	O-ring (A)
③	Shaft		⑤d	Arm	⑥		Gasket (A)
④	Plug		⑤e	Washer	⑦		Gasket (B)
⑤	Disc		⑤f	Nut (A)	⑨		Bolt · Nut

O-ring type 15, 20mm(1/2", 3/4")



No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION		
①	Body	⑤	⑤a	Disc	⑤	⑤j	Seat
②	Bonnet		⑤b	Seat holder	⑤	⑤k	O-ring (A)
③	Shaft		⑤h	Bolt (B)	⑦		Gasket (B)
④	Plug		⑤i	Nut (B)	⑧		O-ring (B)

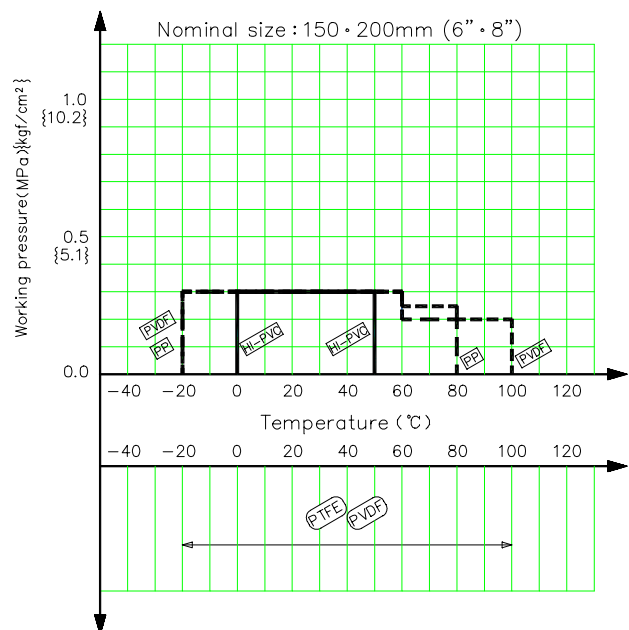
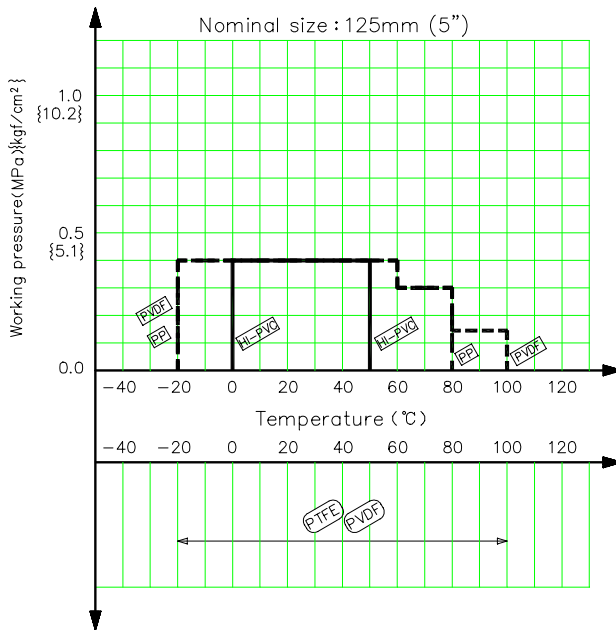
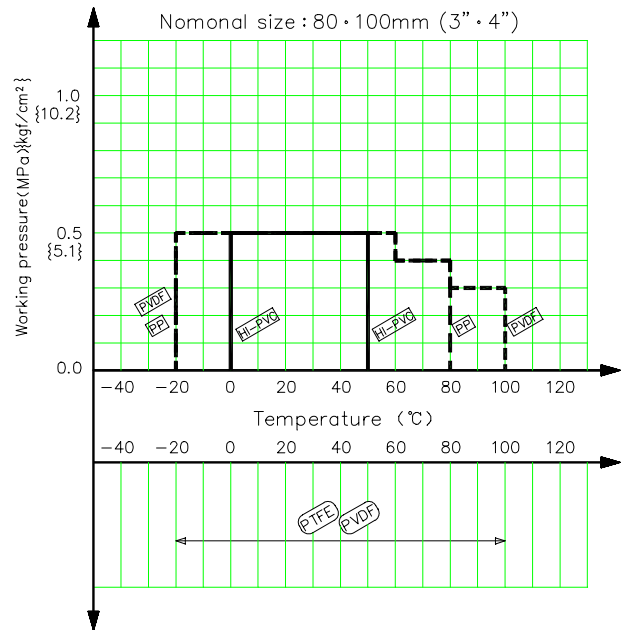
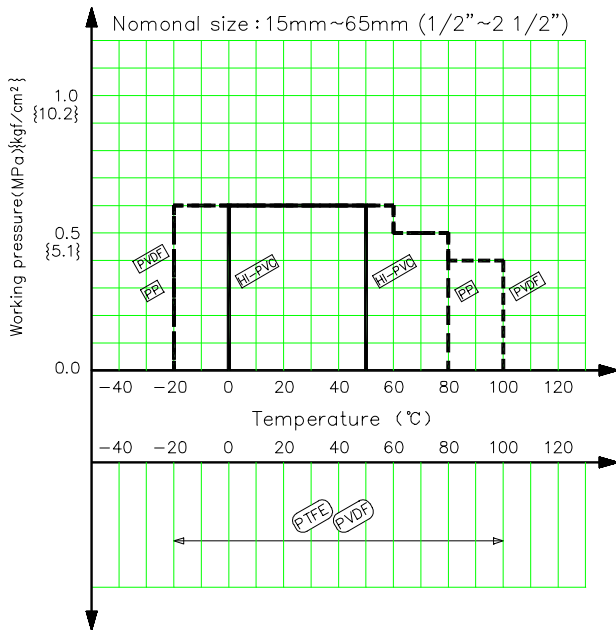
Gasket type 25-200mm(1"-8")



No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION		
①	Body	⑤	⑤b	Seat holder	⑤	⑤g	Pin
②	Bonnet		⑤c	Bolt (A)	⑤	⑤h	Seat
③	Shaft		⑤d	Arm	⑦	⑦	Gasket (B)
④	Plug		⑤e	Washer	⑧	⑧	O-ring (B)
⑤	⑤a		⑤f	Nut (A)	⑨	⑨	Bolt · Nut

(4) Comparison between operating temperature and pressure

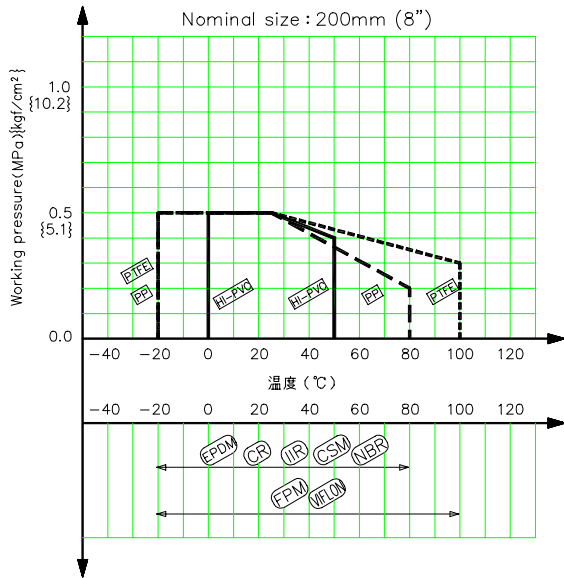
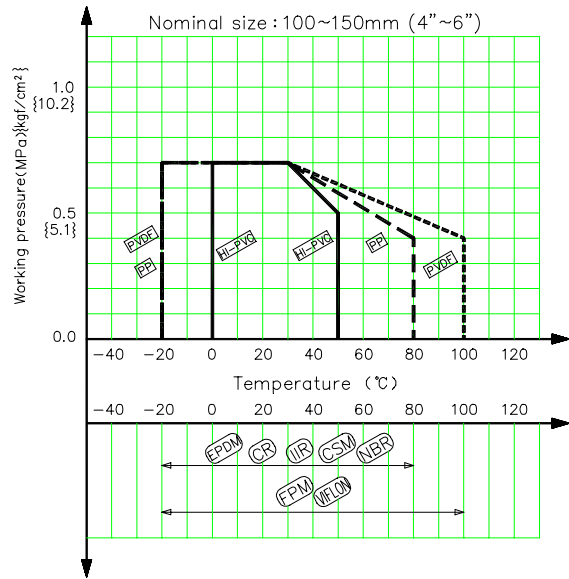
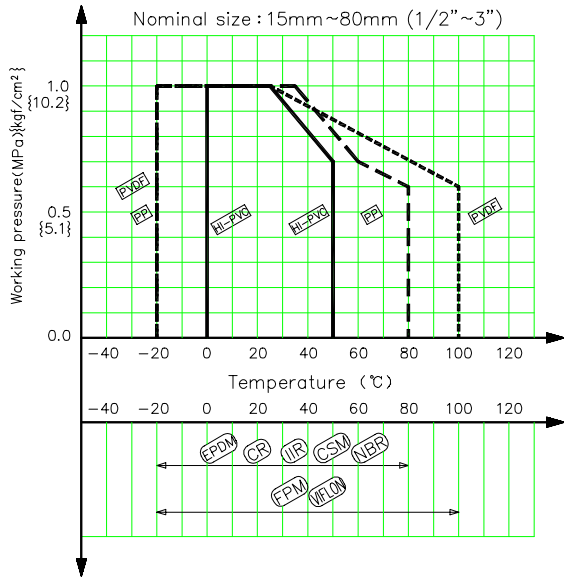
Gasket type



Caution

Do not operate valve beyond the range of working temperature and pressure.
(The valve can be damaged.)

O-ring type



Caution

Do not operate valve beyond the range of working temperature and pressure.
 (The valve can be damaged.)

(5) Installation procedure

Necessary items

- Torque wrench
- AV gasket
- Spanner wrench
- Bolt, Nut, Washer (For many flanges specification)

(When a non-AV gasket is used, a different tightening torque specification should be followed.)

Procedure

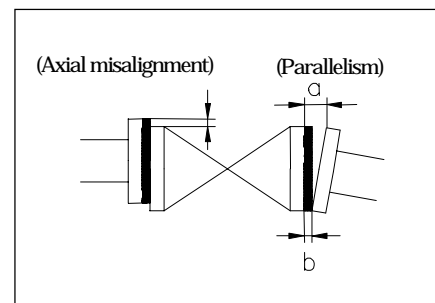
- 1) Set the AV gasket between the flanges.
- 2) Insert washers and bolts from the pipe side, insert washers and nuts from the valve side, and temporarily tighten them by hand.

Remark

The parallelism and axial misalignment of the flange surface should be below the values in the following
(A failure to observe them can cause destruction due to stress application to the pipe)

Unit : mm (inch)

Nom. Size	Axial misalignment	Parallelism (a-b)
20-25mm (3/4"-1")	1.0 (0.04)	0.5 (0.02)
40-50mm (1 1/2"-2")	1.0 (0.04)	0.8 (0.03)
65-150mm (2 1/2"-6")	1.5 (0.06)	1.5 (0.06)
200mm (8")	2.0 (0.08)	2.0 (0.08)

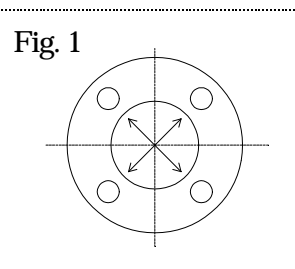


- 3) Using a torque wrench, tighten the bolts and nuts gradually to the specified torque in a diagonal manner.
(Refer to fig.1.)

Specified torque value

Unit: N-m [kgf-cm] [lb-inch]

Nom. Size	20mm (3/4")	25, 40mm (1", 1 1/2")	50mm (2")	80, 100mm (3", 4")	125, 150mm (5", 6")	200mm (8")
Torque value	17.5 {179} [155]	20.0 {204} [177]	22.5 {204} [199]	30.0 {306} [265]	40.0 {408} [355]	55.0 {561} [488]



Remark

Avoid excessive tightening. (The valve can be damaged.)

(6) Disassembly and assembly procedure for parts replacement

Necessary items

- Torque wrench
- Safety goggles
- AV gasket (When a non-AV gasket is used, a different tightening torque specification should be followed.)
- Spanner wrench
- Bolt, Nut, Washer (For many flanges specification)
- Protective gloves

Caution

Wear protective gloves and safety goggles as some fluid remains in the valve.
(You may be injured.)

<Disassembly>

- 1) Drain fluid completely from the pipe line.
- 2) Loosen the connecting bolts and nuts, and remove the valve from pipeline.
- 3) <In case of 20mm(3/4")>
Loosen the bonnet ② and remove it from the body ①.
- <In case of 25-200mm(1"-8")>
Loosen the bolts and nuts ⑨ and remove the bonnet ②.
- 4) Loosen the plug ④ and remove it. Thrust the bolt (A) to the threaded hole of shaft ③ and pull out the shaft from the body.

Bolt size

Nom. Size	20-40mm (3/4"-1 1/2")	50mm (2")	65, 80mm (2 1/2", 3")	100-200mm (4"-8")
Torque valve	M4	M5	M6	M8

- 5) Check the worn of all parts. If the part is worn, replace it.

<Assembly>

<Nominal size 15mm, 20mm (1/2", 3/4")>

- 1) The produce of assembly is the almost reverse of its disassembly.
- 2) Only seat can't be replaced. When the seat has necessity to be replaced, replace the assembly part of seat.
- 3) After completed the assembly, make sure that there is no leakage under the water pressure test.

<Nominal size 25mm (1")>

- 1) The produce of assembly is the almost reverse of its disassembly.
- 2) Only seat can't be replaced. When the seat has necessity to be replaced, replace the assembly part of seat.
- 3) When the bonnet ② is replaced, make sure that the arm stopper direction of the bonnet.
- 4) Tighten the bolt • nut ⑨ diagonally and equally torque to fix the body ① and bonnet ②.

Unit : N-m {kgf-cm} [lb-inch]

Nom. Size	Torque		Nom. Size	Torque	
	PTFE	Rubber		PTFE	Rubber
25mm (1")	10.0 {102} [89]	6.0 {61} [53]	80mm (3")	20.0 {204} [177]	15.0 {153} [133]
30mm (1 1/4")	13.0 {132} [115]	8.0 {82} [71]	100mm (4")	25.0 {225} [221]	20.0 {204} [177]
40mm (1 1/2")	13.0 {132} [115]	8.0 {82} [71]	125mm (5")	25.0 {225} [221]	20.0 {204} [177]
50mm (2")	15.0 {153} [133]	10.0 {102} [89]	150mm (6")	30.0 {306} [266]	25.0 {225} [221]
65mm (2 1/2")	15.0 {153} [133]	10.0 {102} [89]	200mm (8")	30.0 {306} [266]	25.0 {225} [221]

- 5) After completed the assembly, make sure that there is no leakage under the water pressure test.

(7) Inspection items

- Inspect the follow items ;

(1)	Check for any flaw, crack, or deformation on the outside.
(2)	Check whether fluid leaks to the outside.
(3)	Check whether tightness of bolt nut.

(8) Troubleshooting and action

Problem	Cause	Action
The Fluid is leaking past the fully closed position.	The back pressure is low.	Check for the back pressure.
	Seat is worn.	Replacement.
	Solid particles have lodged in the valve.	Clear the solid particles from the valve.
Fluid leaks from the valve	O-ring is worn.	Replacement.
	Packing is worn.	Replacement.
	Looseness of bolts • nut.	Retighten.

(9) Handling of residual and waste materials

Remark

In discarding remaining or waste materials, be sure to ask a waste service company.

(10) Inquires

Head Office : No. 2-5955, Nakanose-Cho, Nobeoka – City, Miyazaki- Pref. , Japan.
Tel (81) 982-35-0880 Fax (81) 982-35-9350

Tokyo Office : (Furukawachiyoda Bldg.) No. 15-9, Uchikanda 2- Chome, Chiyoda-Ku, Tokyo, Japan.
Tel (81) 3-3254-8177 Fax (81) 3-3254-3474

Singapore Branch Office: 16 Raffles Quay, #40-03 Hong Leong Building, Singapore 048581.
Tel (65) 220-4022 Fax (65) 324-6151

Europe Representative Office: Am Wehrhahn 33, 40211, Duesseldorf, Germany.
Tel (49) 6172-9175-0 Fax (49) 6172-9175-25

ASAHI AMERICA Inc.: 35 Green Street Malden, Massachusetts U.S.A. 02148
Tel (1) 781-321-5409 Fax (1) 781-321-4421

Swing check valve

ASAHI ORGANIC CHEMICALS INDUSTRY CO., LTD.