

Serial No.	H – V016 E – 3
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Gauge Valve

User’s Manual

Contents

(1) General operating instructions	1
(2) General instructions for transportation, unpacking and storage	1
(3) Name of parts	2
(4) Comparison between working temperature and pressure	3
(5) Installation procedure	4
(6) Operating procedure	5
(7) Disassembly and assembly produce for parts replacement	5
(8) Inspection items	6
(9) Troubleshooting	6
(10) Handling of residual and waste materials	6
(11) Inquiries	7



(1) General operating instruction

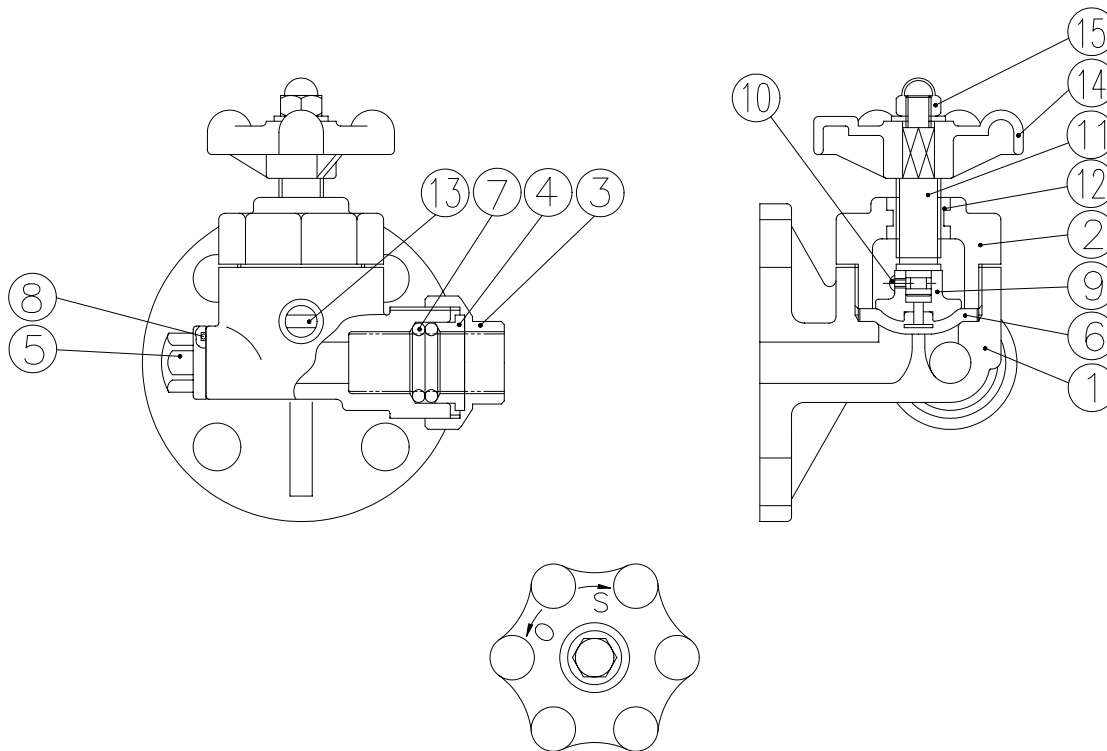
- Operate the valve within the pressure Vs temperature range.
(The valve can be damaged by operating beyond the allowable range.)
- Select a valve material that is compatible with the media, refer to “CHEMICAL RESISTANCE ON ASAHI AV VALVE”.
(Some chemicals may damage incompatible valve materials.)
- Check the bonnet and body are tighten them. Because diaphragm may become loose because of long-term storage, suspension and change of working temperature.
- Do not step on the valve or apply excessive weight on valve. (It can be damaged.)
- Do not exert excessive force in closing or opening the valve.
- Make sure to consult a waste treatment dealer to dispose of the valves.
(Poisonous gas is generated when the valve is burned improperly.)
- Allow sufficient space for maintenance and inspection.
- Keep the valve away from excessive heat or fire. (It can be deformed, or destroyed.)
- The valve should be operated by hand.

(2) General instructions for transportation, unpacking and storage

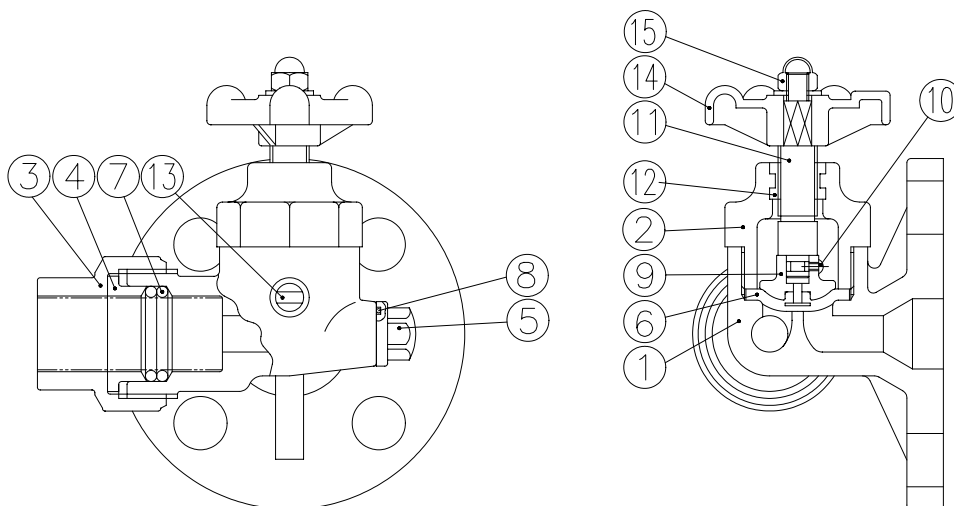
- Keep the valve packed in the carton or box as delivered until installation.
- Keep the valve away from coal tar, creosote (antiseptic for wood), termite insecticide, vermicides, and paint.
(The could cause swelling and damage the valve.)
- Do not impact or drop the valve. (It can be damaged.)
- Avoid scratching the valve with any sharp object.

(3) Name of parts

20mm(3/4")

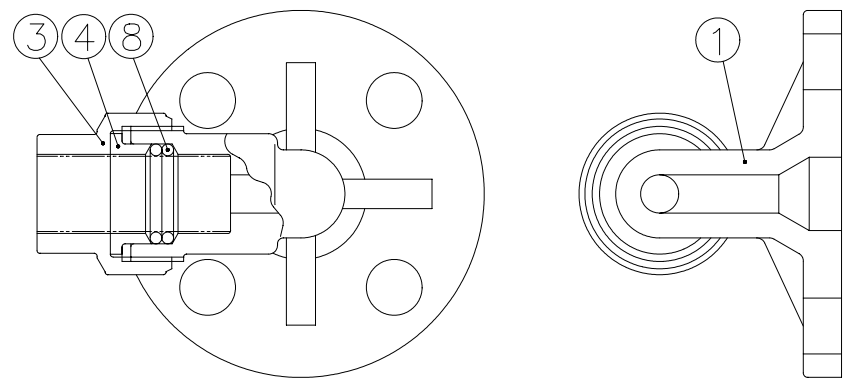


25mm(1")



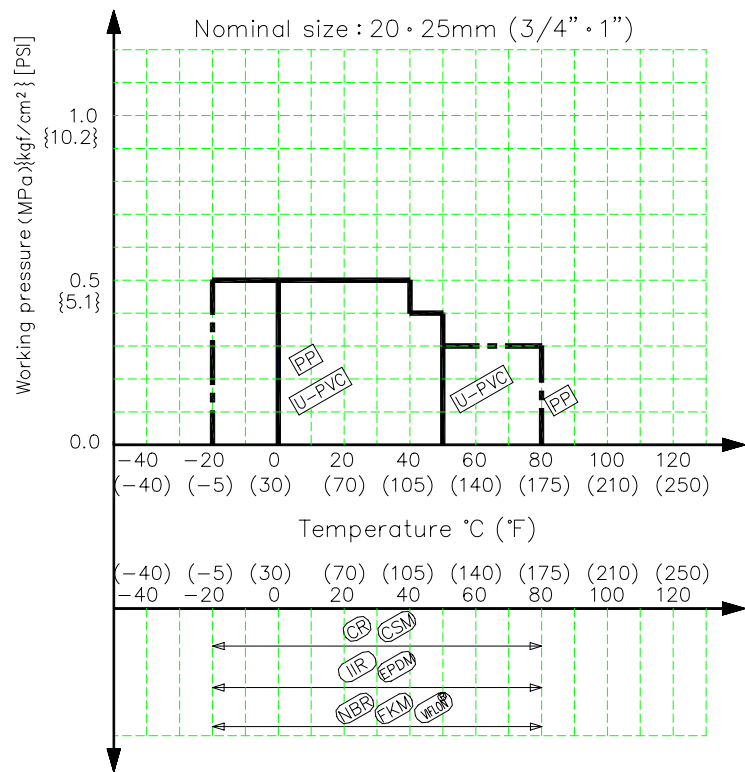
No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION
①	Body	⑥	Diaphragm	⑪	Stem
②	Bonnet	⑦	O-ring (A)	⑫	Inserted metal of bonnet
③	Gland nut	⑧	O-ring (B)	⑬	Indication of material
④	Gland	⑨	Compressor	⑭	Hand wheel
⑤	Drain plug	⑩	Compressor pin	⑮	Nut

Flanged elbow 25mm(1")



No.	DESCRIPTION	No.	DESCRIPTION
①	Body	④	Gland
③	Gland nut	⑧	O-ring (A)

(4) Comparison between operating temperature and pressure



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 ● Spanner Wrench ● Bolt, Nut, Washer (For many flanges specification)
- AV gasket (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 flange side, insert washers and nuts from the valve side, then temporarily tighten them by hand.

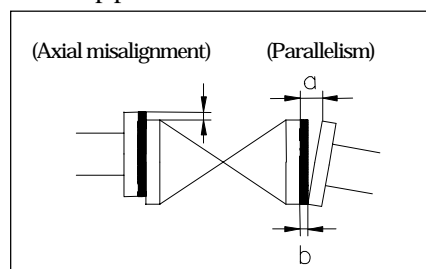


Caution

The parallelism and axial misalignment of the flange surface should be under the values shown in the following table to prevent damage the valve.

(A failure to observe them can cause destruction due to stress application to the pipe)

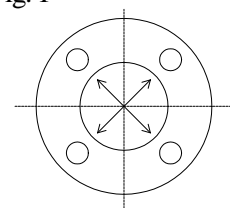
Unit : mm (inch)		
Nom. Size	Axial misalignment	Parallelism (a-b)
20, 25mm (3/4", 1")	1.0 (0.04)	0.5 (0.02)



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

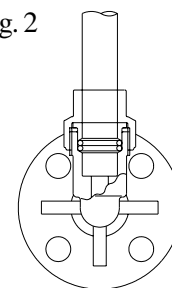
Recommended torque value		Unit: N-m {kgf-cm} [lb-inch]
Nom. Size	20mm (3/4")	25mm (1")
Torque value	17.5 { 179 } [154.9]	20.0 { 204 } [177.0]

Fig. 1



- 4) Loosen the gland nut with hand.
- 5) Insert the glass pipe. (Refer to fig. 2)
- 6) Tighten the gland nut with hand.

Fig. 2



Caution

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

(6) Operating Procedure

- Hand wheel operating should be done by hand.
- Open and close the valve by rotating hand wheel.

Right turn(Clockwise) → Shut
 Left turn(Counterclockwise) → Open

- Check the opening degree.
 (When the valve shuts, hand wheel force is high.)



Caution

The valve is designed for manual operation only.
 (The use of assist device may damage the valve.)

(7) Disassembly and assembly procedure for parts replacement

Necessary items

- | | | |
|---------------------|------------------|----------------|
| ● Torque wrench | ● Spanner wrench | ● Screw driver |
| ● Protective gloves | ● Safety goggles | |



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 pipeline.
- 2) Loosen the gland nut ③ and remove the glass pipe.
- 3) Loosen bolts from the pipe side and nuts from the valve side.
- 4) Loosen the nut ⑮ of the upper hand wheel side.
- 5) Remove the hand wheel ⑭.
- 6) Loosen the bonnet ② with the spanner wrench.
- 7) Remove the stem part from the bonnet ②.
- 8) Loosen the compressor pin ⑩ that fixed compressor ⑨ with the screwdriver.
- 9) Remove compressor part from the stem ⑪.



Caution

Compressor and diaphragm can't disassemble.

<Assembly>

The produce of assembly is the reverse of its disassembly.

(8) 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 for tightness of body and bonnet.
(4)	Check for tightness of gland nut and glass pipe.
(5)	Check whether the handle can be operated smoothly.

(9) Troubleshooting

Problem	Cause	Treatment
Fluid leaks from the body and the bonnet.	The bonnet is loose.	Retighten
	Media has crystallized.	Clean
The Fluid is leaking past the fully closed position.	Media has worn diaphragm and / or weir.	Replacement
	Solid particles have lodged in the valve.	Clear the solid particles from the valve.
Fluid leaks from the glass pipe.	The gland nut is loose. Solid particles have lodged. O-ring is worn. Glass pipe is damaged.	Retighten Clean Replacement Replacement
Fluid leaks from stem part.	Diaphragm is worn.	Replacement

(10) Handling of residual and waste materials

Caution

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

(11) Inquiries**ASAHI ORGANIC CHEMICALS INDUSTRY CO., LTD.**

Nobeoka Head Office : 2-5955, Nakanose- Cho, Nobeoka –City, Miyazaki- Pref. , Japan.

Tel : (81) 982-35-0880 Fax : (81) 982-35-9350

Tokyo Head Office : (Furukawachiyoda Bldg.) 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 : Kaiser-Friedrich-Promenade 61 D-61348 Bad Homburg v. d. H. Germany.

Tel : (49) 6172-9175-0 Fax : (49) 6172-9175-25

Shanghai Branch Office : Room 1301-P Shanghai Kerry Center, 1515 Nanjing Xi Road, Shanghai China

Tel : (21) 5298-6900 Fax : (21) 5298-6556

ASAHI /AMERICA Inc. :35 Green Street P.O.Box 653 , Malden, Massachusetts 02148 U.S.A.

Tel : (1) 781-321-5409 Fax : (1) 781-321-4421

Distributor

Gauge valve



ASAHI AV VALVES
