ASAHI AV

Reference number: H-V011-E-18

Gate valve

Standard type (Type P) 32～350mm

Soft seal type (Type S inside screw) 32～200mm

Soft seal type (Type S outside screw) 32～250mm

User's Manual

Thank you for choosing our product.
This User's manual contains important information for safe use of our product, so please be sure to read it before handling the product.
After reading this manual, please be sure to keep it in a place where the user can see it at any time.

ASAHI YUKIZAI CORPORATION

-SAFETY PRECAUTIONS-

This User's manual is written on the assumption that the person who handles our products has a basic knowledge of our products, electrical equipment, machinery, control, etc., and it contains technical terms depending on the handling contents.
Please read this manual carefully and fully understand the contents and observe the safety precautions for proper use.

In this manual, the warning, caution, prohibition, and enforcement are categorized together with the symbol to inform the situation and scale of human injury or property damage.
Failure to observe this precaution may result in unexpected failure or damage. Be sure to observe this precaution.

<WARNING/CAUTION indications>

⚠Warning	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠Caution	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.

<Prohibited/Forced display>

Prohibition	In the handling of the product, it is prohibited to do it in "Do not do it".
Forcing	In the handling of the product, it is forced by "contents to be carried out without fail".

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1. Our product warranty coverage

Unless otherwise stated in the Contract or Specifications, etc., the warranty for the piping material products (hereinafter referred to as "applicable products") such as valves manufactured or sold by us is as follows.

Applicable to

This warranty applies only when the product is used in Japan. If you intend to use the product overseas, please contact us.

Warranty Period

The warranty period is one year after delivery.

Guaranteed range

In the event of failure or malfunction due to our responsibility during the above warranty period, we will replace or repair the product with a substitute free of charge.
Provided, however, that even within the warranty period, the warranty shall not apply to any of the following cases (charged service).

- ▶ When the storage, operating conditions, precautions, etc. described in the specifications, User's manual, etc. are not adhered to in the construction, installation, handling, maintenance, etc.
- ▶ Defects, such as the design of the customer's equipment or software, caused by other than the target product.
- ▶ The fault is due to modification or secondary processing of the product by something other than us.
- ▶ In the case of a failure which can be deemed to have been avoided if the periodic inspection described in the User's manual, etc. or the maintenance or replacement of consumable parts has been performed normally.
- ▶ The component is used for purposes other than the product's intended use.
- ▶ Failure or malfunction due to causes that could not be foreseen by our level of science and technology at the time of shipment.
- ▶ The fault is due to an external factor that is not our responsibility, such as natural disaster or disaster.

Disclaimer

- ▶ The warranty will not cover secondary damage (damage to equipment, loss of opportunity, loss of profit, etc.) or any other damage caused by the failure of our product.
- ▶ Although we strive to improve the quality and reliability of our products, we do not guarantee their integrity. Especially when using this product for equipment that may infringe human life, body or property, take appropriate safety design measures, etc., with full consideration of problems that may normally occur. We assume no responsibility for such use if we have not obtained our consent in advance in writing of specifications, etc.
- ▶ Please observe the product specifications and precautions when using our products. We shall not assume any responsibility for any damage to the customer caused by the customer's negligence. However, this does not apply to damage caused by a defect in our product.

2. Safety Instructions

Unpacking, Transportation and Storage

Warning	
Prohibition	**Serious injury can result.** ▶ When hanging or slinging a valve, pay sufficient attention to safety, and do not enter under the load.

Caution	
Prohibition	**The valve can be damaged, or leak.** ▶ Do not subject the product to impact by throwing, dropping or hitting. ▶ Do not scratch or pierce the product with a sharp object such as a knife or hand hook. ▶ Do not pile up cardboard boxes forcefully to prevent the load from collapsing. ▶ Avoid contact with coal tar, creosote (a wood preservative), white pesticides, insecticides, paints, etc. ▶ Do not hang the handle when transporting the valve.
Forcing	**The valve can be damaged, or leak.** ▶ Keep in cardboard until just before piping, and store indoors (at room temperature) away from direct sunlight. Also, avoid storing the product in places of high temperature. (The strength of cardboard packaging decreases when it gets wet. Be very careful when storing and handling it.) ▶ After unpacking, make sure that the product is correct and that it meets the specifications.

Product Handling

⚠ Warning	
Forcing	**The valve can be damaged or seriously injured.** ▶ If positive pressure gas is used for our resin piping material, a dangerous condition may occur due to the repulsive force peculiar to compressible fluids even if the pressure is the same as the water pressure. Therefore, be sure to take safety measures for the surrounding area, such as covering the piping with protective materials. If you have any questions, please contact us. ▶ After completing the piping work, check with water pressure when conducting a leak test of the piping. Contact us in advance if you are unavoidable to test with a gas.

⚠ Caution	
Prohibition	**The valve can be damaged, or leak.** ▶ Do not step on the valve or place heavy objects on it. ▶ Keep away from fire and hot objects. ▶ Do not subject the valve to large vibrations. ▶ Do not use instruments or tools to assist manual operation.

⚠Caution

Forcing

There is a danger of injury.

▶ Secure sufficient space for maintenance and inspection when piping.

The valve can be damaged, or leak.

▶ Pay attention to the atmosphere where the valve is installed. Avoid locations where the product is exposed to sea breezes, corrosive gases, chemical liquids, sea water, steam, etc.

▶ Keep the pressure and temperature of the fluid within the allowable range. (The maximum allowable pressure includes water hammer pressure.)

▶ Use a valve of suitable material for the operating conditions. (Depending on the type of chemical liquid, the parts may be damaged. Contact us in advance for details.)

▶ Use fluids containing crystalline material under conditions that do not recrystallize.

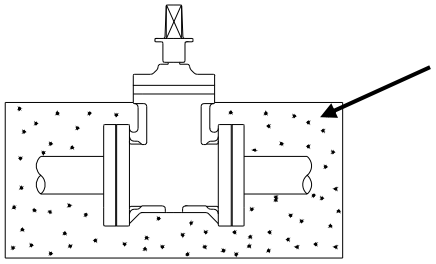
▶ Avoid any place where the valve is constantly exposed to splashes of water and dust, or direct sunlight, or protect the valve with a cover or the like to cover the entire area.

▶Perform maintenance on a regular basis referring to "**8. Inspection items**." Pay particular attention to temperature changes and aging during long-term storage or shutdown or use.

▶ Use an external thread for fluids containing slurry or crystalline materials. (In the case of the internal thread type, there is a risk that opening and closing operations may become impossible.)

▶ When providing concrete protection (refer to the figure below), be sure to close the valve completely after connecting the valve to the piping before placing concrete. (It may not be possible to fully close the valve.)

▶ If the valve is protected against concrete when it is open, elongation (expansion) of the body will be restrained and the closing torque will become heavier or in some cases it will not be possible to stop water.



▶ When installing a valve, provide an appropriate valve support so that excessive force is not applied to the valve and piping.

▶ Always use the product within the indicated product specifications.

▶ Keep the ambient temperature of the installation location within-10 to 50°C.

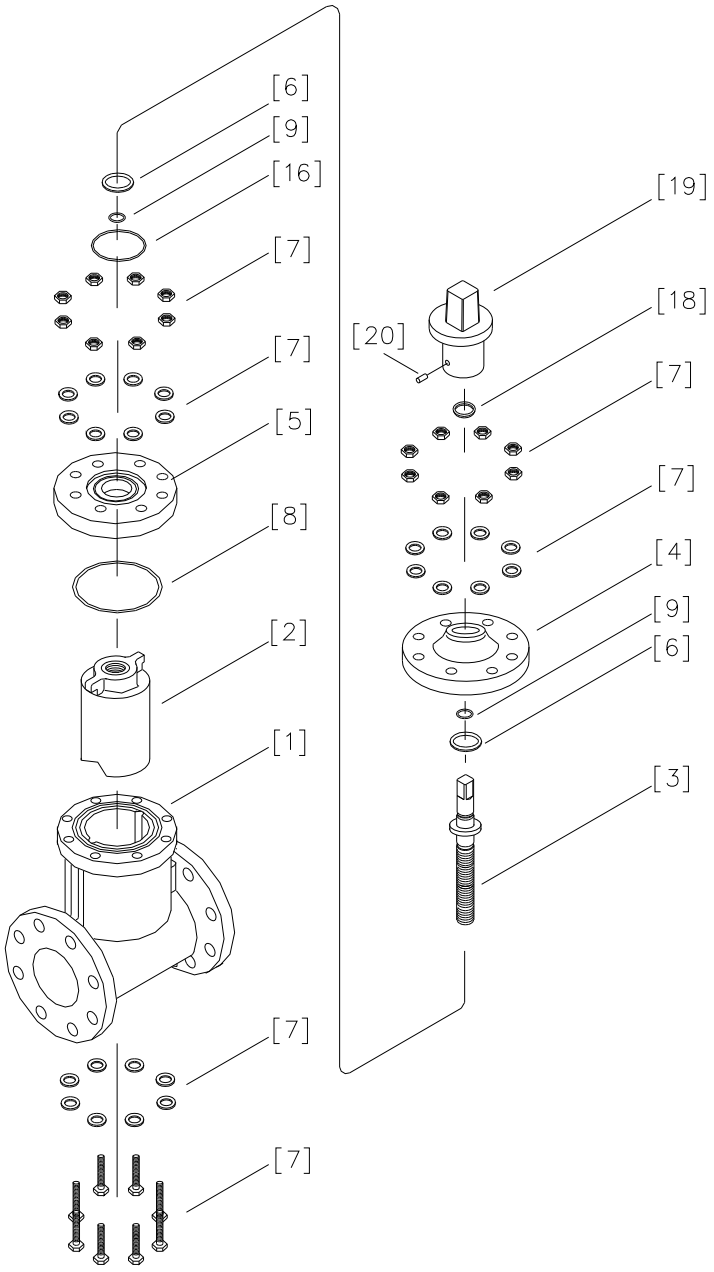
▶ Avoid locations with volatile gases or poor atmospheres. Provide a cover, etc., to cover the entire area.

3. Name of each part

AV gate valve internal thread cap type

・Standard type (P type)

32～150mm/capped/metal stem

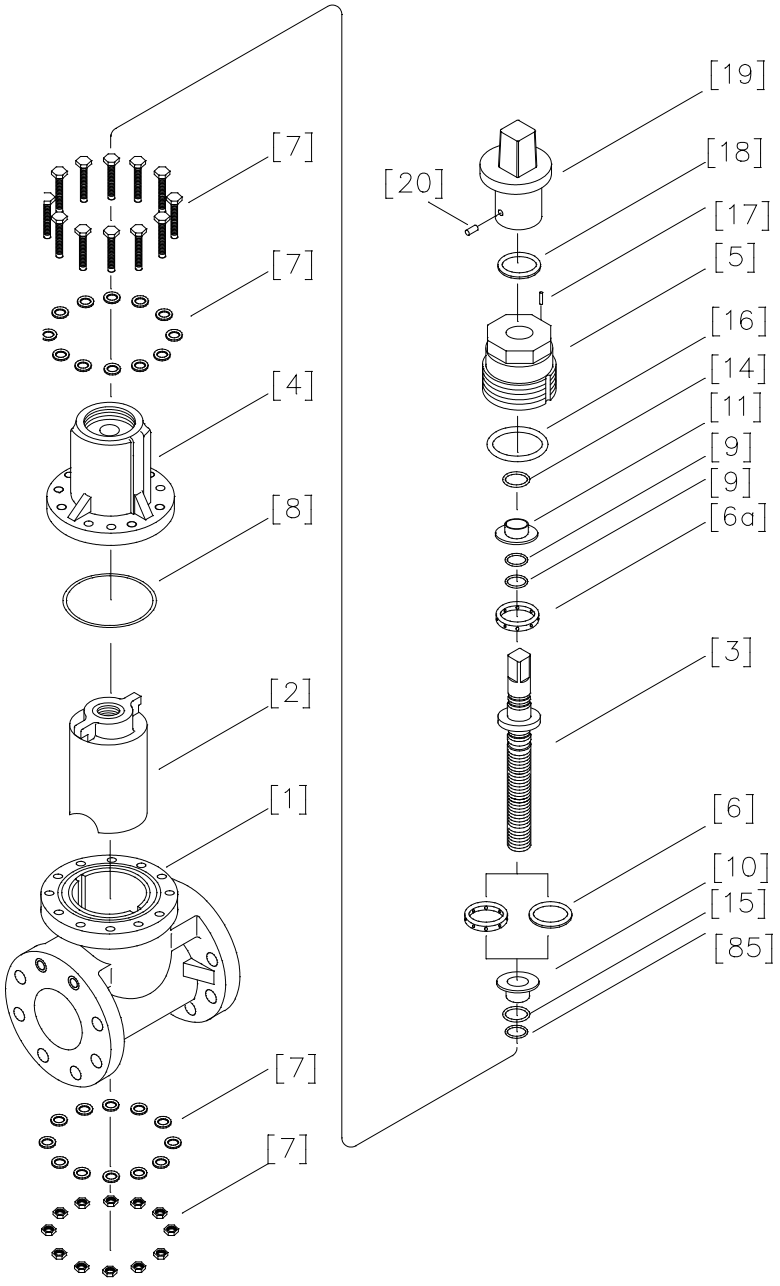


[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[16]	O-ring (D)
[18]	Dust seal
[19]	Cap (A)
[20]	Set screw (B)

AV gate valve internal thread cap type

Standard type (P type)

200～350mm/capped/metal stem

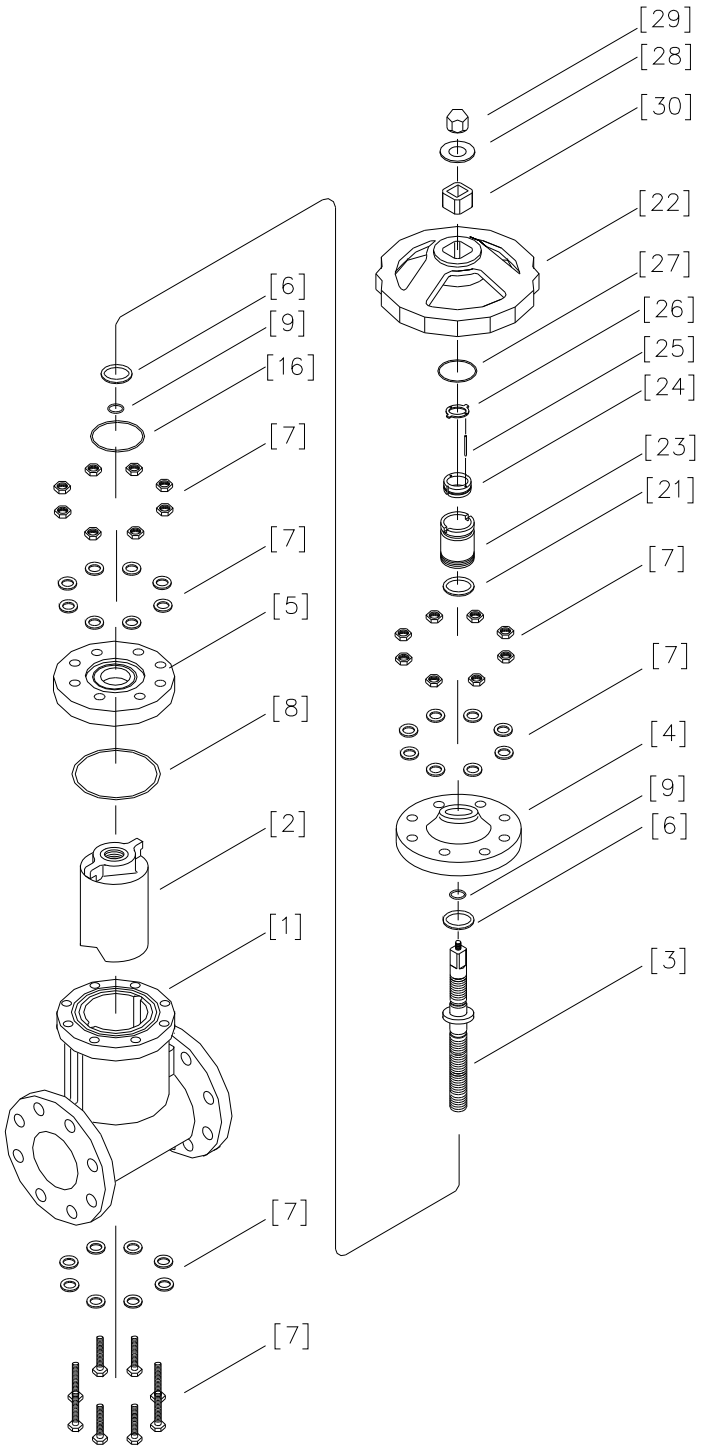


[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[6a]	Thrust bearing
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[10]	Bush (A)
[11]	Bush (B)
[15]	O-ring (F)
[16]	O-ring (D)
[17]	Set screw (A)
[18]	Dust seal
[19]	Cap (A)
[20]	Set screw (B)
[85]	O-ring (M)

AV gate valve internal thread, round handle type

Standard type (P type)

With 32～150mm/round handle/metal stem

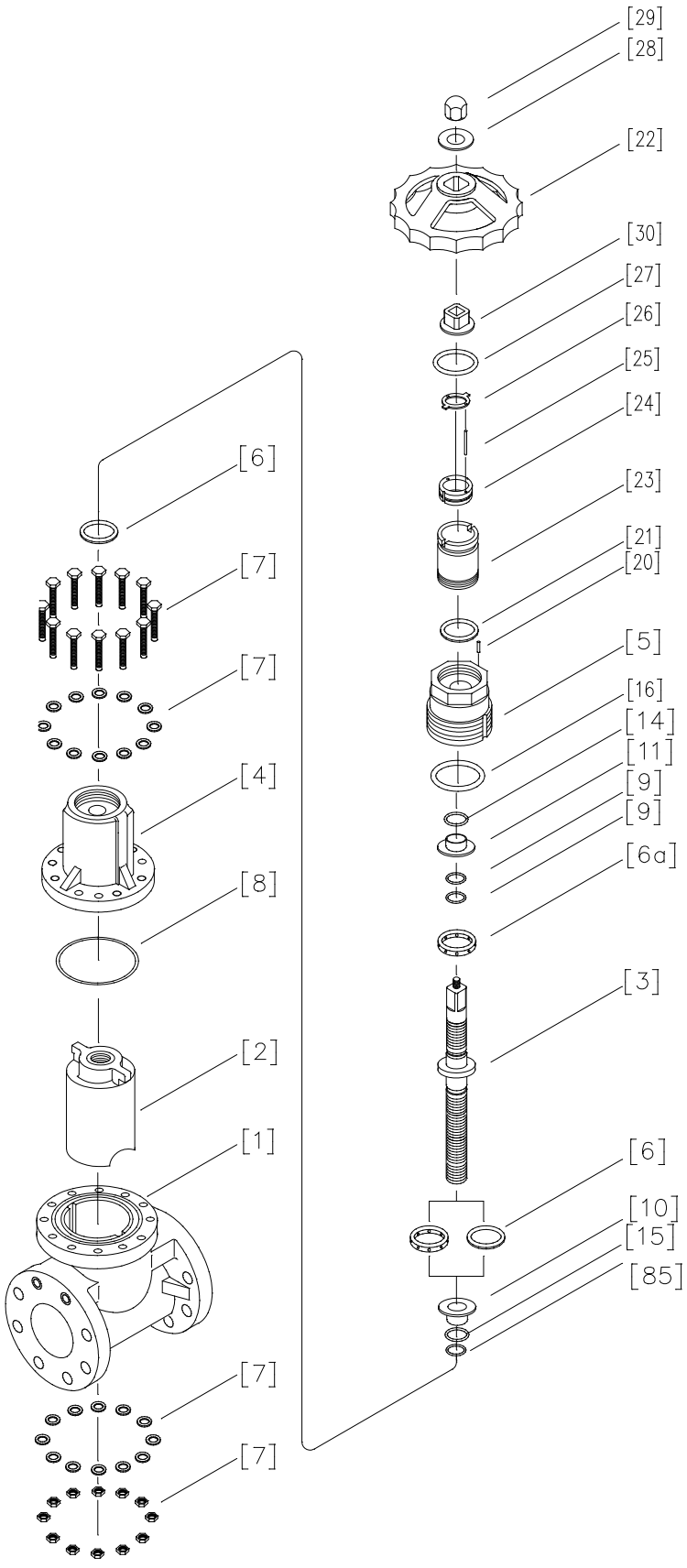


[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[16]	O-ring (D)
[21]	Packing
[22]	Handle
[23]	Indicating cover
[24]	Indicating ring
[25]	Guide pin
[26]	Guide pin support plate
[27]	O-ring (G)
[28]	Washer
[29]	Cap nut
[30]	Handle bushing

AV gate valve internal thread, round handle type

Standard type (P type)

With 200～350mm/round handle/metal stem

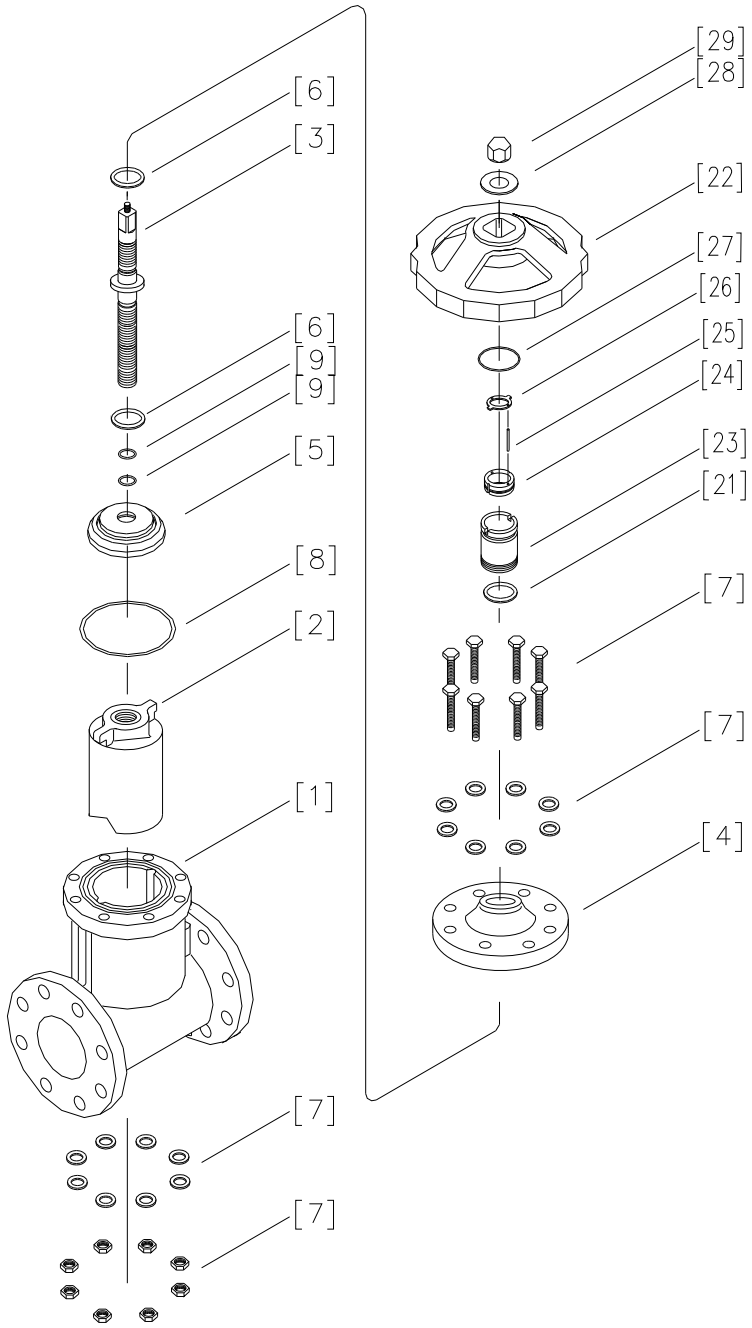


[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[6a]	Thrust bearing
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[10]	Bush (A)
[11]	Bush (B)
[14]	O-ring (E)
[15]	O-ring (F)
[16]	O-ring (D)
[20]	Set screw (A)
[21]	Packing
[22]	Handle
[23]	Indicating cover
[24]	Indicating ring
[25]	Guide pin
[26]	Guide pin holder
[27]	O-ring (G)
[28]	Washer
[29]	Box nut
[30]	Handle bushing
[85]	O-ring (M)

AV gate valve internal thread, round handle type

Standard type (P type)

With 32～150mm/round handle/resin stem

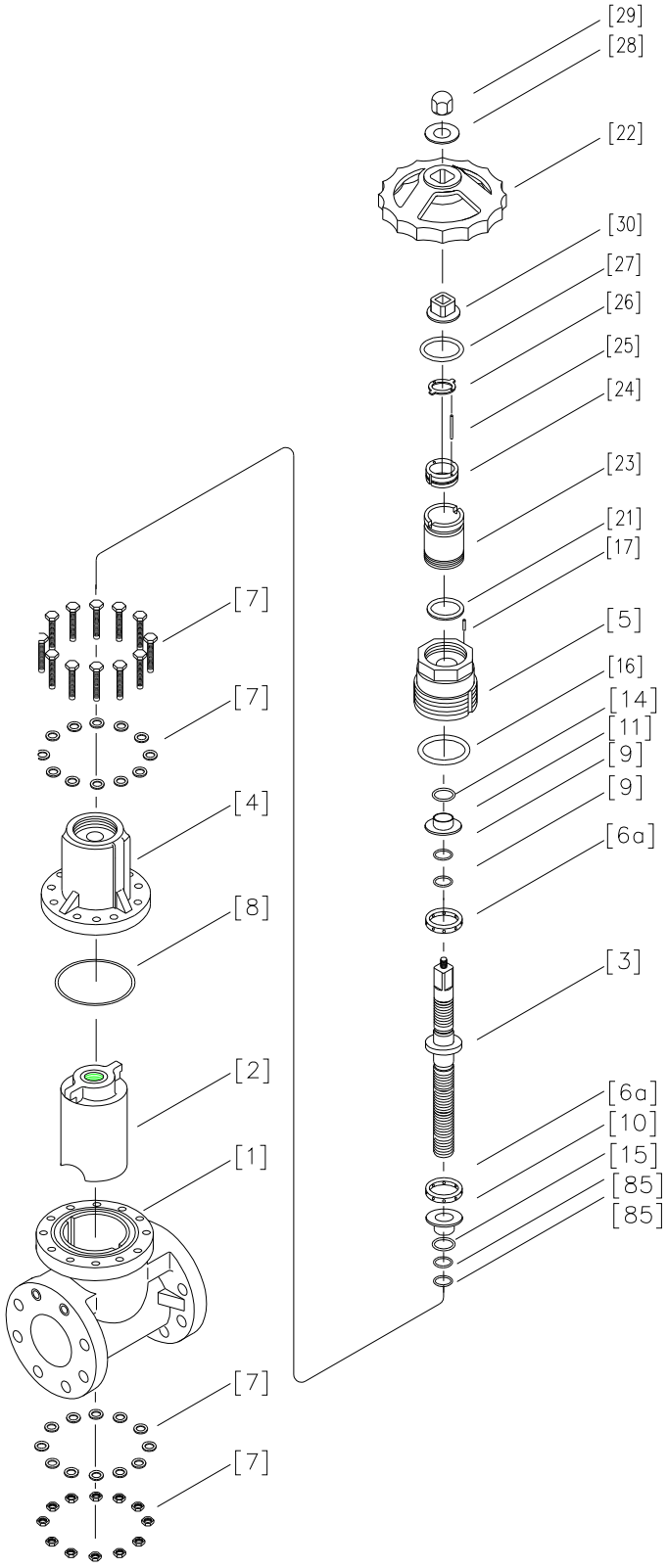


[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[21]	Packing
[22]	Handle
[23]	Indicating cover
[24]	Indicating ring
[25]	Guide pin
[26]	Guide pin holder
[27]	O-ring (G)
[28]	Washer
[29]	Nut

AV gate valve internal thread, round handle type

Standard type (P type)

With 200～350mm/round handle/resin stem



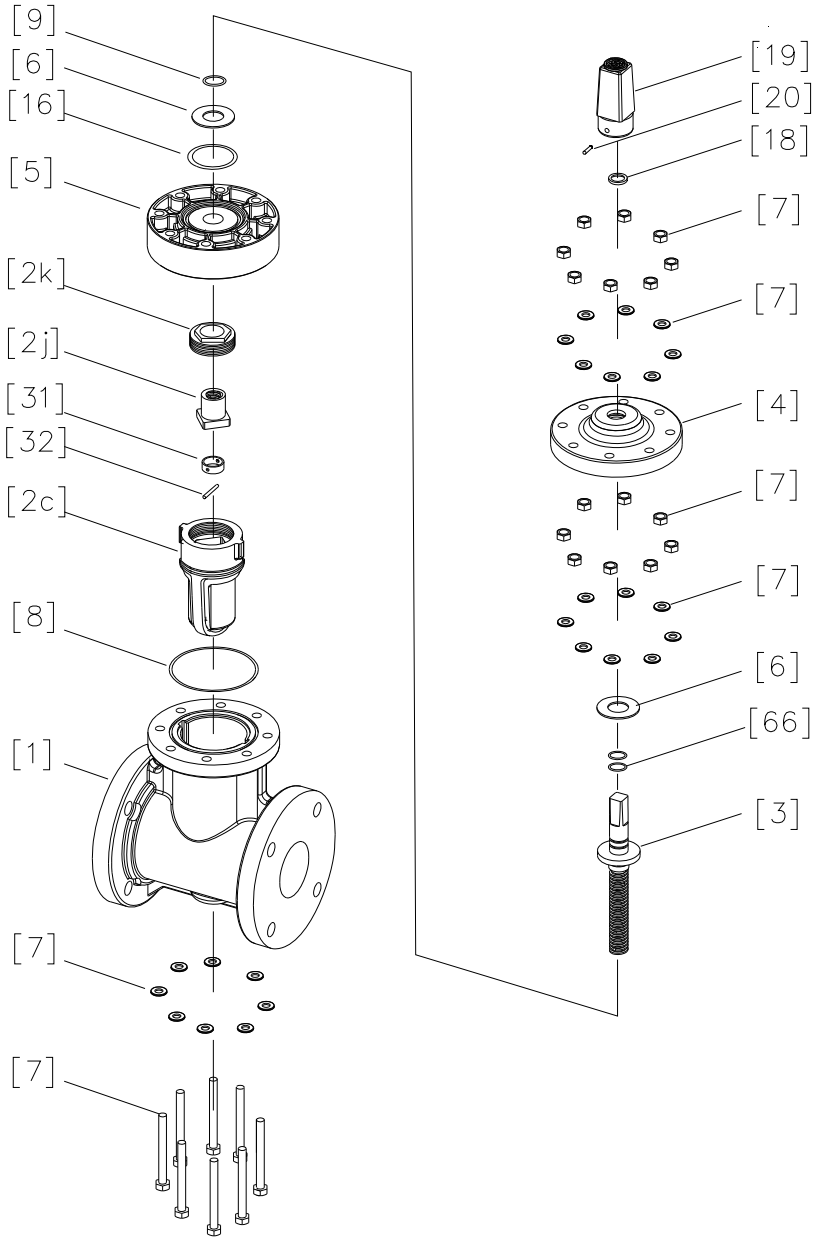
[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[6a]	Thrust bearing
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[10]	Bush (A)
[11]	Bush (B)
[14]	O-ring (E)
[15]	O-ring (F)
[17]	Set screw (A)
[21]	Packing
[22]	Handle
[23]	Indicating cover
[24]	Indicating ring
[25]	Guide pin
[26]	Guide pin holder
[27]	O-ring (G)
[28]	Washer
[29]	Box nut
[85]	O-ring (M)

AV gate valve internal thread cap type

Soft seal (S type) Type 66

32～150mm/capped/metal stem

・With over-tightening prevention mechanism

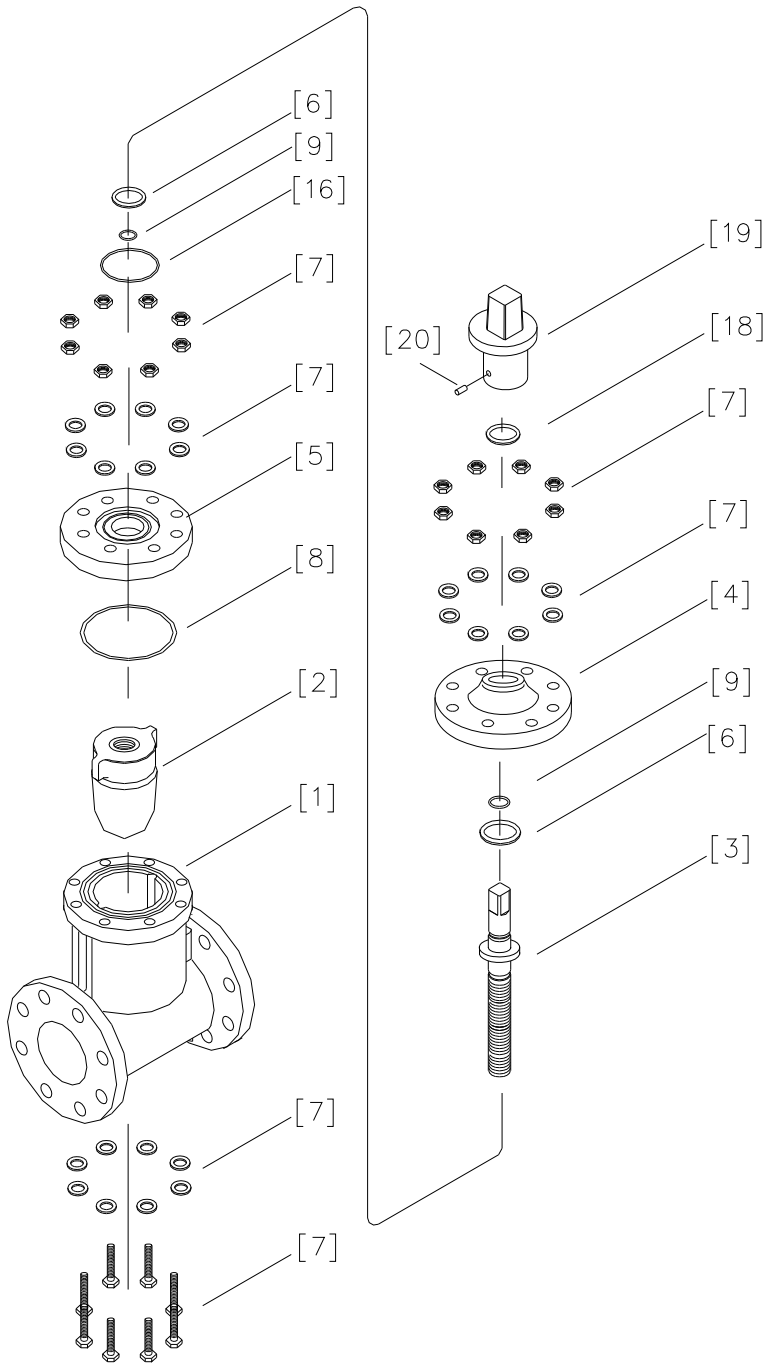


[1]	Body
[2c]	Gate (A)
[2j]	Female screw metal
[2k]	Female screw holder
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolt/nut (A)
[8]	O-ring (B)
[9]	O-ring (C)
[16]	O-ring (D)
[18]	Dust seal
[19]	Cap (A)
[20]	Set screw (B)
[31]	Stopper (A)
[32]	Pin (A)
[66]	O-ring (H)

AV gate valve internal thread cap type

Soft seal type (S type)

65,125mm/capped/metal stem

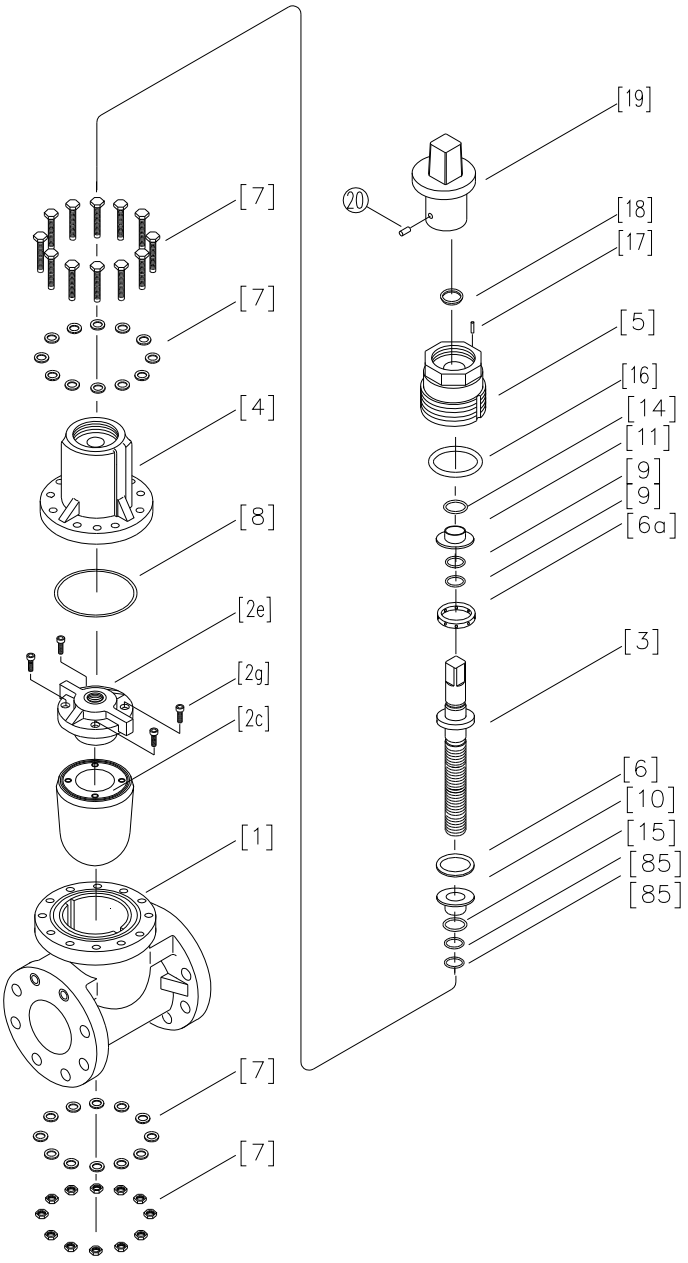


[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[16]	O-ring (D)
[18]	Dust seal
[19]	Cap
[20]	Set screw (B)

AV gate valve internal thread cap type

Soft seal type (S type)

200mm/capped/metal stem

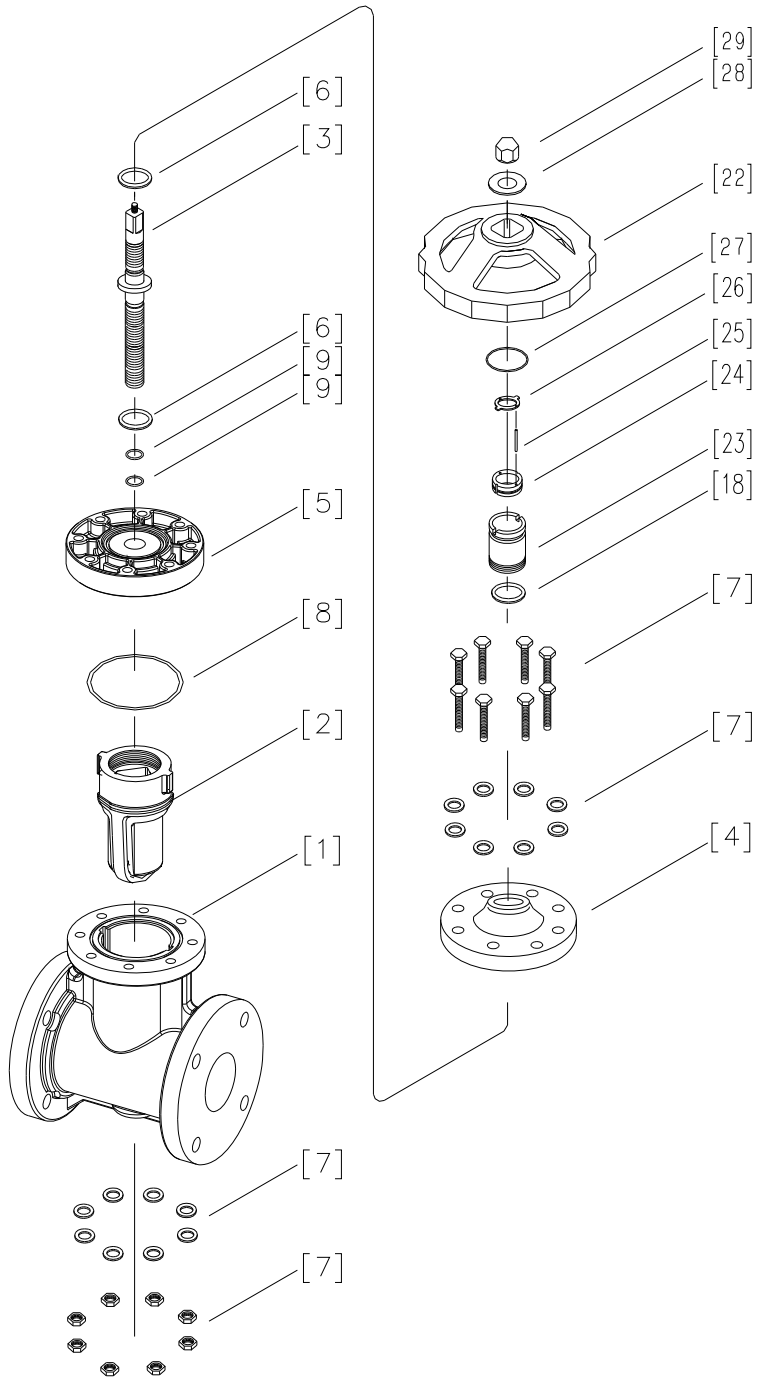


[1]	Body
[2c]	Gate (A)
[2e]	Gate (B)
[2g]	Bolt (A)
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[6a]	Thrust bearing
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[10]	Bush (A)
[11]	Bush (B)
[14]	O-ring (E)
[15]	O-ring (F)
[16]	O-ring (D)
[17]	Set screw (A)
[18]	Dust seal
[19]	Cap
[20]	Set screw (B)
[85]	O-ring (M)

AV gate valve internal thread, round handle type

Soft seal type (S type)

With 50～150mm/round handle/resin stem

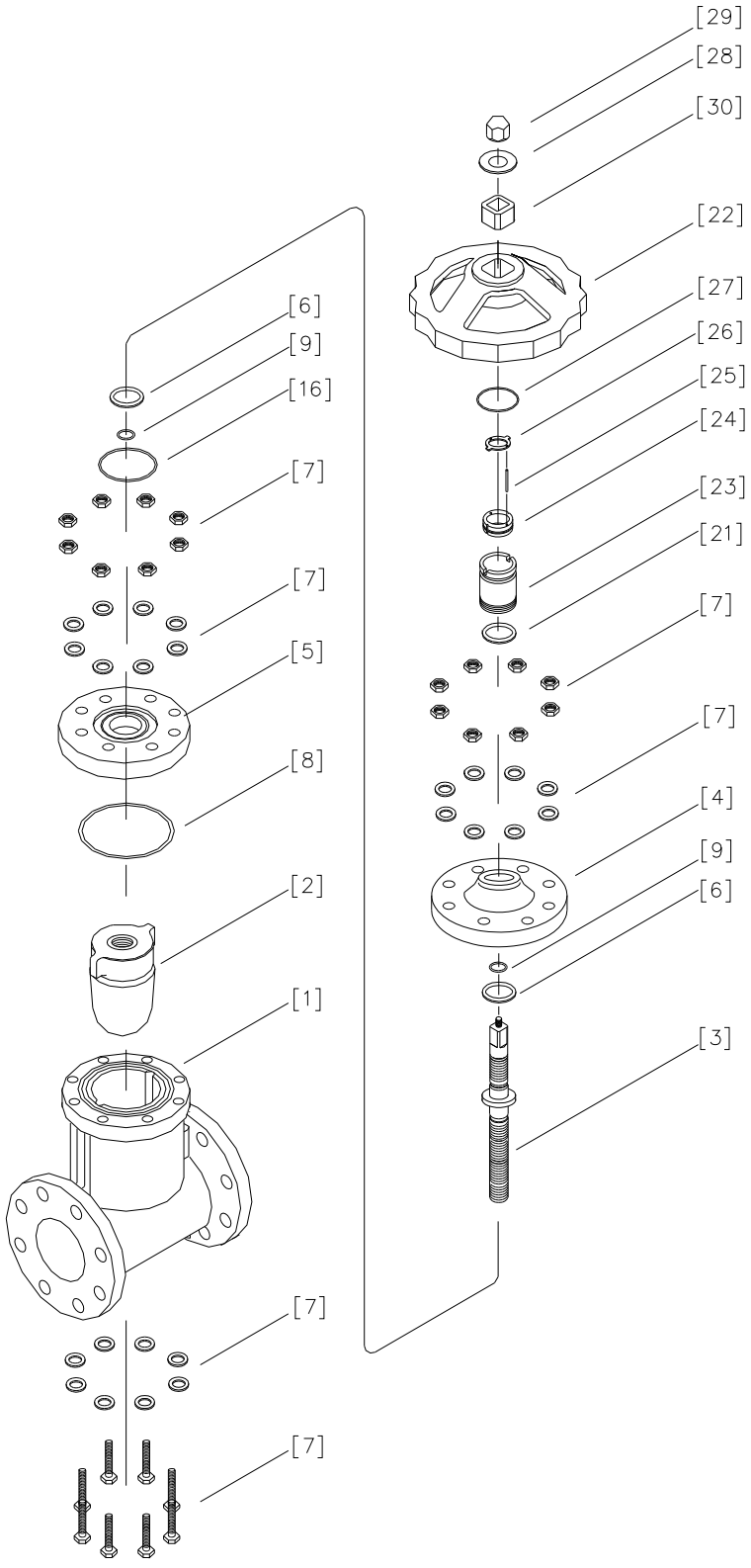


[1]	Body
[2c]	Gate (A)
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolts and nuts (A)
[8]	O-ring (B)
[9]	O-ring (C)
[21]	Packing
[22]	Handle
[23]	Indicating cover
[24]	Indicating ring
[25]	Guide pin
[26]	Guide pin holder
[27]	O-ring (G)
[28]	Washer
[29]	Box nut

AV gate valve internal thread, round handle type

Soft seal type (S type)

With 65,125mm/round handle/resin stem

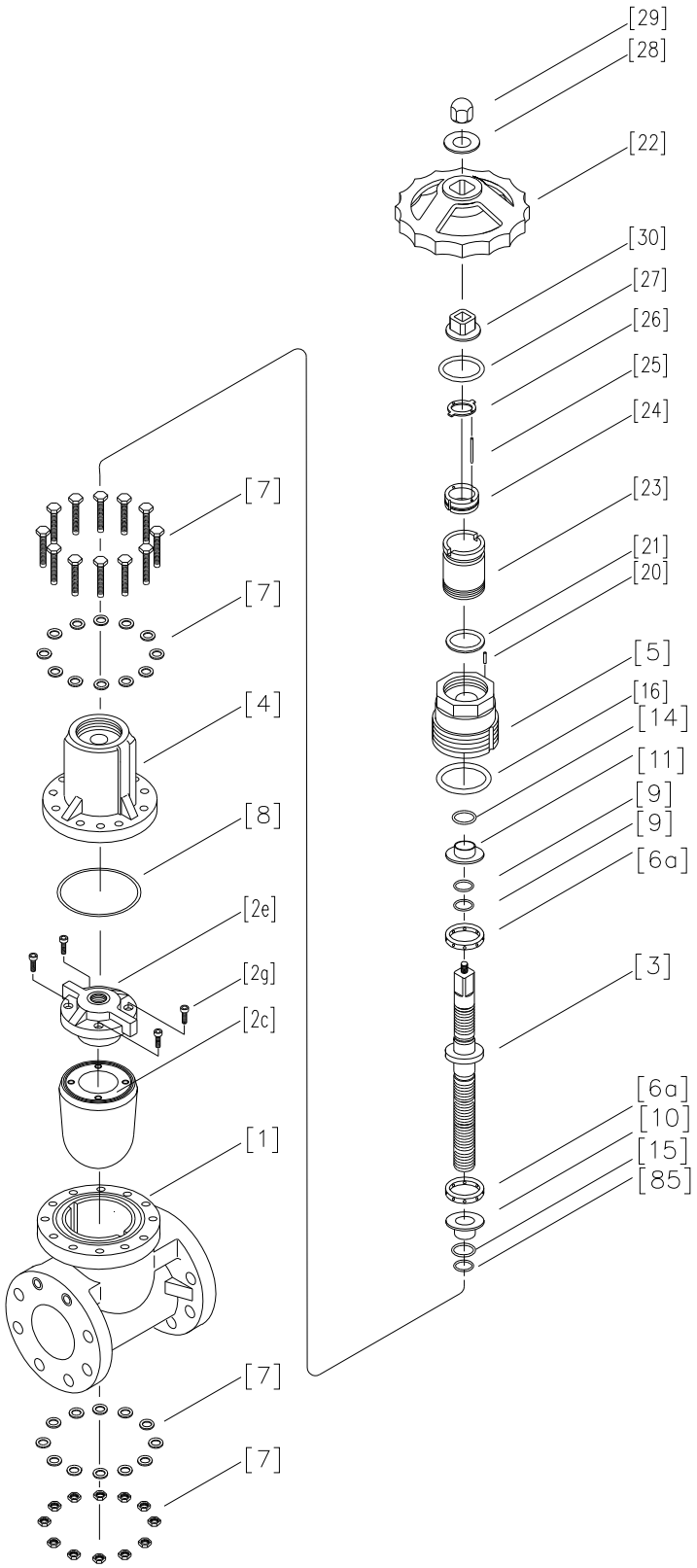


[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[21]	Packing
[22]	Handle
[23]	Indicating cover
[24]	Indicating ring
[25]	Guide pin
[26]	Guide pin older
[27]	O-ring (G)
[28]	Washer
[29]	Box nut

AV gate valve internal thread, round handle type

Soft seal type (S type)

With 200mm/round handle/resin stem

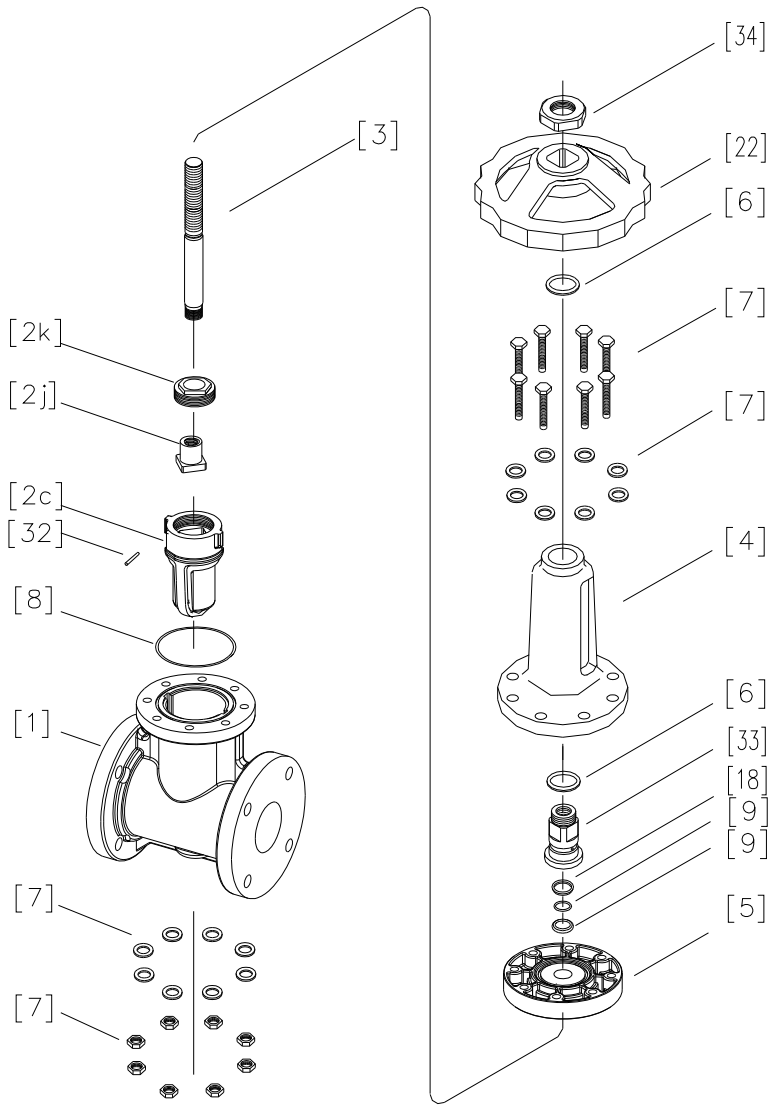


[1]	Body
[2c]	Gate (A)
[2e]	Gate (B)
[2g]	Bolt (A)
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6a]	Thrust bearing
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[10]	Bush (A)
[11]	Bush (B)
[14]	O-ring (E)
[15]	O-ring (F)
[16]	O-ring (D)
[17]	Set screw (A)
[20]	Set screw (B)
[21]	Packing
[22]	Handle
[23]	Indicating cover
[24]	Indicating ring
[25]	Guide pin
[26]	Guide pin holder
[27]	O-ring (G)
[28]	Washer
[29]	Box nut
[85]	O-ring (M)

AV gate valve outer thread, round handle type

Soft seal type (S type)

With 32～150mm/round handle/metal stem

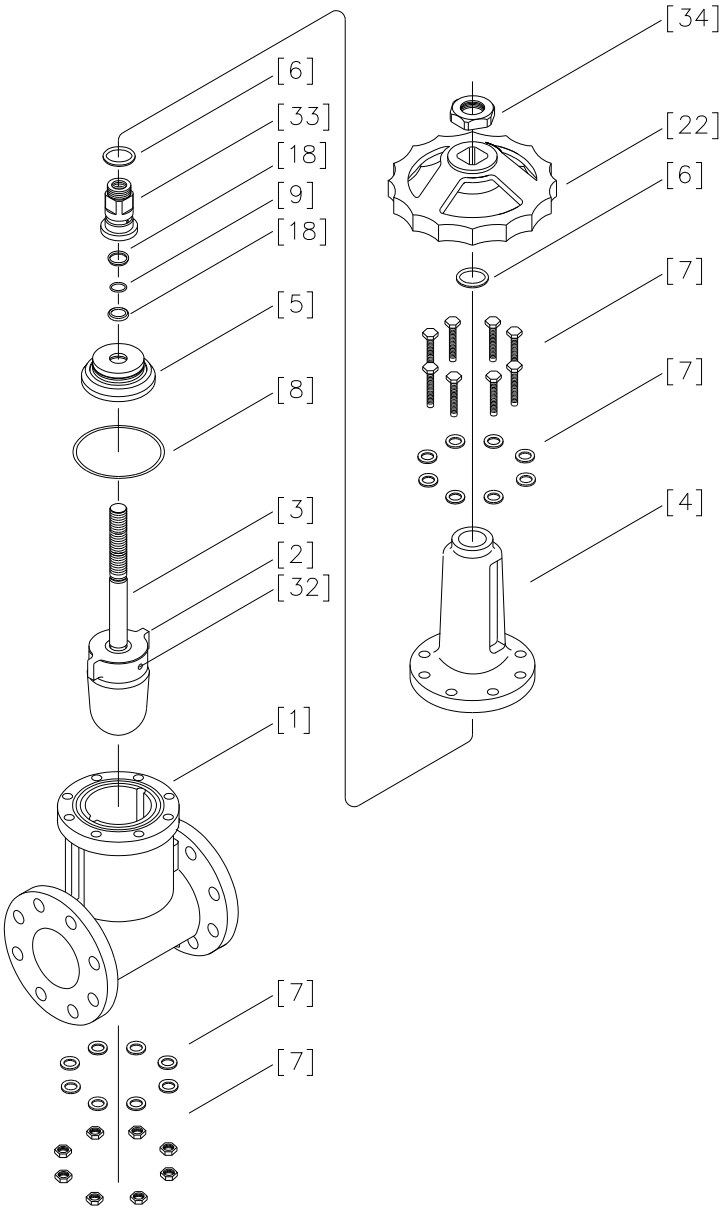


[1]	Body
[2c]	Gate (A)
[2j]	Female screw metal
[2k]	Female screw holder
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolts and nuts (A)
[8]	O-ring (B)
[9]	O-ring (C)
[18]	Dust seal (A)
[22]	Handle
[32]	Pin (A)
[33]	Sleeve
[34]	Nut

AV gate valve outer thread, round handle type

Soft seal type (S type)

With 65,125mm/round handle/metal stem

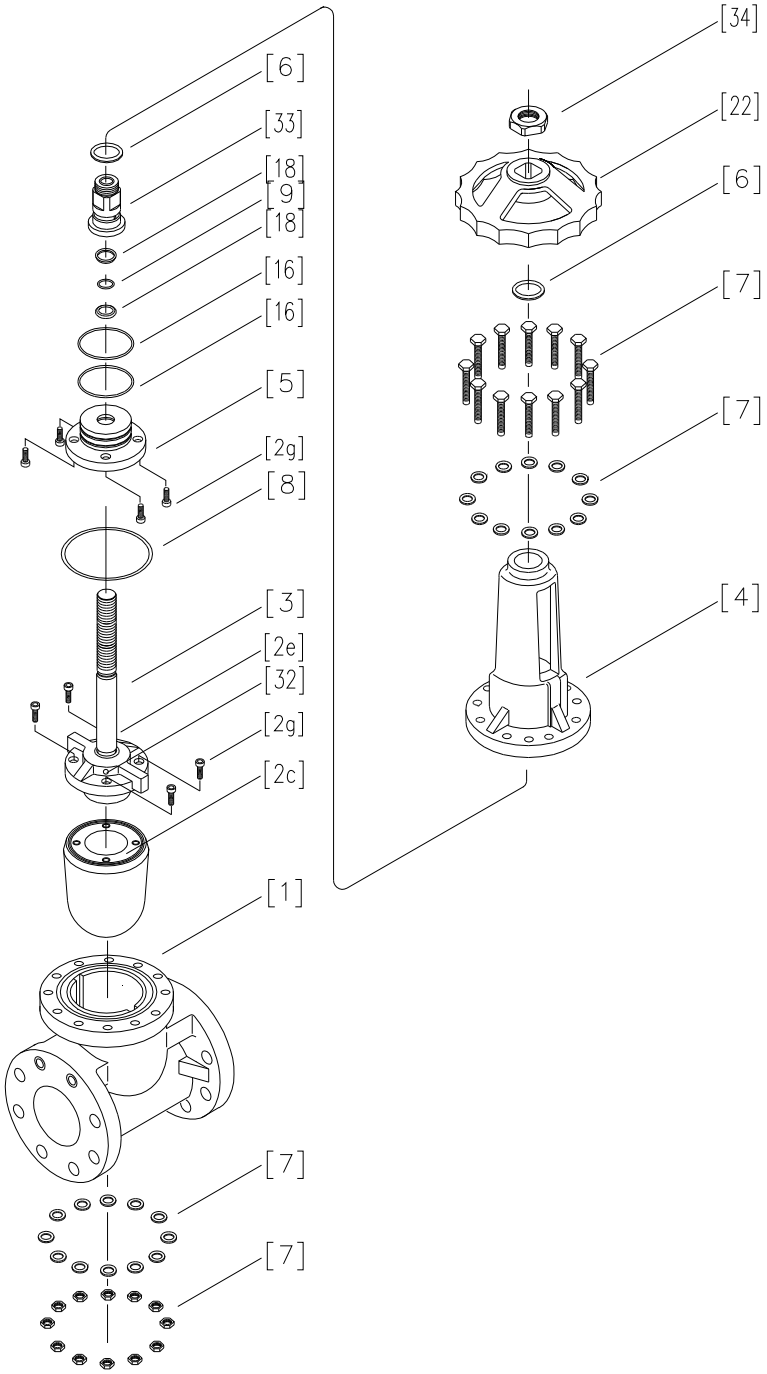


[1]	Body
[2]	Gate
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[18]	Dust seal
[22]	Handle
[32]	Pin (A)
[33]	Sleeve
[34]	Nut

AV gate valve outer thread, round handle type

Soft seal type (S type)

With 200,250mm/round handle/metal stem



[1]	Body
[2c]	Gate (A)
[2e]	Gate (B)
[2g]	Bolt (A)
[3]	Stem
[4]	Bonnet (A)
[5]	Bonnet (B)
[6]	Thrust ring (A)
[7]	Bolts and nuts
[8]	O-ring (B)
[9]	O-ring (C)
[16]	O-ring (D)
[18]	Dust seal
[22]	Handle
[32]	Pin (A)
[33]	Sleeve
[34]	Nut

4. Product Specifications

Model number table

ACTUATION	TYPE	OPERATING SYSTEM	STEM MATERIAL/ OPEN DERECTION	BODY MATERIAL	SEAL MATERIAL	CONNECTION/ STAMDARD	SIZE
V	C G	C	*	I	E	* *	* * *

ACTUATION		TYPE		OPERATING SYSTEM		STEM MATERIAL/ OPEN DERECTION		BODY MATERIAL		SEAL MATERIAL		CONNECTION/ STAMDARD		SIZE	
V	MANUAL VALVE	CG	STAMDARD TYPE	C	TOP CAP	R	SUS, RIGHT	I	HI-PVC	E	EPDM	F1	FLANGED, 10K	032	32mm
						L	SUS, LEFT					FD	FLANGED, DIN	040	40mm
												FA	FLANGED, ANSI	050	50mm
												NJ	THREADED, JIS	065	65mm
												ND	THREADED, DIN	080	80mm
												NA	THREADED, ANSI	100	100mm
														125	125mm
														150	150mm
														200	200mm
														250	250mm
														300	300mm
														350	350mm

ACTUATION	TYPE	OPERATING SYSTEM	STEM MATERIAL/ OPEN DERECTION	BODY MATERIAL	SEAL MATERIAL	CONNECTION/ STAMDARD	SIZE
V	C G	M	*	I	E	* *	* * *

ACTUATION		TYPE		OPERATING SYSTEM		STEM MATERIAL/ OPEN DERECTION		BODY MATERIAL		SEAL MATERIAL		CONNECTION/ STAMDARD		SIZE	
V	MANUAL VALVE	CG	STAMDARD TYPE	M	ROUND HANDLE	J	RESIN, LEFT	I	HI-PVC	E	EPDM	F1	FLANGED, 10K	032	32mm
						R	SUS, RIGHT					FD	FLANGED, DIN	040	40mm
												FA	FLANGED, ANSI	050	50mm
												NJ	THREADED, JIS	065	65mm
														080	80mm
														100	100mm
														125	125mm
														150	150mm
														200	200mm
														250	250mm
														300	300mm
														350	350mm

ACTUATION	TYPE	OPERATING SYSTEM	STEM MATERIAL/ OPEN DERECTION	BODY MATERIAL	SEAL MATERIAL	CONNECTION/ STAMDARD	SIZE
V	S 6	C	*	I	S	* *	* * *

ACTUATION		TYPE		OPERATING SYSTEM		STEM MATERIAL/ OPEN DERECTION		BODY MATERIAL		SEAL MATERIAL		CONNECTION/ STAMDARD		SIZE	
V	MANUAL VALVE	S6	TYPE 66	C	TOP CAP	R	SUS, RIGHT	I	HI-PVC	S	SBR	F1	FLANGED, 10K	032	32mm
						L	SUS, LEFT					FD	FLANGED, DIN	040	40mm
												FA	FLANGED, ANSI	050	50mm
												NJ	THREADED, JIS	080	80mm
												ND	THREADED, DIN	100	100mm
												NA	THREADED, ANSI	150	150mm

ACTUATION	TYPE	OPERATING SYSTEM	STEM MATERIAL/ OPEN DERECTION	BODY MATERIAL	SEAL MATERIAL	CONNECTION/ STAMDARD	SIZE
V	S G	C	*	I	S	* *	* * *

V	MANUAL VALVE	SG	CONVENTIONAL TYPE	C	TOP CAP	R	SUS, RIGHT	I	HI-PVC
						L	SUS, LEFT		

S	SBR	F1	FLANGED, 10K
		FD	FLANGED, DIN
		FA	FLANGED, ANSI

065	65mm
125	125mm
200	200mm

ACTUATION	TYPE	OPERATING SYSTEM	STEM MATERIAL/ OPEN DERECTION	BODY MATERIAL	SEAL MATERIAL	CONNECTION/ STAMDARD	SIZE
V	* *	M	*	I	S	* *	* * *

V	MANUAL VALVE	SG	CONVENTIONAL TYPE	M	ROUND HANDLE	J	RESIN, LEFT	I	HI-PVC
		TG	T-SHAPED RUBBER			R	SUS, RIGHT		

S	SBR	F1	FLANGED, 10K
		FD	FLANGED, DIN
		FA	FLANGED, ANSI

050	50mm
065	65mm
080	80mm
100	100mm
125	125mm
150	150mm
200	200mm

ACTUATION	TYPE	OPERATING SYSTEM	STEM MATERIAL/ OPEN DERECTION	BODY MATERIAL	SEAL MATERIAL	CONNECTION/ STAMDARD	SIZE
V	* *	M	L	I	S	* *	* * *

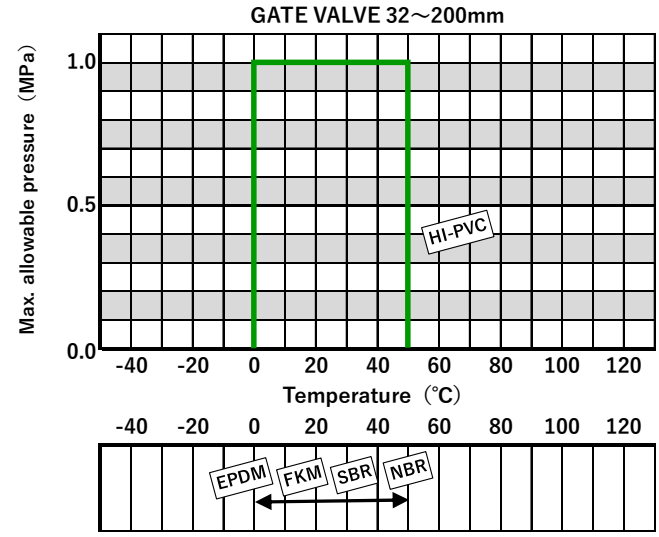
V	MANUAL VALVE	SR	CONVENTIONAL TYPE	M	ROUND HANDLE	L	SUS, LEFT	I	HI-PVC
		TR	T-SHAPED RUBBER						

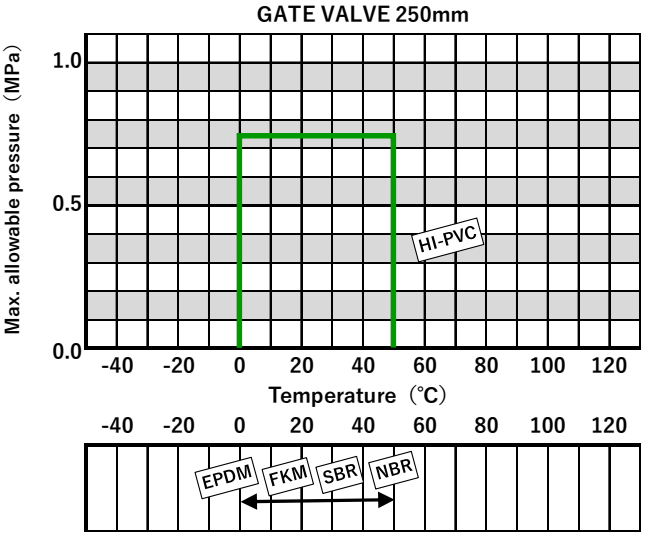
S	SBR	F1	FLANGED, 10K
		FD	FLANGED, DIN
		FA	FLANGED, ANSI

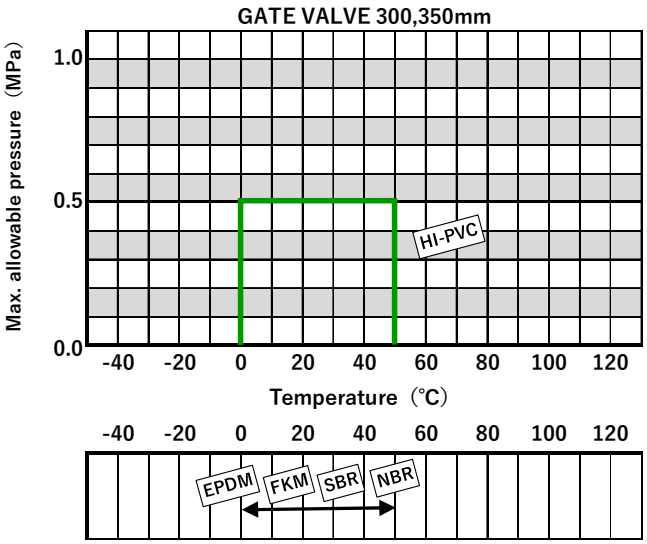
032	32mm
040	40mm
050	50mm
065	65mm
080	80mm
100	100mm
125	125mm
150	150mm
200	200mm
250	250mm

NOTE
- 200mm~350mm is of the uninterrupted water type.
- The above includes the bulb, two full face gaskets and washers.

Relationship between maximum allowable pressure and temperature







5. Piping method

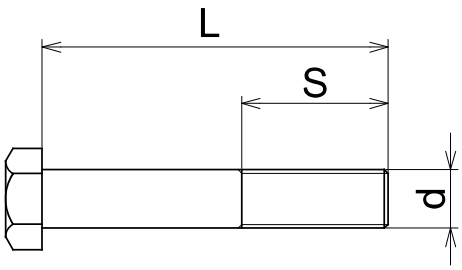
Flanged end

Warning	
Prohibition	**Serious injury can result.** ▶ When hanging or slinging a valve, pay sufficient attention to safety, and do not enter under the load.

Caution	
Prohibition	**The valve can be damaged, or leak.** ▶ Do not tighten the bolts and nuts for piping to the specified torque values in Table 5-2.
Forcing	**There is a danger of injury.** ▶ Be sure to perform safety inspections of the machine tool and power tool beforehand. ▶ When installing piping, be sure to wear the appropriate protective equipment according to the operation details. **The valve can be damaged, or leak.** ▶ Install the product so that excessive stress such as tension, compression, bending or impact is not applied to the piping or valve. ▶ When connecting to metal piping, do not apply piping stress to the valve. ▶ Use a connection flange with a full-face seat. ▶ Check that the flange standards of each other are correct. ▶ Be careful not to overtighten the pipe support when you remove it with a U band or the like. ▶ Be sure to use a sealing gasket (AV packing) between the flanges and tighten the pipe bolts/nuts to the specified torque values in **Table 5-2** "Flange tightening torque." (When other than AV packing, the tightening torque value will change.) ▶ Keep the axis misalignment and parallelism of the flange surface below the values shown in **Table 5-1** "Axis misalignment and parallelism." ▶ Tighten the bolts and nuts for piping diagonally with the specified torque values in **Table 5-2.**

Preparations	▶ Torque Wrench ▶ Spanner ▶ Bolt/Nut/Washer (Dimensions below) ▶ AV packing

[Procedure]



1) Set AV packing between the flanges.

2) Insert the washer and bolt from the connecting flange side. Insert the washer and nut from the valve side and tighten temporarily by hand.
(For large bore sizes, recessed bolts are required.)

Dimension table of through bolts

Size	JIS 10K					
	Bolt and nut nominal	Washer nominal	AV TS flanges (made of ASAHI AV)		Steel flanges (JIS B2220)	
			L1	S	L	S
30mm	M16	16	70	38	70	38
40mm	M16	16	70	38	70	38
50mm	M16	16	75	38	70	38
65mm	M16	16	75	38	75	38
80mm	M16	16	75	38	70	38
100mm	M16	16	75	38	70	38
125mm	M20	20	85	46	85	46
150mm	M20	20	85	46	85	46
200mm	M20	20	90	46	85	46
250mm	M22	22	100	50	85	50
300mm	M22	22	100	50	90	50
350mm	M22	22	100	50	95	50

Dimension table of stud bolts

Size	JIS 10K					
	Bolt and nut nominal	Washer nominal	AV TS flanges (made of ASAHI AV)		Steel flanges (JIS B2220)	
			L	S	L	S
200mm	M20	20	50	46	45	46
250mm	—	—	—	—	—	—
300mm	M22	22	60	50	50	50
350mm	M22	22	65	50	50	50

⚠Caution

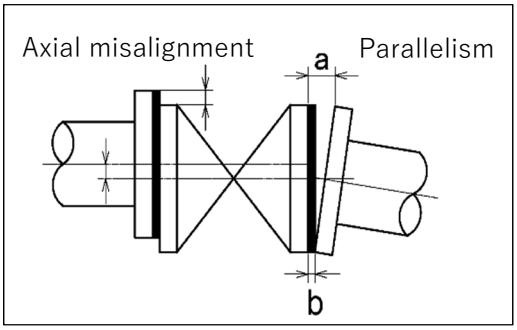
Forcing

Damage may occur.

▶ Keep the parallelism of the flange surface and the dimension of the shaft misalignment below the values shown below.
(Stress may be applied to the piping, causing damage.)

Table 5-1 Axial misalignment and parallelism

Size	Axial misalignment	Parallelism (a-b)
40～150mm	1.0mm	1.0mm
200～350mm	1.5mm	1.0mm



3) Gradually tighten to the specified torque value diagonally with a torque wrench. (Refer to **Fig. 1**.)

4) Tighten clockwise at least two turns at the specified torque value. (Refer to **Fig. 1**.)

⚠Caution

Prohibition

The valve can be damaged, or leak.

▶ Do not tighten more than the specified torque value.

Fig. 1

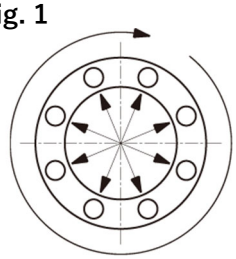


Table 5-2 Flange Tightening Torque Unit; N-m

Size	Tightening torque	Size	Tightening torque
32mm (1¼")	20.0	125mm (5")	40.0
40mm (1½")	20.0	150mm (6")	40.0
50mm (2")	22.5	200mm (8")	55.0
65mm (2½")	22.5	250mm (10")	55.0
80mm (3")	30.0	300mm (12")	60.0
100mm (4")	30.0	350mm (14")	60.0

Threaded end

⚠Caution	
Prohibition	**The valve can be damaged, or leak.** ▶ Do not overtighten the screws at the joints. ▶ Do not use a pipe wrench to tighten screws.
Forcing	**The valve can be damaged, or leak.** ▶ Make sure that the screws at the joints are made of resin. ▶ Use sealing tape for the sealing material of the screw-in part. If liquid sealant or liquid gasket is used, stress cracking (environmental stress cracking) may occur.

Preparations	▶ Sealing tape	▶ Belt Wrench

[Procedure]

1) Wrap sealing tape around the male thread of the fitting, leaving approximately 3mm at the end.
2) Manually tighten the male thread of the fitting and the valve box.
3) Screw in 1/2 to 1 turn with a belt wrench to prevent scratching.

6. Operation method

Manual operation

⚠Caution	
Prohibition	**Doing so may damage the bubbles.** ▶ When fully closing or opening the valve, do not turn the handle unnecessarily with excessive force. ▶ Do not open or close the valve with dust or other foreign matter in the fluid.
Forcing	**Doing so may damage the bubbles.** ▶ Handle operation must be done by hand.

▶ Turn gently to open/close operation.
(For left-open, turn clockwise to close and counterclockwise to open. Right-open is the opposite.)

▶ The cap type does not have a valve travel indicator. Do not forcibly operate the valve.

▶ Open/close operation revolutions are shown in the table below.

[Rotate]

Size	Internal thread						External thread
	Standard type (P type)			Soft seal type (S type)			Soft seal type (S type)
	Cap	Round handle		Cap	Round handle		Round handle
	Stainless stem	Plastic stem	Stainless stem	Stainless stem	Plastic stem	Stainless stem	Stainless stem
32mm	16 1/4	5	16 1/4	12 1/4	-	12 1/4	12 1/4
40mm	16 1/4	5	16 1/4	14	-	14	14
50mm	15	6	15	13 1/4	5 1/4	13 1/4	13
65mm	15	6 1/4	15	13 1/2	5 1/2	13 1/2	13 1/2
80mm	17	6	17	15 1/2	5 1/2	15 1/2	15 1/2
100mm	18 1/4	7 3/4	18 1/4	17	7 1/4	17	17
125mm	23 1/2	7 1/4	23 1/2	22 1/2	7	22 1/2	22 1/2
150mm	19 3/4	8 3/4	19 3/4	18 3/4	8 1/4	18 3/4	18 3/4
200mm	25 3/4	18	25 3/4	25	17 1/2	25	25
250mm	25	18 3/4	25	-	-	-	24 1/4
300mm	30 1/4	22 3/4	30 1/4	-	-	-	-
350mm	35 1/2	26 1/2	35 1/2	-	-	-	-

▶ The closing torque of the cap type (torque required for fully closing) and the length of the grip of the T-handle are as shown in the table below.

Size	Closing torque N-m	T-handle grip length ℓ (mm) [Reference]
32mm	15	200
40mm	15	200
50mm	15	200
65mm	23	200
80mm	23	200
100mm	30	200

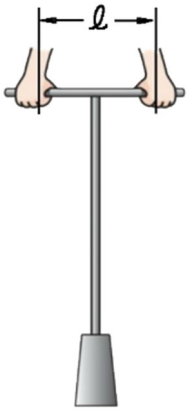
Size	Closing torque N-m	T-handle grip length ℓ (mm) [Reference]
125mm	40	300
150mm	60	350
200mm	100	550
250mm	110	550
300mm	130	700
350mm	150	700

1) Do not use the product by inserting a pipe, etc. into the T-Handle or do not turn it by two persons.

2) If the length of the handle is long, adjust the ℓ dimension with a grip.

3) The grip length ℓ of the handle is set so that the operating force (one hand) is about 150N～200N.

4) For rising stem type valves (for vacuum sewage), a special handle is used, contact for details.



7. How to disassemble/assemble parts for replacement

⚠Warning	
Forcing	**There is a danger of injury.** ▶ Be sure to perform safety inspections of the machine tool and power tool beforehand. ▶ When installing piping, be sure to wear the appropriate protective equipment according to the operation details.

⚠Caution	
Forcing	**Damage may occur.** ▶ When replacing the valve or replacing parts, reduce the pressure in the piping to zero and completely drain the fluid. ▶ When connecting a resin valve to metal piping, be careful not to apply piping stress to the resin valve.

Preparations ▶ Hex Wrench ▶ Wrench

[Disassembly procedure]

1) Use an Allen wrench to remove the cap.
(For round handles, contact us. Except for round handles and parts related to the valve travel indicator, they are the same as the cap type.)

2) Remove the lid (A) and the lid (B) together with the stem by loosening the bolts and nuts.

[Assembly procedure]

▶ Follow the disassembly procedure in reverse.

8. Inspection item

⚠Caution	
Forcing	**The valve can be damaged, or leak.** ▶ Maintenance should be performed every 3 to 6 months as a guide in order to keep the watch in normal condition and use it for a long time. Pay particular attention to temperature changes and aging during long-term storage or shutdown or use. ▶ When removing the valve from the piping when replacing the valve or parts, completely remove the fluid from the piping before starting work. ▶ If any trouble is found, take the appropriate action referring to "9. Cause of trouble and remedy".

Daily inspection

Inspection items and inspection methods	Guideline of judgment	Check point	Treatment method
External leakage (visual inspection)	No leakage	[Flanged end] Pipe flange connection	① Retighten the pipe bolts to the specified torque. ② Remove the valve from the pipe and re-tighten the pipe bolts. (Ref: 5. Piping method [Flanged end])
		[Threaded end] Threaded connection	Remove the valve from the piping and screw the valve in again. (Ref: 5. Piping method [Treaded end])
		Surface of the entire valve	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
Internal leakage (visual and measurement)	No leakage	Leakage to secondary side when valve is fully closed	Remove the valve from the piping and replace the valve or defective part. (Ref: 7. How to disassemble/assemble for parts replacement)
		Measured values of flowmeters, pressure gauges, etc.	Remove the valve from the piping and replace the valve or defective part. (Ref: 7. How to disassemble/assemble for parts replacement)
Abnormal noise (hearing)	No abnormal noise	Valve	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
		Piping around the valve	Reconfirm the conditions of use (Ref: 2. Safety Instructions)

Periodic inspection

●Guideline for the inspection cycle: 3 months

Inspection items and inspection methods	Guideline of judgment	Check point	Remedy for malfunctions
Vibration (palpation)	No difference from other parts	Valve	Recheck the operating conditions and remove the source of vibration. (Ref: 2. Safety Instructions)
		Piping around the valve	Recheck the operating conditions and remove the source of vibration. (Ref: 2. Safety Instructions)

Periodic inspection

●Guideline of the inspection cycle: 6 months

Inspection items and inspection methods	Guideline of judgment	Check point	Remedy for malfunctions
Operability of manual handle (touch)	Rotates smoothly	Manual operation unit	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
Looseness of bolts (visual and palpation)	No Loose	For valve	Retighten the mounting bolts
		[Flanged end] For flange piping	Retighten the pipe bolts to the specified torque. (Ref: 5. Piping method [Flanged enf])
Corrosion or rust (Visually)	No corrosion or rust	Appearance of the product	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
Product damage	No scratches, cracks, or deformation	Appearance of the product	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)

9. Cause of malfunction and remedy

⚠Caution	
Forcing	**There is a danger of injury.** ▶ If any malfunction is found, immediately stop using the product and take appropriate action. ▶ When removing the valve from the piping when replacing the valve or parts, completely remove the fluid from the piping before starting work.

Failure phenomenon	Possible cause	Measures and measures
Handle does not turn (cannot turn)	The valve is already fully open (or fully closed).	Rotate the handle in the opposite direction (Ref: 6. Operation method)
	Foreign matter caught in valve	Remove the valve from the piping, disassemble it, and remove foreign matter. (Ref: 5. Piping method)
	Piping stress is applied to the valve.	Remove the piping stress
	The torque of the valve has increased due to the effects of the fluid (temperature, components, pressure, etc.)	Reconfirm the conditions of use (Ref: 2. Safety Instructions [Product handling])
Idle steering wheel	Valving element or stem is damaged	Remove the valve from the pipe, disassemble it, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
Fluid leaks even when fully closed (internal leak)	High fluid pressure	Use below the maximum allowable pressure (Ref: 2. Safety Instructions [Product handling])
	The body or valve body is damaged.	Remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
	Foreign matter caught in valve	Remove the valve from the piping, disassemble it, and remove foreign matter. (Ref: 5. Piping method)
	Piping stress is applied to the valve.	Remove the piping stress
	The part is damaged.	Remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 5. Piping method)

Failure phenomenon	Possible cause	Measures and measures
Fluid leaks from valve (external leak)	Valve is cracked or broken	Stop using the product immediately, remove the valve from the piping, and replace the valve. (Ref: 5. Piping method)
	Bolt is loose	Retighten the mounting bolts (Ref: 7. How to disassemble/assemble for parts replacement)
	O-ring is scratched, worn, melted, or altered	Stop using the product immediately, remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
	Scratches or wear are found on the sliding or fixing surfaces of the O-ring.	Stop using the product immediately, remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
Valve is corroded or deformed	The watch is exposed to water, chemical liquids, or other liquids.	Stop using the product immediately, remove the valve from the piping, and replace the valve. (Ref: 5. Piping method)

10. Disposal method of residual materials and waste materials

⚠ Warning	
Forcing	**When burnt, toxic gas is generated.** ▶ When disposing of the product or parts, please dispose of them according to the guidelines of each local authority by a professional disposal company.

Inquiries

Contact the nearest dealer, our sales office, or our web website for inquiries about this product.

[User's Manual]

Gate valve
Standard type (P type) 32～350mm
Soft seal type (S type internal thread) 32～200mm
Soft seal type (S type external thread) 32～250mm

https://www.asahi-yukizai.co.jp/en

Please note that the content of this manual is subject to change without notice. **April 2024**