

# ASAHI

## BALL VALVE

P.043 BALL VALVE TYPE 21, 21 $\alpha$

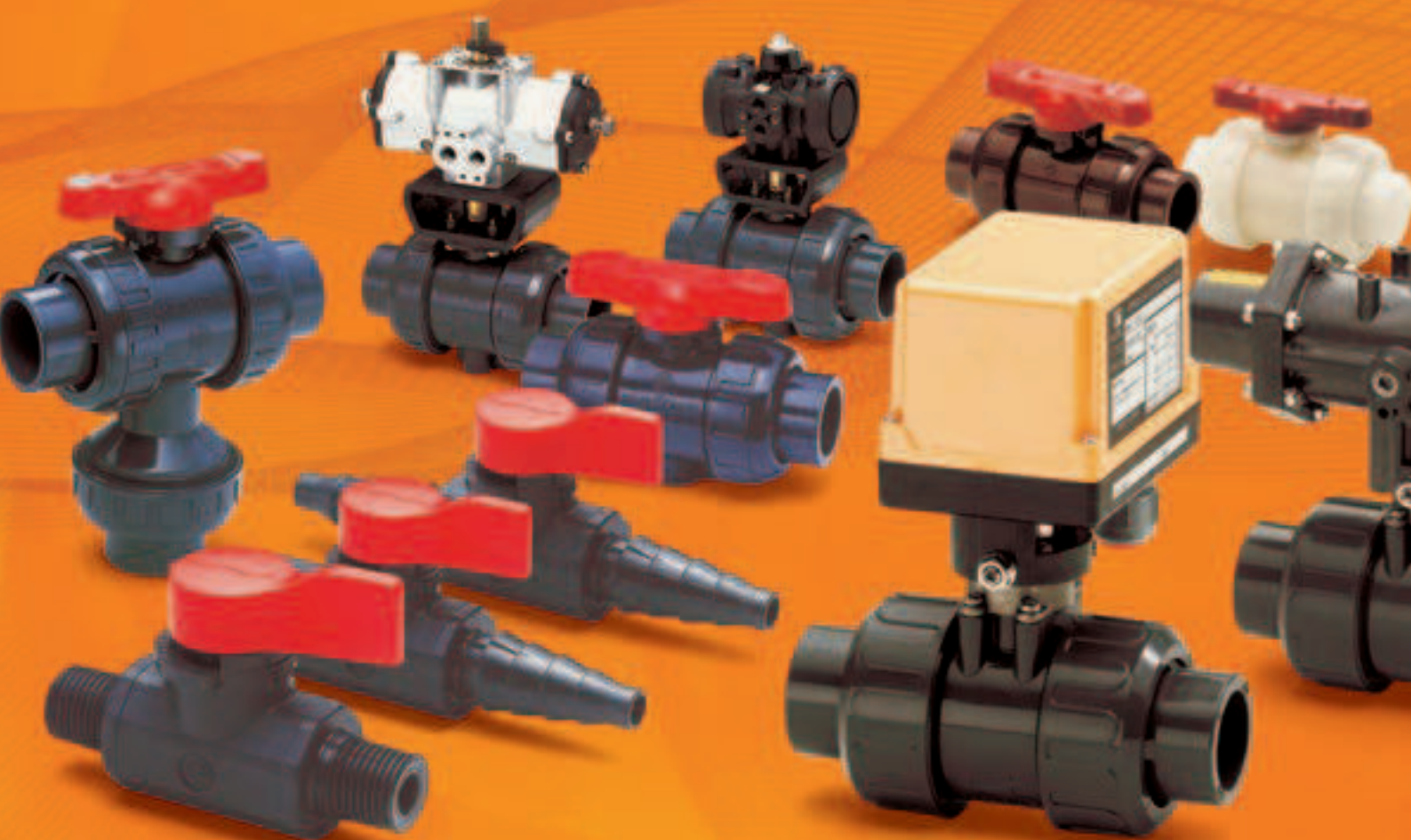
P.053 WATER BALL VALVE

P.057 3 WAY BALL VALVE TYPE 23

P.063 3 WAY BALL VALVE TYPE 23 H

P.065 LAB COCK

P.067 COMPACT BALL VALVE



## BALL VALVE LINEUP

APPLICATION	TYPE	SIZE	MATERIAL			
			U-PVC	C-PVC	PP	PVDF
FOR CHEMICALS	21 $\alpha$	15 — 50mm	●	●		
	21	15 — 50mm			●	●
		65 — 100mm	●	●	●	●
FOR WATER	WATER BALL VALVE	15 — 50mm	●			
3 WAY BALL	23	15 — 100mm	●	●	●	●
	23H	25 — 40mm			●	
LAB COCK	—	1/4 — 3/8inch	●			
COMPACT SIZE	—	13 — 80mm	●	●		

## AVAILABLE OPTIONS **AUTOMATIC** \* Options other than those listed below are also available. Contact us for inquiry.

	PNEUMATIC			ELECTRIC	
	TYPE TA	TYPE AA	TYPE VC	TYPE T	TYPE V
SOLENOID VALVE (NAMUR)	●	●			
SOLENOID VALVE (WITH EXHAUST THROTTLE VALVE WITH SILENCER)			● <sup>*1</sup>		
FILTER REGULATOR	●	●			
SPEED CONTROLLER	●	●	●	● <sup>*3</sup>	
BYPASS VALVE (WITH SPEED CONTROLLER)	●	●			
LIMIT SWITCH BOX	●	●	●		
LIMIT SWITCH	●	●			
OUTPUT CONTACT LIMIT SWITCH				STANDARD	
INTERMEDIATE OUTPUT CONTACT LIMIT SWITCH				● <sup>*3</sup>	
PROXIMITY SWITCH	●				
E/P POSITIONER	●				
P/P POSITIONER	●				
E/E POSITIONER				● <sup>*3</sup>	
MANUAL OPERATION LEVER	●				
MANUAL OVERRIDE	●			●	
FULL OPENING ADJUSTMENT	●				
SPECIAL PAINTING (ACTUATOR ONLY)	●			●	
SPECIAL FITTING (STAINLESS STEEL)	●	●		●	
METAL INSERT PROVIDED (WITH ENSAT)	●	●		●	
SPACE HEATER				● <sup>*2</sup>	STANDARD
POTENTIOMETER				● <sup>*3</sup>	

\*1 Not compatible with the NAMUR standard. \*2 Provided as standard for 65 mm or more.

\*3 When it is mounted on a valve with a size of 50 mm or less, the actuator specifications will change.



SOLENOID VALVE



SPEED CONTROLLER



LIMIT SWITCH BOX



LIMIT SWITCH



POSITIONER

# 3 WAY BALL VALVE TYPE 23

- ENABLES SWITCHING BETWEEN TWO FLOW PATHS AND COMPLETE CLOSING. (ONLY ONE VALVE IS NECESSARY IN A LINE CONVENTIONALLY REQUIRING TWO BALL VALVES.)
- THE SHAPE OF VALVE ELEMENT (BALL) IS SELECTABLE FROM THREE KINDS, ALLOWING FOR SWITCHING OF FLOW DIRECTION ACCORDING TO THE APPLICATION.

## BASIC SPECIFICATIONS

**VALVE TYPE** ————— **3 WAY BALL VALVE TYPE 23**

**SIZE** ————— **15 mm—100 mm (1/2 inch—4 inch)**

**BODY MATERIAL** ————— **U-PVC C-PVC PP PVDF**

**SEAL MATERIAL / O-RING** ————— **EPDM FKM etc.**

**CONNECTION / FLANGED** ————— **JIS5K, JIS10K, DIN PN10, ANSI CLASS150**

**SOCKET** ————— **JIS, DIN, ANSI**

**THREADED** ————— **Rc, Rp, NPT**

**PORT** ————— **DOUBLE L PORT, CROSS PORT, L PORT**

	FLUID TEMPERATURE	MAXIMUM WORKING PRESSURE (NORMAL TEMPERATURE) [MPa(kgf/cm <sup>2</sup> )]	CONNECTION METHOD		
			FLANGED	SOCKET	THREADED
U-PVC	0°C ~ 50°C	1.0 {10.2}	○	○	○
C-PVC	0°C ~ 90°C	1.0 {10.2}	○	○	○
PP	-20°C ~ 80°C	1.0 {10.2}	○	○	○
PVDF	-20°C ~ 100°C	1.0 {10.2}	○	○	○

**NOTE** (1) The ball-type valves have dead spaces for structural reasons. Note that volatile liquids, such as hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) and sodium hypochlorite (NaClO), vaporize in those dead spaces, which may cause abnormal pressure increase in the valve. (When the internal pressure abnormally increases due to vaporization, the gas will be compressive fluid. If the valve breaks in this state, it will be very dangerous, causing explosion and scattering of fragments.) (2) The maximum working pressure is the value including the water hammer pressure. Be careful that the maximum working pressure is not exceeded during use.

\* Concerning the allowable pressure for each temperature and material, see the technical documents at the end of this catalog.

MANUAL

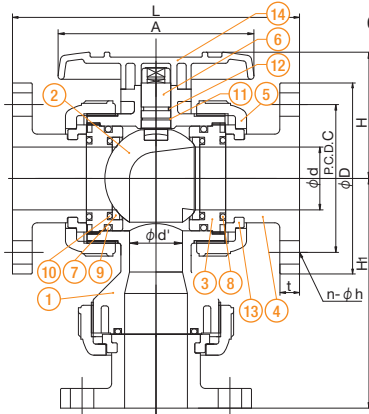


AUTOMATIC

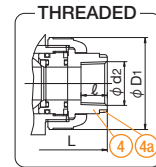
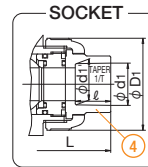
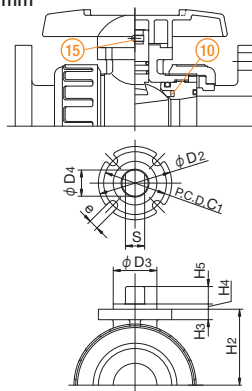


## PARTS LIST **MANUAL**

FLANGED



65 mm - 100 mm



PART NO. / NAME	QTY	MATERIAL	PART NO. / NAME	QTY	MATERIAL	PART NO. / NAME	QTY	MATERIAL
1 BODY	1	U-PVC, C-PVC, PP, PVDF	6 STEM	1	U-PVC, C-PVC, PP, PVDF	11 O-RING (D)	1	EPDM, FKM, etc.
2 BALL	1	U-PVC, C-PVC, PP, PVDF	7 SEAT	2	PTFE	12 O-RING (E)	1	EPDM, FKM, etc.
3 UNION	2	U-PVC, C-PVC, PP, PVDF	8 O-RING (A)	3	EPDM, FKM, etc.	13 STOP RING	3	PVDF (Used for flanged type)
4 END CONNECTOR	3	U-PVC, C-PVC, PP, PVDF	9 O-RING (B)	2	EPDM, FKM, etc.	14 HANDLE	1	ABS
4a RING	3	SUS304 (Used for C-PVC 15-, 20-, or 25-mm threaded type)	10 O-RING (C)	2	EPDM, FKM, etc. (Used for 15 to 50 mm)	15 TAPPING SCREW (A)	1	SUS304 (Used for 65 to 100 mm)
5 UNION NUT	3	U-PVC, C-PVC, PP, PVDF	10 CUSHION	2	EPDM, FKM, etc. (Used for 65 - 100 mm)			

## COMPATIBLE ACTUATOR **AUTOMATIC**

**PNEUMATIC TYPE TA** For detailed specifications, see **P.123**

**ELECTRIC TYPE T** For detailed specifications, see **P.139**

## FLOW DIRECTION DIAGRAM FOR EACH HANDLE ROTATION ANGLE **MANUAL** **AUTOMATIC**

For details of flow direction diagram, see **OP.058**.



PRODUCT MODEL CODE LIST	ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
<b>MANUAL</b>	V	23	LV	*	*	*	*	***
	V MANUAL VALVE	23 TYPE 23	LV LEVER TYPE	U U-PVC C C-PVC P PP F PVDF	E EPDM V FKM	S SOCKET N THREADED P SPIGOT F FLANGED	J JIS D DIN 1 10K 5 5K A ANSI	015 15mm 100 100mm

PRODUCT MODEL CODE LIST	ACTUATION	TYPE	ACTUATOR TYPE	ACTION / POWER SOURCE	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE	SPACE HEATER
<b>AUTOMATIC</b>	A	23	*	*	*	*	*	*	***	OC*
	A AUTOMATIC VALVE	23 TYPE 23	PNEUMATIC K TYPE TA ELECTRIC T TYPE T	PNEUMATIC F DOUBLE ACTING G AIR TO OPEN S AIR TO CLOSE ELECTRIC 1 Single-Phase 100V 2 Single-Phase 200V	U U-PVC C C-PVC P PP F PVDF	E EPDM V FKM	S SOCKET N THREADED P SPIGOT F FLANGED	J JIS D DIN 1 JIS10K 5 JIS5K A ANSI	015 15mm 100 100mm	OC OC * Indicate only for electric type only.

### FLOW DIRECTION DIAGRAM **MANUAL** **AUTOMATIC**

THE DIRECTION OF FLOW IS SELECTABLE ACCORDING TO THE APPLICATION.

THREE TYPES OF VALVE ELEMENT (BALL) ARE AVAILABLE: "L PORT", "DOUBLE L PORT" AND "CROSS PORT". THE DIRECTION OF FLOW CAN BE SWITCHED ACCORDING TO THE APPLICATION.

	COMPATIBLE ACTUATION METHOD	ROTATION ANGLE					BALL SHAPE
		0°	45°	90°	135°	180°	
<b>L PORT</b> (90° or 180°)	MANUAL ..... ○						
	ELECTRIC ..... △						
<b>DOUBLE L PORT</b> (90°)	MANUAL ..... △						
	PNEUMATIC ..... ○						
	ELECTRIC ..... ○						
<b>CROSS PORT</b> (90° or 180°) * For 15 - 50 mm only.	MANUAL ..... △						
	PNEUMATIC ..... △						
	ELECTRIC ..... △						

○ indicates standard products. △ indicates optional products.

\* Our products are vertical type. The double L port and cross port cannot completely stop the flow in three directions. \* For automatic valves, the direction of flow is determined as follows according to the operation system:

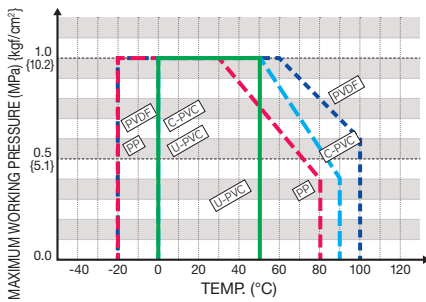
[Air to open: Right opens during air supply. | Air to close: Left opens during air supply. | Double acting: Right opens during air supply on ⊙ side. Left opens during air supply on ⊙ side.]

\* Also for the solenoid valve, the right side opens when energized and the left side opens when de-energized.

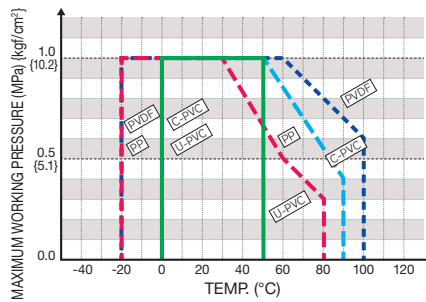


## BALL VALVE TYPE 21, 21α

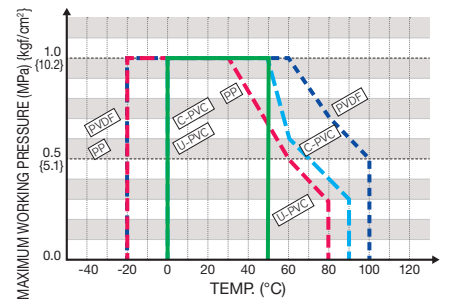
MANUAL AUTOMATIC 15 mm – 50 mm



MANUAL AUTOMATIC 65 mm

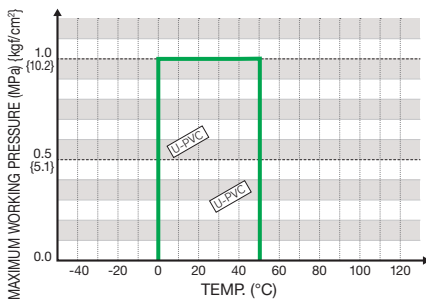


MANUAL AUTOMATIC 80 mm · 100 mm



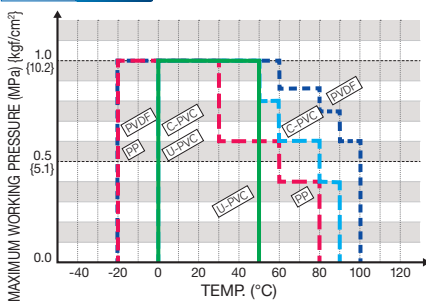
## WATER BALL VALVE

MANUAL AUTOMATIC 15 mm – 50 mm

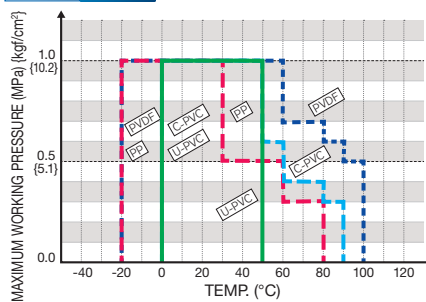


## 3 WAY BALL VALVE TYPE 23

MANUAL AUTOMATIC 15 mm – 50 mm

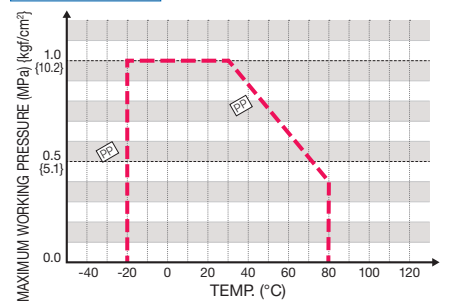


MANUAL AUTOMATIC 65 mm – 100 mm



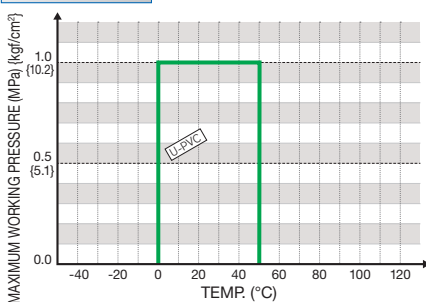
## 3 WAY BALL VALVE TYPE 23 H

MANUAL 15 mm – 50 mm



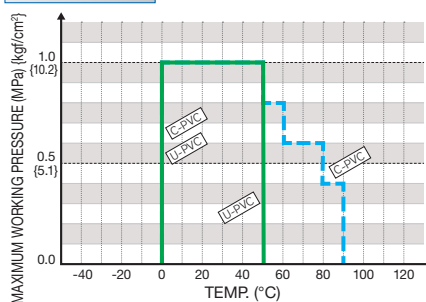
## LAB COCK

MANUAL

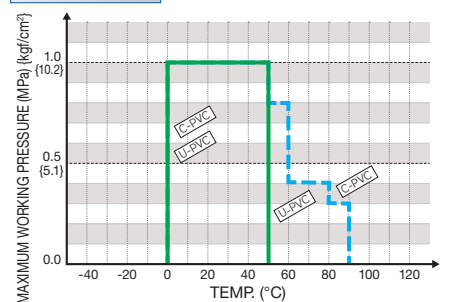


## COMPACT BALL VALVE

MANUAL 13 mm – 50 mm

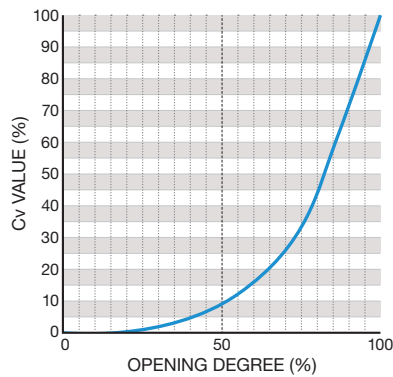


MANUAL 80 mm



## BALL VALVE TYPE 21, TYPE 21 $\alpha$ / WATER BALL VALVE

TYPE 21, TYPE 21 $\alpha$ : 15 mm — 100 mm  
 WATER BALL VALVE: 15 mm — 50 mm

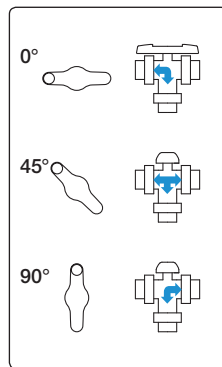
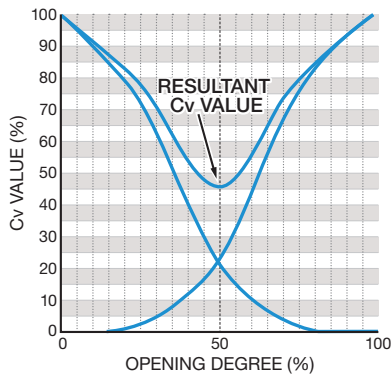


### FULL-OPEN Cv VALUE

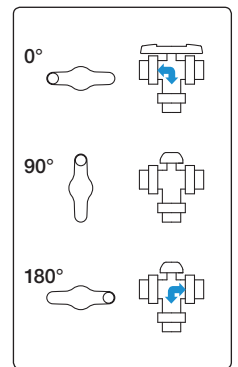
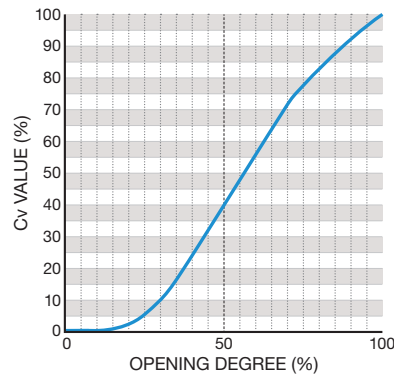
mm	15	20	25	32	40	50	65	80	100
inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
FULL-OPEN Cv VALUE	14	29	47	72	155	190	365	410	680

## 3 WAY BALL VALVE TYPE 23

### DOUBLE L PORT (STANDARD)

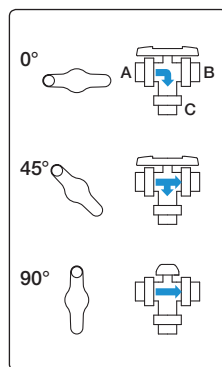
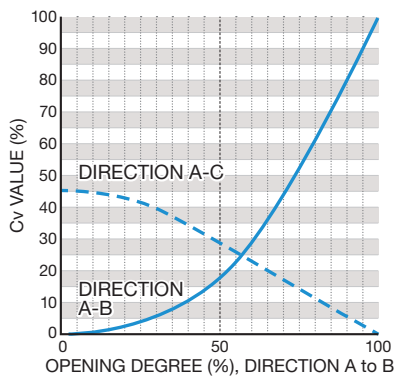


### L PORT (OPTION)



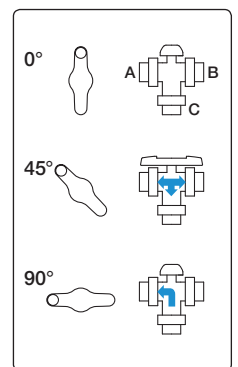
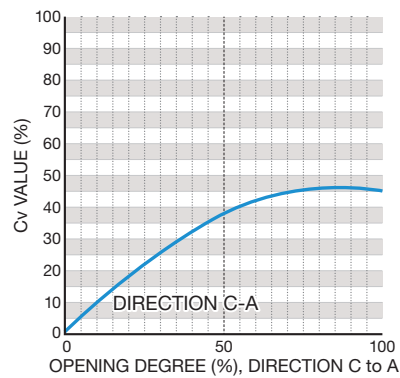
### CROSS PORT (OPTION)

DIRECTION A to B, DIRECTION A to C, OPENING DEGREE (%) DIRECTION A to C



### CROSS PORT (OPTION)

DIRECTION C to A



### FULL-OPEN Cv VALUE

mm	15	20	25	32	40	50	65	80	100	
inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	
FULL-OPEN Cv VALUE	L PORT	7.4	10	23	33	43	59	111	130	260
	DOUBLE L PORT	6.3	8.5	20	27	36	45	84	99	200
	CROSS PORT	7.8	13	23	49	65	98	—	—	—

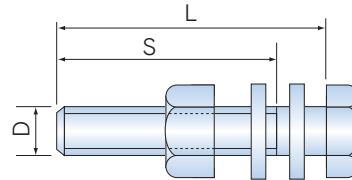
## PIPE BOLT DIMENSIONS (REFERENCE: RECOMMENDED DATA)

### DIAPHRAGM VALVE

(FOR JIS10K)

UNIT: mm

mm	inch	PIPE BOLT DIMENSIONS			VALVE TYPE
		D	S	L	
15	1/2	M12	30	55	TYPE 14
20	3/4	M12	30	55	
25	1	M16	38	60	
32	1 1/4	M16	38	65	
40	1 1/2	M16	38	65	
50	2	M16	38	70	
65	2 1/2	M16	38	75	
80	3	M16	38	75	TYPE 15
100	4	M16	38	75	
125	5	M20	52	80	
150	6	M20	52	85	TYPE 72
200	8	M20	52	90	
250	10	M22	56	100	



**NOTES** The diaphragm may become loose due to temperature changes during long storage, operation stop or while in use. Check the conditions and then retighten the bolts and nuts between the bonnet and the body to the "bonnet tightening torque". (For bonnet tightening torque, see the table below.)

### ASAHI AV DIAPHRAGM VALVE BONNET TIGHTENING TORQUE

UNIT: N·m (kgf·cm)

mm ▶ inch ▶	TYPE 14								TYPE 15		TYPE 72		
	15	20	25	32	40	50	65	80	100	125	150	200	250
	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10
RUBBER DIAPHRAGM	3.0 {31}	3.0 {31}	5.0 {51}	5.0 {51}	12.0 {122}	15.0 {153}	13.0 {133}	18.0 {184}	35.0 {357}	45.0 {459}	45.0 {459}	30.0 {306}	30.0 {306}
PTFE DIAPHRAGM	5.0 {51}	5.0 {51}	8.0 {82}	8.0 {82}	15.0 {153}	20.0 {204}	15.0 {153}	20.0 {204}	40.0 {408}	45.0 {459}	45.0 {459}	30.0 {306}	30.0 {306}

### BALL VALVE

### CHECK VALVE

### OTHER VALVES

- BALL VALVE ■ 3 WAY BALL VALVE TYPE 23, TYPE 23H ■ SWING CHECK VALVE ■ WAFER CHECK VALVE
- BALL CHECK VALVE ■ BALL FOOT VALVE ■ STOP VALVE (GLOBE VALVE), CONSTANT FLOW VALVE
- GAUGE VALVE ■ SEDIMENT STRAINER (TYPE Y)

FLANGED (JIS10K)

UNIT: mm

SIZE		13	15	20	25	32	40	50	65	75	100	125	150	200	250	300	350
SCREW SIZE		M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	M20	M20	M22	M22	M22
NO. OF FLANGE HOLES		4	4	4	4	4	4	4	4	8	8	8	8	12	12	16	16
FLANGE THICKNESS		14	14	15	15	16	16	20	22	22	22	24	26	28	30	30	34
NOMINAL LENGTH	TS FLANGE	55	55	60	60	65	65	70	75	75	75	85	90	100	100	100	110
	BALL VALVE TYPE 21, 21α	—	55	55	60	65	65	65	70	70	70	—	—	—	—	—	—
	3 WAY BALL VALVE TYPE 23, 23H	—	55	55	60	65	65	65	70	70	70	—	—	—	—	—	—
	SWING CHECK VALVE	—	55	55	60	65	65	70	75	75	75	85	85	100	—	—	—
	GAUGE VALVE	—	—	55	60	—	—	—	—	—	—	—	—	—	—	—	—
	BALL CHECK VALVE	—	60	60	65	—	65	75	—	80	80	—	—	—	—	—	—
	BALL FOOT VALVE	—	60	60	65	—	65	75	—	80	80	—	—	—	—	—	—
	STOP VALVE (GLOBE VALVE)	—	55	55	60	65	65	65	70	70	70	—	—	—	—	—	—
	CONSTANT FLOW VALVE	—	55	55	60	—	—	70	—	75	75	—	—	—	—	—	—
	SEDIMENT STRAINER (TYPE Y)	—	55	60	65	65	65	70	75	75	75	—	—	—	—	—	—
	WAFER CHECK VALVE	—	—	—	—	—	—	—	—	—	150	160	175	185	210	230	230

**NOTES** (1) The above values indicate the bolt dimensions when an AV TS flange and AV packing are used.  
 (2) The numbers in a circle indicate the number of bolts required to connect one side of flange. When there is no indication, refer to the number of flange holes.



## BALL VALVE

### TYPE 21, TYPE 21α [MANUAL](#)

UNIT: kg

mm	inch	FLANGED (JIS10K)				THREADED (JIS)				SOCKET, SPIGOT			
		U-PVC	C-PVC	PP	PVDF	U-PVC	C-PVC	PP	PVDF	U-PVC	C-PVC	PP	PVDF
15	1/2	0.4	0.4	0.3	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
20	3/4	0.6	0.7	0.5	0.7	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3
25	1	0.8	0.9	0.7	1.0	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5
32	1 1/4	1.2	1.3	0.9	1.5	0.7	0.7	0.6	0.8	0.6	0.7	0.5	0.7
40	1 1/2	1.7	1.8	1.2	2.0	1.1	1.2	0.7	1.3	1.0	1.0	0.8	1.2
50	2	2.5	2.7	1.8	3.7	1.8	2.0	1.2	2.2	1.7	1.8	1.2	2.0
65	2 1/2	3.3	3.5	2.4	4.0	2.3	2.5	1.7	2.8	2.4	2.6	1.7	2.8
80	3	4.9	5.5	3.4	5.7	3.7	4.0	2.5	4.5	3.8	4.1	2.4	4.4
100	4	10.5	10.6	7.0	12.1	8.8	9.9	6.0	11.3	9.2	9.9	6.0	10.8

Spigot: U-PVC, PP, PVDF only.

### WATER BALL VALVE [MANUAL](#)

UNIT: kg

mm	inch	SOCKET, THREADED (JIS)
		U-PVC
15	1/2	0.2
20	3/4	0.3
25	1	0.5
32	1 1/4	0.7
40	1 1/2	1.0
50	2	1.7

### 3 WAY BALL VALVE TYPE 23 [MANUAL](#)

UNIT: kg

mm	inch	FLANGED (JIS10K)				SOCKET				THREADED (JIS)			
		U-PVC	C-PVC	PP	PVDF	U-PVC	C-PVC	PP	PVDF	U-PVC	C-PVC	PP	PVDF
15	1/2	0.5	0.5	0.3	0.6	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.4
20	3/4	0.8	0.9	0.5	0.9	0.4	0.4	0.2	0.4	0.4	0.4	0.2	0.4
25	1	1.3	1.4	0.8	1.5	0.6	0.6	0.4	0.7	0.6	0.6	0.4	0.7
32	1 1/4	2.2	2.4	1.4	2.6	1.3	1.4	0.8	1.5	1.4	1.5	0.9	1.7
40	1 1/2	2.2	2.4	1.4	2.6	1.3	1.4	0.8	1.5	1.4	1.5	0.9	1.7
50	2	3.5	3.7	2.2	4.0	2.5	2.7	1.6	2.9	2.6	2.8	1.7	3.1
65	2 1/2	7.0	7.5	4.4	8.5	5.8	5.8	3.5	6.8	5.5	6.0	3.5	6.5
80	3	7.0	7.5	4.4	8.5	6.0	6.0	3.6	7.0	5.5	6.0	3.5	6.5
100	4	14.0	15.0	9.0	16.5	13.5	14.0	8.5	15.5	13.0	14.0	8.5	15.5

### 3 WAY BALL VALVE TYPE 23 H [MANUAL](#)

UNIT: kg

mm	inch	FLANGED (JIS10K)	SOCKET, THREADED, SPIGOT
		PP	PP
25	1	0.9	0.4
32	1 1/4	1.7	1.1
40	1 1/2	1.7	1.1

### LAB COCK [MANUAL](#)

UNIT: g

CONNECTION	U-PVC
1/4 MALE × 1/4 MALE	25
1/2 MALE × 1/2 MALE	30
1/4 FEMALE × 1/4 FEMALE	30
3/8 FEMALE × 3/8 FEMALE	30
1/4 HOSE × 1/4 HOSE	25
1/2 MALE × ELBOW 16 mm	55

### COMPACT BALL VALVE [MANUAL](#)

UNIT: kg

mm	inch	Socket End, Threaded End (JIS)	
		U-PVC	C-PVC
13	1/2	0.1	0.1
15	1/2	0.1	0.2
20	3/4	0.2	0.3
25	1	0.3	0.4
32	1 1/4	0.5	0.6
40	1 1/2	0.6	0.6
50	2	0.9	1.0
80	3	2.5	3.0

## PRODUCT CERTIFICATION TARGET LIST

AS OF DECEMBER 1, 2015

ITEM NAME	NSF/ANSI61		ABS American Bureau of Shipping		NK Nippon Kaiji Kyokai
	MATERIAL	SIZE (mm)	MATERIAL	SIZE OR STANDARD (mm)	PRODUCT GROUP
3 WAY BALL VALVE TYPE 23	U-PVC/EPDM	15 — 100			
	U-PVC/FKM	15 — 100			
BALL VALVE TYPE 21 $\alpha$	U-PVC/EPDM	15 — 50	U-PVC/EPDM	15 — 50	
	U-PVC/FKM	15 — 50	U-PVC/FKM	15 — 50	
			C-PVC/EPDM	15 — 50	
			C-PVC/FKM	15 — 50	
BALL VALVE TYPE 21	U-PVC/EPDM	65 — 100	U-PVC/EPDM	65 — 100	
	U-PVC/FKM	65 — 100	U-PVC/FKM	65 — 100	
			C-PVC/EPDM	65 — 100	
			C-PVC/FKM	65 — 100	
COMPACT BALL VALVE	U-PVC/EPDM	13 — 80			AV VINYL PIPE AV HI VINYL PIPE AV SUPER PIPE (HT)
LAB COCK	U-PVC/EPDM	—			AV VINYL JOINT AV HI VINYL JOINT
GATE VALVE TYPE P	U-PVC/PP/EPDM	40 — 350			AV SUPER JOINT (HT) AV VINYL VALVE AV HI VINYL VALVE
SEDIMENT STRAINER (TYPE Y)	U-PVC/EPDM	15 — 100			AV SUPER VALVE (HT)
	U-PVC/FKM	15 — 100			AV TS FLANGE AV HI TS FLANGE
BALL CHECK VALVE	U-PVC/EPDM	80 — 100			AV SUPER TS FLANGE (HT)
	U-PVC/FKM	80 — 100			
TRUE UNION BALL CHECK VALVE	U-PVC/EPDM	15 — 50			* Recommended applications Fresh/sea water pipes (including hot water pipes) for daily life drinking water
	U-PVC/FKM	15 — 50			equipment and sanitary pipes in accommodation sections and engine rooms, and scuppers in hatches
BUTTERFLY VALVE TYPE 57	BODY: U-PVC	40 — 350	BODY: U-PVC, PP	50 — 300	
	DISC: PP		DISC: U-PVC, PP, PVDF		
	SEAT: EPDM		SEAT: EPDM, FKM		
PIPE			U-PVC	JIS K 6741	
			U-PVC	JIS K 6742	
			C-PVC	JIS K 6776	
JOINT			U-PVC	JIS K 6743	
			C-PVC	JIS K 6777	
TS FLANGE			U-PVC	JIS 10K 13 — 150	
			U-PVC	JIS 5K 13 — 150	
			C-PVC	JIS 10K 13 — 50	
			C-PVC	JIS 5K 13 — 50	

For details of applicable products and intended use as well as certificates other than the above, please contact us.

## ASAHI MANUAL VALVE DISCONTINUED PRODUCT LIST (PRODUCTS DISCONTINUED IN 2005 OR LATER)

DISCONTINUED PRODUCT MODEL	MATERIAL	SIZE (mm)	TIME OF PRODUCTION DISCONTINUATION	TIME OF PARTS SUPPLY DISCONTINUATION	RECOMMENDED SUCCESSION MODEL
BUTTERFLY VALVE TYPE 56	PP, PVDF	250 — 350	APR 2005	APR 2010	BUTTERFLY VALVE TYPE 57
FRP LARGE SIZE BUTTERFLY VALVE	FRP	1,350, 1,500	JUL 2005	JUL 2005	—
LIVE BALL	U-PVC, PVDF	15 — 50	DEC 2005	DEC 2010	BALL VALVE TYPE 21 $\alpha$ (PERFORATED)
BUTTERFLY VALVE TYPE 84	U-PVC	50 — 200	DEC 2005	DEC 2010	—
FRP LARGE SIZE BUTTERFLY VALVE	FRP	1,100 — 1,200	JUL 2006	JUL 2006	PDCPD LARGE SIZE BUTTERFLY VALVE
GATE VALVE (SOFT SEAL TYPE) COMPATIBLE WITH PE PIPE	HI-PVC	50 — 150	NOV 2006	NOV 2006	—
BALL FOOT VALVE	U-PVC, C-PVC, PVDF	15 — 100	MAY 2009	MAY 2014	BALL FOOT VALVE
BALL VALVE TYPE 21	U-PVC, C-PVC	15 — 50	NOV 2009	NOV 2014	BALL VALVE TYPE 21 $\alpha$
SWING CHECK VALVE (GASKET TYPE)	U-PVC, PP, PVDF (PVDF COATED EPDM)	15 — 200	SEP 2010	SEP 2015	SWING CHECK VALVE (O-RING TYPE) (PFA COATED FKM)
SWING CHECK VALVE (O-RING TYPE)	U-PVC, PP, PVDF	15 — 200	SEP 2010	SEP 2015	SWING CHECK VALVE (O-RING TYPE)
AUTOMATIC WATER FEEDING VALVE (SEMIAUTOMATIC TYPE)	U-PVC	50 — 80	OCT 2015	OCT 2020	—

**NOTE** Consumable parts are prepared so that they can be supplied for 5 years after the production discontinuation. However, it may become difficult to supply the parts depending on the consumption condition of the parts. In such cases, please contact us for other methods, such as the use of an alternative item.

# ASAHI VALVE PRECAUTIONS IN HANDLING AND USE OF VALVES

Below are general precautions for safely using **ASAHI VALVE** valves.

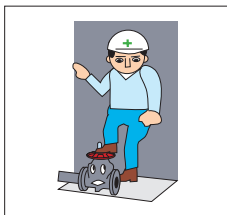
Precautions specific to each product are provided in a separate instruction manual. For details, please contact our nearest distribution agent or sales office.

## 1. Notes for pipe design

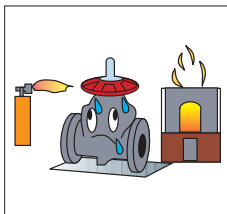
- Make sure that the working temperature and pressure are within the tolerance range during operation. (The maximum working pressure is the value including the water hammer pressure. If the tolerance range is exceeded during use, the valve may be damaged.)
- Select an appropriate material to use. (Some kinds of chemical may erode the surface of parts, causing breakage.) For details, consult our nearest sales office in advance.
- When using a fluid that contains crystalline fluid, use it in a condition where the fluid does not recrystallize. (The valve may become unable to work properly.)
- Consult us when using a fluid containing slurry.
- This product is not explosion-proof. Do not use it in explosive atmospheres. (Doing so may cause breakage or explosion.)
- Operating pressure of pneumatic type automatic valve: The standard operating pressure of pneumatic type is 0.4 MPa {4.1 kgf/cm<sup>2</sup>}. When increasing the operating pressure, ensure that the pressure is within the specified range of operating pressure.

## 2. Notes for acceptance, transportation and storage

- Do not ride on the valve or place a heavy object on the valve. (Doing so may cause breakage.)



- Keep fire and hot object away from the valve. (Doing so may cause deformation, breakage or fire.)



- Avoid direct sunlight and store it indoors. Also avoid storing the valve in a place that may be exposed to high temperatures. (Doing so may cause deformation.)

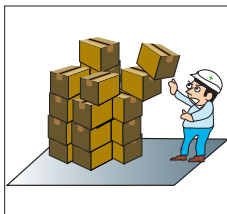


- Do not give an impact by throwing, dropping or hitting the valve. (Doing so may cause damage or breakage.)

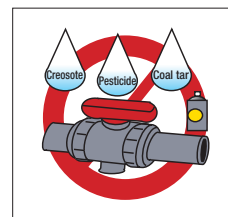
- Do not scratch or stick a sharp object (such as a knife and hook) into the valve.



- Do not pile packed cardboard boxes on top of another too much, to prevent collapsing of the boxes.



- Do not allow the valve to come in contact with coal tar, creosote (wood preservative agent), white ant exterminating agent, pesticide, or coating material. (Doing so may cause swelling and resulting breakage.)

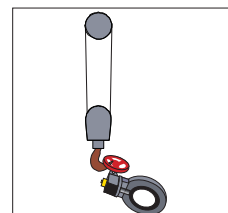


- Be very careful when hanging or slinging the valve. Do not stand under the suspended object.

- Keep the valve in a cardboard box until just before piping installation. Avoid direct sunlight and store it indoors (at room temperatures). Also avoid storing the valve in a place that may be exposed to high temperatures. (Cardboard boxes become weak when get wet. (Take due care when handling and storing the boxes.)



- When transporting the valve, do not use the handle to secure the valve.



- After unpacking, check that the product has no abnormality and conforms to the specifications.





### 3. Notes for commissioning of pipe

#### 1) General precautions

- Secure an adequate space for maintenance and inspection.
- Test completed items with hydraulic pressure. (Airtight test using air (gas) is very dangerous.)
- When a positive pressure gas is used for our resin pipe, note that a dangerous situation may occur due to the reaction force peculiar to compressed fluids even when the pressure is the same as the hydraulic pressure. Always take appropriate measures to ensure the safety of surrounding area, such as coating the pipe with a protecting material. If you have any uncertainty, please contact us.

After the completion of piping work, perform a leak test of the conduit with hydraulic pressure. If it is inevitable to perform a test with air, be sure to consult our nearest sales office in advance.

- Avoid using in places that are constantly exposed to water, dust or direct sunlight. Or, cover the whole product. (The valve may become unable to work properly.)



- When using the valve in unfavorable conditions, it is recommended to cover the whole valve with a protective plastic bag. The automatic driving parts, in particular, may have a malfunction due to corrosion.
- When supporting the pipe with a U-band, be careful not to over-tighten. (It may cause breakage.)
- Before starting the work, be sure to perform safety check of mechanical and electric tools to be used.

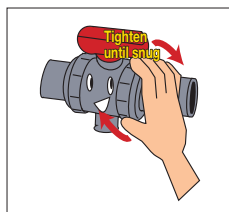
- During piping work, always use protective equipment appropriate for the work. (Failure to do so may cause injury.)



- During installation, be careful not to give a forcible stress, such as tension, compression, bending and impact, on the piping and valves.
- Before replacement of valve or parts, completely remove the fluid from the pipe. If the fluid cannot be removed, reduce the fluid pressure to zero.

#### 2) Notes for connection of true union type

- During piping installation, assembly or disassembly, steady the end connector.
- Before a water flow test, be sure to check that the union nut is securely tightened.

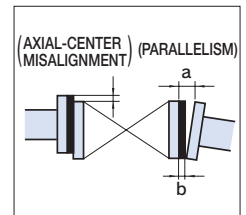


- When tightening the union nut, pay attention to axial-center misalignment and face-to-face dimensions.
- When connecting a resin valve to a metal pipe, be careful that piping stress is given to the resin valve.
- Do not over-tighten the union nut. (It may cause breakage.)

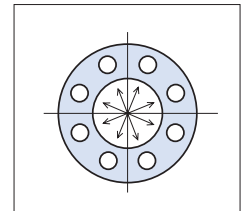
#### 3) Notes for connection of flange

- Ensure that the parallelism and axial-center misalignment dimensions do not exceed the values below. (Failure to do so may cause breakage due to the stress given on the piping.)

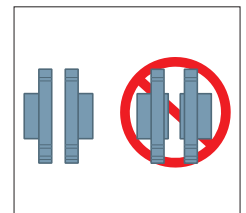
SIZE (mm)	AXIAL-CENTER MISALIGNMENT	PARALLELISM
40 — 80	1.0mm	0.8mm
100 — 150	1.0mm	1.0mm
200 — 600	1.5mm	1.0mm



- Tighten the bolts and nuts of the connection flange diagonally according to the specified torque. (Failure to do so may cause leak or breakage.)



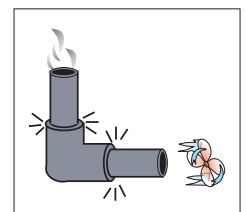
- The connection flanges recommended to be flat face type.



- Check that the flange standard of both sides are not different.
- Be sure to tighten the flanges using sealing gaskets (AV packings), bolts, nuts, and washers, according to the specified tightening torque (except for butterfly valves).

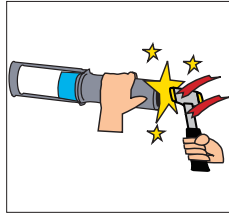
#### 4) Notes for connection of socket (bonding) type

- During installation at low temperatures, be very careful because the solvent fume is difficult to evaporate and liable to remain. (It may cause a solvent crack and resulting breakage.) After piping work, open the both sides of the pipe and ventilate the inside using a blower (of low pressure type) to remove the solvent fume.
- Do not apply too much adhesive. (Doing so may cause a solvent crack and resulting breakage.)

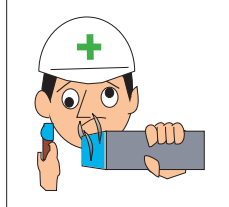


### ▶3. Notes for commissioning of pipe

- Never stroke the component to insert it. Doing so may cause the pipe to break.



- When using adhesive, ventilate the area well and avoid using fire nearby. Do not inhale the fume directly.



- If the adhesive contacts the skin, remove it immediately. If you feel sick or sense that something is wrong with your body, immediately seek medical attention and receive appropriate treatment.

- For adhesive, use only AV adhesive. (For U-PVC products, use **ASAHI AV** adhesive No. 32, No. 52 or No. 62. For C-PVC products, use **ASAHI AV** adhesive No. 88.)

- Before performing a water flow test, wait until at least 24 hours have passed since the completion of bonding.



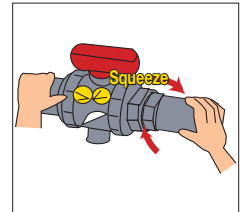
### 5) Notes for threaded connection

- Check that joint screws are made of resin. (If a metal screw is used for piping work, the end connector may be damaged.)

- For threaded joints of our resin pipe, use sealing tape. If fluid seal or liquid gasket is used, a stress crack (environmental stress crack) may occur.

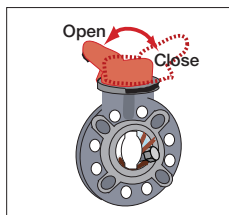
- Do not over-tighten joint screws. (Doing so may cause breakage.)

\* For notes for socket (fusion) connection, refer to the instruction manual of each product. For details, please contact our nearest distribution agent or sales office.



## 4. Notes for operation and maintenance

- Do not open or close the valve when there is dust or foreign object in the fluid.



- Perform periodic maintenance. (Temperature changes or aging during long-term storage, operation stop or while in use may cause leakage. For inspection items, refer to the instruction manual of each product. For details, please contact our nearest distribution agent or sales office.)

- Before replacement of valve or parts, completely remove the fluid from the pipe. If the fluid cannot be removed, reduce the fluid pressure to zero.

- The valve body may be damaged due to freezing. In environments where freezing may occur, remove the water in the pipe or take anti-freezing measures using lagging materials.

- Move the valve handle and lever slowly to reduce water hammer.

- When disposing of the valve, always hand it over to a professional waste disposal company.



## Be sure to read the following description of our product warranty

- Always observe the specifications of and the precautions and instructions on using our product.
- We always strive to improve the quality and reliability, but cannot guarantee perfection. Therefore, should you intend to use this product with any equipment or machinery that may pose the risk of serious or even fatal injury, or property damage, ensure an appropriate safety design or take other measures with sufficient consideration given to possible problems. We shall assume no responsibility for any inconvenience stemming from any action on your part without our written consent in the form of specifications or other documented approval.
- The related technical documents, operation manuals, and/or other documentation prescribe precautions on selecting, constructing, installing, operating, maintaining, and servicing our products. For details, consult with our nearest distributor or agent.
- Our product warranty extends for one and a half years after the product is shipped from our factory or one year after the product is installed, whichever comes first. Any product abnormality that occurs during the warranty period or which is reported to us will be investigated immediately to identify its cause. Should our product be deemed defective, we shall assume the responsibility to repair or replace it free of charge.
- Any repair or replacement needed after the warranty period ends shall be charged to the customer.
- The warranty does not cover the following inconveniences by:
  - (1) Using our product under any condition not covered by our defined scope of warranty.
  - (2) Failure to observe our defined precautions or instructions regarding the construction, installation, handling, maintenance, or servicing of our product.
  - (3) Any product other than ours.
  - (4) Remodeling, or otherwise modifying our product by anyone other than us.
  - (5) Using any part of our product for anything other than the intended use of the product.

In no event shall we be responsible or liable for any special, indirect, incidental or consequential damages arising in any way in connection with any products.

### **[Precautions]**

\* Our product warranty shall not apply in case of using a positive-pressure gas with our plastic piping. Using a positive-pressure gas with our plastic piping may pose a dangerous condition due to the repellent force peculiar to compressed fluids, even when the gas is under the same pressure as water. Therefore, be sure to take the necessary safety precautions such as covering the piping with protective material. For inquiries, please contact us.

For conducting a leak test on newly installed piping, be sure to check for leaks under water pressure.

\* Wrap the threaded joints on our plastic piping with sealing tape.

\* Using a liquid sealing agent or liquid gasket may cause stress cracks (environmental stress cracking). Our product warranty shall not apply in case of said use, even when said use is unavoidable.

### **Export Control**

In an effort to remain compliant with international agreements on security, many countries have instituted export controls for advanced goods and technologies which may be used for the proliferation of weapons of mass destruction.

Even in Japan we are sanctioned by the International Export Control Regime and the Chemical Weapons Convention to meet current regulations at home and in countries where we sell our goods and technologies.

In meeting this social and legal obligation, we are asking for your cooperation in providing us information relating to the intended use of our products. Information such as copies of agreements, company organization chart and affidavits of end-use may be required for export permission.

Your cooperation in this endeavor is greatly appreciated and our sales or Asahi distributor people are committed to working with you to continue to provide the best products and services Asahi has to offer.

## Global Network

### **JAPAN**

ASAHI YUKIZAI CORPORATION. OVERSEAS DEPARTMENT.  
20th Floor, World Trade Center Bldg, 4-1 Hamamatsu-Cho 2-Chome,  
Minato-Ku, Tokyo, Japan 105-6120  
TEL: +81-3-3578-6015 FAX: +81-3-3578-6025

### **THAILAND**

ASAHI YUKIZAI CORPORATION. BANGKOK REPRESENTATIVE OFFICE.  
323 United Center Building, Unit 2101, 21stFloor, Silom Road, Silom, Bangrak,  
Bangkok 10500 THAILAND  
TEL: +662-631-1100 FAX: +662-631-1103

### **KOREA**

ASAHI KOREA CO.,LTD [Subsidiary]  
#805-D Digitalempire office, 16, Deogyong-daero  
1556beon-gil, Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea  
TEL: +82-31-203-2050 FAX: +82-31-203-2880

### **SINGAPORE**

ASAHI ASIA PACIFIC PTE.LTD. [Subsidiary]  
207 Woodlands Avenue 9, #06-55, Singapore 738958  
TEL: +65-6755-8033 FAX: +65-6754-7033

### **CHINA**

ASAHI ORGANIC CHEMICALS TRADING (SHANGHAI) CO.,LTD. [Subsidiary]  
Rm 405, East Tower, Sun Plaza NO.88 Xianxia Road, Changning District,  
Shanghai, China 200336  
TEL: +86-21-6278-7862 FAX :+86-21-6278-7892

ASAHI AV VALVE (SHANGHAI) CO., LTD. [Subsidiary]  
No.16, Shanghai Malu Fengdeng Industry City, 615 Fengdeng Road, Malu  
Town, Jiading District, Shanghai 201818, PRC  
TEL: +86-21-6139-2600 FAX: +86-21-6139-2606

### **GERMANY**

ASAHI AV EUROPE GmbH [Subsidiary]  
Kaiser-Friedrich-Promenade 61 D-61348 Bad Homburg Germany  
TEL: +49-6172-9175-0 FAX: +49-6172-9175-25

### **USA**

ASAHI/AMERICA,INC [Subsidiary]  
655 Andover, St.Lawrence, MA 01843 USA  
TEL: +1-781-321-5409 FAX: +1-978-685-3010

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