



ASAHI AV

VALVE AND PIPING SYSTEMS

2014



We Meet a Variety of Users' Needs, Using Novel Ideas and Advanced Technology

Our plastic piping materials, such as valve, pipe, socket, tee, and joint, are popular under the brand name of "ASAHI AV". We have developed these products which offer various advantages, through many years of experience and a wealth of know-how.

Users rely entirely on ASAHI AV products which feature competitive cost reliability and high quality such as resistance to corrosion, chemicals, abrasion resistance, temp, and UV resistance.

ASAHI AV products find use in the fields of chemicals; steel making; food; marine development; environmental preservation; construction; piping for hot springs, water supply and sewage and agricultural application; semiconductors; biochemistry; pharmaceuticals, mining, etc.

We have established a sales service system throughout the world.

Also, we service a number of orders from foreign users and provide a variety services for them. To meet the need of the industry, which becomes increasingly advanced and diversified, Asahi Organic Chemicals Industry offers a full line of highly safe products. We hope to serve you to your satisfaction.

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Abbreviations for Major Materials Used For Asahi AV Products

Symbol	Description
PVC	"PVC" is an abbreviation for "polyvinyl chloride."
C-PVC	The first letter "C" stands for "chlorinated." "C-PVC" refers to "chlorinated polyvinyl chloride," or heat-resistant polyvinyl chloride.
HI-PVC	The first lettering "HI" means "high impact." "HI-PVC" refers to "high impact resist polyvinyl chloride."
PP	"PP" is an abbreviation for "polypropylene."
PVDF	"PVDF" is an abbreviation for "polyvinylidene fluoride."
FRP	"FRP" is an abbreviation for "fiber reinforced plastics."
ABS	"ABS" is an abbreviation for "acrylonitrile butadiene styrene."
PPS	"PPS" is an abbreviation for "polyphenylenesulfide."
PEEK	"PEEK" is an abbreviation for "polyether ether ketone."
PTFE	"PTFE" is an abbreviation for "poly tetra fluoro ethylene."
PDCPD	"PDCPD" is an abbreviation for "polydicyclo pentadiene."
UHMWPE	"UHMWPE" is an abbreviation for "ultra high molecular weight polyethylene."
EPDM	"EPDM" is an abbreviation for "ethylene propylene diene rubber."
FKM	"FKM" is an abbreviation for "fluorocarbon rubber."
Viflon F,C (FKM-F, FKM-C)	"Viflon" is Trade Mark of ASAHI ORGANIC CHEMICALS INDUSTRY CO., LTD. of the Terpolymerization Fluorocarbon Elastomers.
SBR	"SBR" is an abbreviation for "styrene butadiene rubber."
NBR	"NBR" is an abbreviation for "acrylonitrile butadiene rubber."
IIR	"IIR" is an abbreviation for "isobutylene isoprene rubber."
CSM	"CSM" is an abbreviation for "chlorosulphonated polyethylene."
PPG	"PPG" is an abbreviation for "Glass Fiber Reinforced Polypropylene."
PC	"PC" is an abbreviation for "Polycarbonate."
HP-PVC	The first letter "HP" means "High Purity" "HP-PVC" refers to "high purity polyvinyl chloride."

ASAHI AV VALVE AND PIPING SYSTEMS

ASAHI AV VALVES

The specifications in this brochure are subject to change without prior notice due to improvements and modifications.

ASAHI AV VALVES

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Asahi AV Products

Make Your Systems More Sophisticated.

To meet your specific requirements, Asahi AV Valves are made of wide variety of materials and are available in various types and sizes.

You are surely making the best choice for your systems when selecting Asahi AV products.



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TYPE14
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TRUE UNION
DIAPHRAGM VALVE TYPE14
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DIAPHRAGM VALVE
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3-WAY BALL VALVE
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3-WAY BALL VALVE
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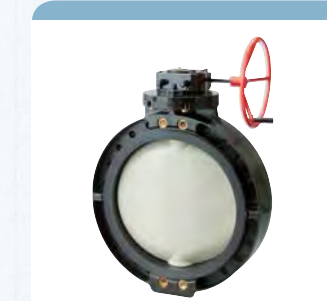
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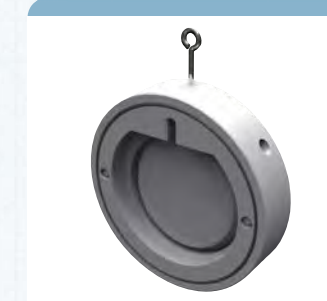
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Y-SEDIMENT STRAINER
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AIR RELEASE VALVE
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Range of Nominal Size and Materials

Type	DIAPHRAGM VALVE TYPE 14				TRUE UNION DIAPHRAGM VALVE TYPE 14								
Body Materials	PVC, C-PVC, PP, PVDF				PVC		C-PVC		PP		PVDF*		
End Connectors	Flanged				Threaded	Socket	Threaded	Socket	Threaded	Socket (welded)	Threaded	Socket (welded)*	Spigot*
Nominal Size	mm	inch											
	15	1/2											
	20	3/4											
	25	1											
	32	1 1/4									*		
	40	1 1/2											
	50	2											
	65	2 1/2											
80	3												
100	4												
Page			10 - 11				12 - 13						

Type	DIAPHRAGM VALVE TYPE 15		
Body Materials	PVC, PP, PVDF		
End Connectors	Flanged		
Nominal Size	mm	inch	
	125	5	○
	150	6	○
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Type	DIAPHRAGM VALVE TYPE 72		
Body Materials	PVC, PP, PVDF		
End Connectors	Flanged		
Nominal Size	mm	inch	
	200	8	○
	250	10	○
Page 16 - 18			

Type	BALL VALVE TYPE 21												WATER BV		
Body Materials	PVC			C-PVC			PP			PVDF			PVC		
End Connectors	Flanged	Threaded	Socket	Flanged	Threaded	Socket	Flanged	Threaded	Socket (welded)*	Spigot*	Flanged	Threaded	Socket		
Nominal Size	mm	inch													
	15	1/2	○	○	○	○	○	○	○	○	○	○	○	○	○
	20	3/4	○	○	○	○	○	○	○	○	○	○	○	○	○
	25	1	○	○	○	○	○	○	○	○	○	○	○	○	○
	32	1 1/4	○	○	○	○	○	○	○	*	○	○	○	○	○
	40	1 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○
	50	2	○	○	○	○	○	○	○	○	○	○	○	○	○
	65	2 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○
80	3	○	○	○	○	○	○	○	○	○	○	○	○	○	
100	4	○	○	○	○	○	○	○	○	○	○	○	○	○	
Page			19 - 21									22			

Type	LAB COCK
Body Materials	PVC
End Connectors	Male Thread, Female Thread, Hose
Nominal Size	Male Thread 1/4 1/2
	Female Thread 1/4 3/8
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Type	3-WAY BALL VALVE TYPE 23											3-WAY BALL VALVE TYPE 23H				COMPACT BALL VALVE					
Body Materials	PVC			C-PVC			PP		PVDF			PP				PVC		C-PVC			
End Connectors	Flanged	Threaded	Socket	Flanged	Threaded	Socket	Threaded	Socket (welded)	Flanged	Threaded	Socket (welded)*	Flanged	Threaded	Socket (welded)	Spigot	Threaded	Socket	Threaded	Socket		
Nominal Size	mm	inch																			
	13	3/8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	15	1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	20	3/4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	25	1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	32	1 1/4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	40	1 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	50	2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
65	2 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
80	3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
100	4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Page			23 - 24					25 - 26				27									

Type	BUTTERFLY VALVE TYPE 57			BUTTERFLY VALVE TYPE 56		BUTTERFLY VALVE TYPE 75		BUTTERFLY VALVE TYPE 56D, 75D		BUTTERFLY VALVE TYPE 57L, 57L (Lug Style)		BUTTERFLY VALVE TYPE 57L-4S		ROTARY DAMPER				BUTTERFLY VALVE TYPE 55	
Body Materials	PVC	PP	PVDF	PP	PVDF	PP	PVDF	PDCPD	PDCPD	PVC	PVC	PVC (PP DISC)	PP	PVDF	PVDF	FCD-S			
End Connectors	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer	Wafer			
Nominal Size	mm	inch																	
	40	1 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	50	2	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	65	2 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	80	3	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	100	4	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	125	5	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	150	6	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	200	8	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	250	10	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	300	12	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
	350	14	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
400	16	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
450	18	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
500	20	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
600	24	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
Page			31 - 32			33		34		35-36		37 - 40		41-42		47 - 50		42-44	

Type	PDCPD BUTTERFLY VALVE	
Body Materials	PDCPD	
Models	Wafer	
Nominal Size	mm	inch
	700	28
	800	32
	850	34
	900	36
	1000	40
	1100	44
	1200	48
Page 45 - 46		

Type	GATE VALVE (Internally Threaded)			RISING STEM	
Body Materials	HI-PVC			HI-PVC	
End Connectors	Flanged	Threaded	Wafer	Flanged	
Nominal Size	mm	inch			
	40	1 1/2	○	○	○
	50	2	○	○	○
	65	2 1/2	○	○	○
	80(75)	3	○	○	○
	100	4	○	○	○
	125	5	○	○	○
	150	6	○	○	○
	200	8	○	○	○
	250	10	○	○	○
	300	12	○	○	○
	350	14	○	○	○
Page			62 - 66		

1. We produce resilient seal type GATE VALVES with Threaded Connection which are up to 200 mm in nominal size.
2. RISING STEM and JWWA GATE VALVES are available in resilient seal type only.

Type	SWING CHECK VALVE				
Body Materials	HI-PVC	PP	PVDF		
End Connectors	Flanged	Flanged	Flanged		
Nominal Size	mm	inch			
	15	1/2	○	○	○
	20	3/4	○	○	○
	25	1	○	○	○
	32	1 1/4	○	○	○
	40	1 1/2	○	○	○
	50	2	○	○	○
	65	2 1/2	○	○	○
	80	3	○	○	○
	100	4	○	○	○
	125	5	○	○	○
	150	6	○	○	○
200	8	○	○	○	
Page			51 - 52		

Type	WAFER CHECK VALVE		
Body Materials	PVC		
End Connectors	Wafer		
Nominal Size	mm	inch	
	100	4	○
	150	6	○
	200	8	○
	250	10	○
	300	12	○
Page		53	

Type	GAUGE VALVE		
Body Materials	PVC	PP	
End Connectors	Flanged	Flanged	
Nominal Size	mm	inch	
	20	3/4	○
	25	1	○
Page		61	

1. Flanged elbows are available in a nominal size of 25 mm (1 inch) only.

Type	BALL CHECK VALVE AND BALL FOOT VALVE												STOP VALVE (GLOBE VALVE)						
Body Materials	PVC			C-PVC			PP			PVDF			PVC		PP				
End Connectors	Flanged	Threaded	Socket	Flanged	Threaded	Socket	Threaded	Socket (welded)	Spigot	Threaded	Socket*	Spigot	Flanged	Threaded	Socket	Flanged	Threaded		
Nominal Size	mm	inch																	
	15	1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	20	3/4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	25	1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	32	1 1/4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	40	1 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	50	2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	65	2 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
80	3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
100	4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
Page			54 - 57									58 - 60							

Type	TRUE UNION BALL CHECK VALVE										
Body Materials	PVC			C-PVC			PP			PVDF	
End Connectors	Flanged	Threaded	Socket	Flanged	Threaded	Socket	Threaded	Socket (welded)	Threaded	Socket*	
Nominal Size	mm	inch									
	15	1/2	○	○	○	○	○	○	○	○	○
	20	3/4	○	○	○	○	○	○	○	○	○
	25	1	○	○	○	○	○	○	○	○	○
	32	1 1/4	○	○	○	○	○	○	○	○	○
	40	1 1/2	○	○	○	○	○	○	○	○	○
50	2	○	○	○	○	○	○	○	○	○	
Page			56								

Type	AIR RELEASE VALVE	AUTOMATIC WATER FEEDING VALVE	ALFALFA VALVE	ROTARY ANGLE VALVE	
Body Materials	PDCPD	HI-PVC		PVC	
End Connectors	Flanged	Flanged	Threaded	Socket	
Nominal Size	mm	inch			
	25	1	○	○	○
	50	2	○	○	○
	65	2 1/2	○	○	○
	80	3	○	○	○
	100	4	○	○	○
150	6	○	○	○	
Page		75 - 76	67	68	68

Type	CONSTANT FLOW VALVE	NEEDLE VALVE	STRAINER(Y)	
Body Materials	PVC	PVC	PVC(Clear)	
End Connectors	Flanged	Flanged	Flanged	Threaded

ASAHI AV PRODUCTS MODEL CODE

COMMON CODE FOR MANUAL AND ACTUATED VALVES

DIGIT	1		2,3		4,5		
DESCRIPTIONS	Valve	Abbr	VALVE NAME	Abbr	OPERATION	Abbr	
	Manual	V	DIAPHRAGM VALVE TYPE14	14	LEVER	LV	
	Actuated	A	TRUE UNION DIAPHRAGM VALVE	T1	MANUAL HANDLE	MH	
			DIAPHRAGM VALVE TYPE15	15	T STYLE HANDLE	TH	
			DIAPHRAGM VALVE TYPE72	72	SIDE GEAR	SG	
			DIAPHRAGM VALVE TYPE16	16	SIDE GEAR WITH SQUARE CAP	SC	
			BALL VALVE TYPE21	21	TOP GEAR	TG	
			WATER BV	WB	TOP GEAR WITH SQUARE CAP	TC	
			LABCOCK	LC	O-RING TYPE FOR SWING CHECK VALVE	OR	
			COMPACT BALL VALVE	Cb	PLASTIC STEM FOR GATE VALVE	MJ	
			3 WAY BALL VALVE TYPE23	23	SS STEM FOR CLOCKWISE OPENING	MR	
			3 WAY BALL VALVE TYPE23H	3H	SS STEM FOR UNCLOCKWISE OPENING	ML	
			BUTTERFLY VALVE TYPE57	57	TOP GEAR WITH CAP FOR GATE VALVE CLOCKWISE OPENING	CR	
			BUTTERFLY VALVE TYPE56	56	TOP GEAR WITH CAP FOR GATE VALVE UNCLOCKWISE OPENING	CL	
			BUTTERFLY VALVE TYPE75	75	A TYPE FOR CONSTANT FLOW / NEEDLE VALVE	AT	
			BUTTERFLY VALVE TYP55	55	B TYPE FOR CONSTANTFLOW /NEEDLE VALVE	BT	
			LUG BUTTERFLY VALVE	LG	C TYPE FOR CONSTANT FLOW VALVE	CT	
			PDCPD BUTTERFLY VALVE	PD	D TYPE FOR CONSTANT FLOW VALVE	DT	
			ROTARY DAMPER 57 STYLE	D7	20 MESH PVC SCREEN	2U	
			ROTARY DAMPER 56 STYLE	D6	30 MESH PVC SCREEN	3U	
			SWING CHECK VALVE	SC	40 MESH PVC SCREEN	4U	
			BALL CHECK VALVE	BC	60 MESH PVC SCREEN	6U	
			BALL FOOT VALVE	FT	20 MESH SS 304 SCREEN	2S	
			TRUE UNION BALL CHECK VALVE	TC	30 MESH SS 304 SCREEN	3S	
			STOP VALVE (GLOBE)	ST	40 MESH SS 304 SCREEN	4S	
			GAUGE VALVE	GE	60 MESH SS 304 SCREEN	6S	
			AUTOMATIC WATER FEEDING VALVE	AW	TYPE T (ELECTRIC)	AC100V	T1
			ALFALFA VALVE TYPE82	AF	TYPE T (ELECTRIC)	AC200V	T2
			ROTARY ANGLE VALVE	AG	TYPE T (ELECTRIC)	DC24V	TD
			CONSTANT FLOW VALVE	CF	TYPE H (ELECTRIC)	AC100V	H1
			NEEDLE VALVE	ND	TYPE H (ELECTRIC)	AC200V	H2
			Y-SEDIMENT STRAINER	YS	TYPE S (ELECTRIC)	SINGLE AC100V	S1
			AIR RELEASE VALVE	AR	TYPE S (ELECTRIC)	SINGLE AC200V	S2
			ISOLATED VALVE FOR AIR RELEASE VALVE	IS	TYPE S (ELECTRIC)	THREE AC200V	S3
			CONTROL VALVE	CV	TYPE S (ELECTRIC)	THREE AC400V	S4
			GATE VALVE P TYPE W/PLUG	CG	TYPE M (ELECTRIC)	AC100V	M1
			GATE VALVE TYPE66	S6	TYPE M (ELECTRIC)	AC200V	M2
			GATE VALVE S TYPE	TG	TYPE M (ELECTRIC)	DC24V	MD
			DIAPHRAGM VALVE TYPE AI	DA	TYPE K (ELECTRIC)	AC100V	P1
			TRUE UNION DIAPHRAGM VALVE TYPE AI	TA	TYPE K (ELECTRIC)	AC200V	P2
			WAFER CHECK VALVE	WC	TYPE K (PNEUMATIC)	DOUBLE ACTING	KF
					TYPE K (PNEUMATIC)	Air to Open	KG
					TYPE K (PNEUMATIC)	Air to Close	KS
					PRISMA (PNEUMATIC)	DOUBLE ACTING	AF
					PRISMA (PNEUMATIC)	Air to Open	AG
					PRISMA (PNEUMATIC)	Air to Close	AS
					TYPE AN (PNEUMATIC)	DOUBLE ACTING	NF
					TYPE AN (PNEUMATIC)	Air to Open	NG
					TYPE AN (PNEUMATIC)	Air to Close	NS
					TYPE AV (PNEUMATIC)	DOUBLE ACTING	VF
					TYPE AV (PNEUMATIC)	Air to Open	VG
					TYPE AV (PNEUMATIC)	Air to Close	VS
					TYPE AI (PNEUMATIC)	DOUBLE ACTING	IF
					TYPE AI (PNEUMATIC)	Air to Open	IG
					TYPE AI (PNEUMATIC)	Air to Close	IS
					TYPE AD (PNEUMATIC)	DOUBLE ACTING	DF
					TYPE AD (PNEUMATIC)	Air to Open	DG
					OTHERS		ZZ

COMMON CODE FOR MANUAL AND ACTUATED VALVES

DIGIT	6		7		8, 9		10,11 & 12	
DESCRIPTIONS	BODY MATERIAL	Abbr	SEAL MATERIAL	Abbr	END CONNECTOR	Abbr	NOMINAL SIZE	Abbr
	U-PVC	U	EPDM	E	FLANGED END JIS10K	F1	10mm	010
	C-PVC	C	FKM	V	FLANGED END JIS5K	F5	13mm	013
	PP	P	VIFLON-F	F	FLANGED END JWVA	FW	15mm	015
	PVDF	F	VIFLON-C	C	FLANGED END ANSI CLASS150	FA	20mm	020
	HI-PVC	I	SBR	S	FLANGED END ANSI CLASS150 (A-STANDARD)	FJ	25mm	025
	FCD-S	S	NBR	N	FLANGED END DIN	FD	32mm(30mm)	032(030)
	PDCPD	D	PTFE	T	WAFER JIS10K	W1	40mm	040
	FRP	R	PTFE W/PA-TI	D	WAFER JIS2K	W2	50mm	050
	PVDF+PPG	G	EL-PTFE	L	WAFER JIS5K	W5	65mm	065
	EL-PVDF	Y	PTFE+PVDF GAS BARRIER	0	WAFER JWVA	WW	80mm(75mm)	080(075)
	U-PVC (WHITE)	W	PTFE/EPDM	1	WAFER ANSI CLASS150	WA	100mm	100
	EL-PVDF+PPG	X	PTFE/FKM	2	WAFER DIN	WD	125mm	125
	OTHERS	Z	PTFE/VIFLON-F	3	SOCKET END JIS	SJ	150mm	150
			PTFE/VIFLON-C	4	SOCKET END ASTM SCH40	S4	200mm	200
			PTFE+PVDF GAS BARRIER W/EPDM	5	SOCKET END ASTM SCH80	S8	250mm	250
			PTFE+PVDF GAS BARRIER W/FKM	6	SOCKET DIN	SD	300mm	300
			PTFE+PVDF GAS BARRIER W/VIFLON-F	7	SOCKET END BS (BS4346)	SB	350mm	350
			PTFE+PVDF GAS BARRIER W/VIFLON-C	8	SOCKET END IPS	SI	400mm	400
			NONE OR OTHER	Z	THREADED END RC	NJ	450mm	450
					THREADED END NPT	NA	500mm	500
					THREADED END RP	ND	600mm	600
					THREADED END R	NR	700mm	700
					SPIGOT END JIS	PJ	800mm	800
					SPIGOT END DIN	PD	900mm	900
					PE STYLE ISO	EI	1000mm	A00
					PE STYLE JIS	EJ	1100mm	A10
					NONE END AND STD	ZZ	1200mm	A20
					OTHERS	ZZ		

LABCOCK CODE

DIGIT	8		9, 10, 11 & 12	
DESCRIPTIONS	END CONNECTOR	Abbr	DESCRIPTION	Abbr
	JIS	J	1/4 MALE X 1/4 MALE	O4O4
	ANSI	A	1/2 MALE X 1/4 MALE	O2O4
	DIN	D	1/2 MALE X 1/2 MALE	O2O2
	OTHERS	Z	1/4 FEMALE X 1/4 FEMALE	N4N4
			3/8 FEMALE X 1/4 FEMALE	N8N4
			3/8 FEMALE X 3/8 FEMALE	N8N8
			HOSE X HOSE	HOH0
			1/4 MALE X 1/4 FEMALE	O4N4
			1/4 MALE X 3/8 FEMALE	O4N8
			1/2 MALE X 1/4 FEMALE	O2N4
			1/2 MALE X 3/8 FEMALE	O2N8
			1/4 MALE X HOSE	O4H0
			1/2 MALE X HOSE	O2H0
			1/4 FEMALE X HOSE	N4H0
			3/8 FEMALE X HOSE	N8H0
			1/2 MALE X ELBOW	O2L0

DIAPHRAGM VALVE TYPE 14 15mm - 100mm(1/2inch - 4inch)

- 15mm(1/2inch) - 50mm(2inch)
- 65mm(2 1/2inch) - 100mm(4inch)



FEATURES

- Excellent Sealing Property**
 The DIAPHRAGM VALVE TYPE 14 uses a high quality rubber material, exhibiting lower compressive strain, for its diaphragm and cushion, resulting in optimum sealing performance.
- Tight Seal at Low Torque**
 Using dynamic analysis by CAE, DIAPHRAGM VALVE TYPE 14 is designed so that pressure is distributed evenly. This design allows the hand wheel torque be reduced and maintain shut off at low torque.
- Easier Maintenance**
 A bayonet mechanism, provided between the diaphragm and compressor, allows the diaphragm to be replaced easily.

Bottom Stand for Easy Support
 Having a new bottom stand with an insert hole, DIAPHRAGM VALVE TYPE 14 helps support the piping. The valve is also provided with a flange stand to increase installation safety.

Built-in Travel Stop
 DIAPHRAGM VALVE TYPE 14 contains a revolutionary travel stop mechanism protecting the diaphragm.

Visual Indicator
 A color indicator clearly shows whether the valve is fully-opened, half-opened, or fully-closed. Because the indicator enters the handle, going out of view when the valve is fully-closed, the operator would know at glance of valve position valve is fully-opened, half-opened.

MATERIAL AND WORKING TEMPERATURE

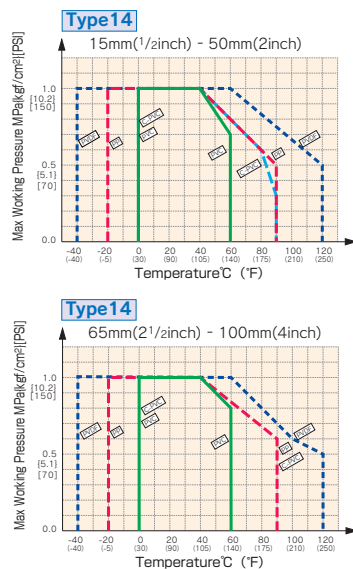
Body Material	Nominal Size mm(inch)	Working Temperature °C(°F)	Max. Working Pressure at 20°C(70°F)	End Connectors
			MPa[kgf/cm²][PSI]	
PVC	15 - 100 (1/2 - 4)	0 - 60 (30 - 140)	1.0{10.2}[150]	Flanged End
C-PVC	15 - 100 (1/2 - 4)	0 - 90 (30 - 195)	1.0{10.2}[150]	Flanged End
PP	15 - 100 (1/2 - 4)	-20 - 90 (-5 - 195)	1.0{10.2}[150]	Flanged End
PVDF	15 - 100 (1/2 - 4)	-40 - 120 (-40 - 250)	1.0{10.2}[150]	Flanged End

Material Examples



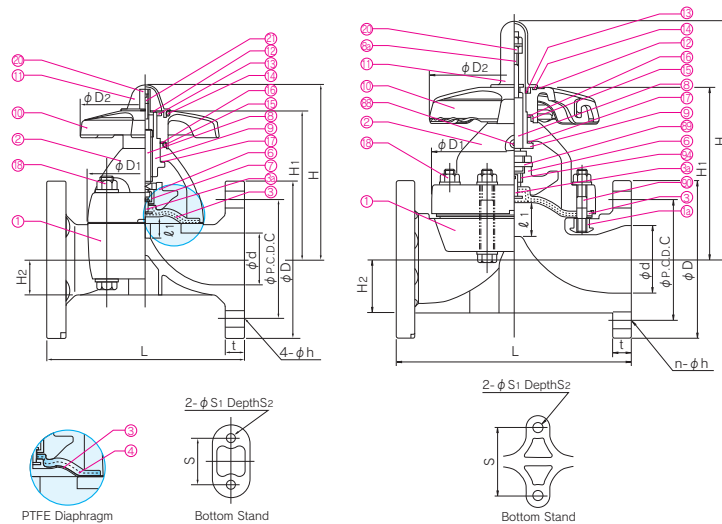
※ PPG Bonnet is also available.

WORKING PRESSURE VS. TEMPERATURE



DIMENSION

- 15mm(1/2inch) - 50mm(2inch)
- 65mm(2 1/2inch) - 100mm(4inch)



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	BODY/BONNET, PVC/PVC, C-PVC/PP, PP/PP, PVDF/PPG, PVDF/PVDF	⑬	RETAINING RING-C TYPE	1	STAINLESS STEEL304
②	BONNET	1		⑭	O-RING(A)	1	EPDM
③	DIAPHRAGM	1	EPDM, IIR, NBR, CSM, CPE, FKM, VIFLON C (FKM-C), VIFLON F (FKM-F), PTFE	⑮	O-RING(B)	1	EPDM
④	CUSHION	1	EPDM ¹⁾	⑯	THRUST RING(A)	1	UHMWPE
⑤	PVDF GAS BARRIER(OPTION)	1	PVDF	⑰	THRUST RING(B)	1	UHMWPE
⑥	COMPRESSOR	1	PVDF	⑱	BOLT·NUT	4	STAINLESS STEEL304
⑦	JOINT ²⁾	1	STAINLESS STEEL304	⑳	STOPPER	1	COPPER ALLOY ²⁾ , STAINLESS STEEL ³⁾ 304
⑧	STEM	1	COPPER ALLOY	㉑	SCREW ²⁾	1	SCM435
⑨	SLEEVE	1	COPPER ALLOY (C3604)	㉒	GREASE NIPPLE ³⁾	1	COPPER ALLOY (C3604)
⑩	HAND WHEEL	1	PP	㉓	COMPRESSOR PIN ³⁾	1	STAINLESS STEEL304
⑪	GAUGE COVER	1	POLYCARBONATE	㉔	STUD BOLT·NUT ³⁾	4	STAINLESS STEEL304
⑫	NAME PLATE	1	PVC	㉕	METAL OF COMPRESSOR	1	STAINLESS STEEL304
				㉖	INSERTED NUT ³⁾	4	COPPER ALLOY (C3604), STAINLESS STEEL304

Note. 1) Used for PTFE diaphragm
 2) Used for 15mm(1/2inch)-50mm(2inch)
 3) Used for size 65mm(2 1/2inch)-100mm(4inch)

DIMENSIONS TABLE

JIS																	Unit:mm		
Nominal Size		JIS 10K					D ₁	D ₂	ℓ ₁ (LIFT)	L	t		H	H ₁	H ₂	S	S ₁	S ₂	
mm	inch	d	D	C	n	h					PVC C-PVC	PP PVDF							
15	1/2	16	95	70	4	15	54×66	100	10	110	12	12	104	86	19.5	25	7	13	
20	3/4	20	100	75	4	15	54×66	100	10	120	13	13	106	88	17.5	25	7	13	
25	1	25	125	90	4	19	67×80	100	12	130	13	13	111	93	18.5	25	7	13	
32	1 1/4	32	135	100	4	19	67×80	100	12	142	16	16	116	97	22.5	25	7	13	
40	1 1/2	40	140	105	4	19	108×108	156	21	180	16	16	177	144	27.5	45	9	15	
50	2	52	155	120	4	19	123×123	156	25	210	20	20	191	158	36	45	9	15	
65	2 1/2	67	175	140	4	19	175	220	34	250	22	23	266	188	61	85	11	20	
80	3	78	185	150	8	19	201	220	42	280	22	23	280	202	63	100	15	28	
100	4	100	210	175	8	19	241	257	50	340	22	24	329	241	78	120	15	28	

DIN																	Unit:mm		
Nominal Size		DIN 2501 PN10					D ₁	D ₂	ℓ ₁ (LIFT)	L	t		H	H ₁	H ₂	S	S ₁	S ₂	
mm	inch	d	D	C	n	h					PVC C-PVC	PP PVDF							
15	1/2	16	95	65	4	14	54×66	100	10	130	12	12	104	86	19.5	25	7	13	
20	3/4	20	105	75	4	14	54×66	100	10	150	13	13	106	88	17.5	25	7	13	
25	1	25	115	85	4	14	67×80	100	12	160	13	13	111	93	18.5	25	7	13	
32	1 1/4	32	140	100	4	18	67×80	100	12	180	16	16	116	97	22.5	25	7	13	
40	1 1/2	40	150	110	4	18	108×108	156	21	200	20	20	177	144	27.5	45	9	15	
50	2	52	165	125	4	18	123×123	156	25	230	22	22	191	158	36	45	9	15	
65	2 1/2	67	185	145	4	18	175	220	34	290	22	22	266	188	61	85	11	20	
80	3	78	200	160	8	18	201	220	42	310	24	24	280	202	63	100	15	28	
100	4	100	220	180	8	18	241	257	50	350	24	26	329	241	78	120	15	28	

ANSI																	Unit:inch		
Nominal Size		ANSI CLASS 150					D ₁	D ₂	ℓ ₁ (LIFT)	L	t		H	H ₁	H ₂	S	S ₁	S ₂	
inch	mm	d	D	C	n	h					G-STANDARD	A-STANDARD							PVC C-PVC
1/2	15	0.63	3.50	2.38	4	0.62	2.13×2.60	3.94	0.39	4.25	4.33	0.43	0.43	4.09	3.39	0.77	0.98	0.28	0.51
3/4	20	0.79	3.88	2.75	4	0.62	2.13×2.60	3.94	0.39	5.88	4.72	0.51	0.51	4.17	3.46	0.69	0.98	0.28	0.51
1	25	0.98	4.25	3.12	4	0.62	2.64×3.15	3.94	0.47	5.88	5.12	0.59	0.59	4.37	3.66	0.73	0.98	0.28	0.51
1 1/4	32	1.26	4.62	3.50	4	0.62	2.64×3.15	3.94	0.47	6.38	—	0.63	0.63	4.57	3.82	0.89	0.98	0.28	0.51
1 1/2	40	1.57	5.00	3.88	4	0.62	4.25×4.25	6.14	0.83	6.94	7.09	0.63	0.63	6.97	5.67	1.08	1.77	0.35	0.59
2	50	2.05	6.00	4.75	4	0.75	4.84×4.84	6.14	0.98	7.94	8.27	0.79	0.79	7.52	6.22	1.42	1.77	0.35	0.59
2 1/2	65	2.64	7.00	5.50	4	0.75	6.89	8.66	1.34	—	9.84	0.87	0.91	10.47	7.40	2.40	3.35	0.43	0.79
3	80	3.07	7.50	6.00	4	0.75	7.91	8.66	1.65	10.37	11.02	0.87	0.91	11.02	7.95	2.48	3.94	0.59	1.10
4	100	3.94	9.00	7.50	8	0.75	9.49	10.12	1.97	12.93	13.39	0.87	0.94	12.95	9.49	3.07	4.72	0.59	1.10

TRUE UNION DIAPHRAGM VALVE TYPE 14 15mm - 50mm(1/2inch - 2inch)



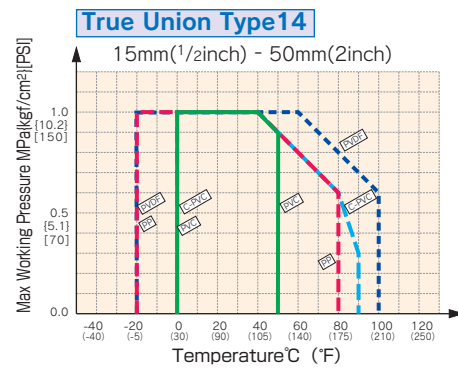
FEATURES

- Easy Maintenance**
The valve body can be removed from the pipe line by loosening the union nuts at both ends.
- Bottom Stand for Easy Support**
Having a new bottom stand with an insert hole, DIAPHRAGM VALVE TYPE 14 helps support the piping. The valve is also provided with a flange stand to increase installation safety.

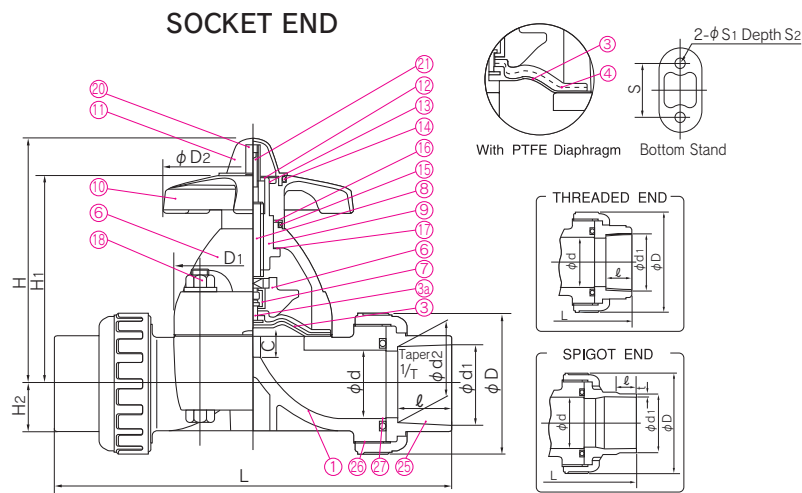
MATERIAL AND WORKING TEMPERATURE

Body Material	Nominal Size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure at 20°C(70°F) MPa[kgf/cm ²] [PSI]	End Connectors
Unplasticized Polyvinyl Chloride(PVC)	15 - 50(1/2 - 2)	0 - 50(30 - 120)	1.0{10.2} [150]	Socket End. Threaded End
Chlorinated Polyvinyl Chloride(C-PVC)	15 - 50(1/2 - 2)	0 - 90(30 - 195)	1.0{10.2} [150]	Socket End. Threaded End
Polypropylene(PP)	15 - 50(1/2 - 2)	-20 - 80(-5 - 175)	1.0{10.2} [150]	Socket End. Threaded End
Polyvinylidene Fluoride(PVDF)	15 - 50(1/2 - 2)	-20 - 100(-5 - 210)	1.0{10.2} [150]	Socket End. Threaded End. Spigot End

WORKING PRESSURE VS. TEMPERATURE



DIMENSION



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
1	BODY	1	BODY/BONNET PVC/PVC C-PVC/PP PP/PP	11	GAUGE COVER	1	PC
2	BONNET	1	PVDF/PPG PVDF/PVDF	12	NAME PLATE	1	PVC
3	DIAPHRAGM	1	EPDM IIR NBR, CSM CPE, FKM VIFLON C (FKM-C) VIFLON F (FKM-F) PTFE	13	RETAINING RING-C TYPE	1	STAINLESS STEEL304
3a	INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL304	14	O-RING(A)	1	EPDM
4	CUSHION	1	EPDM*	15	O-RING(B)	1	EPDM
6	COMPRESSOR	1	PVDF	16	THRUST RING(A)	1	UHMWPE
7	JOINT	1	STAINLESS STEEL304	17	THRUST RING(B)	1	UHMWPE
8	STEM	1	COPPER ALLOY(C3604)	18	BOLT·NUT	4	STAINLESS STEEL304
9	SLEEVE	1	COPPER ALLOY(C3604)	20	STOPPER	1	COPPER ALLOY(C3604)
10	HAND WHEEL	1	PP	21	SCREW	1	STAINLESS STEEL304
				25	ENDCONNECTOR	2	PVC C-PVC PP
				26	UNION NUT	2	PVDF
				27	O-RING(C)	2	EPDM FKM Others

DIMENSIONS TABLE

JIS Unit:mm

Nominal Size	d	Socket End				Threaded End				D	D ₁	D ₂	C (LIFT)	H	H ₁	H ₂	S	S ₁	S ₂				
		PVC, C-PVC		PP		JIS B 0203		L															
		d ₁	ℓ	d ₁	ℓ	d ₁	ℓ	PVC, C-PVC	PP, PVDF														
15 1/2	16	22.11	20	1/34	134	21.2	20.2	20	134	Rc 1/2	15	128	128	48	54×66	100	10	104	86	19.5	25	7	13
20 3/4	20	26.13	24	1/34	156	26.2	25.2	23	154	Rc 3/4	17	148	148	60	54×66	100	10	106	88	17.5	25	7	13
25 1	25	32.16	27	1/34	186	33.0	32.0	25	182	Rc 1	20	172	172	70	67×80	100	12	111	93	18.5	25	7	13
32 1 1/4	32	38.19	30	1/34	200	-	-	-	-	Rc 1 1/4	22	188	188	82	67×80	100	12	116	97	22.5	25	7	13
40 1 1/2	40	48.21	37	1/37	271	47.0	46.0	28	253	Rc 1 1/2	25	245	245	100	108×108	156	21	177	144	27.5	45	9	15
50 2	52	60.25	42	1/37	303	59.0	58.0	28	275	Rc 2	28	281	278	106	123×123	156	25	191	158	36	45	9	15

DIN Unit:mm

Nominal Size	d	Socket End				Threaded End				Spigot End				D	D ₁	D ₂	C (LIFT)	H	H ₁	H ₂	S	S ₁	S ₂							
		PVC, C-PVC		PP, PVDF		DIN 2999		L		PVC		PP, PVDF																		
		DIN 8063	L	DIN 16962(PP)	L	d ₁	ℓ	PVC, C-PVC	PP, PVDF	DIN 3441	L	DIN 3442	PP											PVDF	L					
15 1/2	16	20	16	128	19.5	19.3	14.5	125	Rp 1/2	15	128	128	20	18.5	150	20	18.5	2.5	1.9	150	48	54×66	100	10	104	86	19.5	25	7	13
20 3/4	20	25	19	147	24.5	24.3	16	141	Rp 3/4	17	148	148	25	24	172	25	22	2.7	1.9	172	60	54×66	100	10	106	88	17.5	25	7	13
25 1	25	32	22	172	31.5	31.3	18	164	Rp 1	20	172	172	32	24.5	195	32	22.5	3.0	2.4	195	70	67×80	100	12	111	93	18.5	25	7	13
32 1 1/4	32	40	26	188	39.45	39.2	20.5	177	Rp 1 1/4	22	188	188	40	28	212	40	26	3.7	2.4	212	82	67×80	100	12	116	97	22.5	25	7	13
40 1 1/2	40	50	31	246	49.45	49.2	23.5	231	Rp 1 1/2	25	245	245	50	34	276	50	32	4.6	3.0	276	100	108×108	156	21	177	144	27.5	45	9	15
50 2	52	63	38	294	62.5	62.1	27.5	274	Rp 2	28	281	278	63	38.5	308	63	36	5.8	3.0	307	106	123×123	156	25	191	158	36	45	9	15

ANSI Unit:inch

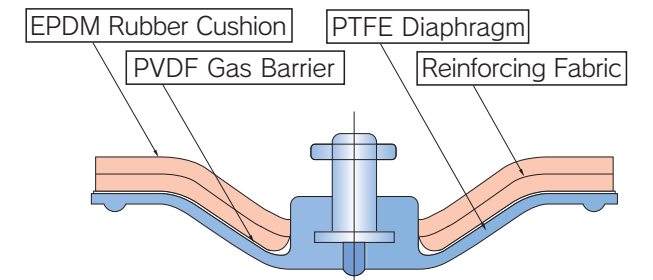
Nominal Size	d	Socket End				Threaded End				D	D ₁	D ₂	C (LIFT)	H	H ₁	H ₂	S	S ₁	S ₂				
		PVC, C-PVC		PP, PVDF(IPS)		ANSI/ASME B1-20-1		L															
		ASTM SCH80	L	d ₁	ℓ	L	d ₁	ℓ	PVC, C-PVC											PP, PVDF			
1/2	15	0.63	0.848	0.836	0.875	5.47	0.83	0.87	5.43	1/2-14NPT	0.59	5.04	5.04	1.89	2.13×2.60	3.94	0.39	4.09	3.39	0.77	0.98	0.28	0.51
3/4	20	0.79	1.058	1.046	1.000	6.18	1.03	1.00	6.09	3/4-14NPT	0.67	5.83	5.83	2.36	2.13×2.60	3.94	0.39	4.17	3.46	0.69	0.98	0.28	0.51
1	25	0.98	1.325	1.310	1.125	7.32	1.30	1.13	7.24	1-11/2NPT	0.79	6.77	6.77	2.76	2.64×3.15	3.94	0.47	4.37	3.66	0.73	0.98	0.28	0.51
1 1/4	32	1.26	1.670	1.655	1.250	7.95	1.65	1.25	7.80	1 1/4-11NPT	0.87	7.40	7.40	3.23	2.64×3.15	3.94	0.47	4.57	3.82	0.89	0.98	0.28	0.51
1 1/2	40	1.57	1.912	1.894	1.375	10.47	1.89	1.37	10.28	1 1/2-11NPT	0.98	9.65	9.65	3.94	4.25×4.25	6.14	0.83	6.97	5.67	1.08	1.77	0.35	0.59
2	50	2.05	2.387	2.369	1.500	11.54	2.36	1.50	11.54	2-11/2NPT	1.10	11.06	10.95	4.17	4.84×4.84	6.14	0.98	7.52	6.22	1.42	1.77	0.35	0.59

BS Unit:mm

Nominal Size	d	Socket End			D	D ₁	D ₂	C (LIFT)	H	H ₁	H ₂	S	S ₁	S ₂
		PVC	ℓ	L										
15 1/2	16	21.4	17	128	48	54×66	100	10	104	86	19.5	25	7	13
20 3/4	20	26.8	20	147	60	54×66	100	10	106	88	17.5	25	7	13
25 1	25	33.6	23	172	70	67×80	100	12	111	93	18.5	25	7	13
32 1 1/4	32	42.3	27.5	188	82	67×80	100	12	116	97	22.5	25	7	13
40 1 1/2	40	48.3	30.5	246	100	108×108	156	21	177	144	27.5	45	9	15
50 2	52	60.4	36.5	299	106	123×123	156	25	191	158	36	45	9	15

DIAPHRAGM VALVE TYPE 14

- We recommend that a PVDF Gas Barrier should be installed with PTFE DIAPHRAGM VALVE if it is used in an application that has corrosive gas.
- Temperature variations during operation or long periods of storage may cause the diaphragm to settle. In this case, it is recommended to check bonnet bolt torque, prior to installation(See the table below).



Diaphragm with PVDF Gas Barrier

Tightening Torque for Diaphragm Valve Bonnet for TYPE 14

Unit:N·m(kgf·cm)

Nominal Size mm(inch)	15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)
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}
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}

DIAPHRAGM VALVE TYPE 15 125mm, 150mm(5inch, 6inch)

Flanged End type
● 125mm(5inch) · 150mm(6inch)



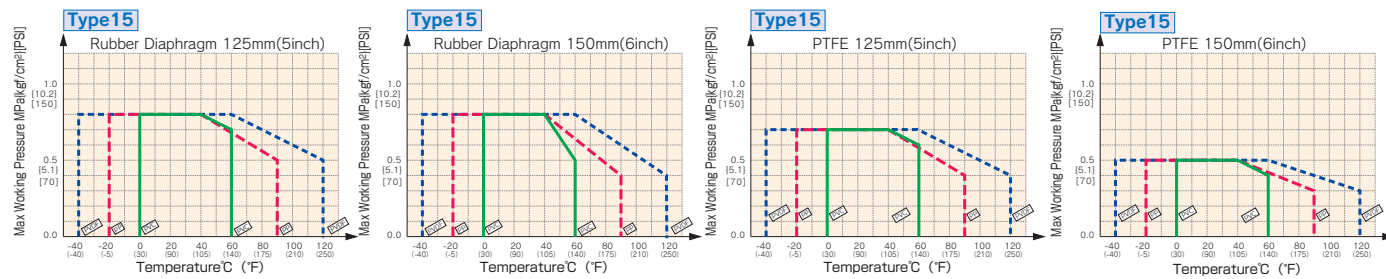
FEATURES

- Improved outside sealing ability**
By means of 3D CAD/CAE analysis, Type 15 diaphragm valve has increased body thickness. In addition, using the elastomer that has high impact resilience, the sealing ability of valve is improved against high temperature changes.
- Easier to operate**
In order to reduce frictional force, material and shape of sliding parts are redesigned. Also improved hand wheel design which allows for easy operation.

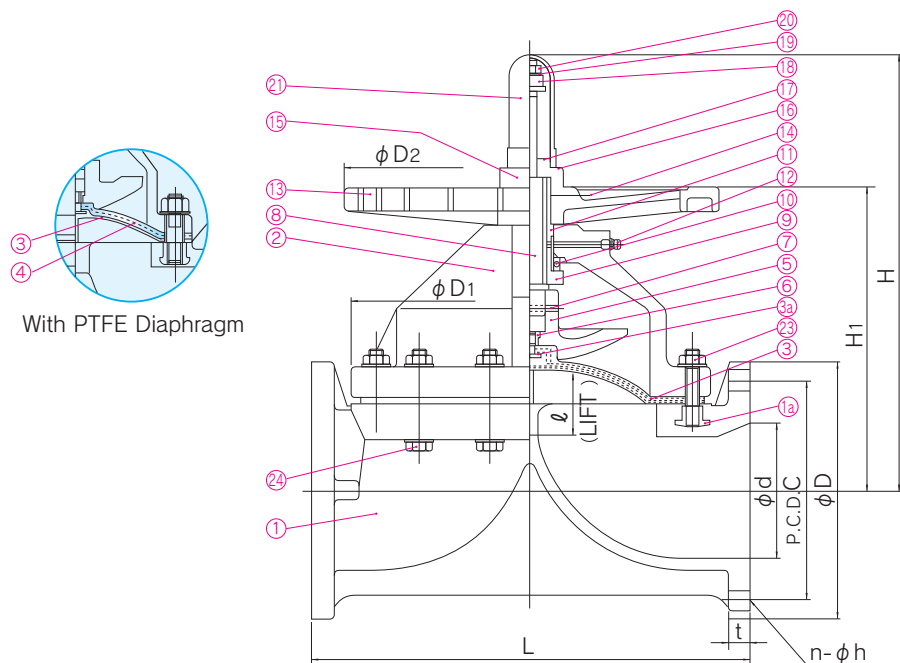
MATERIAL AND WORKING TEMPERATURE

Body material	Nominal size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure at 20°C(70°F) MPa[kgf/cm ²] [PSI]			
			Rubber Diaphragm		PTFE Diaphragm	
			125mm(5inch)	150mm(6inch)	125mm(5inch)	150mm(6inch)
PVC	125(5) · 150(6)	0 - 60(30 - 140)	0.8{8.2}[115]	0.8{8.2}[115]	0.7{7.1}[100]	0.5{5.1}[70]
PP	125(5) · 150(6)	-20 - 90(-5 - 195)	0.8{8.2}[115]	0.8{8.2}[115]	0.7{7.1}[100]	0.5{5.1}[70]
PVDF	125(5) · 150(6)	-40 - 120(-40 - 250)	0.8{8.2}[115]	0.8{8.2}[115]	0.7{7.1}[100]	0.5{5.1}[70]

WORKING PRESSURE VS. TEMPERATURE



DIMENSION



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	BODY/BONNET PVC/PVC PP/PP PVDF/PPG PVDF/PVDF	⑪	O-RING(A)	1	NBR
②	BONNET	1		⑫	GREASE NIPPLE	1	COPPER ALLOY (C3604)
③	DIAPHRAGM	1	EPDM, PTFE, FKM, NBR VIFLON F (FKM-F) VIFLON C (FKM-C)	⑬	HAND WHEEL	1	PP
④	INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL304 Others	⑭	NAME PLATE	1	PVC
⑤	CUSHION ¹⁾	1	EPDM	⑮	CAP	1	PP
⑥	COMPRESSOR	1	PVDF	⑯	SHEET GASKET(A)	1	EPDM
⑦	COMPRESSOR NUT	1	COPPER ALLOY (C3604)	⑰	SHEET RING	1	STAINLESS STEEL304
⑧	COMPRESSOR PIN	1	STAINLESS STEEL304	⑱	STOPPER	1	Chromized STEEL (SS400)
⑨	STEM	1	COPPER ALLOY	⑲	SPRING WASHER	1	STAINLESS STEEL304
⑩	SLEEVE(A)	1	COPPER ALLOY	⑳	SET NUT	1	STAINLESS STEEL304
⑪	THRUST BEARING(A)	1	HIGH CARBON CHROMIUM BEARING(SUJ2)	㉑	GAUGE COVER	1	POLYCARBONATE
				㉒	STUD BOLT · NUT	4	STAINLESS STEEL304
				㉓	BOLT · NUT	-	STAINLESS STEEL304
				㉔	INSERTED NUT	4	COPPER ALLOY ²⁾ STAINLESS STEEL304 ³⁾

Note : 1) Used for PTFE diaphragm
2) Used for PVC, PP Body
3) Used for PVDF Body

DIMENSIONS TABLE

Nominal Size		d	JIS 10K				L	t		D ₁	D ₂	ℓ	H	H ₁
mm	inch		D	C	n	h		PVC	PP, PVDF					
125	5	125	250	210	8	23	410	22	24	320	300	60	420	308
150	6	148	280	240	8	23	480	24	27	385	410	70	476	334

Nominal Size		d	DIN 2501 PN10				L	t		D ₁	D ₂	ℓ	H	H ₁
mm	inch		D	C	n	h		PVC	PP, PVDF					
125	5	125	250	210	8	18	400	22	23	320	300	60	420	308
150	6	148	285	240	8	22	480	24	27	385	410	70	476	334

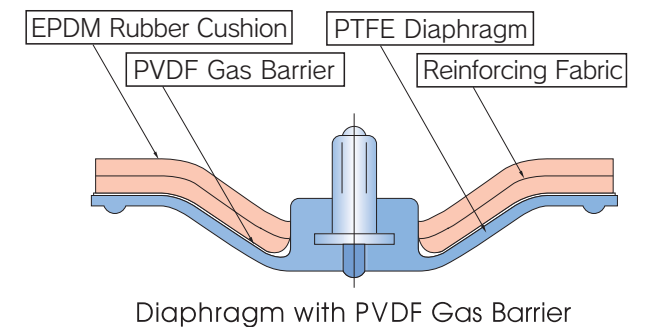
Nominal Size		d	ANSI CLASS 150				L	t		D ₁	D ₂	ℓ	H	H ₁
inch	mm		D	C	n	h		PVC	PP, PVDF					
5	125	4.92	10.00	8.50	8	0.88	16.14	0.87	0.94	12.60	11.81	2.36	16.54	12.13
6	150	5.83	11.00	9.50	8	0.88	18.90	0.94	1.06	15.16	16.14	2.76	18.74	13.15

DIAPHRAGM VALVE TYPE 15

- We recommend that a PVDF gas barrier should be installed with PTFE DIAPHRAGM VALVE if it is used in an application that has corrosive gas.
- Temperature variations during operation or long periods of storage may cause the diaphragm to settle. In this case, it is recommended to check bonnet bolt torque, prior to installation (See the table below).

▼ Tightening Torque for Diaphragm Valve Bonnet for TYPE 15

Material	Nominal Size mm(inch)	Unit: N · m[kgf · cm]	
		125 (5)	150 (6)
Rubber Diaphragm	45.0 {459}	45.0 {459}	45.0 {459}
PTFE Diaphragm	45.0 {459}	45.0 {459}	45.0 {459}



Diaphragm with PVDF Gas Barrier

DIAPHRAGM VALVE TYPE 72 200mm, 250mm(8inch, 10inch)

● 200mm(8inch) · 250mm(10inch)



FEATURES

Sealed Bonnet

Having a sealed bonnet with an O-ring, prevents rain water or external atmosphere from entering the bonnet, DIAPHRAGM VALVE TYPE 72 can be safely used outdoors.

Sealed Indicator

Because a clear indicator gauge protects the exposed metallic part on top of the stem against atmosphere, corrosive gas or fluid does not of the valve.

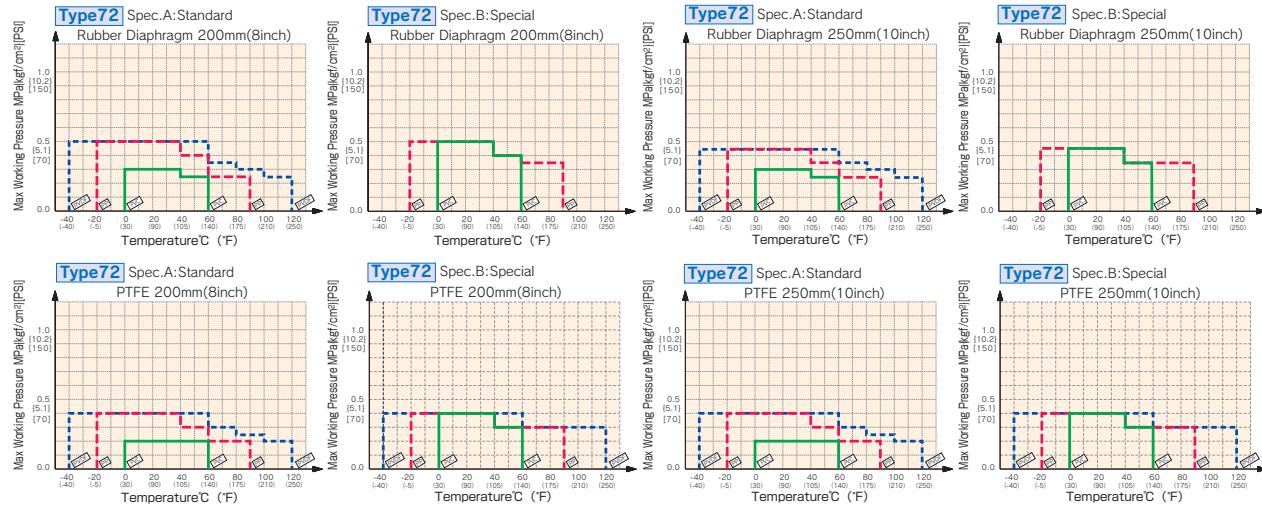
Position Indication

The position indicator also shows the degree of the valve position.

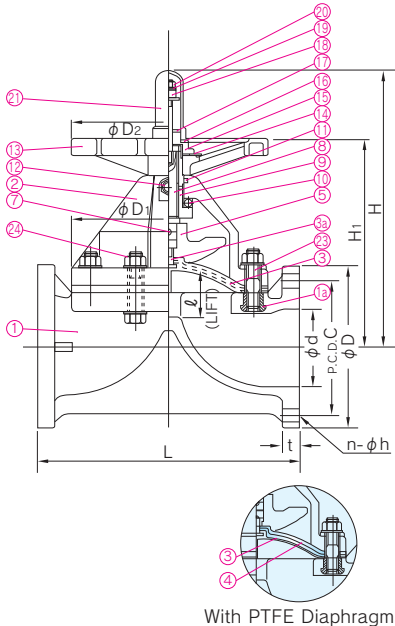
MATERIAL AND WORKING TEMPERATURE

Body material	Nominal size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure at 20°C(70°F) MPa[kgf/cm ²] [PSI]			
			Rubber Diaphragm		PTFE Diaphragm	
			200mm(8inch)	250mm(10inch)	200mm(8inch)	250mm(10inch)
PVC	200(8)·250(10)	0 - 60(30 - 140)	0.3{3.1}[40]	0.3{3.1}[40]	0.2{2.0}[30]	0.2{2.0}[30]
PP	200(8)·250(10)	-20 - 90(-5 - 195)	0.5{5.1}[70]	0.45{4.6}[65]	0.4{4.1}[55]	0.4{4.1}[55]
PVDF	200(8)·250(10)	-40 - 120(-40 - 250)	0.5{5.1}[70]	0.45{4.6}[65]	0.4{4.1}[55]	0.4{4.1}[55]

WORKING PRESSURE VS. TEMPERATURE



DIMENSION



With PTFE Diaphragm

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	BODY/BONNET PVC/PVC PP/PP PVDF/PPG PVDF/PVDF	⑪	O-RING(A)	1	NBR
②	BONNET	1		⑫	GREASE NIPPLE	1	COPPER ALLOY(C3604)
③	DIAPHRAGM	1	EPDM,PTFE,FKM,NBR VIFLON F (FKM-F) VIFLON C (FKM-C)	⑬	HAND WHEEL	1	PP
④	CUSION ¹⁾	1	EPDM	⑭	NAME PLATE	1	PVC
⑤	COMPRESSOR	1	GRAY IRON CASTING	⑮	CAP	1	PP
⑥	COMPRESSOR NUT	1	COPPER ALLOY(C3604)	⑯	SEAT GASKET(A)	1	EPDM
⑦	COMPRESSOR PIN	1	STAINLESS STEEL304	⑰	SEAT RING	1	STAINLESS STEEL304
⑧	STEM	1	SUM23	⑱	STOPPER	1	CHROMIZED STEEL(SS400)
⑨	SLEEVE(A)	1	GRAY IRON CASTING	⑲	SPRING WASHER	1	STAINLESS STEEL304
⑩	THRUST BEARING(A)	1	HIGH CARBON CHROMIUM BEARING(SUJ2)	⑳	SET NUT	1	STAINLESS STEEL304
				㉑	GAUGE COVER	1	POLYCARBONATE
				㉒	STUD BOLT·NUT	—	STAINLESS STEEL304
				㉓	BOLT·NUT	—	STAINLESS STEEL304
				㉔	INSERTED NUT	—	COPPER ALLOY(C3604) ²⁾ STAINLESS STEEL304 ³⁾
				㉕	INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL304 Others

Note : 1) Used for PTFE Diaphragm
2) Used for PVC,PP Body
3) Used for PVDF Body

DIMENSIONS TABLE

JIS															Unit:mm	
Nominal Size	* d	JIS 10K					* D ₁	D ₂	ℓ	L	t		* H ₁	H		
		mm	inch	C	* D	h					n	PVC			PP,PVDF	
200	8	196	290	330	23	12	430	410	95	570	28	32	419	627		
250	10	247	355	400	25	12	540	560	128	680	30	37	510	778		

*.....Standard dimensions based on PVC material

DIN															Unit:mm	
Nominal Size	* d	DIN 2501 PN10					* D ₁	D ₂	ℓ	L	t		* H ₁	H		
		mm	inch	C	* D	h					n	PVC			PP,PVDF	
200	8	196	295	340	22	8	430	410	95	600	30	34	419	627		
250	10	247	350	395	22	12	540	560	128	730	34	36	510	778		

*.....Standard dimensions based on PVC material

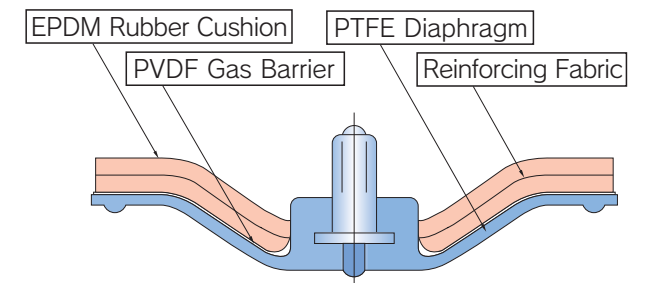
ANSI															Unit:inch	
Nominal Size	* d	ANSI CLASS 150					* D ₁	D ₂	ℓ	L	t		* H ₁	H		
		inch	mm	C	* D	h					n	PVC,PP,PVDF			H ₁	H
8	200	7.72	11.75	13.50	0.88	8	16.93	16.14	3.74	22.44	1.26	1.46	16.50	24.69		
10	250	9.72	14.25	16.00	1.00	12	21.26	22.05	5.04	26.77	1.46	1.46	20.08	30.63		

*.....Standard dimensions based on PVC material

	Body Material:PVC Diaphragm Material : Rubbers or PTFE	Body Material:PP Diaphragm Material : Rubbers or PTFE	Body Material:PVDF Diaphragm Material : Rubbers or PTFE
SPEC. A (Standard)			
SPEC. B (Special)			

DIAPHRAGM VALVE TYPE 72

- We recommend that a PVDF Gas Barrier should be installed with PTFE DIAPHRAGM VALVE if it is used in an application that has corrosive gas.
- Temperature variations during operation or long periods of storage may cause the diaphragm to settle. In this case, it is recommended to check bonnet bolt torque,prior to installation(See the table below).



Diaphragm with PVDF Gas Barrier

▼ Tightening Torque for Diaphragm Valve Bonnet for TYPE 72

Material	Nominal Size mm(inch)	
	200 (8)	250 (10)
Rubber Diaphragm	25.0 {255}	25.0 {255}
PTFE Diaphragm	25.0 {255}	25.0 {255}

Unit:N·m[kgf·cm]

MATERIAL AND WORKING TEMPERATURE (SPEC. B-Special)

Body material	Nominal size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure at 20°C(70°F) MPa[kgf/cm ²] [PSI]			
			Rubber Diaphragm		PTFE Diaphragm	
			200mm(8inch)	250mm(10inch)	200mm(8inch)	250mm(10inch)
PVC	200(8)·250(10)	0 - 60(30 - 140)	0.5{5.1}[70]	0.45{4.6}[65]	0.4{4.1}[55]	0.4{4.1}[55]
PP	200(8)·250(10)	-20 - 90(-5 - 195)	0.5{5.1}[70]	0.45{4.6}[65]	0.4{4.1}[55]	0.4{4.1}[55]
PVDF	200(8)·250(10)	-40 - 120(-40 - 250)	—	—	0.4{4.1}[55]	0.4{4.1}[55]

DIAPHRAGM VALVE/Chlor-Alkali Specification & EL Specification

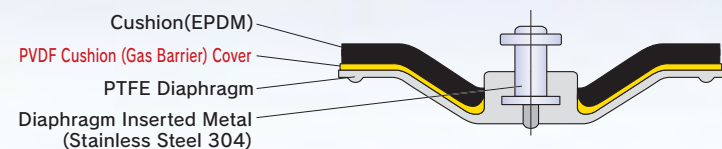
FEATURES

As a solution for blister or crack problem on the surface of the valve body or the diaphragm in the severe working conditions especially for Chlor/Brine application, we prepared a special specification "EL-Specification".

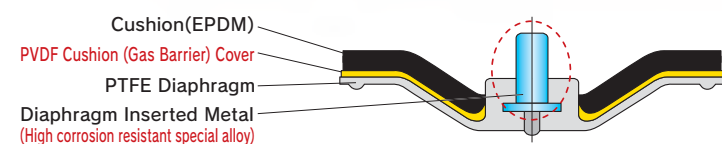
The "EL-Specification", which has EL-PVDF body and EL-PTFE diaphragm, provides excellent chemical resistance and longer product life. According to the result of our field tests, it is confirmed that the "EL-Specification" has 2 to 5 times longer product life than standard "C/A Specification" in the same working condition.



① PVDF Cushion Cover (Gas Barrier) Specification for corrosive gas



② Chlor-Alkali Specification for Cl₂ gas



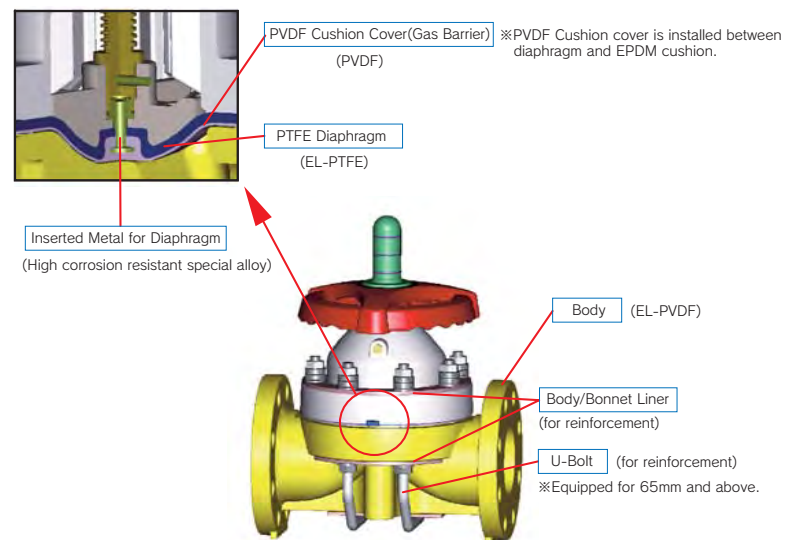
③ EL-Specification

- Feature:** To prevent the generation of blister and crack by applying special material.
- Medium:** High temperature brine, Sodium hypochlorite, Hydrofluoric acid and so on.
- Countermeasure:** for blister, crack, peeling-off and so on.
- Parts:** EL-PVDF (Body) and EL-PTFE (Diaphragm)
- Target:** Chlor/Alkali industry, pulp & paper industry, steel industry and so on.
- Reference:** Many factories especially in Electrolysis plants in world wide.

Size

15mm (1/2inch) - 100mm (4inch)

Contents of EL-Specification



Field Test Result



EL-PVDF/No blister is observed



PVDF/Blister is observed
(Electrolysis Plant/ Return Brine 88°C, 0.3MPa, after 5years service)

Comparison table between EL-Specification and Chlor/Alkali specification

Parts Specification	Body	PTFE Diaphragm	Inserted Metal for PTFE Diaphragm	PVDF Cushion Cover	Remark
EL Spec.	EL-PVDF	EL-PTFE	Special Alloy	Equipped	c/w Body/Bonnet Liner and Conical Spring Washer
C/A Spec.	PVDF	PTFE	Special Alloy	Equipped	c/w Body/Bonnet Liner and Conical Spring Washer

Note : Please contact us for further information.

BALL VALVE TYPE 21 · 21α 15mm - 100mm (1/2inch - 4inch)

FEATURES

Easy to Be Automated (No Modification Required)
Featuring a new integral molded top flange. The BALL VALVE TYPE 21 can easily be converted from the manual to automatic without replacing the body.

Simple Installation on Panel Piping
New bottom stand with an insert hole allows the valve to be secured on bench or panel only by inserting a metallic insert.

Double-O-ring
The stem uses a double-O-ring, sealing arrangement improving durability sealing performance. The upper O-ring groove is deeper than the lower O-ring groove. Because of this design, the stem would break first at the upper O-ring groove, acting as a back up seal.

Multi Functional Handle
Removing the handle and placing the raised lugs into the carrier allow for easy disassembly of the valve.
*The handle has other colors. (blue, white, yellow)(Option)

Locking Device (Option)
The handle lock can be done by full-open (close)



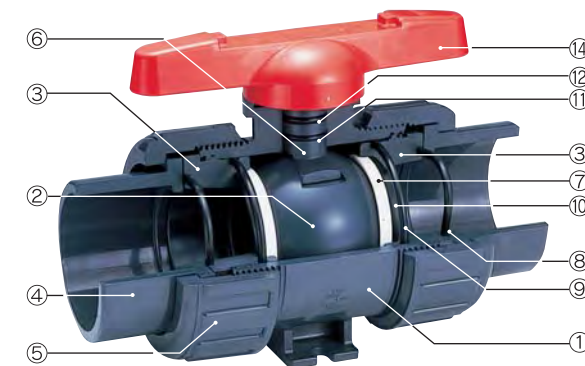
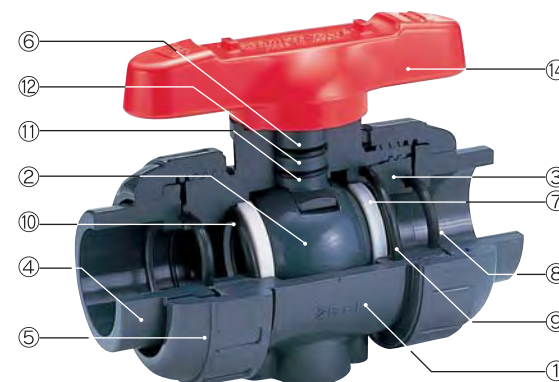
NSF Product

NSF("NSF/ANSI STANDARD 61" Drinking Water System Components-Health Effects)Product.
:BALL VALVE TYPE 21 · 21 α (Material: PVC+EPDM,FKM)
*Certified products bear an NSF Certification Mark.

MATERIAL AND WORKING TEMPERATURE

Body Material	Working Temperature °C (°F)	Max. Working Pressure (at R.T.) MPa[kgf/cm ²][PSI]	End Connectors			
			Socket End	Threaded End	Flanged End	Spigot End
Unplasticized Polyvinyl Chloride(PVC)	0 - 50(30 - 120)	1.6{16.3}[230]	○	○	○	—
Chlorinated Polyvinyl Chloride(C-PVC)	0 - 90(30 - 195)	1.6{16.3}[230]	○	○	○	—
Polypropylene(PP)	-20 - 80(-5 - 175)	1.0{10.2}[150]	○	○	○	○
Polyvinylidene Fluoride(PVDF)	-20 - 100(-5 - 210)	1.6{16.3}[230]	○	○	○	○

※ PP and PVDF ball valves of the Socket End type and PVDF ball valves of the Spigot End type are welded valves.
Notes : 1. There is a dead space in a ball valve. Volatile liquids, such as a hydrogen peroxide(H₂O₂)and Sodium hypochlorite (NaClO) may vaporize in the dead space, thus causing an abnormal pressure increase in the valve.
(Important: Gas is compressible. Thus if pressure rises abnormally, the valve can burst ejecting dangerous fragments.)



PARTS & MATERIALS

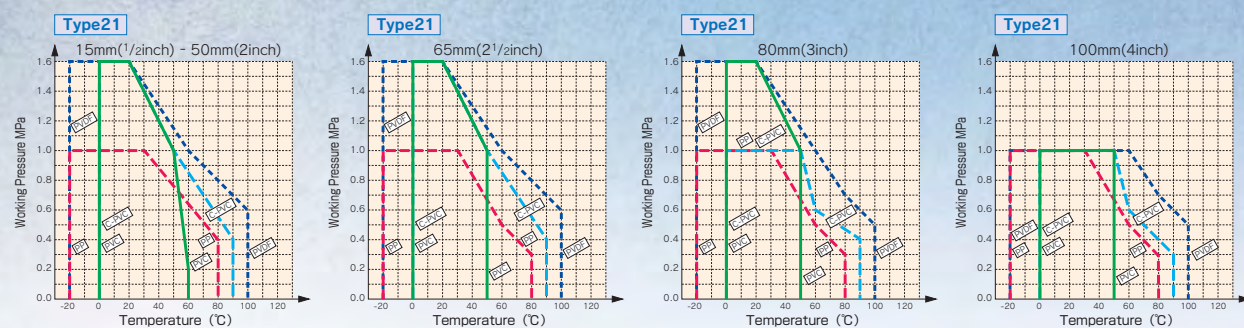
● 15mm (1/2inch) - 50mm (2inch)

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC, C-PVC, PP, PVDF	⑨	O-RING(B)	1	EPDM, FKM, etc
②	BALL	1	PVC, C-PVC, PP, PVDF	⑩	O-RING(C)	2	EPDM, FKM, etc
③	CARRIER	1	PVC, C-PVC, PP, PVDF	⑪	O-RING(D)	1	EPDM, FKM, etc
④	END CONNECTOR	2	PVC, C-PVC, PP, PVDF	⑫	O-RING(E)	1	EPDM, FKM, etc
⑤	UNION NUT	2	PVC, C-PVC, PP, PVDF	⑬	STOP RING	2	PVDF(used for flanged End)
⑥	STEM	1	PVC, C-PVC, PP, PVDF	⑭	HANDLE	1	ABS
⑦	SEAT	2	PTFE				
⑧	O-RING(A)	2	EPDM, FKM, etc				

● 65mm (2 1/2inch) - 100mm (4inch)

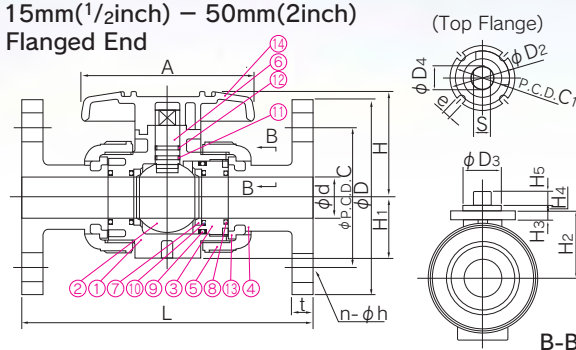
No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC, C-PVC, PP, PVDF	⑨	O-RING(B)	2	EPDM, FKM, etc
②	BALL	1	PVC, C-PVC, PP, PVDF	⑩	CUSHION	2	EPDM, FKM, etc
③	CARRIER	2	PVC, C-PVC, PP, PVDF	⑪	O-RING(D)	1	EPDM, FKM, etc
④	END CONNECTOR	2	PVC, C-PVC, PP, PVDF	⑫	O-RING(E)	1	EPDM, FKM, etc
⑤	UNION NUT	2	PVC, C-PVC, PP, PVDF	⑬	STOP RING	2	PVDF(used for flanged End)
⑥	STEM	1	PVC, C-PVC, PP, PVDF	⑭	HANDLE	1	ABS
⑦	SEAT	2	PTFE	⑮	SCREW	1	STAINLESS STEEL(304)
⑧	O-RING(A)	2	EPDM, FKM, etc				

WORKING PRESSURE VS. TEMPERATURE

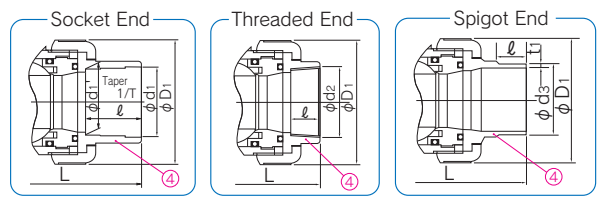
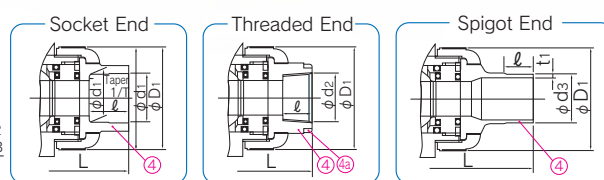
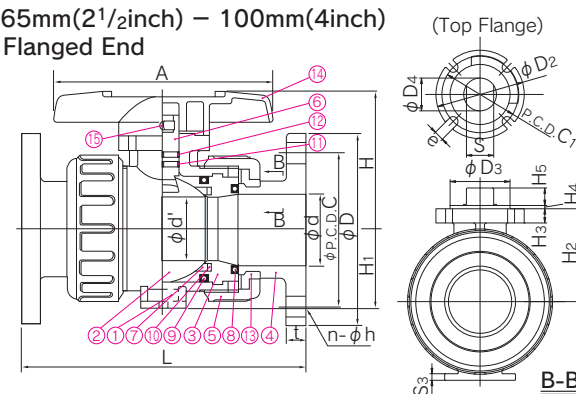


DIMENSION

● 15mm(1/2inch) – 50mm(2inch) Flanged End



● 65mm(2 1/2inch) – 100mm(4inch) Flanged End



DIMENSIONS TABLE

JIS		Unit:mm																					
Nominal Size		d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e			
15	1/2	15	—	48	42	25	13.5	36	51.5	29	30	6	3	8	92	10.5	19	7.3	11	5.5			
20	3/4	20	—	60	42	25	15	36	59.5	35	36.5	6	3	10	100	11	19	7.3	11	5.5			
25	1	25	—	70	42	25	15	36	68	39	43.5	6	3	10	110	11	19	7.3	11	5.5			
32	1 1/4	32	—	82	48	30	19	42	80.5	47	52.5	8	3	10	121	15	30	9	15	5.5			
40	1 1/2	40	—	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5			
50	2	51	—	126	57	35	23	50	102.5	66	72.5	10	3	12	159	18	30	9	15	6.5			
65	2 1/2	65	58	133	81	55	30	70	126	72	85	13	3	16	200	24	48	9	6	9			
80	3	78	68.5	152	81	55	30	70	140	85	94	13	3	19	240	24	55	11	7	9			
100	4	100	90	210	116	70	40	102	178	110	126	16	3	23	300	34	65	11	8	11			

Nominal Size		Flanged End		Socket End								Threaded End														
		JIS 5K		JIS 10K		PVC, C-PVC		PP				PVC, C-PVC		PP		PVC, C-PVC		PP								
mm	inch	D	C	n	h	D	C	n	h	PVC C-PVC	PP	PVDF	t	d ₁	ℓ	1/T	L	d ₁	d ₁ '	ℓ	L	d ₂	ℓ	PVC C-PVC	PP	PVDF
15	1/2	80	60	4	12	95	70	4	15	143	143	143	12	22.11	20	1/34	108	21.2	20.2	20	108	Rc1/2	15	102	100	100
20	3/4	85	65	4	12	100	75	4	15	172	172	172	14	26.13	24	1/34	128	26.2	25.2	23	126	Rc3/4	17	120	119	119
25	1	95	75	4	12	125	90	4	19	187	187	187	14	32.16	27	1/34	145	33.0	32.0	25	141	Rc1	20	131	130	130
32	1 1/4	115	90	4	15	135	100	4	19	190	190	190	16	38.19	30	1/34	162	—	—	—	—	Rc1 1/4	22	150	146	146
40	1 1/2	120	95	4	15	140	105	4	19	212	212	212	16	48.21	37	1/37	189	47.0	46.0	28	171	Rc1 1/2	25	163	160	160
50	2	130	105	4	15	155	120	4	19	234	234	234	16	60.25	42	1/37	220	59.0	58.0	28	192	Rc2	28	197	194	194
65	2 1/2	155	130	4	15	175	140	4	19	261	257	256	18	76.60	61	1/48	273	75.0	73.0	35	219	Rc2 1/2	32	215	213	212
80	3	180	145	4	19	185	150	8	19	306	305	302	18	89.60	64	1/49	316	88.0	86.0	35	257	Rc3	35	265	264	261
100	4	200	165	8	19	210	175	8	19	374	374	369	18	114.70	84	1/56	419	113.0	111.0	45	341	Rc4	45	362	362	357

DIN		Unit:mm																					
Nominal Size		d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e			
10	3/8	13	—	46	—	—	—	—	43.5	—	—	—	—	—	80	—	—	—	—	—			
15	1/2	15	—	48	42	25	13.5	36	51.5	29	30	6	3	8	92	10.5	19	7.3	11	5.5			
20	3/4	20	—	60	42	25	15	36	59.5	35	36.5	6	3	10	100	11	19	7.3	11	5.5			
25	1	25	—	70	42	25	15	36	68	39	43.5	6	3	10	110	11	19	7.3	11	5.5			
32	1 1/4	32	—	82	48	30	19	42	80.5	47	52.5	8	3	10	121	15	30	9	15	5.5			
40	1 1/2	40	—	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5			
50	2	51	—	126	57	35	23	50	102.5	66	72.5	10	3	12	159	18	30	9	15	6.5			
65	2 1/2	65	58	133	81	55	30	70	126	72	85	13	3	16	200	24	48	9	6	9			
80	3	78	68.5	152	81	55	30	70	140	85	94	13	3	19	240	24	55	11	7	9			
100	4	100	90	210	116	70	40	102	178	110	126	16	3	23	300	34	65	11	8	11			

Nominal Size	Flanged End						Socket End					Threaded End				Spigot End															
	DIN PN10/16						PVC, C-PVC		PP, PVDF			PVC		PP, PVDF		PVC			PP, PVDF												
mm	inch	D	C	n	h	t	d ₁	ℓ	L	d ₁	d ₁ '	ℓ	d ₂	ℓ	d ₃	d ₃ '	ℓ	d ₃	ℓ	PP	PVDF	PP	PVDF								
10	3/8	90	60	4	14	120	119	119	12	16	14	99	15.5	15.4	13	96	96	Rp3/8	15	99	98	98	16	13	16	—	—	—	—	114	114
15	1/2	95	65	4	14	130	130	130	12	20	16	102	19.5	19.3	14.5	99	99	Rp1/2	15	102	100	100	20	15	18.5	20	18.5	2.5	1.9	124	124
20	3/4	105	75	4	14	150	150	150	14	25	19	120	24.5	24.3	16	113	113	Rp3/4	17	120	119	119	25	20	24	25	22	2.7	1.9	144	144
25	1	115	85	4	14	160	160	160	14	32	22	131	31.5	31.3	18	123	123	Rp1	20	131	130	130	32	25	24.5	32	22.5	3.0	2.4	154	154
32	1 1/4	140	100	4	18	180	180	180	16	40	26	150	39.45	39.2	20.5	139	139	Rp1 1/4	22	150	146	146	40	31	28	40	26	3.7	2.4	174	174
40	1 1/2	150	110	4	18	200	200	200	16	50	31	163	49.45	49.2	23.5	149	149	Rp1 1/2	25	163	160	160	50	40	34	50	32	4.6	3.0	194	194
50	2	165	125	4	18	230	230	230	16	63	38	197	62.5	62.1	27.5	176	176	Rp2	28	197	194	194	63	51	38	63	36	5.8	3.0	224	224
65	2 1/2	185	145	4	18	290	288	287	18	75	44	233	74.25	73.95	31	205	204	Rp2 1/2	32	215	213	212	75	65	44	75	38	6.9	3.6	245	244
80	3	200	160	8	18	312	311	308	21	90	51	284	89.2	88.85	35.5	252	249	Rp3	35	265	264	261	90	80	51	90	38	8.2	4.3	296	293
100	4	220	180	8	18	352	352	347	18	110	61	351	109.05	108.65	41.5	312	307	Rp4	45	340	340	335	110	93.6	46	110	44.5	10.0	5.3	355	350

ANSI		Unit:inch																					
Nominal Size		d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e			
1/2	15	0.59	—	1.89	1.65	0.98	0.53	1.42	2.03	1.14	1.18	0.24	0.12	0.31	3.62	0.41	0.75	0.29	0.43	0.22			
3/4	20	0.79	—	2.36	1.65	0.98	0.59	1.42	2.34	1.38	1.44	0.24	0.12	0.39	3.94	0.43	0.75	0.29	0.43	0.22			
1	25	0.98	—	2.76	1.65	0.98	0.59	1.42	2.68	1.54	1.71	0.24	0.12	0.39	4.33	0.43	0.75	0.29	0.43	0.22			
1 1/4	32	1.26	—	3.23	1.89	1.18	0.75	1.65	3.17	1.85	2.07	0.31	0.12	0.39	4.76	0.59	1.18	0.35	0.59	0.22			
1 1/2	40	1.57	—	3.94	2.24	1.38	0.91	1.97	3.50	2.17	2.40	0.39	0.12	0.47	5.16	0.71	1.18	0.35	0.59	0.26			
2	50	2.01	—	4.96	2.24	1.38	0.91	1.97	4.04	2.60	2.85	0.39	0.12	0.47	6.26	0.71	1.18	0.35	0.59	0.26			
2 1/2	65	2.56	2.28	5.24	3.19	2.17	1.18	2.76	4.96	2.83	3.35	0.51	0.12	0.63	7.87	0.94	1.89	0.35	0.24	0.35			
3	80	3.07	2.70	5.98	3.19	2.17	1.18	2.76	5.51	3.35	3.70	0.51	0.12	0.75	9.45	0.94	2.17	0.43	0.28	0.35			
4	100	3.94	3.54	8.27	4.57	2.76	1.57	4.02	7.01	4.33	4.96	0.63	0.12	0.91	11.81	1.34	2.56	0.43	0.31	0.43			

Nominal Size	Flanged End			Socket End (IPS)								Threaded End														
	ANSI CLASS 150			PVC, C-PVC		PP, PVDF		ASTM SCH40		ASTM SCH80		PVC, C-PVC		PP, PVDF												
inch	mm	D	C	n	h	t	d ₁	d ₁ '	ℓ	L	d ₁	d ₁ '	ℓ	L	d ₂	ℓ	PVC, C-PVC	PP	PVDF							
1/2	15	3.50	2.38	4	0.62	5.63	5.63	5.63	0.47	—	—	—	—	0.848	0.836	0.875	4.45	0.83	0.87	4.45	4.45	1/2-14 NPT	0.59	4.02	4.02	4.02
3/4	20	3.88	2.75	4	0.62	6.77	6.77	6.77	0.55	—	—	—	—	1.058	1.046	1.000	5.08	1.03	1.00	5.08	5.08	3/4-14 NPT	0.67	4.72	4.72	4.72
1	25	4.25	3.12	4	0.62	7.36	7.36	7.36	0.55	—	—	—	—	1.325	1.31											

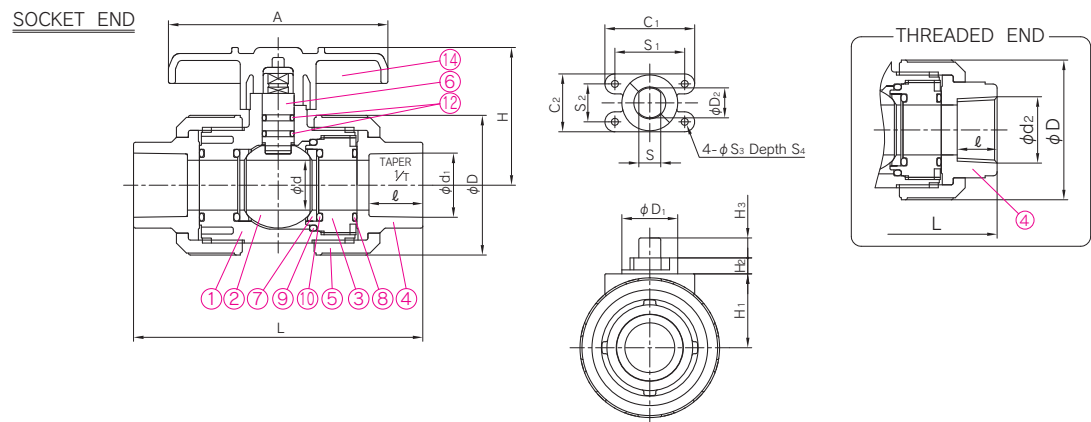
WATER BV 15mm - 50mm(1/2inch - 2inch)

FEATURES



- Most suitable valve for water**
Water BV can be used for water, seawater and therefore have reasonable price.
(This valve is not recommended for chemical fluid.)
- Easy to Be Automated (No Modification Required)**
Featuring a new integral molded top flange. The WATER BV can easily be converted from the manual to automatic without replacing the body.
- Double-O-ring**
The stem uses a double-O-ring, sealing arrangement improving durability sealing performance. The upper O-ring groove is deeper than the lower O-ring groove. Because of this design, the stem would break first at the upper O-ring groove, acting as a back up seal.
- Multi Functional Handle**
Removing the handle and placing the raised lugs into the carrier allow for easy disassembly of the valve.

DIMENSION



MATERIAL AND WORKING TEMPERATURE

Body Material	Working Temperature C (°F)	Max. Working Pressure(at R.T.) MPa(kgf/cm²)[PSI]	End Connectors	
			Socket End	Threaded End
Unplasticized Polyvinyl Chloride(PVC)	0 - 50(30 - 120)	1.0{10.2}[150]	○	○

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC	⑦	SEAT	2	PTFE
②	BALL	1	PVC	⑧	O-RING(A)	2	EPDM
③	CARRIER	1	PVC	⑨	O-RING(B)	1	EPDM
④	END CONNECTOR	2	PVC	⑩	O-RING(C)	2	EPDM
⑤	UNION NUT	2	PVC	⑫	O-RING(E)	2	EPDM
⑥	STEM	1	PVC	⑭	HANDLE	1	ABS

DIMENSIONS TABLE

JIS		Unit:mm																						
Nominal Size	mm inch	Socket End				Threaded End				Other Dimensions														
		d ₁	ℓ	1/T	L	d ₂	ℓ	L	d	D	D ₁	D ₂	H	H ₁	H ₂	H ₃	A	S	C ₁	C ₂	S ₁	S ₂	S ₃	S ₄
15	1/2	22.11	20	1/34	104	Rc 1/2	15	98	15	48	24	13.5	54	25	6	7.5	92	10.5	40	25	31.5	15	3.5	12
20	3/4	26.13	24	1/34	128	Rc 3/4	17	119	20	60	27	15	62	31	8	10	100	11	45	29	35	19	3.5	12
25	1	32.16	27	1/34	145	Rc 1	20	135	25	70	28	15	69	38	8	10	100	11	45	29	35	19	3.5	12
32	1 1/4	38.19	30	1/34	162	Rc 1 1/4	22	150	30	80	34	19	79	43	10	10	121	15	58.5	38	45.5	25	4.5	15
40	1 1/2	48.21	37	1/37	189	Rc 1 1/2	25	170	40	96	38	23	88	50	10	12	131	18	58.5	38	45.5	25	4.5	15
50	2	60.25	42	1/37	220	Rc 2	28	198	51	120	40	23	102	56	12	12	159	18	60	40	47	27	4.5	15

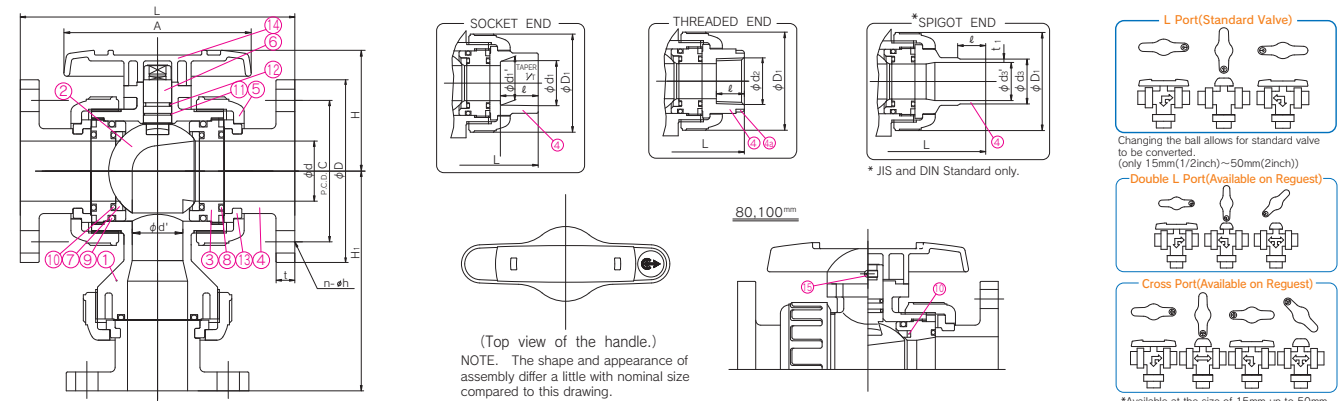
3-WAY BALL VALVE TYPE 23 15mm - 100mm(1/2inch - 4inch)

FEATURES



- Compact and Economic**
The 3-WAY BALL VALVES allows two flow patterns, using one valve. The valve is suitable for a pipeline which requires two ball valves and a tee. That is, the 3-WAY BALL VALVES is economic because it makes piping compact and saves space.
- Reversible Flow Direction**
The 3-WAY BALL VALVE is based on the Asahi true union ball valve design which can be installed or removed just by tightening or loosening its union nut. The 3-WAY BALL VALVES has a L-shaped fluid channel and a handle which can be rotated 360°. The arrow on top of the handle indicates the flow direction.
- Equipped ISO Mounting Flange**
The feature provides for easier mounting of actuators on valves.
- Interchangeable with Ball Valve Type21**
The face to face dimensions, as well as the connecting parts, end connectors and union nuts, are the same as the ball valve Type21.
- Other Special Features**
 - Double O-ring seal on stem for an added protection.
 - W-L port ball and *Cross port ball are available upon request.
 - *Note: Cross port ball is available at the size of 15mm (1/2inch) up to 50mm (2inch).
 - Built-in spanner wrench on the handle for valve disassembly and assembly.
- NSF Product**
NSF(“NSF/ANSI STANDARD 61” Drinking Water System Components-Health Effects)Product.
:3-WAY BALL VALVE TYPE 23(Material:PVC+EPDM,FKM)
*Certified products bear an NSF Certification Mark.

DIMENSION



MATERIAL AND WORKING TEMPERATURE

Body Material	Working Temperature C (°F)	Max. Working Pressure(at R.T.) MPa(kgf/cm²)[PSI]	End Connectors			
			Socket End	Threaded End	Flanged End	Spigot End
Unplasticized Polyvinyl Chloride(PVC)	0 - 50(30 - 120)	1.0{10.2}[150]	○	○	○	○
Chlorinated Polyvinyl Chloride(C-PVC)	0 - 90(30 - 195)	1.0{10.2}[150]	○	○	○	○
Polypropylene(PP)	-20 - 80(-5 - 175)	1.0{10.2}[150]	○*	○	○	○
Polyvinylidene Fluoride(PVDF)	-20 - 100(-5 - 210)	1.0{10.2}[150]	○*	○	○	○

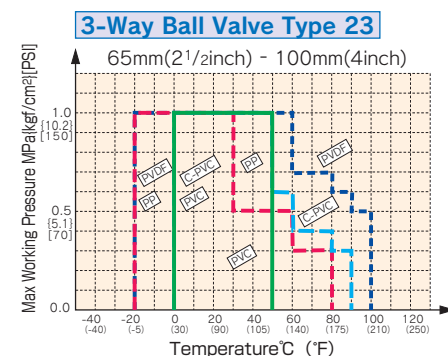
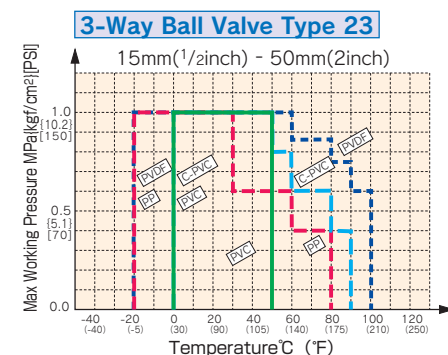
* PP and PVDF 3-WAY BALL VALVES of the Socket End are welded valves.
Note : 1. There is a dead space in a ball valve. Volatile liquids, such as a hydrogen peroxide (H₂O₂) and Sodium hypochlorite (NaClO) may vaporize in the dead space, thus causing an abnormal pressure increase in the valve. (Important: Gas is compressible. Thus if its pressure rises abnormally, the valve can burst ejecting dangerous fragments.

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC,PP,C-PVC,PVDF	⑨	O-RING(B)	2	EPDM,FKM,others
②	BALL	1	PVC,PP,C-PVC,PVDF	⑩	O-RING(C), CUSHION	2	EPDM,FKM,others
③	CARRIER	2	PVC,PP,C-PVC,PVDF	⑪	O-RING(D)	1	EPDM,FKM,others
④	END CONNECTOR	3	PVC,PP,C-PVC,PVDF	⑫	O-RING(E)	1	EPDM,FKM,others
⑤	UNION NUT	3	PVC,PP,C-PVC,PVDF	⑬	STOP RING	3	PVDF(Used for Flanged End)
⑥	STEM	1	PVC,PP,C-PVC,PVDF	⑭	HANDLE	1	ABS
⑦	SEAT	2	PTFE	⑮	TAPPING SCREW(A)	1	STAINLESS STEEL304
⑧	O-RING(A)	3	EPDM,FKM,others	⑯	RING	3	STAINLESS STEEL304

Note : The stop ring (⑬) is used for Flanged End valves only.
The ring (⑯) is used for 15,20,and 25mm C-PVC valves.

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS		Unit:mm															
Nominal Size	Flanged End					Socket End					Threaded End						
	JIS PN10				t	L ₁	L ₂	d ₁	d ₁ '	ℓ	L ₁	L ₂	d ₂	ℓ	L ₁	L ₂	
mm	inch	D	C	n													h
25	1	125	90	4	19	14	216	108	33.0	32.0	25	170	85	Rc 1	20	159	79.5
32	1 1/4	135	100	4	19	16	260	130	-	-	-	-	-	Rc 1 1/4	22	208	104
40	1 1/2	140	105	4	19	16	260	130	47.0	46.0	28	219	109.5	Rc 1 1/2	25	208	104

Nominal Size	d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e	
mm	inch																			
25	1	25	22	70	42	25	15	36	68	39	43.5	6	3	10	110	11	19	7.3	11	5.5
32	1 1/4	40	34	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5
40	1 1/2	40	34	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5

DIN		Unit:mm																				
Nominal Size	Flanged End					Socket End					Threaded End					Spigot End						
	DIN PN10				t	L ₁	L ₂	d ₁	d ₁ '	ℓ	L ₁	L ₂	d ₂	ℓ	L ₁	L ₂	d ₃	ℓ	t	L ₁	L ₂	
mm	inch	D	C	n																		h
25	1	115	85	4	14	14	189	94.5	31.5	31.3	18	152	76	Rp 1	20	159	79.5	32	22.5	3.0	183	91.5
32	1 1/4	140	100	4	16	16	260	130	39.45	39.2	20.5	197	98.5	Rp 1 1/4	22	208	104	-	-	-	-	-
40	1 1/2	150	110	4	16	16	248	124	49.45	49.2	23.5	197	98.5	Rp 1 1/2	25	208	104	50	32	4.6	242	121

Nominal Size	d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e	
mm	inch																			
25	1	25	22	70	42	25	15	36	68	39	43.5	6	3	10	110	11	19	7.3	11	5.5
32	1 1/4	40	34	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5
40	1 1/2	40	34	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5

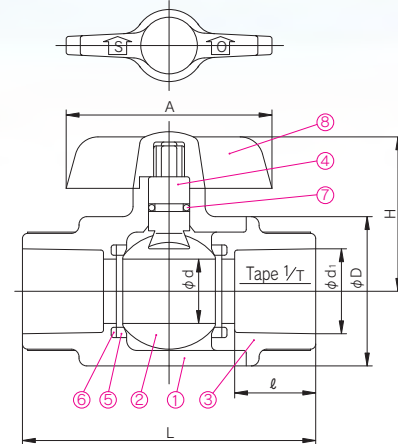
ANSI		Unit:mm															
Nominal Size	Flanged End					Socket End					Threaded End						
	ANSI Class150				t	L ₁	L ₂	d ₁	ℓ	L ₁	L ₂	d ₂	ℓ	L ₁	L ₂		
mm	inch	D	C	n												h	
25	1	4.25	3.13	4	0.62	0.55	8.50	4.25	1.30	1.13	6.77	3.39	1-1 1/2 NPT	0.79	6.26	3.13	
32	1 1/4	4.62	3.50	4	0.62	0.63	10.24	5.12	1.65	1.25	8.74	4.37	1 1/4-1 1/2 NPT	0.87	8.19	4.09	
40	1 1/2	5.00	3.88	4	0.62	0.63	10.24	5.12	1.89	1.37	8.94	4.47	1 1/2-1 1/2 NPT	0.98	8.19	4.09	

Nominal Size	d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e	
mm	inch																			
25	1	0.98	0.87	2.76	1.65	0.98	0.59	1.42	2.68	1.54	1.71	0.24	0.12	0.39	4.33	0.43	0.75	0.29	0.43	0.22
32	1 1/4	1.57	1.34	3.94	2.24	1.38	0.91	1.97	3.50	2.17	2.40	0.39	0.12	0.47	5.16	0.71	1.18	0.35	0.59	0.26
40	1 1/2	1.57	1.34	3.94	2.24	1.38	0.91	1.97	3.50	2.17	2.40	0.39	0.12	0.47	5.16	0.71	1.18	0.35	0.59	0.26

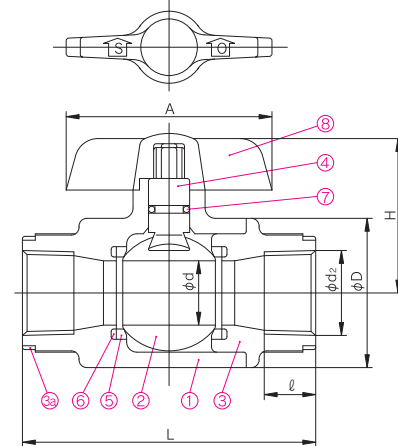
COMPACT BALL VALVE 13mm - 80mm(3/8inch - 3inch)



SOCKET END



THREADED END



FEATURES

Features such as compact, light weight and assembly of a reduced number of parts, the COMPACT BALL VALVES can easily be installed in a small space.

NSF Product

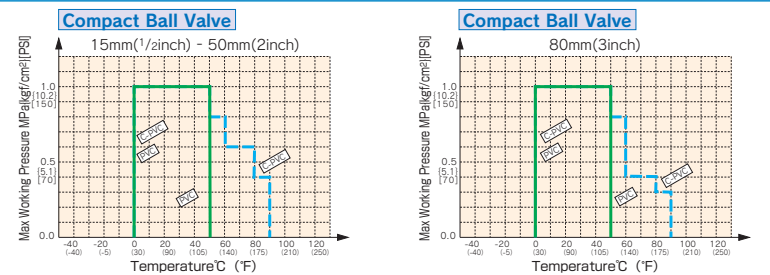
NSF(®NSF/ANSI STANDARD 61" Drinking Water System Components-Health Effects)Product.
:Compact BALL VALVE (Material:PVC+EPDM)
*Certified products bear an NSF Certification Mark.

MATERIAL AND WORKING TEMPERATURE

Body material	Working Temperature C (F)	Max.Working Pressure(at R.T.) MPa[kg/cm ²][PSI]	End Connectors	Color
Unplasticized Polyvinyl Chloride(PVC)	0-50(30-120)	1.0{10.2}[150]	Socket End Threaded End	Dark gray
Chlorinated Polyvinyl Chloride(C-PVC)	0-90(30-195)	1.0{10.2}[150]	Socket End Threaded End	Brown or Light gray

Notes : 1. There is a dead space in a ball valve. Volatile liquids, such as a hydrogen peroxide (H₂O₂) and sodium hypochlorite (NaClO) may vaporize in the dead space, thus causing an abnormal pressure increase in the valve. (Important: Gas is compressible. Thus if its pressure rises abnormally, the valve can burst ejecting dangerous fragments.)

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS		Unit:mm										
Nominal Size	d	Socket End				Threaded End			D	H	A	
		d ₁	ℓ	1/T	L	JIS B 0203	L					
mm	inch	d ₁	ℓ	1/T	L	d ₁	ℓ	L				
13	3/8	13	18.20	17	1/30	67	Rc 1/2	15	67	35	42	60
15	1/2	15	22.20	21	1/34	79	-	-	-	39	44	70
20	3/4	20	26.25	28	1/34	102	Rc 3/4	17	102	48	55	80
25	1	25	32.30	31.5	1/34	114	Rc 1	20	114	58	60	80
32	1 1/4	31	38.28	33	1/34	127	Rc 1 1/4	22	127	66	70	95
40	1 1/2	35	48.43	42	1/37	152	Rc 1 1/2	25	152	72.5	76	110
50	2	45	60.50	49	1/37	176	Rc 2	28	176	88.5	85	110
80	3	68.5	89.60	64	1/49	236	Rc 3	35	236	130	124	200

DIN		Unit:mm									
Nominal Size	d	Socket End			Threaded End			D	H	A	
		d ₁	ℓ	L	DIN 2999	L					
mm	inch	d ₁	ℓ	L	d ₁	ℓ	L				
13	3/8	13	16	14	85	Rp 3/8	15	85	35	42	60
15	1/2	15	20	16	97	Rp 1/2	15	97	39	44	70
20	3/4	20	25	19	102	Rp 3/4	17	102	48	55	80
25	1	25	32	22	114	Rp 1	20	114	58	60	80
32	1 1/4	31	40	26	127	Rp 1 1/4	22	127	66	70	95
40	1 1/2	35	50	31	152	Rp 1 1/2	25	152	72.5	76	110
50	2	45	63	38	176	Rp 2	28	176	88.5	85	110
80	3	68.5	90	51	236	Rp 3	35	236	130	124	200

ANSI		Unit:inch										
Nominal Size	d	Socket End				Threaded End			D	H	A	
		ASTM SCH40		L	ANSI/ASME B1.20.1							
inch	mm	d ₁	d ₂	ℓ	L	d ₁	ℓ	L				
1/2	13	0.51	0.848	0.836	0.69	3.35	1/2 -14NPT	0.59	3.35	1.38	1.65	2.36
3/4	20	0.79	1.058	1.046	0.72	4.02	3/4 -14NPT	0.67	4.02	1.89	2.17	3.15
1	25	0.98	1.325	1.310	0.87	4.49	1 -11 1/2 NPT	0.79	4.49	2.28	2.36	3.15
1 1/4	32	1.22	1.670	1.655	0.94	5.00	1 1/4 -11 1/2 NPT	0.87	5.00	2.60	2.76	3.74
1 1/2	40	1.38	1.912	1.894	1.09	5.98	1 1/2 -11 1/2 NPT	0.98	5.98	2.85	2.99	4.33
2	50	1.77	2.387	2.369	1.16	6.93	2 -11 1/2 NPT	1.10	6.93	3.48	3.31	4.33
3	80	2.70	3.516	3.492	1.87	9.29	3 -8 NPT	1.17	9.29	5.12	4.88	7.87

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC.C-PVC
②	BALL	1	PVC.C-PVC
③	END CONNECTOR	1	PVC.C-PVC
④	STEM	1	PVC.C-PVC
⑤	SEAT	2	PTFE
⑥	CUSHION	2	EPDM.FKM
⑦	O-RING	1	EPDM.FKM
⑧	HANDLE	1	ABS
⑨	RING※	2	STAINLESS STEEL304

Note : The ring (⑨) is used for C-PVC valves 13mm ~ 25mm in nominal size.

LAB COCK

FEATURES

The LAB COCK is a compact, light weight plastic valve which is highly corrosion-resistant, in durable.

NSF Product

NSF("NSF/ANSI STANDARD 61" Drinking Water System Components-Health Effects)Product.

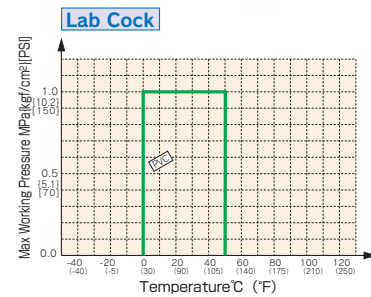
:LAB COCK(Material:PVC+EPDM)

*Certified products bear an NSF Certification Mark.

MATERIAL AND WORKING TEMPERATURE

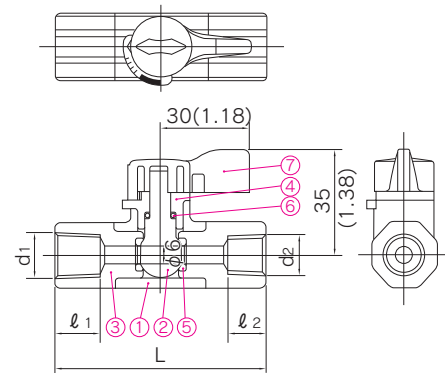
Body material	Unplasticized Polyvinyl Chloride(PVC)
Working Temperature	0°C - 50°C (30° F - 120° F)
Max.Working Pressure	1.0MPa[10.2kgf/cm ²][150PSI]
End Connectors	Hose, Male thread, Female thread
Nominal Size	●Hose: 12 to 15mm(standard hose inner diameter) ●Male thread: 1/4, 1/2 ●Female thread: 1/4, 3/8

WORKING PRESSURE VS. TEMPERATURE

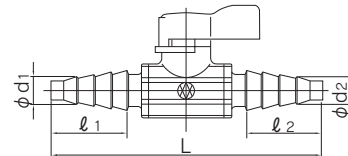


DIMENSION

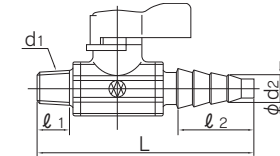
FEMALE THREAD × FEMALE THREAD



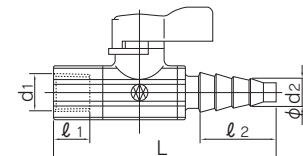
HOSE × HOSE



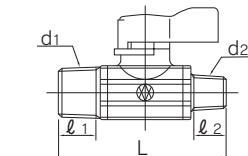
MALE THREAD × HOSE



FEMALE THREAD × HOSE



MALE THREAD × MALE THREAD



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC
②	BALL & STEM	1	PVC
③	END CONNECTOR	2	PVC
④	GLAND	1	PVC
⑤	SEAT	2	EPDM, PTFE, others
⑥	O-RING	1	EPDM, others
⑦	HANDLE	1	ABS

DIMENSIONS TABLE

JIS											
Unit:mm											
	d ₁	d ₂	l ₁	l ₂	L		d ₁	d ₂	l ₁	l ₂	L
FEMALE THREAD × FEMALE THREAD	Rc 1/4	Rc 1/4	15	15	71	MALE THREAD × HOSE	R 1/4	10	13	30.5	88.5
	Rc 3/8	Rc 1/4	15	15	71		R 1/2	10	15	30.5	91
	Rc 3/8	Rc 3/8	15	15	71		R 1/4	R 1/4	13	13	66
HOSE × HOSE	10	10	30.5	30.5	111	MALE THREAD × MALE THREAD	R 1/2	R 1/4	15	13	68.5
FEMALE THREAD × HOSE	Rc 1/4	10	15	30.5	91		R 1/2	R 1/2	15	15	71
MALE THREAD × FEMALE THREAD	Rc 3/8	R 1/4	13	15	68.5	R 1/4	Rc 1/4	13	15	68.5	
		R 1/4	Rc 3/8	13	15	68.5	R 1/4	Rc 1/4	15	15	71
		R 1/2	Rc 1/4	15	15	71	R 1/2	Rc 3/8	15	15	71
		R 1/2	Rc 3/8	15	15	71					

DIN

Unit:mm												
	d ₁	d ₂	l ₁	l ₂	L		d ₁	d ₂	l ₁	l ₂	L	
① FEMALE THREAD × FEMALE THREAD	Rp 1/4	Rp 1/4	15	15	71	④ MALE THREAD × HOSE	R 1/4	10	13	30.5	88.5	
	Rp 3/8	Rp 1/4	15	15	71		R 1/2	10	15	30.5	91	
	Rp 3/8	Rp 3/8	15	15	71		R 1/4	R 1/4	13	13	66	
② HOSE × HOSE	10	10	30.5	30.5	111	⑤ MALE THREAD × MALE THREAD	R 1/2	R 1/4	15	13	68.5	
FEMALE THREAD × HOSE	Rp 1/4	10	15	30.5	91		R 1/2	R 1/2	15	15	71	
③ FEMALE THREAD × HOSE	Rp 3/8	R 1/4	13	15	68.5	⑥ MALE THREAD × FEMALE THREAD	R 1/4	Rp 1/4	13	15	68.5	
		R 1/4	Rp 3/8	13	15		68.5	R 1/4	Rp 1/4	15	15	71
		R 1/2	Rp 1/4	15	15		71	R 1/2	Rp 3/8	15	15	71
		R 1/2	Rp 3/8	15	15		71					

ANSI

Unit:inch												
	d ₁	d ₂	l ₁	l ₂	L		d ₁	d ₂	l ₁	l ₂	L	
① FEMALE THREAD × FEMALE THREAD	1/4-18NPT	1/4-18NPT	0.51	0.51	2.80	④ MALE THREAD × HOSE	1/4-18NPT	0.39	0.51	1.20	3.48	
	3/8-18NPT	1/4-18NPT	0.59	0.51	2.80		1/2-14NPT	0.39	0.59	1.20	3.58	
	3/8-18NPT	3/8-18NPT	0.59	0.59	2.80		1/4-18NPT	1/4-18NPT	0.51	0.51	2.60	
② HOSE × HOSE	0.39	0.39	1.20	1.20	4.37	⑤ MALE THREAD × MALE THREAD	1/2-14NPT	1/4-18NPT	0.59	0.51	2.70	
FEMALE THREAD × HOSE	1/4-18NPT	0.39	0.51	1.20	3.58		1/2-14NPT	1/2-14NPT	0.59	0.59	2.80	
③ FEMALE THREAD × HOSE	3/8-18NPT	1/4-18NPT	0.51	0.51	2.80	⑥ MALE THREAD × FEMALE THREAD	1/4-18NPT	1/4-18NPT	0.51	0.51	2.70	
		1/2-14NPT	0.59	0.51	2.80		1/4-18NPT	3/8-18NPT	0.51	0.59	2.70	
		1/2-14NPT	1/4-18NPT	0.59	0.51		2.80	1/2-14NPT	1/4-18NPT	0.59	0.51	2.80
		1/2-14NPT	3/8-18NPT	0.59	0.59		2.80	1/2-14NPT	3/8-18NPT	0.59	0.59	2.80
⑦ MALE THREAD × ELBOW	1/2-14NPT	0.63	0.59	1.26	3.66							

LAB COCK 1/2inch MALE THREAD × ELBOW16mm

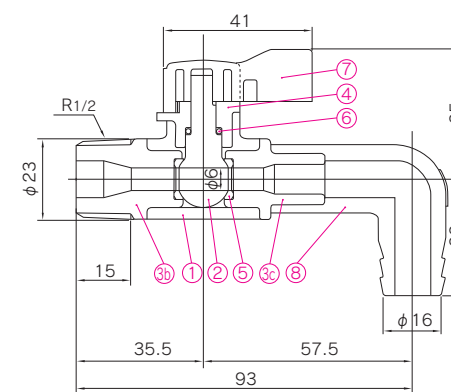


MATERIAL AND WORKING TEMPERATURE

Body material	Unplasticized Polyvinyl Chloride(PVC)
Working Temperature	0°C - 50°C (30° F - 120° F)
Max.Working Pressure	1.0MPa[10.2kgf/cm ²][150PSI]
End Connectors	R1/2inch Male thread × Elbow 16mm

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC
②	BALL & STEM	1	PVC
③	END CONNECTOR	1	PVC
④	GLAND	1	PVC
⑤	SEAT	2	PTFE
⑥	O-RING	1	EPDM, Others
⑦	HANDLE	1	ABS
⑧	ELBOW	1	PVC



Panel Mounting

- Diaphragm Valve Type14 15mm - 100mm(1/2inch - 4inch)
- Ball Valve Type21 15mm - 100mm(1/2inch - 4inch)

Procedure

Refer to the User's Manual for Metal Insert (Ensat) by the Maker.

Bottom Stand Dimension

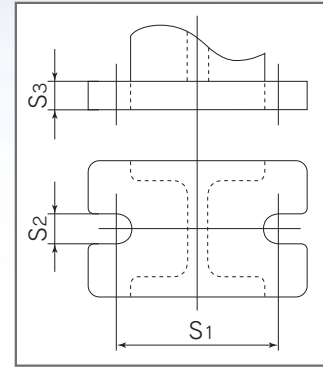
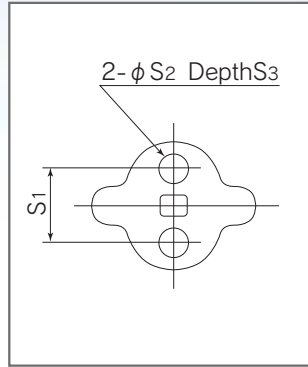
Diaphragm Valve Type14

Unit:mm(inch)

Nominal Size mm (inch)	S1	S2	S3
15mm - 32mm (1/2 - 1 1/4)	25 (0.98)	7 (0.28)	13 (0.51)
40mm, 50mm (1 1/2, 2)	45 (1.8)	9 (0.35)	15 (0.59)
65mm (2 1/2)	85 (3.35)	11 (0.43)	20 (0.79)
80mm (3)	100 (3.94)	15 (0.59)	28 (1.10)
100mm (4)	120 (4.72)	15 (0.59)	28 (1.10)

Diaphragm Valve Type14: 15mm - 100mm
(1/2inch - 4inch)
Ball Valve Type21: 15mm - 50mm
(1/2inch - 2inch)

Ball Valve Type21: 65mm - 100mm
(2 1/2inch - 4inch)



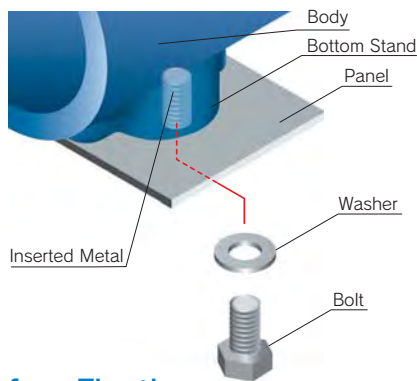
Ball Valve Type21

Unit:mm(inch)

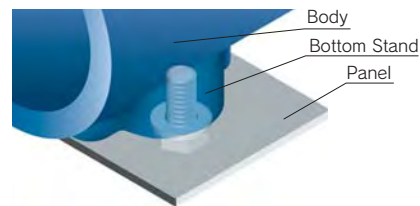
Nominal Size mm (inch)	S1	S2	S3
15mm - 25mm (1/2 - 1)	19 (0.75)	7.3 (0.29)	11 (0.43)
32mm - 50mm (1 1/4 - 2)	30 (1.18)	9 (0.35)	15 (0.59)
65mm (2 1/2)	48 (1.89)	9 (0.35)	6 (0.24)
80mm (3)	55 (2.17)	11 (0.43)	7 (0.28)
100mm (4)	65 (2.56)	11 (0.43)	8 (0.31)

Fixation of Bottom Stand with Panel

Nominal size 15 - 50mm(1/2inch - 2inch)

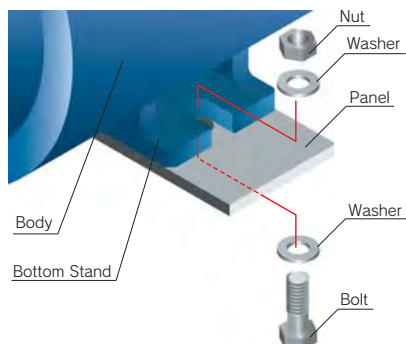


Before Fixation

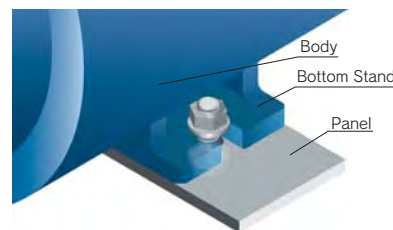


After Fixation

Nominal size 65 - 100mm(2 1/2inch - 4inch)



Before Fixation



After Fixation

BUTTERFLY VALVE TYPE 57 40mm - 350mm(1½inch - 14inch)

FEATURES



Excellent Sealing Performance

Sealing performance has been improved due to its specially designed seat "PAT pending".

Lowered Operating Torque

Required operating torque has been reduced by applying specially designed seat.

Protection for Over Tightening of Mating Flange

The valve body acts as a protector against over tightening to avoid breakage or deformation of the seat. (Please refer to sketch of below)

Spherical Design Disc

Spherical design disc provides superior durability and improved Cv value.

Stem Retainer

Stem retainer allows field automation or accessories preventing the stem from being removed.

Plastic Gear Box

Corrosion resistant plastic gear box provides a broader range of applications.

Wetted Part Lubricants Free (SPECIAL)

Note: Long stem type and chain drive type are available on special request.

Locking Operation

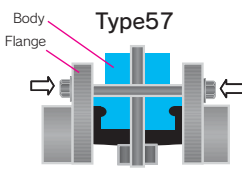
Locking device of Gear type is available on special request.



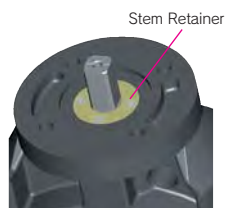
Lever type



Gear type



Body contacts flanges to protect the seat from deformation and to avoid increased operating torque.



Stem Retainer

Plastic Gear Box Housing

Superior corrosion resistance allows applications such as severe chemicals and sea waters.

NAMUR Mounting Dimension

NAMUR standard is applied on the gear box housing.

Highly Visible Position Indicator

Highly visible from a distance.

Stainless Steel Trim and Hardware

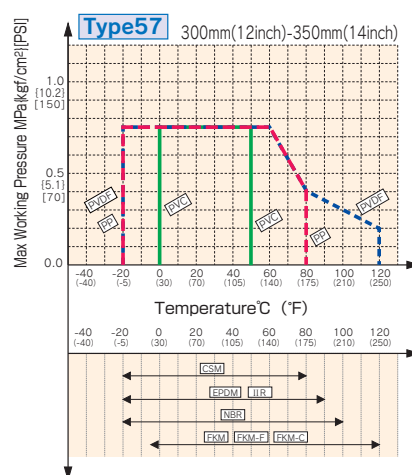
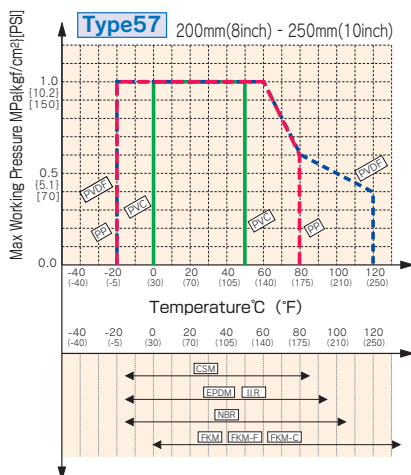
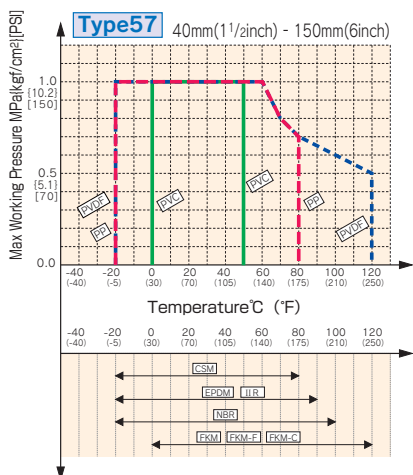
Plastic Hand Wheel

Corrosion resistance gripping design allows easy operation.

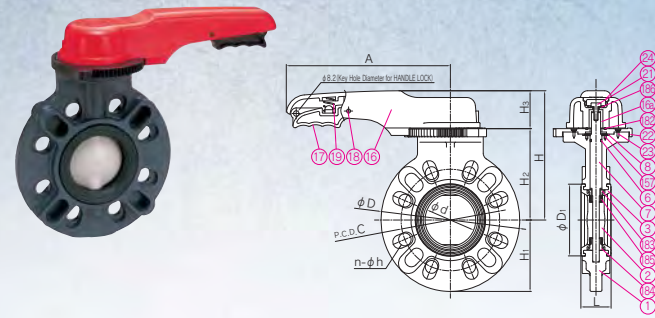
SPECIFICATIONS

Body material	Working Temperature °C (°F)	Max. Working Pressure MPa[kgf/cm²][PSI]	
		40mm-250mm (1½inch~10inch)	300mm-350mm (12inch-14inch)
Polyvinyl Chloride(PVC)	0 - 50 (30 - 120)	1.0{10.2}[150]	0.75{7.7}[110]
Polypropylene(PP)	-20 - 80 (20 - 175)	1.0{10.2}[150]	0.75{7.7}[110]
Polyvinylidene Fluoride(PVDF)	-20 - 120(20 - 250)	1.0{10.2}[150]	0.75{7.7}[110]

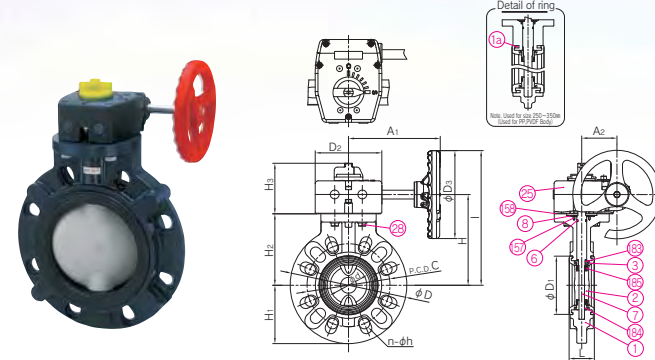
WORKING PRESSURE VS. TEMPERATURE



Lever Type ● 40mm(1 1/2 inch) – 200mm(8inch)



Gear Type ● 40mm(1 1/2 inch) – 350mm(14inch)



DIMENSIONS TABLE

Nominal Size		JIS 5K			JIS 10K			L			H			H ₂			H ₃			I	A	A ₁	A ₂	Number of handle wheel rotation
mm	inch	d	C	n	h	C	n	h	D	D ₁	D ₂	D ₃	LEVER GEAR	H ₁	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	
40	1 1/2	45	95	4	15	105	4	19	150	71	122	160	39	156	130	75	100	95	56	92	210	220	167	64
50	2	56	105	4	15	120	4	19	165	81	122	160	42	166	140	83	110	105	56	92	220	220	167	64
65	2 1/2	69	130	4	15	140	4	19	185	95	122	160	46	176	150	93	120	115	56	92	230	220	167	64
80	3	77	145	4	19	150	8	19	211	105	122	160	46	191	165	106	135	130	56	92	245	250	167	64
100	4	102	165	8	19	175	8	19	238	134	122	160	56	206	180	119	150	145	56	92	260	250	167	64
125	5	129	200	8	19	210	8	23	263	169	122	160	66	237	195	132	168	160	69	92	275	320	167	64
150	6	150	230	8	19	240	8	23	285	190	122	160	71	252	210	143	183	175	69	92	290	320	167	64
200	8	195	280	8	23	290	12	23	340	242	122	160	87	283	241	170	214	206	69	92	321	400	167	64
250	10	250	345	12	23	355	12	25	421	302	122	160	112	—	276	211	—	241	—	92	356	—	167	64
300	12	303	390	12	23	400	16	25	488	360	188	300	129	—	340	244	—	298	—	108	490	—	272	99
350	14	351	435	12	23	445	16	25	539	393	188	300	129	—	367	270	—	325	—	108	517	—	272	99

Nominal Size		DIN PN 10			D			L			H			H ₂			H ₃			I	A	A ₁	A ₂	Number of handle wheel rotation
mm	inch	d	C	n	h	D	D ₁	D ₂	D ₃	LEVER GEAR	H ₁	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	
40	1 1/2	45	110	4	18	150	71	122	160	39	156	130	75	100	95	56	92	210	220	167	64	9.5		
50	2	56	125	4	18	165	81	122	160	42	166	140	83	110	105	56	92	220	220	167	64	9.5		
65	2 1/2	69	145	4	18	185	95	122	160	46	176	150	93	120	115	56	92	230	220	167	64	9.5		
80	3	77	160	8	18	211	105	122	160	46	191	165	106	135	130	56	92	245	250	167	64	9.5		
100	4	102	180	8	18	238	134	122	160	56	206	180	119	150	145	56	92	260	250	167	64	9.5		
125	5	129	210	8	18	263	169	122	160	66	237	195	132	168	160	69	92	275	320	167	64	9.5		
150	6	150	240	8	22	285	190	122	160	71	252	210	143	183	175	69	92	290	320	167	64	9.5		
200	8	195	295	8	22	340	242	122	160	87	283	241	170	214	206	69	92	321	400	167	64	9.5		
250	10	250	350	12	22	421	302	122	160	112	—	276	211	—	241	—	92	356	—	167	64	9.5		
300	12	303	400	12	22	488	360	188	300	129	—	340	244	—	298	—	108	490	—	272	99	9.5		
350	14	351	460	16	22	539	393	188	300	129	—	367	270	—	325	—	108	517	—	272	99	9.5		

Nominal Size		ANSI CLASS 150			D			L			H			H ₂			H ₃			I	A	A ₁	A ₂	Number of handle wheel rotation
inch	mm	d	C	n	h	D	D ₁	D ₂	D ₃	LEVER GEAR	H ₁	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	LEVER GEAR	
1 1/2	40	1.77	3.88	4	0.62	5.91	2.80	4.80	6.30	1.54	6.14	5.12	2.95	3.94	3.74	2.20	3.62	8.27	8.66	6.57	2.52	9.5		
2	50	2.20	4.75	4	0.75	6.50	3.19	4.80	6.30	1.65	6.54	5.51	3.25	4.33	4.13	2.20	3.62	8.66	8.66	6.57	2.52	9.5		
2 1/2	65	2.72	5.50	4	0.75	7.28	3.74	4.80	6.30	1.81	6.93	5.91	3.64	4.72	4.53	2.20	3.62	9.06	8.66	6.57	2.52	9.5		
3	80	3.03	6.00	4	0.75	8.31	4.13	4.80	6.30	1.81	7.52	6.50	4.15	5.31	5.12	2.20	3.62	9.65	9.84	6.57	2.52	9.5		
4	100	4.02	7.50	8	0.75	9.37	5.28	4.80	6.30	2.20	8.11	7.09	4.69	5.91	5.71	2.20	3.62	10.24	9.84	6.57	2.52	9.5		
5	125	5.08	8.50	8	0.88	10.35	6.65	4.80	6.30	2.60	9.33	7.68	5.20	6.61	6.30	2.72	3.62	10.83	12.60	6.57	2.52	9.5		
6	150	5.91	9.50	8	0.88	11.22	7.48	4.80	6.30	2.80	9.92	8.27	5.61	7.20	6.89	2.72	3.62	11.42	12.60	6.57	2.52	9.5		
8	200	7.68	11.75	8	0.88	13.99	9.53	4.80	6.30	3.43	11.14	9.49	6.69	8.43	8.11	2.72	3.62	12.64	15.75	6.57	2.52	9.5		
10	250	9.84	14.25	12	1.00	16.57	11.89	4.80	6.30	4.41	—	10.87	8.31	—	9.49	—	3.62	14.02	—	6.57	2.52	9.5		
12	300	11.93	17.00	12	1.00	19.21	14.17	7.40	11.81	5.08	—	13.39	9.61	—	11.73	—	4.25	19.29	—	10.71	3.90	9.5		
14	350	13.82	18.75	12	1.12	21.22	15.47	7.40	11.81	5.08	—	14.45	10.63	—	12.80	—	4.25	20.35	—	10.71	3.90	9.5		

Note. The shape and appearance of the actual assembly may differ slightly in nominal size as compared with this drawing.

BUTTERFLY VALVE TYPE 56 400mm(16inch)



FEATURES

Easy Transformation of Operation Devices

Application of modular design on top flange provides the valve with flexible and easy change of operation types, and from manual to automatic and so on.

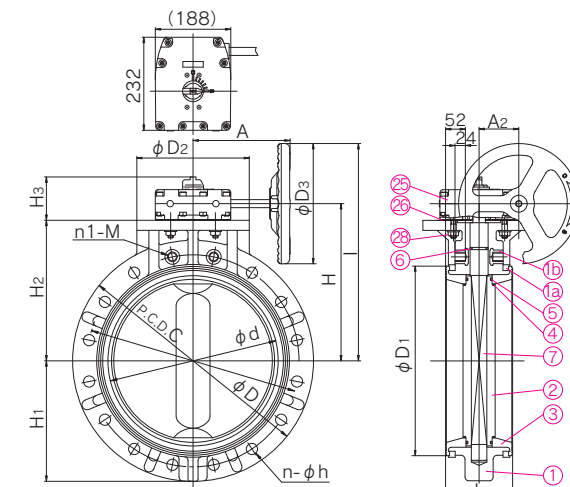
Option

Long stem type and chain drive type are available on special request.

SPECIFICATIONS

Body material	Nominal size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure (at R.T.) MPa[kgf/cm ²]{PSI}	
			400mm(16inch)	
PP	400(16)	-20 - 80(-5 - 175)	0.6 {6.1} [87]	
PVDF	400(16)	-20 - 120(-5 - 250)	0.6 {6.1} [87]	

※R.T...Room Temperature



DETAIL OF INSERTED NUTS

NOM. SIZE	BOLT M HOLES n	Q'TY OF INSERTED NUT					
		UPPER	TOTAL (2×n1)				
400	16	M24	14	2×2	4	52	24

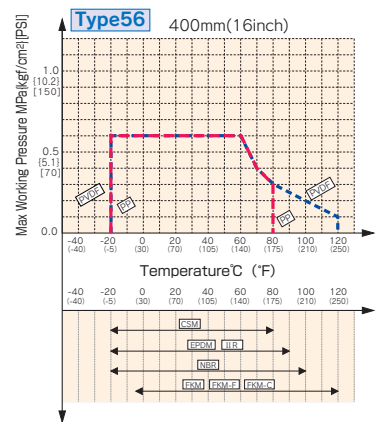
※JIS 10K 400mm(16inch)only

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	BODY/DISC PP/PP PVDF/PVDF
②	DISC	1	BODY/DISC PP/PP PVDF/PVDF
③	STEM SEAT	1	EPDM,FKM,OTHERS
④	O-RING(A)	2	EPDM,FKM,OTHERS
⑤	O-RING(B)	2	EPDM,FKM,OTHERS
⑥	O-RING(C)	1	EPDM,FKM,OTHERS
⑦	STEM	1	STAINLESS STEEL(SUS403)
⑳	GEAR BOX	1	PLASTIC etc.
㉑	BOLT(C)	1	STAINLESS STEEL304
㉒	RING ¹⁾	2	STEEL(SS400)
㉓	INSERTED METAL OF BODY ²⁾	4	COPPER ALLOY(C3604)

Note: 1) Used for PP body: with epoxy powder coat
2) Used for JIS 10K400mm(16inch)

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

Nominal Size		JIS 10K													Number of handle rotation					
mm	inch	d	C	n	h	n ₁	M	D	D ₁	D ₂	D ₃	L	H	H ₁		H ₂	H ₃	I	A	A ₂
400	16	406	510	14	27	2	24	600	470	235	300	169	390	300	350	108	540	272	99.2	9.5

Nominal Size		DIN PN 10													Number of handle rotation			
mm	inch	d	C	n	h	D	D ₁	D ₂	D ₃	L	H	H ₁	H ₂	H ₃		I	A	A ₂
400	16	406	515	16	26	600	470	235	300	169	390	300	350	108	540	272	99.2	9.5

Nominal Size		ANSI Class 150				Number of handle rotation												
inch	mm	d	C	n	h													
16	400	15.98	21.25	16	1.12	23.62	18.50	9.25	11.81	6.65	15.35	11.81	13.78	4.25	21.26	10.71	3.91	9.5

BUTTERFLY VALVE TYPE 75 450mm - 600mm(18inch - 24inch)

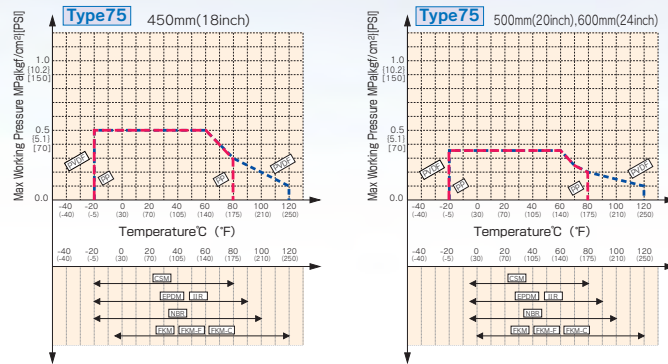
BUTTERFLY VALVE TYPE 56D,75D Type56D:400mm(16inch) Type75D:450mm·600mm(18inch·24inch)

SPECIFICATIONS

Body material	Nominal size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure (at R.T.) MPa[kgf/cm ²][PSI]		
			450mm(18inch)	500mm(20inch)	600mm(24inch)
PP	450 - 600(18 - 24)	-20 - 80(-5 - 175)	0.5 {5.1}[73]	0.35 {3.6}[51]	0.35 {3.6}[51]
PVDF	450 - 600(18 - 24)	-20 - 120(-5 - 250)	0.5 {5.1}[73]	0.35 {3.6}[51]	0.35 {3.6}[51]

※R.T.···Room Temperature

WORKING PRESSURE VS. TEMPERATURE



PARTS & MATERIALS

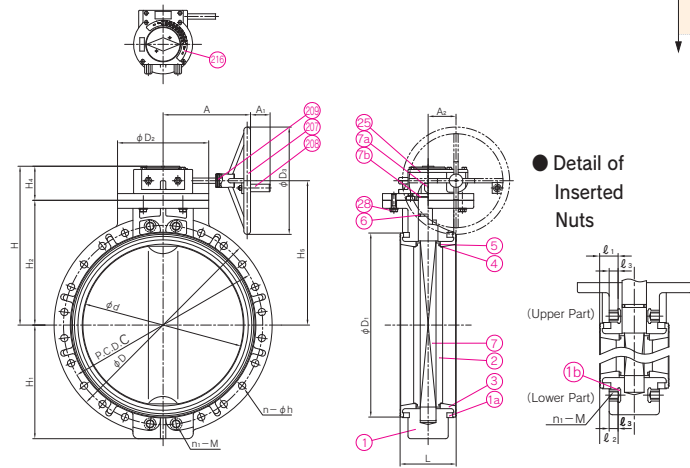
No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	BODY / DISC PP / PP	⑦	SNAP RING	1	STAINLESS STEEL(SUS304)
②	DISC	1		⑧	GEAR BOX	1	CAST IRON(FC250)etc.
③	SEAT	1		⑨	BOLT(C)	4	STAINLESS STEEL(SUS304)
④	O-RING(A)	2	EPDM	⑩	HANDLE(C)	1	CAST IRON(FC250)
⑤	O-RING(B)	2	FKM	⑪	HANDLE GRIP	1	NYLON etc.
⑥	O-RING(C)	1	others	⑫	SPRING PIN	1	STAINLESS STEEL(SUS304)
⑦	STEM	1	STAINLESS STEEL(SUS403)	⑬	SCALE PLATE	1	STAINLESS STEEL(SUS304)
⑧	KEY(A)	1	CARBON STEEL(S45C)	⑭	RING	2	CHROMIZED STEEL(S3400) with Epoxy Powder Coat.

1) Used only for JIS 10K.

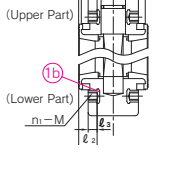
Option

Long stem type and chain drive type are available on special request.

● 450mm(18inch) - 600mm(24inch)



Detail of Inserted Nuts



DIMENSIONS TABLE

Nominal Size mm inch	M	BOLT HOLES n	Q'TY OF INSERTED NUT			l ₁	l ₂	l ₃
			UPPER	LOWER	TOTAL(2×n1)			
450 18	M24	16	2×2	2×2	8	49	54	24
500 20	M24	16	2×2	2×2	8	49	59	24
600 24	M30	20	2×2	2×2	8	64	64	30

JIS Unit:mm

Nominal Size mm inch	d	JIS 10K				D				L	H	H ₁	H ₂	H ₄	H ₅	A	A ₁	A ₂	Number of handle rotation	GEAR BOX TYPE		
		C	n	h	n ₁	M	PP	PVDF	D ₁												D ₂	D ₃
450 18	452	565	16	27	4	M24	633	630	525	340	400	179	497	315	370	127	443	326	75.5	104.5	13.75	AB1250N
500 20	502	620	16	27	4	M24	683	680	575	340	400	190	527	350	400	127	473	326	75.5	104.5	13.75	
600 24	603	730	20	33	4	M30	793	790	686	340	400	209	592	424	465	127	538	326	75.5	104.5	13.75	

DIN Unit:mm

Nominal Size mm inch	d	DIN 2501 PN10				D				L	H	H ₁	H ₂	H ₄	H ₅	A	A ₁	A ₂	Number of handle rotation	GEAR BOX TYPE
		C	n	h	PP	PVDF	D ₁	D ₂	D ₃											
450 18	452	565	20	26	633	630	525	340	400	179	497	315	370	127	443	326	75.5	104.5	13.75	AB1250N
500 20	502	620	20	26	683	680	575	340	400	190	527	350	400	127	473	326	75.5	104.5	13.75	
600 24	603	725	20	30	793	790	686	340	400	209	592	424	465	127	538	326	75.5	104.5	13.75	

ANSI

Nominal Size inch mm	d	ANSI Class150				D				L	H	H ₁	H ₂	H ₄	H ₅	A	A ₁	A ₂	Number of handle rotation	GEAR BOX TYPE
		C	n	h	PP	PVDF	D ₁	D ₂	D ₃											
18 450	17.80	22.75	16	1.25	24.92	24.80	20.67	13.39	15.75	7.05	19.57	12.40	14.57	5.00	17.44	12.83	2.97	4.11	13.75	AB1250N
20 500	19.76	25.00	20	1.25	26.89	26.77	22.64	13.39	15.75	7.48	20.75	13.78	15.75	5.00	18.62	12.83	2.97	4.11	13.75	
24 600	23.74	29.50	20	1.38	31.22	31.10	27.01	13.39	15.75	8.23	23.31	16.69	18.31	5.00	21.18	102.83	2.97	4.11	13.75	

FEATURES

Easy Transformation of Operation Devices

Application of modular design on top flange provides the valve with flexible and easy change of operation types, and from manual to automatic and so on.

Option

Long stem type and chain drive type are available on special request.

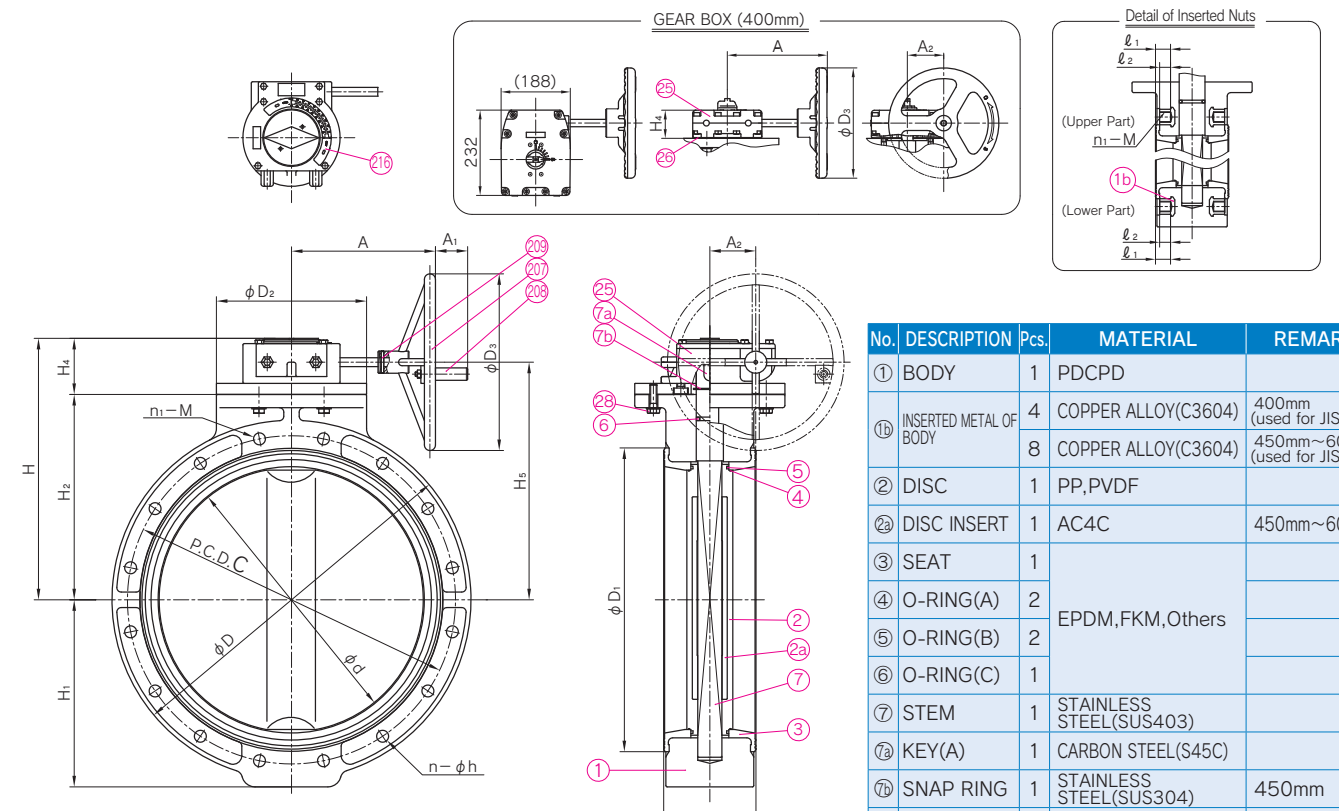


SPECIFICATIONS

Body material	Disc material	Nominal size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure (at R.T.) MPa[kgf/cm ²][PSI]
PDCPD	PP	400(16)~600(24)	0 - 90(30 - 195)	0.75 {7.7}[110]
	PVDF	400(16)~600(24)	0 - 100(30 - 210)	0.75 {7.7}[110]

※R.T.···Room Temperature

PARTS & MATERIALS

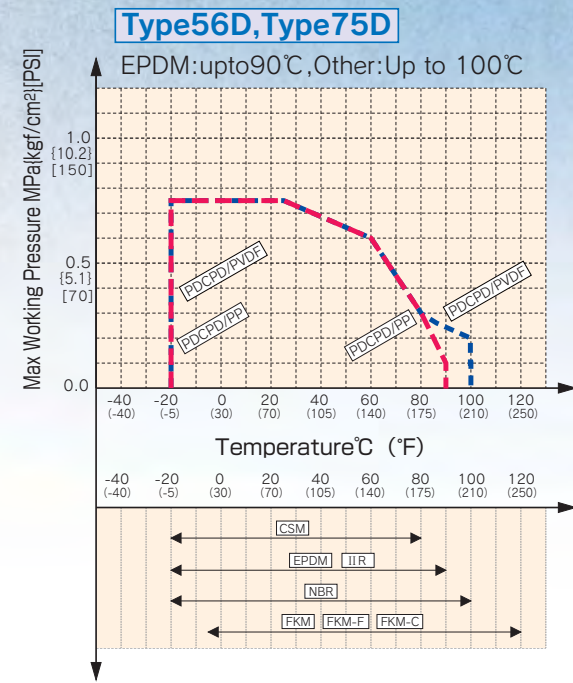


No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS
①	BODY	1	PDCPD	
①b	INSERTED METAL OF BODY	8	COPPER ALLOY(C3604)	400mm (used for JIS10K) 450mm~600mm (used for JIS10K)
②	DISC	1	PP,PVDF	
②a	DISC INSERT	1	AC4C	450mm~600mm
③	SEAT	1		
④	O-RING(A)	2	EPDM,FKM,Others	
⑤	O-RING(B)	2		
⑥	O-RING(C)	1		
⑦	STEM	1	STAINLESS STEEL(SUS403)	
⑦a	KEY(A)	1	CARBON STEEL(S45C)	
⑦b	SNAP RING	1	STAINLESS STEEL(SUS304)	450mm
⑧	GEAR BOX	1	PLASTIC etc.	400mm
⑧a	GASKET(A)	1	EPDM	400mm
⑧b	BOLT (C)	4	STAINLESS STEEL(SUS304)	
⑩	HANDLE (C)	1	CAST IRON (FC250)	Pdyurethane Coat.
⑪	HANDLE GRIP	1	NYLON etc.	
⑫	SPRING PIN	1	STAINLESS STEEL(SUS304)	
⑬	SCALE PLATE	1	STAINLESS STEEL(SUS304)	

NOM. SIZE mm inch

M	BOLT HOLES n	Q'TY OF INSERTED NUT		l ₁	l ₂
		UPPER	LOWER		
400 16	M24	14	2×2	—	4 36 24
450 18	M24	16	2×2	2×2	8 36 24
500 20	M24	16	2×2	2×2	8 36 24
600 24	M30	20	2×2	2×2	8 43 30

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

Nominal Size		d	JIS 10K					D	D ₁	D ₂	D ₃	L	H	H ₁	H ₂	H ₄	H ₅	A	A ₁	A ₂	Number of handle rotation	GEAR BOX TYPE
mm	inch		C	n	h	n ₁	M															
400	16	406	510	14	27	2	M24	620	470	235	300	169	458	315	350	108	390	272	—	99.2	9.5	TYPE3
450	18	452	565	16	27	4	M24	665	525	340	400	179	497	335	370	127	443	326	75.5	104.5	13.75	AB1250N
500	20	502	620	16	27	4	M24	720	575	340	400	190	527	365	400	127	473	326	75.5	104.5	13.75	
600	24	603	730	20	33	4	M30	813	686	340	400	209	592	424	465	127	538	326	75.5	104.5	13.75	

Nominal Size		d	DIN PN 10				D	D ₁	D ₂	D ₃	L	H	H ₁	H ₂	H ₄	H ₅	I	A	A ₁	A ₂	Number of handle rotation	GEAR BOX TYPE
mm	inch		C	n	h																	
400	16	406	515	16	26	620	470	235	300	169	458	315	350	108	390	540	272	—	99.2	9.5	9.5	TYPE3
450	18	452	565	20	26	665	525	340	400	179	497	335	370	127	443	650	326	75.5	104.5	13.75	AB1250N	
500	20	502	620	20	26	720	575	340	400	190	527	365	400	127	473	680	326	75.5	104.5	13.75		
600	24	603	725	20	30	813	686	340	400	209	592	424	465	127	538	745	326	75.5	104.5	13.75		

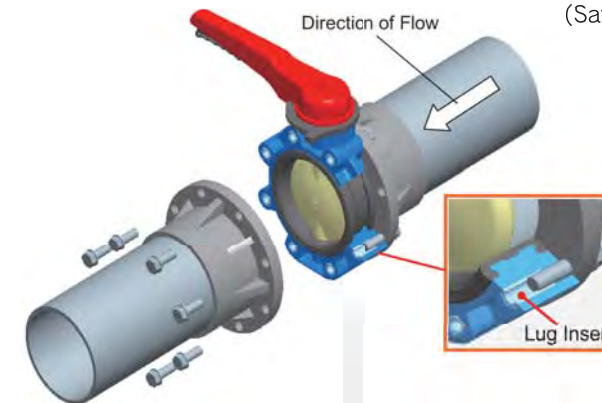
Nominal Size		d	ANSI Class 150			D	D ₁	D ₂	D ₃	L	H	H ₁	H ₂	H ₄	H ₅	A	A ₁	A ₂	Number of handle rotation	GEAR BOX TYPE
inch	mm		C	n	h															
16	400	15.98	21.26	16	1.12	24.41	18.50	9.25	11.81	6.65	18.03	12.40	13.78	4.25	15.35	10.71	—	3.91	9.5	TYPE3
18	450	17.80	22.76	20	1.26	26.18	20.67	13.39	15.75	7.05	19.57	13.19	14.57	5.00	17.44	12.83	2.97	4.11	13.75	AB1250N
20	500	19.76	25.00	20	1.26	28.35	22.64	13.39	15.75	7.48	20.75	14.37	15.75	5.00	18.62	12.83	2.97	4.11	13.75	
24	600	23.74	29.53	20	1.38	32.01	27.01	13.39	15.75	8.23	23.31	16.69	18.31	5.00	21.18	12.83	2.97	4.11	13.75	

BUTTERFLY VALVE TYPE 57L (Lug Style)

FEATURES



- Easy Piping Maintenance**
It is not necessary to remove fluid from the pipe line.
- Strong In Pulsating Pressure**
3 Times Stronger than a Major Competitor.
- Same Features as Type57**
 - Protection for Over-Tightening Constant Stem Torque.
 - New Designed Disc and Seat (Liner).
 - Longer Life
 - Lower Sealing Torque
 - Higher Cv Value
 - Plastic Gear Box.
 - Extremely Corrosion Resistant
 - Easy Operation
 - Stem Retainer (Safety device).
 - Prevention of Removal of Stem under Pressure
 - (Safe Installation of Accessories)

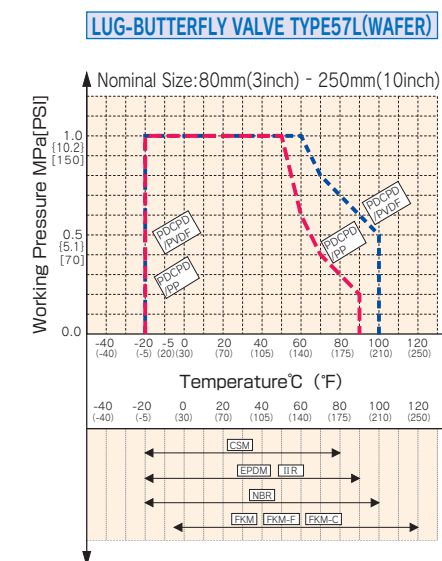


SPECIFICATIONS

- JIS and DIN Standard

Body material	Standard	Working Temperature °C (°F)	Max. Working Pressure MPa[kgf/cm²][PSI]	
			80mm - 250mm (3inch - 10inch)	1.0MPa[10.2kgf/cm²][150PSI]
Poly diocylo penta diene (PDCPD)	JIS, DIN	-5 - 100 (20 - 210)		

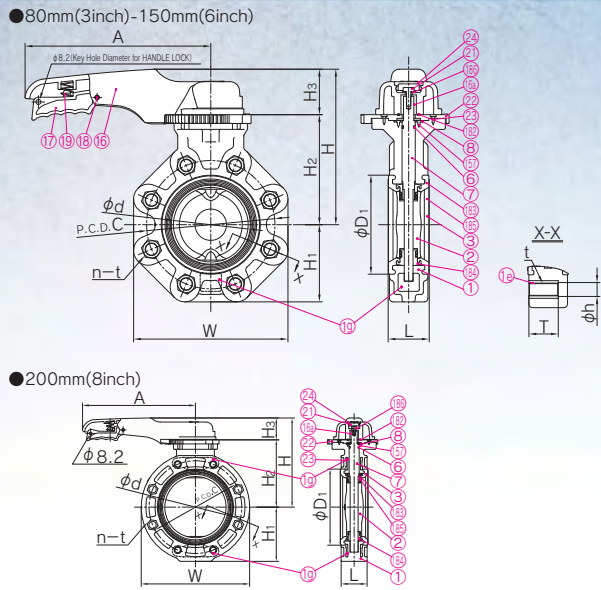
WORKING PRESSURE VS. TEMPERATURE



Lever Type

DIMENSION

DIMENSIONS TABLE



Nominal Size	d	JIS 10K	C	n	h	D ₁	L	H	H ₁	H ₂	H ₃	A	W	T	t
80	3	77	150	8	19	105	46	191	94	135	56	250	193	40	M16x40 width across fat 24
100	4	102	175	8	19	134	56	206	105	150	56	250	217	40	M16x40 width across fat 24
125	5	129	210	8	23	169	66	237	124	168	69	320	247	50	M20x50 width across fat 30
150	6	150	240	8	23	190	71	252	138	183	69	320	285	50	M20x50 width across fat 30
200	8	195	290	12	23	242	87	283	173	214	69	400	345	60	M20x60 width across fat 30

Nominal Size	d	DIN	PN10	C	n	h	D ₁	L	H	H ₁	H ₂	H ₃	A	W	T	t
80	3	77	160	8	18	105	46	191	94	135	56	250	193	40	M16x40 width across fat 24	
100	4	102	180	8	18	134	56	206	105	150	56	250	217	40	M16x40 width across fat 24	
125	5	129	210	8	18	169	66	237	124	168	69	320	247	50	M20x50 width across fat 30	
150	6	150	240	8	23	190	71	252	138	183	69	320	285	50	M20x50 width across fat 30	
200	8	195	295	8	23	242	87	283	173	214	69	400	345	60	M20x50 width across fat 30	

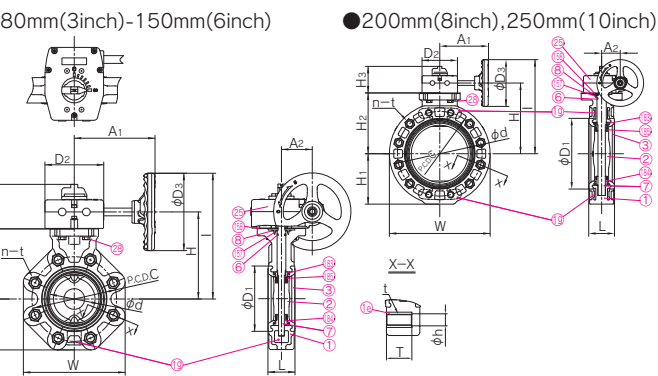
PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS	No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS
1	BODY	1	PDCPD		17	HANDLE LEVER	1	PPG	
1a	LUG-INSERT	8	STAINLESS STEEL(SUS304) (Antiscoring coat)	used for 80-150mm used for 200mm	18	PIN	1	PPG	
1b	BODY-INSERT	1	STAINLESS STEEL(SUS304)	used for 125,150mm	19	SPRING	1	STAINLESS STEEL(SUS304)	
2	DISC	1	PP,PVDF	used for 200mm	20	BOLT(B)	1	STAINLESS STEEL(SUS304)	
3	SEAT	1			21	LOCKING PLATE	1	PPG	
4	O-RING(C)	1	EPDM,FKM,FKM-F,FKM-C		22	SCREW(B)	4	STAINLESS STEEL(SUS304)	
5	O-RING(I)	1			23	CAP(A)	1	PP	
6	STEM	1	STAINLESS STEEL(SUS403)		24	SCREW(F)	4	STAINLESS STEEL(SUS304)	
7	STEM HOLDER(A)	1	PP		25	O-RING(H)	1	EPDM	
8	HANDLE(A)	1	PP		26	SEAT BUSH(A)	1	PP,PVDF	
9	HANDLE INSERTED METAL	1	STAINLESS STEEL(SUS316L)		27	SEAT BUSH(B)	1	PP,PVDF	
					28	RUBBER+WASHER	1	STAINLESS STEEL(SUS304) +EPDM	

Gear Type

DIMENSION

DIMENSIONS TABLE



Nominal Size	d	JIS 10K	C	n	h	D ₁	D ₂	D ₃	L	H	H ₁	H ₂	H ₃	I	A ₁	A ₂	W	T	t	Number of handle wheel rotation	GEAR BOX TYPE
80	3	77	150	8	19	105	122	160	46	165	94	130	92	245	167	64	193	40		9.5	TYPE1
100	4	102	175	8	19	134	122	160	56	180	105	145	92	260	167	64	217	40			
125	5	129	210	8	23	169	122	160	66	195	124	160	92	275	167	64	247	50			
150	6	150	240	8	23	190	122	160	71	210	138	175	92	290	167	64	285	50			
200	8	195	295	12	23	242	122	160	87	241	173	206	92	321	167	64	345	60			
250	10	250	350	12	25	302	122	160	112	276	208	241	92	356	167	64	415	70			

Nominal Size	d	DIN	PN10	C	n	h	D ₁	D ₂	D ₃	L	H	H ₁	H ₂	H ₃	I	A ₁	A ₂	W	T	t	Number of handle wheel rotation	GEAR BOX TYPE
80	3	77	160	8	18	105	122	160	46	165	94	130	92	245	167	64	193	40			9.5	TYPE1
100	4	102	180	8	18	134	122	160	56	180	105	145	92	260	167	64	217	40				
125	5	129	210	8	18	169	122	160	66	195	124	160	92	275	167	64	247	50				
150	6	150	240	8	23	190	122	160	71	210	138	175	92	290	167	64	285	50				
200	8	195	295	8	23	242	122	160	87	241	173	206	92	321	167	64	345	60				
250	10	250	350	12	23	302	122	160	112	276	208	241	92	356	167	64	415	70				

NOTE. The shape and appearance of assembly differ little with nominal size compared to this drawing.

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS
1	BODY	1	PDCPD	
1a	LUG-INSERT	8	STAINLESS STEEL(SUS304) (Antiscoring coat)	used for 80-150,250mm used for 200mm
1b	BODY-INSERT	1	STAINLESS STEEL(SUS304)	used for 125,150mm
2	DISC	1	PP,PVDF	used for 200,250mm
3	SEAT	1		
4	O-RING(C)	1	EPDM,FKM,FKM-F,FKM-C	
5	O-RING(I)	1		
6	STEM	1	STAINLESS STEEL(SUS403)	
7	STEM HOLDER(A)	1	PP	
8	GEAR BOX	1	PLASTIC etc.	
9	BOLT(C)	4	STAINLESS STEEL(SUS403)	
10	SCREW(F)	4	STAINLESS STEEL(SUS403)	
11	GASKET(L)	1	EPDM	
12	SEAT BUSH(A)	1	PP,PVDF	
13	SEAT BUSH(B)	1	PP,PVDF	

BUTTERFLY VALVE TYPE 57TL (Lug Style)

FEATURES



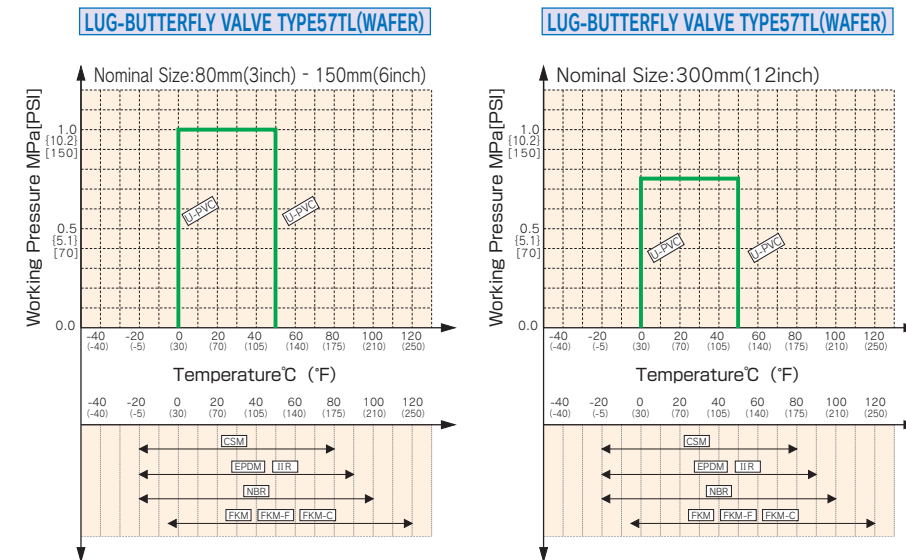
- ANSI Standard type
- Same Features as Type57L
- Both Directional Installation allowed

SPECIFICATIONS

- ANSI Standard

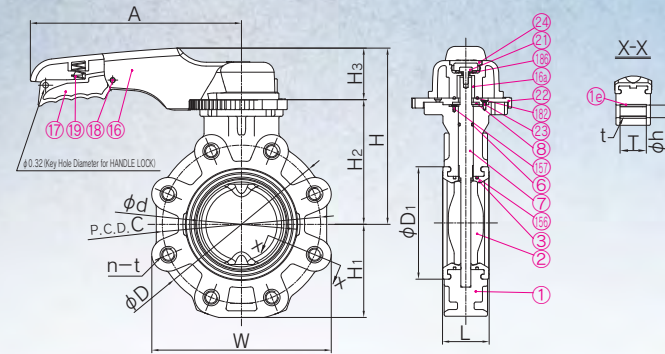
Body material	Standard	Working Temperature °C (°F)	Max. Working Pressure MPa[kgf/cm ²][PSI]	
			80mm - 250mm (3inch - 10inch)	300mm (12inch)
Polyvinyl Chloride (PVC)	ANSI	0 - 50 (30 - 120)	1.0MPa[10.2kgf/cm ²][150PSI]	0.75MPa[7.7kgf/cm ²][110PSI]

WORKING PRESSURE VS. TEMPERATURE



Lever Type

DIMENSION



DIMENSIONS TABLE

Nominal Size	d	ANSI 150lb			D	D ₁	L	H	H ₁	H ₂	H ₃	A	W	T	t	
		C	n	h												
80	3	3.03	6.00	4	0.75	7.28	4.13	1.81	7.52	3.82	5.31	2.20	9.84	7.09	1.37	5/8-11 UNC
100	4	4.02	7.50	8	0.75	8.27	5.28	2.20	8.11	4.41	5.91	2.20	9.84	8.50	1.37	5/8-11 UNC
150	6	5.91	9.50	8	0.87	10.63	7.48	2.80	9.92	5.55	7.20	2.72	12.60	10.67	2.15	3/4-10 UNC
200	8	7.68	11.75	8	0.87	12.60	9.53	3.43	11.14	6.61	8.43	2.72	15.75	12.76	2.15	3/4-10 UNC

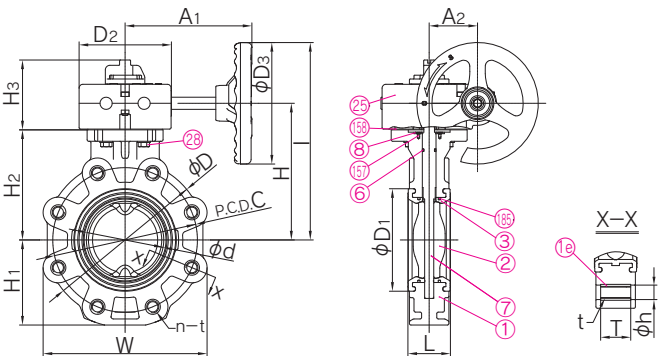
Note : The shape and appearance of assembly differ a little with nominal size compared to this drawing.

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC	⑲	SPRING	1	STAINLESS STEEL(SUS304)
⑩	LUG-INSERT	-	STAINLESS STEEL(SUS316)	⑳	BOLT(B)	1	STAINLESS STEEL(SUS304)
②	DISC	1	PP	㉑	LOCKING PLATE	1	PPG
③	SEAT	1	EPDM,FKM,NBR	㉒	SCREW(B)	4	STAINLESS STEEL(SUS304)
⑥	O-RING(C)	1		㉓	CAP(A)	1	PP
⑦	STEM	1	STAINLESS STEEL(SUS403)	㉔	RETAINING RING	2	STAINLESS STEEL(SCS13)
⑧	STEM HOLDER(A)	1	PP	㉕	SCREW(F)	4	STAINLESS STEEL(SUS304)
⑯	HANDLE(A)	1	PP	㉖	O-RING(H)	1	EPDM
⑰	HANDLE INSERTED METAL	1	STAINLESS STEEL(SUS316L)	㉗	RUBBER+WASHER	1	STAINLESS STEEL(SUS304)+EPDM
⑱	HANDLE LEVER	1	PPG				
⑱	PIN	1	PPG				

Gear Type

DIMENSION



DIMENSIONS TABLE

Nominal Size	d	ANSI 150lb			D	D ₁	D ₂	D ₃	L	H	H ₁	H ₂	H ₃	I	A ₁	A ₂	W	T	t	Number of handle wheel ratio	GEAR BOX TYPE	
		C	n	h																		
80	3	3.03	6.00	4	0.75	7.28	4.13	4.80	6.30	1.81	6.50	3.82	5.12	3.62	9.65	6.57	2.52	7.09	1.37	58-11 UNC	9.5	TYPE1
100	4	4.02	7.50	8	0.75	8.27	5.28	4.80	6.30	2.20	7.09	4.41	5.71	3.62	10.24	6.57	2.52	8.50	1.37	58-11 UNC		
150	6	5.91	9.50	8	0.87	10.63	7.48	4.80	6.30	2.80	8.27	5.55	6.89	3.62	11.42	6.57	2.52	10.67	2.15	3/4-10 UNC		
200	8	7.68	11.75	8	0.87	12.60	9.53	4.80	6.30	3.43	9.49	6.61	8.11	3.62	12.64	6.57	2.52	12.76	2.15	3/4-10 UNC		
250	10	9.84	14.25	12	0.98	15.75	11.89	4.80	6.30	4.41	10.87	7.95	9.49	3.62	14.02	6.57	2.52	15.91	3.14	7/8-9 UNC		
300	12	11.93	17.01	12	0.98	18.31	14.17	7.40	11.81	5.08	13.39	9.29	11.73	4.25	19.29	9.53	3.90	18.54	3.14	7/8-9 UNC		TYPE3

NOTE. The shape and appearance of assembly differ a little with nominal size compared to this drawing.

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC
⑩	LUG-INSERT	-	STAINLESS STEEL(SUS316)
②	DISC	1	PP
③	SEAT	1	EPDM,FKM,NBR
⑥	O-RING(C)	1	
⑦	STEM	1	STAINLESS STEEL(SUS403)
⑧	STEM HOLDER(A)	1	PP
㉔	GEAR BOX	1	PLASTIC etc.
㉕	BOLT(C)	4	STAINLESS STEEL(SUS304)
㉖	RETAINING RING	2	STAINLESS STEEL(SCS13)
㉗	SCREW(F)	4	STAINLESS STEEL(SUS304)
㉘	GASKET(L)	1	EPDM

BUTTERFLY VALVE TYPE 57L-IS

FEATURES

- Short Face-to-Face Dimension**
The Valves are Designed to Comply ISO5752 Short Face-to-Face dimension and allowed Replacement of Common Metal Valves.
- Easy Piping Maintenance**
It is not necessary to remove fluid from the pipe line.
- Same Features as Type57L**

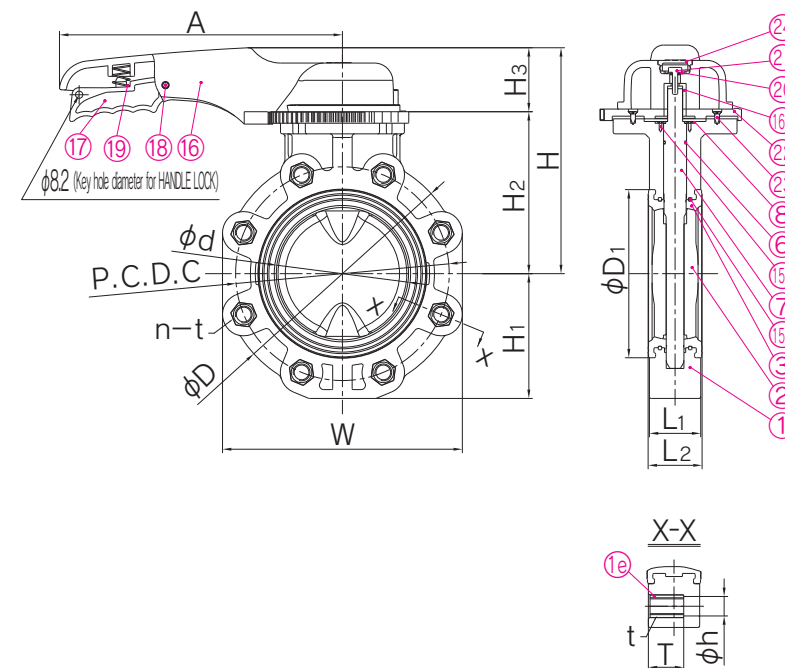


SPECIFICATIONS

Body material	Standard	Working Temperature °C (°F)	Max. Working Pressure MPa[kgf/cm ²][PSI]
Polyvinyl Chloride (PVC)	ANSI	0~50 (30~120)	1.0MPa{10.2kgf/cm ² }[150PSI]

Lever Type

DIMENSION



PARTS & MATERIALS

No.	DESCRIPTION	QTY.	MATERIAL
①	BODY	1	PVC
⑩	LUG-INSERT	-	STAINLESS STEEL(SUS304) (STANDARD) STAINLESS STEEL(SUS316)
②	DISC	1	PP
③	SEAT	1	EPDM,FKM,NBR,Others
⑥	O-RING(C)	1	
⑦	STEM	1	STAINLESS STEEL(SUS403)
⑧	STEM RETAINER(A)	1	PP
⑯	HANDLE(A)	1	PP
⑰	HANDLE INSERTED METAL	1	STAINLESS STEEL(SUS316L)
⑱	HANDLE LEVER	1	PPG
⑱	PIN	1	PPG
⑲	SPRING	1	STAINLESS STEEL(SUS304)
㉔	WASHER(A)	1	STAINLESS STEEL(SUS304)
㉕	BOLT(B)	1	STAINLESS STEEL(SUS304)
㉖	LOCKING PLATE	1	PPG
㉗	SCREW(B)	4	STAINLESS STEEL(SUS304)
㉘	CAP(A)	1	PP
㉙	RETAINING RING	2	STAINLESS STEEL(SCS13)
㉚	SCREW(F)	4	STAINLESS STEEL(SUS304)

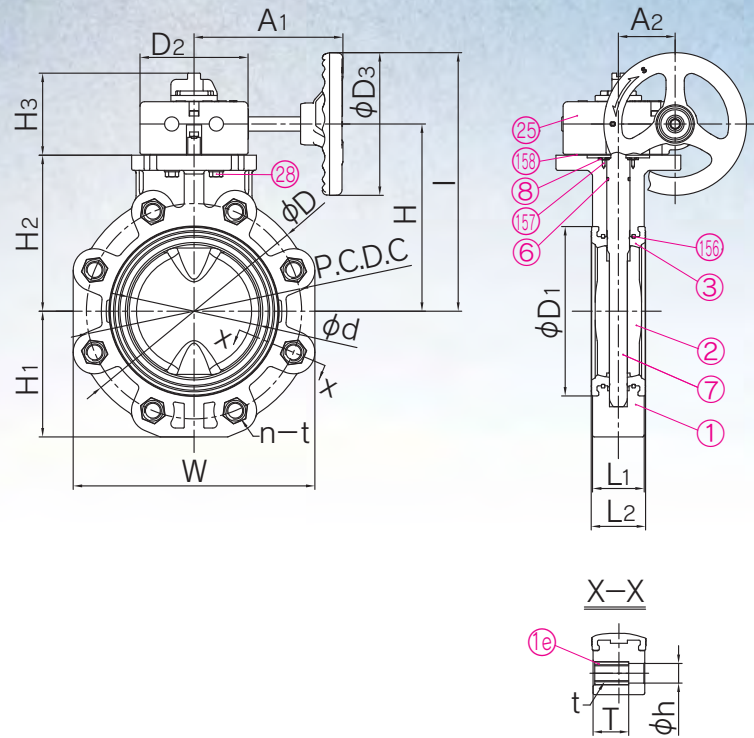
DIMENSIONS TABLE

ANSI		UNIT: inch															
Nominal Size	d	ANSI150lb			D	D ₁	L ₁	L ₂	H	H ₁	H ₂	H ₃	A	W	T	t	
		C	n	h													
3	80	3.03	6.00	4	0.75	7.28	4.13	1.73	1.81	7.52	3.82	5.31	2.20	9.84	7.09	1.26	5/8-11 UNC
4	100	4.02	7.50	8	0.75	8.27	5.28	2.05	2.20	8.11	4.41	5.91	2.20	9.84	8.50	1.52	5/8-11 UNC
6	150	5.91	9.50	8	0.87	10.63	7.48	2.20	2.40	9.92	5.55	7.20	2.72	12.60	10.67	1.57	3/4-10 UNC
8	200	7.68	11.75	8	0.87	12.60	9.53	2.36	2.66	11.14	6.61	8.43	2.72	15.75	12.76	1.57	3/4-10 UNC

Gear Type

DIMENSION

PARTS & MATERIALS



No.	DESCRIPTION	QTY.	MATERIAL
①	BODY	1	PVC
⑯	LUG-INSERT		STAINLESS STEEL(SUS304) (STANDARD) STAINLESS STEEL(SUS316)
②	DISC	1	PP
③	SEAT	1	EPDM,FKM,NBR,Others
⑥	O-RING(C)	1	
⑦	STEM	1	STAINLESS STEEL(SUS316)
⑧	STEM RETAINER(A)	1	PP
⑳	GEAR BOX	1	PLASTIC etc.
㉑	BOLT(C)	4	STAINLESS STEEL(SUS304)
㉒	RETAINING RING	2	STAINLESS STEEL(SCS13)
㉓	SCREW(F)	4	STAINLESS STEEL(SUS304)
㉔	GASKET(L)	1	EPDM

DIMENSIONS TABLE

ANSI		UNIT: inch																Number of handle wheel rotation	GEAR BOX TYPE				
Nominal Size	d	ANSI 150lb			D	D ₁	D ₂	D ₃	L ₁	L ₂	H	H ₁	H ₂	H ₃	I	A ₁	A ₂			W	T	t	
inch	mm	C	n	h																			
3	80	3.03	6.00	4	0.75	7.28	4.13	4.80	6.30	1.73	1.81	6.50	3.82	5.12	3.62	9.65	6.57	2.52	7.09	1.26	5/8-11 UNC	9.5	TYPE1
4	100	4.02	7.50	8	0.75	8.27	5.28	4.80	6.30	2.05	2.20	7.09	4.41	5.71	3.62	10.24	6.57	2.52	8.50	1.52	5/8-11 UNC		
6	150	5.91	9.50	8	0.87	10.63	7.48	4.80	6.30	2.20	2.40	8.27	5.55	6.89	3.62	11.42	6.57	2.52	10.67	1.57	3/4-10 UNC		
8	200	7.68	11.75	8	0.87	12.60	6.53	4.80	6.30	2.36	2.66	9.49	6.61	8.11	3.62	12.64	6.57	2.52	12.76	1.57	3/4-10 UNC		

BUTTERFLY VALVE TYPE 55 50mm - 250mm(2inch - 10inch)

FEATURES



Extreme Corrosion Resistance

All of the wetted parts are completely covered with PTFE, which can result in excellent performance against a highly corrosive media. Therefore BUTTERFLY VALVE TYPE 55 is the most suitable valve for lines of highly corrosive media in factories of Soda electrolysis, Chemicals and Agricultural chemicals.

Improved Cv Value

Thinner disc makes the area of flow passage wider and the Cv value is improved as a result.

Excellent resistibility to high and low temperature.

BUTTERFLY VALVE TYPE 55 can be used continuously at the range from -20°C to 100°C (-5°F to 210°F)

Simple Structure for Stem Sealing

Simple structure for stem sealing offers high reliability and also allows for easy maintenance.

APPLICATIONS

Electrolytic soda, agricultural chemicals, chemicals, steel, aluminum refining exhaust fumes dischargers, desulfurizers, erosive and corrosive solution lines

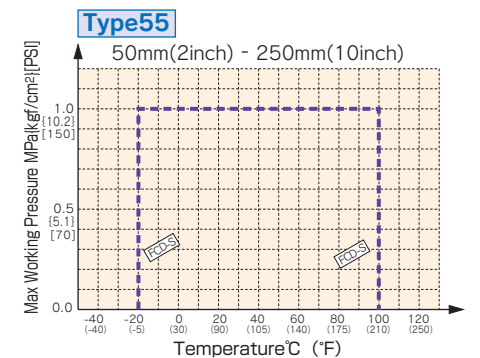
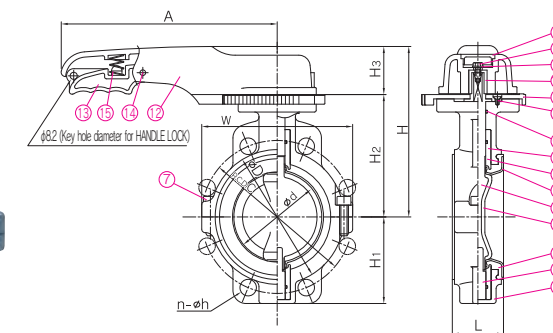
SPECIFICATIONS

Body material	DUCTILE CAST IRON (FCD-S)[with epoxy powder coat]	Nominal size mm(inch)	50(2), 80(3), 100(4), 125(5) 150(6), 200(8), 250(10)
Disc·Seat material	PTFE	Max. Working Pressure	1.0MPa{10.2kgf/cm ² }[150PSI]
		Working Temperature	-20°C - 100°C(-5° F - 210° F)

DIMENSION

WORKING PRESSURE VS. TEMPERATURE

Lever



PARTS & MATERIALS

No.	DESCRIPTION	QTY.	MATERIAL	REMARKS
①	BODY	1	DUCTILE CAST IRON (FCD-S)	epoxy powder coat
②	DISC	1	PTFE	
㉑	INSERTED METAL OF DISC	1	STAINLESS STEEL (SUS304)	
③	SEAT	1	PTFE	
㉒	SEAT CUSHION	1	CR	
④	STEM	1	STAINLESS STEEL (SUS304)	
⑤	BUSH	2	STAINLESS STEEL (SUS304)	
⑥	O-RING(A)	2	EPDM	
⑦	BOLT(A)	2	STAINLESS STEEL (SUS304)	
⑪	CAP	1	PP	
⑫	HANDLE	1	PP	
㉑	HANDLE INSERTED METAL	1	STAINLESS STEEL (SUS304)	
⑬	HANDLE LEVER	1	PPG	
⑭	PIN	1	PPG	
⑮	SPRING	1	STAINLESS STEEL (SUS304)	
⑯	WASHER	1	STAINLESS STEEL (SUS304)	
⑰	BOLT(C)	1	STAINLESS STEEL (SUS304)	
⑱	LOCKING PLATE	1	PPG	
⑲	SCREW	4	STAINLESS STEEL (SUS304)	
⑳	O-RING(B)	1	NBR	

DIMENSIONS TABLE

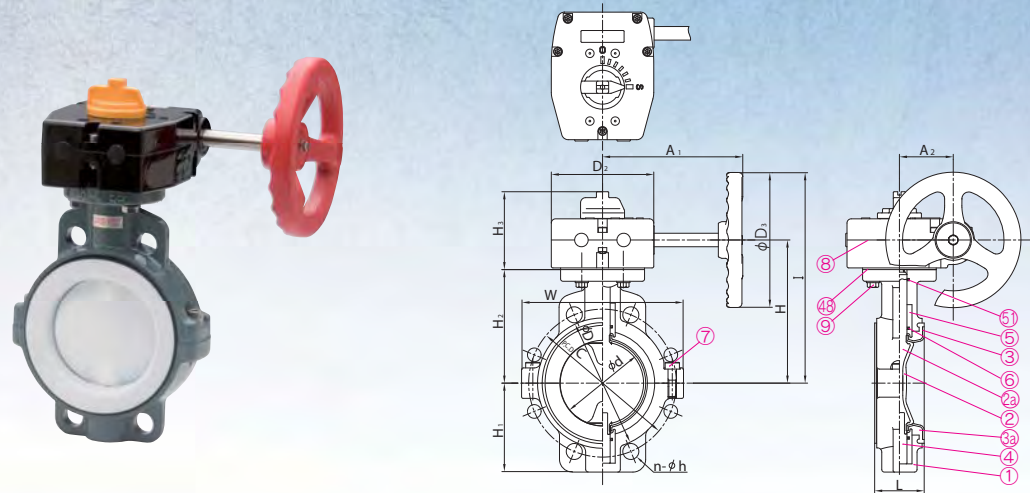
JIS		Unit:mm											
Nominal Size	d	JIS 10K			D	L	H	H ₁	H ₂	H ₃	W	A	
mm	inch	C	n	h									
50	2	55	120	2(4)	19	90	44	161	61	105	56	116	220
80	3	80	150	4(8)	19	125	54	180	95	124	56	152	250
100	4	100	175	4(8)	19	154	59	196	99	140	56	174	250
125	5	125	210	4(8)	23	181	64	235	120	166	69	206	320

DIN		Unit:mm											
Nominal Size	d	DIN PN 10			D	L	H	H ₁	H ₂	H ₃	W	A	
mm	inch	C	n	h									
50	2	55	125	2(4)	18	90	44	161	61	105	56	116	220
80	3	80	160	4(8)	18	125	54	180	95	124	56	152	250
100	4	100	180	4(8)	18	154	59	196	99	140	56	174	250
125	5	125	210	4(8)	18	181	64	235	120	166	69	206	320

ANSI		Unit:inch											
Nominal Size	d	ANSI Class 150, ANSI Class 125			D	L	H	H ₁	H ₂	H ₃	W	A	
inch	mm	C	n	h									
2	50	2.17	4.75	2 (4)	0.75	3.54	1.73	6.43	2.40	4.13	2.20	4.57	8.66
3	80	3.15	6.00	-(4)	0.75	4.92	2.13	7.09	3.74	4.88	2.20	5.98	9.84
4	100	3.94	7.50	4 (8)	0.75	6.06	2.32	7.72	3.90	5.51	2.20	6.85	9.84
5	125	4.92	8.50	4 (8)	0.88	7.13	2.52	9.25	4.72	6.54	2.72	8.11	12.60

DIMENSION

Gear



PARTS & MATERIALS

No.	DESCRIPTION	QTY.	MATERIAL	REMARKS	No.	DESCRIPTION	QTY.	MATERIAL	REMARKS
①	BODY	1	DUCTILE CAST IRON (FCD-S)	epoxy powder coat	⑥	O-RING(A)	2	EPDM	
②	DISC	1	PTFE		⑦	BOLT(A)	-	STAINLESS STEEL (SUS304)	Used for size 50~125mm:2 150 over :4
③	INSERTED METAL OF DISC	1	STAINLESS STEEL (SUS304)		⑧	GEAR BOX	1	Plastic.etc	
④	SEAT	1	PTFE		⑨	BOLT(B)	4	PPG	
⑤	SEAT CUSHION	1	CR		⑩	GASKET(C)	1	STAINLESS STEEL (SUS304)	
⑥	STEM	1	STAINLESS STEEL (SUS304)		⑪	O-RING(B)	1	NBR	
⑦	BUSH	2	STAINLESS STEEL (SUS304)						

DIMENSIONS TABLE

JIS																			Unit:mm		
Nominal Size	d	JIS 5K			JIS 10K			D	D ₂	D ₃	L	H	H ₁	H ₂	H ₃	I	W	A ₁	A ₂	Number of handle rotation	GEAR BOX MODEL No.
mm inch		C	n	h	C	n	h														
50 2"	55	105	2(4)	15	120	2(4)	19	90	122	160	44	135	61	100	92	215	116	167	64	9.5	TYPE1
80 3	80	145	-(4)	19	150	4(8)	19	125	122	160	54	154	95	119	92	234	152	167	64		
100 4	100	165	4(8)	19	175	4(8)	19	154	122	160	59	170	99	135	92	250	174	167	64		
125 5	125	200	4(8)	19	210	4(8)	23	181	122	160	64	193	120	158	92	273	206	167	64		
150 6	150	230	4(8)	19	240	4(8)	23	211	122	160	75	210	137	175	92	290	236	167	64		
200 8	191	280	4(8)	23	290	4(12)	23	265	122	160	85	240	163	205	92	320	282	167	64		
250 10	245	345	4(12)	23	355	4(12)	25	325	122	160	96	275	200	240	92	355	341	167	64		

NOTE. The shape and appearance of assembly differ little with nominal size compared to this drawing.

DIN																			Unit:mm	
Nominal Size	d	DIN 2501 PN10			D	D ₂	D ₃	L	H	H ₁	H ₂	H ₃	I	W	A ₁	A ₂	Number of handle rotation	GEAR BOX MODEL No.		
mm inch		C	n	h																
50 2"	55	125	2(4)	18	90	122	160	44	135	61	100	92	215	116	167	64	9.5	TYPE1		
80 3	80	160	-(4)	18	125	122	160	54	154	95	119	92	234	152	167	64				
100 4	100	180	4(8)	18	154	122	160	59	170	99	135	92	250	174	167	64				
125 5	125	210	4(8)	18	181	122	160	64	193	120	158	92	273	206	167	64				
150 6	150	240	4(8)	22	211	122	160	75	210	137	175	92	290	236	167	64				
200 8	191	295	4(8)	22	265	122	160	85	240	163	205	92	320	282	167	64				
250 10	245	350	4(12)	22	325	122	160	96	275	200	240	92	355	341	167	64				

NOTE. The shape and appearance of assembly differ little with nominal size compared to this drawing.

ANSI																			Unit:mm	
Nominal Size	d	ANSI Class 150, ANSI Class 125			D	D ₂	D ₃	L	H	H ₁	H ₂	H ₃	I	W	A ₁	A ₂	Number of handle rotation	GEAR BOX MODEL No.		
mm inch		C	n	h																
50 2"	2.17	4.75	2(4)	0.75	3.54	4.80	6.30	1.73	5.31	2.40	3.94	3.62	8.46	4.57	6.57	2.52	9.5	TYPE1		
80 3	3.15	6.00	-(4)	0.75	4.92	4.80	6.30	2.13	6.06	3.74	4.69	3.62	9.21	5.98	6.57	2.52				
100 4	3.94	7.50	4(8)	0.75	6.06	4.80	6.30	2.32	6.69	3.90	5.31	3.62	9.84	6.85	6.57	2.52				
125 5	4.92	8.50	4(8)	0.88	7.13	4.80	6.30	2.52	7.60	4.72	6.22	3.62	10.75	8.11	6.57	2.52				
150 6	5.91	9.50	4(8)	0.88	8.31	4.80	6.30	2.95	8.27	5.39	6.89	3.62	11.42	9.29	6.57	2.52				
200 8	7.52	11.75	4(8)	0.88	10.43	4.80	6.30	3.35	9.45	6.42	8.07	3.62	12.60	11.10	6.57	2.52				
250 10	9.65	14.25	4(12)	1.00	12.80	4.80	6.30	3.78	10.83	7.87	9.45	3.62	13.98	13.43	6.57	2.52				

NOTE. The shape and appearance of assembly differ little with nominal size compared to this drawing.

PDCPD BUTTERFLY VALVE 700mm - 1200mm(28inch - 48inch)



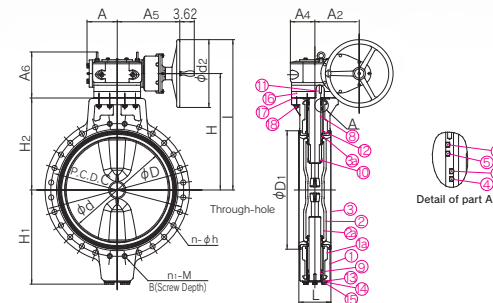
Nominal Size
700mm - 1200mm
(28inch - 48inch)

FEATURES

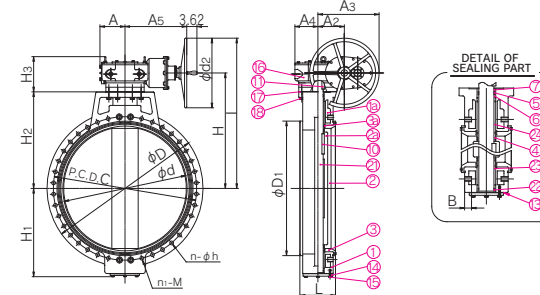
- High Corrosion Resistance**
The body and disc are made of PDCPD. And the corrosion-resistant resin, covering the whole contact surface, makes the valve highly resistant against chemical and sea water.
- Light Weight**
PDCPD having 1/4 or less the specific gravity of iron, the PDCPD BUTTERFLY VALVE is significantly lighter than a metallic butterfly valve.
- Tight Seal**
A seat made of a synthetic rubber, makes the valve highly water-tight.
- Excellent Flow Characteristics**
Being concentric and streamlined, the disc gives small resistance to a flow, thus allowing it to be laminar. The seat is kept clean, since it is integrated with the entire internal wall of the body.

DIMENSION

● 700mm - 1000mm(28inch - 40inch)



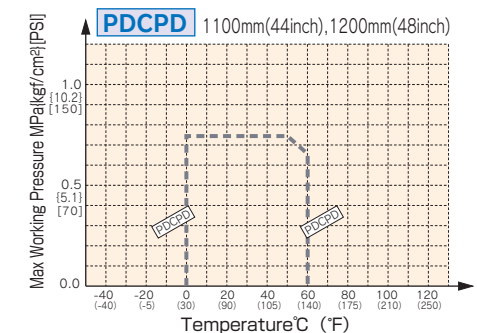
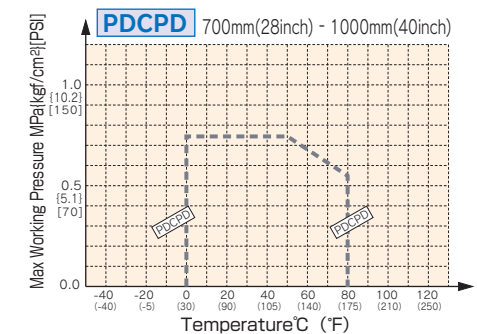
● 1100mm, 1200mm(44inch, 48inch)



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PDCPD
②	DISC	1	PDCPD
③	SEAT	1	
④	O-RING (A)	11	EPDM
⑤	O-RING (B)	3	
⑥	O-RING (C)	1	NBR
⑦	O-RING (D)	1	NBR
⑧	STEM (A)	1	STAINLESS STEEL (SUS403)
⑨	STEM (B)	1	STAINLESS STEEL (SUS403)
⑩	KEY (A)	1	CARBON STEEL (S45C)
⑪	KEY (B)	1	CARBON STEEL (S45C)
⑫	BUSH	2	BRONZE CAST (BC6)
⑬	GASKET (A)	1	NONAS SHEET
⑭	STEM HOLDER	1	STAINLESS STEEL (SUS304)
⑮	BOLT (A)	6	STAINLESS STEEL (SUS304)
⑯	GEAR BOX	1	CASTIRON (FC200) etc.
⑰	GASKET (B)	1	NONAS SHEET
⑱	BOLT (B)	8	STAINLESS STEEL (SUS304)
⑲	STEM	1	STAINLESS STEEL (SUS304)
⑳	THRUST	1	BRONZE CAST (BC6)
㉑	BUSH (A)	1	BRONZE CAST (BC6)
㉒	BUSH (B)	1	BRONZE CAST (BC6)
㉓	INSERT METAL OF BODY	1	CAST IRON (FCD450)
㉔	INSERT METAL OF DISC	1	CAST IRON (FCD450)
㉕	INSERT METAL OF RING	2	STAINLESS STEEL (SUS304)

WORKING PRESSURE VS. TEMPERATURE



LIST OF FLANGE STANDARDS

Nominal Size mm(inch)	FLANGE STANDARDS				Max. Working Pressure MPa [kgf/cm ²] [PSI]
	JIS 10K	ANSI Class 150	DIN PN10		
700(28)	○	○	○		0.75 {7.7} [110]
800(32)	○	○	○		0.75 {7.7} [110]
900(36)	○	-	○		0.75 {7.7} [110]
1000(40)	○	○	○		0.75 {7.7} [110]
1100(44)	○	○	-		0.75 {7.7} [110]
1200(48)	○	○	○		0.75 {7.7} [110]

DIMENSIONS TABLE

JIS Unit:mm

Nominal Size	d	JIS 10K						JWWA						D	D ₁	D ₂	L	H	I	H ₁	H ₂	A	A ₂	A ₄	A ₅	A ₆	Gear box Model No.					
		C	h	N	n	n ₁	n ₂	M	B	C	h	N	n															n ₁	n ₂	M	B	
700	28	670	840	33	24	20	4	8	M30	35	854	33	16	16	-	-	-	-	928	760	350	206	685	897	589	590	194	286	158	403	296	BRL-10
800	32	770	950	33	28	24	4	8	M30	35	960	33	20	16	4	8	M30	35	1034	870	350	240	715	927	619	620	194	286	158	403	296	BRL-10
900	36	870	1050	33	28	24	4	8	M30	35	1073	33	20	16	4	8	M30	35	1168	978	350	240	800	1112	704	705	194	286	158	403	296	BRL-10
1000	40	970	1160	39	28	24	4	8	M36	35	1179	33	24	20	4	8	M30	35	1262	1080	460	300	845	1157	749	750	229	242	210	565	323	BRL-20
1100	44	1080	1270	39	28	24	4	8	M36	42	1283	33	24	20	4	8	M30	35	1380	1195	460	300	942	1260	780	840	229	242	210	565	323	BRL-20
1200	48	1170	1380	39	32	28	4	8	M36	42	1387	33	28	24	4	8	M30	35	1488	1300	460	350	992	1310	850	890	229	242	210	565	323	BRL-20

DIN Unit:mm

Nominal Size	d	DIN PN 10						D	D ₁	D ₂	L	H	I	H ₁	H ₂	A	A ₂	A ₄	A ₅	A ₆	Gear box Model No.			
		C	h	N	n	n ₁	n ₂															M	B	
700	28	670	840	33	24	20	4	8	M27	35	928	760	350	206	685	897	589	590	194	286	158	403	296	BRL-10
800	32	770	950	33	28	20	4	8	M30	35	1034	870	350	240	715	927	619	620	194	286	158	403	296	BRL-10
900	36	870	1050	33	28	24	4	8	M30	35	1168	978	350	240	800	1112	704	705	194	286	158	403	296	BRL-10
1000	40	970	1160	39	28	24	4	8	M33	42	1262	1080	460	300	845	1157	749	750	229	242	210	565	323	BRL-20
1200	48	1170	1380	39	32	28	4	8	M36	42	1488	1300	460	350	992	1310	850	890	229	242	210	565	323	BRL-20

ANSI Unit:mm

Nominal Size	d	ANSI Class 125						ANSI Class 150						D	D ₁	D ₂	L	H	I	H ₁	H ₂	A	A ₂	A ₄	A ₅	A ₆	Gear box Model No.					
		C	h	N	n	n ₁	n ₂	M	B	C	h	N	n															n ₁	n ₂	M	B	
700	28	26.38	-	-	-	-	-	-	-	34.00	1.38	28	24	4	8	1 1/4	1.38	36.54	29.92	17.13	8.11	29.41	37.99	23.19	23.23	7.64	11.26	6.22	15.87	11.65	BRL-10	
800	32	30.31	-	-	-	-	-	-	-	38.50	1.62	28	24	4	8	1 1/2	1.38	41.34	34.25	17.13	9.45	30.59	39.17	24.37	24.41	7.64	11.26	6.22	15.87	11.65	BRL-10	
900	36	34.25	47.25	1.62	36	32	4	8	1 1/2	1.38	-	-	-	-	-	-	-	45.98	38.50	25.00	9.45	33.94	46.46	27.72	27.76	7.64	11.26	6.22	15.87	11.65	BRL-10	
1000	40	38.19	-	-	-	-	-	-	-	47.25	1.62	36	32	4	8	1 1/2	1.38	50.00	42.52	25.00	11.81	36.30	48.82	29.49	29.53	9.02	9.53	8.27	22.24	12.72	BRL-20	
1100	44	42.52	-	-	-	-	-	-	-	51.75	1.62	40	36	4	8	1 1/2	1.77	54.33	47.05	25.00	11.81	39.84	52.36	30.71	33.07	9.02	9.53	8.27	22.24	12.72	BRL-20	
1200	48	46.06	56.00	1.62	44	40	4	8	1 1/2	1.77	56.00	1.62	44	40	4	8	1 1/2	1.77	58.58	51.18	25.00	13.78	41.81	54.33	33.46	35.04	9.02	9.53	8.27	22.24	12.72	BRL-20

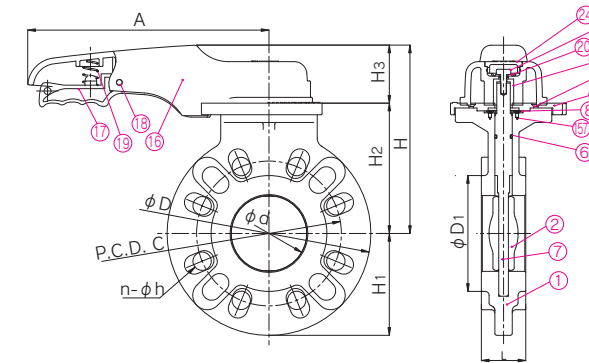
Nominal Size mm(inch)	700(28)	800(32)	900(36)	1000(40)	1100(44)	1200(48)
Stem Torque N·m [kgf·cm]	4,500 {45,900}	5,900 {60,200}	7,500 {76,500}	10,200 {104,000}	13,000 {132,600}	15,000 {153,000}
Hand Wheel operating force N{kgf}	339 {35}	444 {45}	565 {58}	326 {33}	415 {42}	479 {49}
Number of Handle Rotation	60	60	60	137	137	137
Gear Box Model	BRL-10	BRL-10	BRL-10	BRL-20	BRL-20	BRL-20

ROTARY DAMPER (PVC,PP) 40mm - 600mm(1 1/2inch - 24inch)

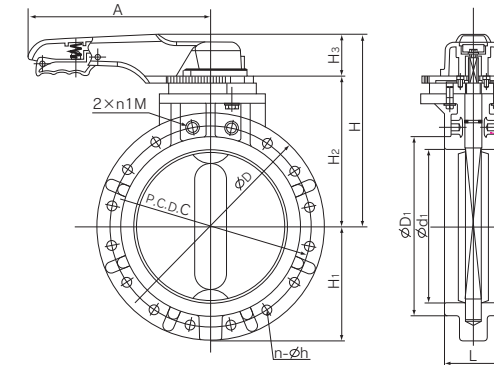


● PVC

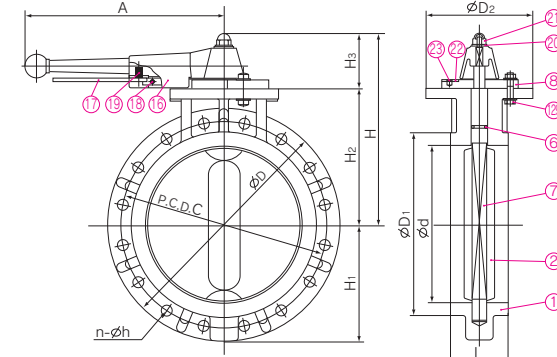
● PVC, PP
40mm - 200mm (1 1/2inch - 8inch)



250mm - 400mm (10inch - 16inch)



450mm - 600mm (16inch - 24inch)



FEATURES

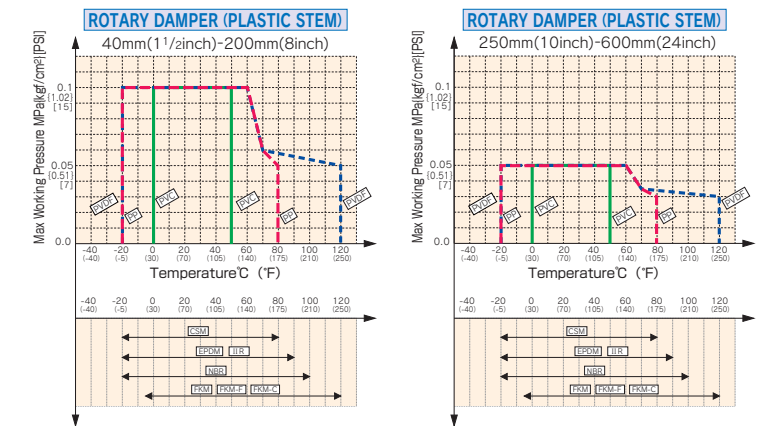
DAMPER STYLE is Designed for Flow Control.

Note : DAMPER STYLE is not a tight shut off valve. Consult factory for Leakage rates.

SPECIFICATIONS

Body material	Nominal size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure (at R.T.) MPa{kgf/cm ² }[PSI]		
			40(1 1/2inch)~200(8inch)	250(10inch)~350(14inch)	400(16inch)~600(24inch)
PVC	40 - 350 (1 1/2 - 14)	0 - 50 (30 - 120)	0.1 {1.0} [15]	0.05 {0.5} [7]	-
PP	40 - 600 (1 1/2 - 24)	-20 - 80 (-5 - 175)	0.1 {1.0} [15]	0.05 {0.5} [7]	0.05 {0.5} [7]
PVDF	40 - 600 (1 1/2 - 24)	-20 - 120 (-5 - 250)	0.1 {1.0} [15]	0.05 {0.5} [7]	0.05 {0.5} [7]

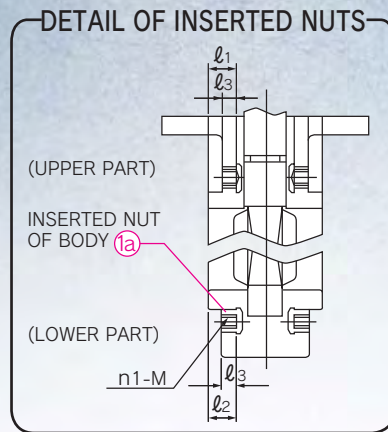
WORKING PRESSURE VS. TEMPERATURE



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS	
1	BODY	1	BODY/DISC/STEM		
2	DISC	1	PVC/PP/PVC		
7	STEM	1	PP/PP/PP		
6	O-RING(C)	1	EPDM, FKM, OTHERS		
8	STEM HOLDER(A)	1	STAINLESS STEEL304	40mm - 200mm	
			PP	450mm - 600mm	
9	BOLT(A)	3	STAINLESS STEEL304	250mm - 400mm	
16	HANDLE(A)	1	PP		
19	INSERTED METAL OF HANDLE	1	STAINLESS STEEL316	40mm - 400mm	
17	HANDLE LEVER	1	PPG	40mm - 400mm	
			STAINLESS STEEL304	450mm - 600mm	
18	PIN	1	PPG	40mm - 400mm	
			STAINLESS STEEL304	450mm - 600mm	
19	SPRING	1	STAINLESS STEEL304		
20	WASHER(A)	1	STAINLESS STEEL304		
21	BOLT(B)	1	STAINLESS STEEL304	40mm - 400mm	
			NUT(B)	450mm - 600mm	
22	LOCKING PLATE	1	PPG	40mm - 400mm	
			STAINLESS STEEL304	450mm - 600mm	
23	SCREW(B)	4	STAINLESS STEEL304	40mm - 400mm	
			3	STAINLESS STEEL304	450mm - 600mm
24	CAP(A)	1	PP	40mm - 400mm	
25	BOLT-NUT(N)	3	STAINLESS STEEL304	450mm - 600mm	
26	STEM HOLDER(C)	1	PPG	250mm - 400mm	
29	INSERTED METAL OF BODY	4	COPPER ALLOY(C3604)	10k400mm - 600mm	

DIMENSIONS TABLE



JIS							Unit:mm		
Nominal Size	M	BOLT HOLES n	Q'TY OF INSERTED NUT			l ₁	l ₂	l ₃	
			UPPER	LOWER	TOTAL (2×n ₁)				
400	16	M24	14	2×2	—	4	46	—	24
450	18	M24	16	2×2	2×2	8	43	48	24
500	20	M24	16	2×2	2×2	8	43	53	24
600	24	M30	20	2×2	2×2	8	58	58	30

1) PP, body : used for 400(16inch)~600mm(24inch)(JIS 10K)only

JIS															Unit:mm	
Nominal Size	mm	inch	d	JIS 10K					D ₁ PVC,PP	D	L	H	H ₁	H ₂	H ₃	A
				C	n	h	n ₁	M								
40	1 1/2	47	105	4	19	—	—	86	150	32	156	75	100	56	220	
50	2	58	120	4	19	—	—	96	165	35	166	83	110	56	220	
65	2 1/2	71	140	4	19	—	—	116	185	37	176	93	120	56	220	
80	3	79	150	8	19	—	—	120	211	37	191	106	135	56	250	
100	4	104	175	8	19	—	—	152	238	47	206	119	150	56	250	
125	5	131	210	8	23	—	—	190	264	57	237	132	168	69	320	
150	6	152	240	8	23	—	—	208	285	62	252	143	183	69	320	
200	8	197	290	12	23	—	—	264	340	76	283	170	214	69	400	
250	10	247	355	12	25	—	—	321	406	96	342	203	273	69	400	
300	12	298	400	16	25	—	—	370	483	116	399	242	330	69	400	
350	14	347	445	16	25	—	—	420	520	116	426	260	338	69	400	
400	16	394	510	14	27	2	M24	470	600	157	451	300	382	69	400	
450	18	441	565	16	27	4	M24	525	630	167	496	315	370	126	323	
500	20	488	620	16	27	4	M24	575	699	177	526	350	400	126	323	
600	24	600	730	20	33	4	M30	686	813	197	591	424	465	126	323	

DIN															Unit:mm
Nominal Size	mm	inch	d	DIN PN 10			D ₁ PVC,PP	D	L	H	H ₁	H ₂	H ₃	A	
				C	n	h									
40	1 1/2	47	110	4	18	86	150	32	156	75	100	56	220		
50	2	58	125	4	18	96	165	35	166	83	110	56	220		
65	2 1/2	71	145	4	18	116	185	37	176	93	120	56	220		
80	3	79	160	8	18	120	211	37	191	106	135	56	250		
100	4	104	180	8	18	152	238	47	206	119	150	56	250		
125	5	131	210	8	18	190	264	57	237	132	168	69	320		
150	6	152	240	8	22	208	285	62	252	143	183	69	320		
200	8	197	295	8	22	264	340	76	283	170	214	69	400		
250	10	247	350	12	23	321	406	96	342	203	273	69	400		
300	12	298	400	12	23	370	483	116	399	242	330	69	400		
350	14	347	460	16	23	420	520	116	426	260	338	69	400		
400	16	394	515	16	27	470	600	157	451	300	382	69	400		
450	18	441	565	20	27	525	630	167	496	315	370	126	323		
500	20	488	620	20	27	575	699	177	526	350	400	126	323		
600	24	600	725	20	30	686	813	197	591	424	465	126	323		

ANSI															Unit:inch
Nominal Size	inch	mm	d	ANSI Class 150			D ₁ PVC,PP	D	L	H	H ₁	H ₂	H ₃	A	
				C	n	h									
1 1/2	40	1.83	3.68	4	0.63	3.39	5.91	1.26	6.14	2.95	3.94	2.20	8.66		
2	50	2.26	4.74	4	0.75	3.78	6.50	1.38	6.54	3.25	4.33	2.20	8.66		
2 1/2	65	2.78	5.49	4	0.75	4.57	7.28	1.46	6.93	3.64	4.72	2.20	8.66		
3	80	3.09	6.00	4	0.75	4.72	8.31	1.46	7.52	4.15	5.31	2.20	9.84		
4	100	4.07	7.50	8	0.75	5.98	9.37	1.85	8.11	4.69	5.91	2.20	9.84		
5	125	5.14	8.50	8	0.87	7.48	10.39	2.24	9.33	5.20	6.61	2.72	12.60		
6	150	5.96	9.51	8	0.87	8.19	11.22	2.44	9.92	5.61	7.20	2.72	12.60		
8	200	7.76	11.75	8	0.87	10.39	13.39	2.99	11.14	6.69	8.43	2.72	15.75		
10	250	9.72	14.25	12	0.98	12.64	15.98	3.78	13.46	7.99	10.75	2.72	15.75		
12	300	11.73	17.01	12	0.98	14.57	19.02	4.57	15.71	9.53	12.99	2.72	15.75		
14	350	13.66	18.74	12	1.14	16.54	20.47	4.57	16.77	10.24	13.31	2.72	15.75		
16	400	15.51	21.24	16	1.14	18.50	23.62	6.18	17.76	11.81	15.04	2.72	15.75		
18	450	17.36	22.76	16	1.26	20.67	24.80	6.57	19.53	12.40	14.57	4.69	12.72		
20	500	19.21	25.00	20	1.26	22.64	27.52	6.97	20.71	13.78	15.75	4.96	12.72		
24	600	23.62	29.51	20	1.38	27.01	32.01	7.76	23.27	16.69	18.31	4.96	12.72		

Note : The shape and appearance of the valve differ a little with nominal size compared to the drawing.

ROTARY DAMPER (PVDF) 40mm - 600mm(1 1/2inch - 24inch)



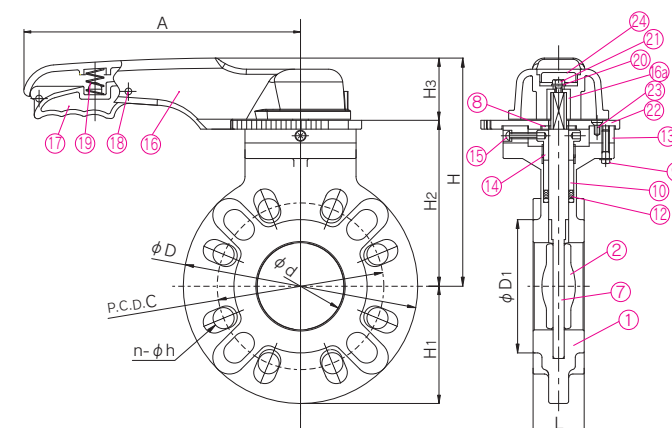
● PVDF

FEATURES

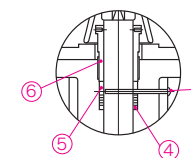
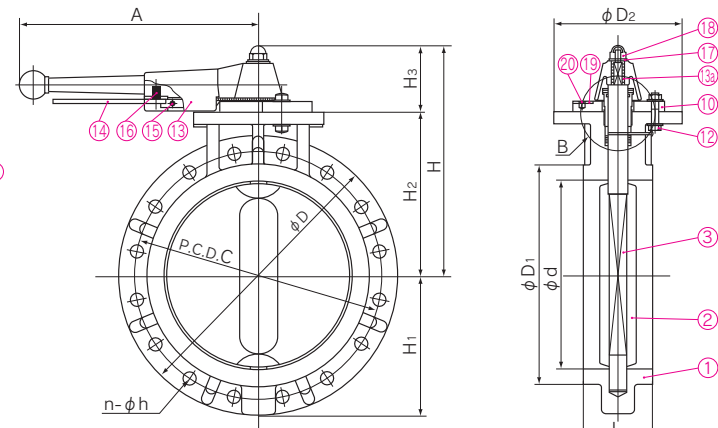
DAMPER STYLE is Designed for Flow Control.

- DAMPER STYLE is not a tight shut off valve. Consult us for Leakage rates.
- Low Leakage Model ;PVDF Body / PVDF Disc / Ti-Stem also available as a special for 40mm(1 1/2") through 350mm(14").

● PVDF
40mm - 200mm (1 1/2inch - 8inch)



250mm - 600mm (10inch - 24inch)
Consult us more details



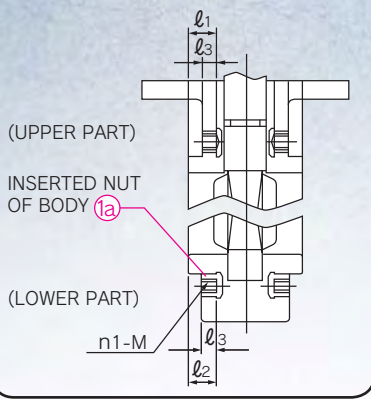
Part "B"

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS
①	BODY	1	PVDF	
②	DISC	1	PVDF	
⑦	STEM	1	PVDF	
⑧	STEM HOLDER(A)	1	STAINLESS STEEL304	40mm - 300mm(1 1/2"-14")
⑨	BOLT(A)	4	STAINLESS STEEL304	
⑩	BUSH(A)	1	PTFE	40mm - 350mm(1 1/2"-14")
		1	PVDF	400mm - 600mm(16"-24")
⑫	V-PACKING	1	PTFE	
⑬	SPECER(A)	1set	C-PVC	
⑭	GLAND	1set	PVDF	
⑮	SCREW(A)	1	STAINLESS STEEL304	
⑯	HANDLE(A)	1	PP	
⑰	HANDLE INSERTED METAL	1	STAINLESS STEEL304	
⑱	HANDLE LEVER	1	PPG	
⑲	PIN	1	PPG	
⑳	SPRING	1	STAINLESS STEEL304	
㉑	WASHER(A)	1	STAINLESS STEEL304	
㉒	BOLT(B)	1	STAINLESS STEEL304	
㉓	LOCKING PLATE	1	PPG	
㉔	SCREW(B)	2	STAINLESS STEEL304	
㉕	CAP(A)	1	PP	
㉖	STEM HOLDER(C)	1	PP	300mm - 400mm(12"-16")
㉗	BODY INSERTED METAL	4	COPPER ALLOY	

DIMENSIONS TABLE

DETAIL OF INSERTED NUTS



Nominal Size		M	BOLT HOLES n	Q'TY OF INSERTED NUT			l ₁	l ₂	l ₃
mm	inch			UPPER	LOWER	TOTAL (2×n ₁)			
400	16	M24	14	2×2	—	4	46	—	24
450	18	M24	16	2×2	2×2	8	43	48	24
500	20	M24	16	2×2	2×2	8	43	53	24
600	24	M30	20	2×2	2×2	8	58	58	30

1) PP, body : used for 400(16inch)~600mm(24inch)(JIS 10K)only

Nominal Size		d	JIS 10K						D ₁	D	L	H	H ₁	H ₂	H ₃	A
mm	inch		C	n	h	n ₁	M	PVDF								
40	1 1/2	46	105	4	19	—	—	86	150	32	179	75	123	56	220	
50	2	57	120	4	19	—	—	96	165	35	189	83	133	56	220	
65	2 1/2	70	140	4	19	—	—	116	185	37	199	93	143	56	220	
80	3	78	150	8	19	—	—	120	211	37	214	106	157	56	250	
100	4	103	175	8	19	—	—	152	238	47	229	119	173	56	250	
125	5	130	210	8	23	—	—	190	264	57	257	132	188	69	320	
150	6	150	240	8	23	—	—	208	285	62	272	143	203	69	320	
200	8	197	290	12	23	—	—	264	340	76	303	170	234	69	400	
250	10	247	355	12	25	—	—	321	406	96	358	203	240	118	323	
300	12	298	400	16	25	—	—	370	483	116	419	242	297	122	323	
350	14	347	445	16	25	—	—	420	520	116	422	260	300	122	323	
400	16	394	510	14	27	2	M24	470	600	157	472	300	350	122	323	
450	18	441	565	16	27	4	M24	525	630	167	516	315	370	126	323	
500	20	488	620	16	27	4	M24	575	699	177	546	350	400	126	323	
600	24	600	730	20	33	4	M30	686	813	197	611	424	465	126	323	

Nominal Size		d	DIN PN 10				D ₁	D	L	H	H ₁	H ₂	H ₃	A
mm	inch		C	n	h	PVDF								
40	1 1/2	46	110	4	18	86	150	32	179	75	123	56	220	
50	2	57	125	4	18	96	165	35	189	83	133	56	220	
65	2 1/2	70	145	4	18	116	185	37	199	93	143	56	220	
80	3	78	160	8	18	120	211	37	214	106	157	56	250	
100	4	103	180	8	18	152	238	47	229	119	173	56	250	
125	5	130	210	8	18	190	264	57	257	132	188	69	320	
150	6	150	240	8	22	208	285	62	272	143	203	69	320	
200	8	197	295	8	22	264	340	76	303	170	234	69	400	
250	10	247	350	12	23	321	406	96	358	203	240	118	323	
300	12	298	400	12	23	370	483	116	419	242	297	122	323	
350	14	347	460	16	23	420	520	116	422	260	300	122	323	
400	16	394	515	16	27	470	600	157	472	300	350	122	323	
450	18	441	565	20	27	525	630	167	516	315	370	126	323	
500	20	488	620	20	27	575	699	177	546	350	400	126	323	
600	24	600	725	20	30	686	813	197	611	424	465	126	323	

Nominal Size		d	ANSI Class 150				D ₁	D	L	H	H ₁	H ₂	H ₃	A
inch	mm		C	n	h	PVDF								
1 1/2	40	1.81	3.88	4	0.62	3.39	5.91	1.26	7.05	2.95	4.84	2.20	8.66	
2	50	2.24	4.75	4	0.75	3.78	6.50	1.38	7.44	3.27	5.24	2.20	8.66	
2 1/2	65	2.76	5.50	4	0.75	4.57	7.28	1.46	7.83	3.66	5.63	2.20	8.66	
3	80	3.07	6.00	4	0.75	4.72	8.31	1.46	8.43	4.17	6.22	2.20	9.84	
4	100	4.06	7.50	8	0.75	5.98	9.37	1.85	9.02	4.69	6.81	2.20	9.84	
5	125	5.12	8.50	8	0.88	7.48	10.39	2.24	10.12	5.20	7.40	2.72	12.60	
6	150	5.91	9.50	8	0.88	8.19	11.22	2.44	10.71	5.63	7.99	2.72	12.60	
8	200	7.76	11.75	8	0.88	10.39	13.39	3.23	11.93	6.69	9.21	2.72	15.75	
10	250	9.72	14.25	12	0.98	12.20	15.98	3.78	14.09	7.99	9.45	4.65	12.72	
12	300	11.73	17.01	12	0.98	14.57	19.02	4.57	16.50	9.53	11.69	4.80	12.72	
14	350	13.66	18.74	12	1.14	16.54	20.47	4.57	16.61	10.24	11.81	4.80	12.72	
16	400	15.51	21.24	16	1.14	18.50	23.62	6.18	18.58	11.81	13.78	4.80	12.72	
18	450	17.36	22.76	16	1.26	20.67	24.80	6.57	20.31	12.40	14.57	4.96	12.72	
20	500	19.21	25.00	20	1.26	22.64	27.52	6.97	21.50	13.78	15.75	4.96	12.72	
24	600	23.62	29.51	20	1.38	27.01	32.01	7.76	24.06	16.69	18.31	4.96	12.72	

SWING CHECK VALVE 15mm - 200mm(1/2inch - 8inch)



15mm(1/2inch), 20mm(3/4inch)



25mm(1inch) - 200mm(8inch)

FEATURES

- The SWING CHECK VALVE prevents backflow, thus protecting equipment, such as a pump.
- Being of a swing arm type, the valve gives little resistance to flow.
- The SWING CHECK VALVE is highly resistant to corrosive chemicals, acid and alkaline, because of its plastic construction.
- To maintain the SWING CHECK VALVE, only the bonnet lid has to be removed, without taking the body out of pipeline.

MATERIAL AND WORKING TEMPERATURE RANGES

Body material	Working Temperature °C (°F)	Max. Working Pressure (at R.T.) MPa[kgf/cm ²] [PSI]		
		15(1/2inch) - 80(3inch)	100(4inch) - 150(6inch)	200(8inch)
HI-PVC	0 - 50 (30 - 120)	1.0{10.2} [150]	0.7{7.1} [100]	0.5{5.1} [70]
PP	-20 - 80 (-5 - 175)	1.0{10.2} [150]	0.7{7.1} [100]	0.5{5.1} [70]
PVDF	-20 - 100 (-5 - 210)	1.0{10.2} [150]	0.7{7.1} [100]	0.5{5.1} [70]

PARTS & MATERIALS O-ring Type

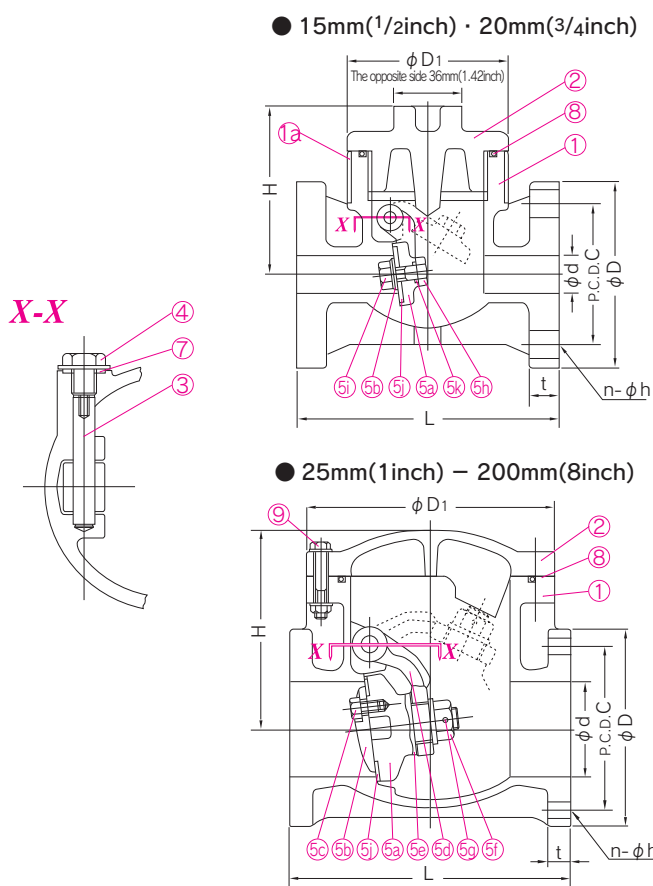
● PP

No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS
①	BODY	1	PP	
②	BONNET	1	PP	
③	SHAFT	1	PP	
④	PLUG	1	PP	
⑤	⑤a DISC	1	PVDF	
	⑤b SEAT HOLDER	1	PP	
	⑤c BOLT(A)	-	PP	Used for Size 25~200mm
	⑤d ARM	1	PP	Used for Size 25~200mm
	⑤e WASHER	1	PP	Used for Size 25~200mm
	⑤f NUT(A)	1	PVDF	Used for Size 25~200mm
	⑤g PIN	1	PVDF	In Case Material is PVDF, Used for Size 65~200mm
	⑤h BOLT(B)	1	PP	Used for Size 15,20mm
	⑤i NUT(B)	1	PP	Used for Size 15,20mm
	⑤j SEAT	1	GASKET, SEAT, O-RING(A)/O-RING(B)	Used for Size 15,20mm
⑦	GASKET(B)	1	EPDM/EPDM FKM/FKM	
⑧	O-RING(B)	1	PTFE/FKM-F* ^{※2} PTFE/PFA* ^{※1※2}	※1 FKM Covered at PFA ※2 Special request
⑨	BOLT·NUT	-	STAINLESS STEEL(SUS304)	Used for Size 25~200mm
⑬	BODY RING	-	STAINLESS STEEL(SUS304)	Used for Size 15,20mm

Note : 1) ⑬ Body-ring is available for PP Body 15mm(1/2inch)·20mm(3/4inch).

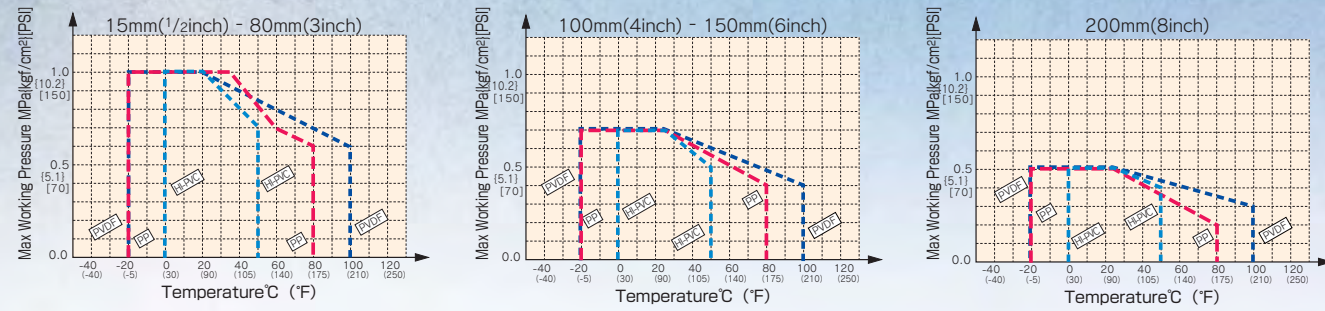
● HI-PVC, PVDF

No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS
①	BODY	1	HI-PVC, PVDF	
②	BONNET	1	HI-PVC, PVDF	
③	SHAFT	1	HI-PVC, PVDF	
④	PLUG	1	HI-PVC, PVDF	
⑤	⑤a DISC	1	HI-PVC, PVDF	
	⑤b SEAT HOLDER	1	HI-PVC, PVDF	
	⑤c BOLT(A)	-	HI-PVC, PVDF	Used for Size 25~200mm
	⑤d ARM	1	HI-PVC, PVDF	Used for Size 25~200mm
	⑤e WASHER	1	HI-PVC, PVDF	Used for Size 25~200mm
	⑤f NUT(A)	1	HI-PVC, PVDF	Used for Size 25~200mm
	⑤g PIN	1	HI-PVC, PVDF	In Case Material is PVDF, Used for Size 65~200mm
	⑤h BOLT(B)	1	HI-PVC, PVDF	Used for Size 15,20mm
	⑤i NUT(B)	1	HI-PVC, PVDF	Used for Size 15,20mm
	⑤j SEAT	1	GASKET, SEAT, O-RING(A)/O-RING(B)	Used for Size 15,20mm
⑦	GASKET(B)	1	FKM/FKM PTFE/PFA* ^{※1}	※1 FKM Covered at PFA ※2 Special request
⑧	O-RING(B)	1	PTFE/FKM-F* ^{※2} PTFE/FKM-C* ^{※2}	
⑨	BOLT·NUT	-	STAINLESS STEEL(SUS304)	Used for Size 25~200mm



WORKING PRESSURE VS. TEMPERATURE

SWING CHECK VALVE O-ring Type



DIMENSIONS TABLE

JIS		Unit:mm														
Nominal Size		JIS 5K					JIS 10K					t				
mm	inch	d	D	C	n	h	D	C	n	h	D ₁	L	HI-PVC	PP	PVDF	H
15	1/2	20	80	60	4	12	95	70	4	15	86	140	15	15	15	87
20	3/4	20	85	65	4	12	100	75	4	15	86	140	15	15	15	87
25	1	25	95	75	4	12	125	90	4	19	130	160	16	16	16	117
32	1 1/4	40	-	-	-	-	135	100	4	19	145	180	18	17	18	135
40	1 1/2	40	120	95	4	15	140	105	4	19	145	180	18	17	18	135
50	2	50	130	105	4	15	155	120	4	19	180	200	20	20	21	161
65	2 1/2	65	155	130	4	15	175	140	4	19	200	240	22	22	23	165
80	3	80	180	145	4	19	185	150	8	19	205	260	22	22	23	168
100	4	100	200	165	8	19	210	175	8	19	265	300	24	24	26	210
125	5	125	235	200	8	19	250	210	8	23	330	350	24	25	26	245
150	6	150	265	230	8	19	280	240	8	23	370	400	25	26	27	280
200	8	200	320	280	8	23	330	290	12	23	425	500	30	31	33	333

DIN		Unit:mm											
Nominal Size		DIN PN10					D ₁		L		t		H
mm	inch	d	D	C	n	h	D ₁	L	HI-PVC	PP	PVDF	H	
15	1/2	20	95	65	4	14	86	140	15	15	15	87	
20	3/4	20	105	75	4	14	86	140	15	15	15	87	
25	1	25	115	85	4	14	130	160	16	16	16	117	
32	1 1/4	40	140	100	4	18	145	180	18	17	18	135	
40	1 1/2	40	150	110	4	18	145	180	18	17	18	135	
50	2	50	165	125	4	18	180	200	20	20	21	161	
65	2 1/2	65	185	145	4	18	200	240	22	22	23	165	
80	3	80	200	160	8	18	205	260	22	22	23	168	
100	4	100	220	180	8	18	265	300	24	24	26	210	
125	5	125	250	210	8	18	330	350	24	25	26	245	
150	6	150	285	240	8	22	370	400	25	26	27	280	
200	8	200	340	295	8	22	425	500	30	31	33	333	

ANSI		Unit:inch											
Nominal Size		ANSI CLASS 150					D ₁		L		t		H
inch	mm	d	D	C	n	h	D ₁	L	HI-PVC	PP	PVDF	H	
1/2	15	0.79	3.50	2.38	4	0.62	3.39	5.51	0.59	0.59	0.59	3.43	
3/4	20	0.79	3.88	2.75	4	0.62	3.39	5.51	0.59	0.59	0.59	3.43	
1	25	0.98	4.25	3.12	4	0.62	5.12	6.30	0.63	0.63	0.63	4.61	
1 1/4	32	-	-	-	-	-	-	-	-	-	-	-	
1 1/2	40	1.57	5.00	3.88	4	0.62	5.71	7.09	0.71	0.67	0.71	5.32	
2	50	1.97	6.00	4.75	4	0.75	7.09	7.87	0.79	0.79	0.83	6.34	
2 1/2	65	2.56	7.00	5.50	4	0.75	7.87	9.45	0.87	0.87	0.91	6.50	
3	80	3.15	7.50	6.00	4	0.75	8.07	10.24	0.87	0.87	0.91	6.62	
4	100	3.94	9.00	7.50	8	0.75	10.43	11.81	0.94	0.94	1.02	8.27	
5	125	4.92	10.00	8.50	8	0.88	12.99	13.78	0.94	0.98	1.02	9.65	
6	150	5.91	11.00	9.50	8	0.88	14.57	15.75	0.98	1.02	1.06	11.03	
8	200	7.87	13.50	11.75	8	0.88	16.73	19.69	1.18	1.22	1.30	13.11	

*Important: The swing check valve can be used in both vertical and horizontal pipelines. However, when installing the valve, be sure to make the direction of the arrow embossed on the valve agree with that of flow.
 *Swing check valves 15mm(1/2inch) and 30mm(1 1/4inch) mm in nominal size are made out of those in 20mm(3/4inch) and 40mm(1 1/2inch) in nominal size, respectively.
 Note : For pressure limits by fluid temperature ranges and materials, see "WORKING PRESSURE VS. TEMPERATURE" in this catalog.

WAFFER CHECK VALVE 100mm - 300mm(4inch - 12inch)



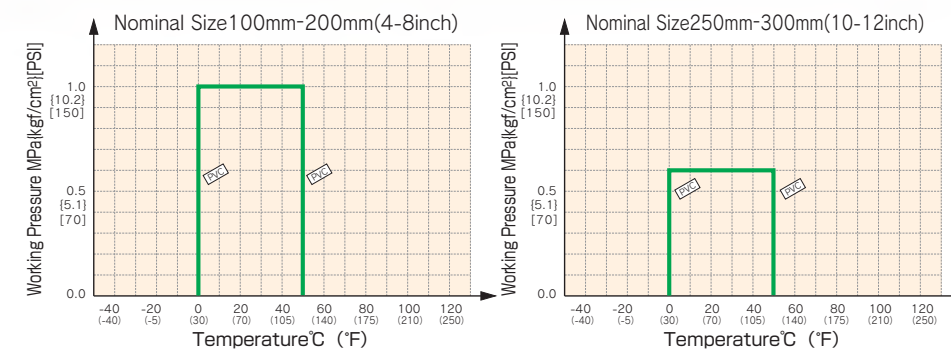
FEATURES

To Solve various problems by existing stainless steel or plastic check valves. Slim profile permits easy installation. (Wafer style fits between 2-mating flanges.) Horizontal or vertical valve installation. (The space ring not required.) No bolt pattern permits installation using DIN, ANSI and JIS mating flanges. No pipe interference with disc and no external shaft.

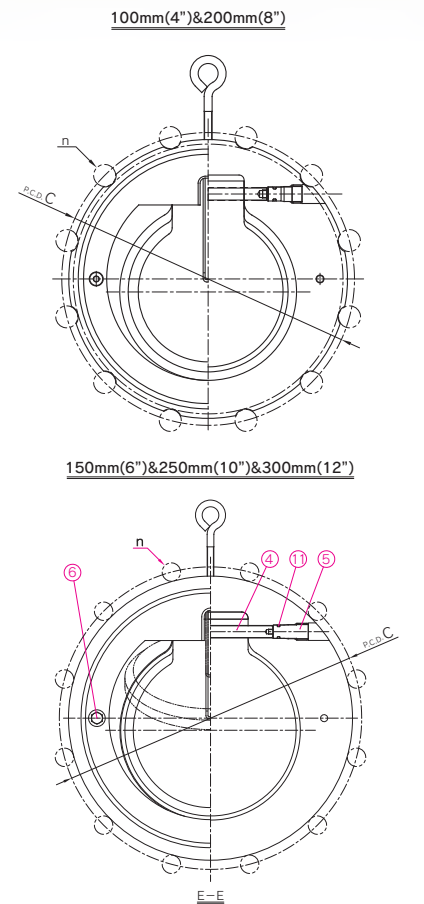
SPECIFICATIONS

Body material	Unplasticized Polyvinyl Chloride (PVC)
Nominal Size	100mm(4 inch) - 300mm(12 inch)
Working Temperature	PVC:0°C - 50°C (30°F - 120°F)
Max. Working Pressure	100mm(4 inch) - 300mm(12 inch)

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	REMARKS	
①	BODY	1	PVC		
②	DISC	1			
③	STOPPER	1			
④	SHAFT	1			
⑤	SHAFT PLUG	1			
⑥	BOLT	2	CHROMZED STEEL (SS400)	Unichrome	
⑦	I BOLT	1			
⑧	SPRING	1	SWP-B	ETFE Coating	
⑨	O-RING (A)	3	EPDM		
⑩	O-RING (B)	1		FKM	
⑪	O-RING (C)	1			

Note : *No8 Spring is an option, not standard.

DIMENSIONS TABLE

JIS		Unit:mm						
Nominal Size		JIS 10K		d	D	L	ℓ	
mm	inch	C	n	d	D	L	ℓ	
100	4	175	8	52	175	70	31.6	
150	6	240	8	92	220	82	59.7	
200	8	290	12	132	279	101	86.7	
250	10	355	12	177	333	114	120.5	
300	12	400	16	217	378	115	155.5	

DIN		Unit:mm						
Nominal Size		DIN PN10		d	D	L	ℓ	
mm	inch	C	n	d	D	L	ℓ	
100	4	180	8	52	175	70	31.6	
150	6	240	8	92	220	82	59.7	
200	8	295	8	132	279	101	86.7	
250	10	350	12	177	330	114	120.5	
300	12	400	12	217	380	115	155.5	

ANSI		Unit:inch						
Nominal Size		ANSI Class 150		d	D	L	ℓ	
mm	inch	C	n	d	D	L	ℓ	
100	4	7.50	8	2.05	6.89	2.76	1.24	
150	6	9.51	8	3.62	8.74	3.23	2.35	
200	8	11.75	8	5.20	10.98	3.98	3.41	
250	10	14.25	12	6.97	13.39	4.49	4.74	
300	12	17.01	16	8.54	12.99	4.53	6.12	

MINIMUM SEAL PERFORMANCE					
Unit: kPa {gf/cm ² } [PSI]					
Nominal Size	Vertical Piping	Horizontal Piping		Shut the Disc	Open the Disc
		Shut the Disc	Open the Disc		
Standard	100-300	4-12	7.0 [70.0] [1.0]	0.7 [7.0] [0.1]	7.0 [70.0] [1.0] 0.07 [0.7] [0.01]
Spring Type	100-300	4-12	7.0 [70.0] [1.0]	1.4 [14.0] [0.2]	7.0 [70.0] [1.0] 0.07 [0.7] [0.01]

Note: Data mentioned in the table above is reference only.

BALL CHECK AND BALL FOOT VALVE 15mm - 100mm(1/2inch - 4inch)

● SINGLE UNION BALL CHECK VALVE



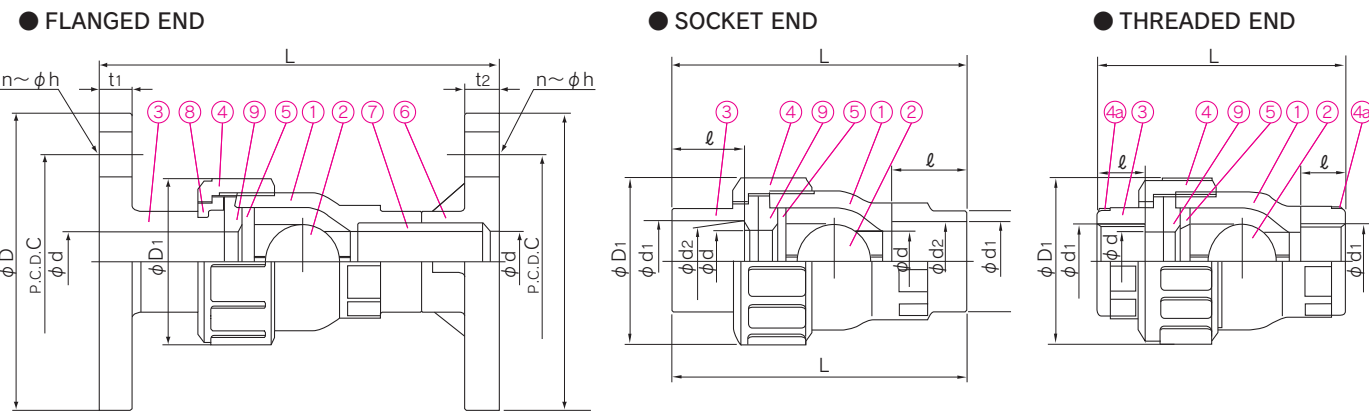
FEATURES

- Backflow Prevention**
The valves prevent backflow in horizontal or vertical lines. They require minimal back pressure to seat completely.
- Compact and Light**
The BALL CHECK and BALL FOOT VALVES are so compact and light that they can be installed in a limited space. They are also easy to maintain, because of minimal internal parts.
- NSF Product**
NSF("NSF/ANSI STANDARD 61" Drinking Water System Components-Health Effects)Product.
:Ball CHECK VALVE (Material:PVC+EPDM,FKM)
*Certified products bear an NSF Certification Mark.

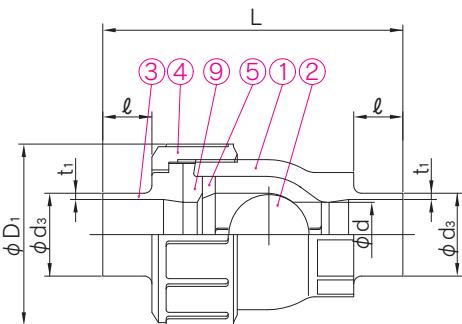
SPECIFICATIONS

Body material	Unplasticized Polyvinyl Chloride(PVC), Chlorinated Polyvinyl Chloride(C-PVC) Polyvinylidene Fluoride(PVDF), Polypropylene(PP)
End Connectors	Socket End, Threaded End, Flanged End, Spigot End ※PVDF Flanged End and PP Flanged End are not available.
Nominal Size	15mm(1/2inch) - 100mm(4inch)
Working Temperature	PVC:0°C - 50°C(30°F - 120°F) C-PVC:0°C - 90°C(30°F - 195°F) PVDF : -20°C - 100°C(-5°F - 210°F) PP: -20°C - 80°C(-5°F - 175°F)
Max. Working Pressure	1.0MPa[10.2kgf/cm ²][150PSI](at R.T).....15mm(1/2inch) - 50mm(2inch) 0.7MPa[7.1kgf/cm ²][100PSI](at R.T).....80mm(3inch) - 100mm(4inch)

DIMENSIONS



● SPIGOT END



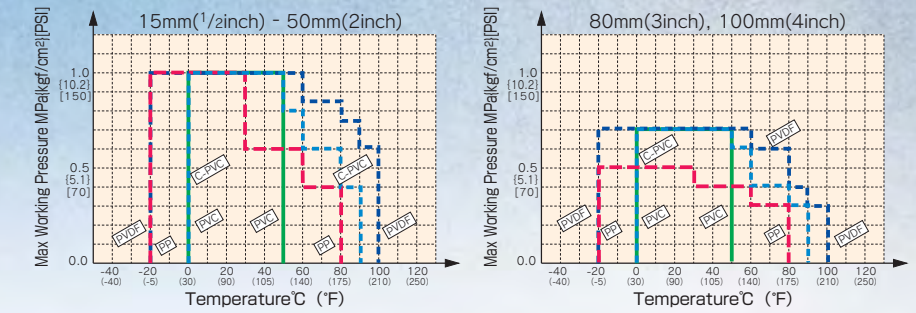
PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC, C-PVC, PP, PVDF
②	BALL	1	PVC, C-PVC, PP, PVDF
③	END CONNECTOR	1	PVC, C-PVC, PP, PVDF
④	UNION NUT	1	PVC, C-PVC, PP, PVDF
⑤	STOP RING(A)	1	PVC, C-PVC, PP, PVDF
⑥	TS FLANGE ²⁾	1	PVC, C-PVC
⑦	PIPE ²⁾	1	PVC, C-PVC
⑧	STOP RING(B) ²⁾	1	PVDF
⑨	SEAT	1	EPDM,FKM,Others
④	RING ¹⁾	1	STAINLESS STEEL304

Note :
1):used for C-PVC Body, threaded end 15mm(1/2inch) - 25mm(1inch)
2):used for Flanged End
3):DIN Flanged End is not available.

WORKING PRESSURE VS. TEMPERATURE

BALL CHECK VALVE



* By replacing some of its parts, the ball check valve can be switched to the ball foot valve, with a slight change in dimensions.

DIMENSIONS TABLE

Nominal Size		d	D ₁	Flanged End								Unit:mm		
mm	inch			JIS 5K				JIS 10K				L	t ₁	t ₂
				D	C	n	h	D	C	n	h	PVC,C-PVC		
15	1/2	15	48	80	60	4	12	95	70	4	15	131	12	14
20	3/4	20	60	85	65	4	12	100	75	4	15	156	14	15
25	1	25	70	95	75	4	12	125	90	4	19	169	14	15
40	1 1/2	40	96	120	95	4	15	140	105	4	19	214	16	16
50	2	51	106	130	105	4	15	155	120	4	19	244	16	20
80	3	78	152	180	145	4	19	185	150	8	19	310	18	22
100	4	100	210	200	165	8	19	210	175	8	19	397	18	22

Nominal Size		Socket End				Threaded End				Unit:mm			
mm	inch	PVC,C-PVC		PP		JIS B 0203		L		U-PVC,C-PVC	PP,PVDF		
		d ₁	ℓ	1/T	L	d ₁	d ₂	ℓ	L	d ₁	ℓ		
15	1/2	22.11	20	1/34	89	21.2	20.2	22	93	Rc 1/2	15	80	78
20	3/4	26.13	24	1/34	106	26.2	25.2	23	104	Rc 3/4	17	95	92
25	1	32.16	27	1/34	117	33.0	32.0	25	113	Rc 1	20	105	102
40	1 1/2	48.21	37	1/37	162	47.0	46.0	28	144	Rc 1 1/2	25	141	137
50	2	60.25	42	1/37	189	59.0	58.0	28	162	Rc 2	28	164	160
80	3	89.60	64	1/49	277	88.0	86.0	35	219	Rc 3	35	222	216
100	4	114.70	84	1/56	376	113.0	111.0	45	298	Rc 4	45	308	301

Nominal Size		d	D ₁	Socket End				Threaded End				Spigot End				Unit:mm					
mm	inch			PVC, C-PVC		PP,PVDF		DIN 2999				DIN 3442									
				DIN 8063	L	DIN 16962	L	d ₁	ℓ	L	d ₁	ℓ	U-PVC,C-PVC	PP,PVDF	d ₃	t ₁	PP	PVDF	ℓ	L	
15	1/2	15	48	20	16	81	19.50	19.30	14	78	Rp 1/2	15	80	78	20	2.5	1.9	19.0	100		
20	3/4	20	60	25	19	96	24.50	24.30	16	90	Rp 3/4	17	95	92	25	2.7	1.9	19.0	110		
25	1	25	70	32	22	107	31.50	31.30	18	99	Rp 1	20	105	102	32	3.0	2.4	19.0	116		
40	1 1/2	40	96	50	31	150	49.45	49.20	23	135	Rp 1 1/2	25	141	137	50	4.6	2.9	19.0	142		
50	2	51	106	63	38	181	62.50	62.10	27	160	Rp 2	28	164	160	63	5.8	3.0	19.0	157		
80	3	78	152	90	51	248	89.20	88.85	35	217	Rp 3	35	222	216	90	8.2	4.3	38.0	256		
100	4	100	210	110	61	330	109.05	108.65	41	291	Rp 4	45	308	301	110	10.0	5.3	44.5	333		

Nominal Size		d	D ₁	Flanged End				Socket End				Threaded End				Unit:inch						
inch	mm			ANSI Class 150		L	t ₁	t ₂	PVC, C-PVC		PVDF, PP		ANSI/ASME B 1.20.1		L							
				D	C	n	h	PVC	d ₁	d ₂	ℓ	L	d ₁	d ₂	ℓ	L	d ₁	ℓ	PVC	PP,PVDF		
1/2	15	0.59	1.89	3.50	2.38	4	0.63	5.16	0.47	0.55	0.848	0.836	0.688	3.35	0.825	-	0.874	3.82	1/2-14 NPT	0.59	3.15	3.07
3/4	20	0.79	2.36	3.86	2.75	4	0.63	6.14	0.55	0.59	1.058	1.046	0.719	3.74	1.030	-	1.000	4.41	3/4-14 NPT	0.67	3.74	3.62
1	25	0.98	2.76	4.25	3.12	4	0.63	6.65	0.55	0.59	1.325	1.310	0.875	4.33	1.300	-	1.126	4.88	1-11 1/2 NPT	0.79	4.13	4.02
1 1/2	40	1.57	3.78	5.00	3.88	4	0.63	8.43	0.63	0.63	1.912	1.894	1.094	5.71	1.890	-	1.374	5.79	1 1/2-11 1/2 NPT	0.98	5.55	5.39
2	50	2.01	4.17	5.98	4.75	4	0.75	9.61	0.63	0.79	2.387	2.369	1.156	6.50	2.360	-	1.500	6.89	2-11 1/2 NPT	1.10	6.46	6.30
3	80	3.07	5.98	7.52	6.00	4	0.75	12.20	0.71	0.87	3.516	3.492	1.875	9.57	3.480	-	1.874	9.57	3-8 NPT	1.38	8.74	8.50
4	100	3.94	8.27	9.02	7.50	8	0.75	15.63	0.71	0.87	4.518	4.491	2.000	12.20	4.480	-	2.252	12.68	4-8 NPT	1.77	12.13	11.85

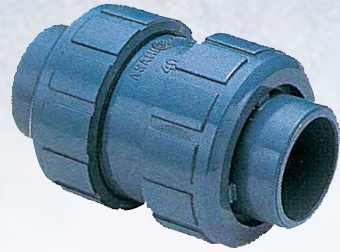
Note : The shape and appearance of the valve differ a little with nominal size compared to the drawing.

The measurement of the minimum pressure for opening & closing the valve with air or gas on Asahi Ball Check Valve.

Test Items		Vertical Piping				Horizontal Piping			
Nominal Size		Min. Air Pressure to open the valve		Min. Air Pressure to shut the Disc perfectly		Min. Air Pressure to open the valve		Min. Air Pressure to shut the Disc perfectly	
mm	inch								
15	1/2	0.005{0.05}	0.02 {0.2}	0.001{0.01}	0.02 {0.2}				
20	3/4	0.005{0.05}	0.03 {0.3}	0.001{0.01}	0.03 {0.3}				
25	1	0.005{0.05}	0.03 {0.3}	0.001{0.01}	0.03 {0.3}				
40	1 1/2	0.01 {0.1}	0.03 {0.3}	0.002{0.02}	0.03 {0.3}				
50	2	0.01 {0.1}	0.03 {0.3}	0.002{0.02}	0.03 {0.3}				
80	3	0.01 {0.1}	0.02 {0.2}	0.002{0.02}	0.02 {0.2}				
100	4	0.01 {0.1}	0.02 {0.2}	0.002{0.02}	0.02 {0.2}				

● TRUE UNION BALL CHECK VALVE

15mm(1/2inch) – 50mm(2inch)



FEATURES

The valve body can be removed from the pipe line by loosening the union nuts at its both ends.

● NSF Product

NSF("NSF/ANSI STANDARD 61" Drinking Water System Components-Health Effects)Product.

:TRUE UNION BALL CHECK VALVE (Material:PVC+EPDM,FKM)

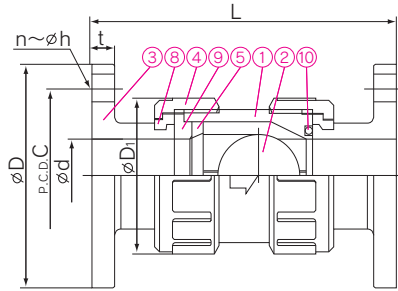
*Certified products bear an NSF Certification Mark.

SPECIFICATIONS

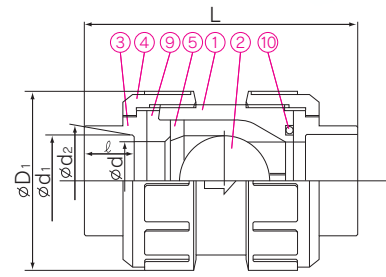
Body material	Unplasticized Polyvinyl Chloride(PVC), Chlorinated Polyvinyl Chloride(C-PVC) Polyvinylidene Fluoride(PVDF)
End Connectors	Socket End, Threaded End, Flanged End, Spigot End
Nominal Size	15mm(1/2inch) – 50mm(2inch)

DIMENSIONS

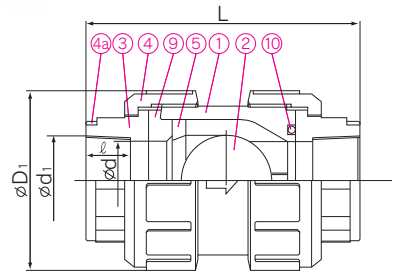
● FLANGED END



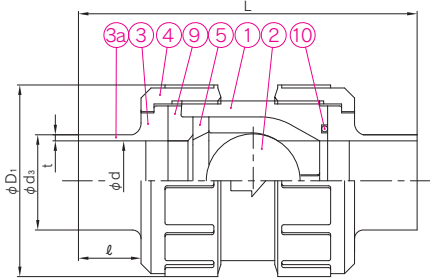
● SOCKET END



● THREADED END



● SPIGOT END



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC,C-PVC,PP,PVDF
②	BALL	1	PVC,C-PVC,PP,PVDF
③	END CONNECTOR	2	PVC,C-PVC,PP,PVDF
④	UNION NUT	2	PVC,C-PVC,PP,PVDF
⑤	STOP RING(A)	1	PVC,C-PVC,PP,PVDF
⑧	STOP RING(B) 2)	2	PVDF
⑨	SEAT	1	EPDM,FKM,Others
⑩	O-RING	1	EPDM,FKM,Others
④④	RING 1)	2	STAINLESS STEEL304

Note : 1):used for C-PVC body. threaded end 15mm(1/2inch) - 25mm(1inch)
2):used for flanged end

DIMENSIONS TABLE

DIN Unit:mm

Nominal Size	d	D1	Flanged End				Socket End				Spigot End				Threaded End																
			DIN PN10		L		PVC, C-PVC		PVDF,PP		PVC		PP		PVDF		DIN 2999 L														
mm	inch		D	C	n	h	PVC C-PVC	PP	t	d1	l	d2	l	d3	t	l	L	t	l	L	d1	l	PVC C-PVC	PP	PVDF						
15	1/2	15	48	95	65	4	14	130	128	12	20	16	84	19.50	19.30	14	79	20	2.5	16	113	2.5	19	102	1.9	19	102	Rp 1/2	15	86	83
20	3/4	20	60	105	75	4	14	155	154	14	25	19	100	24.50	24.30	16	93	25	2.5	18.5	127	2.7	19	110	1.9	19	110	Rp 3/4	17	103	98
25	1	25	70	115	85	4	14	165	163	14	32	22	113	31.50	31.30	18	103	32	3.5	22	132	3	19	118	2.4	19	118	Rp 1	20	113	109
40	1 1/2	40	96	150	110	4	18	192	190	16	50	31	158	49.45	49.20	23	141	50	5	31	174	4.6	19	145	2.9	19	145	Rp 1 1/2	25	151	147
50	2	50	106	165	125	4	18	214	211	16	63	38	190	62.50	62.10	27	167	63	6.5	37.5	204	5.8	19	164	3	19	164	Rp 2	28	177	171

ANSI Unit:inch

Nominal Size	d	D1	Flanged End				Socket End(IPS)				Threaded End											
			ANSI Class 150		L		PVC, C-PVC		PVDF, PP		ANSI/ASME B1.20.1 L											
inch	mm		D	C	n	h	PVC C-PVC	PP	t1	ASTM SCH40		d1	l	L	d1	l	PVC C-PVC	PP	PVDF			
1/2	15	0.59	1.89	3.50	2.38	4	0.62	5.12	5.04	0.47	0.848	0.836	0.688	3.43	0.831	-	0.630	3.23	1/2-14 NPT	0.59	3.39	3.27
3/4	20	0.79	2.36	3.88	2.75	4	0.62	6.10	6.06	0.55	1.058	1.046	0.719	3.86	1.041	-	1.000	4.37	3/4-14 NPT	0.67	4.06	3.86
1	25	0.98	2.76	4.25	3.12	4	0.62	6.50	6.42	0.55	1.325	1.310	0.875	4.37	1.305	-	0.827	4.29	1-11 1/2 NPT	0.79	4.45	4.29
1 1/2	40	1.57	3.78	5.00	3.88	4	0.62	7.56	7.48	0.63	1.912	1.894	1.094	5.94	1.889	-	1.260	6.22	1 1/2-11 1/2 NPT	0.98	5.94	5.79
2	50	2.01	4.17	6.00	4.75	4	0.75	8.43	8.31	0.63	2.387	2.369	1.156	6.77	2.364	-	1.260	6.93	2-11 1/2 NPT	1.10	6.97	6.73

● BALL FOOT VALVE



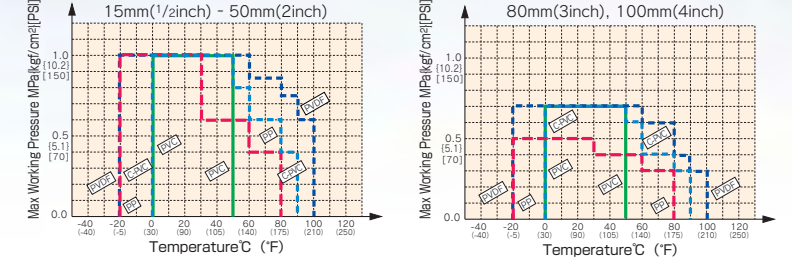
SPECIFICATIONS

Body material	Unplasticized Polyvinyl Chloride(PVC), Chlorinated Polyvinyl Chloride(C-PVC) Polyvinylidene Fluoride(PVDF),Polypropylene(PP)
End Connectors	Socket End, Threaded End, Flanged End
Nominal Size	15 mm(1/2inch) - 100 mm(4inch)
Working Temperature	PVC:0°C - 50°C(30°F - 120°F) C-PVC:0°C - 90°C(30°F - 195°F) PVDF:-20°C - 100°C(-5°F - 210°F) PP:-20°C - 80°C(-5°F - 175°F)
Max. Working Pressure	1.0MPa{10.2kgf/cm²}[150PSI](at R.T.).....15mm(1/2inch) - 50mm(2inch) 0.7MPa{7.1kgf/cm²}[100PSI](at R.T.).....80mm(3inch) - 100mm(4inch)

R.T.:Room Temperature

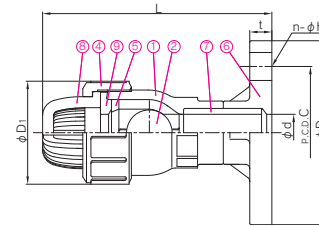
WORKING PRESSURE VS. TEMPERATURE

BALL FOOT VALVE

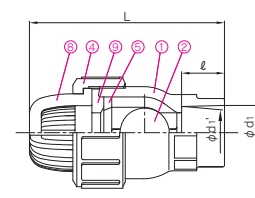


DIMENSIONS

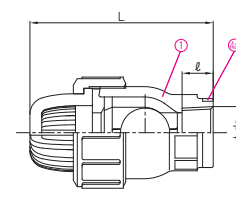
FLANGED END



SOCKET END



THREADED END



PARTS & MATERIALS

No.	DESCRIPTION	QTY.	MATERIAL
①	BODY	1	PVC,C-PVC,PP,PVDF
②	BALL	1	PVC,C-PVC,PP,PVDF
④	UNION NUT	1	PVC,C-PVC,PP,PVDF
⑤	STOP RING(A)	1	PVC,C-PVC,PP,PVDF
⑥	FLANGE 2)	1	PVC,C-PVC
⑦	PIPE 2)	1	PVC,C-PVC
⑧	SCREEN	1	PVC,C-PVC,PP,PVDF
⑨	SEAT	1	EPDM,FKM,Others
④④	RING 1)	1	STAINLESS STEEL (SUS304)

Note :

1):Used for C-PVC body, threaded end 15mm(1/2inch) - 25mm(1inch)
2):Used for Flanged End

DIMENSIONS TABLE

JIS Unit:mm

Nominal Size	D1	Flanged End				Socket End				Threaded End															
		JIS 5K		JIS 10K		PVC,C-PVC		PP		L															
mm	inch	D	C	n	h	D	C	n	h	PVC C-PVC	d	t	d1	l	1/T	L	d1	d2	l	L	d1	l	PVC C-PVC	PVDF	PP
15	1/2	48	80	60	4	12	95	70	4	15	130	18	14	22.11	20	1/34	95	21.2	20.2	22	97	Rc 1/2	15	90	88
20	3/4	60	85	65	4	12	100	75	4	15	150	22	15	26.13	24	1/34	110	26.2	25.2	23	108	Rc 3/4	17	103	101
25	1	70	95	75	4	12	125	90	4	19	167	25	15	32.16	27	1/34	121	33.0	32.0	25	118	Rc 1	20	114	111
40	1 1/2	96	120	95	4	15	140	105	4	19	246	41	16	48.21	37	1/37	184	47.0	46.0	28	174	Rc 1 1/2	25	172	169
50	2	106	130	105	4	15	155	120	4	19	274	52	20	60.25	42	1/37	203	59.0	58.0	28	188	Rc 2	28	189	185
80	3	152	180	145	4	19	185	150	8	19	396	78	22	89.60	64	1/49	324	88.0	86.0	35	293	Rc 3	35	294	289
100	4	210	200	165	8	19	210	175	8	19	506	100	22	114.70	84	1/56	413	113.0	111.0	45	372	Rc 4	45	374	367

DIN Unit:mm

Nominal Size	D1	Socket End				Threaded End							
		PVC, C-PVC		PP, PVDF		L							
mm	inch	d1	l	L	d1	d1'	l	L	d2	l	PVC C-PVC	PVDF	PP
15	1/2	48	20	16	91	19.50	19.30	14.5	89	Rp 1/2	15	90	88
20	3/4	60	25	19	105	24.50	24.30	16	101	Rp 3/4	17	103	101
25	1	70	32	22	116	31.50	31.30	18	111	Rp 1	20	114	111
40	1 1/2	96	50	31	178	49.45	49.20	23.5	169	Rp 1 1/2	25	172	169
50	2	106	63	38	199	62.50	62.10	27.5	187	Rp 2	28	189	184
80	3	152	90	51	310	89.20	88.85	35.5	293	Rp 3	35	294	288
100	4	210	110	61	390	109.05	108.65	41.5	368	Rp 4	45	374	366

ANSI Unit:mm

Nominal Size	d	D1	Flanged End				Socket End				Threaded End						
			PVC, C-PVC		PP, PVDF		ANSI/ASME B1.20.1			L							
inch	mm		D	C	n	h	PVC C-PVC	t	d1	d1'	l	L	d2	l	PVC C-PVC	PVDF	PP
1/2	15	0.71	1.89	3.50	2.38	4	0.62	5.55	0.47	0.848	0.836	0.69	3.74	1/2-14 NPT	0.59	3.54	3.46
3/4	20	0.87	2.36	3.86	2.76	4	0.62	6.42	0.51	1.058	1.046	0.72	4.17	3/4-14 NPT	0.67	4.06	3.98
1	25	0.98	2.76	4.25	3.13	4	0.62	6.73	0.59	1.325	1.310	0.87	4.76	1-11 1/2 NPT	0.79	4.49	4.37
1 1/2	40	1.61	3.78	5.00	3.88	4	0.62	9.80	0.63	1.912	1.894	1.09	6.97	1 1/2-11 1/2 NPT	0.98	6.77	6.65
2	50	2.05	4.17	5.98	4.74	4	0.75	10.91	0.79	2.387	2.369	1.16	7.60	2-11 1/2 NPT	1.10	7.44	7.24
3	80	3.07	5.98	7.52	6.00	4	0.75	16.10	0.87	3.516	3.492	1.87	12.09	3-8 NPT	1.38	11.57	11.34
4	100	3.94	8.27	9.02	7.50	8	0.75	20.41	0.87	4.518	4.491	2.00	14.96	4-8 NPT	1.77	14.72	14.41

STOP VALVE (GLOBE VALVE) 15mm - 100mm(1/2inch - 4inch)

FEATURES

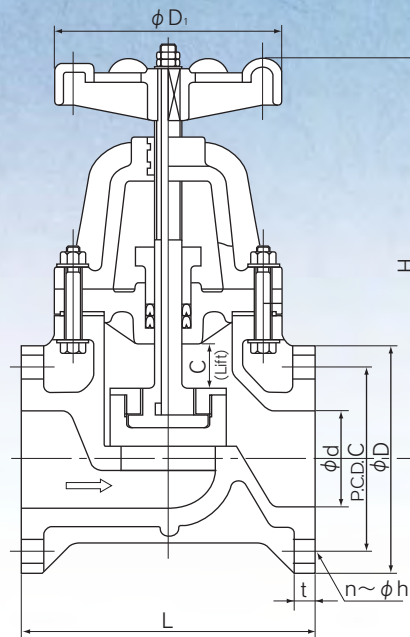
- The STOP VALVE is compact and economical.
- Used for efficient throttling of flow.
- Positive shut-off.
- Displays excellent flow regulating characteristics throughout the entire lift of the disc.

SPECIFICATIONS

Body material	Unplasticized Polyvinyl Chloride(PVC) Polypropylene(PP)
End Connectors	Socket End : 15mm(1/2inch) - 25mm(1inch) Threaded End : 15mm(1/2inch) - 50mm(2inch) Flanged End : 15mm(1/2inch) - 100mm(4inch)
Working Temperature	PVC: 0°C - 50°C (30°F - 120°F) PP: -20°C - 80°C (-5°F - 175°F)
Max. Working Pressure	1.0MPa{10.2kgf/cm ² }[150PSI] (at R.T.).....15mm(1/2inch) - 50mm(2inch) 0.7MPa{7.1kgf/cm ² }[100PSI] (at R.T.).....65mm(2 1/2inch) - 100mm(4inch)



● FLANGED END



DIMENSIONS TABLE

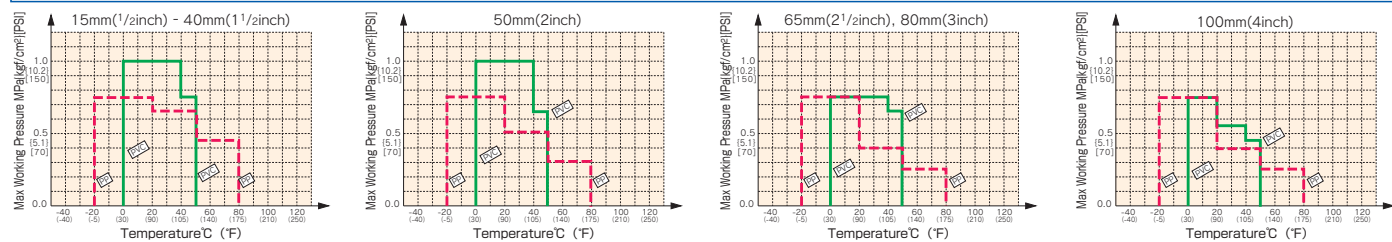
Nominal Size		JIS 10K				L	t	Lift C	H		D ₁	Working Press. at R.T. MPa[kgf/cm ²][PSI]		
mm	inch	D	C	n	h			Shut	Open		PVC	PP		
15	1/2	18	95	70	4	15	85	12	8	124	132	66	1.0{10.2}[150]	0.75{7.7}[110]
20	3/4	24	100	75	4	15	95	14	8	132	140	66	1.0{10.2}[150]	0.75{7.7}[110]
25	1	28	125	90	4	19	110	14	11	150	161	91	1.0{10.2}[150]	0.75{7.7}[110]
32	1 1/4	37	135	100	4	19	135	16	13	154	167	91	1.0{10.2}[150]	0.75{7.7}[110]
40	1 1/2	41	140	105	4	19	190	16	20	210	230	135	1.0{10.2}[150]	0.75{7.7}[110]
50	2	52	155	120	4	19	200	16	24	228	252	135	1.0{10.2}[150]	0.75{7.7}[110]
65	2 1/2	67	175	140	4	19	220	18	35	310	345	185	0.75{7.7}[110]	0.75{7.7}[110]
80	3	78	185	150	8	19	240	18	35	324	359	185	0.75{7.7}[110]	0.75{7.7}[110]
100	4	100	210	175	8	19	290	18	40	379	419	185	0.75{7.7}[110]	0.75{7.7}[110]

Nominal Size		DIN PN10				L	t	Lift C	H		D ₁	Working Press. at R.T. MPa[kgf/cm ²][PSI]		
mm	inch	D	C	n	h			Shut	Open		PVC	PP		
15	1/2	18	95	65	4	14	85	12	8	124	132	66	1.0{10.2}[150]	0.75{7.7}[110]
20	3/4	24	105	75	4	14	95	14	8	132	140	66	1.0{10.2}[150]	0.75{7.7}[110]
25	1	28	115	85	4	14	110	14	11	150	161	91	1.0{10.2}[150]	0.75{7.7}[110]
32	1 1/4	37	140	100	4	18	135	16	13	154	167	91	1.0{10.2}[150]	-
40	1 1/2	41	150	110	4	18	190	16	20	210	230	135	1.0{10.2}[150]	0.75{7.7}[110]
50	2	52	165	125	4	18	200	16	24	228	252	135	1.0{10.2}[150]	0.75{7.7}[110]
65	2 1/2	67	185	145	4	18	220	18	35	310	345	185	0.75{7.7}[110]	0.75{7.7}[110]
80	3	78	200	160	8	18	240	18	35	324	359	185	0.75{7.7}[110]	0.75{7.7}[110]
100	4	100	220	180	8	18	290	18	40	379	419	185	0.75{7.7}[110]	0.75{7.7}[110]

Nominal Size		ANSI CLASS 150				L	t	Lift C	H		D ₁	Working Press. at R.T. MPa[kgf/cm ²][PSI]		
inch	mm	D	C	n	h			Shut	Open		PVC	PP		
1/2	15	0.71	3.50	2.38	4	0.63	3.35	0.47	0.32	4.88	5.20	2.60	1.0{10.2}[150]	0.75{7.7}[110]
3/4	20	0.94	3.86	2.76	4	0.63	3.74	0.55	0.32	5.20	5.51	2.60	1.0{10.2}[150]	0.75{7.7}[110]
1	25	1.10	4.25	3.13	4	0.63	4.33	0.55	0.43	5.91	6.34	3.58	1.0{10.2}[150]	0.75{7.7}[110]
1 1/4	32	1.46	4.61	3.50	4	0.63	5.31	0.63	0.51	6.06	6.57	3.58	1.0{10.2}[150]	-
1 1/2	40	1.61	5.00	3.88	4	0.63	7.48	0.63	0.79	8.27	9.06	5.31	1.0{10.2}[150]	0.75{7.7}[110]
2	50	2.05	5.98	4.74	4	0.75	7.87	0.63	0.95	8.98	9.92	5.31	1.0{10.2}[150]	0.75{7.7}[110]
2 1/2	65	2.64	7.01	5.49	4	0.75	8.66	0.71	1.38	12.20	13.58	7.28	0.75{7.7}[110]	0.75{7.7}[110]
3	80	3.07	7.52	6.00	4	0.75	9.45	0.71	1.38	12.75	14.13	7.28	0.75{7.7}[110]	0.75{7.7}[110]
4	100	3.94	9.02	7.50	8	0.75	11.42	0.71	1.57	14.92	16.50	7.28	0.75{7.7}[110]	0.75{7.7}[110]

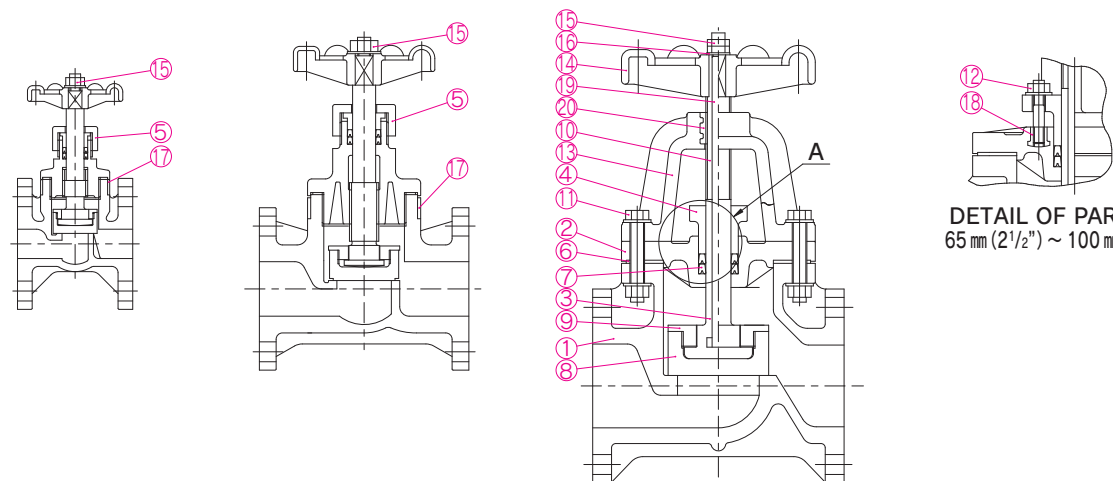
WORKING PRESSURE VS. TEMPERATURE

STOP VALVE



DIMENSIONS

- 15mm (1/2inch) - 30mm (1 1/4inch)
- 40mm (1 1/2inch) - 50mm (2inch)
- 65mm (2 1/2inch) - 100mm (4inch)



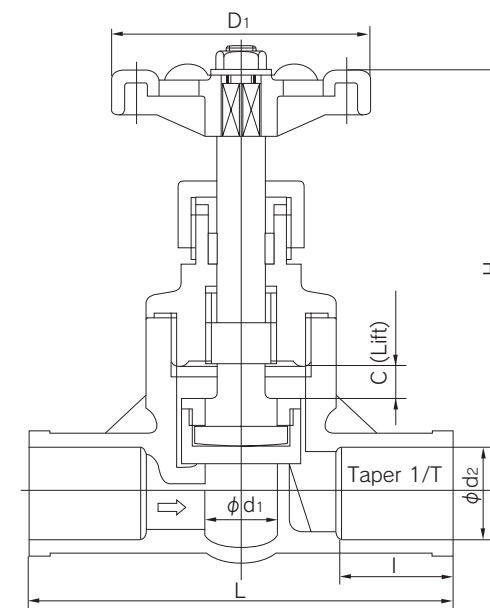
DETAIL OF PART A
65 mm (2 1/2") ~ 100 mm (4")

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC, PP	⑪	BOLT · NUT	4	STAINLESS STEEL 304 65mm(2 1/2inch) and over
②	BONNET	1	PVC, PP	⑫	STUD BOLT · NUT	2	STAINLESS STEEL 304 65mm(2 1/2inch) and over
③	STEM	1	PVC, PP	⑬	SUPPORT OF STEM	1	PP 65mm(2 1/2inch) and over
④	GLAND	1	PVC, PP	⑭	HAND WHEEL	1	PP
⑤	GLAND NUT	1	PVC, PP Up to 50mm(2inch)	⑮	NUT(A)	1	PVC Up to 50mm(2inch)
⑥	SHEET GASKET	1	EPDM, Others	⑯	WASHER	1	STAINLESS STEEL 304 65mm(2 1/2inch) and over
⑦	GLAND PACKING	2	EPDM, Others	⑰	RING FOR REINFORCING*	1	STAINLESS STEEL PP Body 15mm(1/2inch)~50mm(2inch)
⑧	DISC	1	PP	⑱	INSERTED NUT	1	COPPER ALLOY(C3604) 65mm(2 1/2inch) and over
⑨	STEM HOLDER	1	PP	⑲	INSERTED METAL OF STEM	1	STEEL (SS400) 65mm(2 1/2inch) and over
⑩	STEM WITH TRAPEZOID SCREW	1	COPPER ALLOY(C3604) 65mm(2 1/2inch) and over	⑳	INSERTED METAL	1	BRONZE (BC6) 65mm(2 1/2inch) and over

*When the body is made of PP, it uses an Stainless Steel 304 reinforcing ring.

● SOCKET END



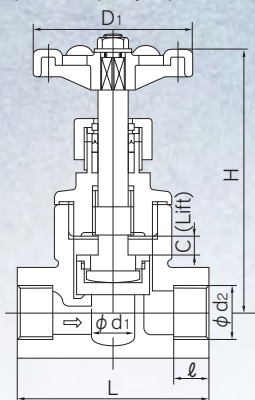
DIMENSIONS TABLE

Nominal Size		d ₂	d ₁	ℓ	L	Taper 1/T	Lift C	H		Working Press. at R.T. MPa[kgf/cm ²][PSI]
mm	inch							Shut	Open	PVC
15	1/2	22.4 ± 0.2	15	30	110	1/34	8	124	132	1.0{10.2}[150]
20	3/4	26.45 ± 0.2	18	35	130	1/34	8	132	140	1.0{10.2}[150]
25	1	32.55 ± 0.25	25	40	150	1/34	11	150	161	1.0{10.2}[150]

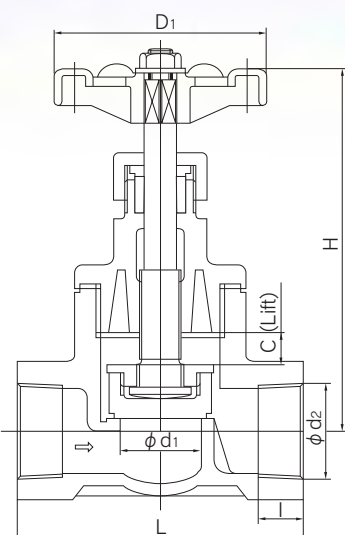
Nominal Size		d ₂	d ₁	ℓ	L	Lift C	H		Working Press. at R.T. MPa[kgf/cm ²][PSI]
mm	inch						Shut	Open	PVC
15	1/2	20	15	16	82	8	124	132	1.0{10.2}[150]
20	3/4	25	18	19	98	8	132	140	1.0{10.2}[150]
25	1	32	25	22	114	11	150	161	1.0{10.2}[150]

Nominal Size		d ₂	d ₁	ℓ	L	Taper 1/T	Lift C	H		Working Press. at R.T. MPa[kgf/cm ²][PSI]
mm	inch							Shut	Open	PVC
15	1/2	0.848	0.59	1.18	4.33	1/34	0.32	4.88	5.20	1.0{10.2}[150]
20	3/4	1.058	0.71	1.38	5.12	1/34	0.32	5.20	5.51	1.0{10.2}[150]
25	1	1.325	0.98	1.58	5.91	1/34	0.43	5.91	6.34	1.0{10.2}[150]

● 15mm (1/2inch) - 30mm (1 1/4inch)



● 40mm (1 1/2inch) - 50mm (2inch)



DIMENSIONS TABLE (Threaded End)

JIS												Unit:mm	
Nominal Size	d ₂	d ₁	ℓ	L	Lift C	H		D ₁	Working Press. at R.T. MPa[kgf/cm ²][PSI]				
						Shut	Open		PVC	PP			
15	1/2	Rc 1/2	15	15	85	8	124	132	66	1.0{10.2}[150]	0.75{7.7}[110]		
20	3/4	Rc 3/4	18	18	95	8	132	140	66	1.0{10.2}[150]	0.75{7.7}[110]		
25	1	Rc 1	25	20	110	11	150	161	91	1.0{10.2}[150]	0.75{7.7}[110]		
32	1 1/4	Rc 1 1/4	35	25	135	13	154	167	91	1.0{10.2}[150]	-		
40	1 1/2	Rc 1 1/2	41	25	140	17	218	235	135	1.0{10.2}[150]	-		
50	2	Rc 2	52	27	180	22	237	259	135	1.0{10.2}[150]	-		

DIN												Unit:mm	
Nominal Size	d ₂	d ₁	ℓ	L	Lift C	H		D ₁	Working Press. at R.T. MPa[kgf/cm ²][PSI]				
						Shut	Open		PVC	PP			
15	1/2	Rp 1/2	15	15	85	8	124	132	66	1.0{10.2}[150]	0.75{7.7}[110]		
20	3/4	Rp 3/4	18	18	95	8	132	140	66	1.0{10.2}[150]	0.75{7.7}[110]		
25	1	Rp 1	25	20	110	11	150	161	91	1.0{10.2}[150]	0.75{7.7}[110]		
32	1 1/4	Rp 1 1/4	35	25	135	13	154	167	91	1.0{10.2}[150]	-		
40	1 1/2	Rp 1 1/2	41	25	140	17	218	235	135	1.0{10.2}[150]	-		
50	2	Rp 2	52	27	180	22	237	259	135	1.0{10.2}[150]	-		

ANSI												Unit:inch	
Nominal Size	d ₂	d ₁	ℓ	L	Lift C	H		D ₁	Working Press. at R.T. MPa[kgf/cm ²][PSI]				
						Shut	Open		PVC	PP			
1/2	15	NPT. 1/2	0.59	0.59	3.35	0.32	4.88	5.20	2.60	1.0{10.2}[150]	0.75{7.7}[110]		
3/4	20	NPT. 3/4	0.71	0.71	3.74	0.43	5.20	5.51	2.60	1.0{10.2}[150]	0.75{7.7}[110]		
1	25	NPT. 1	0.98	0.79	4.33	0.43	5.91	6.31	3.58	1.0{10.2}[150]	0.75{7.7}[110]		
1 1/4	32	NPT. 1 1/4	1.38	0.98	5.32	0.51	6.06	6.58	3.58	1.0{10.2}[150]	-		
1 1/2	40	NPT. 1 1/2	1.61	0.98	5.51	0.67	8.58	9.25	5.32	1.0{10.2}[150]	-		
2	50	NPT. 2	2.05	1.06	7.09	0.87	9.33	10.20	5.32	1.0{10.2}[150]	-		

GAUGE VALVE 20mm, 25mm (3/4inch, 1inch)

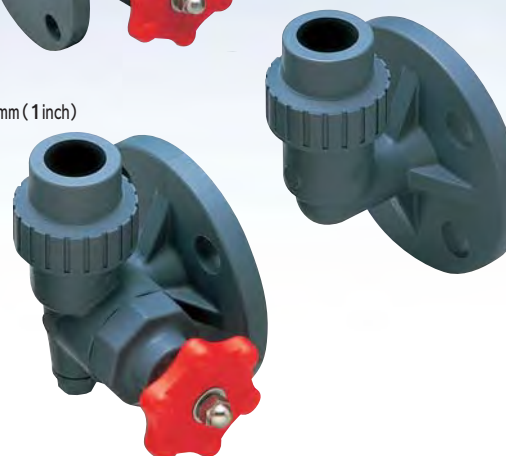
● 20mm (3/4inch)



Flanged Elbow

● 25mm (1inch)

● 25mm (1inch)



FEATURES

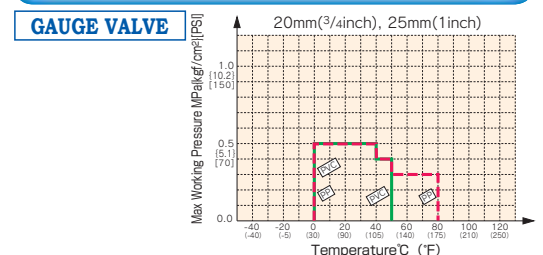
Backflow Prevention

- The contact surface is sealed with an anti-corrosive diaphragm.
- The gauge pipe can easily be installed by inserting the pipe and tightening the union nut.
- The GAUGE VALVE has a drain plug G¹/₄ in diameter which helps to maintain the valve (Sampling is possible by removing the plug).

SPECIFICATIONS

Unit:mm		
Nominal Size	20mm (3/4inch)	25mm (1inch)
Gauge Pipe Outer Size	18	26
Body material	Unplasticized Polyvinyl Chloride(PVC), Polypropylene (PP)	
Nominal Size	20mm(3/4inch) - 25mm(1inch)	
Working Temperature	PVC:0°C - 50°C(30°F - 120°F), PP : -20°C - 80°C(-5°F - 175°F)	
Max. Working Pressure	0.5MPa[5.1kgf/cm ²][70PSI]	

WORKING PRESSURE VS. TEMPERATURE



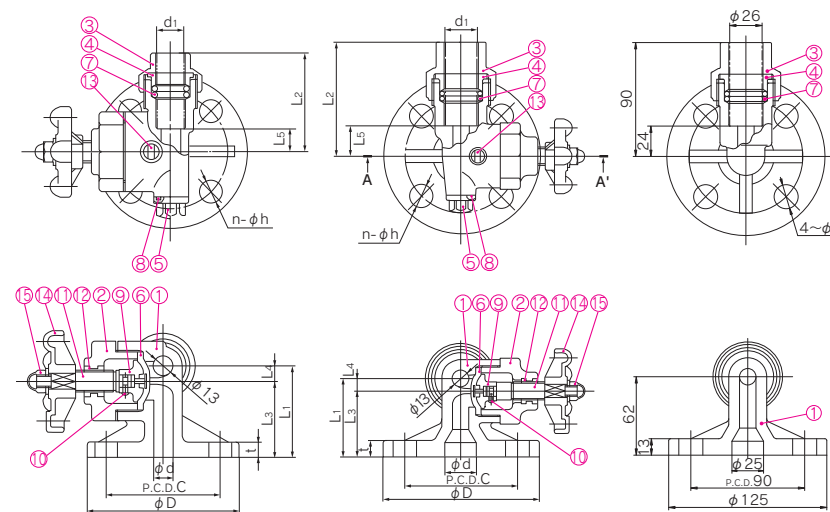
DIMENSIONS

● 20mm (3/4inch)

● 25mm (1inch)

Flanged Elbow

● 25mm (1inch)



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC, PP
②	BONNET	1	PVC, PP
③	GLAND NUT	1	PVC, PP
④	GLAND	1	PVC, PP
⑤	DRAIN PLUG	1	PVC, PP
⑥	DIAPHRAGM	1	EPDM, PTFE, Others
⑦	O-RING (A)	2	EPDM, PTFE, Others
⑧	O-RING (B)	1	EPDM, PTFE, Others
⑨	COMPRESSOR	1	PVDF
⑩	COMPRESSOR PIN	2	STAINLESS STEEL304
⑪	STEM	1	COPPER ALLOY(C3604)
⑫	INSERTED METAL OF BONNET	1	COPPER ALLOY(C3604)
⑬	INDICATION OF MATERIAL	1	PAPER
⑭	HAND WHEEL	1	PP
⑮	NUT	1	STAINLESS STEEL304

DIMENSIONS TABLE

JIS														Unit:mm	
Nominal Size		d	JIS 10K				L ₁	L ₂	L ₃	L ₄	L ₅	t	d ₁		
mm	inch		D	C	n	h									
20	3/4	13	100	75	4	15	60	64	50	10	15	10	18		
25	1	25	125	90	4	19	62	90	52	10	24	13	26		

DIN														Unit:mm	
Nominal Size		d	DIN PN 10				L ₁	L ₂	L ₃	L ₄	L ₅	t	d ₁		
mm	inch		D	C	n	h									
20	3/4	13	105	75	4	14	60	64	50	10	15	10	18		
25	1	25	115	85	4	14	62	90	52	10	24	13	26		

ANSI														Unit:inch	
Nominal Size		d	ANSI CLASS 150				L ₁	L ₂	L ₃	L ₄	L ₅	t	d ₁		
inch	mm		D	C	n	h									
3/4	20	0.51	3.88	2.75	4	0.62	2.36	2.52	1.97	0.39	0.59	0.39	0.71		
1	25	0.98	4.25	3.12	4	0.62	2.44	3.54	2.05	0.39	0.94	0.51	1.02		

GATE VALVE

FEATURES

Hand wheel Model



Rising Stem

Threaded Body

Stem Extension

High Corrosion and Impact-resistance

All wet sections are made of corrosion-resistant material, thus preventing corrosion and turbid water due to rust. The GATE VALVE, made of high impact polyvinyl chloride, can be used for water supply and drainage.

Light and Rugged Structure

Being made of synthetic resin, the ASAHI AV GATE VALVE is about 1/5 the weight of a cast iron gate valve. However, the ASAHI AV GATE VALVE gives the same torque strength as a cast iron gate valve, so it endures high torque.

Flexibility Covering Flow Variations

The gate valve is so flexible in covering many flow variations with tight shut-off.

Easy Maintenance

The stem sealed with an O-ring, prevents external leaks and is easy to replace.

NSF Product

NSF("NSF/ANSI STANDARD 61" Drinking Water System Components-Health Effects)Product.

:GATE VALVE TYPE P(Plug) (Material:PVC+EPDM,FKM)

*Certified products bear an NSF Certification Mark.

SPECIFICATIONS

Body material	Valve:High Impact Polyvinyl Chloride(HI-PVC)
Gate material	TYPE-P :32mm(1 1/4inch) to 350mm(14inch) ...PP TYPE-S :32mm(1 1/4inch) to 150mm(6inch)HI-PVC+SBR Soft seals:32mm(1 1/4inch), 125mm(5inch)C-PVC+SBR 65mm(2 1/2inch), 125mm(5inch)C-PVC+SBR
Nominal size	Popular series (Type P):40 to 350mm(1 1/2inch to 14inch) Resilient series(Type S):40 to 200mm(1 1/2inch to 8inch)
Working Temperature	-10°C - 50°C(15°F - 120°F)
Max. Working Pressure	40mm(1 1/2inch) - 200mm(8inch) 1.0Mpa{10.2kgf/cm ² } [150PSI] 250mm(10inch) 0.75Mpa{7.7kgf/cm ² } [110PSI] 300mm(12inch), 350mm(14inch) 0.5Mpa{5.1kgf/cm ² } [70PSI]
End Connectors	Flanged End Threaded Type(40mm,50mm)are available.
Mechanism	Round Handle, Cap (Square Nut), Stem Extension

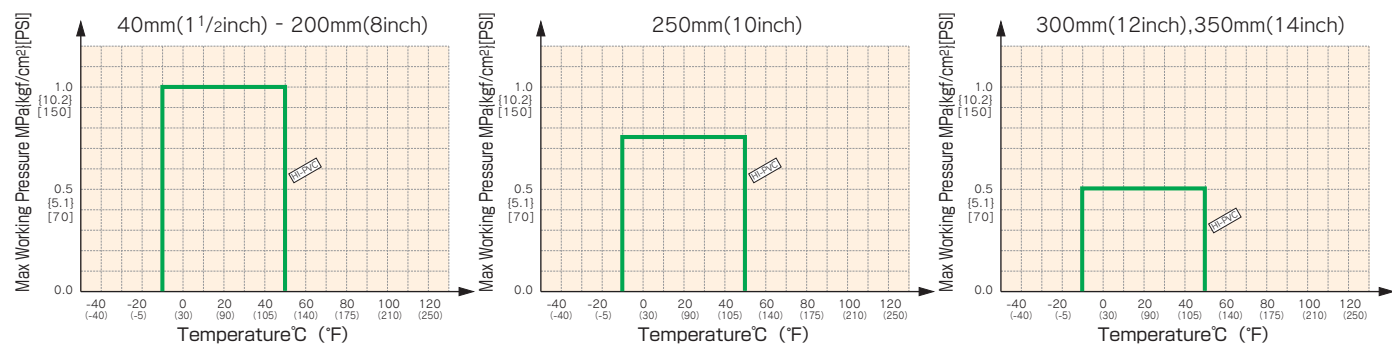
WORKING PRESSURE VS. TEMPERATURE

GATE VALVE

Gate Valve TypeP, Type S

Gate Valve TypeP, Type S

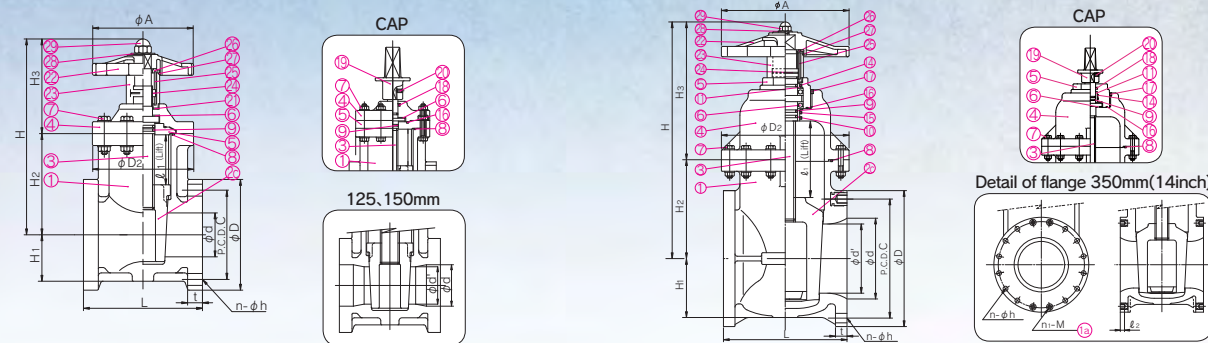
Gate Valve TypeP, Type S



GATE VALVE TYPE-P(Plug) 40mm - 350mm(1 1/2inch - 14inch)

● 40mm (1 1/2inch) - 150mm (6inch)

● 200mm (8inch) - 350mm (14inch)



Gate valves 125mm or more in nominal size have a reduced flow channel.

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	HI-PVC	⑨	O-RING(C)	2	EPDM, Others	23	INDICATING COVER	1	PC
1a	INSERTED METAL OF STEM	-	COPPER ALLOY(C3604)	10	BUSHING(A)	1	PP	24	INDICATING RING	1	PVC
②	GATE(A)	1	PP	11	BUSHING(B)	1	PP	25	GUIDE PIN	1	STAINLESS STEEL304
③	STEM	1	PVC	14	O-RING(E)	1	EPDM, Others	26	GUIDE PIN HOLDER	1	PVC
④	BONNET(A)	1	HI-PVC	15	O-RING(F)	1	EPDM, Others	27	O-RING(G)	1	EPDM
⑤	BONNET(B)	1	HI-PVC	16	O-RING(D)	1	EPDM, Others	28	WASHER	1	PVC
⑥	THRUST RING	1set	PP, SUJ2	17	SET SCREW(A)	1	STAINLESS STEEL304	29	BOX NUT	1	STAINLESS STEEL304
⑦	BOLT·NUT	-	STAINLESS STEEL304	21	PACKING	1	EPDM				
⑧	O-RING(B)	1	EPDM, Others	22	HAND WHEEL	1	PP				

DIMENSIONS TABLE

JIS Unit:mm

Nominal Size	d	d'	FLANGE END								THREAD END										
			JIS 10K								D ₂ ℓ ₁ H H ₁ H ₂ H ₃ A										
mm	inch	d	d'	D	C	n	h	n ₁	M	L	t	d ₂	ℓ	L	D ₂	ℓ ₁	H	H ₁	H ₂	H ₃	A
32	1 1/4	40	30	135	100	4	19	-	-	165	22	Rc1 1/4	22	115	120	49	239	50	107	132	120
40	1 1/2	40	40	140	105	4	19	-	-	165	22	Rc1 1/2	25	115	120	49	239	50	107	132	120
50	2	50	50	155	120	4	19	-	-	180	23	Rc2	28	130	130	60	270	58	134	136	130
65	2 1/2	65	-	175	140	4	19	-	-	190	24	-	-	-	155	75	302	68	152	150	155
80	3	75	-	185	150	8	19	-	-	200	25	-	-	-	170	85	325	77	170	155	170
100	4	100	-	210	175	8	19	-	-	230	27	-	-	-	195	110	370	89	207	163	195
125	5	125	110	250	210	8	23	-	-	260	27	-	-	-	235	117	407	89	227	180	235
150	6	150	130	280	240	8	23	-	-	270	28	-	-	-	270	138	445	102	263	182	270
200	8	196	168	330	290	10	23	2	M20	290	28	-	-	-	310	180	577	143	240	337	310
250	10	247	210	400	355	12	25	-	-	380	30	-	-	-	360	226	690	175	270	420	360
300	12	298	255	445	400	14	25	2	M22	400	31	-	-	-	410	273	800	195	320	480	410
350	14	348	297	490	445	12	25	4	M22	430	32	-	-	-	440	319	910	230	310	600	455

DIN Unit:mm

Nominal Size	d	d'	d' ₂	FLANGE END								THREAD END										
				DIN PN 10								D ₂ ℓ ₁ H H ₁ H ₂ H ₃ A										
mm	inch	d	d'	D	C	n	h	n ₁	M	L	t	d ₂	ℓ	L	D ₂	ℓ ₁	H	H ₁	H ₂	H ₃	A	
40	1 1/2	40	-	40	150	110	4	18	-	-	165	22	Rp1 1/2	25	115	120	49	239	50	107	132	120
50	2	50	-	50	165	125	4	18	-	-	180	23	Rp2	28	130	130	60	270	58	134	136	130
65	2 1/2	65	-	185	145	4	18	-	-	210	24	-	-	-	155	75	302	68	152	150	155	
80	3	75	-	200	160	8	18	-	-	240	25	-	-	-	170	85	325	77	170	155	170	
100	4	100	-	220	180	8	18	-	-	250	27	-	-	-	195	110	370	89	207	163	195	
125	5	125	110	250	210	8	18	-	-	260	27	-	-	-	235	117	407	89	227	180	235	
150	6	150	130	285	240	8	22	-	-	280	27	-	-	-	270	138	445	102	263	182	270	
200	8	196	168	340	295	6	22	2	M20	300	28	-	-	-	310	180	577	143	240	337	310	
250	10	247	210	395	350	12	22	-	-	380	30	-	-	-	360	226	690	175	270	420	360	
300	12	298	255	445	400	10	22	2	-	400	31	-	-	-	410	273	800	195	320	480	410	
350	14	348	297	505	460	12	22	4	-	430	32	-	-	-	440	319	910	230	310	600	455	

ANSI Unit:inch

Nominal Size	d	d'	d' ₂	FLANGE END								THREAD END									
				ANSI Class 150								D ₂ ℓ ₁ H H ₁ H ₂ H ₃ A									
inch	mm	d	d'	D	C	n	h	n ₁	M	L	t	d ₂	ℓ	L	D ₂	ℓ ₁	H	H ₁	H ₂	H ₃	A
1 1/2	40	1.57	1.57	5.00	3.88	4	0.62	-	-	6.50	0.87	1 1/2-1 1/2NPT	0.98	4.53	4.72	1.93	9.41	2.48	4.21	5.20	4.72
2	50	1.97	1.97	6.00	4.75	4	0.75	-	-	7.00	0.91	2-1 1/2NPT	1.10	5.12	5.12	2.36	10.63	2.80	5.28	5.35	5.12
2 1/2	65	2.56	-	7.00	5.50	4	0.75	-	-	7.50	0.94	-	-	-	6.10	2.95	11.89	3.19	5.98	5.91	6.10
3	80	2.95	-	7.00	6.00	4	0.75	-	-	8.00	0.98	-	-	-	6.69	3.35	12.80	3.54	6.69	6.10	6.69
4	100	3.94	-	9.00	7.50	8	0.75	-	-	9.00	1.06	-	-	-	7.68	4.33	14.57	4.02	8.15	6.42	7.68
5	125	4.92	4.33	10.00	8.50	8	0.88	-	-	10.24	1.06	-	-	-	9.25	4.61	16.02	4.17	8.94	7.09	9.25
6	150	5.91	5.12	11.00	9.50	8	0.88	-	-	10.50	1.06	-	-	-	10.63	5.43	17.52	4.69	10.35	7.17	10.63
8	200	7.72	6.61	13.50	11.75	6	0.88	2	W 3/4	11.50	1.30	-	-	-	12.2	7.09	22.72	6.3	9.45	13.27	12.2
10	250	9.78	8.27	16.00	14.25	12	1.00	-	-	14.96	1.18	-	-	-	14.17	8.9	27.17	7.56	10.63	16.54	14.17
12	300	11.73	10.04	19.00	17.00	10	1.00	2	W 7/8	15.75	1.22	-	-	-	16.14	10.75	31.5	8.35	12.6	18.9	16.14
14	350	13.70	11.69	21.00	18.75	8	1.12	4	W 1	16.93	1.26	-	-	-	17.32	12.56	35.83	9.72	12.21	23.62	17.91

GATE VALVE TYPE-S (Soft Seal) 50mm - 200mm(2inch - 8inch)

GATE VALVE TYPE-S (Soft Seal) 50mm - 200mm(2inch - 8inch)

Hand Wheel

FEATURES

- **Reliable Watertightness**
The rubber valve seat, a soft seal type, offers reliable shut-off.
- **Provides Smooth Flow**
Being free of cavities, the valve body has no sand or foreign matter build up in it, thus providing a smooth flow.
※ Threaded End Type (40mm, 50mm)are available.

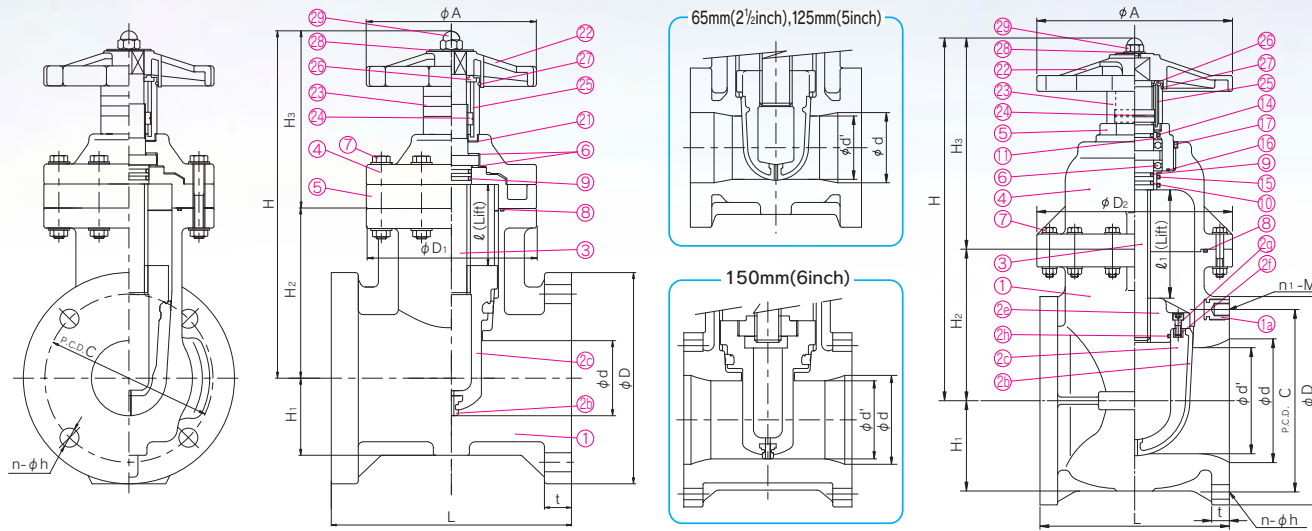
Cap(square Nut) Model

FEATURES

- **Built-in Stopper**
Feeling in the shut, position.
- **Reliable Watertightness**
The rubber valve seat, a soft seal type, offers reliable shut-off.
- **Provides Smooth Flow**
Being free of cavities, the valve body has no sand or foreign matter build up in it, thus providing a smooth flow.
※ Threaded End Type (40mm, 50mm)are available.

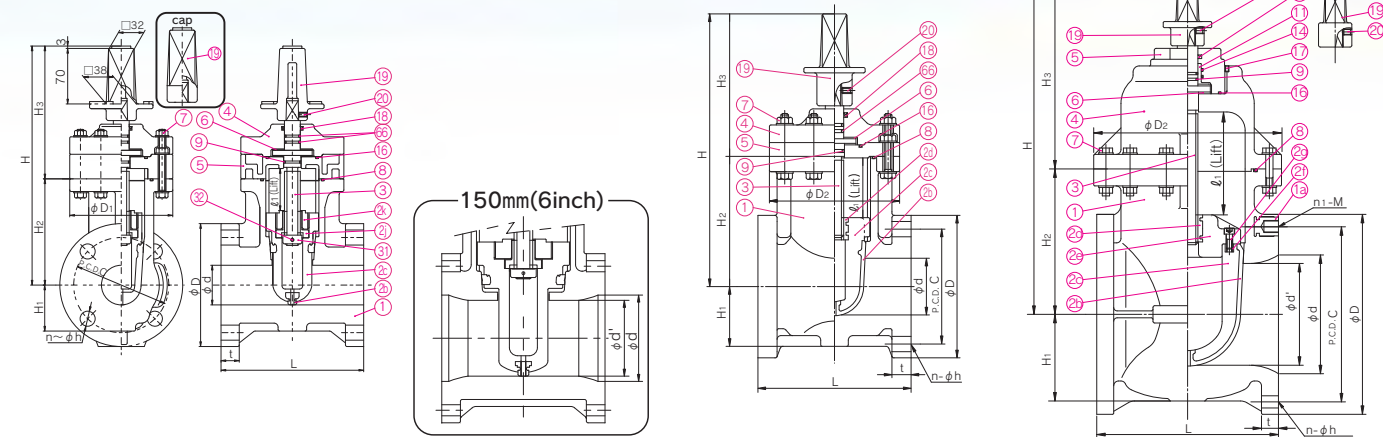
●50mm(2inch)~150mm(6inch) (STEM:PVC)

●200mm(8inch) (STEM:PVC)



● 32mm(1 1/4inch) - 150mm(6inch)
(besides 65mm(2 1/2inch), 125mm(5inch))

● 65mm(2 1/2inch), 125mm(5inch) ● 200mm(8inch)



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	HI-PVC	⑥	THRUST RING	2	PP,SUJ2	⑰	SET SCREW(A)	1	STAINLESS STEEL304
⑱	INSERTED METAL OF BODY	4	COPPER ALLOY(C3604)	⑦	BOLT·NUT	—	STAINLESS STEEL304	⑳	PACKING	1	EPDM
㉑	SEAT	1	SBR,NBR	⑧	O-RING(A)	1	EPDM, Others	㉒	HAND WHEEL	1	PP
㉒	GATE(A)	1	HI-PVC,C-PVC	⑨	O-RING(B)	1	EPDM, Others	㉓	INDICATING COVER	1	PC
㉓	GATE(B)	1	PP	⑩	O-RING(C)	2-3	EPDM, Others	㉔	INDICATING RING	1	PVC
㉔	INSERTED METAL OF GATE(A)	4	COPPER ALLOY(C3604)	⑪	O-RING(D)	1	EPDM, Others	㉕	GUIDE PIN	1	STAINLESS STEEL304
㉕	BOLT(A)	4	STAINLESS STEEL304	⑫	O-RING(E)	1	EPDM, Others	㉖	GUIDE PIN HOLDER	1	PVC
③	STEM	1	PVC	⑬	O-RING(F)	1	EPDM, Others	㉗	O-RING(G)	1	EPDM
④	BONNET(A)	1	HI-PVC	⑭	O-RING(G)	1	EPDM	㉘	WASHER	1	PVC
⑤	BONNET(B)	1	HI-PVC	⑮	BUSH(A)	1	PP	㉙	BOX NUT	1	STAINLESS STEEL304
				⑯	BUSH(B)	1	PP				

PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	HI-PVC	㉑	FEMALE SCREW HOLDER	1	HI-PVC	⑩	O-RING(D)	1	EPDM, Others
⑱	INSERTED METAL OF BODY	4	COPPER ALLOY(C3604)	㉒	STEM	1	SUS304, Others	⑪	BUSH(A)	1	PP
㉑	SEAT	1	SBR,NBR	㉓	BONNET(A)	1	HI-PVC	⑫	BUSH(B)	1	PP
㉒	GATE(A)	1	C-PVC	㉔	BONNET(B)	1	HI-PVC	⑬	SET SCREW(A)	1	STAINLESS STEEL304
㉓	INSERTED METAL OF GATE(A)	4	BC6	㉕	THRUST RING	2	PP	⑭	DUST SEAL	1	EPDM
㉔	GATE(B)	1	PP	㉖	BOLT·NUT	—	STAINLESS STEEL304	⑮	CAP(A)	1	FCD450, FC200(65,125,200mm)
㉕	INSERTED METAL OF GATE(B)	4	COPPER ALLOY(C3604)	㉗	O-RING(B)	1	EPDM, Others	⑯	SET SCREW(B)	1	STAINLESS STEEL304
㉖	BOLT(A)	4	STAINLESS STEEL304	㉘	O-RING(C)	1-2	EPDM, Others	⑰	O-RING(H)	2	EPDM
㉗	FEMALE SCREW METAL	1	COPPER ALLOY(C3604)	㉙	O-RING(E)	2	EPDM, Others				

DIMENSIONS TABLE

JIS Unit:mm

Nominal Size	JIS 10K															
	d	d ₁	D	C	n	h	n _{1-M}	L	t	D ₁	A	ℓ	H	H ₁	H ₂	
50	2	50	—	155	120	4	19	—	180	23	130	130	52	293	58	134
65	2 1/2	65	—	175	140	4	19	—	210	24	155	155	67	302	68	152
80	3	75	—	185	150	8	19	—	240	25	170	170	77	350	77	170
100	4	100	—	210	175	8	19	—	250	27	195	195	102	410	89	207
125	5	125	110	250	210	8	23	—	260	27	235	235	112	407	89	227
150	6	150	130	280	240	8	23	—	280	28	270	270	132	487	117	263
200	8	196	168	330	290	10	23	2-M20	290	28	310	310	175	577	143	240

DIN Unit:mm

Nominal Size	DIN PN10															
	d	d ₁	D	C	n	h	n _{1-M}	L	t	D ₁	A	ℓ	H	H ₁	H ₂	
50	2	50	—	165	125	4	18	—	180	23	130	130	52	293	58	134
65	2 1/2	65	—	185	145	4	18	—	210	24	155	155	67	302	68	152
80	3	75	—	200	160	8	18	—	240	25	170	170	77	350	77	170
100	4	100	—	220	180	8	18	—	250	27	195	195	102	410	89	207
125	5	125	110	250	210	8	18	—	260	27	235	235	112	407	89	227
150	6	150	130	285	240	8	23	—	280	28	270	270	132	487	117	263
200	8	196	168	340	295	6	23	2-M20	290	28	310	310	175	577	143	240

ANSI Unit:inch

Nominal Size	ANSI CLASS 150															
	d	d ₁	D	C	n	h	n _{1-M}	L	t	D ₁	A	ℓ	H	H ₁	H ₂	
2	50	1.97	—	5.98	4.74	4	0.75	—	7.01	0.91	5.12	5.12	2.05	10.63	5.28	5.35
2 1/2	65	2.56	—	7.01	5.49	4	0.75	—	7.48	0.94	6.10	6.10	2.64	11.89	5.98	5.91
3	80	2.95	—	7.52	6.00	4	0.75	—	7.99	0.98	6.69	6.69	3.03	12.79	6.69	6.10
4	100	3.94	—	9.02	7.50	8	0.75	—	9.02	1.06	7.68	7.68	4.02	14.57	8.15	6.42
5	125	4.92	4.33	10.00	8.50	8	0.87	—	10.24	1.06	9.25	9.25	4.41	16.03	8.94	7.09
6	150	5.91	5.12	10.98	9.51	8	0.87	—	10.51	1.06	10.63	10.63	5.20	17.52	10.35	7.17
8	200	7.72	6.61	13.50	11.75	6	0.87	2-W 3/4	11.50	1.10	12.20	12.20	6.89	22.72	9.45	13.27

DIMENSIONS TABLE

JIS Unit:mm

Nominal Size	JIS 10K															
	d	d ₁	D	C	n	h	n _{1-M}	L	t	D ₁	A	ℓ	H	H ₁	H ₂	
50	2	50	—	155	120	4	19	—	180	23	130	130	52	293	58	134
65	2 1/2	65	—	175	140	4	19	—	210	24	155	155	67	302	68	152
80	3	75	—	185	150	8	19	—	240	25	170	170	77	350	77	170
100	4	100	—	210	175	8	19	—	250	27	195	195	102	410	89	207
125	5	125	110	250	210	8	23	—	260	27	235	235	112	407	89	227
150	6	150	130	280	240	8	23	—	280	28	270	270	132	487	117	263
200	8	196	168	330	290	10	23	2-M20	290	28	310	310	175	577	143	240

DIN Unit:mm

Nominal Size	DIN PN10															
	d	d ₁	D	C	n	h	n _{1-M}	L	t	D ₁	A	ℓ	H	H ₁	H ₂	
50	2	50	—	165	125	4	18	—	180	23	130	130	52	293	58	134
65	2 1/2	65	—	185	145	4	18	—	210	24	155	155	67	302	68	152
80	3	75	—	200	160	8	18	—	240	25	170	170	77	350	77	170
100	4	100	—	220	180	8	18	—	250	27	195	195	102	410	89	207
125	5	125	110	250	210	8	18	—	260	27	235	235	112	407	89	227
150	6	150	130	285	240	8	23	—	280	28	270	270	132	487	117	263
200	8	196	168	340	295	6	23	2-M20	290	28	310	310	175	577	143	240

ANSI Unit:inch

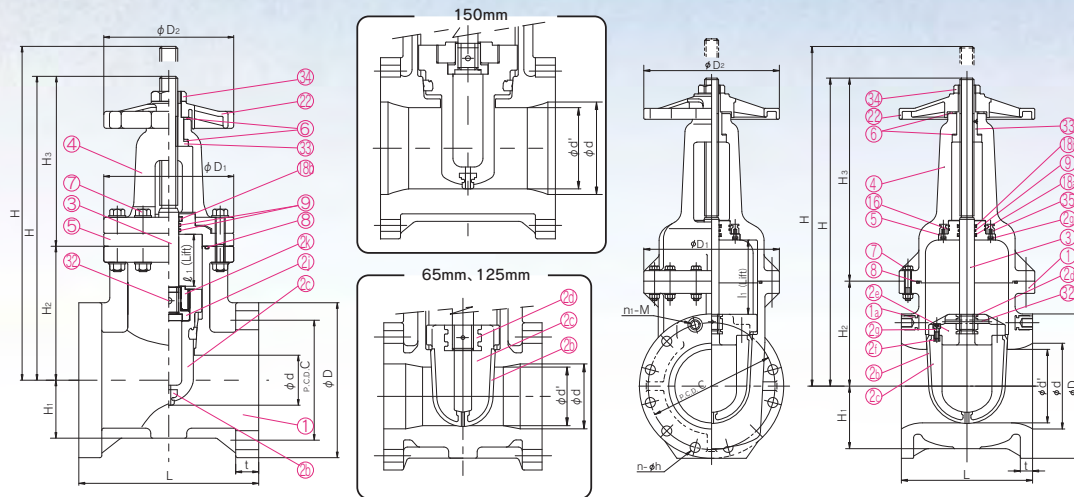
Nominal Size	ANSI CLASS 150															
	d	d ₁	D	C	n	h	n _{1-M}	L	t	D ₁	A	ℓ	H	H ₁	H ₂	
2	50	1.97	—	5.98	4.74	4	0.75	—	7.01	0.91	5.12	5.12	2.05	10.63	5.28	5.35
2 1/2	65	2.56	—	7.01	5.49	4	0.75	—	7.48	0.94	6.10	6.10	2.64	11.89	5.98	5.91
3	80	2.95	—	7.52	6.00	4	0.75	—	7.99	0.98	6.69	6.69	3.03	12.79	6.69	6.10
4	100	3.94	—	9.02	7.50	8	0.75	—	9.02	1.06	7.68	7.68	4.02	14.57	8.15	6.42
5	125	4.92	4.33	10.00	8.50	8	0.87	—	10.24	1.06	9.25	9.25	4.41	16.03	8.94	7.09
6	150	5.91	5.12	10.98	9.51	8	0.87	—	10.51	1.06	10.63	10.63	5.20	17.52	10.35	7.17
8	200	7.72	6.61	13.50	11.75	6	0.87	2-W 3/4	11.50	1.10	12.20	12.20	6.89	22.72	9.45	13.27

GATE VALVE (Rising Stem) 40mm - 200mm(1 1/2 inch - 8 inch)

FEATURES

Externally threaded stem and straight flow channel prevent foreign matter deposits and restrictions through.

- 40mm(1 1/2 inch) - 150mm(6 inch) (besides 65mm(2 1/2 inch), 125mm(5 inch))
- 65mm(2 1/2 inch), 125mm(5 inch)
- 200mm(8 inch)



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
1	BODY	1	HI-PVC	20	FEMALE SCREW HOLDER	1	HI-PVC, PVC	10	DUST SEAL(A)	1	EPDM, Others
10	INSERTED METAL OF BODY	4	COPPER ALLOY(C3604)	3	STEM	1	STAINLESS STEEL304	10	DUST SEAL(B)	1	NBR
20	SEAT	1	SBR, NBR	4	BONNET(A)	1	HI-PVC	20	HAND WHEEL	1	PP
20	GATE(A)	1	HI-PVC, C-PVC	5	BONNET(B)	1	HI-PVC, PP	30	PIN(A)	1	STAINLESS STEEL304
20	INSERTED METAL OF GATE(A)	1	BC6	6	THRUST RING	2	PP	30	SLEEVE	1	COPPER ALLOY(C3604), BC6
20	GATE(B)	1	HI-PVC	7	BOLT·NUT	—	STAINLESS STEEL304	30	NUT	1	COPPER ALLOY(C3604), BC6
20	INSERTED METAL OF GATE(B)	4	COPPER ALLOY(C3604)	8	O-RING(B)	1	EPDM, Others	30	INSERTED METAL OF BONNET	4	COPPER ALLOY(C3604)
20	BOLT(A)	4	STAINLESS STEEL304	9	O-RING(C)	2·1	EPDM, Others				
20	FEMALE SCREW METAL	1	COPPER ALLOY(C3604)	10	O-RING(D)	2	EPDM, Others				

DIMENSIONS TABLE

JIS														Unit:mm		
Nominal Size		d	d ₁	JIS 10K					L	t	D ₁	D ₂	ℓ	H	H ₁	H ₂
mm	inch			D	C	n	h	n ₁ -M								
40	1 1/2	40	—	140	105	4	19	—	165	22	120	120	42	295	107	253
50	2	50	—	155	120	4	19	—	180	23	130	130	52	343	134	291
65	2 1/2	65	—	175	140	4	19	—	190	24	155	155	67	407	152	340
80	3	75	—	185	150	8	19	—	200	25	170	170	77	450	170	373
100	4	100	—	210	175	8	19	—	230	27	195	195	102	564	207	462
125	5	125	110	250	210	8	23	—	260	27	235	235	112	593	227	481
150	6	150	130	280	240	8	23	—	270	28	270	270	132	690	263	558
200	8	196	168	330	290	10	23	2-M20	290	28	310	310	175	877	240	702

DIN														Unit:mm		
Nominal Size		d	d ₁	DIN PN10					L	t	D ₁	D ₂	ℓ	H	H ₁	H ₂
mm	inch			D	C	n	h	n ₁ -M								
40	1 1/2	40	—	150	110	4	18	—	165	22	120	120	42	295	107	253
50	2	50	—	165	125	4	18	—	180	23	130	130	52	343	134	291
65	2 1/2	65	—	185	145	4	18	—	190	24	155	155	67	407	152	340
80	3	75	—	200	160	8	18	—	200	25	170	170	77	450	170	373
100	4	100	—	200	180	8	18	—	230	27	195	195	102	564	207	462
125	5	125	110	250	210	8	18	—	260	27	235	235	112	593	227	481
150	6	150	130	285	240	8	23	—	270	28	270	270	132	690	263	558
200	8	196	168	340	295	6	23	2-M20	290	28	310	310	175	877	240	702

ANSI														Unit:inch		
Nominal Size		d	d ₁	ANSI Class 150					L	t	D ₁	D ₂	ℓ	H	H ₁	H ₂
inch	mm			D	C	n	h	n ₁ -M								
1 1/2	40	1.57	—	5.00	3.88	4	0.63	—	6.50	0.87	4.72	4.72	1.65	11.61	4.21	9.96
2	50	1.97	—	5.98	4.47	4	0.75	—	7.01	0.91	5.12	5.12	2.05	13.50	5.28	11.46
2 1/2	65	2.56	—	7.01	5.49	4	0.75	—	7.48	0.94	6.10	6.10	2.64	16.02	5.98	13.39
3	80	2.95	—	7.52	6.00	4	0.75	—	7.99	0.98	6.69	6.69	3.03	17.72	6.69	14.69
4	100	3.94	—	9.02	7.50	8	0.75	—	9.02	1.06	7.68	7.68	4.02	22.20	8.15	18.19
5	125	4.92	4.33	10.00	8.50	8	0.87	—	10.24	1.06	9.25	9.25	4.41	23.35	8.94	18.94
6	150	5.91	5.12	10.98	9.51	8	0.87	—	10.51	1.06	10.63	10.63	5.20	27.17	10.35	21.97
8	200	7.72	6.61	13.50	11.75	6	0.87	2-W3/4	11.50	1.10	12.20	12.20	6.89	34.53	9.45	27.64

AUTOMATIC WATER FEEDING VALVE 50mm, 80mm(2inch, 3inch)

Eliminating human intervention

The AV AUTOMATIC WATER FEEDING VALVE is designed as follows. Its sensor compares the water level with upper and lower water level limits for rice plant growth which are set on the sensor. Based on the results of the comparison, the sensor controls the AUTOMATIC WATER FEEDING VALVE as required through a tube connected with the body to automatically feed or stop water.



FEATURES

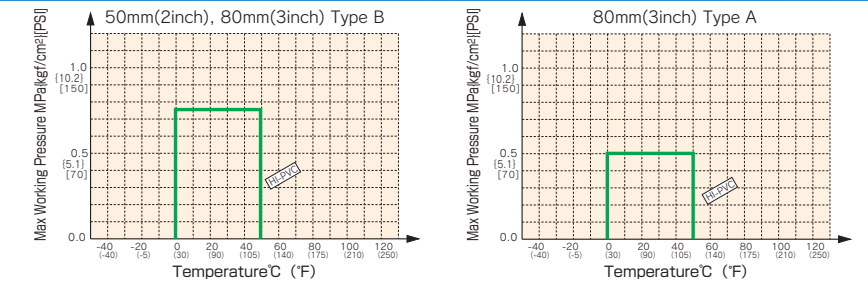
- The AUTOMATIC WATER FEEDING VALVE saves irrigation water, thus relieving water shortage.
- The valve properly controls water supply and reduces labor. This in turn means that working hours are shortened.
- The valve can manually be operated to water fields, orchards, etc.
- The valve can be used in various of applications, such as intermittent irrigation, cold-weather damage prevention, and so on.
- The valve operates on water pressure from a pipeline without electric power.
- The valve prevents a fertilizer and agricultural chemical agent from flowing out of fields, thus inhibiting pollution of lakes and ponds.

SPECIFICATIONS

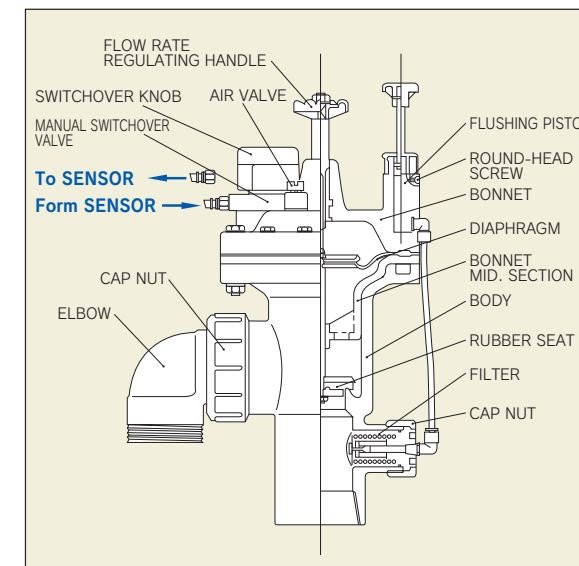
Body material	Valve body: High impact Polyvinyl Chloride(HI-PVC)		
Nominal Size	50mm(2inch)	80mm(3inch)	
Operating Pressure	0.02 - 0.75MPa {0.2 - 7.7kgf/cm ² }	Type A	0.015 - 0.5MPa{0.15 - 5.1kgf/cm ² }
		Type B	0.03 - 0.75MPa{0.3 - 7.7kgf/cm ² }
Max. Working Pressure	1.0MPa {10.2kgf/cm ² }	Type A	0.5MPa{5.1kgf/cm ² }
		Type B	1.0MPa{10.2kgf/cm ² }
Water Level Adjustment	-6cm - 12cm		
End Connectors	Threaded End, Socket End Flanged End(conforming to City Water Standards and JIS)		

WORKING PRESSURE VS. TEMPERATURE

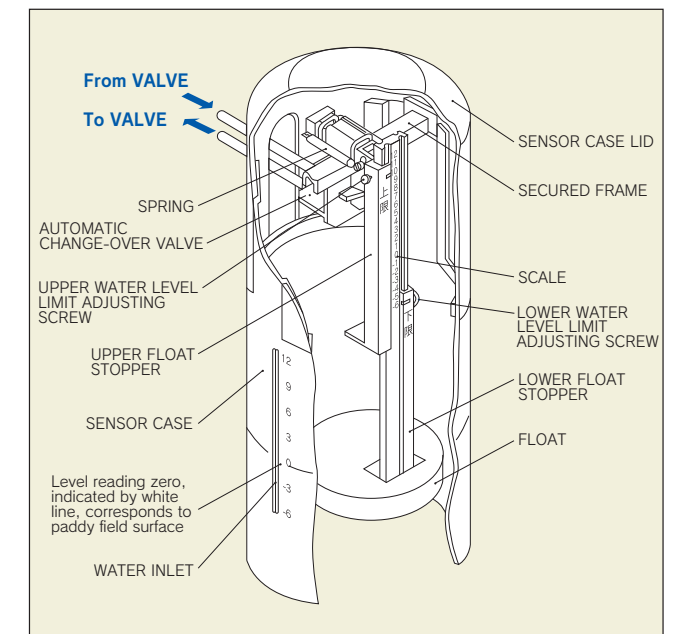
AUTOMATIC WATER FEEDING VALVE



Valve body



Sensor



Note : The connection of the AUTOMATIC WATER FEEDING VALVE comes in three types: Threaded End, Socket End, Flanged End (City Water and JIS standards).

ROTARY ANGLE VALVE 50mm, 80mm(2inch, 3inch)

Secured handle type T-shaped handle type

FEATURES

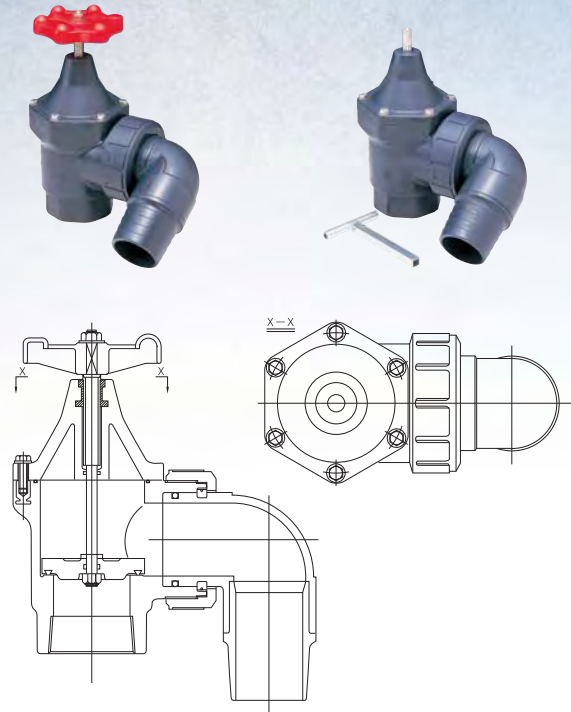
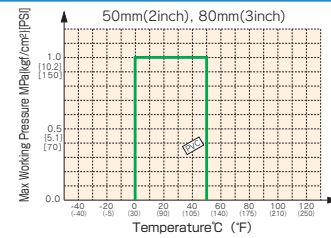
- The ASAHI ROTARY ANGLE VALVE is more compact than conventional angle valves.
- Because the ROTARY ANGLE VALVE uses a Machino, elbow, or hose socket type receptacle, it can be installed in a small valve box. Only by replacing its attachment, the valve can easily be switched between paddy field and field types.

SPECIFICATIONS

Body material	PVC
Nominal size	50mm(2inch), 80mm(3inch)
Max. Working Pressure	0.75MPa{7.7kgf/cm ² }
Attachment Angle	90° (45° · straight)
Type of Attachment	Machino: 40, 50, 65, 80mm(standard) Paddy fields: 50, 80mm(special elbow) Fields: 50, 80mm(hose joint)
End Connectors	Socket End, Flanged End, Threaded End
Operation	T-shaped handle, Secured handle

WORKING PRESSURE VS. TEMPERATURE

ROTARY ANGLE VALVE



●80mm(3inch) ROTARY ANGLE VALVE (Threaded End)

ALFALFA VALVE TYPE 82 50mm - 100mm(2inch - 4inch)

T-shaped handle type Secured handle type

FEATURES

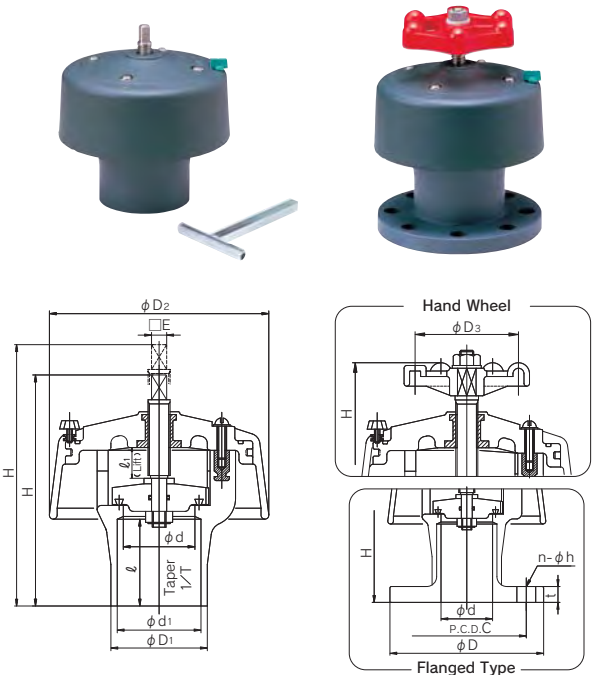
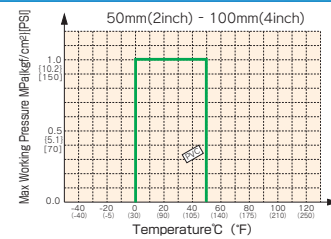
- Taking every effort to obtain satisfactory appearance, watertightness and strength, we have innovatively designed ALFALFA VALVE TYPE 82 to prevent water scattering and damage to surrounding rice plants. TYPE 82 can easily be disassembled at a site because it consists of a reduced number of parts. If foreign material clogs the valve, it can easily be eliminated only by closing the valve, loosening the thumbscrew and removing the cover (the pump does not need to be stopped).

SPECIFICATIONS

Body material	PVC
Nominal size	50mm(2inch), 80mm(3inch), 100mm(4inch)
Max. Working Pressure	1.0MPa{10.2kgf/cm ² }
End Connectors	Socket End, Flanged End
Operation	T-shaped handle, Secured handle

WORKING PRESSURE VS. TEMPERATURE

ALFALFA VALVE



DIMENSIONS TABLE

Nominal Size	d	Flanged Type JIS 10K				Socket Type				H													
		D	C	n	h	t	d ₁	1/T	ℓ	Socket End		Flanged End		Socket End		Flanged End							
										T-shaped handle	Secured handle	T-shaped handle	Secured handle	T-shaped handle	Secured handle	T-shaped handle	Secured handle						
50	2	52	155	120	4	19	16	60.80	1/37	63	70	160	75	11	25	162	163	178	179	187	188	203	204
80	3	78	185	150	8	19	18	89.80	1/43	72	101	190	110	11	35	196	209	214	227	231	244	249	262
100	4	100	210	175	8	19	18	115.00	1/44	92	129	220	110	11	45	246	261	264	279	291	306	309	324

CONSTANT FLOW VALVE 15mm - 100mm(1/2inch - 4inch)

AV CONSTANT FLOW VALVE keeps the flow rate constant.

FEATURES

- High Accuracy**
The CONSTANT FLOW VALVE accurately controls the flow rate to within ±6% of the full scale value and offers high rangeability (set value for maximum flow rate/set value for minimum flow rate).
- Flexible Flow Rate**
Using the handle, the flow rate setting on the valve can be changed at will. The CONSTANT FLOW VALVE can also be used as shut off valve because it completely shuts off the flow.
- Opening Degree Indicator**
The CONSTANT FLOW VALVE has indicator showing opening degree which reads the flow rate (m³/hour).
- High Durability and Resistance to Chemicals**
The CONSTANT FLOW VALVE uses a spring made of Stainless Steel coated with PCTFE (Polychloro-frifluoro-ethylene). The spring is highly durable and chemical-resistant, it has high cycle life.

APPLICATION

- Ultra-pure water lines at semiconductor factories
- Chemical injection lines at chemical plants
- Lines supplying water to swimming pools
- Seawater supply lines for fish cultivation
- Cooling tower and scrubber blow water supply lines
- Anti-foaming equipment



● 15mm(1/2inch) · 20mm(3/4inch)

● 25mm(1inch) – 100mm(4inch)

SPECIFICATIONS

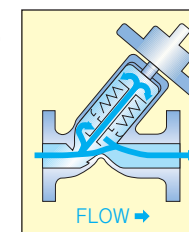
Body material	Unplasticized Polyvinyl Chloride (PVC) ※We also produce C-PVC CONSTANT FLOW VALVE 25(1inch) and 50(2inch)mm in nominal size on request.
Nominal Size	15mm(1/2inch), 20mm(3/4inch), 25mm(1inch), 50mm(2inch), 80mm(3inch), 100mm(4inch)
End Connectors	Flanged End
Working Temperature	0°C - 50°C (30°F - 120°F)
Upstream Working Pressure range	0.25MPa or less {2.6kgf/cm ² } · 0.25 to 0.5 MPa {2.6 - 5.1kgf/cm ² } 0.5 to 0.75MPa {5.1 - 7.7kgf/cm ² } · 0.75 to 1.0 MPa {7.7 - 10.2kgf/cm ² }
Accuracy	Full scale value ±6%(reference: water at ambient temperature)

WORKING PRESSURE VS. TEMPERATURE

Nominal Size	Temp. °C (°F)	0~50 (30~120)			
		A	B	C	D
15	1/2	—	0.25{2.7} - 0.5{5.1}	0.5{5.1} - 0.75{7.7}	—
20	3/4	—	0.25{2.7} - 0.5{5.1}	0.5{5.1} - 0.75{7.7}	—
25	1	0.25{2.7} Under	0.25{2.7} - 0.5{5.1}	0.5{5.1} - 0.75{7.7}	—
50	2	0.25{2.7} Under	0.25{2.7} - 0.5{5.1}	0.5{5.1} - 0.75{7.7}	—
80	3	0.25{2.7} Under	0.25{2.7} - 0.5{5.1}	0.5{5.1} - 0.75{7.7}	0.75{7.7} - 1.0{10.2}
100	4	—	—	0.5{5.1} - 0.75{7.7}	0.75{7.7} - 1.0{10.2}

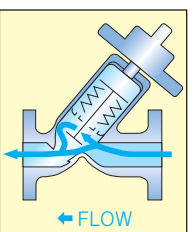
Type-A 25mm(1inch) - 80mm(3inch)

- The fluid flow path is suitable for semi-conductor industry. (Ultra pure water line)



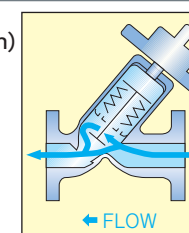
Type-C 15mm(1/2inch) - 100mm(4inch)

- The range of working differential pressure is large (For lines with large pressure differential between upstream & downstream)



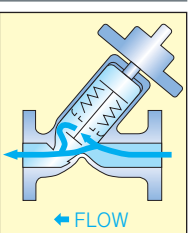
Type-B 15mm(1/2inch) - 80mm(3inch)

- The flow rate setting range is large (Covers small and large flow rates)



Type-D 80mm(3inch) - 100mm(4inch)

- A large flow rate can be set



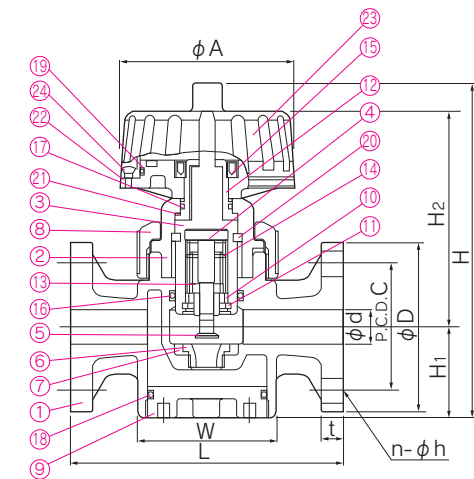
Range for preset flow rate and working differential pressure

Nominal Size	TYPE	Flow rate		Rangeability	Working differential pressure	
		GAL/min	m ³ /hr		PSI	MPa[kgf/cm ²]
15mm (1/2inch)	TYPE B	0.176 - 3.52	0.04 - 0.8	20 : 1	2.85 - 14.22	0.02-0.1 {0.2-1.0}
	TYPE C	0.35 - 3.52	0.08 - 0.8	10 : 1	4.27 - 28.45	0.03-0.2 {0.3-2.0}
20mm (3/4inch)	TYPE B	0.26 - 5.28	0.06 - 1.2	20 : 1	2.85 - 14.22	0.02-0.1 {0.2-1.0}
	TYPE C	0.53 - 5.28	0.12 - 1.2	10 : 1	4.27 - 28.45	0.03-0.2 {0.3-2.0}
25mm (1inch)	TYPE A	2.20 - 8.81	0.5 - 2.0	4 : 1	2.85 - 14.22	0.02-0.1 {0.2-1.0}
	TYPE B	0.441 - 8.81	0.1 - 2.0	20 : 1	2.85 - 14.22	0.02-0.1 {0.2-1.0}
	TYPE C	0.881 - 8.81	0.2 - 2.0	10 : 1	4.27 - 28.45	0.03-0.2 {0.3-2.0}
50mm (2inch)	TYPE A	8.81 - 35.22	2.0 - 8.0	4 : 1	2.85 - 14.22	0.02-0.1 {0.2-1.0}
	TYPE B	1.76 - 35.22	0.4 - 8.0	20 : 1	2.85 - 14.22	0.02-0.1 {0.2-1.0}
	TYPE C	3.52 - 35.22	0.8 - 8.0	10 : 1	4.27 - 28.45	0.03-0.2 {0.3-2.0}
80mm (3inch)	TYPE A	22.02 - 88.07	5.0 - 20.0	4 : 1	4.85 - 14.22	0.02-0.1 {0.2-1.0}
	TYPE B	4.403 - 88.07	1.0 - 20.0	20 : 1	2.85 - 14.22	0.02-0.1 {0.2-1.0}
	TYPE C	8.81 - 88.07	2.0 - 20.0	10 : 1	4.27 - 28.45	0.03-0.2 {0.3-2.0}
100mm (4inch)	TYPE D	66.04 - 132.1	15.0 - 30.0	2 : 1	4.27 - 21.33	0.03-0.15{0.3-1.5}
	TYPE C	44.03 - 264.2	10.0 - 60.0	6 : 1	4.27 - 28.45	0.03-0.2 {0.3-2.0}
	TYPE D	132.1 - 264.2	30.0 - 60.0	2 : 1	2.85 - 21.33	0.02-0.15{0.2-1.5}

[Notes to users as to selection of the type.]

The Possible preset range of the flow rate and the range of the working differential pressure differs from type to type among A, B, C and D. The right type, therefore, should be selected from the above table in accordance with the working conditions.

● 15mm(1/2inch) · 20mm(3/4inch)



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC	⑬	SPRING(A)	1	STAINLESS STEEL304 (With PCTFE Coated)
②	BONNET	1	PVC	⑭	SPRING(B)	1	STAINLESS STEEL304 (With PCTFE Coated)
③	CYLINDER	1	PVC	⑮	NUT	1	PVC
④	PISTON	1	PVC	⑯	O-RING(A)	1	EPDM, Others
⑤	PLUG	1	PVC	⑰	O-RING(B)	1	EPDM, Others
⑥	ORIFICE	1	PVC	⑱	O-RING(C)	1	EPDM
⑦	SEAT	1	EPDM	⑲	O-RING(D)	1	EPDM
⑧	CAP NUT	1	PVC	⑳	KEY	2	PP
⑨	CAP	1	PVC	㉑	THRUST RING	1	PP
⑩	SPRING BASE	1	PVC	㉒	HANDLE BASE	1	PVC
⑪	STOP RING	1	PVDF	㉓	HANDLE COVER	1	PC
⑫	SLEEVE	1	COPPER ALLOY(C3604)	㉔	SCREW	4	STAINLESS STEEL304

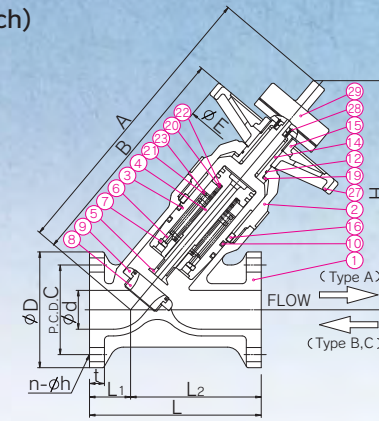
DIMENSIONS TABLE

Nominal Size		d	JIS 10K				t	L	W	A	H ₁	H ₂	H
mm	inch		D	C	n	h							
15	1/2	16	95	70	4	15	12	160	82×82	103	51	129	197
20	3/4	20	100	75	4	15	13	160	82×82	103	53	127	197

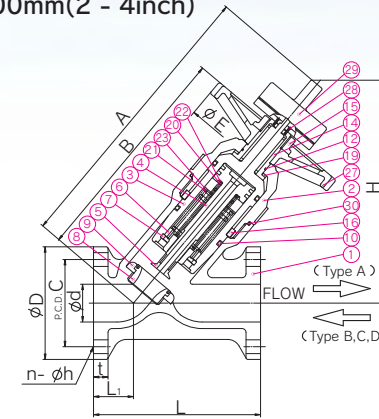
Nominal Size		d	DIN PN10				t	L	W	A	H ₁	H ₂	H
mm	inch		D	C	n	h							
15	1/2	16	95	65	4	14	12	160	82×82	103	51	129	197
20	3/4	20	100	75	4	14	13	160	82×82	103	53	127	197

Nominal Size		d	ANSI CLASS 150				t	L	W	A	H ₁	H ₂	H
inch	mm		D	C	n	h							
1/2	15	0.63	3.50	2.38	4	0.63	0.47	6.30	3.23×3.23	4.06	2.01	5.08	7.76
3/4	20	0.79	3.86	2.76	4	0.63	0.51	6.30	3.23×3.23	4.06	2.09	5.08	7.76

● 25mm(1inch)



● 50mm - 100mm(2 - 4inch)



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC	⑭	SLEEVE	1	COPPER ALLOY(C3604)
②	BONNET	1	PVC	⑮	CAP	1	PVC
③	CYLINDER	1	PVC	⑯	KEY	2	PVC
④	PISTON	1	PVC	⑰	THRUST RING	1	PP
⑤	PLUG	1	PVC	⑱	SPRING(A)	1	STAINLESS STEEL304 (With PCTFE Coated)
⑥	SPRING BASE	1	PVC	㉑	SPRING(B)	1	STAINLESS STEEL304 (With PCTFE Coated)
⑦	STOP RING	1	PVDF	㉒	WASHER(A)	1	PVC
⑧	ORIFICE	1	EPDM	㉓	WASHER(B)	1	PVC
⑨	SEAT	1	EPDM, Others	㉔	HAND WHEEL	1	PP
⑩	O-RING(A)	2	EPDM, Others	㉕	MACHINE SCREW	4	COPPER ALLOY(C3604)
⑪	O-RING(B)	1	EPDM	㉖	LIFT INDICATOR	1set	PVC
⑫	O-RING(C)	1	EPDM				

Note :

The shape and appearance of assembly differ a little with nominal size compared to this drawing.
25mm-100mm(FKM)can't shut totally.

DIMENSIONS TABLE

Nominal Size		d	JIS 10K				L	L ₁	E	t	A	B	H
mm	inch		D	C	n	h							
25	1	25	125	90	4	19	160	40	150	14	272	201	218
50	2	52	155	120	4	19	230	55	210	20	390	309	307
80	3	78	185	150	8	19	280	70	210	22	484	387	377
100	4	100	210	175	8	19	410	85	250	22	623	483	446

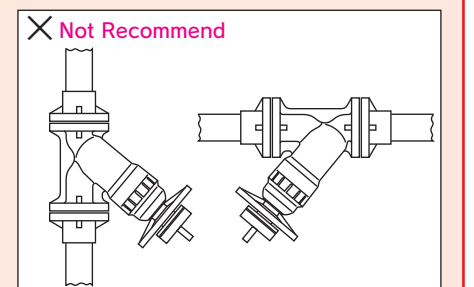
Nominal Size		d	DIN PN10				L	L ₁	E	t	A	B	H
mm	inch		D	C	n	h							
25	1	25	115	85	4	14	160	40	150	14	272	201	218
50	2	52	165	125	4	18	230	55	210	20	390	309	307
80	3	78	200	160	8	18	280	70	210	22	484	387	377
100	4	100	220	180	8	18	400	85	250	22	623	483	446

Nominal Size		d	ANSI CLASS 150				L	L ₁	E	t	A	B	H
inch	mm		D	C	n	h							
1	25	0.98	4.25	3.13	4	0.63	6.30	1.58	5.91	0.55	10.71	7.91	8.58
2	50	2.05	5.98	4.74	4	0.75	9.06	2.17	8.27	0.79	15.35	12.17	12.09
3	80	3.07	7.25	6.00	4	0.75	11.02	2.75	8.27	0.89	19.06	15.24	14.84
4	100	3.94	8.66	7.50	8	0.75	15.74	3.35	9.84	0.87	24.50	19.00	17.56

Note :

1) Regardless of horizontal installation or vertical installation, the strainer with the 60-mesh screen should be installed in the up stream side of the valve in order to avoid the malfunction possibly caused by clogging of foreign particles.
Install the valve as shown in the drawing, because malfunctioned.

2) Every type of valve has its own flow direction across the valve.
Make sure that the flow direction is consistent with the arrow-mark indicated on the valve body when installing.



NEEDLE VALVE 15mm - 25mm(1/2inch - 1inch)



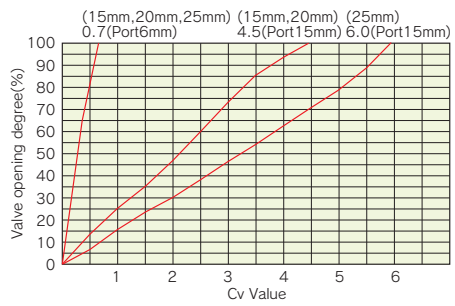
FEATURES

- A shut-off valve and the rubber seat completely seals the fluid.
- Being independent of a shut-off valve, the NEEDLE VALVE exercises highly accurate control for a long time.
- The NEEDLE VALVE uses a unique plug in a special shape, thus offering accurate flow control.
- With its piping intact, the NEEDLE VALVE can be inspected or cleaned inside only by removing its bonnet (valves in 15 and 20mm in nominal size)

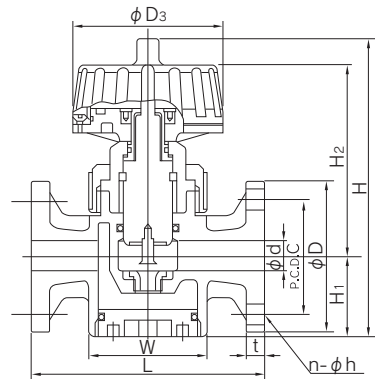
SPECIFICATIONS

Nominal Size	15mm(1/2inch), 20mm(3/4inch)		25mm(1inch)	
Port Size(mm)	6	15	6	15
Maximum CV Value	0.7	4.5	0.7	6.0
End Connectors	Flanged End			
Type of Rubber	EPDM, Others			
Body material	PVC			
Max. Working Pressure	1.0MPa{10.2kgf/cm ² }[150PSI]			
Working Temperature	0 - 50°C(30°F - 120°F)			

SPECIFICATIONS

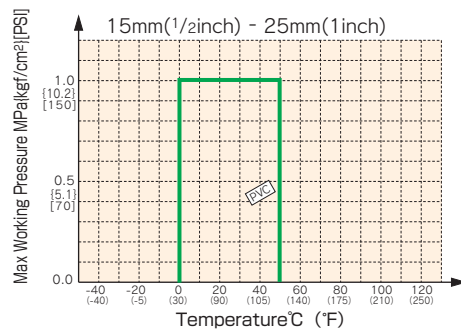


● 15mm(1/2inch) ~ 20mm(3/4inch)



WORKING PRESSURE VS. TEMPERATURE

NEEDLE VALVE



DIMENSIONS TABLE

Nominal Size mm inch	d	JIS 10K				L	t	W	D ₃	H ₁	H ₂	H
		D	C	n	h							
15 1/2	16	95	70	4	15	160	12	82×82	103	51	129	197
20 3/4	20	100	75	4	15	160	13	82×82	103	53	127	197

Nominal Size mm inch	d	DIN				L	t	W	D ₃	H ₁	H ₂	H
		D	C	n	h							
15 1/2	16	95	65	4	14	160	12	82×82	103	51	129	197
20 3/4	20	105	75	4	14	160	13	82×82	103	53	127	197

Nominal Size inch mm	d	ANSI 150 lbs				L	t	W	D ₃	H ₁	H ₂	H
		D	C	n	h							
1/2 15	0.63	3.50	2.38	4	0.63	6.30	0.47	3.23×3.23	4.06	2.01	5.08	7.76
3/4 20	0.79	3.86	2.76	4	0.63	6.30	0.51	3.23×3.23	4.06	2.09	5.00	7.76

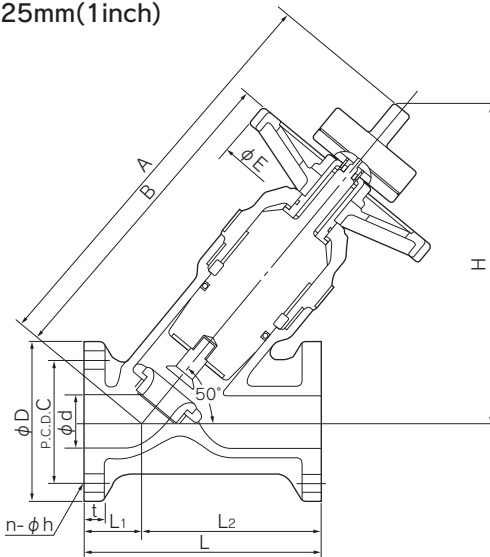
DIMENSIONS TABLE

Nominal Size mm inch	d	JIS 10K				L ₁	L ₂	L	t	A	B	H	E
		D	C	n	h								
25 1	25	125	90	4	19	40	120	160	14	272	201	218	150

Nominal Size mm inch	d	DIN				L ₁	L ₂	L	t	A	B	H	E
		D	C	n	h								
25 1	25	115	85	4	14	40	120	160	14	272	201	218	150

Nominal Size inch mm	d	ANSI 150 lbs				L ₁	L ₂	L	t	A	B	H	E
		D	C	n	h								
1 25	0.98	4.25	3.13	4	0.63	1.57	4.72	6.30	0.55	10.71	7.91	8.58	5.91

● 25mm(1inch)



Y-SEDIMENT STRAINER 15mm - 100mm(1/2inch - 4inch)



FEATURES

- Because of its plastic body, the sediment STRAINER (Y) is highly corrosion chemical and wear resistant.
- The body is transparent, so that flow through the STRAINER can easily be checked.
- The sediment STRAINER is easy to disassemble and reassemble to clean or replace its screen.

■ NSF Product

NSF("NSF/ANSI STANDARD 61" Drinking Water System Components-Health Effects)Product.

·Y-SEDIMENT STRAINER TYPE-Y (Material:PVC+EPDM,FKM)

*Certified products bear an NSF Certification Mark.

SPECIFICATIONS

Body material	Unplasticized Polyvinyl Chloride (PVC) (The body is only made of transparent PVC.)
Nominal Size	15mm(1/2inch),20mm(3/4inch),25mm(1inch),40mm(1 1/2inch), 50mm(2inch),80mm(3inch),100mm(4inch)
End Connectors	Socket End, Threaded End, Flanged End
Working Temperature	0 - 50°C (30° F - 120° F)
Mesh	20 mesh (30,40 & 60 Mesh Available)
Max. Working Pressure	1.0MPa{10.2kgf/cm ² } [150PSI]... 15 - 50mm(1/2inch - 2inch) 0.6MPa{6.1kgf/cm ² } [85PSI] ... 80, 100mm(3inch - 4inch)

Note : Volatile liquids such as a hydrogen peroxide (H₂O₂) and sodium hypochlorite (NaClO) medium, may vaporize, thus causing an abnormal pressure increase in the valve. (Important: Gas is compressible. Thus if its pressure rises abnormally, gas may break a valve into pieces, which in turn violently scatter in all directions.)

- Store the Sediment Strainer in an indoor place free of direct sunlight.
- Do not store the Sediment Strainer in a hot place.
- Install the Sediment Strainer in a place free of direct sunlight.

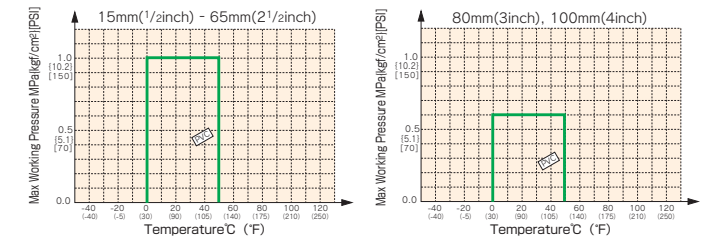
PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL				
①	BODY	1	PVC	⑥	RETAINING RING	1	PVC
②	FILTER SCREEN	1	PVC	⑦	SPLIT RING	1	PVC
③	SCREEN SUPPORT	1	PVC	⑧	O-RING(A)	2	EPDM,FKM,Others
④	END CONNECTOR	2	PVC	⑨	O-RING(B)	1	EPDM,FKM,Others
⑤	UNION NUT	3	PVC	⑩	STOP RING ¹⁾	2	PVDF

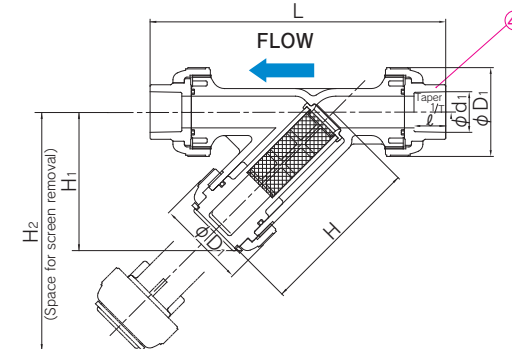
1)Used for Flanged End

WORKING PRESSURE VS. TEMPERATURE

STRAINER(Y)



DIMENSIONS (Socket End)



DIMENSIONS TABLE (Socket End)

Nominal Size mm inch	d	d ₁	ℓ	1/T	D ₁	L	H	H ₁	H ₂
20 3/4	20	26.13	24	1/34	60	210	120	98	168
25 1	25	32.16	27	1/34	70	238	133	111	189
32 1 1/4	40	38.19	30	1/34	100	298	177	149	256
40 1 1/2	40	48.21	37	1/37	100	313	177	149	256
50 2	51	60.25	42	1/37	106	346	190	160	277
65 2 1/2	78	76.60	61	1/48	140	487	271	234	399
80 3	78	89.60	64	1/49	152	487	271	234	399
100 4	100	114.70	84	1/56	210	653	361	316	537

Nominal Size mm inch	d	d ₁	ℓ	D ₁	L	H	H ₁	H ₂
20 3/4	20	26.8	20	60	201	120	98	168
25 1	25	33.6	23	70	224	133	111	189
32 1 1/4	40	42.3	27.5	96	298	177	149	256
40 1 1/2	40	48.3	30.5	96	288	177	149	256
50 2	51	60.4	36.5	106	337	190	160	277
65 2 1/2	78	75.1	43.5	152	455	271	234	399
80 3	78	88.8	50.5	152	455	271	234	399
100 4	100	114.2	63	210	607	361	316	537

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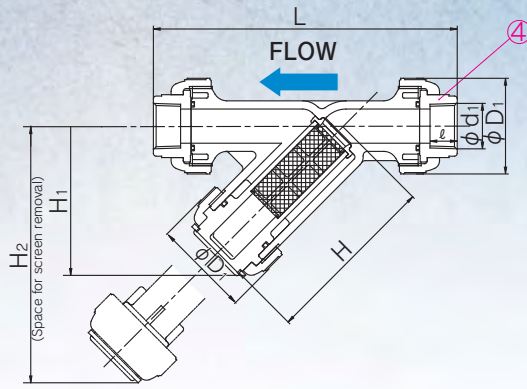
Nominal Size mm inch	d	d ₁	ℓ	D ₁	L	H	H ₁	H ₂
20 3/4	20	25	19	60	201	120	98	168
25 1	25	32	22	70	224	133	111	189
32 1 1/4	40	40	26	96	298	177	149	256
40 1 1/2	40	50	31	96	288	177	149	256
50 2	51	63	38	106	337	190	160	277
65 2 1/2	78	75	44	152	455	271	234	399
80 3	78	90	51	152	457	271	234	399
100 4	100	110	61	210	607	361	316	537

ANSI ASTM SCH80

Nominal Size inch mm	d	d ₁	d ₁ '	ℓ	D ₁	L	H	H ₁	H ₂
3/4 20	0.79	1.058	1.046	1.000	2.36	8.31	4.72	3.86	6.61
1 25	0.98	1.325	1.310	1.125	2.76	9.37	5.24	4.37	7.44
1 1/4 32	1.57	1.670	1.655	1.250	3.94	11.73	6.97	5.87	10.08
1 1/2 40	1.57	1.912	1.894	1.375	3.94	12.13	6.97	5.87	10.08
2 50	2.01	2.387	2.369	1.500	4.17	13.31	7.48	6.30	10.91
2 1/2 65	3.07	2.889	2.868	1.752	5.98	17.95	10.67	9.21	15.71
3 80	3.07	3.516	3.492	1.875	5.98	17.83	10.67	9.21	15.71
4* 100	3.94	4.518	4.491	2.000	8.27	23.07	14.21	12.44	21.14

※ only ASTM SCH40

DIMENSIONS (Threaded End)

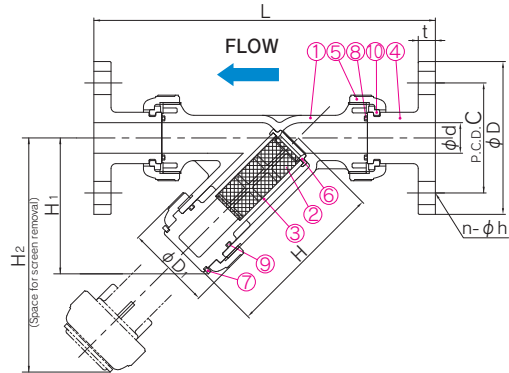


Nominal Size		d	d ₁	ℓ	D ₁	L	H	H ₁	H ₂
mm	inch	Unit:mm							
15	1/2	15	Rp 1/2	15	48	165	97	78	134
20	3/4	20	Rp 3/4	17	60	202	120	98	168
25	1	25	Rp 1	20	70	224	133	111	189
32	1 1/4	40	Rp 1 1/4	22	96	287	177	149	256
40	1 1/2	40	Rp 1 1/2	25	96	287	177	149	256
50	2	51	Rp 2	28	106	324	190	160	277
65	2 1/2	78	Rp 2 1/2	32	152	436	271	234	399
80	3	78	Rp 3	35	152	436	271	234	399
100	4	100	Rp 4	45	210	596	361	316	537

DIMENSIONS TABLE (Threaded End)

Nominal Size		d	d ₂	ℓ	D ₁	L	H	H ₁	H ₂
mm	inch	Unit:mm							
15	1/2	15	Rc 1/2	15	48	165	97	78	134
20	3/4	20	Rc 3/4	17	60	202	120	98	168
25	1	25	Rc 1	20	70	224	133	111	189
32	1 1/4	40	Rc 1 1/4	22	100	287	177	149	256
40	1 1/2	40	Rc 1 1/2	25	100	287	177	149	256
50	2	51	Rc 2	28	106	324	190	160	277
65	2 1/2	78	Rc 2 1/2	32	152	436	271	234	399
80	3	78	Rc 3	35	152	436	271	234	399
100	4	100	Rc 4	45	210	596	361	316	537

DIMENSIONS (Flanged End)



Nominal Size		d	C	D	n	h	D ₁	L	H	H ₁	H ₂
mm	inch	Unit:mm									
15	1/2	15	65	95	4	14	48	193	97	78	134
20	3/4	20	75	105	4	14	60	232	120	98	168
25	1	25	85	115	4	14	70	253	133	111	189
32	1 1/4	40	100	140	4	16	96	336	177	149	256
40	1 1/2	40	110	150	4	18	96	324	177	149	256
50	2	51	125	165	4	18	106	361	190	160	277
65	2 1/2	78	145	185	4	18	152	477	271	234	399
80	3	78	160	200	8	18	152	483	271	234	399
100	4	100	180	220	8	18	210	608	361	316	537

DIMENSIONS TABLE (Flanged End)

Nominal Size		d	C	D	n	h	D ₁	L	H	H ₁	H ₂
mm	inch	Unit:mm									
15	1/2	15	70	95	4	15	48	206	97	78	134
20	3/4	20	75	100	4	15	60	254	120	98	168
25	1	25	90	125	4	19	70	280	133	111	189
32	1 1/4	40	100	135	4	19	100	336	177	149	256
40	1 1/2	40	105	140	4	19	100	336	177	149	256
50	2	51	120	155	4	19	106	361	190	160	277
65	2 1/2	78	140	175	4	19	152	477	271	234	399
80	3	78	150	185	8	19	152	477	271	234	399
100	4	100	175	210	8	19	210	608	361	316	537

Nominal Size		d	C	D	n	h	D ₁	L	t	H	H ₁	H ₂
inch	mm	Unit:inch										
1/2	15	0.59	2.38	3.50	4	0.62	1.89	8.11	0.47	3.82	3.07	5.28
3/4	20	0.79	2.75	3.88	4	0.62	2.36	10.00	0.55	4.72	3.86	6.61
1	25	0.98	3.12	4.25	4	0.62	2.76	11.02	0.55	5.24	4.37	7.44
1 1/4	32	1.57	3.50	4.61	4	0.63	3.94	13.23	0.63	6.97	5.87	10.08
1 1/2	40	1.57	3.88	5.00	4	0.62	3.94	13.23	0.63	6.97	5.87	10.08
2	50	2.01	4.75	6.00	4	0.75	4.17	14.21	0.63	7.48	6.30	10.91
2 1/2	65	3.07	5.49	7.01	4	0.75	5.98	18.78	0.71	10.67	9.21	15.71
3	80	3.07	6.00	7.50	4	0.75	5.98	18.78	0.71	10.67	9.21	15.71
4	100	3.94	7.50	9.00	8	0.75	8.27	23.94	0.71	14.21	12.44	21.14

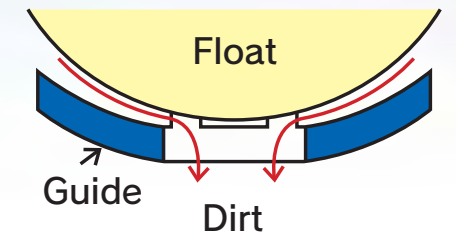
Recommendations for use

- Observe flow direction before installation. (Direction arrow mark is embossed on body.)
- Screen should be cleaned periodically.
- Avoid direct sunlight.
- Caution : the following, chemicals such as Hydrogen Peroxide (H₂O₂), Sodium Hypochlorite(NaClO) are capable of generating will cause the abnormal pressure due to their vaporization nature.

AIR RELEASE VALVE 25mm,80mm,100mm,150mm,200mm (1inch,3inch,4inch,6inch,8inch)

FEATURES

- Light Weight**
75% Lighter than Cast Iron Type
- Compact**
10 to 40% Smaller than Cast Iron Type by Volume Ratio
- Superior Exhaust Performance**
1.5 Times Larger than Cast Iron Type
- Works at Low Pressure**
Half of Minimum Pressure of Cast Iron Type
- Superior Cold and Heat Resistance**
Wide Temperature Range -40°C (-40°F) to 50°C (122°F).
- Excellent Corrosion and Impact Resistance**
PDCPD Material
- Top Bonnet Entry**
Easy Inline Access to Internal Parts



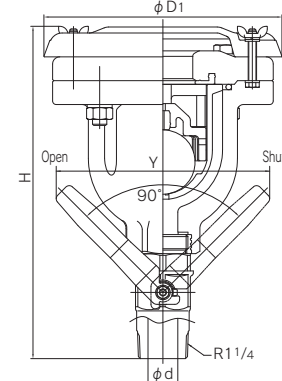
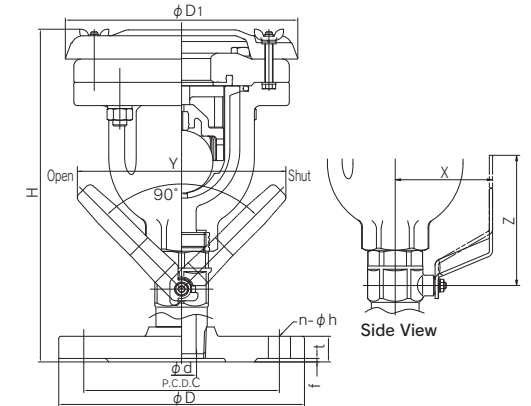
25mm (1inch)



● Flanged



● Threaded



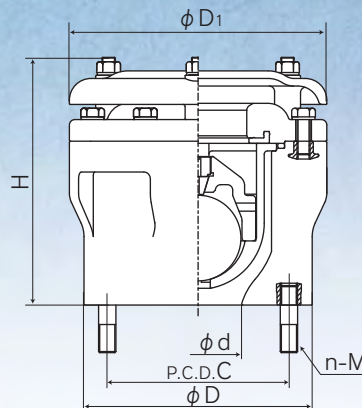
DIMENSION TABLE

Nominal Size		End Connectors	D ₁	H	d	D	n-φh	P.C.D.C	f	t	X	Y	Z	Weight	
mm	inch	Unit:mm (inch)													
25	1	Flanged (JIS 10K)	200 (7.87)	298 (11.73)	25 (0.98)	211 (8.31)	4-φ19 (4-φ0.75inch)	168 (6.61)	3 (0.12)	22 (0.87)	112 (4.41)	178 (7.01)	150 (5.91)	8.8	19.4
		Male Threaded	200 (7.87)	281 (11.06)	25 (0.98)		R1 1/4		3 (0.12)	22 (0.87)	112 (4.41)	178 (7.01)	150 (5.91)	3.8	8.4

SPECIFICATIONS

Nominal size	End Connectors	Working Pressure(at R.T.) MPa[kgf/cm ²][PSI]	Max. Working Pressure MPa[kgf/cm ²][PSI]	Body material	Isalating Valve Material
25 1	Flanged Male Threaded	0.75 {7.7}	1.3 {13.3}[109]	PDCPD	C3771BE

■80mm(3inch)~200mm(8inch)



DIMENSIONS TABLE

Nominal Size 80mm - 200mm (3inch - 8inch)											Unit:mm(inch)	
Nominal Size		D ₁	H	d	D	JWWA		JIS 10K		Weight		
mm	inch					P.C.D.C	n-φh	P.C.D.C	n-φh	kg	Lb	
80	3	238 (9.37)	230 (9.06)	80 (3.15)	211 (8.31)	168 (6.62)	4-M16	150	8-M16	6.9	15.2	
100	4	260 (10.24)	288 (11.34)	100 (3.94)	238 (9.37)	195 (7.68)	4-M16	175	8-M16	10.3	22.7	
150	6	341 (13.43)	393 (15.48)	150 (5.91)	290 (11.42)	247 (9.73)	6-M16	240	8-M20	20.7	45.6	
200	8	440 (17.33)	526 (20.71)	200 (7.88)	342 (13.47)	299 (11.77)	8-M16	290	12-M20	41.0	90.2	

SPECIFICATIONS

Nominal size		End Connectors	Working Pressure(at R.T.) MPa{kgf/cm ² }[PSI]	Max. Working Pressure MPa{kgf/cm ² }[PSI]	Body material
mm	inch				
80	3	Flanged (JIS 10K)	1.0 {10.2}[150]	1.4 {14.3}[203]	PDCPD
100	4	Flanged (JIS 10K)	1.0 {10.2}[150]	1.4 {14.3}[203]	PDCPD
150	6	Flanged (JIS 10K)	1.0 {10.2}[150]	1.4 {14.3}[203]	PDCPD
200	8	Flanged (JIS 10K)	1.0 {10.2}[150]	1.4 {14.3}[203]	PDCPD

ASAHI VALVE AND PIPING SYSTEMS

ASAHI AV

AUTOMATIC VALVES &

SENSOR AND FLOW METERS

The specifications in this brochure are subject to change without prior notice due to improvements and modifications.

Asahi AV Automatic Valves

AV automatic valve products table

Outline of AV Automatic Valves

Diaphragm Valve Type 14, Electric Actuated Model Type H

True Union Diaphragm Valve Type 14, Electric Actuated Model Type H

Diaphragm Valve Type 15 Electric Actuated Model Type H(125 - 150mm)

Diaphragm Valve Type 15, 72, Electric Actuated Model Type S

Diaphragm Valve Type 14, Pneumatic Actuated Model Type AN

Diaphragm Valve Type 14, Pneumatic Actuated Model Type AV

True Union Diaphragm Valve Type 14, Pneumatic Actuated Model Type AN

Diaphragm Valve Type 15, 72, Pneumatic Actuated Model Type AV

Diaphragm Valve Type AI, Pneumatic Actuated Type AI

True Union Diaphragm Valve Type AI, Pneumatic Actuated Type AI

Diaphragm Valve Type 16, Pneumatic Actuated Model Type AD

Ball Valve Type 21, Electric Actuated Model Type T (15-50mm)

Ball Valve Type 21, Electric Actuated Model Type T (65~ 100mm)

3-Way Ball True Union Ball Valve Type 23, Electric Actuated Model Type T

Ball Valve Type 21, Pneumatic Actuated Model Type TA

Ball Valve Type 21, Pneumatic Actuated Model Type AA

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3-Way Ball True Union Ball Valve Type 23, Pneumatic Actuated Model Type TA

Butterfly Valve Type 57, Electric Actuated Model Type T

Butterfly Valve Type 57, Electric Actuated Model Type S

Butterfly Valve Type 56, Electric Actuated Model Type S (400mm)

Butterfly Valve Type 75, Electric Actuated Model Type S (450 - 600mm)

PDCPD Butterfly Valve, Electric Actuated Model Type S (700 - 1200mm)

Butterfly Valve Type 55, Electric Actuated Model Type T

Butterfly Valve Type 55, Electric Actuated Model Type S

Butterfly Valve Type 57,56, Pneumatic Actuated Model Type TA

Butterfly Valve Type 75, Pneumatic Actuated Model Type TW

Butterfly Valve Type 55, Pneumatic Actuated Model Type TA

Rotary Damper Type 57,56, Electric Actuated Model Type T

Rotary Damper, Electric Actuated Model Type S

Rotary Damper Type 57, Pneumatic Actuated Model TA

Control Valve, Electric Actuated Model Type M

Control Valve, Pneumatic Actuated Model Type AV

Asahi AV sensor

Ultra Sonic Voltex Flow meter

Inpella Flow meter

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ASAHI AV AUTOMATIC VALVES

ASAHI AV AUTOMATIC VALVES are ideal monobloc valves that combine light-weight, compact and rigid actuators with valve body made of thermo plastic with superior corrosion and chemical resistance. Opening adjustment and proportional control are possible by use of positioners. Various optional equipments are available and can be combined to suit your piping applications.

Features

Actuators

◆ Light-Weight and Compact ◆

Reduced piping space and less labor for installation.

◆ Simple Construction ◆

High structural reliability, less maintenance and inspection.

◆ Appropriate Output Torque ◆

Energy saving by providing output that meets torque requirements for valve operation the best.

Valve Body

◆ Superior Corrosion and Chemical Resistance ◆

Usable even with strong acids or alkalis due to monobloc structure of synthetic resin.

◆ Light Weight ◆

1/5 weight of metallic valves, easy to handle.

◆ Less Flow Resistance, Higher Wear Resistance ◆

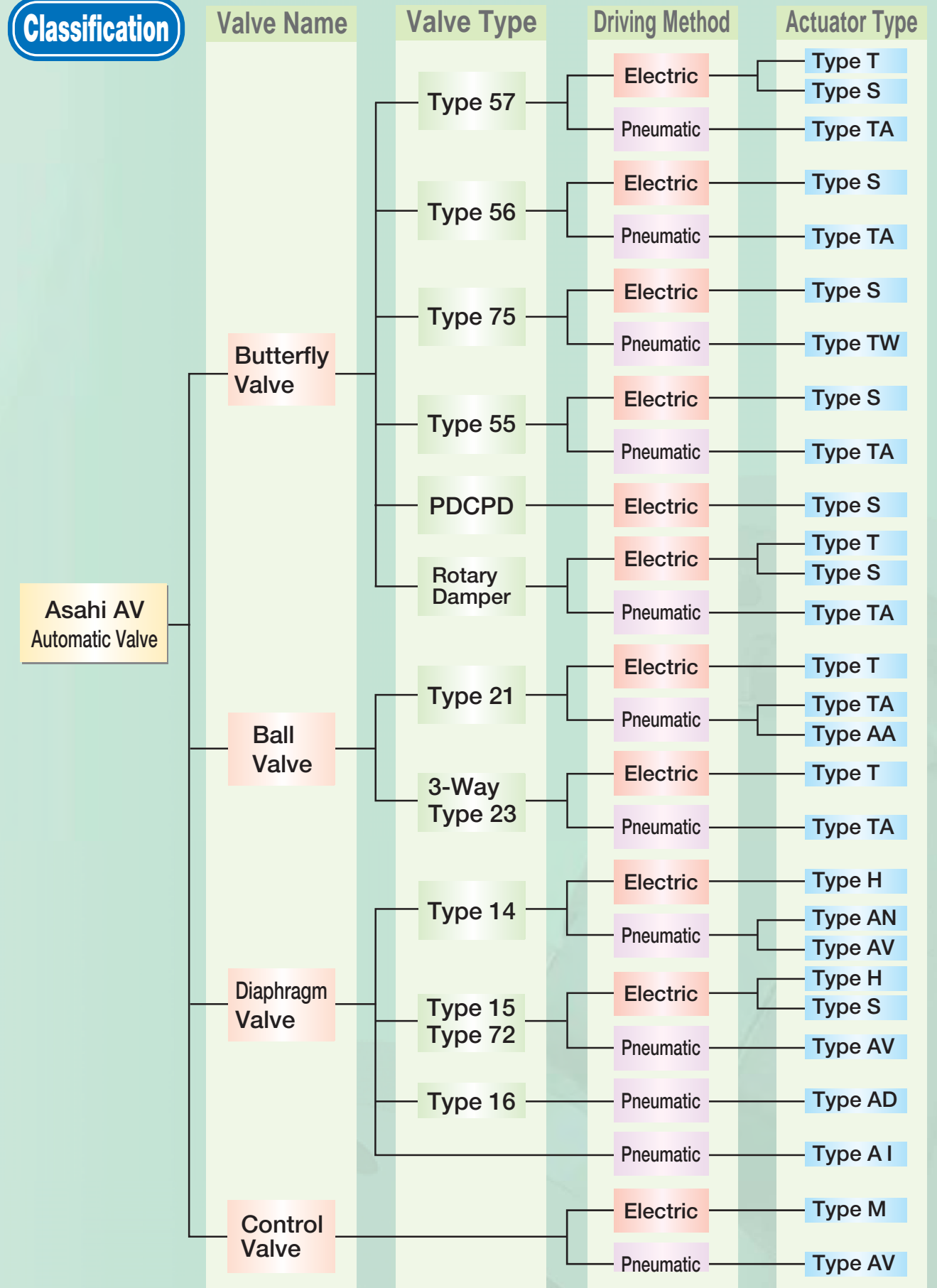
Less flow resistance and good anti-abrasion property due to use of synthetic resin materials.

Application

Recommended for factory automation of piping lines for various types of plants such as Chemical, Steel, Food, Fishery, Marine, Hot spring, Water, Sewage, Irrigation, Semi-Conductor, Bio-chemical, Pharmaceutical and so on.

AUTOMATIC VALVES

Classification



*Note) Type H is available only with single-phase source.
Ball Valve Electric Actuated Type T is available only with single-phase source.
Type TW are available only as double acting model.
Butterfly Valve and Diaphragm Valve of the electric actuated type S are available only with three-phase source.



Diaphragm Valve Type 14, Electric Actuated Model Type H (Page 86)



True Union Diaphragm Valve Type 14, Electric Actuated Model Type H (Page 87)



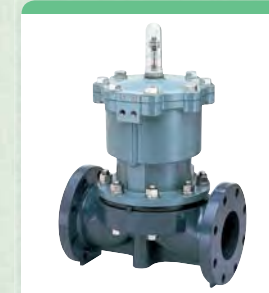
Diaphragm Valve Type 15, Electric Actuated Model Type H(125-150mm) (Page 88)



Diaphragm Valve Type 15, 72, Electric Actuated Model Type S (Page 89)



Diaphragm Valve Type 14, Pneumatic Actuated Model Type AN (Page 90)



Diaphragm Valve Type 14, Pneumatic Actuated Model Type AV (Page 91)



True Union Diaphragm Valve Type 14, Pneumatic Actuated Model Type AN (Page 92)



Diaphragm Valve Type 15, 72, Pneumatic Actuated Model Type AV (Page 93)



Diaphragm Valve Type A1, Pneumatic Actuated Model Type A1 (Page 94)



True Union Diaphragm Valve Type A1, Pneumatic Actuated Model Type A1 (Page 95)



Diaphragm Valve Type 16, Pneumatic Actuated Model Type AD (Page 96)



Ball Valve Type 21, Electric Actuated Model Type T (15-50mm) (Page 98)



Ball Valve Type 21, Electric Actuated Model Type T (65-100mm) (Page 99)



3-Way Ball True Union Ball Valve Type 23, Electric Actuated Model Type T (Page 100)



Ball Valve Type 21, Pneumatic Actuated Model Type TA (Page 102)



Ball Valve Type 21, Pneumatic Actuated Model Type AA (Page 104)



3-Way Ball True Union Ball Valve Type 23, Pneumatic Actuated Model Type TA (Page 106)



Butterfly Valve Type 57, Electric Actuated Model Type T (Page 108)



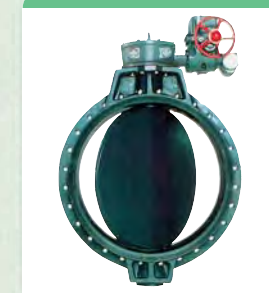
Butterfly Valve Type 57, Electric Actuated Model Type S (Page 109)



Butterfly Valve Type 56, Electric Actuated Model Type S (400mm)(Page 110)



Butterfly Valve Type 75, Electric Actuated Model Type S (450-600mm) (Page 110)



PDCPD Butterfly Valve, Electric Actuated Model Type S (700-1200mm) (Page 112)



Butterfly Valve Type 55, Electric Actuated Model Type T (Page 113)



Butterfly Valve Type 55, Electric Actuated Model Type S (Page 114)



Butterfly Valve Type 57, Pneumatic Actuated Model Type TA (Page 115)



Butterfly Valve Type 75, Pneumatic Actuated Model Type TW (Page 116)



Butterfly Valve Type 55, Pneumatic Actuated Model Type TA (Page 117)



Rotary Damper Type 57, Electric Actuated Model Type T (Page 118)



Rotary Damper Type 57, Electric Actuated Model Type S (Page 119)



Rotary Damper Type 57, Pneumatic Actuated Model Type TA (Page 120)



Control Valve, Electric Actuated Model Type M (Page 121)



Control Valve, Electric Actuated Model Type M (Page 122)



Control Valve, Pneumatic Actuated Model Type AV (Page 123)



Ultra Sonic Voltex Flowmeter (Page 126)



Inpella Flowmeter (Page 128)

Product Table

Butterfly Valves													
Valve Type	Type 57									Type 56			
	Electric Actuator						Pneumatic Actuator			Electric Actuator		Pneumatic Actuator	
	1 φ AC100V/AC200V			3 φ AC200V/AC400V			Double Acting Air to Open Air to Close			3 φ AC200V/AC400V		Double Acting Air to Open Air to Close	
Actuator Type	Type T			Type S			Type TA			Type S		Type TA	
Body Material	PVC	PP	PVDF	PVC	PP	PVDF	PVC	PP	PVDF	PP	PVDF	PP	PVDF
Disc Material	PP	PP	PVDF	PP	PP	PVDF	PP	PP	PVDF	PP	PVDF	PP	PVDF
Nominal Size mm (inch)	40 (1 1/2)	○	○	○	○	○	○	○	○	-	-	-	-
	50 (2)	○	○	○	○	○	○	○	○	-	-	-	-
	65 (2 1/2)	○	○	○	○	○	○	○	○	-	-	-	-
	80 (3)	○	○	○	○	○	○	○	○	-	-	-	-
	100 (4)	○	○	○	○	○	○	○	○	-	-	-	-
	125 (5)	○	○	○	○	○	○	○	○	-	-	-	-
	150 (6)	○	○	○	○	○	○	○	○	-	-	-	-
	200 (8)	○	○	○	○	○	○	○	○	-	-	-	-
	250 (10)	○	○	○	○	○	○	○	○	-	-	-	-
	300 (12)	○	○	○	○	○	○	○	○	-	-	-	-
	350 (14)	○	○	○	○	○	○	○	○	-	-	-	-
	400 (16)	-	-	-	-	-	-	-	-	○	○	○	○
	450 (18)	-	-	-	-	-	-	-	-	-	-	-	-
	500 (20)	-	-	-	-	-	-	-	-	-	-	-	-
	600 (24)	-	-	-	-	-	-	-	-	-	-	-	-
Page	108			109			115			110		115	

Valve Type	Type 75				Type 55				
	Electric Actuator		Pneumatic Actuator		Electric Actuator		Pneumatic Actuator		
	3 φ AC200V/AC400V		Double Acting		1 φ AC100V/AC200V	3 φ AC200V/AC400V	Double Acting Air to Open Air to Close		
Actuator Type	Type S		Type TW		Type T	Type S	Type TA		
Body Material	PP	PVDF	PP	PVDF	FCD-S				
Disc Material	PP	PVDF	PP	PVDF	PTFE				
Nominal Size mm (inch)	40 (1 1/2)	-	-	-	-	-	-	-	
	50 (2)	-	-	-	○	-	-	○	
	65 (2 1/2)	-	-	-	-	-	-	-	
	80 (3)	-	-	-	○	-	-	○	
	100 (4)	-	-	-	-	-	-	○	
	125 (5)	-	-	-	-	-	-	○	
	150 (6)	-	-	-	-	-	-	○	
	200 (8)	-	-	-	-	-	-	○	
	250 (10)	-	-	-	-	-	-	○	
	300 (12)	-	-	-	-	-	-	○	
	350 (14)	-	-	-	-	-	-	-	
	400 (16)	-	-	-	-	-	-	-	
	450 (18)	○	○	○	○	-	-	-	
	500 (20)	○	○	○	○	-	-	-	
	600 (24)	○	○	○	○	-	-	-	
Page	110		116		113		114		117

Valve Type	Rotary Damper										
	Electric Actuator					Pneumatic Actuator					
	1 φ AC100V/AC200V					3 φ AC200V/AC400V					
Actuator Type	Type T			Type S		Type TA			Type TA		
Body Material	PVC	PP	PVDF	PVC	PP	PVDF	PVC	PP	PP	PVDF	
Disc Material	PP	PP	PVDF	PP	PP	PVDF	PP	PP	PP	PVDF	
Nominal Size mm (inch)	40 (1 1/2)	○	○	○	○	○	○	○	○	○	
	50 (2)	○	○	○	○	○	○	○	○	○	
	65 (2 1/2)	○	○	○	○	○	○	○	○	○	
	80 (3)	○	○	○	○	○	○	○	○	○	
	100 (4)	○	○	○	○	○	○	○	○	○	
	125 (5)	○	○	○	○	○	○	○	○	○	
	150 (6)	○	○	○	○	○	○	○	○	○	
	200 (8)	○	○	○	○	○	○	○	○	○	
	250 (10)	○	○	○	○	○	○	○	○	○	
	300 (12)	○	○	○	○	○	○	○	○	○	
	350 (14)	○	○	○	○	○	○	○	○	○	
	400 (16)	-	-	-	-	-	-	-	-	-	
	450 (18)	-	-	-	-	-	-	-	-	-	
	500 (20)	-	-	-	-	-	-	-	-	-	
	600 (24)	-	-	-	-	-	-	-	-	○	
Page	118					119					120

Valve Type	PDCPD Butterfly Valve	
Driving Method	Electric Actuator	
	3 φ AC200V/AC400V	
Actuator Type	Type S	
Body Material	PDCPD	
Disc Material	PDCPD	
Nominal Size mm (inch)	700 (28)	○
	800 (32)	○
	900 (36)	○
	1000 (40)	○
	1100 (44)	○
	1200 (48)	○
Page	112	

Note : Single Phase = 1 φ/Three Phase = 3 φ

Product Table

Diaphragm Valves																	
Valve Type	Type 14						True Union Type 14				Type 15, Type 72						
	Electric Actuator		Pneumatic Actuator				Electric Actuator		Electric Actuator		Pneumatic Actuator		Electric Actuator		Pneumatic Actuator		
	1 φ AC100V/AC200V		Double Acting Air to Open Air to Close				1 φ AC100V/AC200V		3 φ AC200V/AC400V		Double Acting Air to Open Air to Close		1 φ AC100V/AC200V		3 φ AC200V/AC400V	Double Acting	Air to Open Air to Close
Actuator Type	Type H		Type AN		Type AV		Type H		Type H		Type AN		Type S		Type AV	Type AV	
Body Material	PVC, C-PVC, PP, PVDF		PVC, C-PVC, PP, PVDF		PVC, C-PVC, PP, PVDF		PVC, C-PVC, PP, PVDF		PVC, C-PVC, PP, PVDF		PVC, C-PVC, PP, PVDF		PVC, PP, PVDF		PVC, PP, PVDF	PVC, PP, PVDF	
Disc Material	Rubber	PTFE	Rubber	PTFE	Rubber	PTFE	Rubber	PTFE	Rubber	PTFE	Rubber	PTFE	Rubber	PTFE	Rubber	PTFE	
Nominal Size mm (inch)	15 (1/2)	○	○	○	○	-	-	○	○	○	○	-	-	-	-	-	
	20 (3/4)	○	○	○	○	-	-	○	○	○	○	-	-	-	-	-	
	25 (1)	○	○	○	○	-	-	○	○	○	○	-	-	-	-	-	
	32 (1 1/4)	○	○	○	○	-	-	○	○	○	○	-	-	-	-	-	
	40 (1 1/2)	○	○	○	○	-	-	○	○	○	○	-	-	-	-	-	
	50 (2)	○	○	○	○	-	-	○	○	○	○	-	-	-	-	-	
	65 (2 1/2)	○	○	-	-	○	○	-	-	-	-	-	-	-	-	-	
	80 (3)	○	○	-	-	○	○	-	-	-	-	-	-	-	-	-	
	100 (4)	○	○	-	-	○	○	-	-	-	-	-	-	-	-	-	
	125 (5)*1	-	-	-	-	-	-	-	-	-	-	○	○	○	○	○	
	150 (6)*1	-	-	-	-	-	-	-	-	-	-	○	○	○	○	○	
	200 (8)*2	-	-	-	-	-	-	-	-	-	-	-	○	○	○	○	
	250 (10)*2	-	-	-	-	-	-	-	-	-	-	-	-	○	○	-	
Page	86		90		91		87		87		92		88		89		93

Note : *1 is Diaphragm valve Type 15.
*2 is Diaphragm valve Type 72.

Diaphragm Valves					
Valve Type	Type AI		True Union Type AI		Type 16
	Pneumatic Actuator		Pneumatic Actuator		Pneumatic Actuator
Driving Method	Double Acting Air to Open Air to Close		Double Acting Air to Open Air to Close		Double Acting Air to Open
	Type AI		Type AI		Type AD
Type of Connection	Flanged End		Threaded End Socket End		Flanged End Threaded End Socket End
Body Material	PVC, C-PVC, PP, PVDF		PVC, C-PVC, PP, PVDF		PVC
Nominal Size mm (inch)	15 (1/2)	○	○	○	○
	20 (3/4)	○	○	○	○
	25 (1)	○	○	○	○
	40 (1 1/2)	○	○	○	○
	50 (2)	○	○	○	○
Page	94		95		96 · 97

Ball Valves Type 21														
Driving Method	Electric Actuator				Pneumatic Actuator				Pneumatic Actuator					
	1 φ AC100V/AC200V				Double Acting Air to Open · Air to Close				Double Acting Air to Open · Air to Close					
Actuator Type	Type T				Type TA				Type AA					
	Type of Connection	Flanged End Threaded End	Socket End	Flanged End Threaded End	Socket End	Flanged End Threaded End	Socket End	Flanged End Threaded End	Socket End	Flanged End Threaded End	Socket End	Flanged End Threaded End	Socket End	
Body Material	PVC, C-PVC, PP, PVDF	PVC, C-PVC, PP, PVDF	PP	PVC, C-PVC, PP, PVDF	PVC, C-PVC, PP, PVDF	PP	PVC, C-PVC, PP, PVDF	PVC, C-PVC, PP, PVDF	PP	PVC, C-PVC, PP, PVDF	PVC, C-PVC, PP, PVDF	PP	PVC, C-PVC, PP, PVDF	PVC, C-PVC, PP, PVDF
Nominal Size mm (inch)	15 (1/2)	○	○	○	○	○	○	○	○	○	○	○	○	○
	20 (3/4)	○	○	○	○	○	○	○	○	○	○	○	○	○
	25 (1)	○	○	○	○	○	○	○	○	○	○	○	○	○
	32 (1 1/4)	○	○	-	○	-	○	-	○	-	○	-	○	-
	40 (1 1/2)	○	○	○	○	○	○	○	○	○	○	○	○	○
	50 (2)	○	○	○	○	○	○	○	○	○	○	○	○	○
	65 (2 1/2)	○	○	○	○	○	○	○	○	○	○	○	-	-
	80 (3)	○	○	○	○	○	○	○	○	○	○	○	-	-
	100 (4)	○	○	○	○	○	○	○	○	○	○	○	-	-
Page	98 · 99				102 · 103				104 · 105					

3-Way Ball Valves Type 23			
Driving Method	Electric Actuator		Pneumatic Actuator
	1 φ AC100V/AC200V		Double Acting Air to Open Air to Close
Actuator Type	Type T		Type TA
Type of Connection	Flanged End Threaded End Socket End		Flanged End Threaded End Socket End
Body Material	PVC, C-PVC, PP, PVDF		PVC, C-PVC, PP, PVDF
Nominal Size mm (inch)	15 (1/2)	○	○
	20 (3/4)	○	○
	25 (1)	○	○
	32 (1 1/4)	-	-
	40 (1 1/2)	○	○
	50 (2)	○	○
	65 (2 1/2)	-	-
	80 (3)	○	○
	100 (4)	○	○
Page	100 · 101		106 · 107

Control Valves				
Driving Method	Electric Actuator		Pneumatic Actuator	
	1 φ AC100V/AC200V/DC24V		Air to Open/Double Acting	
Actuator Type	Type M		Type AV	
Type of Connection	Flanged End		Flanged End	
Body Material	PVC	PVDF	PVC	PVDF
Nominal Size mm (inch)	15 (1/2)	○	○	○
	25 (1)	○	○	○
	50 (2)	○	-	-
	80 (3)	○	-	-
	100 (4)	○	-	-
Page	121 · 122		123 · 124	

Note : Single Phase = 1 φ, Three Phase = 3 φ

Outline of Asahi AV Valve

⚠️ PRECAUTIONS FOR PIPING WORKS

- ① Install AV Automatic valve with valve supports. Otherwise, valves may be damaged due to application of excess force.
- ② Use AV gasket to prevent leakage from flange surfaces
- ③ Do not use electrical connections that enable simultaneous operation of multiple electric actuated valves arranged in parallel using one on/off switch (or contact relay) (See Figure-2). Provide on/off switches (or contact relays) for each valve (See Figure-1).
- ④ Asahi AV automatic valves are not of the immersion type. They cannot be used in locations where they may be immersed in water.
- ⑤ Keep sufficient space for maintenance and manual operation.
- ⑥ If piping is installed out-door, prepare the roof to prevent rain from penetrating the valves
- ⑦ For other details of valve installation, please refer to "Mounting Procedure for Asahi AV Products" and "Technical information on Asahi AV Valves"

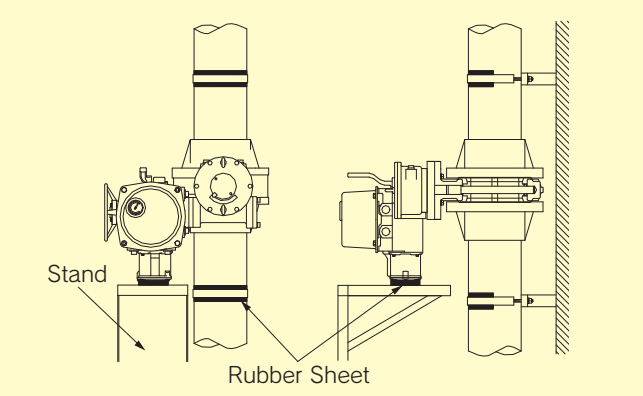
⚠️ MAINTENANCE

- ① Asahi AV automatic valves need regular inspection at least once a year to ensure accurate operation and long life. Please refer to the provided Operation Manual.
- ② Do not disassemble the actuator. We are unable to assume any responsibility in the case that human injury or property damage is caused due to disassemble or repair of an actuator conducted without our consent. Therefore, if any abnormality is found, please consult us.

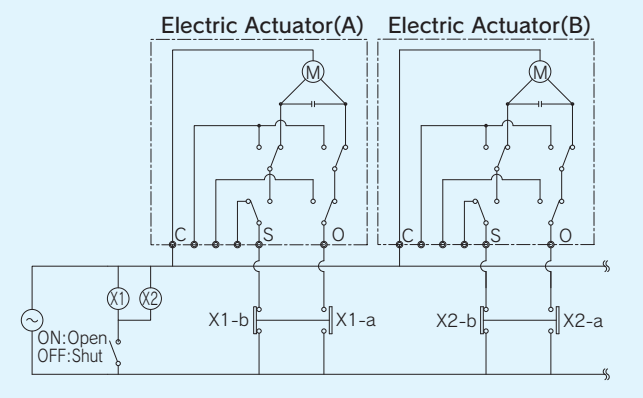
⚠️ SPECIAL SPECIFICATIONS

- ① We select the correct materials for valve body, diaphragm, seat, O-ring etc. depending on the operating conditions. Please indicate the operating conditions including type of fluid, temperature, pressure and slurry.
- ② Asahi AV automatic valves can be provided to meet other special specifications than those specified in this catalog.

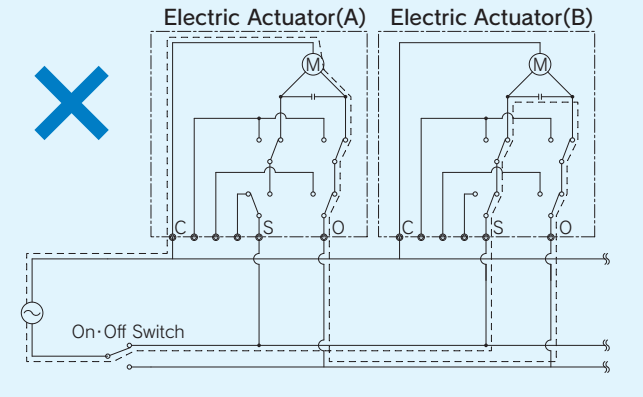
■ Sample Installation with Support



[Figure-1] Correct Example



[Figure-2] Incorrect Example



※.....Indicates the current flow when electric actuated valve B is not fully opened due to failure.

Applicable electric actuated valves...Type T, Type S, Type H, Type M

Reason.....Unless all electric actuated valves are fully opened or closed simultaneously, current will flow through the condensers, which will generate hunting or keep the current flowing without actuating the limit switch and thus heat up the motors.

Outline of Asahi AV Valve

For Pneumatic Actuated Valves



*Photo shows Type TA



▲Solenoid Valve
Changes supply direction of the air by use of electric signals and controls open & close action of the actuator.



▲Filter Regulator
Removes dust and moisture in compressed air and reduces the pressure to the operating pressure level.



▲Speed Controller
Adjusts the open/close speed of the valve.



▲Limit Switch Box
Detects the open & close position of the valve, turns on display lamps for the control system and actuates other actions by relay.



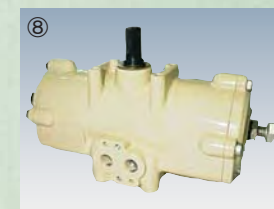
▲Positioner
Controls the opening degree of the valve in response to the air signal or electric signal.



▲Manual Override
Provided on regular/reverse operation actuators. If the compressed air supply is suspended, enables open & close valve operation to be performed manually.



▲Adjustment Mechanism for Opening Position
Adjusts the opening position.



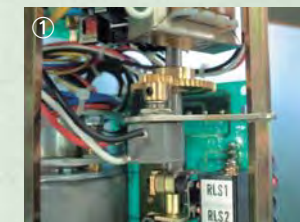
▲Special Painting
Protects the actuator from causticity atmosphere.

For Electric Actuated Valves

(Reference)



*Photo Shows Type S



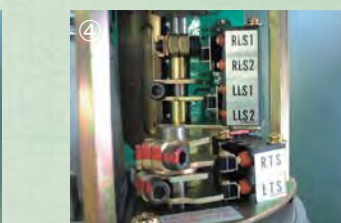
▲Potentiometer
Converts the degree of valve opening into a resistance value, which is fed back to an electrically operated positioner etc.



▲E-E Positioner
Provided on valves used as control valves for temperature, flow rate, PH etc. Receives resistance value from the potentiometer.



▲Space Heater
Used to prevent the actuator from freezing.



▲Output Contact Limit Switches
Fitted in addition to the ordinary limit switch. Picks up the signal and actuates other operations.

Diaphragm Valve Type 14 (Electric Actuated Type H) 15mm-100mm(1/2inch-4inch)

Body Material
PVC
C-PVC
PP
PVDF

Diaphragm Material
PTFE
EPDM
FKM
Viflon C (FKM-C)
Viflon F (FKM-F)

Connection Standard
JIS 10K
ANSI CLASS150
DIN PN10

Power Source
Single-Phase
AC100V/200V

Equipment
Manual Operation Mechanism (Handle is sold separately.)
Space Heater
Output Contact Limit Switches
Indicator



FEATURES

- In addition to the ordinary Open/Close Limit Switches, additional limit Switch is built in for double safety.
- Large Opening Indicator is easy to read.

OPTIONAL EQUIPMENT

Combination No.	1
Space Heater	●
Output Contact Limit Switches	●

ACTUATOR SPECIFICATION

Nominal Size mm(inch)	15 (1/2inch)	20 (3/4inch)	25 (1inch)	32 (1 1/4inch)	40 (1 1/2inch)	50 (2inch)	65 (2 1/2inch)	80 (3inch)	100 (4inch)
Actuator Type	ED-11H					ED-21H			
Cycle Time 50/60Hz(seconds)	20/16	24/20	43/36		51/43	38/32	47/39	56/47	
Motor Output(W)	20					60			
Motor Starting Current(A) 50/60Hz	100V	0.69/0.7				2.3/2.2			
	200V	0.3/0.3				1.15/1.1			
Motor Rated Current(A) 50/60Hz	100V	0.5/0.5				1.5/1.8			
	200V	0.25/0.25				0.8/0.8			
Number of revolutions of manual operating handle	21	25	44		50	76	94	112	
Limit Switch Capacity	AC 250V 10A								
Protective Structure	JIS C 0920 Waterjet-proof Type								
Cable Connector Nominal Size	2-G 3/4								
Motor Pole(P)	4								
Motor Insulation	E Class								
Motor Time Rating(minute)	30								

* for the actuator with lubricant free valves with a positioner or a potentiometer consult near Asahi dealer.

True Union Diaphragm Valve Type 14 (Electric Actuated Type H) 15mm-50mm(1/2inch-2inch)

Body Material
PVC
C-PVC
PP
PVDF

Diaphragm Material
PTFE
EPDM
FKM
Viflon C (FKM-C)
Viflon F (FKM-F)

Connection Standard
Socket End JIS
Socket End ASTM SCH80
Socket End DIN
Threaded End Rc
Threaded End NPT
Threaded End Rp

Power Source
Single-Phase
AC100V/200V

Equipment
Manual Operation Mechanism (Handle is sold separately.)
Space Heater
Output Contact Limit Switches
Indicator



FEATURES

- In addition to the ordinary On-Off Limit Switch, additional Limit Switch is built in for safety.
- Manual Operating Handle is provided as a Standard Equipment. The Handle cannot be turned during electric operation due to the planetary Gear Mechanism.

OPTIONAL EQUIPMENT

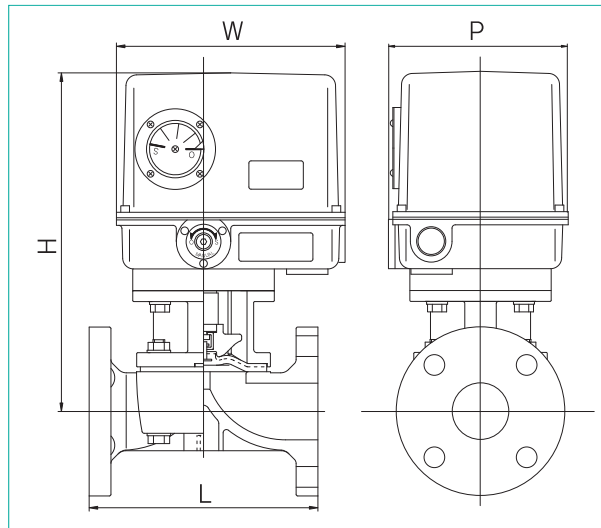
Combination No.	1
Space Heater	●
Output Contact Limit Switches	●

ACTUATOR SPECIFICATION

Nominal Size mm(inch)	15 (1/2inch)	20 (3/4inch)	25 (1inch)	32 (1 1/4inch)	40 (1 1/2inch)	50 (2inch)
Actuator Type	ED-11H					
Cycle Time 50/60Hz(seconds)	20/16	24/20	43/36	51/43		
Motor Output(W)	20					
Motor Starting Current(A) 50/60Hz	100V	0.69/0.7				
	200V	0.3/0.3				
Motor Rated Current(A) 50/60Hz	100V	0.5/0.5				
	200V	0.25/0.25				
Number of revolutions of manual operating handle	21	25	44	50		
Limit Switch Capacity	AC 250V 10A					
Protective Structure	JIS C 0920 Waterjet-proof Type					
Cable Connector Nominal Size	2-G 3/4					
Motor Pole(P)	4					
Motor Insulation	E Class					
Motor Time Rating(minute)	30					

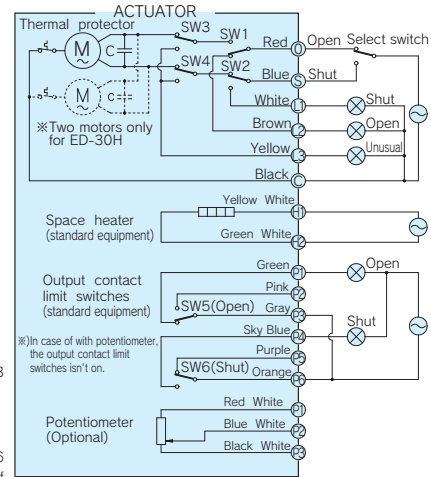
* for the actuator with lubricant free valves with a positioner or a potentiometer consult near Asahi dealer.

DIMENSIONS FIGURE



SCHEMATIC DIAGRAM

WIRING DIAGRAM

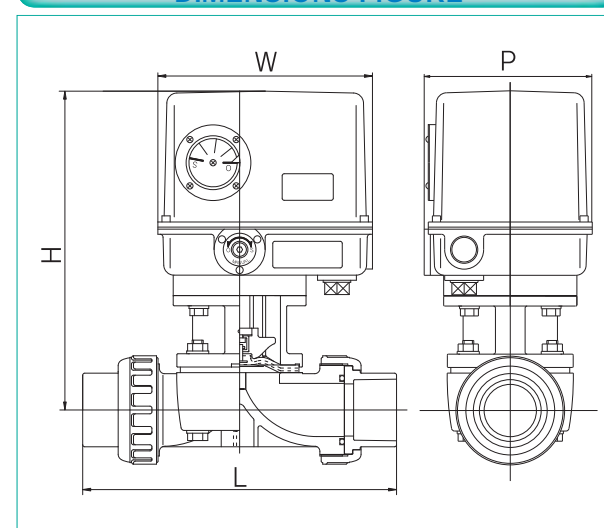


Switching Chart

SW1	Shut	Open	OFF by full open
SW3	Open limit	Open Double Safety	Overrun OFF
SW5	Open contact		ON by full open between P1 and P3
SW2	Shut limit		OFF by full shut
SW4	Shut Double Safety		Overrun OFF
SW6	Shut contact		ON by full shut between P4 and P6

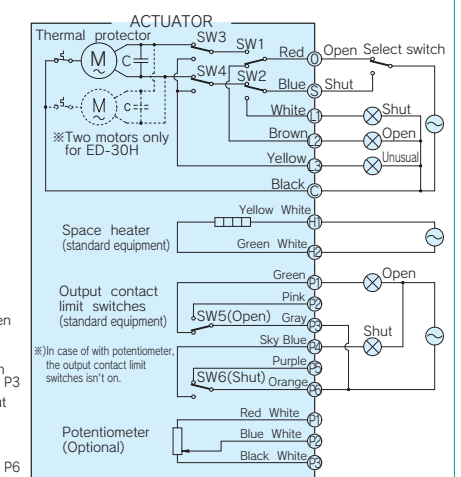
NOTE: This circuit diagram shows that the position of the opening action has come to an end.

DIMENSIONS FIGURE



SCHEMATIC DIAGRAM

WIRING DIAGRAM

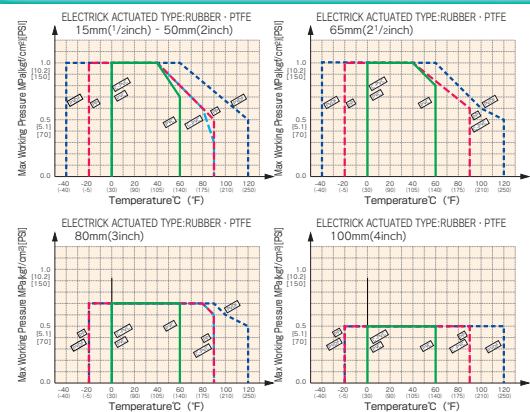


Switching Chart

SW1	Shut	Open	OFF by full open
SW3	Open limit	Open Double Safety	Overrun OFF
SW5	Open contact		ON by full open between P1 and P3
SW2	Shut limit		OFF by full shut
SW4	Shut Double Safety		Overrun OFF
SW6	Shut contact		ON by full shut between P4 and P6

NOTE: This circuit diagram shows that the position of the opening action has come to an end.

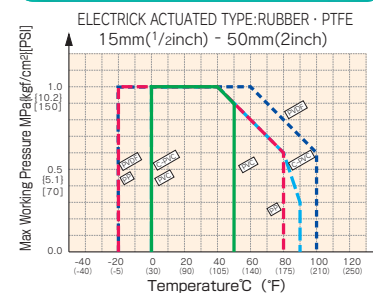
WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm (inch)									
Nominal Size		15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	
L	JIS	110 (4.33)	120 (4.72)	130 (5.12)	142 (5.59)	180 (7.09)	210 (8.27)	250 (9.84)	280 (11.02)	340 (13.39)	
	DIN	130 (5.12)	150 (5.91)	160 (6.3)	180 (7.09)	200 (7.87)	230 (9.06)	290 (11.42)	310 (12.2)	350 (13.78)	
	ANSI	A Standard	110 (4.33)	120 (4.72)	130 (5.12)	-	180 (7.09)	210 (8.27)	250 (9.84)	280 (11.02)	340 (13.39)
		G Standard	108 (4.25)	149 (5.88)	149 (5.88)	213 (8.38)	176 (6.94)	202 (7.94)	-	263 (10.37)	328 (12.93)
	H		284 (11.18)	286 (11.26)	291 (11.46)	294.5 (11.59)	302.2 (11.90)	311.2 (12.25)	371 (14.61)	388 (15.28)	418 (16.46)
	W		210 (8.27)	210 (8.27)	210 (8.27)	210 (8.27)	210 (8.27)	210 (8.27)	240 (9.45)	240 (9.45)	240 (9.45)
P		164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	184 (7.24)	184 (7.24)	184 (7.24)	

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm (inch)																			
Nominal Size		15(1/2)	20(3/4)	25(1)	32(1 1/4)	40(1 1/2)	50(2)	Nominal Size		15(1/2)	20(3/4)	25(1)	32(1 1/4)	40(1 1/2)	50(2)						
Threaded End	L	PVC, C-PVC	JIS	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (11.06)	Socket End	L	JIS	134 (5.28)	154 (6.06)	182 (7.17)	253 (10.83)					
			DIN	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (11.06)			PP	DIN	125 (4.92)	141 (5.55)	164 (6.46)	177 (6.97)	231 (9.09)	274 (10.79)		
			ANSI	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (11.06)			ANSI	138 (5.43)	155 (6.09)	184 (7.24)	198 (7.80)	261 (10.28)	293 (11.54)			
		PP, PVDF	JIS	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (10.95)			Common	L	DIN	125 (4.92)	141 (5.55)	164 (6.46)	177 (6.97)	231 (9.09)	274 (10.79)	
			DIN	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (10.95)					PVDF	ANSI	138 (5.43)	155 (6.09)	184 (7.24)	198 (7.80)	261 (10.28)	293 (11.54)
			ANSI	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (10.95)					H	284 (11.18)	286 (11.26)	291 (11.46)	295 (11.59)	302.2 (11.90)	311.2 (12.25)	
Socket End	L	PVC, C-PVC	JIS	134 (5.04)	156 (6.14)	186 (7.32)	200 (7.87)	271 (10.67)	303 (11.57)	Common	W	JIS	210 (8.27)	210 (8.27)	210 (8.27)	210 (8.27)	210 (8.27)	210 (8.27)			
			DIN	128 (5.04)	147 (5.79)	172 (6.77)	188 (7.4)	246 (9.69)	294 (11.57)			P	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)			
			ANSI	139 (5.47)	157 (6.18)	186 (7.32)	202 (7.95)	266 (10.47)	293 (11.54)												

Diaphragm Valve Type 15 (Electric Actuated Type H) 125mm, 150mm (5inch, 6inch)

- Body Material**
PVC
PP
PVDF
- Diaphragm Material**
PTFE
EPDM
FKM
- Connection Standard**
JIS 10K · JIS 5K
ANSI CLASS150
DIN PN10
- Power Source**
Single-Phase
AC100V/110V/200V/220V
- Equipment**
Manual Operation Mechanism
Space Heater
Output Contact Limit Switches
Indicator



FEATURES

- In addition to the ordinary On-Off Limit Switch, additional Limit Switch is built in for safety.
- Manual Operating Handle is provided as a Standard Equipment. The Handle cannot be turned during electric operation due to the planetary Gear Mechanism.

OPTIONAL EQUIPMENT

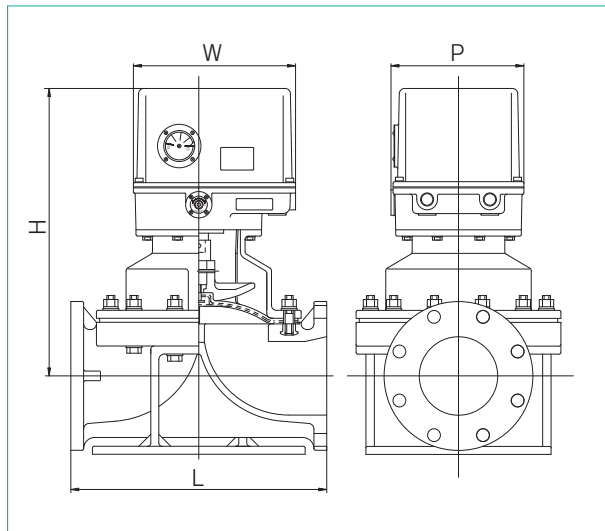
Combination No.	1
Space Heater	●
Output Contact Limit Switches	●

●Standard Equipment

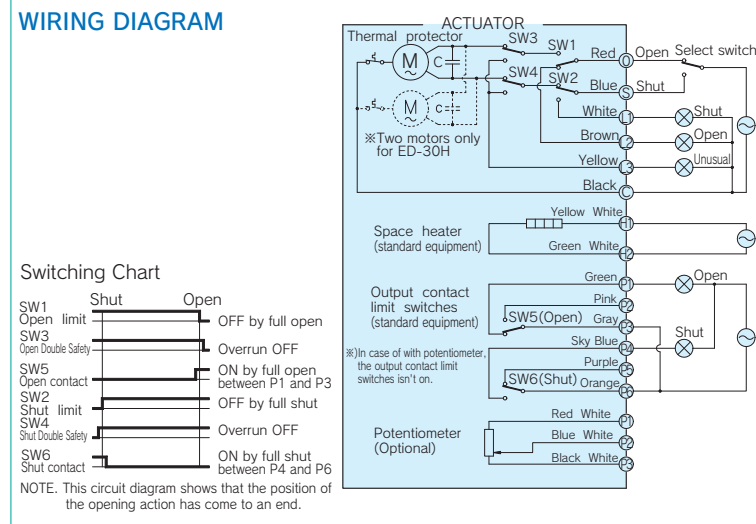
ACTUATOR SPECIFICATION

Nominal Size mm(inch)	125(5inch)	150(6inch)
Actuator Type	ED-30H	
Cycle Time 50/60Hz(seconds)	48/40	
Motor Output(W)	140	
Motor Starting	100V 5.00/4.80	
Current(A) 50/60Hz	110V 1.40/1.46	
	200V 2.50/2.40	
	220V 0.70/0.70	
Motor Rated	100V 3.00/3.00	
Current(A) 50/60Hz	110V 2.63/2.40	
	200V 1.50/1.50	
	220V 1.10/1.10	
Number of revolutions of manual operating handle	128	
Limit Switch Capacity	AC 250V 3A	
Protective Structure	JIS C 0920 drip-proof type	
Cable Connector Nominal Size	4-G 3/4	
Motor Pole(P)	4	
Motor Insulation	E Class	
Motor Time Rating(minute)	30	

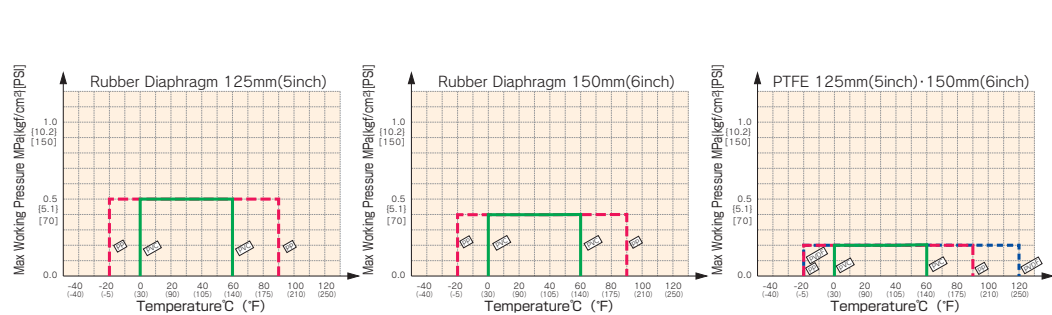
DIMENSIONS FIGURE



SCHEMATIC DIAGRAM



WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)	
Nominal Size	125 (5)	150 (6)	
L	JIS	410 (16.14)	480 (18.90)
	DIN	400 (15.75)	480 (18.90)
	ANSI	410 (16.14)	480 (18.90)
H	510 (20.08)	550 (21.65)	
W	310 (12.20)	310 (12.20)	
P	254 (10.00)	254 (10.00)	

Diaphragm Valve Type 15,72(Electric Actuated Type S) Type 15:125mm,150mm(5inch,6inch) Type 72:200mm,250mm(8inch,10inch)

- Body Material**
PVC
PP
PVDF
- Diaphragm Material**
PTFE
EPDM
FKM
- Connection Standard**
JIS 10K · JIS 5K
ANSI CLASS150
DIN PN10
- Power Source**
Three-Phase
AC200V/400V
- Equipment**
Manual Operation Mechanism (Handle is sold separately.)
Torque Switches
Space Heater
Indicator
- Option**
Output Contact Limit Switches
Potentiometer
E-E Positioner
R/I Transmitter



FEATURES

- Standard Torque Switch protects valves from Overload.
- Automatic return does not require Clutch Operation after Manual Operation.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4
Space Heater	●	●	●	●
Output Contact Limit Switches	○	—	—	—
Potentiometer	—	○	○	○
R-I Transmitter	—	—	○	○
E-E Positioner	—	—	—	○

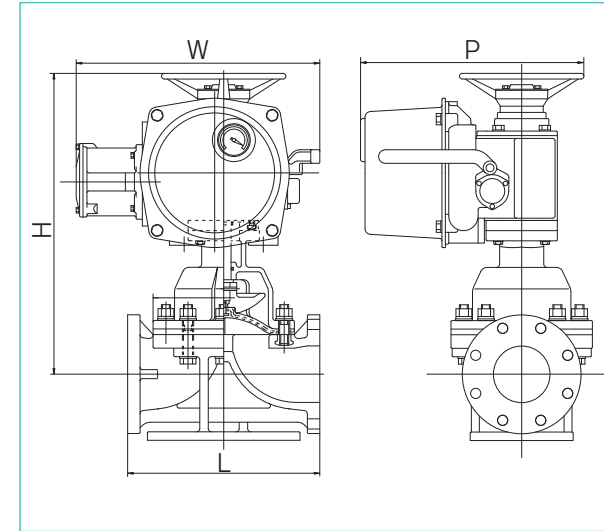
●Standard Equipment
※Actuator Type is to be changed.

ACTUATOR SPECIFICATION

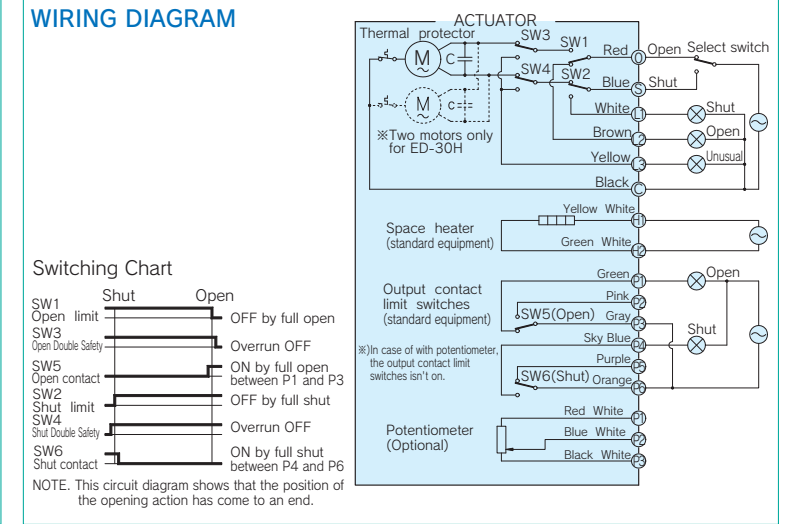
Nominal Size mm(inch)	125 (5inch)	150 (6inch)	200 (8inch)	250 (10inch)
Actuator Type	LTRM-01	LTMD-01	LTMD-02	
Cycle Time 50/60Hz(seconds)	29/24	54/46.5	75.5/63	90/75
Motor Output(W)	400	400	750	750
Motor Starting	200V 8.8/8.3	8.0/7.4	15.6/15.2	
Current(A) 50/60Hz	400V 4.4/4.1	4.0/3.7	7.8/7.6	
Motor Rated	200V 3.0/2.4	2.5/2.2	4.4/4.0	
Current(A) 50/60Hz	400V 1.5/1.2	1.3/1.1	2.2/2.0	
Number of revolutions of manual operating handle	10	10	16	18
Limit Switch Capacity	AC 250V 5A			
Protective Structure	IP55			
Cable Connector Nominal Size	2-G1	Operating circuit:2G1 Motor circuit:G3/4		
Motor Pole(P)	4			
Motor Insulation	E Class			
Motor Time Rating(minute)	15			

※In the case of Actuator with Electric Positioner, the model number is followed by "Z".

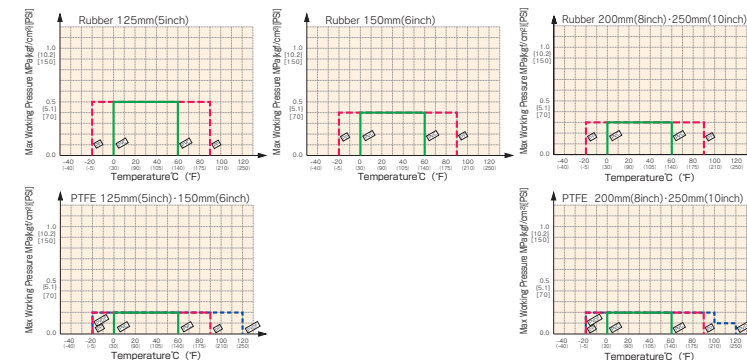
DIMENSIONS FIGURE



SCHEMATIC DIAGRAM



WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)			
Nominal Size	125 (5)	150 (6)	200 (8)	250 (10)	
L	JIS	410 (16.14)	480 (18.90)	570 (22.44)	680 (26.77)
	DIN	400 (15.75)	480 (18.90)	600 (23.62)	730 (28.74)
	ANSI	410 (16.14)	480 (18.90)	570 (22.44)	680 (26.77)
H	590 (23.23)	714 (28.11)	802 (31.57)	969 (38.15)	
W	430 (16.93)	635 (25.00)	635 (25.00)	675 (26.57)	
P	395 (15.55)	522 (20.55)	522 (20.55)	557 (21.93)	

Diaphragm Valve Type 14 (Pneumatic Actuated Type AN) 15mm-50mm (1/2inch-2inch)

Body Material
PVC
C-PVC
PP
PVDF

Diaphragm Material
PTFE
EPDM
FKM
Viflon C (FKM-C)
Viflon F (FKM-F)

Connection Standard
JIS 10K
ANSI CLASS150
DIN PN10

Action
Double Acting
Air to Open
Air to Close

Equipment
Indicator

Option
· Filter Regulator
· Solenoid Valve
· Limit Switch *1
· Speed Controller
· Manual Override (for only air to open)
· Positioner

*1: Working Pressure with Limit Switch is 0.6MPa at maximum.



FEATURES

- The Actuator made of resin is Light and Compact.
- NAMUR Standard is applied for Air Piping.
- All optional Equipment (except positioner) can easily be added or removed in the field.
- A Closing Travel Stop Mechanism is Standard.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	○	○	○	○	○	○	○	○
Filter Regulator	—	—	—	—	—	—	—	—	—
Speed Controller	◎	○	—	◎	◎	○	◎	—	—
Limit Switch	—	—	○	—	○	○	○	—	—
Positioner (electric-air, air-air)	—	—	—	—	—	—	—	○	○

◎Indicates specialized for Solenoid Valve.
※With built-in speed controller and bypass valve.

ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Actuator Type	AN-1DA	AN-2DA	AN-3DA	AN-4DA		
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /open & close (at operating pressure 0.4MPa)	2.6	2.6	2.7	2.7	9.6	9.8
Air Supply Bore	Rc 1/4					

ACTUATOR SPECIFICATION [Air to Open]

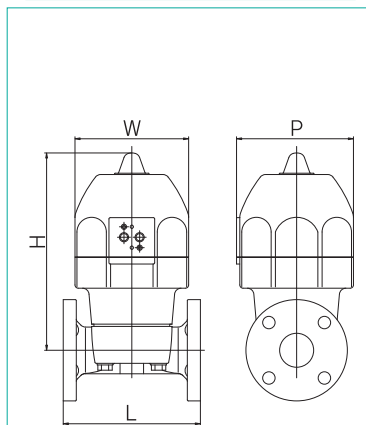
Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Actuator Type	AN-1AO	AN-2AO	AN-3AO	AN-4AO		
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /open & close (at operating pressure 0.4MPa)	0.8	0.8	0.8	0.8	3.4	3.4
Air Supply Bore	Rc 1/4					

ACTUATOR SPECIFICATION [Air to Close]

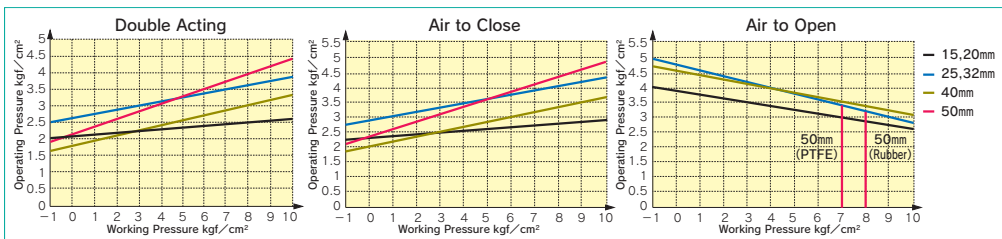
Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Actuator Type	AN-1AS	AN-2AS	AN-3AS	AN-4AS		
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /open & close (at operating pressure 0.4MPa)	1.8	1.8	1.9	1.9	6.1	6.3
Air Supply Bore	Rc 1/4					

* for the actuator with lubricant free valves consult near Asahi dealer.

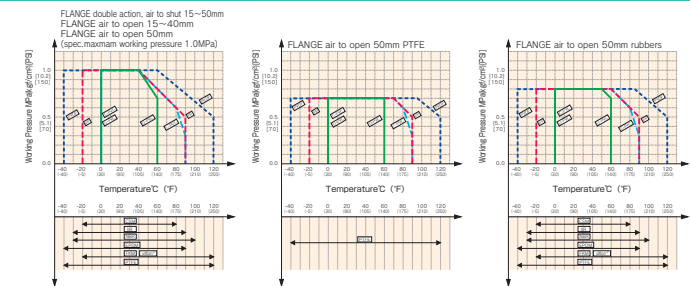
DIMENSIONS FIGURE



OPERATION PRESSURE vs WORKING PRESSURE



WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)					
Nominal Size		15(1/2)	20(3/4)	25(1)	32(1 1/4)	40(1 1/2)	50(2)
L	JIS	110 (4.33)	120 (4.72)	130 (5.12)	142 (5.59)	180 (7.09)	210 (8.27)
	DIN	130 (5.12)	150 (5.91)	160 (6.30)	180 (7.09)	200 (7.87)	230 (9.06)
	ANSI	A Standard	110 (4.33)	120 (4.72)	130 (5.12)	—	180 (7.09)
G Standard		108 (4.25)	149 (5.88)	149 (5.88)	213 (6.38)	176 (6.94)	202 (7.94)
H		186 (7.32)	188 (7.4)	193 (7.6)	197 (7.76)	293 (11.54)	302 (11.89)
W		130 (5.12)	130 (5.12)	130 (5.12)	130 (5.12)	174 (6.85)	174 (6.85)
P		133 (5.24)	133 (5.24)	133 (5.24)	133 (5.24)	179 (7.05)	179 (7.05)

Diaphragm Valve Type 14 (Pneumatic Actuated Type AV) 65mm-100mm (2 1/2inch-4inch)

Body Material
PVC
C-PVC
PP
PVDF

Diaphragm Material
PTFE
EPDM
FKM
Viflon C (FKM-C)
Viflon F (FKM-F)

Connection Standard
JIS 10K
ANSI CLASS150
DIN PN10

Action
Double Acting
Air to Open
Air to Close

Equipment
Indicator

Option
· Filter Regulator
· Solenoid Valve
· Limit Switch
· Speed Controller
· Manual Override
· Positioner



FEATURES

- A Closing Travel Stop mechanism is standard.
- NAMUR Standard is applied for air piping.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	—	—	○	○	—	○	—	—
Filter Regulator	—	—	—	○	—	—	○	—	○
Speed Controller	○	○	—	○	○	○	○	—	—
Limit Switch	—	—	○	—	○	○	—	—	—
Positioner (Electric-Air, Air-Air)	—	—	—	—	—	—	—	○	○

ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	65(2 1/2inch)	80(3inch)	100(4inch)
Actuator Type	—	—	—
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}		
Air Consumption NI /open & close (at operating pressure 0.4MPa)	10.3	11.9	20.7
Air Supply Bore	Rc 1/4		

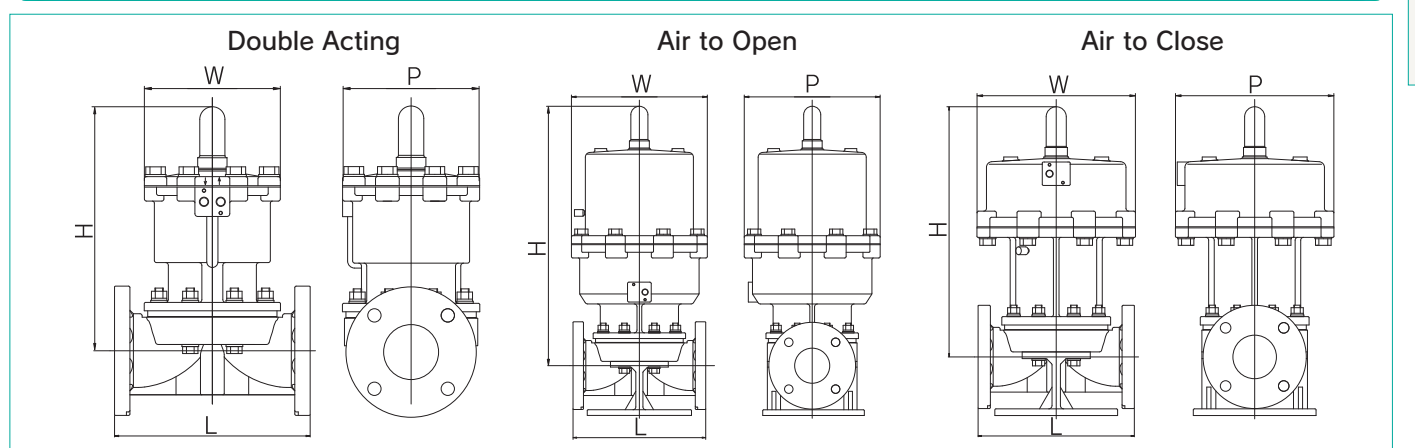
ACTUATOR SPECIFICATION [Air to Open]

Nominal Size mm(inch)	65(2 1/2inch)	80(3inch)	100(4inch)
Actuator Type	—	—	—
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}		
Air Consumption NI /open & close (at operating pressure 0.4MPa)	10.6	15.9	34.3
Air Supply Bore	Rc 1/4		

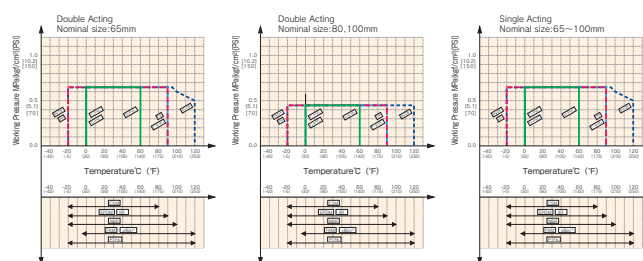
ACTUATOR SPECIFICATION [Air to Close]

Nominal Size mm(inch)	65(2 1/2inch)	80(3inch)	100(4inch)
Actuator Type	—	—	—
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}		
Air Consumption NI /open & close (at operating pressure 0.4MPa)	9.4	11.7	26.5
Air Supply Bore	Rc 1/4		

DIMENSIONS FIGURE



WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)							
Nominal Size		65 (2 1/2)	80 (3)	100 (4)	Nominal Size	65 (2 1/2)	80 (3)	100 (4)	
Common	L	JIS	250 (9.84)	280 (11.02)	340 (13.39)	Air to Open	H	473 (18.62)	550 (21.65)
		DIN	290 (11.42)	310 (12.2)	350 (13.78)		W	280 (11.02)	305 (12.01)
	ANSI	A Standard	250 (9.84)	280 (11.02)	340 (13.39)	P	280 (11.02)	305 (12.01)	
G Standard		—	263 (10.37)	328 (12.93)	H	423 (16.65)	455 (17.91)		
Double Acting	H	JIS	323 (12.72)	354 (13.94)	417 (16.42)	Air to Close	W	280 (11.02)	305 (12.01)
		DIN	208 (8.19)	208 (8.19)	250 (9.84)		P	280 (11.02)	305 (12.01)
		ANSI	208 (8.19)	208 (8.19)	250 (9.84)				

True Union Diaphragm Valve Type 14 (Pneumatic Actuated Type AN) 15mm-50mm (1/2 inch-2 inch)

Body Material

PVC
C-PVC
PP
PVDF

Diaphragm Material

PTFE
EPDM
FKM
Viflon C (FKM-C)
Viflon F (FKM-F)

Connection Standard

Socket End JIS
Socket End ASTM SCH80
Socket End DIN
Threaded End Rc
Threaded End NPT
Threaded End Rp

Action

Double Acting
Air to Open
Air to Close

Equipment

Indicator

Option

- Filter Regulator
- Solenoid Valve
- Limit Switch
- Speed Controller
- Manual Override
- ※ for air to open
- Positioner



FEATURES

- The Actuator made of Resin is Light and Compact.
- NAMUR Standard is applied for air piping.
- All Optional Equipment(except positioner) can easily be added or removed in the Field.
- A Closing Travel Stop mechanism is standard.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	○	○	○	○	○	○	○	○
Filter Regulator	-	-	-	-	-	-	-	-	-
Speed Controller	◎	○	-	◎	◎	○	◎	-	-
Limit Switch	-	-	○	-	○	○	○	-	-
Positioner (Electric-Air, Air-Air)	-	-	-	-	-	-	-	○	○

◎Indicates specialized for Solenoid Valve.
※With built-in speed controller and bypass valve.

ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Actuator Type	AN-1DA		AN-2DA		AN-3DA AN-4DA	
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	2.6	2.6	2.7	2.7	9.6	9.8
Air Supply Bore	Rc 1/4					

ACTUATOR SPECIFICATION [Air to Open]

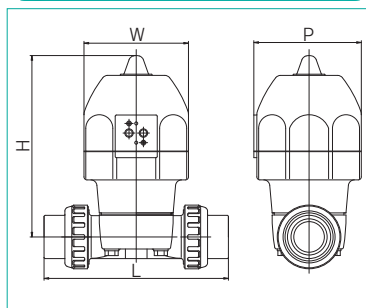
Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Actuator Type	AN-1AO		AN-2AO		AN-3AO AN-4AO	
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	0.8	0.8	0.8	0.8	3.4	3.4
Air Supply Bore	Rc 1/4					

ACTUATOR SPECIFICATION [Air to Close]

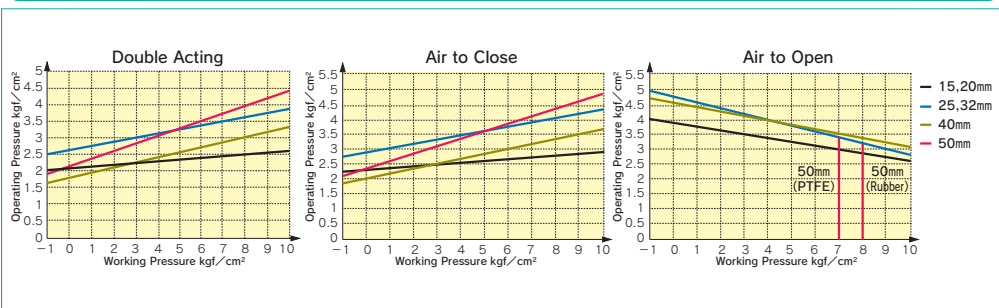
Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Actuator Type	AN-1AS		AN-2AS		AN-3AS AN-4AS	
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	1.8	1.8	1.9	1.9	6.1	6.3
Air Supply Bore	Rc 1/4					

* for the actuator with lubricant free valves consult near Asahi dealer.

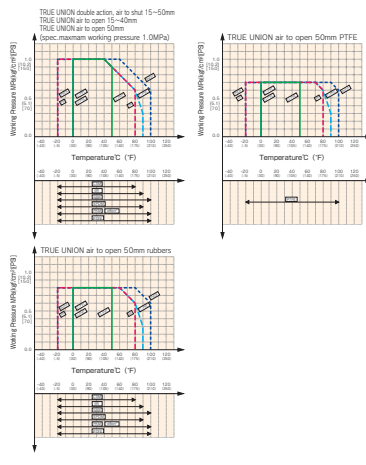
DIMENSIONS FIGURE



OPERATION PRESSURE vs WORKING PRESSURE



WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

Nominal Size		Unit:mm (inch)							
Nominal Size		15(1/2)	20(3/4)	25(1)	32(1 1/4)	40(1 1/2)	50(2)		
Threaded End	L	PVC, C-PVC	JIS	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (11.06)
			DIN	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (11.06)
			ANSI	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	281 (11.06)
	Common	PVC, C-PVC	JIS	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	278 (10.95)
			DIN	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	278 (10.95)
			ANSI	128 (5.04)	148 (5.83)	172 (6.77)	188 (7.4)	245 (9.65)	278 (10.95)
Socket End	L	PVC, C-PVC	JIS	134 (5.28)	156 (6.14)	186 (7.32)	200 (7.87)	271 (10.67)	303 (11.93)
			DIN	128 (5.04)	147 (5.79)	172 (6.77)	188 (7.4)	246 (9.69)	294 (11.57)
			ANSI	139 (5.47)	157 (6.18)	186 (7.32)	202 (7.95)	266 (10.47)	293 (11.54)
	Common	PVC, C-PVC	JIS	134 (5.28)	156 (6.14)	186 (7.32)	200 (7.87)	271 (10.67)	303 (11.93)
			DIN	128 (5.04)	147 (5.79)	172 (6.77)	188 (7.4)	246 (9.69)	294 (11.57)
			ANSI	139 (5.47)	157 (6.18)	186 (7.32)	202 (7.95)	266 (10.47)	293 (11.54)

Diaphragm Valve Type 15,72(Pneumatic Actuated Type AV) Type15:125mm,150mm(5inch,6inch) Type72:200mm,250mm(8inch,10inch)

Body Material

PVC
PP
PVDF

Diaphragm Material

PTFE
EPDM
FKM

Connection Standard

JIS 10K · JIS 5K
ANSI CLASS150
DIN PN10

Action

Double Acting
Air to Open
Air to Close

Equipment

Opening Indicator
(Gauge Cover)

Option

- Filter Regulator
- Solenoid Valve
- Speed Controller
- Positioner



FEATURES

- Stopper provided to adjust to Fully-Closed position.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Solenoid Valve ※	○	-	-	○	○	○	-	○	○	○	○	○	-
Filter Regulator	-	-	-	○	-	-	-	○	○	-	○	-	-
Speed Controller	-	○	-	-	○	-	○	○	-	○	○	-	-
Limit Switch	-	-	○	-	-	○	○	-	○	○	-	-	-
Positioner (Electric-Air, Air-Air)	-	-	-	-	-	-	-	-	-	-	-	○	○

ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	125(5inch)	150(6inch)	200(8inch)	250(10inch)
Actuator Type	-			
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}			
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	36.6	67.3	87.3	214
Air Supply Bore	Rc 3/8			

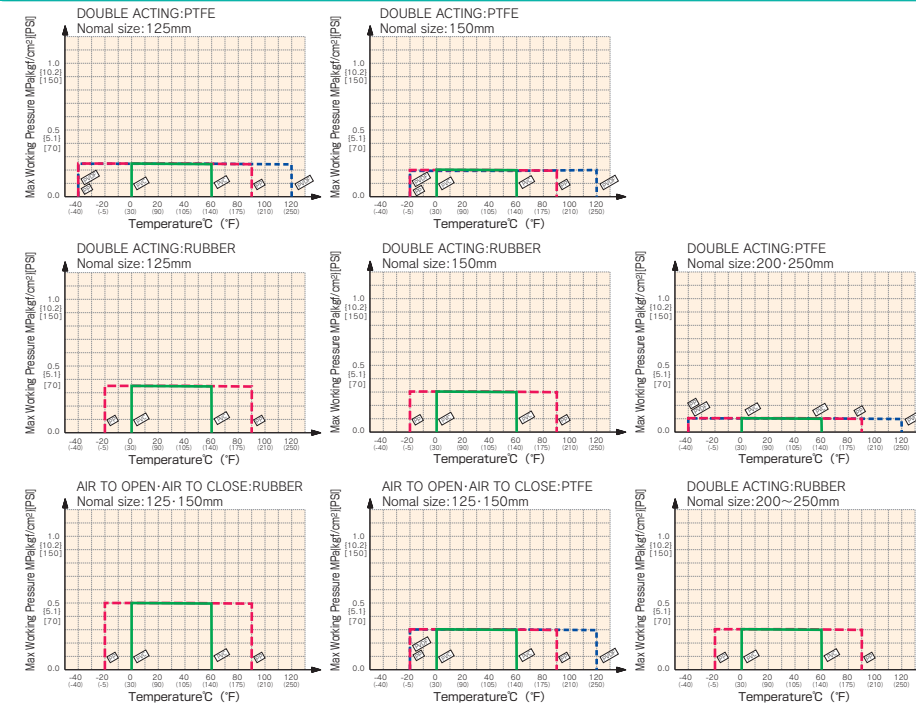
ACTUATOR SPECIFICATION [Air to Open]

Nominal Size mm(inch)	125(5inch)	150(6inch)
Actuator Type	-	
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}	
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	55.6	84.2
Air Supply Bore	Rc 3/8	

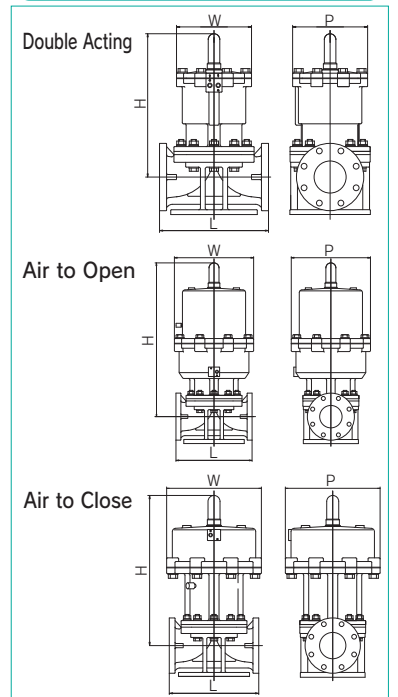
ACTUATOR SPECIFICATION [Air to Close]

Nominal Size mm(inch)	125(5inch)	150(6inch)
Actuator Type	-	
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.6{6.1}	
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	38.4	60.5
Air Supply Bore	Rc 3/8	

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS FIGURE



DIMENSIONS TABLE

Nominal Size		Unit:mm (inch)				
Nominal Size		125 (5)	150 (6)	200 (8)	250 (10)	
Common	L	JIS	410 (16.14)	480 (18.90)	570 (22.44)	680 (26.77)
		DIN	400 (15.75)	480 (18.90)	600 (23.62)	730 (28.74)
		ANSI	410 (16.14)	480 (18.90)	570 (22.44)	680 (26.77)
Double Acting	H	508 (20.00)	566 (22.28)	742 (29.21)	890 (35.04)	
	W	305 (12.01)	385 (15.16)	387.5 (15.26)	520 (20.47)	
	P	302.5 (11.91)	387.5 (15.26)	385 (15.16)	520 (20.47)	
Air to Open	H	690 (27.17)	790 (31.10)	-	-	
	W	455 (17.91)	520 (20.47)	-	-	
	P	455 (17.91)	520 (20.47)	-	-	
Air to Close	H	653 (25.71)	722 (28.43)	-	-	
	W	455 (17.91)	520 (20.47)	-	-	
	P	455 (17.91)	520 (20.47)	-	-	

Diaphragm Valve Type AI (Pneumatic Actuated Type AI) 15mm-50mm (1/2inch-2inch)

Body Material
PVC
C-PVC
PP
PVDF

Diaphragm Material
PTFE
EPDM
FKM
Viflon C (FKM-C)
Viflon F (FKM-F)

Connection Standard
JIS 10K
ANSI CLASS150
DIN PN10

Action
Double Acting
Air to Open
Air to Close

Equipment
Indicator

Option
· Filter Regulator
· Solenoid Valve
· Limit Switch
· Speed Controller
· Positioner



FEATURES

- Excellent Durability**
More than 500,000 times Open and Close.
- Compact Design**
Light Weight and Minimal Overall Height.
- Excellent Corrosion Resistance**
All Wetted Parts are made of Corrosion Resistant Thermoplastics.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	-	-	○	○	-	○	-	-
Filter Regulator	-	-	-	○	-	-	○	-	○
Speed Controller	◎	○	-	◎	◎	○	◎	-	-
Limit Switch	-	-	○	-	○	○	○	-	-
Positioner (electric-air, ait-air)	-	-	-	-	-	-	-	-	○

◎Indicates specialized for Solenoid Valve.
※With built-in speed controller and bypass valve.

ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /open & close (at operating pressure 0.4MPa)	0.89	0.89	1.29	1.29	4.35	4.80
Air Supply Bore	Rc 1/4					

ACTUATOR SPECIFICATION [Air to Open]

Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /open & close (at operating pressure 0.4MPa)	0.35	0.35	0.49	0.49	1.73	1.98
Air Supply Bore	Rc 1/4					

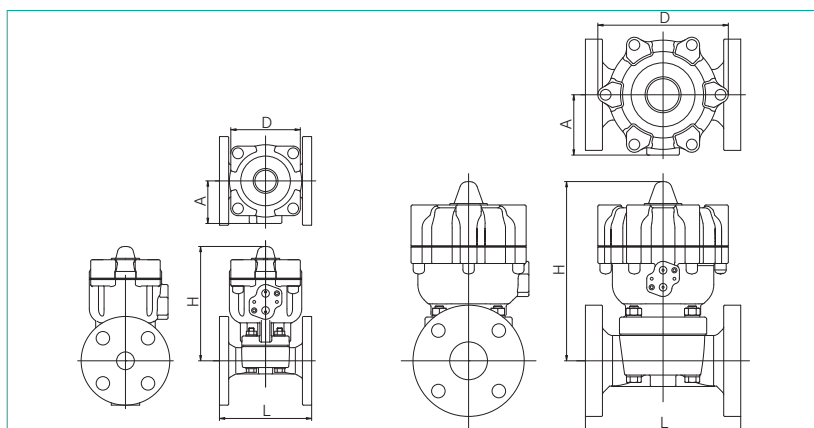
ACTUATOR SPECIFICATION [Air to Close]

Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /open & close (at operating pressure 0.4MPa)	0.54	0.54	0.79	0.79	2.63	2.82
Air Supply Bore	Rc 1/4					

* for the actuator with lubricant free valves consult near Asahi dealer.



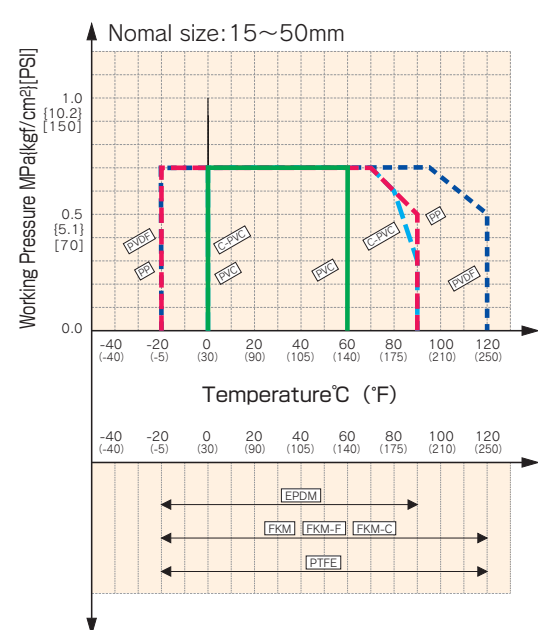
DIMENSIONS FIGURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(JIS,DIN) inch(ANSI)					
Nominal Size		15(1/2)	20(3/4)	25(1)	32(1 1/4)	40(1 1/2)	50(2)
D	JIS,DIN	91	91	100	100	184	184
	ANSI	3.58	3.58	3.94	3.94	7.24	7.24
A	JIS,DIN	55	55	60	60	85	85
	ANSI	2.17	2.17	2.36	2.36	3.35	3.35
H	JIS,DIN	145	153	161	165	238	254
	ANSI	5.71	6.02	6.34	6.50	9.37	10.00
L	JIS	110	120	130	142	180	210
	DIN	130	150	160	180	200	230
	ANSI	A Standard	4.33	4.72	5.12	-	7.09
	G Standard	4.25	5.88	5.88	6.38	6.94	7.94

WORKING PRESSURE VS. TEMPERATURE



True Union Diaphragm Valve Type AI (Pneumatic Actuated Type AI) 15mm-50mm (1/2inch-2inch)

Body Material
PVC
C-PVC
PP
PVDF

Diaphragm Material
PTFE
EPDM
FKM
Viflon C (FKM-C)
Viflon F (FKM-F)

Connection Standard
Socket End JIS
Socket End ASTM SCH80
Socket End DIN
Threaded End Rc
Threaded End NPT
Threaded End Rp

Action
Double Acting
Air to Open
Air to Close

Equipment
Indicator

Option
· Filter Regulator
· Solenoid Valve
· Limit Switch
· Speed Controller
· Positioner



FEATURES

- Excellent Durability**
More than 500,000 times Open and Close.
- Compact Design**
Light Weight and Minimal Overall Height.
- Excellent Corrosion Resistance**
All Wetted Parts are made of Corrosion Resistant Thermoplastics.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	-	-	○	○	-	○	-	-
Filter Regulator	-	-	-	○	-	-	○	-	○
Speed Controller	◎	○	-	◎	◎	○	◎	-	-
Limit Switch	-	-	○	-	○	○	○	-	-
Positioner (Electric-Air, Air-Air)	-	-	-	-	-	-	-	-	○

◎Indicates specialized for Solenoid Valve.
※With built-in speed controller and bypass valve.

ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	0.89	0.89	1.29	1.29	4.35	4.80
Air Supply Bore	Rc 1/4					

ACTUATOR SPECIFICATION [Air to Open]

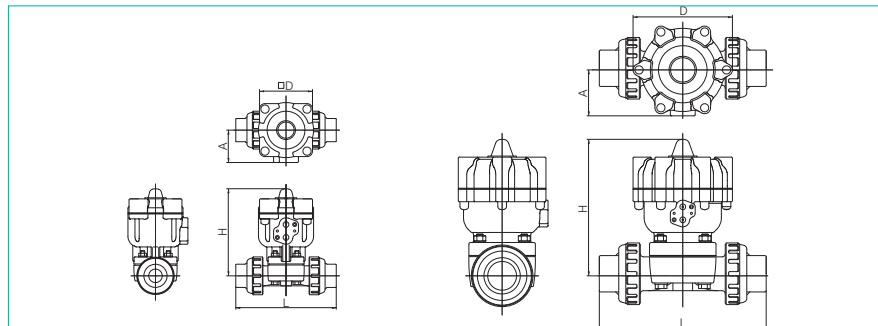
Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	0.35	0.35	0.49	0.49	1.73	1.98
Air Supply Bore	Rc 1/4					

ACTUATOR SPECIFICATION [Air to Close]

Nominal Size mm(inch)	15(1/2inch)	20(3/4inch)	25(1inch)	32(1 1/4inch)	40(1 1/2inch)	50(2inch)
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}					
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	0.54	0.54	0.79	0.79	2.63	2.82
Air Supply Bore	Rc 1/4					

* for the actuator with lubricant free valves consult near Asahi dealer.

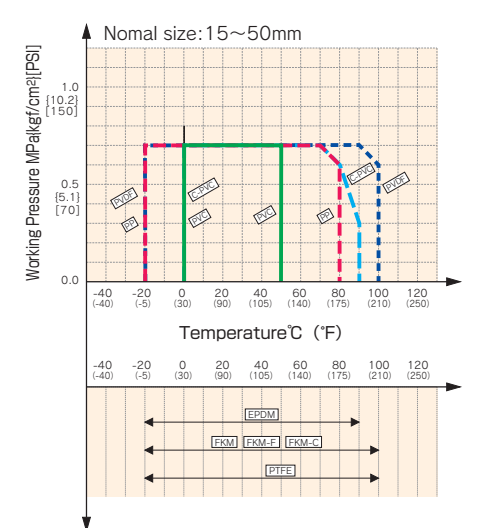
DIMENSIONS FIGURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(JIS,DIN) inch(ANSI)							
Nominal Size		15(1/2)	20(3/4)	25(1)	32(1 1/4)	40(1 1/2)	50(2)		
D	Common	JIS, DIN	91	91	100	100	184	184	
		ANSI	3.58	3.58	3.94	3.94	7.24	7.24	
A	Common	JIS, DIN	55	55	60	60	85	85	
		ANSI	2.17	2.17	2.36	2.36	3.35	3.35	
H	Common	JIS, DIN	145	153	161	165	238	254	
		ANSI	5.71	6.02	6.34	6.50	9.37	10.00	
L	Threaded End	PVC, C-PVC	JIS	128	148	172	188	245	281
			DIN	128	148	172	188	245	281
			ANSI	5.04	5.83	6.77	7.40	9.65	11.06
	Socket End	PP, PVDF	DIN	128	148	172	188	245	281
			JIS	134	156	186	200	271	303
			ANSI	5.27	6.14	7.32	7.87	10.67	11.94
Spigot End	PP, PVDF	DIN	125	141	164	177	231	274	
		JIS	134	154	182	-	253	275	
		ANSI	5.27	6.09	7.24	7.80	10.28	11.54	

WORKING PRESSURE VS. TEMPERATURE



Diaphragm Valve Type 16 (Pneumatic Actuated Type AD) 15mm-50mm (1/2inch-2inch)

Body Material

PVC

Diaphragm Material

PTFE
EPDM

Connection Standard

Socket End JIS
Socket End ASTM SCH80
Socket End DIN
Threaded End Rc
Threaded End NPT
Threaded End Rp
Flanged End JIS 10K
Flanged End ANSI CLASS150
Flanged End DIN PN10



Action

Double Acting
Air to Open

Option

Speed Controller
Full Opening Adjustment Mechanism
Indicator



▲Speed Controller



▲Full Opening Adjustment Mechanism



▲Full Opening Adjustment Mechanism Indicator

FEATURES

- Compact & Light Weight**
The most suitable for limited piping space or parallel piping lines.
- Excellent corrosion resistance**
All parts are made of thermoplastics and rubber.
- Excellent Durability.**
More than 1 million times open and close.
※ Type16 Diaphragm Valve is only available with lubricant free.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5*	6*
Speed Controller	—	○	—	○	—	○
Full Opening Adjustment Mechanism	—	—	○	○	○	○
Indicator	●	●	—	—	◎	◎

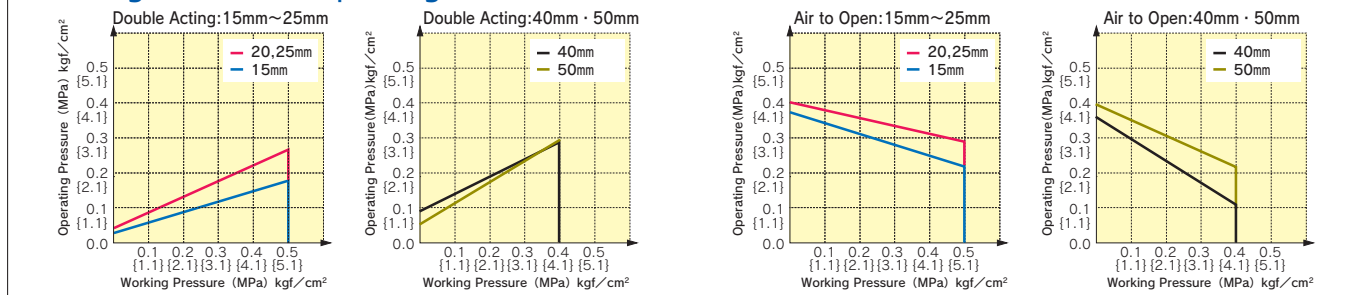
●Standard Equipment
◎Special Indicator
※Nominal Size 15mm(1/2"), 25mm(1") Only

ACTUATOR SPECIFICATION

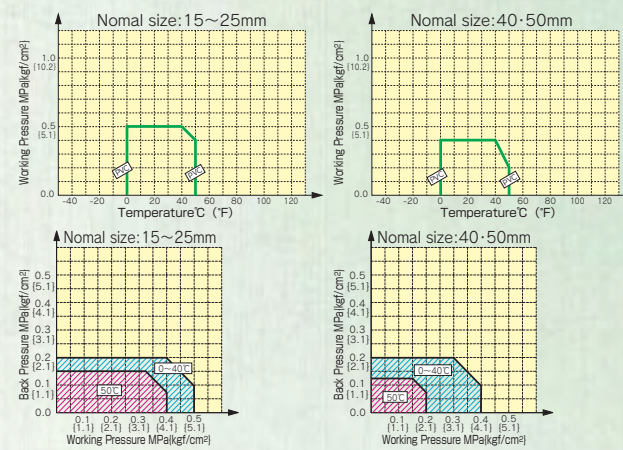
Nominal Size mm (inch)	15 (1/2inch)	20 (3/4inch)	25 (1inch)	40 (1 1/2inch)	50 (2inch)
Action	Air to Open, Double Acting				
Fluid	Pure water, Chemical				
Fluid Temperature	0-50°C(30-122° F)				
Working Pressure Range	0-0.5MPa [72.5PSI]			0-0.4MPa [58PSI]	
Back Pressure Range	0-0.2MPa [29PSI]				
Ambient Temperature	0-50°C(30-122° F)				
Frequency of Opening and Closing	With in 20 times/min			With in 15 times/min	
Connection	Socket End, Threaded End, Flange End				
Standard	JIS, DIN, ANSI				
Orifice Diameter	16mm(0.63inch)	22mm(0.87inch)	22mm(0.87inch)	40mm(1.57inch)	50mm(1.97inch)
Cv Value	4.8	8	9.5	26	44
Operating Pressure	Air to Open	0.4-0.5MPa [58-72.5PSI]			
	Double Acting	0.3-0.4MPa [43.5-58PSI]			
Air Supply Port Size	Rc1/8				
Installation Direction	Any direction				

note: Pay attention to Fluid temperature & Working pressure range.

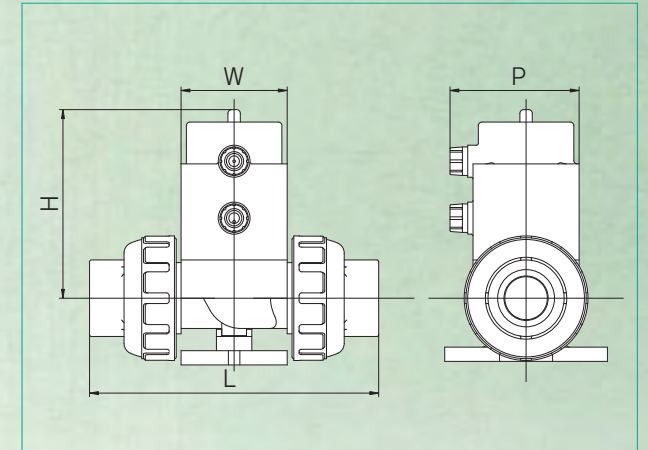
Working Pressure vs. Operating Pressure



WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS FIGURE

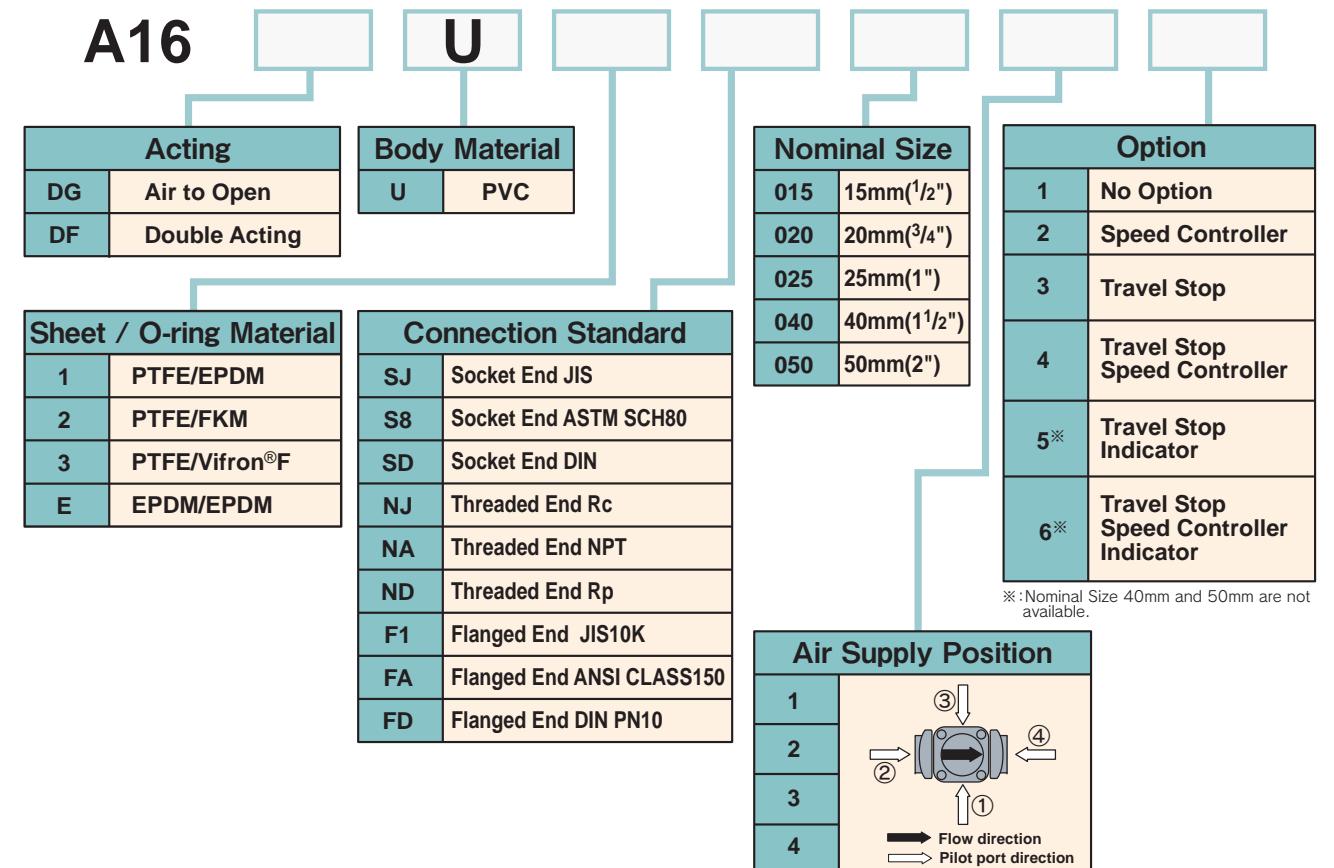


DIMENSIONS TABLE

Unit:mm (inch)

Nominal Size		15(1/2)	20(3/4)	25(1)	40(1 1/2)	50(2)
Flanged End	JIS	158.0(6.22)	191.0(7.52)	205.5(8.09)	264.0(10.39)	297.0(11.69)
	ANSI	158.0(6.22)	191.0(7.52)	205.5(8.09)	263.9(10.39)	296.9(11.69)
	DIN	145.0(5.71)	169.0(6.65)	178.5(7.03)	252.0(9.92)	293.0(11.54)
Threaded End	JIS	117.0(4.61)	139.0(5.47)	149.0(5.87)	215.0(8.46)	260.0(10.24)
	ANSI	117.0(4.61)	139.0(5.47)	149.0(5.87)	215.0(8.46)	260.0(10.24)
	DIN	117.0(4.61)	139.0(5.47)	149.0(5.87)	215.0(8.46)	260.0(10.24)
Socket End	JIS	118.0(4.65)	138.0(5.43)	149.5(5.89)	216.0(8.50)	260.0(10.24)
	ANSI	118.0(4.65)	138.0(5.43)	149.5(5.89)	216.0(8.50)	260.0(10.24)
Common	H	—	79.0(3.11)	108.0(4.25)	109.0(4.29)	161.5(6.36)
	W	—	50.0(1.97)	60.0(2.36)	60.0(2.36)	95.0(3.74)
	P	—	63.0(2.48)	73.0(2.87)	73.0(2.87)	107.5(4.23)

MODEL SELECTION TABLE



Ball Valve Type 21 (Electric actuated Type T) 15mm - 50mm (1/2 inch - 2inch)

Body Material
 PVC
 C-PVC
 PP
 PVDF

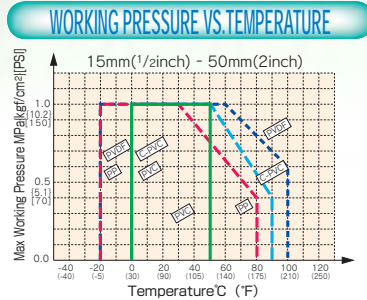
O-ring Material
 EPDM
 FKM

Connection Standard
 Socket End JIS
 Socket End ASTM SCH80
 Socket End DIN
 Threaded End Rc
 Threaded End NPT
 Threaded End Rp
 Flanged End JIS10K
 Flanged End ANSI CLASS150
 Flanged End DIN PN10

Power Source
 Single-Phase
 AC100V
 AC200V

Equipment
 Manual Operation Mechanism
 Output Contact Limit Switches
 Indicator

Option
 ·Space heater



FEATURES

- Motor is built into the body. Light-weight and Compact with high torque.
- Stopper enables adjustment of an angle of ± 5 degree at fully-Opened or Fully-Closed position.
- Opening Indicator is easy to read.

OPTIONAL EQUIPMENT

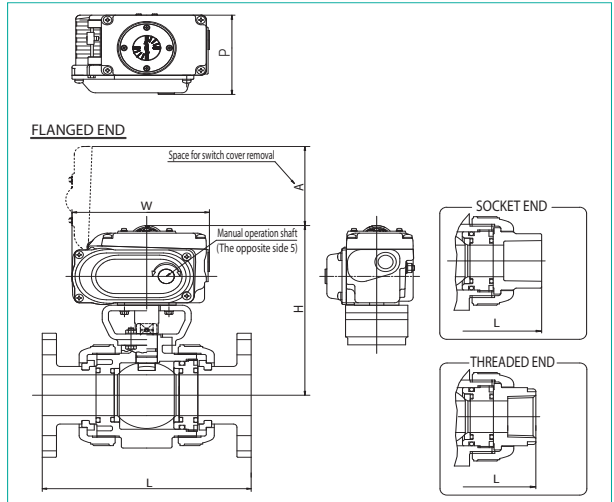
Combination No.	1	2	3
Space Heater	○	—	○
Manual Operation Mechanism	—	○	○

ACTUATOR SPECIFICATION

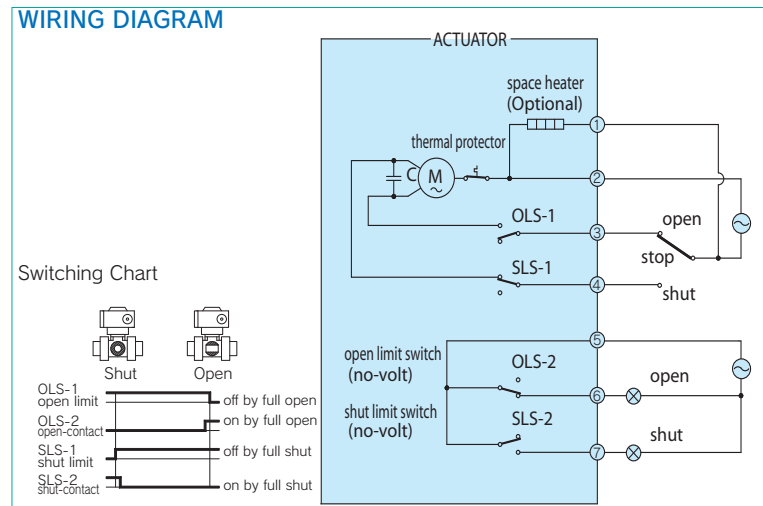
Nominal Size mm(inch)	15 - 50 (1/2inch - 2inch)	
Actuator Type	AOC-00	
Cycle Time 50/60Hz(seconds)	10/8	
Motor Output(W)	8	
Motor Starting Current(A) 50/60Hz	100V	0.80/0.80
	110V	1.0/1.0
	200V	0.5/0.5
Motor Rated Current(A) 50/60Hz	100V	0.4/0.4
	110V	0.5/0.5
	220V	0.3/0.3
Number of Revolutions of Manual Operating Handle	7.5	
Limit Switch Capacity	AC 250V 5A (Min.0.1A)	
Protective Structure	JIS C 0920 Waterjet-proof type	
Cable Connector Nominal Size	G1/2	
Motor Pole(P)	4	
Motor Insulation	E Class	
Motor Time Rating(minute)	30	

* for the actuator with lubricant free valves consult near Asahi dealer.

DIMENSIONS FIGURE



SCHEMATIC DIAGRAM



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)							
Nominal Size		15(1/2)	20(3/4)	25(1)	32(1 1/4)	40(1 1/2)	50(2)		
Flanged End	Common	JIS	143(5.63)	172(6.77)	187(7.36)	190(7.48)	212(8.35)	234(9.21)	
		DIN	130(5.12)	150(5.91)	160(6.30)	180(7.09)	200(7.87)	230(9.06)	
		ANSI	143(5.63)	172(6.77)	187(7.36)	190(7.48)	212(8.35)	234(9.21)	
Threaded End	Common	JIS	102(4.02)	120(4.72)	131(5.16)	150(5.91)	163(6.42)	197(7.76)	
		DIN	102(4.02)	120(4.72)	131(5.16)	150(5.91)	163(6.42)	197(7.76)	
		ANSI	113(4.45)	129(5.08)	146(5.75)	164(6.46)	184(7.24)	209(8.23)	
Socket End	L	PVC-C-PVC	JIS	108(4.25)	128(5.04)	145(5.71)	162(6.38)	189(7.44)	220(8.66)
			DIN	102(4.02)	120(4.72)	131(5.16)	150(5.91)	163(6.42)	197(7.76)
			ANSI	113(4.45)	129(5.08)	146(5.75)	164(6.46)	184(7.24)	209(8.23)
	PP	JIS	108(4.25)	126(4.96)	141(5.55)	—	171(6.73)	192(7.56)	
		DIN	99(3.90)	114(4.49)	123(4.84)	139(5.47)	148(5.83)	176(6.93)	
		ANSI	113(4.45)	129(5.08)	146(5.75)	164(6.46)	184(7.24)	209(8.23)	
PVDF	JIS	108(4.25)	126(4.96)	141(5.55)	—	171(6.73)	192(7.56)		
	DIN	99(3.90)	114(4.49)	123(4.84)	139(5.47)	148(5.83)	176(6.93)		
	ANSI	113(4.45)	129(5.08)	146(5.75)	164(6.46)	184(7.24)	209(8.23)		
Common	Common	H	169.5(6.67)	176(6.93)	183(7.21)	192(7.56)	200.5(7.89)	212(8.35)	
		W	154.5(6.08)	154.5(6.08)	154.5(6.08)	154.5(6.08)	154.5(6.08)	154.5(6.08)	
		P	99(3.90)	99(3.90)	99(3.90)	99(3.90)	99(3.90)	99(3.90)	
		A	100(3.94)	100(3.94)	100(3.94)	100(3.94)	100(3.94)	100(3.94)	

Ball Valve Type 21 (Electric actuated Type T) 65mm - 100mm (2 1/2 inch - 4 inch)

Body Material
 PVC
 C-PVC
 PP
 PVDF

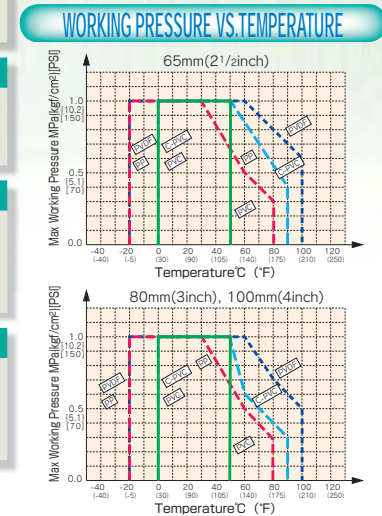
O-ring Material
 EPDM
 FKM

Connection Standard
 Socket End JIS
 Socket End ASTM SCH80
 Socket End DIN
 Threaded End Rc
 Threaded End NPT
 Threaded End Rp
 Flanged End JIS10K
 Flanged End ANSI CLASS150
 Flanged End DIN PN10

Power Source
 Single-Phase
 AC100V
 AC200V

Equipment
 Manual Operation Mechanism
 Space Heater
 Output Contact Limit Switches
 Indicator

Option
 ·Intermediate Limit Switch(no-volt)
 ·Speed Controller
 ·Potentiometer
 ·E-E Positioner



FEATURES

- Motor is built into the body. Light-Weight and Compact with High Torque.
- Stopper enables adjustment of an angle of ± 5 degree at fully-Opened or Fully-Closed position.
- Opening Indicator is easy to read.

OPTIONAL EQUIPMENT

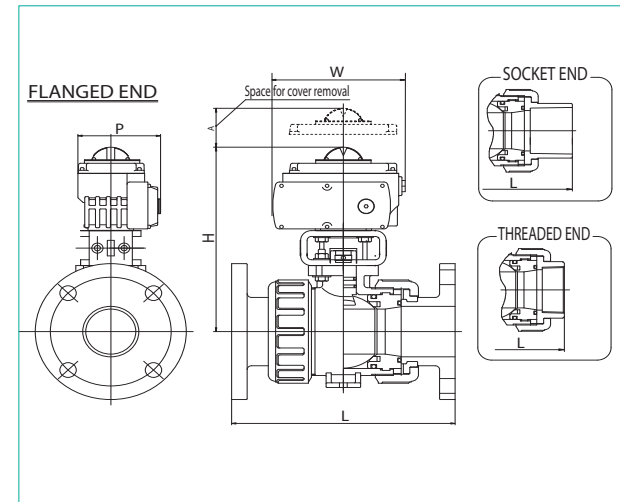
Combination No.	1	2	3	4	5	6	7
Space Heater	●	●	○	●	○	●	○
Output Contact Limit Switches	●	●	●	—	●	—	●
Potentiometer	—	○	—	—	—	○	○
E-E positioner	—	—	○	—	—	—	—
Intermediate Limit Switch (no-Volt)	—	—	—	○	—	○	—
Speed Controller	—	○	—	—	—	○	—

ACTUATOR SPECIFICATION

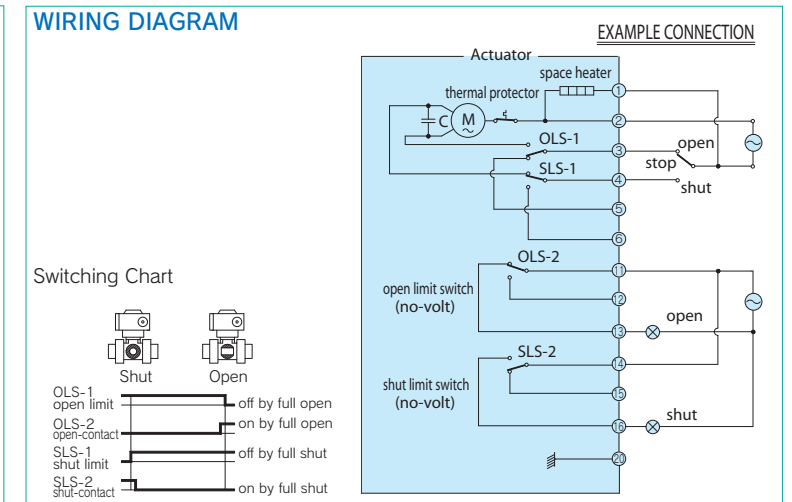
Nominal Size mm(inch)	65 - 100 (2 1/2inch - 4inch)	
Actuator Type	AOC-0	
Cycle Time 50/60Hz(seconds)	25/20	
Motor Output(W)	8	
Motor Starting Current(A) 50/60Hz	100V	1.2/1.2
	110V	1.4/1.4
	200V	0.5/0.5
Motor Rated Current(A) 50/60Hz	100V	0.5/0.5
	110V	0.6/0.6
	220V	0.3/0.3
Number of Revolutions of Manual Operating Handle	6.7	
Limit Switch Capacity	AC 250V 10A (Min 0.1A)	
Protective Structure	JIS C 0920 Waterjet-proof type IP65	
Cable Connector Nominal Size	G1/2	
Motor Pole(P)	4	
Motor Insulation	E Class	
Motor Time Rating(minute)	30	

* for the actuator with lubricant free valves consult near Asahi dealer.

DIMENSIONS FIGURE



SCHEMATIC DIAGRAM



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)										
Nominal Size		65(2 1/2)	80(3)	100(4)	Nominal Size							
		65(2 1/2)	80(3)	100(4)	65(2 1/2)	80(3)	100(4)					
Flanged End	PVC-C-PVC	JIS	261(10.28)	306(12.05)	374(14.72)	Socket End	DIN	204(8.03)	249(9.80)	307(12.09)		
		DIN	290(11.42)	312(12.28)	352(13.86)		PVDF	ANSI	237(9.33)	279(10.98)	359(14.13)	
		ANSI	259(10.20)	306(12.05)	374(14.72)		JIS	215(8.46)	265(10.43)	362(14.25)		
	PP	JIS	257(10.12)	305(12.01)	374(14.72)		PVC-C-PVC	DIN	215(8.46)	265(10.43)	340(13.39)	
		DIN	288(11.34)	311(12.24)	352(13.86)		ANSI	215(8.46)	265(10.43)	362(14.25)		
		ANSI	257(10.12)	306(12.05)	374(14.72)		JIS	213(8.39)	264(10.39)	362(14.25)		
PVDF	JIS	256(10.08)	302(11.89)	369(14.53)	Threaded End	L	PP	DIN	213(8.39)	264(10.39)	340(13.39)	
	DIN	287(11.30)	308(12.13)	347(13.60)				ANSI	213(8.39)	264(10.39)	362(14.25)	
	ANSI	256(10.08)	302(11.89)	369(14.53)				JIS	212(8.35)	261(10.28)	357(14.06)	
Socket End	PVC-C-PVC	JIS	273(10.75)	316(12.44)	419(16.50)	Common	Common	PVDF	DIN	212(8.35)	261(10.28)	355(13.19)
		DIN	233(9.17)	284(11.18)	351(13.82)			ANSI	212(8.35)	261(10.28)	357(14.06)	
		ANSI	240(9.45)	283(11.14)	352(13.86)			H	280(11.03)	289(11.38)	327(12.88)	
	PP	JIS	219(8.62)	257(10.12)	341(13.43)			W	202(7.95)	202(7.95)	202(7.95)	
		DIN	205(8.07)	252(9.92)	312(12.28)			P	138.8(5.47)	138.8(5.47)	138.8(5.47)	
		ANSI	238(9.37)	282(11.10)	365(14.37)			A	100(3.94)	100(3.94)	100(3.94)	

3-Way Ball Valve Type 23 (Electric actuated Type T) 15mm-100mm (1/2inch-4inch)

Body Material

- PVC
- C-PVC
- PP
- PVDF

O-ring Material

- EPDM
- FKM

Connection Standard

- Socket End JIS
- Socket End ASTM SCH80
- Socket End DIN
- Threaded End Rc
- Threaded End NPT
- Threaded End Rp
- Flanged End JIS10K
- Flanged End ANSI CLASS150
- Flanged End DIN PN10

Power Source

- Single-Phase
- AC100V/110V
- AC200V/220V

Equipment

- (AOC-00)
- Manual Operation Mechanism
- Output Contact Limit Switches
- Indicator (AOC-0)
- Manual Operation Mechanism
- Space Heater
- Output Contact Limit Switches
- Indicator

Option

- (AOC-00)
- Space Heater
- (AOC-0)
- Intermediate Limit Switch(no-volt)
- Space Heater
- Potentiometer
- E-E Positioner



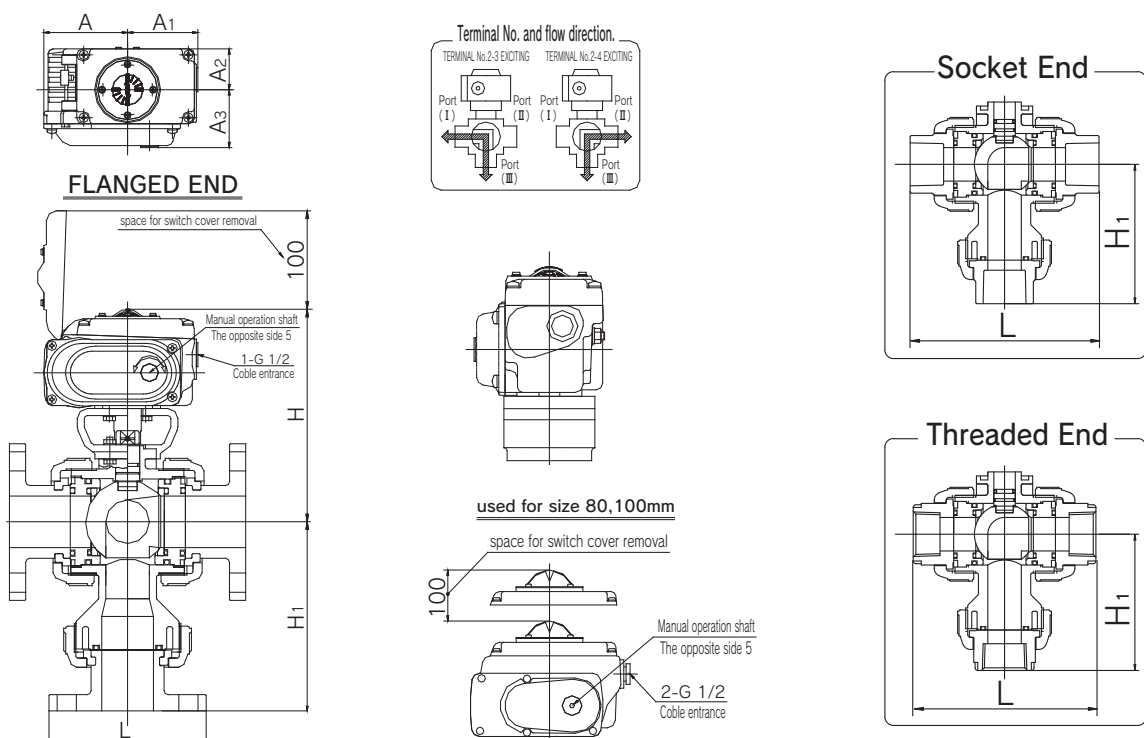
FEATURES

- Motor is built into the body. Light-Weight and Compact with high Torque.
- Stopper enables adjustment of an angle of ±5 degree at Full-Right Open or Full Left Open position on right/left side.
- Opening Indicator is easy to read.

ACTUATOR SPECIFICATION

Nominal Size mm(inch)	15-50 (1/2inch - 2inch)	65-100 (2 1/2inch - 4inch)
Actuator Type	AOC-00	AOC-0
Cycle Time 50/60Hz(seconds)	10/8	25/20
Motor Output(W)	8	8
Motor Starting Current(A) 50/60Hz	100V	0.8/0.8
	110V	1.0/1.0
	200V	0.5/0.5
	220V	0.7/0.7
Motor Rated Current(A) 50/60Hz	100V	0.4/0.4
	110V	0.5/0.5
	200V	0.25/0.25
	220V	0.30/0.30
Number of Revolutions of Manual Operating Handle	7.5	6.7
Limit Switch Capacity	AC 250V 5A	AC 250V 10A
Protective Structure	JIS C 0920 Waterjet proof type (IP65)	
Cable Connector Nominal Size	G1/2	
Motor Pole(P)	4	
Motor Insulation	E Class	
Motor Time Rating(minute)	30	

DIMENSIONS FIGURE

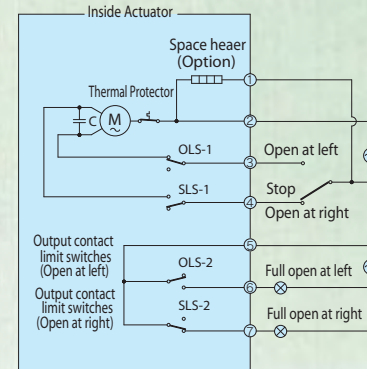
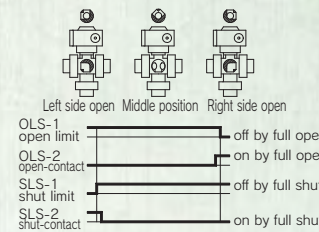


SCHEMATIC DIAGRAM

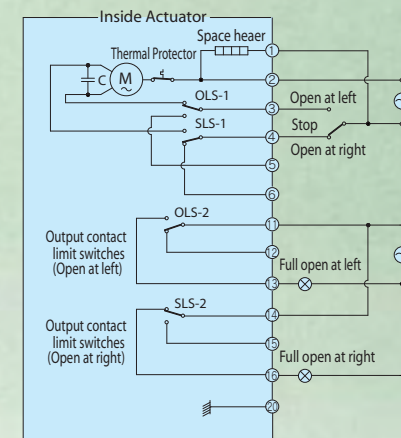
WIRING DIAGRAM

15mm-50mm

Switching Chart



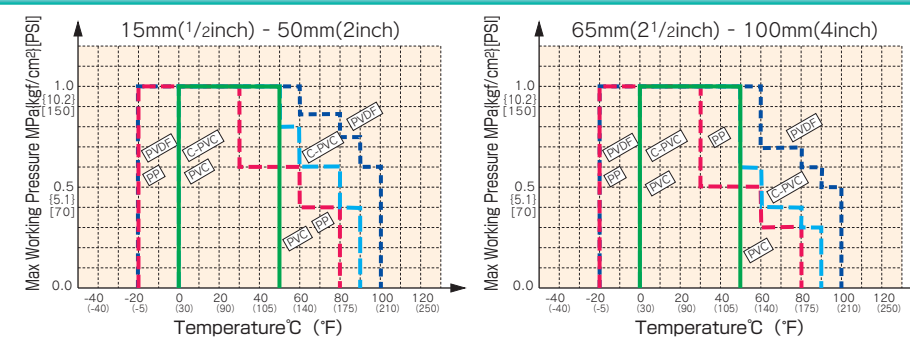
65mm-100mm



DIMENSIONS TABLE

JIS, ANSI, DIN			Unit:mm (inch)									
Nominal Size			15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	
Flanged End	L	Common	JIS	143 (5.63)	172 (6.77)	187 (7.36)	212 (8.35)	212 (8.35)	234 (9.21)	304 (11.97)	304 (11.97)	372 (14.65)
			DIN	130 (5.12)	150 (5.91)	160 (6.3)	212 (8.35)	200 (7.87)	230 (9.06)	304 (11.97)	310 (12.2)	350 (13.78)
			ANSI	143 (5.63)	172 (6.77)	187 (7.36)	212 (8.35)	212 (8.35)	234 (9.21)	304 (11.97)	304 (11.97)	372 (14.65)
	H1		JIS	94 (3.7)	115 (4.53)	133 (5.24)	165 (6.5)	165 (6.5)	187 (7.36)	256 (10.08)	256 (10.08)	305 (12.01)
			DIN	88 (3.46)	104 (4.09)	120 (4.72)	165 (6.5)	159 (6.26)	185 (7.28)	256 (10.08)	259 (10.2)	305 (12.01)
			ANSI	94 (3.7)	114 (4.5)	133 (5.24)	165 (6.5)	165 (6.5)	186 (7.34)	256 (10.06)	256 (10.06)	305 (12.01)
Threaded End	L	Common	JIS	102 (4.02)	120 (4.72)	131 (5.16)	163 (6.42)	163 (6.42)	197 (7.76)	264 (10.39)	264 (10.39)	360 (14.17)
			DIN	102 (4.02)	120 (4.72)	131 (5.16)	163 (6.42)	163 (6.42)	197 (7.76)	264 (10.39)	264 (10.39)	338 (13.31)
			ANSI	102 (4.02)	120 (4.72)	131 (5.16)	163 (6.42)	163 (6.42)	197 (7.76)	264 (10.39)	264 (10.39)	360 (14.17)
	H1		JIS	74 (2.91)	89 (3.5)	105 (4.13)	141 (5.55)	141 (5.55)	168 (6.61)	235 (9.25)	235 (9.25)	299 (11.77)
			DIN	74 (2.91)	89 (3.5)	105 (4.13)	141 (5.55)	141 (5.55)	168 (6.61)	235 (9.25)	235 (9.25)	299 (11.77)
			ANSI	73 (2.89)	88 (3.48)	105 (4.13)	140 (5.53)	140 (5.53)	168 (6.61)	235 (9.25)	235 (9.25)	299 (11.77)
Socket End	L	PVC, C-PVC	JIS	108 (4.25)	128 (5.04)	145 (5.71)	174 (6.85)	189 (7.44)	220 (8.66)	316 (12.44)	316 (12.44)	418 (16.46)
			DIN	102 (4.02)	120 (4.72)	131 (5.16)	173 (6.81)	163 (6.42)	197 (7.76)	282 (11.1)	282 (11.1)	349 (13.74)
			ANSI	113 (4.45)	129 (5.08)	146 (5.75)	174 (6.85)	184 (7.24)	209 (8.23)	285 (11.21)	282 (11.1)	- (-)
		PP	JIS	108 (4.25)	124 (4.88)	139 (5.47)	- (-)	171 (6.73)	196 (7.72)	264 (10.40)	260 (10.24)	332 (13.07)
			DIN	99 (3.9)	114 (4.49)	123 (4.84)	148 (5.83)	148 (5.83)	176 (6.93)	256 (10.08)	251 (9.88)	310 (12.2)
			ANSI	113 (4.45)	129 (5.08)	146 (5.75)	179 (7.04)	184 (7.24)	209 (8.23)	285 (11.21)	282 (11.1)	365 (14.37)
	PVDF	DIN	99 (3.9)	114 (4.49)	123 (4.84)	148 (5.83)	148 (5.83)	176 (6.93)	256 (10.08)	251 (9.88)	310 (12.2)	
		ANSI	113 (4.45)	129 (5.08)	146 (5.75)	179 (7.04)	184 (7.24)	209 (8.23)	285 (11.21)	282 (11.1)	365 (14.37)	
		JIS	77 (3.03)	90 (3.54)	110 (4.33)	146.5 (5.77)	145 (5.71)	169 (6.65)	261 (10.28)	244 (9.61)	294 (11.57)	
	H1	PVC, C-PVC	DIN	72 (2.83)	85 (3.35)	104 (4.09)	147 (5.80)	142 (5.59)	170 (6.69)	245 (9.65)	245 (9.65)	305 (12.01)
			ANSI	78 (3.07)	129 (5.08)	146 (5.75)	140 (5.51)	184 (7.24)	209 (8.23)	245 (9.65)	282 (11.1)	- (-)
			JIS	77 (3.03)	92 (3.62)	110 (4.33)	- (-)	145 (5.71)	166 (6.54)	235 (9.25)	232 (9.13)	289 (11.38)
PP		DIN	71 (2.80)	83 (3.27)	100 (3.94)	131 (5.16)	131 (5.16)	154 (6.06)	227 (8.94)	224 (8.82)	279 (10.98)	
		ANSI	78 (3.07)	92 (3.62)	111 (4.37)	146 (5.75)	149 (5.87)	172 (6.77)	245 (9.65)	282 (11.10)	365 (14.37)	
		DIN	71 (2.80)	83 (3.27)	100 (3.94)	131 (5.16)	131 (5.16)	154 (6.06)	227 (8.94)	224 (8.82)	279 (10.98)	
ANSI	DIN	78 (3.07)	92 (3.62)	111 (4.37)	146 (5.75)	149 (5.87)	172 (6.77)	245 (9.65)	282 (11.10)	365 (14.37)		
	H	169.5 (6.67)	176 (6.93)	183 (7.21)	200.5 (7.89)	200.5 (7.89)	212 (8.35)	289 (11.38)	289 (11.38)	327 (12.88)		
	A	84 (3.31)	84 (3.31)	84 (3.31)	84 (3.31)	84 (3.31)	84 (3.31)	100 (3.94)	100 (3.94)	100 (3.94)		
Common	A1	70.5 (2.78)	70.5 (2.78)	70.5 (2.78)	70.5 (2.78)	70.5 (2.78)	70.5 (2.78)	102 (4.02)	102 (4.02)	102 (4.02)		
	A2	41 (1.61)	41 (1.61)	41 (1.61)	41 (1.61)	41 (1.61)	41 (1.61)	53.8 (2.12)	53.8 (2.12)	53.8 (2.12)		
	A3	58 (2.28)	58 (2.28)	58 (2.28)	58 (2.28)	58 (2.28)	58 (2.28)	85 (3.35)	85 (3.35)	85 (3.35)		

WORKING PRESSURE VS. TEMPERATURE



Ball Valve Type 21 (Pneumatic actuated Type TA) 15mm - 100mm (1/2inch - 2inch)

Body Material
 PVC
 C-PVC
 PP
 PVDF

O-ring Material
 EPDM
 FKM

Connection Standard
 Socket End JIS
 Socket End ASTM SCH80
 Socket End DIN
 Threaded End Rc
 Threaded End NPT
 Threaded End Rp
 Flanged End JIS10K
 Flanged End ANSI CLASS150
 Flanged End DIN PN10

Action
 Double Acting
 Air to Open
 Air to Close

Equipment
 Opening Adjustment Stopper
 (± 5 degree)
 Indicator

Option
 · Filter Regulator
 · Solenoid Valve
 · Limit Switch
 · Speed Controller
 · Manual Operation Mechanism
 ※only for Air to Open & Close
 · Full Opening Adjustment Mechanism
 · Positioner



(15mm - 32mm)



(40mm - 50mm)



(65mm - 100mm)

FEATURES

- Horizontal Type Actuator saves piping space.
- Spring unit for Air to Open & Close is detachable so that changeover between Double-Acting and Air to Open & Close can be done easily.
- Various options can be easily installed or removed and can be mounted later(except positioners).
- Stopper enables adjustment of an angle of ±5 degree at fully-Opened or Fully-Closed position. (for valve sizes larger than 40mm)

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	-	-	○	○	-	○	-	-
Filter Regulator	-	-	-	○	-	-	○	-	○
Speed Controller	◎	○	-	◎	◎	○	◎	-	-
Limit Switch	-	-	○	-	○	○	○	-	-
Positioner (Electric-Air, Air-Air)	-	-	-	-	-	-	-	-	○

◎Indicates specialized for Solenoid Valve.
 ※With built-in speed controller and bypass valve.
 * for the actuator with lubricant free valves consult near Asahi dealer.

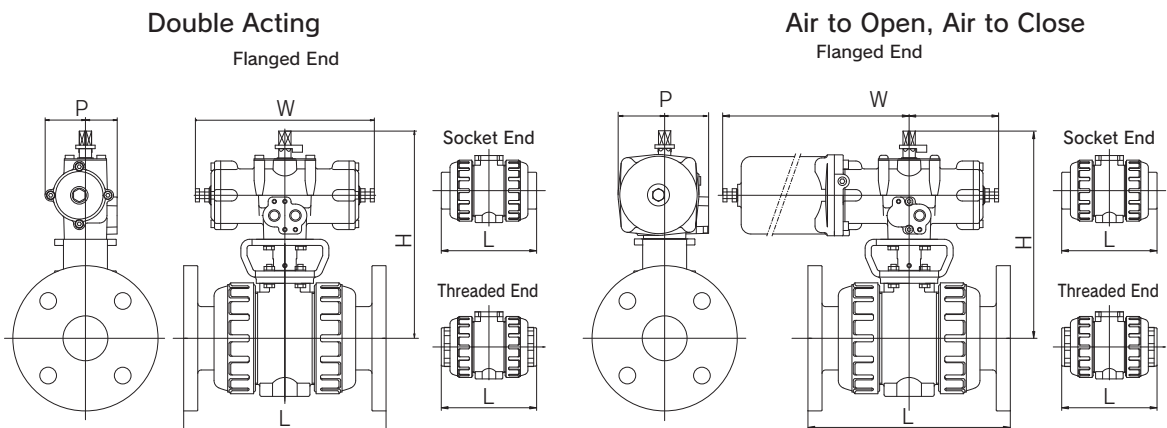
ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	15 - 32 (1/2inch - 1 1/4inch)	40-50 (1 1/2inch-2inch)	65-80 (2 1/2inch-3inch)	100(4inch)
Actuator Type	TA2A-0402D	TA2A-050D	TA2A-063D	TA2A-080D
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.7{7.1}			
Air Consumption NI / Open & Close (at operating pressure 0.4MPa)	0.5	0.9	1.7	3.2
Air Supply Bore	Rc 1/8		Rc 1/4	

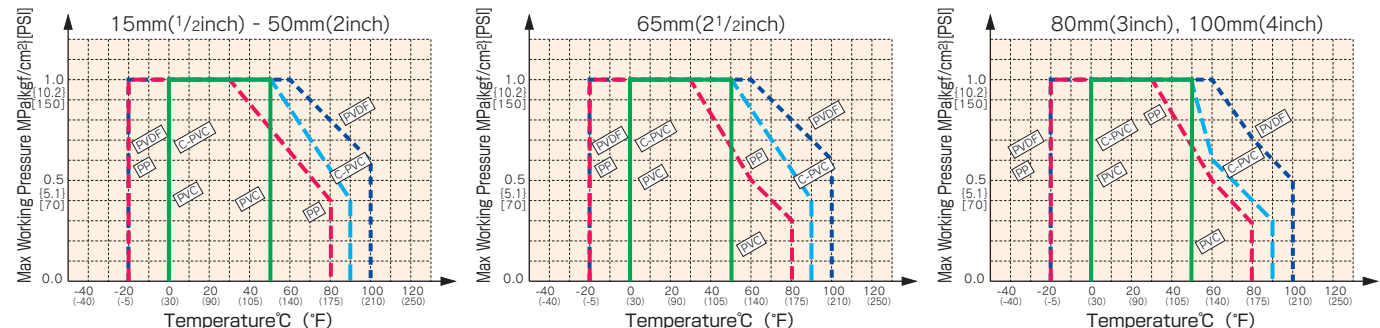
ACTUATOR SPECIFICATION [Air to Open, Air to Close]

Nominal Size mm(inch)	15 - 32 (1/2inch - 1 1/4inch)	40-50 (1 1/2inch-2inch)	65-80 (2 1/2inch-3inch)	100(4inch)
Actuator Type	TA2A-0402R	TA2A-050R	TA2A-063R	TA2A-080R
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.7{7.1}			
Air Consumption NI / Open & Close (at operating pressure 0.4MPa)	0.8	1.7	3.3	6.1
Air Supply Bore			Rc 1/4	

DIMENSIONS FIGURE



WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN

Unit: mm(inch)

Flanged End	Nominal Size	Material	Standard	15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)
					JIS	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	261 (10.28)
Socket End	L	PVC, C-PVC	DIN	130 (5.12)	150 (5.91)	160 (6.3)	180 (7.09)	200 (7.87)	230 (9.06)	290 (11.42)	312 (12.28)	352 (13.86)
			ANSI	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	259 (10.20)	306 (12.05)	374 (14.72)
			JIS	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	257 (10.12)	305 (12.01)	374 (14.72)
		PP	DIN	130 (5.12)	150 (5.91)	160 (6.30)	180 (7.09)	200 (7.87)	230 (9.06)	288 (11.34)	311 (12.24)	352 (13.86)
			ANSI	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	257 (10.12)	306 (12.05)	374 (14.72)
			JIS	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	256 (10.08)	302 (11.89)	369 (14.53)
PVDF	DIN	130 (5.12)	150 (5.91)	160 (6.30)	180 (7.09)	200 (7.87)	230 (9.06)	287 (11.30)	308 (12.13)	347 (13.66)		
	ANSI	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	256 (10.08)	302 (11.89)	369 (14.53)		
	JIS	108 (4.25)	128 (5.04)	145 (5.71)	162 (6.38)	189 (7.44)	220 (8.66)	273 (10.75)	316 (12.44)	419 (16.50)		
Threaded End	L	PVC, C-PVC	DIN	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	233 (9.17)	284 (11.18)	351 (13.82)
			ANSI	113.0 (4.45)	129.0 (5.08)	146.1 (5.75)	164.1 (6.46)	184 (7.24)	209 (8.23)	240 (9.45)	283 (11.14)	352 (13.86)
			JIS	108 (4.25)	126 (4.96)	141 (5.55)	-	171 (6.73)	192 (7.56)	219 (8.62)	257 (10.12)	341 (13.43)
		PP	DIN	99 (3.90)	114 (4.49)	123 (4.84)	139 (5.47)	148 (5.83)	176 (6.93)	205 (8.07)	252 (9.92)	312 (12.28)
			ANSI	113 (4.45)	129 (5.08)	146 (5.75)	164 (6.46)	184 (7.24)	209 (8.23)	238 (9.37)	282 (11.10)	365 (14.37)
			DIN	99 (3.90)	114 (4.49)	123 (4.84)	139 (5.47)	148 (5.83)	176 (6.93)	204 (8.03)	249 (9.80)	307 (12.09)
		PVDF	DIN	99 (3.90)	114 (4.49)	123 (4.84)	139 (5.47)	148 (5.83)	176 (6.93)	204 (8.03)	249 (9.80)	307 (12.09)
			ANSI	113 (4.45)	129 (5.08)	146 (5.75)	164 (6.46)	184 (7.24)	209 (8.23)	237 (9.33)	279 (10.98)	359 (14.13)
			JIS	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	215 (8.46)	265 (10.43)	362 (14.25)
		PVC, C-PVC	DIN	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	215 (8.46)	265 (10.43)	340 (13.39)
			ANSI	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	215 (8.46)	265 (10.43)	362 (14.25)
			JIS	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	213 (8.39)	264 (10.39)	362 (14.25)
PP	DIN	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	213 (8.39)	264 (10.39)	340 (13.39)		
	ANSI	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	213 (8.39)	264 (10.39)	362 (14.25)		
	JIS	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	212 (8.35)	261 (10.28)	357 (14.06)		
PVDF	DIN	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	212 (8.35)	261 (10.28)	335 (13.19)		
	ANSI	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	212 (8.35)	261 (10.28)	357 (14.06)		
	JIS	124 (4.84)	144 (5.62)	154 (6.01)	174 (6.79)	194 (7.57)	224 (8.74)	245 (9.56)	296 (11.54)	355 (13.85)		
Spigot End	L	PP	DIN	124 (4.84)	144 (5.62)	154 (6.01)	174 (6.79)	194 (7.57)	224 (8.74)	245 (9.56)	293 (11.43)	350 (13.65)
			PVDF	124 (4.84)	144 (5.62)	154 (6.01)	174 (6.79)	194 (7.57)	224 (8.74)	245 (9.56)	293 (11.43)	350 (13.65)
Common	H	H	DIN	159.5 (6.28)	166 (6.54)	173 (6.81)	182 (7.17)	224 (8.82)	235.5 (9.27)	268 (10.55)	277 (10.91)	348 (13.70)
			W	110 (4.33)	110 (4.33)	110 (4.33)	110 (4.33)	210 (8.27)	210 (8.27)	250 (9.84)	250 (9.84)	292 (11.50)
Double Acting	W	P	DIN	57 (2.24)	57 (2.24)	57 (2.24)	57 (2.24)	82 (3.23)	82 (3.23)	95 (3.74)	95 (3.74)	116 (4.57)
			W	249 (9.81)	249 (9.81)	249 (9.81)	249 (9.81)	345 (13.58)	345 (13.58)	413 (16.26)	413 (16.26)	487 (19.17)
Air to Open, Air to Close	P	P	DIN	92 (3.62)	92 (3.62)	92 (3.62)	92 (3.62)	103 (4.06)	103 (4.06)	119 (4.69)	119 (4.69)	141.5 (5.57)

Ball Valve Type 21 (Pneumatic actuated Type AA) 15mm - 50mm(1/2inch - 2inch)

Body Material
 PVC
 C-PVC
 PP
 PVDF

O-ring Material
 EPDM
 FKM

Connection Standard
 Socket End JIS
 Socket End ASTM SCH80
 Socket End DIN
 Threaded End Rc
 Threaded End NPT
 Threaded End Rp
 Flanged End JIS10K
 Flanged End ANSI CLASS150
 Flanged End DIN PN10

Action
 Double Acting
 Air to Open
 Air to Close

Equipment
 Indicator

Option
 · Filter Regulator
 · Solenoid Valve
 · Limit Switch
 · Speed Controller
 · Manual Operation Mechanism
 · Full Opening Adjustment Mechanism
 *Only for Air to Open & Close
 · Positioner



Air to Open



Double Acting

FEATURES

- Actuator made of resin is Light and Compact.
- NAMUR Standard is applied for air piping.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	-	-	○	○	-	○	-	-
Filter Regulator	-	-	-	○	-	-	○	-	○
Speed Controller	◎	○	-	◎	◎	○	◎	-	-
Limit Switch	-	-	○	-	○	○	○	-	-
Positioner (Electric-Air, Air-Air)	-	-	-	-	-	-	-	○	○

◎Indicates specialized for Solenoid Valve.
 ※With built-in speed controller and bypass valve.
 * for the actuator with lubricant free valves consult near Asahi dealer.

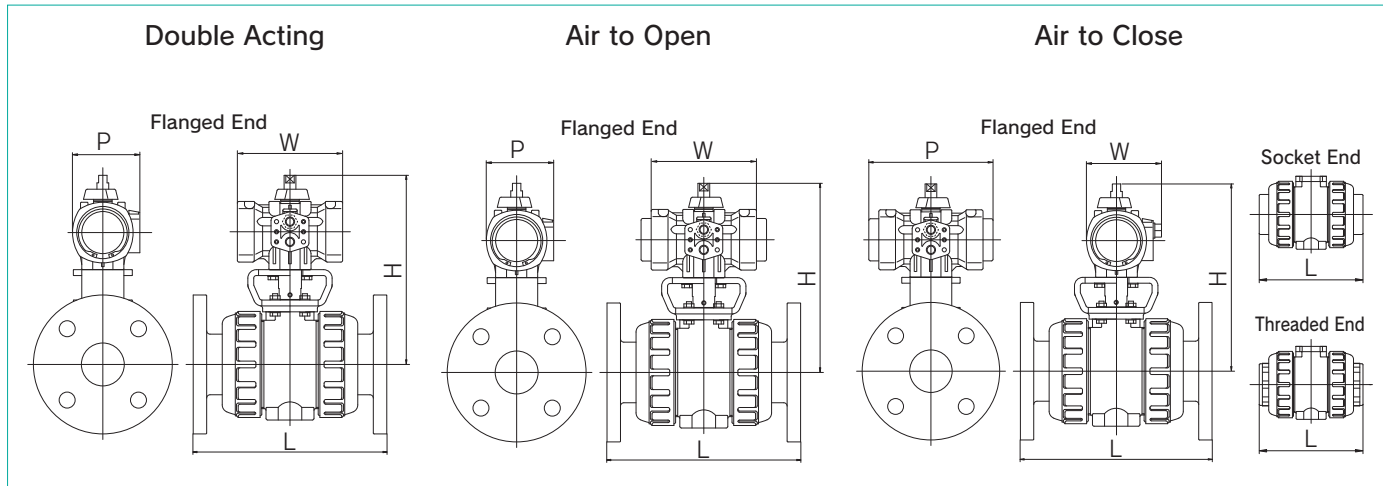
ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	15 - 32 (1/2inch - 1 1/4inch)	40-50 (1 1/2inch-2inch)
Actuator Type	PPW	PP00
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}	
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	0.6	1.3
Air Supply Bore	Rc 1/4	

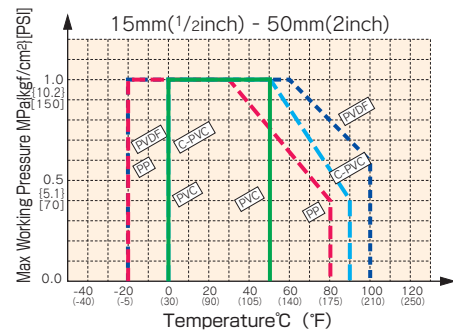
ACTUATOR SPECIFICATION [Air to Open, Air to Close]

Nominal Size mm(inch)	15 - 32 (1/2inch - 1 1/4inch)	40-50 (1 1/2inch-2inch)
Actuator Type	PP00S	PP10S
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}	
Air Consumption NI /Open & Close (at operating pressure 0.4MPa)	0.7	1.7
Air Supply Bore	Rc 1/4	

DIMENSIONS FIGURE



WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm (inch)							
Nominal Size		15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)		
Flanged End	PVC, C-PVC	JIS	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	
		DIN	130 (5.12)	150 (5.91)	160 (6.30)	180 (7.09)	200 (7.87)	230 (9.06)	
		ANSI	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	
	PP	JIS	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	
		DIN	130 (5.12)	150 (5.91)	160 (6.30)	180 (7.09)	200 (7.87)	230 (9.06)	
		ANSI	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	
	PVDF	JIS	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	
		DIN	130 (5.12)	150 (5.91)	160 (6.30)	180 (7.09)	200 (7.87)	230 (9.06)	
		ANSI	143 (5.63)	172 (6.77)	187 (7.36)	190 (7.48)	212 (8.35)	234 (9.21)	
	Socket End	PVC, C-PVC	JIS	108 (4.25)	128 (5.04)	145 (5.71)	162 (6.38)	189 (7.44)	220 (8.66)
			DIN	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)
			ANSI	113.0 (4.45)	129.0 (5.08)	146.1 (5.75)	164.1 (6.46)	184 (7.24)	209 (8.23)
PP		JIS	108 (4.25)	126 (4.96)	141 (5.55)	-	171 (6.73)	192 (7.56)	
		DIN	99 (3.90)	114 (4.49)	123 (4.84)	139 (5.47)	148 (5.83)	176 (6.93)	
		ANSI	113 (4.45)	129 (5.08)	146 (5.75)	164 (6.46)	184 (7.24)	209 (8.23)	
PVDF		DIN	99 (3.90)	114 (4.49)	123 (4.84)	139 (5.47)	148 (5.83)	176 (6.93)	
		ANSI	113 (4.45)	129 (5.08)	146 (5.75)	164 (6.46)	184 (7.24)	209 (8.23)	
		JIS	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	
Threaded End		PVC, C-PVC	DIN	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)
			ANSI	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)
			JIS	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)
	PP	DIN	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	
		ANSI	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	
		JIS	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	
	PVDF	DIN	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	
		ANSI	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	
		JIS	102 (4.02)	120 (4.72)	131 (5.16)	150 (5.91)	163 (6.42)	197 (7.76)	
	Double Acting	H	155 (6.1)	162 (6.38)	169 (6.65)	178 (7.01)	211 (8.31)	223 (8.78)	
		W	107 (4.21)	107 (4.21)	107 (4.21)	107 (4.21)	125 (4.92)	125 (4.92)	
		P	69 (2.72)	69 (2.72)	69 (2.72)	69 (2.72)	80 (3.15)	80 (3.15)	
Air to Open	H	180 (7.09)	187 (7.36)	194 (7.64)	203 (7.99)	228 (8.98)	240 (9.45)		
	W	149 (5.87)	149 (5.87)	149 (5.87)	149 (5.87)	222 (8.74)	222 (8.74)		
	P	89 (3.50)	89 (3.50)	89 (3.50)	89 (3.50)	106 (4.17)	106 (4.17)		
Air to Close	H	180 (7.09)	187 (7.36)	194 (7.64)	203 (7.99)	228 (8.98)	240 (9.45)		
	W	89 (3.50)	89 (3.50)	89 (3.50)	89 (3.50)	106 (4.17)	106 (4.17)		
	P	149 (5.87)	149 (5.87)	149 (5.87)	149 (5.87)	222 (8.74)	222 (8.74)		

3-Way Ball Valve Type 23(Pneumatic actuated Type TA)15mm-100mm(1/2inch-4inch)

Body Material

PVC
C-PVC
PP
PVDF

O-ring Material

EPDM
FKM

Connection Standard

Flanged End (JIS, ANSI, DIN)
Threaded End
Socket End

Action

Double Acting
Air to Open
Air to Close

Equipment

Opening Adjustment Stopper (± 5 degree)
Indicator

Option

- Filter Regulator
- Solenoid Valve
- Limit Switch
- Speed Controller
- Full Opening Adjustment Mechanism
- Positioner



Air to Open, Air to Close



Double Acting



Left Side Open



Middle Position



Right Side Open

FEATURES

- Horizontal Type Actuator saves piping space.
- Spring unit for Air to Open & Close is detachable so that change-over between Double-Acting and Air to Open & Close can be done easily.
- Various options can be easily installed or removed and can be mounted later(except positioners).
- Stopper enables adjustment of angle of ±5 degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	—	—	○	—	—	○	—	—
Filter Regulator	—	—	—	○	—	—	—	—	—
Speed Controller	◎	○	—	◎	◎	○	◎	—	—
Limit Switch	—	—	○	—	○	○	○	—	—
Positioner (Electric-Air, Air-Air)	—	—	—	—	—	—	—	○	○

◎Indicates specialized for Solenoid Valve.

※With built-in speed controller and bypass valve.

* for the actuator with lubricant free valves consult near Asahi dealer.

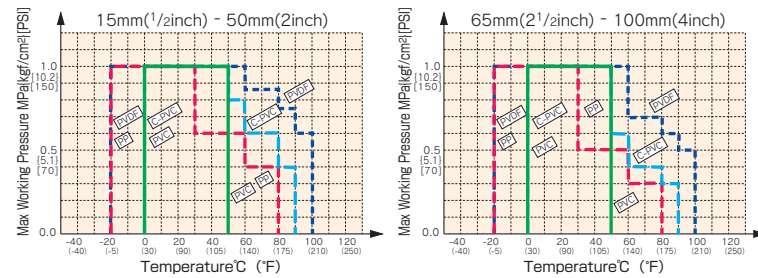
ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	15 - 25 (1/2inch - 1inch)	32 - 50 (1 1/4inch-2inch)	65, 80 (2 1/2inch, 3inch)	100(4inch)
Actuator Type	TA2A-0402D	TA2A-050D	TA2A-063D	TA2A-080D
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.7{7.1}			
Air Consumption NI / Open & Close (at operating pressure 0.4MPa)	0.5	0.9	1.7	3.2
Air Supply Bore	Rc 1/8		Rc 1/4	

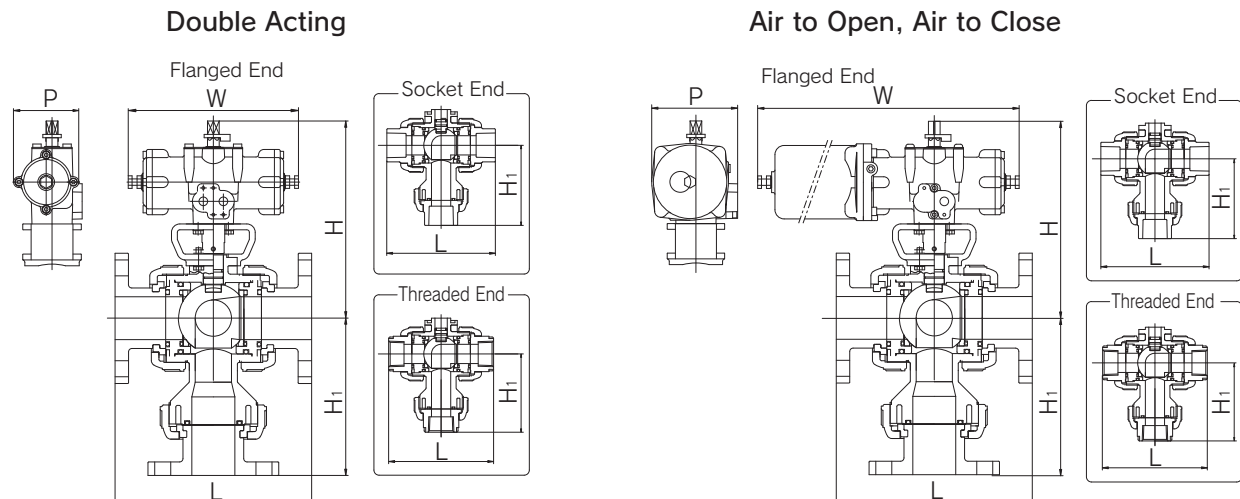
ACTUATOR SPECIFICATION [Air to Open, Air to Close]

Nominal Size mm(inch)	15 - 25 (1/2inch - 1inch)	32 - 50 (1 1/4inch-2inch)	65, 80 (2 1/2inch, 3inch)	100(4inch)
Actuator Type	TA2A-0402R	TA2A-050R	TA2A-063R	TA2A-080R
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.7{7.1}			
Air Consumption NI / Open & Close (at operating pressure 0.4MPa)	0.8	1.7	3.3	6.1
Air Supply Bore	Rc 1/4			

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS FIGURE



DIMENSIONS TABLE

JIS, ANSI, DIN

Unit:mm(inch)

Nominal Size		15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)		
Flanged End	L	Common	JIS	143 (5.63)	172 (6.77)	187 (7.36)	212 (8.35)	212 (8.35)	234 (9.21)	304 (11.97)	304 (11.97)	372 (14.65)
			DIN	130 (5.12)	150 (5.91)	160 (6.3)	212 (8.35)	200 (7.87)	230 (9.06)	304 (11.97)	310 (12.2)	350 (13.78)
			ANSI	143 (5.63)	172 (6.77)	187 (7.36)	212 (8.35)	212 (8.35)	234 (9.21)	304 (11.97)	304 (11.97)	372 (14.65)
	H ₁	JIS	94 (3.7)	115 (4.53)	133 (5.24)	165 (6.5)	165 (6.5)	187 (7.36)	256 (10.08)	256 (10.08)	305 (12.01)	
		DIN	88 (3.46)	104 (4.09)	120 (4.72)	165 (6.5)	159 (6.26)	185 (7.28)	256 (10.08)	259 (10.2)	305 (12.01)	
		ANSI	94 (3.7)	114 (4.5)	133 (5.24)	165 (6.5)	165 (6.5)	186 (7.34)	256 (10.06)	256 (10.06)	305 (12.01)	
Threaded End	L	Common	JIS	102 (4.02)	120 (4.72)	131 (5.16)	163 (6.42)	163 (6.42)	197 (7.76)	264 (10.39)	264 (10.39)	338 (13.31)
			DIN	102 (4.02)	120 (4.72)	131 (5.16)	163 (6.42)	163 (6.42)	197 (7.76)	264 (10.39)	264 (10.39)	338 (13.31)
			ANSI	102 (4.02)	120 (4.72)	131 (5.16)	163 (6.42)	163 (6.42)	197 (7.76)	264 (10.39)	264 (10.39)	360 (14.17)
	H ₁	JIS	74 (2.91)	89 (3.5)	105 (4.13)	141 (5.55)	141 (5.55)	168 (6.61)	235 (9.25)	235 (9.25)	299 (11.77)	
		DIN	74 (2.91)	89 (3.5)	105 (4.13)	141 (5.55)	141 (5.55)	168 (6.61)	235 (9.25)	235 (9.25)	299 (11.77)	
		ANSI	73 (2.89)	88 (3.48)	105 (4.13)	141 (5.55)	140 (5.53)	168 (6.61)	235 (9.25)	235 (9.25)	299 (11.77)	
Socket End	L	PVC, C-PVC	JIS	108 (4.25)	128 (5.04)	145 (5.71)	174 (6.85)	189 (7.44)	220 (8.66)	316 (12.44)	316 (12.44)	418 (16.46)
			DIN	102 (4.02)	120 (4.72)	131 (5.16)	173 (6.81)	163 (6.42)	197 (7.76)	282 (11.1)	282 (11.1)	349 (13.74)
			ANSI	113 (4.45)	129 (5.08)	146 (5.75)	174 (6.85)	184 (7.24)	209 (8.23)	285 (11.23)	282 (11.1)	—
		PP	JIS	108 (4.25)	126 (4.96)	141 (5.55)	—	171 (6.73)	192 (7.56)	264 (10.40)	258 (10.16)	340 (13.39)
			DIN	99 (3.9)	114 (4.49)	123 (4.84)	148 (5.83)	148 (5.83)	176 (6.93)	256 (10.08)	251 (9.88)	310 (12.2)
			ANSI	113 (4.45)	129 (5.08)	146 (5.75)	179 (7.05)	184 (7.24)	209 (8.23)	285 (11.23)	282 (11.1)	365 (14.37)
	PVDF	DIN	99 (3.9)	114 (4.49)	123 (4.84)	148 (5.83)	148 (5.83)	176 (6.93)	256 (10.08)	251 (9.88)	310 (12.2)	
		ANSI	113 (4.45)	129 (5.08)	146 (5.75)	179 (7.05)	184 (7.24)	209 (8.23)	285 (11.23)	282 (11.1)	365 (14.37)	
		H ₁	PVC, C-PVC	JIS	77 (3.03)	90 (3.54)	110 (4.33)	146.5 (5.77)	145 (5.71)	169 (6.65)	261 (10.28)	244 (9.61)
	DIN			72 (2.83)	85 (3.35)	104 (4.09)	147 (5.80)	142 (5.59)	170 (6.69)	245 (9.65)	245 (9.65)	305 (12.01)
	ANSI			78 (3.07)	129 (5.08)	146 (5.75)	140 (5.51)	184 (7.24)	209 (8.23)	246 (9.69)	282 (11.1)	—
	PP		JIS	77 (3.03)	92 (3.62)	110 (4.33)	—	145 (5.71)	166 (6.54)	235 (9.26)	232 (9.13)	289 (11.38)
DIN			71 (2.80)	83 (3.27)	100 (3.94)	—	131 (5.16)	154 (6.06)	227 (8.94)	224 (8.82)	279 (10.98)	
ANSI			78 (3.07)	92 (3.62)	111 (4.37)	147 (5.80)	149 (5.87)	172 (6.77)	246 (9.69)	282 (11.10)	365 (14.37)	
PVDF	JIS	78 (3.07)	90 (3.54)	108 (4.25)	—	142 (5.59)	166 (6.54)	—	233 (9.17)	285 (11.22)		
	DIN	71 (2.80)	83 (3.27)	100 (3.94)	131 (5.16)	131 (5.16)	154 (6.06)	227 (8.94)	224 (8.82)	279 (10.98)		
	ANSI	78 (3.07)	92 (3.62)	111 (4.37)	147 (5.80)	149 (5.87)	172 (6.77)	246 (9.69)	282 (11.10)	365 (14.37)		
Common	H	159.5 (6.28)	166 (6.54)	173 (6.81)	224 (8.82)	224 (8.82)	235.5 (9.27)	277 (10.91)	277 (10.91)	348 (13.7)		
Double Acting	W	110 (4.33)	110 (4.33)	110 (4.33)	210 (8.27)	210 (8.27)	210 (8.27)	250 (9.84)	250 (9.84)	292 (11.5)		
	P	57 (2.24)	57 (2.24)	57 (2.24)	82 (3.23)	82 (3.23)	82 (3.23)	95 (3.74)	95 (3.74)	116 (4.57)		
Air to Open, Air to Close	W	249 (9.8)	249 (9.8)	249 (9.8)	345 (13.58)	345 (13.58)	345 (13.58)	413 (16.26)	413 (16.26)	487 (19.17)		
	P	92 (3.62)	92 (3.62)	92 (3.62)	103 (4.06)	103 (4.06)	103 (4.06)	119 (4.69)	119 (4.69)	141.5 (5.57)		

Butterfly Valve Type 57 (Electric Actuated Type T) 40mm-350mm (1 1/2 inch-14 inch)

Body Material	PVC PP PVDF
Seat & O-ring Material	EPDM FKM
Connection Standard	JIS 10K · JIS 5K ANSI CLASS150 DIN PN10
Power Source	Single-phase AC100V/110V/200V/220V
Equipment	Space Heater Output Contact Limit Switches Indicator Manual Operation Mechanism
Option	E-E Positioner Intermediate Limit Switch (no-volt) Speedcontrol Unit



FEATURES

- Lightweight and Compact with High-Torque
- Manual Operation Handle is equipped normally and operativeness has improved.
- Indicator can be seen easily.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7
Space Heater	●	●	○	●	○	●	○
Output Contact Limit Switches	●	●	●	—	●	—	●
Potentiometer	—	○	—	—	—	○	○
E-E Positioner	—	—	○	—	—	—	—
Intermediate Limit Switch (no-volt)	—	—	—	○	—	○	—
Speedcontrol Unit	—	—	—	—	○	—	○

● Standard Equipment

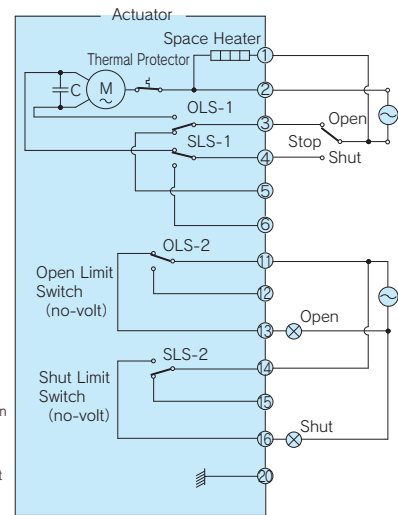
ACTUATOR SPECIFICATION

Nominal Size mm (inch)	40-100 (1 1/2-4 inch)	125 (5 inch)	150 (6 inch)	200 (8 inch)	250-350 (10 inch-14 inch)
Actuator Type	AOC-0	AOC-1	AOC-2	AOC-2.5	AOC-3
Cycle Time 50/60Hz (seconds)	25/20		37/30		55/50
Motor Output (W)	8	20	30		90
Motor Starting	100V 1.20/1.20 110V 1.40/1.40 200V 0.50/0.50 220V 0.70/0.70	1.60/1.40 1.70/1.70 0.70/0.70 0.80/0.90	2.40/2.40 2.50/2.50 1.10/1.10 1.20/1.20		5.1/4.8 6.1/6.6 2.6/2.4 3.1/3.0
Motor Rated	100V 0.50/0.50 110V 0.60/0.60 200V 0.25/0.25 220V 0.30/0.30	0.70/0.60 0.90/0.70 0.40/0.30 0.50/0.40	0.90/1.20 1.00/1.20 0.60/0.80 0.60/0.80		1.60/1.70 1.70/1.80 0.80/1.00 0.90/1.00
Number of revolutions of Manual Operating Handle	6.7				
Limit Switch Capacity	AC 250V 10A				
Protective Structure	JIS C 0920 Waterjet-proof type (IEC IP65)				
Cable Connector Nominal Size	2-G1/2				
Motor Pole (P)	4				
Motor Insulation	E Class				
Motor Time Rating (minute)	30				
Space Heater Output (W)	5				

* for the actuator with lubricant free valves consult near Asahi dealer.

SCHEMATIC DIAGRAM

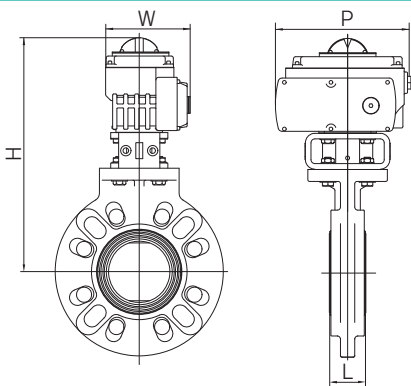
WIRING DIAGRAM



Switching Chart

OLS-1 open limit	Shut	Open	off by full open
OLS-2 open no-volt	①	③	ON by a little before full open
SLS-1 shut limit	④	⑥	off by full shut
SLS-2 shut no-volt	④	⑥	ON by a little before full shut

DIMENSIONS FIGURE

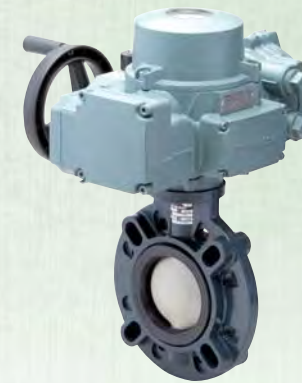


DIMENSIONS TABLE

JIS, ANSI, DIN	Unit: mm (inch)										
Nominal Size	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)
L	39 (1.54)	42 (1.65)	46 (1.81)	46 (1.81)	56 (2.20)	66 (2.60)	71 (2.80)	87 (3.43)	112 (4.40)	129 (5.08)	129 (5.08)
H	290 (11.42)	300 (11.81)	310 (12.20)	325 (12.80)	340 (13.39)	376 (14.80)	424 (16.69)	455 (17.91)	541 (21.29)	598 (23.54)	625 (24.61)
W	138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	191 (7.52)	239 (9.41)	239 (9.41)	381.5 (15.02)	381.5 (15.02)	381.5 (15.02)
P	202 (7.95)	202 (7.95)	202 (7.95)	202 (7.95)	202 (7.95)	252 (9.92)	310 (12.20)	310 (12.20)	388 (15.28)	388 (15.28)	388 (15.28)

Butterfly Valve Type 57 (Electric Actuated Type S) 40mm-350mm (1 1/2 inch-14 inch)

Body Material	PVC PP PVDF
Seat & O-ring Material	EPDM FKM
Connection Standard	JIS 10K · JIS 5K ANSI CLASS150 DIN PN10
Power Source	Three-phase AC200V/220V/400V/440V
Equipment	Manual Operation Mechanism Torque Switches Output Contact-Limit Switches Space Heater Indicator
Option	Potentiometer R/I Transmitter E-E Positioner



FEATURES

- Speedy, exact operation by motor with direct current brake.
- Standard torque switch protects valves from overload.
- Stopper enables adjustment of an angle of ±5degree when fully-opened or fully-closed.

OPTIONAL EQUIPMENT

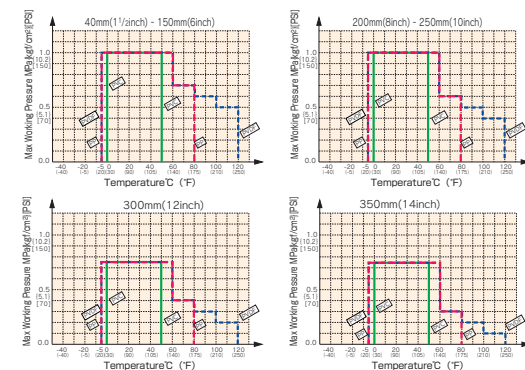
Combination No.	1	2	3
Space Heater	●	●	●
Output Contact Limit Switches	●	●	●
Potentiometer	○	○	○
R-I Transmitter	—	○	○
E-E Positioner	—	—	○

● Standard Equipment

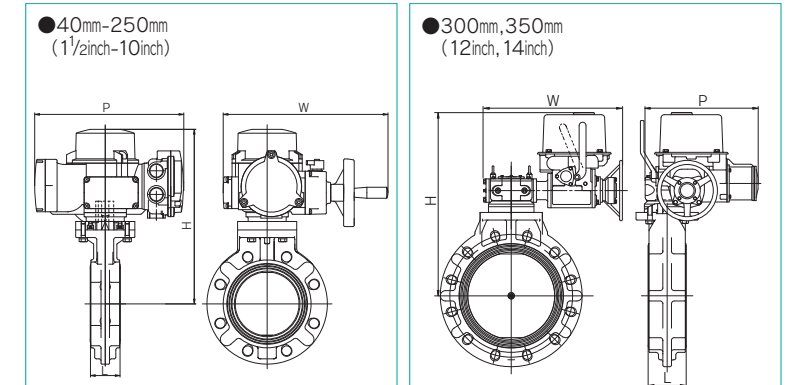
ACTUATOR SPECIFICATION

Nominal Size mm (inch)	40-100 (1 1/2-4 inch)	125 · 150 (5 inch, 6 inch)	200 · 250 (8 inch, 10 inch)	300 · 350 (12 inch, 14 inch)
Actuator Type	SRJ-010	SRJ-020	SRJ-060	LTRM-01/BRL-1
Cycle Time 50/60Hz (seconds)	18/15	36/30	36/30	42/36
Motor Output (W)	40	40	100	200
Motor Starting	200V 0.58/0.57 220V 0.64/0.61 400V 0.30/0.26 440V 0.33/0.29	0.58/0.57 0.64/0.61 0.30/0.26 0.33/0.29	1.20/1.10 1.20/1.10 0.47/0.44 0.51/0.48	6.08/5.56 5.30/6.10 3.04/2.78 2.70/3.05
Motor Rated	200V 0.42/0.35 220V 0.50/0.39 400V 0.19/0.15 440V 0.23/0.18	0.42/0.35 0.50/0.39 0.19/0.15 0.23/0.18	0.70/0.55 0.90/0.63 0.35/0.27 0.45/0.32	1.80/1.40 1.96/1.50 0.90/0.70 1.00/0.77
Number of revolutions of manual operating handle	21			
Limit Switch Capacity	AC 250V 2A			AC 250V 5A
Protective Structure	IP68			IP55
Cable Connector Nominal Size	3-G1			2-G1
Motor Pole (P)	4			4
Motor Insulation	B Class			E Class
Motor Time Rating (minute)	15			15

WORKING PRESSURE VS. TEMPERATURE

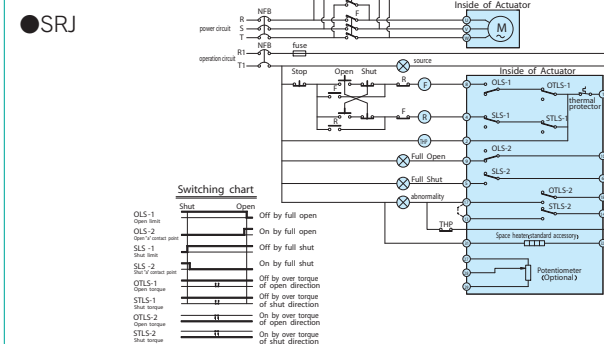


DIMENSIONS FIGURE

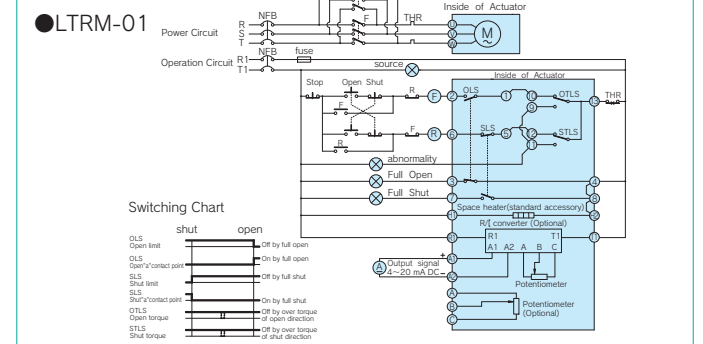


SCHEMATIC DIAGRAM

WIRING DIAGRAM



WIRING DIAGRAM

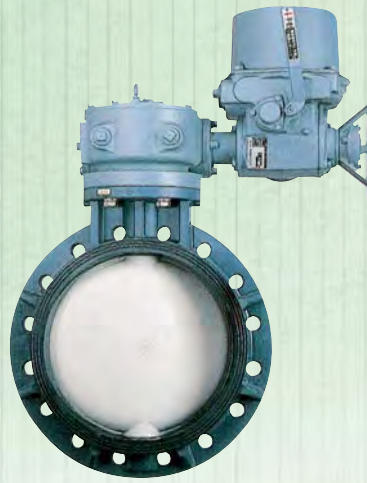


DIMENSIONS TABLE

JIS, ANSI, DIN	Unit: mm (inch)											
Nominal Size	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	
L	39(1.54)	42(1.65)	46(1.81)	46(1.81)	56(2.21)	66(2.60)	71(2.80)	87(3.43)	112(4.41)	129(5.08)	129(5.08)	
H	313(12.32)	323(12.72)	333(13.11)	348(13.70)	363(14.29)	398(15.67)	413(16.26)	441(17.36)	476(18.74)	666(26.22)	693(27.29)	
W	99(3.90)	390(15.36)	390(15.36)	390(15.36)	390(15.36)	390(15.36)	390(15.36)	460(18.11)	460(18.11)	516(20.32)	516(20.32)	
P	100(3.94)	353(13.90)	353(13.90)	353(13.90)	353(13.90)	353(13.90)	353(13.90)	393(15.47)	393(15.47)	430(16.93)	430(16.93)	

Butterfly Valve Type 56 (Electric Actuated Type S) 400mm(16inch)

- Body Material**
PP
PVDF
- Seat & O-ring Material**
EPDM
FKM
- Connection Standard**
JIS 10K · JIS 5K
ANSI CLASS150
DIN PN10



- Power Source**
Three-Phase
AC200V/220V/400V/440V

- Equipment**
Manual Operation Mechanism (with handle)
Torque Switches
Space Heater
Indicator

- Option**
Output Contact Limit Switches
Potentiometer
R/I Transmitter
E-E Positioner
※ Actuator type is to be changed

FEATURES

- Standard Torque Switch protects Valves from Overload.
- Automatic Return does not require Clutch Operation after Manual Operation.
- Stopper enables Adjustment of an Angle of ± 5 degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4
Space Heater	●	●	●	●
Output Contact Limit Switches	○	—	—	—
Potentiometer	—	○	○	○
R-I Transmitter	—	—	○	○
E-E Positioner	—	—	—	○

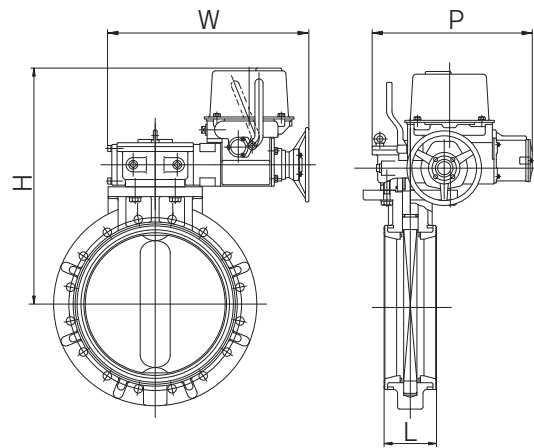
● Standard Equipment
※ Actuator type is to be changed.

ACTUATOR SPECIFICATION [Double acting]

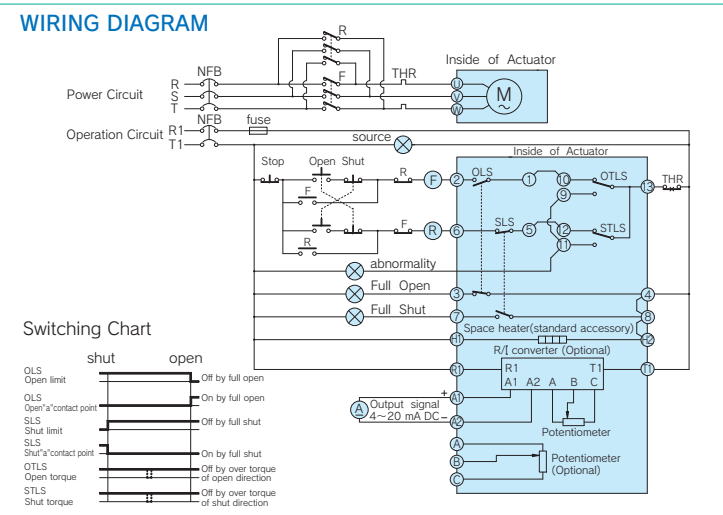
Nominal Size mm(inch)	400(16)	
Actuator Type	LTRM-01/BRL-3	
Cycle Time 50/60Hz(seconds)	43/36	
Motor Output(W)	400	
Motor Starting Current(A)	200V	8.8/8.3
	50/60Hz	4.4/4.1
Motor Rated Current(A)	200V	3.0/2.4
	50/60Hz	1.5/1.2
Number of revolutions of manual operating handle	15	
Limit Switch Capacity	AC 250V 5A	
Protective Structure	IP55	
Cable Connector Nominal Size	2-G1	
Motor Pole(P)	4	
Motor Insulation	E Class	
Motor Time Rating(minute)	15min.	

※ In the case of actuator with electric positioner, the model number is changed to LTMD-01Z/BRL-1, LTMD-01Z/BRL-3

DIMENSIONS FIGURE



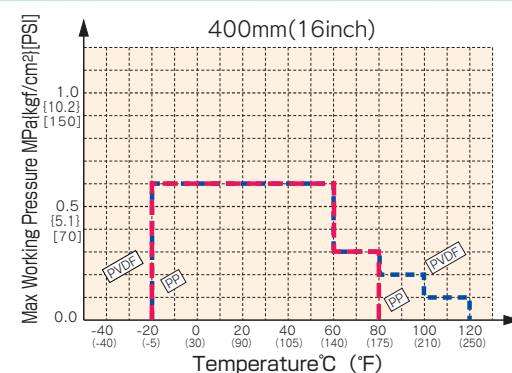
SCHEMATIC DIAGRAM



DIMENSIONS TABLE

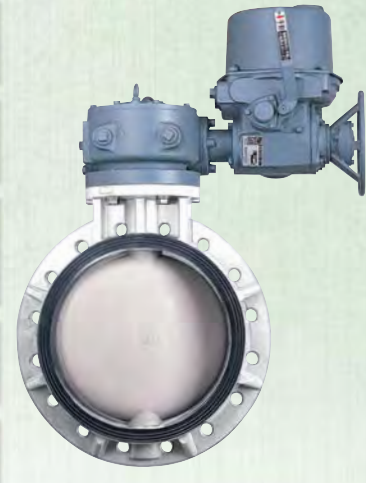
JIS, ANSI, DIN		Unit:mm(inch)
Nominal Size	400 (16)	
L	169 (6.65)	
H	689 (27.13)	
W	592 (23.31)	
P	430 (16.93)	

WORKING PRESSURE VS. TEMPERATURE



Butterfly Valve Type 75 (Electric Actuated Type S) 450mm - 600mm(18inch - 24inch)

- Body Material**
PP
PVDF
- Seat & O-ring Material**
EPDM
FKM
- Connection Standard**
JIS 10K
ANSI CLASS150
DIN PN10



- Power Source**
Three-Phase
AC200V/220V/400V/440V

- Equipment**
Manual Operation Mechanism (with handle)
Torque Switches
Space Heater
Indicator

- Option**
Output Contact Limit Switches
Potentiometer
R/I Transmitter
E-E Positioner
※ Actuator type is to be changed

FEATURES

- Standard Torque Switch protects Valves from Overload.
- Automatic return does not require Clutch Operation after Manual Operation.
- Stopper enables Adjustment of Angle of ± 5 degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4
Space Heater	●	●	●	●
Output Contact Limit Switches	○	—	—	—
Potentiometer	—	○	○	○
R-I Transmitter	—	—	○	○
E-E Positioner	—	—	—	○

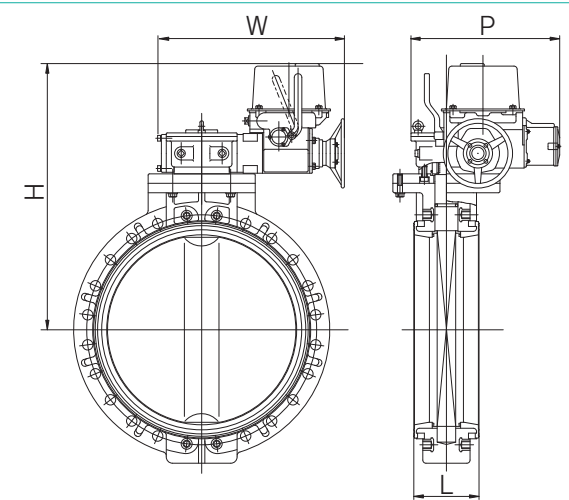
● Standard Equipment
※ Actuator Type is to be changed.

ACTUATOR SPECIFICATION [Double acting]

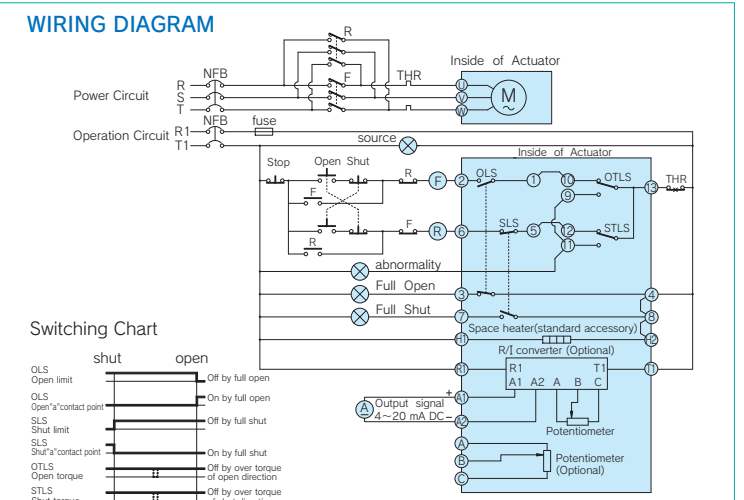
Nominal Size mm(inch)	450 - 600 (18inch - 24inch)	
Actuator Type	LTRM-01/BRL-3	
Cycle Time 50/60Hz(seconds)	43/36	
Motor Output(W)	400	
Motor Starting Current(A)	200V	8.8/8.3
	50/60Hz	4.4/4.1
Motor Rated Current(A)	200V	3.0/2.4
	50/60Hz	1.5/1.2
Number of revolutions of manual operating handle	15	
Limit Switch Capacity	AC 250V 5A	
Protective Structure	IP55	
Cable Connector Nominal Size	2-G1	
Motor Pole(P)	4	
Motor Insulation	E Class	
Motor Time Rating(minute)	15min.	

※ In the case of actuator with electric positioner, the model number is changed to LTMD-01Z/BRL-3

DIMENSIONS FIGURE



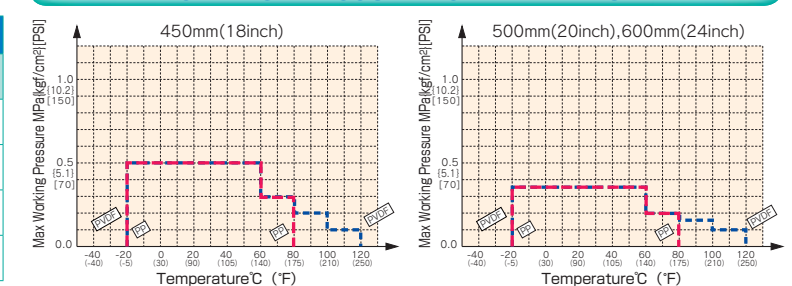
SCHEMATIC DIAGRAM



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)		
Nominal Size	450 (18)	500 (20)	600 (24)	
L	179 (7.05)	190 (7.48)	209 (8.23)	
H	750 (29.53)	780 (30.71)	845 (33.27)	
W	592 (23.31)	592 (23.31)	592 (23.31)	
P	464 (18.27)	464 (18.27)	464 (18.27)	

WORKING PRESSURE VS. TEMPERATURE



PDCPD Butterfly Valve (Electric Actuated Type S) 700mm - 1200mm(28inch - 48inch)

- Body Material**
PDCPD
- Seat & O-ring Material**
EPDM
- Connection Standard**
JIS 10K
ANSI CLASS150
DIN PN10

- Power Source**
Three-Phase
AC200V/400V

- Equipment**
Manual Operation Mechanism (with handle)
Torque Switches
Space Heater
Indicator

- Option**
Output Contact Limit Switches
Potentiometer
R/I Transmitter
E-E Positioner
※ Actuator type is to be changed

Applications
Irrigation water, city water and sewage, thermal accumulators in buildings, various pipings such as for sea water, chemicals and air, and so on.



FEATURES

- As the Specific Gravity of PDCPD is less than 1/4 that of Iron the Valve Weighs Significantly lighter than Metal Butterfly Valves.
- Superior Watertightness using Seat Packing made of Synthetic Rubber.
- Standard Torque Switch protects Valves from Overload.
- Automatic Return does not require Clutch Operation after Manual Operation.
- Stopper enables Adjustment of an angle of ±5 degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4
Space Heater	●	●	●	●
Output Contact Limit Switches	○	-	-	-
Potentiometer	-	○	○	○
R-I Transmitter	-	-	○	○
E-E Positioner	-	-	-	○

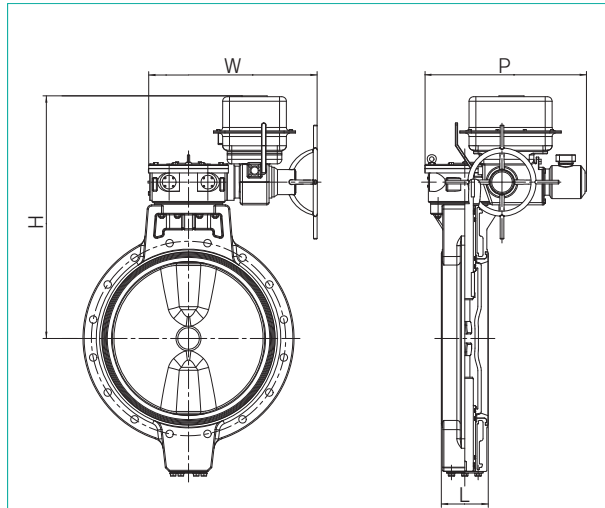
● Standard Equipment ※ Actuator Type is to be changed.

ACTUATOR SPECIFICATION

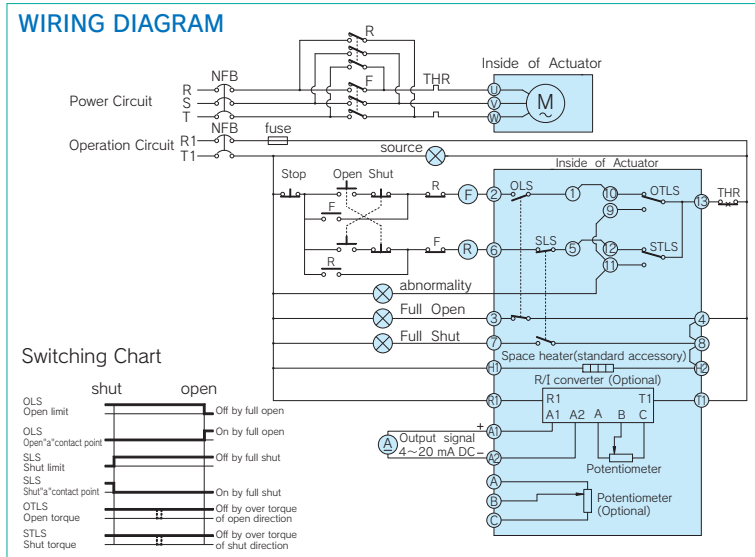
Nominal Size mm	700 (28inch)	800-900 (32inch-36inch)	1000 (40inch)	1100 - 1200 (44inch - 48inch)
Actuator Type	LTMD-02/BRL-10	LTMD-05/BRL-10	LTMD-1/BRL-20	LTMD-1/BRL-20
Cycle Time 50/60Hz(seconds)	74/61	71/75	46/51	59/59
Motor Output(W)	750	750	2200	2200
Motor Starting Current(A) 200V 50/60Hz	15.6/15.2	15.6/15.2	49.0/45.0	49.0/45.0
Motor Starting Current(A) 400V 50/60Hz	7.8/7.6	7.8/7.6	24.5/22.5	24.5/22.5
Motor Rated Current(A) 200V 50/60Hz	4.4/4.0	4.4/4.0	11.4/10.4	11.4/10.4
Motor Rated Current(A) 400V 50/60Hz	2.2/2.0	2.2/2.0	5.7/5.2	5.7/5.2
Number of revolutions of manual operating handle	15	333	333	618
Limit Switch Capacity	AC 250V 5A			
Protective Structure	IP55			
Cable Connector Nominal Size	Operation Circuit: 2-G1 Motor Circuit: G3/4			
Motor Pole(P)	4			
Motor Insulation	E Class			
Motor Time Rating(minute)	15min.			

※ In the case of actuator with electric positioner, the model number is followed by "Z". Example:LTMD-02Z/BRL-10

DIMENSIONS FIGURE



SCHEMATIC DIAGRAM

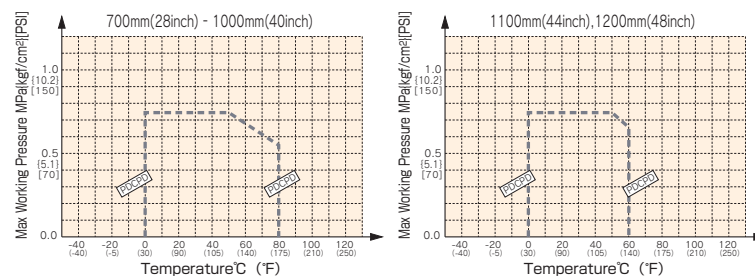


DIMENSIONS TABLE

JIS, ANSI, DIN	Unit:mm(inch)					
Nominal Size	700 (28)	800 (32)	900 (36)	1000 (40)	1100 (44)	1200 (48)
L	206 (8.11)	240 (9.45)	240 (9.45)	300 (11.81)	300 (11.81)	350 (13.78)
H	1075 (42.32)	1155 (45.47)	1240 (48.82)	1300 (51.18)	1429 (56.26)	1479 (58.23)
W	852 (33.54)	952 (37.48)	952 (37.48)	989 (38.94)	1079 (42.48)	1079 (42.48)
P	722 (28.43)	897 (35.31)	897 (35.31)	1007 (39.65)	1072 (42.20)	1072 (42.20)

※ 1100mm(44inch) DIN not Available.

WORKING PRESSURE VS. TEMPERATURE



Butterfly Valve Type 55 (Electric Actuated Type T) 50mm - 250mm(2inch - 10inch)

- Body Material**
FCD-S
- Seat & O-ring Material**
PTFE (Cushion:CR)
- Connection Standard**
JIS 10K
ANSI CLASS150
DIN PN10

- Power Source**
Single-Phase
AC100V/110V/200V/220V

- Equipment**
Space Heater
Output Contact Limit Switches
Manual Operation Mechanism
Indicator

- Option**
E-E Positioner
Intermediate Limit Switch(no-volt)
Speedcontrol Unit



FEATURES

- Lightweight and Compact with High-Torque
- Manual Operation Handle is equipped normally and operativeness has improved.
- Indicator that can be seen easily.

OPTIONAL EQUIPMENT

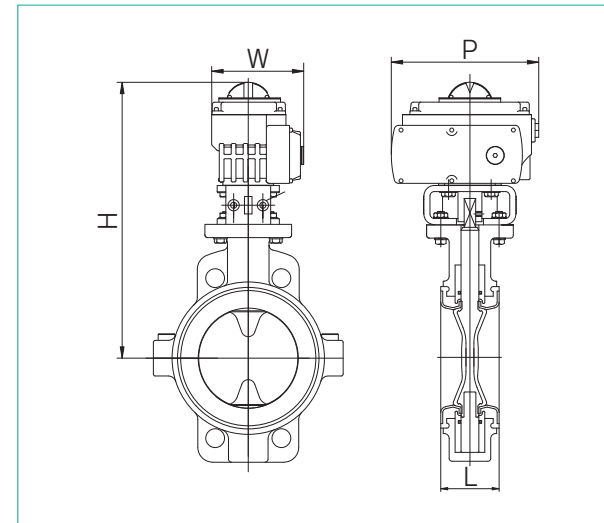
Combination No.	1	2	3	4	5	6	7
Space Heater	●	●	○	●	○	●	○
Output Contact Limit Switches	●	●	●	-	●	-	●
Potentiometer	-	○	-	-	-	○	○
E-E Positioner	-	-	-	-	-	-	-
Intermediate Limit Swirch (no-volt)	-	-	-	○	-	○	-
Speedcontrol Unit	-	-	-	-	○	-	○

● Standard Equipment

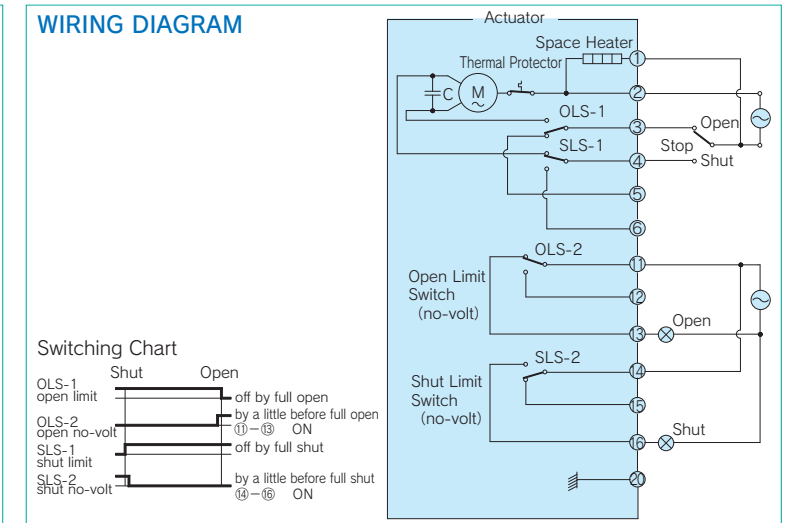
ACTUATOR SPECIFICATION

Nominal Size mm(inch)	50-100(2inch-4inch)	125(5inch)	150(6inch)	200(8inch)	250(10inch)
Actuator Type	AOC-0	AOC-1	AOC-2	AOC-2.5	AOC-3
Cycle Time 50/60Hz(seconds)	25/20		37/30		55/50
Motor Output(W)	8	20	30		90
Motor Starting Current(A) 100V 50/60Hz	1.20/1.20	1.60/1.40	2.40/2.40		5.1/4.8
Motor Starting Current(A) 200V 50/60Hz	1.40/1.40	1.70/1.70	2.50/2.50		6.1/6.6
Motor Starting Current(A) 220V 50/60Hz	0.50/0.50	0.70/0.70	1.10/1.10		2.6/2.4
Motor Starting Current(A) 110V 50/60Hz	0.50/0.50	0.70/0.60	0.90/1.20		1.60/1.70
Motor Starting Current(A) 200V 50/60Hz	0.60/0.60	0.90/0.70	1.00/1.20		1.70/1.80
Motor Starting Current(A) 220V 50/60Hz	0.30/0.30	0.50/0.40	0.60/0.80		0.90/1.00
Number of revolutions of Manual Operating Handle	6.7				16.5
Limit Switch Capacity	AC 250V 10A				
Protective Structure	JIS C 0920 Waterjet-proof type (IEC IP65)				
Cable Connector Nominal Size	G1/2				
Motor Pole(P)	4				
Motor Insulation	E Class				
Motor Time Rating(minute)	30				
Space Heater Output(W)	5				

DIMENSIONS FIGURE



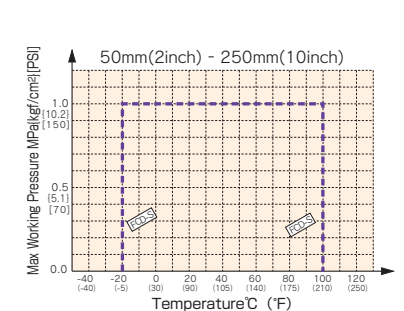
SCHEMATIC DIAGRAM



DIMENSIONS TABLE

JIS, ANSI, DIN	Unit:mm(inch)						
Nominal Size	50 (2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)
L	44 (1.74)	54 (2.13)	59 (2.33)	64 (2.52)	75 (2.96)	85 (3.35)	96 (3.78)
H	295 (11.7)	314 (12.4)	330 (13.0)	374 (14.8)	424 (16.7)	445 (17.5)	540 (21.3)
W	138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	191 (7.52)	239 (9.41)	239 (9.41)	381.5 (15.02)
P	202 (7.95)	202 (7.95)	202 (7.95)	252 (9.92)	310 (12.20)	310 (12.20)	388 (15.28)

WORKING PRESSURE VS. TEMPERATURE



Butterfly Valve Type 55 (Electric Actuated Type S) 50mm-80mm - 250mm(2·3inch - 10inch)

- Body Material**
FCD-S
- Seat & O-ring Material**
PTFE
(Cushion:CR)
- Connection Standard**
JIS 10K
ANSI CLASS150
DIN PN10

- Power Source**
Three-Phase
AC200V/400V

- Equipment**
Manual Operation Mechanism
Torque Switches
Output Contact-Limit Switches
Space Heater
Indicator

- Option**
Potentiometer
R/I Transmitter
E-E Positioner



FEATURES

- Speedy, exact operation due to a Motor with Direct Current Brake.
- Standard Torque Switch protects Valves from Overload.
- Stopper enables Adjustment of an angle of ±5 degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

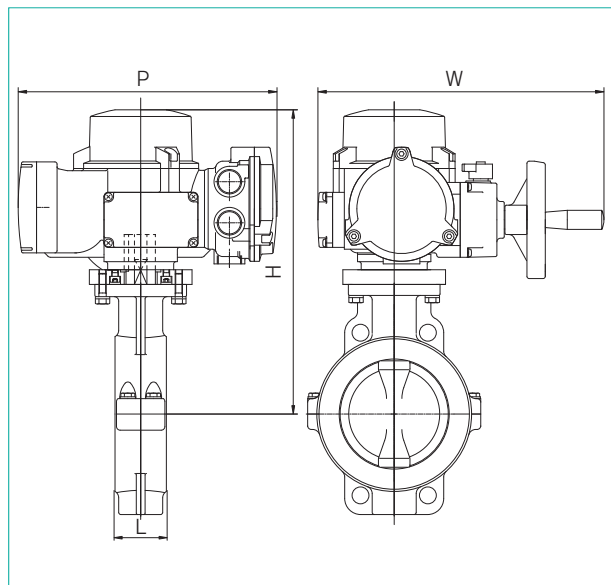
Combination No.	1	2	3
Space Heater	●	●	●
Output Contact Limit Switches	●	●	●
Potentiometer	○	○	○
R-I Transmitter	-	○	○
E-E Positioner	-	-	○

●Standard Equipments

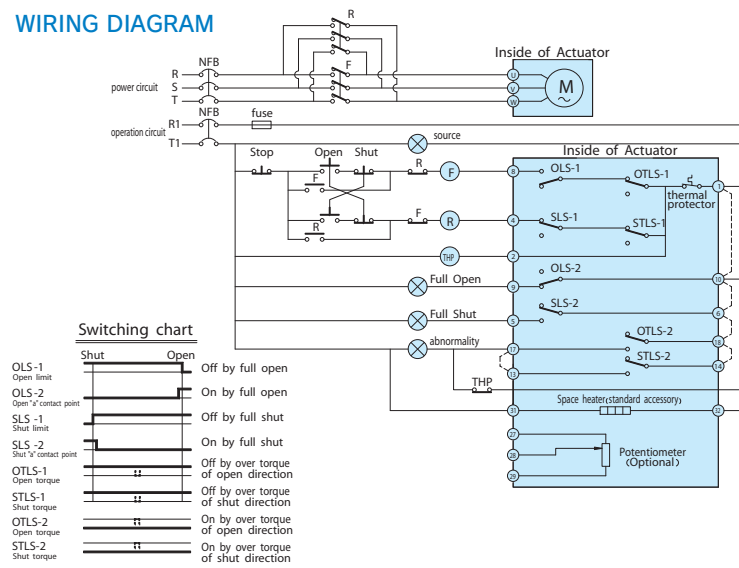
ACTUATOR SPECIFICATION

Nominal Size mm(inch)	50-100(2inch-4inch)	125-150(5inch-6inch)	200-250(8inch-10inch)
Actuator Type	SRJ-010	SRJ-020	SRJ-060
Cycle Time 50/60Hz(seconds)	18/15	36/30	36/30
Motor Output(W)	40	40	100
Motor Starting	200V 1.27/1.19	1.27/1.19	1.89/1.77
Current(A) 50/60Hz	400V 0.63/0.58	0.63/0.58	0.94/0.90
Motor Rated	200V 0.53/0.45	0.53/0.45	0.74/0.67
Current(A) 50/60Hz	400V 0.26/0.22	0.26/0.22	0.37/0.34
Number of revolutions of manual operating handle	21	21	26
Limit Switch Capacity	AC 250V 2A		
Protective Structure	IP68		
Cable Connector Nominal Size	3-G1		
Motor Pole(P)	4		
Motor Insulation	B Class		
Motor Time Rating(minute)	15		

DIMENSIONS FIGURE



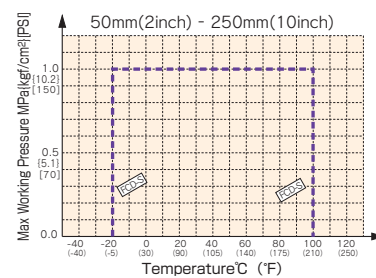
SCHEMATIC DIAGRAM



DIMENSIONS TABLE

JIS, ANSI, DIN							
Nominal Size	50 (2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)
L	44 (1.73)	54 (2.13)	59 (2.32)	64 (2.52)	75 (2.95)	85 (3.35)	96 (3.78)
H	318 (12.52)	337 (13.27)	353 (13.90)	396 (15.59)	413 (16.26)	440 (17.33)	475 (18.70)
W	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	460 (18.11)	460 (18.11)
P	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	393 (15.47)	393 (15.47)

WORKING PRESSURE VS. TEMPERATURE



Butterfly Valve Type 57,56 (Pneumatic Actuated Type TA)40mm-400mm(1 1/2inch-16inch) Type 57:40mm-350mm(1 1/2inch-16inch), Type 56:400mm(16inch)

- Body Material**
PVC
PP
PVDF

- Seat & O-ring Material**
EPDM
FKM
Others

- Connection Standard**
JIS 10K · JIS 5K
ANSI CLASS150
DIN PN10

- Action**
Double Acting
Air to Open
Air to Close

- Equipment**
· Opening Adjustment
· Stopper (± 5 degree)
· Indicator

- Option**
· Filter Regulator
· Solenoid Valve
* with built-in specialized speed controller and bypass valve.
· Limit Switch
· Speed Controller
· Manual Operation Mechanism
* Only for air to open & close.
· Full Opening Adjustment Mechanism
· Positioner



Double Acting

FEATURES

- Horizontal Type Actuator saves Piping Space.
- Spring unit for Air to Open & Close is detachable so Change-Over between Double-acting and Air to Open & Close can be done Easily.
- Various Options can be Easily installed or removed, and can be mounted later (except Positioners).
- Stopper enables Adjustment of ±5 Degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	-	-	○	○	-	○	-	-
Filter Regulator	-	-	-	○	-	-	○	-	○
Speed Controller	◎	○	-	◎	◎	○	◎	-	-
Limit Switch	-	-	○	-	○	○	○	-	-
Positioner (Electric-Air, Air-Air)	-	-	-	-	-	-	-	○	○

◎Indicates specialized for Solenoid Valve.
※With built-in speed controller and bypass valve.

ACTUATOR SPECIFICATION [Double Acting]

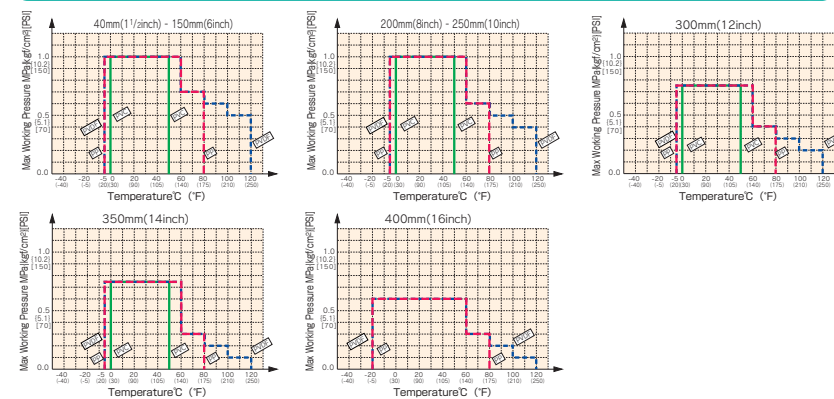
Nominal Size mm(inch)	40-50(1 1/2-2)	65-80(2 1/2-3)	100(4)	125-150(5-6)	200(8)	250-300(10-12)	350(14)	400(16)
Actuator Type	TA2A-050D	TA2A-063D	TA2A-080D	TA2A-100D	TA2A-125D	TA2A-160D	TA-200D	TA-200D
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.7{7.1}							
Air Consumption NI /Open & Close (at Operating Pressure 0.4MPa)	0.9	1.7	3.2	6.6	13.3	27.1	56.8	56.8
Air Supply Bore	Rc 1/4						Rc 3/8	Rc 3/8

ACTUATOR SPECIFICATION [Air to Open, Air to Close]

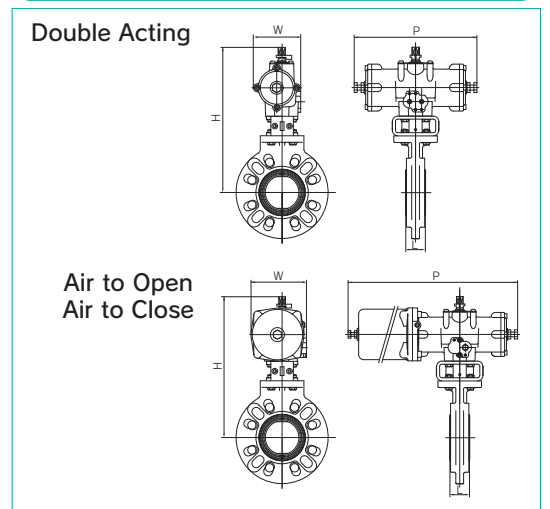
Nominal Size mm(inch)	40-50(1 1/2-2)	65-80(2 1/2-3)	100(4)	125-150(5-6)	200(8)	250-300(10-12)	350(14)	400(16)
Actuator Type	TA2A-050R	TA2A-063R	TA2A-080R	TA2A-100R2	TA2A-125R2	TA2A-160R2	TA-200R	TA-200R
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.7{7.1}							
Air Consumption NI /Open & Close (at Operating Pressure 0.4MPa)	1.7	3.3	6.1	12.8	21.6	42.7	68.4	56.8
Air Supply Bore	Rc 1/4						Rc 3/8	Rc 3/8

* for the actuator with lubricant free valves consult near Asahi dealer.

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS FIGURE



DIMENSIONS TABLE

JIS, ANSI, DIN												
											Unit:mm(inch)	
Nominal Size	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)
Common	L	39 (1.54)	42 (1.65)	46 (1.81)	46 (1.81)	56 (2.20)	66 (2.60)	71 (2.80)	87 (3.43)	112 (4.40)	129 (5.08)	169 (6.65)
	H	263 (10.35)	273 (10.75)	298 (11.73)	313 (12.32)	361 (14.21)	382 (15.04)	428 (16.85)	493 (19.41)	541 (21.30)	598 (23.54)	751 (29.57)
Double Acting	W	82 (3.23)	82 (3.23)	95 (3.74)	95 (3.74)	116 (4.57)	116 (4.57)	143 (5.63)	150 (5.90)	181 (7.13)	181 (7.13)	214 (8.43)
	P	210 (8.27)	210 (8.27)	250 (9.84)	250 (9.84)	292 (11.50)	292 (11.50)	362 (14.25)	440 (17.32)	532 (20.94)	532 (20.94)	664 (26.14)
Air to Open, Air to Close	W	103 (4.06)	103 (4.06)	119 (4.69)	119 (4.69)	142 (5.59)	142 (5.59)	174 (6.86)	193 (7.60)	231 (9.09)	231 (9.09)	292 (11.50)
	P	345 (13.58)	345 (13.58)	413 (16.26)	413 (16.26)	487 (19.18)	487 (19.18)	598 (23.55)	762 (30.00)	924 (36.38)	924 (36.38)	1275 (50.20)

Butterfly Valve Type 75 (Pneumatic Actuated Type TW) 450mm - 600mm(18inch - 24inch)

- Body Material**
PP
PVDF
- Seat & O-ring Material**
EPDM
FKM
Others
- Connection Standard**
JIS 10K
ANSI CLASS150
DIN PN10
- Action**
Double Acting
- Equipment**
· Opening Adjustment
Stopper (± 5 degree)
· Indicator
- Option**
· Filter Regulator
· Solenoid Valve
※ with built-in specialized speed controller and bypass valve.
· Limit Switch
· Speed Controller
· Manual Operation Mechanism
※ for air to open & close only.
· Full Opening Adjustment Mechanism
· Positioner



FEATURES

- Horizontal Type Actuator saves Piping Space.
- Stopper enables Adjustment of an Angle of ±5 degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

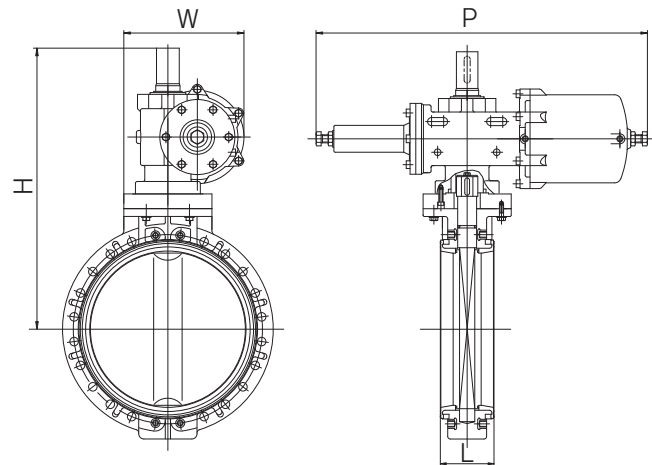
Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	-	-	○	○	-	○	-	-
Filter Regulator	-	-	-	○	-	-	○	-	○
Speed Controller	◎	○	-	◎	◎	○	◎	-	-
Limit Switch	-	-	○	-	○	○	-	-	-
Positioner (electric-air, ait-air)	-	-	-	-	-	-	-	○	○

◎Indicates specialized for Solenoid Valve.
※With built-in speed controller and bypass valve.

ACTUATOR SPECIFICATION [Double acting]

Nominal Size mm(inch)	450 - 600(18inch - 24inch)
Actuator Type	TW-250D
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.7{7.1}
Air Consumption NI /open & close (at operating pressure 0.4MPa)	99
Air Supply Bore	Rc 3/8

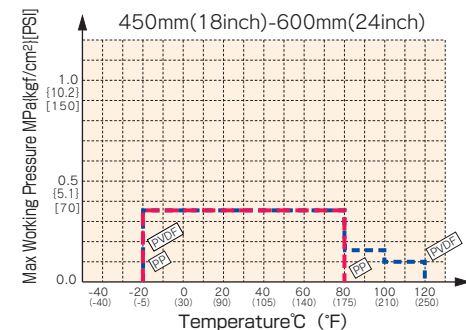
DIMENSIONS FIGURE



DIMENSIONS TABLE

JIS, ANSI, DIN	Unit:mm(inch)		
Nominal Size	450 (18)	500 (20)	600 (24)
L	179 (7.05)	190 (7.48)	209 (8.23)
H	825 (32.48)	855 (33.66)	920 (36.22)
W	384 (15.12)	384 (15.12)	384 (15.12)
P	987 (38.86)	987 (38.86)	987 (38.86)

WORKING PRESSURE VS. TEMPERATURE



Butterfly Valve Type 55 (Pneumatic Actuated Type TA) 50mm - 80mm - 250mm(2·3inch - 10inch)

- Body Material**
FCD-S
- Seat & O-ring Material**
PTFE
(Cushion:CR)
- Connection Standard**
JIS 10K
ANSI CLASS150
DIN PN10
- Action**
Double Acting
Air to Open
Air to Close
- Equipment**
· Opening Adjustment
Stopper (± 5 degree)
· Indicator
- Option**
· Filter Regulator
· Solenoid Valve
※ with built-in specialized speed controller and bypass valve.
· Limit Switch
· Speed Controller
· Manual Operation Mechanism
※ for air to open & close only.
· Full Opening Adjustment Mechanism
· Positioner



FEATURES

- Horizontal Type Actuator saves Piping Space.
- Spring unit for Air to Open & Shut is detachable so that Change-over between Double-Acting and Air to Open & Shut can be done easily.
- Various Options can be easily installed or removed and can be mounted later(except Positioners).
- Stopper enables Adjustment of angle of ±5 degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	-	-	○	○	-	○	-	-
Filter Regulator	-	-	-	○	-	-	○	-	○
Speed Controller	◎	○	-	◎	◎	○	◎	-	-
Limit Switch	-	-	○	-	○	○	-	-	-
Positioner (Electric-Air, Air-Air)	-	-	-	-	-	-	-	○	○

◎Indicates specialized for Solenoid Valve.
※With built-in speed controller and bypass valve.

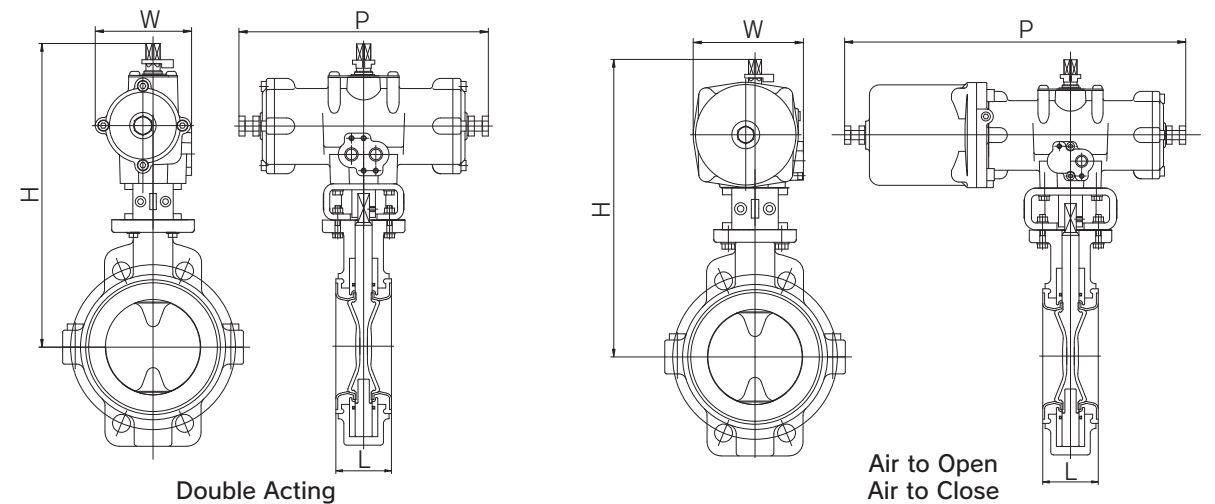
ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	50(2inch)	80(3inch)	100-125(4inch-5inch)	150(6inch)	200(8inch)	250(10inch)
Actuator Type	TA2A-050D	TA2A-063D	TA2A-080D	TA2A-100D	TA2A-125D	TA2A-160D
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.7{7.1}					
Air Consumption NI /open & close (at operating pressure 0.4MPa)	0.9	1.7	3.2	6.6	13.3	27.1
Air Supply Bore	Rc 1/4					

ACTUATOR SPECIFICATION [Air to Open, Air to Close]

Nominal Size mm(inch)	50(2inch)	80(3inch)	100-125(4inch-5inch)	150(6inch)	200(8inch)	250(10inch)
Actuator Type	TA2A-050R	TA2A-063R	TA2A-080R	TA2A-100R	TA2A-125R	TA2A-160R
Operating Pressure MPa(kgf/cm ²)	0.4{4.1} - 0.7{7.1}					
Air Consumption NI /open & close (at operating pressure 0.4MPa)	1.7	3.3	6.1	12.8	21.6	42.7
Air Supply Bore	Rc 1/4					

DIMENSIONS FIGURE



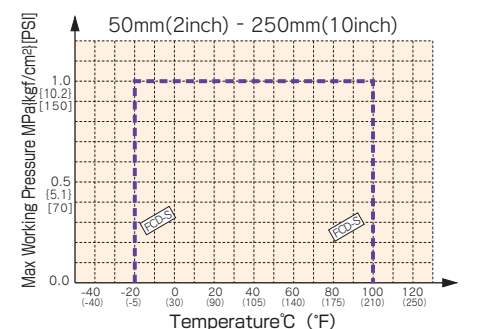
Double Acting

Air to Open
Air to Close

DIMENSIONS TABLE

JIS, ANSI, DIN	Unit:mm(inch)						
Nominal Size	50 (2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)
Common	L	44 (1.73)	54 (2.13)	59 (2.32)	64 (2.52)	75 (2.95)	85 (3.35)
	H	268 (10.55)	302 (11.89)	346 (13.62)	375 (14.76)	428 (16.85)	502 (19.76)
Double acting	W	82 (3.23)	95 (3.74)	116 (4.57)	116 (4.57)	142.5 (5.61)	150 (5.90)
	P	210 (8.27)	250 (9.84)	292 (11.50)	292 (11.50)	362 (14.25)	440 (17.32)
Air to open, Air to close	W	103 (4.06)	118.5 (4.67)	141.5 (5.57)	141.5 (5.57)	174 (6.86)	192.5 (7.58)
	P	345 (13.58)	413 (16.26)	487 (19.17)	487 (19.17)	598 (23.54)	762 (30.00)

WORKING PRESSURE VS. TEMPERATURE



Rotary Damper Type 57,56 (Electric Actuated Type T) 40mm - 400mm(1 1/2 inch - 16 inch)

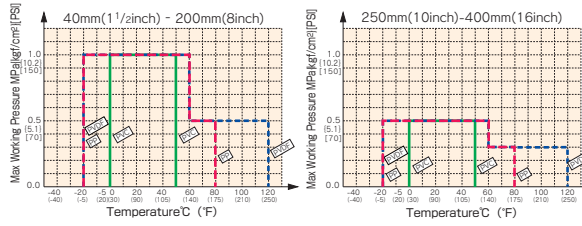
Type57:40-350mm(1 1/2 inch-14 inch), Type56:400mm(16 inch)

- Body Material**
PVC
PP
PVDF
- O-ring Material**
EPDM
FKM
- Connection Standard**
JIS 10K · JIS 5K
ANSI CLASS150
DIN PN10
- Power Source**
Single-Phase
AC100V/110V/200V/220V
- Equipment**
Space Heater
Output Contact Limit Switches
Indicator
Manual Operation-Mechanism

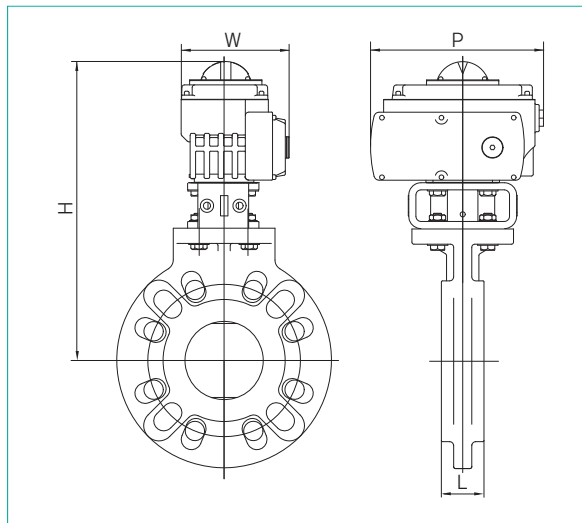


- Option**
E-E Positioner
Intermediate Limit Switch (no-volt)
Speedcontrol Unit

WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS FIGURE

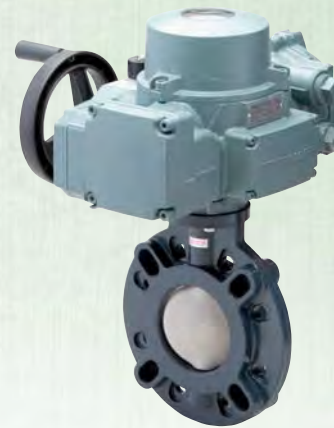


DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm (inch)														
Nominal Size		40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)	450 (18)	500 (20)	600 (24)
L		32 (1.26)	35 (1.38)	37 (1.46)	37 (1.46)	47 (1.85)	57 (2.24)	62 (2.44)	76 (2.99)	96 (3.78)	116 (4.57)	116 (4.57)	157 (6.12)	167 (6.58)	177 (6.97)	197 (7.76)
	H	290 (11.42)	300 (11.81)	310 (12.20)	325 (12.80)	340 (13.39)	361 (14.21)	376 (14.80)	455 (17.91)	490 (19.29)	566 (22.28)	593 (23.37)	650 (25.53)	623 (24.53)	653 (25.71)	717 (28.23)
H	PVC, PP	290 (11.42)	300 (11.81)	310 (12.20)	325 (12.80)	340 (13.39)	361 (14.21)	376 (14.80)	455 (17.91)	490 (19.29)	566 (22.28)	593 (23.37)	650 (25.53)	623 (24.53)	653 (25.71)	717 (28.23)
	PVDF	310 (12.20)	320 (12.60)	330 (12.99)	345 (13.58)	360 (14.17)	381 (15.00)	396 (15.59)	475 (18.70)	510 (20.08)	586 (23.07)	613 (24.13)	670 (26.13)	648 (25.52)	678 (26.70)	742 (29.22)
W		138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	138.8 (5.47)	239 (9.42)	239 (9.42)	239 (9.42)	239 (9.42)	239 (9.42)	239 (9.42)	239 (9.42)	381.5 (14.88)
	P	202 (7.96)	202 (7.96)	202 (7.96)	202 (7.96)	202 (7.96)	202 (7.96)	202 (7.96)	310 (12.20)	310 (12.20)	310 (12.20)	310 (12.20)	310 (12.20)	310 (12.20)	310 (12.20)	388 (15.13)

Rotary Damper (Electric Actuated Type S) 40mm - 600mm(1 1/2 inch - 24 inch)

- Body Material**
PVC
PP
PVDF
- Seat & O-ring Material**
EPDM
FKM
- Connection Standard**
JIS 10K · JIS 5K
ANSI CLASS150
DIN PN10
- Power Source**
Three-Phase
AC200V/220V/400V/440V
- Equipment**
Manual Operation Mechanism
Torque Switches
Output Contact
Limit Switches
Space Heater
Indicator



- Option**
Potentiometer
R/I Transmitter
E-E Positioner

FEATURES

- Speedy, exact operation by Motor with Direct Current Brake.
- Standard Torque Switch protects Valves from overload.
- Stopper enables Adjustment of an angle of ±5degree when fully-opened or fully-closed.

OPTIONAL EQUIPMENT

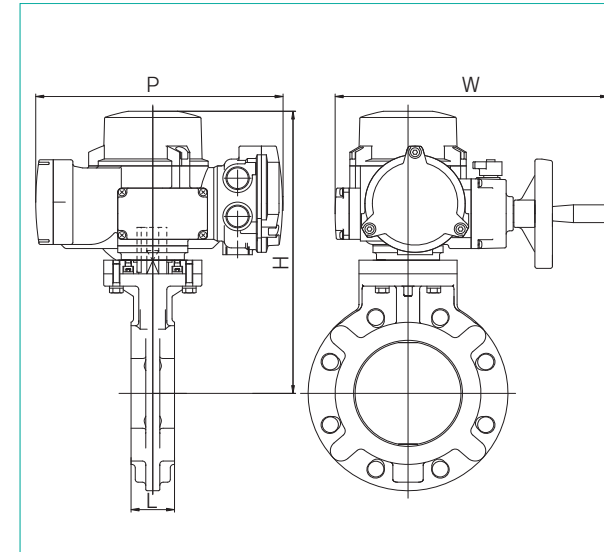
Combination No.	1	2	3
Space Heater	●	●	●
Output Contact Limit Switches	●	●	●
Potentiometer	○	○	○
R-I Transmitter	-	○	○
E-E Positioner	-	-	○

● Standard Equipment

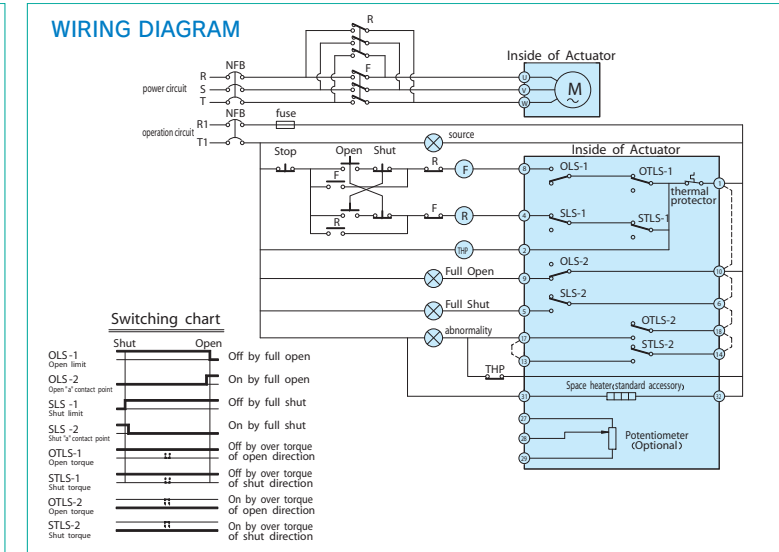
ACTUATOR SPECIFICATION

Valve Type	40-150(1 1/2 inch-6 inch)		200-350(8 inch-14 inch)		400(16 inch)		450-600(18 inch-24 inch)	
	Type 57	Type 56	Type 57	Type 56	Type 56	Type 75	Type 56	Type 75
Actuator Type	SRJ-010	SRJ-020	SRJ-010	SRJ-020	SRJ-060	SRJ-060	SRJ-060	SRJ-060
Cycle Time 50/60Hz(seconds)	18/15	36/30	36/30	36/30	36/30	36/30	36/30	36/30
Motor Output(W)	40		100		100			
Motor Starting	200V	1.27/1.19	200V	1.89/1.77	200V			
Current(A) 50/60Hz	400V	0.63/0.58	400V	0.94/0.90	400V			
Motor Rated	200V	0.53/0.45	200V	0.74/0.67	200V			
Current(A) 50/60Hz	400V	0.26/0.22	400V	0.37/0.34	400V			
Number of revolutions of manual operating handle	21		26		26			
Limit Switch Capacity	AC 250V 2A							
Protective Structure	IP68							
Cable Connector Nominal Size	3-G1							
Motor Pole(P)	4							
Motor Insulation	B Class							
Motor Time Rating(minute)	15							

DIMENSIONS FIGURE



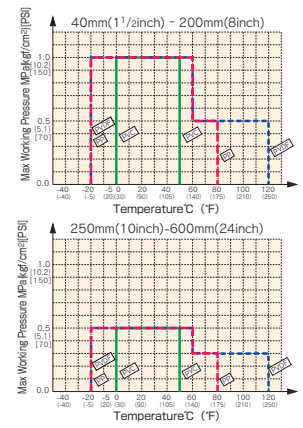
SCHEMATIC DIAGRAM



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm (inch)														
Nominal Size		40 (1 1/2)	50 (2)	65 (2 1/2)	80(75) (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)	450 (18)	500 (20)	600 (24)
L		32 (1.26)	35 (1.38)	37 (1.46)	37 (1.46)	47 (1.85)	57 (2.24)	62 (2.44)	76 (2.99)	96 (3.78)	116 (4.57)	116 (4.57)	157 (6.12)	167 (6.58)	177 (6.97)	197 (7.76)
	H	313 (12.32)	323 (12.72)	333 (13.11)	348 (13.70)	363 (14.29)	398 (15.67)	413 (16.26)	444 (17.48)	486 (19.14)	543 (21.38)	570 (22.44)	612 (24.10)	623 (24.53)	653 (25.71)	717 (28.23)
H	U-PVC, PP	333 (13.11)	343 (13.51)	353 (13.90)	368 (14.49)	383 (15.08)	418 (16.46)	433 (17.05)	464 (18.27)	506 (19.92)	563 (22.17)	590 (23.23)	632 (24.89)	648 (25.52)	678 (26.70)	742 (29.22)
	PVDF	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	390 (15.36)	460 (18.11)	460 (18.11)	460 (18.11)	460 (18.11)
W		353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	393 (15.47)
	P	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	353 (13.90)	393 (15.47)

WORKING PRESSURE VS. TEMPERATURE



Rotary Damper (Pneumatic Actuated Type TA)40mm - 600mm(1 1/2inch - 24inch) Type57:40mm-350mm(1 1/2inch-14inch), Type56:400mm(16inch), Type75:450-600mm(18inch-24inch)

Body Material

PVC
PP
PVDF

Seat & O-ring Material

EPDM
FKM

Connection Standard

JIS 10K · JIS 5K
ANSI CLASS150
DIN PN10

Action

Double Acting
Air to Open
Air to Close

Equipment

- Opening Adjustment Stopper (± 5 degree)
- Indicator
- Speed Controller

Option

- Filter Regulator
- Solenoid Valve
- ※ with built-in specialized speed controller and bypass valve.
- Limit Switch
- Manual Operation Mechanism
- ※ Only for air to open & close.
- Full Opening Adjustment Mechanism
- Positioner



FEATURES

- Horizontal Type Actuator saves Piping Space.
- Spring unit for Air to Open & Close is detachable so Change-Over between Double-Acting and Air to Open & Close can be done easily.
- Various Options can be easily installed or removed, and can be mounted later (except positioners).
- Stopper enables Adjustment of ±5 degree at fully-Opened or Fully-Closed position.

OPTIONAL EQUIPMENT

Combination No.	1	2	3	4	5	6	7	8	9
Solenoid Valve ※	○	—	—	○	○	—	○	—	—
Filter Regulator	—	—	—	○	—	—	○	—	○
Speed Controller	◎	○	—	◎	◎	○	◎	—	—
Limit Switch	—	—	○	—	○	○	○	—	—
Positioner (Electric-Air, Air-Air)	—	—	—	—	—	—	—	○	○

◎Indicates specialized for Solenoid Valve.

※With built-in speed controller and bypass valve.

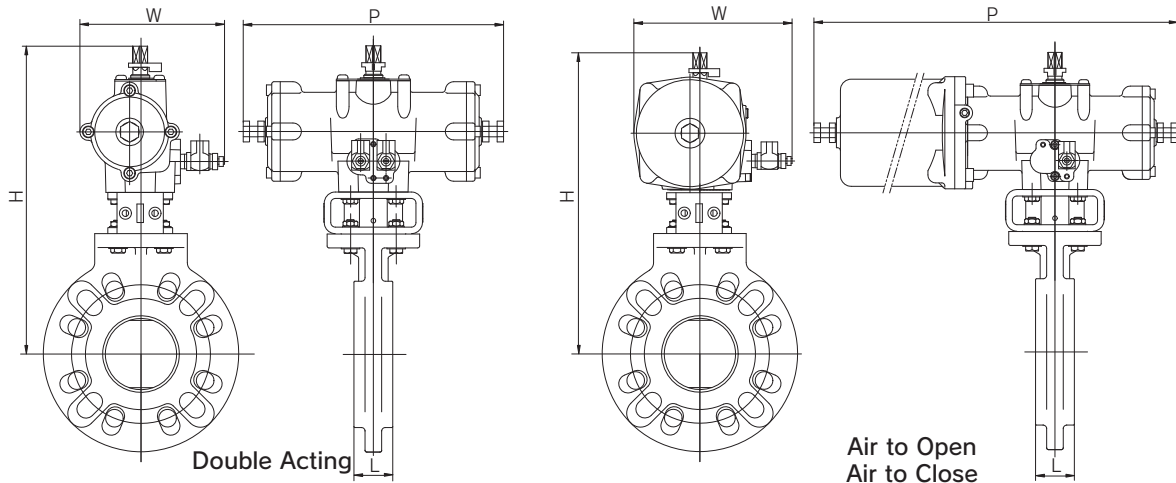
ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	40~100(1 1/2~4inch)	125~150(5inch~6inch)	200~300(8inch~12inch)	350(14inch)	400~600(16inch~24inch)
Actuator Type	TA2A-050D	TA2A-080D	TA2A-100D	TA2A-125D	TA2A-160D
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.7{7.1}				
Air Consumption NI /open & close (at operating pressure 0.4MPa)	0.9	3.2	6.6	13.3	27.1
Air Supply Bore	Rc 1/4				

ACTUATOR SPECIFICATION [Air to Open, Air to Close]

Nominal Size mm(inch)	40~100(1 1/2~4inch)	125~150(5inch~6inch)	200~300(8inch~12inch)	350(14inch)	400~600(16inch~24inch)
Actuator Type	TA2A-050R	TA2A-080R	TA2A-100R2	TA2A-125R2	TA2A-160R2
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.7{7.1}				
Air Consumption NI /open & close (at operating pressure 0.4MPa)	1.7	6.1	12.8	21.6	42.7
Air Supply Bore	Rc 1/4				

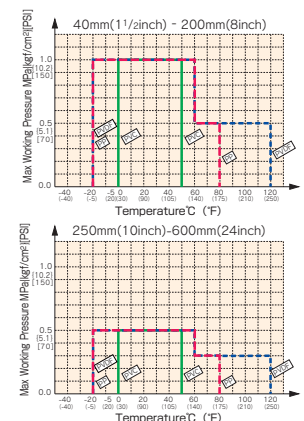
DIMENSIONS FIGURE



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)														
Nominal Size		40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)	450 (18)	500 (20)	600 (24)
L	PVC,PP	32(1.26)	35(1.38)	37(1.46)	37(1.46)	47(1.85)	57(2.24)	62(2.44)	76(2.99)	96(3.78)	116(4.57)	116(4.57)	157(6.18)	167(6.57)	177(6.97)	197(7.76)
	PVDF	32(1.26)	35(1.38)	37(1.46)	37(1.46)	47(1.85)	57(2.24)	62(2.44)	82(3.23)	96(3.78)	116(4.57)	116(4.57)	153(6.02)	167(6.57)	177(6.97)	197(7.76)
H	PVC,PP	270(10.63)	280(11.02)	290(11.42)	306(12.05)	321(12.64)	395(15.55)	410(16.14)	470(18.50)	503(19.83)	570(22.47)	603(23.77)	693(27.28)	701(27.60)	701(27.60)	766(30.16)
	PVDF	283(11.14)	293(11.54)	303(11.93)	318(12.52)	333(13.11)	402(15.83)	417(16.42)	448(17.64)	508(20.02)	580(22.86)	614(24.20)	709(27.91)	680(26.77)	709(27.91)	772(30.39)
Double acting	W	130(5.12)	130(5.12)	130(5.12)	130(5.12)	130(5.12)	164(6.46)	164(6.46)	191(7.52)	191(7.53)	191(7.53)	198(7.80)	229(9.02)	229(9.02)	229(9.02)	229(9.02)
	P	210(8.27)	210(8.27)	210(8.27)	210(8.27)	210(8.27)	292(11.50)	292(11.50)	362(14.25)	362(14.27)	362(14.27)	440(17.34)	532(20.94)	532(20.94)	532(20.94)	532(20.94)
Air to Open, Air to Close	W	151(5.94)	151(5.94)	151(5.94)	151(5.94)	151(5.94)	192(7.56)	192(7.56)	222(8.74)	222(8.75)	222(8.75)	241(9.50)	279(10.98)	279(10.98)	279(10.98)	279(10.98)
	P	345(13.58)	345(13.58)	345(13.58)	345(13.58)	345(13.58)	487(19.17)	487(19.17)	598(23.54)	598(23.57)	598(23.57)	752(29.64)	924(36.38)	924(36.38)	924(36.38)	924(36.38)

WORKING PRESSURE VS. TEMPERATURE



Control Valve (Electric actuated Type M) 15mm, 25mm(1/2inch, 3/4inch)

Body Material

PVC
PVDF

Seat & O-ring Material

EPDM
FKM
Viflon C(FKM-C)
Viflon F(FKM-F)

Connection Standard

JIS10K, DIN, ANSI

Action

Single-Phase
AC100V
AC200V
DC24V

Equipment

Indicator
Opening Output Signal
E-E Positioner



(PVDF)
※PVDF body has only JIS10k TYPE.

FEATURES

- This Valve provides High-Precision Flow Control by applying original unique shaped plug less affected by Fluid Viscosity.
- Application of Electronic Servo-Actuator with High Performance.
- Electronic limiter and Overload Protection Circuit at fully-Opened or Fully-Closed position are built into the valve.

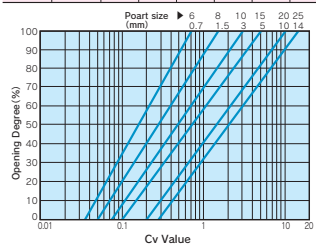
ACTUATOR SPECIFICATION

Nominal Size mm(inch)	15(1/2inch)	25(2inch)
Actuator Type	MSP-6	
Cycle Time 50/60Hz(seconds)	8	15
Motor Output(W)	3.8	
Motor Rated	AC100V 0.24	
Current(A)	AC200V 0.15	
50/60Hz	DC24V 0.36	
Protective Structure	Outdoor drop-proof Type	
Cable Connector Nominal Size	G1/2 (Cable accessory)	
Motor Pole(P)	5	
Motor Insulation	E Class	
Motor Time Rating	Continuous	

General flow control

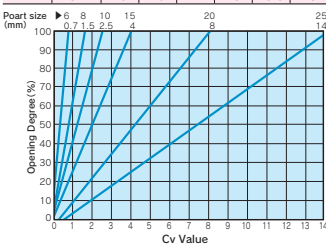
Equal Percentage

Nominal Size (mm)	25					
	6	8	10	15	20	25
Poat Size (mm)	6	8	10	15	20	25
Cv	0.7	1.5	3	5	10	14
Range Ability	20:1	30:1	40:1	50:1	50:1	50:1
Stroke (mm)	15mm	17	16	17	18	-
	25mm	16.5	16	16	22	24



Linear

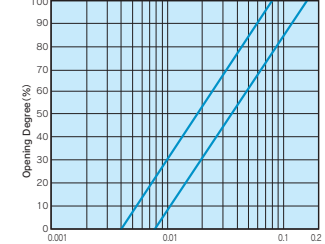
Nominal Size (mm)	25					
	6	8	10	15	20	25
Poat Size (mm)	6	8	10	15	20	25
Cv	0.7	1.5	2.5	4	8	14
Range Ability	20:1	25:1	30:1	40:1	40:1	50:1
Stroke (mm)	15mm	16	16	15	16	-
	25mm	16	16	14	15	19.5



Precise flow control

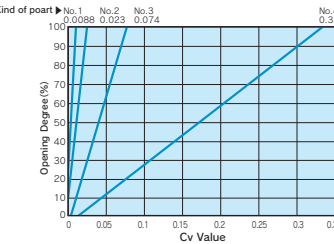
Equal Percentage

Nominal Size (mm)	15	
	No.1	No.2
Kind of Poat	No.1	No.2
Cv	0.08	0.16
Range Ability	20:1	20:1
Stroke(mm)	16	16

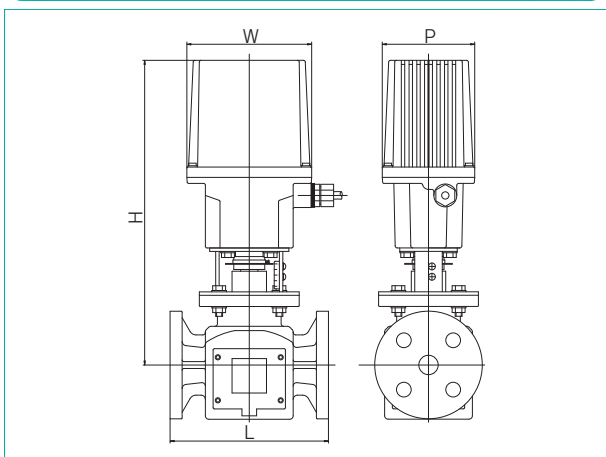


Linear

Nominal Size (mm)	15			
	No.1	No.2	No.3	No.4
Kind of Poat	No.1	No.2	No.3	No.4
Cv	0.0088	0.023	0.074	0.33
Range Ability	15:1	15:1	15:1	20:1
Stroke(mm)	16	16	16	16

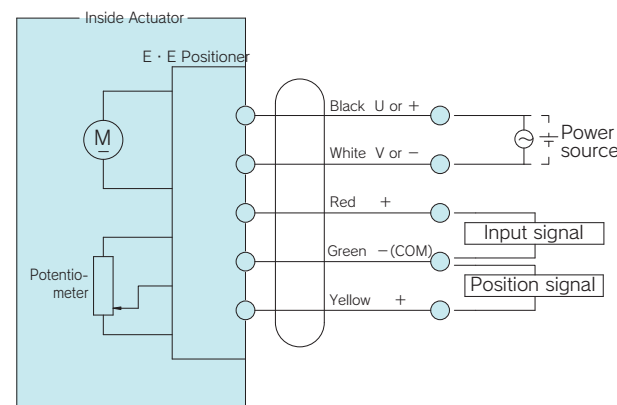


DIMENSIONS FIGURE



SCHEMATIC DIAGRAM

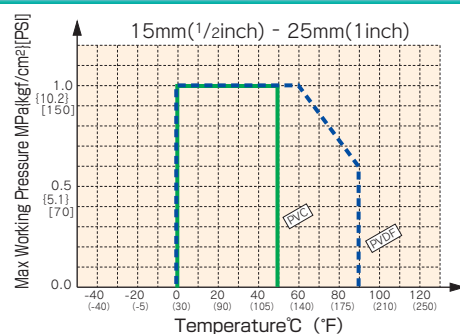
WIRING DIAGRAM



DIMENSIONS TABLE

JIS, ANSI, DIN		Unit:mm(inch)	
Nominal Size		15 (1/2)	25 (1)
L		160 (6.30)	184 (7.24)
H	PVC	335 (13.19)	354 (13.94)
	PVDF	372.5 (14.67)	366 (14.41)
W		145 (5.71)	145 (5.71)
P		110 (4.33)	110 (4.33)

WORKING PRESSURE VS. TEMPERATURE



Control Valve (Electric actuated Type M) 50mm - 100mm(2inch - 4inch)

Body Material	PVC
Seat & O-ring Material	EPDM FKM Viflon C(FKM-C) Viflon F(FKM-F)
Connection Standard	JIS10K, ANSI
Action	Single-Phase AC100V AC200V DC24V
Equipment	Indicator Opening Output Signal E-E Positioner

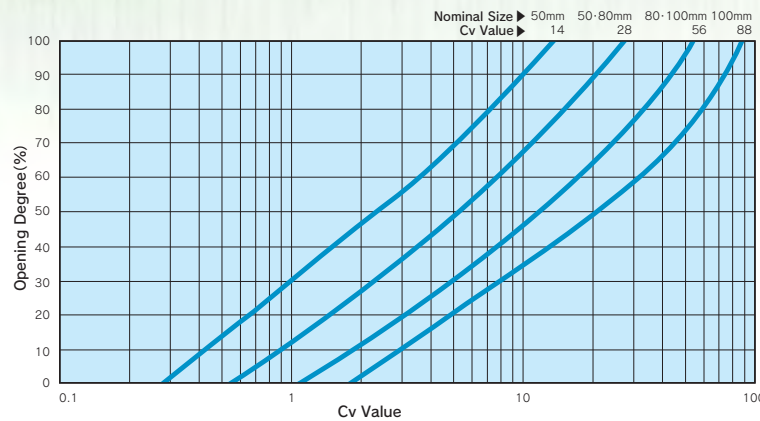


FEATURES

- This valve provides High-Precision flow control by applying original unique shaped plug less affected by fluid viscosity.
- Application of electronic Servo-Actuator with high performance.
- Electronic limiter and Overload Protection circuit at fully-Opened or Fully-Closed position are built into the valve.

ACTUATOR SPECIFICATION

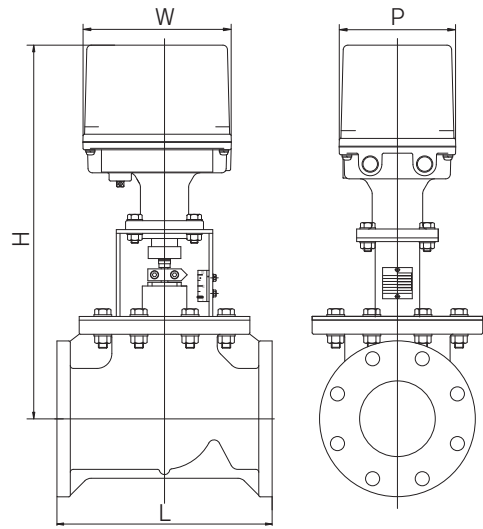
Nominal Size mm(inch)	50 (2inch)	80 (3inch)	100 (4inch)
Actuator Type	PSN1		PSN3
Cycle Time 50/60Hz(seconds)	5	15	28 - 32
Protective Structure	IP55		
Cable Connector Nominal Size	3.0		
Motor Pole(P)	67	72	77
Motor Insulation	G1/2×2		
Motor Time Rating	E Class		



Cv Value

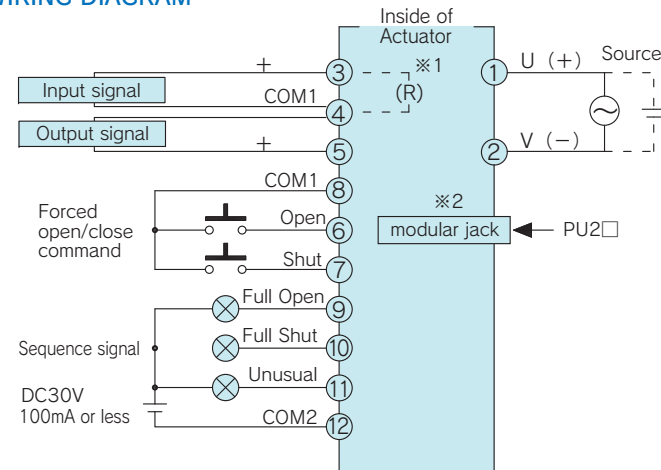
Equal Percentage						
Nominal Size mm(inch)	50 (2")		80 (3")		100 (4")	
Kind of Poat	S	L	S	L	S	L
Cv	14	28	28	56	56	88
Range Ability	50:1	50:1	50:1	50:1	50:1	50:1
Stroke (mm)	26	28	30	28	32	28

DIMENSIONS FIGURE



SCHEMATIC DIAGRAM

WIRING DIAGRAM



※ 1 Input resistor attached for a current input.
※ 2 A modular jack is not usually used.

Control Valve (Pneumatic actuated Type AV) 15mm, 25mm(1/2inch, 3/4inch)

Body Material	PVC PVDF
Seat & O-ring Material	EPDM FKM Viflon C(FKM-C) Viflon F(FKM-F)
Connection Standard	JIS10K, DIN, ANSI
Action	Double Acting Air to Open
Equipment	E-A positioner A-A positioner
Option	Filter Regulator



FEATURES

- This Valve provides High-Precision Flow Control by applying original unique shaped plug less affected by Fluid Viscosity.

OPTIONAL EQUIPMENT

Combination No.	1	2
Positioner (Electric-Air)	●	—
Positioner (Air-Air)	—	●
Filter Regulator	○	○

● Standard Equipment

ACTUATOR SPECIFICATION [Double Acting]

Nominal Size mm(inch)	15 (1/2inch)	25 (1inch)
Actuator Type	—	—
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}	
Air Consumption NI / Open & Close (at operating pressure 0.4MPa)	0.6	0.7
Air Supply Bore	Rc 1/4	

ACTUATOR SPECIFICATION [Air to Open]

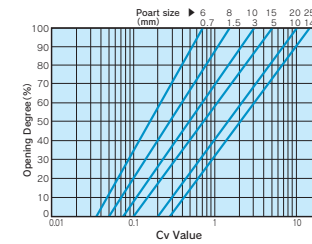
Nominal Size mm(inch)	15 (1/2inch)	25 (1inch)
Actuator Type	—	—
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}	
Air Consumption NI / Open & Close (at operating pressure 0.4MPa)	1.3	1.5
Air Supply Bore	Rc 1/4	

※PVDF body has only JIS10k TYPE.

General flow control

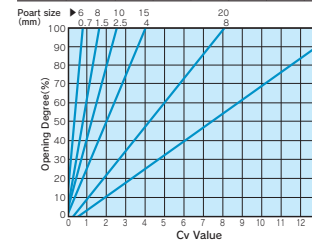
Equal Percentage

Nominal Size (mm)	25					
Poat Size (mm)	6	8	10	15	20	25
Cv	0.7	1.5	3	5	10	14
Range Ability	20:1	30:1	40:1	50:1	50:1	50:1
Stroke (mm)	15mm	17	17	18	—	—
25mm	16.5	16	16	16	22	24



Linear

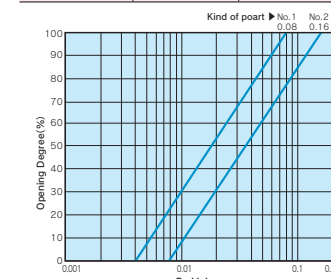
Nominal Size (mm)	25					
Poat Size (mm)	6	8	10	15	20	25
Cv	0.7	1.5	2.5	4	8	14
Range Ability	20:1	25:1	30:1	40:1	40:1	50:1
Stroke (mm)	15mm	16	16	15	16	—
25mm	16	16	14	15	19.5	25



Precise flow control

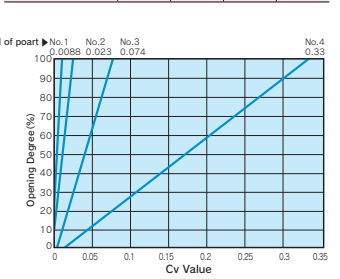
Equal Percentage

Nominal Size (mm)	15	
Kind of Poat	No.1	No.2
Cv	0.08	0.16
Range Ability	20:1	20:1
Stroke (mm)	16	16



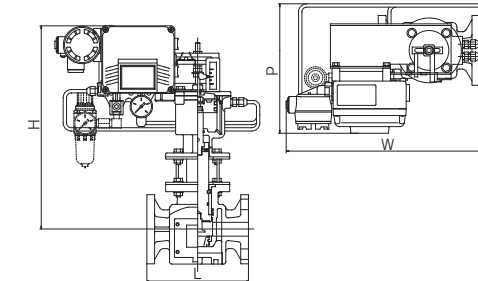
Linear

Nominal Size (mm)	15			
Kind of Poat	No.1	No.2	No.3	No.4
Cv	0.0088	0.023	0.074	0.33
Range Ability	15:1	15:1	15:1	20:1
Stroke (mm)	16	16	16	16

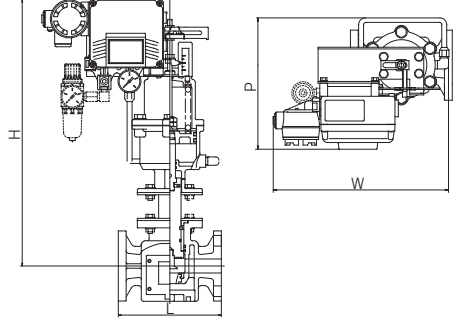


DIMENSIONS FIGURE

Double Acting



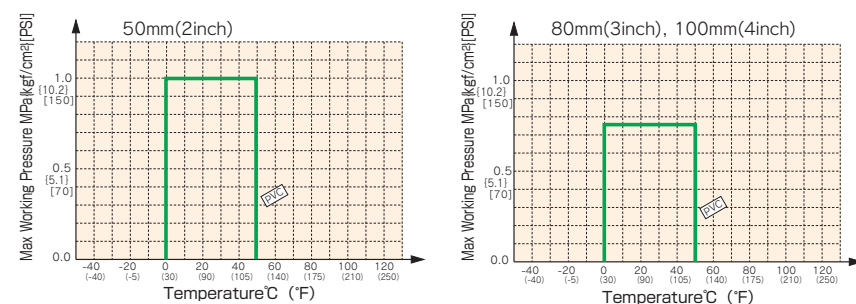
Air to Open



DIMENSIONS TABLE

JIS, ANSI	Unit:mm(inch)		
Nominal Size	50 (2)	80 (3)	100 (4)
L	200 (7.87)	240 (9.45)	290 (11.42)
H	433.5 (17.07)	450.5 (17.74)	503.5 (19.82)
W	182 (7.17)	182 (7.17)	200 (7.87)
P	140 (5.51)	140 (5.51)	150 (5.91)

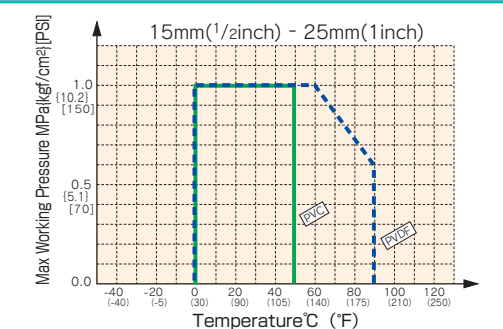
WORKING PRESSURE VS. TEMPERATURE



DIMENSIONS TABLE

JIS, ANSI, DIN	Unit:mm(inch)		
Nominal Size	15 (1/2)	25 (1)	
L	160 (6.30)	184 (7.24)	
Double Acting	H	PVC 337 (13.27) PVDF 325 (12.80)	368 (14.49) 354 (13.94)
	W	389 (15.32)	389 (15.32)
	P	220 (8.66)	220 (8.66)
Air to Open	H	PVC 438 (17.25) PVDF 426 (16.77)	475 (18.70) 461 (18.15)
	W	323 (12.72)	323 (12.72)
	P	240 (9.45)	240 (9.45)

WORKING PRESSURE VS. TEMPERATURE



Control Valve (Pneumatic actuated Type AV) 50mm - 100mm(2inch - 4inch)

- Body Material**
PVC
- Seat & O-ring Material**
EPDM
FKM
Viflon C(FKM-C)
Viflon F(FKM-F)
- Connection Standard**
JIS10K, ANSI
- Action**
Double Acting
Air to Open
- Equipment**
E-A Positioner
A-A Positioner
- Option**
· Filter Regulator



FEATURES

This Valve provides High-Precision Flow Control by applying Original unique scraped plug less affected by Fluid Viscosity.

OPTIONAL EQUIPMENT

Combination No.	1	2
Positioner (Electric-Air)	●	-
Positioner (Air-Air)	-	●
Filter Regulator	○	○

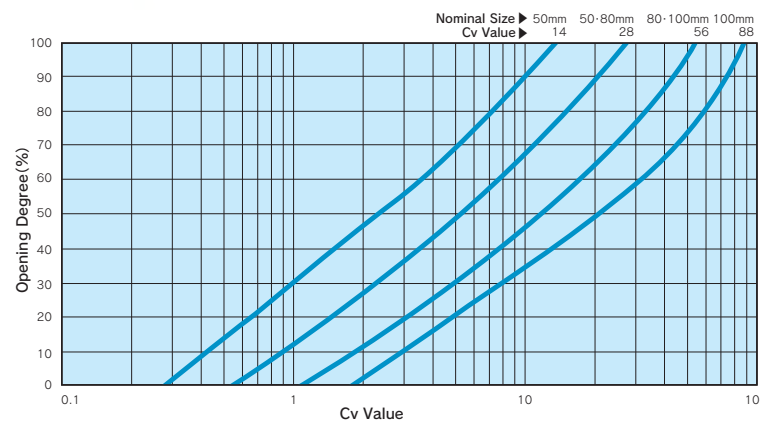
● Standard Equipment

ACTUATOR SPECIFICATION [Double Acting]

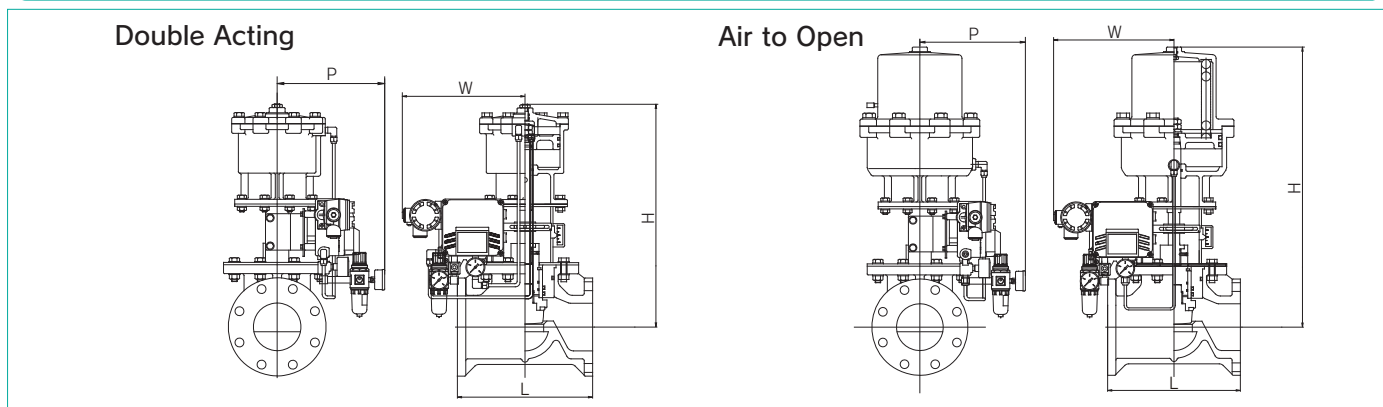
Nominal Size mm(inch)	50(2inch)	80(3inch)	100(4inch)
Actuator Type	-	-	-
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}		
Air Consumption NI / Open & Close (at operating pressure 0.4MPa)	2.1	2.1	6.3
Air Supply Bore	Rc 1/4		

ACTUATOR SPECIFICATION [Air to Open]

Nominal Size mm(inch)	50(2inch)	80(3inch)	100(4inch)
Actuator Type	-	-	-
Operating Pressure MPa[kgf/cm ²]	0.4{4.1} - 0.6{6.1}		
Air Consumption NI / Open & Close (at operating pressure 0.4MPa)	2.7	5.5	7.9
Air Supply Bore	Rc 1/4		



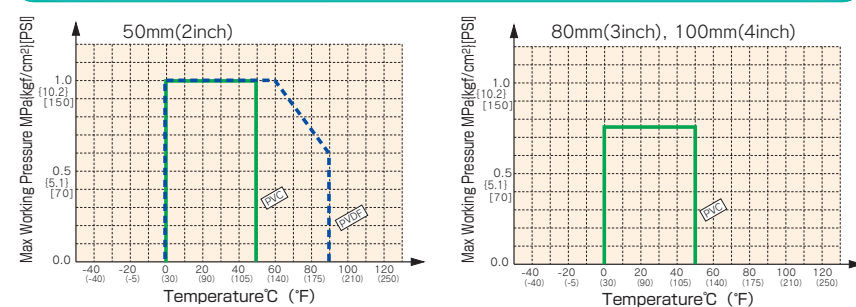
DIMENSIONS FIGURE



DIMENSIONS TABLE

JIS, ANSI		Unit:mm(inch)					
Nominal Size		50(2)		80(3)		100(4)	
Double Acting	L	200 (7.87)	240 (9.45)	290 (11.42)			
	H	381 (15)	420 (16.54)	477 (18.78)			
	W	256 (10.08)	261 (10.28)	266 (10.48)			
Air to Open	P	229 (9.02)	230 (9.06)	230 (9.06)			
	H	469 (18.47)	562 (22.13)	611 (24.06)			
	W	256 (10.08)	261 (10.28)	266 (10.48)			
	P	229 (9.02)	230 (9.06)	230 (9.06)			

WORKING PRESSURE VS. TEMPERATURE



Asahi AV Sensor and Flow Meter



Ultrasonic-Vortex Flow Meter

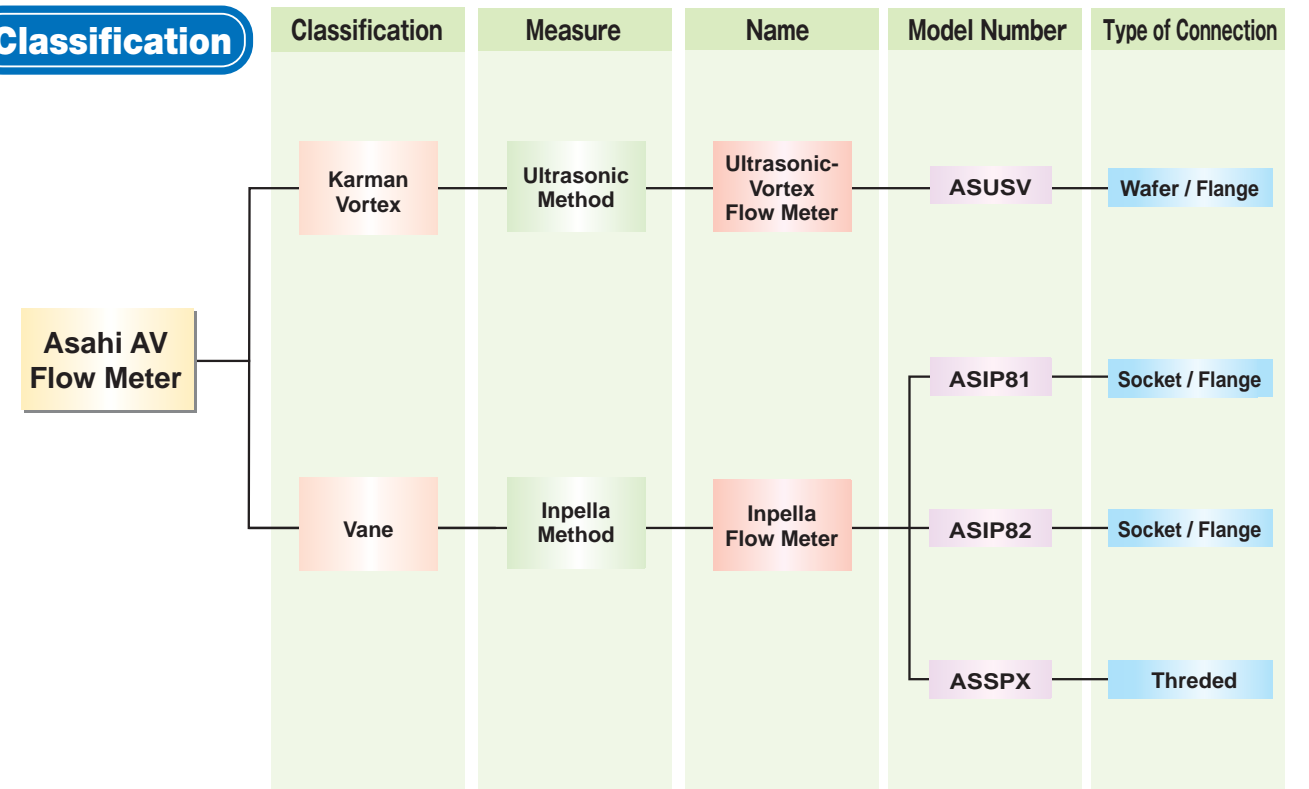
- ASUSV Series



Inpella Flow Meter

- ASIP80 Series
- ASSPX Series
- Flow Indicator

Classification



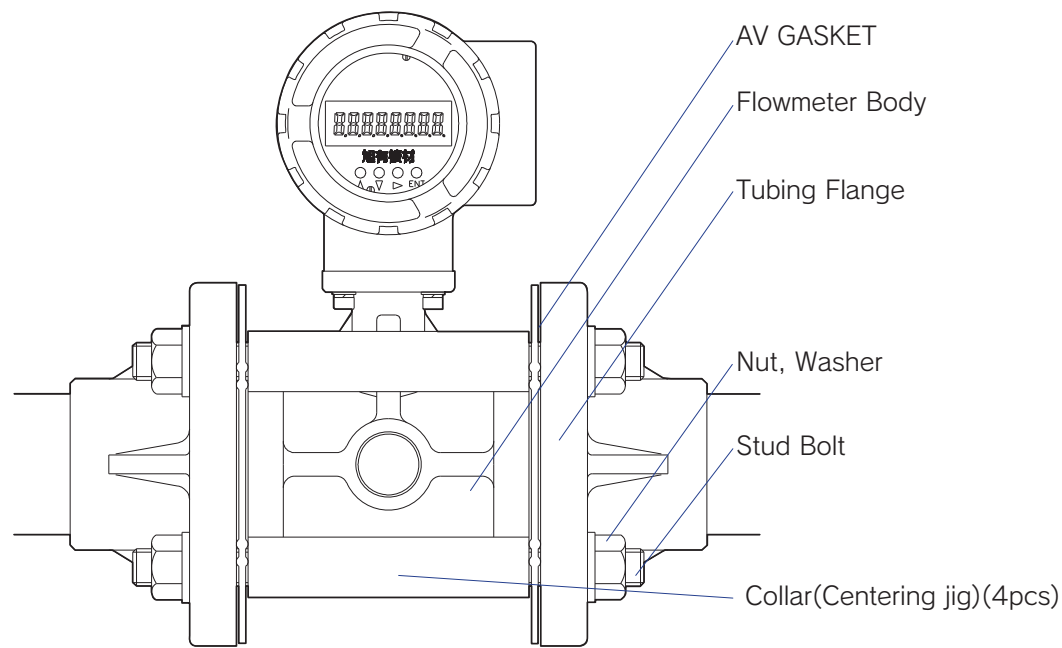
Ultrasonic-Vortex Flow Meter ASUSV Series

FEATURES

- No Corrosion (All Plastic)
- Suitable for Diw & Mixed Acids Compared to Magnetic Flowmeters Prone to Corrosion or Leachables
- Light Weight
1/2 - 1/4 The Weight of Metallics
- High Accuracy ($\pm 1.0\%RD$)
Compare to other Vortex Designs ($\pm 1.0-3.0\%$)



INSTALLATION METHOD



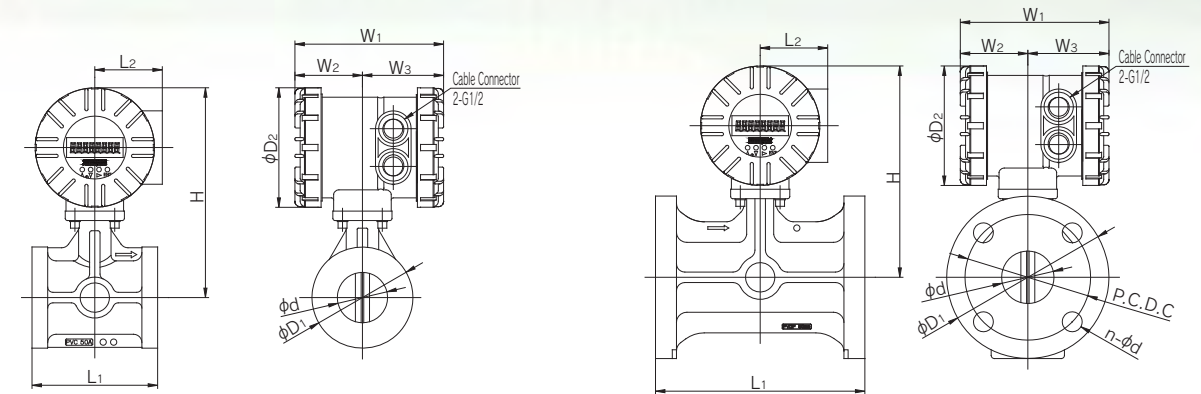
RECOMMENDED TIGHTENING TORQUE

Nominal Size mm(inch)	N·m{kgf·cm}					
	20(3/4)	25(1)	40(1 1/2)	50(2)	80(3)	100(4)
P V C	15	15	20	25	30	30
P V D F	15	15	20	25	30	30

SPECIFICATIONS

Diameter & Tubing connection	Wafer : 20-100mm(3/4"-4") Flange : 20-50mm (3/4"-2")					
Measuring range	About 0.5 to 5m/sec(For more details, see [Range of Flowrate Measurement] on page 4.)					
Measurement accuracy	$\pm 1\%R.D.$ ($\pm 0.5\% R.D.$ also accommodated)					
Wetted material	Wafer : PVC, PVDF Flange : PVDF					
Fluid temperature	0 to 55°C (PVC), - 10 to 100°C (PVDF)					
Ambient temperature	0 to 55°C (PVC), - 10 to 60°C (PVDF)					
Maximum working fluid pressure	1.0MPa					
Display	Total integrating/Instantaneous flowrate/% flowrate/reset integrating flowrate (The display mode is externally selectable using the accessory magnet.) Unit, Equipment alarm					
Analog output	4-20 mA two-wire load resistance up to 300 Ω Open collector output: One-shot width					
Pulse output	20A	25A	40A	50A	80A	100A
	1.3ms	1.82ms	2.86ms	3.90ms	5.98ms	9.62ms
Alarm output	Open collector output: Upper and lower limit output/alarm output Open collector output concurrently with pulse output is not available, though.					
Case material	PC					
Supply voltage	24VDC $\pm 10\%$					
Protective structure	IP66 equivalent (avoid exposure to direct sunlight)					

DIMENSIONS TABLE



DIMENSIONS TABLE

Nominal Size mm inch	L2	W1	W2	W3	ϕD_2	Wafer				Flange (JIS 10K)						
						L1	H	ϕD_1	ϕd	L1	H	ϕD_1	ϕd	C	n	e
20 3/4	64.5 (2.54)	138 (5.43)	62.5 (2.46)	75.5 (2.97)	144 (5.67)	85 (3.35)	187.5 (7.38)	53 (2.09)	19 (0.75)	200 (7.87)	180 (7.08)	100 (3.94)	19 (0.75)	75 (2.95)	4	15 (0.59)
25 1	64.5 (2.54)	138 (5.43)	62.5 (2.46)	75.5 (2.97)	144 (5.67)	93 (3.66)	190 (7.48)	62 (2.44)	24 (0.94)	200 (7.87)	190 (7.48)	125 (4.92)	24 (0.94)	90 (3.54)	4	19 (0.75)
40 1 1/2	64.5 (2.54)	138 (5.43)	62.5 (2.46)	75.5 (2.97)	144 (5.67)	106 (4.17)	197.5 (7.77)	77 (3.03)	38.5 (1.52)	200 (7.87)	197 (7.75)	140 (5.51)	38.5 (1.52)	105 (4.13)	4	19 (0.75)
50 2	64.5 (2.54)	138 (5.43)	62.5 (2.46)	75.5 (2.97)	144 (5.67)	120 (4.72)	202.5 (7.97)	96.5 (3.80)	48.5 (1.91)	200 (7.87)	204 (8.03)	155 (6.10)	48.5 (1.91)	120 (4.72)	—	19 (0.75)
80 3	64.5 (2.54)	138 (5.43)	62.5 (2.46)	75.5 (2.97)	144 (5.67)	160 (6.30)	225 (8.86)	127 (5.00)	72.5 (2.85)	—	—	—	—	—	—	—
100 4	64.5 (2.54)	138 (5.43)	62.5 (2.46)	75.5 (2.97)	144 (5.67)	180 (7.08)	239.5 (9.43)	155.5 (6.12)	94 (3.70)	—	—	—	—	—	—	—

FLOW RATE

Nominal Size (mm)	Min. Flowrate (m ³ /h)					Max. Flowrate (m ³ /h)
	Kinematic Viscosity $\times 10^{-6}$ m ² /s (cst)					
	1	2	3	4	5	
20	0.9	1.8	2.7	3.6	4.5	5.4
25	1.4	2.8	4.2	5.6	7.0	8.5
40	3.6	7.2	10.8	14.4	18.0	22.0
50	5.9	11.8	17.7	23.6	29.5	34.0
80	13.4	26.8	40.2	53.6	67.0	88.0
100	22.6	45.2	67.8	90.4	113.0	137.0
Flowrate	0.8m/sec	1.6m/sec	2.4m/sec	3.2m/sec	4.0m/sec	5.0m/sec

Inpella Flow Meter ASIP80 Series



FEATURES

- The ASIP80 Series is a Flow Meter of the Insertion Type that uses a Special Fitting.
- No Corrosion (All Plastic)

SPECIFICATIONS

Model	ASIP81(P/Y/K)	ASIP82(P/Y/K)
Nominal Size	15mm(1/2")-80mm(3")	100mm(4")-150mm(6")
Type of Connection	Socket, Flange	
Material	Body	Working Temperature°C (°F) PP : 60°C (140°F) PVDF : 90°C (194°F) Max. Working Pressure(at r.t.) MPa(kgf/cm ²)[PSI] 1.0MPa (10.2kgf/cm ²) [150]
	Inpella	PVDF
	Shaft	Zirconium, Silicon-Carbide
	Bearing	Ruby
	O-ring	FKM (EPDM)
	Special Fitting	PVC, HI-PVC, C-PVC
Measurement fluid	Fluid (High viscosity fluid and slurry is excluded.)	
Max. Working Temperature	0-90°C (32-194°F)	
Flowrate	0.2-9 m/s	
Range Ability	1 : 45	
Measurement accuracy	± 1.5% (FS)	
Power Source	DC6V-24V (Current Consumption: 8mA)	
Output Signal	Current Sinking Pulse (NPN) 20mA maximum	
Cable	3-con (3.6m)	
Fitting Installation	Straight pipe of at least ten times the diameter upstream of the meter, and five diameters down stream are strongly recommended.	

Figure. 1 Max. Working Pressure and Working Temperature of Special Fitting.

Temperature (°C)	Pressure MPa(kgf/cm ²)[PSI]		
	PVC, HI-PVC	C-PVC	
	15mm-150mm (1/2"-6")	15mm-50mm (1/2"-2")	65mm-150mm (2 1/2"-6")
20	1.0(10.2)[150]	1.0(10.2)[150]	1.0(10.2)[150]
30	0.9(9.8)[130]	1.0(10.2)[150]	0.8(8.2)[115]
40	0.7(7.1)[100]	1.0(10.2)[150]	0.8(8.2)[115]
50	0.3(3.1)[45]	0.6(6.1)[90]	0.6(6.1)[90]
60	-	0.6(6.1)[90]	0.6(6.1)[90]
70	-	0.4(4.1)[60]	0.4(4.1)[60]
80	-	0.2(2.0)[30]	0.2(2.0)[30]
90	-	0.2(2.9)[30]	0.2(2.9)[30]

Figure. 2 Flow Rate and K-Factor

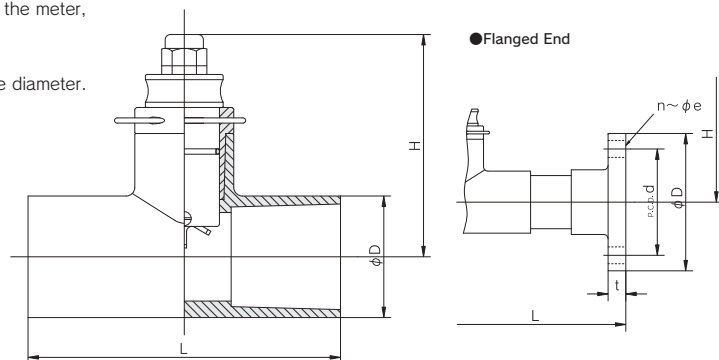
Nominal Size	Flow Rate(m ³ /h)		K-Factor (cc/Pulse)
	mm	inch	
15	1/2	0.14 - 6.51	7.1
20	3/4	0.23 - 10.18	10.9
25	1	0.35 - 15.89	16.1
32	1 1/4	0.54 - 24.44	26.8
40	1 1/2	0.90 - 40.69	47.2
50	2	1.47 - 66.16	66.2
65	2 1/2	2.54 - 114.17	102.2
80	3	3.35 - 150.80	139.7
100	4	5.65 - 254.34	213.0
125	5	8.83 - 397.40	355.4
150	6	12.05 - 542.15	465.0

*1. Calculate the Maximum Frequency of Each Size by the Following Calculation method.
Maximum Frequency(Hz) = Maximum Flow Rate(cc/s) / K-Factor(cc/Pulse)

DIMENSIONS TABLE

Nominal Size	Socket End							Flanged End											
	PVC/HI-PVC			C-PVC				JIS10K						JIS5K					
	mm	inch	L	H	D	L	H	D	L	H	D	d	n	e	D	d	t	n	e
15	1/2	164	119	57	150	119	56	500	119	95	70	14	4	15	80	60	9	4	12
20	3/4	164	121	57	150	121	56	500	121	100	75	15	4	15	85	65	10	4	12
25	1	164	121	57	150	121	56	500	121	125	90	15	4	19	95	75	10	4	12
32	1 1/4	164	122	57	150	122	56	500	122	135	100	16	4	19	115	90	12	4	15
40	1 1/2	164	125	57	150	125	56	500	125	140	105	16	4	19	120	95	12	4	15
50	2	180	128	70	164	128	69	500	128	155	120	20	4	19	130	105	14	4	15
65	2 1/2	190	133	87	190	133	87	500	133	175	140	22	4	19	155	130	14	4	15
80	3	200	136	102	200	136	102	500	136	185	150	22	8	19	180	145	14	4	19
100	4	250	168	130	250	168	130	700	168	210	175	22	8	19	200	165	16	8	19
125	5	322	176	157	-	-	-	700	176	250	210	24	8	23	235	200	16	8	19
150	6	390	182	186	-	-	-	700	182	280	240	26	8	23	265	230	18	8	19

- *1. Piping Condition: Straight pipe of at least ten times the diameter upstream of the meter, and five diameters down stream are strongly recommended.
- *2. When flowing quantity is displayed, the Special Indicator is needed.
- *3. Some externals and the shape of the Flow meter are different according to the diameter.



Inpella Flow Meter ASSPX Series



FEATURES

- The ASSPX Series excelled in corrosion resistance, and the flow meter for low flowing quantity.
- The best for piping in the device because of its compact design.

SPECIFICATIONS

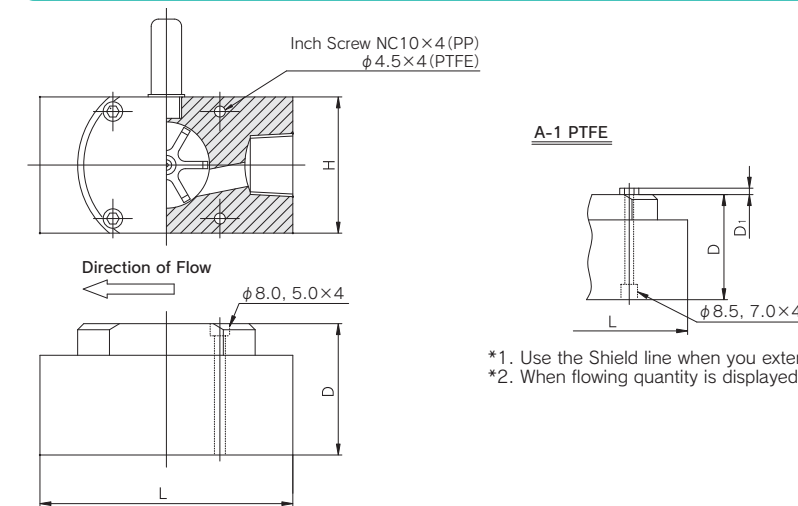
Model	ASSPX-3/8inch	ASSPX-1/2inch	ASSPX-3/4inch	ASSPX-1inch
Type of Connection	Rc 3/8	Rc 1/2	Rc 3/4	Rc 1
Material	Body	PP, PTFE		
	Cover	PP, PTFE		
	Rotor	PVDF		
	Shaft	Zirconium, Silicon-Carbide		
	Bearing	Ruby		
	O-ring	FKM (EPDM)		
Measurement fluid	Fluid (High viscosity fluid and slurry is excluded.)			
Max. Working Temperature	-10-70°C (14-158°F)			
Max. Working Pressure MPa(kgf/cm ²)[PSI]	1.0(10.2)[150]			
Flowrate	See Fig.1			
Measurement Accuracy	± 1.5% (FS)			
Power Source	DC6V-24V (Current Consumption: 8mA)			
Output Signal	Current Sinking Pulse (NPN) 20mA maximum			
Cable	3-con (3.6m)			

Figure. 1 Flow Rate and K-Factor

Type of connection and Nominal Size	Installation Posture	Flow Rate(m ³ /h)	Range Ability	K-Factor (cc/Pulse)
		Min - Max		
3/8 inch	Piping is horizontal and Shaft is vertical	0.2 - 20	1 : 100	1.122
	The Others	0.4 - 20	1 : 50	
1/2 inch	Piping is horizontal and Shaft is vertical	0.4 - 40	1 : 100	2.133
	The Others	0.6 - 40	1 : 65	
3/4 inch	Piping is horizontal and Shaft is vertical	0.8 - 80	1 : 100	2.871
	The Others	1.2 - 80	1 : 65	
1 inch	Piping is horizontal and Shaft is vertical	2.0 - 200	1 : 100	5.287
	The Others	3.0 - 300	1 : 65	

*1. Calculate the Maximum Frequency of Each Size by the Following Calculation method.
Maximum Frequency(Hz) = Maximum Flow Rate(cc/s) / K-Factor(cc/Pulse)

DIMENSIONS TABLE



- *1. Use the Shield line when you extend wiring.
- *2. When flowing quantity is displayed, the Special Indicator is needed.

Inpella Flow Meter Flow Indicator

SPECIFICATIONS

FT415 Specifications		ASFT415-W (with Wall Mount Brackets Type)	ASFT415-M (Sensor-Mount Type)
Model	Rate	6-digit autorange, 1/2inch character height	
	Total	8-digit, 5/16inch character height	
Temperature		0-70°C(32-158°F)	
Pulse Output		·0.1 second solid state relay (scaled) ·sensor pulse (unscaled)	
Battery Type		Lithium "C", 3V, replaceable	
Nominal Battery Life		3-5 years	
Environmental		NEMA 4X (Correspondance of IP66)	

*1. The Mount Type can install only IP80 Series.



ASAHI AV VALVE AND PIPING SYSTEMS

ASAHI AV PIPE FITTING AND OTHERS

The specifications in this brochure are subject to change without prior notice due to improvements and modifications.

ASAHI AV PIPES AND FITTINGS

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PVC PIPE



● Unplasticized Polyvinyl Chloride Pipes

VP JIS K6741

VU JIS K6741

●VP (JIS K6741) Pipe

Nominal Size (mm)	Identification	Outer diameter			Thickness		Approximate Inner diameter	Length	Calculated Weight (kg/m)	HI-VP PIPE
		Basic Dimension (mm)	Max. Min. Tolerance	Average Tolerance	Min. Dimension	Tolerance				
13	VP 13	18	±0.2	±0.2	2.2	±0.6	13	4,000	0.174	●
16	VP 16	22	±0.2	±0.2	2.7	±0.6	16	4,000	0.256	●
20	VP 20	26	±0.2	±0.2	2.7	±0.6	20	4,000	0.310	●
25	VP 25	32	±0.2	±0.2	3.1	±0.8	25	4,000	0.448	●
30	VP 30	38	±0.3	±0.2	3.1	±0.8	31	4,000	0.542	●
40	VP 40	48	±0.3	±0.2	3.6	±0.8	40	4,000	0.791	●
50	VP 50	60	±0.4	±0.2	4.1	±0.8	51	4,000	1.122	●
65	VP 65	76	±0.5	±0.3	4.1	±0.8	67	4,000	1.445	●
75	VP 75	89	±0.5	±0.3	5.5	±0.8	77	4,000	2.202	●
100	VP100	114	±0.6	±0.4	6.6	±1.0	100	4,000	3.409	●
125	VP125	140	±0.8	±0.5	7.0	±1.0	125	4,000	4.464	●
150	VP150	165	±1.0	±0.5	8.9	±1.4	146	4,000	6.701	●
200	VP200	216	±1.3	±0.7	10.3	±1.4	194	4,000	10.129	●
250	VP250	267	±1.6	±0.9	12.7	±1.8	240	4,000	15.481	●
300	VP300	318	±1.9	±1.0	15.1	±2.2	286	4,000	21.962	●
350	VM350	370		±1.2	14.3	±2.0	339	4,000	24.378	—
400	VM400	420		±1.3	16.2	±2.2	385	4,000	31.294	—



VP-Straight Pipe



HI-VP-Straight Pipe

●VU (JIS K6741) Pipe

Nominal Size (mm)	Identification	Outer diameter			Thickness		Approximate Inner diameter	Length	Calculated Weight (kg/m)
		Basic Dimension (mm)	Average Tolerance	Min. Dimension	Tolerance				
40	VU 40	48	±0.2	1.8	±0.4	44	4,000	0.413	
50	VU 50	60	±0.2	1.8	±0.4	56	4,000	0.521	
65	VU 65	76	±0.3	2.2	±0.6	71	4,000	0.825	
75	VU 75	89	±0.3	2.7	±0.6	83	4,000	1.159	
100	VU100	114	±0.4	3.1	±0.8	107	4,000	1.737	
125	VU125	140	±0.5	4.1	±0.8	131	4,000	2.739	
150	VU150	165	±0.5	5.1	±0.8	154	4,000	3.941	
200	VU200	216	±0.7	6.5	±1.0	202	4,000	6.572	
250	VU250	267	±0.9	7.8	±1.2	250	4,000	9.758	
300	VU300	318	±1.0	9.2	±1.4	298	4,000	13.701	
350	VU350	370	±1.2	10.5	±1.4	348	4,000	18.051	
400	VU400	420	±1.3	11.8	±1.6	395	4,000	23.059	
450	VU450	470	±1.5	13.2	±1.8	442	4,000	28.875	
500	VU500	520	±1.6	14.6	±2.0	489	4,000	35.346	

Notes:

- 1.The maximum outer diameter (minimum outer diameter) is the largest(smallest) of outer diameter measurement at a location.
- 2.The average outer diameter is the average for outer diameter measurements made in a direction other than two parallel directions or a circumference measurement divided by 3.142.
- 3.The mass per unit length (m) in the table, which was calculated using a specific gravity of 1.43, is only for information, not part of the standards.
- 4.The length tolerance is ± 10mm.
- 5.Pipe VM350 400mm long conforms to the AS24 stan-dard.
- 6.Pipe HI-VP conform to the JIS K6742 standard.

※ Water Pipes (JIS K6742) are available.



Single-adhesion receptacle straight Pipe



Single-rubber ring receptacle straight Pipe

TS FITTINGS

● TS FITTING(JIS K6743)

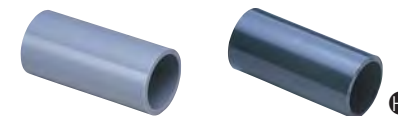
(PVC:13 to 150mm,HI-PVC:13 to 150mm)



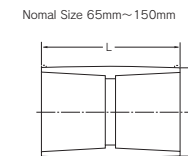
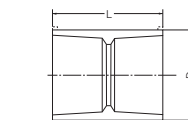
SPECIFICATIONS

Elbow	(L)	13 - 150mm
Tee	(T)	13 - 150×125mm
Water Feeding Elbow	(FL)	13 - 25mm
Metal-containing Water Feeding Elbow		13 - 25mm
Water Feeding Socket	(FS)	13 - 25mm
Metal-containing Water Feeding Socket		13 - 25mm
Water Feeding Tee	(FT)	13 - 25×20mm
Metal-containing Water Feeding Tee		13 - 25×20mm
Valve Socket	(VS)	13 - 150mm
Union Socket	(US)	13 - 50mm
Socket	(S)	13 - 150×125mm
Cap	(C)	13 - 150mm

● Socket



Nominal Size 13mm~50mm

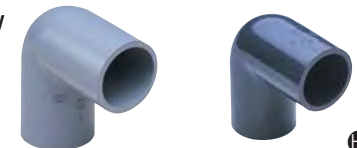


Nominal Size 65mm~150mm

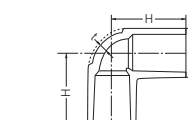
Nominal Size	D	L ±4.0	HI
13	24.0	57	●
16	29.0	67	●
20	33.0	77	●
25	40.0	87	●
30	46.0	95	●
40	57.0	117	●
50	70.0	133	●
※65	87.0	145	●
75	102.0	155	●
100	130.0	200	●
※125	157.0	240	●
150	186.0	300	●

※AS-Standard

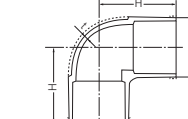
● Elbow



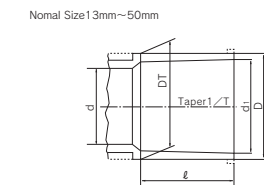
Nominal Size 13mm~50mm



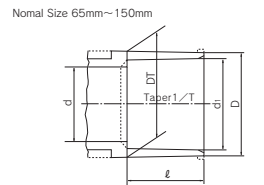
Nominal Size 65mm~150mm



Nominal Size	D	t	H _{±1.0} ^{±0.5}	HI
13	24.0	3.0	36	●
16	29.0	3.5	43	●
20	33.0	3.5	50	●
25	40.0	4.0	58	●
30	46.0	4.0	65	●
40	57.0	4.5	82	●
50	70.0	5.0	96	●
※65	87.0	6.6	110	●
※75	102.0	8.0	120	●
※100	130.0	10.0	153	●
※125	157.0	11.0	188	●
※150	186.0	13.0	230	●



Nominal Size 13mm~50mm

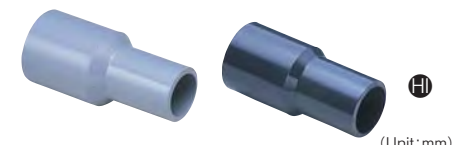


Nominal Size 65mm~150mm

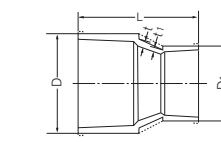
Nominal Size	d ₁	d ₁ (Tolerance)	e _{±0.5} ^{±0.3}	1/∠	D	DT	D,DT(Tolerance)	d(Min)	P/PeOD
※10	15.40	±0.20	22.0	1/25	21.0	21.0	-0.5	10	15
13	18.40	±0.20	26.0	1/30	24.0	24.0	-0.6	13	18
16	22.40	±0.20	30.0	1/34	29.0	29.0	-0.7	16	22
20	26.45	±0.20	35.0	1/34	33.0	33.0	-0.8	20	26
25	32.55	±0.25	40.0	1/34	40.0	40.0	-1.0	25	32
30	38.60	±0.25	44.0	1/34	46.0	46.0	-1.0	31	38
40	48.70	±0.30	55.0	1/37	57.0	57.0	-1.2	40	48
50	60.80	±0.30	63.0	1/37	70.0	70.0	-1.5	51	60
※65	76.60	±0.30	81.0	1/48	87.0	87.0	-1.5	67	76
75	89.60	±0.30	94.0	1/49	102.0	102.0	-1.5	77	89
100	114.70	±0.30	124.0	1/56	130.0	130.0	-1.8	100	114
※125	140.80	±0.30	154.0	1/58	157.0	157.0	-1.8	125	140
150	166.00	±0.40	182.0	1/63	186.0	186.0	-2.0	146	165

※AS-Standard

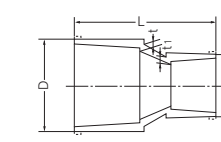
● Reducing Socket



Nominal Size 13mm~50mm



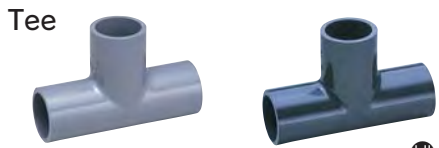
Nominal Size 65mm~150mm



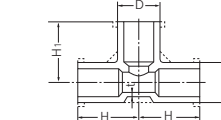
Nominal Size	D	t	D ₁	t ₁	L ±4.0	HI
16×13	29.0	3.5	24.0	3.0	61	●
20×13	33.0	3.5	24.0	3.0	68	●
20×16	33.0	3.5	29.0	3.5	71	●
25×13	40.0	4.0	24.0	3.0	86	●
25×16	40.0	4.0	29.0	3.5	85	●
25×20	40.0	4.0	33.0	3.5	84	●
30×20	46.0	4.0	33.0	3.5	93	●
30×25	46.0	4.0	40.0	4.0	93	●
※40×20	57.0	4.5	33.0	3.5	113	●
40×25	57.0	4.5	40.0	4.0	114	●
40×30	57.0	4.5	46.0	4.0	114	●
※50×20	70.0	5.0	33.0	3.5	116	●
※50×25	70.0	5.0	40.0	4.0	140	●
50×30	70.0	5.0	46.0	4.0	136	●
50×40	70.0	5.0	57.0	4.5	136	●
※65×40	87.0	6.6	57.0	4.5	145	●
※65×50	87.0	6.6	70.0	5.0	149	●
※75×40	102.0	8.0	57.0	5.0	153	●
75×50	102.0	8.0	70.0	5.0	165	●
※75×65	102.0	8.0	87.0	6.6	159	●
100×75	130.0	10.0	102.0	8.0	190	●
※125×100	157.0	11.0	130.0	10.0	229	●
150×100	186.0	13.0	130.0	10.0	295	●
※150×125	186.0	13.0	157.0	11.0	272	●

※AS-Standard

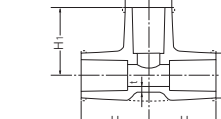
● Tee



Nominal Size 13mm~50mm



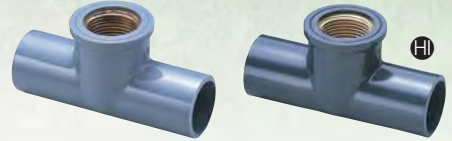
Nominal Size 65mm~150mm



Nominal Size	D	t	H _{±1.0} ^{±0.5}	H ₁	HI
13	24.0	3.0	36	36	●
16	29.0	3.5	43	43	●
20	33.0	3.5	50	50	●
25	40.0	4.0	58	58	●
30	46.0	4.0	65	65	●
40	57.0	4.5	82	82	●
50	70.0	5.0	96	96	●
※65	87.0	6.6	110	110	●
75	102.0	8.0	120	120	●
100	130.0	10.0	152	152	●
※125	157.0	11.0	187	187	●
150	186.0	13.0	230	230	●

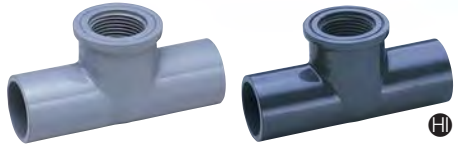
TS FITTINGS

● Faucet Tee (with Metal Insert)



Nominal Size	D	t	D ₁	D ₂	$l_1^{+0.1}$	$l_2^{+0.1}$	T	H _{1}^{+0.1}}	H _{2}^{+0.1}}	Female THD Size	HI
13	24.0	3.0	30	34	17	14	4	38	29	Rp1/2	●
20	33.0	3.5	37	42	19	16	4	51	36	Rp3/4	●
25	40.0	4.0	46	52	21	18	5	59	42	Rp1	●
16×13	29.0	3.5	30	34	17	14	4	43	32	Rp1/2	●
20×13	33.0	3.5	30	34	17	14	4	47	34	Rp1/2	●
25×13	40.0	4.0	30	34	17	14	4	52	38	Rp1/2	●
25×20	40.0	4.0	37	42	19	16	4	56	40	Rp3/4	●

● Faucet Tee



Nominal Size	D	t	D ₁	D ₂	$l_1^{+0.1}$	$l_2^{+0.1}$	T	H _{1}^{+0.1}}	H _{2}^{+0.1}}	Female THD Size	HI
13	24.0	3.0	30	34	17	14	4	38	29	Rp1/2	●
20	33.0	3.5	37	42	19	16	4	51	36	Rp3/4	●
25	40.0	4.0	46	52	21	18	5	59	42	Rp1	●
16×13	29.0	3.5	30	34	17	14	4	43	32	Rp1/2	●
20×13	33.0	3.5	30	34	17	14	4	47	34	Rp1/2	●
25×13	40.0	4.0	30	34	17	14	4	52	38	Rp1/2	●
25×20	40.0	4.0	37	42	19	16	4	56	40	Rp3/4	●

● Faucet Elbow



Nominal Size	D	t	D ₁	D ₂	$l_1^{+0.1}$	$l_2^{+0.1}$	T	H _{1}^{+0.1}}	H _{2}^{+0.1}}	Female THD Size	HI
13	24.0	3.0	30	34	17	14	4	38	29	Rp1/2	●
16	29.0	3.5	30	34	17	14	4	43	32	Rp1/2	●
20	33.0	3.5	37	42	19	16	4	51	36	Rp3/4	●
25	40.0	4.0	46	52	21	18	5	59	40	Rp1	●

● Faucet Elbow (with Metal Insert)

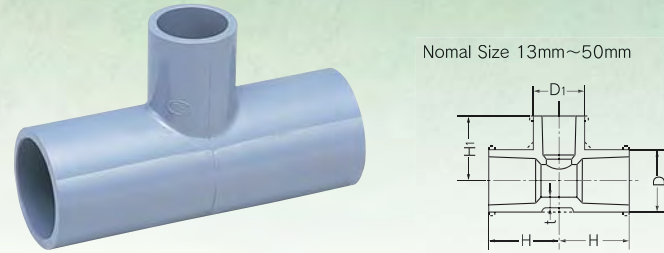


Nominal Size	D	t	D ₁	D ₂	$l_1^{+0.1}$	$l_2^{+0.1}$	T	H _{1}^{+0.1}}	H _{2}^{+0.1}}	Female THD Size	HI
13	24.0	3.0	30	34	17	14	4	38	29	Rp1/2	●
16×13	29.0	3.0	30	34	17	14	4	43	32	Rp1/2	●
20	33.0	3.5	37	42	19	16	4	51	36	Rp3/4	●
25	40.0	4.0	46	52	21	18	5	59	40	Rp1	●
20×13	33.0	3.5	30	34	17	14	4	47	33	Rp1/2	●

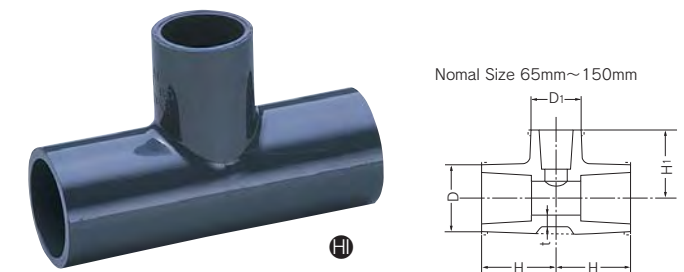
● 45° Elbow

Nominal Size	D	t	H _{1}^{+0.1}}	HI
20	33.0	3.5	44	●
25	40.0	4.0	51	●

● Reducing Tee



Nominal Size	D	t	H	D ₁	H ₁	HI
16×13	29.0	3.5	41	24.0	38	●
20×13	33.0	3.5	46	24.0	40	●
20×16	33.0	3.5	48	29.0	45	●
25×13	40.0	4.0	51	24.0	43	●
25×16	40.0	4.0	53	29.0	48	●
25×20	40.0	4.0	55	33.0	53	●
30×13	46.0	4.0	55	24.0	46	●
30×16	46.0	4.0	57	29.0	51	●
30×20	46.0	4.0	59	33.0	56	●
30×25	46.0	4.0	62	40.0	61	●
40×13	57.0	4.5	66	24.0	52	●
40×16	57.0	4.5	68	29.0	57	●
40×20	57.0	4.5	70	33.0	62	●
40×25	57.0	4.5	73	40.0	67	●
40×30	57.0	4.5	76	46.0	71	●
50×13	70.0	5.0	74	24.0	58	●
50×16	70.0	5.0	76	29.0	63	●
50×20	70.0	5.0	78	33.0	68	●
50×25	70.0	5.0	81	40.0	73	●
50×30	70.0	5.0	84	46.0	77	●
50×40	70.0	5.0	90	57.0	88	●



Nominal Size	D	t	H _{1}^{+0.1}}	D ₁	H _{2}^{+0.1}}	HI
※65×40	87.0	6.6	100	57.0	95	●
※65×50	87.0	6.6	101	70.0	104	●
75×25	102.0	8.0	93	40.0	88	●
75×40	102.0	8.0	100	57.0	102	●
75×50	102.0	8.0	105	70.0	110	●
※75×65	102.0	8.0	113	87.0	117	●
100×50	130.0	10.0	125	75.0	122	●
100×75	130.0	10.0	140	102.0	132	●
※125×75	157.0	11.0	160	102.0	147	●
※125×100	157.0	11.0	173	130.0	167	●
150×75	186.0	13.0	195	102.0	158	●
150×100	186.0	13.0	208	130.0	182	●
※150×125	186.0	13.0	217	157.0	201	●

※AS-Standard

● Faucet Socket



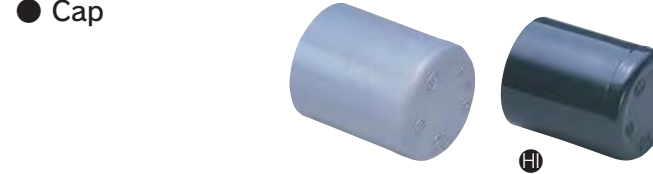
Nominal Size	D	D ₁	D ₂	l_1	$l_2^{+0.1}$	T	L _{±0.1}}	Female THD Size	HI
□13	24.0	30	34	17	14	4	47	Rp1/2	●
□16	29.0	30	34	17	14	4	52	Rp1/2	●
□20	33.0	37	42	19	16	4	59	Rp3/4	●
□25	40.0	46	52	21	18	5	68	Rp1	●

● Faucet Socket (with Metal Insert)



Nominal Size	D	D ₁	D ₂	l_1	$l_2^{+0.1}$	T	L _{±0.1}}	Female THD Size	HI
13	24.0	30	34	17	14	4	47	Rp1/2	●
16×13	29.0	30	34	17	14	4	52	Rp1/2	●
20	33.0	37	42	19	16	4	59	RD3/4	●
25	40.0	46	52	21	18	5	68	Rp1	●
20×13	33.0	30	36	17	14	4	57	Rp1/2	●

● Cap



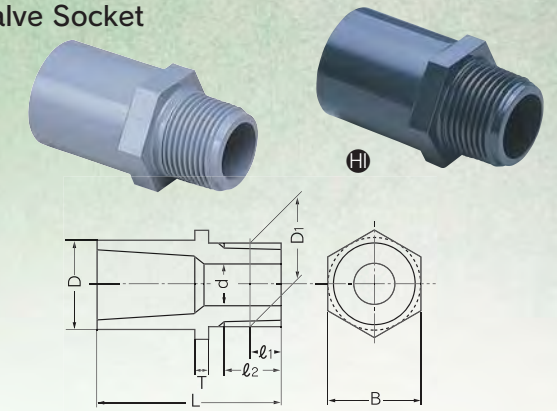
Nominal Size	D	t	L _{±0.1}}	HI
13	24.0	3.0	29.0	●
16	29.0	3.5	33.5	●
20	33.0	3.5	38.5	●
25	40.0	4.0	44.0	●
30	46.0	4.0	48.0	●
40	57.0	4.5	59.5	●
50	70.0	5.0	68.0	●
※65	87.0	6.6	96.0	●
75	102.0	8.0	105.0	●
100	130.0	10.0	138.0	●
150	186.0	13.0	205.0	●

● 90° AV Bend



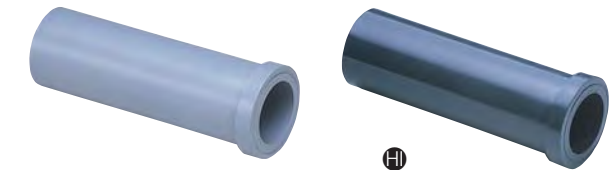
Nominal Size	d ₁	d ₂	l	D ₁	D ₂	d	t	L	R	HI
75	89.80	88.13	72	101	104	78	6	137	65	—
100	115.00	112.89	92	129	132	100	7.3	172	80	—
125	141.20	138.72	112	156	160	125	7.7	237	125	—
150	166.50	163.39	140	185	189	148	9.8	260	120	—

● Valve Socket



Nominal Size	D	d	Male THD Size	Gauge Dimension D ₁	Number of threads (Per 25.4mm)	Position of gauge diameter l_1	l_2 (Min)	T	L _{±0.1}}	B	HI
※10	21.0	10	3/8	16.662	19	6.35	12	6	43	21	—
13	24.0	13	1/2	20.955	14	8.16	13.16	6	50	24	●
16	29.0	13	1/2	20.955	14	8.20	15	6	54	29	●
20	33.0	18	3/4	26.441	14	9.53	14.53	8	64	33	●
25	40.0	23	1	33.249	11	10.39	16.79	8	71	40	●
30	46.0	31	1 1/4	41.910	11	12.70	19.10	10	80	46	●
40	57.0	37	1 1/2	47.803	11	12.70	19.10	10	92	57	●
50	70.0	48	2	59.614	11	15.88	23.38	12	106	70	●
□65	87.0	62	2 1/2	75.184	11	17.46	30	15	118	87	●
□75	102.0	72	3	87.884	11	20.64	34	16	127	102	●
□100	130.0	96	4	113.030	11	25.40	40	18	157	130	●
□125	157.0	119	5	138.430	11	28.58	44	20	186	157	—
□150	186.0	140	6	163.830	11	28.58	44	25	220	186	—

● Union Socket



Nominal Size	D	t	D ₁	W	L _{±0.1}}	HI
13	18.0	2.5	23.0	5	80	●
16	22.0	3.0	27.5	5	85	●
20	26.0	3.0	29.5	6	90	●
25	32.0	3.5	36.5	7	100	●
30	38.0	3.5	42.0	8	110	●
40	48.0	4.0	53.0	8	120	●
50	60.0	4.5	71.0	9	130	●

● 45° AV Bend

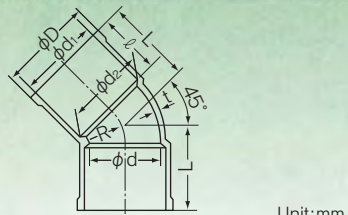


Nominal Size	d ₁	d ₂	l	D	D ₁	d	t	Z	L	R	HI
40	48.70	47.21	55	57	60	40	4.5	14	69	20	●
50	60.80	59.10	63	70	73	51	5	17	80	25.5	●
65	76.60	75.33	61	87	90	67	6.6	20	81	34	●
75	89.80	88.13	72	101	104	78	6	25	97	39	●
100	115.00	112.89	92	129	132	100	7.3	30	122	50	●
125	141.20	138.71	112	156	160	125	7.7	37	149	62.5	●
150	166.50	163.39	140	185	189	148	10	44	184	74	●

PVC LARGE-SIZE FITTINGS



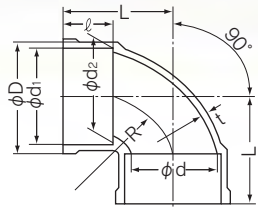
45° AV Bend



Unit:mm

Nominal Size(mm)	d ₁	d ₂	l	D	d	t	L	R	PVC	HI-PVC
200	217.00	214.10	145	240	196	15	193	98	●	●
250	268.20	265.00	155	293	247	16	213	123.5	●	●
300	318.70	315.88	155	337	298	10	225	149	●	●

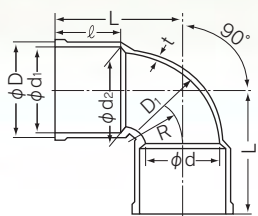
AV Short Elbow



Unit:mm

Nominal Size(mm)	d ₁	d ₂	l	D	d	t	L	R	PVC	HI-PVC
200	217.0	214.1	145	240	196	15	265	190	●	●
250	268.2	265.0	155	295	247	16	310	235	●	●
300	319.6	315.5	175	347	298	18	350	170	●	●

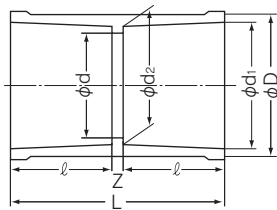
90° AV Bend



Unit:mm

Nominal Size(mm)	d ₁	d ₂	l	D	D ₁	d	t	L	R	PVC	HI-PVC
200	217.00	214.10	145	240	216	196	15	341	196	●	●
250	268.20	265.00	155	293	267	247	16	402	247	●	●
300	318.70	315.88	155	337	318	298	10	395	240	●	●

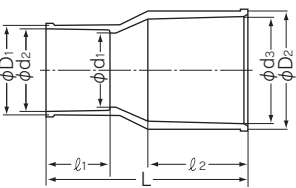
AV Socket



Unit:mm

Nominal Size(mm)	d ₁	d ₂	l	D	d	Z	L	PVC	HI-PVC
200	217.0	214.10	145	238	202	10	300	●	●
250	268.2	265.00	155	295	247	43	353	●	●
300	319.6	315.52	175	336	298	10	360	●	●

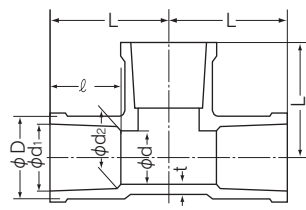
AV Reduced Socket



Unit:mm

Nominal Size(mm)	d ₁	d ₂	l ₁	D ₁	d ₃	l ₂	D ₂	L	PVC	HI-PVC
200×150	146	166.0	132	188	217.0	145	240	356	●	●
250×200	194	217.0	145	240	268.2	155	293	380	●	●
300×250	247	268.2	155	295	319.6	175	347	405	●	●

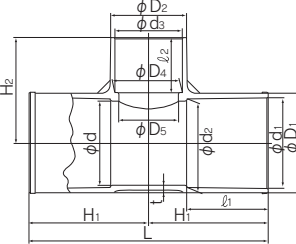
AV Tee



Unit:mm

Nominal Size(mm)	d ₁	d ₂	l	D	d	t	L	PVC	HI-PVC
200	217.0	214.10	145	240	196	15	266	●	●
250	268.2	265.00	155	295	247	16	331	●	●
300	319.6	315.52	175	337	298	10	340	●	●

AV Reduced Tee



Unit:mm

Nominal Size(mm)	d ₁	d ₂	l ₁	d ₃	d ₄	l ₂	D ₁	D ₂	d	d ₅	t	L	H ₁	H ₂	PVC	HI-PVC
200×75	217.0	214.1	145	89.60	88.29	64	240	102	194	77	15	402	201	180	●	●
200×100	217.0	214.1	145	114.70	113.20	84	240	130	194	100	15	430	215	200	●	●
200×150	217.0	214.1	145	166.00	163.91	132	240	188	194	146	15	476	238	253	●	●
250×75	268.20	265.00	155	89.60	88.29	64	295	108	247	77	16	452	226	210	●	●
250×100	268.20	265.00	155	114.70	113.20	84	295	136	247	100	16	492	246	225	●	●
250×200	268.20	265.00	155	217.00	214.10	200	295	245	247	194	16	608	304	310	●	●
300×75	320.70	314.70	300	89.60	88.29	64	343	102	298	77	17	722	361	236	●	●

We also produce LARGE-SIZE VU FITTINGS.

Unit:MPa[Kgf/cm²]

Max. Working Pressure

Nominal Size	Items	AV90° Bends	AV45° Bends	AV Short Elbows	AV Sockets	AV Reduced Sockets	AV Tees	AV Reduced Tees
200mm		0.75{7.7}	0.75{7.7}	0.75{7.7}	0.75{7.7}	0.75{7.7}	0.75{7.7}	0.75{7.7}
250mm		0.5{5.1}	0.5{5.1}	0.5{5.1}	0.5{5.1}	0.5{5.1}	0.5{5.1}	0.5{5.1}
300mm		0.4{4.1}	0.4{4.1}	0.6{6.1}	0.6{6.1}	0.6{6.1}	0.4{4.1}	0.4{4.1}

The pressure limit includes water hammer pressure. Do not exceed the limit.

C-PVC PIPE & FITTINGS

● JIS K 6776 (pipe), JIS K 6777 (fittings) and AV standard.



FEATURES

- High Heat Resistance**
Being made of C-PVC, the super pipe and fitting withstand high temperatures up to 90°C (195 °F)
- High Chemical Resistance**
Being made of C-PVC, the super pipe and fitting are highly resistant to chemicals.
- Easy to Install**
The super pipe and fitting are easy to install because the Socket method can be used for connecting.
- Available in Various Types of Fittings**

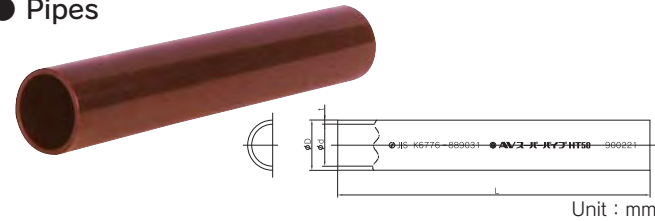
WORKING PRESSURE VS. TEMPERATURE

Nominal Size(mm (inch))	5 - 30°C	31 - 40°C	41 - 60°C	61 - 70°C	71 - 80°C	81 - 90°C
13 - 50 (3/8 - 2)	1.0{10.2}	0.6{6.1}	0.4{4.1}	0.2{2.0}	0.2{2.0}	0.2{2.0}
65 - 150 (2 1/2 - 3)	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	0.2{2.1}	0.2{2.0}
200 (8)	0.7{7.1}	0.4{4.1}	0.2{2.0}	0.1{1.0}	0.05{0.5}	

APPLICATIONS

Being highly heat and chemical resistant and offering high heat insulation performance, c-pvc pipe and fitting are suitable for piping for water supply, air-conditioning, hot springs and chemical media.

● Pipes

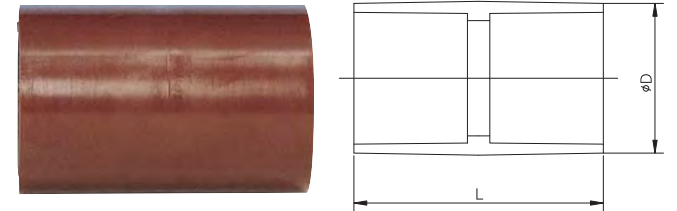


Unit : mm

Nominal Size	D		t		L		d	Weight (kg/m)
	OD	Max Min	Basic Dimension	Tolerance	Basic Dimension	Tolerance		
☆ 13	18	± 0.20	± 0.20	2.5 ± 0.2	4000	± 30	13	0.180
☆ 16	22	± 0.20	± 0.20	3.0 ± 0.3			16	0.265
☆ 20	26	± 0.20	± 0.20	3.0 ± 0.3			20	0.321
☆ 25	32	± 0.20	± 0.20	3.5 ± 0.3			25	0.464
☆ 30	38	± 0.30	± 0.20	3.5 ± 0.3			31	0.561
☆ 40	48	± 0.30	± 0.20	4.0 ± 0.3		40	0.818	
☆ 50	60	± 0.40	± 0.20	4.5 ± 0.4		51	1.161	
65	76	± 0.50	± 0.30	4.5 ± 0.4		67	1.506	
75	89	± 0.50	± 0.30	5.9 ± 0.4		77	2.294	
100	114	± 0.60	± 0.40	7.1 ± 0.5		100	3.552	
125	140	± 0.80	± 0.50	7.5 ± 0.5	125	4.651		
150	165	± 1.00	± 0.50	9.6 ± 0.7	146	6.982		
● 200	216	± 1.30	± 0.70	11.0 ± 0.7	194	10.554		

☆ JIS K 6776 ● Special Fitting Dimension

● Socket

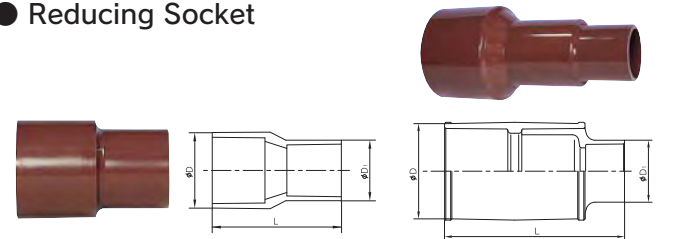


Unit : mm

Nominal Size	D	L
☆ 13	26	49
☆ 16	29	59
☆ 20	34	71
☆ 25	41	82
☆ 30	46	89
☆ 40	56	99
☆ 50	69	109
65	87	145
75	102	155
100	130	200
125	157	231
150	186	300
● 200	236	300

☆ JIS K 6777 ● Special Fitting Dimension

● Reducing Socket

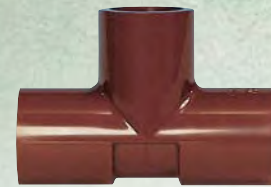


Unit : mm

Nominal Size	D	D ₁	L	Nominal Size	D	D ₁	L
☆ 16 × 13	29	26	53.0	☆ 65 × 30	87	46	194.0
☆ 20 × 13	34	26	61.5	☆ 65 × 40	87	57	205.0
☆ 20 × 16	34	29	66.0	☆ 65 × 50	87	70	149.0
☆ 25 × 13	41	26	73.0	☆ 75 × 40	102	57	221.0
☆ 25 × 16	41	29	76.0	☆ 75 × 50	102	70	165.0
☆ 25 × 20	41	34	80.5	☆ 75 × 65	102	87	163.0
☆ 30 × 13	46	26	75.0	☆ 100 × 40	130	57	246.0
☆ 30 × 20	46	34	85.0	☆ 100 × 50	130	70	252.0
☆ 30 × 25	46	41	90.0	☆ 100 × 65	134	87	250.0
☆ 40 × 20	56	34	98.0	☆ 100 × 75	134	102	190.0
☆ 40 × 25	56	41	100.0	☆ 125 × 75	157	102	296.0
☆ 40 × 30	56	46	97.0	☆ 125 × 100	157	130	316.0
☆ 50 × 25	69	41	110.0	☆ 150 × 75	186	102	365.0
☆ 50 × 30	69	46	110.0	☆ 150 × 100	186	130	385.0
☆ 50 × 40	69	56	110.0	☆ 150 × 125	186	157	404.0

☆ JIS K 6777 ● Combination Type

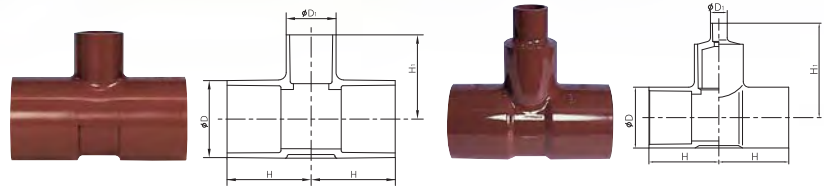
● Tee



NominalSize	D	H
☆ 13	26	34
☆ 16	29	41
☆ 20	34	53
☆ 25	41	58
☆ 30	46	64
☆ 40	56	75
☆ 50	69	87
65	87	110
75	102	120
100	130	152
125	157	187
150	186	230

☆ JIS K 6777

● Reducing Tee



NominalSize	D	D ₁	H	H ₁	NominalSize	D	D ₁	H	H ₁
☆ 16 × 13	29	26	39	36	☆ 65 × 16	87	29	100	137
☆ 20 × 13	34	26	45	38	☆ 65 × 20	87	33	100	142
☆ 20 × 16	34	29	47	43	☆ 65 × 25	87	40	100	147
☆ 25 × 13	41	26	49	41	☆ 65 × 30	87	46	100	150
☆ 25 × 16	41	29	52	46	☆ 65 × 40	87	57	95	95
☆ 25 × 20	41	34	54	52	☆ 65 × 50	87	70	100	105
☆ 30 × 13	46	26	54	44	☆ 75 × 20	102	33	105	147
☆ 30 × 16	46	29	56	49	☆ 75 × 25	102	40	93	88
☆ 30 × 20	46	34	58	55	☆ 75 × 30	102	46	105	155
☆ 35 × 25	46	41	60	60	☆ 75 × 40	102	56	100	102
☆ 40 × 13	56	26	62	49	☆ 75 × 50	102	70	105	110
☆ 40 × 16	56	29	63	54	☆ 100 × 20	130	33	125	159
☆ 40 × 20	56	34	65	60	☆ 100 × 25	130	40	125	164
☆ 40 × 25	56	41	68	65	☆ 100 × 30	130	46	125	167
☆ 40 × 30	56	46	72	69	☆ 100 × 40	130	57	125	178
☆ 50 × 13	69	26	69	55	☆ 100 × 50	130	75	125	122
☆ 50 × 16	69	29	70	60	☆ 100 × 75	130	102	140	132
☆ 50 × 20	69	34	72	70	☆ 125 × 75	157	102	161	147
☆ 50 × 25	69	41	75	75	☆ 125 × 100	157	130	175	167
☆ 50 × 30	69	46	79	75	☆ 150 × 75	186	102	195	158
☆ 50 × 40	69	56	82	80	☆ 150 × 100	186	130	208	182
☆ 65 × 13	87	24	100	135	☆ 150 × 125	186	157	218	202

☆ JIS K 6777

● Combination Type

● Elbow

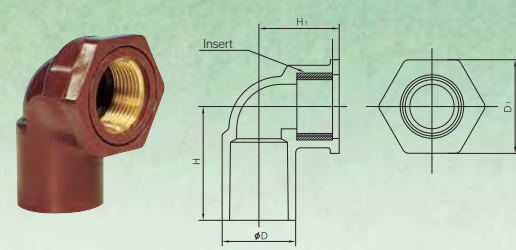


NominalSize	D	H
☆ 13	26	34
☆ 16	29	41
☆ 20	34	53
☆ 25	41	58
☆ 30	46	64
☆ 40	56	74
☆ 50	69	85
65	87	110
75	102	120
100	130	155
125	157	188
150	186	228
● 200	236	265

☆ JIS K 6777

● Special Fitting Dimension

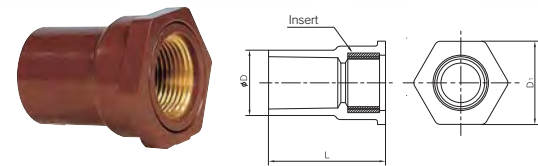
● Faucet Elbow



NominalSize	D Min	H	Thd	D ₁	H ₁
☆ 13	26	35	Rp1/2	35	29
☆ 16	29	42	Rp1/2	35	33
☆ 20	34	51	Rp3/4	44	36
☆ 25	41	60	Rp1	54	40
20 × 13	33	47	Rp1/2	34	33

☆ JIS K 6777

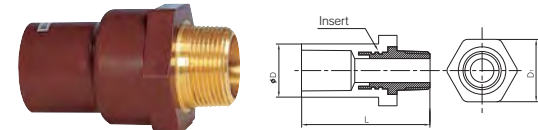
● Faucet Socket



NominalSize	D Min	Thd	D ₁	L
☆ 13	26	Rp1/2	35	47
☆ 16	29	Rp1/2	35	52
☆ 20	34	Rp3/4	44	61
☆ 25	41	Rp1	54	69
20 × 13	33	Rp1/2	34	57

☆ JIS K 6777

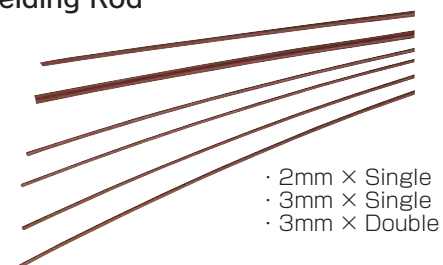
● Valve Socket



NominalSize	D Min	Thd	L	D ₁ Min
☆ 13 × 1/2	26	R 1/2	64	34
☆ 16 × 1/2	29	R 1/2	70	34
☆ 20 × 3/4	34	R 3/4	85	40
☆ 25 × 1	41	R 1	99	45
☆ 30 × 1 1/4	46	R 1 1/4	109	62
☆ 40 × 1 1/2	56	R 1 1/2	114	68
☆ 50 × 2	69	R 2	132	84

☆ JIS K 6777

● Welding Rod



- 2mm × Single
- 3mm × Single
- 3mm × Double

COLOR PIPE & FITTINGS



FEATURES

- Being made of PVC, the colored pipe and fitting are light and easy to install.
- The colored pipe and fitting, using high quality pigment, are colorful and harmonious with buildings. The pipe and fitting are available in three colors: silver gray, light ivory and white.
- VP and VU pipes and DV sockets ranging in nominal diameter from 40mm(1 1/2 inch) to 150mm(6 inch) and pipe holddown bands are also available.

No	Color	Munsell value
1	White	N9.5
1	Light ivory	2.5Y8/2
1	Silver gray	2.5Y7.5/1

APPLICATIONS

- Piping for the chemical industry, water supply, building (rainwater drainage, water supply and sewage), interior, ventilation, etc.

※ Silver gray: Designated as a standard color by the Japanese Housing Corporation.

AIR-CONDITIONING DRAIN PIPE & FITTINGS



FEATURES

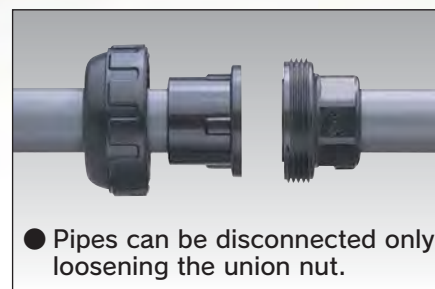
- Being made of PVC, the colored pipe and fitting are light and easy to install.
- The colored pipe and fitting, using high quality pigment are colorful and harmonious with buildings.
- We have VP pipes ranging in nominal size from 16 to 40mm, VU pipes 20 and 25mm in nominal size and various fittings.

PIPE	VP	16 - 40mm	VU	20 - 25mm
FITTING	90° Elbows	16 - 40mm	45° Elbows	20 - 40mm
	Tees	16 - 40mm	Reducing tees	25 × 20 - 40 × 30mm
	Sockets	16 - 40mm	Reducing sockets	20 × 16 - 40 × 30mm

Color	Munsell value
Ivory white	5Y9/07

PREFAB JOINT (UNION)

- Type B (one-side union)
13mm(3/8inch) - 100mm(4inch)



● Pipes can be disconnected only loosening the union nut.

FEATURES

- The PREFAB JOINT can be installed easily, fast and securely.
- The PREFAB JOINT, when placed in a pipeline, facilitates the cleaning of the pipeline.
- The body of the PREFAB JOINT can be removed from a pipeline only by loosening its union nut. Thus it is suitable for pipelines which are frequently disconnected, such as temporary pipelines and slurry pipelines.

SPECIFICATIONS

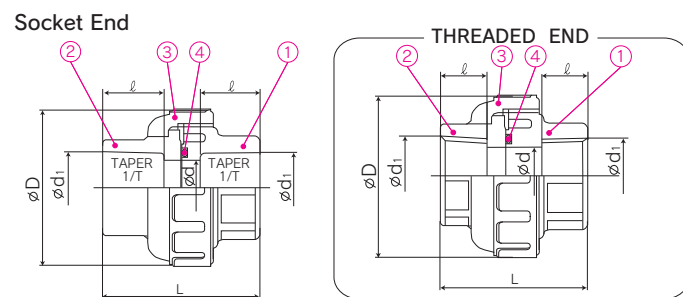
Type	Type B (Single union)
Material	Unplasticized Polyvinyl Chloride(PVC) Chlorinated Polyvinyl Chloride(C-PVC)
Nominal Size	Socket End 13mm(3/8inch) - 100mm(4inch) Spigot End 13mm(3/8inch) - 50mm(2inch) Threaded End 13mm(3/8inch) - 50mm(2inch)
Temperature Range	PVC=0°C - 50°C(30°F - 120°F) C-PVC=0°C - 90°C(30°F - 195°F)
Max. Working Pressure	1.0MPa{10.2kgf/cm ² } [150PSI]

PREFAB JOINT

Unit:MPa{kgf/cm²}

Nominal Size	Material		C-PVC					
	Temp. C(°F)							
	mm	inch	PVC	C-PVC				
			0 - 50 (30 - 120)	0 - 50 (30 - 120)	51 - 60 (121 - 140)	61 - 80 (141 - 175)	81 - 90 (176 - 195)	
13	3/8		1.0{10.2}	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	
16	1/2		1.0{10.2}	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	
20	3/4		1.0{10.2}	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	
25	1		1.0{10.2}	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	
30	1 1/4		1.0{10.2}	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	
40	1 1/2		1.0{10.2}	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	
50	2		1.0{10.2}	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	
65	2 1/2		1.0{10.2}	1.0{10.2}	0.8{8.2}	0.6{6.1}	0.4{4.1}	
75	3		1.0{10.2}	1.0{10.2}	0.6{6.1}	0.4{4.1}	0.3{3.1}	
100	4		1.0{10.2}	1.0{10.2}	0.6{6.1}	0.4{4.1}	0.3{3.1}	

DIMENSIONS



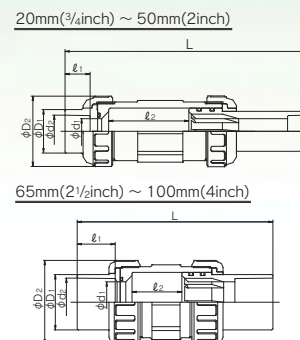
PARTS & MATERIALS

No.	DISCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC,C-PVC
②	END CONNECTOR	1	PVC,C-PVC
③	UNION NUT	1	PVC,C-PVC
④	O-RING	1	EPDM,FKM,Others

Note : The shape and appearance of the valve differ a little with nominal size compared to the drawing.

EXPANSION JOINT 20mm - 100mm (3/4 inch - 4 inch)

- PVC, C-PVC 20 - 100mm (3/4 inch - 4 inch)



FEATURES

- Thermal stress of pipe line is to be absorbed due to its sufficient allowable axial movement on elongation and contraction.
- With union type end connection, it allows fast disassembly, loosening the union nut only.
- With simplified design, it requires minimum systems space in the piping systems, and there is no need of expansion U-bend.
- Earthquake resistant design; Allowable axial movement-Elongation contraction.
- Internal stop design prevents the expansion portion from being removed.

SPECIFICATIONS

Material	Working Temperature	Max. Working Pressure MPa{kgf/cm ² }[PSI]	End Connectors
Unplasticized Polyvinyl Chloride (PVC)	0°C - 50°C (30°F - 120°F)	1.0{10.2}[150]	Socket End
Chlorinated Polyvinyl Chloride (C-PVC)	0°C - 90°C (30°F - 195°F)	1.0{10.2}[150]	Socket End

EXPANSION JOINT

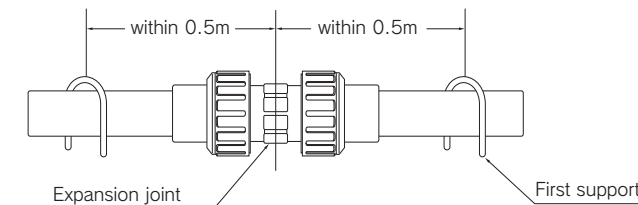
Unit:MPa{kgf/cm²}

Nominal Size	Material		C-PVC					
	Temp. C(°F)							
	mm	inch	PVC	C-PVC				
			0 - 40 (30 - 105)	41 - 50 (106 - 120)	5 - 40 (40 - 105)	41 - 60 (106 - 140)	61 - 70 (141 - 160)	71 - 90 (161 - 195)
20 - 100	3/4 - 4		1.0{10.2}	0.6{6.1}	1.0{10.2}	0.6{6.1}	0.4{4.1}	0.2{2.0}

DIMENSIONS TABLE

JIS Unit:mm

Nominal Size	d ₁	d ₂	ℓ ₁	1/T	D ₁	D ₂	L		ℓ ₂
							Max	Min	
20 3/4	20	26.13	24	1/34	35	60	243	163	80
25 1	25	32.16	27	1/34	43	70	250	170	80
30 1 1/4	31	38.19	30	1/34	50	82	258	178	80
40 1 1/2	40	48.21	37	1/37	59	100	272	192	80
50 2	51	60.25	42	1/37	72	106	285	205	80
65 2 1/2	65	76.60	61	1/48	88	133	314	234	80
75 3	78	89.60	64	1/49	105	152	330	250	80
100 4	100	114.70	84	1/56	132	210	422	322	100



☆ Volume of thermal expansion on C-PVC pipe and PVC pipe

A: Dimension of pipe line
B: Temperature

Unit:mm

A	5 m	10 m	20 m	30 m	40 m	50 m	60 m	70 m	80 m
10°C	4	7	14	21	28	35	42	49	56
20°C	7	14	28	42	56	70	84	98	112
30°C	11	21	42	63	84	105	126	147	168
40°C	14	28	56	84	112	140	168	196	224
50°C	18	35	70	105	140	175	210	245	280
60°C	21	42	84	126	168	210	252	294	336
70°C	25	49	98	147	196	245	294	343	392
80°C	28	56	112	168	224	280	336	392	448

Caution

First supports on both side of AV Expansion joint should be located within 0.5m from the middle of this joint.
(Setting of first supports at the location beyond 0.5m could cause pipeline to bend by internal pressure and AV Expansion joints do not work properly.)

BOLT & NUT and WASHER

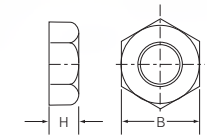
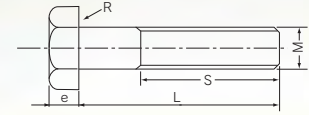


● PVC
Nominal Size : M8 to M20

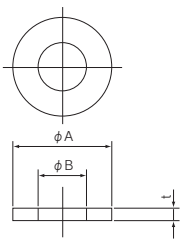
Nominal Size M8		Nominal Size M10		Nominal Size M12		Nominal Size M16		Nominal Size M20	
Lmm	Smm	Lmm	Smm	Lmm	Smm	Lmm	Smm	Lmm	Smm
20	16	14	10	25	21	40	36	55	46
25	22	20	16	30	26	45	38	65	46
32	22	25	21	36	30	50	38	75	46
38	22	28	24	40	30	55	38	80	46
50	22	30	26	45	30	60	38	85	46
55	22	32	26	50	30	65	38	90	46
		36	26	56	30	70	38		
		40	26	60	30	75	38		
		45	26	65	30	80	38		
		50	26	70	30	85	38		
		55	26			95	38		
		60	26						
		65	26						
Pitch	1.25	Pitch	1.50	Pitch	1.75	Pitch	2.00	Pitch	2.50
H	6.5mm	H	8mm	H	10mm	H	13mm	H	16mm
B	13	B	17	B	19	B	24	B	30
M	8	M	10	M	12	M	16	M	20
e	5.5	e	7	e	8	e	10	e	13
R	0.2r	R	0.2r	R	0.3r	R	0.4r	R	0.4r

Unit:mm

● Bolt and Nut



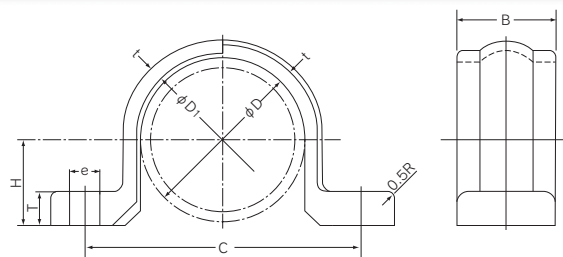
● Washer



Nominal Size	A	B	t
M 8	18.2 ⁰ / _{0.8}	8.4 ^{+0.4} / ₀	2
M10	22.0 ⁰ / _{0.8}	10.5 ^{+0.4} / ₀	2
M12	26.0 ⁰ / _{1.0}	13.5 ^{+0.5} / ₀	3
M16	32.0 ⁰ / _{1.0}	17.0 ^{+0.5} / ₀	3
M20	40.0 ⁰ / _{1.0}	21.0 ^{+0.6} / ₀	3

Unit:mm

SADDLE



● PVC
Nominal Size: 16mm(1/2inch) – 200mm(8inch)

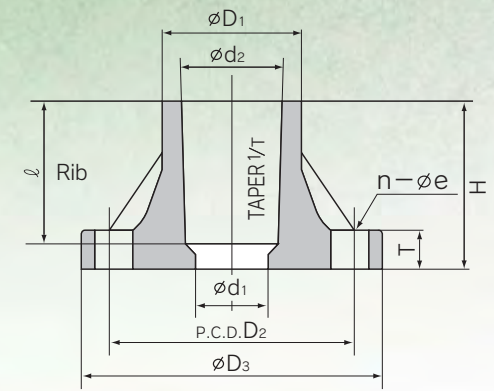
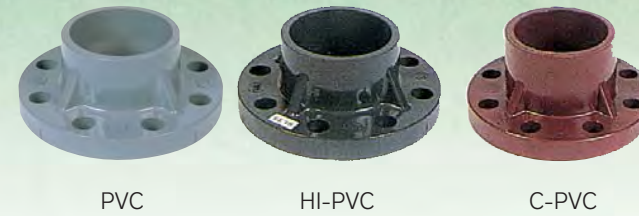
DIMENSIONS TABLE

Nominal Size		D	D ₁	C	H	T	t	B	e
mm	inch								
16	1/2	22	24	42	11	5	3	15	5.8
20	3/4	26	29	48	13	5	3	18	5.8
25	1	32	35	54	16	6	3	18	5.8
30	1 1/4	38	41	66	19	7	3.5	20	7
35	1 1/4	42	46	70	21	8	3.5	22	7
40	1 1/2	48	52	90	24	9	4	24	10
50	2	60	64	97	30	9	4	28	10
65	2 1/2	76	81	114	38	10	4	30	10
75	3	89	94	134	44.5	11	4	38	12
100	4	114	120	160	57	12	4.5	42	12
125	5	140	150	192	70	12	5	46	12
150	6	165	177	238	82.5	14	8	50	17
200	8	216	236	316	108	20	10	70	19

Unit:mm

AV FLANGE

● TS FLANGES(PVC,HI-PVC,C-PVC)



DIMENSIONS TABLE

AV TS FLANGES PVC JIS 10K 13mm - 350mm(3/8inch - 14inch) JIS 5K 13mm - 350mm(3/8inch - 14inch)
HI-PVC JIS 10K 13mm - 300mm(3/8inch - 12inch) JIS 5K 13mm - 150mm(3/8inch - 6inch)

Nominal Size		d ₁	d ₂		Taper 1/T		ℓ		D ₁		D ₂		D ₃		n		e		T		H	
mm	inch		10K	5K	10K	5K	10K	5K	10K	5K	10K	5K	10K	5K	10K	5K	10K	5K	10K	5K	10K	5K
13	3/8	15	18.40		1/30		26		25.5	24	65	55	90	75	4	4	15	12	14	9	30	30
15	1/2	18	22.40		1/34		30		31	29	70	60	95	80	4	4	15	12	14	9	35	35
20	3/4	22	26.45		1/34		35		35	33	75	65	100	85	4	4	15	12	15	10	40	40
25	1	25	32.55		1/34		40		42.5	40	90	75	125	95	4	4	19	12	15	10	46	45
32	1 1/4	30	38.60		1/34		44		48.5	46	100	90	135	115	4	4	19	15	16	12	50.5	50
40	1 1/2	41	48.70		1/37		55		60.5	59	105	95	140	120	4	4	19	15	16	12	61.5	61
50	2	52	60.80		1/37		63		73	70	120	105	155	130	4	4	19	15	20	14	71	72
65	2 1/2	67	76.60	76.80	1/48	1/41	61	69	90	86	140	130	175	155	4	4	19	15	22	14	70	76
80	3	78	89.60	89.80	1/49	1/43	64	72	105	101	150	145	185	180	8	4	19	19	22	14	73	80
100	4	100	114.70	115.00	1/56	1/44	84	92	131	129	175	165	210	200	8	8	19	19	22	16	93	105
125	5	125	140.85	141.20	1/58	1/45	104	112	158	156	210	200	250	235	8	8	23	19	24	16	114	126
150	6	146	166.00	166.50	1/63	1/45	132	140	185	185	240	230	280	265	8	8	23	19	26	18	142	150
200	8	196	217.00		1/50		145		238	238	290	280	330	320	12	8	23	23	28	28	156	156
250	10	247	268.00		1/55		155		289	289	355	345	400	385	12	12	25	23	30	30	167	167
300	12	298	318.70		1/55		155		341	341	400	390	445	430	16	12	25	23	30	30	167	167
350	14	348	371.00		1/60		230		398	398	445	435	490	480	16	12	25	23	34	34	300	300

Note : Dimensions shown as D₂,D₃,n,e are accordance with JIS 10K and JIS 5K.
Dimeter sizes of bolt holes for 5K 300mm(12inch)are different from JIS 5K.

AV TS FLANGES C-PVC JIS 10K 13mm - 150mm(3/8inch - 6inch), JIS 5K 13mm - 65mm(3/8inch - 2 1/2inch)

Nominal Size		d ₁	d ₂	Taper 1/T	ℓ	D ₁		D ₂		D ₃		n		e		T		H	
mm	inch					10K	5K	10K	5K	10K	5K	10K	5K	10K	5K	10K	5K	10K	5K
13	3/8	15	18.40	1/30	26	28	24	65	55	90	75	4	4	15	12	14	9	30	30
15	1/2	18	22.40	1/34	30	33	31	70	60	95	80	4	4	15	12	14	9	35	35
20	3/4	22	26.45	1/34	35	36	33	75	65	100	85	4	4	15	12	14	10	40	40
25	1	25	32.55	1/34	40	43	43	90	75	125	95	4	4	19	12	16	10	50	45
32	1 1/4	30	38.60	1/34	44	51	51	100	90	135	115	4	4	19	15	16	12	50.5	50
40	1 1/2	41	48.70	1/37	55	65	65	105	95	140	120	4	4	19	15	16	12	65	61
50	2	52	60.80	1/37	63	76	76	120	105	155	130	4	4	19	15	20	14	74	72
65	2 1/2	67	76.80	1/41	69	92	86	140	130	175	155	4	4	19	15	22	14	82	76
80	3	78	89.80	1/43	72	108	—	150	—	185	—	8	—	19	—	22	—	86	—
100	4	100	115.00	1/44	92	138	—	175	—	210	—	8	—	19	—	22	—	105	—
125	5	125	141.20	1/45	112	165	—	210	—	250	—	8	—	23	—	22	—	126	—
150	6	146	166.00	1/63	132	185	—	240	—	280	—	8	—	23	—	26	—	142	—

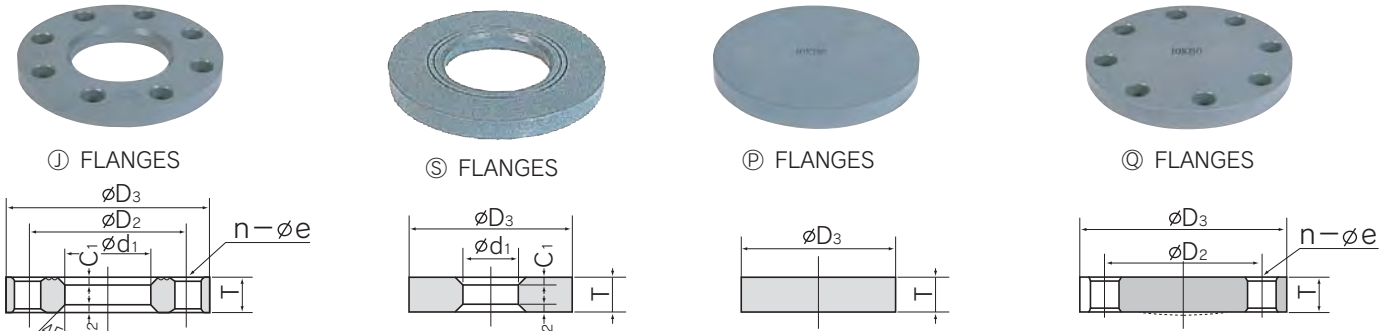
Note : Dimension shown as D₂,D₃,n,e are accordance with JIS 10K and JIS 5K.

AV TS FLANGES PVC ANSI 1/2 inch - 12inch(15mm - 300mm)

ANSI		Unit:inch											
Nominal Size	mm	inch	d ₁	d ₂	Taper 1/T	ℓ	D ₁	ANSI CLASS 150				T	H
								D ₂	D ₃	n	e		
15	1/2	0.71	0.88	1/34	1.61	1.22	2.38	3.50	4	0.62	0.47	1.18	
20	3/4	0.87	1.04	1/34	1.89	1.38	2.75	3.88	4	0.62	0.51	2.09	
25	1	0.98	1.28	1/34	1.57	1.67	3.12	4.25	4	0.62	0.59	1.97	
32	1 1/4	1.18	1.52	1/34	1.73	1.91	3.50	4.62	4	0.62	0.63	2.13	
40	1 1/2	1.61	1.92	1/37	2.17	2.38	3.88	5.00	4	0.62	0.71	2.56	
50	2	2.05	2.39	1/37	2.48	2.87	4.75	6.00	4	0.75	0.79	2.91	
65	2 1/2	2.64	3.02	1/41	2.72	3.54	5.50	7.00	4	0.75	0.91	3.23	
80	3	3.07	3.54	1/43	2.83	4.13	6.00	7.50	4	0.75	0.94	3.39	
100	4	3.94	4.53	1/44	3.62	5.16	7.50	9.00	8	0.75	0.94	4.21	
125	5	4.92	5.56	1/45	4.41	6.22	8.50	10.00	8	0.88	0.94	5.12	
150	6	5.75	6.54	1/63	5.20	7.28	9.50	11.00	8	0.88	1.02	5.59	
200	8	7.72	8.54	1/50	5.71	9.37	11.75	13.50	8	0.88	1.10	6.14	
250	10	9.72	10.56	1/55	6.10	11.81	14.25	16.00	12	1.00	1.18	6.57	
300	12	11.73	12.55	1/55	6.10	13.43	17.00	19.00	12	1.00	1.18	6.57	

Note : Dimension shown as D₂,D₃,n,e are accordance with ANSI/ASME B 16.5 CLASS 150.
Dimension shown as d₁, R, taper 1/T are accordance with JIS K 6743.

● AV FLANGES(PVC,PP)



Nominal Size 13mm(1/2inch) - 300mm(12inch)

※ The figure described by broken(dashed) line shows shape of Q-flanges applied for dead end service of piping. 15(1/2inch) - 150mm(6inch)

DIMENSIONS TABLE

AV ①, ②, ③, ④, FLANGES		Unit:mm													
Nominal Size	mm	inch	d ₁	D ₂		D ₃		n		e		T		C ₁	C ₂
				10K	5K	10K	5K	10K	5K	10K	5K	10K	5K		
13	3/8	18	65	55	90	75	4	4	15	12	12	9	3	3	
15	1/2	22	70	60	95	80	4	4	15	12	12	9	3	3	
20	3/4	26	75	65	100	85	4	4	15	12	14	10	3	3	
25	1	32	90	75	125	95	4	4	19	12	14	10	3	3	
32	1 1/4	38	100	90	135	115	4	4	19	15	16	12	3	3	
40	1 1/2	48	105	95	140	120	4	4	19	15	16	12	3	3	
50	2	60	120	105	155	130	4	4	19	15	16	14	3	4	
65	2 1/2	76	140	130	175	155	4	4	19	15	18	14	3	4	
80	3	89	150	145	185	180	8	4	19	19	18	14	3	4	
100	4	114	175	165	210	200	8	8	19	19	18	16	3	4	
125	5	140	210	200	250	235	8	8	23	19	20	16	4	4	
150	6	165	240	230	280	265	8	8	23	19	22	18	4	4	
200	8	216	290	280	330	320	12	8	23	23	22	20	4	4	
250	10	267	355	345	400	385	12	12	25	23	24	22	4	4	
300	12	318	400	390	445	430	16	12	25	23	24	22	4	4	

Note : Dimension shown as D₂,D₃,n,e are accordance with JIS 10K and JIS 5K.

① and ② are welded flanges.
③ and ④ are blind flanges.

AV GASKET



Full face Type Rubber Gasket Ring Type Gasket (JIS only) PTFE coated PVDF coated

● MATERIAL : EPDM, PTFE, PVDF, CSM, FKM, IIR, Viton F, C

FEATURES

- AV GASKETS offer Similar sealing performance with 1/3 bolt tightening torque, compared to flat or envelope style gaskets.
- Uniform dimension, fine surface, suitable hardness.
- Long service life.
- Unique Convex Design.

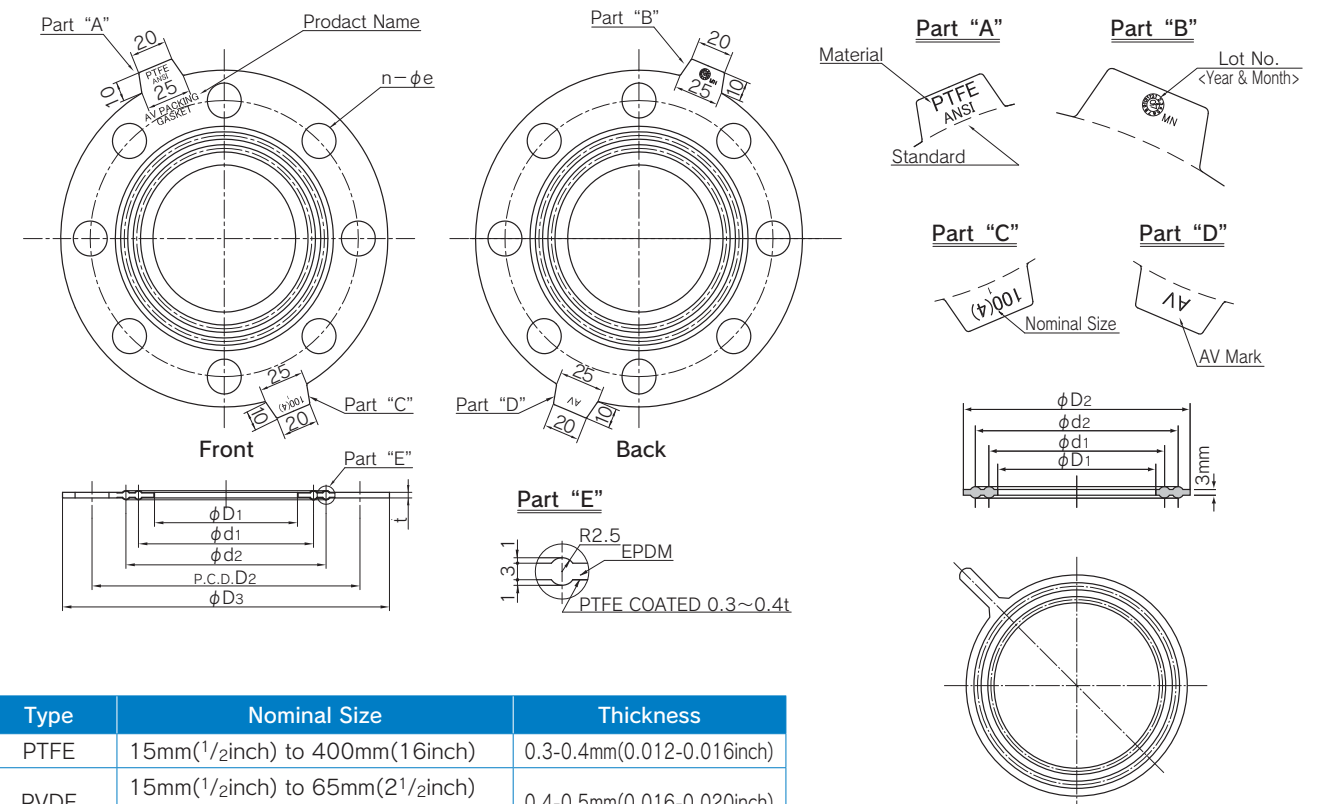
SPECIFICATIONS

Material	Working Temperature	SIZE AVAILABILITY BY STANDARD		
		JIS	ANSI	DIN
EPDM	-40°C - 90°C (-40°F - 195°F)	15mm - 350mm	1/2inch - 16inch *1	15mm - 350mm
PTFE	-40°C - 120°C (-40°F - 250°F)	15mm - 300mm	1/2inch - 12inch	15mm - 400mm
PVDF	-40°C - 120°C (-40°F - 250°F)	15mm - 300mm	1/2inch - 10inch *2	15mm - 300mm
VIFLON	-5°C - 150°C (-5°F - 280°F)	15mm - 200mm	-	-

Working temperature is different depending on type of fluid.
Voflon-F has superior resistance to inorganic acids such as HNO₃, HF and HCl.
Voflon-C has superior resistance to chlorine containing media such as Chlorine Water, NaCl and ClO₂.

* 1 14inch, 16inch:FLAT FULL FACE
* 2 Except for 1 1/4inch and 2 1/2inch

DIMENSIONS



Type	Nominal Size	Thickness
PTFE	15mm(1/2inch) to 400mm(16inch)	0.3-0.4mm(0.012-0.016inch)
PVDF	15mm(1/2inch) to 65mm(2 1/2inch) 80mm(3inch) to 300mm(12inch)	0.4-0.5mm(0.016-0.020inch)

DIMENSIONS TABLE

Full-Face Type (JIS 10K)								Unit:mm
Nominal Size	D ₁	D ₂	D ₃	n	e	d ₁	d ₂	
mm inch								
13	3/8	15	65	88	4	15	22	37
15	1/2	18	70	93	4	15	26	41
20	3/4	22	75	98	4	15	32	47
25	1	30	90	123	4	19	38	53
32	1 1/4	37	100	133	4	19	50	65
40	1 1/2	43	105	138	4	19	54	69
50	2	54	120	153	4	19	68	83
65	2 1/2	69	140	173	4	19	86	101
80(75)	3	80	150	183	8	19	98	112
100	4	102	175	208	8	19	120	138
125	5	127	210	248	8	23	145	166
150	6	150	240	278	8	23	168	190
200	8	198	290	328	12	23	216	247
250	10	249	355	398	12	25	270	306
300	12	300	400	443	16	25	324	352
350	14	350	445	488	16	25	370	390

Ring Type (JIS 10K)						Unit:mm
Nominal Size	D ₁	D ₂	d ₁	d ₂		
mm inch						
15	1/2	18	54	26	41	
20	3/4	22	59	32	47	
25	1	30	70	38	53	
32	1 1/4	37	80	50	65	
40	1 1/2	43	85	54	69	
50	2	54	100	68	83	
65	2 1/2	69	120	86	101	
80(75)	3	80	130	98	112	
100	4	102	155	120	138	
125	5	127	187	145	166	
150	6	150	217	168	190	
200	8	198	267	216	247	
250	10	249	329	270	306	
300	12	300	374	324	352	

Full-Face Type (DIN 2501)								Unit:mm
Nominal Size	D ₁	D ₂	D ₃	n	e	d ₁	d ₂	
mm inch								
15	1/2	18	65	93	4	14	26	41
20	3/4	22	75	103	4	14	32	47
25	1	30	85	113	4	14	38	53
32	1 1/4	37	100	138	8	18	50	65
40	1 1/2	43	110	148	4	18	54	69
50	2	54	125	163	4	18	68	83
65	2 1/2	69	145	183	4	18	86	101
80(75)	3	80	160	198	8	18	98	112
100	4	102	180	218	8	18	120	138
125	5	127	210	248	8	18	145	166
150	6	150	240	283	8	23	168	190
200	8	198	295	338	8	23	216	247
250	10	249	350	393	12	23	270	306
300	12	300	400	443	12	23	324	352
350	14	350	460	503	16	25	370	390
400	16	407	515	563	16	26	442	472

Full-Face Type (ANSI CLASS150)								Unit:inch
Nominal Size	D ₁	D ₂	D ₃	n	e	d ₁	d ₂	
inch mm								
1/2	15	0.7	2.4	3.4	4	0.6	1.0	1.6
3/4	20	0.9	2.8	3.8	4	0.6	1.3	1.9
1	25	1.2	3.1	4.2	4	0.6	1.5	2.1
1 1/4	32	1.5	3.5	4.5	4	0.6	2.0	2.6
1 1/2	40	1.7	3.9	4.9	4	0.6	2.1	2.7
2	50	2.1	4.7	5.9	4	0.8	2.7	3.3
2 1/2	65	2.7	5.5	6.9	4	0.8	3.4	4.0
3	80(75)	3.2	6.0	7.4	4	0.8	3.9	4.4
4	100	4.0	7.5	8.9	8	0.8	4.7	5.4
5	125	5.0	8.5	9.9	8	0.9	5.7	6.5
6	150	5.9	9.5	10.9	8	0.9	6.6	7.5
8	200	7.8	11.8	13.4	8	0.9	8.5	9.7
10	250	9.8	14.3	15.9	12	1.0	10.6	12.1
12	300	11.8	17.0	18.9	12	1.0	12.8	13.9
14	350	13.9	18.7	20.9	12	1.14	14.6	15.4
16	400	15.6	21.2	23.4	16	1.14	17.3	18.5

*1 14inch, 16inch:FLAT FULL FACE

RECOMMENDED TIGHTENING TORQUE <ALL MATERIALS / FULL FACE TYPE>

mm(inch)	N·m	FT-LB	mm(inch)	N·m	FT-LB	mm(inch)	N·m	FT-LB
15 (1/2)	17.5	13	65 (2 1/2)	22.5	16	200 (8)	55	40
20 (3/4)	17.5	13	80 (3)	30	22	250(10)	55	40
25 (1)	20	14	100(4)	30	22	300(12)	60	43
40 (1 1/2)	20	14	125(5)	40	29	350(14)	60	43
50 (2)	22.5	16	150(6)	45	32	400(16)	80	58

DV FITTINGS

● DV FITTING(JIS K6739)
(Nominal Size:40 to 150mm)



SPECIFICATIONS

90° Elbow (DL)	30 - 150mm
90° Large-curvature Elbow (LL)	40 - 150mm
45° Elbow (45L)	30 - 150mm
90° Y (DT)	30 - 150×100mm
90° Large-curvature Y	40 - 150×125mm
90° Large-curvature Both-sided Y (WLT)	65 - 125×100mm
45° Y (Y)	40 - 150×100mm
Socket (DS)	40 - 150mm
Increase (IN)	40×30 - 150×125mm

*We also produce VU FITTINGS

CEMENT



AV Cement No.32 (Blue Can) 100g·500g·1kg
 AV Cement No.52 (Red Can) 500g
 AV Cement No.62 (Yellow Can) 1kg
 AV Cement No.88 (Brown Can) 250g·500g
 AV HI Cement No.90 (Dark blue Can) 500g·1kg
 AV HI Cement No.100 (Light Blue Can) 1kg
 AV HI Cement No.102 (Dark Green Can) 1kg (no brush)

※ These adhesives are classified under Dangerous Substance Class 4, the First Oil-Based Material specified in Article 2 of the Japanese Fire Prevention Act. Use utmost care when storing the adhesives.

FEATURES

- AV Cement No.32 and No.52 are suitable for small AV TS flanges and FITTINGS.
- AV Cement No.62 is suitable for large AV FITTINGS and AV DV FITTINGS.
- AV Cement No.100 and No.102 are suitable for AV HI-PVC and HP-PVC FITTINGS.

SPECIFICATIONS

Items	Feature	Color of Can	Viscosity (cp)	Reduction by drying(%)	Cementing Strength(kgf/cm ²)	
					After 15min.	After 2 hours
AV No.32	Low viscosity,quick drying	Blue	100 - 250	30 - 50	over 12.5	over 25
AV No.52	High viscosity,quick drying	Red	800 - 1,500	30 - 50	over 12.5	over 25
AV No.62	High viscosity,slow drying	Yellow	500 - 1,500	10 - 30	—	over 15
AV No.88	Low viscosity,quick drying	Brown	200 - 700	—	—	—
AV No.90	Low viscosity,quick drying	Dark blue	500 - 800	30 - 50	over 12.5	over 25
AV No.100	Low viscosity,quick drying	Light blue	500 - 800	30 - 50	over 12.5	over 25
AV No.102	High viscosity,slow drying	Dark green	400 - 1,000	10 - 30	—	over 15

Standard Quantity of "AV CEMENT" required for connecting "PVC PIPE" with "PVC FITTINGS."

Nominal Size(mm)	13	16	20	25	30	40	50	65	75	100	125	150	200	250	300
Applying Quantity at one point	0.9	1.2	1.7	2.0	3.1	5.0	7.1	9.9	12.0	20	30	44	59	78	104
Application	● No. 32 or No. 52 or No. 90 or No. 100												● No. 62 or No. 102		

ADHESIVE STRENGTH BASED ON PASSING TIME 13mm 20°C MAX stretching loading.

Items	1 min	3min	5min	10min	15min	30min	1hr	2hr	3hr	6hr	12hr	24hr
● AV No.32	55kg (4kgf/cm ²)	135kg (10kgf/cm ²)	160kg (12kgf/cm ²)	205kg (15kgf/cm ²)	230kg (17kgf/cm ²)	290kg (21kgf/cm ²)	340kg (25kgf/cm ²)	380kg (28kgf/cm ²)	410kg (30kgf/cm ²)	465kg (34kgf/cm ²)	Cracked	—
● AV No.52	128kg (9kgf/cm ²)	180kg (13kgf/cm ²)	220kg (16kgf/cm ²)	256kg (19kgf/cm ²)	285kg (21kgf/cm ²)	340kg (25kgf/cm ²)	380kg (28kgf/cm ²)	420kg (31kgf/cm ²)	445kg (33kgf/cm ²)	490kg (36kgf/cm ²)	Cracked	—
● AV No.62	—	—	—	42kg (3kgf/cm ²)	82kg (6kgf/cm ²)	135kg (10kgf/cm ²)	219kg (16kgf/cm ²)	280kg (21kgf/cm ²)	310kg (23kgf/cm ²)	396kg (29kgf/cm ²)	455kg (34kgf/cm ²)	Cracked

RR-MF JOINTS

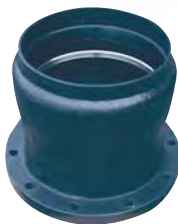
● RR-MF JOINT



SPECIFICATIONS

Nominal Size	40mm(1½inch) - 150mm(2inch)
Material	Body:HI-PVC,PVC Rubber ring:SBR

● RR-MF JOINT(FRP)



SPECIFICATIONS

Nominal Size	350mm(14inch) - 500mm(20inch)
Material	Body:FRP Rubber ring:SBR Ring:STAINLESS STEEL 403

※Only joints conforming to the JWWA standards are available.

● RR-N-MF JOINT(Fabricated)



SPECIFICATIONS

Nominal Size	40mm(1½inch) - 150mm(6inch)
Material	Body:HI-PVC,PVC Rubber ring:SBR

Nominal Size	200mm(8inch) - 350mm(14inch)
Material	Body:PVC Rubber ring:SBR

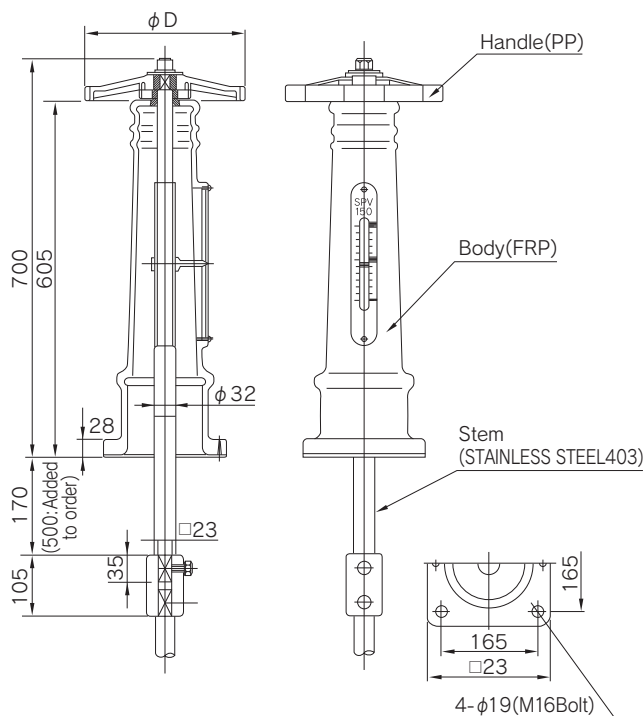
※ joints conforming to the JWWA (JAPAN WATER WORKS ASSOCIATION) standards range in nominal size from 200 to 300mm(8inch to 12inch)

FRP FLOOR STAND



SPECIFICATIONS

Nominal Size	50mm - 350mm(2inch - 14inch)
Material	Body:FRP Spindle:Stem STAINLESS STEEL403 Handle:PP



ASAHI VALVE AND PIPING SYSTEMS

ASAHI AV HIGH PURITY SERIES(HP-PVC)

The specifications in this brochure are subject to change without prior notice due to improvements and modifications.

Asahi AV HIGH PURITY SERIES

TRUE UNION DIAPHRAGM VALVE TYPE14 (LF)	152
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LAB COCK (LF)	158
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AV GASKET	167

*LF : Lubricant Free

Ultrapure Water

Recently along with the increasingly high integration of semiconductors, stricter cleanliness is required of wafer surfaces from the viewpoint of product yield. Consequently, the role of cleaning processes is becoming more and more important.

Since the final washing of wafers of waters uses ultrapure water the cleanliness of wafers depends heavily on the quality of the ultrapure water. There fore, it is essential to improve the process lines used for the production of ultrapure water. We have an assortment of plastic piping materials that elute fewer metal ions and TOC and have finer inner surfaces. They fully accommodate the requirements of semiconductor manufacture, such as for 1MD-RAM, 4MD-RAM, and 16MD-RAM.

FEATURES

- Minimized Leachable.
- Mirror-smooth inner surfaces.
- Dead space minimized to prevent residence of liquid.
- Purified articles controlled under strict rules: degreasing and washing, forced drying with nitrogen, assembly, and packaging are carried out in a clean room.
- Easy, dependable installation and removal. Easy to maintain and clean.
- Unrivaled mechanical strength and reliability.

●AV Valves

Type		TRUE UNION DIAPHRAGM VALVE TYPE 14								
Body Materials		PVC		C-PVC		PP		PVDF		
End Connectors		Threaded	Socket	Threaded	Socket [*] (welded)	Threaded	Socket	Threaded	Socket [*] (welded)	Spigot
Nominal Size	mm	inch								
	15	1/2	○	○	○	○	○	○	○	○
	20	3/4	○	○	○	○	○	○	○	○
	25	1	○	○	○	○	○	○	○	○
	32	1 1/4	○	○	○	○	○	*○	○	○
	40	1 1/2	○	○	○	○	○	○	○	○
50	2	○	○	○	○	○	○	○	○	
Page		152 - 153								

Type		BALL VALVE TYPE 21												
Body Materials		PVC			C-PVC			PP			PVDF			
End Connectors		Flanged	Threaded	Socket	Flanged	Threaded	Socket [*] (welded)	Flanged	Threaded	Socket	Flanged	Threaded	Socket [*] (welded)	Spigot [*]
Nominal Size	mm	inch												
	15	1/2	○	○	○	○	○	○	○	○	○	○	○	○
	20	3/4	○	○	○	○	○	○	○	○	○	○	○	○
	25	1	○	○	○	○	○	○	○	○	○	○	○	○
	32	1 1/4	○	○	○	○	○	○	○	○*	○	○	○	○
	40	1 1/2	○	○	○	○	○	○	○	○	○	○	○	○
	50	2	○	○	○	○	○	○	○	○	○	○	○	○
	65	2 1/2	○	○	○	○	○	○	○	○	○	○	○	○
	80	3	○	○	○	○	○	○	○	○	○	○	○	○
100	4	○	○	○	○	○	○	○	○	○	○	○	○	
Page		154 - 157												

Type	LAB COCK
Body Materials	PVC
End Connectors	Male Thread, Female Thread, Hose
Nominal Size	Male Thread 1/4 1/2 Female Thread 1/4 3/8
Page	158 - 159

●Pipe & Fittings

Nominal Size	mm	inch	Pipe	Elbow (L)	90° AV Bend	45° Elbow (45L)	45° AV Bend	Socket (S)	Tee(T)	Faucet Elbow(FL)	Valve Socket(VS)	Faucet Socket(FS)	Cap (C)
	13	1/2	○	○	○	-	-	-	-	-	○	○	○
16	2	○	○	○	-	-	-	-	-	○	○	○	○
20	2 1/2	○	○	○	-	-	-	-	-	○	○	○	-
25	3	○	○	○	-	-	-	-	-	○	○	○	○
30	4	○	○	○	-	-	-	-	-	○	○	○	○
40	5	○	○	○	-	-	-	-	-	○	○	○	○
50	6	○	○	○	-	-	-	-	-	○	○	○	○
65	8	○	○	○	-	-	-	-	-	○	○	○	○
75	10	○	○	○	-	-	-	-	-	○	○	○	○
100	12	○	○	○	-	-	-	-	-	○	○	○	-
125	14	○	○	○	-	-	-	-	-	○	○	○	-
150	16	-	-	-	○	○	-	-	-	-	○	○	-
200	18	-	-	-	-	-	-	○	○	-	○	○	-
250	20	-	-	-	-	-	-	○	○	-	○	○	-
Page			160		161		162-163			164			

*Except for JIS standard.

Nominal Size	mm	Reducing Socket(RS)	Reducing Tee(RT)
	16x13		○
20x13	○	○	
20x16	○	○	
25x13	○	○	
25x16	○	○	
25x20	○	○	
30x16		○	
30x25	○	○	
40x13		○	
40x20	○	○	
40x25	○	○	
40x30	○	○	
50x13		○	
50x20	○	○	
50x25	○	○	
50x40	○	○	
65x40		○	
65x50	○	○	
75x25		○	
75x40		○	
75x50	○	○	
75x65	○	○	
100x75	○	○	
125x75	○	○	
125x100	○	○	
150x75		○	
150x100		○	
150x125	○	○	
200x75		○	
200x100		○	
200x150	○	○	
250x75		○	
250x100		○	
250x100	○	○	
Page		162	163

TRUE UNION DIAPHRAGM VALVE TYPE 14 15mm - 50mm(1/2inch - 2inch)

FEATURES



Easy Maintenance

The valve body can be removed from the pipe line by loosening the union nuts at both its ends.

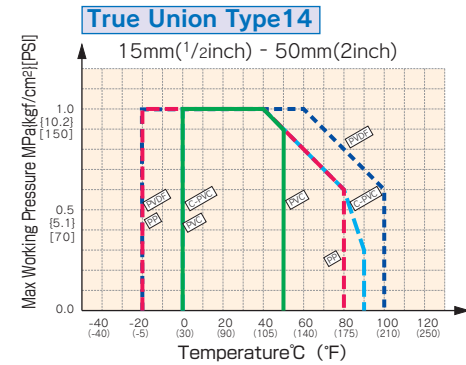
Bottom Stand for Easy Support

Having a new bottom stand with an insert hole, DIAPHRAGM VALVE TYPE 14 helps support the piping. The valve is also provided with a flange stand to increase installation safety.

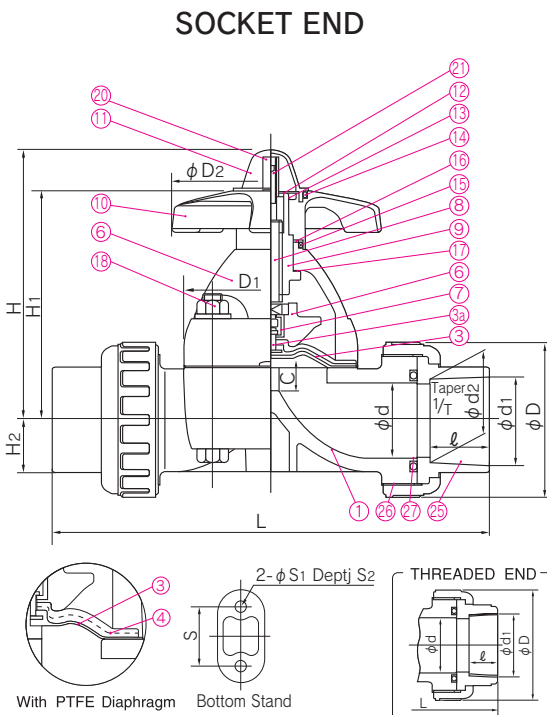
MATERIAL AND WORKING TEMPERATURE

Body material	Nominal size mm(inch)	Working Temperature °C (°F)	Max. Working Pressure at 20°C(70°F) MPa[kgf/cm ²] [PSI]	End Connectors
Unplasticized Polyvinyl Chloride(PVC)	15 - 50(1/2 - 2)	0 - 50(30 - 120)	1.0{10.2}[150]	Socket End. Threaded End
Chlorinated Polyvinyl Chloride(C-PVC)	15 - 50(1/2 - 2)	0 - 90(30 - 195)	1.0{10.2}[150]	Socket End. Threaded End
Polypropylene(PP)	15 - 50(1/2 - 2)	-20 - 80(-5 - 175)	1.0{10.2}[150]	Socket End. Threaded End
Polyvinylidene Fluoride(PVDF)	15 - 50(1/2 - 2)	-20 - 100(-5 - 210)	1.0{10.2}[150]	Socket End. Threaded End. Spigot End

WORKING PRESSURE VS. TEMPERATURE



DIMENSION



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	BODY/BONNET PVC/PVC C-PVC/PP PP/PP PVDF/PPG PVDF/PVDF	⑪	GAUGE COVER	1	PC
②	BONNET	1		⑫	NAME PLATE	1	PVC
③	DIAPHRAGM	1	EPDM IIR NBR, CSM CPE, FKM VIFLON C (FKM-C) VIFLON F (FKM-F) PTFE	⑬	RETAINING RING-C TYPE	1	STAINLESS STEEL304
④	INSERTED METAL OF DIAPHRAGM	1	STAINLESS STEEL304	⑭	O-RING(A)	1	EPDM
⑤	CUSHION	1	EPDM*	⑮	O-RING(B)	1	EPDM
⑥	COMPRESSOR	1	PVDF	⑯	THRUST RING(A)	1	UHMWPE
⑦	JOINT	1	STAINLESS STEEL304	⑰	THRUST RING(B)	1	UHMWPE
⑧	STEM	1	COPPER ALLOY(C3604)	⑱	BOLT·NUT	4	STAINLESS STEEL304
⑨	SLEEVE	1	COPPER ALLOY(C3604)	⑳	STOPPER	1	COPPER ALLOY(C3604)
⑩	HAND WHEEL	1	PP	㉑	SCREW	1	STAINLESS STEEL304
				㉒	ENDCONNECTOR	2	PVC C-PVC PP PVDF
				㉓	UNION NUT	2	PVDF
				㉔	O-RING(C)	2	EPDM FKM Others

* With PTFE Diaphragm

DIMENTIONS TABLE

JIS Unit:mm

Nominal Size	d	Socket End				Threaded End				Spigot End				D	D ₁	D ₂	C (LIFT)	H	H ₁	H ₂	S	S ₁	S ₂									
		PVC, C-PVC		PP		PVDF		JIS B 0203		L		PVDF																				
mm	inch	d ₁	ℓ	1/T	L	d ₁	d ₂	ℓ	L	d ₁	d ₂	ℓ	L	d ₁	ℓ	PVC, C-PVC	PP, PVDF	d ₁	t	ℓ	L											
15	1/2	16	22.11	20	1/34	134	21.2	20.2	20	134	21.50	21.30	20	134	Rc 1/2	15	128	128	22	1.9	20	173	48	54×66	100	10	104	86	19.5	25	7	13
20	3/4	20	26.13	24	1/34	156	26.2	25.2	23	154	25.50	25.30	22	152	Rc 3/4	17	148	148	26	1.9	20	193	60	54×66	100	10	106	88	17.5	25	7	13
25	1	25	32.16	27	1/34	186	33.0	32.0	25	182	31.50	31.30	24	180	Rc 1	20	172	172	32	2.4	20	218	70	67×80	100	12	111	93	18.5	25	7	13
32	1 1/4	32	38.19	30	1/34	200	-	-	-	-	37.45	37.20	25	190	Rc 1 1/4	22	188	188	38	2.4	20	229	82	67×80	100	12	116	97	22.5	25	7	13
40	1 1/2	40	48.21	37	1/37	271	47.0	46.0	28	253	47.45	47.20	28	253	Rc 1 1/2	25	245	245	48	3	20	286	100	108×108	156	21	177	144	27.5	45	9	15
50	2	52	60.25	42	1/37	303	59.0	58.0	28	275	59.45	59.10	30	279	Rc 2	28	281	278	60	3	20	311	106	123×123	156	25	191	158	36	45	9	15

DIN Unit:mm

Nominal Size	d	Socket End				Threaded End				Spigot End				D	D ₁	D ₂	C (LIFT)	H	H ₁	H ₂	S	S ₁	S ₂							
		PVC, C-PVC		PP, PVDF		DIN 2999		L		PVC		PP, PVDF																		
mm	inch	DIN 8063	L	DIN 16962(PP)	L	d ₁	ℓ	PVC, C-PVC	PP, PVDF	DIN 3441	L	DIN 3442	PP	PVDF	L															
15	1/2	16	20	16	128	19.5	19.3	14.5	125	Rp 1/2	15	128	20	18.5	150	20	18.5	2.5	1.9	150	48	54×66	100	10	104	86	19.5	25	7	13
20	3/4	20	25	19	147	24.5	24.3	16	141	Rp 3/4	17	148	25	24	172	25	22	2.7	1.9	172	60	54×66	100	10	106	88	17.5	25	7	13
25	1	25	32	22	172	31.5	31.3	18	164	Rp 1	20	172	32	24.5	195	32	22.5	3.0	2.4	195	70	67×80	100	12	111	93	18.5	25	7	13
32	1 1/4	32	40	26	188	39.45	39.2	20.5	177	Rp 1 1/4	22	188	40	28	212	40	26	3.7	2.4	212	82	67×80	100	12	116	97	22.5	25	7	13
40	1 1/2	40	50	31	246	49.45	49.2	23.5	231	Rp 1 1/2	25	245	50	34	276	50	32	4.6	3.0	276	100	108×108	156	21	177	144	27.5	45	9	15
50	2	52	63	38	294	62.5	62.1	27.5	274	Rp 2	28	281	63	38.5	308	63	36	5.8	3.0	307	106	123×123	156	25	191	158	36	45	9	15

ANSI Unit:inch

Nominal Size	d	Socket End				Threaded End				D	D ₁	D ₂	C (LIFT)	H	H ₁	H ₂	S	S ₁	S ₂			
		PVC, C-PVC		PP, PVDF(IPS)		ANSI/ASME B1·20·1		L														
inch	mm	d ₁	d ₂	ℓ	L	d ₁	ℓ	L	d ₁	ℓ	PVC, C-PVC	PP, PVDF										
1/2	15	0.63	0.848	0.875	5.47	0.83	0.87	5.43	1/2-14NPT	0.59	5.04	5.04	1.89	2.13×2.60	3.94	0.39	4.09	3.39	0.77	0.98	0.28	0.51
3/4	20	0.79	1.058	1.046	6.18	1.03	1.00	6.09	3/4-14NPT	0.67	5.83	5.83	2.36	2.13×2.60	3.94	0.39	4.17	3.46	0.69	0.98	0.28	0.51
1	25	0.98	1.325	1.310	7.32	1.30	1.13	7.24	1-11 1/2NPT	0.79	6.77	6.77	2.76	2.64×3.15	3.94	0.47	4.37	3.66	0.73	0.98	0.28	0.51
1 1/4	32	1.26	1.670	1.655	7.95	1.65	1.25	7.80	1 1/4-11 1/2NPT	0.87	7.40	7.40	3.23	2.64×3.15	3.94	0.47	4.57	3.82	0.89	0.98	0.28	0.51
1 1/2	40	1.57	1.912	1.894	10.47	1.89	1.37	10.28	1 1/2-11 1/2NPT	0.98	9.65	9.65	3.94	4.25×4.25	6.14	0.83	6.97	5.67	1.08	1.77	0.35	0.59
2	50	2.05	2.387	2.369	11.54	2.36	1.50	11.54	2-11 1/2NPT	1.10	11.06	10.95	4.17	4.84×4.84	6.14	0.98	7.52	6.22	1.42	1.77	0.35	0.59

BALL VALVE TYPE 21 · 21α 15mm - 100mm(1/2inch - 4inch)

FEATURES

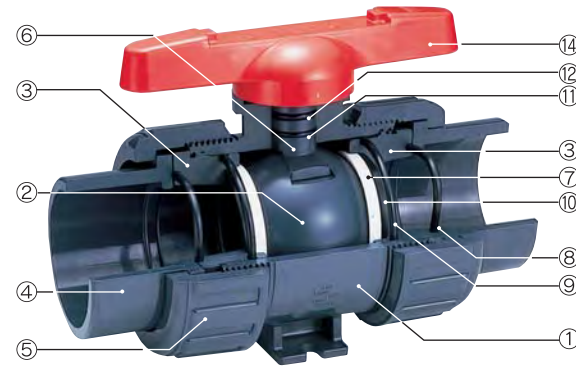
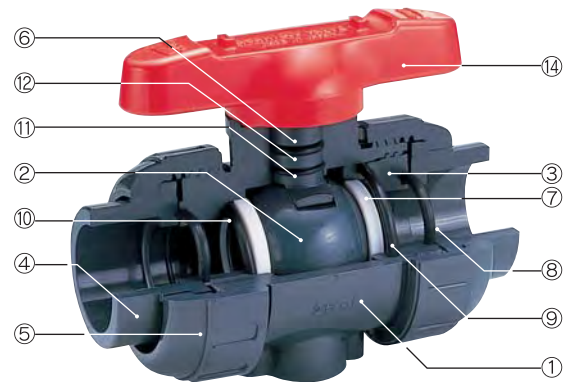
- Easy to Be Automated (No Modification Required)**
Featuring a new integral molded top flange. The BALL VALVE TYPE 21 can easily be converted from the manual to automatic without replacing the body.
- Simple Installation on Panel Piping**
New bottom stand with an insert hole allows the valve to be secured on bench or panel only by inserting a metallic insert.
- Double-O-ring**
The stem uses a double-O-ring, sealing arrangement improving durability sealing performance. The upper O-ring groove is deeper than the lower O-ring groove. Because of this design, the stem would break first at the upper O-ring groove, acting as a back up seal.
- Multi Functional Handle**
Removing the handle and placing the raised lugs into the carrier allow for easy disassembly of the valve.
*The handle has other colors. (blue, white, yellow)(Option)
- Locking Device (Option)**
The handle lock can be done by full-open (close)



MATERIAL AND WORKING TEMPERATURE

Body material	Working Temperature °C (°F)	Max. Working Pressure(at R.T.) MPa[kgf/cm ²][PSI]	End Connectors			
			Socket End	Threaded End	Flanged End	Spigot End
Unplasticized Polyvinyl Chloride(PVC)	0 - 50(30 - 120)	1.6{16.3}[230]	○	○	○	-
Chlorinated Polyvinyl Chloride(C-PVC)	0 - 90(30 - 195)	1.6{16.3}[230]	○	○	○	-
Polypropylene(PP)	-20 - 80(-5 - 175)	1.0{10.2}[150]	○	○	○	○
Polyvinylidene Fluoride(PVDF)	-20 - 100(-5 - 210)	1.6{16.3}[230]	○	○	○	○

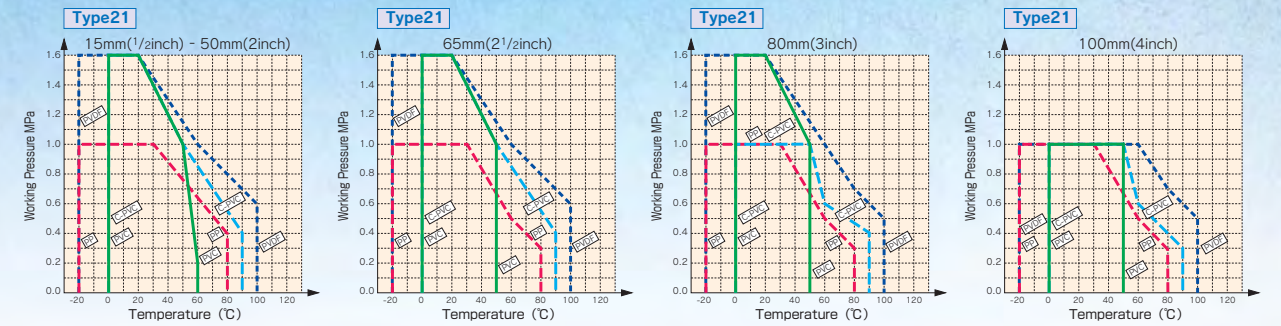
※ PP and PVDF ball valves of the Socket End type and PVDF ball valves of the Spigot End type are welded valves.
Notes : There is a dead space in a ball valve. Volatile liquids, such as a hydrogen peroxide(H₂O₂)and Sodium hypochlorite (NaClO) may vaporize in the dead space, thus causing an abnormal pressure increase in the valve.
(Important: Gas is compressible. Thus if pressure rises abnormally, the valve can burst ejecting dangerous fragments.)



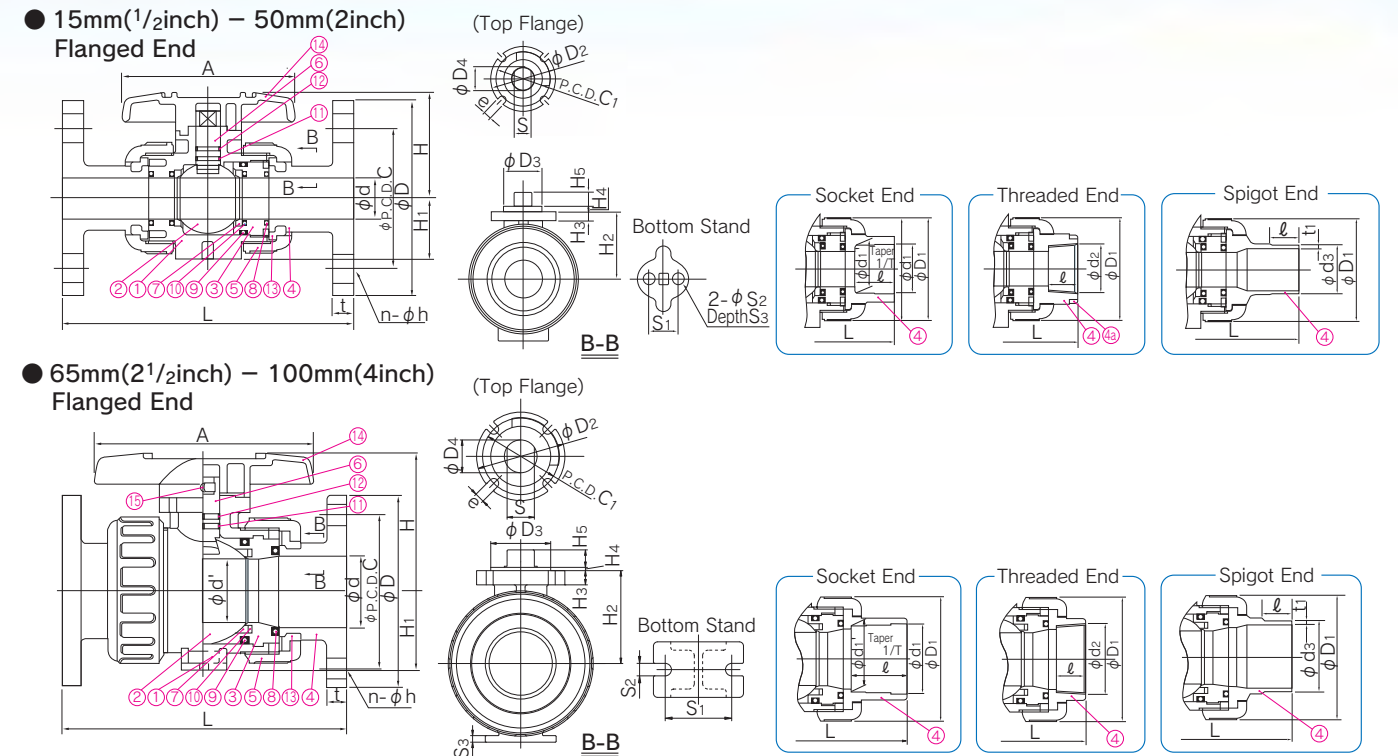
PARTS & MATERIALS

● 15mm(1/2inch) – 50mm(2inch)				● 65mm(2 1/2inch) – 100mm(4inch)			
No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC, C-PVC, PP, PVDF	①	BODY	1	PVC, C-PVC, PP, PVDF
②	BALL	1	PVC, C-PVC, PP, PVDF	②	BALL	1	PVC, C-PVC, PP, PVDF
③	CARRIER	1	PVC, C-PVC, PP, PVDF	③	CARRIER	2	PVC, C-PVC, PP, PVDF
④	END CONNECTOR	2	PVC, C-PVC, PP, PVDF	④	END CONNECTOR	2	PVC, C-PVC, PP, PVDF
⑤	UNION NUT	2	PVC, C-PVC, PP, PVDF	⑤	UNION NUT	2	PVC, C-PVC, PP, PVDF
⑥	STEM	1	PVC, C-PVC, PP, PVDF	⑥	STEM	1	PVC, C-PVC, PP, PVDF
⑦	SEAT	2	PTFE	⑦	SEAT	2	PTFE
⑧	O-RING(A)	2	EPDM, FKM, etc	⑧	O-RING(A)	2	EPDM, FKM, etc
⑨	O-RING(B)	1	EPDM, FKM, etc	⑨	O-RING(B)	2	EPDM, FKM, etc
⑩	O-RING(C)	2	EPDM, FKM, etc	⑩	CUSHION	2	EPDM, FKM, etc
⑪	O-RING(D)	1	EPDM, FKM, etc	⑪	O-RING(D)	1	EPDM, FKM, etc
⑫	O-RING(E)	1	EPDM, FKM, etc	⑫	O-RING(E)	1	EPDM, FKM, etc
⑬*	STOP RING	2	PVDF(used for flanged End)	⑬*	STOP RING	2	PVDF(used for flanged End)
⑭	HANDLE	1	ABS	⑭	HANDLE	1	ABS
				⑮	SCREW	1	STAINLESS STEEL(304)

WORKING PRESSURE VS. TEMPERATURE



DIMENSION



DIMENSIONS TABLE

JIS		Unit:mm																			
Nominal Size	d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e		
15 1/2	15	—	48	42	25	13.5	36	51.5	29	30	6	3	8	92	10.5	19	7.3	11	5.5		
20 3/4	20	—	60	42	25	15	36	59.5	35	36.5	6	3	10	100	11	19	7.3	11	5.5		
25 1	25	—	70	42	25	15	36	68	39	43.5	6	3	10	110	11	19	7.3	11	5.5		
32 1 1/4	32	—	82	48	30	19	42	80.5	47	52.5	8	3	10	121	15	30	9	15	5.5		
40 1 1/2	40	—	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5		
50 2	51	—	126	57	35	23	50	102.5	66	72.5	10	3	12	159	18	30	9	15	6.5		
65 2 1/2	65	58	133	81	55	30	70	126	72	85	13	3	16	200	24	48	9	6	9		
80 3	78	68.5	152	81	55	30	70	140	85	94	13	3	19	240	24	55	11	7	9		
100 4	100	90	210	116	70	40	102	178	110	126	16	3	23	300	34	65	11	8	11		

Nominal Size	Flanged End											Socket End						Threaded End										
	JIS 5K			JIS 10K			L					PVC, C-PVC			PP			PVDF			L							
mm inch	D	C	n	D	C	n	PVC C-PVC	PP	PVDF	t	d ₁	ℓ	1/T	L	d ₁	d ₁ '	ℓ	L	d ₁	d ₁ '	ℓ	L	d ₂	ℓ	PVC C-PVC	PP	PVDF	
15 1/2	80	60	4	12	95	70	4	15	143	143	12	22.11	20	1/34	108	21.2	20.2	20	108	Rc1/2	15	102	100	100				
20 3/4	85	65	4	12	100	75	4	15	172	172	14	26.13	24	1/34	128	26.2	25.2	23	126	Rc3/4	17	120	119	119				
25 1	95	75	4	12	125	90	4	19	187	187	14	32.16	27	1/34	145	33.0	32.0	25	141	Rc1	20	131	130	130				
32 1 1/4	115	90	4	15	135	100	4	19	190	190	16	38.19	30	1/34	162	—	—	—	—	—	Rc1 1/4	22	150	146	146			
40 1 1/2	120	95	4	15	140	105	4	19	212	212	16	48.21	37	1/37	189	47.0	46.0	28	171	Rc1 1/2	25	163	160	160				
50 2	130	105	4	15	155	120	4	19	234	234	16	60.25	42	1/37	220	59.0	58.0	28	192	Rc2	28	197	194	194				
65 2 1/2	155	130	4	15	175	140	4	19	261	257	18	76.60	61	1/48	273	75.0	73.0	35	219	Rc2 1/2	32	215	213	212				
80 3	180	145	4	19	185	150	8	19	306	305	18	89.60	64	1/49	316	88.0	86.0	35	257	Rc3	35	265	264	261				
100 4	200	165	8	19	210	175	8	19	374	374	18	114.70	84	1/56	419	113.0	111.0	45	341	Rc4	45	362	362	357				

DIN Unit:mm

Nominal Size	d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e
10 3/8	13	—	46	—	—	—	—	43.5	—	—	—	—	—	80	—	—	—	—	—
15 1/2	15	—	48	42	25	13.5	36	51.5	29	30	6	3	8	92	10.5	19	7.3	11	5.5
20 3/4	20	—	60	42	25	15	36	59.5	35	36.5	6	3	10	100	11	19	7.3	11	5.5
25 1	25	—	70	42	25	15	36	68	39	43.5	6	3	10	110	11	19	7.3	11	5.5
32 1 1/4	32	—	82	48	30	19	42	80.5	47	52.5	8	3	10	121	15	30	9	15	5.5
40 1 1/2	40	—	100	57	35	23	50	89	55	61	10	3	12	131	18	30	9	15	6.5
50 2	51	—	126	57	35	23	50	102.5	66	72.5	10	3	12	159	18	30	9	15	6.5
65 2 1/2	65	58	133	81	55	30	70	126	72	85	13	3	16	200	24	48	9	6	9
80 3	78	68.5	152	81	55	30	70	140	85	94	13	3	19	240	24	55	11	7	9
100 4	100	90	210	116	70	40	102	178	110	126	16	3	23	300	34	65	11	8	11

Nominal Size	Flanged End											Socket End						Threaded End						Spigot End						
	DIN PN10											PVC, C-PVC			PP, PVDF						PVC			PP, PVDF						
	D	C	n	h	PVC, C-PVC	PP	PVDF	t	d ₁	ℓ	L	d ₁	d ₁ '	ℓ	L	d ₂	ℓ	PVC, C-PVC	PP	PVDF	d ₃	d ₃ '	ℓ	d ₃	ℓ	t	PP	PVDF	PP	PVDF
10 3/8	90	60	4	14	120	119	119	12	16	14	99	15.5	15.4	13	96	96	Rp3/8	15	99	98	98	16	13	16	—	—	—	114	114	
15 1/2	95	65	4	14	130	130	130	12	20	16	102	19.5	19.3	14.5	99	99	Rp1/2	15	102	100	100	20	15	18.5	20	18.5	2.5	1.9	124	124
20 3/4	105	75	4	14	150	150	150	14	25	19	120	24.5	24.3	16	113	113	Rp3/4	17	120	119	119	25	20	24	25	22	2.7	1.9	144	144
25 1	115	85	4	14	160	160	160	14	32	22	131	31.5	31.3	18	123	123	Rp1	20	131	130	130	32	25	24.5	32	22.5	3.0	2.4	154	154
32 1 1/4	140	100	4	18	180	180	180	16	40	26	150	39.45	39.2	20.5	139	139	Rp1 1/4	22	150	146	146	40	31	28	40	26	3.7	2.4	174	174
40 1 1/2	150	110	4	18	200	200	200	16	50	31	163	49.45	49.2	23.5	149	149	Rp1 1/2	25	163	160	160	50	40	34	50	32	4.6	3.0	194	194
50 2	165	125	4	18	230	230	230	16	63	38	197	62.5	62.1	27.5	176	176	Rp2	28	197	194	194	63	51	38	63	36	5.8	3.0	224	224
65 2 1/2	185	145	4	18	290	288	287	18	75	44	233	74.25	73.95	31	205	204	Rp2 1/2	32	215	213	212	75	65	44	75	38	6.9	3.6	245	244
80 3	200	160	8	18	312	311	308	21	90	51	284	89.2	88.85	35.5	252	249	Rp3	35	265	264	261	90	80	51	90	38	8.2	4.3	296	293
100 4	220	180	8	18	352	352	347	18	110	61	351	109.05	108.65	41.5	312	307	Rp4	45	340	340	335	110	93.6	46	110	44.5	10.0	5.3	355	350

ANSI Unit:inch

Nominal Size	d	d'	D ₁	D ₂	D ₃	D ₄	C ₁	H	H ₁	H ₂	H ₃	H ₄	H ₅	A	S	S ₁	S ₂	S ₃	e
1/2 15	0.59	—	1.89	1.65	0.98	0.53	1.42	2.03	1.14	1.18	0.24	0.12	0.31	3.62	0.41	0.75	0.29	0.43	0.22
3/4 20	0.79	—	2.36	1.65	0.98	0.59	1.42	2.34	1.38	1.44	0.24	0.12	0.39	3.94	0.43	0.75	0.29	0.43	0.22
1 25	0.98	—	2.76	1.65	0.98	0.59	1.42	2.68	1.54	1.71	0.24	0.12	0.39	4.33	0.43	0.75	0.29	0.43	0.22
1 1/4 32	1.26	—	3.23	1.89	1.18	0.75	1.65	3.17	1.85	2.07	0.31	0.12	0.39	4.76	0.59	1.18	0.35	0.59	0.22
1 1/2 40	1.57	—	3.94	2.24	1.38	0.91	1.97	3.50	2.17	2.40	0.39	0.12	0.47	5.16	0.71	1.18	0.35	0.59	0.26
2 50	2.01	—	4.96	2.24	1.38	0.91	1.97	4.04	2.60	2.85	0.39	0.12	0.47	6.26	0.71	1.18	0.35	0.59	0.26
2 1/2 65	2.56	2.28	5.24	3.19	2.17	1.18	2.76	4.96	2.83	3.35	0.51	0.12	0.63	7.87	0.94	1.89	0.35	0.24	0.35
3 80	3.07	2.70	5.98	3.19	2.17	1.18	2.76	5.51	3.35	3.70	0.51	0.12	0.75	9.45	0.94	2.17	0.43	0.28	0.35
4 100	3.94	3.54	8.27	4.57	2.76	1.57	4.02	7.01	4.33	4.96	0.63	0.12	0.91	11.81	1.34	2.56	0.43	0.31	0.43

Nominal Size	Flanged End											Socket End (IPS)						Threaded End							
	ANSI CLASS 150				L			PVC, C-PVC				PP, PVDF				PVC			PP, PVDF						
	D	C	n	h	PVC, C-PVC	PP	PVDF	t	ASTM SCH40	ASTM SCH80	L	d ₁	ℓ	L	d ₁	d ₁ '	ℓ	L	d ₂	ℓ	PVC, C-PVC	PP	PVDF		
1/2 15	3.50	2.38	4	0.62	5.63	5.63	5.63	0.47	—	—	—	—	0.848	0.836	0.875	4.45	0.83	0.87	4.45	4.45	1/2-14 NPT	0.59	4.02	4.02	4.02
3/4 20	3.88	2.75	4	0.62	6.77	6.77	6.77	0.55	—	—	—	—	1.058	1.046	1.000	5.08	1.03	1.00	5.08	5.08	3/4-14 NPT	0.67	4.72	4.72	4.72
1 25	4.25	3.12	4	0.62	7.36	7.36	7.36	0.55	—	—	—	—	1.325	1.310	1.125	5.75	1.30	1.13	5.75	5.75	1-1 1/2 NPT	0.79	5.16	5.16	5.16
1 1/4 32	4.62	3.50	4	0.62	7.48	7.48	7.48	0.63	—	—	—	—	1.670	1.655	1.250	6.46	1.65	1.25	6.46	6.46	1 1/4-1 1/2 NPT	0.87	5.91	5.91	5.91
1 1/2 40	5.00	3.88	4	0.62	8.35	8.35	8.35	0.63	—	—	—	—	1.912	1.894	1.375	7.24	1.89	1.37	7.24	7.24	1 1/2-1 1/2 NPT	0.98	6.42	6.42	6.42
2 50	6.00	4.75	4	0.75	9.21	9.21	9.21	0.63	—	—	—	—	2.387	2.369	1.500	8.23	2.36	1.50	8.23	8.23	2-1 1/2 NPT	1.10	7.76	7.76	7.76
2 1/2 65	7.00	5.50	4	0.75	10.20	10.12	10.08	0.71	—	—	—	—	2.889	2.868	1.750	9.45	2.880	1.752	9.37	9.33	1/2-8 NPT	1.26	8.46	8.39	8.35
3 80	7.50	6.00	4	0.75	12.05	12.01	11.89	0.71	—	—	—	—	3.516	3.492	1.875	11.14	3.480	1.874	11.10	10.98	3-8 NPT	1.38	10.43	10.39	10.28
4 100	9.00	7.50	8	0.75	14.72	14.72	14.53	0.71	4.518	4.491	2.000	13.86	—	—	—	—	—	—	—	—	4-8 NPT	1.77	14.25	14.25	14.06

Note : Pay attention that the following chemicals such as Hydrogen Peroxide (H₂O₂) and Sodium hypochlorite (NaClO) are adapt to be occurred the abnormal pressure rising due to their vaporization nature.

Panel Mounting

- Diaphragm Valve Type14
- Ball Valve Type21

15mm - 50mm(1/2inch - 2inch)
15mm - 100mm(1/2inch - 4inch)

Proceduce

Refer to the User's Manual for Metal Insert (Ensat) by the Maker.

Bottom Stand Dimension

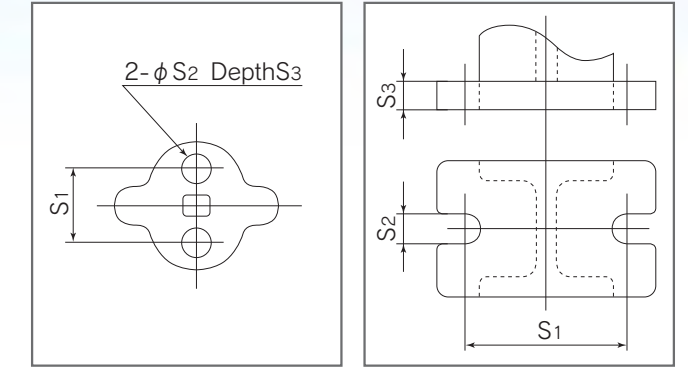
Diaphragm Valve Type14

Unit:mm(inch)

Nominal Size mm (inch)	S1	S2	S3
15mm - 32mm (1/2 - 1 1/4)	25 (0.98)	7 (0.28)	13 (0.51)
40mm, 50mm (1 1/2, 2)	45 (1.8)	9 (0.35)	15 (0.59)

Diaphragm Valve Type14: 15mm - 50mm (1/2inch - 2inch)
Ball Valve Type21: 15mm - 50mm (1/2inch - 2inch)

Ball Valve Type21: 65mm - 100mm (2 1/2inch - 4inch)



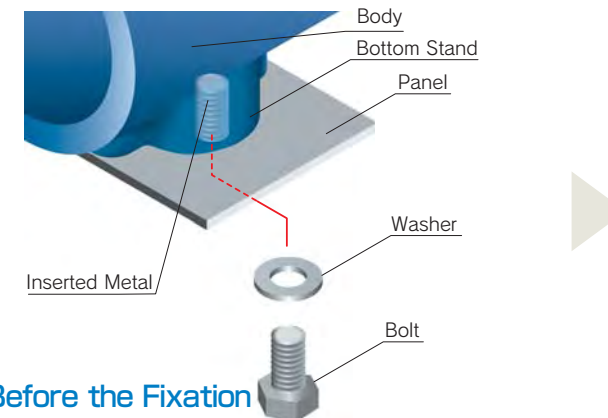
Ball Valve Type21

Unit:mm(inch)

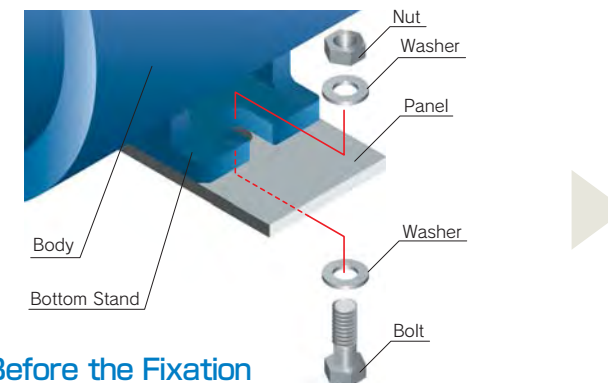
Nominal Size mm (inch)	S1	S2	S3
15mm - 25mm (1/2 - 1)	19 (0.75)	7.3 (0.29)	11 (0.43)
32mm - 50mm (1 1/4 - 2)	30 (1.18)	9 (0.35)	15 (0.59)
65mm (2 1/2)	48 (1.89)	9 (0.35)	6 (0.24)
80mm (3)	55 (2.17)	11 (0.43)	7 (0.28)
100mm (4)	65 (2.56)	11 (0.43)	8 (0.31)

Fixation of Bottom Stand with Panel

Nominal size 15 - 50mm(1/2inch - 2inch)



Nominal size 65 - 100mm(2 1/2inch - 4inch)



LAB COCK



FEATURES

The LAB COCK is a compact, light weight plastic valve which is highly corrosion-resistant, in durable.

NSF Product

NSF("NSF/ANSI STANDARD 61" Drinking Water System Components-Health Effects)Product.

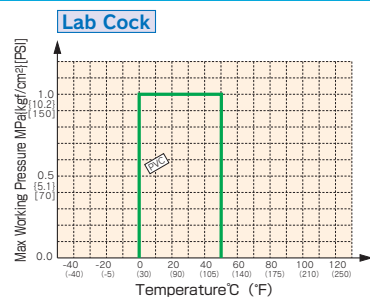
:LAB COCK(Material:PVC+EPDM)

*Certified products bear an NSF Certification Mark.

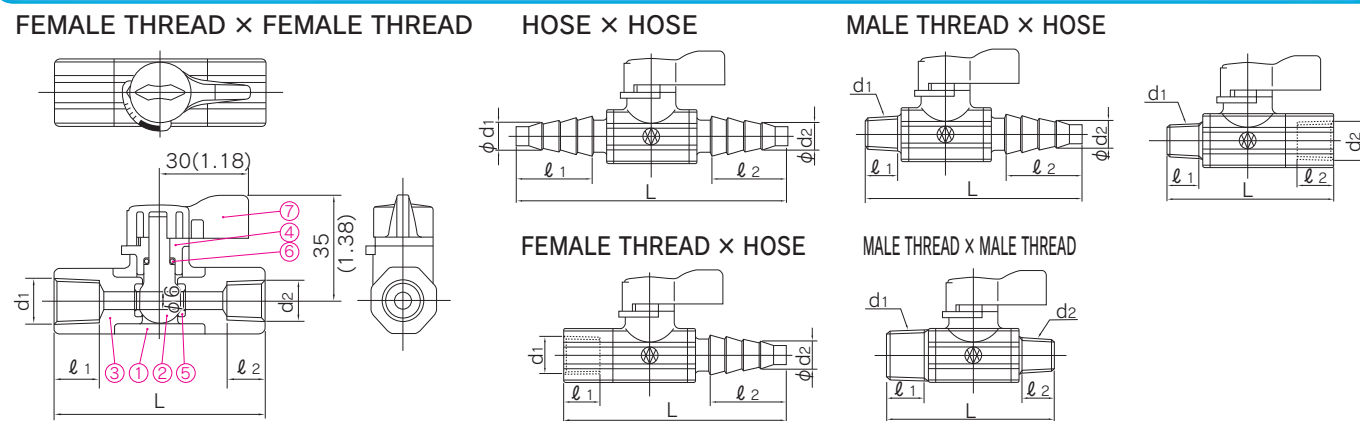
MATERIAL AND WORKING TEMPERATURE

Body material	Unplasticized Polyvinyl Chloride(PVC)
Working Temperature	0°C - 50°C (30° F - 120° F)
Max.Working Pressure	1.0MPa{10.2kgf/cm ² }[150PSI]
End Connectors	Hose, Male thread, Female thread
Nominal Size	●Hose: 12 to 15mm(standard hose inner diameter) ●Male thread: 1/4, 1/2 ●Female thread: 1/4, 3/8

WORKING PRESSURE VS. TEMPERATURE



DIMENSION



PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC
②	BALL & STEM	1	PVC
③	END CONNECTOR	2	PVC
④	GLAND	1	PVC
⑤	SEAT	2	EPDM, PTFE, others
⑥	O-RING	1	EPDM, others
⑦	HANDLE	1	ABS

DIMENSIONS TABLE

JIS											Unit:mm
	d ₁	d ₂	l ₁	l ₂	L		d ₁	d ₂	l ₁	l ₂	L
FEMALE THREAD × FEMALE THREAD	Rc 1/4	Rc 1/4	15	15	71	MALE THREAD × HOSE	R 1/4	10	13	30.5	88.5
	Rc 3/8	Rc 1/4	15	15	71		R 1/2	10	15	30.5	91
	Rc 3/8	Rc 3/8	15	15	71		R 1/4	R 1/4	13	13	66
HOSE × HOSE	10	10	30.5	30.5	111	MALE THREAD × MALE THREAD	R 1/2	R 1/4	15	13	68.5
FEMALE THREAD × HOSE	Rc 1/4	10	15	30.5	91		R 1/2	R 1/2	15	15	71
	Rc 3/8	10	15	30.5	91	R 1/4	Rc 1/4	13	15	68.5	
		Rc 3/8	10	15	30.5	91	R 1/4	Rc 3/8	13	15	68.5
							R 1/2	Rc 1/4	15	15	71
							R 1/2	Rc 3/8	15	15	71

DIN

DIN											Unit:mm
	d ₁	d ₂	l ₁	l ₂	L		d ₁	d ₂	l ₁	l ₂	L
① FEMALE THREAD × FEMALE THREAD	Rp 1/4	Rp 1/4	15	15	71	④ MALE THREAD × HOSE	R 1/4	10	13	30.5	88.5
	Rp 3/8	Rp 1/4	15	15	71		R 1/2	10	15	30.5	91
	Rp 3/8	Rp 3/8	15	15	71		R 1/4	R 1/4	13	13	66
② HOSE × HOSE	10	10	30.5	30.5	111	⑤ MALE THREAD × MALE THREAD	R 1/2	R 1/4	15	13	68.5
③ FEMALE THREAD × HOSE	Rp 1/4	10	15	30.5	91		R 1/2	R 1/2	15	15	71
	Rp 3/8	10	15	30.5	91	R 1/4	Rp 1/4	13	15	68.5	
		Rp 3/8	10	15	30.5	91	R 1/4	Rp 3/8	13	15	68.5
						⑥ MALE THREAD × FEMALE THREAD	R 1/2	Rp 1/4	15	15	71
							R 1/2	Rp 3/8	15	15	71

ANSI

ANSI											Unit:inch
	d ₁	d ₂	l ₁	l ₂	L		d ₁	d ₂	l ₁	l ₂	L
① FEMALE THREAD × FEMALE THREAD	1/4-18NPT	1/4-18NPT	0.51	0.51	2.80	④ MALE THREAD × HOSE	1/4-18NPT	0.39	0.51	1.20	3.48
	3/8-18NPT	1/4-18NPT	0.59	0.51	2.80		1/2-14NPT	0.39	0.59	1.20	3.58
	3/8-18NPT	3/8-18NPT	0.59	0.59	2.80		1/4-18NPT	1/4-18NPT	0.51	0.51	2.60
② HOSE × HOSE	0.39	0.39	1.20	1.20	4.37	⑤ MALE THREAD × MALE THREAD	1/2-14NPT	1/4-18NPT	0.59	0.51	2.70
	③ FEMALE THREAD × HOSE	1/4-18NPT	0.39	0.51	1.20		3.58	1/2-14NPT	1/2-14NPT	0.59	0.59
3/8-18NPT		0.39	0.59	1.20	3.58	⑥ MALE THREAD × FEMALE THREAD	1/4-18NPT	1/4-18NPT	0.51	0.51	2.70
		1/4-18NPT	0.39	0.59	1.20		3.58	1/2-14NPT	3/8-18NPT	0.59	0.51
	3/8-18NPT	0.39	0.59	1.20	3.58		1/2-14NPT	3/8-18NPT	0.59	0.59	2.80
						⑦ MALE THREAD × ELBOW	1/2-14NPT	0.63	0.59	1.26	3.66

LAB COCK 1/2inch MALE THREAD × ELBOW16mm

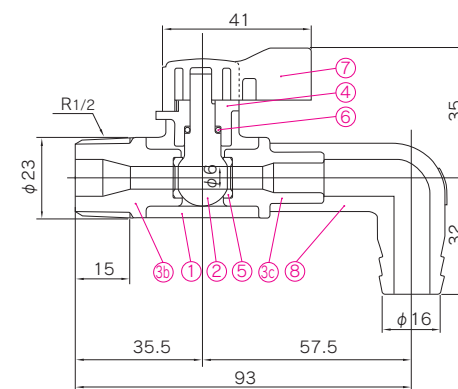


MATERIAL AND WORKING TEMPERATURE

Body material	Unplasticized Polyvinyl Chloride(PVC)
Working Temperature	0°C - 50°C (30° F - 120° F)
Max.Working Pressure	1.0MPa{10.2kgf/cm ² }[150PSI]
End Connectors	R1/2inch Male thread × Elbow 16mm

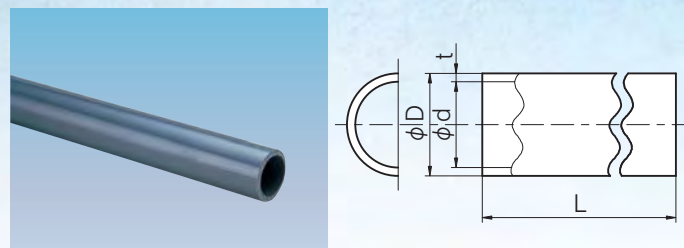
PARTS & MATERIALS

No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC
②	BALL & STEM	1	PVC
ⓐ	END CONNECTOR	1	PVC
ⓑ	END CONNECTOR	1	PVC
④	GLAND	1	PVC
⑤	SEAT	2	PTFE
⑥	O-RING	1	EPDM, Others
⑦	HANDLE	1	ABS
⑧	ELBOW	1	PVC



HP-PVC PIPE & FITTINGS

HP-PVC Pipe <CLASS VP:JIS K6741>



Nominal Size (mm)	HP-PVC Pipe <CLASS VP:JIS K6741> Unit:mm						
	Outer diameter			Wall Thickness		Approximate I.D. (for reference)	Length
	Basic Dimension (mm)	Maximum and Minimum tolerances	Average tolerances	Minimum	Tolerance		
13	18	±0.2	±0.2	2.2	+0.6	13	4,000±10
16	22	±0.2	±0.2	2.7	+0.6	16	4,000±10
20	26	±0.2	±0.2	2.7	+0.6	20	4,000±10
25	32	±0.2	±0.2	3.1	+0.8	25	4,000±10
30	38	±0.3	±0.2	3.1	+0.8	31	4,000±10
40	48	±0.3	±0.2	3.0	+0.8	40	4,000±10
50	60	±0.4	±0.2	4.1	+0.8	51	4,000±10
65	76	±0.5	±0.3	4.1	+0.8	67	4,000±10
75	89	±0.5	±0.3	5.5	+0.8	77	4,000±10
100	114	±0.6	±0.4	6.6	+1.0	100	4,000±10
125	140	±0.8	±0.5	7.0	+1.0	125	4,000±10
150	165	±1.0	±0.5	8.9	+1.4	146	4,000±10
200	216	±1.3	±0.7	10.3	+1.4	194	4,000±10
250	267	±1.6	±0.9	12.7	+1.8	240	4,000±10
300	318	±1.9	±1.0	15.1	±2.2	286	4,000±10

Working Pressure with Temperature

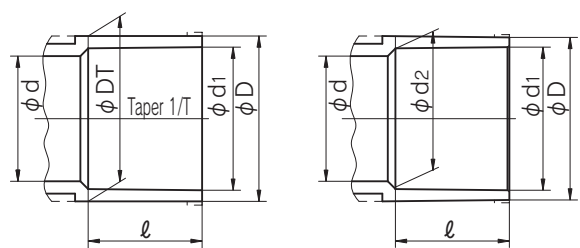
Nom. Size	Temp.	MPa (kgf/cm ²)			
		20°C	30°C	40°C	50°C
13mm - 300mm		1.0{10.2}	0.9{9.2}	0.7{7.1}	0.3{3.1}

Note: This data is applicable for ultrapure water.

(Note)
 1. The tolerances of lengths are ± 10mm.
 2. The maximum and minimum tolerances on outside diameters are the tolerances on O.D. measurements taken at randomly selected spots.
 3. The average tolerances on outside diameters are the tolerances on the arithmetical mean of O.D. measurements taken at randomly selected spots in two directions at a right angle to each other.

Dimensions Common All of AV TS Socket. JIS K6743

▼13mm - 150mm ▼200mm - 300mm



Working Pressure with Temperature

Nom. Size	Temp.	MPa (kgf/cm ²)			
		20°C	30°C	40°C	50°C
13mm - 150mm		1.0{10.2}	0.9{9.2}	0.7{7.1}	0.3{3.1}
200mm		0.75{7.7}	0.6{6.1}	0.5{5.1}	0.25{2.6}
250mm		0.6{6.1}	0.5{5.1}	0.4{4.1}	0.2{2.0}
300mm Elbow, Reducing Socket, Socket		0.6{6.1}	0.5{5.1}	0.4{4.1}	0.2{2.1}
300mm Other Fitting		0.4{4.1}	0.4{4.1}	0.3{3.1}	0.1{1.1}

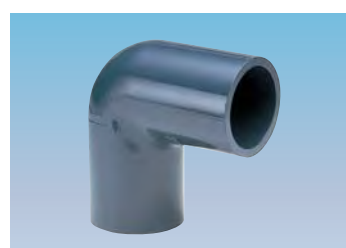
Note: This data is applicable for ultrapure water.

Nominal Size (mm)	Dimensions Common All of AV TS Socket. JIS K6743 Unit:mm										
	d ₁	Tolerance on d ₁	d ₂	ℓ	1/T	D	DT	Tolerance on D&DT	d (minimum value)	Pipe O.D.	
13	18.40	±0.20	-	26	1/30	24	24.0	-0.6	13	18	
16	22.40	±0.20	-	30	1/34	29	29.0	-0.7	16	22	
20	26.45	±0.20	-	35	1/34	33	33.0	-0.8	20	26	
25	32.55	±0.25	-	40	1/34	40	40.0	-1.0	25	32	
30	38.60	±0.25	-	44	1/34	46	46.0	-1.0	31	38	
40	48.70	±0.30	-	55	1/37	57	57.0	-1.2	40	48	
50	60.80	±0.30	-	63	1/37	70	70.0	-1.5	51	60	
※ 65	76.60	±0.30	-	61	1/48	87	88.5	-1.5	67	76	
75	89.60	±0.30	-	64	1/49	102	104.5	-1.5	77	89	
100	114.70	±0.30	-	84	1/56	130	133.5	-1.8	100	114	
※ 125	140.85	±0.35	-	104	1/58	157	161.0	-1.8	125	140	
150	166.00	±0.40	-	132	1/63	186	190.0	-2.0	146	165	
※ 200	217.00	-	214.10	145	-	240	-	-	194	216	
※ 250	268.20	-	265.00	155	-	295	-	-	247	267	
※ 300	319.6	-	315.50	175	-	347	-	-	298	318	

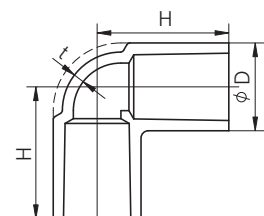
(Note)
 1. The tolerances on ℓ are +4/-0.5mm.
 2. The Nominal Size marked with ※ conform to the AV standard and the JPPFA standard.

Fittings in size 200, 250mm are available on request by FRP reinforcement.
 Max working pressure
 200mm : 1.0MPa{10.2kgf/cm²} at 20°C
 250mm : 1.0MPa{10.2kgf/cm²} at 20°C

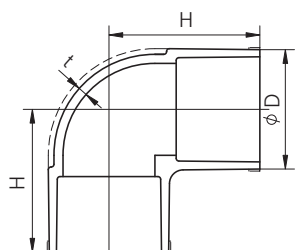
Elbow(L)



▼13mm - 50mm



▼65mm - 300mm

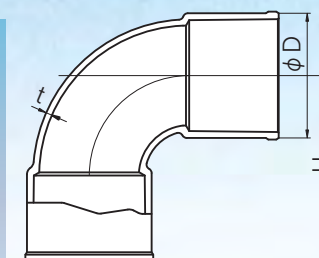


Nominal Size (mm)	Elbow(L) Unit:mm		
	D	t	H
13	24	3.0	36
16	29	3.5	43
20	33	3.5	50
25	40	4.0	58
30	46	4.0	65
40	57	4.5	82
50	70	5.0	96
※ 65	87	6.6	110
※ 75	102	8.0	120
※ 100	130	10.0	153
※ 125	157	11.0	188
※ 150	186	13.0	230
□ 200	240	15	265
□ 250	295	16	310
300	347	18	350

(Note)
 1. The tolerances on H are +5/-1mm.
 2. The Nominal Size marked with ※ conform to the JPPFA standard.
 3. The Nominal Size marked with □ conform to the AV standard.

HP-PVC PIPE & FITTINGS

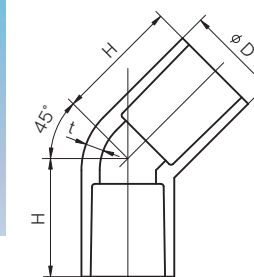
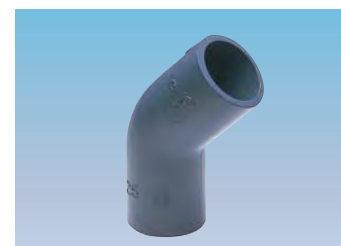
90° AV Bend



Nominal Size(mm)	90° AV Bend Unit:mm		
	D	t	H
□ 200	240	15	341
□ 250	293	16	402
300	337	10	395

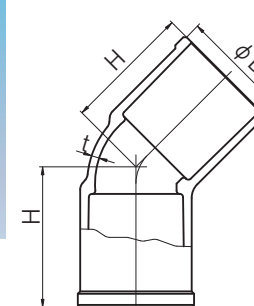
(Note)
 1. The Nominal Size marked with □ conform to the AV standard.

45° Elbow(45L)



Nominal Size(mm)	45° Elbow(45L) Unit:mm		
	D	t	H
20	33	3.5	44
25	40	4.0	51

45° AV Bend

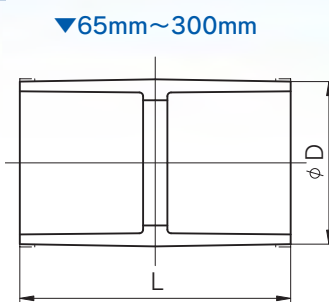
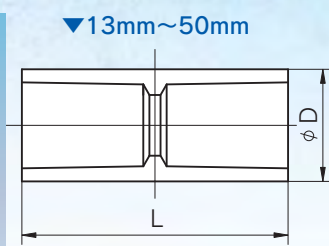
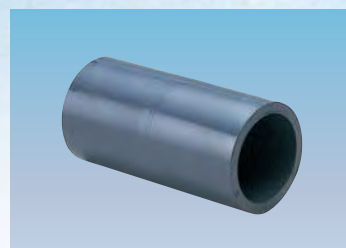


Nominal Size(mm)	45° AV Bend Unit:mm		
	D	t	H
40	57	4.5	69
50	70	5.0	80
65	87	6.0	81
□ 75	101	6.6	97
□ 100	129	7.3	122
□ 125	156	7.7	149
□ 150	185	10.0	184
□ 200	240	15.0	193
□ 250	293	16.0	213
300	337	10.0	225

(Note)
 1. The Nominal Size marked with □ conform to the AV standard.

HP-PVC FITTINGS

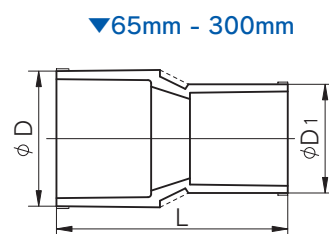
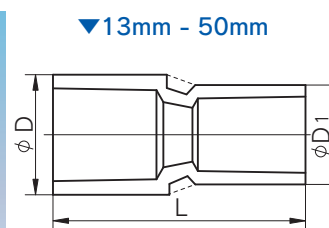
Socket(S)



●Socket(S)			Unit:mm
Nominal Size (mm)	D	L	
13	24	57	
16	29	67	
20	33	77	
25	40	87	
30	46	95	
40	57	117	
50	70	133	
※ 65	87	145	
75	102	155	
100	130	200	
※ 125	157	240	
150	186	300	
□ 200	238	305	
□ 250	295	352	
300	336	360	

(Note)
 1.The tolerances on L are ±4mm.
 2.The Nominal Size marked with ※ conform to the JPPFA standard.
 3.The Nominal Size marked with □ conform to the AV standard.

Reducing Socket(RS)

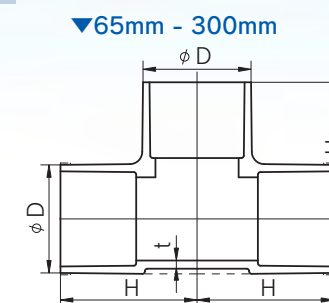
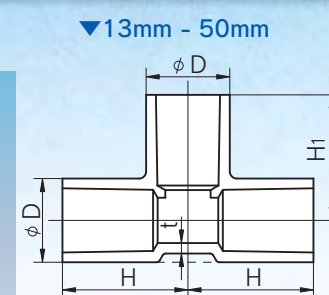


●Reducing Socket(RS)				Unit:mm
Nominal Size (mm)	D	D1	L	
20×13	33	24	68	
20×16	33	29	71	
25×13	40	24	86	
25×16	40	29	85	
25×20	40	33	84	
○ 30×13	48.2	28.2	73.2	
○ 30×20	48.2	36.2	83	
30×25	46	40	93	
※ 40×20	57	33	113	
40×25	57	40	114	
40×30	57	46	114	
※ 50×20	70	33	116	
※ 50×25	70	40	140	
50×40	70	57	136	
※ 65×50	87	70	149	
75×50	102	70	165	
※ 75×65	102	87	159	
100×75	130	102	190	
※ 125×100	157	130	229	
※ 150×125	186	157	272	
□ 200×150	240	188	356	
□ 250×200	293	240	380	
300×250	347	295	405	

(Note)
 1.The tolerances on L are ±4.0mm.
 2.The Nominal Size marked with ※ conform to the JPPFA standard.
 3.The Nominal Size marked with □ conform to the AV standard.
 4.○ There sizes are not in accordance with JISK 6743 and therefore welding arrangement is not available.

HP-PVC FITTINGS

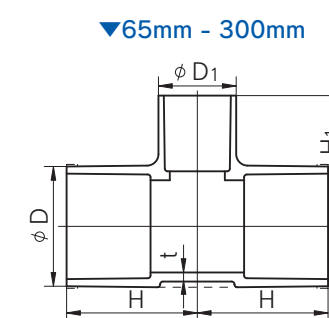
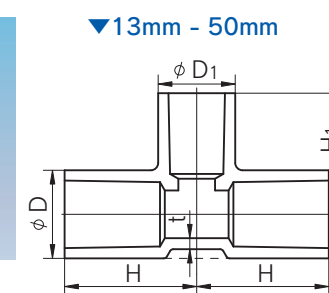
Tee(T)



●Tee(T)					Unit:mm
Nominal Size (mm)	D	t	H	H ₁	
13	24	3.0	36	36	
16	29	3.5	43	43	
20	33	3.5	50	50	
25	40	4.0	58	58	
30	46	4.0	65	65	
40	57	4.5	82	82	
50	70	5.0	96	96	
※ 65	87	6.6	110	110	
75	102	8.0	120	120	
100	130	10.0	152	152	
※ 125	157	11.0	187	187	
150	186	13.0	230	230	
□ 200	240	15	266	266	
□ 250	295	16	331	331	
300	337	10	340	340	

(Note)
 1.The tolerances on H are +5/-1mm.
 2.The Nominal Size marked with ※ conform to the JPPFA standard.
 3.The Nominal Size marked with □ conform to the AV standard.

Reducing Tee(RT)

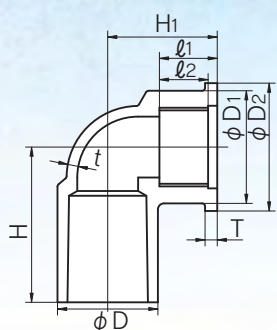


●Reducing Tee(RT)						Unit:mm
Nominal Size (mm)	D	t	H	D ₁	H ₁	
16×13	29	3.5	41	24	38	
20×13	33	3.5	46	24	40	
20×16	33	3.5	48	29	45	
25×13	40	4.0	51	24	43	
25×16	40	4.0	53	29	48	
25×20	40	4.0	55	33	53	
○30×13	48.2	6.5	54.7	28.2	44	
30×16	46	4.0	57	29	51	
30×20	46	4.0	59	33	56	
30×25	46	4.0	62	40	61	
40×13	57	4.5	66	24	52	
○40×16	58.4	5.2	62.4	30.9	52.5	
40×20	57	4.5	70	33	62	
40×25	57	4.5	73	40	67	
40×30	57	4.5	76	46	71	
50×13	70	5.0	74	24	58	
50×16	70	5.0	76	29	63	
50×20	70	5.0	78	33	68	
50×25	70	5.0	81	40	73	
50×30	70	5.0	84	46	77	
50×40	70	5.0	90	57	88	
※ 65×40	87	6.6	100	57	95	
※ 65×50	87	6.6	101	70	104	
75×25	102	8.0	93	40	88	
75×40	102	8.0	100	57	102	
75×50	102	8.0	105	70	110	
100×50	130	10.0	125	75	122	
100×75	130	10.0	140	102	132	
※ 125×75	157	11.0	160	102	147	
※ 125×100	157	11.0	173	130	167	
150×75	186	13.0	195	102	158	
150×100	186	13.0	208	130	182	
※ 150×125	186	13.0	217	157	201	
□ 200×75	240	15	201	102	180	
□ 200×100	240	15	215	130	200	
□ 200×150	240	15	238	188	253	
□ 250×75	295	16	226	108	210	
□ 250×100	295	16	246	136	225	
□ 250×200	295	16	304	245	310	
□ 300×75	343	17	361	102	236	

(Note)
 1.The tolerances on H are +5/-1mm.
 2.The Nominal Size marked with ※ conform to the JPPFA standard.
 3.The Nominal Size marked with □ conform to the AV standard.
 4.○ There sizes are not in accordance with JISK 6743 and therefore welding arrangement is not available.

HP-PVC FITTINGS

Faucet Elbow (FL)

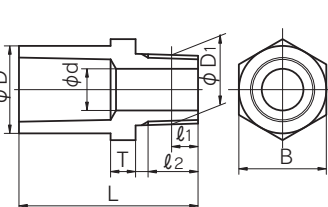


●Faucet Elbow (FL) Unit:mm										
Nominal Size (mm)	D	t	D ₁	D ₂	ℓ ₁	ℓ ₂	T	H	H ₁	Nominal size of female threads
□ 13	24	3.0	30	34	17	14	4	38	29	Rp1/2
□ 16	29	3.5	30	34	17	14	4	43	32	Rp1/2
□ 20	33	3.5	37	42	19	16	4	51	36	Rp3/4
□ 25	40	4.0	46	52	21	18	5	59	40	Rp1

- (Note)
 1.The threaded portions employ parallel female threads specified in JIS B 0203(Taper Pipe Threads).
 2.The tolerances on H are +5/-2mm.
 3.The tolerances on H₁ are +5/-2mm.
 4.The Nominal Size marked with □ conform to the AV standard.
 5.The tolerances on ℓ₂ are ±1mm.

Precautions in use
 ·when connecting threaded portions, use both sealing tape and gaskets jointly.
 ·Do not use HP-PVC Faucet Elbows to connect steel pipes and PVC pipes.
 ·Secure the elbows with fixtures.

Valve Socket (VS)

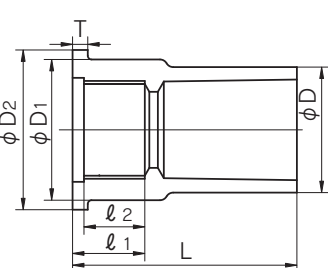
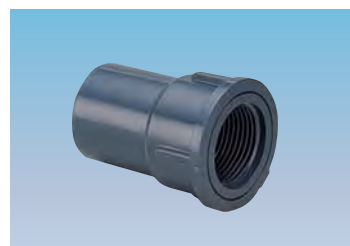


●Valve Socket (VS) Unit:mm										
Nominal Size (mm)	D	d	O.D. of basic form D ₁	Number of threads per inch	Location of basic diameter ℓ ₁	ℓ ₂ (Minimum)	T	L	B	
13×1/2	24	13	20.955	14	8.16	13.16	6	50	24	
16×1/2	29	13	20.955	14	8.20	15	6	54	29	
20×3/4	33	18	26.441	14	9.53	14.53	8	64	33	
25×1	40	23	33.249	11	10.39	16.79	8	71	40	
30×1 1/4	46	31	41.910	11	12.70	19.10	10	80	46	
40×1 1/2	57	37	47.803	11	12.70	19.10	10	92	57	
50×2	70	48	59.614	11	15.88	23.38	12	106	70	
□ 65×2 1/2	87	62	75.184	11	17.46	26	14	118	87	
□ 75×3	102	72	87.884	11	20.64	30	16	128	102	
□ 100×4	130	96	113.030	11	25.40	36	18	157	130	

- (Note)
 1.The threaded portions employ parallel female threads specified in JIS B 0203(Taper Pipe Threads).
 2.The tolerances on L are +5/-2mm.
 3.The Nominal Size marked with ※ conform to the JPPFA standard.
 4.The Nominal Size marked with □ conform to the AV standard.

Precautions in use
 ·Do not repeat screw-in and removal.
 ·when connecting threaded portions, use sealing tape.

Faucet Socket (FS)

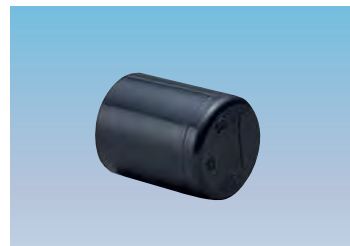


●Faucet Socket (FS) Unit:mm										
Nominal Size (mm)	D	D ₁	D ₂	ℓ ₁	ℓ ₂	T	L	Nominal size of female threads		
□ 13	24	30	34	17	14	4	47	Rp1/2		
□ 16	29	30	34	17	24	4	52	Rp1/2		
□ 20	33	37	42	19	16	4	59	Rp3/4		
□ 25	40	46	52	21	18	5	68	Rp1		

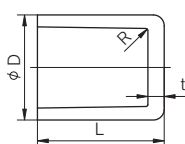
- (Note)
 1.The threaded portions employ parallel female threads specified in JIS B 0203(Taper Pipe Threads).
 2.The tolerances on L are +5/-1mm.
 3.The tolerances on ℓ₂ are ±1mm.
 4.The Nominal Size marked with □ conform to the AV standard.

Precautions in use
 ·when connecting threaded portions, use both sealing tape and gaskets jointly.
 ·Do not use HP-PVC Faucet Elbows to connect steel pipes and PVC pipes.
 ·Secure the elbows with fixtures.

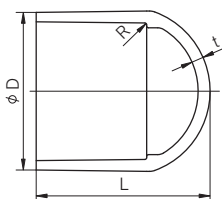
Cap (C)



▼13mm - 50mm



▼65mm - 100mm



●Cap (C) Unit:mm				
Nominal Size (mm)	D	t	L	
13	24	3.0	29.0	
16	29	3.5	33.5	
20	33	3.5	38.5	
25	40	4.0	44.0	
40	57	4.5	59.5	
50	70	5.0	68.0	
※ 65	87	6.6	96.0	
75	102	8.0	105.0	
100	130	10.0	138.0	

- (Note)
 1.The tolerances on L are +5/-20mm.
 2.The Nominal Size marked with ※ conform to the JPPFA standard.
 3.R is 1 to 5mm

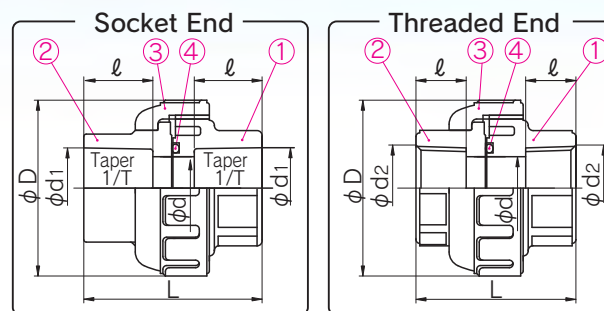
AV PREFAB JOINT <UNION>



SPECIFICATIONS

Material	Working temperature	Working pressure MPa{kgf/cm ² }	Nominal Size (mm)	Connection
Unplasticized Polyvinyl Chloride (U-PVC)	0°C~50°C	1.0{10.2}	13~100	Socket End
			13~50	Threaded End
Chlorinated Polyvinyl Chloride (C-PVC)	0°C~90°C	1.0{10.2}	13~100	Socket End

(Note)
 For pressure limits by working temperature ranges and materials, see "WORKING PRESSURE VS. TEMPERATURE" in this catalog.



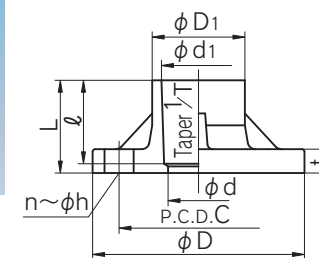
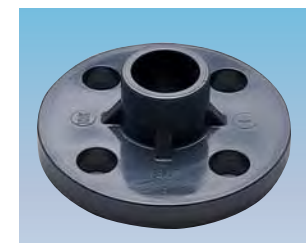
Unit:mm										
Nominal Size	mm	inch	d	Socket End U-PVC, C-PVC			Threaded End U-PVC			D
				d ₁	ℓ	1/T	L	d ₁	ℓ	
13	3/8	13	18.13	18	1/34	46.0	RC3/8	15	43	48
16	1/2	15	22.11	20	1/34	46.0	Rc1/2	15	43	48
20	3/4	20	26.13	24	1/34	61.0	RC3/4	17	57	60
25	1	25	32.16	27	1/34	70.0	Rc1	20	63	70
30	1 1/4	31	38.19	30	1/34	77.0	Rc1 1/4	22	71	82
40	1 1/2	40	48.21	37	1/37	95.0	Rc1 1/2	25	82	100
50	2	51	60.25	42	1/37	107.0	Rc2	28	96	106
65	2 1/2	65	76.60	61	1/48	164.0	—	—	—	133
75	3	77	89.60	64	1/49	189.5	—	—	—	152
100	4	100	114.70	84	1/56	245.0	—	—	—	210

PARTS & MATERIALS

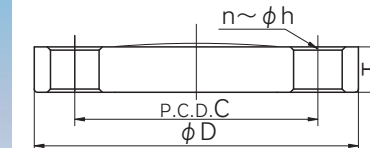
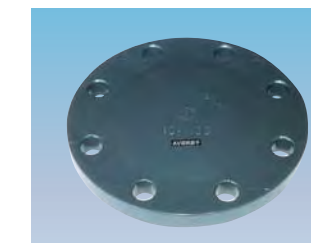
No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	U-PVC, C-PVC
②	END CONNECTOR	1	U-PVC, C-PVC
③	UNION NUT	1	U-PVC, C-PVC
④	O-RING	1	EPDM, FKM, others

AV FLANGE <HP-PVC>

AV TS FLANGE (JIS 10K 13mm - 300mm)



AV Q FLANGE (JIS 10K 15mm - 150mm)



※The figure described by broken (dashed) line shows shape of Q-flange applied for dead end service of piping.

Unit:mm													
Nominal Size	mm	inch	d	JIS 10K			d ₁	Taper 1/T	D ₁	t	T	ℓ ±0.5	L
				D	C	n							
13	3/8	15	90	65	4	15	18.40±0.20	1/30	25.5	14	—	26	30.0
15	1/2	18	95	70	4	15	22.40±0.20	1/34	31.0	14	12	30	35.0
20	3/4	22	100	75	4	15	26.45±0.20	1/34	35.0	15	14	35	40.0
25	1	25	125	90	4	19	32.55±0.25	1/34	42.5	15	14	40	46.0
32	1 1/4	30	135	100	4	19	38.60±0.25	1/34	48.5	16	16	44	50.5
40	1 1/2	41	140	105	4	19	48.70±0.30	1/37	60.5	16	16	55	61.5
50	2	52	155	120	4	19	60.80±0.30	1/37	73.0	20	16	63	71.0
65	2 1/2	67	175	140	4	19	76.60±0.30	1/48	90.0	22	18	61	70.0
80(75)	3	78	185	150	8	19	89.60±0.30	1/49	105.0	22	18	64	73.0
100	4	100	210	175	8	19	114.70±0.30	1/56	131.0	22	18	84	93.0
125	5	125	250	210	8	23	140.85±0.35	1/58	158.0	24	20	104	114.0
150	6	146	280	240	8	23	166.00±0.40	1/63	185.0	26	22	132	142.0
200	8	196	330	290	12	23	217.00±1.00	1/50	238.0	28	—	145	156.0
250	10	247	400	355	12	25	268.00±1.50	1/55	300.0	30	—	155	167.0
300	12	298	445	400	16	25	318.70±1.80	1/55	341.0	30	—	155	167.0

- (Note)
 1.For details of AV Flanges, refer to the individual catalogs of appropriate AV Flanges.
 2.Products compliant with the clean water standard or ANSI standard are also available.

MULTI-JOINT



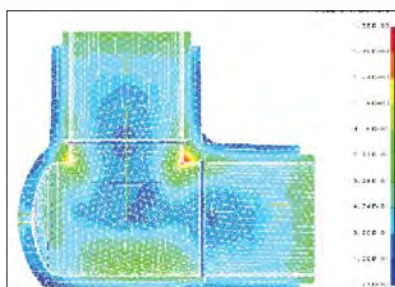
FEATURES

High Safety Factor By A Molding
 (Multi-Joint Type "L" with Female connection 40mm - 150mm) They are produced by "Injection molding" which provides customers with complete reliability and durability.

Specifications
 Types : Type "L", Type "T"
 Sizes : 20mm - 200mm (JIS standard)
 Connection: Both types are classified by female and socket connection respectively, which enable users to have multiple selections in connection with sensors, sampling valves, etc.

Designed By CAE Analysis

Multi-Joint is designed in a way to optimize many factors relating to piping stress by "CAE Hydromechanical Analysis".

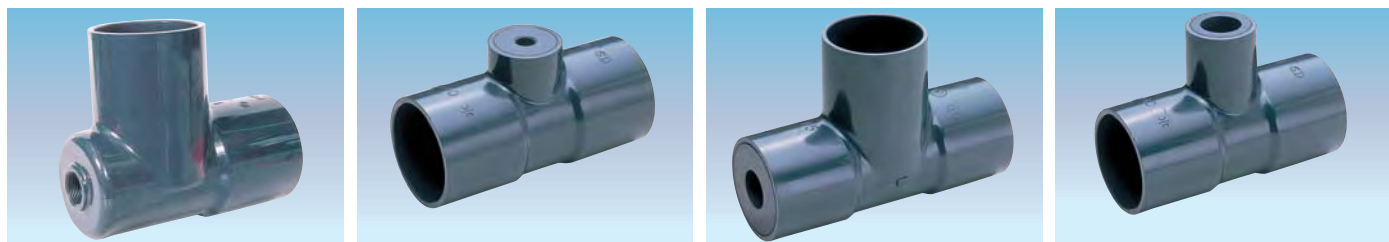


High Performance

Such unique design as above gives customers not only high pressure resistance in short term but also resistance against periodic pressure change in long term. And the Multi-Joint made by machining are all passed through tough tests in our factory and then delivered to our customers.

Chemical Resistance & High Purity

Since the material is "High Purity PVC", the "Joint" has excellent chemical resistance and extremely low leaching performance. And almost all the processes are controlled in our clean room to keep their performance as perfect as possible.



THREADED Type L

Nominal Size (mm)	Rc				NPT			
	1/4	3/8	1/2	3/4	1/4	3/8	1/2	3/4
20 x 20	○	○	—	—	○	○	—	—
25 x 25	○	○	—	—	○	○	—	—
30 x 30	○	○	—	—	○	○	—	—
40 x 40	○	○	○	○	○	○	○	○
50 x 50	○	○	○	○	○	○	○	○
65 x 65	○	○	○	○	○	○	○	○
75 x 75	○	○	○	○	○	○	○	○
100 x 100	○	○	○	○	○	○	○	○
125 x 125	○	○	○	○	○	○	○	○
150 x 150	○	○	○	○	○	○	○	○
200 x 200	○	○	○	○	○	○	○	○

THREADED Type T

Nominal Size (mm)	Rc				NPT			
	1/4	3/8	1/2	3/4	1/4	3/8	1/2	3/4
20 x 20	○	○	—	—	○	○	—	—
25 x 25	○	○	—	—	○	○	—	—
30 x 30	○	○	—	—	○	○	—	—
40 x 40	○	○	○	○	○	○	○	○
50 x 40	○	○	○	○	○	○	○	○
65 x 40	○	○	○	○	○	○	○	○
75 x 40	○	○	○	○	○	○	○	○
100 x 75	○	○	○	○	○	○	○	○
125 x 75	○	○	○	○	○	○	○	○
150 x 75	○	○	○	○	○	○	○	○
200 x 75	○	○	○	○	○	○	○	○

SPECIFICATIONS

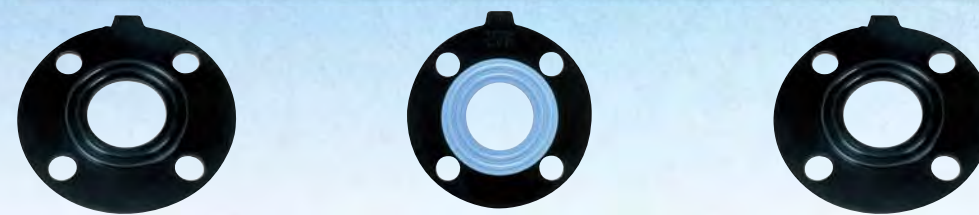
Body material	High purity polyvinyl chloride
End Connectors	Threaded, Socket
Nominal Size	20mm - 200mm
Working Temperature	50°C
Max. Working Pressure	1.0MPa

SOCKET Type L · T

Nominal Size (mm)	Type	16	20	25	40	50	65	75	100	125
		40	L	○	○	○	○			
	T	○	●	●						
50	L	○	○	○						
	T	○	○	○	○					
65	L	○	○	○	○					
	T	○	○	○	○	○				
75	L	○	○	○	○	○				
	T	○	○	○	○	○	○			
100	L	○	○	○	○	○	○			
	T	○	○	○	○	○	○	○		
125	L	○	○	○	○	○	○	○		
	T	○	○	○	○	○	○	○	○	
150	L	○	○	○	○	○	○	○	○	
	T	○	○	○	○	○	○	○	○	○
200	L	○	○	○	○	○	○	○	○	○
	T	○	○	○	○	○	○	○	○	○

※ ● This product can correspond with ASAHI AV TS FITTINGS.

AV GASKET



Full face Type Rubber Gasket PTFE coated PVDF coated

● MATERIAL : EPDM, PTFE, PVDF, CSM, FKM, IIR, Viton F, C

FEATURES

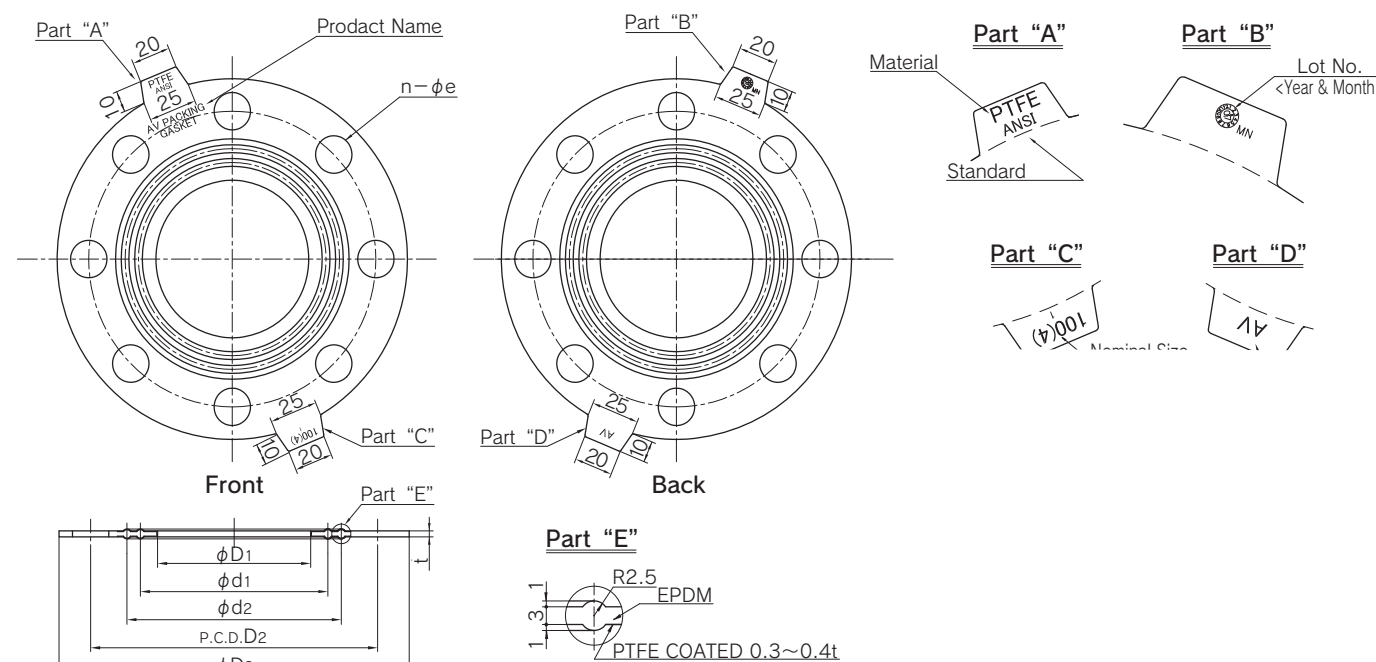
- AV GASKETS offer Similar sealing performance with 1/3 bolt tightening torque, compared to flat or envelope style gaskets.
- Uniform dimension, fine surface, suitable hardness.
- Long service life.
- Unique Convex Design.

SPECIFICATIONS

Material	Working Temperature	SIZE AVAILABILITY BY STANDARD		
		JIS	ANSI	DIN
EPDM	-40°C - 90°C (-40°F - 195°F)	15mm - 350mm	1/2inch - 14inch	15mm - 350mm
PTFE	-40°C - 120°C (-40°F - 250°F)	15mm - 300mm	1/2inch - 12inch	15mm - 400mm
PVDF	-40°C - 120°C (-40°F - 250°F)	15mm - 300mm	1/2inch - 10inch *1	15mm - 300mm
VIFLON	-5°C - 150°C (-5°F - 280°F)	15mm - 200mm	—	—

Working temperature is different depending on type of fluid. *1 Except for 1 1/4inch and 2 1/2inch
 Viton-F has superior resistance to inorganic acids such as HNO₃, HF and HCl.
 Viton-C has superior resistance to chlorine containing media such as Chlorine Water, NaCl and ClO₂.

DIMENSIONS



Type	Nominal Size	Thickness
PTFE	15mm(1/2inch) to 400mm(16inch)	0.3-0.4mm(0.012-0.016inch)
PVDF	15mm(1/2inch) to 65mm(2 1/2inch) 80mm(3inch) to 300mm(12inch)	0.4-0.5mm(0.016-0.020inch)

DIMENSIONS TABLE

Full-Face Type (JIS 10K)									Unit:mm
Nominal Size		D ₁	D ₂	D ₃	n	e	d ₁	d ₂	
mm	inch								
13	3/8	15	65	88	4	15	22	37	
15	1/2	18	70	93	4	15	26	41	
20	3/4	22	75	98	4	15	32	47	
25	1	30	90	123	4	19	38	53	
32	1 1/4	37	100	133	4	19	50	65	
40	1 1/2	43	105	138	4	19	54	69	
50	2	54	120	153	4	19	68	83	
65	2 1/2	69	140	173	4	19	86	101	
80(75)	3	80	150	183	8	19	98	112	
100	4	102	175	208	8	19	120	138	
125	5	127	210	248	8	23	145	166	
150	6	150	240	278	8	23	168	190	
200	8	198	290	328	12	23	216	247	
250	10	249	355	398	12	25	270	306	
300	12	300	400	443	16	25	324	352	
350	14	350	445	488	16	25	370	390	

RECOMMENDED TIGHTENING TORQUE with Flat Face Flange and regular sus Bolt <ALL MATERIALS / FULL FACE TYPE>

mm(inch)	N·m	FT-LB	mm(inch)	N·m	FT-LB	mm(inch)	N·m	FT-LB
15 (1/2)	17.5	13	65 (2 1/2)	22.5	16	200 (8)	55	40
20 (3/4)	17.5	13	80 (3)	30	22	250(10)	55	40
25 (1)	20	14	100(4)	30	22	300(12)	60	43
40 (1 1/2)	20	14	125(5)	40	29	350(14)	60	43
50 (2)	22.5	16	150(6)	45	32	400(16)	80	58

ASAHI VALVE AND PIPING SYSTEMS

ASAHI AV

AV PIPE & FITTINGS

FRP-REINFORCED COMPOSITE PVC

The specifications in this brochure are subject to change without prior notice due to improvements and modifications.

Asahi AV AV Pipe & Fittings

Features	171
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AV PIPE & FITTINGS

FRP-REINFORCED COMPOSITE PVC

INFORMATION

As an all-around maker of plastic piping materials, Asahi Organic Chemicals Industry has been developing and marketing AV Pipes since 1963. As PVC pipes whose external surfaces are reinforced with FRP, AV Pipes have been enjoying great popularity.

With the rapid advance of chemical technologies, piping conditions at various types of plants are becoming increasingly sophisticated. Pipes are required to withstand higher temperature and highly corrosive chemicals are used more frequently. To meet these needs, we have made improvements to our products for many years. And we now produce AV pipes that are capable of service at temperature up to 95°C with higher durability, safety, and reliability to satisfy diverse needs of the customers.

We hope you will favor our AV Pipes, AV valves and Vinyl Pipes with your continued patronage for your piping needs in various fields.

Features

1. Excellent chemical resistance

Since the inner anticorrosion layer is made of rigid PVC, AV Pipes excel in corrosion resistance and are ideally suited for plants that handle acids, alkalis, and halogens.

2. Great mechanical strength

Since the external surfaces are reinforced with FRP, AV Pipes have great pressure resistance and excellent impact resistance.

3. Good heat resistance

Since the external surfaces are reinforced with FRP, AV Pipes are capable of long service at high temperature.

4. Low coefficient of expansion

Since the PVC and FRP are integrated by special technology, the adhesive strength between the PVC and FRP is high, making the coefficient of linear expansion 1/2 that of PVC.

5. No worry about external or electrolytic corrosion

Since the external layer employs FRP, AV Pipe can be used without anxiety even under corrosive environments. Besides, it is a perfect insulator, eliminating any worry about electrolytic corrosion.

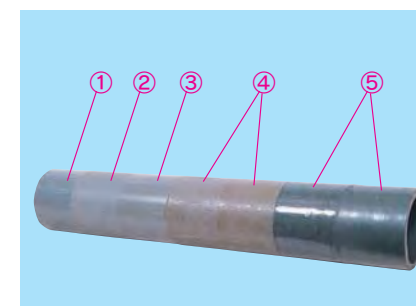
6. Lightweight

Made of plastic, AV Pipe is far lighter than metal pipes, which makes piping work at high elevations easier.

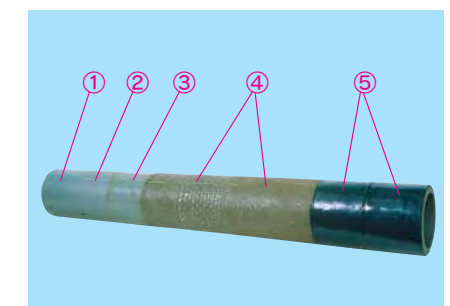
7. Ease of installation

TS joining of PVC can be used for on-site installation. FRP lamination can be formed easily at the junctions.

Structure



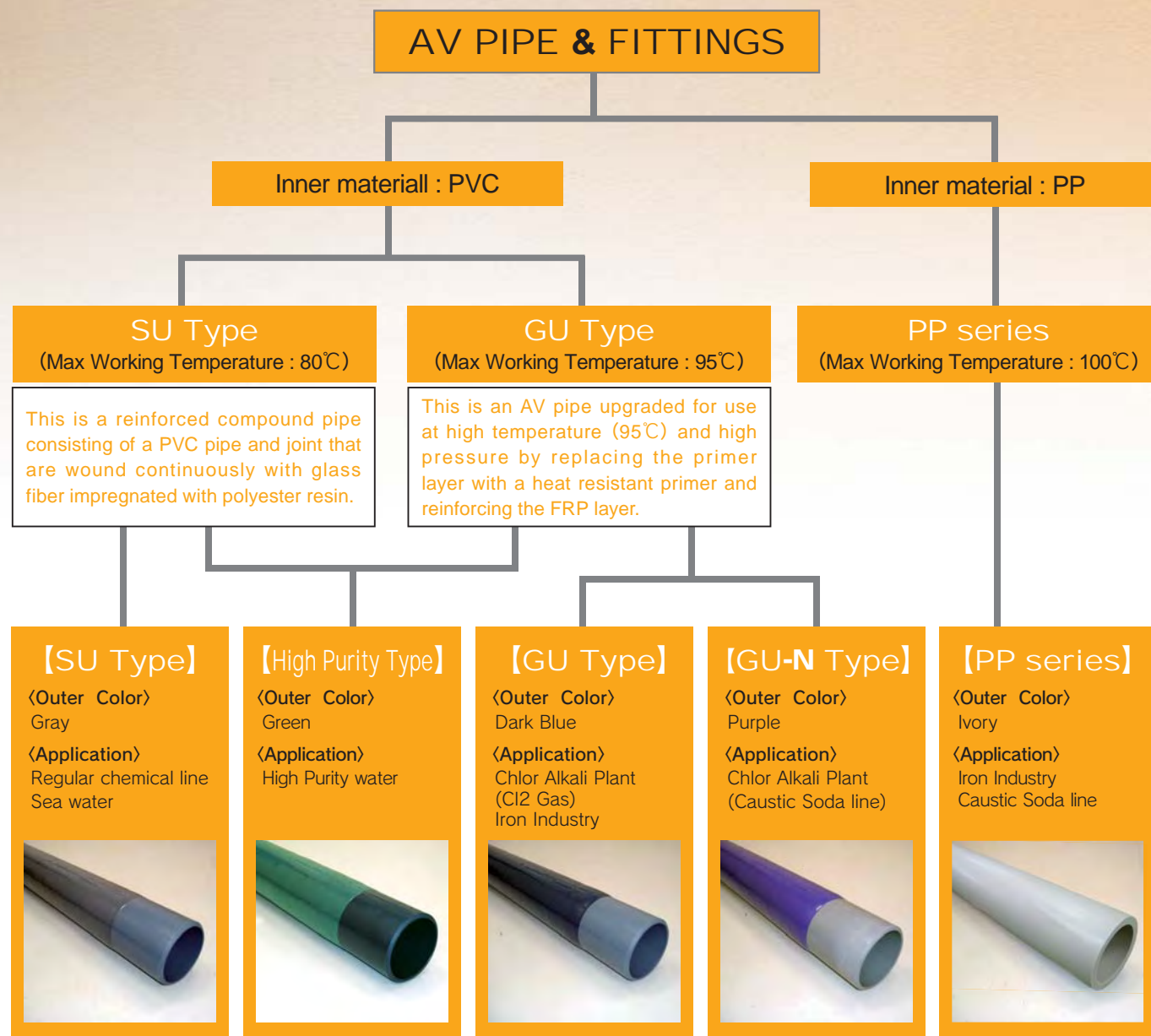
AV Pipe (SU type)



AV Pipe (GU type)

- (1) **Rigid PVC pipe**
The residual stress in the pipe has been removed by a special method unique to AV Pipes.
- (2) **Surface-treated portion**
The surfaces of the pipe have been treated specially to enhance the adhesive effect of the primer.
- (3) **Special primer**
A special primer is used to bond the rigid PVC pipe and FRP layer.
- (4) **FRP layer**
A reinforced layer consisting of a lamination of glass fiber impregnated with polyester resin.
- (5) **Finished surface layer**
A layer finished with anticorrosion polyester resin.

Types



※Color is changable on customer's requests.
 ※Applicable sizes are different in types.

Special Fabrication on Customer's Request

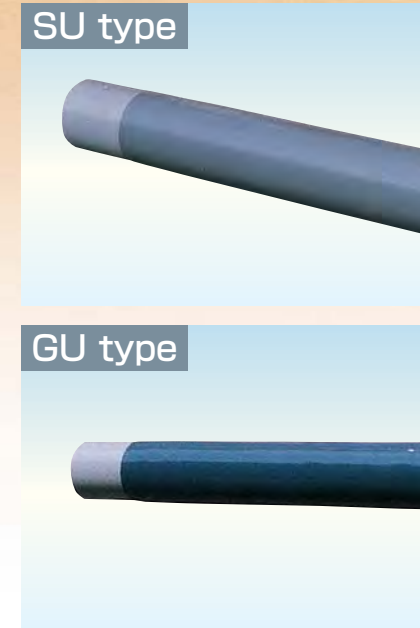
※PP+FRP piping system can be provided by only fabrication.



Standard

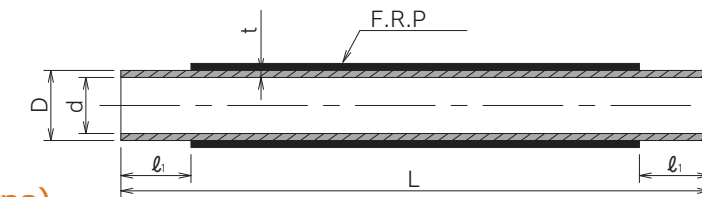
Pipe (Plane end type)

(Unit : mm)



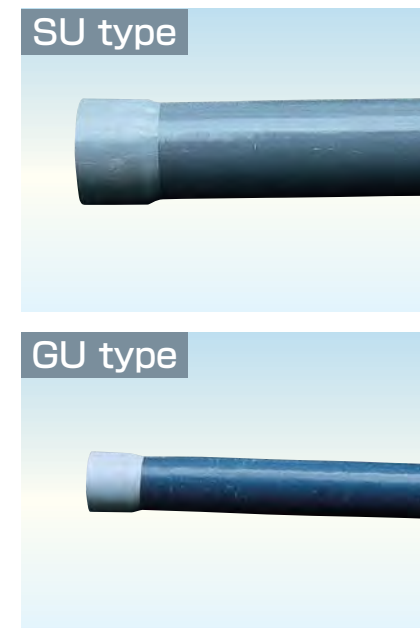
Size		L	ℓ ₁	D	d	t
mm	inch					
13	3/8	4000	45	18	13	2.5
15	1/2	4000	50	22	16	3.0
20	3/4	4000	55	26	20	3.0
25	1	4000	60	32	25	3.5
30	1 1/4	4000	65	38	31	3.5
40	1 1/2	4000	80	48	40	4.0
50	2	4000	90	60	51	4.5
65	2 1/2	4000	95	76	67	4.5
75	3	4000	100	89	77	6.0
100	4	4000	120	114	100	7.0
125	5	4000	150	140	125	7.5
150	6	4000	180	165	146	9.5
200	8	4000	190	216	196	10.0
250	10	4000	200	267	247	10.0
* 300(SU)	12	4000	200	318	298	10.0
* 300(GU)	12	4000	200	318	286	16.0
350	14	4000	330	370	347	11.5
400	16	4000	370	420	394	13.0
450	18	4000	400	470	441	14.5
500	20	4000	410	520	488	16.0
600	24	4000	480	630	592	19.0

Note: The dimensions of "d" and "t" are different between "SU Type" and "GU Type" at nominal size 300mm.



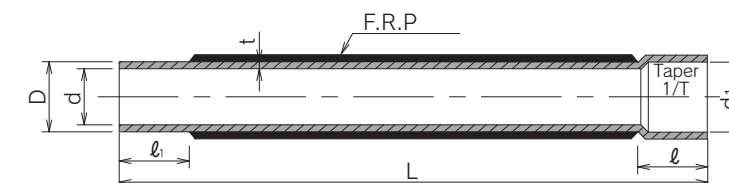
Pipe (Sleeve type)

(Unit : mm)

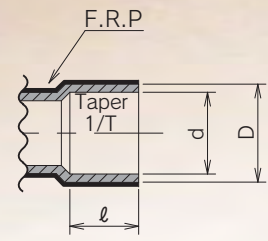


Size		L	ℓ ₁	ℓ	d ₁	1/T	D	d	t
mm	inch								
13	3/8	4000	45	26	18.40	1/30	18	13	2.5
15	1/2	4000	50	30	22.40	1/34	22	16	3.0
20	3/4	4000	55	35	26.45	1/34	26	20	3.0
25	1	4000	60	40	32.55	1/34	32	25	3.5
30	1 1/4	4000	65	44	38.60	1/34	38	31	3.5
40	1 1/2	4000	80	55	48.70	1/37	48	40	4.0
50	2	4000	90	63	60.80	1/37	60	51	4.5
65	2 1/2	4000	95	61	76.60	1/48	76	67	4.5
75	3	4000	100	64	89.60	1/49	89	77	6.0
100	4	4000	120	84	114.70	1/56	114	100	7.0
125	5	4000	150	104	140.80	1/58	140	125	7.5
150	6	4000	180	132	166.00	1/63	165	146	9.5
200	8	4000	190	145	217.00	1/50	216	196	10.0
250	10	4000	200	155	267.70	1/55	267	247	10.0
* 300(SU)	12	4000	200	155	318.70	1/55	318	298	10.0
* 300(GU)	12	4000	200	155	318.70	1/55	318	286	16.0
350	14	4000	330	280	373.00	1/43	370	347	11.5
400	16	4000	370	320	423.00	1/48	420	394	13.0
450	18	4000	400	350	474.00	1/45	470	441	14.5
500	20	4000	410	350	524.50	1/50	520	488	16.0
600	24	4000	480	410	630.00	—	630	592	19.0

Note: The dimensions of "d" and "t" are different between "SU Type" and "GU Type" at nominal size 300mm.



Common Dimensions for AV-TS Fittings



(Unit : mm)

Size		D	d	ℓ	1/T
mm	inch				
13	3/8	24	18.40	26	1/30
15	1/2	29	22.40	30	1/34
20	3/4	33	26.45	35	1/34
25	1	40	32.55	40	1/34
30	1 1/4	46	38.60	44	1/34
40	1 1/2	57	48.70	55	1/37
50	2	70	60.80	63	1/37
65	2 1/2	87	76.60	61	1/48
75	3	102	89.60	64	1/49
100	4	130	114.70	84	1/56
125	5	157	140.80	104	1/58
150	6	186	166.00	132	1/63
200	8	236	217.00	145	1/50
250	10	287	267.70	155	1/55
300	12	337	318.70	155	1/55

Note: The ℓ dimensions of some fittings differ. Please refer to individual dimension table for each fittings.

Elbow, Bend (45°)



Elbow 20~25mm

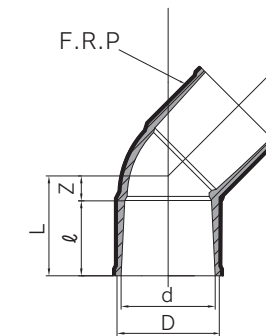
(Unit : mm)

Size		L	ℓ	Z	D	d
mm	inch					
20	3/4	44	35	9	33	26.45
25	1	51	40	11	40	32.55

Bend 40~300mm

(Unit : mm)

Size		L	ℓ	Z	D	d
mm	inch					
40	1 1/2	69	55	14	57	48.70
50	2	80	63	17	70	60.80
65	2 1/2	81	61	20	87	76.60
75	3	97	72	25	101	89.80
100	4	122	92	30	129	115.00
125	5	149	112	37	156	141.20
150	6	184	140	44	185	166.50
200	8	196	145	51	240	217.00
250	10	213	155	58	287	267.00
300	12	225	155	70	337	318.00



Elbow(90°), Bend(90°)

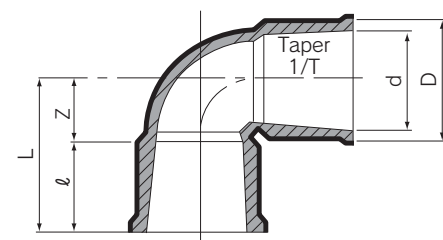
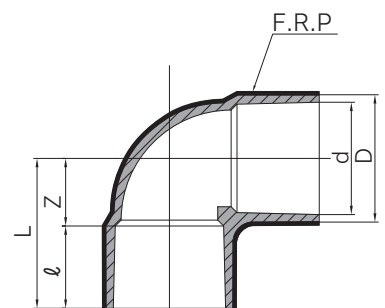


Elbow (Unit : mm)

Size		L	ℓ	Z	D	d
mm	inch					
13	3/8	36	26	10	24	18.40
15	1/2	43	30	13	29	22.40
20	3/4	50	35	15	33	26.45
25	1	58	40	18	40	32.55
30	1 1/4	65	44	21	46	38.60
40	1 1/2	82	55	27	57	48.70
50	2	96	63	33	70	60.80
65	2 1/2	110	61	49	87	76.60
75	3	120	64	56	102	89.60
100	4	153	84	69	130	114.70
125	5	187	104	83	157	140.80
150	6	230	132	98	186	166.00
200	8	265	145	120	240	217.00
250	10	280	140	140	287	267.00

Bend (Unit : mm)

Size		L	ℓ	Z	D	d
mm	inch					
75	3	137	72	65	101	89.80
100	4	172	92	80	129	115.00
125	5	237	112	125	156	141.20
150	6	260	140	120	185	166.50
200	8	341	145	196	236	217.00
250	10	402	155	247	287	267.00
300	12	385	155	230	337	318.00

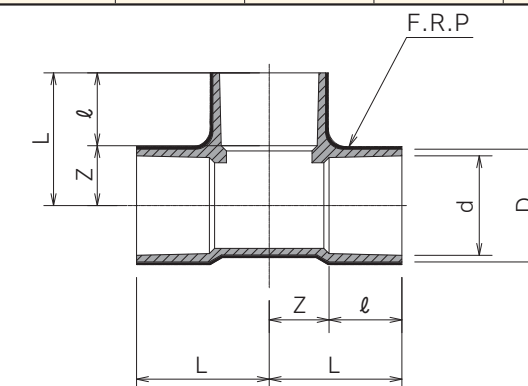


Tee



(Unit : mm)

Size		L	ℓ	Z	D	d
mm	inch					
13	3/8	36	26	10	24	18.40
15	1/2	43	30	13	29	22.40
20	3/4	50	35	15	33	26.45
25	1	58	40	18	40	32.55
30	1 1/4	65	44	21	46	38.60
40	1 1/2	82	55	27	57	48.70
50	2	96	63	33	70	60.80
65	2 1/2	110	61	49	87	76.60
75	3	120	64	56	102	89.60
100	4	152	84	68	130	114.70
125	5	187	104	83	157	140.80
150	6	230	132	98	186	166.00
200	8	266	145	121	240	217.00
250	10	295	155	140	287	267.70
300	12	340	175	165	337	318.70

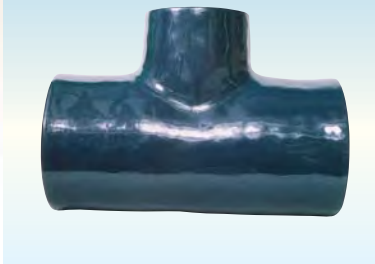


Reducing Tee

SU type

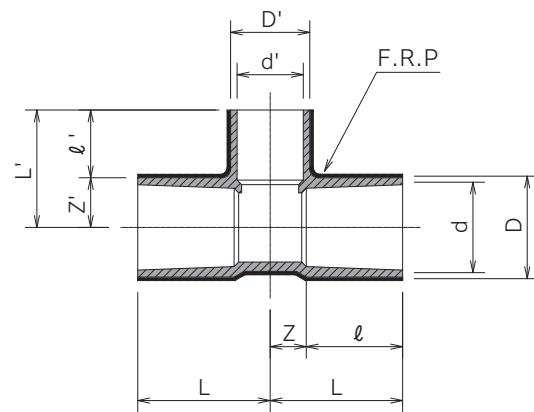


GU type



(Unit : mm)

Size		L	ℓ	Z	D	d	L'	ℓ'	Z'	D'	d'
mm	inch										
15x 13	1/2x3/8	41	30	11	29	22.40	38	26	12	24	18.40
20x 13	3/4x3/8	46	35	11	33	26.45	40	26	14	24	18.40
20x 15	3/4x1/2	48	35	13	33	26.45	45	30	15	29	22.40
25x 13	1x3/8	51	40	11	40	32.55	43	26	17	24	18.40
25x 15	1x1/2	53	40	13	40	32.55	48	30	18	29	22.40
25x 20	1x3/4	55	40	15	40	32.55	53	35	18	33	26.45
30x 13	1 1/4x3/8	55	44	11	46	38.60	46	26	20	24	18.40
30x 15	1 1/4x1/2	57	44	13	46	38.60	51	30	21	29	22.40
30x 20	1 1/4x3/4	59	44	15	46	38.60	56	35	21	33	26.45
30x 25	1 1/4x1	62	44	18	46	38.60	61	40	21	40	32.55
40x 13	1 1/2x3/8	66	55	11	57	48.70	52	26	26	24	18.40
40x 15	1 1/2x1/2	68	55	13	57	48.70	57	30	27	29	22.40
40x 20	1 1/2x3/4	70	55	15	57	48.70	62	35	27	33	26.45
40x 25	1 1/2x1	73	55	18	57	48.70	67	40	27	40	32.55
40x 30	1 1/2x1 1/4	76	55	21	57	48.70	71	44	27	46	38.60
50x 13	2x3/8	74	63	11	70	60.80	58	26	32	24	18.40
50x 15	2x1/2	76	63	13	70	60.80	63	30	33	29	22.40
50x 20	2x3/4	78	63	15	70	60.80	68	35	33	33	26.45
50x 25	2x1	81	63	18	70	60.80	73	40	33	40	32.55
50x 30	2x1 1/4	84	63	21	70	60.80	77	44	33	46	38.60
50x 40	2x1 1/2	90	63	27	70	60.80	88	55	33	57	48.70
65x 40	2 1/2x1 1/2	100	61	39	87	76.60	95	55	40	57	48.70
65x 50	2 1/2x2	101	61	40	87	76.60	104	63	41	70	60.80
75x 25	3x1	93	64	29	102	89.6	88	40	48	40	32.55
75x 40	3x1 1/2	100	64	36	102	89.6	102	55	47	57	48.70
75x 50	3x2	105	64	41	102	89.6	110	63	47	70	60.80
75x 65	3x2 1/2	113	64	49	102	89.6	117	61	56	87	76.60
100x 50	4x2	125	84	41	130	114.7	122	63	59	70	60.80
100x 75	4x3	140	84	56	130	114.7	132	64	68	102	89.60
125x100	5x4	173	104	69	157	140.8	167	84	83	130	114.70
150x 75	6x3	195	132	63	186	166.0	158	64	94	102	89.60
150x100	6x4	208	132	76	186	166.0	182	84	98	130	114.70
150x125	6x5	217	132	85	186	166.0	201	104	97	157	140.80
200x 75	8x3	201	145	56	240	217.0	180	64	116	102	89.60
200x100	8x4	215	145	70	240	217.0	200	84	116	130	114.70
200x150	8x6	238	145	93	240	217.0	253	132	121	186	166.00
250x 75	10x3	227	155	72	295	269.3	213	65	148	108	89.60
250x100	10x4	246.5	155	91.5	295	269.3	226	84	142	136	114.70
250x200	10x8	305	155	150	295	269.3	310	146.5	163.5	246	217.90
300x 75	12x3	361	300	60	343	320.7	236	64	172	102	89.60

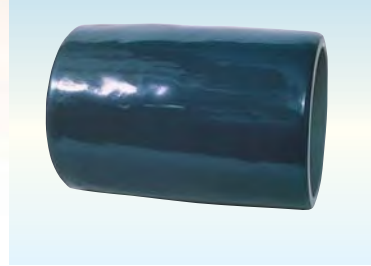


Socket

SU type

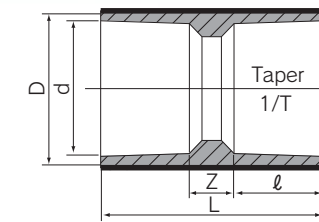


GU type



(Unit : mm)

Size		L	ℓ	Z	D	d
mm	inch					
13	3/8	57	26	5	24	18.40
15	1/2	67	30	7	29	22.40
20	3/4	77	35	7	33	26.45
25	1	87	40	7	40	32.55
30	1 1/4	95	44	7	46	38.60
40	1 1/2	117	55	7	57	48.70
50	2	133	63	7	70	60.80
65	2 1/2	145	61	23	87	76.60
75	3	155	64	27	102	89.60
100	4	200	84	32	130	114.70
125	5	231	104	23	157	140.80
150	6	300	132	36	186	166.00
200	8	300	145	10	236	217.00
250	10	353	155	43	295	267.00
300	12	360	175	10	337	318.00

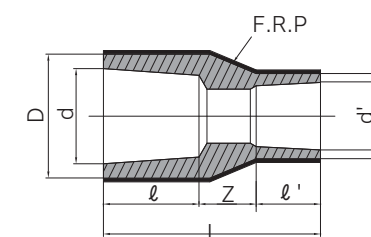
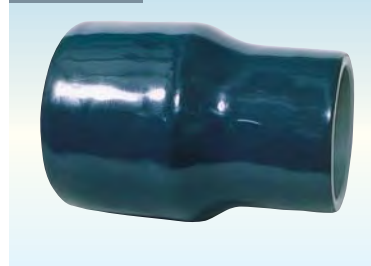


Reducing Socket

SU type



GU type



(Unit : mm)

Size		L	ℓ	D	d	ℓ'	D'	d'	Z
mm	inch								
15x13	1/2x3/8	61	30	29	22.40	26	24	18.40	5
20x13	3/4x3/8	68	35	33	26.45	26	24	18.40	7
20x15	3/4x1/2	71	35	33	26.45	30	29	22.40	6
25x13	1x3/8	86	40	40	32.55	26	24	18.40	20
25x15	1x1/2	85	40	40	32.55	30	29	22.40	15
25x20	1x3/4	84	40	40	32.55	35	33	26.45	9
30x20	1 1/4x3/4	93	44	46	38.60	35	33	26.45	14
30x25	1 1/4x1	93	44	46	38.60	40	40	32.55	9
40x20	1 1/2x3/4	113	55	57	48.70	35	33	26.45	23
40x25	1 1/2x1	114	55	57	48.70	40	40	32.55	19
40x30	1 1/2x1 1/4	114	55	57	48.70	44	46	38.60	15
50x20	2x3/4	116	63	70	60.80	35	33	26.45	18
50x25	2x1	140	63	70	60.80	40	40	32.55	37
50x30	2x1 1/4	136	63	70	60.80	44	46	38.60	29
50x40	2x1 1/2	136	63	70	60.80	55	57	48.70	18
65x40	2 1/2x1 1/2	145	61	87	76.60	55	57	48.70	29
65x50	2 1/2x2	149	61	87	76.60	63	70	60.80	25
75x40	3x1 1/2	153	64	102	89.60	55	57	48.70	34
75x50	3x2	165	64	102	89.60	63	70	60.80	38
75x65	3x2 1/2	159	64	102	89.60	61	87	76.60	34
100x75	4x3	190	84	130	114.70	64	102	89.60	42
125x100	5x4	229	104	157	140.80	84	130	114.70	41
150x100	6x4	295	132	186	166.00	84	130	114.70	79
150x125	6x5	272	132	186	166.00	104	157	140.80	36
200x150	8x6	356	145	240	217.00	132	186	166.00	79
250x200	10x8	383	155	295	269.30	146	240	217.00	82

■ TS Flanges (JIS 10kgf/cm² Type)

SU type 13A~125A



GU type 13A~125A



SU type 150A~300A



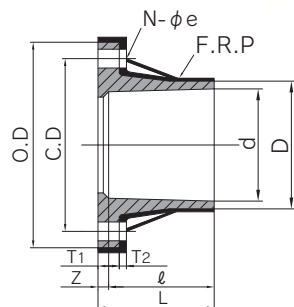
GU type 150A~300A



(Unit : mm)

Size		L	ℓ	Z	O.D	C.D	D	d	T ₁	T ₂		N-φe
mm	inch									SU	GU	
13	3/8	30.0	26	4.0	90	65	25.5	18.40	14	2	2.0	4-15
15	1/2	35.0	30	5.0	95	70	31.0	22.40	14	5	5.0	4-15
20	3/4	40.0	35	5.0	100	75	35.0	26.45	15	5	5.0	4-15
25	1	46.0	40	6.0	125	90	42.5	32.55	15	5	5.0	4-19
30	1 1/4	50.5	44	6.5	135	100	48.5	38.60	16	5	5.0	4-19
40	1 1/2	61.5	55	6.5	140	105	60.5	48.70	16	6	6.0	4-19
50	2	71.0	63	8.0	155	120	73.0	60.80	20	8	8.0	4-19
65	2 1/2	70.0	61	9.0	175	140	90.0	76.60	22	8	8.0	4-19
75	3	73.0	64	9.0	185	150	105.0	89.60	22	8	8.0	8-19
100	4	93.0	84	9.0	210	175	131.0	114.7	22	10	10.0	8-19
125	5	114.0	104	10.0	250	210	158.0	140.8	24	12	12.0	8-23
150	6	142.0	132	10.0	280	240	185.0	166.0	26	2	3.5	8-23
200	8	156.0	145	11.0	330	290	238.0	217.0	28	2	3.5	12-23
250	10	167.0	155	12.0	400	355	289.0	268.0	30	2	3.5	12-25
300	12	167.0	155	12.0	445	400	341.0	318.7	30	2	4.3	16-25

Note: Products conforming to the JIS 5K and ANSI 150 LBS are also available.



■ Flanges (JIS 10kgf/cm² Type)

SU type



GU type



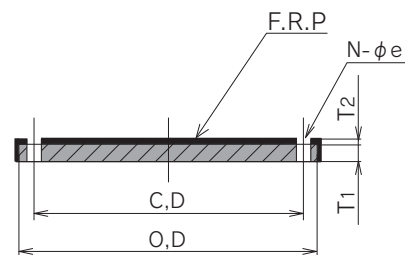
(Unit : mm)

Size		O.D	C.D	T ₁		T ₂		N-φe
mm	inch			SU	GU	SU	GU	
13	3/8	90	65	12	12	2.5	3	4-15
15	1/2	95	70	12	12	2.5	3	4-15
20	3/4	100	75	14	14	2.5	3	4-15
25	1	125	90	14	14	2.5	3	4-19
30	1 1/4	135	100	16	16	2.5	3	4-19
40	1 1/2	140	105	16	16	2.5	3	4-19
50	2	155	120	16	16	2.5	3	4-19
65	2 1/2	175	140	18	18	2.5	3	4-19
75	3	185	150	18	18	2.5	3	8-19
100	4	210	175	18	18	2.5	5	8-19
125	5	250	210	20	20	3.0	6	8-23
150	6	280	240	22	22	4.0	8	8-23
200	8	330	290	22	22	5.0	10	12-23
250	10	400	355	24	24	7.0	13	12-25
300	12	445	400	24	24	9.0	15	16-25
350	14	490	445	25	20	13.0	25	16-25
400	16	560	510	25	20	13.0	25	16-27
450	18	620	565	25	20	13.0	25	20-27
500	20	675	620	25	20	15.0	25	20-27
600	24	795	730	30	20	15.0	30	24-33

Note: Products conforming to the JIS 5K and ANSI 150 LBS are also available.

Additional notes

- We can also deliver products prefabricated at our factory.
- Consider this method for piping with complex shapes.
- Detailed technical data and installation instructions are available.



ASAHI AV VALVE AND PIPING SYSTEMS

ASAHI AV PP PIPE & FITTINGS

The specifications in this brochure are subject to change without prior notice due to improvements and modifications.

FEATURES

- Low leaching into medium.
- High corrosion resistance to acid/alkali application.
- High temperature resistance up to 90°C .
- Due to superior impact resistance at low temperature, PP piping material is suitable piping material to low temperature application.
- Since PP piping material has small specific gravity (0.91) and simple welding procedure, it provides easier field work at site.
- No dioxin is generated at waste procedure even it would be burnt.



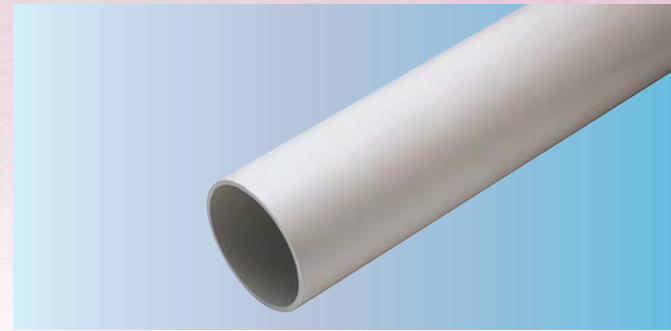
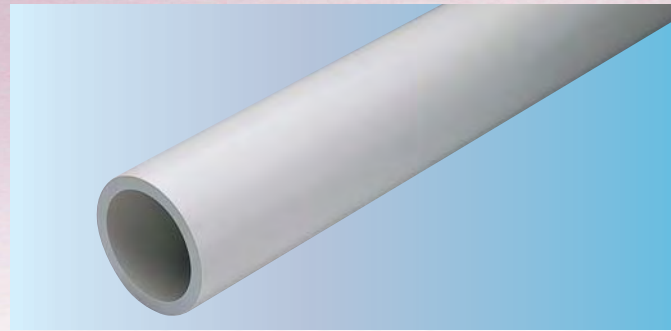
Range of Nominal Size

Nominal Size (mm)	Indication	Pipe		Socket	90° Elbow	45° Elbow	Tee	Reducer Bushing	End Cap	Socket Flange	Flange Adapter	Loose Flange
		PN10	PN4									
15	d20	⊙	—	⊙	⊙	⊙	⊙	—	⊙	⊙	⊙	⊙
20	d25	⊙	—	⊙	⊙	⊙	⊙	15	⊙	⊙	⊙	⊙
25	d32	⊙	—	⊙	⊙	⊙	⊙	15 20	⊙	⊙	⊙	⊙
32	d40	⊙	—	⊙	⊙	⊙	⊙	15 20 25	⊙	⊙	⊙	⊙
40	d50	⊙	—	⊙	⊙	⊙	⊙	15 20 25 32	⊙	⊙	⊙	⊙
50	d63	⊙	—	⊙	⊙	⊙	⊙	20 25 32 40	⊙	⊙	⊙	⊙
65	d75	⊙	—	⊙	⊙	⊙	⊙	50	⊙	⊙	⊙	⊙
80	d90	⊙	—	⊙	⊙	⊙	⊙	50 65	⊙	⊙	⊙	⊙
100	d110	⊙	—	⊙	⊙	⊙	⊙	80	⊙	⊙	⊙	⊙
125	d140	⊙	⊙	⊙	⊙	⊙	⊙	100	—	—	⊙	⊙
150	d180	⊙	⊙	⊙	⊙	⊙	⊙	125	—	—	⊙	⊙
200	d225	⊙	⊙	⊙	⊙	⊙	⊙	150	—	—	⊙	⊙

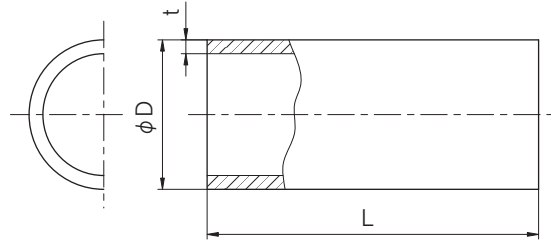
Nominal Size (mm)	Indication	Welded Flange	Blind Flange		Prefab Joint			Male Adapter	Female Adapter	EF-Socket
		Ⓧ	Ⓨ	Ⓩ	PP-PP	PP×PVC	PP×C-PVC			
15	d20	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
20	d25	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
25	d32	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
32	d40	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
40	d50	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
50	d63	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
65	d75	⊙	⊙	⊙	—	—	—	—	—	⊙
80	d90	⊙	⊙	⊙	—	—	—	—	—	⊙
100	d110	⊙	⊙	⊙	—	—	—	—	—	⊙
125	d140	⊙	⊙	⊙	—	—	—	—	—	⊙
150	d180	⊙	⊙	⊙	—	—	—	—	—	⊙
200	d225	⊙	⊙	⊙	—	—	—	—	—	⊙

Welding Rod	Shape	Diameter	Unit
	Single	3	3
4kg (Scroll type)			
4		4	2kg (Stick type1m)
			4kg (Scroll type)
5	5	2kg (Stick type1m)	
		4kg (Scroll type)	
Double	3	3	2kg (Stick type1m)

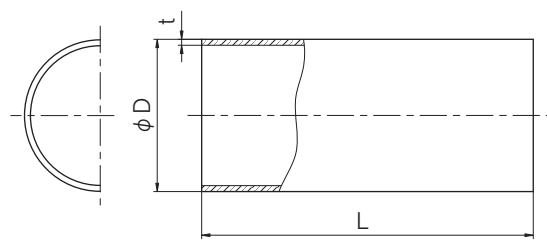
- PP pipe (PN10/SDR11)
- PP pipe (PN4/SDR26)



PP pipe (PN10/SDR11)



PP pipe (PN4/SDR26)



(Unit : mm)

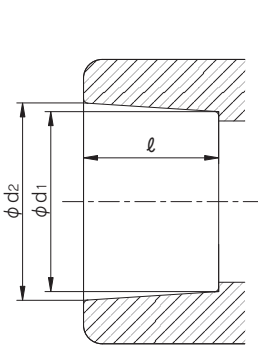
PN10/SDR11									
Nominal Size (mm)	Product Indication	D		t		Approximate I.D. (for reference)	L		Weight (kg/m)
		Basic Dimension	Average O.D. Tolerances	Basic Dimension	Tolerance		Basic Dimension	Tolerance	
15	d20	20	+0.3/0	1.9	+0.4/0	16.2	4000	±10	0.110
20	d25	25	+0.3/0	2.3	+0.5/0	20.4			0.166
25	d32	32	+0.3/0	3.0	+0.5/0	26.2			0.271
32	d40	40	+0.4/0	3.7	+0.6/0	32.6			0.421
40	d50	50	+0.5/0	4.6	+0.7/0	40.8			0.649
50	d63	63	+0.6/0	5.8	+0.8/0	51.4			1.028
65	d75	75	+0.7/0	6.9	+0.9/0	61.4			1.447
80	d90	90	+0.9/0	8.2	+1.0/0	73.6			2.083
100	d110	110	+1.0/0	10.0	+1.2/0	90.0			3.099
125	d140	140	+1.3/0	12.8	+1.5/0	114.6			5.008
150	d180	180	+1.7/0	16.4	+1.9/0	147.2	8.250		
200	d225	225	+2.1/0	20.5	+2.3/0	184.0	12.864		

PN4/SDR26									
Nominal Size (mm)	Product Indication	D		t		Approximate I.D. (for reference)	L		Weight (kg/m)
		Basic Dimension	Average O.D. Tolerances	Basic Dimension	Tolerance		Basic Dimension	Tolerance	
125	d140	140	+1.3/0	5.4	+0.8/0	129.2	4000	±10	2.224
150	d180	180	+1.7/0	7.0	+1.0/0	166.0			3.697
200	d225	225	+2.1/0	8.7	+1.1/0	207.6			5.702

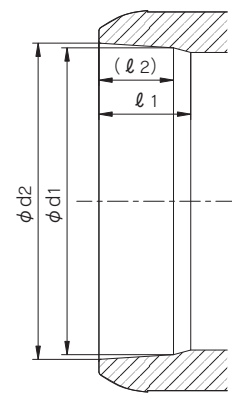
- (Note) 1. 15mm~200mm : DIN8077
 2. SDR (Standard Dimension Ratio) : (D/t)
 3. PN10 : Working Pressure 1.0MPa(20°C)
 4. PN4 : Working Pressure 0.4MPa(20°C)

■ PP Fitting Dimension Common

(Unit : mm)



15mm~100mm (d20~d110)



125mm~200mm (d140~d225)

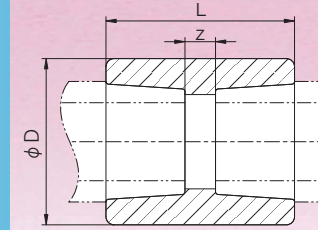
Nominal Size (mm)	Product Indication	d1			d2			ℓ		ℓ1	ℓ2 (for reference)
		Basic Dimension	Average I.D. Tolerances	Circularity (Max)	Basic Dimension	Average I.D. Tolerances	Circularity (Max)	(minimum)			
15	d20	19.3	-0.3/0	0.4	19.5	-0.3/0	0.4	14.5	-	-	
20	d25	24.3	-0.4/0	0.4	24.5	-0.3/0	0.4	16	-	-	
25	d32	31.3	-0.4/0	0.5	31.5	-0.4/0	0.5	18	-	-	
32	d40	39.2	-0.4/0	0.5	39.45	-0.4/0	0.5	20.5	-	-	
40	d50	49.2	-0.5/0	0.6	49.45	-0.5/0	0.6	23.5	-	-	
50	d63	62.1	-0.5/0	0.6	62.5	-0.6/0	0.6	27.5	-	-	
65	d75	73.95	-0.5/0	1	74.25	-0.5/0	1	31	-	-	
80	d90	88.85	-0.6/0	1	89.2	-0.6/0	1	35.5	-	-	
100	d110	108.65	-0.6/0	1	109.05	-0.6/0	1	41.5	-	-	
125	d140	139.1	-2.0/0	2.0	139.4	-2.0/0	2.0	-	41.5	32.7	
150	d180	178.7	-2.0/0	2.0	179.1	-2.0/0	2.0	-	50.5	41.7	
200	d225	223.2	-2.0/0	2.0	223.7	-2.0/0	2.0	-	61.0	52.3	

- (Note) 1. 15mm~100mm : DIN16962 typeB
 2. 125mm~200mm : AV Standard
 3. Circularity : The dimension of Max I.D.-Min I.D.

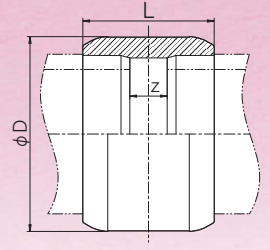
■ Socket



15mm~100mm (d20~d110)



125mm~200mm (d140~d225)

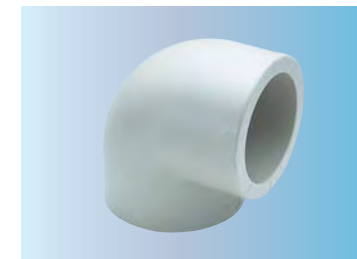


(Unit : mm)

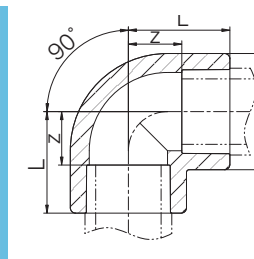
Nominal Size (mm)	Product Indication	D	L	z	Weight (kg)
15	d20	30.5	35	6	0.015
20	d25	35.5	39	7	0.019
25	d32	43.5	43	7	0.030
32	d40	53.5	48	7	0.047
40	d50	66	55	8	0.079
50	d63	82	62	7	0.131
65	d75	92.5	70	8	0.161
80	d90	110	81	10	0.253
100	d110	134	96	13	0.431
125	d140	172	116	33	0.821
150	d180	221	140	39	1.562
200	d225	276	167	45	2.820

- (Note) 1. 15mm~100mm : DIN16962-8
 2. 125mm~200mm : AV Standard

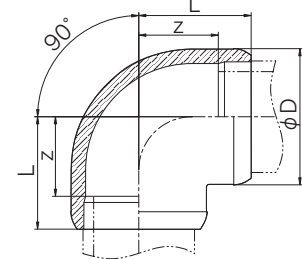
■ 90° Elbow



15mm~100mm (d20~d110)



125mm~200mm (d140~d225)

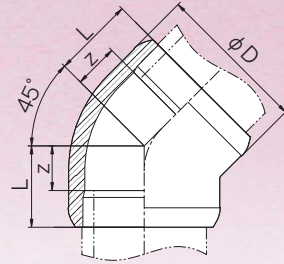
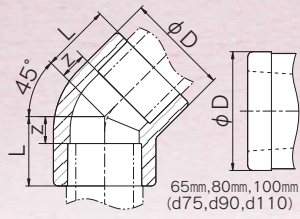


(Unit : mm)

Nominal Size (mm)	Product Indication	D	L	z	Weight (kg)
15	d20	30.5	28	13.5	0.023
20	d25	35.5	32	16	0.032
25	d32	43.5	38	20	0.052
32	d40	53.5	44	23.5	0.084
40	d50	66	51	27.5	0.136
50	d63	82	62	34.5	0.250
65	d75	92.5	75.5	44.5	0.340
80	d90	110	88	52.5	0.526
100	d110	134	106	64.5	0.953
125	d140	172	142	100.5	1.922
150	d180	221	179	128.5	4.058
200	d225	276	220	159.0	7.618

- (Note) 1. 15mm~100mm : DIN16962-6
 2. 125mm~200mm : AV Standard

45° Elbow



15mm~100mm (d20~d110)

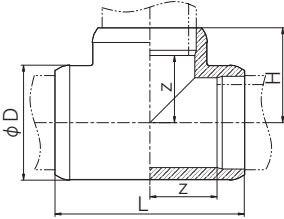
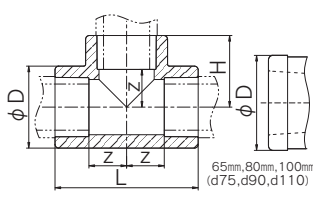
125mm~200mm (d140~d225)

(Unit : mm)

Nominal Size (mm)	Product Indication	D	L	z	Weight (kg)
15	d20	31	21.5	7	0.018
20	d25	36	24.5	8.5	0.025
25	d32	44	28	10	0.037
32	d40	55	34	13.5	0.070
40	d50	66	37	13.5	0.102
50	d63	82	48	20.5	0.180
65	d75	92	51.5	20.5	0.203
80	d90	111	59	23.5	0.340
100	d110	135.5	69	27.5	0.605
125	d140	172	92	50.5	1.299
150	d180	221	114	63.5	2.662
200	d225	276	140	79.0	4.939

(Note) 1. 15mm~100mm : DIN16962-6
2. 125mm~200mm : AV Standard

Tee



15mm~100mm (d20~d110)

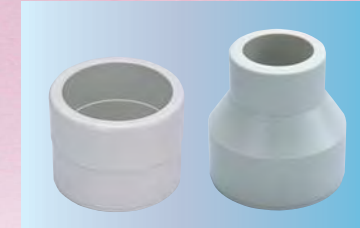
125mm~200mm (d140~d225)

(Unit : mm)

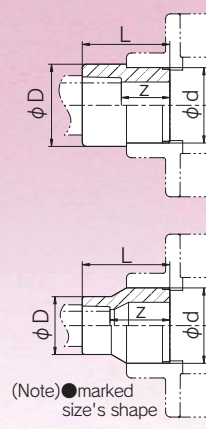
Nominal Size (mm)	Product Indication	D	L	H	z	Weight (kg)
15	d20	30.5	57	28.5	14	0.029
20	d25	35.5	65	32.5	16.5	0.041
25	d32	43.5	76	38	20	0.060
32	d40	55	88	44	23.5	0.108
40	d50	66	103	51.5	28	0.163
50	d63	82	126	63	35.5	0.292
65	d75	92.5	152	76	45	0.358
80	d90	111	176	88	52.5	0.625
100	d110	135	213	106.5	65	1.030
125	d140	172	284	142	100.5	1.317
150	d180	221	358	179	128.5	4.902
200	d225	276	440	220	159.0	9.300

(Note) 1. 15mm~100mm : DIN16962-7
2. 125mm~200mm : AV Standard

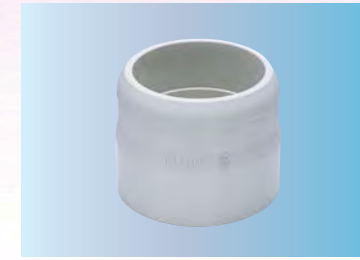
Reducer Bushing



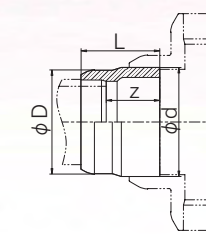
20mm×15mm~100mm×80mm (d25×d20~d110×d90)



(Note) ●marked size's shape



125mm×100mm~200mm×150mm (d140×d110~d225×d180)



(Unit : mm)

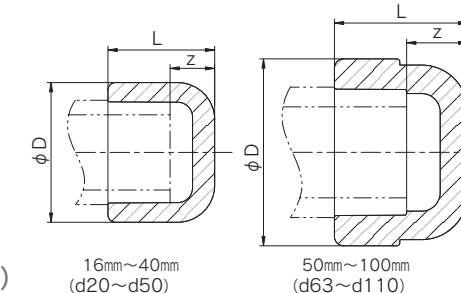
Nominal Size (mm)	Product Indication	D	d	L	z	Weight (kg)
● 20×15	d25×d20	30	25	35	20.5	0.011
25×15	d32×d20	30	32	43	28.5	0.016
● 25×20	d32×d25	35	32	38	22	0.016
32×15	d40×d20	30	40	50	35.5	0.022
32×20	d40×d25	35	40	50	34	0.024
● 32×25	d40×d32	43	40	48	30	0.029
40×15	d50×d20	31	50	54	39.5	0.034
40×20	d50×d25	36	50	54	38	0.035
40×25	d50×d32	43	50	54	36	0.035
● 40×32	d50×d40	54	50	54	33.5	0.050
50×20	d63×d25	37	63	65	49	0.058
50×25	d63×d32	43	63	65	47	0.056
50×32	d63×d40	54	63	64	43.5	0.068
● 50×40	d63×d50	66	63	64	40.5	0.085
● 65×50	d75×d63	81	75	61	33.5	0.105
● 80×50	d90×d63	81	90	89	61.5	0.171
● 80×65	d90×d75	92.5	90	70	39	0.148
● 100×80	d110×d90	112	110	81	45.5	0.267
125×100	d140×d110	135.5	140	110	68.5	0.502
150×125	d180×d140	172	180	130	88.5	0.971
200×150	d225×d180	221	225	160	109.5	1.868

(Note) 1. 20mm×15mm~100mm×80mm : DIN 16962-9
2. 125mm×100mm~200mm×150mm : AV Standard

End Cap



15mm~100mm (d20~d110)



16mm~40mm (d20~d50)

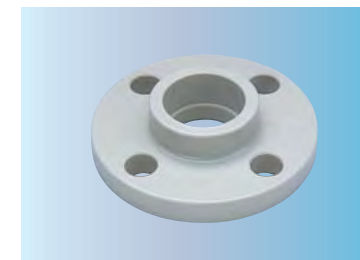
50mm~100mm (d63~d110)

(Unit : mm)

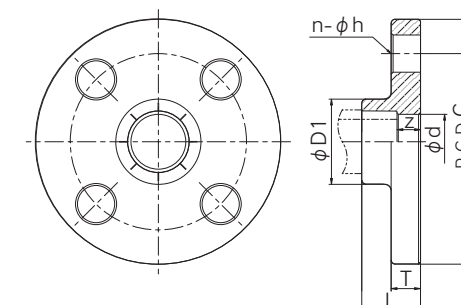
Nominal Size (mm)	Product Indication	D	L	z	Weight (kg)
15	d20	30	27	12.5	0.013
20	d25	36	30	14	0.019
25	d32	44	32	14	0.028
32	d40	55	36	15.5	0.039
40	d50	66	43	19.5	0.076
50	d63	85	47	19.5	0.129
65	d75	92	63	32	0.165
80	d90	111	74	38.5	0.296
100	d110	133.5	91	49.5	0.430

(Note) DIN16962-8

Socket Flange



15mm~50mm (d20~d63)

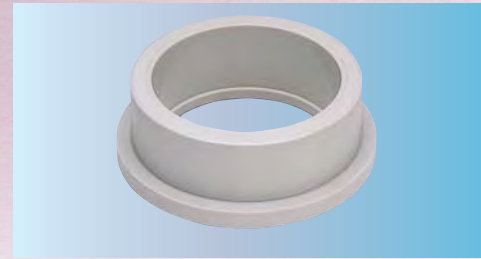


(Unit : mm)

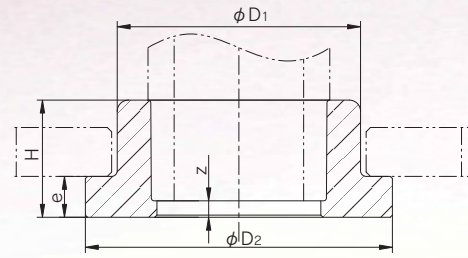
Nominal Size (mm)	Product Indication	D1	d	Z	T	L	JIS 10K				Weight (kg)
							D	C	n	h	
15	d20	30.5	16	15.5	14	30	95	70	4	15	0.090
20	d25	35.5	21	15.0	15	31	100	75	4	15	0.105
25	d32	43.5	28	13.0	15	31	125	90	4	19	0.161
32	d40	53.5	36	12.5	16	33	135	100	4	19	0.198
40	d50	66.0	45	10.5	16	34	140	105	4	19	0.215
50	d63	82.0	57	9.5	20	37	155	120	4	19	0.317
65	d75	92.5	69	23.0	22	54	175	140	4	19	0.452
80	d90	110.0	84	18.5	22	54	185	150	8	19	0.473
100	d110	134.5	102	12.5	22	54	210	175	8	19	0.613

(Note) Flange Standard is available only JIS 10K.

Flange Adapter



15mm~100mm (d20~d110)

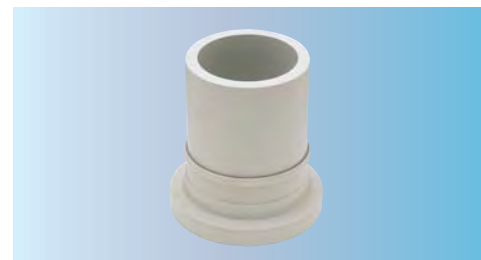


(unit : mm)

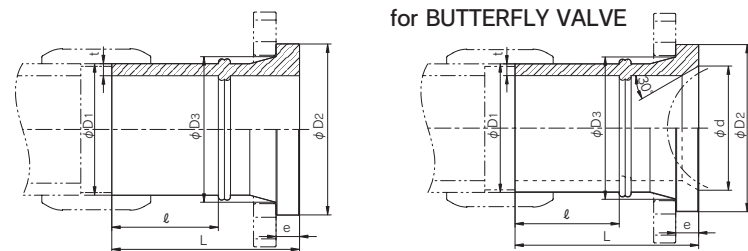
Nominal Size (mm)	Product Indication	D1	D2	e	H	z	Weight (kg)
15	d20	27.5	45	10	21.5	7	0.015
20	d25	33.5	56	10	22	6	0.023
25	d32	41.5	62	10	24.5	6.5	0.029
32	d40	50	74	11	28.5	8	0.044
40	d50	61	78	12	32	8.5	0.052
50	d63	76	93	14	36	8.5	0.081
65	d75	90	106	10.5	35	4	0.091
80	d90	109	125	11	43	7.5	0.156
100	d110	131	150	12.5	51	9.5	0.254

(Note) DIN16962-12

Flange Adapter



125mm~200mm (d140~d225)



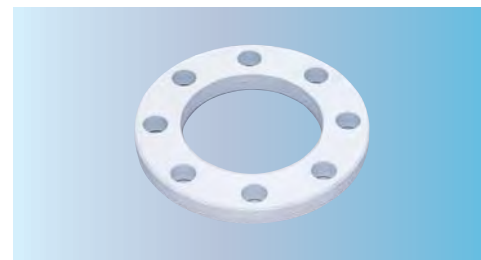
for BUTTERFLY VALVE

(unit : mm)

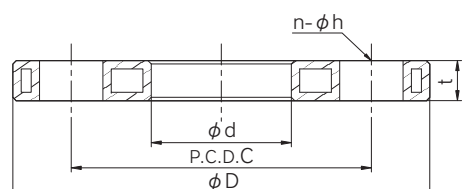
Nominal Size (mm)	Product Indication	D1	t	D2	D3 (for reference)	e	ℓ	L±2	d	Weight (kg)
125	d140	140	12.8	182	155	25	105 (Minimum)	195	125	5.7
150	d180	180	16.4	211	180	30	265 (for reference)	350	—	6.9
200	d225	225	20.5	262	235	32	250 (for reference)	370	200	11.3

(Note) The dimension of "D1" "t" are based on DIN8077(PIN10/SDR11)

Loose Flange



15mm~200mm (d20~d225)

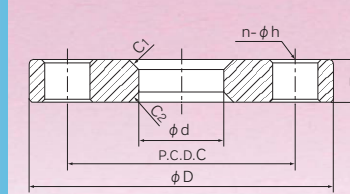
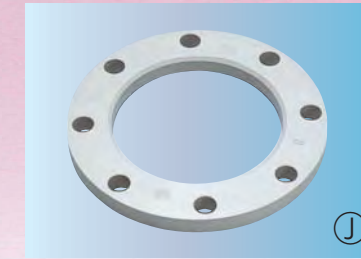


(unit : mm)

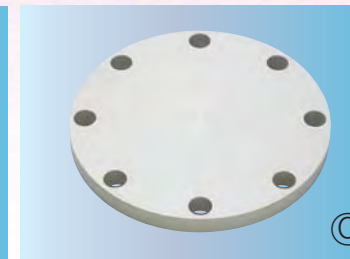
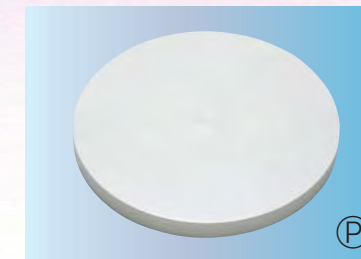
Nominal Size (mm)	Product Indication	d	JIS 10K				t	Weight (kg)
			D	C	n	h		
15	d20	28	95	70	4	15	12	0.243
20	d25	34	100	75	4	15	12	0.305
25	d32	42	125	90	4	19	16	0.470
32	d40	51	135	100	4	19	18	0.708
40	d50	62	140	105	4	19	18	0.785
50	d63	78	155	120	4	19	18	0.895
65	d75	92	175	140	4	19	18	1.165
80	d90	110	185	150	8	19	20	1.360
100	d110	133	210	175	8	19	20	1.695
125	d140	158	250	210	8	23	24	2.335
150	d180	183	280	240	8	23	24	3.220
200	d225	240	330	290	12	23	24	4.230

(Note) 1. material : STEEL+PPG lining.
2. Products conforming to the DIN and ANSI are also available.

Welded Flange



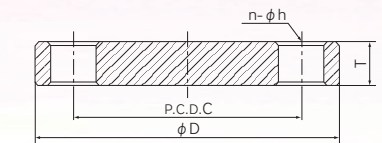
Blind Flange



(unit : mm)

Nominal Size (mm)	Product Indication	d	JIS 10 K				C1	C2	T
			C	D	n	h			
15	d20	20	70	95	4	15	3	3	12
20	d25	25	75	100	4	15	3	3	14
25	d32	32	90	125	4	19	3	3	14
32	d40	40	100	135	4	19	3	3	16
40	d50	50	105	140	4	19	3	3	16
50	d63	63	120	155	4	19	3	4	16
65	d75	75	140	175	4	19	3	4	18
80	d90	90	150	185	8	19	3	4	18
100	d110	110	175	210	8	19	3	4	18
125	d140	140	210	250	8	23	4	4	20
150	d180	180	240	280	8	23	4	4	22
200	d225	225	290	330	12	23	4	4	22
250	d250	250	355	400	12	25	4	4	24
300	d315	315	400	445	16	25	4	4	24

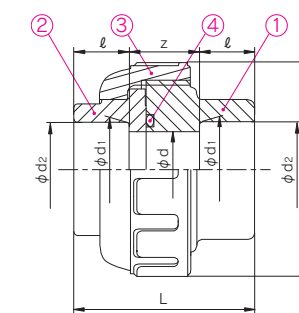
(Note) The dimension of "d" is based on DIN8077 PP pipe O.D.



Prefab Joint (21 type) DIN Socket



16mm~50mm (d20~d63)



(unit : mm)

Nominal Size (mm)	Product Indication	d	d1	d2	ℓ	D	L	z	Weight (kg)
16(15)	d20	15	19.3	19.5	14.5	46	40	11	0.030
20	d25	20	24.3	24.5	16	57	52	20	0.056
25	d32	25	31.3	31.5	18	67	58	22	0.089
30(32)	d40	31	39.2	39.45	20.5	79	65	24	0.133
40	d50	40	49.2	49.45	23.5	95	74	27	0.216
50	d63	51	62.1	62.5	27.5	104	90.5	35.5	0.262

(Note) The dimension of "d1" "d2" "ℓ" are based on DIN16962.

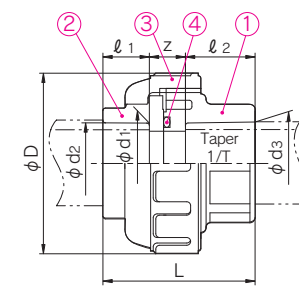
Parts & Materials

No.	Description	Pcs.	Materials
①	BODY	1	PP
②	END CONNECTOR	1	PP
③	UNION NUT	1	PP
④	O-RING	1	EPDM, FKM

Prefab Joint (21 type) DIN-JIS Socket



15mm~50mm



(unit : mm)

Nominal Size (mm)	DIN Socket (PP)					JIS Socket (U-PVC, C-PVC)		
	d1	d2	ℓ1	L±1.5	Z	d3	ℓ2	1/T
16(15)	19.3	19.50	14.5	41.5	7	22.11	20	1/34
20	24.3	24.50	16.0	53.0	13	26.13	24	1/34
25	31.3	31.50	18.0	59.0	14	32.16	27	1/34
30(32)	39.2	39.45	20.5	65.5	15	38.19	30	1/34
40	49.2	49.45	23.5	74.5	14	48.21	37	1/37
50	62.1	62.50	27.5	92.0	22.5	60.25	42	1/37

(Note) The dimension of "d1" "d2" "ℓ1" are based on DIN16962.

Parts & Materials

No.	Description	Pcs.	Materials
①	BODY	1	U-PVC, C-PVC
②	END CONNECTOR	1	PP
③	UNION NUT	1	U-PVC, C-PVC
④	O-RING	1	EPDM, FKM

Male Adapter

(unit : mm)



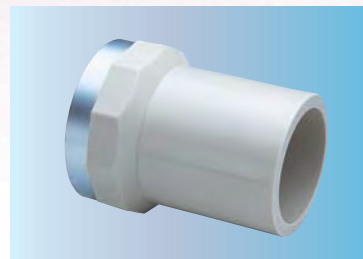
15mm~50mm (d20~d63)

Nominal Size (mm)	Product Indication	D	t	d	R	L	ℓ ₁	ℓ ₂	Z	Weight (kg)
15	d20	20	1.9	13	R1/2	60	37	15	24	0.009
20	d25	25	2.3	18	R3/4	62	40	15	27	0.012
25	d32	32	3.0	23	R1	70	44	19	36	0.021
32	d40	40	3.7	29	R1 1/4	76	49	20	46	0.037
40	d50	50	4.6	34	R1 1/2	84	55	21	55	0.057
50	d63	63	5.8	45	R2	93	63	22	65	0.095

(Note) 1. R : tapere pipe male threads.
2. Used for only PP pipe not steel pipe.

Female Adapter

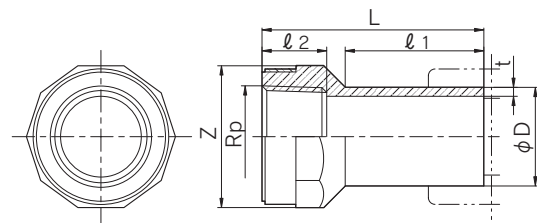
(unit : mm)



15mm~50mm (d20~d63)

Nominal Size (mm)	Product Indication	D	t	Rp	L	ℓ ₁	ℓ ₂	Z	Weight (kg)
15	d20	20	1.9	Rp1/2	58	37	16	30	0.016
20	d25	25	2.3	Rp3/4	63	40	18	36	0.022
25	d32	32	3.0	Rp1	71	44	21	46	0.039
32	d40	40	3.7	Rp1 1/4	79	49	23	55	0.056
40	d50	50	4.6	Rp1 1/2	84	55	24	60	0.078
50	d63	63	5.8	Rp2	97	63	29	75	0.138

(Note) 1. Rp : Paralle pipe female threads.
2. Used for only PP pipe not steel pipe.



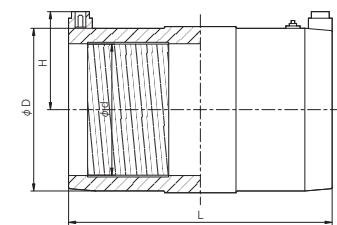
EF-Socket

(unit : mm)

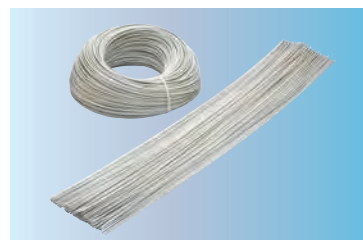


15mm~200mm (d20~d225)

Nominal Size (mm)	Product Indication	d	D	H	L	Weight (kg)
15	d20	20	30	36	70	0.042
20	d25	25	36	39	78	0.051
25	d32	32	44	41	80	0.071
32	d40	40	53	46	92	0.098
40	d50	50	64	51	104	0.137
50	d63	63	80	58	118	0.224
65	d75	75	96	64	132	0.342
80	d90	90	120	75	146	0.491
100	d110	110	137	82	162	0.801
125	d140	140	171	100	184	1.344
150	d180	180	220	123	212	2.481
200	d225	225	273	149	212	3.870



Welding Rod



Variety	diameter	package unit
Single	3	2kg (1m rod)
		4kg (roll type)
	4	2kg (1m rod)
		4kg (roll type)
5	2kg (1m rod)	
	4kg (roll type)	
Double	3	2kg (1m rod)

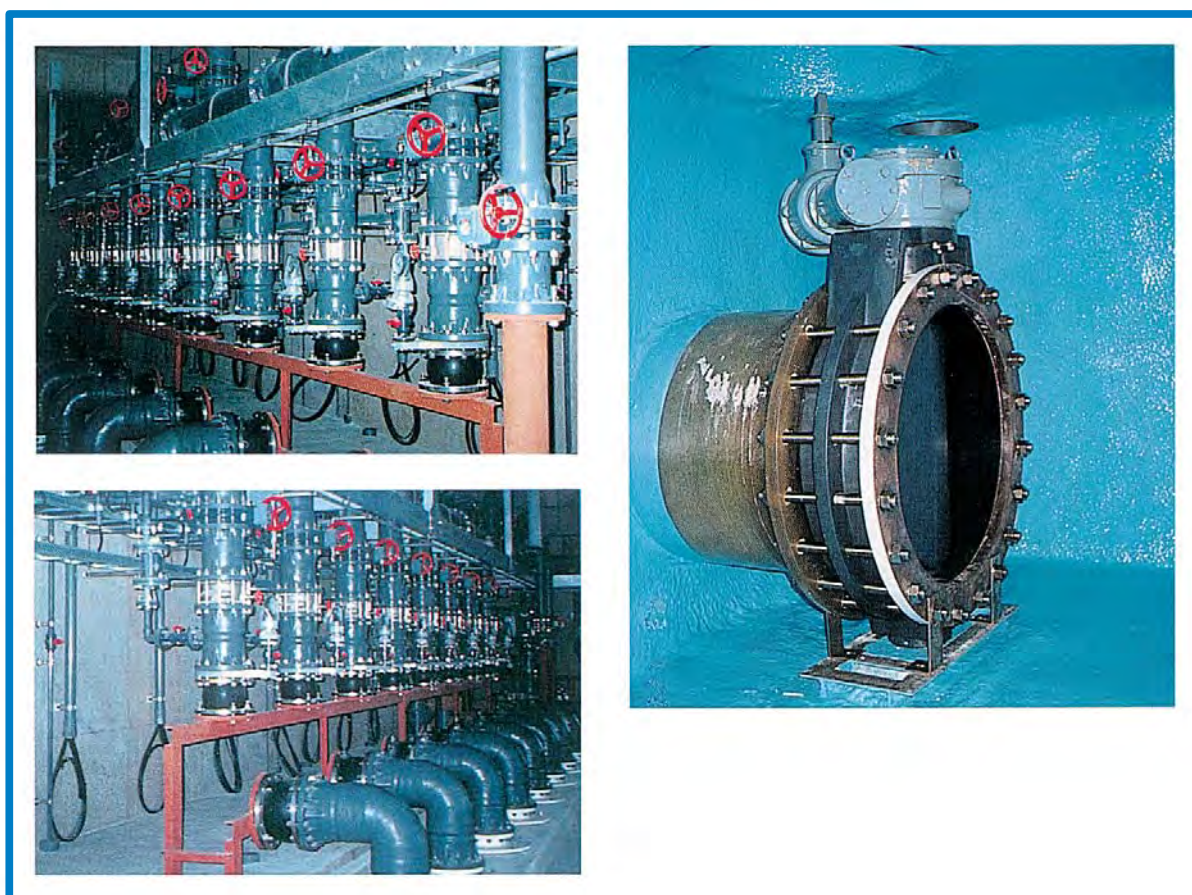
ENGINEERING

Our engineering department designs, produces and installs pipelines which consist of valves, regular pipes and composite pipes and equipment such as towers and ducts made of plastics.

The department has been engaged in piping of many projects for chemical Factories, Steel mills, Aquariums, Cultivation Sites, Semiconductor Factories, Soda Electrolysis, Swimming Pools, Sewerage, etc. throughout the world.

Many users are satisfied with our experienced know-how in piping and reliable, advanced technology.

It is our pleasure to respond to your inquiries including prefabricated products at any time.



ASAHI AV VALVE AND PIPING SYSTEMS

**ASAHI AV
TECHNICAL DATA**

The specifications in this brochure are subject to change without prior notice due to improvements and modifications.

TECHNICAL DATA FOR ASAHI AV VALVES

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TECHNICAL DATA FOR AV PIPES

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PIPES
JOINTS
BOLT, NUT, WASHER
FLANGES
FITTING
CEMENT
OTHER

TECHNICAL DATA FLOW CHARACTERISTICS

1. CAPACITY COEFFICIENT

1. 1 Cv VALUE

The Cv value is a coefficient that expresses quantitatively (in a numerical value) how much fluid flows through a specific valve. The concept of the Cv value was first developed by the Fluid Control Institution, USA, in 1958. There are other coefficients (absolute numbers) based on a concept similar to that of the Cv value. They are the Av value and the Kv value. On the mainstream in Japan is the Cv value. Since the Kv value was announced in Germany in 1960, there have been trends toward the international unification of these values into a single one. The Cv value is becoming part of the mainstream not only in Japan but internationally as well, at ISO international conferences.

The concept of the capacity coefficient can be expressed by the following equation :

[General Equation] $C = Q \sqrt{\rho / \Delta P}$ (1)

C; Capacity coefficient
 Q; Flow rate
 ΔP ; Differential pressure
 ρ , G; Specific gravity

Cv value = 1 means that:

The differential pressure (pressure loss) across the valve is 1PSI{1lb/in²} (about 0.07kgf/cm²) and clean water (concentration $\rho = 1$) at 60° F (about 15.5°C) flows at a flowrate of 1USgal/min (about 0.2271m³/hr). That is, the relationship between flow rate and differential pressure (pressure loss) is determined by the Cv value.

In Japan, differential pressure (pressure loss) is expressed in kgf/cm² instead of PSI. When the flowrate is expressed in m³/hr, Equation (1) for the capacity coefficient becomes something like the following :

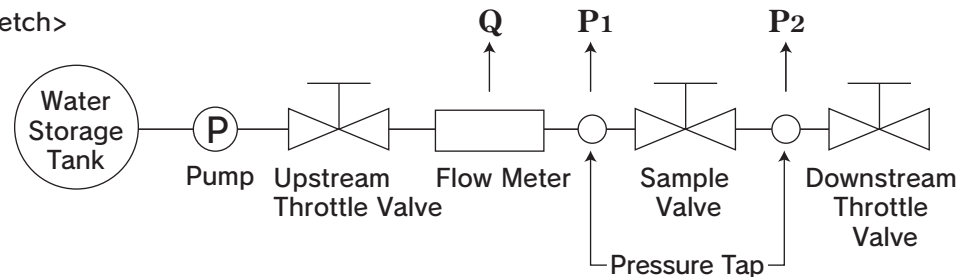
$Cv = 1.17Q \sqrt{G / \Delta P}$ (2)

Cv ; Capacity coefficient
 Q ; Flowrate (m³/hr)
 ΔP ; Differential pressure (kgf/cm²)
 G ; Specific gravity

1. 2 HOW TO MEASURE Cv VALUE

A method of measurement is now available as the standard applicable in JIS B 2005 and IEC 534. An example is outlined below.

<Descriptive sketch>



Set the differential pressure across the sample valve to 0.75kgf/cm² and measure the rate of flow at that time. Then, adjust the differential pressure in step from 0.75kgf/cm² to 0.07kgf/cm² (= 1PSI = 1lbf/in²), and measure the flow rate(in m³/hr). For large - diameter valves, it is very difficult (impossible) to set their differential pressure to 0.75kgf/cm² * 2, begin at the point where the pressure is adjusted progressively, and take measurements up to 0.07kgf/cm². Substitute the value at that time in equation (2) shown on the last page, then determine the Cv value.

This is a "table of Cv values when Asahi AV valves are fully open" Also shown is a "table of Cv values by flow qty% us valve opening to" (and subsequent pages), which presents data necessary for valves used for control. The Cv value represent the flow characteristics of each valve.

1. 3 TABLE Cv VALUE OF "ASAHI AV VALVE" FULLY OPEN

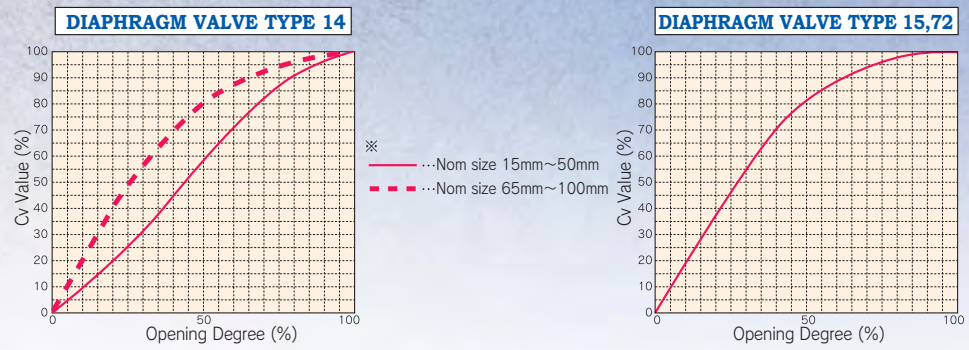
Valve	Nominal Size mm (inch)																				
	13[1/2]	15	20	25	30[1 1/4]	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	
	(3/8)	(1/2)	(3/4)	(1)	(1 1/4)	(1 1/2)	(2)	(2 1/2)	(3)	(4)	(5)	(6)	(8)	(10)	(12)	(14)	(16)	(18)	(20)	(24)	
DIAPHRAGM VALVE TYPE 72 and 15																					
DIAPHRAGM VALVE TYPE 14																					
BALL VALVE TYPE 21	7.7	4.8	5.3	8.5	11	26	43	85	115	185											
3-WAY BALL VALVE (L-port)		14	29	47	72	155	190	365	410	680											
3-WAY BALL VALVE (Double-L-port)		6.3	8.5	20	23	43	59	99	130	260											
3-WAY BALL VALVE (Cross-port)		7.8	13	23	23	65	98			200											
COMPACT BALL VALVE	7.7	14	29	47	72	140	185			410											
BUTTERFLY VALVE TYPE 57, 56 and 75						71	120	250	300	470	830	1100	2500	3860	5700	6440	8340	10890	14060	18500	
BUTTERFLY VALVE TYPE 57L (Lug Style)									300	470		1100									
BUTTERFLY VALVE TYPE 55							100		285	600	940	1500	2500	4200							
STOP VALVE "GLOVE VALVE"		4.1	6.4	9.7	18	22	29	57	78	115											
STOP VALVE "GLOVE VALVE"(needle type)		3.3	5.2	7.5		19	28	58	85	109											
GATE VALVE (P-type)						130	180	415	470	690	1000	1400	2900	3700	5200	7000					
GATE VALVE (S-type)						130	180	415	470	690	1000	1400	2900	3700							
BALL CHECK VALVE		6.5	17	25		86	130		280	500											
SWING CHECK VALVE			14	24		81	140	250	280	510	750	1100	1900								
STRAINER (Y)		5.2	7.5	14		34	50		110	165											
BALL FOOT VALVE		6.5	17	25		86	130		280	500											

Valve	Nominal Size (mm)					
	1/4, 1/2, 3/8	15 (6mm)	20 (6mm)	25 (6mm)	25 (15mm)	25 (15mm)
LAB COCK	1.6	-	-	-	-	-
NEEDLE VALVE	-	0.7	0.7	0.7	0.7	6

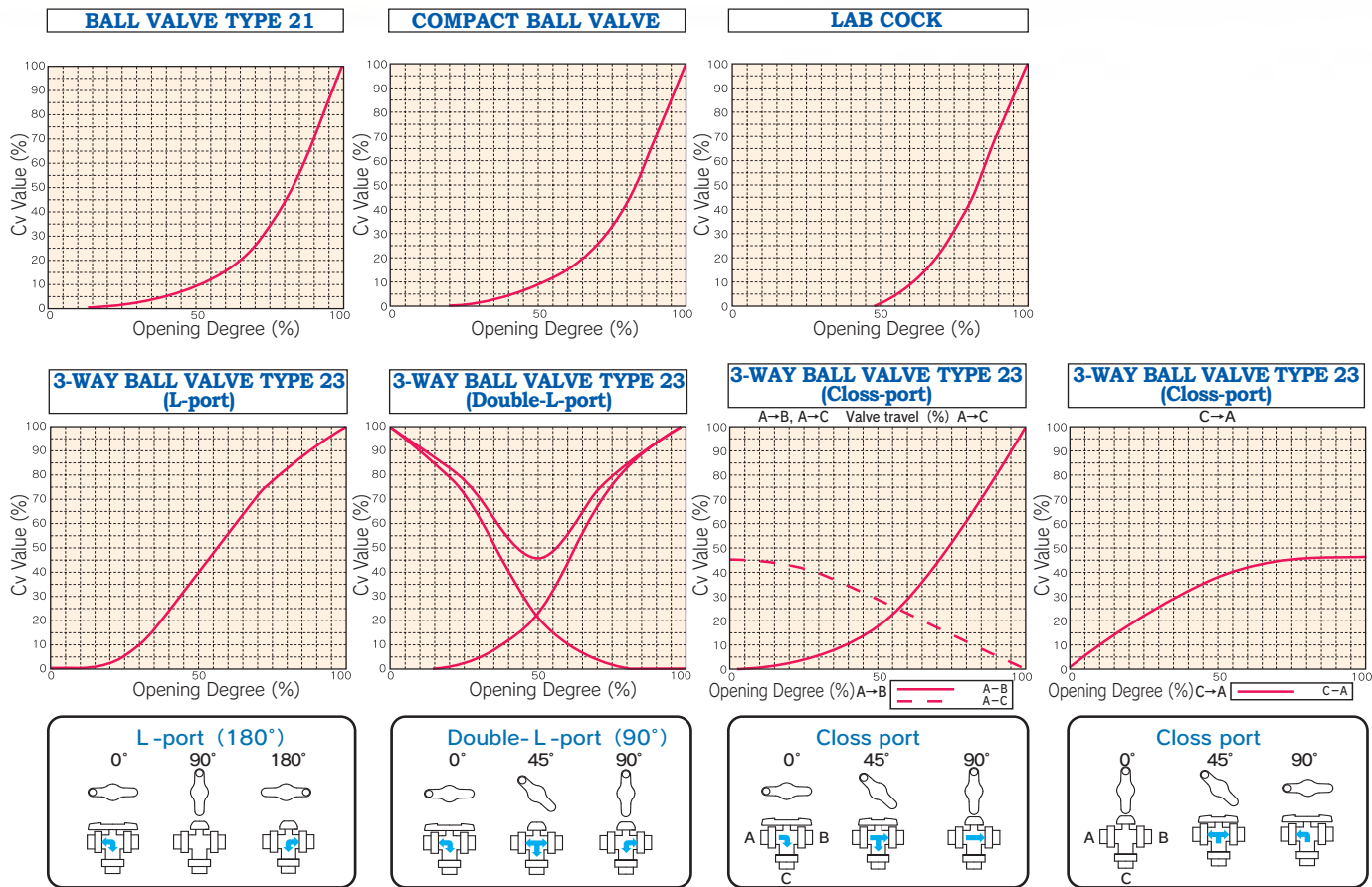
PDCPD BUTTERFLY VALVE

Valve (inch)	700(28)	800(32)	900(36)	1,000(40)	1,100(44)	1,200(48)
Cv Value	32,000	43,000	55,000	70,000	86,000	100,000

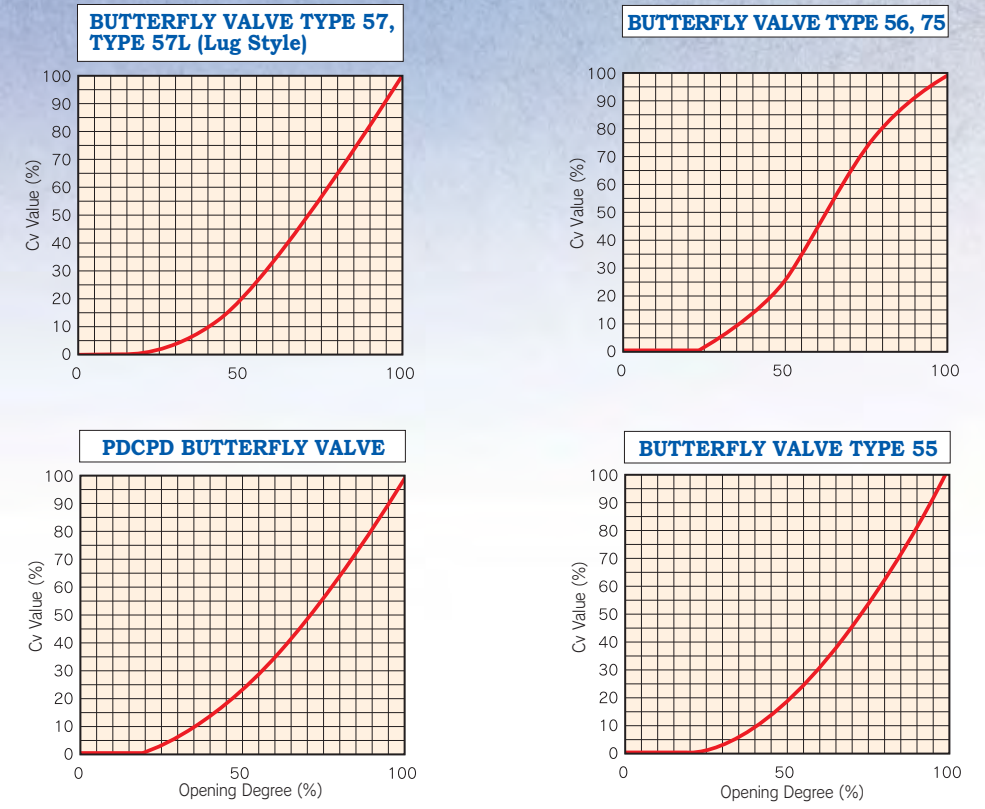
Diaphragm Valve



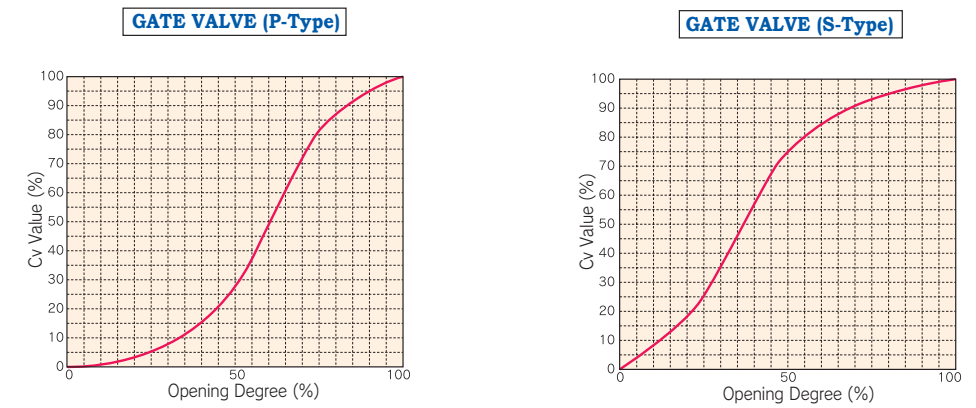
Ball Valve



Butterfly Valve



Gate Valve



TECHNICAL DATA WEIGHT LIST

DIAPHRAGM VALVE

Flanged Unit:kg, Lb

Nominal Size	Body		PVC		C-PVC		PP		PVDF		PVDF		Type
	Bonnet		PVC		PP		PP		PPG		PVDF		
	Unit		kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	
14	15 mm	1/2 inch	0.7	1.5	0.7	1.5	0.6	1.3	0.8	1.8	0.8	1.8	
	20	3/4	0.8	1.8	0.8	1.8	0.6	1.3	0.9	2.0	0.9	2.0	
	25	1	1.1	2.4	1.1	2.4	0.8	1.8	1.2	2.6	1.3	2.9	
	32	1 1/4	1.4	3.1	1.4	3.1	1.0	2.2	1.5	3.3	1.6	3.5	
	40	1 1/2	2.8	6.2	2.7	6.0	2.2	4.9	2.9	6.4	3.1	6.8	
	50	2	3.6	7.9	3.5	7.7	2.8	6.2	3.9	8.6	4.1	9.0	
	65	2 1/2	5.6	12.3	5.3	11.7	4.2	9.3	6.0	13.2	6.5	14.3	
	80	3	7.4	16.3	7.2	15.9	5.4	11.9	7.4	16.3	8.4	18.5	
	100	4	11.5	25.4	12.6	27.8	8.3	18.3	12.5	27.5	13.1	28.9	
	125	5	22.0	48.5	—	—	19.5	43.0	23.5	51.8	26.3	58.0	
15	150	6	34.5	76.1	—	—	30.5	67.3	35.5	78.3	40.7	89.7	
	200	8	52.6	116.0	—	—	45.0	99.2	57.3	126.3	62.3	137.4	
	250	12	93.3	205.7	—	—	77.3	170.4	97.6	215.2	110.2	243.0	

True Union (Socket) Unit:kg, Lb

Nominal Size	Body		PVC		C-PVC		PP		PVDF		PVDF		Type
	Bonnet		PVC		PP		PP		PPG		PVDF		
	Unit		kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	
14	15 mm	1/2 inch	0.5	1.1	0.5	1.1	0.4	0.9	0.6	1.3	0.6	1.3	True Union 14
	20	3/4	0.6	1.3	0.6	1.3	0.5	1.1	0.7	1.5	0.7	1.5	
	25	1	0.9	2.0	0.9	2.0	0.7	1.5	1.0	2.2	1.1	2.4	
	32	1 1/4	1.1	2.4	1.1	2.4	0.8	1.8	1.2	2.6	1.3	2.9	
	40	1 1/2	2.6	5.7	2.5	5.5	2.0	4.4	2.7	6.0	2.9	6.4	
	50	2	2.9	6.4	2.8	6.2	2.3	5.1	3.1	6.8	3.3	7.3	

BALL VALVE

Type 21 Unit:kg, Lb

Nominal Size	Material Unit	Flanged								Threaded								Socket·Spigot							
		PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF	
		kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb
15mm	1/2 inch	0.4	0.9	0.4	0.9	0.3	0.7	0.5	1.1	0.2	0.4	0.2	0.4	0.2	0.4	0.2	0.4	0.2	0.4	0.2	0.4	0.2	0.4	0.2	0.4
20	3/4	0.6	1.3	0.7	1.5	0.5	1.1	0.7	1.5	0.3	0.7	0.3	0.7	0.3	0.7	0.4	0.9	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7
25	1	0.8	1.8	0.9	2.0	0.7	1.5	1.0	2.2	0.4	0.9	0.5	1.1	0.4	0.9	0.5	1.1	0.5	1.1	0.5	1.1	0.4	0.9	0.5	1.1
32	1 1/4	1.2	2.6	1.3	2.9	0.9	2.0	1.5	3.3	0.7	1.5	0.7	1.5	0.6	1.3	0.8	1.8	0.7	1.5	0.7	1.5	0.5	1.1	0.7	1.5
40	1 1/2	1.7	3.7	1.8	4.0	1.2	2.6	2.0	4.4	1.1	2.4	1.2	2.6	0.7	1.5	1.3	2.9	1.0	2.2	1.0	2.2	0.8	1.8	1.2	2.6
50	2	2.5	5.5	2.7	6.0	1.8	4.0	3.7	8.2	1.8	4.0	2.0	4.4	1.2	2.6	2.2	4.9	1.8	3.9	1.8	4.0	1.2	2.6	2.0	4.4
65	2 1/2	3.3	7.3	3.5	7.7	2.4	5.3	4.0	8.8	2.3	5.1	2.5	5.5	1.7	3.7	2.8	6.2	2.4	5.3	2.6	5.7	1.7	3.7	2.8	6.2
80	3	4.9	10.8	5.5	12.1	3.4	7.5	5.7	12.6	3.7	8.2	4.0	8.8	2.5	5.5	4.5	9.9	3.8	8.4	4.1	9.0	2.4	5.3	4.4	9.7
100	4	10.5	23.2	10.6	23.4	7.0	15.4	12.1	26.7	8.8	19.4	9.9	21.8	6.0	13.2	11.3	24.9	9.2	20.3	9.9	21.8	6.0	13.2	10.8	23.8

3-Way Ball Valve Type 23 Unit:kg, Lb

Nominal Size	Material Unit	Flanged								Socket								Threaded							
		PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF	
		kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb
15mm	1/2 inch	0.5	1.1	0.5	1.1	0.3	0.7	0.6	1.3	0.2	0.4	0.2	0.4	0.1	0.2	0.2	0.4	0.2	0.4	0.3	0.7	0.2	0.4	0.4	0.9
20	3/4	0.8	1.8	0.9	2.0	0.5	1.1	0.9	2.0	0.4	0.9	0.4	0.9	0.2	0.4	0.4	0.9	0.4	0.9	0.4	0.9	0.2	0.4	0.4	0.9
25	1	1.3	2.9	1.4	3.1	0.8	1.8	1.5	3.3	0.6	1.3	0.6	1.3	0.4	0.9	0.7	1.5	0.6	1.3	0.6	1.3	0.4	0.9	0.7	1.5
32	1 1/4	2.2	4.9	2.4	5.3	1.4	3.1	2.6	5.7	1.3	2.9	1.4	3.1	0.8	1.8	1.5	3.3	1.4	3.1	1.5	3.3	0.9	2.0	1.7	3.7
40	1 1/2	2.2	4.9	2.4	5.3	1.4	3.1	2.6	5.7	1.3	2.9	1.4	3.1	0.8	1.8	1.5	3.3	1.4	3.1	1.5	3.3	0.9	2.0	1.7	3.7
50	2	3.5	7.7	3.7	8.2	2.2	4.9	4.0	8.8	2.5	5.5	2.7	6.0	1.6	3.5	2.9	6.4	2.6	5.7	2.8	6.2	1.7	3.7	3.1	6.8
65	2 1/2	7.0	15.4	7.5	16.5	4.4	9.7	8.5	18.7	5.8	12.9	5.8	12.9	3.5	7.7	6.8	15.0	5.5	12.1	6.0	13.2	3.5	7.7	6.5	14.3
80	3	7.0	15.4	7.5	16.5	4.4	9.7	8.5	18.7	6.0	13.2	6.0	13.2	3.6	7.9	7.0	15.4	5.5	12.1	6.0	13.2	3.5	7.7	6.5	14.3
100	4	14.0	30.9	15.0	33.1	9.0	19.8	16.5	36.4	13.5	29.8	14.0	30.9	8.5	18.7	15.5	34.2	13.0	28.7	14.0	30.9	8.5	18.7	15.5	34.2

Compact Ball Valve Unit:kg, Lb

Nominal Size	Material Unit	Socket·Threaded			
		PVC		C-PVC	
		kg	Lb	kg	Lb
13 mm	1/2 inch	0.10	0.2	0.10	0.2
15	1/2	0.12	0.3	0.15	0.3
20	3/4	0.21	0.5	0.25	0.6
25	1	0.32	0.7	0.40	0.9
32	1 1/4	0.50	1.1	0.55	1.2
40	1 1/2	0.57	1.3	0.60	1.3
50	2	0.86	1.9	1.00	2.2
80	3	2.50	5.5	3.00	6.6

Lab Cock Unit:g, Lb

Connection Standard	Material Unit	PVC	
		g	Lb
1/4inch Male Thread×1/4inch Male Thread		25	0.06
1/2inch Male Thread×1/2inch Male Thread		30	0.07
1/4inch Female Thread×1/4inch Female Thread		30	0.07
3/8inch Female Thread×3/8inch Female Thread		30	0.07
1/4inch Hose×1/4inch Hose		25	0.06
1/2inch Male Thread×Elbow 16mm		55	0.12

BUTTERFLY VALVE

LEVER TYPE/GEAR TYPE

Unit:kg, Lb

Nominal Size (mm/inch)	Unit	Type 57, 56, 75												Type 56D, 75D	Type 57L (Lug Style)				Type 55				Damper Style												
		PVC/PP				PP/PP				PVDF/PVDF				PDCPD	PDCPD				FCD-S				PVC/PP		PP/PP		PVDF/PVDF								
		LEVER		GEAR		LEVER		GEAR		LEVER		GEAR		GEAR	LEVER		GEAR		LEVER		GEAR		LEVER		GEAR		LEVER		GEAR						
kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb						
40	1 1/2	1.3	2.9	3.4	7.5	1.1	2.4	3.1	6.8	1.4	3.1	3.5	7.7	-	-	-	-	-	-	-	1.1	2.4	3.1	6.9	0.9	2.0	3.0	6.6	1.4	3.1	3.3	7.3			
50	2	1.5	3.3	3.5	7.7	1.2	2.6	3.3	7.3	1.7	3.7	3.8	8.4	-	-	-	-	3.0	6.6	5.0	11.0	1.3	2.9	3.3	7.3	1.0	2.2	3.1	6.9	1.7	3.7	3.6	8.0		
65	2 1/2	1.7	3.7	3.8	8.4	1.4	3.1	3.4	7.5	1.9	4.2	4.0	8.8	-	-	-	-	-	-	-	1.5	3.3	3.5	7.8	1.2	2.6	3.3	7.3	2.0	4.4	3.7	8.1			
80	3	1.9	4.2	3.9	8.6	1.6	3.5	3.6	7.9	2.2	4.9	4.2	9.3	-	-	2.8	6.2	4.9	10.8	4.5	9.9	6.5	14.3	1.7	3.7	3.7	8.2	1.3	2.9	3.4	7.5	2.3	5.1	4.0	8.8
100	4	2.5	5.5	4.5	9.9	2.0	4.4	4.0	8.8	2.9	6.4	4.9	10.8	-	-	3.5	7.7	5.6	12.4	6.0	13.2	8.0	17.6	2.2	4.9	4.2	9.3	1.7	3.7	3.8	8.4	3.1	6.9	4.8	10.6
125	5	4.9	10.8	6.5	14.3	4.0	8.8	5.6	12.3	5.7	12.6	7.3	16.1	-	-	6.9	15.2	9.0	19.9	10.5	23.2	11.5	25.4	4.4	9.7	6.0	13.2	3.5	7.7	5.1	11.3	5.3	11.7	6.9	15.3
150	6	5.8	12.8	7.4	16.3	4.6	10.1	6.2	13.7	6.9	15.2	8.5	18.7	-	-	8.1	17.9	9.6	21.2	-	14.5	32.0	5.3	11.7	6.9	15.2	4.2	9.3	5.8	12.8	6.6	14.6	8.1	17.9	
200	8	9.3	20.5	10.7	23.6	7.4	16.3	8.9	19.6	11.0	24.3	12.5	27.6	-	-	15.0	33.2	16.5	36.5	-	23.0	50.7	8.4	18.5	9.9	21.8	6.6	14.5	8.1	17.9	10.1	22.3	12.0	26.5	
250	10	-	14.7	32.4	-	12.2	26.9	-	18.6	41.0	-	-	-	-	-	22.7	50.2	-	32.9	72.6	-	32.9	72.6	11.2	24.7	13.7	30.2	8.0	17.6	10.5	23.2	22.5	49.6	25.0	55.1
300	12	-	28.0	61.7	-	24.0	52.9	-	34.5	76.1	-	-	-	-	-	-	-	-	-	-	17.0	37.5	22.5	49.6	15.0	33.1	20.5	45.2	32.7	72.1	38.2	84.2			
350	14	-	30.2	66.6	-	26.3	58.0	-	36.8	81.1	-	-	-	-	-	-	-	-	-	-	19.0	41.9	24.5	54.0	16.0	35.3	21.5	47.4	35.2	77.6	40.7	89.7			
400	16	-	-	-	36.0	79.4	-	46.0	101.4	47	103	-	-	-	-	-	-	-	-	-	-	-	22.0	48.5	27.5	60.6	48.5	106.9	54.0	119.1					
450	18	-	-	-	63.5	140.0	-	103.0	227.1	100	221	-	-	-	-	-	-	-	-	-	-	-	28.0	61.7	33.5	73.9	50.0	110.3	55.5	122.4					
500	20	-	-	-	77.0	169.8	-	124.0	273.1	114	252	-	-	-	-	-	-	-	-	-	-	-	36.0	79.4	41.5	91.5	57.5	126.8	63.0	138.9					
600	24	-	-	-	114.0	251.4	-	157.0	346.2	140	309	-	-	-	-	-	-	-	-	-	-	-	66.0	145.5	71.5	157.7	79.0	174.2	84.5	186.3					

Unit:kg, Lb

Name	Nominal Size mm(inch)	Unit	700(28)		800(32)		900(36)		1000(40)		1100(44)		1200(48)	
			kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb
PDCPD (Manual)			380	839	460	1013	550	1213	830	1830	1000	2205	1100	2425

GATE VALVE

Flanged

Unit:kg, Lb

Type			40mm (1 1/2inch)		50mm (2inch)		65mm (2 1/2inch)		80mm (3inch)		100mm (4inch)		125mm (5inch)		150mm (6inch)		200mm (8inch)		250mm (10inch)		300mm (12inch)		350mm (14inch)	
Unit			kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb
TYPE-P	Non-Rising	Hand Wheel	2.5	5.5	3.5	7.7	5.5	12.1	7.0	15.4	8.5	18.7	13.5	29.8	19.5	43.0	29.5	65.0	42.0	92.6	68.0	149.9	81.5	179.7
		Cap	3.5	7.7	4.5	9.9	6.0	13.2	8.0	17.6	9.5	20.9	14.5	32.0	20.0	44.1	30.0	66.2	43.0	94.8	68.5	151.0	82.0	180.8
TYPE-S	Non-Rising	Hand Wheel	3.0	6.6	4.0	8.8	5.5	12.1	8.0	17.6	12.5	27.6	15.0	33.1	22.5	49.6	31.5	69.5	-	-	-	-	-	-
		Cap	4.0	8.8	5.0	11.0	6.0	13.2	9.0	19.8	13.0	28.7	15.5	34.2	23.0	50.7	32.0	70.6	-	-	-	-	-	
	Rising	Hand Wheel	3.2	7.1	4.5	9.9	7.5	16.5	8.3	18.3	12.6	27.8	24.0	52.9	24.8	54.7	44.5	98.1	71.0	156.6	-	-	-	-
		Cap	-	-	-	-	-	-	-	-	13.0	28.7	-	-	25.7	56.7	35.0	77.2	60.0	132.3	-	-	-	-

SWINGCHECK VALVE

Flanged

Unit:kg, Lb

Nominal Size	Material	HI-PVC		PP		PVDF	
		kg	Lb	kg	Lb	kg	Lb
15mm	1/2 inch	0.8	1.8	0.6	1.3	1	2.2
20	3/4	0.9	2.0	0.6	1.3	1	2.2
25	1	1.7	3.7	1.2	2.6	2	4.4
32	1 1/4	2.6	5.7	1.7	3.7	3	6.6
40	1 1/2	2.6	5.7	1.7	3.7	3	6.6
50	2	4	8.8	2.7	6.0	4.6	10.1
65	2 1/2	5.5	12.1	3.5	7.7	6.5	14.3
80	3	6	13.2	4	8.8	7.5	16.5
100	4	10.5	23.2	7	15.4	12	26.5
125	5	16	35.3	12	26.5	20	44.1
150	6	22	48.5	16	35.3	27	59.5
200	8	34.5	76.1	24.5	54.0	42	92.6

BALLCHECK VALVE

Unit:kg, Lb

Nominal Size	Type	Material	Flanged						Threaded						Socket, Spigot									
			U-PVC		C-PVC		PVDF		U-PVC		C-PVC		PP		PVDF		U-PVC		C-PVC		PP		PVDF	
			kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb
15mm	1/2 inch	0.3	0.6	0.3	0.7	0.3	0.7	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2
20	3/4	0.4	0.8	0.4	0.9	0.5	1.0	0.2	0.3	0.2	0.4	0.1	0.2	1.2	2.6	0.2	0.4	0.2	0.4	0.1	0.2	0.2	0.4	
25	1	0.6	1.3	0.7	1.4	0.7	1.5	0.3	0.6	0.3	0.6	0.2	0.4	0.3	0.7	0.3	0.6	0.3	0.6	0.2	0.3	0.3	0.7	
40	1 1/2	1.1	2.4	1.1	2.4	1.3	2.9	0.6	1.3	0.7	1.4	0.4	0.9	0.7	1.5	0.6	1.3	0.6	1.4	0.3	0.7	0.7	1.5	
50	2	1.8	3.9	1.6	3.5	1.8	4.0	0.8	1.9	0.9	1.9	0.6	1.3	1	2.2	0.8	1.8	0.9	1.9	0.5	1.1	1.1	2.4	
80	3	4	8.8	4.3	9.5	4.9	10.8	2.2	4.9	2.4	5.3	1.5	3.3	2.9	6.4	2.4	5.3	2.6	5.7	1.5	3.3	2.8	6.2	
100	4	7.2	15.9	11.0	24.3	12	26.5	5.8	12.8	6.2	13.7	3.7	8.2	7	15.4	5.9	13.0	6.1	13.4	3	6.6	6.5	14.3	

Y-SEDIMENT STRAINER

Unit:kg, Lb

Nominal Size	Type	Material	Flanged		Threaded		Socket	
			U-PVC		U-PVC		U-PVC	
			kg	Lb	kg	Lb	kg	Lb
15mm	1/2 inch	0.5	1.1	0.3	0.6	0.3	0.6	
20	3/4	0.8	1.8	0.5	1.1	0.5	1.0	
25	1	1.2	2.6	0.8	1.7	0.7	1.5	
32	1 1/4	2.5	5.5	2.0	4.4	2.0	4.4	
40	1 1/2	2.2	4.9	1.6	3.5	1.5	3.3	
50	2	2.8	6.2	1.9	4.2	1.8	4.0	
65	2 1/2	6.3	13.9	5.3	11.7	5.4	11.9	
80	3	6.5	14.3	6.0	13.2	5.4	11.9	
100	4	20.5	45.2	19.5	43.0	18.0	39.7	

CONSTANT FLOW VALVE

Unit:kg, Lb

Nominal Size	Type	Material	Flanged	
			U-PVC	
			kg	Lb
15mm	1/2 inch	1.4	30.9	
20	3/4	1.5	33	
25	1	1.5	33	
50	2	5	110.3	
80	3	8.5	1	

DIAPHRAGM VALVE

Diaphragm Valve Type 14

Unit:kg, Lb

Driving Method	Electric Actuator										Pneumatic Actuator														
	Type H										Type AN, Type AV														
Actuator Type	Type H										Double Acting					Air to Open									
	PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF		
Unit	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	
Nominal Size (mm)	15	8.0	17.6	8.0	17.6	7.5	16.5	8.0	17.6	2.5	5.5	2.5	5.5	2.0	4.4	2.5	5.5	3.0	6.6	3.0	6.6	2.5	5.5	3.0	6.6
	20	8.0	17.6	8.0	17.6	7.5	16.5	8.0	17.6	2.5	5.5	2.5	5.5	2.0	4.4	2.5	5.5	3.0	6.6	3.0	6.6	2.5	5.5	3.0	6.6
	25	8.0	17.6	8.0	17.6	8.0	17.6	8.5	18.7	2.5	5.5	2.5	5.5	2.5	5.5	3.0	6.6	3.0	6.6	3.0	6.6	3.0	6.6	3.5	7.7
	32	8.5	18.7	8.5	18.7	8.0	17.6	8.5	18.7	3.0	6.6	3.0	6.6	2.5	5.5	3.0	6.6	3.5	7.7	3.5	7.7	3.0	6.6	3.5	7.7
	40	9.5	20.9	9.5	20.9	9.0	19.8	9.5	20.9	5.5	12.1	5.5	12.1	5.0	11.0	5.5	12.1	7.0	15.4	7.0	15.4	6.5	14.3	7.0	15.4
	50	10.5	23.2	10.5	23.2	9.5	20.9	10.5	23.2	6.5	14.3	6.5	14.3	5.5	12.1	6.5	14.3	8.0	17.6	8.0	17.6	7.0	15.4	8.0	17.6
	65	15.0	33.1	15.0	33.1	14.0	30.9	15.5	34.2	10.0	22.1	10.0	22.1	9.0	19.8	10.5	23.2	22.5	49.6	22.5	49.6	21.5	47.4	23.0	50.7
	80	16.5	36.4	16.5	36.4	15.0	33.1	17.0	37.5	12.0	26.5	12.0	26.5	12.5	27.6	12.5	27.6	34.5	76.1	34.5	76.1	33.0	72.8	35.0	77.2
	100	19.5	43.0	19.5	43.0	17.0	37.5	20.0	44.1	19.0	41.9	19.0	41.9	16.5	36.4	19.5	43.0	61.0	134.5	61.0	134.5	58.5	129.0	61.5	135.6

Unit:kg, Lb

Driving Method	Pneumatic Actuator												
	Type AN, Type AV												
Actuator Type	Air to Close												
	PVC		C-PVC		PP		PVDF		PVC		PVDF		
Unit	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	
Nominal Size (mm)	15	2.6	5.7	2.6	5.7	2.1	4.6	2.6	5.7	2.6	5.7	2.6	5.7
	20	2.6	5.7	2.6	5.7	2.1	4.6	2.6	5.7	2.6	5.7	2.6	5.7
	25	2.6	5.7	2.6	5.7	2.6	5.7	3.1	6.8	2.6	5.7	3.1	6.8
	32	3.1	6.8	3.1	6.8	2.6	5.7	3.1	6.8	3.1	6.8	3.1	6.8
	40	5.7	12.6	5.7	12.6	5.2	11.5	5.7	12.6	5.7	12.6	5.7	12.6
	50	6.7	14.8	6.7	14.8	5.7	12.6	6.7	14.8	6.7	14.8	6.7	14.8
	65	17.0	37.5	17.0	37.5	16.0	35.3	17.5	38.6	17.0	37.5	17.0	37.5
	80	24.5	54.0	24.5	54.0	23.0	50.7	25.0	55.1	24.5	54.0	24.5	54.0
	100	45.5	100.3	45.5	100.3	43.0	94.8	46.0	101.4	45.5	100.3	45.5	100.3

* 15mm - 50mm(1/2inch - 2inch) for Type-AN, 65mm - 100mm for Type-AV

True Union Diaphragm Valve Type 14

Unit:kg, Lb

Driving Method	Electric Actuator										Pneumatic Actuator														
	Type H										Type AN														
Actuator Type	Type H										Type AN														
	Type H										Double Acting					Air to Open									
Body Material	PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF		
	Unit	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb
Nominal Size (mm)	15	8.0	17.6	8.0	17.6	7.5	16.5	8.0	18.0	2.3	5.1	2.3	5.1	1.8	4.0	2.3	5.1	2.3	5.1	2.8	6.2	2.3	5.1	2.8	6.2
	20	8.0	17.6	8.0	17.6	7.5	16.5	8.0	18.0	2.3	5.1	2.3	5.1	1.9	4.2	2.3	5.1	2.8	6.2	2.8	6.2	2.4	5.3	2.8	6.2
	25	8.0	17.6	8.0	17.6	8.0	17.6	8.5	19.0	2.3	5.1	2.3	5.1	2.4	5.3	2.8	6.2	2.8	6.2	2.8	6.2	2.9	6.4	2.8	6.2
	32	8.5	18.7	8.5	18.7	8.0	17.6	8.5	19.0	2.7	6.0	2.7	6.0	2.4	5.3	2.8	6.2	3.2	7.1	3.2	7.1	2.9	6.4	3.2	7.1
	40	9.5	20.9	9.5	20.9	9.0	20.0	9.5	20.9	5.3	11.7	5.3	11.7	4.8	10.6	5.3	11.7	6.3	13.9	6.3	13.9	6.3	13.9	6.8	15.0
	50	10.5	23.2	10.5	23.2	9.5	21.0	10.5	23.2	5.8	12.8	5.8	12.8	5.0	11.0	5.7	12.6	6.8	15.0	6.8	15.0	6.5	14.3	7.2	15.9

Unit:kg, Lb

Driving Method	Pneumatic Actuator												
	Type AN												
Actuator Type	Air to Close												
	PVC		C-PVC		PP		PVDF		PVC		PVDF		
Unit	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	
Nominal Size (mm)	15	2.3	5.1	2.4	5.3	1.9	4.2	2.4	5.3	2.3	5.1	2.3	5.1
	20	2.3	5.1	2.4	5.3	2.0	4.4	2.4	5.3	2.3	5.1	2.3	5.1
	25	2.3	5.1	2.4	5.3	2.5	5.5	2.9	6.4	2.3	5.1	2.3	5.1
	32	2.7	6.0	2.7	6.0	2.5	5.5	2.9	6.4	2.7	6.0	2.7	6.0
	40	5.5	12.1	5.5	12.1	5.0	11.0	5.5	12.1	5.5	12.1	5.5	12.1
	50	6.0	13.2	6.0	13.2	5.2	11.5	5.9	13.0	6.0	13.2	6.0	13.2

DIAPHRAGM VALVE

Diaphragm Valve Type 15, Type 72

Unit:kg, Lb

Driving Method	Electric Actuator										Pneumatic Actuator														
	Type H					Type S					Type AV														
Actuator Type	Type H					Type S					Double Acting					Air to Open									
	PVC		PP		PVDF		PVC		PP		PVDF		PVC		PP		PVDF		PVC		PP		PVDF		
Unit	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	
Nominal Size (mm)	125	45.0	99.2	42.5	93.7	47.0	103.6	62.5	137.8	60.0	132.3	64.5	142.2	31.0	68.4	28.5	62.8	33.0	72.8	138.0	304.3	136.0	299.9	141.0	310.9
	150	54.5	120.2	50.5	111.4	57.0	125.7	94.5	208.4	90.5	199.6	97.5	215.0	82.5	181.9	78.5	173.1	85.0	187.4	158.0	348.4	154.0	339.6	160.0	352.8
	200	—	—	—	—	—	—	118.0	—	113.0	—	123.0	—	113.0	249.2	107.0	235.9	118.0	260.2	—	—	—	—	—	—
	250	—	—	—	—	—	—	177.0	—	167.0	—	185.0	—	183.0	403.5	173.0	381.5	190.0	419.0	—	—	—	—	—	—

Unit:kg, Lb

Driving Method	Pneumatic Actuator						
	Type AV						
Actuator Type	Air to Close						
	PVC		PP		PVDF		
Unit	kg	Lb	kg	Lb	kg	Lb	
Nominal Size (mm)	*1 125	73.0	161.0	70.5	155.5	75.0	165.4
	*1 150	87.5	192.9	83.5	184.1	90.0	198.5
	*2 200	—	—	—	—	—	—
	*2 250	—	—	—	—	—	—

*1 Type 15
*2 Type 72

Diaphragm Valve Type AI

Unit:kg, Lb

Driving Method	Pneumatic Actuator																								
	Type AI																								
Actuator Type	Double Acting											Air to Close													
	Air to Open											Air to Close													
Body Material	PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF		PVC		C-PVC		PP		PVDF		
	Unit	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb	kg	Lb
Nominal Size (mm)	15	1.0	2.2	1.1	2.4	0.9	2.0	1.1	2.4	1.2	2.7	1.3	2.9	1.0	2.2	1.3	2.9	1.1	2.4	1.2	2.7	1.0	2.2	1.2	2.7
	20	1.3	2.9	1.3	2.9	1.1	2.4	1.4	3.1	1.4	3.1	1.5	3.3	1.3	2.9	1.6	3.5	1.3	2.9	1.4	3.1	1.2	2.7	1.5	3.3
	25	1.5	3.3	1.7	3.8	1.3	2.9	1.7	3.8	1.8	4.0	1.9	4.2	1.6	3.5	1.9	4.2	1.6	3.5	1.7	3.8	1.4	3.1	1.8	4.0
	32	1.8	4.0	1.9	4.2	1.5	3.3	2.0	4.4	2.0	4.4	2.2	4.9	1.7	3.8	2.2	4.9	1.9	4.2	2.0	4.4	1.6	3.5	2.1	4.6
	40	4.0	8.8	4.2	9.3	3.6	8.0	4.3	9.5	4.9	10.8	5.1	11.3	4.5	9.9	5.2	11.5	4.4	9.7	4.6	10.2	4.0	8.8	4.7	10.4
	50	4.8	10.6	5.1	11.3	4.1	9.1	5.2	11.5	5.7	12.6	6.0	13.3	5.1	11.3	6.2	13.7	5.2	11.5	5.5	12.2	4.6	10.2	5.7	12.6

True Union Diaphragm Valve Type AI

Unit:kg, Lb

Driving Method	Pneumatic Actuator																					
	Type AI																					
Actuator Type	Double Acting											Air to Close										
	Air to Open											Air to Close										
Body Material	PVC		C-PVC		PP		PVDF		PVC		C-P											

TECHNICAL DATA TS Method of "Asahi AV" PVC Pipes

Solvent Welding for PVC, HI-PVC and C-PVC

I. Principle

TS method has been widely used in Japan for joining PVC pipes with TS fittings, which utilizes the elasticity of PVC wall and the swelling of PVC surface by solvent cement.

Refer to **Appendix (A)** for details of principle.




II. Attention Required During Installation



- (1) The worker should use clean tools and wear clean gloves when handling PVC pipe and fittings so as to prevent from sticking foreign materials, such as dust and oils, on both internal and external surfaces.
- (2) "Asahi AV" Solvent Cement should be used for joining Asahi AV PVC pipes with TS fittings. Also, its type should be properly selected depend on surrounding condition (Temperature etc.), material (PVC, HI-PVC or C-PVC) and Nominal Size (refer to **III. Preparation of Tools**).
- (3) To prevent the solvent cement from coming out onto both external and internal surfaces of pipes and fittings, the worker should strictly follow the procedures described below.
- (4) If the solvent cement is not applied directly on PVC surfaces of the joining part, the adhesion of pipes and fittings shall not be attained properly. Therefore, the joining portion should be cleaned with acetone-impregnated gauze, and chips/dust of cutting and chamfering (beveling) should be removed completely prior to applying the solvent cement.



III. Preparation of Tools

Tools	Uses
Pipe-Cutter	Cutting of pipe
Chamfering Tool or Knife	Chamfering of pipe edge
Felt-Tipped Pen (Tapered)	Marking of guideline, cutting line etc.
Tape	Scribing of cutting line
Ruler	Measuring of dimensions
Gauze	Cleaning
Acetone	Cleaning
Solvent cement	Cementing
- AV #32	- Low Viscosity, Quick Dry, for PVC, in Blue Can
- AV #52	- High Viscosity, Quick Dry, for PVC, in Red Can
- AV #62	- High Viscosity, Slow Dry, for PVC, in Yellow Can
- AV #90	- for HI-PVC, in Dark Blue Can
- AV #88	- for C-PVC, in Brown Can
Brush	Applying solvent cement
Gloves	Protection of hands, prevention sticking of oil on pipe and fitting
Waste Cloth	Wiping off of solvent cement
Insertion Tool	Insertion of pipe (For Size of 65mm and above, Puller or Lever-Block is required)

IV. Solvent Welding Procedures

Name of Operation	Description of Operation	Notes																												
1) Cutting of Pipe	<p>Winding the tape around the pipe at right angle to the central axis of the pipe, and draw a cutting line along the tape with the felt-tipped pen.</p>  <p>Cut the pipe along the cutting line.</p>	It is necessary for cutting the pipe at right angle to the central axis of the pipe and also without irregularity.																												
2) Chamfering (Beveling)	<p>Chamfer the edge of outer surface (at the end of the pipe to be inserted) appropriately in a small R.</p> 	Be sure to keep chips out both inside and outside the pipe.																												
3) Confirming Insertion Length (a)	<p>Insert the pipe lightly into the socket of the fitting and mark a zero point (Lo : from the end of pipe). Confirm that Lo is within a range of 1/3 - 2/3 of total socket-length (socket-depth) (Ls).</p>	For the size of 40A and below: go next step.																												
4) Confirming of Insertion Length (b)	<p>Measure the socket-length and draw the guide line (L) on the pipe with the felt-tipped pen.</p>  <p>Socket-Length of TS Fittings Unit: mm</p> <table border="1"> <thead> <tr> <th>Size</th> <th>13</th> <th>16</th> <th>20</th> <th>25</th> <th>30</th> <th>40</th> </tr> </thead> <tbody> <tr> <td>Ls</td> <td>26</td> <td>30</td> <td>35</td> <td>40</td> <td>44</td> <td>55</td> </tr> </tbody> </table> <p>Socket-Length of TS Fittings Unit: mm</p> <table border="1"> <thead> <tr> <th>Size</th> <th>50</th> <th>65</th> <th>75</th> <th>100</th> <th>125</th> <th>150</th> </tr> </thead> <tbody> <tr> <td>Li</td> <td>20</td> <td>20</td> <td>25</td> <td>30</td> <td>35</td> <td>45</td> </tr> </tbody> </table>	Size	13	16	20	25	30	40	Ls	26	30	35	40	44	55	Size	50	65	75	100	125	150	Li	20	20	25	30	35	45	<p>For the size of 13A to 40A, L is same as Ls. L = Ls For the size of 50A and above, please add following figures (Li) on the Lo. L = Lo + Li Length to be added on Lo.</p>
Size	13	16	20	25	30	40																								
Ls	26	30	35	40	44	55																								
Size	50	65	75	100	125	150																								
Li	20	20	25	30	35	45																								

Name of Operation	Description of Operation	Notes
5) Cleaning	<p>In case any foreign materials are stuck on both internal and external surface of the pipe, remove them with acetone-impregnated gauze.</p>  <p>Clean the cementing surfaces. (The external surface of the pipe and internal surface of the socket of the fitting). [Wipe off dust, foreign materials etc. with acetone-impregnated gauze.]</p>	<p>Be sure not to cause any secondary contamination.</p> <p>Clean surfaces thoroughly and remove any water, foreign materials etc. if on the surfaces, where solvent is applied, prior to proceeding to the next step.</p>
6) Applying Solvent Cement (Socket of Fitting)	<p>Applying the solvent cement on the internal surface of the socket of the fitting.</p>	<p>Apply the solvent cement on the surface a little thin and uniformly so that no excess solvent cement flows onto the portion where media contact.</p>
7) Applying Solvent Cement (Pipe)	<p>Then, applying the solvent cement on external surface of the pipe from the end to the uideline direction.</p>  <p>Select type of solvent cement (#32, #52, 62, #90 & #88) properly depending on Temperature, Nom. Size and Material.</p>	<p>Quantity of solvent cement applied on the pipe and on the fitting: Standard Ratio = 7 : 3</p> <p>Refer to "Cement" Page for the standard quantity of the solvent cement per each joint and by each Nom. Size.</p>

Name of Operation	Description of Operation	Notes
8) Insertion / Holding	<p>Immediately after applying the solvent cement, insert the pipe into the socket in a stroke.</p>  <p>After complete insertion, hold the pipe and fitting to prevent from coming out.</p> <p>* In case of the Nom. Size of 65A and above, use the insertion tool such as Puller, Lever-Block etc.</p>	<p>Insert watching the guideline as a guide. Don' t strike the pipe into the socket with a hammer, or the like. Don' t twist but insert the pipe straight. Hold the pipe for 1 minute and more in summer, or for 2 minutes and more in winter, because the taper of socket may cause the pipe coming out from the socket.</p>
9) Wiping Off	<p>Wipe off the excess solvent cement pressed out from the joined portion.</p> 	<p>Use waste cloth.</p>
10) Curing	<p>Cure the piping for 24 hours and more in the summer or 72 hours and more in the winter without loading on the joined portion.</p>	<p>Good ventilation on the welded portion is desirable for complete evaporation of the solvent in the solvent cement [to avoid ossible solvent cracking].</p>

⚠ Cautions

[Precaution for use]

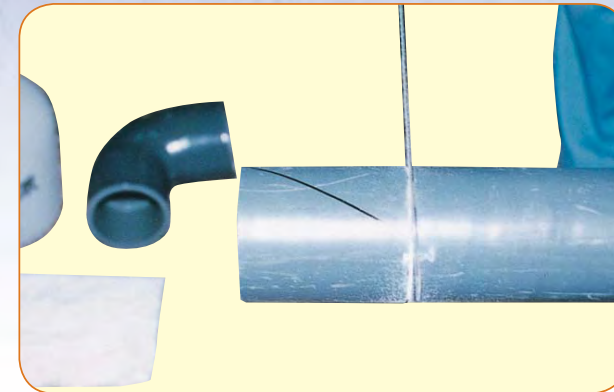
- Solvent cements for pipes and fittings are flammable. Extinguish all flames or other ignition sources in working or storage areas.
- Be sure to work only in a well-ventilated space.
- Avoid any contact with all types of solvent cements on eye and skin. Ingestion or intentional inhalation of solvent vapors can be harmful or fatal to your health.
- For best results, installation should not be done at the temperature 5oC or lower.
- Be sure to use only Asahi AV adhesive.
- Apply adhesive equally with proper amount otherwise evaporation of solvent vapors cause attack internal components.
- After insertion, surfaces of the pipe and fitting should be cleaned by rag.
- After finishing installation of piping, inlet and outlet of piping should be free and open to release evaporation of solvent vapors.
- Don' t move the pipe and fitting just after jointing. Please leave them free from any stress or impact at least 15 minutes after the installation.
- Any extraordinary stress must be removed from the pipe and fitting when they are installed.
- The piping must be cured more than 24 hours prior to actual operation.

[Precaution for use (only C-PVC products)]

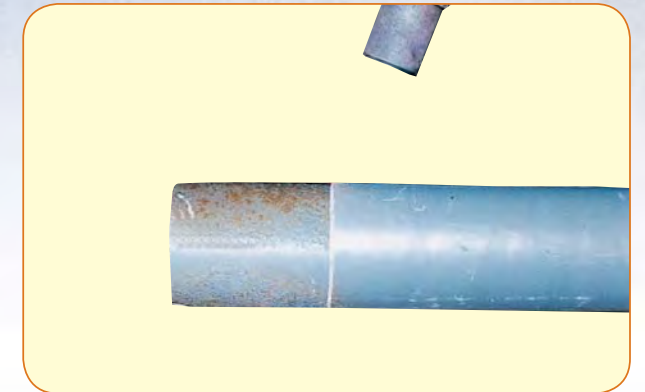
- Be sure that the laying depth under concrete is less than 1m.
- The surface of the pipe will be whitened slightly after long time service under the working temperature range of 80°C to 90°C . This phenomenon does not cause any fail of the performance in mechanically.

TECHNICAL DATA FOR AV PIPES

Installation Method



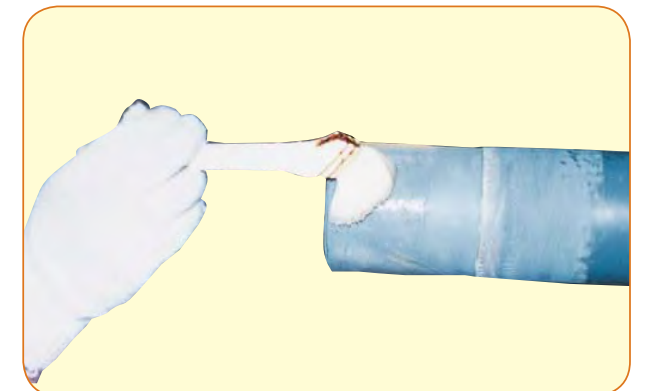
1 Cut the pipe to the required length, mark the external surface of the pipe with reference lines, and cut circumferential and helical notches with a saw or the like.



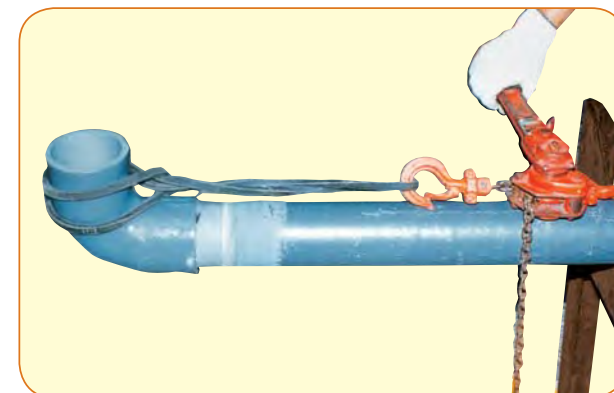
2 Heat the pipe uniformly with a propane gas burner until the FRP layer softens a little.



3 Peel off the FRP layer by pinching it with pliers or the like.



4 Finish the stripped surface with sand paper or the like, chamfer the end to 45° , and apply adhesive uniformly to the mating surfaces of the pipe and fitting.



5 Insert the pipe into the fitting with a lever block or the like.



6 Wipe off any adhesive sticking out, and weld the parts.



7 After applying the primer, fill in Q-coat putty which preliminarily well pug with 1-2% volume ratio of hardener, and apply it to the junction to a smooth finish with spatula.

8 Add a curing agent to polyester resin, apply them to the junction with a spatula or roller, and build a lamination of glass fiber impregnated with polyester resin.

Mixing Ratios and Setting Times

(Volume ratios to 100 of polyester resin)

Outside air temperature	Curing agent		
	0.5%	1%	2%
10°C	—	42min	14min
20°C	45min	20min	7min
30°C	20min	7min	—
40°C	5min	—	—

Intervals between Supports for AV PIPE Type SU and Type GU

It is recommended that piping supports are installed in the straight runs. Refer to the table below to determine the proper spacing distance.

AV Pipe - Type SU

Unit:m

Size	13mm~25mm	30mm~50mm	65mm~100mm	125mm~150mm	200mm~300mm	350mm~400mm	450mm~500mm	600mm~700mm
Temperature								
20°C	1.0	1.5	2.0	2.25	2.5	2.75	3.0	3.5
50°C	1.0	1.5	1.75	2.0	2.25	2.5	2.75	3.0
80°C	1.0	1.25	1.5	1.75	2.0	2.25	2.5	2.75

AV Pipe - Type GU

Unit:m

Size	13mm~25mm	30mm~40mm	50mm~65mm	80mm~125mm	150mm~250mm	300mm~350mm	400mm~500mm	600mm~700mm
Temperature								
20°C	1.0	1.5	2.0	2.25	2.75	2.75	3.0	3.5
60°C	1.0	1.25	1.75	2.0	2.5	2.5	2.75	3.25
95°C	1.0	1.25	1.5	1.75	2.0	2.0	2.75	3.0

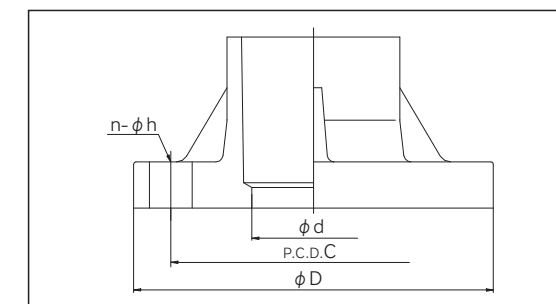
Conversion Table for Pressure Units

Units	MPa	KPa	Kgf/cm ²	bar	psi (Lbf/in ²)	mmH ₂ O	mmHg (Torr)	atm
1MPa		1000 KPa	1.0197×10 kgf/cm ²	10 bar	145.04 psi	1.0197×10 ⁵ mmH ₂ O	7.5006×10 ³ mmHg	9.8692 atm
1KPa	1.0×10 ⁻³ MPa		1.0197×10 ⁻³ kgf/cm ²	1.0×10 ⁻² bar	0.14504 psi	1.0197×10 ² mmH ₂ O	7.5006 mmHg	9.8692×10 ⁻³ atm
1Kgf/cm ²	9.8067×10 ⁻² MPa	98.067 KPa		0.98067 bar	14.223 psi	1×10 ⁴ mmH ₂ O	7.3556×10 ² mmHg	9.6784×10 ⁻¹ atm
1bar	0.1 MPa	100 KPa	1.0197 kgf/cm ²		14.504 psi	1.0197×10 ⁴ mmH ₂ O	7.5006×10 ² mmHg	0.98692 atm
1psi (Lbf/in ²)	6.8948×10 ⁻³ MPa	6.8948 KPa	7.0307×10 ⁻² kgf/cm ²	6.8948×10 ⁻² bar		7.0306×10 ² mmH ₂ O	51.715 mmHg	6.8046×10 ⁻² atm
1mmH ₂ O	9.8067×10 ⁻⁶ MPa	9.8067×10 ⁻³ KPa	1×10 ⁻⁵ kgf/cm ²	9.8067×10 ⁻⁵ bar	1.4224 psi		7.3556×10 ⁻² mmHg	9.6784×10 ⁻⁵ atm
1mmHg (Torr)	1.3332×10 ⁻⁴ MPa	1.3332×10 ⁻¹ KPa	1.3595×10 ⁻³ kgf/cm ²	1.3332×10 ⁻³ bar	1.9337×10 ⁻² psi	13.595 mmH ₂ O		1.3158×10 ⁻³ atm
1atm	1.0133×10 ⁻¹ MPa	1.0133×10 ⁻² KPa	1.0333 kgf/cm ²	1.0133 bar	14.697 psi	1.0333×10 ⁴ mmH ₂ O	7.6004×10 ² mmHg	

The parameters shown in the table are approximate values for only reference.

Comparison of Flanged End (JIS, ANSI, DIN and BS)

Size	JIS 10K						ANSI CLASS 125/150						DIN PN10				TABLE-D										
	JIS B 2238						ASME B16.5						DIN 2501				BS10										
	d	d	D	P.C.D.C	h	n	Bolt	D	P.C.D.C	h	n	Bolt	D	P.C.D.C	h	n	Bolt	D	P.C.D.C	h	n	Bolt					
10mm	3/8"	90	65	15	4	M12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
15mm	1/2"	95	70	15	4	M12	3.5	89	2.4	60	0.6	16	4	UNC1/2	95	65	14	4	M12	3.8	95	2.6	67	0.5	13	4	-
20mm	3/4"	100	75	15	4	M12	3.9	98	2.8	70	0.6	16	4	UNC1/2	105	75	14	4	M12	4	102	2.9	73	0.5	13	4	-
25mm	1"	125	90	19	4	M16	4.3	108	3.1	79	0.6	16	4	UNC1/2	115	85	14	4	M12	4.5	114	3.3	83	0.5	13	4	-
32mm	1-1/4"	135	100	19	4	M16	4.6	117	3.5	89	0.6	16	4	UNC1/2	140	100	18	4	M16	4.8	121	3.4	87	0.5	13	4	-
40mm	1-1/2"	140	105	19	4	M16	5	127	3.9	98	0.6	16	4	UNC1/2	150	110	18	4	M16	5.3	133	3.9	98	0.5	13	4	-
50mm	2"	155	120	19	4	M16	6	152	4.8	121	0.8	19	4	UNC5/8	165	125	18	4	M16	6	152	4.5	114	0.6	16	4	-
65mm	2-1/2"	175	140	19	4	M16	7	178	5.5	140	0.8	19	4	UNC5/8	185	145	18	4	M16	6.5	165	5	127	0.6	16	4	-
80mm	3"	185	150	19	8	M16	7.5	191	6	152	0.8	19	4	UNC5/8	200	160	18	8	M16	7.3	184	5.8	146	0.6	16	4	-
100mm	4"	210	175	19	8	M16	9	229	7.5	191	0.8	19	8	UNC5/8	220	180	18	8	M16	8.5	216	7	178	0.6	16	4	-
125mm	5"	250	210	23	8	M20	10	254	8.5	216	0.9	22	8	UNC3/4	250	210	18	8	M16	10	254	8.3	210	0.6	16	8	-
150mm	6"	280	240	23	8	M20	11	279	9.5	241	0.9	22	8	UNC3/4	285	240	22	8	M20	11	279	9.3	235	0.6	16	8	-
200mm	8"	330	290	23	12	M20	13.5	343	11.8	298	0.9	22	8	UNC3/4	340	295	22	8	M20	13.3	337	11.5	292	0.6	16	8	-
250mm	10"	400	355	25	12	M22	16	406	14.3	362	1	25	12	UNC7/8	395	350	22	12	M20	16	406	14	356	0.8	19	8	-
300mm	12"	445	400	25	16	M22	19	483	17	432	1	25	12	UNC7/8	445	400	22	12	M20	18	457	16	406	0.8	19	12	-
350mm	14"	490	445	25	16	M22	21	533	18.8	476	1.1	29	12	UNC1	505	460	22	16	M20	20.8	527	18.5	470	0.9	22	12	-
400mm	16"	560	510	27	16	M24	23.5	597	21.3	540	1.1	29	16	UNC1	565	515	26	16	M24	22.8	578	20.5	521	0.9	22	12	-
450mm	18"	620	565	27	20	M24	25	635	22.8	578	1.3	32	16	UNC1-1/8	615	565	26	20	M24	25.3	641	23	584	0.9	22	12	-
500mm	20"	675	620	27	20	M24	27.5	699	25	635	1.3	32	20	UNC1-1/8	670	620	26	20	M24	27.8	705	25.3	641	0.9	22	16	-
600mm	24"	795	730	33	24	M30	32	813	29.5	749	1.4	35	20	UNC1-1/4	780	725	30	20	M27	32.5	826	29.8	756	1	25	16	-
700mm	28"	905	840	33	24	M30	36.5	927	34	864	1.4	35	28	-	895	840	30	24	M27	-	-	-	-	-	-	-	
800mm	32"	1020	950	33	28	M30	41.8	1060	38.5	978	1.6	41	28	-	1015	950	33	24	M30	-	-	-	-	-	-	-	
900mm	36"	1120	1050	33	28	M30	46	1168	42.8	1086	1.6	41	32	-	1115	1050	33	28	M30	46.3	1175	43	1092	1.3	32	24	-
1,000mm	40"	1235	1160	39	28	M36	50.8	1289	47.3	1200	1.6	41	36	-	1230	1160	36	28	M33	-	-	-	-	-	-	-	
1,100mm	44"	-	-	-	-	-	55.3	1403	51.8	1314	1.6	41	40	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,200mm	48"	-	-	-	-	-	59.5	1511	56	1422	1.6	41	44	-	1455	1380	39	32	M36	58.8	1492	55.5	1410	1.3	32	32	-



Comparison of JIS Threads and BS Threads

BS21 Thread																																			
1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18	
Size		Number of Threads in 25.4 mm	Pitch	Depth of Thread	Basic Diameters at Gauge Plane			Gauge Length (See Note1)				Minimum Length of Useful Thread on Pipe End (See Note1)			Fitting Allowance (See Note1)	Wrenching Allowance (See Note1)	Tolerance on Position of Gauge Plane Relative to Face of Internally Threaded Parts (See Note1)	Diametral Tolerance on Parallel Internal Threads																	
R/Rc	inch				mm	Major (Gauge Diameter)	Pitch	Minor	Basic	Tolerance	Maximum	Minimum	Basic Gauge Length	Max Gauge Length					Minimum Gauge Length	T _{1/2} (+/-)	T _{1/2} (+/-)	(+/-)													
																							d	d ₂	d ₁										
1/4	13	19	1.337	0.856	13.157	12.301	11.445	6.0	1.3	7.3	4.7	9.7	11.0	8.4	3.7	2.0	1.7	0.104																	
3/8	19	19	1.337	0.856	16.662	15.806	14.950	6.4	1.3	7.7	5.1	10.1	11.4	8.8	3.7	2.0	1.7	0.104																	
1/2	15	14	1.814	1.162	20.955	19.793	18.631	8.2	1.8	10.0	6.4	13.2	15.0	11.4	5.0	2.7	2.3	0.142																	
3/4	20	14	1.814	1.162	26.441	25.279	24.117	9.5	1.8	11.3	7.7	14.5	16.3	12.7	5.0	2.7	2.3	0.142																	
1	25	11	2.309	1.479	33.249	31.770	30.291	10.4	2.3	12.7	8.1	16.8	19.1	14.5	6.4	3.5	2.9	0.180																	
1-1/4	32	11	2.309	1.479	41.910	40.431	38.952	12.7	2.3	15.0	10.4	19.1	21.4	16.8	6.4	3.5	2.9	0.180																	
1-1/2	40	11	2.309	1.479	47.803	46.324	44.845	12.7	2.3	15.0	10.4	19.1	21.4	16.8	6.4	3.5	2.9	0.180																	
2	50	11	2.309	1.479	59.614	58.135	56.656	15.9	2.3	18.2	13.6	23.4	25.7	21.1	7.5	4.6	2.9	0.180																	
2-1/2	65	11	2.309	1.479	75.184	73.705	72.226	17.5	3.5	21.0	14.0	26.7	30.2	23.2	9.2	5.8	3.5	0.216																	
3	80	11	2.309	1.479	87.884	86.405	84.926	20.6	3.5	24.1	17.1	29.8	33.3	26.3	9.2	5.8	3.5	0.216																	
4	100	11	2.309	1.479	113.030	111.551	110.072	25.4	3.5	28.9	21.9	35.8	39.3	32.3	10.4	6.9	3.5	0.216																	

Note.1; Basic gauge length and limits of size are expressed in turns of threads. Liner equivalents are given in parentheses and are rounded to 0.1mm. Unit: mm
Tolerance and fitting allowance are expressed in number of turns of thread and in millimeters.

Comparison of JIS PVC, ASTM PVC, BS PVC, DIN PVC Pipe & Fittings

Size		IPS PVC PIPE AND FITTING																	
		PVC Pipe (Sch80) ASTM D 1785								Fitting(Sch80) :ASTM D 2467									
		Outside Diameter				Wall Thickness				Socket ID					Length				
		inch	mm	Base OD	Ave OD Tolerance (+/-)	Max Out-Of-Roundness	Min OD	Max OD	Min Thk	Tolerance (+)	Socket Entrance Diameter			Socket Bottom Diameter			C		
											Base ID	Tolerance	Max Out-Of-Roundness	Min Enter ID	Max Enter ID	Base ID		Tolerance	Max Out-Of-Roundness
1/8	-	10.29	0.10	0.41	10.19	10.39	2.41	0.51	10.59	0.10	0.41	10.49	10.69	10.18	0.10	0.41	10.08	10.28	12.70
1/4	-	13.72	0.10	0.41	13.62	13.82	3.20	0.51	14.02	0.10	0.41	13.92	14.12	13.61	0.10	0.41	13.51	13.71	15.88
3/8	13	17.14	0.10	0.41	17.04	17.24	3.20	0.51	17.45	0.10	0.41	17.35	17.55	17.04	0.10	0.41	16.94	17.14	19.05
1/2	15	21.34	0.10	0.41	21.24	21.44	3.73	0.51	21.54	0.10	0.41	21.44	21.64	21.23	0.10	0.41	21.13	21.33	22.22
3/4	20	26.67	0.10	0.51	26.57	26.77	3.91	0.51	26.87	0.10	0.51	26.77	26.97	26.57	0.10	0.51	26.47	26.67	25.40
1	25	33.40	0.13	0.51	33.27	33.53	4.55	0.53	33.65	0.13	0.51	33.52	33.78	33.27	0.13	0.51	33.14	33.40	28.58
1 1/4	32	42.16	0.13	0.61	42.03	42.29	4.85	0.58	42.42	0.13	0.61	42.29	42.55	42.04	0.13	0.61	41.91	42.17	31.75
1 1/2	40	48.26	0.15	0.61	48.11	48.41	5.08	0.61	48.56	0.15	0.61	48.41	48.71	48.11	0.15	0.61	47.96	48.26	34.93
2	50	60.32	0.15	0.61	60.17	60.47	5.54	0.66	60.63	0.15	0.61	60.48	60.78	60.17	0.15	0.61	60.02	60.32	38.10
2 1/2	65	73.02	0.18	0.76	72.84	73.20	7.01	0.84	73.38	0.18	0.76	73.20	73.56	72.85	0.18	0.76	72.67	73.03	44.45
3	80	88.90	0.20	0.76	88.70	89.10	7.62	0.91	89.31	0.20	0.76	89.11	89.51	88.70	0.20	0.76	88.50	88.90	47.63
3 1/2	-	101.60	0.20	0.76	101.40	101.80	8.08	1.96	102.10	0.20	0.76	101.90	102.30	101.40	0.20	0.76	101.20	101.60	53.98
4	100	114.30	0.23	0.76	114.07	114.53	8.56	1.02	114.76	0.23	0.76	114.56	114.99	114.10	0.23	0.76	113.87	114.33	57.15
5	125	141.30	0.25	1.52	141.05	141.55	9.52	1.14	141.81	0.25	1.52	141.56	142.06	141.00	0.25	1.52	140.75	141.25	66.68
6	150	168.28	0.28	1.78	168.00	168.56	10.97	1.32	168.83	0.28	1.52	168.55	169.11	168.00	0.28	1.52	167.72	168.28	76.20
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	200	219.08	0.38	3.81	218.70	219.46	12.70	1.52	219.84	0.38	2.29	219.46	220.22	218.70	0.38	2.29	218.32	219.08	101.60
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	250	273.05	0.38	3.81	272.67	273.43	15.06	1.80	273.81	0.38	2.54	273.43	274.19	272.67	0.38	2.54	272.29	273.05	127.00
12	300	323.85	0.38	3.81	323.47	324.23	17.45	2.08	324.61	0.38	3.05	324.23	324.99	323.47	0.38	3.05	323.09	323.85	152.40

Note: 65, 125mm Pipe & Fittings are not standardized on JIS, adhere AS-21 by Japan-PVC-Piping Association. 200mm is based on AOC Standard

JIS B 0203 Thread																															
1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16	
Size		Number of Threads in 25.4 mm	Pitch	Height of Thread	Radius of Rounded Crests and Roots	Gauge Diameter			Gauge Plane			Minimum Length of Useful Thread			Tolerance of Parallel Internal Threads	Fitting Allowance (Male Thread)	Incomplete Taper Thread Length (Female Thread)	Incomplete Parallel Thread Length (Female Thread)	Complete Parallel and Taper Thread Length (Female Thread)												
R/Rc	inch					mm	n	P	h	r or r'	d or D	d ₂ or D ₂	d ₁ or D ₁	a						b (+/-)	c (+/-)	(+/-)	f	l	l'	t					
1/4	13	19	1.337	0.856	0.18	13.157	12.301	11.445	6.01	1.34	1.67	0.104	3.7	9.4	11.0	6.7															
3/8	19	19	1.337	0.856	0.18	16.662	15.806	14.950	6.35	1.34	1.67	0.104	3.7	9.7	11.4	7.0															
1/2	15	14	1.814	1.162	0.25	20.955	19.793	18.631	8.16	1.81	2.27	0.142	5.0	12.7	15.0	9.1															
3/4	20	14	1.814	1.162	0.32	26.441	25.279	24.117	9.53	1.81	2.27	0.142	5.0	14.1	16.3	10.2															
1	25	11	2.309	1.479	0.32	33.249	31.770	30.291	10.39	2.31	2.89	0.181	6.4	16.2	19.1	11.6															
1-1/4	32	11	2.309	1.479	0.32	41.910	40.431	38.952	12.70	2.31	2.89	0.181	6.4	18.5	21.4	13.4															
1-1/2	40	11	2.309	1.479	0.32	47.803	46.324	44.845	12.70	2.31	2.89	0.181	6.4	18.5	21.4	13.4															
2	50	11	2.309	1.479	0.32	59.614	58.135	56.656	15.88	2.31	2.89	0.181	7.5	22.8	25.7	16.9															
2-1/2	65	11	2.309	1.479	0.32	75.184	73.705	72.226	17.46	3.46	3.46	0.216	9.2	26.7	30.1	18.6															
3	80	11	2.309	1.479	0.32	87.884	86.405	84.926	20.64	3.46	3.46	0.216	9.2	29.8	33.3	21.1															
4	100	11	2.309	1.479	0.32	113.030	111.551	110.072	25.40	3.46	3.46	0.216	10.4	35.8	39.3	25.9															

Note; Pursuant to ISO 7-1: 1994, Pipe threads where pressure tight joints are made on the threads - Part1: Dimensions, Tolerance and Designation. Unit: mm

Size		JIS PVC PIPE AND FITTING																						
		Pipe (VP) JIS K 6741								Fitting JIS K 6743														
		Outside Diameter				Wall Thickness				Socket ID					Length									
		inch	mm	Base OD	Min OD	Ave Min OD	Max OD	Ave Max OD	Min	Tolerance (+)	Approx ID	Socket Entrance Diameter		Max Enter ID	Taper (1/T)	Socket Bottom Diameter		Min Bottom ID	Length (+4, -0.5)	Min Bottom ID	Length	S.B.D.	Length	S.B.D.
												d ₁	Tolerance (+/-)			d ₂	Tolerance (+/-)							
1/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/8	13	18.0	0.2	0.2	17.8	17.8	18.2	18.2	2.2	0.6	13	18.4	0.2	18.6	30	-	-	-	26.0	17.5	25.5	17.5	30.0	17.4
1/2	15	22.0	0.2	0.2	21.8	21.8	22.2	22.2	2.7	0.6	16	22.4	0.2	22.6	34	-	-	-	30.0	21.5	29.5	21.5	34.0	21.4
3/4	20	26.0	0.2	0.2	25.8	25.8	26.2	26.2	2.7	0.6	20	26.4	0.2	26.6	34	-	-	-	35.0	25.4	34.5	25.4	39.0	25.3
1	25	32.0	0.2	0.2	31.8	31.8	32.2	32.2	3.1	0.8	25	32.5	0.3	32.8	34	-	-	-	40.0	31.4	39.5	31.4	44.0	31
1 1/4	32	38.0	0.3	0																				

Size		DIN PVC PIPE AND FITTING																		
		PVC Pipe (DIN) DIN 8062 -Metric- PN10								Fitting (DIN) :DIN 8063										
		Outside Diameter				Wall Thickness		Socket ID											Length	
		inch	DN mm	Base OD d	Max OD Tolerance (+)	Min OD Tolerance (+)	Min OD	Max OD	Min Thk	Tolerance (+)	Socket Entrance Diameter					Socket Bottom Diameter				
A											B		C							
									Base ID	Max Tolerance (+)	Min Tolerance (-)	Min Enter ID	Max Enter ID	Base ID	Tolerance	Max Out-Of-Roundness	Min Bottom ID	Max Bottom ID	Min 12mm	
1/8	-	10	0.2	0.0	10.0	10.2	-	-	10	0.3	0.1	10.1	10.3	10	0.3	0.1	10.1	10.3	12	
1/4	-	12	0.2	0.0	12.0	12.2	-	-	12	0.3	0.1	12.1	12.3	12	0.3	0.1	12.1	12.3	12	
3/8	13	16	0.2	0.0	16.0	16.2	-	-	16	0.3	0.1	16.1	16.3	16	0.3	0.1	16.1	16.3	14	
1/2	15	20	0.2	0.0	20.0	20.2	-	-	20	0.3	0.1	20.1	20.3	20	0.3	0.1	20.1	20.3	16	
3/4	20	25	0.2	0.0	25.0	25.2	1.5	0.4	25	0.3	0.1	25.1	25.3	25	0.3	0.1	25.1	25.3	19	
1	25	32	0.2	0.0	32.0	32.2	1.8	0.4	32	0.3	0.1	32.1	32.3	32	0.3	0.1	32.1	32.3	22	
1 1/4	32	40	0.2	0.0	40.0	40.2	1.9	0.4	40	0.3	0.1	40.1	40.3	40	0.3	0.1	40.1	40.3	26	
1 1/2	40	50	0.2	0.0	50.0	50.2	2.4	0.5	50	0.3	0.1	50.1	50.3	50	0.3	0.1	50.1	50.3	31	
2	50	63	0.2	0.0	63.0	63.2	3	0.5	63	0.3	0.1	63.1	63.3	63	0.3	0.1	63.1	63.3	38	
2 1/2	65	75	0.3	0.0	75.0	75.3	3.6	0.6	75	0.3	0.1	75.1	75.3	75	0.3	0.1	75.1	75.3	44	
3	80	90	0.3	0.0	90.0	90.3	4.3	0.6	90	0.3	0.1	90.1	90.3	90	0.3	0.1	90.1	90.3	51	
3 1/2	-	110	0.3	0.0	110.0	110.3	5.3	0.8	110	0.4	0.1	110.1	110.4	110	0.4	0.1	110.1	110.4	61	
4	100	125	0.3	0.0	125.0	125.3	6.0	0.8	-	-	-	-	-	-	-	-	-	-	-	
5	125	140	0.3	0.0	140.0	140.3	6.7	0.9	140	0.5	0.2	140.2	140.5	140	0.5	0.2	140.2	140.5	76	
6	150	160	0.3	0.0	160.0	160.3	7.7	1.0	160	0.5	0.2	160.2	160.5	160	0.5	0.2	160.2	160.5	86	
7	-	180	0.3	0.0	180.0	180.3	8.6	1.1	-	-	-	-	-	-	-	-	-	-	-	
8	200	225	0.5	0.0	225.0	225.5	10.8	1.3	225	0.6	0.3	225.3	225.6	225	0.6	0.3	225.3	225.6	119	
9	-	250	0.5	0.0	250.0	250.5	11.9	1.4	-	-	-	-	-	-	-	-	-	-	-	
10	250	280	0.6	0.0	280.0	280.6	13.4	1.6	-	-	-	-	-	-	-	-	-	-	-	
12	300	315	0.6	0.0	315.0	315.6	15	1.7	-	-	-	-	-	-	-	-	-	-	-	

! General operating instructions

- Using a positive-pressure gas with our plastic piping may pose a dangerous condition due to the repellent force particular to compressible fluids even when the gas is under similar pressures used for liquids. 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. If absolutely necessary to use a gas in testing, please consult your nearest service station beforehand.
- Do not step on or apply excessive weight on valve. (It can be damaged.)
- Do not use the valve in conditions where the fluid may have crystallized. (The valve will not operate properly.)
- Keep the valve away from excessive heat or fire. (It can be damaged, or destroyed.)
- Always operate the valve within the pressure vs. temperature range. (The valve can be damaged or deformed by operating beyond the allowable range.)
- Allow sufficient space for maintenance and inspection.
- Select a valve material that is compatible with the media.
- Keep the valve out of direct sunlight, water and dust. Use cover to shield the valve. (The valve will not operate properly.)
- Perform periodic maintenance. (Leakage may develop due to temperature changes or periods of prolonged storage, rest, or operation.)
- The travel stop may have to be adjusted if media leakage is detected between the upstream & downstream sides of the valve.
- Bonnet bolt torque should be checked before installation, as they may become loose after long-term storage.
- A periodic check of the valve condition as well as bonnet & flange bolt torque should be made part of preventative maintenance program properly re-tightening the bolts as necessary. It is especially important to re-tighten all bolts during the first shutdown.

Size		BS PIPE AND FITTING																				
		Pipe BS 3506							Fitting BS 4346													
		Outside Diameter			Wall Thickness				Socket ID											Min Socket Depth	Taper	
		inch	mm	Min OD	Max OD	Variance	Averaged Value (Max)	Individual Value (Min)	Individual Value (Max)	Socket Mouth Diameter					Socket Root Diameter						L Length	Min
d1										Mid ID	Roundness Tolerance	d2			Mid ID	Roundness Tolerance						
								Min ID	Max ID			Variance	Min ID	Max ID			Variance	Min ID	Max ID	Variance		
1/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1/4	-	13.6	13.9	0.3	1.7	1.3	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-		
3/8	13	17.0	17.3	0.3	1.9	1.5	1.9	17.1	17.3	0.2	17.2	0.3	16.8	17.3	0.5	17.1	0.3	14.5	0.0	0.0		
1/2	15	21.2	21.5	0.3	2.1	1.7	2.1	21.3	21.5	0.2	21.4	0.4	21.0	21.5	0.5	21.3	0.4	16.5	0.0	0.0		
3/4	20	26.6	26.9	0.3	2.5	1.9	2.5	26.7	26.9	0.2	26.8	0.5	26.4	26.9	0.5	26.7	0.5	19.5	0.0	0.0		
1	25	33.4	33.7	0.3	2.7	2.2	2.7	33.5	33.7	0.2	33.6	0.7	33.2	33.7	0.5	33.5	0.7	22.5	0.0	0.0		
1 1/4	32	42.1	42.4	0.3	3.2	2.7	3.2	42.2	42.5	0.3	42.4	0.8	41.9	42.4	0.5	42.2	0.8	27.0	0.0	0.0		
1 1/2	40	48.1	48.4	0.3	3.7	3.1	3.7	48.3	48.5	0.2	48.4	1.0	47.9	48.4	0.5	48.2	1.0	30.0	0.0	0.0		
2	50	60.2	60.5	0.3	4.5	3.9	4.5	60.4	60.7	0.3	60.5	1.2	60.0	60.6	0.6	60.3	1.2	36.0	0.0	0.0		
2 1/2	65	75.0	75.3	0.3	5.5	4.8	5.5	75.3	75.6	0.3	75.4	1.5	75.0	75.5	0.5	75.3	1.5	43.5	0.0	0.0		
3	80	88.7	89.1	0.4	6.5	5.7	6.6	89.0	89.3	0.3	89.2	1.8	88.6	88.9	0.3	88.8	1.8	50.5	0.0	0.0		
3 1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
4	100	114.1	114.5	0.4	8.3	7.3	8.4	114.4	114.8	0.4	114.6	2.3	113.9	114.3	0.4	114.1	2.3	63.0	0.0	0.0		
5	125	140.0	140.4	0.4	10.1	9.0	10.4	140.3	140.7	0.4	140.5	2.8	139.9	140.2	0.3	140.1	2.8	76.0	0.0	0.0		
6	150	168.0	168.5	0.5	12.1	10.8	12.5	168.4	168.8	0.4	168.6	3.4	167.8	168.3	0.5	168.1	3.4	90.0	0.0	0.0		
7	-	193.5	194.0	0.5	13.9	12.4	14.3	193.9	194.3	0.4	194.1	3.9	193.3	193.8	0.5	193.6	3.9	103.0	0.0	0.0		
8	200	218.8	219.4	0.6	14.1	12.6	14.5	219.3	219.9	0.6	219.6	4.4	218.7	219.1	0.4	218.9	4.4	115.5	0.0	0.0		
9	-	244.1	244.8	0.7	15.8	14.1	16.3	244.7	245.3	0.6	245.0	4.9	244.0	244.5	0.5	244.3	4.9	128.0	0.0	0.0		
10	250	272.6	273.4	0.8	17.5	15.7	18.1	273.3	273.8	0.5	273.6	5.5	272.6	273.0	0.4	272.8	5.5	142.5	0.0	0.0		
12	300	323.4	324.3	0.9	20.8	18.7	21.6	324.2	324.7	0.5	324.4	6.5	323.4	323.9	0.5	323.7	6.5	168.0	0.0	0.0		

! General instructions for transportation, unpacking and storage

- When suspending and supporting a valve, take care and do not stand under a suspended valve.
- This valve is not designed to handle impacts of any kind. Avoid throwing or dropping the valve.
- Avoid scratching the valve with any sharp object.
- Do not over-stack cardboard shipping boxes. Excessively stacked packages may collapse.
- Avoid contact with any coal tar creosote, insecticides, vermicides or paint. (These chemicals may cause damage to the valve.)
- Store products in their corrugated cardboard boxes. Avoid exposing products to direct sunlight, and store them indoors (at room temperature). Also avoid storing products in areas with excessive temperatures. (Corrugated cardboard packages become weaker as they become wet with water or other liquid. Take care in storage and handling.)
- After unpacking the products, check that they are defect-free and meet the specifications.

PRODUCT WARRANTY



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 product 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 cases :
 - (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 inconvenience caused by 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.
 - (6) Any abnormality that occurs due to a natural disaster, accident, or other incident not stemming from something inside our product.

[Precautions]

*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.

If absolutely necessary to use gas in testing, please consult your nearest service station beforehand.

*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.

PRECAUTIONS FOR USE

- For installation and maintenance procedure refer to the appropriate manual for the product being used.
- Do not drop or toss pipe and fitting material.
- Do not step on a valve.
- Do not put anything heavy on a valve.
- Do not put anything burning or hot near a valve.
- Do not scratch or thrust a valve with anything sharp (such as a knife and a hanger).
- Avoid contacting with any coal tar creosote (antiseptic for wood), termite insecticide, vermicides, or paint.
- Secure sufficient space for maintenance and inspection.
- Select pipe and fitting material suitable for your specific needs, using "Chemical Resistance On Asahi AV Valve," as a guide. If you have any questions, please feel free to contact your nearest Asahi dealer.
- Be sure to use water pressure when testing a pipeline including AV pipe and fitting material.
It is extremely dangerous to use air pressure for testing the pipeline.
- The pressure limit includes water hammer pressure. Do not exceed the limit.
- In discarding a valve, be sure to ask a waste service company.
- Valve should not be used with compressed air or gas.

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ISO9001:2000

VALVE & PIPING SYSTEMS ADMINISTRATION is complying with the requirements of the above Quality Management system standard.



ISO14001:2004

Nobeoka Head Office,Nobeoka Works,Engineering Development, Kitakata Factory, Physical Distribution Control Department(Nobeoka Physical Distribution Center), Aichi Plant, Tochigi Plant and Hiroshima Plant are complying with the requirements of the above Environmental Management System Standard.



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