

# ASAHI AV VALVE AND PIPING SYSTEMS

## ASAHI AV VALVES

**BALL VALVE TYPE 21** 15mm - 100mm(<sup>1</sup>/<sub>2</sub>inch - 4inch)



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



## NSF Product

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

:BALL VALVE TYPE 21(Material:PVC+EPDM,FKM)

\*Certified products bear an NSF Certification Mark.

## 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)

### Locking Device (Option)

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



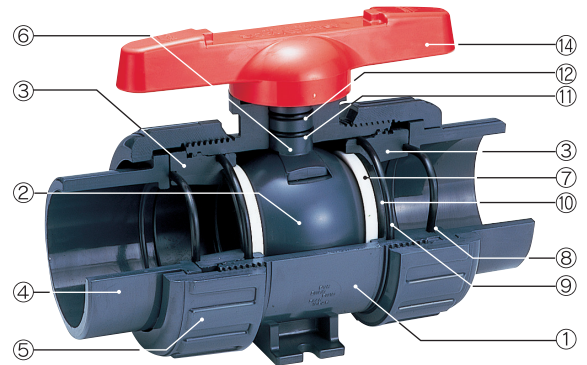
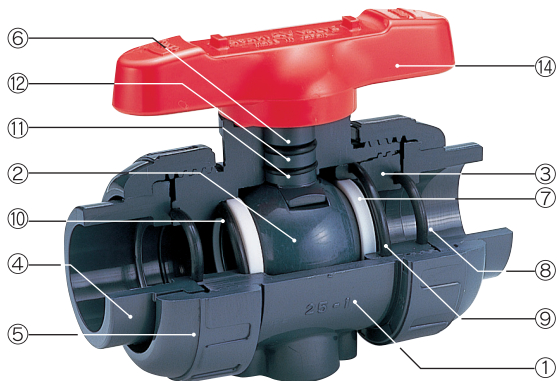
## MATERIAL AND WORKING TEMPERATURE

Body Material	Working Temperature °C (°F)	Max.Working Pressure(at R.T.) MPa{kgf/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 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(H<sub>2</sub>O<sub>2</sub>)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.)



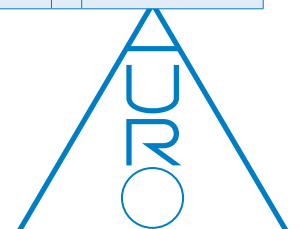
## PARTS & MATERIALS

### ● 15mm(1/2inch) — 50mm(2inch)

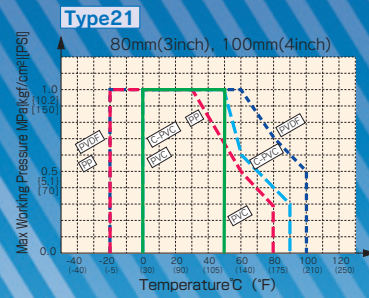
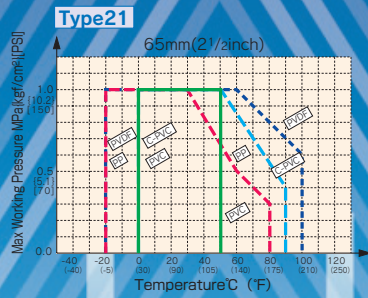
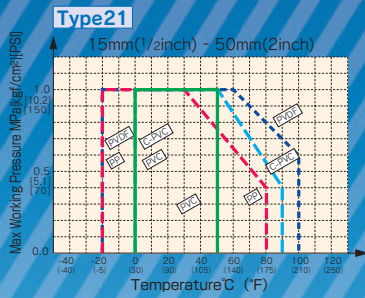
No.	DESCRIPTION	Pcs.	MATERIAL	No.	DESCRIPTION	Pcs.	MATERIAL
①	BODY	1	PVC, C-PVC, PP, PVDF	⑨	O-RING(B)	1	EPDM, FKM, etc
②	BALL	1	PVC, C-PVC, PP, PVDF	⑩	O-RING(C)	2	EPDM, FKM, etc
③	CARRIER	1	PVC, C-PVC, PP, PVDF	⑪	O-RING(D)	1	EPDM, FKM, etc
④	END CONNECTOR	2	PVC, C-PVC, PP, PVDF	⑫	O-RING(E)	1	EPDM, FKM, 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				

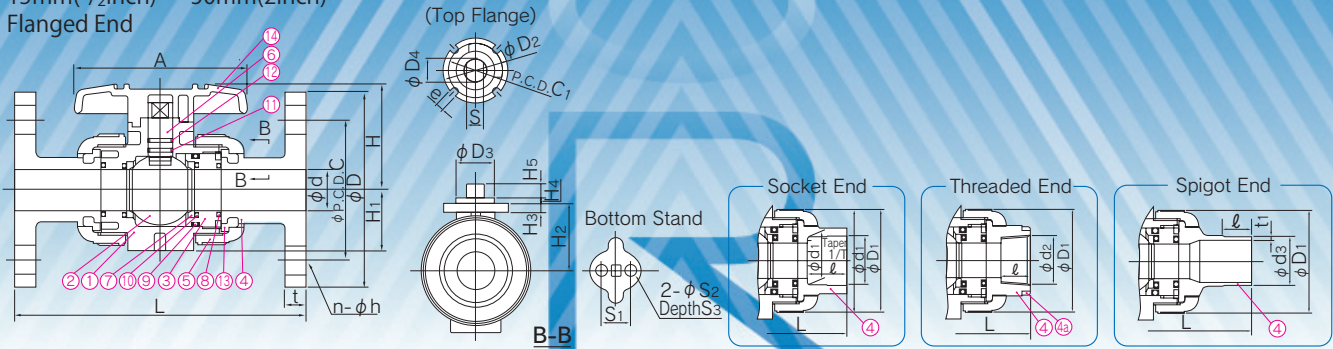


WORKING PRESSURE VS. TEMPERATURE

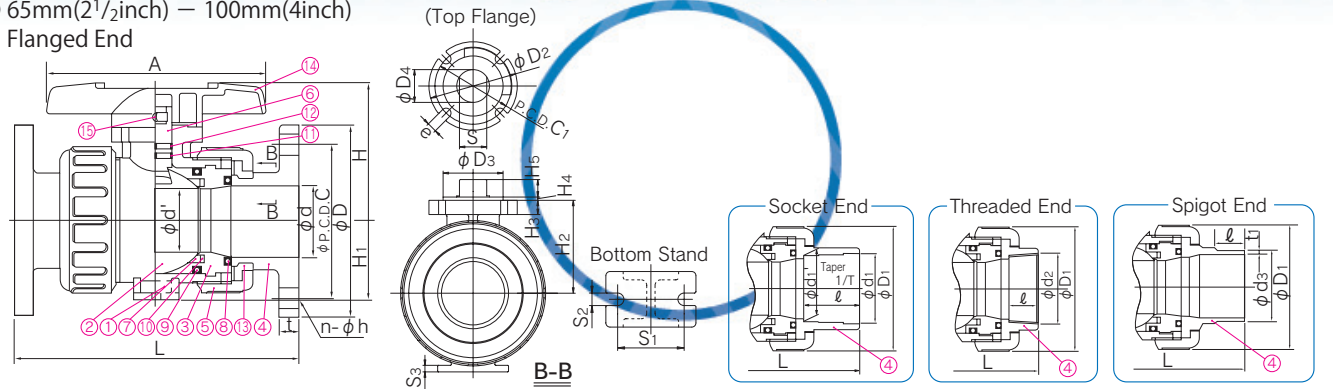


DIMENSION

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



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



DIMENSIONS TABLE

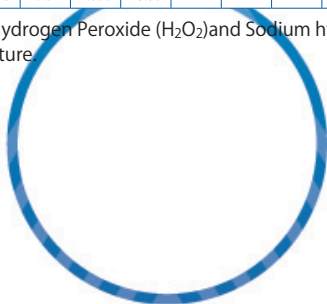
DIN		Unit:mm																		
Nominal Size	d	d'	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	C <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	A	S	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	e	
10	3/8	13	—	46	—	—	—	43.5	—	—	—	—	—	80	—	—	—	—	—	
15	1/2	15	—	48	42	25	135	36	51.5	29	30	6	3	8	105	19	7.3	11	5.5	
20	3/4	20	—	60	42	25	15	36	59.5	35	36.5	6	3	10	11	19	7.3	11	5.5	
25	1	25	—	70	42	25	15	36	68	39	43.5	6	3	10	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	15	30	9	15	5.5	
40	1 1/2	40	—	100	57	35	23	50	89	55	61	10	3	12	18	30	9	15	6.5	
50	2	51	—	126	57	35	23	50	102.5	66	72.5	10	3	12	18	30	9	15	6.5	
65	2 1/2	65	58	133	81	55	30	70	126	72	85	13	3	16	24	48	9	6	9	
80	3	78	68.5	152	81	55	30	70	140	85	94	13	3	19	24	55	11	7	9	
100	4	100	90	210	116	70	40	102	178	110	126	16	3	23	34	65	11	8	11	

Nominal Size	Flanged End DIN PN10								Socket End PVC, C-PVC								Threaded End				Spigot End PP, PVDF									
	D	C	n	h	L			t	d <sub>1</sub>	ℓ	L	d <sub>1</sub>	d <sub>1</sub> '	ℓ	L	d <sub>2</sub>	ℓ	PVC			PP, PVDF			L						
					PVC	PP	PVDF											d <sub>3</sub>	d <sub>3</sub> '	ℓ	d <sub>3</sub>	ℓ	t	PP	PVDF	PP	PVDF			
10	90	60	4	14	120	119	119	12	16	14	99	15.4	15.4	13	96	96	Rp3/8	15	99	98	98	16	13	16	—	—	—	—	114	114
15	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	185	20	18.5	2.5	1.9	124	124
20	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	2.2	2.7	1.9	144	144
25	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	245	32	22.5	3.0	2.4	154	154
32	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	2.6	3.7	2.4	174	174
40	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	3.2	4.6	3.0	194	194
50	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	3.6	5.8	3.0	224	224
65	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	3.8	6.9	3.6	245	244
80	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	3.8	8.2	4.3	296	293
100	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 <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	C <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	A	S	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	e	
inch mm																				
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				d <sub>2</sub>	ℓ	L				
	D	C	n	h	PVC, C-PVC	PP	PVDF	t	ASTM SCH40			L	ASTM SCH80			d <sub>1</sub>	ℓ	L				PVC, C-PVC	PP	PVDF		
	inch	mm							d <sub>1</sub>	d <sub>1</sub> '	ℓ		d <sub>1</sub>	d <sub>1</sub> '	ℓ			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	1/2-14NPT	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	3/4-14NPT	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	1-11 1/2NPT	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 1/4-11 1/2NPT	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 1/2-11 1/2NPT	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	2-11 1/2NPT	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 1/2-8NPT	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	3-8NPT	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	—	—	—	—	4.480	2.252	14.37	14.13	4-8NPT	1.77	14.25	14.25	14.06

Note : Pay attention that the following chemicals such as Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) and Sodium hypochlorite (NaClO) are adapted will cause the abnormal pressure rising due to their vaporization nature.



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