BALL CHECK VALVE

- PLASTIC VALVE WITH HIGH RESISTANCE TO BOTH INTERNAL AND EXTERNAL CORROSION CAUSED BY SEA WATER, VARIOUS ACIDS AND ALKALIS AND OTHER CHEMICALS.
- FLOW PASSAGE STRUCTURE WITH LOW FLUID RESISTANCE
- SMALL PARTS QUANTITY AND A SINGLE CONNECTION REDUCE EXTERNAL STRESS EFFECTS, ALLOWING HIGH FINISHING ACCURACY.
- LIGHTWEIGHT AND SMALL SIZE ALLOW INSTALLATION IN NARROW SPACES AND FACILITATE DISASSEMBLED CLEANING.

MANUAL

BASIC SPECIFICATIONS

VALVE TYPE — **BALL CHECK VALVE**
SIZE — **15 mm—100 mm (1/2 inch—4 inch)**
BODY MATERIAL — **U-PVC** **C-PVC** **PP** **PVDF**
SEAL MATERIAL / SEAT — **EPDM** **FKM** **etc.**
CONNECTION / FLANGED — **JIS5K, JIS10K, DIN, ANSI**
SOCKET — **JIS, DIN, ANSI**
THREADED — **Rc, Rp, NPT**
HIGH PURITY SERIES — **LUBRICANT FREE**

	FLUID TEMPERATURE	MAXIMUM WORKING PRESSURE (NORMAL TEMPERATURE) MPa{kgf/cm²}		CONNECTION METHOD		
		15 mm—50 mm	80mm—100mm	FLANGED	SOCKET	THREADED
U-PVC	0℃ ~ 50℃	1.0 {10.2}	0.7 {7.1}	○	○	○
C-PVC	0℃ ~ 90℃	1.0 {10.2}	0.7 {7.1}	○	○	○
PP	-20℃ ~ 80℃	1.0 {10.2}	0.5 {5.1}	—	○	○
PVDF	-20℃ ~100℃	1.0 {10.2}	0.7 {7.1}	—	○	○

NOTES The maximum working pressure is the value including the water hammer pressure. Be careful that the maximum working pressure is not exceeded during use.
* Concerning the allowable pressure for each temperature and material, see the technical documents at the end of this catalog. * For flanged type 15 - 50 mm with the body material of PP or PVDF, true union ball check valves can be used. For details, contact our sales office.

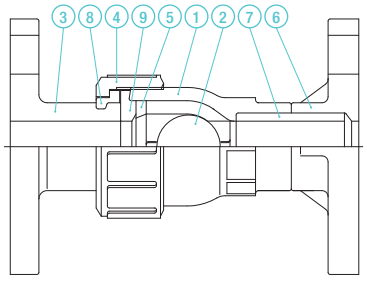


NOTES FOR USE

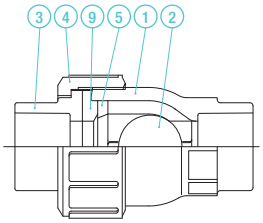
- Make sure during piping that the arrow direction of the valve body is aligned with the flow direction of the fluid.
- Do not use the valve in a line where the fluid flow is very turbulent. Oscillation of the ball may occur in the valve, causing breakage.
- Near pumps with unstable flow, use AV swing check valves.

PARTS LIST MANUAL

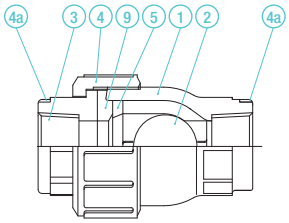
FLANGED



SOCKET



THREADED



PART NO. / NAME	QTY	MATERIAL
① BODY	1	
② BALL	1	FLANGED U-PVC, C-PVC
③ END CONNECTOR	1	SOCKET U-PVC, C-PVC, PP, PVDF
④ UNION NUT	1	THREADED U-PVC, C-PVC, PP, PVDF
⑤ STOP RING (A)	1	
⑥ TS FLANGE(2)	1	
⑦ PIPE(2)	1	

PART NO. / NAME	QTY	MATERIAL
⑧ STOP RING (B)(2)	1	PVDF
⑨ SEAT	1	EPDM, FKM, etc.
④a RING(1)	2	SUS304

NOTES (1) Used for 15 to 25 mm for C-PVC threaded type. (2) Used for flanged type.

PRODUCT MODEL CODE LIST

MANUAL

ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE	HIGH PURITY SERIES
V	BC	ZZ	*	*	*	*	***	1
V MANUAL VALVE	BC BALL CHECK	ZZ NONE	U U-PVC C C-PVC P PP F PVDF	E EPDM V FKM	S SOCKET N THREADED F FLANGED P SPIGOT	J JIS 1 JIS10K 5 JIS5K D DIN A ANSI	015 15mm ~ 100 100mm	1 LUBRICANT FREE

NOTES
- PP and PVDF socket types are weld type.
- PVDF socket type compatible with the JIS standard is not available.
- For 32 mm and 65 mm flanged types, individual service may be available. Contact us for more details.
- PP and PVDF flanged types are not produced.

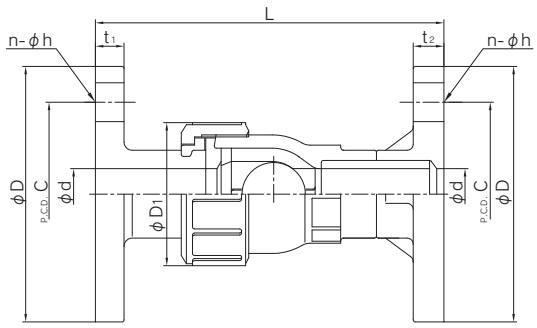
MANUAL

BALL CHECK VALVE

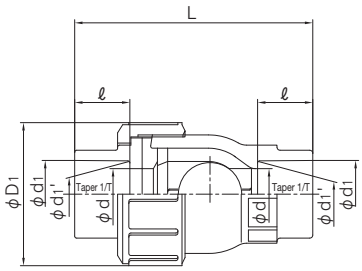
TYPE——VBCZZ

CONNECTION / FLANGED, SOCKET, THREADED——JIS, DIN, ANSI SPIGOT——DIN

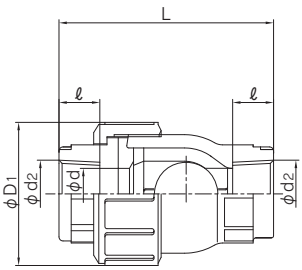
FLANGED



SOCKET



THREADED



■ JIS (Unit: mm)

mm	d	D1	FLANGED												SOCKET								THREADED			
			JIS5K						JIS10K								U-PVC C-PVC				PP				JIS B 0203		L	
			D	C	n	h	t2 U-PVC	t2 C-PVC	D	C	n	h	t2 U-PVC	t2 C-PVC	L	t1	d1	ℓ	1/T	L	d1	d2	ℓ	L	d2	ℓ	U-PVC C-PVC	PP PVDF
15	15	48	80	60	4	12	9	9	95	70	4	15	14	14	131	12	22.11	20	1/34	89	21.2	20.2	22	93	Rc 1/2	15	80	78
20	20	60	85	65	4	12	10	10	100	75	4	15	15	14	156	14	26.13	24	1/34	106	26.2	25.2	23	104	Rc 3/4	17	95	92
25	25	70	95	75	4	12	10	10	125	90	4	19	15	16	169	14	32.16	27	1/34	117	33.0	32.0	25	113	Rc 1	20	105	102
40	40	96	120	95	4	15	12	12	140	105	4	19	16	16	214	16	48.21	37	1/37	162	47.0	46.0	28	144	Rc 1 1/2	25	141	137
50	51	106	130	105	4	15	14	14	155	120	4	19	20	20	244	16	60.25	42	1/37	189	59.0	58.0	28	162	Rc 2	28	164	160
80	78	152	180	145	4	19	14	-	185	150	8	19	22	22	310	18	89.60	64	1/49	277	88.0	86.0	35	219	Rc 3	35	222	216
100	100	210	200	165	8	19	16	-	210	175	8	19	22	22	397	18	114.70	84	1/56	376	113.0	111.0	45	298	Rc 4	45	308	301

■ DIN (Unit: mm)

mm	d	D1	SOCKET						THREADED				SPIGOT				
			U-PVC C-PVC			PP PVDF			DIN 2999				DIN 3442				
			DIN 8063		L	DIN 16962		L	d2	ℓ	L		d3	t1		ℓ	L
			d1	ℓ		d1	d1'	ℓ			U-PVC C-PVC	PP PVDF		PP	PVDF		
15	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	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	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	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	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	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	100	210	110	61	330	109.05	108.65	41	291	Rp 4	45	308	301	110	10.0	5.3	44.5	333

■ ANSI (Unit: inch)

inch	mm	d	D1	FLANGED							SOCKET								THREADED			
				ANSI CLASS 150				L	t1	t2	U-PVC C-PVC ASTM SCH40			L	PVDF PP				ANSI/ASME B 1.20.1	L		
				D	C	n	h				d1	d1'	ℓ		d1	d1'	ℓ	L	d2	ℓ	U-PVC C-PVC	PP PVDF
1/2	15	0.59	1.89	3.50	2.38	4	0.62	5.16	0.47	0.55	0.848	0.836	0.688	3.35	0.825	-	0.874	3.82	1/2-14NPT	0.59	3.15	3.07
3/4	20	0.79	2.36	3.86	2.75	4	0.62	6.14	0.55	0.59	1.058	1.046	0.719	3.74	1.030	-	1.000	4.41	3/4-14NPT	0.67	3.74	3.62
1	25	0.98	2.79	4.25	3.12	4	0.62	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	0.62	8.43	0.63	0.63	1.912	1.894	1.094	5.71	1.890	-	1.374	5.79	1 1/2-11 1/2NPT	0.98	5.55	5.39
2	50	2.01	4.17	6.00	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	7.50	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	3-8NPT	1.38	8.74	8.50
4	100	3.94	8.27	9.00	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	4-8NPT	1.77	12.13	11.85