

# BALL CHECK VALVE

## Features

- 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.



## Basic specifications

- Valve Type : Ball Check Valve
- Size : 15 mm — 100 mm (1/2 inch — 4 inch)
- Body Material : U-PVC (Conforming to ASTM D1784 Cell Classification 12454A)  
C-PVC (Conforming to ASTM D1784 Cell Classification 23567-A)  
PP (Conforming to ASTM D4101 Cell Classification PP0210B67272)  
PVDF (Conforming to ASTM D3222 Cell Classification Type II)
- Seal Material / Seat : EPDM, FKM etc.
- Connection / Flanged : JIS B2220 5K, JIS B2220 10K, ANSI B16.5  
Socket : JIS B2220, DIN/EN1092-1, ANSI B16.5  
Threaded : Rc, Rp, NPT

Body Material	FLUID TEMPERATURE °C {°F}	Maximum working pressure (Normal temperature) MPa {psi}		Connection method		
		15mm - 50mm	80mm - 100mm	Flanged	Socket	Threaded
U-PVC	0 ~ 50 { 30~120 }	1.0 { 150 }	0.7 { 100 }	○	○	○
C-PVC	0 ~ 90 { 30~195 }	1.0 { 150 }	0.7 { 100 }	○	○	○
PP	-20 ~ 80 { -5~175 }	1.0 { 150 }	0.5 { 70 }	-	○	○
PVDF	-20 ~ 100 { -5~210 }	1.0 { 150 }	0.7 { 100 }	-	○	○

Note:: The maximum working pressure is the value including the water hammer pressure.  
Be careful that the maximum working pressure is not exceeded during use.

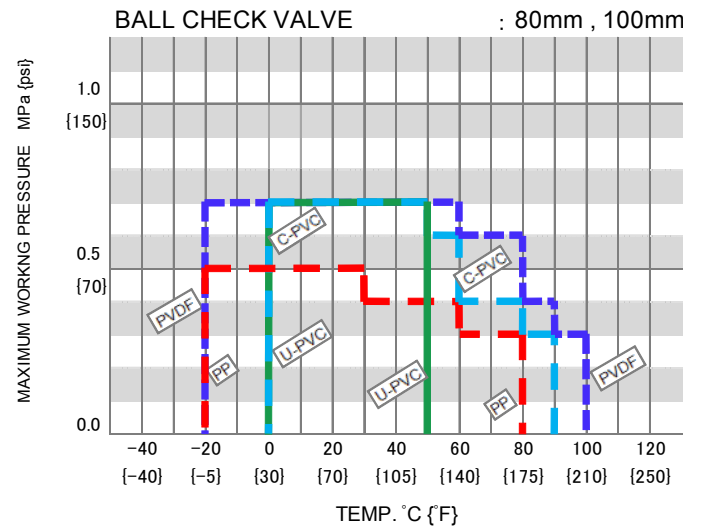
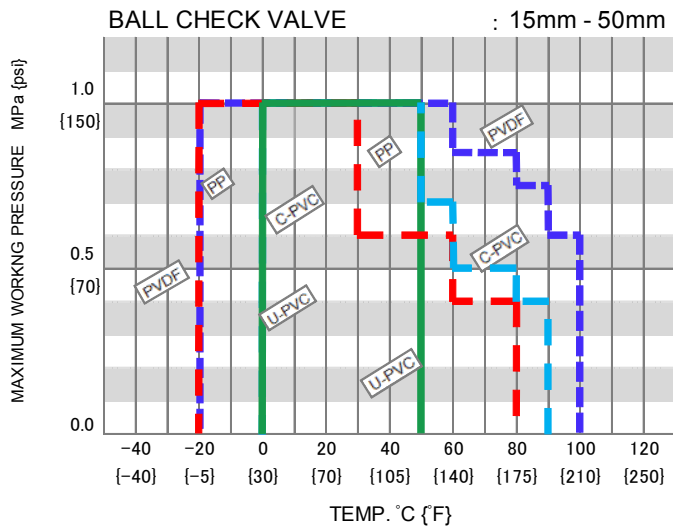
- \* Concerning the allowable pressure for each temperature and material, see the technical documents at the next page of this sheet.
- \* For flanged type 15 - 50 mm with the body material of PP or PVDF, true union ball check valves can be used.

**Certificate / Approval / Directive**

**PED, ABS, NSF/ANSI61**

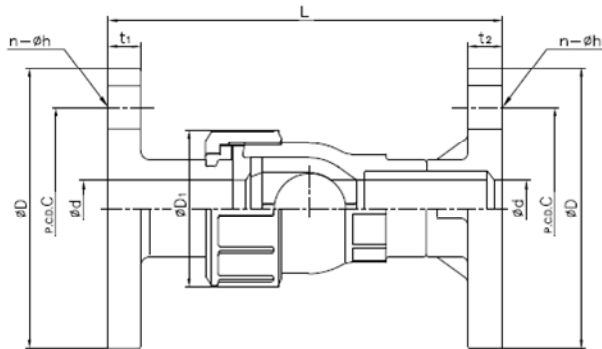
“For details of applicable products, please consult us.”

**Working pressure vs. Temperature**

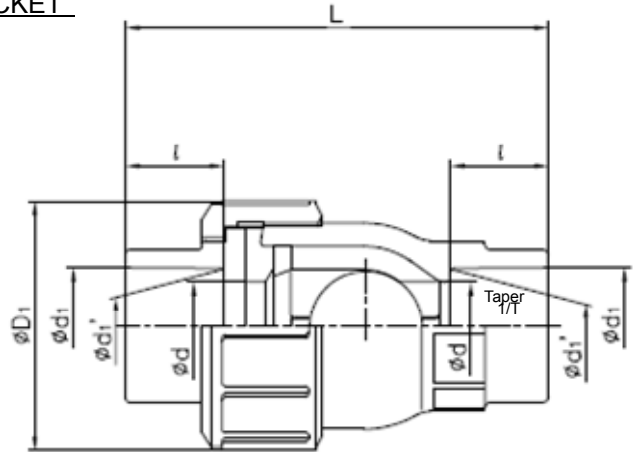


Product dimension

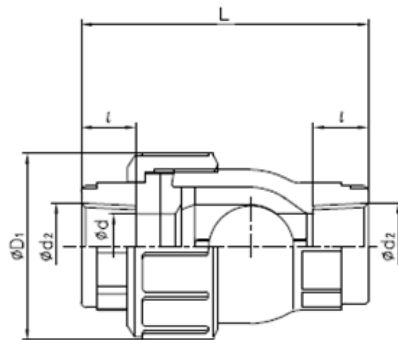
FLANGED



SOCKET



THREADED



■ JIS (Unit: mm)

mm	d	D <sub>1</sub>	FLANGED												SOCKET								THREADED					
			JIS 5K				JIS 10K				L	t <sub>1</sub>	U-PVC, C-PVC				PP				JIS B 0203		L					
			D	C	n	h	D	C	n	h			d <sub>1</sub>	ℓ	1/T	L	d <sub>1</sub>	d <sub>1</sub> '	ℓ	L	d <sub>2</sub>	ℓ		U-PVC C-PVC	PVDF PP			
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	Rc1/2	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	Rc3/4	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	Rc1 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)

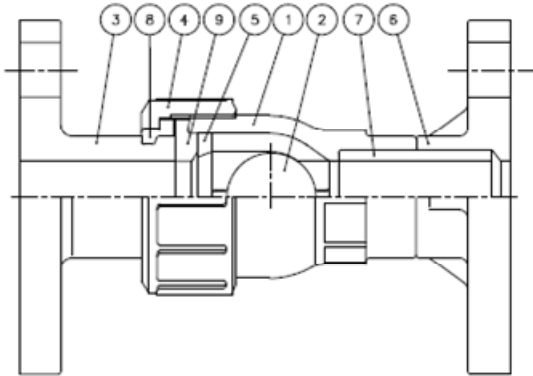
mm	d	D <sub>1</sub>	SOCKET							THREADED				
			U-PVC C-PVC			PP PVDF				DN 2999				
			DIN 8063		L	DIN 16962			L	d <sub>2</sub>	ℓ	L		
15	15	48	d <sub>1</sub>	ℓ		d <sub>1</sub>	d <sub>1</sub> '	ℓ				d <sub>2</sub>	ℓ	U-PVC C-PVC
20	20	60	20	16	81	19.50	19.30	14	78	Rp 1/2	15	80	78	
25	25	70	25	19	96	24.50	24.30	16	90	Rp 1/4	17	95	92	
40	40	96	32	22	107	31.50	31.30	18	99	Rp 1	20	105	102	
50	51	106	50	31	150	49.45	49.20	23	135	Rp 1 1/2	25	141	137	
80	78	152	63	38	181	62.50	62.10	27	160	Rp 2	28	164	160	
100	100	210	90	51	248	89.20	88.85	35	217	Rp 3	35	222	216	
			110	61	330	109.05	108.65	41	291	Rp 4	45	308	301	

■ ANSI (Unit: inch)

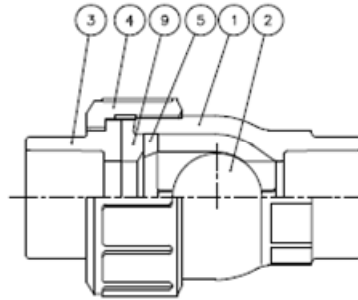
inch	mm	d	D <sub>1</sub>	FLANGED							SOCKET								THREADED			
				ANSI CLASS 150				L	t <sub>1</sub>	t <sub>2</sub>	U-PVC C-PVC				PVDF PP				ANSI/ASME B 1.20.1		L	
				D	C	n	h				U-PVC	d <sub>1</sub>	d <sub>1</sub> '	ℓ	L	d <sub>1</sub>	d <sub>1</sub> '	ℓ	L	d <sub>2</sub>		ℓ
1/2	15	0.59	1.89	3.50	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	3.88	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	2.76	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 1/2NPT	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 1/2NPT	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

## Parts list

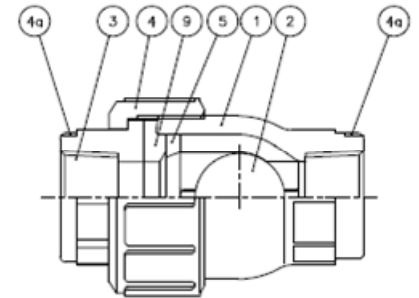
### FLANGED



### SOCKET



### THREADED



PART NO./NAME	QTY	MATERIAL	PART NO./NAME	QTY	MATERIAL
1 BODY	1		8 STOP RING ( B ) <sup>(2)</sup>	1	PVDF
2 BALL	1	FLANGED U-PVC, C-PVC	9 SEAT	1	EPDM, FKM, etc
3 END CONNECTOR	1		4a RING <sup>(1)</sup>	2	STAINLESS STEEL
4 UNION NUT	1	SOCKET U-PVC, C-PVC, PP, PVDF			
5 STOP RING ( A )	1				
6 TS FLANGE <sup>(2)</sup>	1	THREADED U-PVC, C-PVC, PP, PVDF			
7 PIPE <sup>(2)</sup>	1				

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

## Cv value for each opening degree

### FULL-OPEN Cv VALUE

mm	15	20	25	40	50	80	100
inch	1/2	3/4	1	1 1/2	2	3	4
FULL-OPEN Cv VALUE	6.5	17	25	86	130	280	500

## Product weight

BALL CHECK VALVE

UNIT : kg

mm	inch	FLANGED (JIS10K)		SOCKET				THREADED			
		U-PVC	PP	U-PVC	C-PVC	PP	PVDF	U-PVC	C-PVC	PP	PVDF
15	1/2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
20	3/4	0.4	0.4	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2
25	1	0.6	0.7	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3
40	1 1/2	1.1	1.1	0.6	0.6	0.3	0.7	0.6	0.7	0.4	0.7
50	2	1.8	1.6	0.8	0.9	0.5	1.1	0.8	0.9	0.6	1.0
80	3	4.0	4.3	2.4	2.6	1.5	2.8	2.2	2.4	1.5	2.9
100	4	7.2	11.0	5.9	6.1	3.0	6.5	5.8	6.2	3.7	7.0

## Product model code list

ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
V	BC	ZZ	*	*	*	*	***
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	J JIS 1 10K 5 5K D DIN A ANSI	015 15mm 5 100 100mm

Note:

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.

## Installation, Operation and Maintenance Manual

"For details of Installation, Operation and Maintenance, please refer IOM at below link"

[http://www.asahi-yukizai.co.jp/en/product/mt\\_pdf/a\\_manual\\_valve\\_4\\_03.pdf](http://www.asahi-yukizai.co.jp/en/product/mt_pdf/a_manual_valve_4_03.pdf)