



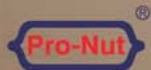
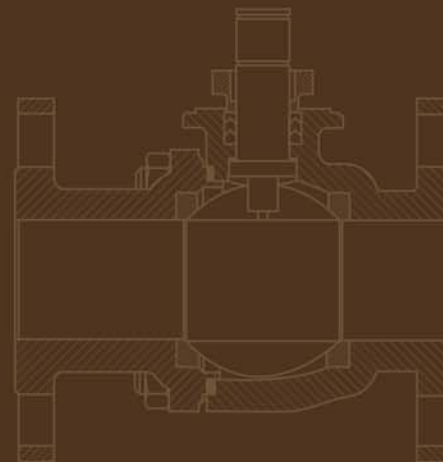
BALL VALVE

Floating Ball Valve
11 Series Soft Seal Floating Ball Valve
12 Series Metal Seal Floating Ball Valve

Fixed Shaft Ball Valve
18/18M Series Fixed Shaft Ball Valve

Lining Ball Valve
21 Series Lining Ball Valve

V-Type Control Ball Valve
22 Series V-Type Control Ball Valve



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Technology — the way of solutions



Content

001/	11 Series Soft Seal Floating Ball Valve
001/	12 Series Metal Seal Floating Ball Valve
004/	18/18M Series Fixed Shaft Ball Valve
005/	21 Series Lined Ball Valve
005/	22 Series V-Type Control Ball Valve
027/	27 How to select your ball valve?

11 Series Floating Ball Valve with Soft Seal

A Brief Introduction

- The 11 Series Ball Valve of full bore two-piece flanged ends is widely applicable in the industries of petroleum, gas, mining, petrochemical and power. Special designs of fire safety and long durability are also available to meet the requests of customers.
- Full bore two-piece flanged ends
- ANSI 150/300/600 LB
- DIN PN 10/16/25/40

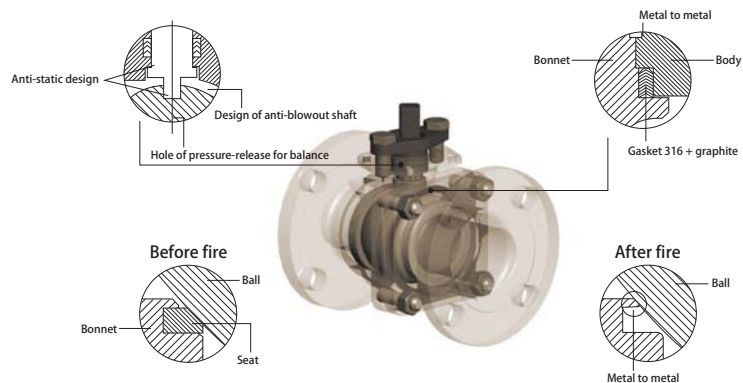
Standard Design

- Body Material: Standard WCB, CF8, CF8M
- Other materials are available upon the requests of customers
- Dimension: 1/2" ~ 12"
- Standard Pressure Test: ANSI 150/300/600 LB
DIN PN 10/16/25/40
- Connection: Raised face flange
- Temperature Range: -196°C - 180°C
- Face to Face Lengths: ANSI B16.10/DIN 3202 F4/F5
- Flange Dimension: ANSI B16.5/DIN PN10/16/25/40
- Body Pressure Test: ANSI/B16.34/API598
- Seat Leak Standard: ANSI/B16.34/API598 CLASS VI
- Casting Specification: MSS-SP-25/MSS-SP-55

Features

- Fire safety design complies with API607 4TH
- Design of anti-static
- Design of long stem
- Design of strengthening device preventing leakage on stem
- Gear Operated/Actuator (Optional)

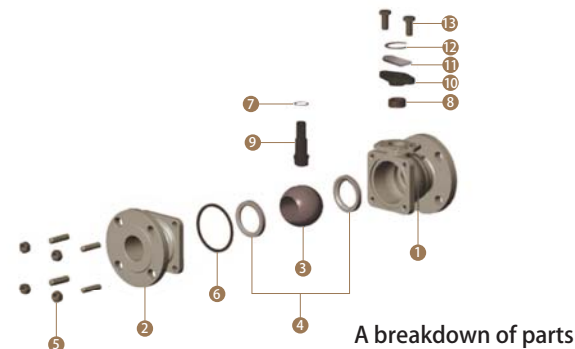
Design & Structure



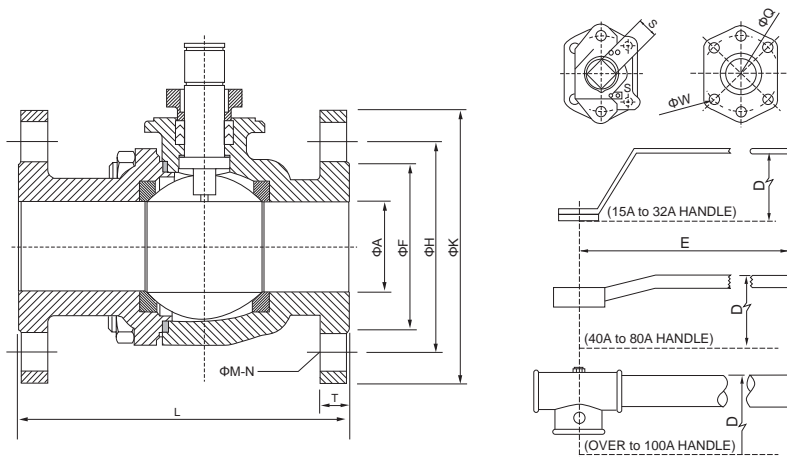
Certificate



Material List



NO	Part	Material			
		FC-20	WCB(SCPH2)	CF8(SCS13A)	CF8M(SCS14A)
1	BODY	FC-20	WCB(SCPH2)	CF8(SCS13A)	CF8M(SCS14A)
2	CAP	FC-20	WCB(SCPH2)	CF8(SCS13A)	CF8M(SCS14A)
3	BALL	CF8(SCS13A)			
4	SEAT	PTFE/G-PTFE/C-PTFE/S-PTFE			
5	BOLT&NUT	SCM3	SUS 304		
6	GASKET	PTFE/GRAPHITE(FIRE SAFE)			
7	THRUST WASHER	PTFE			
8	GLAND PACKING	PTFE/GRAPHITE(FIRE SAFE)			
9	STEM	SUS304			SUS316
10	GLAND	CF8(SCS13A)			
11	TRAVEL STOP	SUS 304			
12	SNAP CATCH	SUS 304			
13	GLAND BOLT	SUS 304			
14	HANDLE	FCD45(15A-80A)SGP/FCD45(100A-300A)			



DIMENSION (11 SERIES ANSI-150LB)

(M.M.)

SIZE	A	D	S	E	L	K	T	H	F	M	N	Q	W	
15	1/2"	15	63	10	130	108	11.2	60.5	35	16	4	42	M5	
20	3/4"	20	68	10	130	117	9.8	70	43	16	4	42	M5	
25	1"	25	76	12	160	127	10.8	79.5	51	16	4	50	M6	
40	1-1/2"	38	88	17	224	165	12.7	14.3	98.5	73	16	4	70	M8
50	2"	50	94	17	224	178	15.2	15.9	120.5	92	19	4	70	M8
65	2-1/2"	65	115	20	324	190	17.8	17.5	139.5	105	19	4	70	M8
80	3"	76	120	20	324	203	19.0	19.1	152.5	127	19	8	70	M8
100	4"	100	195	27	400	229	21.0	23.9	190.5	157	19	8	102	M10
125	5"	125	220	27	550	356	25.4	23.9	216	186	22	8	102	M10
150	6"	150	240	27	550	394	27.9	25.4	241.5	216	22	8	102	M12
200	8"	200	300	35	1000	457	34.3	28.6	298.5	270	22	8	140	M16
250	10"	250	355	35	1000	533	40.6	30.2	362	324	25	12	140	M16
300	12"	300	-	46	-	610	48.3	31.8	432	381	25	16	165	M20

DIMENSION (11 SERIES ANSI-300LB)

(M.M.)

SIZE	A	D	S	E	L	K	T	H	F	M	N	Q	W	
15	1/2"	15	63	10	130	140	9.5	14.3	66.5	35	16	4	42	M5
20	3/4"	20	68	10	130	152	11.7	15.9	82.5	43	19	4	42	M5
25	1"	25	76	12	160	165	12.4	17.5	89	51	19	4	50	M6
40	1-1/2"	38	88	17	224	190	15.6	20.6	114.5	73	22	4	70	M8
50	2"	50	94	17	224	216	16.5	22.3	127	92	19	8	70	M8
65	2-1/2"	65	115	20	324	241	19.0	25.4	149.2	105	22	8	70	M8
80	3"	76	120	20	324	283	21.0	28.6	168	127	22	8	70	M8
100	4"	100	195	27	400	305	25.4	31.8	200	157	22	8	102	M10
150	6"	150	240	27	550	403	31.8	36.6	269.7	216	22	12	125	M12
200	8"	200	300	35	1000	502	38.1	41.3	330.2	270	25	12	140	M16
250	10"	250	355	35	1000	568	44.4	47.7	387.5	324	29	12	140	M16
300	12"	300	-	46	-	648	52.1	50.8	451	381	32	16	165	M20

DIMENSION (11 SERIES ANSI-600LB)

(M.M.)

SIZE	A	D	S	E	L	K	T	H	F	M	N	Q	W	
15	1/2"	15	63	10	130	165	9.5	20.9	66.5	35	16	4	42	M5
20	3/4"	20	68	10	130	190	11.7	22.3	82.5	43	19	4	42	M5
25	1"	25	76	12	160	216	12.4	23.9	89	51	19	4	50	M6
40	1-1/2"	38	88	17	224	241	15.6	28.7	114.5	73	22	4	70	M8
50	2"	50	94	17	224	292	16.5	31.8	127	92	19	8	70	M8
80	3"	76	120	22	445	356	21.0	38.2	168	127	22	8	102	M10
100	4"	100	240	27	1040	432	27.3	44.5	216	157	25	8	125	M12
150	6"	150	300	35	550	559	35.6	54.1	292	216	29	12	140	M16

DIMENSION (11 SERIES DIN PN10)

(M.M.)

SIZE	A	D	S	E	L		K	T	H	F	M	N	Q	W	
					F4	F5									
15	1/2"	15	63	110	130	115		95	14	65	45	14	4	42	M5
20	3/4"	20	68	10	130	120		105	16	75	58	14	4	42	M5
25	1"	25	76	12	160	125		115	16	85	68	14	4	50	M6
32	1-1/4"	32	84	12	160	130		140	18	100	78	18	4	50	M6
40	1-1/2"	40	88	17	224	140	240	150	18	110	88	18	4	70	M8
50	2"	50	94	17	224	150	250	165	20	125	102	18	4	70	M8
65	2-1/2"	65	115	20	324	170	270	185	20	145	122	18	8	70	M8
80	3"	76	120	20	324	180	280	200	20	160	138	18	8	70	M8
100	4"	100	195	27	400	190	300	220	22	180	158	18	8	102	M10
125	5"	125	220	27	550		325	250	22	210	188	18	8	125	M12
150	6"	150	240	27	550		350	285	24	240	212	22	8	125	M12
200	8"	200	300	35	1000		400	340	24	295	268	22	8	140	M16
250	10"	250	335	35	1000		450	395	26	350	320	22	12	140	M16

DIMENSION (11 SERIES DIN PN16)

(M.M.)

SIZE	A	D	S	E	L		K	T	H	F	M	N	Q	W	
					F4	F5									
15	1/2"	15	63	10	130	115		95	14	65	45	14	4	42	M5
20	3/4"	20	68	10	130	120		105	16	75	58	14	4	42	M5
25	1"	25	76	12	160	125		115	16	85	68	14	4	50	M6
32	1-1/4"	32	84	12	160	130		140	18	100	78	18	4	50	M6
40	1-1/2"	40	88	17	224	140	240	150	18	110	88	18	4	70	M8
50	2"	50	94	17	224	150	250	165	20	125	102	18	4	70	M8
65	2-1/2"	65	115	20	324	170	270	185	20	145	122	18	8	70	M8
80	3"	76	120	20	324	180	280	200	20	160	138	18	8	70	M8
100	4"	100	195	27	400	190	300	220	22	180	158	18	8	102	M10
125	5"	125	220	27	550		325	250	22	210	188	18	8	125	M12
150	6"	150	240	27	550		350	285	24	240	212	22	8	125	M12
200	8"	200	300	35	1000		400	340	24	295	268	22	12	140	M16
250	10"	250	335	35	1000		450	405	26	355	320	26	12	140	M16

DIMENSION (11 SERIES DIN PN25)

(M.M.)

SIZE	A	D	S	E	L		K	T	H	F	M	N	Q	W	
					F4	F5									
15	1/2"	15	63	10	130	115		95	14	65	45	14	4	42	M5
20	3/4"	20	68	10	130	120		105	16	75	58	14	4	42	M5
25	1"	25	76	12	160	125		115	16	85	68	14	4	50	M6
32	1-1/4"	32	84	12	160	130		140	18	100	78	18	4	50	M6
40	1-1/2"	40	88	17	224	140	240	150	18	110	88	18	4	70	M8
50	2"	50	94	17	224	150	250	165	20	125	102	18	4	70	M8
65	2-1/2"	65	115	20	324	170	270	185	24	145	122	18	8	70	M8
80	3"	76	120	20	324	180	280	200	24	160	138	18	8	70	M8
100	4"	100	195	27	400	190	300	235	24	190	162	22	8	102	M10
125	5"	125	220	27	550		325	270	26	220	188	26	8	125	M12
150	6"	150	240	27	550		350	300	28	250	218	26	8	125	M12
200	8"	200	300	35	1000		400	360	30	310	278	26	12	140	M16
250	10"	250	335	35	1000		450	425	32	370	335	30	12	140	M16

DIMENSION (11 SERIES DIN PN40)

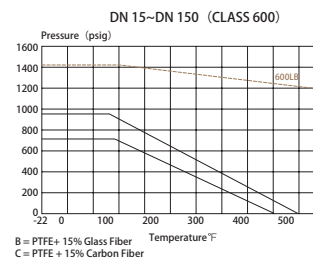
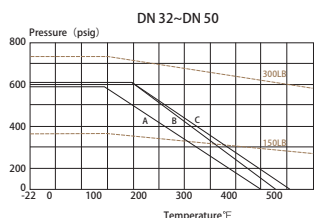
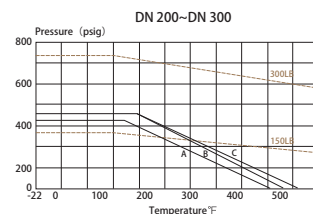
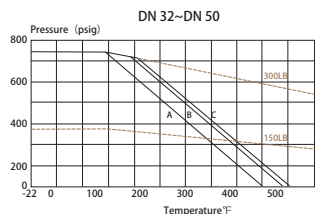
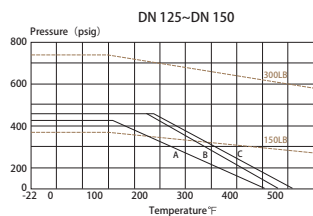
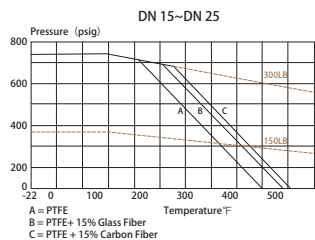
(M.M.)

SIZE	A	D	S	E	L		K	T	H	F	M	N	Q	W	
					F4	F5									
15	1/2"	15	63	10	130	115		95	14	65	45	14	4	42	M5
20	3/4"	20	68	10	130	120		105	16	75	58	14	4	42	M5
25	1"	25	76	12	160	125		115	16	85	68	14	4	50	M6
32	1-1/4"	32	84	12	160	130		140	18	100	78	18	4	50	M6
40	1-1/2"	40	88	17	224	140	240	150	18	110	88	18	4	70	M8
50	2"	50	94	17	224	150	250	165	20	125	102	18	4	70	M8
65	2-1/2"	65	115	20	324	170	270	185	22	145	122	18	8	70	M8
80	3"	76	120	20	324	180	280	200	24	160	138	18	8	70	M8
100	4"	100	195	27	400	190	300	235	24	190	162	22	8	102	M10
125	5"	125	220	27	550		325	270	26	220	188	26	8	125	M12
150	6"	150	240	27	550		350	300	28	250	218	26	8	125	M12
200	8"	200	300	35	1000		400	375	34	320	285	30	12	140	M16
250	10"	250	335	35	1000		450	450	38	385	345	30	12	140	M16

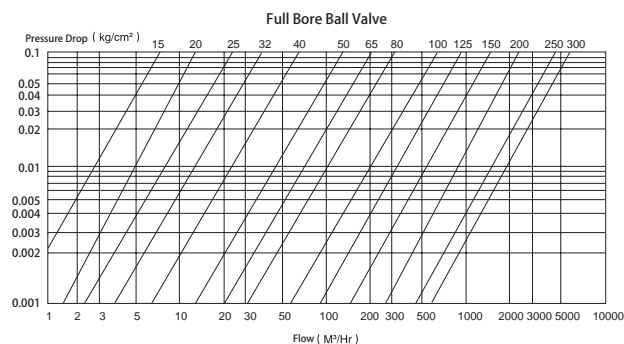
Cv Value of Full Bore Valve

SIZE(MM)	15	20	25	32	40	50	60	80	100	125	150	200	250	300
Cv	25	50	90	160	245	460	750	1250	2400	3600	5400	10500	17500	26000

Temperature & Pressure Curve



Pressure Drop & Flow



12 Series Metal Seal Ball Valve

A Brief Introduction

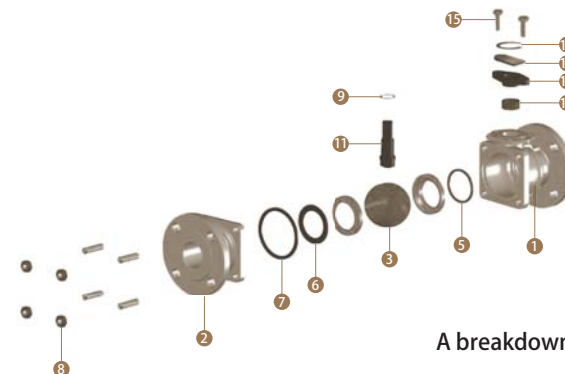
- Suitable for heavy duties in high temperature and abrasion, the 12 Series Metal Seal Ball Valves are widely applicable in the fields of petroleum, gas, mining, paper-making, metallurgy, petrochemical and power.
- Full bore two-piece flanged ends
- ANSI 150/300/600 LB
- DIN PN 10/16/25/40

Standard Design

- Body Material: Standard WCB, CF8, CF8M
- Other materials are available in accordance with the requests of customers
- Dimension: 1/2" ~ 8"
- Standard Pressure Specification: DIN PN 10/16/25/40
ANSI 150/300/600 LB
- Connection: Raised face flange
- Temperature Range: -29°C - 500°C
- Face to Face Lengths: ANSI B16.5
- Flange Dimension: ANSI B16.5/DIN PN10/16/25/40
- Body Pressure Test Standard: ANSI/B16.34/API598
- Seat Leak Standard: ANSI/B16.104/FC170-2 CLASS VI
- Cast Specification: MSS SP-61/MSS-SP-25/MSS-SP-55

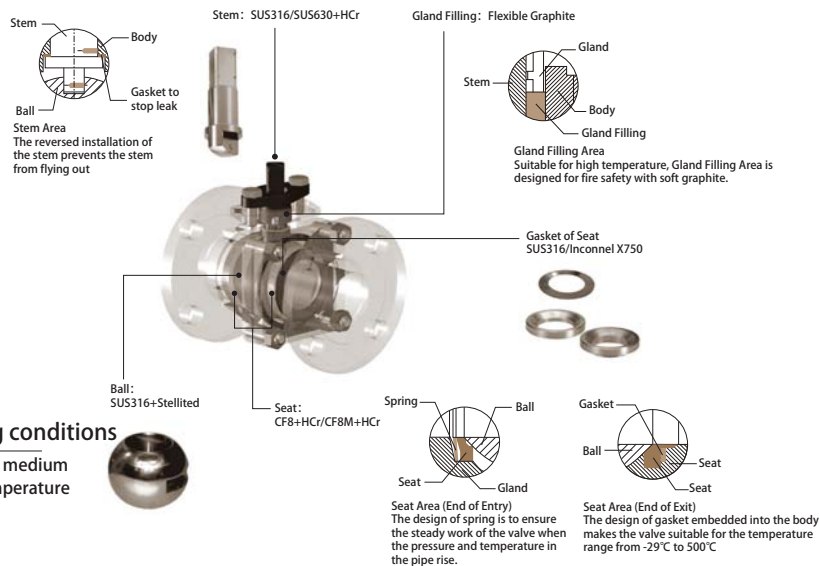
Features

- The close work of the body and seat is ensured by the precisely processed body and seat to comply with the permissible limits of leakage standard as specified in ANSI/B16.104/FC170-2 CLASS VI.
- The spring installed on the seat ensures the sealing of the ball in low temperature. The design enables the valve to work steadily in high temperature differential while the valve is switched on and off.
- Design of fire safety complies with standard of API 607 4TH Edition
- Different materials are available for various working conditions
- With the appropriate treatment on the surface, the ball and the seat are suitable for abrasive medium and chemical slurry containing hard particles for a long run.



A breakdown of parts

Design & Structure

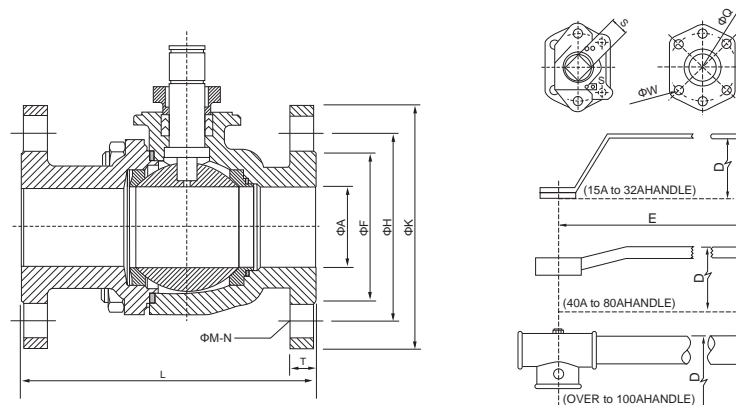


Working conditions

- 1.Grinding medium
- 2.High temperature

Material List

NO	Part	SM			SH		
		-29°C~350°C			-29°C~425°C		
1	BODY	WCB	CF8	CF8M	WCB	CF8	CF8M
2	CAP	WCB	CF8	CF8M	WCB	CF8	CF8M
3	BALL	CF8/HCr		CF8M/HCr	CF8/HCr		CF8M/HCr
4	SEAT	SUS316/STELLITED					
5	SEAT GASKET	GRAPHITE					
6	SEAT SPRING	SUS316			INCONEL X750		
7	GASKET	SUS316+GRAPHITE					
8	BOLT&NUT	B7	B8		B7	B8	
9	THRUST WASHER	CARBON					
10	GLAND PACKING	FLEXIBLE GRAPHITE					
11	STEM	SUS316			SUS630/HCr		
12	GLAND	SUS304					
13	TRAVEL STOP	SUS304					
14	SNAP CATCH	SUS304					
15	GLAND BOLT	SUS304					
16	HANDLE	FCD45 (15A~80A) SGP/FCD45 (100A~200A)					



DIMENSION (12 SERIES ANSI-150LB)

(M.M.)

SIZE	A	D	S	E	L	K	T	H	F	M	N	O	W
15 1/2"	15	63	10	130	108	95	12	70	51	15	4	42	M5
20 3/4"	20	68	10	130	117	100	14	75	56	15	4	42	M5
25 1"	25	76	12	160	127	125	14	90	67	19	4	50	M6
40 1-1/2"	38	88	17	224	165	140	16	105	81	19	4	70	M8
50 2"	50	94	17	224	178	155	16	120	96	19	4	70	M8
65 2-1/2"	65	115	20	324	190	175	18	140	116	19	4	70	M8
80 3"	76	120	20	324	203	185	18	150	126	19	8	70	M8
100 4"	100	195	27	400	229	210	18	175	151	19	8	102	M10
125 5"	125	220	27	550	356	250	20	210	182	23	8	102	M10
150 6"	150	240	27	550	394	280	22	240	212	23	8	102	M12
200 8"	200	300	35	1000	457	330	22	290	262	23	12	140	M16

DIMENSION (12 SERIES ANSI-300LB)

(M.M.)

SIZE	A	D	S	E	L	K	T	H	F	M	N	O	W
15 1/2"	15	63	10	130	140	95	14.3	66.5	35	16	4	42	M5
20 3/4"	20	68	10	130	152	117	15.9	82.5	43	19	4	42	M5
25 1"	25	76	12	160	165	124	17.5	89	51	19	4	50	M6
40 1-1/2"	38	88	17	224	190	156	20.6	114.5	73	22	4	70	M8
50 2"	50	94	17	224	216	165	22.3	127	92	19	8	70	M8
65 2-1/2"	65	115	20	324	241	190	25.4	149.2	105	22	8	70	M8
80 3"	76	120	20	324	283	210	28.6	168	127	22	8	70	M8
100 4"	100	195	27	400	305	254	31.8	200	157	22	8	102	M10
150 6"	150	240	27	550	403	318	36.6	269.7	216	22	12	125	M12
200 8"	200	300	35	1000	502	381	41.3	330.2	270	25	12	140	M16

DIMENSION (12 SERIES ANSI-600LB)

(M.M.)

SIZE	A	D	S	E	L	K	T	H	F	M	N	O	W
15 1/2"	15	63	10	130	165	95	20.9	66.5	35	16	4	42	M5
20 3/4"	20	68	10	130	190	117	22.3	82.5	43	19	4	42	M5
25 1"	25	76	12	160	216	124	23.9	89	51	19	4	50	M6
40 1-1/2"	38	120	17	224	241	156	28.7	114.5	73	22	4	70	M8
50 2"	50	140	17	224	292	165	31.8	127	92	19	8	70	M8
80 3"	76	180	22	324	356	210	38.2	168	127	22	8	70	M8
100 4"	100	240	27	550	432	273	44.5	216	157	25	8	102	M10

DIMENSION (12 SERIES DIN PN10)

(M.M.)

SIZE	A	D	S	E	L		K	T	H	F	M	N	O	W	
					F4	F5									
DN15~DN50 USE PN40															
DN65~DN150 USE PN16															
200	8"	200	300	35	1000		400	340	24	295	268	22	8	140	M16



DIMENSION (12 SERIES DIN PN16) (M.M.)

SIZE	A	D	S	E	L		K	T	H	F	M	N	Q	W	
					F4	F5									
DN15~DN50 USE PN40															
65	2-1/2"	65	115	20	324	170	270	185	20	145	122	18	8	70	M8
80	3"	76	120	20	324	180	280	200	20	160	138	18	8	70	M8
100	4"	100	195	27	400	190	300	220	22	180	158	18	8	102	M10
150	6"	150	240	27	550		350	285	24	240	212	22	8	125	M12
200	8"	200	300	35	1000		400	340	24	295	268	22	12	140	M16

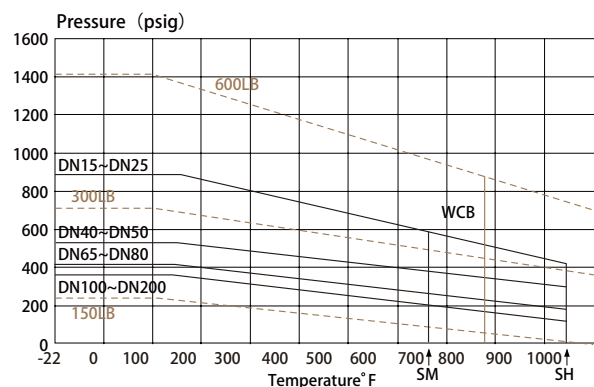
DIMENSION (12 SERIES DIN PN25) (M.M.)

SIZE	A	D	S	E	L		K	T	H	F	M	N	Q	W	
					F4	F5									
DN15~DN50 USE PN40															
200	8"	200	300	35	1000		400	340	24	295	268	22	8	140	M16

DIMENSION (12 SERIES DIN PN40) (M.M.)

SIZE	A	D	S	E	L		K	T	H	F	M	N	Q	W	
					F4	F5									
15	1/2"	15	63	10	130	115		95	14	65	65	14	4	42	M5
20	3/4"	20	68	10	130	120		105	16	75	58	14	4	42	M5
25	1"	25	76	12	160	125		115	18	85	68	14	4	50	M6
40	1-1/2"	38	88	17	224	140	240	150	18	110	88	18	4	70	M8
50	2"	50	94	17	224	150	250	165	20	125	102	18	4	70	M8
65	2-1/2"	65	115	20	324	170	270	185	22	145	122	18	8	70	M8
80	3"	76	120	20	324	180	280	200	24	160	138	18	8	70	M8
100	4"	100	195	27	400	190	300	235	24	190	162	22	8	102	M10
150	6"	150	240	27	550		350	300	28	250	218	26	8	125	M12
200	8"	200	300	35	1000		400	375	34	320	285	30	12	140	M16

Temperature & Pressure Curve



SM=Maximum Temperature 661° F (350°C)
SH=Maximum Temperature 932° F (500°C)
WCB=Maximum Temperature 797° F (425°C)

18/18M Series Fixed Shaft Ball Valve

A brief Introduction

- Fixed Shaft Soft Seat/Metal Seat Ball Valve
- Full bore 3-piece flange ends
- ANSI 150/300/600/900 LB

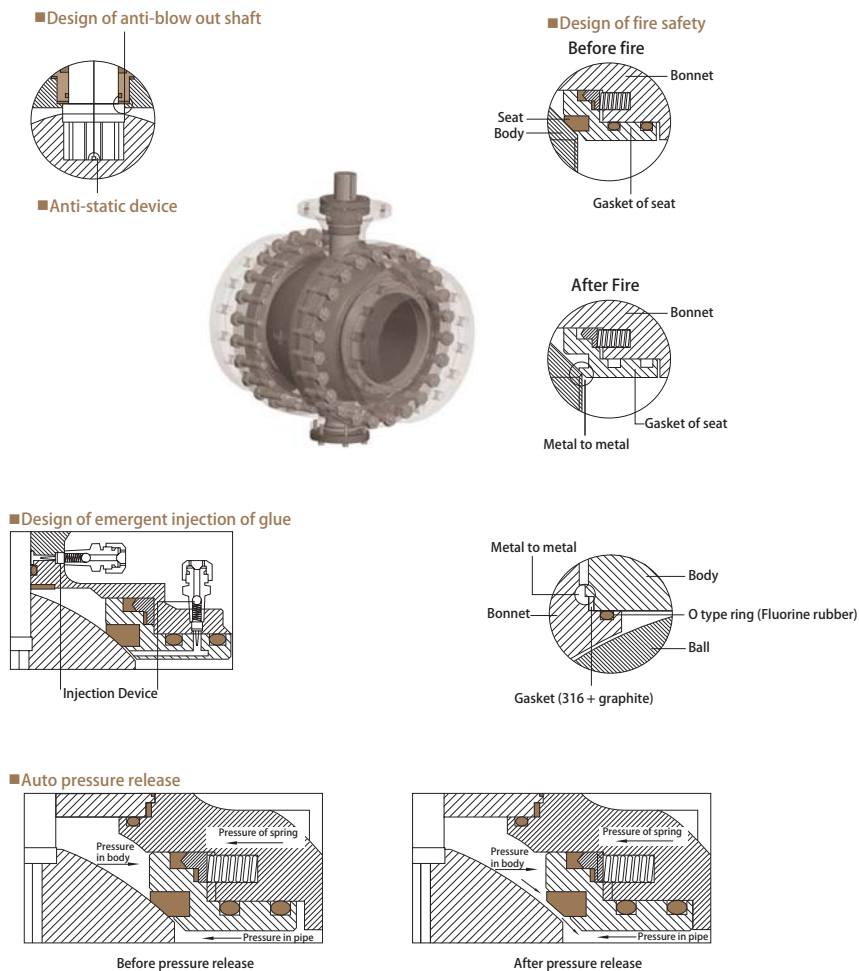
Standard Design

- Body Material: Standard WCB, CF8, CF8M Other materials are available in accordance with the requests of customers
- Dimension: 2" ~ 24" (DN50~DN600)
- Standard Pressure Specification: ANSI 150/300/600/900/1200 LB
- Connection: Raised face flange
- Temperature Range: -29°C - 500°C
- Face to Face Lengths: ANSI B16.10
- Flange Dimension: ANSI B16.5
- Body Pressure Test Standard: ANSI/B16.34/API598
- Seat Leak Standard: (Soft Seat) ANSI B16.34/API598 CLASS VI
(Metal Seat) ANSI 16.104/FC170-2 CLASS V
- Casting Standard: MSS-SP-25/MSS-SP-55
- Fire Safety Test: API 4th Edition

Features

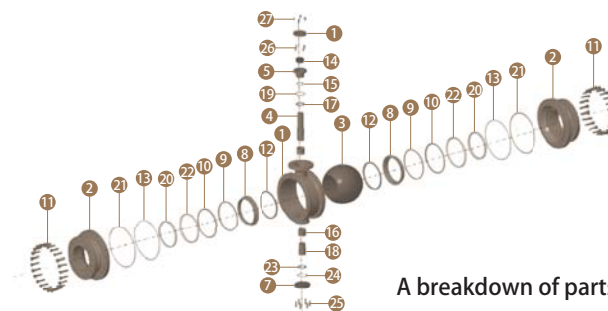
- The design of fixed shaft ensures the steady work of the valve and minimizes the travel of the torque.
- The design of double block and bleed ensures the complete startup and shutdown of the valve
- Options of soft seal seat and metal seal seat for different working conditions
- Auto pressure release of body
- Fire safety design
- Device of anti-blowout shaft
- Design of anti-static
- Design of lock device
- Design of installation platform applied to ISO 5211
- Gear/Actuator (Optional)

Design & Structure



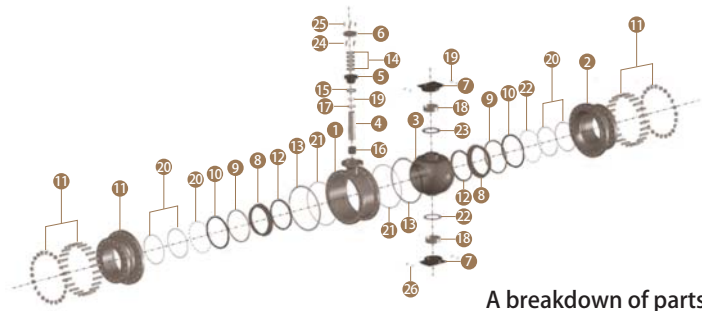
Material List

18 SERIES DN50~DN350(2" ~14")



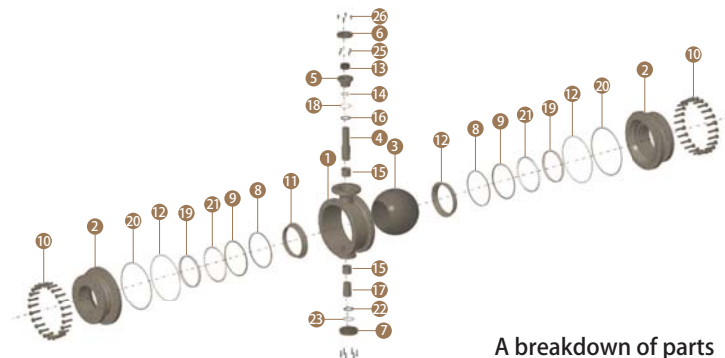
NO	Part	Material		
1	BODY	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
2	CAP	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
3	BALL	ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M
4	STEM	ASTM A182 F304	ASTM A182 F304	ASTM A182 F316
5	GLAND BODY	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
6	GLAND	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
7	BEARING RETAINER	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
8	SEAT RING	ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M
9	SEAT RING SEAL	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
10	SEAT RING RETAINER	ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M
11	BOLT&NUT	B7&2H	B8&8	B8&8
12	SEAT	15%G-PTFE	15%G-PTFE	15%G-PTFE
13	BODY GASKET	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
14	GLAND PACKING	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
15	GLAND THRUST WASHER	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
16	BEARING	15%G-PTFE	15%G-PTFE	15%G-PTFE
17	STEM THRUST WASHER	15%G-PTFE	15%G-PTFE	15%G-PTFE
18	TRUNNION STEM	ASTM A182 F304	ASTM A182 F304	ASTM A182 F316
19	STEM O-RING O	VITON	VITON	VITON
20	SEAT RING O-RING O	VITON	VITON	VITON
21	CAP O-RING O	VITON	VITON	VITON
22	SPRING	INCONEL X-750	INCONEL X-750	INCONEL X-750
23	TRUNNION STEM WASHER	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
24	TRUNNION STEM GASKET	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
25	RETAINER BOLT	CARBON STEEL	CARBON STEEL	CARBON STEEL
26	GLAND BODY BOLT	CARBON STEEL	CARBON STEEL	CARBON STEEL
27	GLAND BOLT	CARBON STEEL	CARBON STEEL	CARBON STEEL

18 SERIES DN400~DN600(16" ~24")



A breakdown of parts

18M SERIES DN50~DN350(2" ~14")

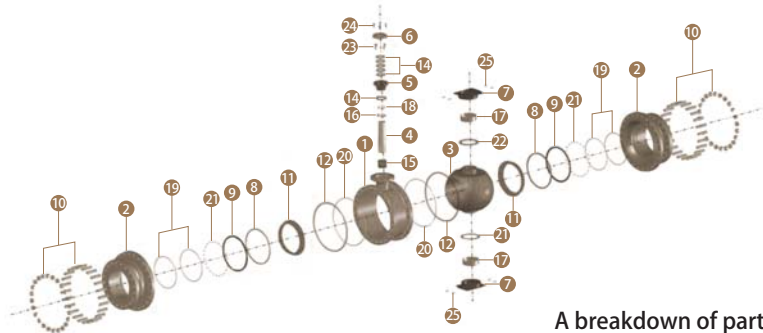


A breakdown of parts

NO	Part	Material		
1	BODY	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
2	CAP	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
3	BALL	ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M
4	STEM	ASTM A182 F304	ASTM A182 F304	ASTM A182 F316
5	GLAND BODY	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
6	GLAND	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
7	TRUNNION	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
8	SEAT RING	ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M
9	SEAT RING SEAL	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
10	SEAT RING RETAINER	ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M
11	BOLT&NUT	B7&2H	B8&8	B8&8
12	SEAT	15%G-PTFE	15%G-PTFE	15%G-PTFE
13	BODY GASKET	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
14	GLAND PACKING	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
15	GLAND THRUST WASHER	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
16	BEARING	15%G-PTFE	15%G-PTFE	15%G-PTFE
17	STEM THRUST WASHER	15%G-PTFE	15%G-PTFE	15%G-PTFE
18	TRUNNION STEM	ASTM A182 F304	ASTM A182 F304	ASTM A182 F316
19	STEM O-RING O	VITON	VITON	VITON
20	SEAT RING O-RING O	VITON	VITON	VITON
21	CAP O-RING O	VITON	VITON	VITON
22	SPRING	INCONEL X-750	INCONEL X-750	INCONEL X-750
23	WASHER	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
24	GLAND BODY BOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL
25	GLAND BOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL
26	PIN	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

NO	Part	Material		
1	BODY	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
2	CAP	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
3	BALL	ASTM A351-CF8+Hcr	ASTM A351-CF8+Hcr	ASTM A351-CF8M+Hcr
4	STEM	ASTM A182 F304	ASTM A182 F304	ASTM A182 F316
5	GLAND BODY	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
6	GLAND	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
7	BEARING RETAINER	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
8	SEAT RING SEAL	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
9	SEAT RING RETAINER	ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M
10	BOLT&NUT	B7&2H	B8&8	B8&8
11	SEAT	ASTM A351-CF8+STELLITED	ASTM A351-CF8+STELLITED	ASTM A351-CF8+STELLITED
12	BODY GASKET	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
13	GLAND PACKING	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
14	GLAND THRUST WASHER	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
15	BEARING	15%G-PTFE	15%G-PTFE	15%G-PTFE
16	STEM THRUST WASHER	15%G-PTFE	15%G-PTFE	15%G-PTFE
17	TRUNNION STEM	ASTM A182 F304	ASTM A182 F304	ASTM A182 F316
18	STEM O-RING O	VITON	VITON	VITON
19	SEAT RING O-RING O	VITON	VITON	VITON
20	CAP O-RING O	VITON	VITON	VITON
21	SPRING	INCONEL X-750	INCONEL X-750	INCONEL X-750
22	TRUNNION STEM WASHER	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
23	TRUNNION STEM GASKET	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
24	RETAINER BOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL
25	GLAND BODY BOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL
26	GLAND BOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL

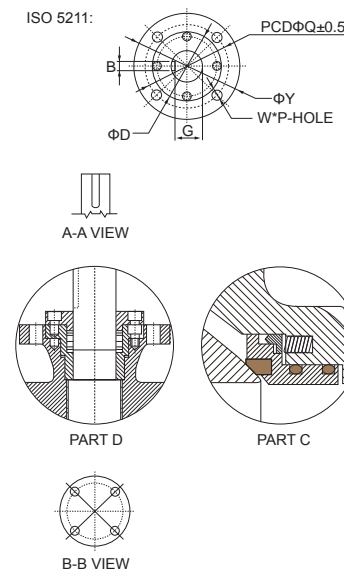
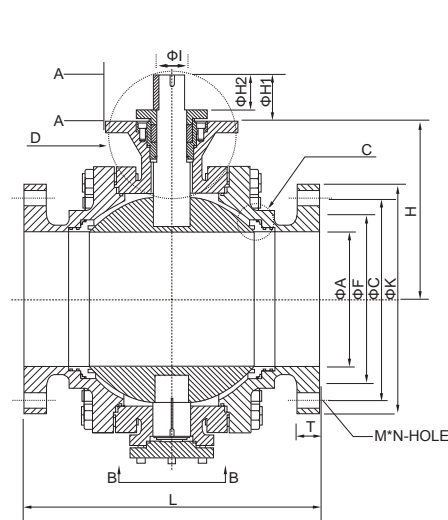
18M SERIES DN400~DN600(16" ~24")



A breakdown of parts

NO	Part	Material		
1	BODY	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
2	CAP	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
3	BALL	ASTM A351-CF8+Hcr	ASTM A351-CF8+Hcr	ASTM A351-CF8M+Hcr
4	STEM	ASTM A182 F304	ASTM A182 F304	ASTM A182 F316
5	GLAND BODY	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
6	GLAND	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
7	TRUNNION	ASTM A216-WCB	ASTM A351-CF8	ASTM A351-CF8M
8	SEAT RING SEAL	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
9	SEAT RING RETAINER	ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M
10	BOLT&NUT	B7&2H	B8&8	B8&8
11	SEAT	ASTM A351-CF8+STELLITED	ASTM A351-CF8+STELLITED	ASTM A351-CF8M+STELLITED
12	BODY GASKET	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
13	GLAND PACKING	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
14	GLAND THRUST WASHER	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
15	BEARING	15%G-PTFE	15%G-PTFE	15%G-PTFE
16	STEM THRUST WASHER	15%G-PTFE	15%G-PTFE	15%G-PTFE
17	TRUNNION STEM	ASTM A182 F304	ASTM A182 F304	ASTM A182 F316
18	STEM O-RING O	VITON	VITON	VITON
19	SEAT RING O-RING O	VITON	VITON	VITON
20	CAP O-RING O	VITON	VITON	VITON
21	SPRING	INCONEL X-750	INCONEL X-750	INCONEL X-750
22	WASHER	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE	15%G-PTFE/GRAPHITE
23	GLAND BODY BOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL
24	GLAND BOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL
25	PIN	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

18/18M SERIES DN50~DN350(2"~14")



DIMENSION(ANSI-150LB FLANGED)

(M.M.)

SIZE	ΦA	ΦF	ΦC	ΦK	L	T	H	H1	H2	M	N	Q	W	ΦI	B	G	P	Y	D	
50	2"	50	92	120.6	152	177.8	15.9	100	50	19	4	102	M10	25	10	30	4	130	90	
80	3"	76	127	152.5	190	203.2	19.1	105.5	55	19	4	102	M10	35	10	30	4	130	90	
100	4"	100	157	190.5	228	228.6	23.9	180	74	50	19	8	125	M12	35	10	30	4	180	90
150	6"	150	216	241.5	279	393.7	25.4	215	95	74	22	8	165	M20	45	12	40	4	210	123
200	8"	200	270	298.5	343	457.2	28.6	302	95	74	22	8	165	M20	60	18	53	4	210	123
250	10"	250	324	362	406	533.4	30.2	340	95	74	25	12	165	M20	60	18	53	4	210	137
300	12"	300	381	432	483	609.6	31.8	405	95	77	25	12	254	M16	70	20	62.5	8	290	156
350	14"	400	413	476.5	533	685.8	35.0	450	97	77	29	12	254	M16	75	20	62.5	8	290	170

DIMENSION(ANSI-300LB FLANGED)

(M.M.)

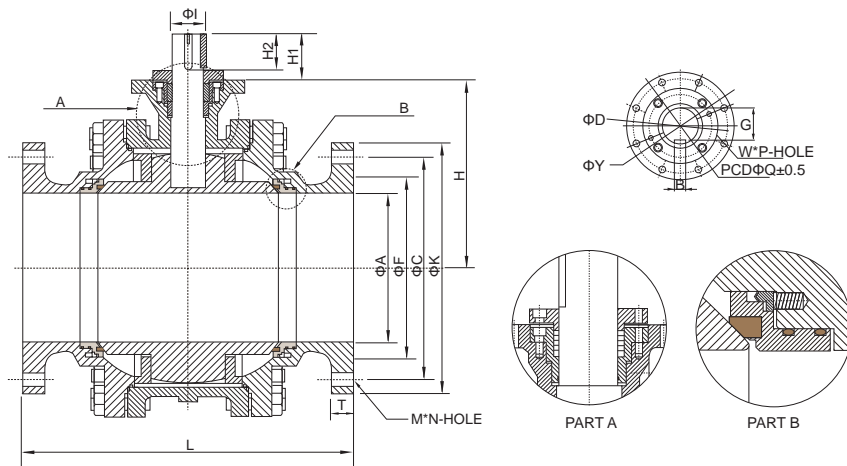
SIZE	ΦA	ΦF	ΦC	ΦK	L	T	H	H1	H2	M	N	Q	W	ΦI	B	G	P	Y	D	
50	2"	50	92	127	165	216	22.3	100	50	19	8	102	M10	25	10	30	4	130	90	
80	3"	76	127	168	210	285	28.6	105.5	55	22	8	102	M10	35	10	30	4	130	90	
100	4"	100	157	200	254	304.8	31.8	180	74	50	22	8	125	M12	35	10	30	4	180	90
150	6"	150	216	270	318	393.7	36.6	215	95	74	22	12	165	M20	45	12	40	4	210	123
200	8"	200	270	330	381	503	41.3	302	95	74	25	12	165	M20	60	18	53	4	210	123
250	10"	250	324	387.5	444	569	47.7	340	95	74	29	16	165	M20	60	18	53	4	210	137
300	12"	300	381	451	521	647.7	50.8	405	95	77	32	16	254	M16	70	20	62.5	8	290	156
350	14"	400	413	514.5	584	762	54.0	450	97	77	32	20	254	M16	75	20	62.5	8	290	170

DIMENSION(ANSI-600LB FLANGED)

(M.M.)

SIZE	ΦA	ΦF	ΦC	ΦK	L	T	H	H1	H2	M	N	Q	W	ΦI	B	G	P	Y	D	
50	2"	50	92	127	165	216	22.3	100	50	19	8	102	M10	25	10	30	4	130	90	
80	3"	76	127	168	210	356	38.2	105.5	55	22	8	102	M10	35	10	30	4	130	90	
100	4"	100	157	200	273	431.8	44.5	180	74	50	22	8	125	M12	35	10	30	4	180	90
150	6"	150	216	292	356	558.8	54.1	215	95	74	22	12	165	M20	45	12	40	4	210	123
200	8"	200	270	330	381	503	41.3	302	95	74	25	12	165	M20	60	18	53	4	210	123
250	10"	250	324	387.5	444	569	47.7	340	95	74	29	16	165	M20	60	18	53	4	210	137
300	12"	300	381	451	521	647.7	50.8	405	95	77	32	16	254	M16	70	20	62.5	8	290	156
350	14"	400	413	514.5	584	762	54.0	450	97	77	32	20	254	M16	75	20	62.5	8	290	170

18/18M SERIES DN400~DN600(16" ~24")



DIMENSION(ANSI-150LB FLANGED) (M.M.)

SIZE	ΦA	ΦF	ΦC	ΦK	L	T	H	H1	H2	M	N	Q	W	ΦI	B	G	P	Y	D	
400	16"	400	470	539.5	597	762	36.6	487	100	77	29	16	254	M16	85	24	77	8	290	179
450	18"	450	533	578	635	863.6	39.7	537	130	99	32	16	254	M16	100	28	90	8	290	200
500	20"	500	584	635	698	914.5	42.9	590	130	110	32	20	298	M20	110	28	100	8	350	210
600	24"	600	692	749.5	813	1067	47.7	640	130	110	35	20	298	M20	120	28	105	8	350	230

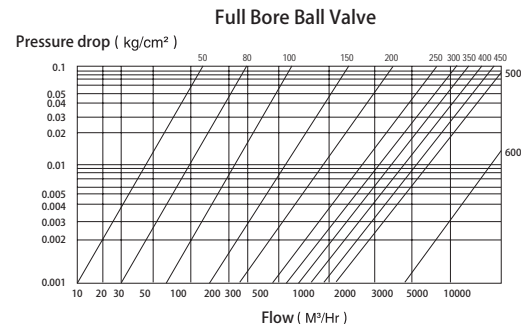
DIMENSION(ANSI-300LB FLANGED) (M.M.)

SIZE	ΦA	ΦF	ΦC	ΦK	L	T	H	H1	H2	M	N	Q	W	ΦI	B	G	P	Y	D	
400	16"	400	470	571.5	648	838.2	57.2	487	100	77	35	20	254	M16	85	24	77	8	290	179
450	18"	450	533	628.5	711	915	60.2	537	130	99	35	24	254	M16	100	28	90	8	290	200
500	20"	500	584	686	775	990.6	63.5	590	130	110	35	24	298	M20	110	28	100	8	350	210
600	24"	600	692	813	914	1092.5	69.9	640	130	110	41	24	298	M20	120	28	105	8	350	230

DIMENSION(ANSI-600LB FLANGED) (M.M.)

SIZE	ΦA	ΦF	ΦC	ΦK	L	T	H	H1	H2	M	N	Q	W	ΦI	B	G	P	Y	D	
400	16"	400	470	603	686	990.5	76.2	487	100	77	42	20	254	M16	85	24	77	8	290	179
450	18"	450	533.5	654	743	1092.5	82.5	537	130	99	45	20	254	M16	100	28	90	8	290	200
500	20"	500	584	724	813	1194	88.9	590	130	110	45	24	298	M20	110	28	100	8	350	210
600	24"	600	692	838.5	940	1397	101.6	640	130	110	52	24	298	M20	120	28	105	8	350	230

Pressure Drop & Flow

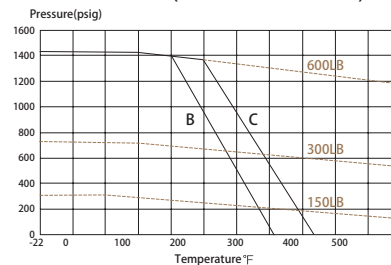


Cv Value

SIZE(MM)	50	80	100	150	200	250	300	350	400	450	500	600
150#	500	1350	2500	5300	10500	17500	26300	31850	43300	57300	74500	112300
300#	460	1150	2200	5290	9600	16750	25500	30050	41700	55300	72300	109150
600#	400	1050	1850	4460	8730	14250	22550	28400	38150	50950	65600	98150

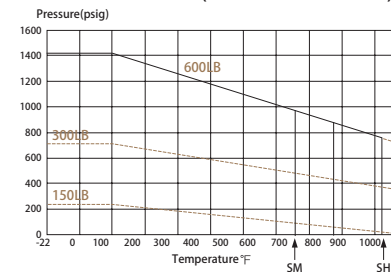
Temperature & Pressure Curve

DN50~DN600(Class 150 &300 &600)



A=PTFE+15%Glass Fiber
B=PTFE+15%Carbon Fiber

DN50~DN600(Class 150 &300 &600)



SM=Maximum Temperature661F (350°C)
SH=Maximum Temperature932F (500°C)
Maximum Temperature of Carbon Steel797F (425°C)

The 21 Series Lining Ball Valve

A Brief Introduction

- The 21 Series Lining Ball Valve orifice lined with PFA and ball and stem coated with PFA is suitable for corrosive flow medium with an excellent ability of anti-corrosion.
- Full bore two-piece floating, flanged ends
- ANSI 150 LB/DIN PN16

Standard Design

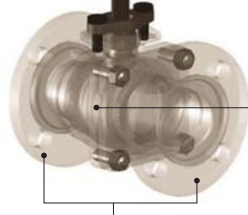
- Dimension: 1/2" ~ 4" (DN15 ~ DN100)
- Temperature Range: -29°C - 150°C
- Pressure Standard: ANSI 150LB/DN PN16
- Face to Face Lengths: ANSI B16.10/DIN 3202 T1/F1
- Flange Dimension: ANSI B16.5/DIN PN10/16/25/40
- Pressure Test Standard: ANSI/B16.34
- Seat Leak Standard: ANSI/B16.34/API598 CLASS VI
- Casting Standard: MSS-SP-25/MSS-SP-55

Features

- Good ability of an-corrosion lined with PFA
- Double seal: The ball and seat processed with high precision guarantee zero leakage
- Full bore provides the same Cv Value as that of the pipe
- Two-piece pair body prevents the performance (torque and tightness) of the valve from being effected by axial and lateral force in the installation of pipes.

Design & Structure

Stem:
SUS304+PFA



Working conditions

Corrosive medium

Ball:
SUS304+PFA



Body & Bonnet:
CF8+PFA



A breakdown of parts

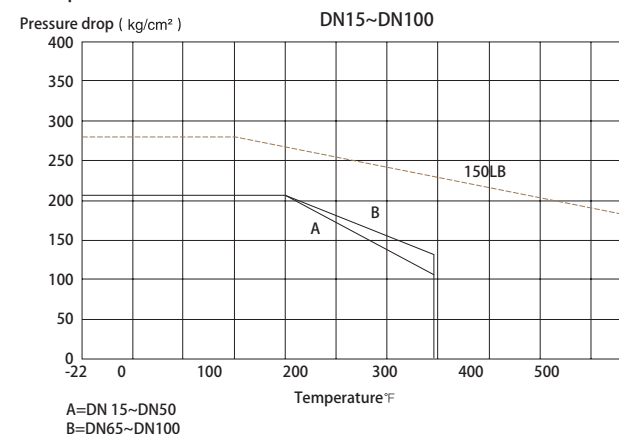
NO	ANSI 150LB	JPB-C1-03
	DIN PN 16	JPB-D2-03
1	BODY	CF8+PFA
2	CAP	CF8+PFA
3	STEM	SUS304+PFA
4	BALL	SUS304+PFA
5	SEAT	PTFE
6	GLAND PACKING	PTFE
7	GLAND	SUS304
8	TRAVEL STOP	SUS304
9	SNAP CATCH	SUS304
10	BOLT&NUT	SUS304
11	GLAND BOLT	SUS304
12	HANDLE	SUS304

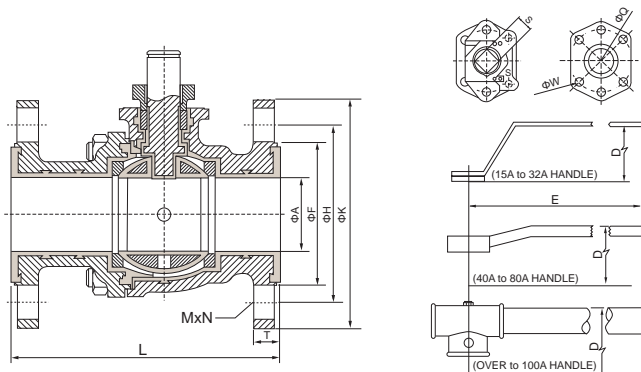
Cv Value

SIZE(MM)	15A	20A	25A	40A	50A	65A	80A	100A
Cv	30	30	60	205	360	580	900	1550

PFA lined ball valve

Temperature & Pressure Curve





DIMENSION (21 SERIES ANSI-150LB)

(M.M.)

SIZE	A	D	S	E	L	K	T	H	F	M	N	Q	W	KGS	
15	1/2"	20	94	10	145	150*	89	16	60.5	40	16	4	42	M5	3.5
20	3/4"	20	96	10	145	150*	98	16	70	50	16	4	42	M5	3.8
25	1"	25	112	12	155	127	108	14.3	79.5	55	16	4	50	M6	5
40	1-1/2"	38	118	17	219	165	127	17.5	98.5	77	16	4	70	M8	8
50	2"	50	126	17	219	178	152	19.1	120.5	96	19	4	70	M8	11
65	2-1/2"	65	152	20	324	190	178	22.3	139.5	115	19	4	70	M8	21
80	3"	76	161	20	324	203	190	23.9	152.5	127	19	4	70	M8	25
100	4"	100	214	27	400	229	229	23.9	190.5	166	19	8	102	M10	35

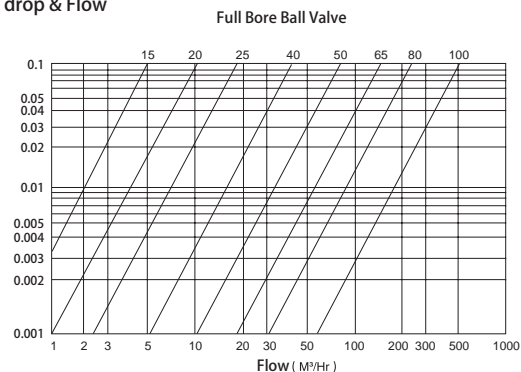
DIMENSION (21 SERIES ANSI-150LB)

(M.M.)

SIZE	A	D	S	E	L	K	T	H	F	M	N	Q	W	KGS	
15	1/2"	20	94	10	145	150*	95	16	65	45	14	4	42	M5	3.5
20	3/4"	20	96	10	145	150*	105	16	75	58	14	4	42	M5	3.8
25	1"	25	112	12	155	160	115	16	85	68	14	4	50	M6	5
40	1-1/2"	38	118	17	219	200	150	18	110	88	18	4	70	M8	8
50	2"	50	126	17	219	230	165	20	125	102	18	4	70	M8	11
65	2-1/2"	65	152	20	324	290	185	20	145	122	18	8	70	M8	21
80	3"	76	161	20	324	310	200	20	160	138	18	8	70	M8	25
100	4"	100	214	27	400	350	220	22	180	158	18	8	102	M10	35

Note: Please refer to DIN EN 558-1 for face to face lengths of DN15/DN20

Pressure drop & Flow



22 Series V-Type Control Ball Valve

A Brief Introduction

● With the improved characteristics providing better flow ability, 22 Series V-Type Control Valves are widely applicable in the paper-making, refining, chemical industry and petrochemical industries.

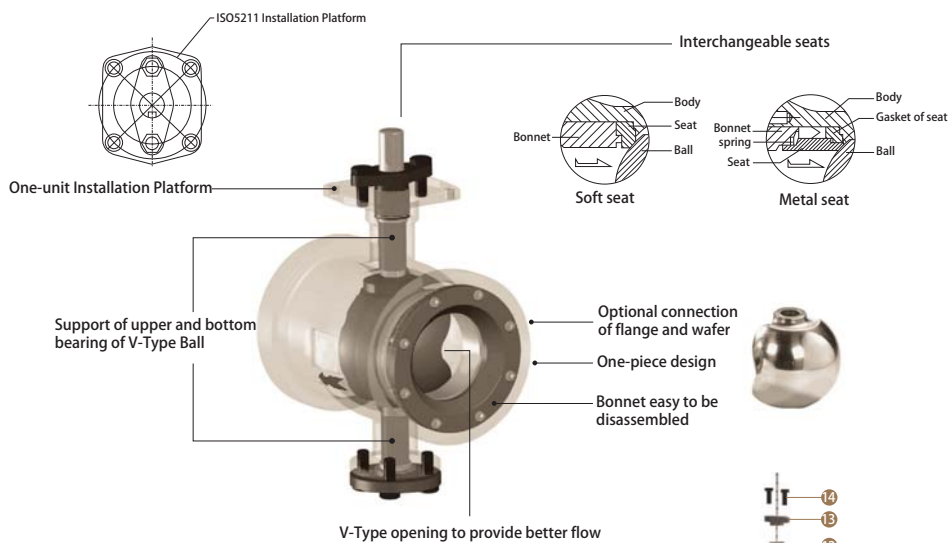
Standard Design

- Body Material: Standard WCB, CF8, CF8M Other materials are available in accordance with the requests of customers
- Dimension: 1" ~ 12" (DN25~DN300)
- Face to face lengths of flange: ISA 575.04
- Standard Pressure Specification: ANSI 150/300/600 LB
- Connection: Raised face flange, wafer
- Adapting Range: > 150:1
- Seat Leak Standard: In accordance with FCI 70 - 2 (B16.104)
- (a) Soft Seal Seat: ANSI CLASS VI
- (b) Metal Seal Seat: ANSI CLASS IV
- Temperature Range: -20°C - 250°C
- Fire Safety Design complies with API 607

Features

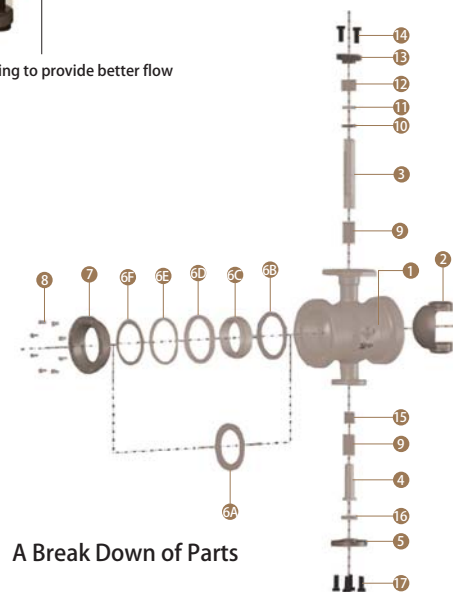
- One-piece design to prevent the leakage in body
- V-Type opening provides better flow ability for medium containing solid particles
- The upper and lower bearing of V-Type ball both minimize the torque in operation
- Able to cut and scrape the medium containing fiber, flow medium containing solid particles and medium of high viscosity with the shear force between the V-Type Ball and Seat
- The Spring-supported Metal Seat ensures the smooth turning of the V-Type Ball
- Easier procedure to replace the soft and metal seats which are interchangeable to meet the requests of different working conditions
- Auto pressure release
- Similar to equal percentage flow characteristics
- Optional connection of flange and wafer
- One-unit installation platform
- Anti-static device
- Easy and convenient to disassemble Bonnet to minimize the procedure of replacing parts

Design & Structure

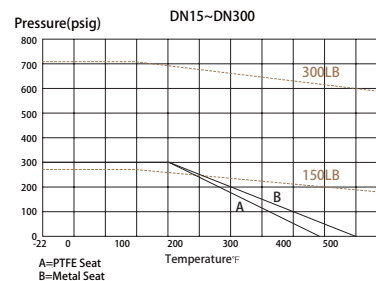
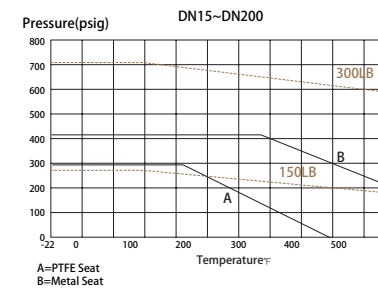
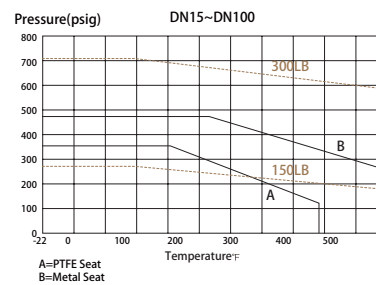


Working conditions

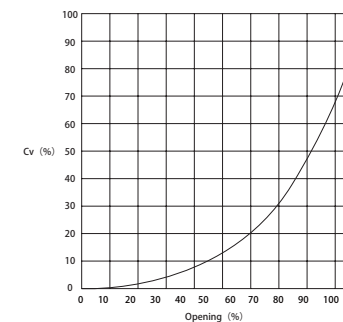
1. Pastes and viscous fluid
2. Fluid containing dust and hard particles
3. Pulps, debris and fiber in paper-making
4. Flow control
5. Pressure control



Temperature and Pressure Curve



Inherent Flow Characteristics



NO		Part	MATERIAL		
1		BODY	WCB	CF8	CF8M
2		SEGMENT V	CF8/CF8M+HCr		
3		STEM	SUS 304		
4		SHAFT	SUS 304		
5		END COVER	WCB	CF8	CF8M
	SOFT SEAT	6A SEAT	15%R-PTFE		
		6B SEAT SUPPORT	SUS 304		SUS 316
	METAL SEAT	6C SEAT	SUS 304+STE		SUS 316+STL
		6D PACKING	PTFE/GRAPHITE		
		6E SEAT GLAND	SUS 304		SUS 316
		6F SPPING	SUS 316		
7		CAP	CF8		CF8M
8		BOLT	SUS 304		SUS 316
9		THRUST BEARING	PTFE		
10		WASHER	PTFE		
11		WASHER	SUS 316		
12		GLAND PACKING	PTFE/GRAPHITE		
13		GLAND	SCS13		
14		GLAND BOLT	SUS304		
15		SUPPORT	SUS316		
16		COVER GASKET	PTFE/GRAPHITE		
17		COVERBOLT	SUS304		

SIZE	Cv Value									
	Opening%									
	10	20	30	40	50	60	70	80	90	100
1"	0.01	0.52	1.66	3.44	5.87	9.11	13.36	18.83	27.54	40.50
1-1/2"	0.02	1.06	3.35	6.95	11.85	18.38	26.96	38.00	55.55	81.70
2"	0.04	1.68	5.30	11.00	18.75	29.10	42.67	60.12	87.90	129.30
2-1/2"	0.06	2.79	8.80	10.23	31.10	40.26	70.78	99.74	145.86	214.50
3"	0.10	4.54	14.30	29.67	50.62	78.50	115.20	162.30	237.40	349.10
4"	0.15	6.57	20.70	43.00	73.30	113.70	166.80	235.00	343.70	505.50
6"	0.38	16.70	52.70	109.30	186.50	289.50	424.54	598.20	874.80	1286.50
8"	0.50	21.90	69.00	143.00	244.10	378.90	555.68	783.00	1145.00	1683.90
10"	0.93	39.58	124.85	258.80	441.50	685.13	1004.80	1416.00	2040.00	3045.00
12"	1.29	55.96	176.50	366.00	624.20	968.60	1420.60	2001.80	2927.40	4305.00

Note: The above data is for reference only. The accurate data of actual tests prevail

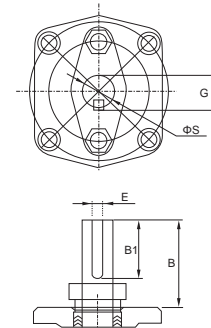
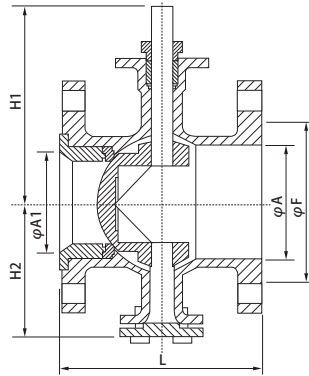
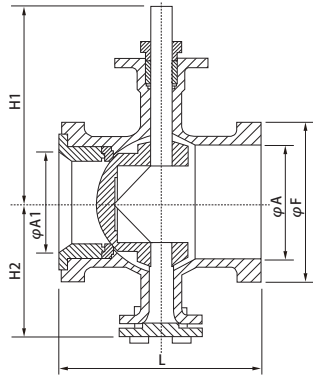
DIMENSION FOR FLANGED TYPE (22 SERIES CLASS 150/300LB)

(M.M.)

SIZE	A	A1	CLASS				L	H1	H2	B	B1	E	G	S	ISO 5211	
			150LB	300LB	10K	20K										
25	1"	38	25	108	124	125	125	102	120	70	33	20	5	17.5	15.5	F05
40	1-1/2"	50	40	127	156	140	140	114	120	75	45	30	5	17.5	15.5	F07
50	2"	60	50	152	165	155	155	124	142	90	45	30	5	17.5	15.5	F07
65	2-1/2"	73	65	178	190	175	175	143	150	102	45	30	5	17.5	15.5	F07
80	3"	89	80	190	210	185	200	165	164	111	45	30	8	25	22	F07
100	4"	113	100	229	254	210	225	194	190	135	52	30	8	25	22	F10
150	6"	160	132	279	318	280	305	229	240	165	52	30	8	28	25	F10
200	8"	203	200	343	381	330	350	243	290	210	70	45	8	33	30	F12
250	10"	260	250	406	444	400	430	297	370	250	80	50	10	40	35	F12
300	12"	300	280	483	521	445	480	338	450	260	87	55	10	45	40	F14

FLANGELESS TYPE WAFER

FLANGED TYPE FLANGE



DIMENSION FOR FLANGELESS TYPE (22 SERIES CLASS 150/300LB)

(M.M.)

SIZE	A	A1	F	L	H1	H2	B	B1	E	G	S	ISO 5211	
25	1"	38	25	64	102	120	70	33	20	5	17.5	15.5	F05
40	1-1/2"	50	40	82	114	120	75	45	30	5	17.5	15.5	F07
50	2"	60	50	100	124	142	90	45	30	5	17.5	15.5	F07
65	2-1/2"	73	65	118	143	150	120	45	30	5	17.5	15.5	F07
80	3"	89	80	131	165	164	111	45	30	8	25	22	F07
100	4"	113	100	156	194	190	135	52	30	8	25	22	F10
150	6"	160	132	216	229	240	165	52	30	8	28	25	F10
200	8"	203	200	267	243	290	210	70	45	8	33	30	F12
250	10"	260	250	326	297	370	250	80	50	10	40	35	F12
300	12"	300	280	375	338	450	260	87	55	10	45	40	F14



Ball Valve Selection Guide

1 2 3	4	5 6 7	8 9 10	11
1 1	F	3 0	4 6 6	T
Types of Ball Valves	Special Application	SIZE	Body/Ball/Stem	Seat
11 Series Soft Seal Floating Ball Valves	F FIRE SAFE	Code / Inch / mm	3 FC20	A 304 S.S./CF8
12 Series Metal Seal Floating Ball Valves	L LONG STEM	05 ½" 15	4 Carbon steel	C 304 L.S.S./CF3
18 Series Fixed Shaft Soft Seal Ball Valves	I LIFE LOADING	07 ¾" 20	5 304 S.S./CF8	D 316 S.S./CF8M
18M Series Fixed Shaft Metal Seal Ball Valves	H LEVER	10 1" 25	6 304 L.S.S./CF3	E 316 L.S.S./CF3M
21 Series PFA Lined Ball Valves	G GEAR	12 1¼" 32	7 316 S.S./CF8M	G CG3M
22 Series V-type Ball Valves	N NACE	15 1½" 40	8 316 L.S.S./CF3M	F CG8M
	E EMERGENCY GREASE SEALS	20 2" 50	C Hastelloy	M 316 S.S.+STL
		25 2½" 65	E Inconel 625	H 316 S.S.+TC
		30 3" 80	F CG8M	T PTFE
		40 4" 100	G CG3M	R 15%CLASS FILLED PTFE
		60 6" 150	P 304+PTFE	P PTFE+15% Carbon
		80 8" 200	R 304+PFA	X 50%316+50%PTFE
		100 10" 250	Z ZrO ₂	O Other
		120 12" 300	M 316 S.S.+STL	
		140 14" 350	H 316 S.S.+TC	
		160 16" 400	O Other	
		180 18" 450		
		200 20" 500		

12 13 14	15 16
150	-
Connection	Special Requests
010 PN10	— Soft Seal
016 PN16	M1 Metal Seal Max 350°C
025 PN25	M2 Metal Seal Max 500°C
040 PN40	W Wafer
064 PN64	
150 ANSI150	
300 ANSI300	
600 ANSI600	
900 ANSI900	

How to select an actuator for a ball valve?

- When ordering a Pro-Nut valve, please fill in a form with information including medium, temperature, pressure, pipe size, connection and the way to actuate.
- Please use Ball Valve Selection Guide provided by the factory. However, the model made by the customers according to Ball Valve Selection Guide does not work.
- We reserve the rights to change the size, data and information of our products listed in the catalog as we constantly improve the quality of our products.
- For automation, 17 Series Ball Valves are equipped with Pro-Nut pneumatic actuators, which are designed in eight different sizes with spring return and double action. The Pro-Nut actuators of all sizes are designed with platforms for solenoid installation and NAMUR connection for the top mounting flange of level switches and positioners. Selection Guide will be provided upon the requests of customers. The data in Selection Guide are to be provided in accordance with working temperature, pressure in pipes, seats and other factors. For more information, please contact Pro-Nut Manufacturing Engineering Co., LTD.