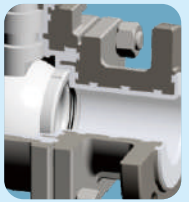




Kingdom

FLOW CONTROL CO., LTD.



Lined
Ball Valves

Product features

The fluorine lined ball valve is made with specially crafted molds to ensure a delicate surface for perfect sealing. The V-shaped PTFE stem packing assembly assures zero leakage of valves. Full fluorine plastic lining technology is applied for strong corrosive mediums.

Both the inner chamber and the ball are made using high-pressure injection molding with corrosion-resistant and ageing-resistant PFA lining for reliable anti-corrosion and sealing performance. The fluorine lined ball valve is suitable for use by the petrochemical, chemical engineering, food processing, and pharmaceutical industries to block strongly corrosive mediums, such as acid and alkaline, in the production process.

■ **Position limit device**
Provides limit and locking function.

■ **ISO 5211 top mount for automation conformity**

■ **V Shape Stem Packing**
Provides highest protection against fugitive emission.
ISO 15848-1 Design Approved.

■ **Full Port**
Minimizes pressure loss and increases flow capacity.

■ **Special seat design**
Provides low operation torque and delivers reliable sealing performance.

■ **Adjustable packing gland design.**

■ **Blow out proof stem**

■ **Securely locked fluoroplastic liner.**
Liner securely locked into the body by "swallowtail" shape slots and locking grooves to resist shrinkage and allow vacuum application.

■ **Electrostatic spark test is 100% conducted to ensure the integrity of the liner.**

Applicability in Process Control



Petrochemical



Chemical

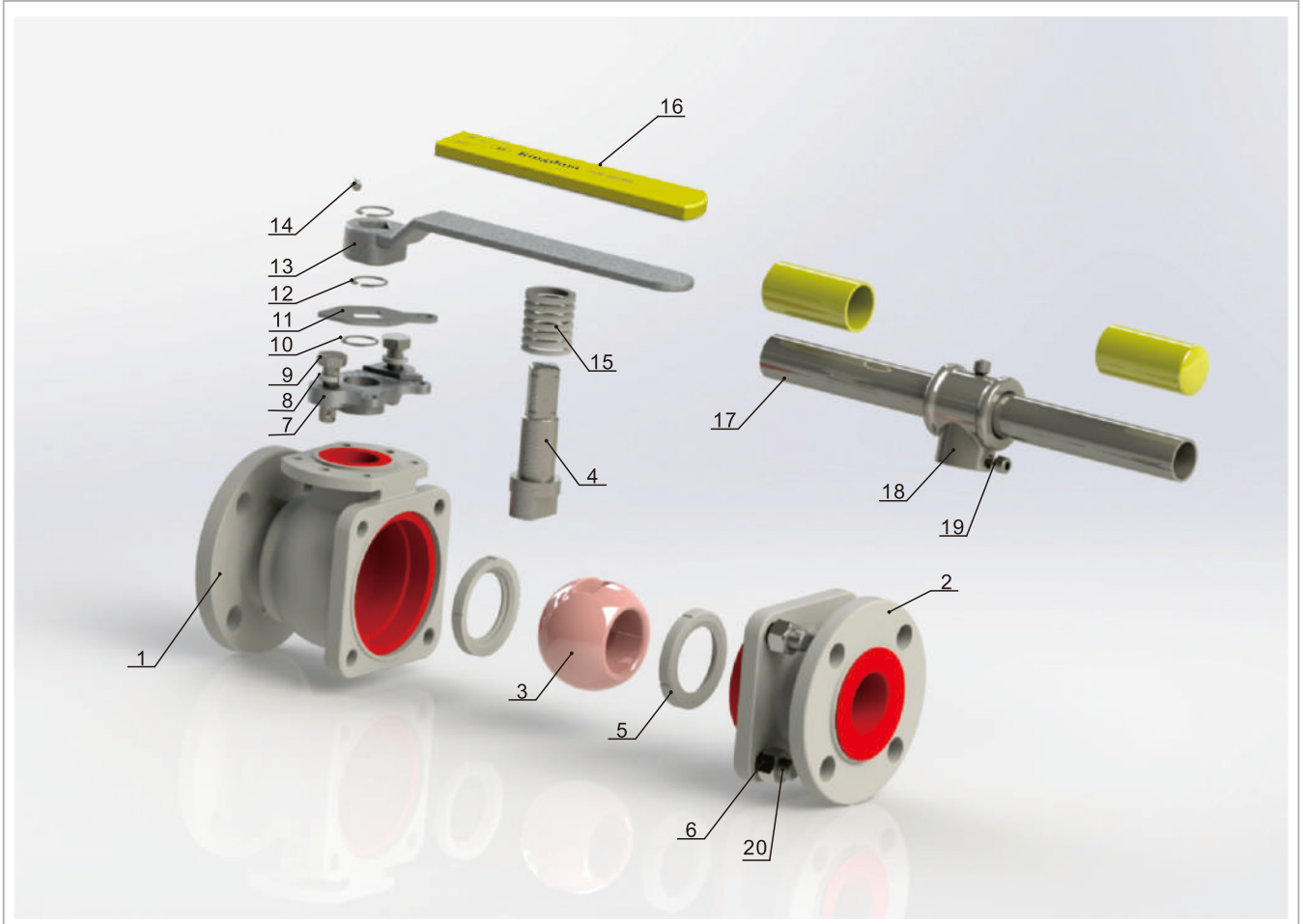


Food



Pharmaceutical

Material of Construction



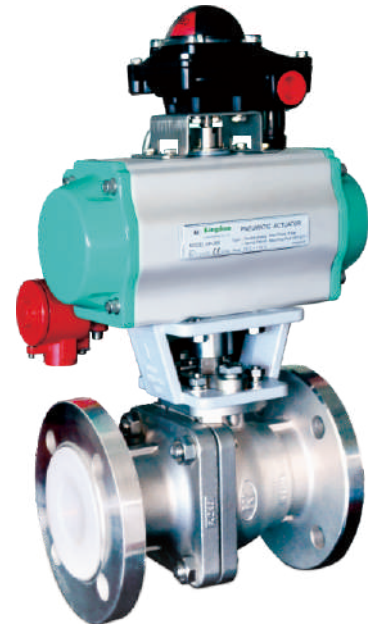
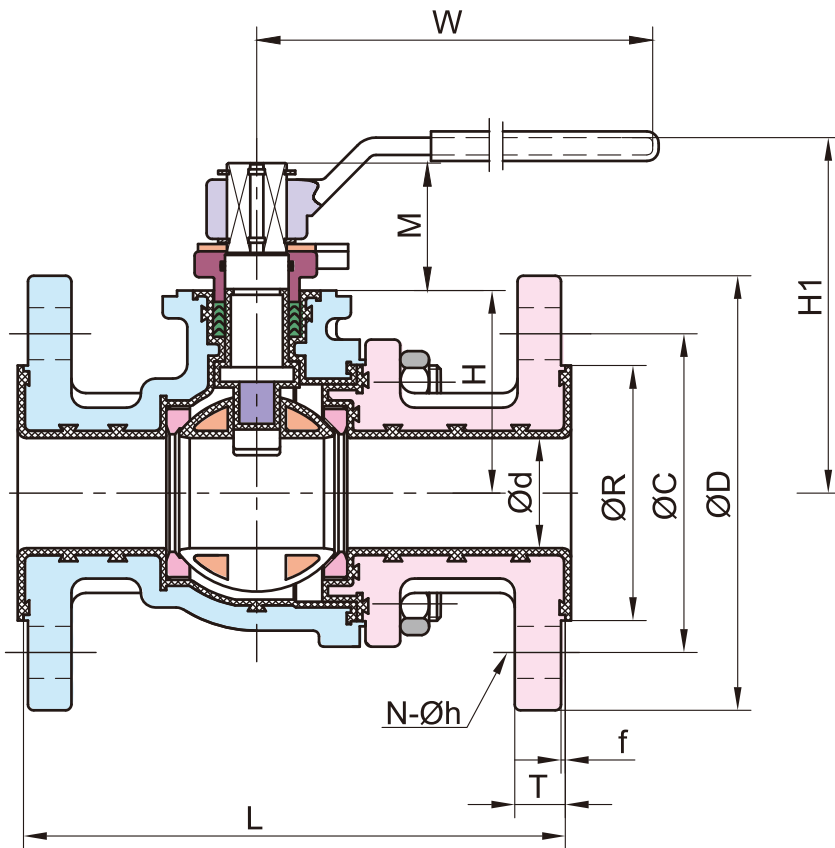
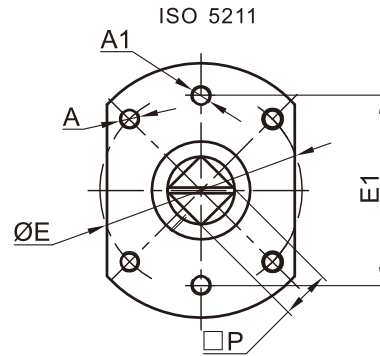
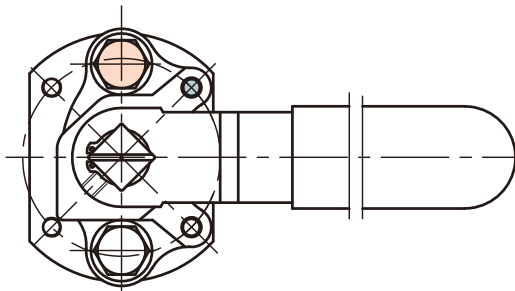
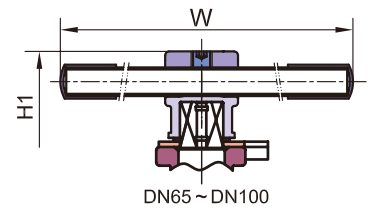
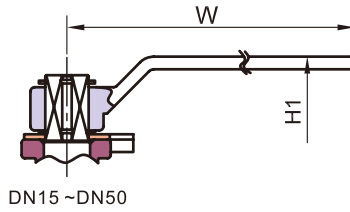
NO.	PART	MATERIAL		
		1.4408/CF8M+PFA	1.4308/CF8+PFA	1.0619/WCB+PFA
1	Body	1.4408/CF8M+PFA	1.4308/CF8+PFA	1.0619/WCB+PFA
2	End Cap	1.4408/CF8M+PFA	1.4308/CF8+PFA	1.0619/WCB+PFA
3	Ball	1.4408/CF8M+PFA*	1.4308/CF8 /+PFA*	
4	Stem	1.4408/ F316 +PFA	1.4308/F304+PFA	
5	Ball Seat	PTFE		
6	Bolting	A193-B8/A2-70		A193-B7/8.8
7	Gland	CF8		
8	Flat Washer	304		
9	Hex Bolting	A2-70		
10	O-Ring	FKM		
11	Triangle Stopper	304		
12	Snap Ring	304		
13	Handle (NPS ½~2)	CF8		
14	Binding Screw (NPS ½~2)	A2-70		
15	Stem Packing	PTFE		
16	Handle Sleeve	VINYL PLASTIC		
17	Steel Pipe (NPS 2½~4)	A53+PLATED Zn		
18	Handle Adapter (NPS 2½~4)	CF8		
19	Binding Screw (NPS 2½~4)	A2-70		
20	Bolt Nut	A194-8/A2-70	A194-2H/8	

AVAILABILITY	
Pressure Rating	ASME Class 150
	DIN PN16
Temperature Range	-29°C ~ +160°C
Size Range	½"~4" / DN15~DN100

APPLICATION
Good performance for corrosive media mainly in :
Acetic Acid
Brine
Bromine
Chlorine
Hydrochloric Acid
Phosphoric Acid
Nitric Acid
Seawater
Sulfuric Acid

Note :* DN15 (1/2") and DN20 (3/4") valve ball is made of PFA

- Design Standard : EN12516-1
- Pressure Rating : PN16
- Wall Thickness : EN12516-1
- Face to Face : EN558 series1
- Flanged Ends : EN1092-1
- Inspection & Testing : EN12266-1
- ISO 15848-1 Design Approved

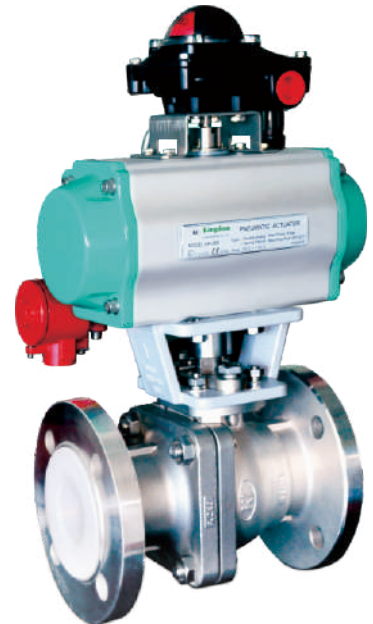
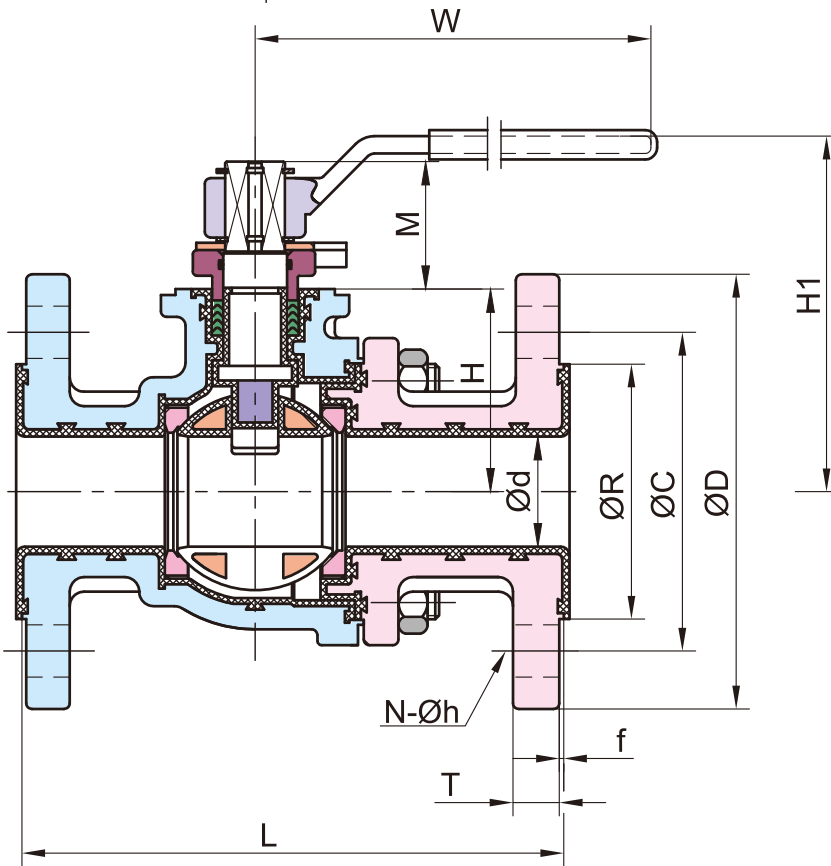
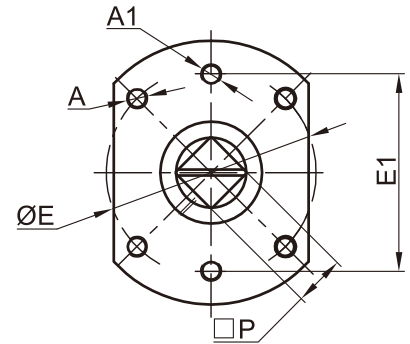
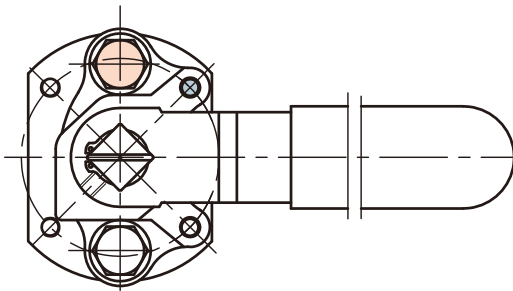
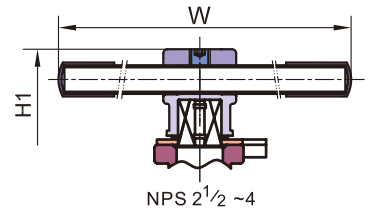
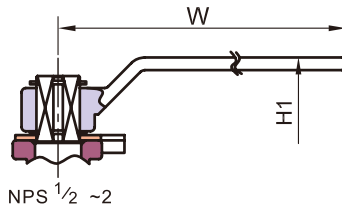


■ EN PN16

Unit:mm

DN	d	R	C	D	L	T	f	N	h	H	H1	M	W	P	E	E1	A	A1	ISO5211
15	15	45	65	95	130	16	2	4	14	39	81.5	20	130	9	42	42	M5	M8	F04
20	20	58	75	105	150	18	2	4	14	46	92	26.5	140	11	50	50	M6	M8	F05
25	25	68	85	115	160	18	2	4	14	48	96.5	29	170	14	50	50	M6	M8	F05
32	32	78	100	140	180	18	2	4	18	55.5	103.5	29	170	14	50	50	M6	M8	F05
40	38	88	110	150	200	18	2	4	18	70	123	44	230	17	70	66	M8	M10	F07
50	50	102	125	165	230	18	2	4	18	76	129	44	230	17	70	66	M8	M10	F07
65	64	122	145	185	290	18	2	8	18	104	191	45.5	300	17	102	75	M10	M12	F10
80	76	138	160	200	310	20	2	8	18	119	215	50.5	400	22	102	75	M10	M12	F10
100	100	158	180	220	350	20	2	8	18	136	230	51	400	27	102	102	M10	M12	F10

- Design Standard: ASME B16.34
- Pressure Rating: Class 150
- Wall Thickness: ASME B16.34
- Face to Face: ASME B16.10
- Flanged Ends: ASME B16.5
- Inspection & Testing: API 598
- ISO 15848-1 Design Approved

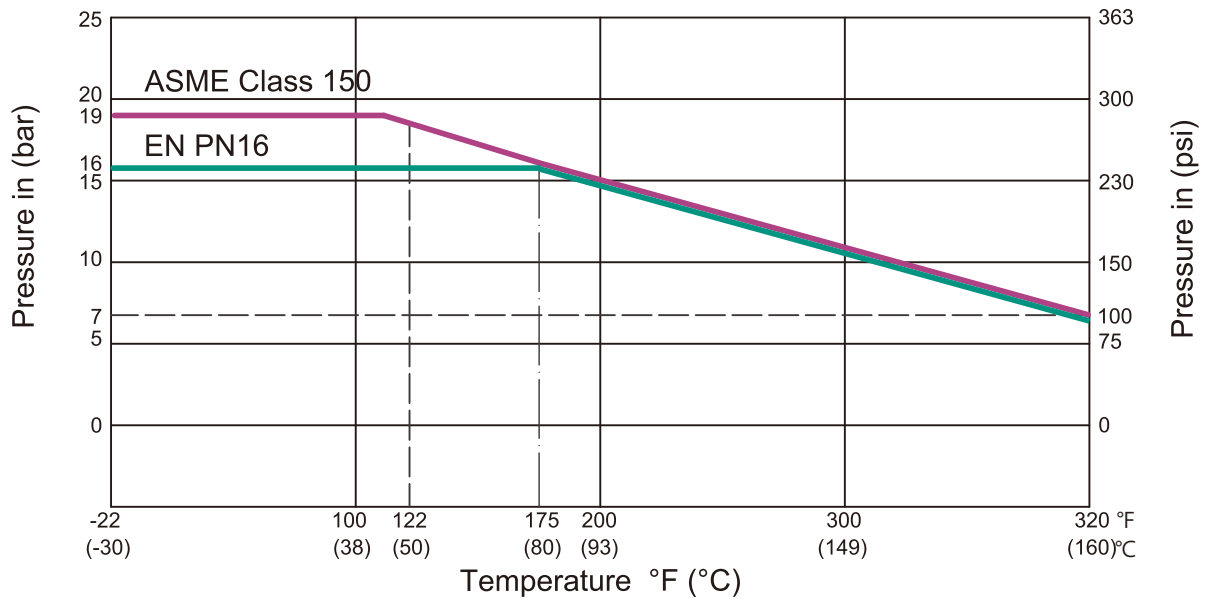


■ ASME Class 150

Unit:mm

NPS	d	L	R	C	D	f	T	N	h	H	H1	M	W	P	A	A1	E	E1	ISO5211
1/2	15	108	35	60.3	90	2	8	4	1/2-13UNC	39	81.5	20	130	9	M5	M8	42	42	F04
3/4	20	117	43	69.9	100	2	8.9	4	1/2-13UNC	46	92	26.5	140	11	M6	M8	50	50	F05
1	25	127	51	79.4	110	2	9.6	4	16	48	96.5	29	170	14	M6	M8	50	50	F05
1 1/4	32	140	63.5	88.9	115	2	11.2	4	16	55.5	103.5	29	170	14	M6	M8	50	50	F05
1 1/2	38	165	73.2	98.4	125	2	12.7	4	16	70	123	44	230	17	M8	M10	70	66	F07
2	50	178	92	120.7	150	2	14.3	4	19	76	129	44	230	17	M8	M10	70	66	F07
2 1/2	65	190	104.7	139.7	180	2	15.9	4	19	104	191	45.5	300	17	M10	M12	102	75	F10
3	76	203	127	152.4	190	2	17.5	4	19	119	215	50.5	400	22	M10	M12	102	75	F10
4	100	229	157.2	190.5	230	2	22.3	8	19	136	230	51	400	27	M10	M12	102	102	F10

Pressure-Temperature Chart



Cv Value

SIZE	NPS	1/2	3/4	1	1¼	1½	2	2½	3	4
	DN	15	20	25	32	40	50	65	80	100
Cv Value		18	36	48	93	165	207	450	780	1360

Torque Figure

Close to Open Torque at Various Differential Pressure (ΔP), Standard Seats (PTFE)

Unit: N.m

SIZE	NPS		1/2	3/4	1	1¼	1½	2	2½	3	4
	DN		15	20	25	32	40	50	65	80	100
ΔP	5bar	N·m	6	8	12	16	20	30	60	70	100
	75psig	lb·In	53	71	106	142	177	266	531	620	885
	10bar	N·m	6	8	12	20	24	35	65	80	122
	150psig	lb·In	53	71	106	177	213	410	576	708	1080

Remarks :

- 1.The torque figures at 5 bar pressure are maximum values to be tested after the valves are placed for 24hours.
- 2.For actuator sizing, a safety factor of minimum 30% is recommended.

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