


**球閥**

BALL VALVE

SERIES

**三片式法蘭球閥**

3-PC Flanged End Ball Valve

**應用 APPLICATIONS**

礦業與礦物加工業、水與汙水處理、化工廠、石油與天然氣工業、高壓流體、蒸氣及高溫流體、壓縮天然氣與液化天然氣、一般流體。

Mining & Mineral Processing, Water & Waste Water, Chemical Plant, Oil & Gas, High Pressure Fluid, Steam & High Temperature Fluid, CNG & LNG, General Fluid.

**技術資料 TECHNICAL DATA**

設計 / 尺寸 Design / Size	ASME B16.34, EN12516-1/-3 1/2" ~ 4"
壓力等級 Pressure Rating	ASME Class 150, 600, DIN PN40, PN16
端口 End Connections	法蘭端 Flanged End
產品檢測 Testing	API 598, EN12266-1
流量 Bore	全流量 Full Bore
認證 Certificate	API 607: 305-FED, 307-FED, 309-FEA

**特點 FEATURES**

- 以具有競爭力的價格提供卓越的閥門設計。
- 可使用於執行器的 ISO 平台架。
- RPTFE密封消除了對產品污染的擔憂。
- 防火認證 API 607。可應要求提供。
- 較低的操作扭力，便於操作並降低執行器成本。
- 明確的開關位置指示。
- 防爆軸心。
- NACE MR0175 可應要求提供。
- 可使用附鎖裝置。
- 防靜電裝置。
- 根據 ISO 9001 認證的質量體系製造。
- 標準 CE 標示符合 PED 2014/68/EU，可應要求提供。
- 多種球座材質可供選擇。

- Superior valve design at a competitive price.
- Machined ISO actuator mounting pad.
- RPTFE seal relieves concern over product contamination.
- Fire test certified to API 607. Available on request.
- Lower operating torque for ease of operation and reduced actuator cost.
- Positive position indication.
- Blowout-proof shaft.
- NACE MR0175 available on request.
- Locking device is available.
- Anti Static Device.
- Manufactured under ISO 9001 certified quality system.
- CE marking according to PED 2014/68/EU standard. Available on request.
- Various seat material are available.

In addition to standard seat material, following variety is available.

Each material option will meet a wide range of performance, suitable for many applications.

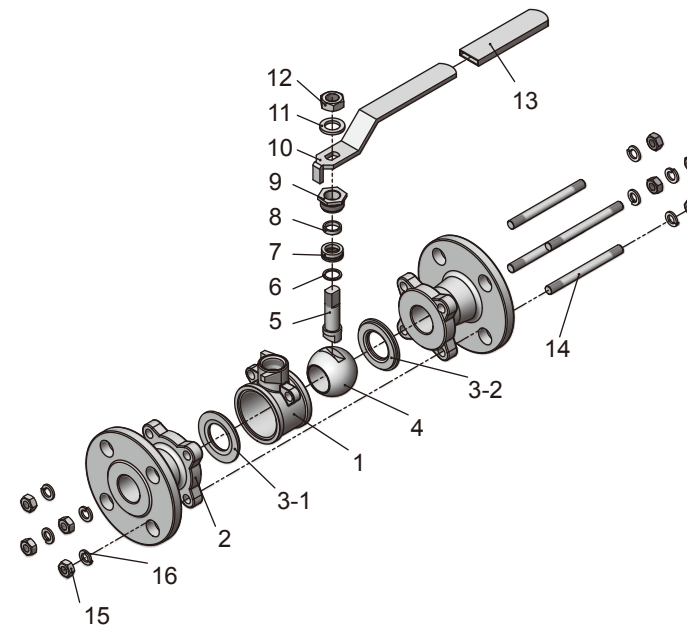
- PTFE + 15% Glass Fiber
- PTFE + 25% Carbon Fiber
- Modified PTFE
- Modified PTFE + 25% Carbon Fiber
- PTFE + 50% SS
- PEEK
- UHMWPE

\* Please refer to the Pressure-Temperature rating

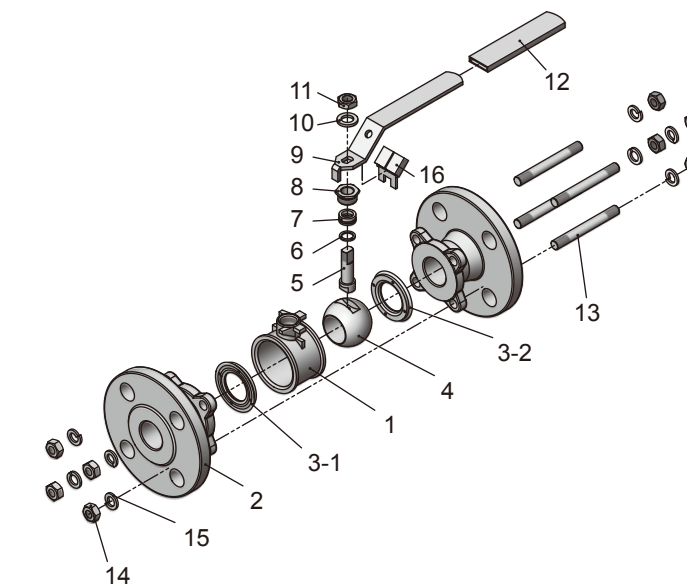
MODEL

**301-FEA/FED / 302-FEA / 303-FEA / 305-FED / 307-FED / 309-FEA**
**產品介紹**

Product Introduction

**物料表 MATERIAL COMPOSITION**
**型號 Fig. No. : 301**


ITEM	PART NAME	STAINLESS STEEL	CARBON STEEL
1	Body	A351-CF8M	A216-WCB
2	End Caps	A351-CF8M	A216-WCB
3	Seats	PTFE+15%G.F.	PTFE+15%G.F.
4	Ball	A351-CF8M	A351-CF8
5	Stem	SS 316	SS 304
6	Thrust Washer	PTFE	PTFE
7	Packing	PTFE	PTFE
8	Gland Bush	PTFE	PTFE
9	Packing Gland	SS 304	SS 304
10	Handle	SS 304	SS 304
11	Lever Spring Washer	SS 304	SS 304
12	Lever Nut	SS 304	SS 304
13	Handle Cover	VINYL	VINYL
14	Bolt	SS 304	SS 304
15	Nut	SS 304	SS 304
16	Spring Washer	SS 304	SS 304

**型號 Fig. No. : 302**


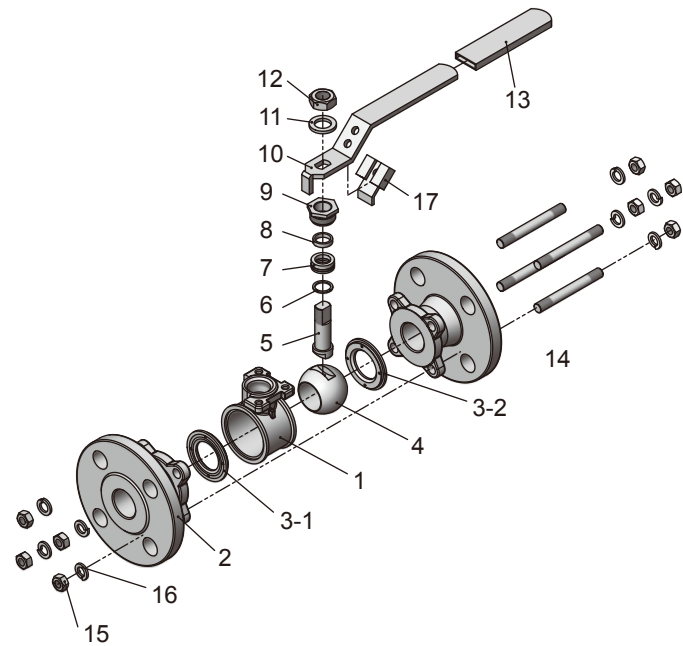
ITEM	PART NAME	STAINLESS STEEL	CARBON STEEL
1	Body	A351-CF8M	A216-WCB
2	End Caps	A351-CF8M	A216-WCB
3	Seats	PTFE+15%G.F.	PTFE+15%G.F.
4	Ball	A351-CF8M	A351-CF8
5	Stem	SS 316	SS 304
6	Thrust Washer	PTFE	PTFE
7	Packing	PTFE	PTFE
8	Packing Gland	SS 304	SS 304
9	Handle	SS 304	SS 304
10	Lever Spring Washer	SS 304	SS 304
11	Lever Nut	SS 304	SS 304
12	Handle Cover	VINYL	VINYL
13	Bolt	SS 304	SS 304
14	Nut	SS 304	SS 304
15	Spring Washer	SS 304	SS 304
16	Locking Device	SS 304	SS 304

\* 我方有權隨時變更材質/設計/規格，以便提供品質優良的產品。

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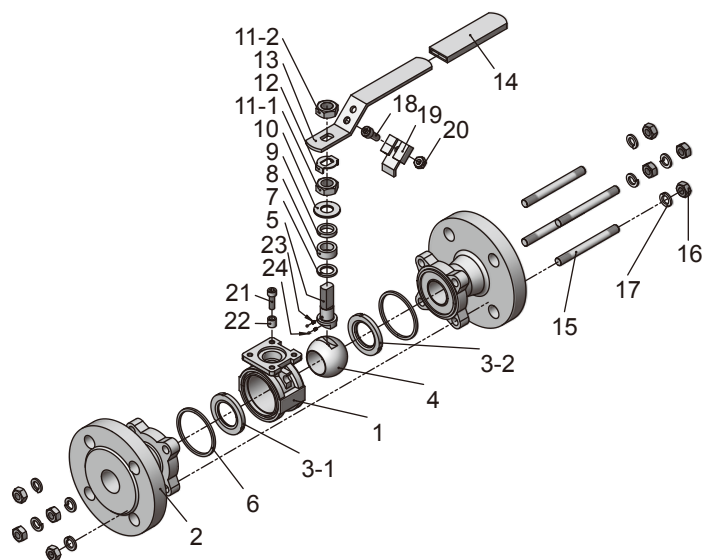
物料表 MATERIAL COMPOSITION

型號 Fig. No. : 303



ITEM	PART NAME	STAINLESS STEEL	CARBON STEEL
1	Body	A351-CF8M	A216-WCB
2	End Caps	A351-CF8M	A216-WCB
3	Seats	PTFE+15%G.F.	PTFE+15%G.F.
4	Ball	A351-CF8M	A351-CF8
5	Stem	SS 316	SS 304
6	Thrust Washer	PTFE	PTFE
7	Packing	PTFE	PTFE
8	Gland Bush	PTFE	PTFE
9	Packing Gland	SS 304	SS 304
10	Handle	SS 304	SS 304
11	Lever Spring Washer	SS 304	SS 304
12	Lever Nut	SS 304	SS 304
13	Handle Cover	VINYL	VINYL
14	Bolt	SS 304	SS 304
15	Nut	SS 304	SS 304
16	Spring Washer	SS 304	SS 304
17	Locking Device	SS 304	SS 304

型號 Fig. No. : 305

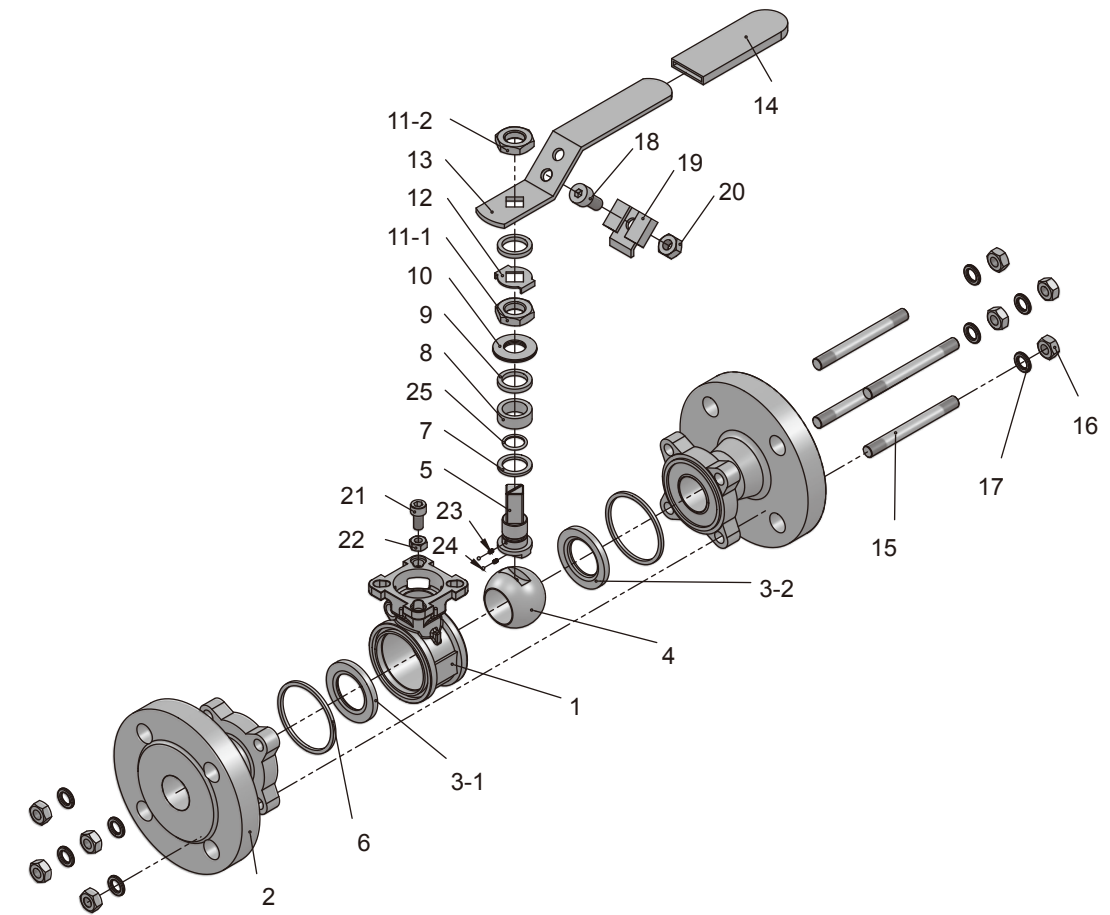


ITEM	PART NAME	STAINLESS STEEL	CARBON STEEL
1	Body	A351-CF8M	A216-WCB
2	End Caps	A351-CF8M	A216-WCB
3	Seats	PTFE+15%G.F.	PTFE+15%G.F.
4	Ball	A351-CF8M	A351-CF8
5	Stem	SS 316	SS 304
6	Body Seal	PTFE	PTFE
7	Thrust Washer	PTFE	PTFE
8	Packing	PTFE	PTFE
9	Gland Ring	SS 304	SS 304
10	Lever Spring Washer	SS 304	SS 304
11	Lever Nut	SS 304	SS 304
12	Locking Tab	SS 304	SS 304
13	Handle	SS 304	SS 304
14	Handle Cover	VINYL	VINYL
15	Bolt	SS 304	SS 304
16	Nut	SS 304	SS 304
17	Spring Washer	SS 304	SS 304
18	Screw	SS 304	SS 304
19	Locking Device	SS 304	SS 304
20	Nut	SS 304	SS 304
21	Stop Screw	SS 304	SS 304
22	Stop Ring	SS 304	SS 304
23	Spring	SS 316	SS 316
24	Static Device	SS 316	SS 316

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物料表 MATERIAL COMPOSITION

型號 Fig. No. : 307

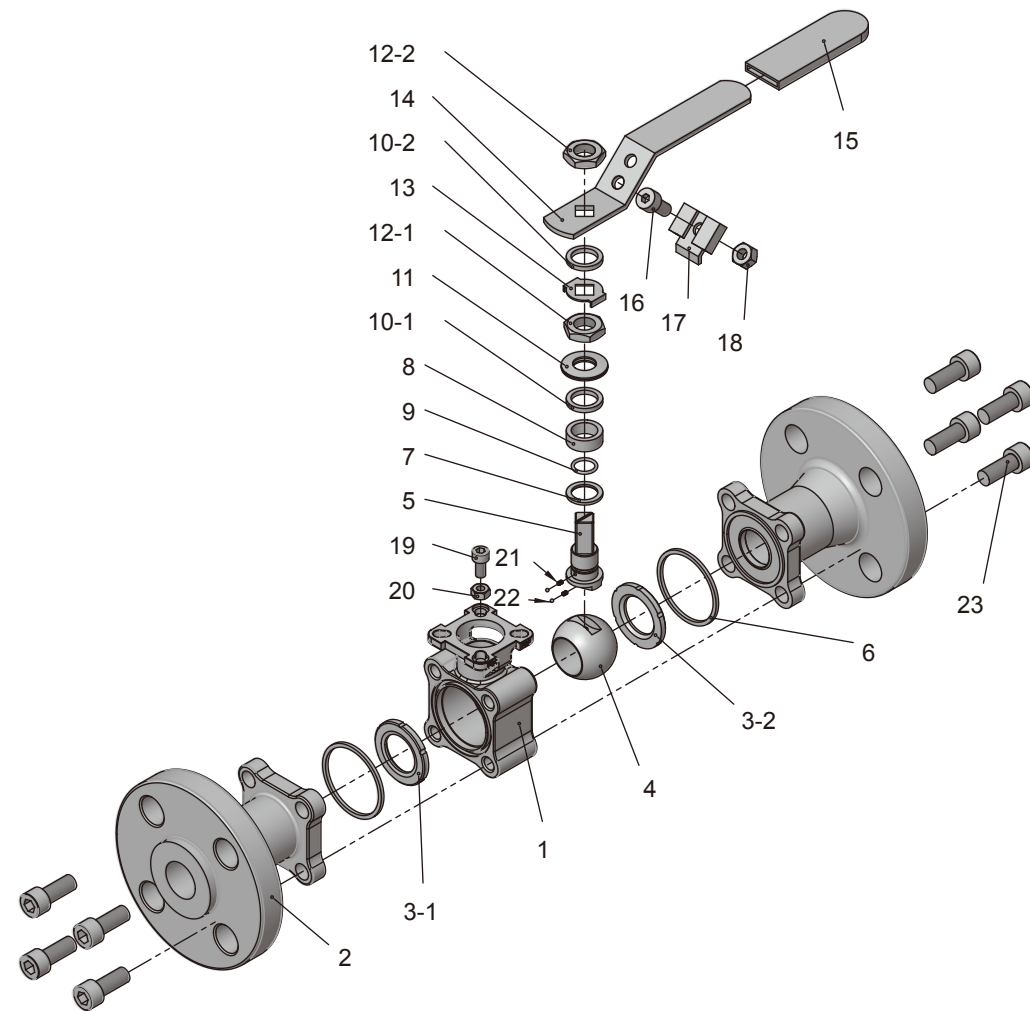


ITEM	PART NAME	STAINLESS STEEL	CARBON STEEL	ITEM	PART NAME	STAINLESS STEEL	CARBON STEEL
1	Body	A351-CF8M	A216-WCB	14	Handle Cover	VINYL	VINYL
2	End Caps	A351-CF8M	A216-WCB	15	Bolt	SS 304	SS 304
3	Seats	PTFE+15%G.F.	PTFE+15%G.F.	16	Nut	SS 304	SS 304
4	Ball	A351-CF8M	A351-CF8	17	Spring Washer	SS 304	SS 304
5	Stem	SS 316	SS 304	18	Screw	SS 304	SS 304
6	Body Seal	PTFE	PTFE	19	Locking Device	SS 304	SS 304
7	Thrust Washer	PTFE	PTFE	20	Nut	SS 304	SS 304
8	Packing	PTFE	PTFE	21	Stop Screw	SS 304	SS 304
9	Gland Ring	SS 304	SS 304	22	Stop Nut	SS 304	SS 304
10	Lever Spring Washer	SS 304	SS 304	23	Spring	SS 316	SS 316
11	Lever Nut	SS 304	SS 304	24	Static Device	SS 316	SS 316
12	Locking Tab	SS 304	SS 304	25	Stem O-ring	VITON	VITON
13	Handle	SS 304	SS 304				

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物料表 MATERIAL COMPOSITION

型號 Fig. No. : 309

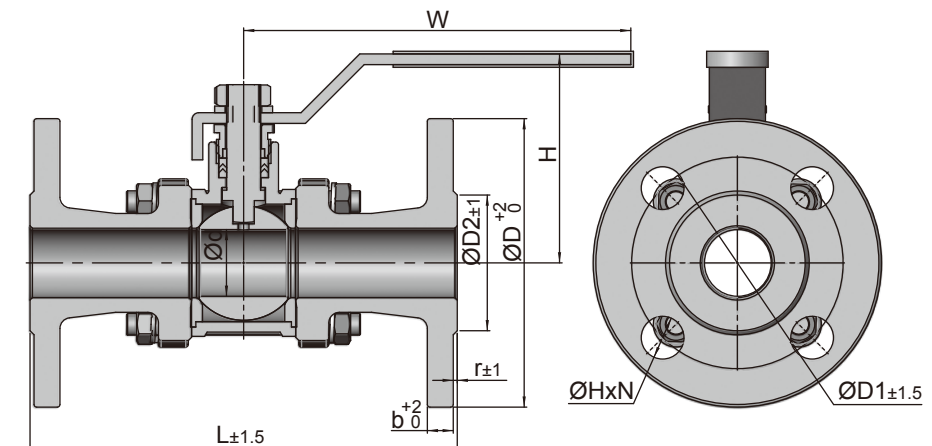


ITEM	PART NAME	STAINLESS STEEL	CARBON STEEL	ITEM	PART NAME	STAINLESS STEEL	CARBON STEEL
1	Body	A351-CF8M	A216-WCB	12	Lever Nut	SS 304	SS 304
2	End Caps	A351-CF8M	A216-WCB	13	Locking Tab	SS 304	SS 304
3	Seats	PTFE+15%G.F.	PTFE+15%G.F.	14	Handle	SS 304	SS 304
4	Ball	A351-CF8M / SS 316	A351-CF8 / SS 304	15	Handle Cover	VINYL	VINYL
5	Stem	SS 316	SS 304	16	Screw	SS 304	SS 304
6	Body Seal	PTFE	PTFE	17	Locking Device	SS 304	SS 304
7	Thrust Washer	PTFE+15%G.F.	PTFE+15%G.F.	18	Nut	SS 304	SS 304
8	Packing	PTFE	PTFE	19	Stop Screw	SS 304	SS 304
9	O-Ring	VITON	VITON	20	Stop Nut	SS 304	SS 304
10	Gland Ring	SS 304	SS 304	21	Spring	SS 316	SS 316
11	Belleville Spring Washer	SS 301	SS 301	22	Static Device	SS 316	SS 316
				23	Bolt	A2-70	12.9

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尺寸圖 DIMENSION LIST



**301-FEA (Class 150)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	15	35.1	60.5	89	7.9	1.5	130	16x4	140	77.6
3/4"	20	42.9	69.8	99	8.6	1.5	150	16x4	140	85
1"	25	50.8	79.2	108	9.7	1.5	160	16x4	170	104.9
1-1/4"	32	63.5	88.9	117	11.2	1.5	180	16x4	170	109
1-1/2"	38	73	98.6	127	12.7	1.5	200	16x4	230	119.3
2"	50	91.9	120.6	152	14.2	1.5	230	19x4	230	125
2-1/2"	65	104.6	139.7	178	15.7	1.5	290	19x4	350	136
3"	80	127	152.4	190	17.5	1.5	310	19x4	350	148.1
4"	100	157.2	190.5	229	22.4	1.5	350	19x8	400	165.5

**301-FED (PN40)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	15	45	65	95	14	2	130	14x4	140	77.6
3/4"	20	58	75	105	16	2	150	14x4	140	85
1"	25	68	85	115	16	2	160	14x4	170	104.9
1-1/4"	32	78	100	140	16	2	180	18x4	170	109
1-1/2"	38	88	110	150	15	3	200	18x4	230	119.3
2"	50	102	125	165	17	3	230	18x4	230	125

**301-FED (PN16)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
2-1/2"	65	122	145	185	15	3	290	18x4	350	136
3"	80	138	160	200	17	3	310	18x8	350	148.1
4"	100	158	180	220	17	3	350	18x8	400	165.5

**302-FEA (Class 150)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	15	35.1	60.5	89	7.9	1.5	108	16x4	110	74.5
3/4"	20	42.9	69.8	99	8.6	1.5	117	16x4	125	79
1"	24.5	50.8	79.2	108	9.7	1.5	127	16x4	145	84
1-1/4"	32	63.5	88.9	117	11.2	1.5	140	16x4	145	89.6
1-1/2"	38	73	98.6	127	12.7	1.5	165	16x4	175	96.7
2"	50	92.1	120.6	152	14.2	1.5	178	19x4	175	106

**303-FEA (Class 150)**

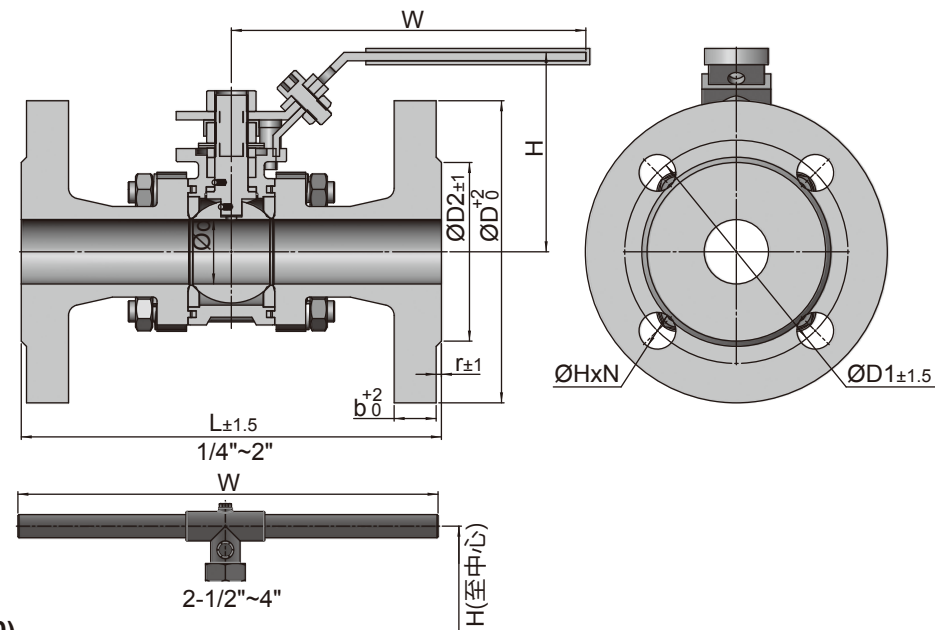
SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	15	35.1	60.5	89	7.9	1.5	108	16x4	140	73.7
3/4"	20	42.9	69.8	99	8.6	1.5	117	16x4	140	79.9
1"	24.5	50.8	79.2	108	9.7	1.5	127	16x4	170	95.8
1-1/4"	32	63.5	88.9	117	11.2	1.5	140	16x4	170	101.3
1-1/2"	38	73	98.6	127	12.7	1.5	165	16x4	230	108.7
2"	50	92.1	120.6	152	14.2	1.5	178	19x4	230	117.3

\* 我方有權隨時變更材質/設計/規格，以便提供品質優良的產品。

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尺寸圖 DIMENSION LIST



**305-FED (Class 150)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	16	35.1	60.5	89	7.9	1.5	139.7	16x4	140	78.7
3/4"	20	42.9	69.8	99	8.6	1.5	152.4	16x4	140	81.2
1"	24.5	50.8	79.2	108	9.7	1.5	165.1	16x4	170	94.8
1-1/4"	32	63.5	88.9	117	11.2	1.5	177.8	16x4	170	100
1-1/2"	38	73	98.6	127	12.7	1.5	190.5	16x4	230	110
2"	50	92.1	120.6	152	14.2	1.5	215.9	19x4	230	118.5
2-1/2"	65	104.6	139.7	178	15.7	1.5	241.3	19x4	380	138.5
3"	80	127	152.4	190	17.5	1.5	282.4	19x4	400	159.5
4"	100	157.2	190.5	229	22.4	1.5	304.8	19x8	400	174.6

**305-FED (PN40)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	15	45	65	95	14	2	130	14x4	140	78.7
3/4"	20	58	75	105	16	2	150	14x4	140	81.2
1"	25	68	85	115	16	2	160	14x4	170	94.8
1-1/4"	32	78	100	140	16	2	180	18x4	170	100
1-1/2"	38	88	110	150	15	3	200	18x4	230	110
2"	50	102	125	165	17	3	230	18x4	230	118.5

**305-FED (PN16)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
2-1/2"	65	122	145	185	15	3	290	18x4	380	138.5
3"	80	138	160	200	17	3	310	18x8	400	159.5
4"	100	158	180	220	17	3	350	18x8	400	174.6

**307-FED (Class 150)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	16	35.1	60.5	89	7.9	1.5	139.7	16x4	110	70.9
3/4"	20	42.9	69.8	99	8.6	1.5	152.4	16x4	110	73.4
1"	24.5	50.8	79.2	108	9.7	1.5	165.1	16x4	135	84.1
1-1/4"	32	63.5	88.9	117	11.2	1.5	177.8	16x4	165	89.3
1-1/2"	38	73	98.6	127	12.7	1.5	190.5	16x4	165	109.5
2"	50	92.1	120.6	152	14.2	1.5	215.9	19x4	165	118.9
2-1/2"	65	104.6	139.7	178	15.7	1.5	241.3	19x4	300	155
3"	80	127	152.4	190	17.5	1.5	282.4	19x4	335	165
4"	100	157.2	190.5	229	22.4	1.5	304.8	19x8	335	180

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尺寸圖 DIMENSION LIST

**307-FED (PN40)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	15	45	65	95	14	2	130	14x4	110	70.9
3/4"	20	58	75	105	16	2	150	14x4	110	73.4
1"	25	68	85	115	16	2	160	14x4	135	84.1
1-1/4"	32	78	100	140	16	2	180	18x4	165	89.3
1-1/2"	38	88	110	150	15	3	200	18x4	165	109.5
2"	50	102	125	165	17	3	230	18x4	165	118.9

**307-FED (PN16)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
2-1/2"	65	122	145	185	15	3	290	18x4	300	155
3"	80	138	160	200	17	3	310	18x8	335	165
4"	100	158	180	220	17	3	350	18x8	335	180

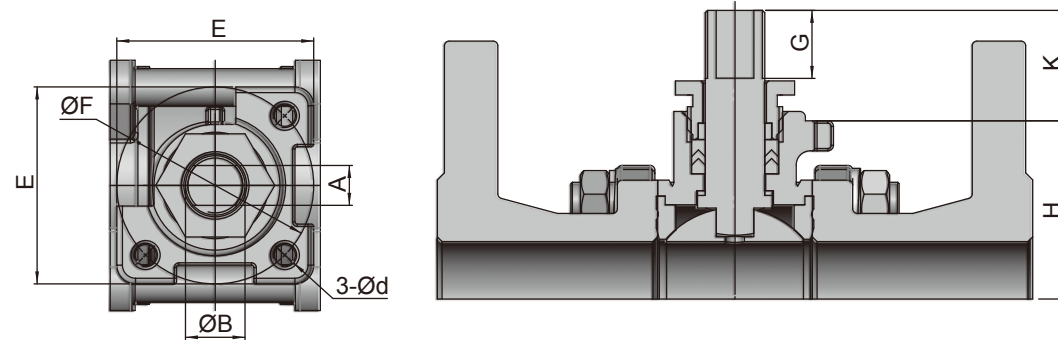
**309-FEA (Class 600)**

SIZE	d	D2	D1	D	b	r	L	ØH-N	W	H
1/2"	16	35.1	66.5	95	14.2	6.4	165	16x4	110	70.9
3/4"	20	42.9	82.6	117	15.7	6.4	190	19x4	110	73.4
1"	24.5	50.8	88.9	124	17.5	6.4	216	19x4	135	84.1
1-1/4"	32	63.5	98.6	133	20.6	6.4	229	19x4	135	89.3
1-1/2"	38	73	114.3	155	22.4	6.4	241	22x4	165	109.5
2"	50	91.9	127	165	25.4	6.4	292	19x8	165	118.9

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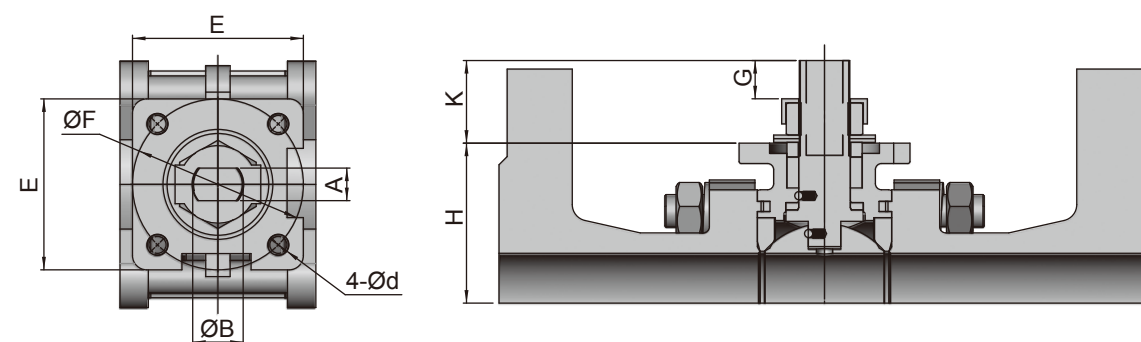
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平台架尺寸 DIMENSIONS OF ISO MOUNTING PAD



**303-FEA (Class 150)**

SIZE	A	B	d	E	F	G	K	H	ISO5211
1/2"	5	7.9	M5	36	36	9.5	15	26.5	F03
3/4"	6.5	9.5	M5	36	36	10.5	17.2	31.5	F03
1"	8.5	12.7	M5	42	42	14.5	23.6	38	F04
1-1/4"	8.5	12.7	M5	42	42	14.5	24.5	42.6	F04
1-1/2"	9	16	M6	50	50	15.5	25.9	50	F05
2"	9	16	M6	50	50	15.5	26.5	58	F05



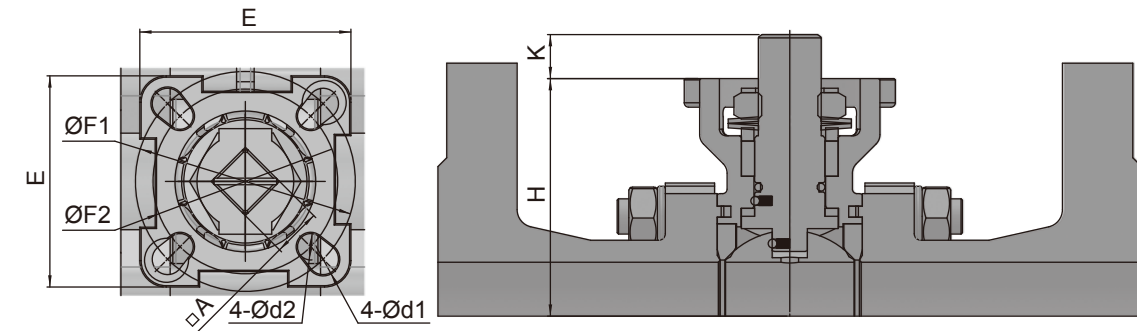
**305-FED (PN40/16)**

SIZE	A	B	d	E	F	G	K	H	ISO5211
1/2"	6	9.3	M5	36	36	7.1	15.5	28.9	F03
3/4"	6	9.3	M5	36	36	7.1	15.5	31.4	F03
1"	8	12.4	M5	42	42	9.4	20.3	39.3	F04
1-1/4"	8	12.4	M5	42	42	9.4	20.3	44.5	F04
1-1/2"	10	15.7	M6	50	50	12.5	25.4	51.1	F05
2"	10	15.7	M6	50	50	12.5	25.4	59.7	F05
2-1/2"	14	18.7	M8	68	70	25.5	40.8	82.9	F07
3"	17	24.9	M10	96	102	23.2	44.4	98.8	F10
4"	17	24.9	M10	96	102	23.2	44.4	113.9	F10

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平台架尺寸 DIMENSIONS OF ISO MOUNTING PAD



**307-FED (PN40/16)**

SIZE	A	d1	d2	E	F1	F2	K	H	ISO5211
1/2"	9	6	6	42	42	36	8	42.3	F03/F04
3/4"	9	6	6	42	42	36	8	44.8	F03/F04
1"	11	7	6	48	50	42	10	54	F04/F05
1-1/4"	11	7	6	48	50	42	10	59.2	F04/F05
1-1/2"	14	9	7	68	70	50	14.8	73.5	F05/F07
2"	14	9	7	68	70	50	14.8	82.9	F05/F07
2-1/2"	17	11	9	94	102	70	17.1	107	F07/F10
3"	17	11	9	94	102	70	17.1	117.3	F07/F10
4"	17	11	9	94	102	70	17.1	132.3	F07/F10

**309-FEA (Class 600)**

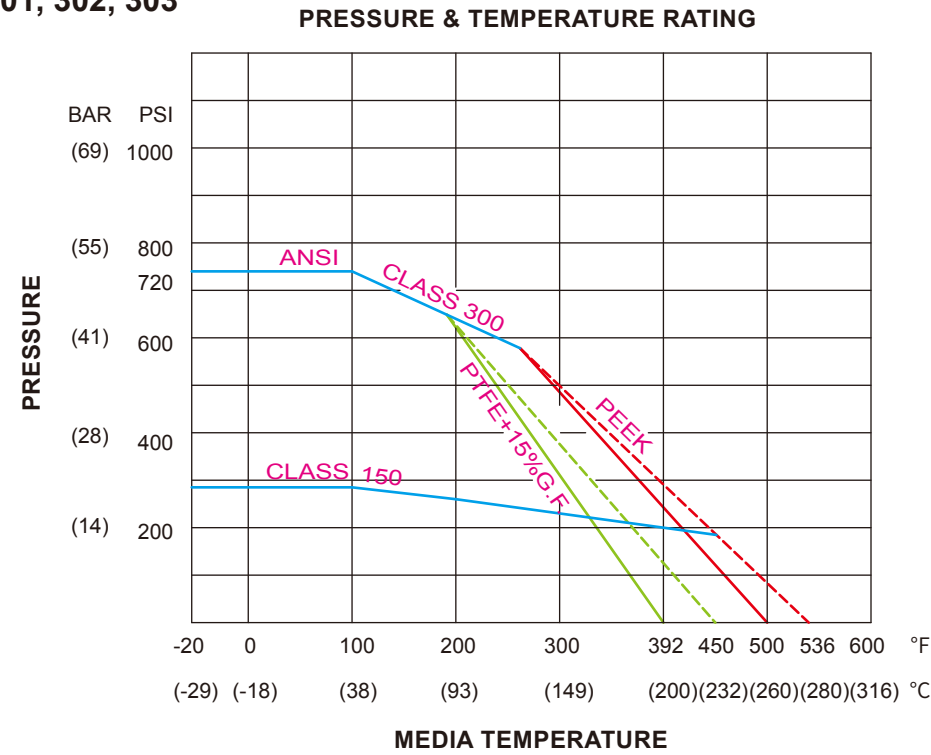
SIZE	A	d1	d2	E	F1	F2	K	H	ISO5211
1/2"	9	6	6	42	42	36	8	42.3	F03/F04
3/4"	9	6	6	42	42	36	8	44.8	F03/F04
1"	11	7	6	48	50	42	10	54	F04/F05
1-1/4"	11	7	6	48	50	42	10	59.2	F04/F05
1-1/2"	14	9	7	68	70	50	14.8	73.5	F05/F07
2"	14	9	7	68	70	50	14.8	82.9	F05/F07

\* 我方有權隨時變更材質/設計/規格，以便提供品質優良的產品。

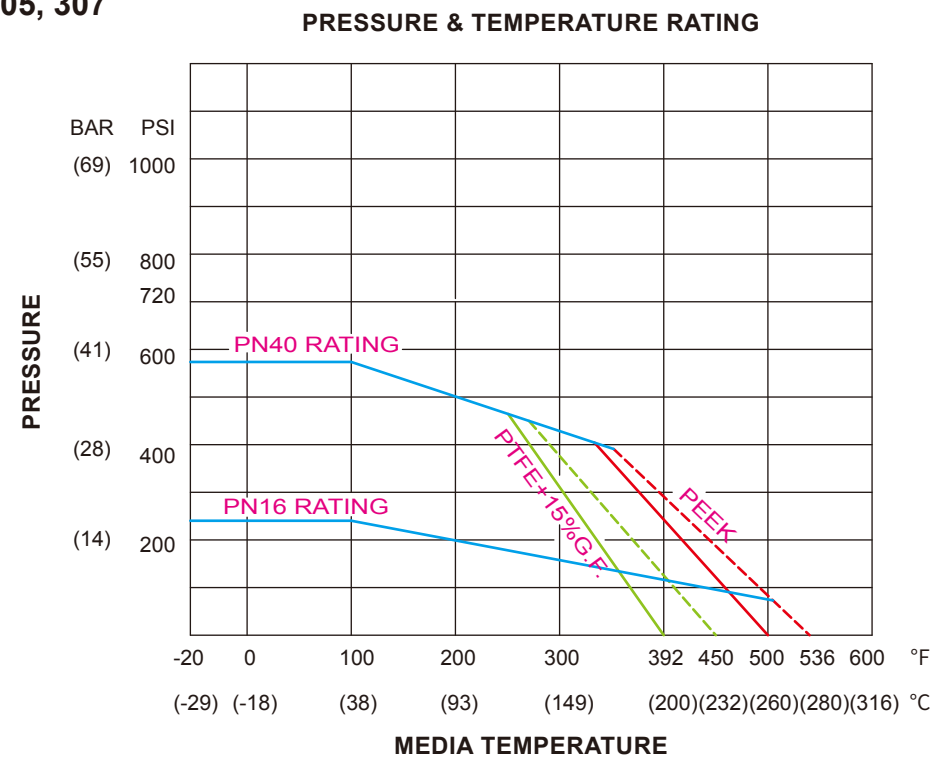
We reserve the right to modify the design / specification without previous notice for better quality.

溫度壓力曲線圖 P/T CHART

型號 Fig. No. : 301, 302, 303



型號 Fig. No. : 305, 307

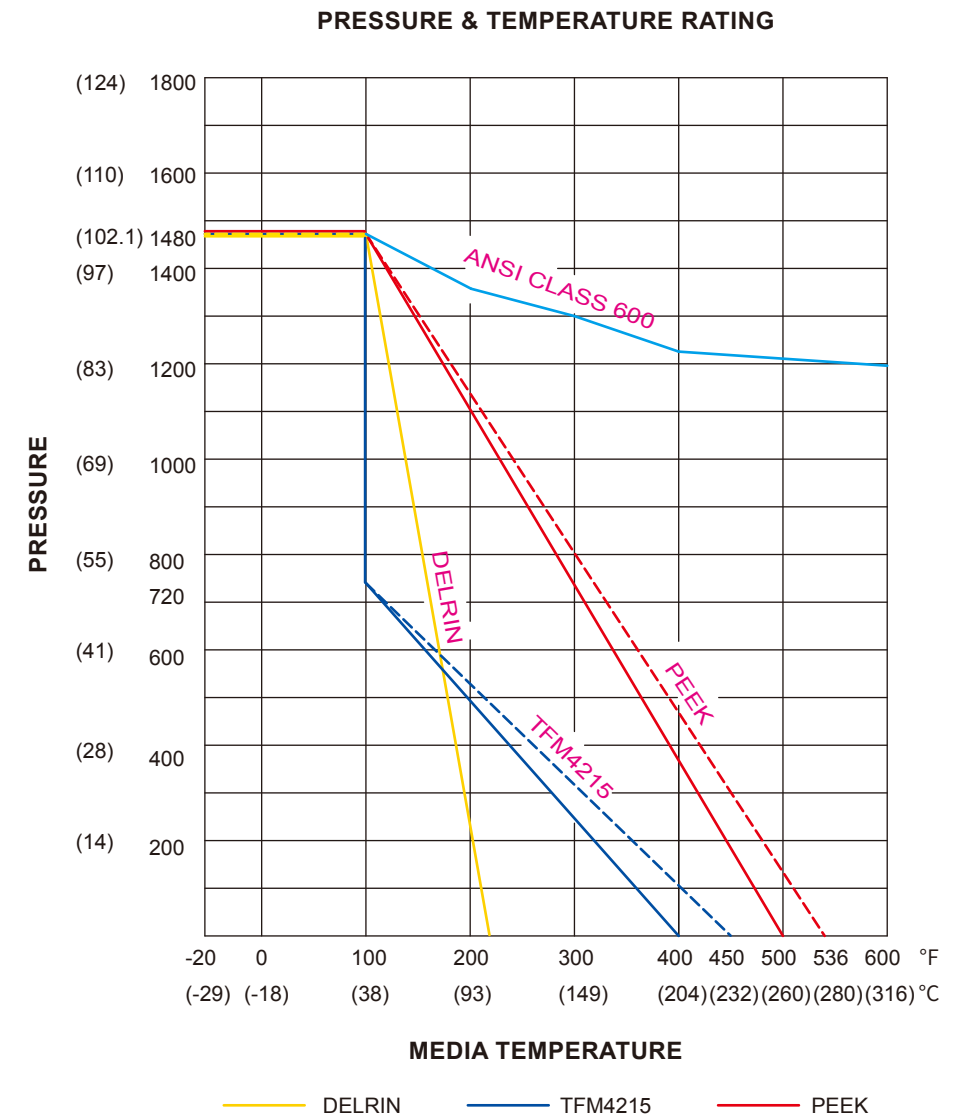


Remark:

1. It is recommended that the appropriate seat material, providing a higher pressure & temperature, is selected, if you feel the standard material is borderline and you prefer a larger safety allowance.
2. For steam service, options available are PEEK, PTFE+50%SS, or Metal seat, depending on the service application.
3. Final selection of seat material is the user's choice, experience & responsibility.
4. Solid Lines-Continuous Temperature  
Dotted Lines-Intermittent / Peak Temperature

溫度壓力曲線圖 P/T CHART

型號 Fig. No. : 309



Remark:

1. It is recommended that the appropriate seat material, providing a higher pressure & temperature, is selected, if you feel the standard material is borderline and you prefer a larger safety allowance.
2. For steam service, options available are PEEK, PTFE+50%SS, or Metal seat, depending on the service application.
3. Final selection of seat material is the user's choice, experience & responsibility.
4. Solid Lines-Continuous Temperature  
Dotted Lines-Intermittent / Peak Temperature