



SERIES R301

Two-Piece Ball Valve



INTRODUCTION

The Series R301 is a heavy duty two-piece ball valve designed for industrial and chemical applications. Featuring a full bore design with reinforced PTFE seats, it delivers reliable sealing performance and adaptability for a wide range of media. Constructed with a blowout-proof stem for enhanced safety, this valve ensures secure on/off control in diverse flow systems, making it an excellent solution for flow regulation needs.

- R301-10 (Full bore): Standard full-bore design for maximum flow capacity and minimal pressure drop.

TECHNICAL SUMMARY

SERIES R301-10

- ATEX
- Blow-out Proof Stem Design



SIZE RANGE	Full Port	1/4" ~ 3"
PRESSURE RATING	Full Port	1000 PSI / CLASS 400 / PN 63
END CONNECTIONS	Threaded	
VALVE TYPE	Full Bore	
BODY & END CAP MATERIAL (ASTM)	CF8M, CF3M, CF8, CF3, WCB, Titanium Alloy (Gr. C-2)	
BODY & END CAP MATERIAL (EN)	1.4408, 1.4409, 1.4308, 1.4309, 1.0619	
SEAT MATERIAL	PTFE, RTFE, CTFE, TFM1600, MG1241, STFE	
HANDLE TYPE	Flat (with / without SR Lock), Butterfly, Oval, Economical Stem Extension	
HANDLE MATERIAL	Flat & Oval - 304, 316	
V-PORT OPTION	N/A	
WITH ANTI-STATIC DEVICE OPTION	Yes	

STANDARD OF COMPLIANCE

MATERIAL CERTIFICATION	EN 10204-3.1
DESIGN	ASME B16.34 / EN12516-1 / EN 12516-3
THREADED END CONNECTIONS	NPT ASME B1.20.1 BSPP ISO 228-1 BSPT ISO 7-1 DIN 2999
PRESSURE TESTING	API 598
MARKING	ISO 5209
CE APPROVAL	2014 / 68 / EU Module H
QUALITY ASSURANCE	ISO 9001:2015

INTRODUCTION

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- R301-20 (Full bore): Same specifications as R301-10, with the added capability to accommodate a solenoid valve for automation needs.

TECHNICAL SUMMARY

SERIES R301-20

- ATEX
- Blow-out Proof Stem Design
- Drilled and Tapped Mounting Pad



SIZE RANGE	Full Port	1/4" ~ 4"
PRESSURE RATING	Full Port	1000 PSI / CLASS 400 / PN 63
END CONNECTIONS	Threaded	
VALVE TYPE	Full Bore	
BODY & END CAP MATERIAL (ASTM)	CF8M, CF3M, CF8, CF3, WCB, Titanium Alloy (Gr. C-2)	
BODY & END CAP MATERIAL (EN)	1.4408, 1.4409, 1.4308, 1.4309, 1.0619	
SEAT MATERIAL	PTFE, RTFE, CTFE, TFM1600, MG1241, STFE	
HANDLE TYPE	Flat (with / without SR Lock), Butterfly, Oval, Economical Stem Extension	
HANDLE MATERIAL	Flat & Oval - 304, 316	
V-PORT OPTION	N/A	
WITH ANTI-STATIC DEVICE OPTION	Yes	

STANDARD OF COMPLIANCE

MATERIAL CERTIFICATION	EN 10204-3.1
DESIGN	ASME B16.34 / EN12516-1 / EN 12516-3
THREADED END CONNECTIONS	NPT ASME B1.20.1 BSPP ISO 228-1 BSPT ISO 7-1 DIN 2999
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INTRODUCTION

The Series R301 is a heavy duty two-piece ball valve designed for industrial and chemical applications. Featuring a full bore design with reinforced PTFE seats, it delivers reliable sealing performance and adaptability for a wide range of media. Constructed with a blowout-proof stem for enhanced safety, this valve ensures secure on/off control in diverse flow systems, making it an excellent solution for flow regulation needs.

- R301-30 (Reduced bore): Features a reduced bore design with the option to install a solenoid valve for automated flow control.

TECHNICAL SUMMARY

SERIES R301-30

- ATEX
- Blow-out Proof Stem Design
- Drilled and Tapped Mounting Pad



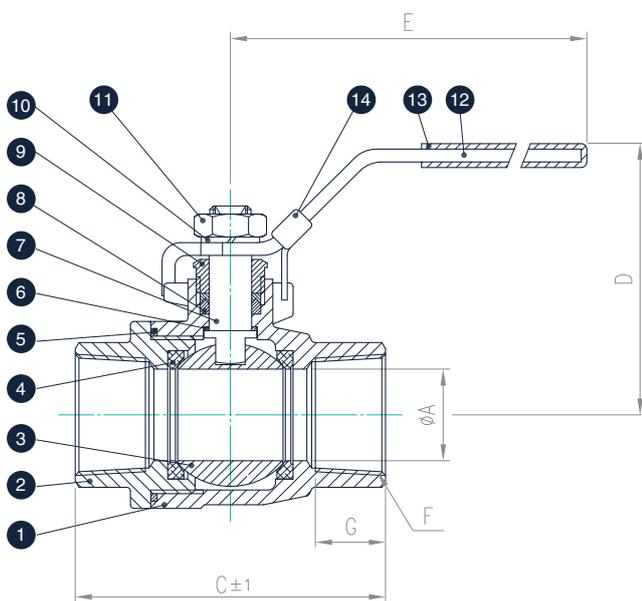
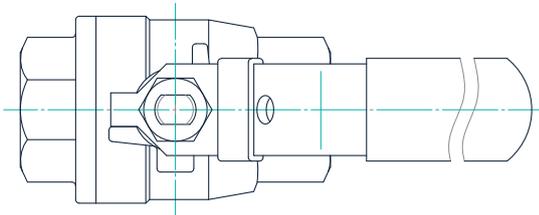
SIZE RANGE	Reduced Port	1/4" ~ 2"
PRESSURE RATING	Reduced Port	1/4" ~ 1" 2000 PSI / CLASS 800 / PN 125
		1-1/4" ~ 2" 1500 PSI / CLASS 600 / PN 100
END CONNECTIONS	Threaded	
VALVE TYPE	Full Bore	
BODY & END CAP MATERIAL (ASTM)	CF8M, CF3M, CF8, CF3, WCB, Titanium Alloy (Gr. C-2)	
BODY & END CAP MATERIAL (EN)	1.4408, 1.4409, 1.4308, 1.4309, 1.0619	
SEAT MATERIAL	PTFE, RTFE, CTFE, TFM1600, MG1241, STFE	
HANDLE TYPE	Flat (with / without SR Lock), Butterfly, Oval, Economical Stem Extension	
HANDLE MATERIAL	Flat & Oval - 304, 316	
V-PORT OPTION	N/A	
WITH ANTI-STATIC DEVICE OPTION	Yes	

STANDARD OF COMPLIANCE

MATERIAL CERTIFICATION	EN 10204-3.1
DESIGN	ASME B16.34 / EN12516-1 / EN 12516-3
THREADED END CONNECTIONS	NPT ASME B1.20.1
	BSPP ISO 228-1
	BSPT ISO 7-1
	DIN 2999
PRESSURE TESTING	API 598
MARKING	ISO 5209
CE APPROVAL	2014 / 68 / EU Module H
QUALITY ASSURANCE	ISO 9001:2015

CONSTRUCTION - BILL OF MATERIAL

SERIES R301-10
1/4" ~ 3" Full port



NO.	Parts	Material	Qty
1	Body	CF8M	1
2	End Cap	CF8M	1
3	Ball	SS316	1
4	Seat	PTFE / RTFE	2
5	Joint Gasket	PTFE	1
6	Thrust Washer	PTFE	1
7	Stem	SS316	1
8	Gland Packing	PTFE	1 Set
9	Gland Bush	SS304	1
10	Stem Washer	SS304	1
11	Stem Nut	SS304	1
12	Handle	SS304	1
13	Handle Cover	VINYL	1
14	Locking Device	SS304	1

*Optional : Anti-static stem with ATEX certification

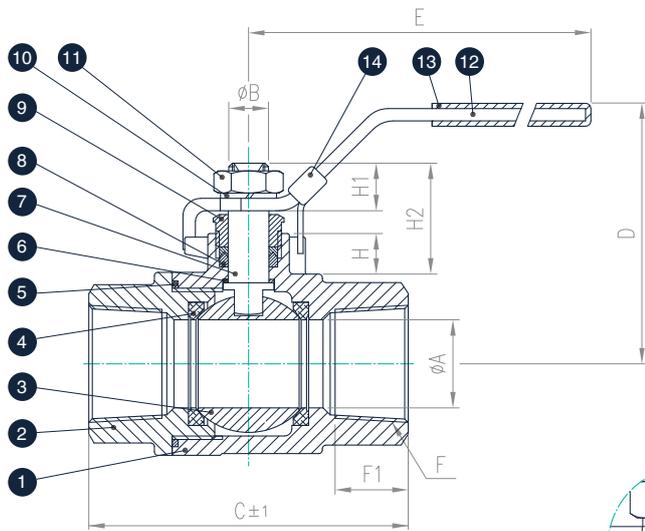
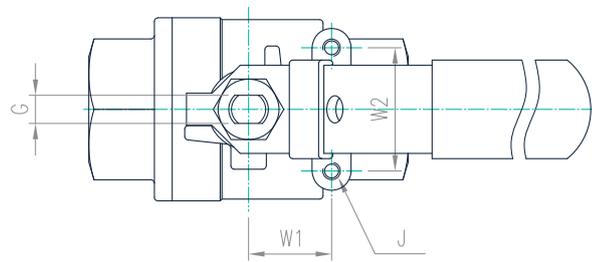


DIMENSIONS(mm)

SIZE	φA	C	D	E	F	G
1/4"	11.5	55	50	100	1/4" PF - NPT - PT	13
3/8"	11.5	55	50	100	3/8" PF - NPT - PT	13
1/2"	15	65	60	130	1/2" PF - NPT - PT	16
3/4"	20	72	64	130	3/4" PF - NPT - PT	17
1"	25	84	71	165	1" PF - NPT - PT	19
1-1/4"	32	94	78	165	1-1/4" PF - NPT - PT	22
1-1/2"	38	110	86	190	1-1/2" PF - NPT - PT	22.5
2"	50	126	95	190	2" PF - NPT - PT	26
3"	80	178	148	250	3" PF - NPT - PT	12

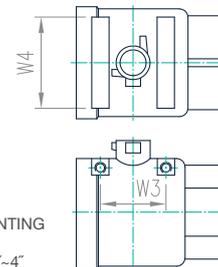
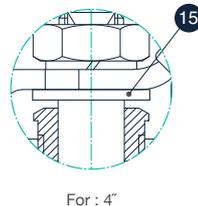
CONSTRUCTION - BILL OF MATERIAL

SERIES R301-20
1/4 ~ 4 Full port



NO.	Parts	Material	Qty
1	Body	CF8M	1
2	End Cap	CF8M	1
3	Ball	SS316	1
4	Seat	PTFE / RTFE	2
5	Joint Gasket	PTFE	1
6	Thrust Washer	PTFE	1
7	Stem	SS316	1
8	Gland Packing	PTFE	1 Set
9	Gland Bush	SS304	1
10	Stem Washer	SS304	1
11	Stem Nut	SS304	1
12	Handle	SS304	1
13	Handle Cover	VINYL	1
14	Locking Device	SS304	1
15	Handle Washer	SS304	@

*Optional : Anti-static stem with ATEX certification @ 4" (1pcs)

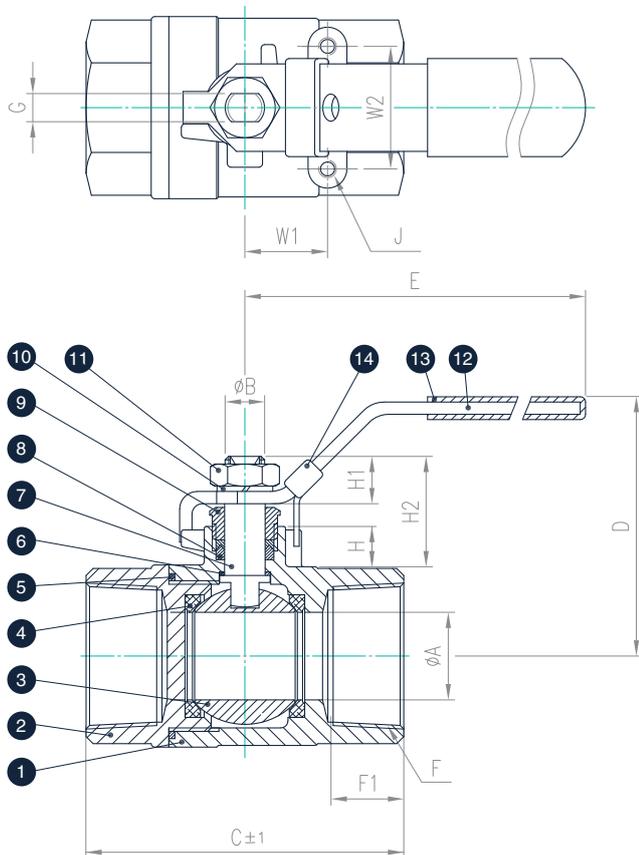


DIMENSIONS(mm)

SIZE	øA	øB	C	D	E	F1	F	J	G	H	H1	H2	W1	W2	W3	W4
1/4"	11.5	8	55	50	100	13	1/4" PF - NPT - PT	10-24UNC	5	8	9.8	22.3	12.7	28.5	-	-
3/8"	12.5	8	55	50	100	13	3/8" PF - NPT - PT	10-24UNC	5	8	9.8	22.3	12.7	28.5	-	-
1/2"	15	9.5	65	60	130	16	1/2" PF - NPT - PT	10-24UNC	6.5	10.5	11	25.6	12.7	28.5	-	-
3/4"	20	9.5	74.6	64	130	17	3/4" PF - NPT - PT	10-24UNC	6.5	10.5	11	25.6	22.4	35	-	-
1"	25	11	88	71	165	19	1" PF - NPT - PT	10-24UNC	8	11.5	13.5	31.5	23.4	35	-	-
1-1/4"	32	11	102	78	165	22	1-1/4" PF - NPT - PT	1/4-20UNC	8	11.5	13.5	31.5	25.4	38.1	-	-
1-1/2"	38	14	110	86	190	22.5	1-1/2" PF - NPT - PT	1/4-20UNC	9.7	12	15.6	35.1	25.4	38.1	-	-
2"	50	14	125	95	190	26	2" PF - NPT - PT	1/4-20UNC	9.7	9.5	15.6	30.6	25.4	38.1	-	-
2-1/2"	65	19	160.6	130	250	31	2-1/2" PF - NPT - PT	1/4-20UNC	12	17	24.5	54.2	-	-	59	61
3"	80	19	178	148	250	34	3" PF - NPT - PT	1/4-20UNC	12	18	24.5	55.2	-	-	70	71
4"	100	19	240	175	250	43	4" PF - NPT - PT	1/4-20UNC	15	20.8	24.5	57.4	-	-	100	78.5

CONSTRUCTION - BILL OF MATERIAL

SERIES R301-30
1/4"~ 2" Reduced port



NO.	Parts	Material	Qty
1	Body	CF8M	1
2	End Cap	CF8M	1
3	Ball	SS316	1
4	Seat	PTFE / RTFE	2
5	Joint Gasket	PTFE	1
6	Thrust Washer	PTFE	1
7	Stem	SS316	1
8	Gland Packing	PTFE	1 Set
9	Gland Bush	SS304	1
10	Stem Washer	SS304	1
11	Stem Nut	SS304	1
12	Handle	SS304	1
13	Handle Cover	VINYL	1
14	Locking Device	SS304	1

*Optional : Anti-static stem with ATEX certification



DIMENSIONS(mm)

SIZE	øA	øB	C	D	E	F1	F	J	G	H	H1	H2	W1	W2
1/4"	9.5	8	51	50	100	11	1/4" PF - NPT - PT	10-24UNC	5	6	8	17.7	12.7	28.5
3/8"	9.5	8	51	50	100	11	3/8" PF - NPT - PT	10-24UNC	5	6	8	17.7	12.7	28.5
1/2"	12.5	8	59.5	50	100	15	1/2" PF - NPT - PT	10-24UNC	5	8	9.8	22.6	12.7	28.5
3/4"	15	9.5	70	53	130	16.5	3/4" PF - NPT - PT	10-24UNC	6.5	10.5	11	25	22.4	35
1"	20	9.5	84	64	130	19.5	1" PF - NPT - PT	10-24UNC	6.5	9	11	25	22.4	35
1-1/4"	25	11	91	66	165	20	1-1/4" PF - NPT - PT	10-24UNC	8	13	13.5	33	22.4	35
1-1/2"	32	11	104	79	165	22	1-1/2" PF - NPT - PT	1/4-20UNC	8	11.5	13.5	31	25.4	38.1
2"	38	14	117	83	190	23	2" PF - NPT - PT	1/4-20UNC	9.7	9	15.6	31.6	25.4	38.1

TECHNICAL DATA | Breakaway torque / Cv and Kv values / Weight

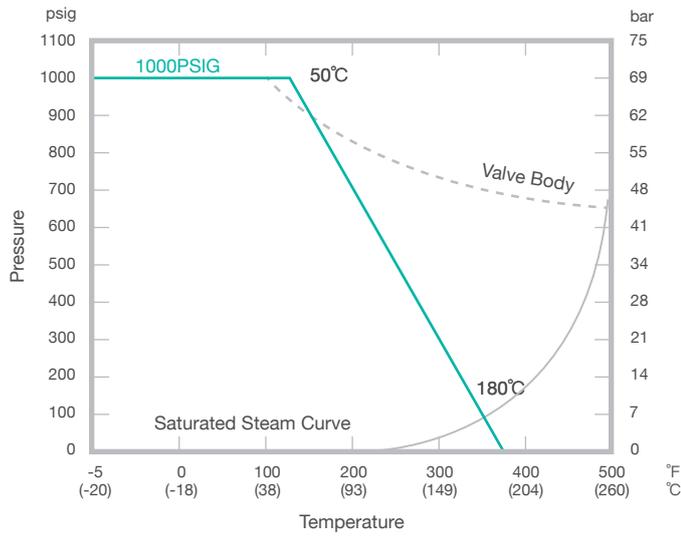
R301-10					
Valve size	Torque		Cv values	Kv values (M ³ /h)	Weight (Kg)
	N.m	lbs.in			
1/4"	5	44	7	6	0.3
3/8"	5	44	8	7	0.3
1/2"	7	62	15	13	0.5
3/4"	8	71	40	34	0.6
1"	14	124	70	60	1.0
1-1/4"	18	160	110	94	1.3
1-1/2"	26	230	250	213	1.9
2"	34	301	430	366	3
3"	78	691	1100	935	9.9

R301-20					
Valve size	Torque		Cv values	Kv values (M ³ /h)	Weight (Kg)
	N.m	lbs.in			
1/4"	5	44	7	6	0.3
3/8"	5	44	8	7	0.3
1/2"	7	62	15	13	0.5
3/4"	8	71	40	34	0.6
1"	14	124	70	60	1.0
1-1/4"	18	160	110	94	1.5
1-1/2"	26	230	250	213	2.0
2"	34	301	430	366	3.0
2-1/2"	56	496	700	595	6.8
3"	78	691	1100	935	9.9
4"	124	1099	2000	1700	20.6

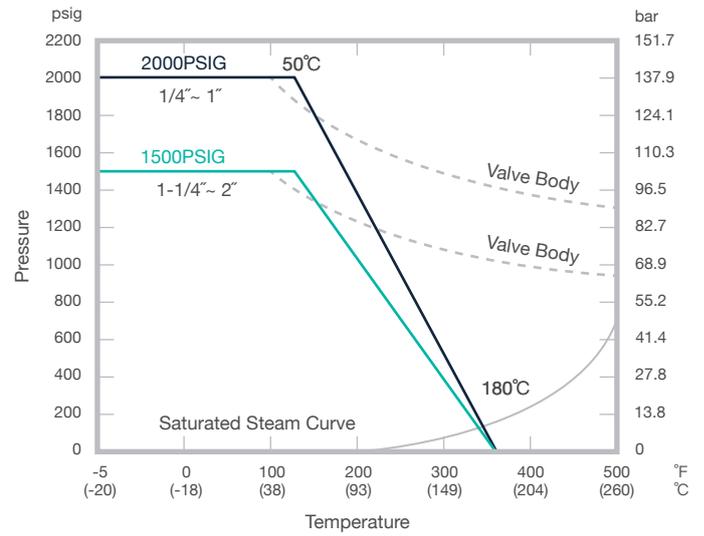
R301-30					
Valve size	Torque		Cv values	Kv values (M ³ /h)	Weight (Kg)
	N.m	lbs.in			
1/4"	5	44	7	6	0.3
3/8"	5	44	7	6	0.3
1/2"	7	62	8	7	0.4
3/4"	8	71	15	13	0.5
1"	14	124	40	34	0.8
1-1/4"	18	160	70	60	1.1
1-1/2"	26	230	110	94	1.6
2"	34	301	250	213	2.4

TECHNICAL DATA | Pressure - Temperature diagram

R301-10 / R301-20
 Seat material : PTFE / RTFE



R301-30
 Seat material : PTFE / RTFE



OPTIONAL ACCESSORIES

| Handle Options



Oval Handle



Flat (with / without Spring Return Lock)



Economical Stem Extension



Butterfly Handle



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Established in 1992
TAWD has dedicated over 30 years to
manufacturing premium ball valves

INNOVATION

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