



# **SERIES**

## **S501/S701/S711**

Three-Piece Ball Valve



## **SERIES S501**

### **Three-Piece Ball Valve**

- No ISO 5211 Mounting Pad
- Stem with Flat Head and Gland Nut Design



### **TECHNICAL SUMMARY**

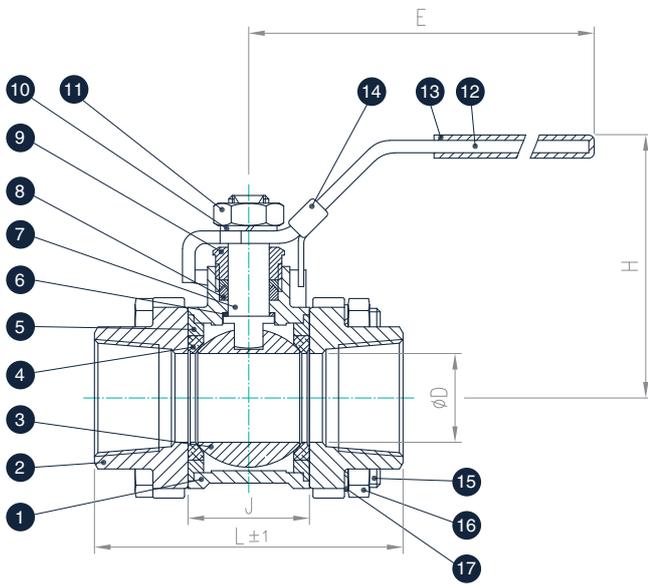
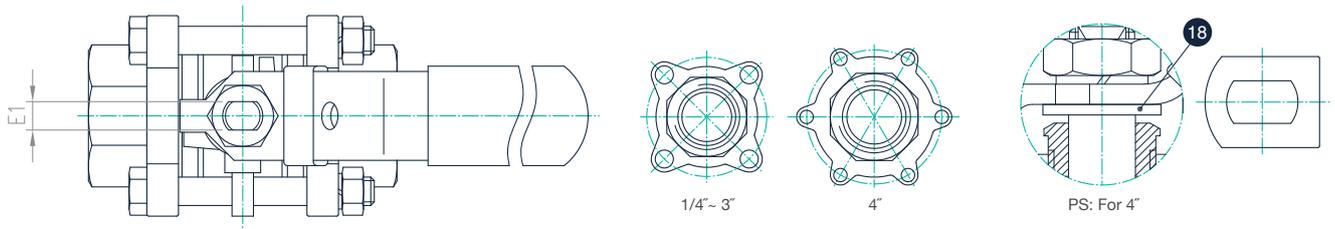
SIZE RANGE	NPS 1/4~4 (DN15~100)
PRESSURE RATING	1000 WOG (NPS 1/4~2, DN8~50) 800 WOG (NPS 2-1/2~4, DN65~100)
END CONNECTIONS	Threaded, Butt Weld, Socket Weld, Flanged End Cap(Optional)
VALVE TYPE	Full Bore
BODY & END CAP MATERIAL ( ASTM )	CF8M, CF3M, CF8, CF3, WCB
BODY & END CAP MATERIAL ( EN )	1.4408, 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	Yes
WITH ANTISTATIC DEVICE OPTION	Yes
WITH ENCAPSULATED BOLTS DESIGN	N/A

### **STANDARD OF COMPLIANCE**

MATERIAL CERTIFICATION	EN 10204-3.1
THREADED END CONNECTIONS	NPT ASME B1.20.1 BSPP ISO 228-1 SPT ISO 7-1 DIN 2999
SOCKET WELD END CONNECTIONS	ASME B16.11
BUTT WELD END CONNECTIONS	ASME B16.25
FLANGED END CONNECTIONS	EN 1092-1 PN16 / PN40 ASME B16.5 Class 150
PRESSURE TESTING	API 598
MARKING	ISO 5209
CE APPROVAL	2014 / 68 / EU Module H
QUALITY ASSURANCE	ISO 9001:2015
EUROPEAN DIRECTIVES APPLIED	ATEX, 2014/34/EU

CONSTRUCTION-BILL OF MATERIAL

SERIES S501  
1/4" ~ 4"  
Full bore



NO.	Parts	Material	Qty
1	Body	CF8M / WCB	1
2	End Cap	CF8M / WCB	2
3	Ball	SS316	1
4	Seat	PTFE / RTFE	2
5	Joint Gasket	PTFE	2
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	Bolt	SS304 / B7	*
16	Bolt Nut	SS304 / 2H	&
17	Bolt Washer	SS304	&
18	Handle Washer	SS304	@



\* 1/4"-2" (4pcs) of bolts(single ended external thread)  
 \* 2-1/2"-3" (4pcs) of bolts(double ended external thread)  
 \* 4" (6pcs) of bolts(double ended external thread)  
 & 1/4"-1-1/2" (4pcs)  
 & 2" When body and end cap were CF8M, 4pcs  
 & 2" When body and end cap were WCB, 8pcs  
 & 2-1/2"-3" (8pcs)  
 & 4" (12pcs)  
 @ 4" (1pcs)  
 \* & 2"-4" When body and end cap were CF8M, Bolts and Bolt Nuts are SS304  
 \* & 2"-4" When body and end cap were WCB, Bolts are B7, Bolt Nuts are 2H

DIMENSIONS(mm)

SIZE	øD	L	H	E	E1	J	DN
1/4"	11.6	56.6	54	102	5	18.6	1/4" PF-NPT-PT
3/8"	12.7	56.6	54	102	5	18.6	3/8" PF-NPT-PT
1/2"	15	65.7	64	132	6.5	23.6	1/2" PF-NPT-PT
3/4"	20	76.2	67	132	6.5	28	3/4" PF-NPT-PT
1"	25	86.2	75	167	8	33.9	1" PF-NPT-PT
1-1/4"	32	102.8	80	167	8	42.5	1-1/4" PF-NPT-PT
1-1/2"	38	119.4	90	192	9.7	53.2	1-1/2" PF-NPT-PT
2"	50	131.4	98	192	9.7	64.6	2" PF-NPT-PT
2-1/2"	65	164	137	252	12	87	2-1/2" PF-NPT-PT
3"	80	182.7	147	252	12	99	3" PF-NPT-PT
4"	100	235.6	175	282	15	127	4" PF-NPT-PT

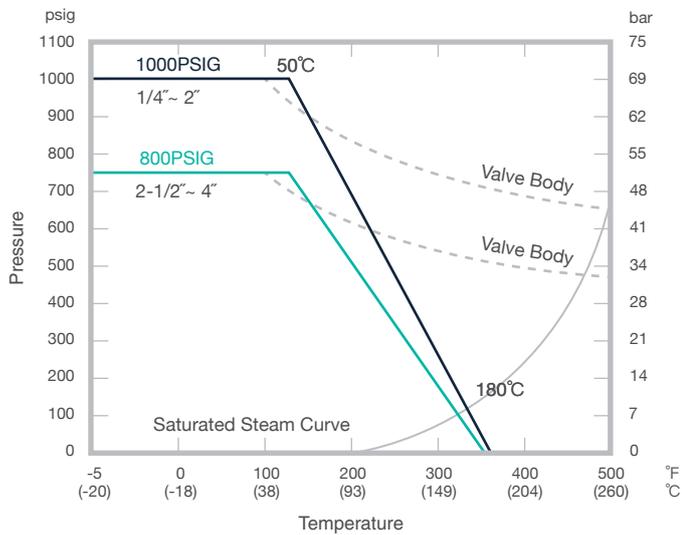
**TECHNICAL DATA | Breakaway torque / Cv and Kv values / Weight**

Size (S501)	Torque (N.m)	Torque (lbs.in)	Cv values	Kv values (M <sup>3</sup> /h)	Weight (Kg)
1/4"	7	62	7	6	0.4
3/8"	7	62	8	7	0.4
1/2"	7	62	15	13	0.6
3/4"	8	71	40	34	0.7
1"	14	124	70	60	1.0
1-1/4"	16	142	110	94	1.7
1-1/2"	26	230	250	213	2.4
2"	34	301	430	366	3.9
2-1/2"	56	496	700	595	8.3
3"	78	691	1100	935	10.2
4"	100	886	2000	1700	20.8

With Grease

**TECHNICAL DATA | Pressure-Temperature diagram**

1/4" ~ 4" Full bore  
 Seat material : PTFE / RTFE



## SERIES S701

### Three-Piece Ball Valve

- ISO 5211 Mounting Pad
- Drive by Flat Head Stem
- Standard Stem Packing Design



### TECHNICAL SUMMARY

SIZE RANGE	NPS 1/4~4 (DN15~100)
PRESSURE RATING	1000 WOG (NPS 1/4~2, DN8~50) 800 WOG (NPS 2-1/2~4, DN65~100)
END CONNECTIONS	Threaded, Butt Weld, Socket Weld, Flanged End Cap (Optional)
VALVE TYPE	Full Bore
BODY & END CAP MATERIAL (ASTM)	CF8M, CF3M, CF8, CF3, WCB
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 ), Oval, Economical Stem Extension
HANDLE MATERIAL	Flat & Oval - 304, 316
V-PORT OPTION	Yes
WITH ANTISTATIC DEVICE OPTION	Yes
WITH ENCAPSULATED BOLTS DESIGN	N/A

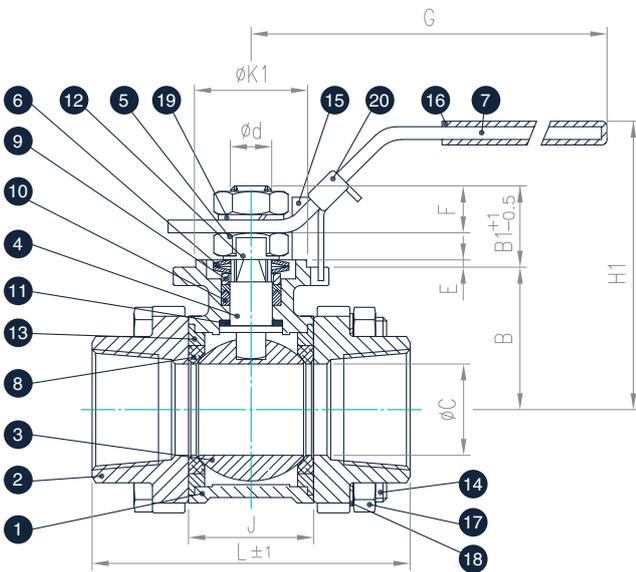
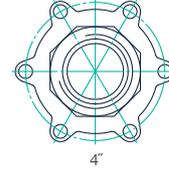
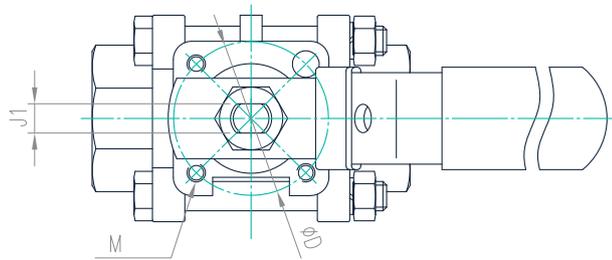
### STANDARD OF COMPLIANCE

MATERIAL CERTIFICATION	EN 10204-3.1
THREADED END CONNECTIONS	NPT ASME B1.20.1 BSPP ISO 228-1 BSPT ISO 7-1 DIN 2999
SOCKET WELD END CONNECTIONS	ASME B16.11
BUTT WELD END CONNECTIONS	ASME B16.25
FLANGED END CONNECTIONS	EN 1092-1 PN16 / PN40 ASME B16.5 Class 150
PRESSURE TESTING	API 598
MARKING	ISO 5211
CE APPROVAL	2014 / 68 / EU Module H
QUALITY ASSURANCE	ISO 9001:2015
EUROPEAN DIRECTIVES APPLIED	ATEX, 2014/34/EU
SAFETY INTEGRITY LEVEL, SIL	IEC 61508

\*Remark when required : CE, SIL 3, ATEX

**CONSTRUCTION-BILL OF MATERIAL**

**SERIES S701**  
**1/4" ~ 4"**  
**Full bore**



NO.	Parts	Material	Qty
1	Body	CF8M / WCB	1
2	End Cap	CF8M / WCB	2
3	Ball	SS316	1
4	Stem	SS316	1
5	Stem Nut	SS304	2
6	Belleville Washer	SS301	2
7	Handle	SS304	1
8	Seat	PTFE / RTFE	2
9	Gland Bush	SS304	1
10	Gland Packing	PTFE	1 Set
11	Thrust Washer	RTFE	1
12	Stop Washer	SS304	1
13	Joint Gasket	PTFE	2
14	Bolt	SS304 / B7	*
15	Stop Pin	SS304	1
16	Handle Cover	VINYL	1
17	Bolt Nut	SS304 / 2H	&
18	Bolt Washer	SS304	&
19	Stem Washer	SS304	1
20	Locking Device	SS304	1

\* 1/4"-2" (4pcs) of bolts(single ended external thread)  
 \* 2-1/2"-3" (4pcs) of bolts(double ended external thread)  
 \* 4"-6" (6pcs) of bolts(double ended external thread)  
 & 1/4"-1-1/2" (4pcs)  
 & 2" When body and end cap were CF8M, 4pcs  
 & 2" When body and end cap were WCB, 8pcs  
 & 2-1/2"-3" (8pcs)  
 & 4" (12pcs)  
 @ 4" (1pcs)

\* & 2"-4" When body and end cap were CF8M, Bolts and Bolt Nuts are SS304  
 \* & 2"-4" When body and end cap were WCB, Bolts are B7, Bolt Nuts are 2H

**DIMENSIONS(mm)**

SIZE	øC	B	B1	øD	E	ød	F	G	H1	J	J1	K1	L	M	ISO 5211
1/4"	11.6	29.1	19.8	36	2	9.5	7.4	130	75	23.6	6.5	25	63.7	M5	FOR F03
3/8"	12.7	29.1	19.8	36	2	9.5	7.4	130	75	23.6	6.5	25	63.7	M5	FOR F03
1/2"	15	29.1	19.8	36	2	9.5	7.4	130	75	23.6	6.5	25	65.7	M5	FOR F03
3/4"	20	32.6	17.5	36	2	9.5	6.4	130	77	28	6.5	25	76.2	M5	FOR F03
1"	25	38.9	20.7	42	2	11	12.3	160	85	33.9	8	30	86.2	M5	FOR F04
1-1/4"	32	40.4	24.5	42	2	11	10.9	160	92	42.5	8	30	102.8	M5	FOR F04
1-1/2"	38	46.2	31	50	2	14	13.7	185	102	53.2	9.7	35	119.4	M6	FOR F05
2"	50	54.7	31	50	2	14	13.7	185	110	64.6	9.7	35	131.4	M6	FOR F05
2-1/2"	65	71.5	42.6	70	2.5	19	23.2	260	150	87	12	55	164	M8	FOR F07
3"	80	84.5	39.3	102	2.5	19	18.7	260	162	99	12	70	182.7	M10	FOR F10
4"	100	106.5	52.3	102	3	24	34.2	290	190	127	15	70	235.6	M10	FOR F10

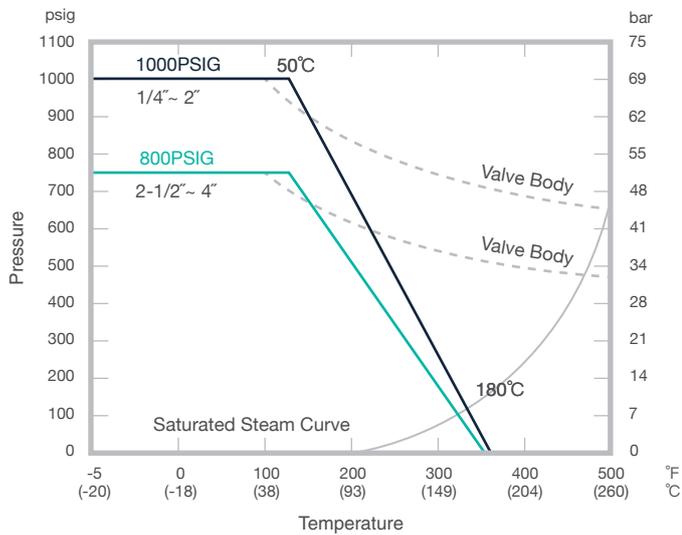
**TECHNICAL DATA | Breakaway torque / Cv and Kv values / Weight**

Size (S701)	Torque (N.m)	Torque (lbs.in)	Cv values	Kv values (M <sup>3</sup> /h)	Weight (Kg)
1/4"	7	62	7	6	0.7
3/8"	7	62	8	7	0.7
1/2"	7	62	15	13	0.8
3/4"	8	71	40	34	1.0
1"	14	124	70	60	1.3
1-1/4"	16	142	110	94	2.0
1-1/2"	26	230	250	213	2.9
2"	34	301	430	366	4.1
2-1/2"	56	496	700	595	8.4
3"	78	691	1100	935	11.8
4"	100	886	2000	1700	21.8

With Grease

**TECHNICAL DATA | Pressure-Temperature diagram**

1/4" ~ 4" Full bore  
 Seat material : PTFE / RTFE



## **SERIES S711**

### **Three-Piece Ball Valve**

- ISO 5211 Mounting Pad
- Drive by Flat Head Stem
- Stem with Flat Head and Gland Nut Design



### **TECHNICAL SUMMARY**

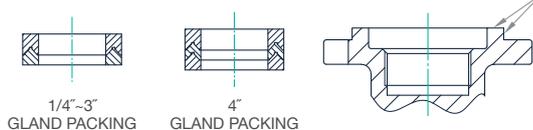
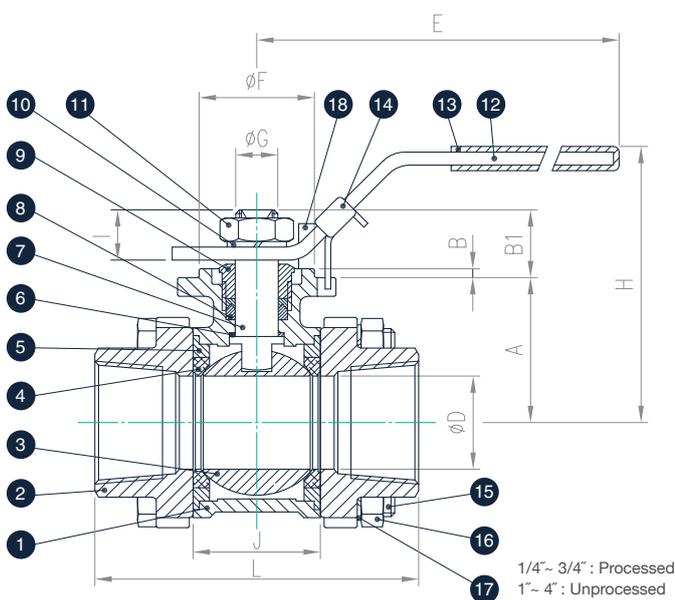
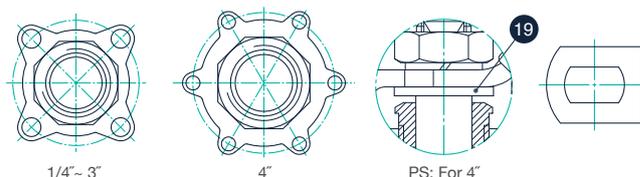
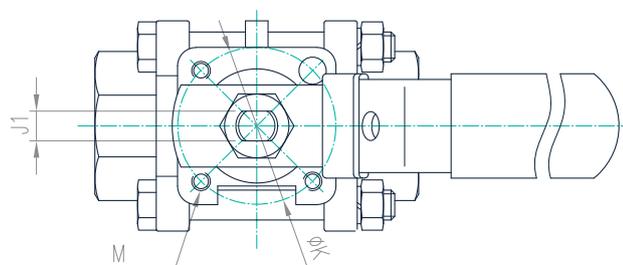
SIZE RANGE	NPS 1/4~4 (DN15~100)
PRESSURE RATING	1000 WOG (NPS 1/4~2, DN8~50) 800 WOG (NPS 2-1/2~4, DN65~100)
END CONNECTIONS	Threaded, Butt Weld, Socket Weld, Flanged End Cap (Optional)
VALVE TYPE	Full Bore
BODY & END CAP MATERIAL (ASTM)	CF8M, CF3M, CF8, CF3, WCB
BODY & END CAP MATERIAL (EN)	1.4408, 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
HANDLE MATERIAL	Flat & Oval - 304, 316
V-PORT OPTION	Yes
WITH ANTISTATIC DEVICE OPTION	Yes
WITH ENCAPSULATED BOLTS DESIGN	N/A

### **STANDARD OF COMPLIANCE**

MATERIAL CERTIFICATION	EN 10204-3.1
THREADED END CONNECTIONS	NPT ASME B1.20.1 BSPP ISO 228-1 BSPT ISO 7-1 DIN 2999
SOCKET WELD END CONNECTIONS	ASME B16.11
BUTT WELD END CONNECTIONS	ASME B16.25
FLANGED END CONNECTIONS	EN 1092-1 PN16 / PN40 ASME B16.5 Class 150
PRESSURE TESTING	API 598
MARKING	ISO 5211
CE APPROVAL	2014 / 68 / EU Module H
QUALITY ASSURANCE	ISO 9001:2015
EUROPEAN DIRECTIVES APPLIED	ATEX, 2014/34/EU
SAFETY INTEGRITY LEVEL, SIL	IEC 61508

CONSTRUCTION-BILL OF MATERIAL

**SERIES S711**  
1/4" ~ 4"  
Full bore



NO.	Parts	Material	Qty
1	Body	CF8M / WCB	1
2	End Cap	CF8M / WCB	2
3	Ball	1/2", 3/4", 1" : SS316 1/4", 3/8", 1-1/4"~4" : CF8M	1
4	Seat	PTFE	2
5	Joint Gasket	PTFE	2
6	Thrust Washer	PTFE	1
7	Stem	SS316	1
8	Gland Packing	PTFE	1Set
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	Bolt	SS304 / B7	*
16	Bolt Nut	SS304 / 2H	&
17	Bolt Washer	SS304	&
18	Stop Pin	SS304	1
19	Handle Washer	SS304	@

\* 1/4"~ 2" 4pcs of bolts(single ended external thread)  
 \* 2-1/2"~ 3" 4pcs of bolts, 4" 6pcs of bolts(double ended external thread)  
 & 1/4"~ 1-1/2" 4pcs  
 & 2" When body and end cap were CF8M, 4pcs  
 & 2" When body and end cap were WCB, 8pcs  
 & 2-1/2"~ 3" 8pcs, 4" 12pcs  
 @ 4" 1pcs  
 & 2"~ 4" When body and end cap were CF8M, Bolt and Bolt Nuts are SS304.  
 & 2"~ 4" When body and end cap were WCB, Bolt are B7, Bolt Nuts are 2H.

DIMENSIONS(mm)

SIZE	øD	B	B1	A	E	øF	øG	H	I	J	J1	øK	L	M	ISO5211
1/4"	11.6	2	17.3	29.5	130	25	9.5	65	11	23.6	6.5	36	63.7	M5	FOR F03
3/8"	12.7	2	17.3	29.5	130	25	9.5	65	11	23.6	6.5	36	63.7	M5	FOR F03
1/2"	15	2	17.3	29.5	130	25	9.5	65	11	23.6	6.5	36	65.7	M5	FOR F03
3/4"	20	2	17.3	33	130	25	9.5	68	11	28	6.5	36	76.2	M5	FOR F03
1"	25	2	18.7	39	160	30.5	11	80	13.5	33.9	8	42	86.2	M5	FOR F04
1-1/4"	32	2	22.5	41	160	30.5	11	85	13.5	42.5	8	42	102.8	M5	FOR F04
1-1/2"	38	2	25.1	47	185	36	14	94	15.6	53.2	9.7	50	119.4	M6	FOR F05
2"	50	2	25.1	55.5	185	36	14	103	15.6	64.6	9.7	50	131.4	M6	FOR F05
2-1/2"	65	2	40.2	72.5	260	56	19	143	24.5	87	12	70	164	M8	FOR F07
3"	80	2.5	36.9	85	260	71	19	153	24.5	99	12	102	182.7	M10	FOR F10
4"	100	3	40.7	107	290	71	19	180	27.5	127	15	102	235.6	M10	FOR F10

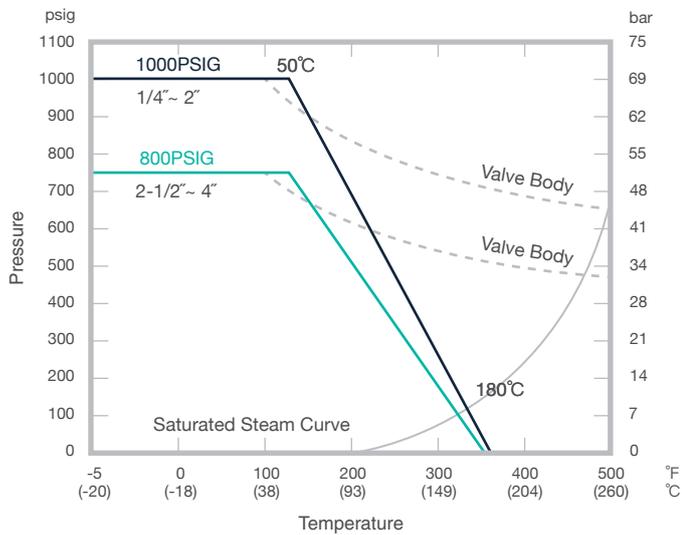
**TECHNICAL DATA | Breakaway torque / Cv and Kv values / Weight**

Size (S711)	Torque (N.m)	Torque (lbs.in)	Cv values	Kv values (M <sup>3</sup> /h)	Weight (Kg)
1/4"	7	62	7	6	0.6
3/8"	7	62	8	7	0.6
1/2"	7	62	15	13	0.6
3/4"	8	71	40	34	0.8
1"	14	124	70	60	1.1
1-1/4"	16	142	110	94	1.7
1-1/2"	26	230	250	213	2.6
2"	34	301	430	366	3.7
2-1/2"	56	496	700	595	7.6
3"	78	691	1100	935	11.2
4"	100	886	2000	1700	19.5

With Grease

**TECHNICAL DATA | Pressure-Temperature diagram**

1/4" ~ 4" Full bore  
 Seat material : PTFE / RTFE



**OPTIONAL ACCESSORIES**

**| Handle Options**



Oval Handle



Flat ( with / without Spring Return Lock )

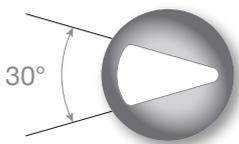


Economical Stem Extension

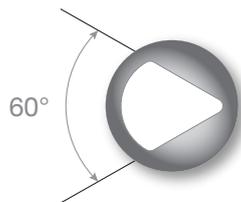


Butterfly Handle

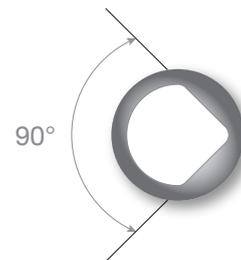
**| V-Port Ball**



30°



60°



90°

**| Accessories**



TSM



TSM with Handle



Actuator



Transworld Steel Enterprise Co., Ltd.

**Tel** +886 4 2271 6107 **Fax** +886 4 2271 6127

**Address** No. 34, Gongye 14th Rd., Dali Dist.,  
Taichung City, 412038, Taiwan (R.O.C.)



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

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**INTEGRITY**

**STRICT SELECTION**