

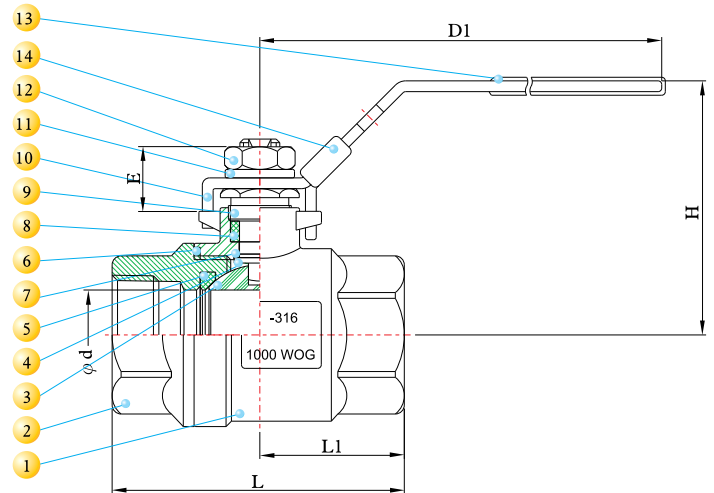
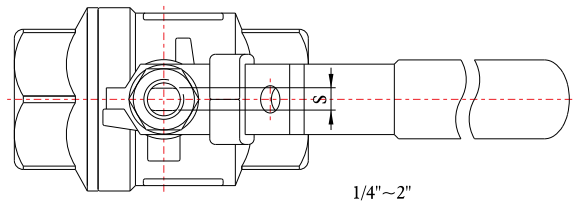
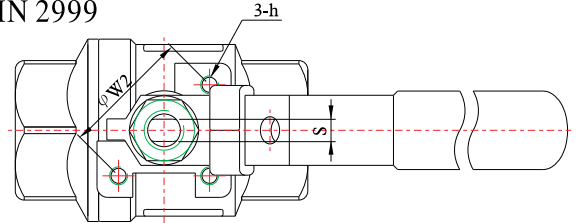
# TC-02X VALVE

## 2PC FULL PORT 1000 WOG BALL VALVE, THREADED



### DESIGN FEATURES:

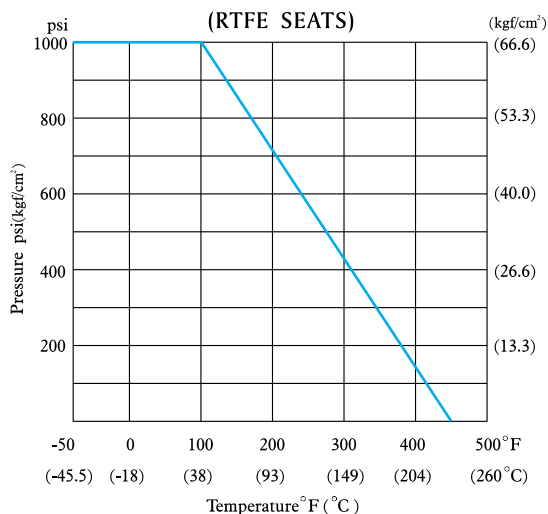
- Steam rating: 150 psi WSP
- Blow-out-proof stem design
- Temperature Range: -50 °F to 450 °F
- Options: locking device
- TEST STANDARD: API 598
- Vacuum Service to 29" Hg
- Threaded Type:  
ANSI B1.20.1 (NPT)  
DIN 259/DIN 2999  
ISO 228  
BSP  
PT



### MATERIALS LIST

NO.	PART NAME	MATERIAL	QTY
1	BODY	ASTM A351 Gr.CF8M	1
2	CAP	ASTM A351 Gr.CF8M	1
3	BALL	ASTM A351 Gr.CF8M	1
4	STEM	ASTM A276 Gr.316	1
5	SEAT	PTFE+15% G/F	2
6	GASKET	PTFE	1
7	THRUST WASHER	PTFE	1
8	PACKING	PTFE	1
9	GLAND	SS304	1
10	HANDLE	SS304	1
11	SPRING WASHER	SS304	1
12	HANDLE NUT	SS304	1
13	HANDLE SLEEVE	VINYL GRIP	1
14	LOCKING PLATE	SS304	1

### PRESSURE TEMPERATURE RATINGS



### DIMENSIONS

SIZE	d	E	L	L1	H	S	D1	W2	h	Cv	Weight										
inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	(Option)	Factor	Kg	Lb								
1/4"	8	0.43	11.0	0.61	15.5	2.28	57.8	1.13	28.8	2.25	57.2	0.21	5.45	4.06	103	16	0.26	0.57			
3/8"	10	0.49	12.5	0.61	15.5	2.28	57.8	1.13	28.8	2.25	57.2	0.21	5.45	4.06	103	16	0.24	0.53			
1/2"	15	0.59	15.0	0.57	14.5	2.43	61.7	1.21	30.7	2.33	59.1	0.21	5.45	4.06	103	26	0.30	0.66			
3/4"	20	0.79	20.0	0.83	21.0	2.76	70.1	1.38	35.0	2.46	62.6	0.21	5.45	4.06	103	55	0.42	0.93			
1"	25	0.98	25.0	0.77	19.5	3.20	81.3	1.58	40.2	2.78	70.7	0.24	6.20	5.00	127	110	0.70	1.54			
1 1/4"	32	1.26	32.0	1.09	27.9	3.78	96.0	1.86	47.2	3.00	76.2	0.24	6.20	5.00	127	180	1.10	2.42			
1 1/2"	40	1.50	38.0	1.50	27.5	4.43	112.5	2.19	55.6	3.51	89.1	0.37	9.40	6.02	153	270	1.86	4.10			
2"	50	2.00	50.8	1.08	26.7	4.96	126.0	2.46	62.4	3.87	98.2	0.37	9.40	7.60	193	500	2.85	6.28			
2 1/2"	65	2.56	65.0	1.02	26.0	6.63	168.5	3.35	85.0	4.35	110.6	0.37	9.40	7.60	193	2.76	70	M8*P1.25	800	6.25	13.77
3"	80	3.15	80.0	1.50	38.0	7.54	191.4	3.78	95.9	4.88	124.0	0.47	12.00	10.98	279	4.02	102	M10*P1.5	1150	10.42	22.95
4"	100	3.94	100.0	1.89	48.0	8.52	216.5	4.26	108.3	6.63	168.5	0.47	16.00	13.19	335	4.02	102	M10*P1.5	2120	17.20	37.89

# TECHNICAL DATA / VALVE TORQUE DATA

NOTE: WE RECOMMEND TO ADD 20%~25% SAFETY FACTORS FOR VALVE SERVICE CONDITION OR APPLICATION IF CUSTOMER WISH TO MOUNT AN ACTULATOR.

**FIGURE:TC-01TK**  
OPERATING TORQUE

VALVE SIZE	1000/800WOG	
	N-m	Lbf-in
1/4"	2.94	26.04
3/8"	2.94	26.04
1/2"	3.92	34.72
3/4"	4.90	43.40
1"	7.36	65.10
1 1/4"	9.81	86.80
1 1/2"	17.65	156.24
2"	24.52	217.00

**FIGURE:TC-2000**  
OPERATING TORQUE

VALVE SIZE	1500/2000WOG	
	N-m	Lbf-in
1/4"	4.9	43.40
3/8"	4.9	43.40
1/2"	5.9	52.08
3/4"	8.8	78.12
1"	14.7	130.20
1 1/4"	19.6	173.60
1 1/2"	34.3	303.80
2"	39.2	347.20

**FIGURE:TC-6000/6100 (FS)**  
OPERATING TORQUE

VALVE SIZE	150#	
	N-m	Lbf-in
1"	8.0	70.80
1 1/2"	12.5	110.60
2"	24.0	212.40
2 1/2"	34.0	300.90
3"	59.0	522.20
4"	79.0	699.15
6"	137.0	1212.45

**FIGURE:TC-7000 (FS)**  
OPERATING TORQUE

VALVE SIZE	150#	
	N-m	Lbf-in
1"	11.00	97.35
1 1/2"	26.40	233.64
2"	33.00	292.05
3"	66.00	584.10
4"	112.20	992.97

**FIGURE:TC-02T、TC-02TM、TC-02X、TC-03T/B/S、TC-03K/03KC**  
OPERATING TORQUE

VALVE SIZE	1000WOG	
	N-m	Lbf-in
1/4"	3.0	26.55
3/8"	3.0	26.55
1/2"	4.5	39.83
3/4"	8.5	75.23
1"	11.0	97.35
1 1/4"	15.0	132.75
1 1/2"	24.0	212.40
2"	32.0	283.20
2 1/2"	45.0	398.25
3"	65.0	575.25
4"	100.0	885.00

**FIGURE:TC-3000T/B/S**  
OPERATING TORQUE

VALVE SIZE	1000WOG	
	N-m	Lbf-in
1/2"	4.50	39.83
3/4"	8.30	73.46
1"	10.70	94.70
1 1/4"	15.00	132.75
1 1/2"	24.00	212.40
2"	31.80	283.20
2 1/2"	45.00	398.25
3"	65.00	575.25
4"	100.00	885.00

**FIGURE:TC-0802A-150# TC-5000/5100 (FS)**  
OPERATING TORQUE

VALVE SIZE	150#	
	N-m	Lbf-in
1/2"	6.0	53.10
3/4"	8.0	70.80
1"	10.0	88.50
1 1/4"	12.5	110.60
1 1/2"	24.0	212.40
2"	30.0	265.50
2 1/2"	35.0	309.75
3"	60.0	531.00
4"	102.0	902.70
5"	150.0	1327.50
6"	210.0	1858.50
8"	400.0	3540.00
10"	843.4	7464.80
12"	1529.9	13540.80

**FIGURE:TC-WLT-DM TC-WTT-DM**  
OPERATING TORQUE

VALVE SIZE	1000 WOG	
	N-m	Lbf-in
1/4"	4.4	39.06
3/8"	4.4	39.06
1/2"	5.9	52.08
3/4"	8.3	73.78
1"	9.8	86.80
1 1/4"	13.7	121.52
1 1/2"	29.4	260.4
2"	47.1	416.6

**FIGURE:TC-0612/0612C、TC-0612M/0612MC**  
OPERATING TORQUE

VALVE SIZE	1500/2000WOG	
	N-m	Lbf-in
1/4"	4.90	43.40
3/8"	4.90	43.40
1/2"	4.90	43.40
3/4"	5.90	52.08
1"	8.80	78.12
1 1/4"	14.70	130.20
1 1/2"	19.60	173.60
2"	34.30	303.80
2 1/2"	49.00	434.00
3"	58.80	520.80

**FIGURE:TC-4000/4100 (FS)**  
OPERATING TORQUE

VALVE SIZE	1500/2000 WOG	
	N-m	Lbf-in
1/2"	5.88	52.08
3/4"	8.80	78.12
1"	14.70	130.20
1 1/4"	19.60	173.60
1 1/2"	39.23	347.20
2"	49.04	434.00

**FIGURE:TC-0802A-300#**  
OPERATING TORQUE

VALVE SIZE	300#	
	N-m	Lbf-in
1/2"	6.0	53.10
3/4"	8.0	70.80
1"	10.0	88.50
1 1/4"	12.0	110.63
1 1/2"	24.0	212.40
2"	30.0	265.50
2 1/2"	45.0	398.25
3"	79.0	699.15
4"	110.0	973.50
5"	150.0	1327.50
6"	220.0	1947.00
8"	500.0	4425.00

**FIGURE:TC-8000 TC-WL-BR TC-WT-BR**  
OPERATING TORQUE

VALVE SIZE	400/600WOG	
	N-m	Lbf-in
1/4"	6.78	60
3/8"	6.78	60
1/2"	6.78	60
3/4"	13.56	120
1"	18.08	160
1 1/4"	20.34	180
1 1/2"	29.38	260
2"	39.55	350
2 1/2"	45.20	400
3"	65.54	580
4"	71.19	630

**FIGURE:TC-3000TC、TC-3000TE**  
OPERATING TORQUE

VALVE SIZE	1000WOG	
	N-m	Lbf-in
1/2"	4.5	39.83
3/4"	10.70	94.70
1"	23.50	208.30
1 1/2"	31.80	281.30
2"	53.90	477.40
2 1/2"	78.50	694.40
3"	112.80	998.20
4"	148.00	1309.8

**FIGURE:TC-9000**  
OPERATING TORQUE

VALVE SIZE	1000 WOG	
	N-m	Lbf-in
1/2"	3.96	35.00
3/4"	4.52	40.00
1"	9.04	80.00
1 1/4"	14.13	125.00
1 1/2"	20.34	180.00
2"	24.86	220.00

**FIGURE:TC-0712M**  
OPERATING TORQUE

VALVE SIZE	1500/2000WOG	
	N-m	Lbf-in
1/4"	3.09	27.34
3/8"	3.09	27.34
1/2"	4.12	36.46
3/4"	4.90	45.57
1"	7.72	68.36
1 1/4"	10.3	91.14
1 1/2"	18.54	164.05
2"	25.74	227.85
2 1/2"	30.89	273.42
3"	36.04	318.99

**FIGURE:TC-WLF、TC-WTF**  
OPERATING TORQUE

VALVE SIZE	150#	
	N-m	Lbf-in
2"	90.4	800
3"	237.3	2100
4"	316.4	2800
6"	904.0	8000

**FIGURE:TC-WL、TC-WT**  
OPERATING TORQUE

VALVE SIZE	1000 WOG	
	N-m	Lbf-in
1/4"	3.92	34.72
3/8"	3.92	34.72
1/2"	7.91	70.00
3/4"	11.87	105.00
1"	15.48	137.00
1 1/4"	26.00	230.00
1 1/2"	35.60	315.00
2"	68.93	608.00

