

Design Specification

Series	Class	P-T ratings	F-F dimension	End connections	Shell thickness	Body material	Gland packing	Gasket	
U-Series	Ball	Toyo standard 100 max. water-0.98MPa	Toyo standard	JIS G3448 Pipe-End	Toyo standard	SCS13/CF8	IIR-O-ring	-	
	Gate Globe Check Strainer	Toyo standard 220 max. oil, gas, air, water- 0.98MPa	Screwed: Toyo standard	Screwed type: JIS B0203 Flanged type: JIS B2238			Non-asbestos	R-PTFE for strainer only	
	Ball	Toyo standard 38 oil, gas, air, water-5.52MPa Saturated steam 1.03MPa	Flanged: JIS B2002 (Strainer: Toyo standard)	JIS B0203			SCS14/CF8M	PTFE	-
V-Series	Gate Globe Check Strainer	10K	ASME B16.10 (Expect strainers)	JIS B2238	ASME B16.34	SCS13/SCS14 CF8/CF8M	Asbestos	Asbestos (Joint sheet)	
		20K		(Std. products 300 max.)				Non-asbestos (Spiral wound)	
		150		ASME B16.34				Asbestos (Joint sheet)	
		300		(Std. products 300 max.)				Non-asbestos (Spiral wound)	
Dual Plate Check Valves	Rubber seat (NBR EPDM FPM)	10K	API 594	Wafer type JIS B2238	ASME B16.34	SCS13/SCS14 CF8/CF8M	Non-asbestos for bypass valve	-	
		20K							NBR seat: 80 max. oil, air, water-2.55MPa
	Metal seat	10K		ASME B16.34	Wafer type ASME B16.5		API 600	-	-
		20K						-	-
Screwed	Ball	10K	Toyo standard	JIS B0203	ASME B16.34	SCS13/CF8	PTFE	PTFE seat	
		20K							Working temp.: -29 ~ 200 Water, oil, gas-1.37MPa (max.)
Flanged	Ball	10K	ASME B16.10	JIS B2238	ASME B16.34	SCS13/SCS14 CF8/CF8M	PTFE	PTFE seat	
		20K							JIS B2201
		150 300							ASME B16.34
Butterfly Valves	High perform- ance	10K	JIS B2032 Series 46	Wafer type JIS B2238 10K/16K/20K	Toyo standard	SCS13/CF8	PTFE	-	
		PTFE seat: 100 max. water, oil, gas- 0.98MPa(160 max)							
		Metal seat: 100 max. water, oil, gas-0.98MPa Saturated steam 1.25MPa (200 max)							

Notes:

- 1) Although the pressure-temperature ratings for the valve body of V-series are mentioned in the above table, the highest working temperature of the standard packing, made of asbestos, is 260 max. However, since it is necessary to consider separately about type of gland packing and gasket depending on an operating condition (fluid, pressure, and temperature), please consult our sales staff or agent for details.
- 2) The standard gasket of 10K and Class 150 V-series gate, globe and check (swing, lift) valves is P#5000AC (asbestos sheet). Moreover, V#7020 (Reinforced Teflon sheet/(R) sheet) is available upon request.
- 3) Gland packings and gaskets made of asbestos will not be furnished after end of year 2003.
- 4) The standard gasket of a strainer is V#7020 (Reinforced Teflon/(R) sheet).

Oil-Free Treatment

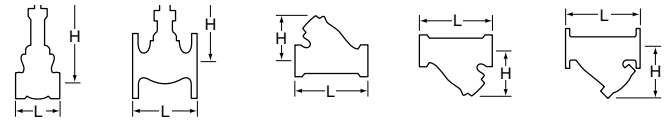
Valves made with oil-free treatment are used for oxygen line, medical devices, food, painting, etc.

Since there is no particular standard for oil-free treatment, we designate three grades with the following specifications.

Grade	Specification	Fluid used for
1	Carry out degreasing by the chlorine organic solvent, wash and rinse, take inspection by black light irradiation by sampling from every parts, take pressure test with compression nitrogen gas, conduct inspection for all quantity by black light irradiation, and ship out with special packing.	Oxygen, chlorine, explosive fluid, etc.
2	Carry out degreasing by the chlorine organic solvent, wash and rinse, take pressure test with compression nitrogen gas, conduct inspection by black light irradiation by sampling, and ship out with special packing.	Waterworks, food industry, clean room, etc.
3	With emphasis on a connection part or external surface, carry out degreasing with an oil solvent, carry out pressure test by air pressure, conduct inspection by black light irradiation by sampling, and ship out with special packing.	Machines, such as an oil free compressor, pre-treatment for paint, etc.

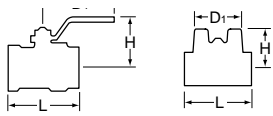
* Please contact our sales staff or agent for details.

U-Series Stainless Steel Valves



Design	TOYO Standard																							
Type	Gate Valves								Globe Valves															
Class	10K																							
Fig.	802				802J				800				800J				830							
Size	L	H	D ₁	W	L	H	D ₁	W	L	H	D ₁	W	L	H	D ₁	W	L	H	D ₁	W				
8 (mm)	1/4"								44	78	55	0.3												
10	3/8"								45	79	55	0.4					55	93	55	0.38				
15	1/2"	50	85	55	0.4	80	87	55	1.8	52	80	55	0.5	85	84	55	1.8	65	99	63	0.47			
20	3/4"	55	95	63	0.5	90	98	63	2.3	58	86	63	0.7	95	92	63	2.2	80	110	70	0.72			
25	1"	62	103	70	0.8	100	106	70	3.3	70	93	70	1.1	110	103	70	3.5	90	131	80	1.09			
32	1 1/4"	70	122	80	1.1	110	125	80	4.3	78	105	80	1.3	130	122	80	4.5	105	145	90	1.65			
40	1 1/2"	75	136	80	1.7	125	139	80	5.2	86	124	90	2.2	150	135	90	5.4	120	165	100	2.30			
50	2"	85	158	90	2.6	140	163	90	6.8	100	138	100	3.4	180	158	100	7.5	140	182	110	3.50			
Material	Body SCS13				SCS13				SCS13				SCS13				SCS13							
	Stem SUS304/Chrome plated				SUS304/Chrome plated				SUS304/Chrome plated				SUS304/Chrome plated				SUS304/Chrome plated							
	Disc SCS13				SCS13				SUS304				SUS304				R-PTFE							
Service conditions	1.37MPa (200psi) WOG non-shock 0.71MPa (100psi) Saturated steam See P-T rating on page 12								1.37MPa (200psi) WOG non-shock 0.98MPa (143psi) Saturated steam See P-T rating on page 12															
Remarks																	R-PTFE seat							

Design	TOYO Standard																			
Type	Globe Valves				Swing Check Valves								Strainers							
Class	10K																			
Fig.	830J				804				804J				809				809J			
Size	L	H	D ₁	W	L	H	W	L	H	W	L	H	W	L	H	W	L	H	W	
8 (mm)	1/4"																			
10	3/8"																			
15	1/2"	85	100	63	1.8	56	41.6	0.3	85	43.5	1.8	78	50.5	0.4	120	54.0	1.6			
20	3/4"	95	111	70	2.2	70	49.5	0.4	95	49.0	2.2	93	60.5	0.6	130	66.0	2.0			
25	1"	110	132	80	3.5	80	58.0	0.6	110	58.0	3.3	108	71.0	0.8	150	78.0	3.1			
32	1 1/4"	130	145	90	4.5	96	68.7	1.0	130	64.5	4.1	128	82.0	1.1	170	90.5	4.2			
40	1 1/2"	150	166	100	5.4	110	80.5	1.4	150	73.5	5.0	143	93.0	1.6	190	104.0	4.8			
50	2"	180	182	110	7.5	128	97.5	2.0	180	86.0	6.5	173	119.0	2.6	220	133.5	6.2			
Material	Body SCS13				Body SCS13				Body SCS13				Body SCS13				Body SCS13			
	Stem SUS304/Chrome plated				Pin SUS304/Chrome plated				SUS304/Chrome plated				Screen SUS304				SUS304			
	Disc R-PTFE				Disc SCS13				SCS13											
Service conditions	1.37MPa (200psi) WOG non-shock 0.98MPa (143psi) Saturated steam See P-T rating on page 12																			
Remarks	R-PTFE seat								40 meshes screen											

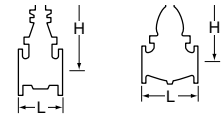




U-Series Stainless Steel Valves




Design	TOYO Standard																									
Type	Ball Valves																									
Class	800																									
	Reduced bore					Reduced bore					Reduced bore					Reduced bore					Std. bore					
Fig.	3550					3550W					4550A					4550W					4580					
Size	d	L	H	D ₁	W	d	L	H	D ₁	W	d	L	H	D ₁	W	d	L	H	D ₁	W	d	L	H	D ₁	W	
8 (mm)	1/4"	5.0	39.0	35	62.5	0.08	5.0	39.0	21.5	40	0.11	5.0	39.0	35	62.5	0.08	5.0	39.0	21.5	40	0.11					
10	3/8"	7.0	45.0	37	71.0	0.12	7.0	45.0	24.0	40	0.14	7.0	45.0	37	71.0	0.12	7.0	45.0	24.0	40	0.14					
15	1/2"	9.1	57.5	43	87.5	0.19	9.1	57.5	30.5	60	0.18	9.1	57.5	43	87.5	0.19	9.1	57.5	30.5	60	0.18	10	60	50	100	0.28
20	3/4"	12.5	59.0	46	87.5	0.27	12.5	59.0	33.5	60	0.26	12.5	59.0	46	87.5	0.27	12.5	59.0	33.5	60	0.26	15	70	55	100	0.40
25	1"	15.0	71.0	50	104.5	0.43						15.0	71.0	50	104.5	0.43						20	80	60	130	0.64
32	1 1/4"	20.0	78.0	54	104.5	0.70						20.0	78.0	54	104.5	0.70						25	95	64	130	0.99
40	1 1/2"	24.5	83.0	65	125.5	0.86						24.5	83.0	65	125.5	0.86						32	108	73	150	1.53
50	2"	32.0	100.0	72	125.5	1.37						32.0	100.0	72	125.5	1.37						38	124	79	150	2.36
Material	Body	SCS13A					SCS13A					SCS14A					SCS14A					SCS14A				
	Stem	SUS304/Chrome plated					SUS304/Chrome plated					SUS316/Chrome plated					SUS316/Chrome plated					SUS316/Chrome plated				
	Ball	SUS316					SUS316					SUS316					SUS316					SUS316				
	Seat	R-PTFE					R-PTFE					R-PTFE					R-PTFE					R-PTFE				
Service conditions	5.52MPa (800psi) WOG, non-shock 1.03MPa (150psi) Saturated steam																									
Remarks																										

Design	TOYO Standard															
Type	Ball Valves															
Class	800										10K					
	Std. bore					Full bore					Full bore					
Fig.	3380					4760A					3060					
Size	d	L	H	D ₁	W	d	L	H	D ₁	W	d	L	H	D ₁	W	
8 (mm)	1/4"										10	60	53	115	0.62	
10	3/8"															
15	1/2"	10	60	69	100	0.31	15	67	55	100	0.39	13	70	55	115	0.83
20	3/4"	15	70	72	100	0.42	20	74	60	130	0.60	19	80	59	115	1.03
25	1"	20	80	77	120	0.65	25	89	63	130	0.91	25	90	71	150	1.61
32	1 1/4"	25	90	90	130	1.03	32	106	72	150	1.56	32	105	76	150	1.98
40	1 1/2"	32	100	95	130	1.42	38	118	78	150	2.14	38	115	100	200	3.25
50	2"	40	120	103	150	2.33	50	129	105	200	3.42	51	135	108	200	4.55
Material	Body	SCS13A					SCS14A					SCS13				
	Stem	SUS304/Chrome plated					SUS316/Chrome plated					SUS304				
	Ball	SUS304					SUS316					SUS304				
	Seat	R-PTFE					R-PTFE					PTFE				
Service conditions	5.52MPa (800psi) WOG, non-shock 1.03MPa (150psi) Saturated steam					5.52MPa (800psi) WOG, non-shock 0.5MPa (70psi) Saturated steam					1.37MPa (200psi) WOG, non-shock 0.5MPa (70psi) Saturated steam					
Remarks																

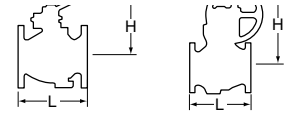
V-Series Stainless Steel Valves


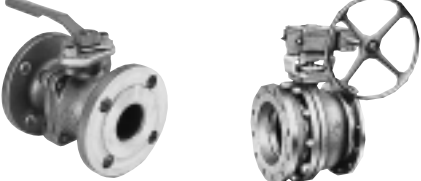




Design	API 603																													
Type	Gate Valves																													
Class	10K					10K/150								20K/300																
																														
Fig.	803J					803				853J/853				813J/813				863J/863												
Size	L	H	D ₁	W		L	H	D ₁	W		L	H	D ₁	W		L	H	D ₁	W		L	H	D ₁	W						
15 (mm)	1/2"	108	206	100	3.5	108	214	100	3.2		108	214	100	3.2		140	216	100	5.2		140	216	100	5.2		140	216	100	5.2	
20	3/4"	117	212	100	4.0	117	214	100	4.0		117	214	100	4.0		152	225	100	6.5		152	225	100	6.5		152	225	100	6.5	
25	1"	127	232	100	5.0	127	227	100	4.8		127	227	100	4.8		165	250	140	9.0		165	250	140	9.0		165	250	140	9.0	
32	1 1/4"	140	259	140	7.0	140	257	140	6.7		140	257	140	6.7		178	300	160	11.7		178	300	160	11.7		178	300	160	11.7	
40	1 1/2"	165	277	140	8.0	165	264	140	8.0		165	264	140	8.0		190	308	160	14.5		190	308	160	14.5		190	308	160	14.5	
50	2"	178	312	160	10.5	178	308	160	11.0		178	308	160	11.0		216	333	200	20.0		216	333	200	20.0		216	333	200	20.0	
65	2 1/2"	190	366	180	14.0	190	357	180	18.0		190	357	180	18.0		241	378	200	28.0		241	378	200	28.0		241	378	200	28.0	
80	3"	203	433	200	18.5	203	417	200	21.5		203	417	200	21.5		283	433	250	42.0		283	433	250	42.0		283	433	250	42.0	
100	4"	229	510	230	25.5	229	508	224	31.5		229	508	224	31.5		305	537	300	60.2		305	537	300	60.2		305	537	300	60.2	
125	5"	254	620	250	40.0	254	619	280	46.0		254	619	280	46.0		381	658	355	90.0		381	658	355	90.0		381	658	355	90.0	
150	6"	267	709	250	46.0	267	728	300	58.0		267	728	300	58.0		403	758	400	110.0		403	758	400	110.0		403	758	400	110.0	
200	8"	292	915	300	75.0	292	923	355	92.0		292	923	355	92.0		419	950	450	170.0		419	950	450	170.0		419	950	450	170.0	
250	10"	330	1109	360	124.0	330	1117	400	162.0		330	1117	400	162.0		457	1138	560	290.0		457	1138	560	290.0		457	1138	560	290.0	
300	12"					356	1317	450	245.0		356	1317	450	245.0		502	1329	600	445.0		502	1329	600	445.0		502	1329	600	445.0	
350	14"					381	1650	550	360.0		381	1650	550	360.0																
Material	Body	SCS13A					SCS13/CF8				SCS14/CF8M				SCS13/CF8				SCS14/CF8M											
	Stem	SUS304					SUS304/F304				SUS316/F316				SUS304/F304				SUS316/F316											
	Disc	SCS13A					SCS13/CF8				SCS14/CF8M				SCS13/CF8				SCS14/CF8M											
Service conditions	10K/20K: See P-T rating for JIS flanged valves on page 13 Class 150/300: See P-T rating for ASME flanged valves on page 13																													
Remarks																														

Design	JPI-7S-58 / API 603										AIP 603								TOYO Standard											
Type	Globe Valves																													
Class	10K/150										20K/300								10K											
																														
Fig.	801J/801					851J/851					811J/811				861J/861				831J/881J											
Size	L	H	D ₁	W		L	H	D ₁	W		L	H	D ₁	W		L	H	D ₁	W		L	H	D ₁	W						
15 (mm)	1/2"	108	176	100	2.6	108	176	100	2.6		152	181	100	4.0		152	181	100	4.0		108	176	100	2.6		108	176	100	2.6	
20	3/4"	117	178	100	3.0	117	178	100	3.0		178	208	140	7.0		178	208	140	7.0		117	178	100	4.0		117	178	100	4.0	
25	1"	127	180	100	3.5	127	180	100	3.5		203	208	140	8.0		203	208	140	8.0		127	180	100	4.5		127	180	100	4.5	
32	1 1/4"	140	206	140	5.6	140	206	140	5.6		216	237	160	12.2		216	237	160	12.2		140	211	140	7.0		140	211	140	7.0	
40	1 1/2"	165	206	140	7.0	165	206	140	7.0		229	237	160	15.0		229	237	160	15.0		165	211	140	7.5		165	211	140	7.5	
50	2"	203	237	160	10.5	203	237	160	10.5		267	285	180	18.0		267	285	180	18.0		203	237	160	10.5		203	237	160	10.5	
65	2 1/2"	216	280	180	15.5	216	280	180	15.5		292	328	224	26.5		292	328	224	26.5		216	280	180	14.3		216	280	180	14.3	
80	3"	241	321	200	23.0	241	321	200	23.0		318	370	250	36.5		318	370	250	36.5		241	321	200	21.5		241	321	200	21.5	
100	4"	292	365	250	36.5	292	365	250	36.5		356	445	355	54.0		356	445	355	54.0		292	365	250	32.5		292	365	250	32.5	
125	5"	356	414	250	50.0	356	414	250	50.0		400	495	400	81.0		400	495	400	81.0		356	414	250	46.5		356	414	250	46.5	
150	6"	406	488	355	69.0	406	488	355	69.0		444	554	450	111.0		444	554	450	111.0		406	488	355	66.0		406	488	355	66.0	
200	8"	495	610	450	128.0	495	610	450	128.0		559	630	450	197.0		559	630	450	197.0		495	610	450	116.0		495	610	450	116.0	
Material	Body	SCS13/CF8					SCS14/CF8M					SCS13/CF8				SCS14/CF8M				SCS13/SCS14										
	Stem	SUS304/F304					SUS316/F316					SUS304/F304				SUS316/F316				SUS304/SUS316										
	Disc	SUS304/F304					SUS316/F316					SUS304/F304				SUS316/F316				PTFE										
Service conditions	10K/20K: See P-T rating for JIS flanged valves on page 13 Class 150/300: See P-T rating for ASME flanged valves on page 13																													
Remarks																						Class 150 available								

Flanged Ball Valves



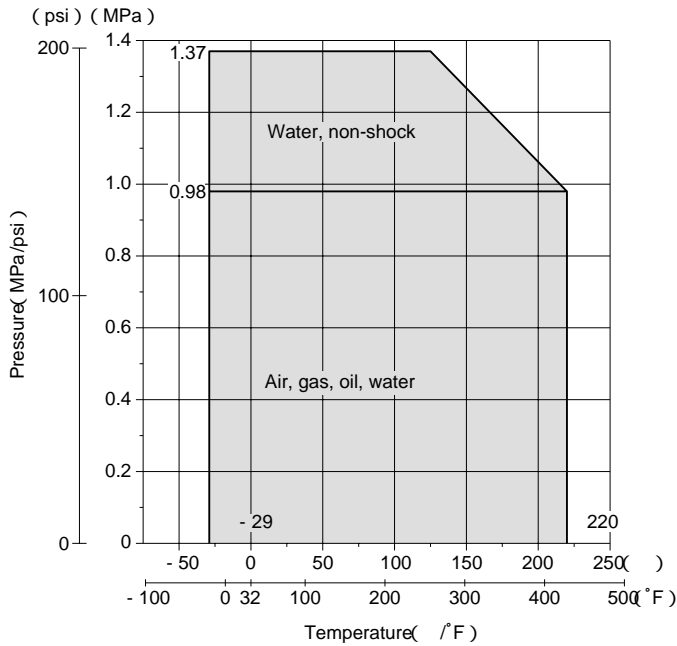
Design	TOYO Standard																					
Type	Ball Valves																					
Class	10K										10K/150											
																						
Fig.	3011L/4011L					3031L/3131L					4031L/4131L											
Size	d	L	H	D ₁	W	d	L	H	D ₁	W	H	D ₁	W	d	L	H	D ₁	W	H	D ₁	W	
15 (mm)	1/2"	15	108	81	130	2.2	13	108	74	115	2.2				13	108	74	115	2.2			
20	3/4"	20	117	84	130	2.6	19	117	78	115	2.8				19	117	78	115	2.8			
25	1"	25	127	93	160	4.5	25	127	95	150	4.3				25	127	95	150	4.3			
32	1 1/4"	32	140	97	160	5.9	32	140	100	150	5.5				32	140	100	150	5.5			
40	1 1/2"	40	165	113	230	7.5	38	165	126	200	5.8				38	165	126	200	5.8			
50	2"	50	178	120	230	9.2	51	178	134	200	8.7				51	178	134	200	8.7			
65	2 1/2"	65	190	150	400	14.6	65	190	164	320	16.0				65	190	164	320	16.0			
80	3"	80	203	161	400	19.8	76	203	173	320	21.4				76	203	173	320	21.4			
100	4"	100	229	189	460	28.1	102	229	210	450	37.2	(Gear:3031G/3131G)		102	229	210	450	37.2	(Gear:4031G/4131G)			
125	5"	125	356	209	460	53.7	127	356	269	800	50.0	293	300	74.0	127	356	269	800	50.0	293	300	74.0
150	6"	150	394	262	980	72.2	152	394	288	800	76.4	312	300	90.0	152	394	288	800	76.4	312	300	90.0
200	8"	200	457	317	1970	156.9	203	457	374	1120	137.0	383	300	145.0	203	457	374	1120	137.0	383	300	145.0
Material	Body	SCS13/SCS14					SCS13/CF8					SCS14/CF8M										
	Stem	SUS304/SUS316					SUS304/F304					SUS316/F316										
	Ball	SCS13/SCS14					SUS304 or SCS13/F304 or CF8					SUS316 or SCS14/F316 or CF8M										
	Seat	R-PTFE					R-PTFE					R-PTFE										
Service conditions	See P-T rating on page 14																					
Remarks																						

Design	TOYO Standard																	
Type	Ball Valves																	
Class	20K/300																	
																		
Fig.	3331L/3231L								4331L/4231L									
Size	d	L	H	D ₁	W	H	D ₁	W	d	L	H	D ₁	W	H	D ₁	W		
15 (mm)	1/2"	13	140	74	115	2.5			13	140	74	115	2.5					
20	3/4"	19	152	78	115	3.1			19	152	78	115	3.1					
25	1"	25	165	95	150	5.1			25	165	95	150	5.1					
32	1 1/4"																	
40	1 1/2"	38	190	126	200	10.5			38	190	126	200	10.5					
50	2"	51	216	134	200	14.0			51	216	134	200	14.0					
65	2 1/2"	65	241	164	320	22.5			65	241	164	320	22.5					
80	3"	76	283	173	320	30.5			76	283	173	320	30.5					
100	4"	102	305	210	600	53.0	(Gear:3331G/3231G)		102	305	210	600	53.0	(Gear:4331G/4231G)				
125	5"	127	381	269	800	70.0	293	300	93.0	127	381	269	800	70.0	293	300	93.0	
150	6"	152	403	336	1120	99.0	346	300	138.0	152	403	336	1120	99.0	346	300	138.0	
200	8"	203	502	385	1400	164.0	393	400	203.0	203	502	385	1400	164.0	393	400	203.0	
Material	Body	SCS13/CF8								SCS14/CF8M								
	Stem	SUS304/F304								SUS316/F316								
	Ball	SUS304 or SCS13/F304 or CF8								SUS316 or SCS14/F316 or CF8M								
	Seat	R-PTFE								R-PTFE								
Service conditions	See P-T rating on page 14																	
Remarks																		

Pressure-Temperature Ratings

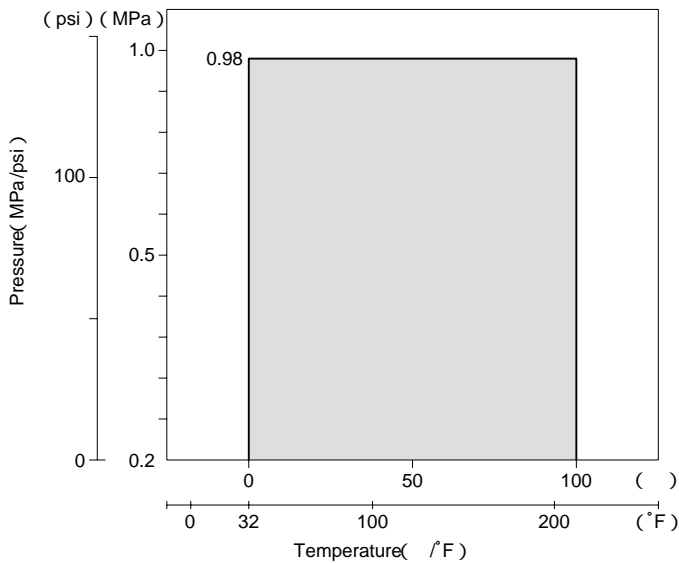
U-Series Stainless Steel Valves

Gate, Globe, Check Valves & Strainers / screwed & flanged ends



Service conditions		Class	800WOG	
			MPa	psi
Static water	Less than 120		1.37	200
	220		0.98	143
Air, gas, oil,	Less than 220		0.98	143
Saturated steam			0.98	143
Test pressure	shell	water	2.10	300
	seat	air	0.55	80

Pipe-End Valves / Abacus Joint End Valves

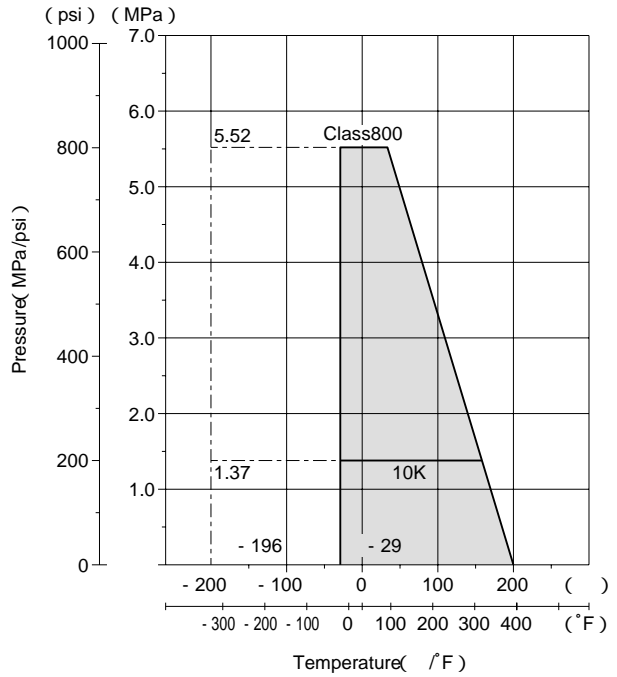


Service conditions		MPa	psi
Less than 100	water	0.98	143
Test pressure	shell	water	1.50
	seat	air	0.55

U-Series Stainless Steel Valves

Ball Valves / screwed end type

Fig. 3550, 4550A, 4580, 3380, 4760A or 3060



Service conditions		Class	800WOG		10K	
			MPa	psi	MPa	psi
Water, oil, air	WOG 38 (3°F)		5.52	800	1.37	200
			1.03	150	1.03	150
Saturated steam			1.03	150	1.03	150
Test pressure	shell	water	8.30	1200	2.10	300
	seat	air	0.55	80	0.55	80

V-Series Stainless Steel Valves

JIS Flanged Valves

(Extracted from JIS B2238, General rules for steel pipe flanges)

Nominal pressure		10K		20K		
		Body material				
Service conditions		SCS13 / SCS14				
		MPa	psi	MPa	psi	
Static water	below 120	1.37	200	3.33	483	
	below 220	1.18	170	3.04	441	
Steam, air, gas, oil, water	below 220	1.18	170	3.04	441	
	300	0.98	143	2.84	412	
	350			2.55	370	
Steam, air, gas, oil	400			2.26	328	
	425			1.96	285	
	450					
Test pressure	shell	water	2.10	300	5.00	726
	seat	air	0.55	80	0.55	80

Notes:

- Due to no standard for SCS13 & SCS14 on JIS standard, it applies as follows.
 - 10K flange type: The value of SCPH1 is applied.
 - 20K flange type: The value of SCPH2 is applied.
- The max. working temperature for standard products is restricted to 260 by PTFE gland packing, gasket or seat.
- In case of use at 260 and above, applicable selection for gland packing & gasket is required.

Pressure-Temperature Ratings

V-Series Stainless Steel Valves

ASME B16.34 Table 2-2.1A & 2-2.2A

Service temperature		Class 150				Class 300			
		A351 Gr. CF8(SCS13)		A351 Gr. CF8M(SCS14)		A351 Gr. CF8(SCS13)		A351 Gr. CF8M(SCS14)	
()	(°F)	MPa	psi	MPa	psi	MPa	psi	MPa	psi
-29	-38	1.90	275	1.90	275	4.96	720	4.96	720
93	200	1.62	230	1.65	235	4.14	600	4.27	620
149	300	1.41	205	1.48	215	3.65	540	3.86	560
204	400	1.24	190	1.34	195	3.24	495	3.55	515
260	500	1.17	170	1.90	170	3.00	465	3.31	480
316	600	0.965	140	0.965	140	2.86	435	3.10	450
343	650	0.862	125	0.862	125	2.83	430	3.07	445
371	700	0.758	110	0.758	110	2.79	425	2.96	430
399	750	0.655	95	0.655	95	2.76	415	2.93	425
427	800	0.552	80	0.552	80	2.72	405	2.86	420
454	850	0.448	65	0.448	65	2.69	395	2.79	420
482	900	0.345	50	0.345	50	2.65	390	2.72	415
510	950	0.241	35	0.241	35	2.59	380	2.65	385
538	1000	0.138	20	0.138	20	2.24	320	2.52	350
566	1050	0.138(1)	20(1)	0.138(1)	20(1)	2.14		2.48	345
593	1100	0.138(1)	20(1)	0.138(1)	20(1)	1.79	255	2.24	305
621	1150	0.138(1)	20(1)	0.138(1)	20(1)	1.34	200	1.90	235
649	1200	0.138(1)	20(1)	0.138(1)	20(1)	1.07	155	1.41	185
677	1250	0.138(1)	20(1)	0.138(1)	20(1)	0.758	115	1.240	145
704	1300	0.138(1)	20(1)	0.138(1)	20(1)	0.586	85	0.965	115
732	1350	0.138(1)	20(1)	0.138(1)	20(1)	0.414	60	0.724	95
760	1400	0.138(1)	20(1)	0.138(1)	20(1)	0.345	50	0.517	75
788	1450	0.103(1)	15(1)	0.138(1)	20(1)	0.241	35	0.414	60
816	1500	0.069(1)	10(1)	0.138(1)	20(1)	0.172	25	0.276	40
Test pressure	shell(water)	2.93	425	2.93	425	7.58	1100	7.58	1100
	seat(air)	0.55	80	0.55	80	0.55	80	0.55	80

Note:

(1) For welding end valves only. Flanged ends ratings terminate at 1000 °F.

Dual Plate Check Valves

Rubber Seat(With Bypass-Valve)

Metal Seat(Without Bypass-Valve)

Fig. 806, 10K

Seat material		NBR		FPM		EPDM	
		MPa	psi	MPa	psi	MPa	psi
Service conditions	Static water	1.37	200	1.37	200	1.37	200
	below 80					1.37	200
Oil,gas, water,air	below 80	1.18	170	1.18	170	1.18	170
	above 120			1.18	170	1.18	170
Test pressure	shell water	2.10	300	2.10	300	2.10	300
	seat air	0.55	80	0.55	80	0.55	80

Note:An EPDM seat shall not be used for all oil application.

Fig. 816, 20K

Seat material		NBR		FPM		EPDM	
		MPa	psi	MPa	psi	MPa	psi
Service conditions	Static water	3.33	483	3.33	483	3.33	483
	below 80					3.33	483
Oil,gas, water,air	below 80	2.55	370	2.55	370	2.55	370
	above 120			1.96	285	1.96	285
Test pressure	shell water	5.00	725	5.00	725	5.00	725
	seat air	0.55	80	0.55	80	0.55	80

Note:An EPDM seat shall not be used for all oil applications.

Fig. 806M(10K)and 816M(20K)

Service conditions		Ratings		10K		20K	
		MPa	psi	MPa	psi	MPa	psi
Static water	below 120	1.37	200	3.33	483		
	above 220	1.18	170	3.04	441		
Oil,gas,water,air	below 220	1.18	170	3.04	441		
	above 300	0.98	143	2.84	412		
Steam,air,gas,oil	below 400			2.55	370		
	above 425			2.26	328		
Test pressure	shell water	2.10	300	5.00	725		
	seat air	0.55	80	0.55	80		

Note:

- 1)Standard products are designed up to 150 .
- 2)In case of use at 150 & above, please consult us.

Fig. 806MW(150) and 816MW(300)

Please refer to table for ASME B16.34.

Note:

- 1)Standard products are designed up to 150 .
- 2)In case of use at 150 & above, please consult us.

Pressure-Temperature Ratings

10/20K, Class 150/300 Stainless Steel Valves

