

**700 Series  
 Rubber Seated Butterfly Valves**

**700G** Wafer

**704G** Full lugged

**705G** Semi lugged



-  Lock lever
-  Worm gear
-  Centre handle
-  Pneumatic cylinder
-  Motorised

**Features and benefits**

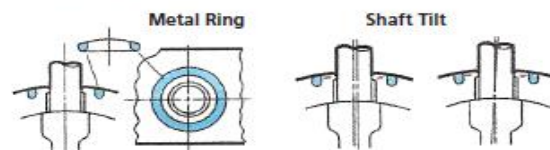
**Rib disc**

The 316 stainless steel (JIS SCS14) rib disc comes standard from 50mm to 300mm. Thin profile disc reinforced by ribs (patent pending) provides larger Cv compared to our conventional design. It also reduces weight while maintaining mechanical strength. A flat face disc is also available on request.



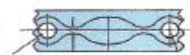
**Self-aligning stem seal through backup ring**

The stem seal is the primary and secondary seal system. The backup ring functions as the self-aligning stem seal.



**Patented cosine curve seat ring**

The cosine curve seat ring reduces valve operating torque substantially and allows the torque to be adjusted according to the working pressure.



**Long bonnet**

The long neck shape allows insulation of up to 50mm after the valve is installed. 701G: Nylon coated body is also available (50 to 300mm). Please contact us for more information.

**Much longer life with spherical design**

Similar to a spherical body rotating inside a spherical area, the operation of the disc is smooth and unhindered. Torque is reduced and the valve life is lengthened by 300%.



**Two aligning methods (350 to 600mm)**

Two valve models are available: the casted hole type (700G) and the tapped and drilled hole type (705G). They accommodate all the applicable flange standards.

# 700G Wafer    704G Full lugged    705G Semi lugged

Discs and seats come in various materials to meet a wide range of needs. These are the ultimate general purpose valves and they provide excellent cost performance.

## General Description

Handling, durability and longevity are the basic aspects by which valve performance can be improved. TOMOE has now developed the 700G series, a superior, pressure-proof, general purpose

valve, with the addition of a wide range of features to offer improved performance and better cost efficiency. The 700G series is designed to satisfy many international flange standards for use worldwide.

## Structure

The body is available in various designs such as wafer, semi-lugged and full-lugged, with various materials such as ductile iron, carbon steel, etc. The disc is also available with high-grade

stainless steel, type 316, nylon coating, aluminium, bronze or PPS. The patented cosine-curve structure is adopted for the seat ring. The 700G series is superior to conventional models in all respects.

## Standard Specification

Model		700G (Wafer)		704G (Fully Lugged)		705G (Semi Lugged)		
Valve nominal size		40 to 300mm	350 to 500mm	600mm	50 to 300mm	350 to 600mm	50 to 300mm	350 to 600mm
Applicable flange standard		JIS 5K/10K, ANSI 125lb/150 lb, DIN NP10, NP16, BS 4504 PN10, PN16, BS 10 "E"	JIS 5K/10K	JIS 5K, ANSI 125 lb/150 lb, DIN NP10, BS4504 PN10, (excluding JIS 10K)	JIS 5K/10K, ANSI 125lb/150lb, DIN NP10, NP16, BS 4504 PN10/PN16		JIS 5K/10K, ANSI 125lb/150lb, DIN NP10, NP16, BS 4504 PN10, PN16, BS10 "E"	JIS 5K/10K, ANSI 125lb/150lb, DIN NP10, BS 4504 PN10, PN16, BS10 "E"
Face-to-face dimensions		API 609 / ISO 5752 (20 series)						
Max. working pressure		1.0 MPa						
Body shell test (hydraulic)		1.5 MPa						
Seat leak test (pneumatic) #5		1.1 MPa						
Working temperature range #1, #2		NBR : -10 to 80 degrees C, *EPDM : -20 to 120 degrees C						
Working temperature in continuous use #3		NBR : 0 to 60 degrees C, *EPDM : 0 to 100 degrees C						
Standard materials	Body #4	Ductile iron, JIS FCD450	Cast iron, JIS FC 250	Ductile iron, JIS FCD450		Ductile iron, JIS FCD 450	Cast iron, JIS FC250, Ductile iron, JIS FCD450	
	Disc	316 stainless steel, JIS SCS14 #8	304 stainless steel, JIS SCS13 316 stainless steel, JIS SCS14	316 stainless steel, JIS SCS14 #8	304 stainless steel, JIS SCS 13, 316 stainless steel, JIS SCS14	316 stainless steel, JIS SCS 14 #8	304 stainless steel, JIS SCS 13, 316 stainless steel, JIS SCS 14	
		PPS (50 to 200mm) Aluminium bronze JIS CAC702 (50 to 600mm)	Aluminium bronze JIS CAC702	PPS (50 to 200mm) Aluminium bronze JIS CAC702 (50 to 600mm)	Aluminium bronze JIS CAC702	PPS (50 to 200mm) Aluminium bronze JIS CAC702 (50 to 600mm)	Aluminium bronze JIS CAC702	
		Nylon coating #6	Ductile iron, JIS FCD 450 with hard chrome plating	Nylon coating #6	Ductile iron, JIS FCD 450 with hard chrome plating	Nylon coating #6	Ductile iron, JIS FCD450 with hard chrome plating	
	Stem	SUS420J2 / SUS 392 J1						
Seat ring	NBR, *EPDM #7							
Actuators	Lock lever	40 to 200mm	-	50 to 200mm	-	50 to 200mm	-	
	Worm gear	40 to 300mm	350 to 600mm	50 to 300mm	350 to 600mm	50 to 300mm	350 to 600mm	
	Centre handle	40 to 300mm	-	50 to 300mm	-	50 to 300mm	-	
	Pneumatic	40 to 300mm	350 to 600mm	50 to 300mm	350 to 600mm	50 to 300mm	350 to 600mm	
	Motorised	40 to 300mm	350 to 600mm	50 to 300mm	350 to 600mm	50 to 300mm	350 to 600mm	
Coating #9	Epoxy primer finish (Munsell N7)							

- #1 Working temperature range varies depending on combination of disc materials and seating. Please consult us.  
 #2 Please consult us when using NBR and EPDM seating continuously above 60 degrees C and 100 degrees C respectively.  
 #3 "Working temperature in continuous use" stands for the temperature continuously kept exceeding one hour.  
 #4 Cast steel body or stainless steel body is also available.  
 #5 16bar finish is also available subject to working conditions.

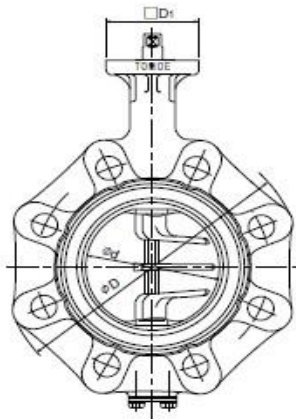
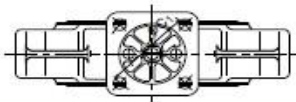
- #6 Nylon coated disc is available from 40A to 300A. Maximum working temperature of nylon coated disc is 60 degrees C.  
 #7 Heat resistant EPDM (to 150 degrees C), FPM, SEP, CR and white-NBR seats are also available.  
 #8 Rib disc: standard. Flat face disc: optional.  
 #9 Polyester powder backed finish (V-Pet #4000) for 700G size 40 to 300mm.

**\* Never use an EPDM rubber seat ring if the valve is being used for oil or for a fluid containing even a slight amount of oil.**

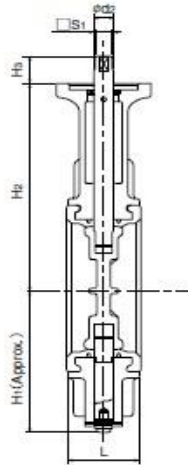


704G Bare shaft (01: 50mm to 300mm, 02: 350mm to 600mm)

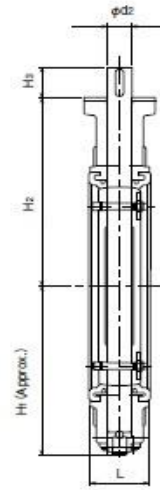
704G (Full-lugged)



50 to 300mm



350 to 600mm



■ Dimensions

Nominal size		Dimension (mm)										Approx. Mass (kg)
mm	inch	$\phi d$	$\phi D$	$\square S_1$	$\square D_1$	$\phi C_1$	L	$\phi d_2$	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	
50	2	56	90	8	70	70	43	10	85	138	21.5	2.5
65	2 1/2	69	115	8	70	70	46	10	94	151	21.5	3.5
80	3	84	126	10	70	70	46	12	109	156	22.5	4
80	3	84	190	10	70	70	46	12	109	156	22.5	4.8
100	4	104	223	12	70	70	52	14	117	167	22.5	6.7
125	5	130	250	14	102	102	56	16	143	191	27.5	8.8
150	6	153.5	276	14	102	102	56	18	164	202	27.5	10.4
200	8	199	334	18	102	102	60	22	176	227	30	16.3
250	10	253	402	24	102	102	68	28	215	280	35	27
300	12	302	483	24	125	125	78	32	253	312	35	39
			472									
350	14	337	505	—	140	140	78	32	276	348	48	66
			533									
400	16	394	579	—	140	140	102	40	338	383	54	107
450	18	441	526	—	140	140	114	46	368	413	65	128
500	20	492	634	—	140	140	127	50	403	453	79	170
			696									
600	24	584	820	—	165	165	154	55	458	528	79	275
600	24	584	795	—	165	165	154	55	458	528	79	269

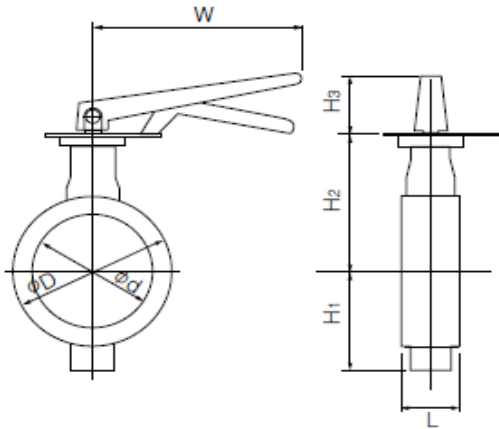
In Case JIS10K: \*  
 In Case JIS10K or DIN PN10: \*

Lock lever type 704G-1T (50mm to 200mm)

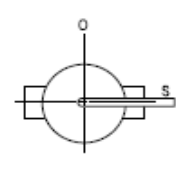
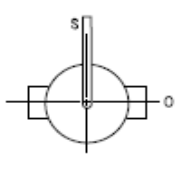
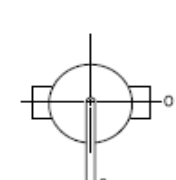
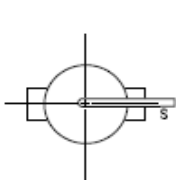
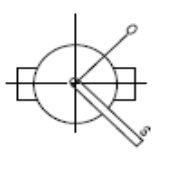
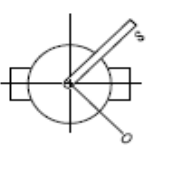
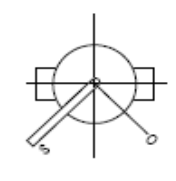
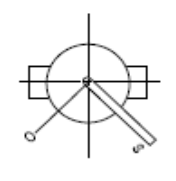
Nominal size		Dimension (mm)								Lever type	Approx. Mass (kg)
mm	inch	φd	φD		L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	W		
			JIS5K	JIS10K							
50	2	56	90	90	43	85	138	66	200	1T-1	3.1
65	2 1/2	69	115	115	46	94	151	66	200	1T-1	4.1
80	3	84	126	190	46	109	156	66	200	1T-1	4.6 (5.4)
100	4	104	223	223	52	117	167	66	200	1T-1	8
125	5	130	250	250	56	143	191	92	300	1T-2	11.9
150	6	153.5	276	276	56	164	202	92	300	1T-2	15.1
200	8	199	334	329	60	186	227	97	350	1T-3	22.2 (23.7)

Remark: Value in brackets is for JIS 10K flanges.

■ 704G-1T



■ 1T Installation direction

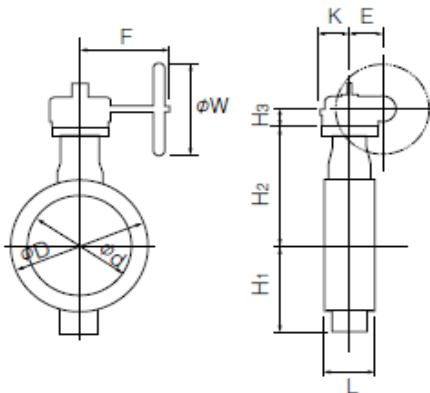
			
1TSL (standard)	1TLR	1TRS	1TRR
			
1TXS	1TXR	1TVS	1TVR

Worm gear type 704G-2U (50mm to 600mm)

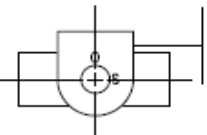
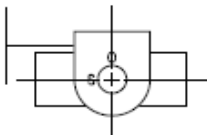
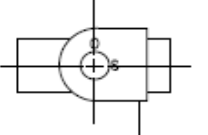
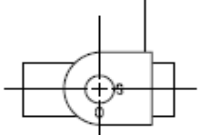
Nominal size		Dimension (mm)											Gear type	Approx. Mass (kg)
mm	inch	$\phi d$	$\phi D$		L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	E	K	F	W		
			JIS5K	JIS10K										
50	2	56	90	90	43	85	138	29.5	36	46	160	100	2U-0	4.8
65	2 1/2	69	115	115	46	94	151	29.5	36	46	160	100	2U-0	5.8
80	3	84	126	190	46	109	156	29.5	36	46	160	100	2U-1	6.3 (7.1)
100	4	104	223	223	52	117	167	29.5	36	46	160	100	2U-1	9.7
125	5	130	250	250	56	143	191	34.5	44	53	173.5	160	2U-2	14.8
150	6	153.5	276	276	56	164	202	34.5	44	53	173.5	160	2U-2	18.8
200	8	199	334	329	60	186	227	41.5	67	75	198	200	2U-3	27 (28.5)
250	10	253	402	402	68	215	280	41.5	67	75	198	200	2U-3	40
300	12	302	472	438	78	253	312	48	87.5	90	222.5	200	2U-4	58 (56)
350	14	337	533	505	78	276	348	48	87.5	90	222.5	280	2U-4	86 (86)
400	16	394	597	597	102	338	383	50	90	105	266	280	2U-5	123
450	18	441	634	626	114	368	413	50	90	105	266	280	2U-5	148 (151)
500	20	492	696	696	127	403	453	50	90	105	266	280	2U-5	195
600	24	584	820	795	154	458	528	61	113	140	352	400	2U-6	306 (300)

Remark: Value in brackets is for JIS 10K flanges.

■ 704G-2U



■ 2U Installation direction

			
2UA (standard)	2UAR	2UB	2UBR

Center handle type 704G-2G(50mm to 300mm) / 704G-2R(350mm to 600mm)

Nominal size		Dimension (mm)								Center handle type	Approx. Mass (kg)
mm	inch	$\phi d$	$\phi D$		L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	W		
			JIS5K	JIS10K							
50	2	56	90	90	43	85	138	136	100	2G-1	5.4
65	2 1/2	69	115	115	46	94	151	136	100	2G-1	6.4
80	3	84	126	190	46	109	156	136	100	2G-1	6.9 (7.7)
100	4	104	223	223	52	117	167	136	100	2G-1	10.3
125	5	130	250	250	56	143	191	133	100	2G-2	14.4
150	6	153.5	276	276	56	164	202	133	100	2G-2	17.6
200	8	199	334	329	60	186	227	151	200	2G-3	26.1 (27.6)
250	10	253	402	402	68	215	280	151	200	2G-3	40
300	12	302	472	438	78	253	312	161	200	2G-4	52 (50)
350	14	337	533	505	78	276	348	409	355	2R-3	103 (103)
400	16	394	597	597	102	338	383	409	355	2R-3	140
450	18	441	634	626	114	368	413	409	355	2R-3	166 (169)
500	20	492	696	696	127	403	453	409	355	2R-3	213
600	24	584	820	795	154	458	528	498	450	2R-4	328 (322)

Remark: Value in brackets is for JIS 10K flanges.

■ 704G-2G/2R

