700 Series
Rubber Seated Butterfly Valves for general use

700G Wafer

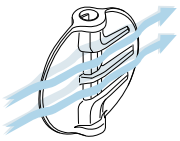
704G Full lugged

705G Semi lugged

Features and Benefits

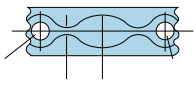
Rib disc

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.



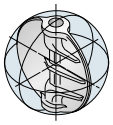
Patented cosine curve seat ring

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



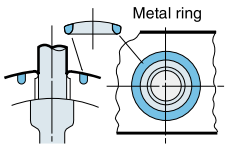
Much longer life with spherical design

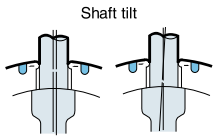
Similar to a spherical body rotating inside a spherical area, the operation of the disc is smooth and unhindered. Torque is reduced and the valve life is lengthened by 300%.



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.





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.

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.

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 have 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 Specifications

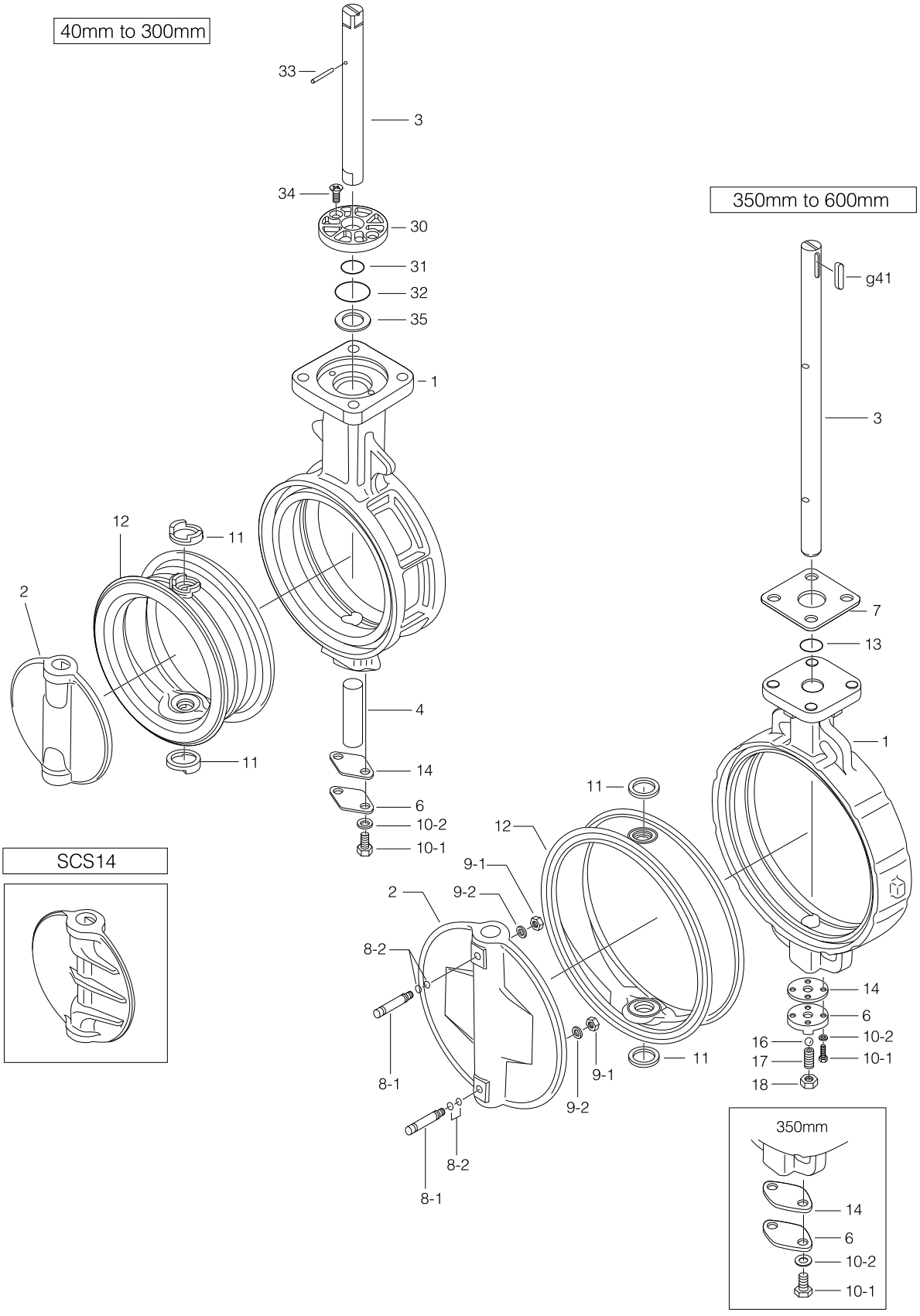
Model		700G (Wafer)			704G (Fully lugged)		705G (Semi lugged)	
Valve nominal size		40 to 300mm	350 to 550mm	600mm	50 to 300mm	350 to 600mm	40 to 300mm	350 to 600mm
Flange accommodation		JIS 5K/10K, ASME Class 125/150, DIN PN10/PN16, BS 4504 PN10/PN16, BS 10' E'	JIS 5K/10K	JIS 5K/10K, ASME Class 125/150, DIN PN10, BS4504 PN10	JIS 5K/10K, ASME Class 125/150, DIN PN10/PN16, BS4504 PN10/PN16, BS 10' E'	JIS 5K/10K, ASME Class 125/150, DIN PN10, BS4504 PN10	JIS 5K/10K, ASME Class 125/150, DIN PN10/PN16, BS4504 PN10/ PN16, BS10' E'	JIS 5K/10K, ASME Class 125/150, DIN PN10, BS4504 PN10 550mm:JIS 5K/10K only
Face-to-face dimensions		700G JIS B 2002 46 series/ISO 5752 wafer butterfly valve(short) 550mm: JIS B 2002 44series						
Max. working pressure		1.0 MPa						
Seat leakage		Tight-shutoff						
Flow direction		One way (Flow direction marked on body)						
Body shell test (hydraulic)		1.5MPa(hydraulic) JIS5K: 0.75MPa						
Seat leak test (pneumatic) ※1		1.1MPa(40 to 300mm: pnuematic 350 to 600mm: hydraulic) JIS5K: 0.55MPa						
Working temperature range ※2,※3		NBR : -10 to 80 degrees C, *EPDM : -20 to 120 degrees C						
Working temperature in continuous use ※4		NBR : 0 to 60 degrees C, *EPDM : 0 to 70 degrees C						
Standard materials	Body ※5	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 ※6	304 stainless steel, JIS SCS13 316 stainless steel, JIS SCS14		316 stainless steel, JIS SCS14 ※6	304 stainless steel, JIS SCS 13, 316 stainless steel, JIS SCS14	316 stainless steel, JIS SCS 14 ※6	304 stainless steel, JIS SCS 13, 316 stainless steel, JIS SCS 14
		PPS (40 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 (40 to 200mm) Aluminium bronze JIS CAC702 (50 to 600mm)	Aluminium bronze JIS CAC702
		Ductile iron, JIS FCD 450			Ductile iron, JIS FCD 450	Ductile iron, JIS FCD 450 with hard chrome plating	Ductile iron, JIS FCD 450	
	Stem	SUS420J2 / SUS329J1 as an option (550mm: SUS403)						
	Seat ring ※7	NBR, *EPDM ※7						
Top flange		ISO5211/1						
Condensation prevention structure		Optional (Condensation prevention resin column)						
Piping flange gasket		Not required						
Coating ※8		40 to 300mm : Epoxy primer(Munsell N7) 350 to 600mm : Lacquer primer (Munsell N7)						

※1 16bar finish is also available subject to working conditions.
※2 Working temperature range varies depending on combination of disc materials and seating. Please consult us.
※3 Please consult us when using NBR and EPDM seatring continuously above 60 degrees C and 70 degrees C respectively.
※4 "Working temperature in continuous use" stands for the temperature continuously kept exceeding one hour.
※5 Cast steel body or stainless steel body is also available.
※6 Rib disc: standard. Flat face disc: optional.
※7 Heat resistant EPDM (to 150 degrees C), FKM, SEP, CR and white-NBR seats are also available. See below table.
※8 Polyester powder backed finish (V-Pet #4000) for 700G size 40 to 300mm. Epoxy resin coating for 705G size 50 to 300mm.
※9 Export license by Japanese Ministry is required up to 100mm with FKM seatring. Please consult us the detail.
* 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.

Seat ring material table

	Standard		On request						
Material	EPDM	NBR	Food Grade EPDM	Heat resistant EPDM	HI-NBR	W-NBR	FKM	CR	SEP
Working temperature range (degrees C)	−20～120	−10～80	−20～120	−10～150	−5～80	−10～70	−10～60	−10～80	−10～60
Working temperature in continuous use (degrees C)	0～70	0～60	0～70	0～130	0～60	0～60	0～50	0～60	0～50
Max. working pressure (MPa)	1.0	1.0	1.0	0.5	1.0	0.5	0.5	1.0	0.5

700G Expanded view of components



■700G Parts list (40mm to 300mm)

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3	Upper stem	1	
4	Lower stem	1	See Remark 2.
6	Bottom cover	1	
10-1	Hexagon bolt	2	
10-2	Spring washer	2	
★ 11	Secondary ring	2	Only 50mm to 300mm
★ 12	Seat ring	1	
★ 14	Gasket	1	
★ 30	Bushing	1	
★ 31	O-ring	1	
★ 32	O-ring	1	
33	Spring pin	1	
34	Machine screw	2	
35	Plate	1	

■700G Parts list (350mm to 600mm)

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3	Stem	1	
6	Bottom cover	1	
7	Retainer plate	1	
★ 8-1	Taper bolt	2	
★ 8-2	O-ring	4	
★ 9-1	Hexagon nut	2	
★ 9-2	Spring washer	2	
10-1	Hexagon bolt	2	350mm
		4	400mm to 600mm
10-2	Spring washer	2	350mm
		4	400mm to 600mm
★ 11	Secondary ring	2	350mm
11	Secondary ring	2	400mm to 600mm
★ 12	Seat ring	1	
★ 13	O-ring	1	
★ 14	Gasket	1	
16	Ball	1	Only 400mm to 600mm
17	Hollow bolt	1	Only 400mm to 600mm
18	Lock nut	1	Only 400mm to 600mm
g41	Key	1	

Remark 1: The ★ indicates recommended spare parts. They are supplied as "Seat ring set".
Remark 2: When the disc material is PPS, the lower stem length of types 50mm to 100mm is different from standard.