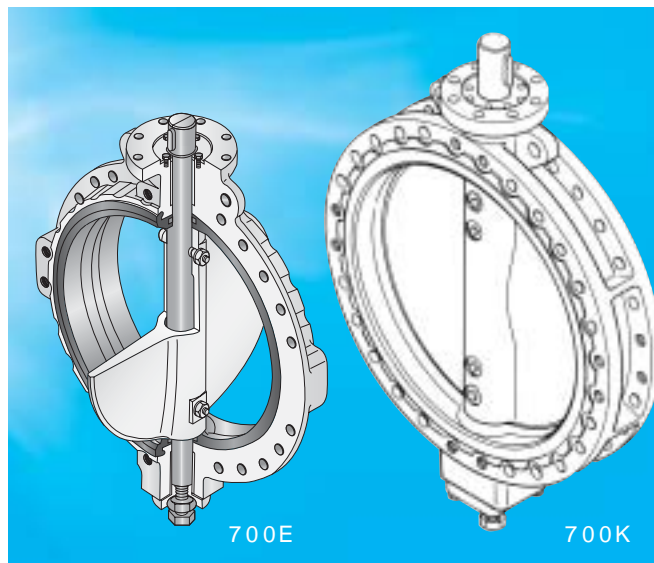


700E/700K

Butterfly Valves	
TRITEC	
TT2	
334A	
302A/303Q	
304A/304Q	
302Y/304Y	
304M(HLV)	
507V/508V	
846T/847T/847Q	
841T/842T	
773Z(NAV-Z)	
700G/704G/705G	
731P/732P 732X/731X	
700E/700K	
704G/722F/720F	
LRV	
227P	
MKT	
903C/904C	

Tomoe butterfly valves are used worldwide for various applications in water treatment, shipbuilding, air conditioning, petrochemical, power generation and other industries.

Among the various types of Tomoe rubber seated butterfly valves, there are three types particularly suitable for large diameter applications.

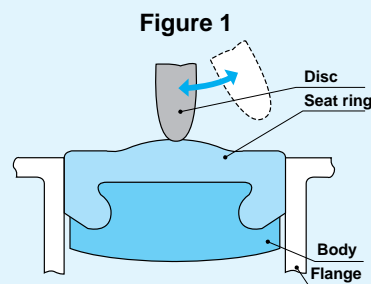


Wafer with support lugs

Simple structure and low cost. Many years of proven reliable performance in various industries.

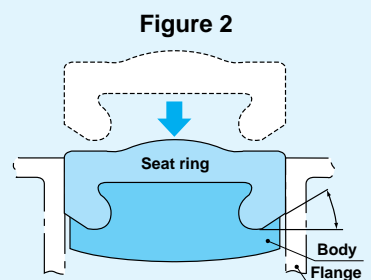
Concentric design raised center seat

Figure 1 shows the Tomoe sealing design between the disc and seat. The raised section of the seat reduces and minimizes the operating torque, while ensuring a tight seal between disc and seat.



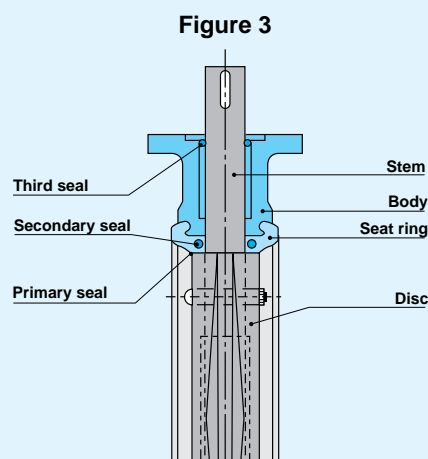
Rounded dove-tail design

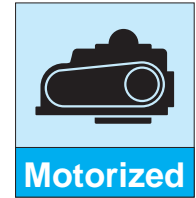
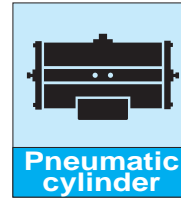
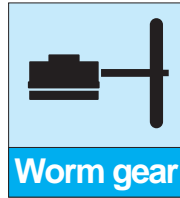
Figure 2 shows the self-gripping seat ring design, firmly in place inside the body. This design assures that the seat cannot be displaced during the bolting up of the adjoining flange. The seat also acts as the gasket between the valve and the pipe flange.



Triple-sealing system

Figure 3 shows the triple stem seal. The primary seal is created from the initial compression between the flat surface of the seat and the flat hub of the disc. When the valve is subject to normal operating conditions this seals the shaft and body from any contact with the flowing medium. The secondary seal is accomplished by an O-ring fit into a stainless steel cartridge molded into the seat ring. There is a secondary seal at each end of the stem where it penetrates the seat. The third seal is to prevent dirt and other foreign materials within the environment from getting into any of the working valve parts.





Butterfly Valves

- TRITEC
- TT2
- 334A
- 302A/303Q
- 304A/304Q
- 302Y/304Y
- 304M^(HLV)
- 507V/508V
- 846T/847T/847Q
- 841T/842T
- 773Z^(NAV-Z)
- 700G/704G/705G
- 731P/732P
732X/731X
- 700E/700K**
- 704G/722F/720F
- LRV
- 227P
- MKT
- 903C/904C

700E Standard specifications

Valve nominal size	650, 700, 750, 800, 850, 900, 1000, 1100, 1200 and 1350mm	
Applicable flange standard	JIS 5K/10K	
Face-to-face dimensions	Manufactured standard	
Max. Working pressure	1.0MPa	
Seat leakage	Tight shut-off	
Flow direction	Bi-directional flow	
Pressure test	Body shell	1.5MPa (water pressure test) JISS5K only 0.75MPa
	Seat leakage	1.1MPa(Hydraulic) JIS 5K only 0.55MPa
Working temperature range	NBR : - 10 to 80 degrees C * EPDM : - 20 to 120 degrees C	
Working temperature in continuous use ¹	NBR : 0 to 60 degrees C * EPDM : 0 to 100 degrees C	
Standard materials	Body	FC250
	Disc	FCD450 (hard chrome plating), SCS13
	Stem	SUS403
	Seat ring	* EPDM•NB
Coating	Primer (Munsell N7)	

Since this type has special specifications, please consult us.

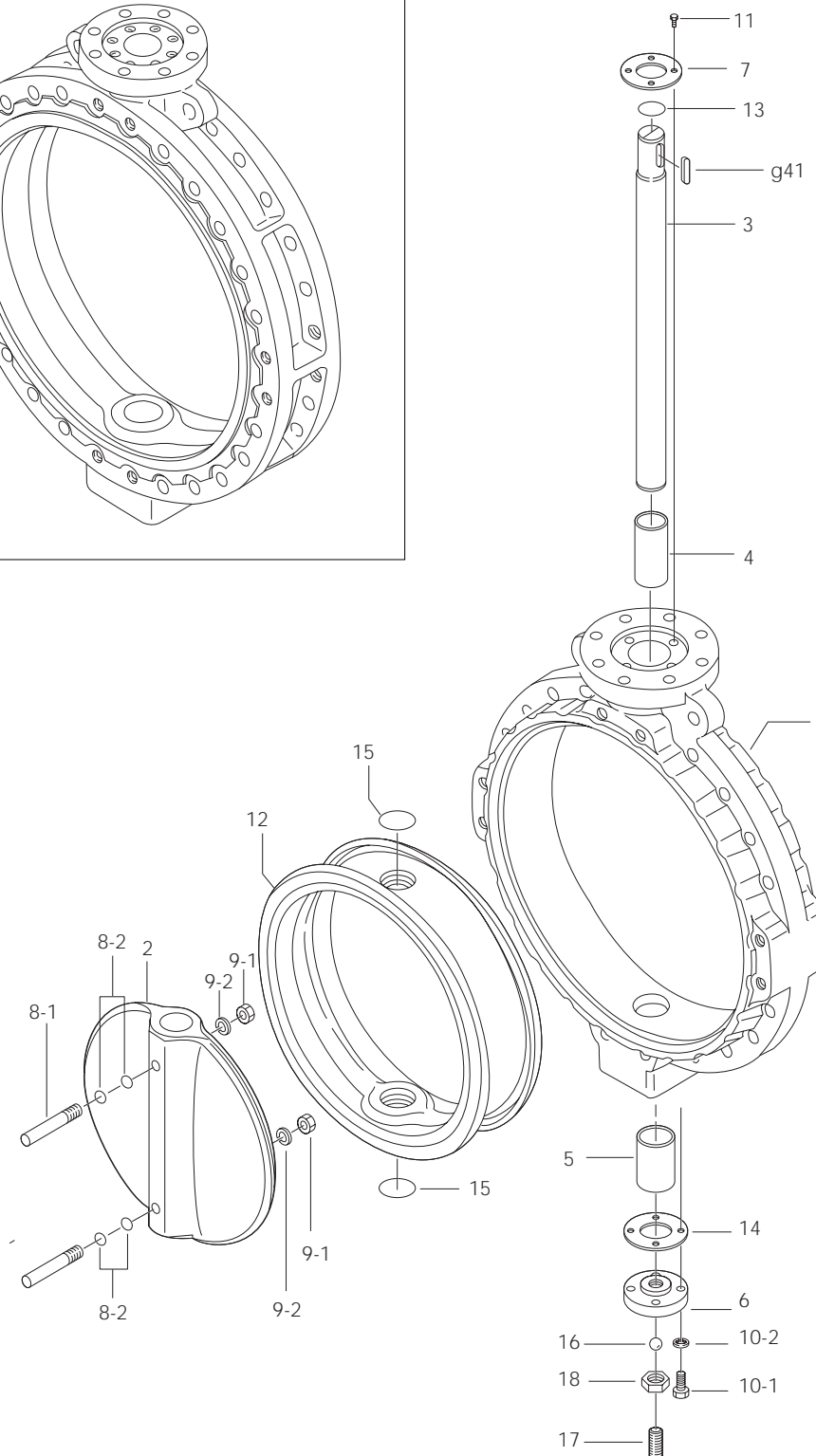
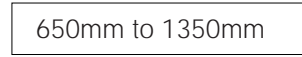
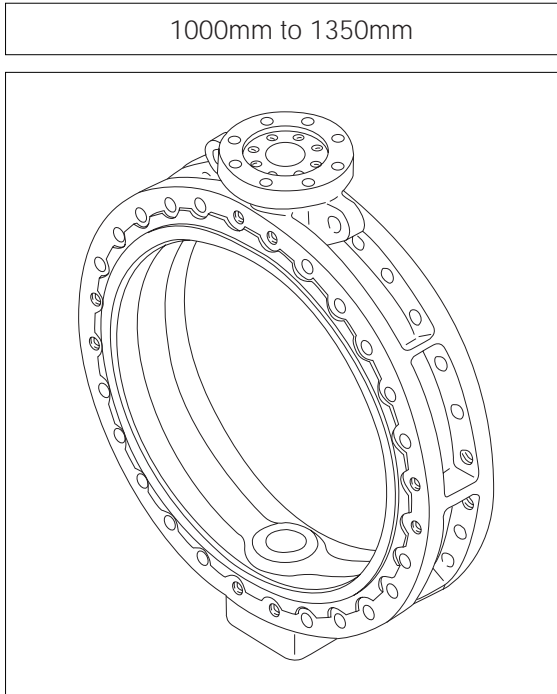
1. "Working temperature in continuous use" stands for the temperature continuously kept exceeding one hour.

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

700E/700K

700E Expanded view of component

Butterfly Valves
TRITEC
TT2
334A
302A/303Q
304A/304Q
302Y/304Y
304M(HLV)
507V/508V
846T/847T/847Q
841T/842T
773Z(NAV-Z)
700G/704G/705G
731P/732P 732X/731X
700E/700K
704G/722F/720F
LRV
227P
MKT
903C/904C



700E Parts list

700E Parts list(650mm to 1350mm)

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3	Stem	1	
4	Bushing	1	
5	Bushing	1	
6	Bottom cover	1	
7	Retainer plate	1	
8-1	Taper bolt	2	650mm to 900mm
		4	1000mm to 1350mm
8-2	O-ring	4	650mm to 900mm
		8	1000mm to 1350mm
9-1	Hexagon nut	2	650mm to 900mm
		4	1000mm to 1350mm
9-2	Spring washer	2	650mm to 900mm
		4	1000mm to 1350mm
10-1	Hexagon bolt	4	650mm to 850mm
		8	900mm to 1350mm
10-2	Spring washer	4	650mm to 850mm
		8	900mm to 1350mm
11	Hexagon bolt	4	650mm to 850mm
		8	900mm to 1350mm
12	Seat ring	1	1000mm to 1350mm:Vulcanized to the body
13	O-ring	1	See Remark 2.
14	Gasket	1	
15	O-ring	2	See Remark 2.
16	Ball	1	
17	Hollow bolt	1	
18	Lock nut	1	
g41	Key	1	

Remark 1: The indicates recommended spare parts. They are supplied as "Seat ring set" with a small hexagonal spanner to remove hollow bolt (P.17).

Consult us when repairing the seating on 1000 to 1350mm types as it is vulcanized to the body.

Remark 2: The O-ring material (item numbers 13 and 15) should be the same as the seating (item number 12).

Butterfly Valves

TRITEC

TT2

334A

302A/303Q

304A/304Q

302Y/304Y

304M^(HLV)

507V/508V

846T/847T/847Q

841T/842T

773Z^(NAV-Z)

700G/704G/705G

731P/732P
732X/731X

700E/700K

704G/722F/720F

LRV

227P

MKT

903C/904C

700E/700K

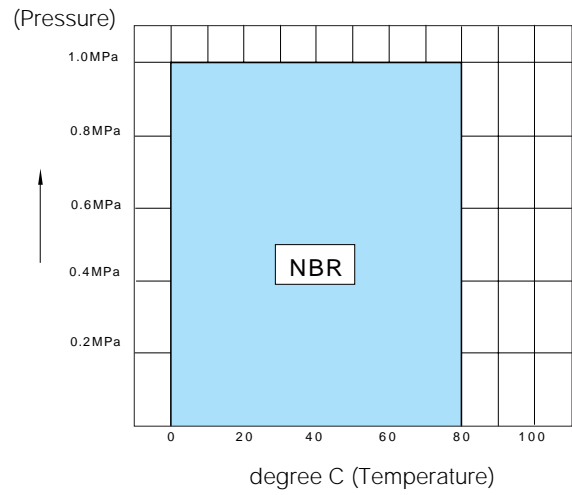
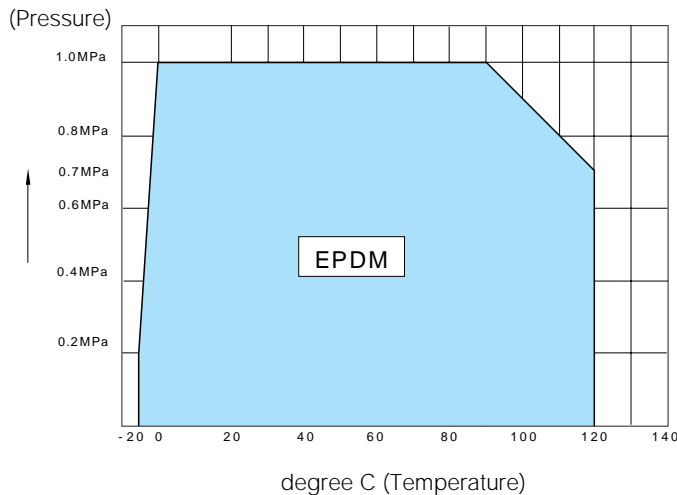
700E/700K Actuator selection chart

700E/700K

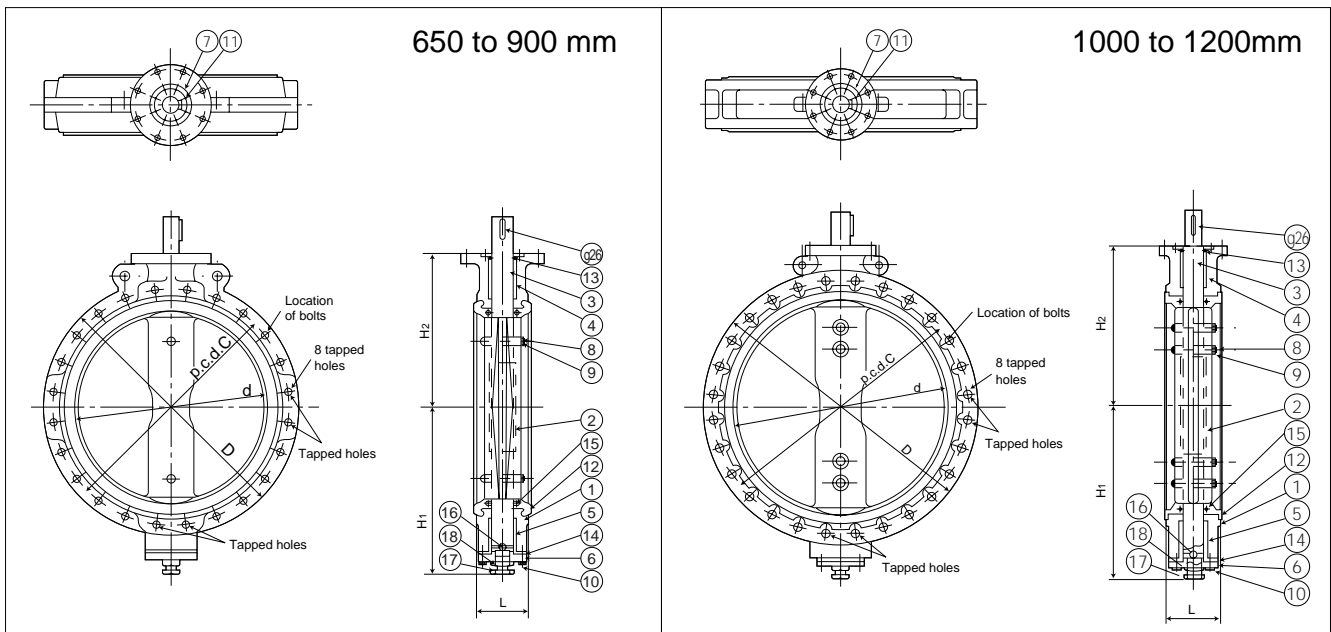
Model	Category	Size (mm / inch)									
		650	700	750	800	850	900	1000	1100	1200	1350
		26	28	30	32	34	36	40	44	48	54
2S	Standard	MGH-4	MGH-4 1/2			MGH-5		MGH-6		MGH-7	
	Heavy duty										
3A	Standard	TGA-180	TGA-200		TGA-220		TGA-250				
	Heavy duty	TGA-220		TGA-250							
4L	Standard	LTKD-05 0.75kW /MGH-4	LTKD-05 0.75kW /MGH-5	LTKD-05 1.5kW /MGH-5	LTKD-01 1.5kW /MGH-5			LTKD-01 1.5kW /MGH-6		LTKD-1 2.2kW /MGH-7	
	Heavy duty										

Selection criteria	Standard	Select when none of the following heavy duty items apply.
	Heavy duty	Select when any of the following items apply. ① Powder or high viscosity fluid (crude oil, etc.) ② Control specification (with positioner) ③ Emergency open valve or pipe dead end valve

700E/700K Pressure-temperature rating



Wafer with support lugs



Dimensions (700E/700K)

Nominal size		Dimension (mm)						Weight (kg)	Flange Rating ¹							
									JIS 5K ²		JIS 10K ²		ASME B 16.47 Series A		BS 4504 NP10, DIN PN10	
mm	inch	d	D ¹	L	H ₁	H ₂	Long bolts & Nuts	Hex. bolts	Long bolts & Nuts	Hex. bolts	Long bolts & Nuts	Hex. bolts	Long bolts & Nuts	Hex. bolts		
650	26	627	845	170	558	510	360	16 M24x285x50	16 M24x65x54	16 M30x310x60	16 M30x80x66	16 U1 1/4x390x70	16 U1 1/4x110x70	16 M20x200x45	—	
700	28	670	905	180	629	560	490	16 M24x295x50	16 M24x65x54	16 M30x320x60	16 M30x80x66	20 U1 1/4x410x70	16 U1 1/4x110x70	16 M24x210x50	—	
750	30	723	970	190	659	590	540	16 M30x320x60	16 M30x75x66	16 M30x335x60	16 M30x80x66	20 U1 1/4x425x70	16 U1 1/4x125x70	20 M24x250x50	—	
800	32	772	1020	200	679	620	710	16 M30x335x60	16 M30x75x66	20 M30x345x60	16 M30x80x66	20 U1 1/2x460x80	16 U1 1/4x125x80	16 M27x280x60	8 M27x60x50	
850	34	822	1070	210	709	650	800	16 M30x345x60	16 M30x75x66	20 M30x360x60	16 M30x80x66	24 U1 1/2x475x80	16 U1 1/4x135x80	16 M27x305x60	16 M27x65x54	
900	36	858	1120	230	759	685	870	16 M30x360x60	16 M30x75x66	20 M30x385x65	16 M30x85x66	24 U1 1/2x510x80	16 U1 1/4x145x80	16 M30x335x60	16 M30x65x54	
1000	40	975	1235	250	819	745	1200	20 M30x385x65	16 M30x85x66	20 M36x420x75	16 M36x100x78	28 U1 1/2x530x80	16 U1 1/4x145x80	20 M30x370x65	16 M30x75x66	
1100	44	1070	1345	280	874	820	1350	20 M30x420x65	16 M30x85x66	20 M36x450x80	16 M36x100x78	32 U1 1/2x580x80	16 U1 1/4x155x80	20 M33x400x65	16 M33x90x72	
1200	48	1168	1465	300	949	880	1700	24 M30x445x65	16 M30x85x66	24 M36x475x80	16 M36x100x78	36 U1 1/2x615x80	16 U1 1/4x160x80	24 M36x475x80	16 M36x100x78	
1350	54	1314	1630	330	1030	960	2300	24 M30x475x65	16 M30x85x66	28 M42x525x80	16 M42x100x90	—	—	—	—	

700S dimensions for ASME B16-47, series B class finish are available upon request.

¹ "D" dimension shows for 700E, JIS 10 K.

² Nut is 80% of bolt diameter.

Butterfly Valves

TRITEC

TT2

334A

302A/303Q

304A/304Q

302Y/304Y

304M(HLV)

507V/508V

846T/847T/847Q

841T/842T

773Z (NAV-Z)

700G/704G/705G

731P/732P

732X/731X

700E/700K

704G/722F/720F

LRV

227P

MKT

903C/904C

700E/700K

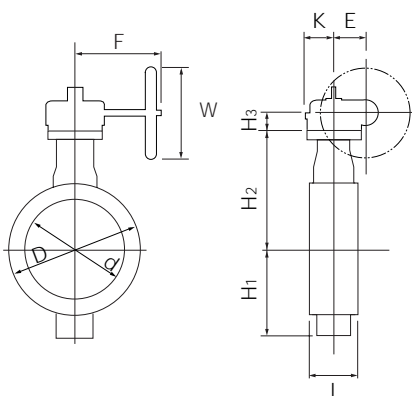
Worm gear type 700E-2S(650mm to 1350mm)

Butterfly Valves

700E-2S

	Nominal size		Dimension (mm)										Gear type	Approx. weight (kg)	
	mm	inch	d	D	L	H ₁	H ₂	H ₃	E	K	F	W			
TRITEC															
TT2	650	26	627	845	170	558	510	65	140	198	400	450	MGH-4	363	
334A	700	28	670	905	180	639	560	75	185	267	457	500	MGH-41/2	487	
302A/303Q	750	30	723	970	190	659	590	75	185	267	457	500	MGH-41/2	547	
304A/304Q	800	32	772	1020	200	679	620	75	185	267	457	500	MGH-41/2	617	
304A/304Q	850	34	822	1070	210	709	650	100	210	293	490	500	MGH-5	780	
302Y/304Y	900	36	858	1120	230	759	685	100	210	293	490	500	MGH-5	855	
304M(HLV)	1000	40	975	1235	250	819	745	100	210	293	490	500	MGH-6	1384	
507V/508V	1100	44	1070	1345	280	874	820	100	210	293	490	500	MGH-6	1584	
846T/847T/847Q	1200	48	1170	1465	300	948	880	100	210	293	490	500	MGH-6	1984	
841T/842T	1350	54	1314	1630	330	1030	960	151	280	293	675	600	MGH-7	2330	

700E-2S



2S Installation direction

2 S A (standard)	2 S AR
2 S B	2 S BR

Double-acting pneumatic cylinder type 700E-3A(650mm to 900mm)

Standard

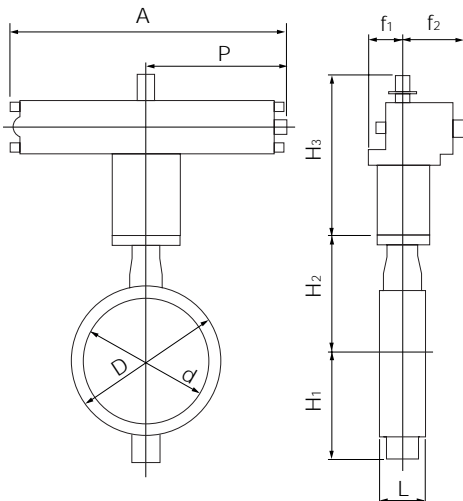
Nominal size		Dimension (mm)										Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
650	26	627	845	170	558	510	478	1053	543	130	218	TGA-180	456
700	28	670	905	180	639	560	570	1163	599	160	253	TGA-200	607
750	30	723	970	190	659	590	570	1163	599	160	253	TGA-200	667
800	32	772	1020	200	679	620	600	1248	642	160	270	TGA-220	761
850	34	822	1070	210	709	650	600	1248	642	160	270	TGA-220	881
900	36	858	1120	230	759	685	633	1381	707	160	299	TGA-250	1022

Heavy duty

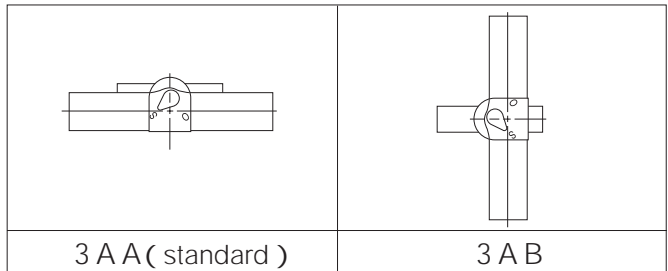
Nominal size		Dimension (mm)										Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
650	26	627	845	170	558	510	600	1248	642	160	270	TGA-220	562
700	28	670	905	180	639	560	600	1248	642	160	270	TGA-220	637
750	30	723	970	190	659	590	633	1381	707	160	299	TGA-250	756
800	32	772	1020	200	679	620	633	1381	707	160	299	TGA-250	826

Selection criteria	Standard	Select when none of the following heavy duty items apply.
	Heavy duty	Select when any of the following items apply. ① Powder or high viscosity fluid (crude oil, etc.) ② Control specification (with positioner) ③ Emergency open valve or pipe dead end valve

700E-3A



3A Installation direction



Butterfly Valves

TRITEC
TT2
334A
302A/303Q
304A/304Q
302Y/304Y
304M(HLV)
507V/508V
846T/847T/847Q
841T/842T
773Z (NAV-Z)
700G/704G/705G
731P/732P 732X/731X
700E/700K
704G/722F/720F
LRV
227P
MKT
903C/904C

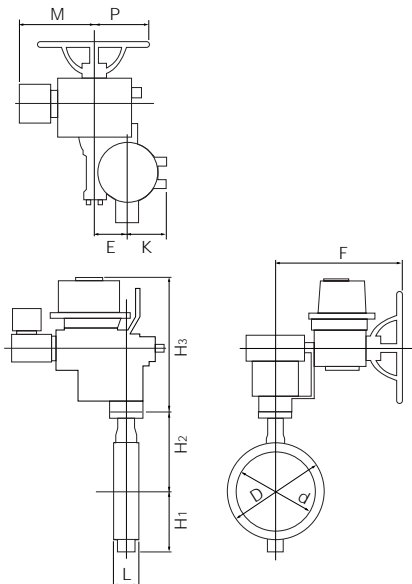
700E/700K

Three phase motor actuator type 700E-4L(650mm to 1350mm)

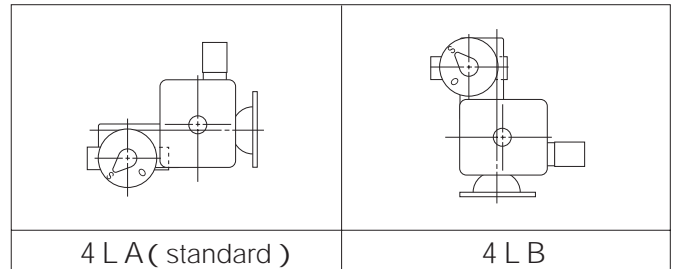
Butterfly Valves
TRITEC
TT2
334A
302A/303Q
304A/304Q
302Y/304Y
304M(HLV)
507V/508V
846T/847T/847Q
841T/842T
773Z(NAV-Z)
700G/704G/705G
731P/732P 732X/731X
700E/700K
704G/722F/720F
LRV
227P
MKT
903C/904C

Nominal size	Dimension (mm)													Motor type	Approx. weight (kg)
	mm	inch	d	D	L	H ₁	H ₂	H ₃	E	K	F	M	P		
650	26	627	845	170	558	510	570	140	198	637	440	375	LTKD-05 0.75kW /MGH-4	515	
700	28	670	905	180	639	560	640	210	293	747	440	375	LTKD-05 0.75kW /MGH-5	710	
750	30	723	970	190	659	590	640	210	293	747	477	375	LTKD-05 1.5kW /MGH-5	770	
800	32	772	1020	200	679	620	680	210	293	797	537	425	LTKD-1 1.5kW /MGH-5	905	
850	34	822	1070	210	709	650	680	210	293	797	537	425	LTKD-1 1.5kW /MGH-5	1025	
900	36	858	1120	230	759	685	680	210	293	797	537	425	LTKD-1 1.5kW /MGH-5	1100	
1000	40	975	1235	250	819	745	700	210	293	762	537	425	LTKD-1 1.5kW /MGH-6	1670	
1100	44	1070	1345	280	874	820	700	210	293	762	537	425	LTKD-1 1.5kW /MGH-6	1870	
1200	48	1170	1465	300	948	880	700	210	293	762	537	425	LTKD-1 1.5kW /MGH-6	2270	
1350	54	1314	1630	330	1030	960	700	280	293	810	540	410	LTKD-1 2.2kW /MGH-7	2650	

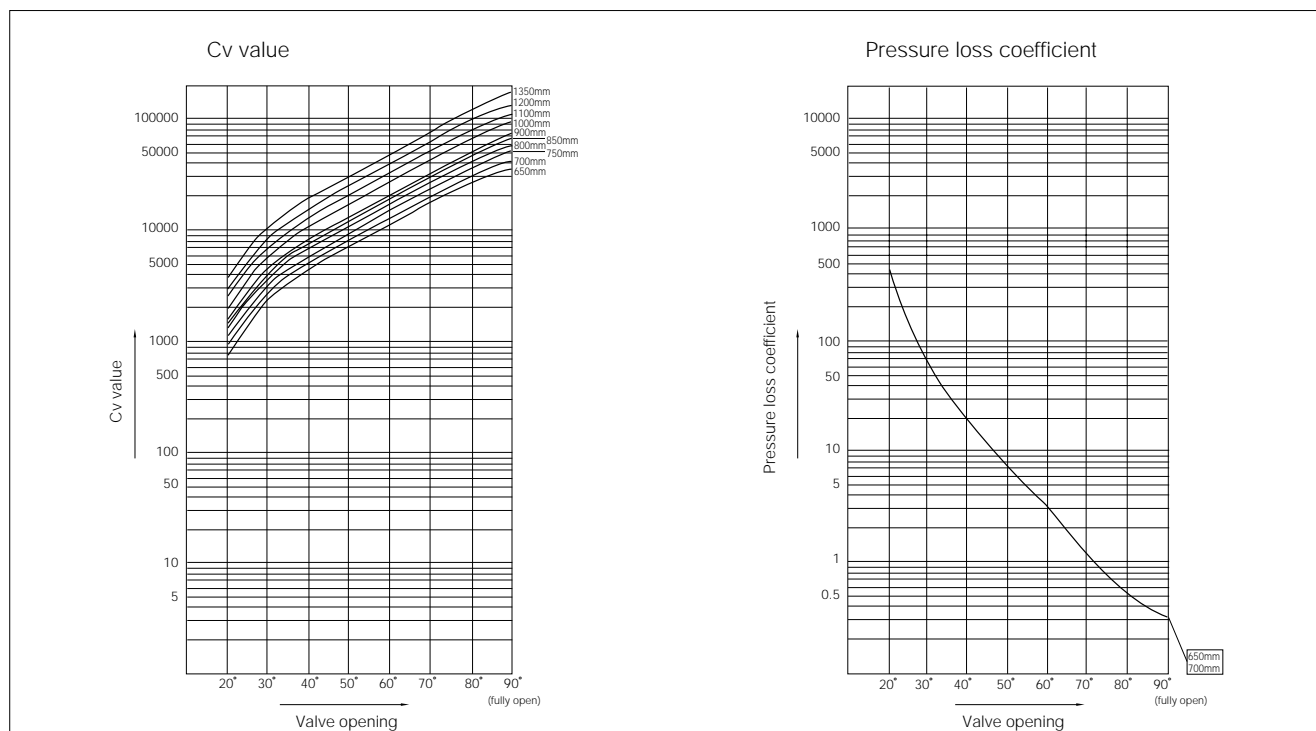
700E-4L



4L Installation direction



700E/700K Cv value/Pressure loss coefficient



700E/700K Cv value

Nominal size		Valve opening							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
650	26	817	2441	4473	7159	11013	17254	26972	32500
700	28	934	2807	5122	8152	12511	19728	30929	39000
750	30	935	3220	5965	9450	14328	22687	38260	52000
800	32	1200	3721	6791	10771	16553	26976	43316	59000
850	34	1164	4018	7516	12063	18567	29284	46350	66000
900	36	1358	4497	8298	13177	20139	32362	53126	73000
1000	40	1784	5835	10740	17060	26110	42070	68860	95000
1100	44	2075	7030	13020	20680	31530	50420	83340	114000
1200	48	2570	8520	15710	24900	37930	60280	98640	138000
1350	54	3385	10180	18810	30490	47840	75750	119000	173000

700E/700K Pressure loss coefficient

Nominal size		Valve opening							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
650	26	553	62	18	7	3	1	1	0.4
700	28	573	63	19	8	3	1	1	0.3
750	30	758	64	19	7	3	1	0.5	0.3
800	32	599	62	19	7	3	1	0.5	0.3
850	34	815	68	20	8	3	1	0.5	0.3
900	36	756	69	20	8	3	1	0.5	0.3
1000	40	645	60	18	7	3	1	0.4	0.2
1100	44	701	61	18	7	3	1	0.4	0.2
1200	48	658	60	18	7	3	1	0.4	0.2
1350	54	611	68	20	8	3	1	0.5	0.2

Butterfly Valves

TRITEC

TT2

334A

302A/303Q

304A/304Q

302Y/304Y

304M (HLV)

507V/508V

846T/847T/847Q

841T/842T

773Z (NAV-Z)

700G/704G/705G

731P/732P
732X/731X

700E/700K

704G/722F/720F

LRV

227P

MKT

903C/904C

700E/700K

700E/700K Applicable flange standard

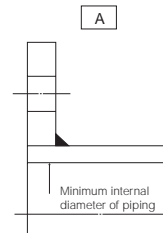
Butterfly Valves

TRITEC	Nominal size		JIS			ANSI		BS4504 PN10	DIN NP10	BS10 Table E
	mm	inch	5K	10K	G5527	125Lb	150Lb			
TT2	650	26	T	T	Consult us if flange standard is not JIS 5K/10K.					
334A	700	28	T	T						
	750	30	T	T						
302A/303Q	800	32	T	T						
304A/304Q	850	34	T	T						
	900	36	T	T						
302Y/304Y	1000	40	T	T						
304M(HLV)	1100	44	T	T						
507V/508V	1200	48	T	T						
	1350	54	T	T						

: Can be used without flange drilling.
 D/T: With drill hole or tapping.
 T : With flange tapping.
 - : No nominal diameter.

700E/700K Applicable pipe list in case of **A**

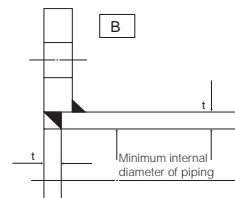
Nominal size	Nominal size		STPY	Sch20	Sch40	Minimum internal diameter of piping (mm)
	mm	inch				
731P/732P 732X/731X	650	26				612
700E/700K	700	28		-	-	653
704G/722F/720F	750	30		-	-	705
LRV	800	32		-	-	754
227P	850	34		-	-	803
MKT	900	36		-	-	834
903C/904C	1000	40		-	-	950
	1100	44		-	-	1040
	1200	48		-	-	1138
	1350	54		-	-	1277



Remark 1: =Applicable
 Remark 2: Butterfly valves are inserted into a pipe that was fitted with the disc when fully open.
 In cases where you are using a pipe or flange that is less than the minimum inner pipe diameter, use is still possible if means are taken such as inserting a spacer between the valve and flange.
 For details, please consult us.

700E/700K Applicable pipe list in case of **B**

Nominal size	Nominal size		STPY	Sch20	Sch40
	mm	inch			
	650	26			
	700	28		-	-
	750	30		-	-
	800	32		-	-
	850	34		-	-
	900	36		-	-
	1000	40		-	-
	1100	44		-	-
	1200	48		-	-
	1350	54		-	-



Remark 1: =Applicable
 Remark 2: Butterfly valves are inserted into a pipe that was fitted with the disc when fully open.
 In cases where you are using a pipe or flange that is less than the minimum inner pipe diameter, use is still possible if means are taken such as inserting a spacer between the valve and flange.
 For details, please consult us.

