

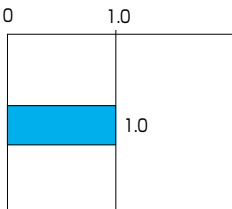
# 700GB



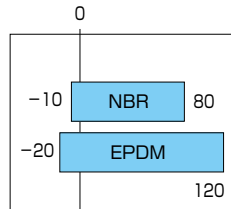
Valve nominal size

**40 to 300mm**

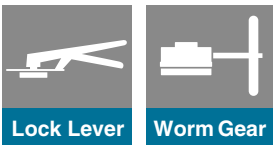
Max. working pressure MPa



Working temperature range °C

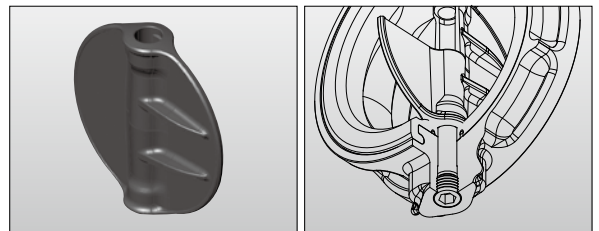


**JIS** JIS B 2032 Compliant  
(This product conforms to General Specifications for Machinery and Equipment of the Ministry of Land, Infrastructure, Transport and Tourism.)



## Drastic cost reduction is achieved

- Cost reduction by simplifying the function
  - Manual (lever, gear) only
  - Disc material: SCS13; Seat ring material: NBR/EPDM only
  - 1MPa tight shut
- Further weight saving
  - Newly-designed ribbed thin disc
  - Aluminum die-cast gear
  - Reduced number of parts, adopting plug-in bottom cover
- Compliant with applicable standards, and maintainable
  - Compliant with JIS B 2032
  - Top flange complies with ISO5211
  - Replaceable seat ring



Newly-designed ribbed thin disc Plug-in bottom cover

To protect pipes, EPDM seat ring is recommended for the production line where calcium-containing chemicals are used.

846T/847T, which adopts fluorine resin seat, is recommended for a butterfly valve used in the production line where highly concentrated chlorine disinfectant is used.

### **[Warranty period]**

**Warranty shall cover one year from the start of the trial run or 1,000 operation cycles (with fresh water and at room temperature), whichever comes earlier.**

## Standard Specifications

Body type(Connection)		Concentric Rubber Seated Butterfly Valve(Wafer)	
Valve nominal size		40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm	
Flange accommodation*1		JIS 5K/10K, GB/T9113.1 PN1.0, BS4504 PN10, DIN2632 PN10, ASME B16.1 Class 125, ASME B16.5 Class150	
Face-to-face dimensions		JIS B 2002(Series 46)	
Max. working pressure		1.0MPa	
Allowable seat leakage rate		JIS B 2003 Rate A(Tight shut off)	
Flow direction		Bi-direction	
Test Pressure	Body shell test	1.5MPa(hydraulic) ※only JIS5K→ 0.75MPa	
	Seat leak test	1.1MPa(pneumatic) ※only JIS5K→ 0.55MPa	
Working temperature range*2		NBR: -10°C ~ 80°C, EPDM: -20°C ~ 120°C	
Allowable temperature in continuous use*3		NBR: 0°C ~ 60°C, EPDM: 0°C ~ 70°C	
Standard materials	Body	Ductile Iron JIS: FCD450	
	Disc*4	SCS13(A351 CF8) New Ribbed Disc	
	Stem*4	SUS420J2(AISI420)	
	Seat ring	NBR, EPDM*5,6,7	
Top flange		ISO5211 compliant	
Actuator		Manual type*8	
Average fluid velocity limit in pipe(Limit value)		Under 3 m/s (Valve full-opened and continuous operation)	
Coating		Polyester epoxy powder coating(thermosetting)Munsell N7	

- ※1 Overseas flange with nominal valve size of 80, 200 or 300 mm has a special body. Overseas flange with nominal valve size of 65, 100 or 125 mm needs a little processing.  
 ※2 Operating temperature range varies depending on seat ring material. Please contact our sales staff before use.  
 ※3 Fluid temperature range for more than one hour of continuous use. It is required that the fluid does not freeze.  
 ※4 Materials shown in ( ): equivalent materials in ASTM/AISI.  
 ※5 If the fluid contains chlorine, seat ring could be corroded early by combined factors such as concentration and temperature.  
 For further information, please contact our sales staff.  
 In case of chlorine-containing fluid, 846T or 847T (containing fluorine resin) is recommended depending on combined factors such as concentration.  
 Operating temperature range varies depending on the combination of valve disc material and seat ring. Please contact our sales staff before use.  
 ※6 It is recommended EPDM rubber seat ring if the line is used for medical agent containing calcium composition to protect the pipes.  
 ※7 "Allowable temperature in continuous use" stands for the temperature continuously kept exceeding one hour.  
 ※8 Not selling separately.

## 700GB List of seat ring material

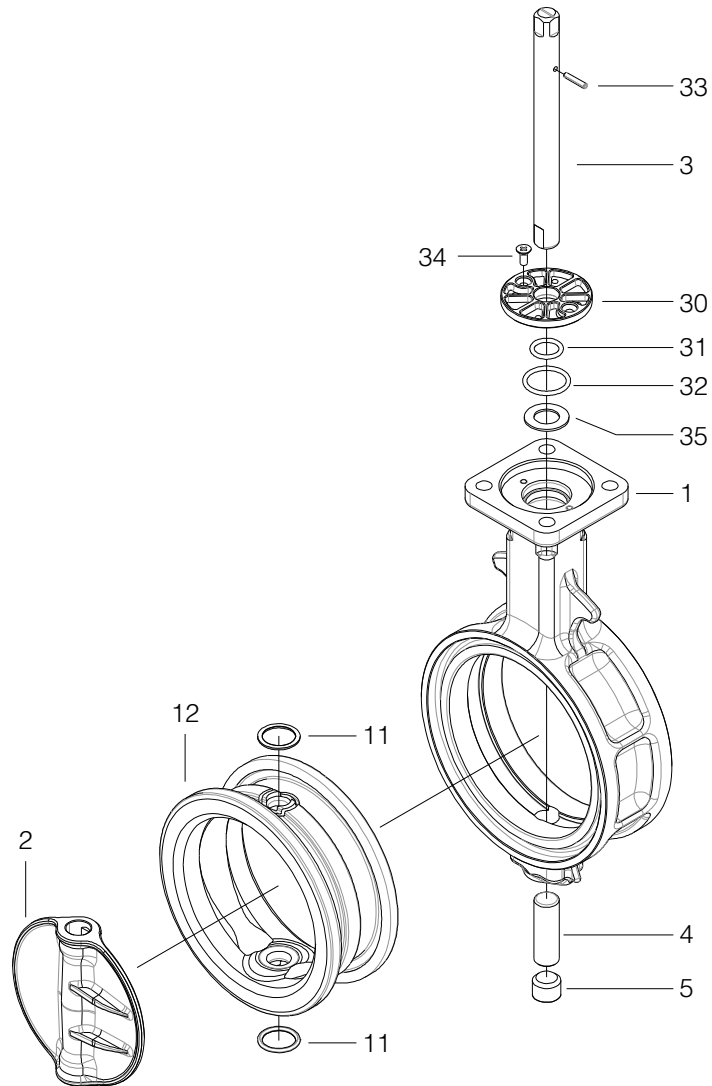
Material		EPDM	NBR
Temperature range	Allowable(°C)	-20~120	-10~80
	Continuous(°C)	0~70	0~60
Maximum operating pressure(MPa)		1.0	1.0
Color		black	black
Properties	Corrosion resistance	○	△
	Heat resistance	○	○
	Oil resistance	×	○
	Wear resistance	△	○

Symbols: ○…………Good (suitable for use)  
 △…………Usable  
 ×…………Not usable

- Note 1) NBR cannot be used for C-heavy oil for marine fuel oil (FO line) as the viscosity of oil is reduced and actual temperature is often higher even if the customer's usage condition is below 60°C.  
 Note 2) Never use EPDM rubber seat ring if the fluid to be used contains even a tiny amount of oil.  
 Note 3) The symbols ○, △ and × above indicate typical properties. These properties may vary depending on specific liquids and temperature conditions.  
 For further information, please contact us.

Butterfly Valve
<b>TRITEC</b>
<b>TT2</b>
<b>334A</b>
<b>302A/303Q</b>
<b>304A/304Q</b>
<b>302Y/304Y</b>
<b>304M (HLV)</b>
<b>507V/508V</b>
<b>DTM</b>
<b>846T/847T/847Q</b>
<b>841T/842T</b>
<b>700Z</b>
<b>700G/704G/705G</b>
<b>700GB</b>
<b>731P/732P/732Q/752W</b>
<b>71LG</b>
<b>700E/700K/700S</b>
<b>704G/722F/720F</b>
<b>KRV</b>
<b>227P</b>
<b>907H/908H (MKT)</b>
<b>903C</b>

## 700GB Expanded View of Components



## 700GB Parts list

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3	Upper stem	1	
4	Lower stem	1	
5	Hex. socket set screws	1	
★ 11	Secondary ring	2	
★ 12	Seat ring	1	
★ 30	Bushing	1	
★ 31	O-ring	1	
★ 32	O-ring	1	
34	Machine screw	2	
35	Plate	1	

Remark: The ★ indicates recommended spare parts. They are supplied as "Seat ring set" with a small hexagonal spanner to remove set screws.

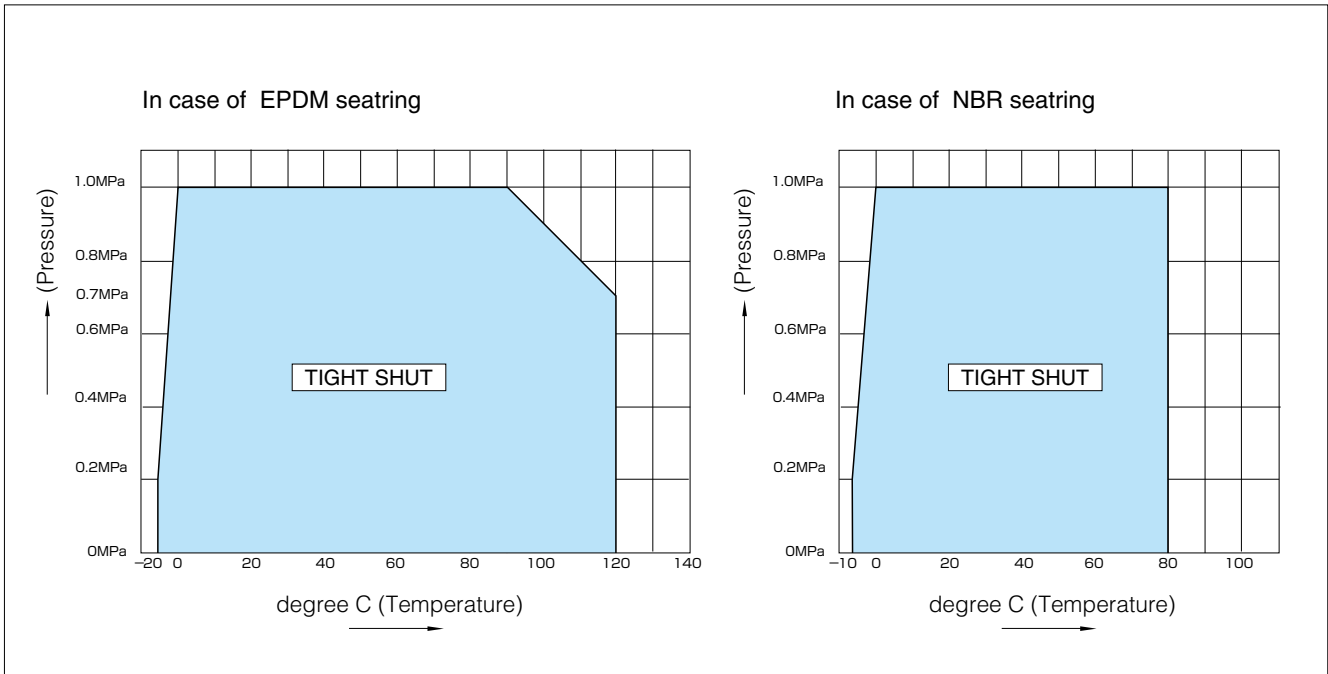
## 700GB Actuator Selection Chart

### 700GB

Type	Model	Category	Size (mm/inch)									
			40	50	65	80	100	125	150	200	250	300
			1 1/2	2	2 1/2	3	4	5	6	8	10	12
Lock lever	1T	EPDM	1T-1				1T-2					
		NBR	1T-1				1T-2					
Worm gear	2T		2T-1				2T-2		2T-3			

<b>Butterfly Valve</b>
<b>TRITEC</b>
<b>TT2</b>
<b>334A</b>
<b>302A/303Q</b>
<b>304A/304Q</b>
<b>302Y/304Y</b>
<b>304M (HLV)</b>
<b>507V/508V</b>
<b>DTM</b>
<b>846T/847T/847Q</b>
<b>841T/842T</b>
<b>700Z</b>
<b>700G/704G/705G</b>
<b>700GB</b>
<b>731P/732P/732Q/752W</b>
<b>71LG</b>
<b>700E/700K/700S</b>
<b>704G/722F/720F</b>
<b>KRV</b>
<b>227P</b>
<b>907H/908H (MKT)</b>
<b>903C</b>

## 700GB Pressure-Temperature Rating



# 700GB

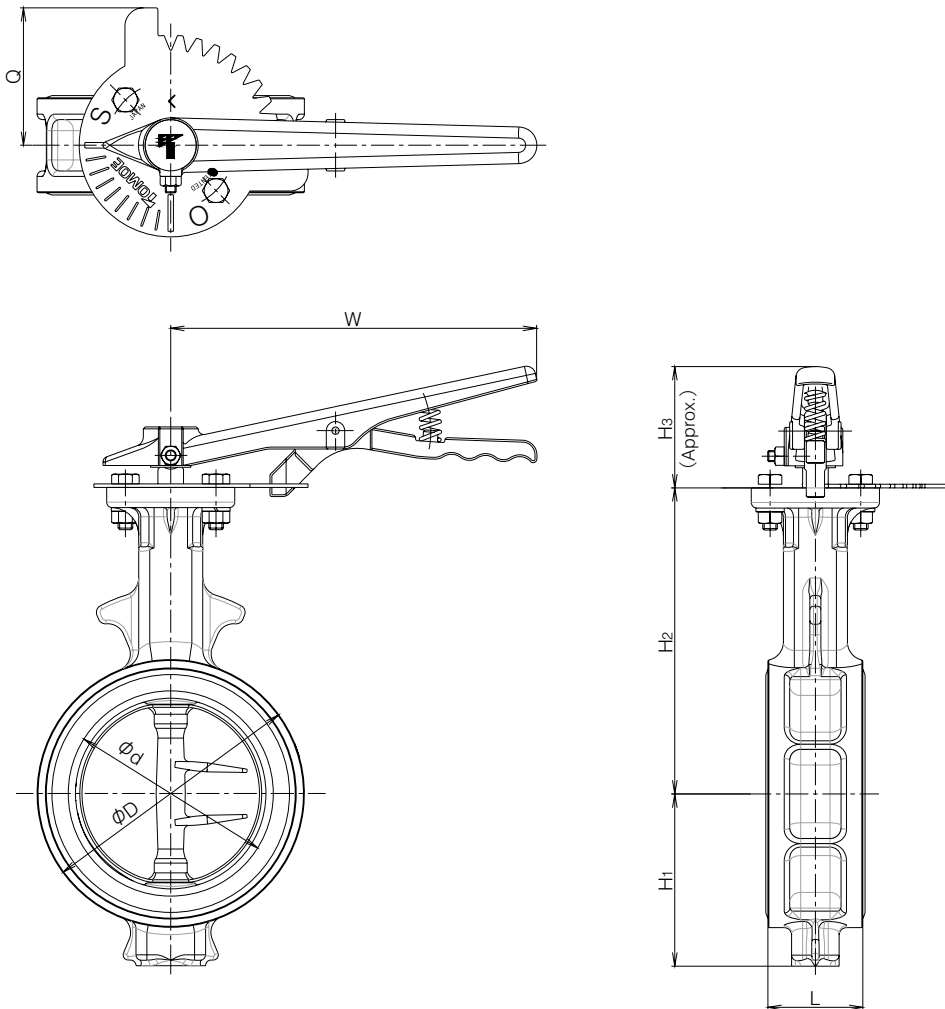
## Lock lever type 700GB-1T(40mm to 150mm)

Nominal size		Dimension (mm)								Lever type	Approx.Mass (kg)
mm	inch	$\phi d$	$\phi D$	L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	Q	W		
40	1 1/2	45	80	35	52	132	66	75	200	1T-1	2.1
50	2	56	90	43	59	138	66	75	200	1T-1	2.4
65	2 1/2	69	115	46	70	151	66	75	200	1T-1	3.0
80	3	84	126	46	77	156	66	75	200	1T-1	3.1
100	4	104	146	52	94	167	66	75	200	1T-1	3.8
125	5	130	181	56	108	191	92	87.5	300	1T-2	6.4
※ 150	6	153.5	211	56	125	202	92	87.5	300	1T-2	7.9

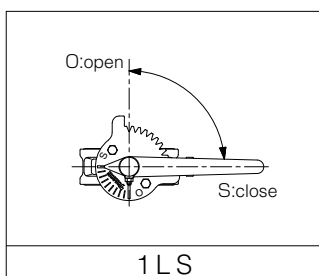
※EPDM : 40mm~150mm

N B R : 40mm~125mm (150 mm is not available)

### 700GB-1T



### 1T Installation direction

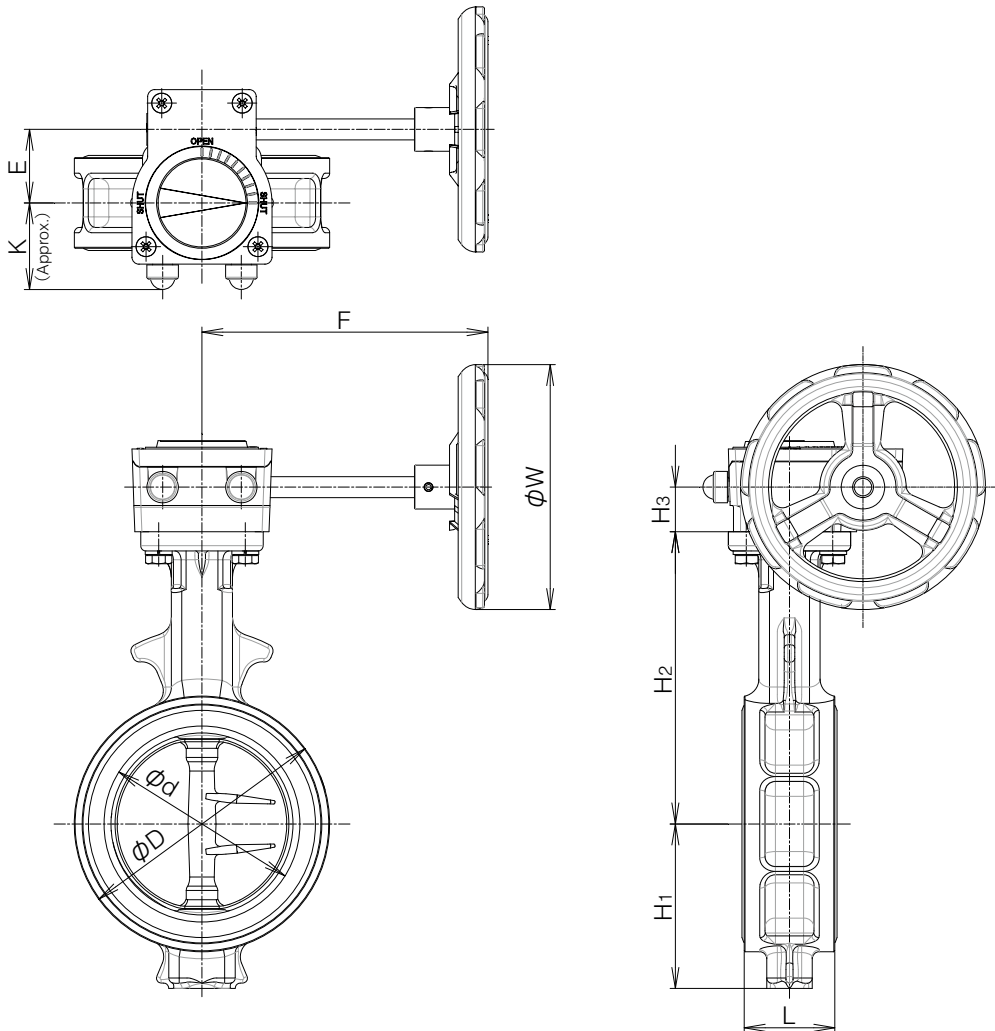


Worm Gear Type 700GB-2T(40mm to 300mm)

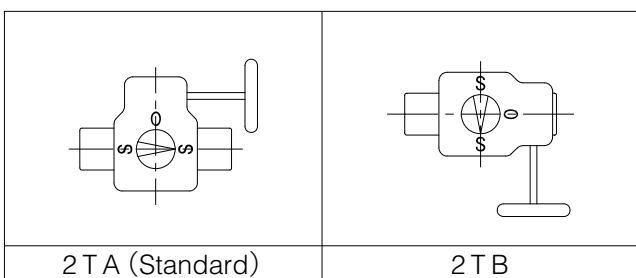
Nominal size		Dimension (mm)										Worm gear type	Approx.Mass (kg)
mm	inch	$\phi d$	$\phi D$	L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	E	K	F	W		
40	1 1/2	45	80	35	52	132	25	42	50	164	140	2T-1	2.8
50	2	56	90	43	59	138	25	42	50	164	140	2T-1	3.1
65	2 1/2	69	115	46	70	151	25	42	50	164	140	2T-1	3.7
80	3	84	126	46	77	156	25	42	50	164	140	2T-1	3.8
100	4	104	146	52	94	167	25	42	50	164	140	2T-1	4.4
125	5	130	181	56	108	191	30.5	60	65	240	250	2T-2	8.7
150	6	153.5	211	56	125	202	30.5	60	65	240	250	2T-2	10.2
200	8	199	256	60	167	227	30.5	60	65	240	250	2T-2	13.3
250	10	253	322	68	203	280	42	60	80	240	300	2T-3	21.1
300	12	302	367	78	241	312	42	60	80	240	300	2T-3	27.2

Butterfly Valve
<b>TRITEC</b>
<b>TT2</b>
<b>334A</b>
<b>302A/303Q</b>
<b>304A/304Q</b>
<b>302Y/304Y</b>
<b>304M (HLV)</b>
<b>507V/508V</b>
<b>DTM</b>
<b>846T/847T/847Q</b>
<b>841T/842T</b>
<b>700Z</b>
<b>700G/704G/705G</b>
<b>700GB</b>
<b>731P/732P/732Q/752W</b>
<b>71LG</b>
<b>700E/700K/700S</b>
<b>704G/722F/720F</b>
<b>KRV</b>
<b>227P</b>
<b>907H/908H (MKT)</b>
<b>903C</b>

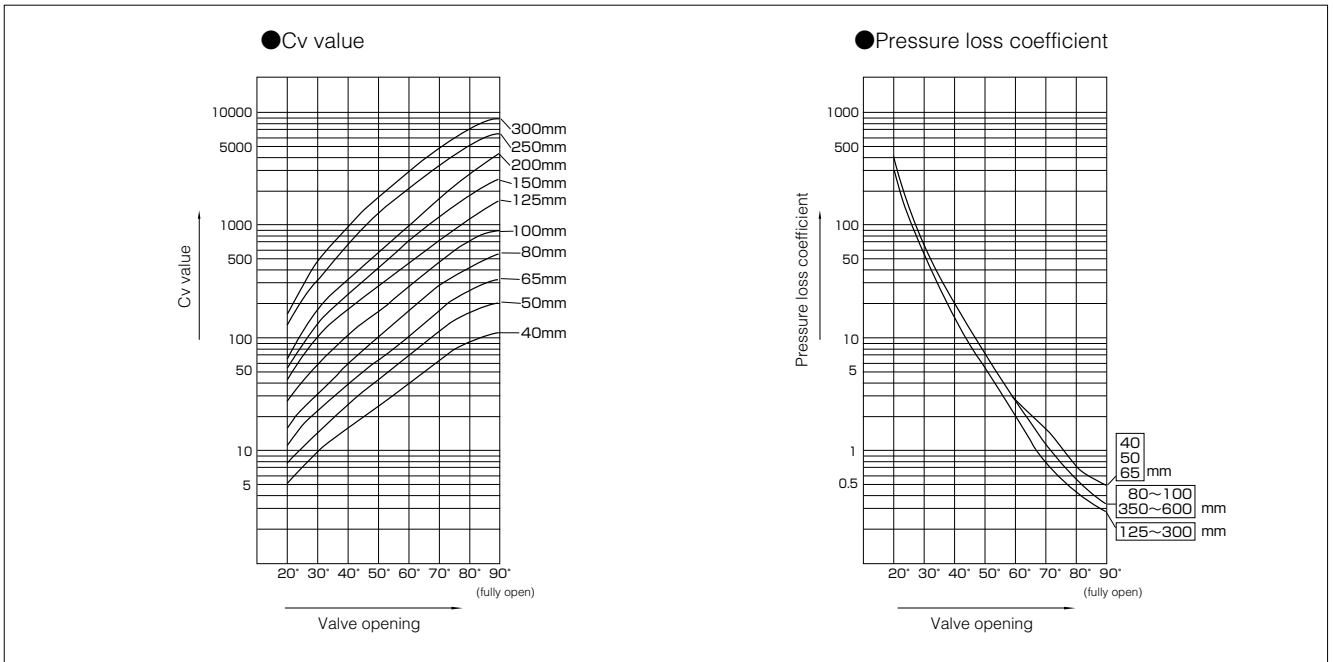
700GB-2T



2T Installation direction



## 700GB Cv value / pressure loss coefficient



### 700GB Cv value

Nominal size		Valve opening							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
40	1 1/2	5	9	16	25	39	61	95	121
50	2	8	15	25	40	64	103	160	200
65	2 1/2	12	25	41	64	102	162	260	320
80	3	15	33	57	95	163	271	450	580
100	4	27	58	100	162	269	444	749	880
125	5	45	109	189	295	453	719	1144	1590
150	6	60	148	262	423	685	1147	1897	2800
200	8	67	188	347	576	969	1698	2902	4300
250	10	130	351	675	1225	2125	3375	5091	6200
300	12	194	487	972	1764	3011	4966	7412	8900

### 700GB Pressure loss coefficient

Nominal size		Valve opening							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
40	1 1/2	264	72	26	10	4	2	1.0	0.4
50	2	257	68	25	10	4	2	1.0	0.4
65	2 1/2	310	75	28	11	4	2	1.0	0.4
80	3	394	83	27	10	3	1	0.4	0.2
100	4	350	78	26	10	4	1	0.4	0.3
125	5	316	53	18	7	3	1	0.4	0.2
150	6	348	57	18	7	3	1	0.3	0.1
200	8	849	106	31	11	4	1	0.4	0.2
250	10	528	72	20	6	2	1	0.3	0.2
300	12	488	78	20	6	2	1	0.3	0.2

## 700GB Applicable Flange Standard

Nominal size		JIS		ASME B16.1 ASME B16.5		BS4504 DIN2632, DIN2633 GB/T9113.1			BS 10
mm	inch	5K	10K	Class125	Class150	PN6 PN0.6	PN10 PN1.0	PN16 PN1.6	Table E
40	1 1/2	○	○	○	○	○	○	○	○
50	2	○	○	○	○	○	○	○	○
65	2 1/2	○	○	○	○	○	○	○	△
80	3	○	○	◎	◎	◎	◎	◎	○
100	4	○	○	◎	◎	◎	◎	◎	○
125	5	○	○	◎	◎	○	◎	◎	○
150	6	○	○	○	○	×	○	○	○
200	8	○	○	◎	◎	○	◎	◎	○
250	10	○	○	○	○	×	○	×	○
300	12	○	○	◎	◎	○	◎	×	○

- : Applicable without additional flange machining.  
 ◎ : Applicable without additional flange machining. (Use ANSI body.)  
 △ : Applicable with additional flange machining.  
 × : Not applicable.

Butterfly Valve
<b>TRITEC</b>
<b>TT2</b>
<b>334A</b>
<b>302A/303Q</b>
<b>304A/304Q</b>
<b>302Y/304Y</b>
<b>304M (HLV)</b>
<b>507V/508V</b>
<b>DTM</b>
<b>846T/847T/847Q</b>
<b>841T/842T</b>
<b>700Z</b>
<b>700G/704G/705G</b>
<b>700GB</b>
<b>731P/732P/732Q/752W</b>
<b>71LG</b>
<b>700E/700K/700S</b>
<b>704G/722F/720F</b>
<b>KRV</b>
<b>227P</b>
<b>907H/908H (MKT)</b>
<b>903C</b>

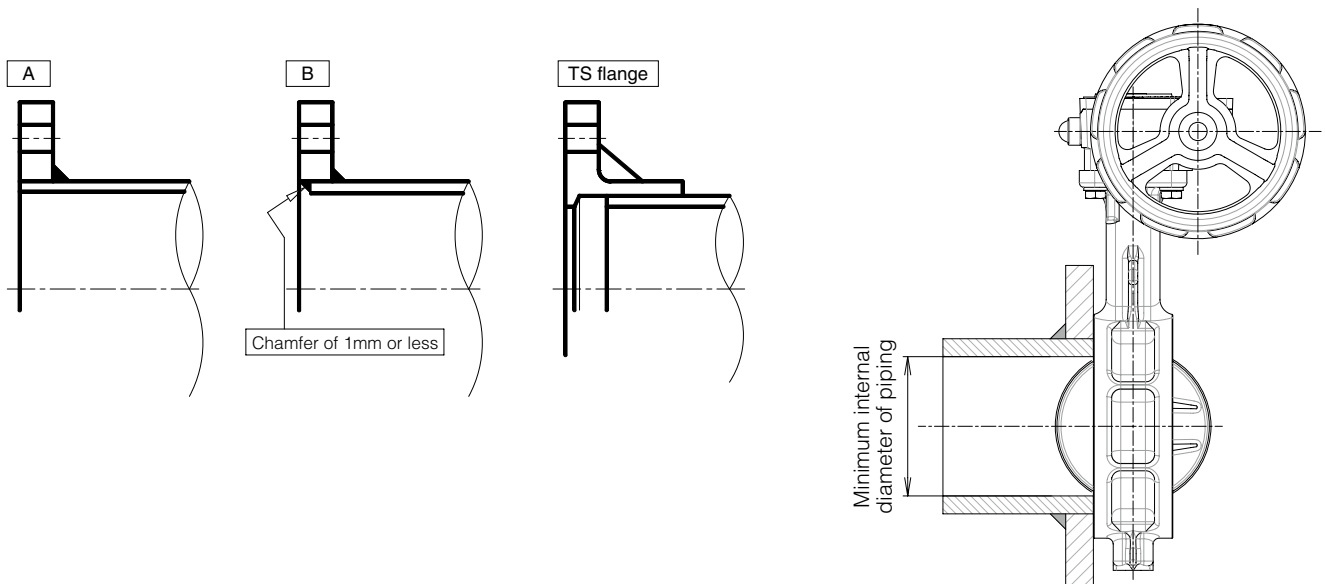


# 700GB

## 700GB Applicable pipe list

Nominal size		SGP	Sch20	Sch40	VP (TS flange)	Sch10S	Sch20S	Minimum internal diameter of piping (mm)
mm	inch							
40	1 1/2	○	—	○	○	○	○	25
50	2	○	○	○	○	○	○	34
65	2 1/2	○	○	○	○	○	○	51
80	3	○	○	○	○	○	○	70
100	4	○	○	○	○	○	○	91
125	5	○	○	○	○	○	○	118
150	6	○	○	○	○	○	○	144
200	8	○	○	○	○	○	○	194
250	10	○	○	○	○	○	○	246
300	12	○	○	○	○	○	○	295

Remark: The symbols above mean the following.  
 ○: Applicable —: Not standardized



## 700GB Piping bolt and nut sizes

### Hexagon bolt & nut

Nominal size		JIS 5K	JIS 10K
mm	inch	Hexagon bolts and nuts	Hexagon bolts and nuts
40	1 1/2	4-M12× 75×30	4-M16× 90×38
50	2	4-M12× 90×30	4-M16×100×38
65	2 1/2	4-M12× 90×30	4-M16×105×38
80	3	4-M16× 95×38	8-M16×105×38
100	4	8-M16×105×38	8-M16×110×38
125	5	8-M16×110×38	8-M20×125×46
150	6	8-M16×115×38	8-M20×130×52
200	8	8-M20×130×52	12-M20×130×52
250	10	12-M20×140×52	12-M22×150×60
300	12	12-M20×150×52	16-M22×160×60

### Long bolt & nut

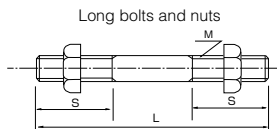
Nominal size		JIS 5K	JIS 10K	ASME Class 125/150
mm	inch	Long bolts and nuts	Long bolts and nuts	Long bolts and nuts
40	1 1/2	4-M12× 95×25	4-M16×110×25	4-U1/2 ×110×32
50	2	4-M12×105×25	4-M16×120×30	4-U5/8 ×140×38
65	2 1/2	4-M12×110×25	4-M16×125×30	4-U5/8 ×140×38
80	3	4-M16×120×30	8-M16×125×30	4-U5/8 ×140×38
100	4	8-M16×130×30	8-M16×130×30	8-U5/8 ×150×38
125	5	8-M16×130×30	8-M20×150×40	8-U3/4 ×160×51
150	6	8-M16×140×35	8-M20×155×40	8-U3/4 ×165×51
200	8	8-M20×155×40	12-M20×155×40	8-U3/4 ×175×51
250	10	12-M20×165×40	12-M22×175×45	12-U7/8 ×195×58
300	12	12-M20×175×40	16-M22×185×45	12-U7/8 ×205×58

**Remarks:**

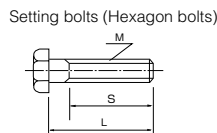
1. Please use a hexagon nut with 80% threading. (For ANSI, use heavy nut.)
2. A unified screw should have 8 threads per inch if its nominal diameter exceeds 1 inch.
3. The bolt lengths are in accordance with thickness of steel flanges. In case of cast iron, plastic or lining flange, length of bolt may differ.

**Example**

Long bolts: 12 - M22 × 185 × 45  
                   |      |      |      |  
                   N      M      L      S



Setting bolts: 4 - M30 × 95 × 65  
 (Hexagon bolts) |      |      |      |  
                       N      M      L      S



Butterfly Valve
<b>TRITEC</b>
<b>TT2</b>
<b>334A</b>
<b>302A/303Q</b>
<b>304A/304Q</b>
<b>302Y/304Y</b>
<b>304M (HLV)</b>
<b>507V/508V</b>
<b>DTM</b>
<b>846T/847T/847Q</b>
<b>841T/842T</b>
<b>700Z</b>
<b>700G/704G/705G</b>
<b>700GB</b>
<b>731P/732P/732Q/752W</b>
<b>71LG</b>
<b>700E/700K/700S</b>
<b>704G/722F/720F</b>
<b>KRV</b>
<b>227P</b>
<b>907H/908H (MKT)</b>
<b>903C</b>