

# Tom Disco® 302Y/304Y

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

**Ideal shutoff with new stopper mechanism.**

**Two types of seats, metal and Teflon, for optimum performance in your applications.**

### General description

The 300 series is optimal for applications that cannot be handled by valves with rubber seats because of the temperature, pressure, fluid velocity, or fluid itself. Two types are available: the 302Y with a metal seat for steam line applications and the 304Y with a Teflon seat for chemical line applications.

### Structure

## 302Y Metal seat type

**Usable in pressures up to 2.0MPa and temperatures up to 250 degrees C**

Since the sealing surfaces of the disc and seat ring are rounded for a linear contact (same for the 304Y), it is possible for use in high pressure and high temperature applications. In addition, a newly developed seat ring with coil springs compensates for thermal expansion and contraction in the body and disc.

## 304Y Teflon seat type

**Usable in pressures up to 2.0MPa and temperatures up 200 degrees C**

Perfect for uses in chemical plants requiring high corrosion resistance and in food industries requiring hygienically clean conditions.

(Except for the seat rings and seat retainer, all components are the same as the 302Y 40 to 300mm models.)

### Features

**Easy replacement of the seat ring**

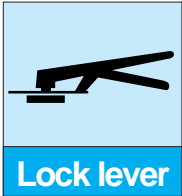
The ball lock method is used to simplify replacement of the seat ring.

- Valve nominal size  
302Y: 40 to 300mm  
304Y: 40 to 300mm
- Max. working pressure  
2.0MPa
- Working temperature range  
302Y: -20 to 250 degrees C  
304Y: -20 to 200 degrees C

### Standard specifications

Valve type		302Y	304Y
Seat type		Metal seat type	Teflon seat type
Valve nominal size <sup>1</sup>		40mm to 300mm	40mm to 300mm
Applicable flange standard		JIS 5K/10K/16K/20K, ANSI 150Lb, BS10 Table E/F, BS 4504, PN 6/10/16, DIN NP 6/10/16etc	
Face-to-face dimensions		JIS B 2002 (46 series) / ISO 5752 (20 series)	
Actuator mounting flange		ISO 5211	
Pressure rating		ANSI (B16.34, B16.42) class 150Lb	
Max. working pressure <sup>2</sup>		2.0MPa (250, 300mm: 1.6MPa)	2.0MPa
Body shell test		Max.3.0MPa	
Seat leak test		Max.2.2MPa	
Flow direction		On the valve disc side: 2.0MPa On the valve disc side: 1.0MPa The max. pressure on the valve disc side for 250mm and 300mm valves is 1.6MPa	Bi-directional On the valve disc side: 2.0MPa
Seat leakage		ISO 5208 leakage rate C	ISO 5208 leakage rate A (tight shut off)
Working temperature range <sup>2</sup>		- 20 to 250 degrees C	- 20 to 250 degrees C
Standard materials	Body <sup>3</sup>	FCD450 (Tufftride treated) or SCS13A	
	Disc	SCS13A (HCr plating)	
	Stem	SUS420J2 or SUS329J1	
	Seat ring	SUS316	RPTFE (with carbon) or the optional specification PFE + TFE (white)
Gland packing		Teflon with carbon graphite	
Bonnet type		Open bonnet	
Actuators	Lock lever	40mm to 150mm <sup>2</sup>	
	Worm gear	40mm to 300mm <sup>2</sup>	
	Pneumatic cylinder	40mm to 300mm <sup>2</sup>	
	Motorized	40mm to 300mm <sup>2</sup>	
Coating		Under 200 degrees C: Modified silicon resin coating (Munsell N7), Over 200 degrees C (Heat resistant paint (silver)	

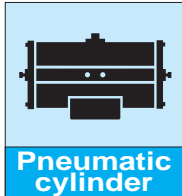
1. Please use 302A or 304A if using a nominal valve diameter of 80mm to 800mm. Teflon is a registered trademark for a fluoride resin produced by Mitsui-DuPont Fluorochemical Co., Ltd.  
2. Please refer to the pressure-temperature rating chart provided on pages 302Y/304Y-05 and —06.  
3. For the 40mm size, only SCS13 is available for the body material.



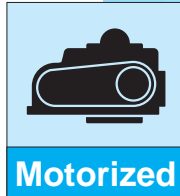
Lock lever



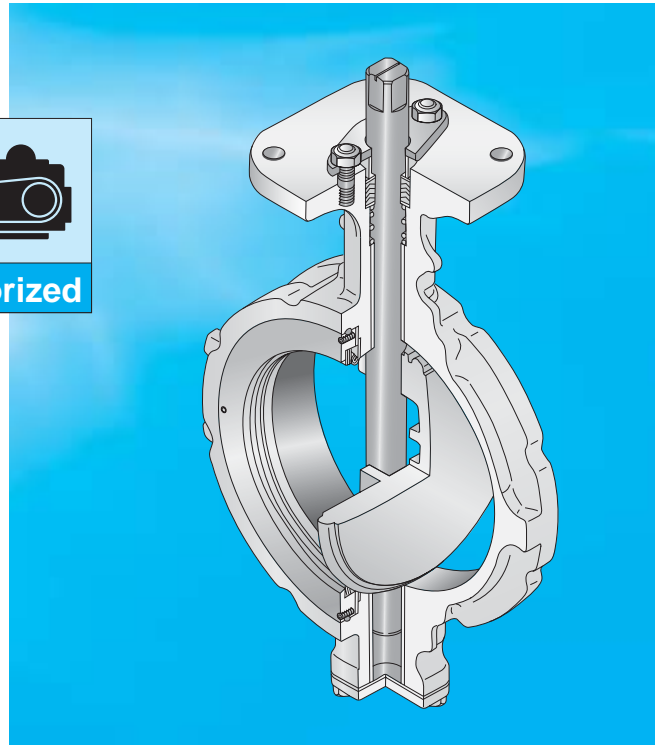
Worm gear



Pneumatic cylinder



Motorized



Butterfly Valves

TRITEC

TT2

334A

302A/303Q

304A/304Q

302Y/304Y

304M(HLV)

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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

### New Stopper Device

Japan Patent No. 1769954

For the 40 to 300mm models, automatic aligning and disc overrun prevention are ensured by the special spherical design of the inner surface of the body disc hub edge. Disc overrun is prevented by a protrusion on the inner surface of the body.

### Double eccentric structure

The disc is rotated easily by minimal torque and unseats after turning only a small angle. Moreover, seat abrasion is prevented for a long life of proper sealing.

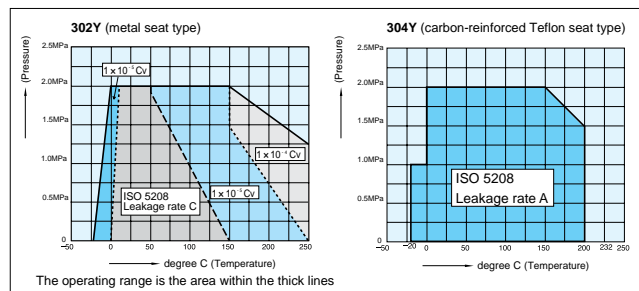
### Thin disc with a rigid construction

The disc is thin but ribbed for extra rigidity. The disc reduces thermal expansion and provides consistent sealing even in changing temperatures or pressures.

### Seal the flow from both directions

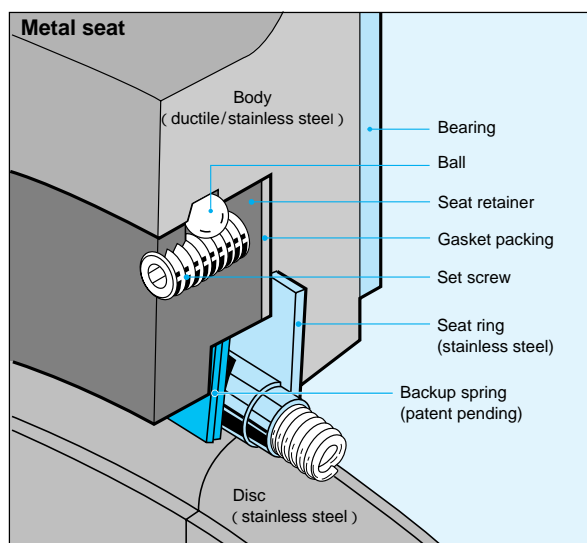
Seals flow in both directions. Valve can be used as is, even if the flow changes directions. (There are pressure limitations for each direction of flow. See chart below for recommended specifications.)

Pressure-temperature leakage chart



### Resilient metal seat ring with original coil spring

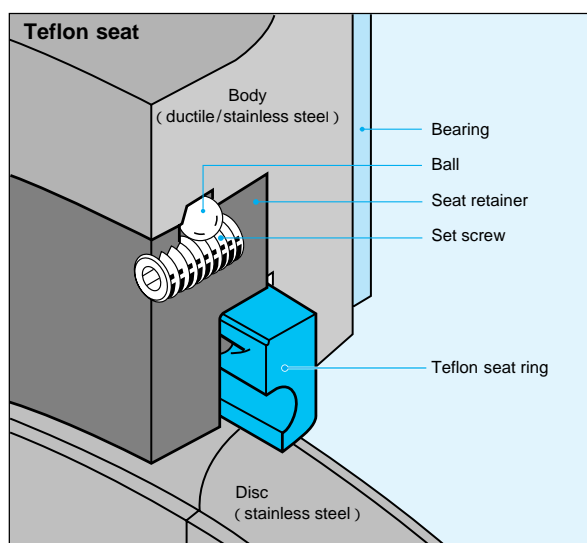
#### Tom Disco® 302Y



Utility model registration No.1863711

### Teflon seat ring is inert to most chemical products and solvents.

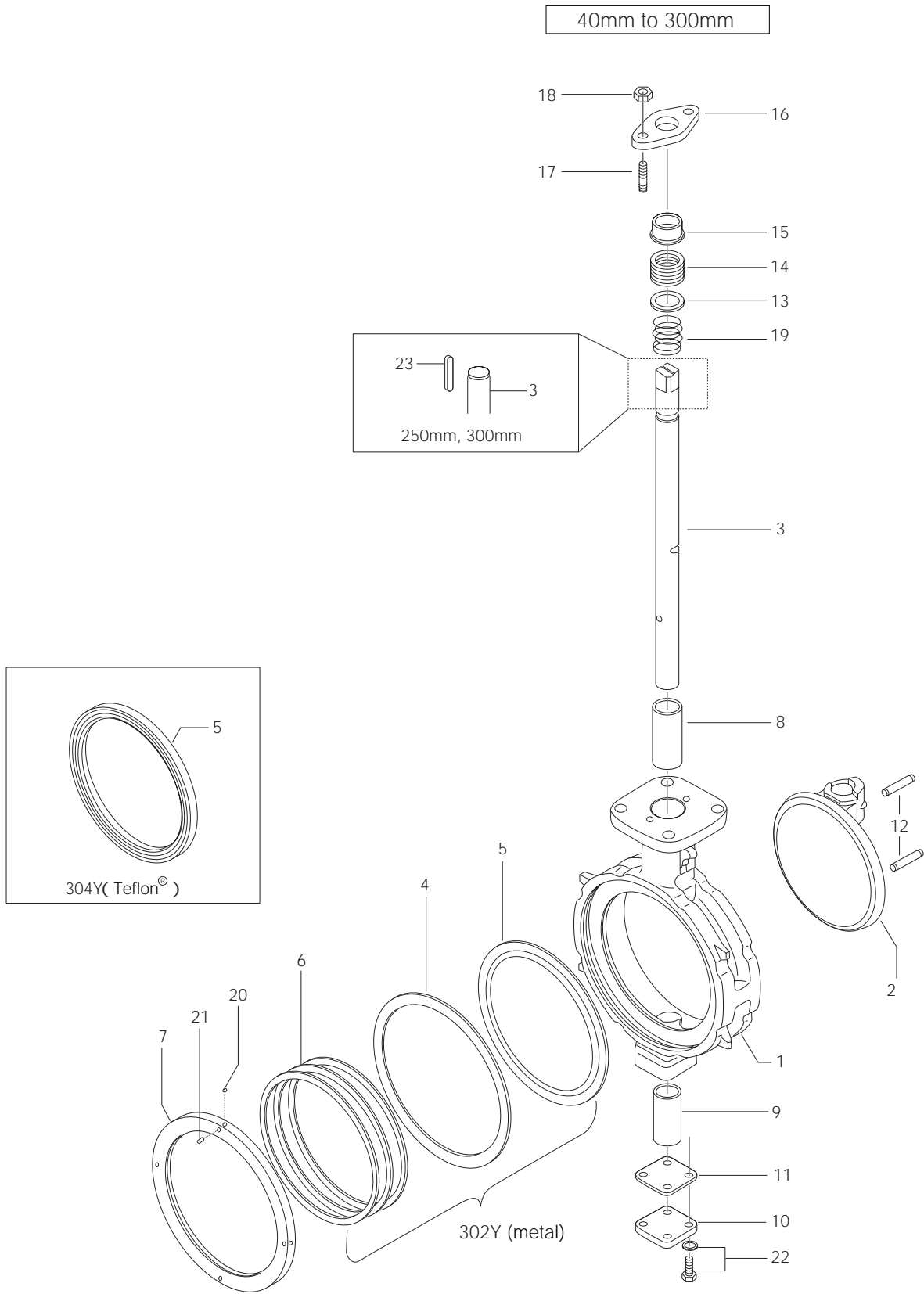
#### Tom Disco® 304Y



# Tom Disco® 302Y/304Y

## 302Y/304Y Expanded view of components

Butterfly Valves
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700E/700K
704G/722F/720F
LRV
227P
MKT
903C/904C




## 302Y/304Y Parts list

### 302Y Parts list

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3	Stem	1	
4	Seat ring gasket	1	
5	Seat ring	1	
6	Back-up spring	2	40mm to 100mm
		3	125mm to 200mm
		4	250mm, 300mm
7	Seat ring retainer	1	
8	Top shaft bearing	1	
9	Bottom shaft bearing	1	
10	Bottom cover	1	
11	Bottom gasket	1	
12	Taper pin	2	
13	Packing retainer	1	
14	Gland packing	1 sets	
15	Rough gland	1	
16	Gland flange	1	
17	Gland bolt	2	
18	Gland nut	2	
19	Gland coil	1	Only 40mm to 150mm
20	Ball	2	40mm to 125mm
		4	150mm to 300mm
21	Set screw	2	40mm to 125mm
		4	150mm to 300mm
22	Hexagon bolt, Spring washer	4 sets	
23	Key	1	Only 250mm, 300mm

### 304Y Parts list

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3	Stem	1	
5	Seat ring	1	
7	Seat ring retainer	1	
8	Top shaft bearing	1	
9	Bottom shaft bearing	1	
10	Bottom cover	1	
11	Bottom gasket	1	
12	Taper pin	2	
13	Packing retainer	1	
14	Gland packing	1 sets	
15	Gland bush	1	
16	Gland flange	1	
17	Gland bolt	2	
18	Gland nut	2	
19	Gland coil	1	Only 40mm to 150mm
20	Ball	2	40mm to 125mm
		4	150mm to 300mm
21	Set screw	2	40mm to 125mm
		4	150mm to 300mm
22	Hexagon bolt, Spring washer	4 sets	
23	Key	1	Only 250mm, 300mm

Remark: The  indicates recommended spare parts. They are supplied as "Seat ring set" with a small hexagonal spanner to remove set screws (P.21).

### Butterfly Valves

TRITEC

TT2

334A

302A/303Q

304A/304Q

302Y/304Y

304M<sup>(HLV)</sup>

507V/508V

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841T/842T

773Z<sup>(NAV-Z)</sup>

700G/704G/705G

731P/732P

732X/731X

700E/700K

704G/722F/720F

LRV

227P

MKT

903C/904C

# Tom Disco® 302Y/304Y

## 302Y Actuator selection chart

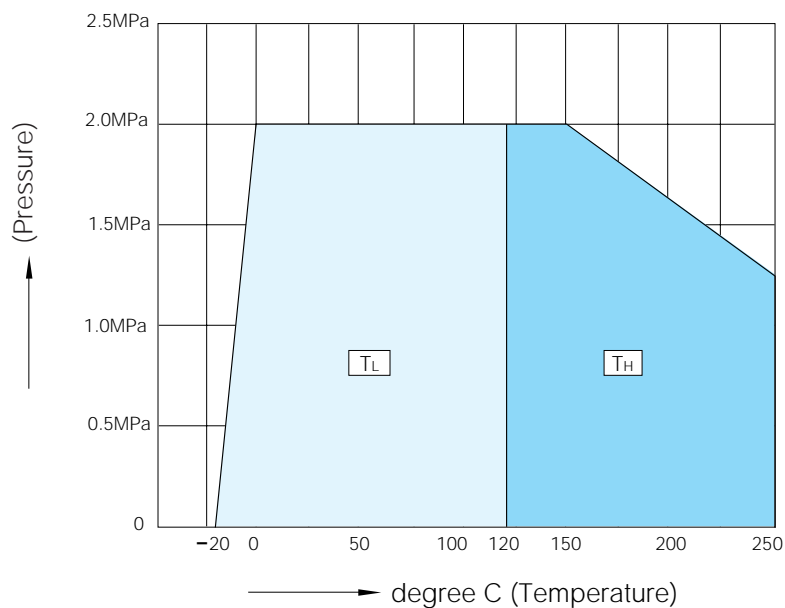
Butterfly Valves
TRITEC
TT2
334A
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LRV
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903C/904C

### 302Y

Model	Category	Size (mm/inch)									
		40 1 1/2	50 2	65 2 1/2	80 3	100 4	125 5	150 6	200 8	250 10	300 12
1T	TL TH	1T-1			1T-2			1T-3			
2U,2S	TL TH	2U-0	2U-1	2U-2	2U-3	2U-4	DGH-2	DGH-3			
3E,3A	TL TH	K70			K170		K370	K700		TGA-125	
3G,3F 3U,3K	TL TH	K170S	K370S		K700S		TG-12S		TG-14S		
4I	TL TH	4I-0		4I-1		4I-2		4I-2.5	4I-3	4I-4 (control)	4I-4
4J,4L	TL TH	SRJ-010			SRJ-020		SRJ-060		LTKD-01 0.2kW/ DGH-3		

Remark: For the 300mm model with the accessories below (for control), type 4I-4 should be selected.  
 Micom unit  
 Servo unit  
 Speed control unit  
 Potentiometer

## 302Y Pressure rating



### 304Y Actuator selection chart

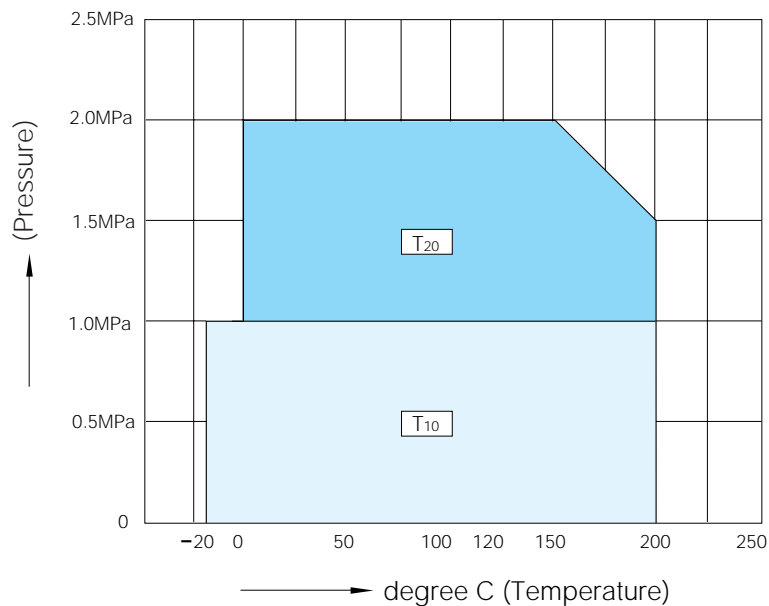
#### 304Y

Model	Category	Size <small>(mm / inch)</small>									
		40	50	65	80	100	125	150	200	250	300
		1 1/2	2	2 1/2	3	4	5	6	8	10	12
1T	T <sub>10</sub>	1T-1			1T-2			1T-3			
	T <sub>20</sub>	1T-1			1T-2			1T-3			
2U	T <sub>10</sub>	2U-0	2U-1	2U-2			2U-4		2U-5		
	T <sub>20</sub>	2U-0	2U-1	2U-2			2U-4		2U-5		
3E	T <sub>10</sub>	K30		K70		K170		K370		K700	
	T <sub>20</sub>	K30		K70		K170		K370		K700	
3G,3F 3U,3K	T <sub>10</sub>	K70S		K170S		K370S	K700S		TG-12S		
	T <sub>20</sub>	K70S		K170S		K370S	K700S		TG-12S		
4I	T <sub>10</sub>	4I-0			4I-1	4I-2		4I-2.5		4I-3	
	T <sub>20</sub>	4I-0			4I-1	4I-2		4I-2.5		4I-3	
4J	T <sub>10</sub>	SRJ-010				SRJ-020		SRJ-060			
	T <sub>20</sub>	SRJ-010				SRJ-020		SRJ-060			

#### Butterfly Valves

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

### 304Y Pressure rating



# Tom Disco® 302Y/304Y

302Y/304Y Bare shaft ( 01: 40mm to 200mm, 02: 250mm, 300mm )

Butterfly Valves

302Y-01/02, 304Y-01/02

Stem design	Nominal size		Dimension (mm)														Approx. weight (kg)
	mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	a <sub>1</sub>	a <sub>2</sub>	S <sub>1</sub>	d <sub>2</sub>	b	t <sub>2</sub>	t	Flange type	
01	40	1 1/2	48	81	33	15	64	118	47.5	11.5	8	10	-	-	12	F07	2.1
	50	2	60	97	43	21	74	125	47.5	11.5	10	12	-	-	12	F07	2.5
	65	2 1/2	74	117	46	22	85	138	47.5	11.5	12	14	-	-	12	F07	3.6
	80	3	89	127	46	21	95	147	52.5	16.5	14	16	-	-	15	F10	4.7
	100	4	112	152	52	22	110	170	52.5	16.5	14	16	-	-	15	F10	5.7
	125	5	137	183	56	24	139	185	52.5	16.5	16	20	-	-	15	F10	8.8
	150	6	163	213	57	23	164	205	55.5	20	18	22	-	-	15	F12	12
	200	8	213	263	62	26	190	235	63.0	30	24	28	-	-	15	F12	18
	02	250	10	263	325	70	30	236	283	108.0	67	-	32	10	3	18	F14
300		12	315	368	80	34	246	310	113.0	72	-	35	10	3	18	F14	39

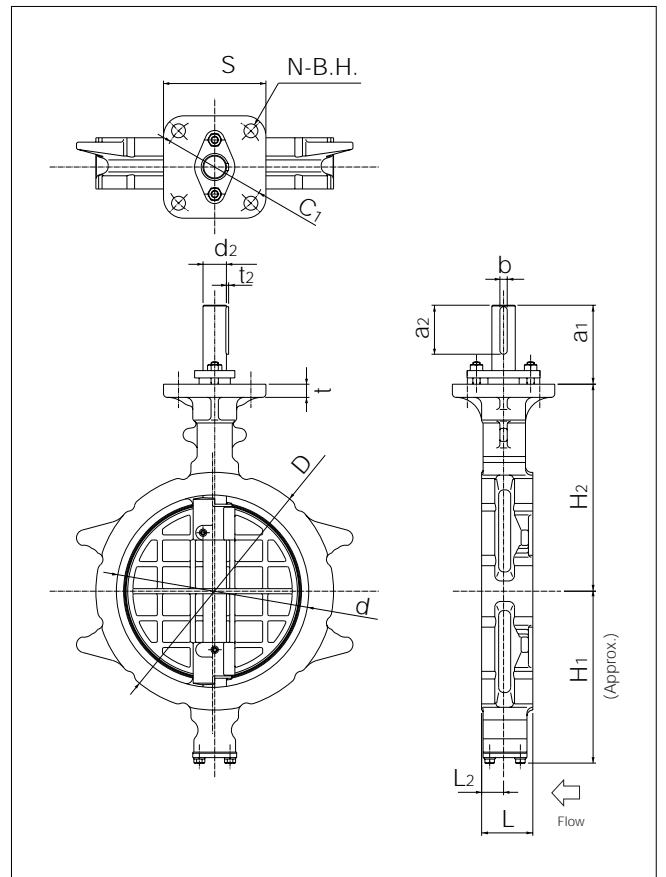
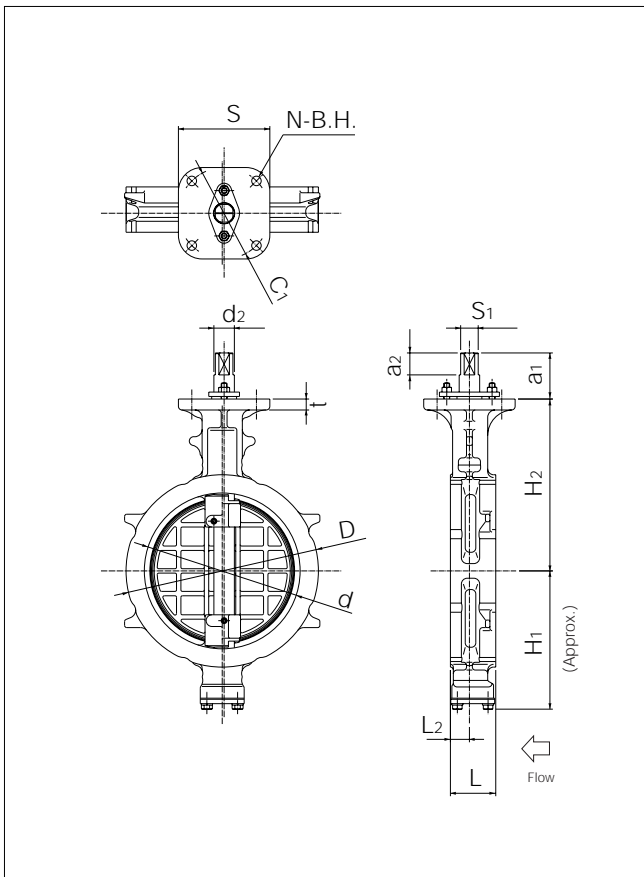
Top flange

Flange type	S	C <sub>1</sub>	N	B.H.
F07	70	70	4	9
F10	102	102	4	11
F12	125	125	4	13
F14	140	140	4	19

**Stem design**  
 01 : Square  
 02 : Round with key

302Y/304Y 40mm to 200mm

302Y/304Y 250mm, 300mm

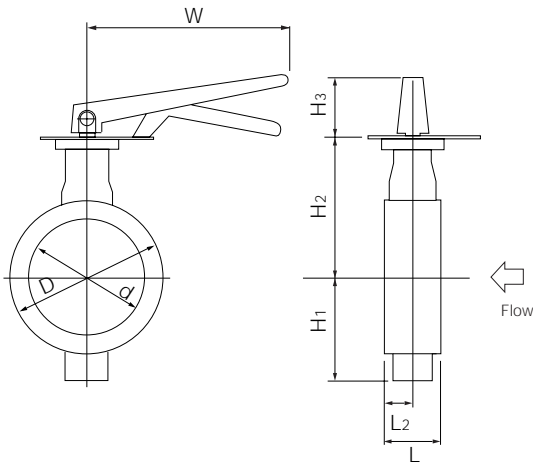


Lock lever type 302Y/304Y-1T( 40mm to 150mm )

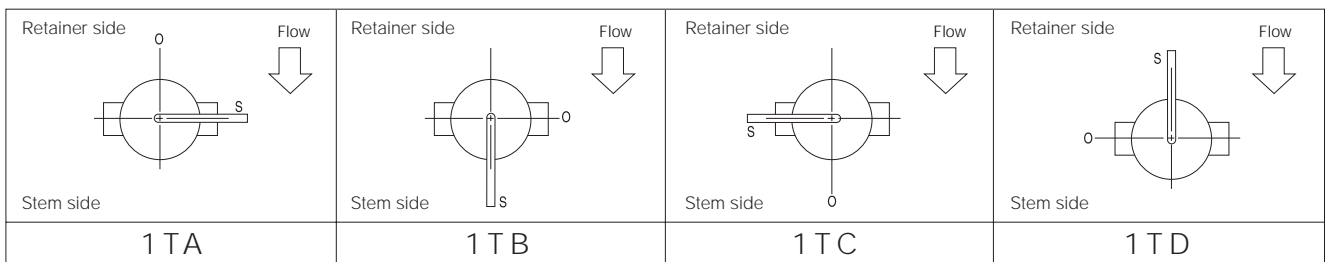
302Y-1T, 304Y-1T

Nominal size		Dimension (mm)								Lever type	Approx. weight (kg)
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	W		
40	1 1/2	48	81	33	15	64	118	91	200	1T-1	3.1
50	2	60	97	43	21	74	125	91	200	1T-1	3.5
65	2 1/2	74	117	46	22	85	138	91	200	1T-1	4.6
80	3	89	127	46	21	95	147	117	300	1T-2	6.8
100	4	112	152	52	22	110	170	117	300	1T-2	7.8
125	5	137	183	56	24	139	185	117	300	1T-2	10.9
150	6	163	213	57	23	164	205	125	350	1T-3	14.1

302Y-1T, 304Y-1T



1T Installation direction



Butterfly Valves

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

# Tom Disco® 302Y/304Y

Worm gear type 302Y-2U( 40mm to 150mm ) / 302Y-2S (200mm to 300mm) / 304Y-2U( 40mm to 300mm )

Butterfly Valves

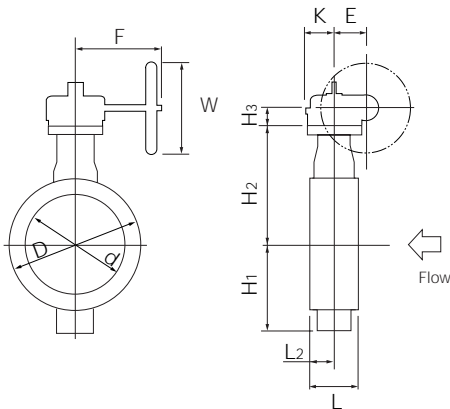
### 302Y-2U( 40mm to 150mm ) / 2S (200mm to 300mm)

	Nominal size		Dimension (mm)										Gear type	Approx. weight (kg)		
	mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	E	K	F			W	
TRITEC																
TT2	40	1 1/2	48	81	33	15	64	118	56	36	46	160	100	2U-0	5	
334A	50	2	60	97	43	21	74	125	56	36	46	160	100	2U-1	5.4	
302A/303Q	65	2 1/2	74	117	46	22	85	138	56	36	46	160	100	2U-1	6.5	
304A/304Q	80	3	89	127	46	21	95	147	61	44	53	173.5	160	2U-2	7.6	
302Y/304Y	100	4	112	152	52	22	110	170	61	44	53	173.5	160	2U-2	8.6	
	125	5	137	183	56	24	139	185	68	67	75	198	200	2U-3	18	
304M(HLV)	150	6	163	213	57	23	164	205	77.5	87.5	90	222.5	200	2U-4	28.5	
507V/508V	200	8	213	263	62	26	190	235	72	85	126	246	280	DGH-2	38	
846T/847T/847Q	250	10	263	325	70	30	236	283	97	117	164	335	355	DGH-3	69	
841T/842T	300	12	315	368	80	34	246	310	97	117	164	335	355	DGH-3	76	

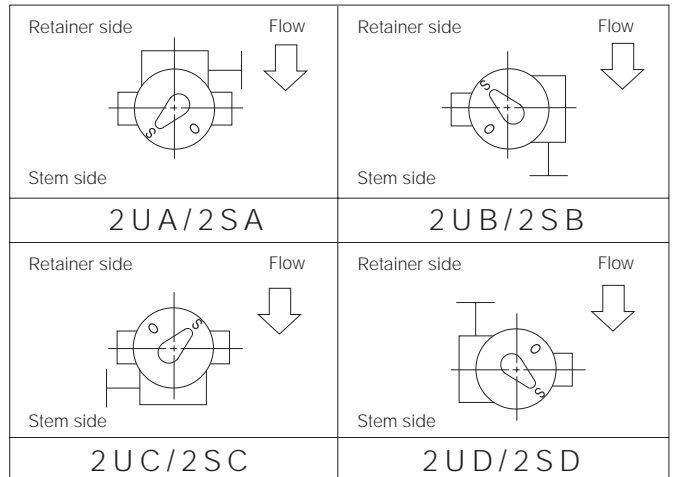
### 304Y-2U

	Nominal size		Dimension (mm)										Gear type	Approx. weight (kg)		
	mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	E	K	F			W	
773Z(NAV-Z)																
700G/704G/705G	40	1 1/2	48	81	33	15	64	118	56	36	46	160	100	2U-0	5	
731P/732P 732X/731X	50	2	60	97	43	21	74	125	56	36	46	160	100	2U-1	5.4	
700E/700K	65	2 1/2	74	117	46	22	85	138	56	36	46	160	100	2U-1	6.5	
704G/722F/720F	80	3	89	127	46	21	95	147	61	44	53	173.5	160	2U-2	7.6	
LRV	100	4	112	152	52	22	110	170	61	44	53	173.5	160	2U-2	8.6	
227P	125	5	137	183	56	24	139	185	61	44	53	174	160	2U-2	11.9	
	150	6	163	213	57	23	164	205	77.5	87.5	90	222.5	200	2U-4	28.5	
MKT	200	8	213	263	62	26	190	235	77.5	87.5	90	222.5	200	2U-4	34.5	
903C/904C	250	10	263	325	70	30	236	283	90	87.5	90	222.5	280	2U-4	49.7	
	300	12	315	368	80	34	246	310	92	90	105	266	280	2U-5	61	

### 302Y-2U/2S 304Y-2U



### 2U/2S Installation direction



Double-acting pneumatic cylinder type 302Y-3E( 40mm to 200mm ) / 304Y-3E( 40mm to 300mm )

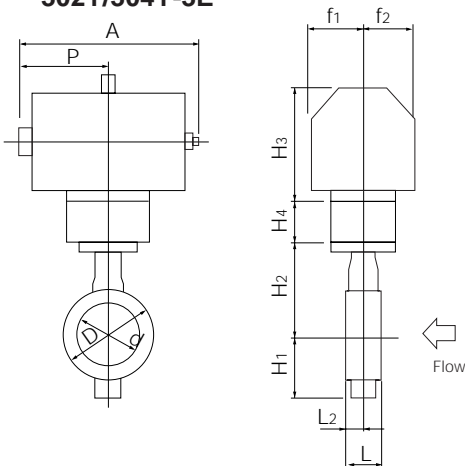
302Y-3E

Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)	
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	H <sub>4</sub>	A	P	f <sub>1</sub>			f <sub>2</sub>
40	1 1/2	48	81	33	15	64	118	T <sub>L</sub> ,T <sub>H</sub>	133	26.5	266	136	53	51	K70	6.5
50	2	60	97	43	21	74	125	T <sub>L</sub> ,T <sub>H</sub>	133	26.5	266	136	53	51	K70	7
65	2 1/2	74	117	46	22	85	138	T <sub>L</sub>	133	26.5	266	136	53	51	K70	8
								T <sub>H</sub>	157	26.5	330	169	65	58	K170	11
80	3	89	127	46	21	95	147	T <sub>L</sub>	133	26.5	266	136	53	51	K70	9.5
								T <sub>H</sub>	157	26.5	330	169	65	58	K170	12.5
100	4	112	152	52	22	110	170	T <sub>L</sub>	157	26.5	330	169	65	58	K170	13.5
								T <sub>H</sub>	184	26.5	409	207	83	69	K370	18.5
125	5	137	183	56	24	139	185	T <sub>L</sub>	157	26.5	330	169	65	58	K170	16.5
								T <sub>H</sub>	184	26.5	409	207	83	69	K370	21.5
150	6	163	213	57	23	164	205	T <sub>L</sub>	184	29.5	409	207	83	69	K370	25.5
								T <sub>H</sub>	224	29.5	518	260	101	85	K700	35.5
200	8	213	263	62	26	190	235	T <sub>L</sub> ,T <sub>H</sub>	224	29.5	518	260	101	85	K700	41.5

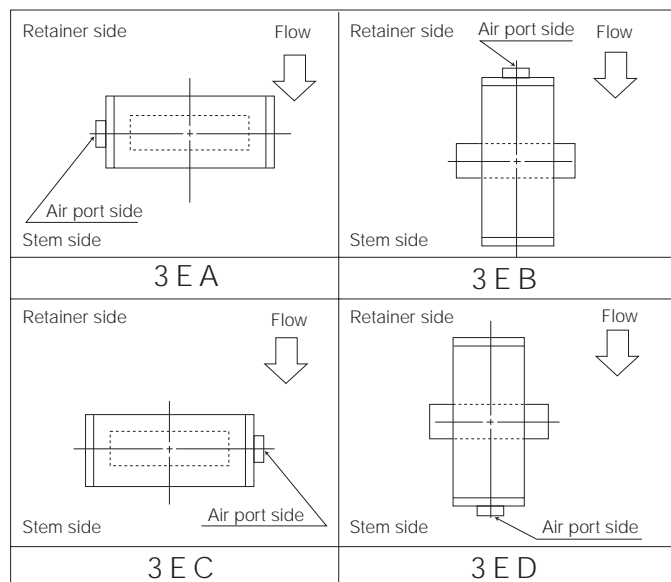
304Y-3E

Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)	
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	H <sub>4</sub>	A	P	f <sub>1</sub>			f <sub>2</sub>
40	1 1/2	48	81	33	15	64	118	T <sub>10</sub> ,T <sub>20</sub>	113	26.5	216.5	111.5	40	50	K30	4.5
50	2	60	97	43	21	74	125	T <sub>10</sub> ,T <sub>20</sub>	113	26.5	216.5	111.5	40	50	K30	5
65	2 1/2	74	117	46	22	85	138	T <sub>10</sub>	113	26.5	216.5	111.5	40	50	K30	6
								T <sub>20</sub>	133	26.5	226	136	53	51	K70	8
80	3	89	127	46	21	95	147	T <sub>10</sub> ,T <sub>20</sub>	133	26.5	226	136	53	51	K70	9.5
100	4	112	152	52	22	110	170	T <sub>10</sub>	133	26.5	226	136	53	51	K70	10.5
								T <sub>20</sub>	157	26.5	330	169	65	58	K170	13.5
125	5	137	183	56	24	139	185	T <sub>10</sub> ,T <sub>20</sub>	157	26.5	330	169	65	58	K170	16.5
150	6	163	213	57	23	164	205	T <sub>10</sub> ,T <sub>20</sub>	157	29.5	330	169	65	58	K170	20.5
200	8	213	263	62	26	190	235	T <sub>10</sub> ,T <sub>20</sub>	184	29.5	409	207	83	69	K370	31.5
250	10	263	325	70	30	236	283	T <sub>10</sub>	184	190	409	207	83	87.5	K370	59.5
								T <sub>20</sub>	224	190	518	260	101	87.5	K700	69
300	12	315	368	80	34	246	310	T <sub>10</sub> ,T <sub>20</sub>	224	190	518	260	101	87.5	K700	76.5

302Y/304Y-3E



3E 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

# Tom Disco® 302Y/304Y

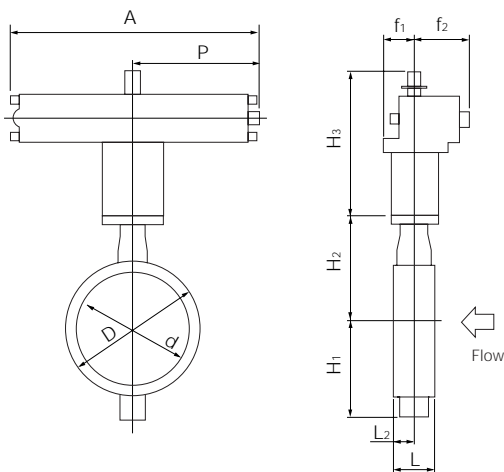
Double-acting pneumatic cylinder type 302Y-3A (250, 300mm)

Butterfly Valves

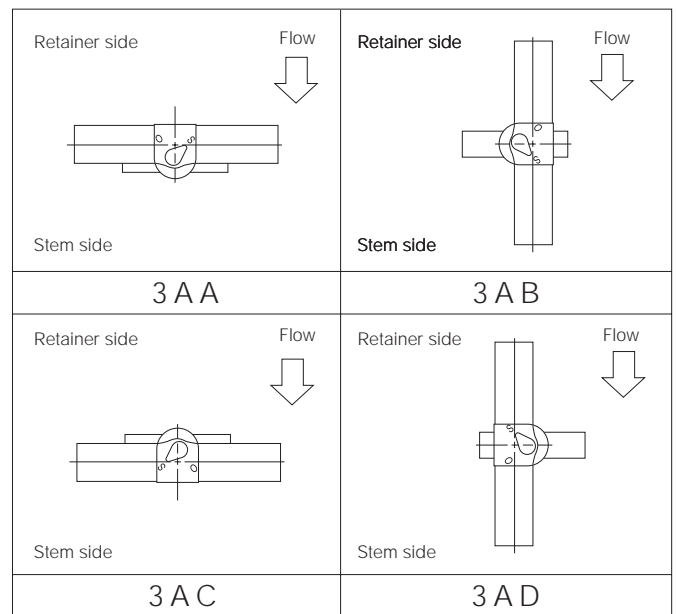
## 302Y-3A

Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	A	P	f <sub>1</sub>	f <sub>2</sub>		
250	10	263	325	70	30	236	283	T <sub>L</sub> ,T <sub>H</sub>	424	743	381	100	164	TGA-125	78
300	12	315	368	80	34	246	310	T <sub>L</sub> ,T <sub>H</sub>	424	743	381	100	164	TGA-125	85

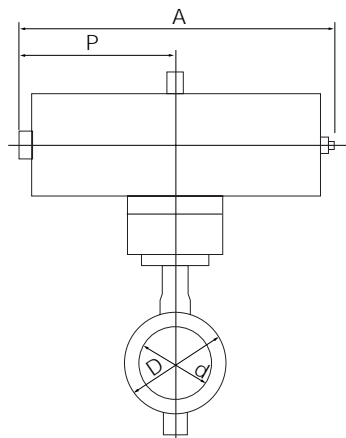
## 302Y-3A



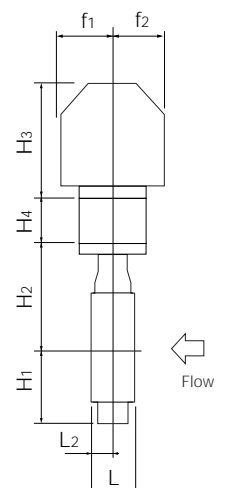
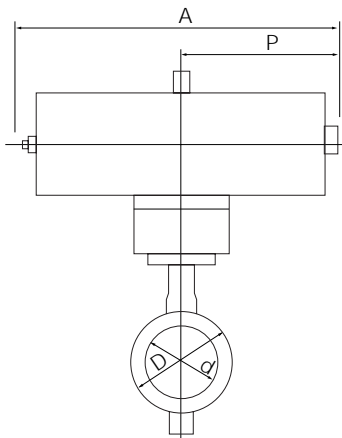
## 3A Installation direction



## 304A-3F



## 304A-3G



Single-acting pneumatic cylinder type 302Y-3G( Air to open: 40mm to 150mm ) / 302Y-3F( Air to close: 40mm to 150mm )  
 304Y-3G( Air to open: 40mm to 200mm ) / 304Y-3F( Air to close: 40mm to 200mm )

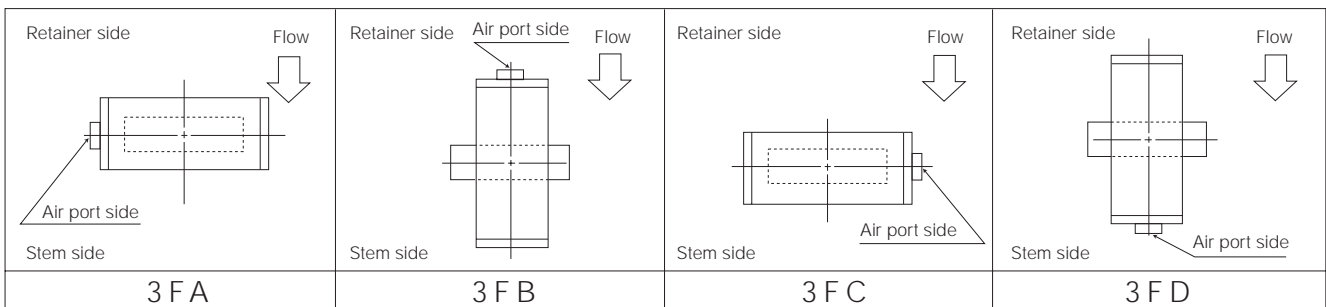
**302Y-3G/3F**

Nominal size		Dimension (mm)													Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	H <sub>4</sub>	A	P	f <sub>1</sub>	f <sub>2</sub>		
40	1 1/2	48	81	33	15	64	118	T <sub>10</sub> ,T <sub>20</sub>	157	26.5	444	218.5	65	58	K170S	11.5
50	2	60	97	43	21	74	125	T <sub>10</sub>	157	26.5	444	218.5	65	58	K170S	12
								T <sub>20</sub>	184	26.5	545	269	83	69	K370S	19
65	2 1/2	74	117	46	22	85	138	T <sub>10</sub>	157	26.5	444	218.5	65	58	K170S	13
								T <sub>20</sub>	184	26.5	545	269	83	69	K370S	20
80	3	89	127	46	21	95	147	T <sub>10</sub> ,T <sub>20</sub>	184	26.5	545	269	83	69	K370S	21.9
100	4	112	152	52	22	110	170	T <sub>10</sub>	184	26.5	545	269	83	69	K370S	22.5
								T <sub>20</sub>	224	26.5	707	350	101	85	K700S	37
125	5	137	183	56	24	139	185	T <sub>10</sub> ,T <sub>20</sub>	224	26.5	707	350	101	85	K700S	40
150	6	163	213	57	23	164	205	T <sub>10</sub>	224	29.5	707	350	101	85	K700S	44

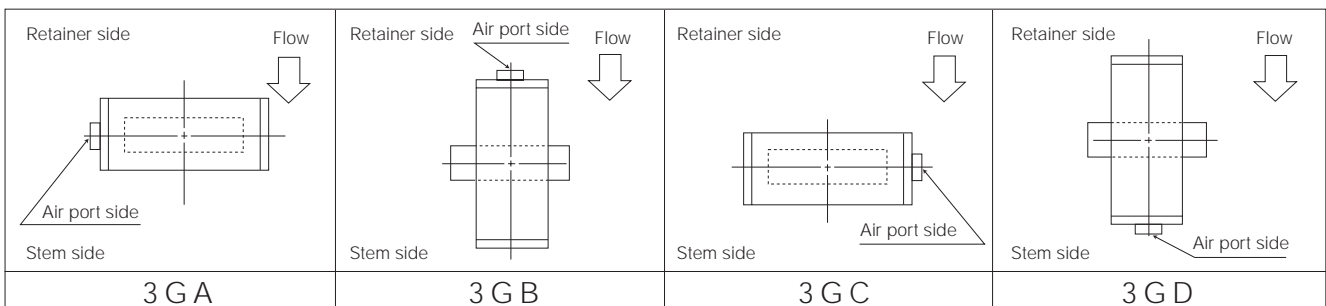
**304Y-3G/3F**

Nominal size		Dimension (mm)													Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	H <sub>4</sub>	A	P	f <sub>1</sub>	f <sub>2</sub>		
40	1 1/2	48	81	33	15	64	118	T <sub>10</sub> ,T <sub>20</sub>	133	26.5	360	176.5	53	51	K70S	8
50	2	60	97	43	21	74	125	T <sub>10</sub> ,T <sub>20</sub>	133	26.5	360	176.5	53	51	K70S	8.5
65	2 1/2	74	117	46	22	85	138	T <sub>10</sub>	133	26.5	360	176.5	53	51	K70S	9.5
								T <sub>20</sub>	157	26.5	444	218.5	65	58	K170S	13
80	3	89	127	46	21	95	147	T <sub>10</sub> ,T <sub>20</sub>	157	26.5	444	218.5	65	58	K170S	15
100	4	112	152	52	22	110	170	T <sub>10</sub>	157	26.5	444	218.5	65	58	K170S	16
								T <sub>20</sub>	184	26.5	545	269	83	69	K370S	22.5
125	5	137	183	56	24	139	185	T <sub>10</sub>	184	26.5	545	269	83	69	K370S	25.5
								T <sub>20</sub>	224	26.5	707	350	101	85	K700S	40
150	6	163	213	57	23	164	205	T <sub>10</sub> ,T <sub>20</sub>	224	29.5	707	350	101	85	K700S	44
200	8	213	263	62	26	190	235	T <sub>10</sub>	224	29.5	707	350	101	85	K700S	50

**3F Installation direction**



**3G 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

# Tom Disco® 302Y/304Y

Single-acting pneumatic cylinder type 302Y-3U( Air to open: 150mm to 300mm ) / 302Y-3K( Air to close: 150mm to 300mm )  
 304Y-3U( Air to open: 200mm to 300mm ) / 304Y-3K( Air to close: 200mm to 300mm )

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

## 302Y-3U/3K

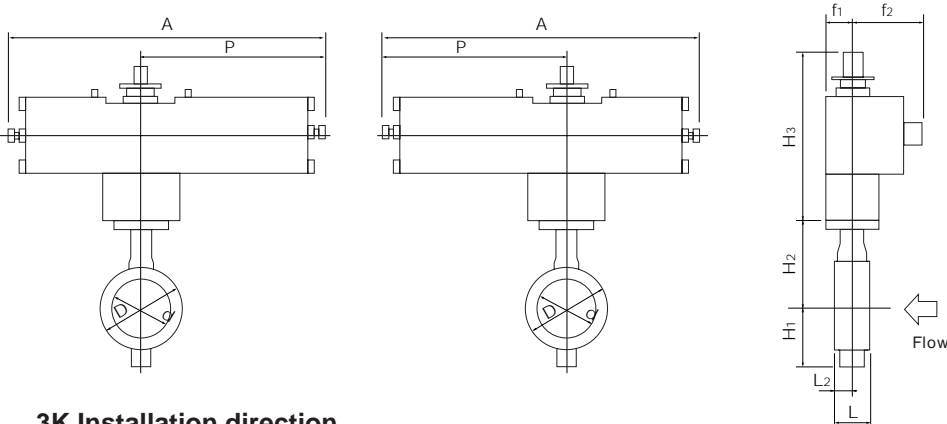
Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	A	P	f <sub>1</sub>	f <sub>2</sub>		
150	6	163	213	57	23	164	205	T <sub>L</sub>	377	945	585	75	165	TG-10S	71
								T <sub>H</sub>	377	1080	720	94	206	TG-12S	116
200	8	213	263	62	26	190	235	T <sub>L</sub> ,T <sub>H</sub>	377	1080	720	94	206	TG-12S	122
250	10	263	325	70	30	236	283	T <sub>L</sub> ,T <sub>H</sub>	450	1255	865	131	257	TG-14S	233
300	12	315	368	80	34	246	310	T <sub>L</sub> ,T <sub>H</sub>	450	1255	865	131	257	TG-14S	240

## 304Y-3U/3K

Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	A	P	f <sub>1</sub>	f <sub>2</sub>		
200	8	213	263	62	26	190	235	T <sub>10</sub>	377	945	585	75	165	TG-10S	77
								T <sub>20</sub>	377	1080	720	94	206	TG-12S	122
250	10	263	325	70	30	236	283	T <sub>10</sub> ,T <sub>20</sub>	417	1080	720	94	206	TG-12S	137
300	12	315	368	80	34	246	310	T <sub>10</sub> ,T <sub>20</sub>	417	1080	720	94	206	TG-12S	144

## 302Y/304Y-3K

## 302Y/304Y-3U



### 3K Installation direction

<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>3 K A</p>	<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>3 K B</p>	<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>3 K C</p>	<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>3 K D</p>
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### 3U Installation direction

<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>3 U A</p>	<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>3 U B</p>	<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>3 U C</p>	<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>3 U D</p>
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Single phase electric motor type 302Y/304Y-4 I ( 40mm to 300mm )

**302Y-4 I**

Nominal size		Dimension (mm)												Motor type	Approx. weight (kg)
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	A	P	F	K		
40	1 1/2	48	81	33	15	64	118	T <sub>L</sub> ,T <sub>H</sub>	250	202	100	85	54	4 I-0	9.4
50	2	60	97	43	21	74	125	T <sub>L</sub> ,T <sub>H</sub>	250	202	100	85	54	4 I-0	9.8
65	2 1/2	74	117	46	22	85	138	T <sub>L</sub>	250	202	100	85	54	4 I-0	10.8
								T <sub>H</sub>	265	252	138	126	65	4 I-1	13
80	3	89	127	46	21	95	147	T <sub>L</sub> ,T <sub>H</sub>	298	310	167	154	85	4 I-2	20
100	4	112	152	52	22	110	170	T <sub>L</sub> ,T <sub>H</sub>	298	310	167	154	85	4 I-2	21
125	5	137	183	56	24	139	185	T <sub>L</sub> ,T <sub>H</sub>	298	310	167	154	85	4 I-2	24
150	6	163	213	57	23	164	205	T <sub>L</sub> ,T <sub>H</sub>	373	310	167	154	85	4 I-2.5	31
200	8	213	263	62	26	190	235	T <sub>L</sub> ,T <sub>H</sub>	405	388	223	246	136	4 I-3	48
250	10	263	325	70	30	236	283	T <sub>L</sub> ,T <sub>H</sub>	420	388	223	246	136	4 I-3	65
300	12	315	368	80	34	246	310	T <sub>L</sub> (Remark)	420	388	223	246	136	4 I-3	72
								T <sub>H</sub>	423	388	223	246	136	4 I-4	77

Remark: For the 300mm model with the accessories on the right (for control) type 4I-4 should be selected. Micom unit Servo unit Speed control unit Potentiometer

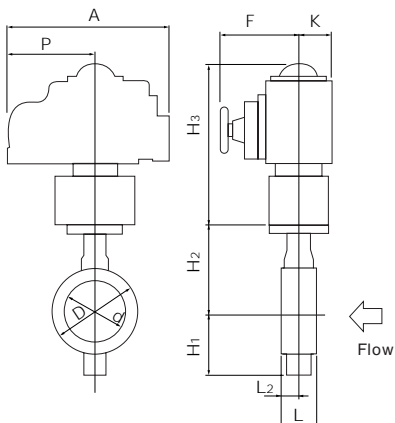
**304Y-4 I**

Nominal size		Dimension (mm)												Motor type	Approx. weight (kg)
mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	A	P	F	K		
40	1 1/2	48	81	33	15	64	118	T <sub>10</sub> ,T <sub>20</sub>	250	202	100	85	54	4 I-0	9.4
50	2	60	97	43	21	74	125	T <sub>10</sub> ,T <sub>20</sub>	250	202	100	85	54	4 I-0	9.8
65	2 1/2	74	117	46	22	85	138	T <sub>10</sub> ,T <sub>20</sub>	250	202	100	85	54	4 I-0	10.8
80	3	89	127	46	21	95	147	T <sub>10</sub> ,T <sub>20</sub>	250	202	100	85	54	4 I-0	11.8
100	4	112	152	52	22	110	170	T <sub>10</sub>	265	252	138	126	65	4 I-1	15
								T <sub>20</sub>	298	310	167	154	85	4 I-2	21
125	5	137	183	56	24	139	185	T <sub>10</sub> ,T <sub>20</sub>	298	310	167	154	85	4 I-2	24
150	6	163	213	57	23	164	205	T <sub>10</sub> ,T <sub>20</sub>	373	310	167	154	85	4 I-2	29
200	8	213	263	62	26	190	235	T <sub>10</sub> ,T <sub>20</sub>	373	310	167	154	85	4 I-2.5	38
250	10	263	325	70	30	236	283	T <sub>10</sub>	411	310	167	154	85	4 I-2.5	55.5
								T <sub>20</sub>	420	388	223	246	136	4 I-3	65
300	12	315	368	80	34	246	310	T <sub>10</sub> ,T <sub>20</sub>	420	388	223	246	136	4 I-3	72

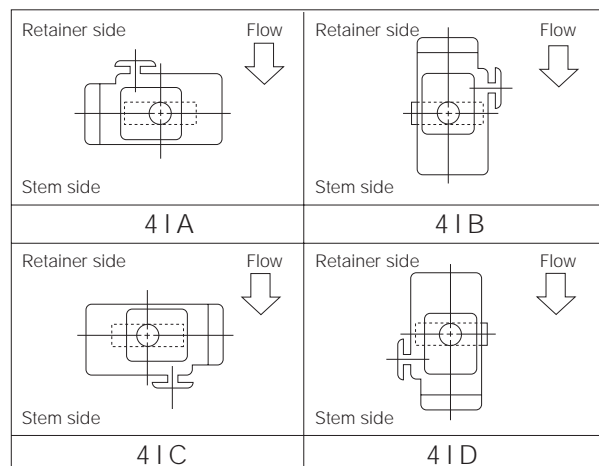
Butterfly Valves

- 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

**302Y/304Y-4 I**



**4I Installation direction**



# Tom Disco® 302Y/304Y

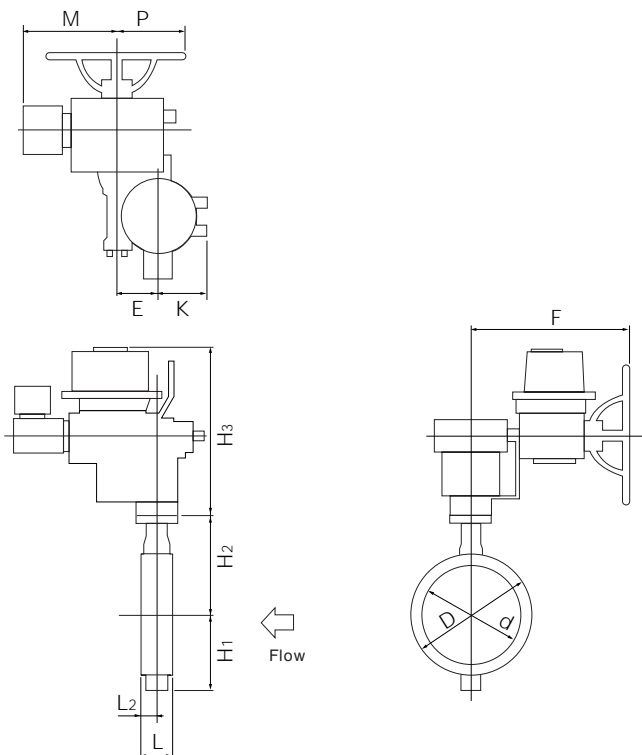
Three phase motor actuator type 302Y-4L( 250mm, 300mm )

Butterfly Valves

## 302Y-4L

Nominal size	Dimension (mm)														Motor type	Approx. weight (kg)
	mm	inch	d	D	L	L <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	Category	H <sub>3</sub>	E	K	F	M		
250	10	263	325	70	30	236	283	T <sub>L</sub> ,T <sub>H</sub>	547	117	164	533	357	230	LTKD-01 0.2kW/DGH-3	123
300	12	315	368	80	34	246	310	T <sub>L</sub> ,T <sub>H</sub>	547	117	164	533	357	230	LTKD-01 0.2kW/DGH-3	130

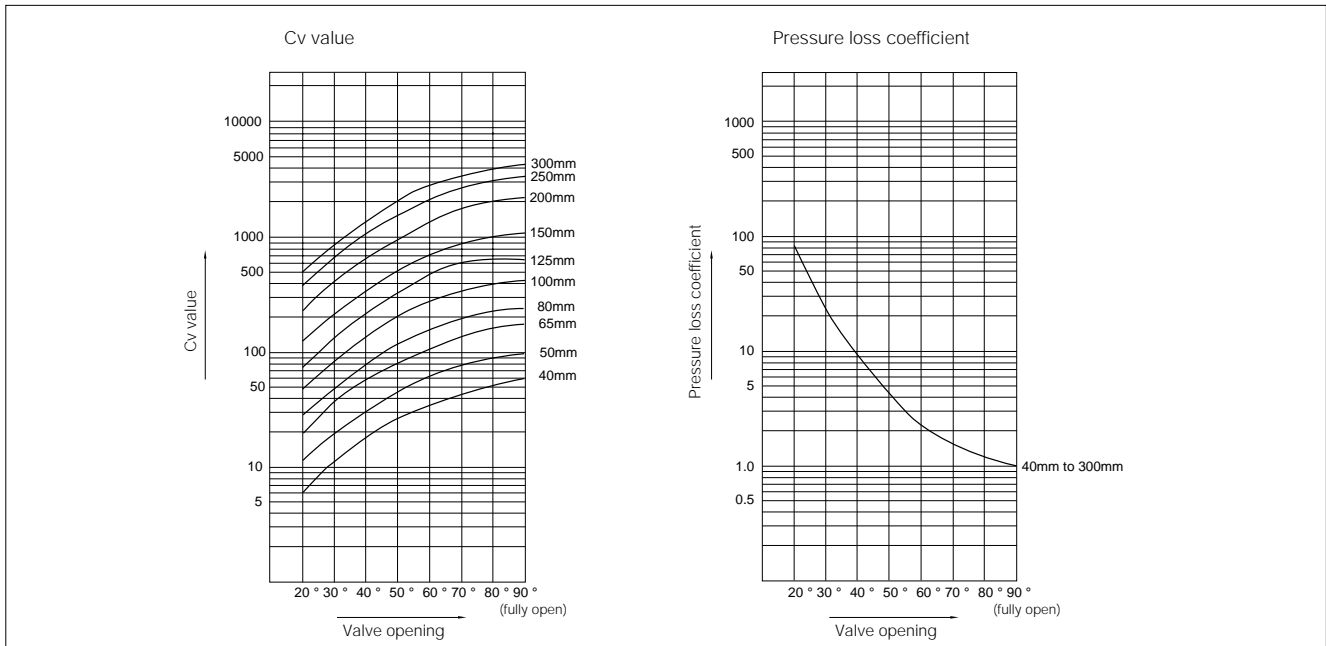
## 302Y-4L



## 4L Installation direction

<p>Retainer side</p> <p>Stem side</p> <p>4 L A</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 L B</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 L C</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 L D</p>
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### 302Y/304Y Cv value/pressure loss coefficient



### 302Y/304Y Cv value

Nominal size		Valve opening							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
40	1 1/2	6	12	20	30	39	49	57	60
50	2	11	21	33	49	64	80	95	99
65	2 1/2	20	37	59	86	112	140	168	176
80	3	29	54	84	123	161	207	244	252
100	4	48	90	143	209	277	351	415	432
125	5	76	143	229	336	438	551	653	684
150	6	129	225	372	531	722	898	1075	1116
200	8	240	422	700	990	1361	1690	1982	2070
250	10	400	704	1157	1650	2255	2826	3298	3443
300	12	505	890	1465	2084	2860	3568	4178	4354

### 302Y/304Y Pressure loss coefficient

Nominal size		Valve opening							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
40	1 1/2	184	72	16	7	4	3	2	2
50	2	142	38	15	7	4	3	2	2
65	2 1/2	116	33	13	6	4	2	2	1
80	3	111	32	13	6	4	2	2	1
100	4	117	33	13	6	3	2	2	1
125	5	110	31	12	6	3	2	1	1
150	6	75	24	9	4	2	2	1	1
200	8	65	21	8	4	2	1	1	1
250	10	56	18	7	3	2	1	1	1
300	12	72	23	9	4	2	1	1	1

#### 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

# Tom Disco® 302Y/304Y

## 302Y/304Y Applicable pipe list in case of **A**

Nominal size	SGP		Sch20		Sch40		Sch60		Sch80		Sch10S		Sch20S		Minimum internal diameters of piping (mm)
	mm	inch	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	
TRITEC															
TT2	40	1 1/2			-	-									32.7
334A	50	2													34.6
302A/303Q	65	2 1/2													53.6
304A/304Q	80	3													72.5
302Y/304Y	100	4													93.8
	125	5													119.4
304M(HLV)	150	6							x		x				147.5
507V/508V	200	8							x		x				197.5
846T/847T/847Q	250	10							x		x				248.1
841T/842T	300	12							x	x	x				297.6

## 302Y/304Y Applicable pipe list in case of **B**

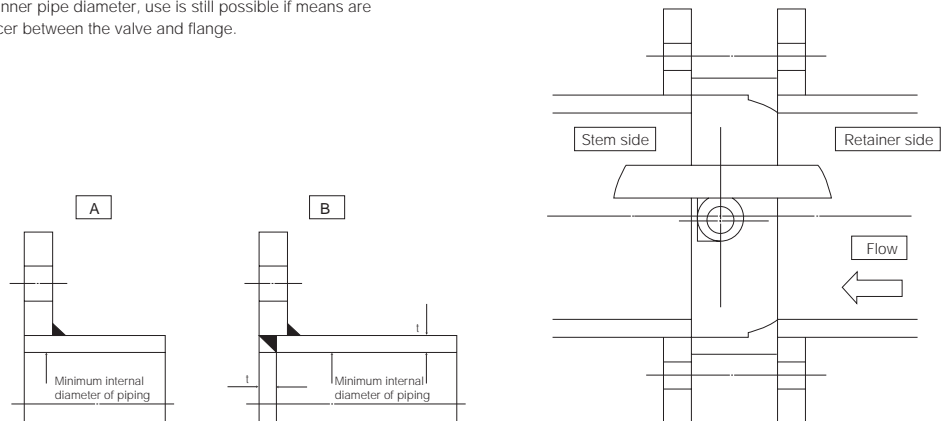
Nominal size	SGP		Sch20		Sch40		Sch60		Sch80		Sch10S		Sch20S	
	mm	inch	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)	Retainer (up stream)	Stem Side (down stream)
700G/704G/705G														
731P/732P 732X/731X	40	1 1/2			-	-								
700E/700K	50	2												
704G/722F/720F	65	2 1/2												
LRV	80	3												
227P	100	4												
MKT	125	5												
903C/904C	150	6												
	200	8							x		x			
	250	10							x		x			
	300	12							x		x			

Remark 1: =Applicable x=Not applicable

Remark 2: The clearance between the disc and the pipe is based on API 609 and MSS SP-67.  
40mm to 150mm: 1.5mm; 200mm to 300mm: 3.0mm

Remark 3: Butterfly valves are inserted into a pipe that was fitted with the disc when fully open.

In cases where there is an "X" in the chart above or 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.

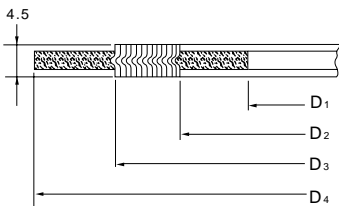


### 302Y/304Y Piping gasket

In case of sheet gasket ..... Any standard can be used.  
 In case of spiral gasket ..... Use special spiral gasket shown below.

#### Special spiral gasket for JIS flange size

Nominal size		JIS flange					ANSI flange				
		10K, 16K, 20K			10K	16K, 20K	150-300Lb			150Lb	300Lb
mm	inch	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>4</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>4</sub>
40	1 1/2	48	54	73	89	89	48	54	73	85	95
50	2	61	69	88	104	104	61	69	88	104	111
65	2 1/2	73	81	100	124	124	73	81	100	123	129
80	3	89	96	120	134	140	89	97	120	136	148
100	4	115	124	142	159	165	115	124	146	174	180
125	5	140	152	175	190	203	140	151	177	196	215
150	6	166	180	199	220	238	166	178	207	222	250
200	8	217	232	252	270	283	217	229	257	279	307
250	10	268	282	310	333	356	268	285	318	339	362
300	12	319	336	361	378	406	319	335	362	409	422



#### Applicable standard for standard piping gasket

Nominal size		Max. allowable inside diameter (D)	Joint sheet or PTFE solid gasket (t = 2mm)					PTFE mold type gasket				
			JIS 5K	JIS 10K	JIS 16K JIS 20K	ANSI 150-300Lb	JPI 150-300Lb	Valqua: 7030, 7031or 7035				
mm	inch		JIS 5K	JIS 10K	JIS 16K JIS 20K	ANSI 150-300Lb	JPI 150-300Lb	JIS 5K	JIS 10K	JIS 16K JIS 20K	ANSI 150-300Lb	JPI 150-300Lb
40	1 1/2	55										
50	2	69										
65	2 1/2	81						x	x	x		
80	3	97										
100	4	124										
125	5	151										
150	6	178										
200	8	227										
250	10	282										
300	12	331										

Remark: : Applicable, x: Not applicable

#### 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

# Tom Disco® 302Y/304Y

## 302Y/304Y Applicable flange standard

### Butterfly Valves

Nominal size	JIS				ANSI 150Lb	BS4504		DIN		BS10 Table E	
	mm	inch	5K	10K		16K	20K	PN10	PN16		NP10
TRITEC											
TT2	40	1 1/2									
334A	50	2									
302A/303Q	65	2 1/2									
304A/304Q	80	3									x
302Y/304Y	125	5									
304M(HLV)	150	6									
507V/508V	200	8									
846T/847T/847Q	250	10									
841T/842T	300	12									

: Can be used without flange drilling.  
 x : Not applicable

773Z(NAV-Z)

700G/704G/705G

731P/732P  
732X/731X

700E/700K

704G/722F/720F

LRV

227P

MKT

903C/904C

## 302Y/304Y Piping bolts and nuts sizes

Nominal size		JIS5K	JIS10K	JIS16K/20K	ANSI150Lb
mm	inch	Long bolts and nuts	Long bolts and nuts	Long bolts and nuts	Long bolts and nuts
40	1 1/2	4-M12x100	4-M16x120	4-M16x120	4-U1/2-13UNCx115
50	2	4-M12x120	4-M16x130	8-M16x130	4-U5/8-11UNCx140
65	2 1/2	4-M12x120	4-M16x145	8-M16x145	4-U5/8-11UNCx155
80	3	4-M16x130	8-M16x145	8-M20x170	4-U5/8-11UNCx155
100	4	8-M16x145	8-M16x145	8-M20x170	8-U5/8-11UNCx155
125	5	8-M16x145	8-M20x170	8-M22x190	8-U3/4-10UNCx175
150	6	8-M16x145	8-M20x170	12-M22x190	8-U3/4-10UNCx175
200	8	8-M20x170	12-M20x170	12-M22x190	8-U3/4-10UNCx205
250	10	12-M20x190	12-M22x190	12-M24x210	12-U7/8-9UNCx215
300	12	12-M20x190	16-M22x190	16-M24x225	12-U7/8-9UNCx215

Remark: Use SNB7/S45C (A193 B7/A194 2H) SS400/SS400, SUS304/SUS304.  
 SS400 can be used with JIS5K/10K flanges 220 degrees C and below.  
 Long bolt uses full threaded bolt.  
 Hexagon nut uses heavy nut.

Example

Long bolts: 12 - M22 x 185  
 |        |        |  
 N        M        L

Long bolts and nuts (full thread)

