

Tom Disco® 302Y/304Y

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

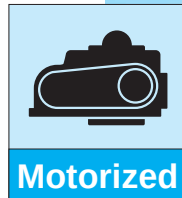
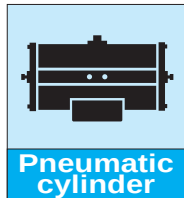
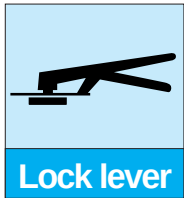
Valve type		302Y	304Y
Seat type		Metal seat type	Teflon seat type
Valve nominal size ^{※1}		40mm to 300mm	40mm to 300mm
Applicable flange standard		JIS 5K/10K/16K/20K, ANSI 150Lb, BS10 Table E/F, BS 4504, PN 6/10/16, DIN NP 6/10/16etc	
Face-to-face dimensions		JIS B 2002 (46 series) / ISO 5752 (20 series)	
Actuator mounting flange		ISO 5211	
Pressure rating		ANSI (B16.34, B16.42) class 150Lb	
Max. working pressure ^{※2}		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 stem 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 ^{※2}		-20 to 250 degrees C	-20 to 200 degrees C
Standard materials	Body ^{※3}	FCD450 (Tufftride treated) or SCS13A	
	Disc	SCS13A (HdCr plating)	
	Stem	SUS420J2 or SUS329J1	
	Seat ring	SUS316	RPTFE (with carbonGraphite) or the optional specification PFA + PTFE (white)
	Gland packing	Teflon with carbon graphite	
Bonnet type		Open bonnet	
Actuators	Lock lever	40mm to 150mm ^{※2}	
	Worm gear	40mm to 300mm ^{※2}	
	Pneumatic cylinder	40mm to 300mm ^{※2}	
	Motorized	40mm to 300mm ^{※2}	
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 600mm.

※ 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.



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.

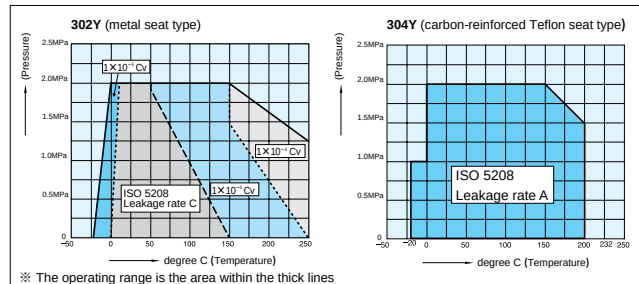
Thin disc with a rigid construction

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

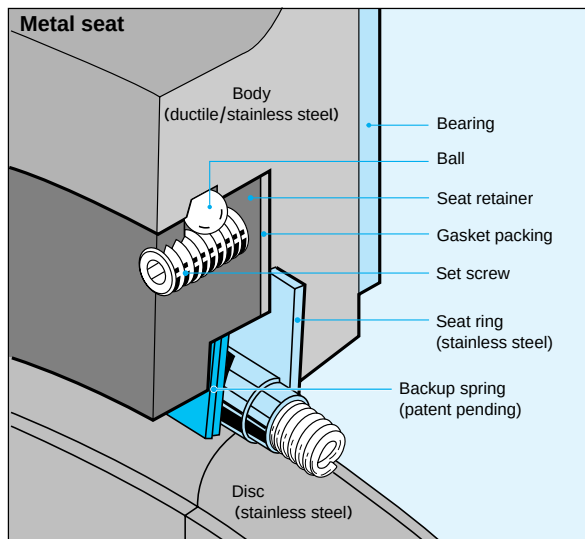
Seals flow in both directions. Valve can be used as is, even if the flow changes directions. (There are pressure limitations for each direction of flow. See chart below for recommended specifications.)

Pressure-temperature leakage chart



Resilient metal seat ring with original coil spring

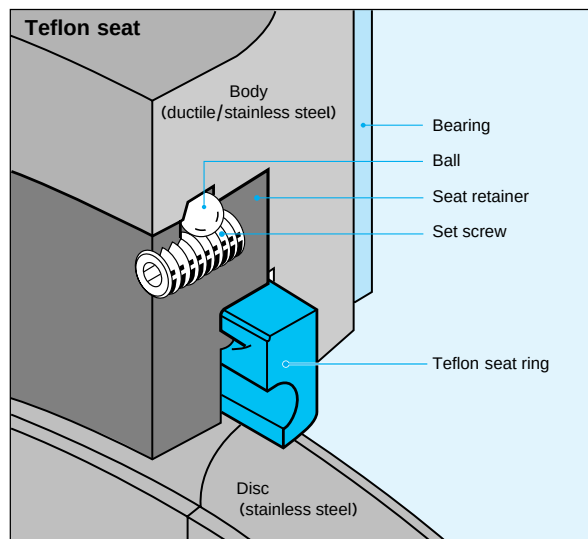
Tom Disco® 302Y



Utility model registration No.1863711

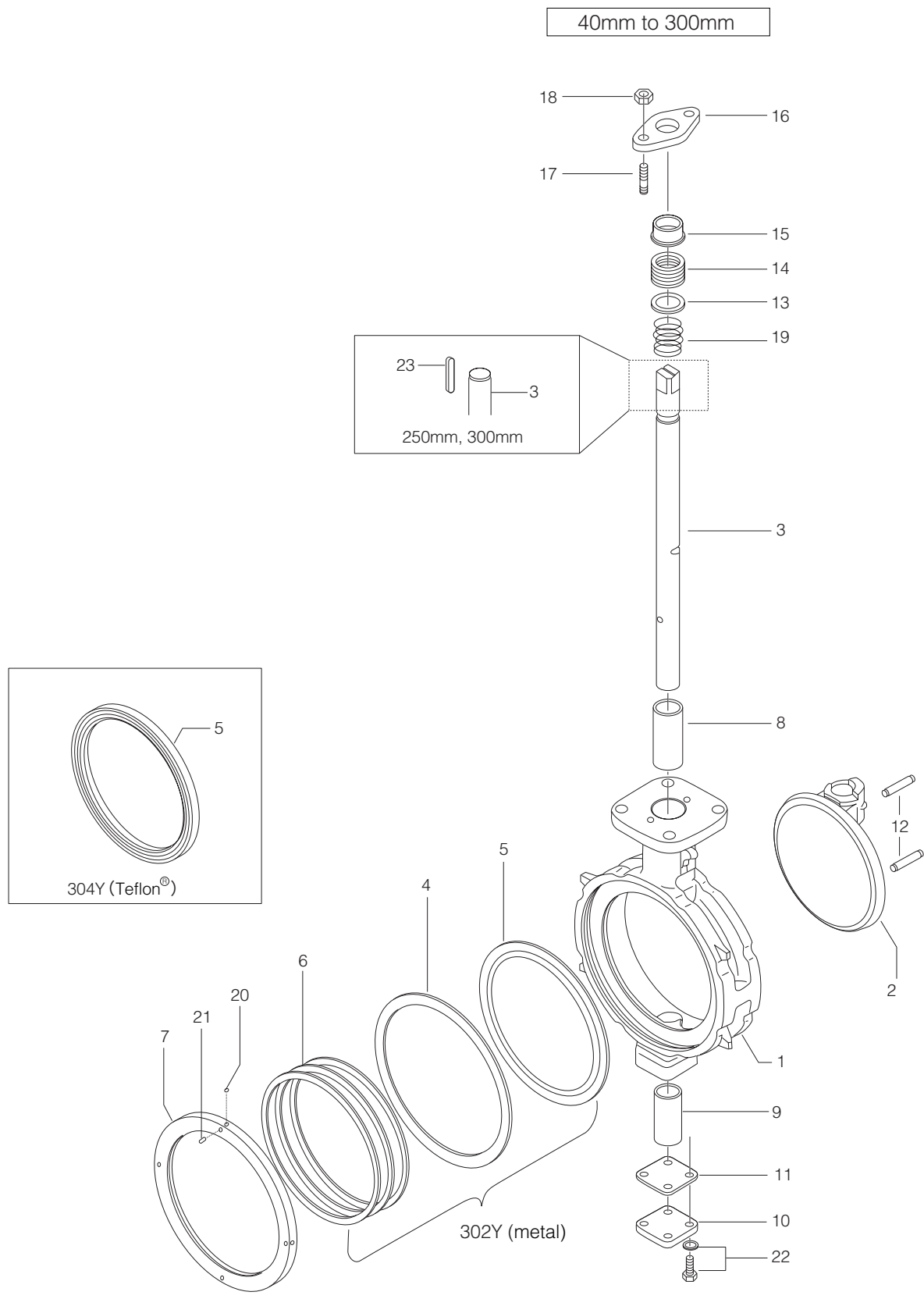
Teflon seat ring is inert to most chemical products and solvents.

Tom Disco® 304Y



Tom Disco® 302Y/304Y

302Y/304Y Expanded view of components



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).

302Y Actuator selection chart

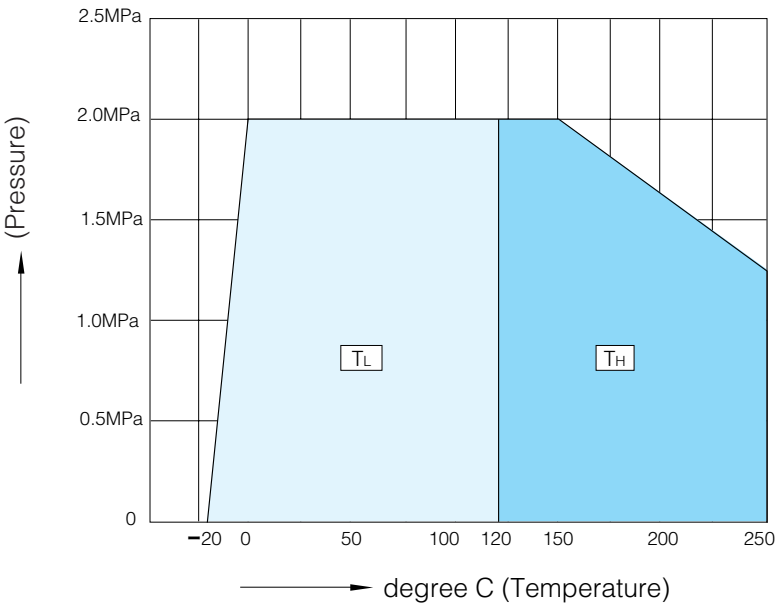
302Y

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
1T	T _L	1T-1			1T-2			1T-3			
	T _H										
2U,2S	T _L	2U-0	2U-1	2U-2		2U-3	2U-4	DGH-2	DGH-3		
	T _H										
3E,3A	T _L	K70			K170		K370	K700	TGA-125		
	T _H										
3G,3F 3U,3K	T _L	K170S			K370S		K700S	TG-12S	TG-14S		
	T _H										
4I	T _L	4I-0			4I-2		4I-2.5	4I-3	4I-4 (control)		
	T _H										
4J,4L	T _L	SRJ-010			SRJ-020		SRJ-060		LTKD-01 0.2kW/ DGH-3		
	T _H										

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

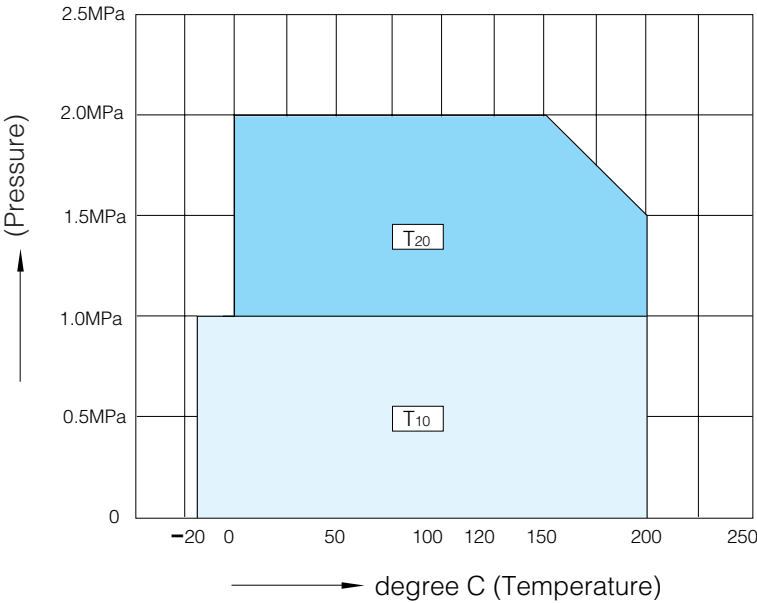


304Y Actuator selection chart

304Y

Model	Category	Size (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						
1T	T ₁₀	1T-1			1T-2			1T-3									
	T ₂₀																
2U	T ₁₀	2U-0	2U-1	2U-2			2U-4			2U-5							
	T ₂₀																
3E	T ₁₀	K30		K70	K170			K370	K700								
	T ₂₀																
3G,3F 3U,3K	T ₁₀	K70S			K170S		K370S	K700S			TG-12S						
	T ₂₀																
4I	T ₁₀	4I-0				4I-1	4I-2		4I-2.5			4I-3					
	T ₂₀																
4J	T ₁₀	SRJ-010					SRJ-020		SRJ-060								
	T ₂₀																

304Y Pressure rating



Tom Disco® 302Y/304Y

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

■302Y-01/02, 304Y-01/02

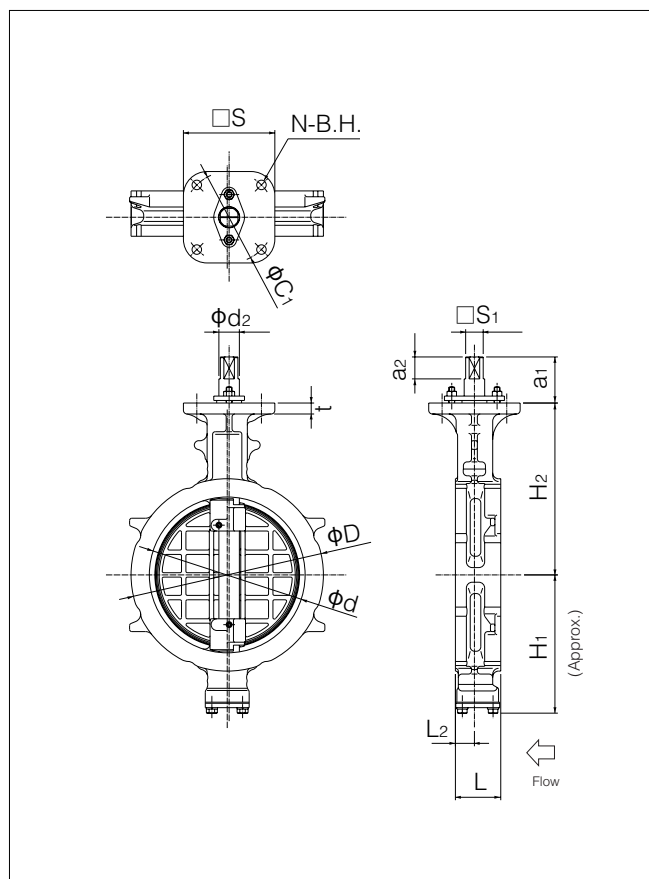
Stem design	Nominal size		Dimension (mm)														Approx. Mass (kg)
	mm	inch	Φd	ΦD	L	L ₂	H ₁	H ₂	a ₁	a ₂	$\square S_1$	Φd_2	b	t ₂	t	Flange type	
01	40	1 1/2	48	81	33	15	64	118	47.5	11.5	8	10	—	—	12	F07	2.1
	50	2	60	97	43	21	74	125	47.5	11.5	10	12	—	—	12	F07	2.5
	65	2 1/2	74	117	46	22	85	138	47.5	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	32
	300	12	315	368	80	34	246	310	113.0	72	—	35	10	3	18	F14	39

■Top flange

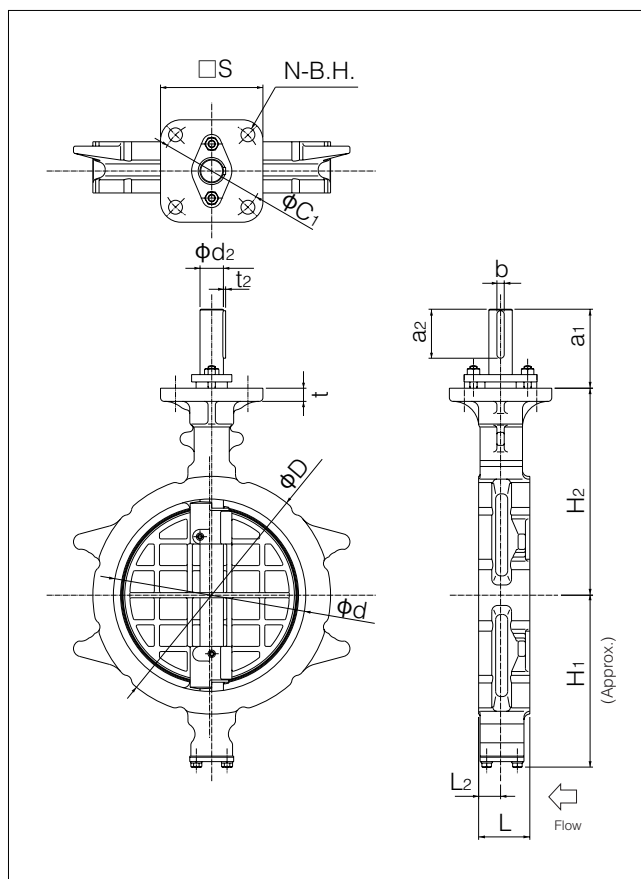
Flange type	$\square S$	ΦC_1	N	B.H.
F07	70	70	4	9
F10	102	102	4	11
F12	125	125	4	13
F14	140	140	4	19

Stem design	01 : Square
	02 : Round with key

■302Y/304Y 40mm to 200mm



■302Y/304Y 250mm, 300mm

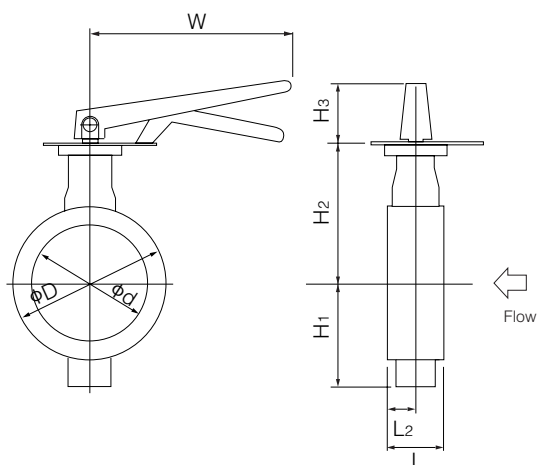


Lock lever type 302Y/304Y-1T (40mm to 150mm)

■302Y-1T, 304Y-1T

Nominal size		Dimension (mm)								Lever type	Approx. Mass (kg)
mm	inch	ϕd	ϕD	L	L ₂	H ₁	H ₂	H ₃	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

Retainer side 1TA	Retainer side 1TB	Retainer side 1TC	Retainer side 1TD
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Tom Disco® 302Y/304Y

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

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

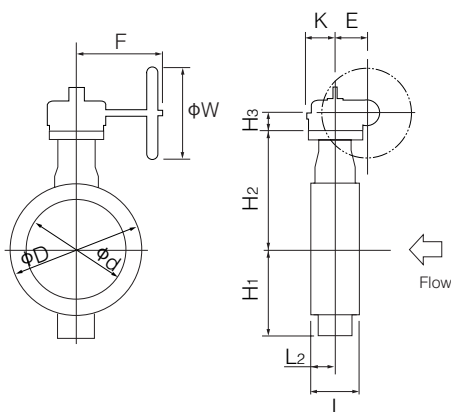
Nominal size		Dimension (mm)											Gear type	Approx. Mass (kg)
mm	inch	φd	φD	L	L ₂	H ₁	H ₂	H ₃	E	K	F	φW		
40	1 1/2	48	81	33	15	64	118	56	36	46	160	100	2U-0	5
50	2	60	97	43	21	74	125	56	36	46	160	100	2U-1	5.4
65	2 1/2	74	117	46	22	85	138	56	36	46	160	100	2U-1	6.5
80	3	89	127	46	21	95	147	61	44	53	173.5	160	2U-2	7.6
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
150	6	163	213	57	23	164	205	77.5	87.5	90	222.5	200	2U-4	28.5
200	8	213	263	62	26	190	235	72	85	126	246	280	DGH-2	38
250	10	263	325	70	30	236	283	97	117	164	335	355	DGH-3	69
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. Mass (kg)
mm	inch	φd	φD	L	L ₂	H ₁	H ₂	H ₃	E	K	F	φW		
40	1 1/2	48	81	33	15	64	118	56	36	46	160	100	2U-0	5
50	2	60	97	43	21	74	125	56	36	46	160	100	2U-1	5.4
65	2 1/2	74	117	46	22	85	138	56	36	46	160	100	2U-1	6.5
80	3	89	127	46	21	95	147	61	44	53	173.5	160	2U-2	7.6
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	61	44	53	173.5	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
200	8	213	263	62	26	190	235	77.5	87.5	90	222.5	200	2U-4	34.5
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

Retainer side Flow Stem side 2UA/2SA	Retainer side Flow Stem side 2UB/2SB
Retainer side Flow Stem side 2UC/2SC	Retainer side Flow Stem side 2UD/2SD

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

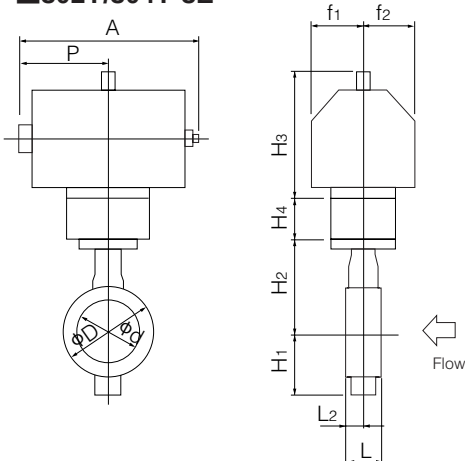
302Y-3E

Nominal size		Dimension (mm)													Cylinder type	Approx. Mass (kg)
mm	inch	φd	ΦD	L	L ₂	H ₁	H ₂	Category	H ₃	H ₄	A	P	f ₁	f ₂		
40	1 1/2	48	81	33	15	64	118	T _L ,T _H	133	26.5	268	138	53	51	K70	6.5
50	2	60	97	43	21	74	125	T _L ,T _H	133	26.5	268	138	53	51	K70	7
65	2 1/2	74	117	46	22	85	138	T _L	133	26.5	268	138	53	51	K70	8
								T _H	157	26.5	332	171	65	58	K170	11
80	3	89	127	46	21	95	147	T _L	133	26.5	268	138	53	51	K70	9.5
								T _H	157	26.5	332	171	65	58	K170	12.5
100	4	112	152	52	22	110	170	T _L	157	26.5	332	171	65	58	K170	13.5
								T _H	184	26.5	411	209	83	69	K370	18.5
125	5	137	183	56	24	139	185	T _L	157	26.5	332	171	65	58	K170	16.5
								T _H	184	26.5	411	209	83	69	K370	21.5
150	6	163	213	57	23	164	205	T _L	184	29.5	411	209	83	69	K370	25.5
								T _H	224	29.5	520	262	101	85	K700	35.5
200	8	213	263	62	26	190	235	T _L ,T _H	224	29.5	520	262	101	85	K700	41.5

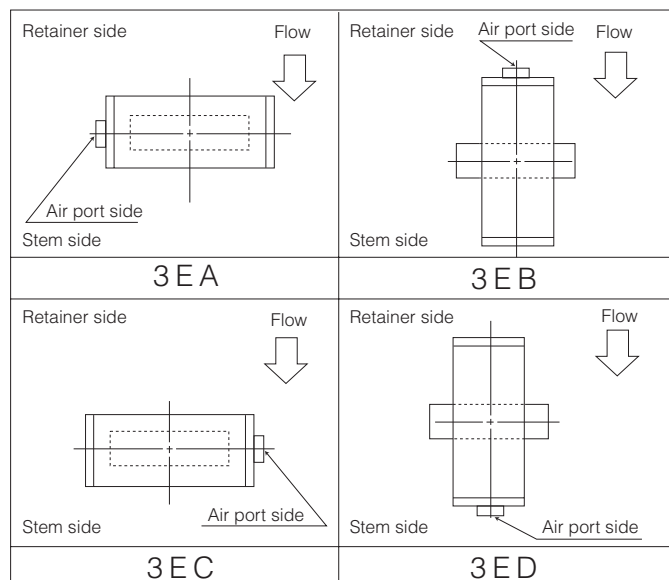
304Y-3E

Nominal size		Dimension (mm)												Cylinder type	Approx. Mass (kg)	
mm	inch	Φd	ΦD	L	L ₂	H ₁	H ₂	Category	H ₃	H ₄	A	P	f ₁			f ₂
40	1 1/2	48	81	33	15	64	118	T ₁₀ ,T ₂₀	113	26.5	218.5	113.5	40	50	K30	4.5
50	2	60	97	43	21	74	125	T ₁₀ ,T ₂₀	113	26.5	218.5	113.5	40	50	K30	5
65	2 1/2	74	117	46	22	85	138	T ₁₀	113	26.5	218.5	113.5	40	50	K30	6
								T ₂₀	133	26.5	268	138	53	51	K70	8
80	3	89	127	46	21	95	147	T ₁₀ ,T ₂₀	133	26.5	268	138	53	51	K70	9.5
100	4	112	152	52	22	110	170	T ₁₀	133	26.5	268	138	53	51	K70	10.5
								T ₂₀	157	26.5	332	171	65	58	K170	13.5
125	5	137	183	56	24	139	185	T ₁₀ ,T ₂₀	157	26.5	332	171	65	58	K170	16.5
150	6	163	213	57	23	164	205	T ₁₀ ,T ₂₀	157	29.5	332	171	65	58	K170	20.5
200	8	213	263	62	26	190	235	T ₁₀ ,T ₂₀	184	29.5	411	209	83	69	K370	31.5
250	10	263	325	70	30	236	283	T ₁₀	184	190	411	209	83	87.5	K370	59.5
								T ₂₀	224	190	520	262	101	87.5	K700	69
300	12	315	368	80	34	246	310	T ₁₀ ,T ₂₀	224	190	520	262	101	87.5	K700	76.5

302Y/304Y-3E



3E Installation direction

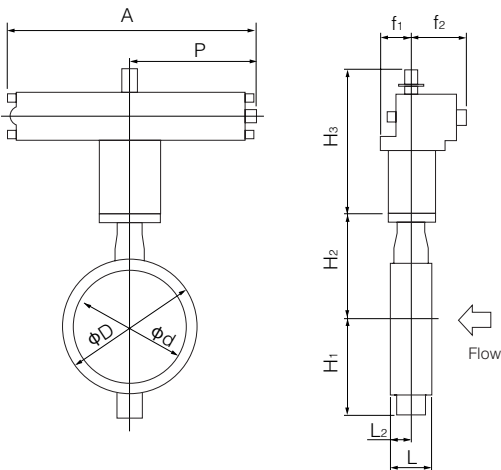


Double-acting pneumatic cylinder type 302Y-3A (250, 300mm)

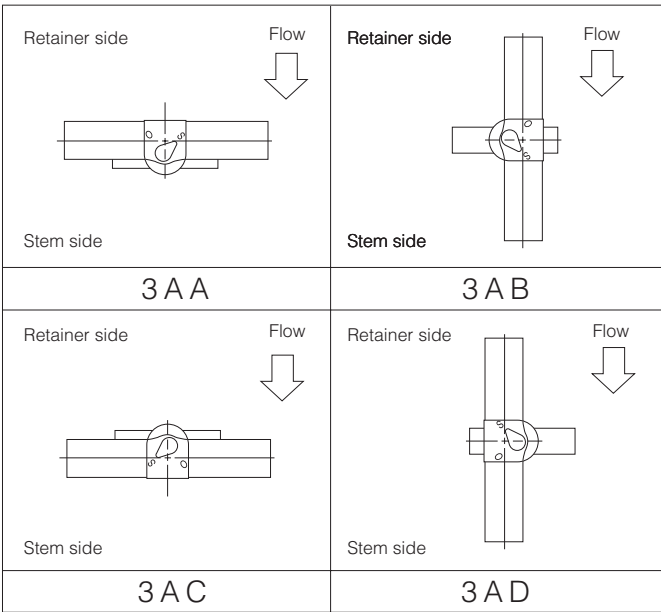
■302Y-3A

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

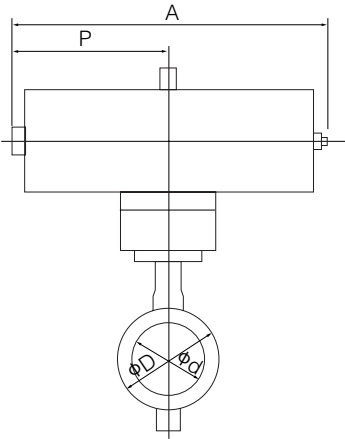
■302Y-3A



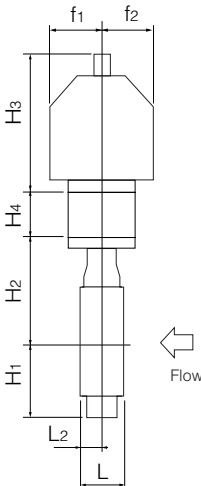
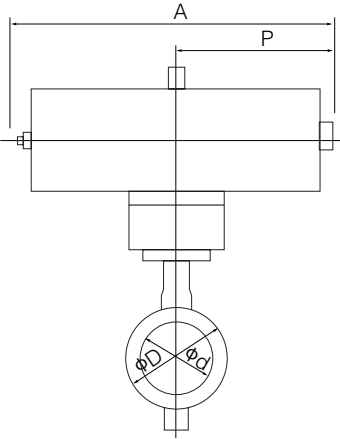
■3A Installation direction



■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. Mass (kg)
mm	inch	Φd	ΦD	L	L ₂	H ₁	H ₂	Category	H ₃	H ₄	A	P	f ₁	f ₂		
40	1 1/2	48	81	33	15	64	118	T _L , T _H	157	26.5	446	220.5	65	58	K170S	11.5
50	2	60	97	43	21	74	125	T _L	157	26.5	446	220.5	65	58	K170S	12
								T _H	184	26.5	547	271	83	69	K370S	19
65	2 1/2	74	117	46	22	85	138	T _L	157	26.5	446	220.5	65	58	K170S	13
								T _H	184	26.5	547	271	83	69	K370S	20
80	3	89	127	46	21	95	147	T _L , T _H	184	26.5	547	271	83	69	K370S	21.9
100	4	112	152	52	22	110	170	T _L	184	26.5	547	271	83	69	K370S	22.5
								T _H	224	26.5	709	352	101	85	K700S	37
125	5	137	183	56	24	139	185	T _L , T _H	224	26.5	709	352	101	85	K700S	40
150	6	163	213	57	23	164	205	T _L	224	29.5	709	352	101	85	K700S	44

304Y-3G/3F

Nominal size		Dimension (mm)													Cylinder type	Approx. Mass (kg)
mm	inch	Φd	ΦD	L	L ₂	H ₁	H ₂	Category	H ₃	H ₄	A	P	f ₁	f ₂		
40	1 1/2	48	81	33	15	64	118	T ₁₀ , T ₂₀	133	26.5	362	178.5	53	51	K70S	8
50	2	60	97	43	21	74	125	T ₁₀ , T ₂₀	133	26.5	362	178.5	53	51	K70S	8.5
65	2 1/2	74	117	46	22	85	138	T ₁₀	133	26.5	362	178.5	53	51	K70S	9.5
								T ₂₀	157	26.5	446	220.5	65	58	K170S	13
80	3	89	127	46	21	95	147	T ₁₀ , T ₂₀	157	26.5	446	220.5	65	58	K170S	15
100	4	112	152	52	22	110	170	T ₁₀	157	26.5	446	220.5	65	58	K170S	16
								T ₂₀	184	26.5	547	271	83	69	K370S	22.5
125	5	137	183	56	24	139	185	T ₁₀	184	26.5	547	271	83	69	K370S	25.5
								T ₂₀	224	26.5	709	352	101	85	K700S	40
150	6	163	213	57	23	164	205	T ₁₀ , T ₂₀	224	29.5	709	352	101	85	K700S	44
200	8	213	263	62	26	190	235	T ₁₀	224	29.5	709	352	101	85	K700S	50

3F Installation direction

3FA	3FB	3FC	3FD
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3G Installation direction

3GA	3GB	3GC	3GD
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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)

■302Y-3U/3K

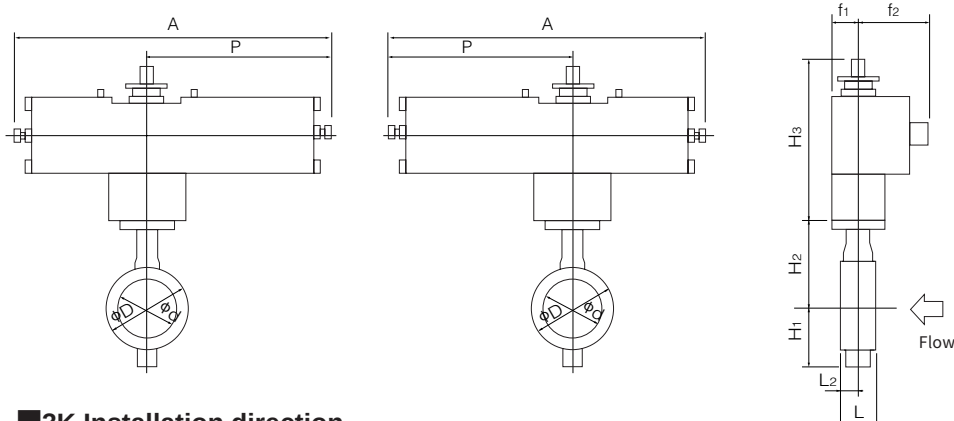
Nominal size		Dimension (mm)												Cylinder type	Approx. Mass (kg)
mm	inch	φd	φD	L	L ₂	H ₁	H ₂	Category	H ₃	A	P	f ₁	f ₂		
150	6	163	213	57	23	164	205	T _L	377	945	585	75	165	TG-10S	70
								T _H	377	1080	720	94	206	TG-12S	116
200	8	213	263	62	26	190	235	T _L ,T _H	377	1080	720	94	206	TG-12S	122
250	10	263	325	70	30	236	283	T _L ,T _H	450	1255	865	131	257	TG-14S	238
300	12	315	368	80	34	246	310	T _L ,T _H	450	1255	865	131	257	TG-14S	245

■304Y-3U/3K

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

■302Y/304Y-3K

■302Y/304Y-3U



■3K Installation direction

Retainer side Flow Stem side 3 K A	Retainer side Flow Stem side 3 K B	Retainer side Flow Stem side 3 K C	Retainer side Flow Stem side 3 K D
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■3U Installation direction

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

302Y-4I

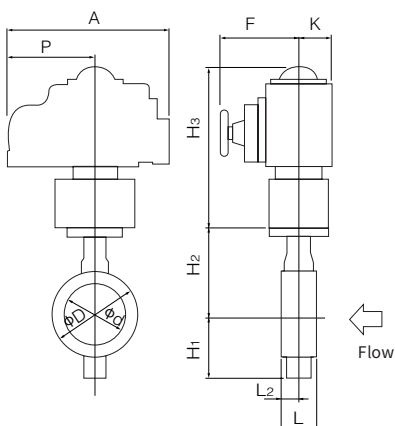
Nominal size		Dimension (mm)												Motor type	Approx. Mass (kg)
mm	inch	Φd	ΦD	L	L ₂	H ₁	H ₂	Category	H ₃	A	P	F	K		
40	1 1/2	48	81	33	15	64	118	T _L ,T _H	250	202	100	85	54	4I-0	9.4
50	2	60	97	43	21	74	125	T _L ,T _H	250	202	100	85	54	4I-0	9.8
65	2 1/2	74	117	46	22	85	138	T _L	250	202	100	85	54	4I-0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

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

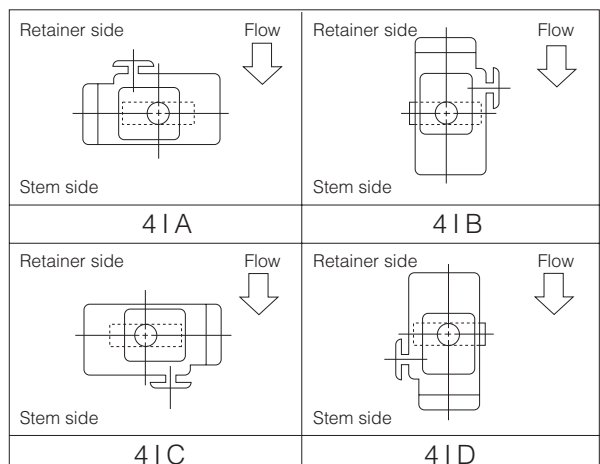
304Y-4I

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

302Y/304Y-4I



4I Installation direction



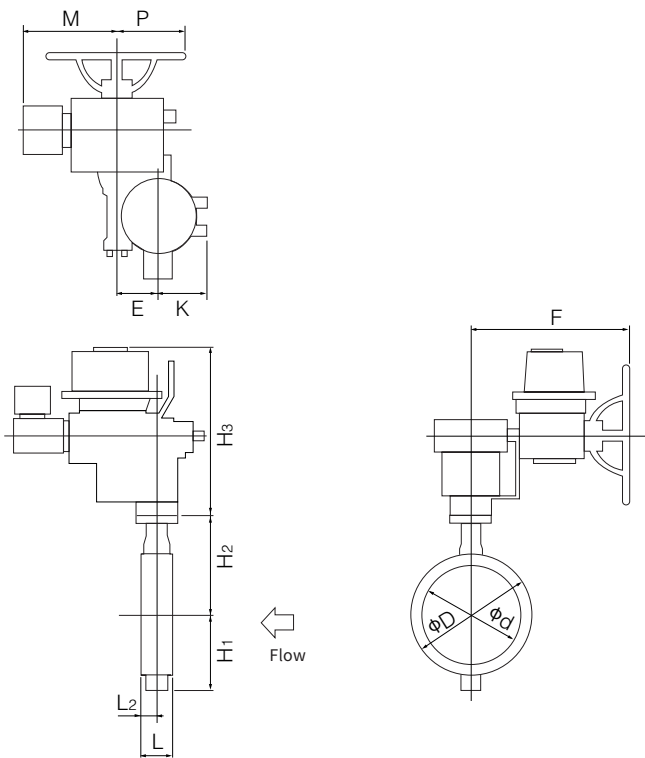
Tom Disco® 302Y/304Y

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

■302Y-4L

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

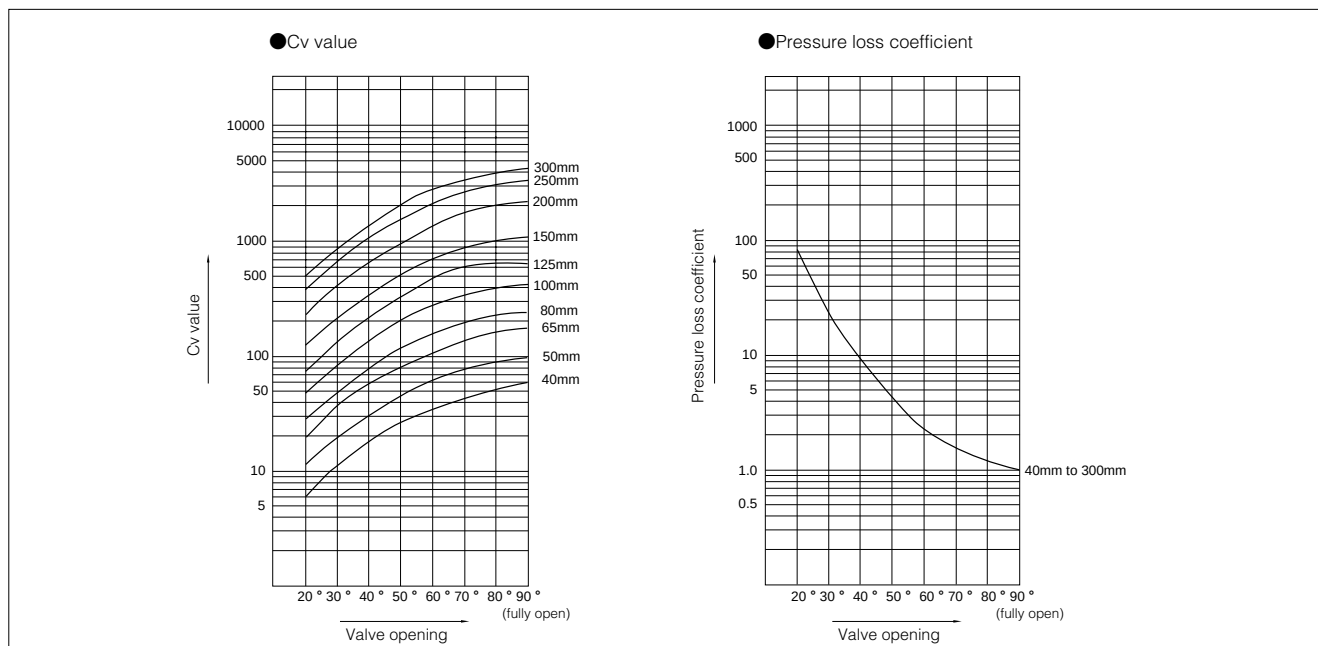
■302Y-4L



■4L Installation direction

 4 L A	 4 L B	 4 L C	 4 L D
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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

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

Nominal size		SGP		Sch20		Sch40		Sch60		Sch80		Sch10S		Sch20S		Minimum internal diameters of piping (mm)
		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)	Retainer (up stream)	Stem Side (down stream)	
mm	inch															
40	1 1/2	○	○	—	—	○	○	○	○	○	○	○	○	○	○	32.7
50	2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	34.6
65	2 1/2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	53.6
80	3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	72.5
100	4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	93.8
125	5	○	○	○	○	○	○	○	○	○	○	○	○	○	○	119.4
150	6	○	○	○	○	○	○	○	×	○	×	○	○	○	○	147.5
200	8	○	○	○	○	○	○	○	×	○	×	○	○	○	○	197.5
250	10	○	○	○	○	○	○	○	×	○	×	○	○	○	○	248.1
300	12	○	○	○	○	○	○	○	×	×	×	○	○	○	○	297.6

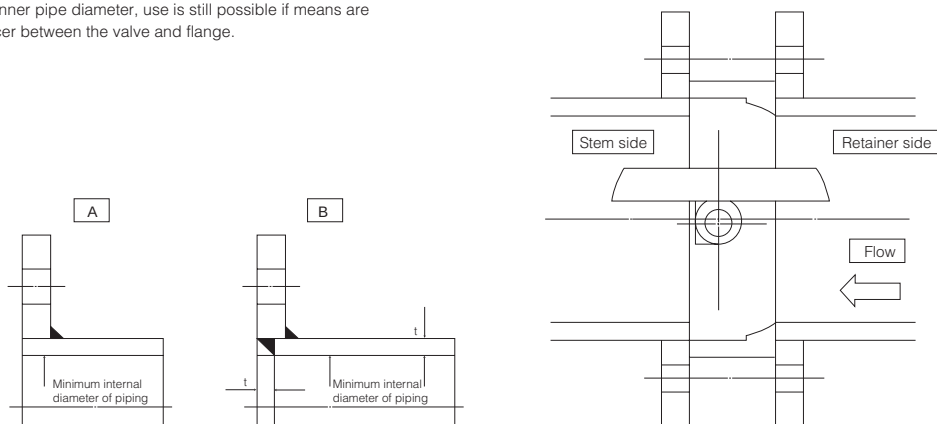
302Y/304Y Applicable pipe list in case of **B**

Nominal size		SGP		Sch20		Sch40		Sch60		Sch80		Sch10S		Sch20S	
		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)	Retainer (up stream)	Stem Side (down stream)
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	○	○	○	○	○	○	○	×	○	×	○	○	○	○

Remark 1: ○=Applicable ×=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.



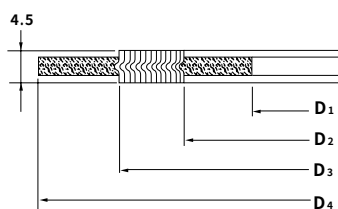
302Y/304Y Piping gasket

- 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 ₁	D ₂	D ₃	D ₄	D ₄	D ₁	D ₂	D ₃	D ₄	D ₄
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	97	120	134	140	89	97	120	136	148
100	4	115	124	146	159	165	115	124	146	174	180
125	5	140	151	177	190	203	140	151	177	196	215
150	6	166	178	207	220	238	166	178	207	222	250
200	8	217	227	257	270	283	217	229	257	279	307
250	10	268	282	318	333	356	268	285	318	339	362
300	12	319	331	362	378	406	319	335	362	409	422

Remark : In case a minute leakage of gas (less than 100PPm) becomes a problem, please inquire of our business charge.



■ Applicable standard for standard piping gasket

Nominal size		Max. allowable inside diameter (D)	Joint sheet or RPTFE solid gasket (t≤2mm)					PTFE mold type gasket				
								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	○	○	○	○	○	×	×	×	○	○
80	3	97	○	○	○	○	○	○	○	○	○	○
100	4	124	○	○	○	○	○	○	○	○	○	○
125	5	151	○	○	○	○	○	○	○	○	○	○
150	6	178	○	○	○	○	○	○	○	○	○	○
200	8	227	○	○	○	○	○	○	○	○	○	○
250	10	282	○	○	○	○	○	○	○	○	○	○
300	12	331	○	○	○	○	○	○	○	○	○	○

Remark; ○: Applicable, ×: Not applicable

302Y/304Y Applicable flange standard

Nominal size		JIS				ANSI 150Lb	BS4504		DIN		BS10 Table E
mm	inch	5K	10K	16K	20K		PN10	PN16	NP10	NP16	
40	1 1/2	○	○	○	○	○	○	○	○	○	○
50	2	○	○	○	○	○	○	○	○	○	○
65	2 1/2	○	○	○	○	○	○	○	○	○	×
80	3	○	○	○	○	○	○	○	○	○	○
100	4	○	○	○	○	○	○	○	○	○	○
125	5	○	○	○	○	○	○	○	○	○	○
150	6	○	○	○	○	○	○	○	○	○	○
200	8	○	○	○	○	○	○	○	○	○	○
250	10	○	○	○	○	○	○	○	○	○	○
300	12	○	○	○	○	○	○	○	○	○	○

○ : Can be used without flange drilling.
 × : Not applicable

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-M12×100	4-M16×120	4-M16×120	4-U1/2-13UNC×115
50	2	4-M12×120	4-M16×130	8-M16×130	4-U5/8-11UNC×140
65	2 1/2	4-M12×120	4-M16×145	8-M16×145	4-U5/8-11UNC×155
80	3	4-M16×130	8-M16×145	8-M20×170	4-U5/8-11UNC×155
100	4	8-M16×145	8-M16×145	8-M20×170	8-U5/8-11UNC×155
125	5	8-M16×145	8-M20×170	8-M22×190	8-U3/4-10UNC×175
150	6	8-M16×145	8-M20×170	12-M22×190	8-U3/4-10UNC×175
200	8	8-M20×170	12-M20×170	12-M22×190	8-U3/4-10UNC×205
250	10	12-M20×190	12-M22×190	12-M24×210	12-U7/8- 9UNC×215
300	12	12-M20×190	16-M22×190	16-M24×225	12-U7/8- 9UNC×215

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 × 185
 | | |
 N M L

Long bolts and nuts (full thread)

