

Tom Disco® 302A (Wafer) / 303Q (Lugged)

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

Double Offset Metal Seat High Performance Butterfly Valve to suit API standard

Valve nominal size: **80mm to 600mm**

Max. working pressure: **2.0MPa(300psi)**

Working temperature range: **- 29 degrees C(- 20 F)to 600 degrees C(1292 F)as standard and
- 100 degrees C(- 148 F) to 600 degrees C(1292 F)with selection of suitable materials**

General description

Inherent fire safe design with carbon steel or stainless steel body with ASME/ANSI B16.34 class 150# rating and API 609 pressure temperature rating. Ideal for use in general hydrocarbon, chemical process, low pressure steam, and gas applications.

Double offset geometry

The axis of disc rotation is double offset to the seat ring. When the disc rotates, it unseats at a small turning angle by its cam effect. This prevents seat wear and provides reliable sealing performance over long periods.

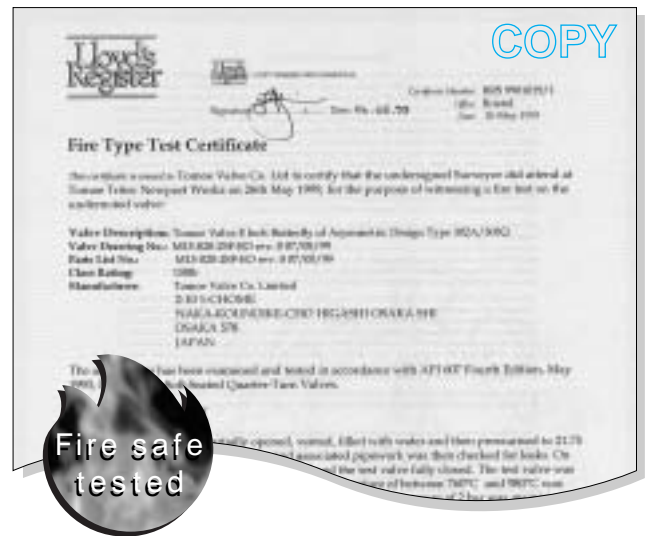
Characteristics

Metal seat

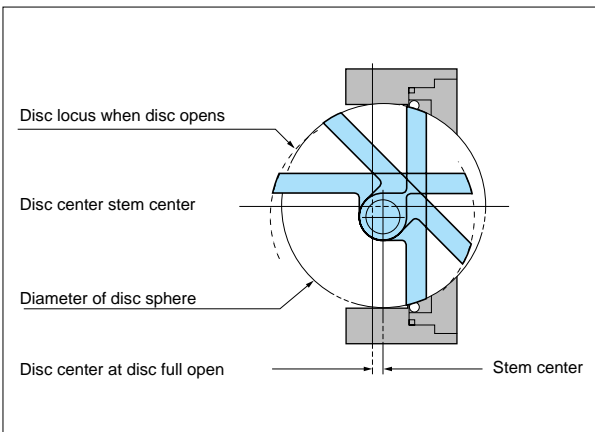
The resilient metal seat ring with coil spring compensates for thermal expansion or contraction of the body or disc. The ball lock method is adopted to facilitate replacement of the seat ring.

Improved reliability

By minimizing the effect of friction and the special hard facing of seating, the reliability of this metal seat butterfly valve is dramatically improved. The key connection of the disc and stem will prevent the direct effect of heat transaction from the stem to the disc as well as provide an anti-blow out facility on the stem.



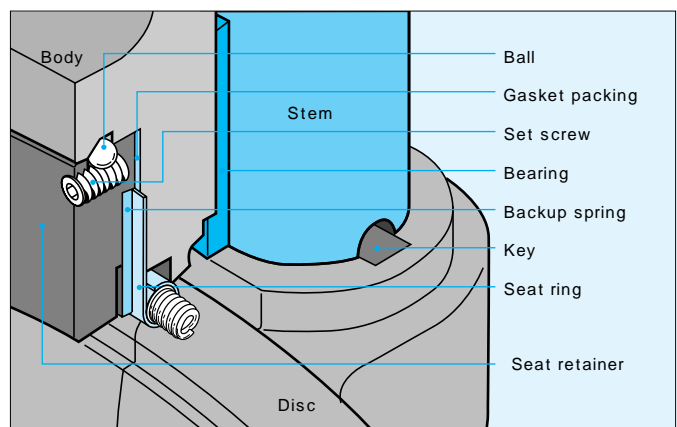
Fire safe tested

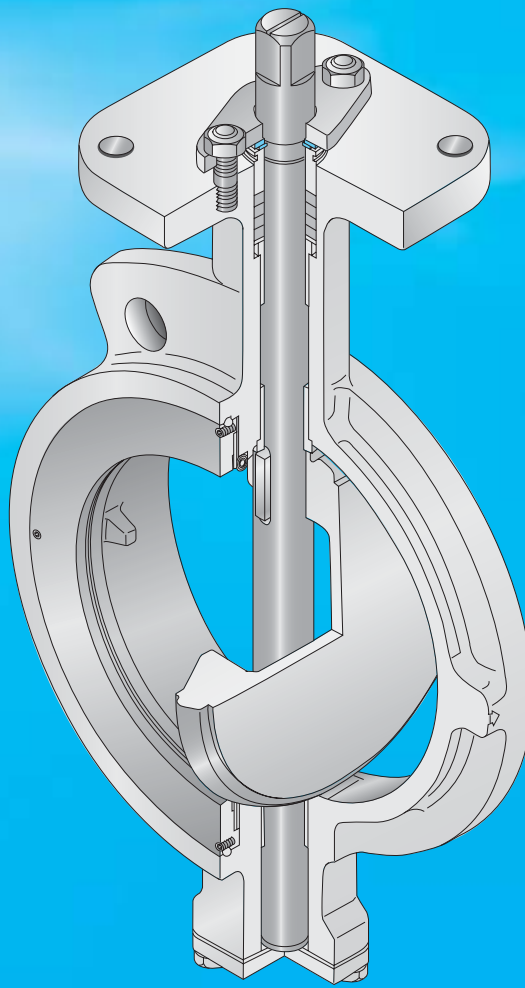
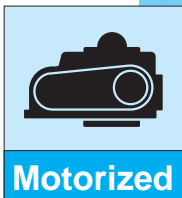
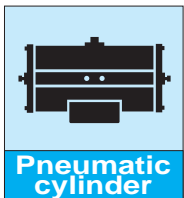


Double-Eccentric Disc

The axis of disc rotation is double eccentric to the seat rings. When the disc rotates, it unseats at a small turning angle by its cam effect. This prevents seat wear and provides a perfect seal for long periods.

Construction (patent pending)





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TRITEC
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334A
302A/303Q
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700E/700K
704G/722F/720F
LRV
227P
MKT
903C/904C

Fire Safe Design

Designed as an inherently fire safe metal seated butterfly valve. Certified to Fire Safe Test as per API 607 4th Edition.

Bi-directional flow

Workable in both directions. The valve can be used at the non-preferred direction subject to pressure rating and the leakage rate.

Disc with reinforced rib

Discs up to 300mm have a thin cross section but feature a reinforcing rib. As for 350mm to 600mm the disc rib has a convex figuration. These designs successfully reduce thermal expansion and provide a constant sealing performance against any change in temperature or pressure of the fluid.

Standard specifications

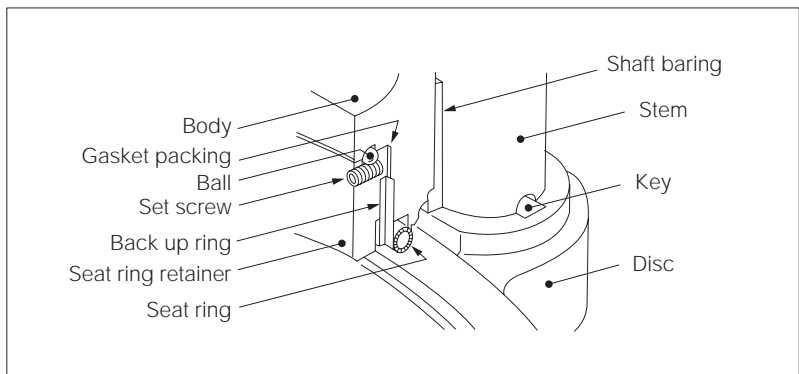
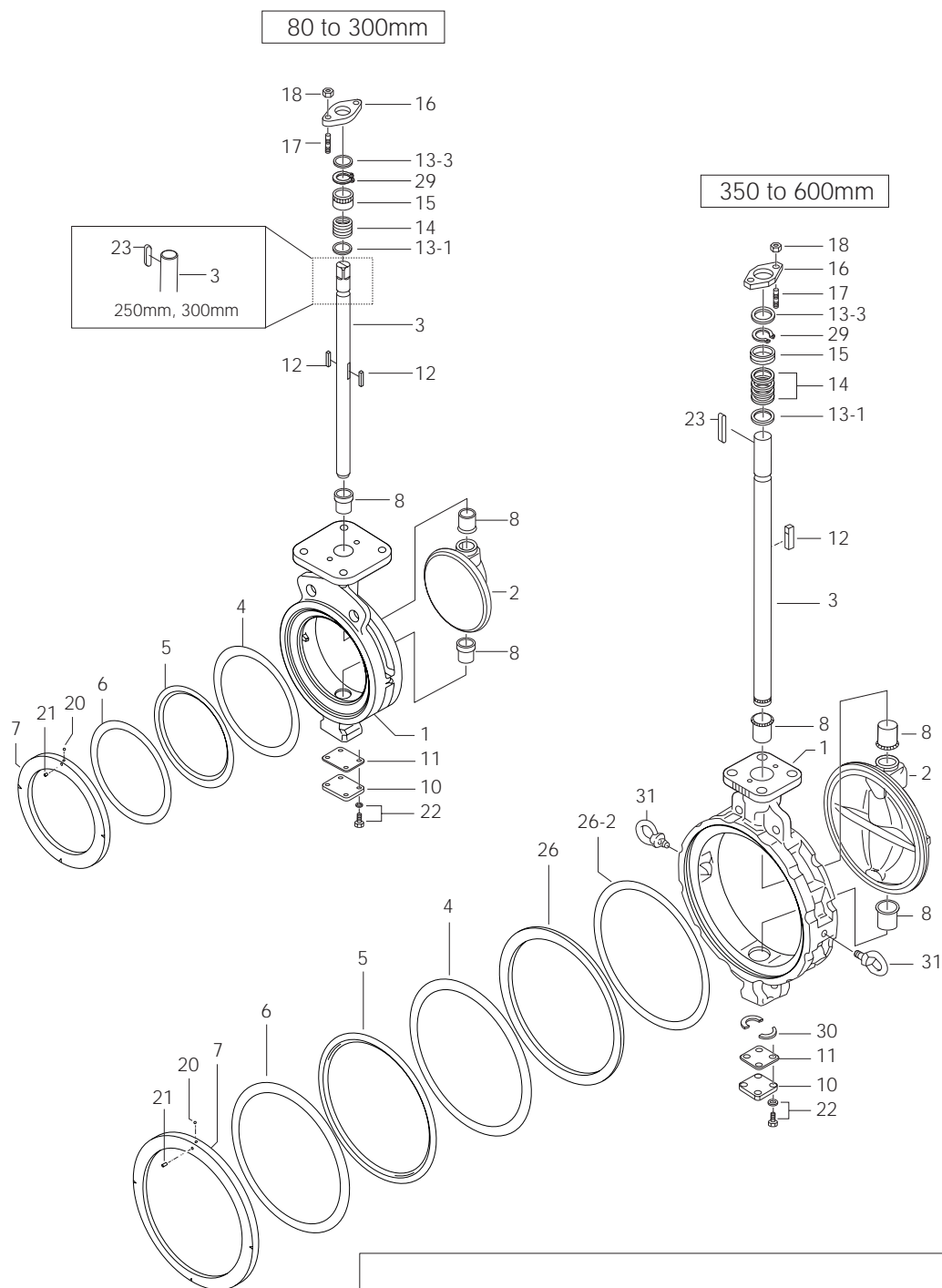
Valve nominal size ¹	80, 100, 125, 150, 200, 250, 300mm	350, 400, 450, 500, 600mm											
Applicable flange standard	JIS 10K/16K/20K ANSI 125/150Lb API/JPI 150Lb BS10 Table F BS 4504 PN 10/16 DIN NP10/16	JIS 5K/10K/16K/20K ANSI 125/150Lb API/JPI 150Lb BS 4504 PN 10/16 DIN NP10/16											
Face-to-face dimensions	API 609(class 150Lb, category B), JPI-7S-83(class 150Lb)												
	Nominal size	80	100	125	150	200	250	300	350	400	450	500	600
Face to face dimension	48	54	56	57	64	71	81	92	102	114	127	154	
125mm as per JIS B 2002 (series 46) ISO 5752 (series 20)													
Seat leakage	API 598-7th Edition												
Connection	Wafer type												
Pressure-temperature-rating ²	API 609 class 150Lb category B, ASME/ANSI B16.34 class 150Lb												
Fire safe	API 607 4th Edition												
Max. working pressure ²	2.0MPa												
Working temperature range ³	-29 to 600 degrees C (Ext. bonnet is required at 400 degrees C and or over)												
Flow direction	Bi-directional flow (Flow to disc side is recommended.) <ul style="list-style-type: none"> □ Flow to disc side (2.0 MPa) □ Flow to stem side (1.0 MPa) 												
Pressure test	Body shell	3.1 MPa (API 598 7th Edition) by hydraulic											
	Seat leak	7 bar (API 598 7th Edition) by air											
Actuators	Lock lever (80mm to 150mm)												
	Worm gear, Pneumatic cylinder, Motorized												
Standard materials ³	Body	SCPH2/WCB, SCS 14A/CF8M						SCPH2/WCB, SCS 13A/CF8, SCS 14A/CF8M					
	Disc	80mm to 150mm			200mm to 300mm			350mm to 600mm					
		SCS 16A/CF3M(hard chrome plating)			SCS 14A/CF8M(hard chrome plating)			SCS 13A/CF8(hard chrome plating), SCS 14A/CF8M(hard chrome plating)					
	Stem	SUS 420J2, SUS 329J1, SUS 316, SUS 329J4L											
Seat ring	SUS316L Hard facing treatment												
Painting	Silicon resin coating (Grey N7) for 200 degrees C and lower												
	Heat resistant silver coating for over 200 degrees C. No painting for stainless steel.												
Option	Anti-static device												

1. Please use 302Y or 337Y if using a nominal valve diameter of 50mm and 65mm.
 2. Refer to pressure - temperature rating chart on page 302A/303Q-05.
 3. Contact us regarding special material.

Tom Disco 302A (Wafer) / 303Q (Lugged)

302A Expanded view of components

Butterfly Valves
TRITEC
TT2
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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



302A Parts list

302A Parts list (80mm to 300mm: -29 to 400 degrees C)

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 ring	1	
7	Seat ring retainer	1	
8	Shaft bearing	3	
10	Bottom cover	1	
11	Bottom gasket	1	
12	Stem key	2	
13-1	Packing retainer	1	
13-3	Ring	1	
14	Gland packing	1 set	
15	Gland bush	1	
16	Gland flange	1	
17	Gland bolt	2	
18	Gland nut	2	
20	Ball	2	80mm to 125mm
		4	150mm to 300mm
21	Set screw	2	80mm to 125mm
		4	150mm to 300mm
22	Hexagon bolt, Spring washer	4 sets	
23	Key	1	Only 250mm, 300mm
29	C-ring	1	

302A Parts list (350mm to 600mm: -29 to 400 degrees C)

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 ring	1	
7	Seat ring retainer	1	
8	Shaft bearing	3 sets	
10	Bottom cover	1	
11	Bottom gasket	1	
12	Stem key	1	
13-1	Packing retainer	1	
13-3	Ring	1	
14	Gland packing	1 sets	
15	Gland bush	1	
16	Gland flange	1	
17	Gland bolt	2	
18	Gland nut	2	
20	Ball	4	
21	Set screw	4	
22	Hexagon bolt, Spring washer	4 sets	
23	Key	1	
26	Sub-retainer	1	
26-2	Seat spacer	1	Only 350mm
29	C-ring	1	
30	Thrust ring	2	
31	Eye bolt	2	Only 450mm to 600mm

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^(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

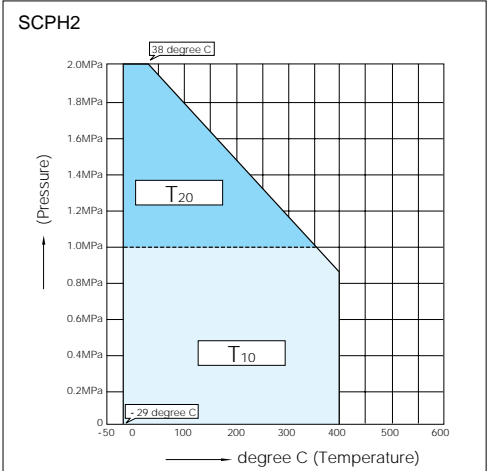
903C/904C

302A Actuator selection chart

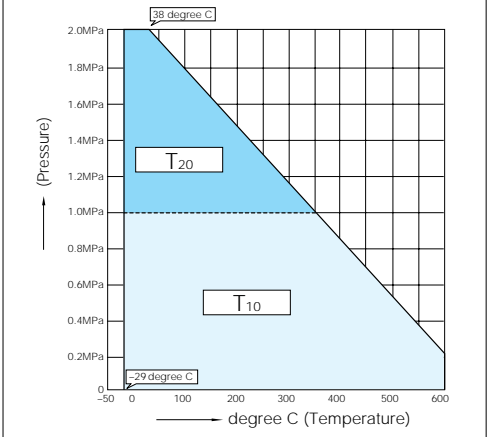
80mm to 300mm

Model	Category	Size (mm/inch)						
		80	100	125	150	200	250	300
TRITEC	TT2	3	4	5	6	8	10	12
334A	1T	1T-2			1T-3			
302A/303Q	T10 T20	1T-2			1T-3			
304A/304Q	2U,2S	2U-2			2U-4		DGH-2	DGH-3
302Y/304Y	T10 T20	2U-2			2U-4		DGH-2	DGH-3
304M(HLV)	3E,3A	K70	K170		K370		K700	
507V/508V	T10 T20	K70	K170		K370		K700	
846T/847T/847Q	3G,3F	K170S	K370S	K700S		TG-12S		
841T/842T	T10 T20	K170S	K370S	K700S		TG-12S		
773Z(NAV-Z)	3U,3K	K370S	K700S		TG-10S		TG-14S	
700G/704G/705G	4I	4I-0	4I-1	4I-2		4I-2.5		4I-3
731P/732P 732X/731X	T10 T20	4I-0	4I-1	4I-2		4I-2.5		4I-3
700E/700K	4J,4L	SRJ-010	SRJ-020		SRJ-060			LTKD-01 0.2kW/DGH-3
704G/722F/720F	T10 T20	SRJ-010	SRJ-020		SRJ-060			LTKD-01 0.2kW/DGH-3
LRV								
227P								
MKT								
903C/904C								

302A Pressure rating



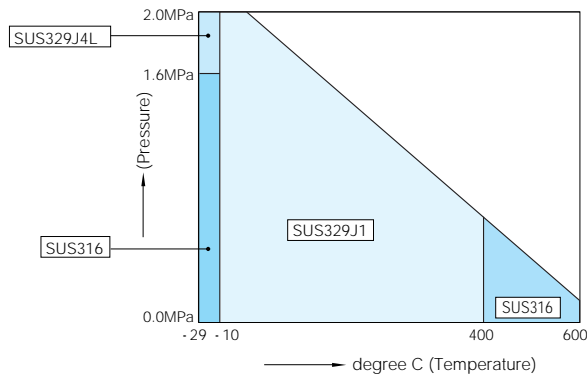
SCS 14A



302A Standard stem material

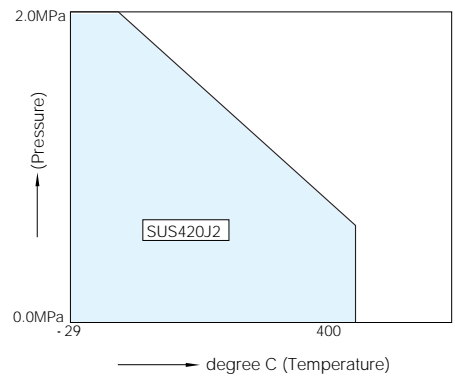
80mm to 300mm

SCS 14A/CF8M body



Temp.	-29 to -10 degrees C	-10 to 400 degrees C	400 to 600 degrees C
Pressure 0 to 1.6MPa	SUS 316	SUS 329J1	SUS 316
Pressure 1.6 to 2.0MPa	SUS 329J4L	SUS 329J1	SUS 316

SCPH2/WCB body



Temp.	-29 to 400 degrees C
Pressure 0 to 2.0MPa	SUS 420J2

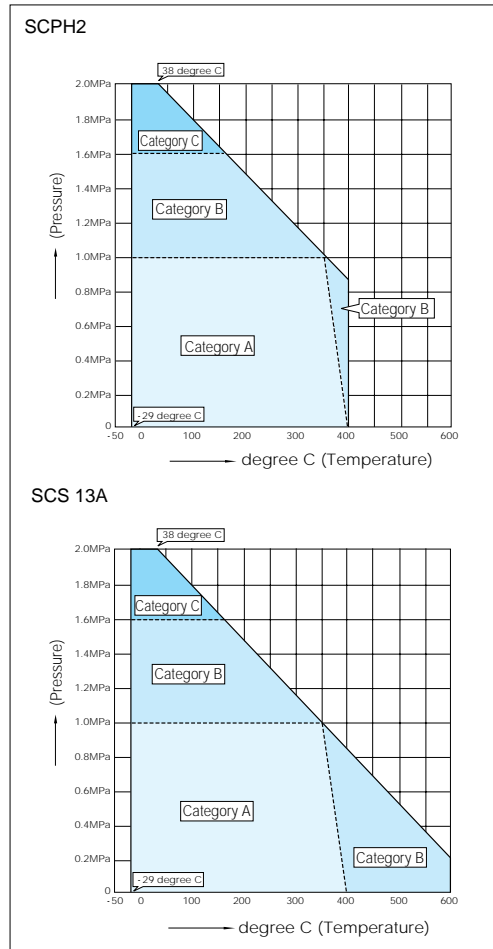
1 Framed description shows stem material.
2 Refer to Pressure - Temperature chart.
3 Consult us regarding other materials.

302A Actuator selection chart

350mm to 600mm

Model	Category	Size (mm / inch)				
		350	400	450	500	600
		14	16	18	20	24
2S	A	DGH-3		DGH-4	DGH-4+R/G5	
	B	DGH-3		DGH-4	DGH-4.5 +R/G5	
	C	DGH-3		DGH-4+R/G5	DGH-4.5 +R/G5	
3A	A	TGA-125	TGA-140	TGA-160	TGA-180	
	B	TGA-125	TGA-140	TGA-160	TGA-180	
	C	TGA-125	TGA-160	TGA-180	TGA-220	
3U,3K	A	TG-14S		TG-20S		
	B	TG-14S		TG-20S		
	C	TG-14S		TG-20S		
4I	A	4I-4				
	B	4I-4				
	C	4I-4				
4L	A	LTKD-01 0.2kW/DGH-3	LTKD-02 0.4kW/DGH-4			
	B	LTKD-02 0.4kW/DGH-4	LTKD-02 0.75kW/DGH-4	LTKD-05 1.5kW/DGH-5		
	C	LTKD-02 0.4kW/DGH-4	LTKD-02 0.75kW/DGH-4	LTKD-05 1.5kW/DGH-5		

302A Pressure rating

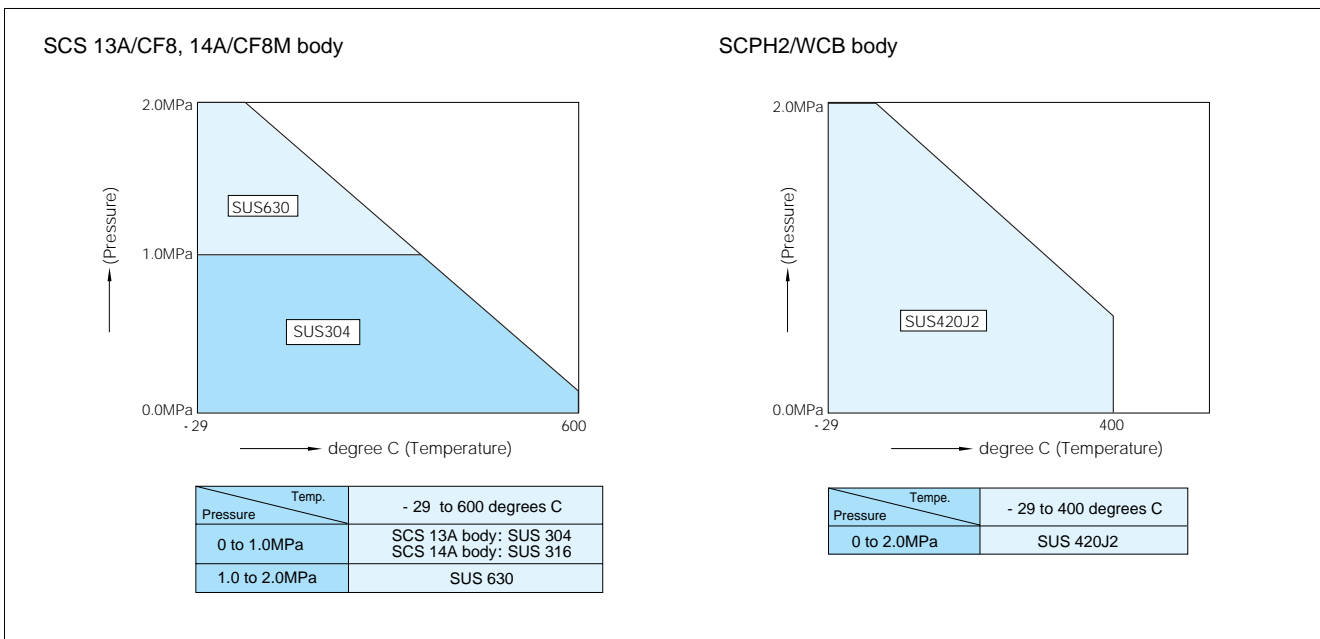


Butterfly Valves

- 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

302A Standard stem material

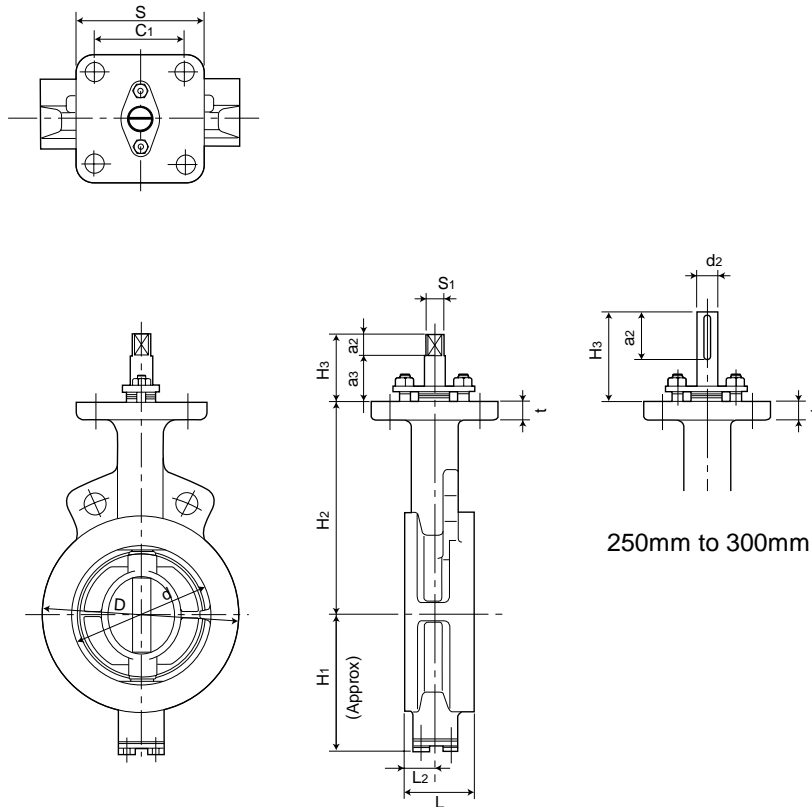
350mm to 600mm



1 Framed description shows stem material.
 2 Refer to Pressure - Temperature chart.
 3 Consult us regarding other materials.

Dimension list

302A-01 Bare shaft (Wafer type)

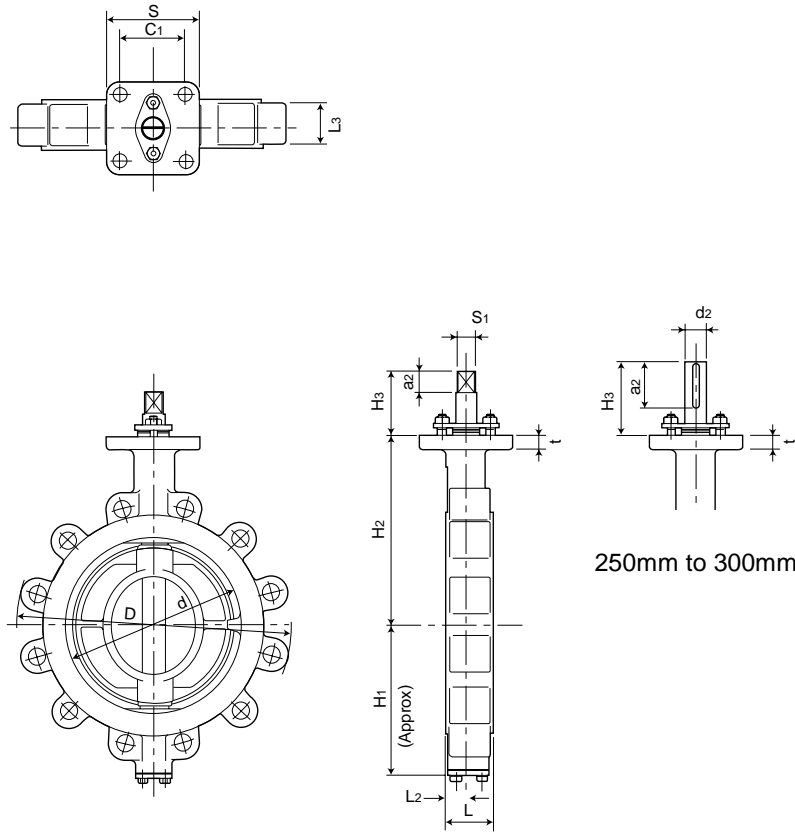


302A Dimension list

Nominal size		Dimension (mm)														Approx. weight (kg)
mm	inch	d	D	L	L ₂	H ₁	H ₂	H ₃	d ₂	S ₁	a ₂	a ₃	t	S	C ₁	
80	3	89	127	48	22	95	147	52.5	16	14	16.5	36	15	102	72	5
100	4	112	156	54	24	110	170	52.5	16	16	16.5	36	15	102	72	6.2
125	5	137	185	56	23	139	185	52.5	20	18	16.5	36	15	102	72	9.3
150	6	163	216	57	23.5	164	205	52.5	22	24	20	35.5	15	125	88.4	12.5
200	8	213	269	64	27	190	235	63	28	-	30	33	15	125	88.4	19
250	10	236	330	71	31	236	283	108	32	-	65.3	-	18	140	99	33
300	12	315	381	81	35	246	310	35	35	-	35	-	18	140	99	42
350	14	350	416	92	39.5	308	340	113	38	-	70	-	18	140	99	61
400	16	400	475	102	39	348	372	113	42	-	70	-	18	140	99	88
450	18	450	534	114	43	366	406	141.5	45	-	60	-	20	165	165	135
500	20	500	589	127	50	405	442	141.5	49	-	70	-	20	165	165	173
600	24	600	693	154	64	461	493	141.5	59	-	70	-	20	165	165	272

302A Bare shaft (01: 80mm to 200mm, 02: 250mm to 600mm)

303Q-01 Bare shaft (Lugged type)



303Q Dimension list

Nominal size		Dimension (mm)														Approx. weight (kg)
mm	inch	d	D	L	L ₂	L ₃	H ₁	H ₂	H ₃	d ₂	S ₁	a ₂	t	S	C ₁	
80	3	89	189	48	22	38	95	147	52.5	16	14	16.5	15	102	72	6
100	4	112	227	54	24	46	120	170	52.5	16	14	16.5	15	102	72	9.5
125	5	137	256	56	23	48	139	185	52.5	20	16	16.5	15	102	72	14
150	6	163	282	57	23.5	49	164	205	55.5	22	18	20	15	125	88.4	16
200	8	213	343	64	27	54	190	235	63	28	24	30	15	125	88.4	24
250	10	236	412	71	31	61	236	283	108	32	-	65	18	140	99	41
300	12	315	482	81	35	71	266	310	35	35	-	70	18	140	99	56
350	14	350	537	92	39.5	70	308	340	113	38	-	67	18	140	99	85
400	16	400	600	102	39	75	348	372	113	42	-	68	18	141	99	125
450	18	450	636	114	43	83	366	406	141.5	45	-	68	20	165	116.7	170
500	20	500	720	127	50	90	405	442	141.5	49	-	79	20	165	116.7	225
600	24	600	814	154	64	131	461	493	141.5	59	-	80	20	165	116.7	350

Butterfly Valves

TRITEC

TT2

334A

302A/303Q

304A/304Q

302Y/304Y

304M^(HLV)

507V/508V

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841T/842T

773Z^(NAV-Z)

700G/704G/705G

731P/732P

732X/731X

700E/700K

704G/722F/720F

LRV

227P

MKT

903C/904C

Tom Disco® 302A (Wafer) / 303Q (Lugged)

Lock lever type 302A-1T (80mm to 150mm)

Butterfly Valves

- 29 to 250 degrees C

	Nominal size		Dimension (mm)									Lever type	Approx. weight (kg)
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	W		
TRITEC													
TT2	80	3	89	127	48	22	95	147	T ₁₀ , T ₂₀	117	300	1T-2	7.1
334A	100	4	112	156	54	24	110	170	T ₁₀ , T ₂₀	117	300	1T-2	8.3
302A/303Q	125	5	137	185	56	23	139	185	T ₁₀ , T ₂₀	117	300	1T-2	11.4
304A/304Q	150	6	163	216	57	23.5	164	205	T ₁₀ , T ₂₀	125	350	1T-3	14.6

250 to 400 degrees C

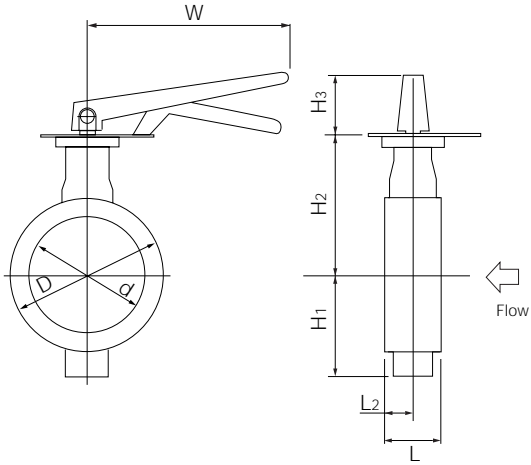
	Nominal size		Dimension (mm)									Lever type	Approx. weight (kg)
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	W		
507V/508V													
846T/847T/847Q	80	3	89	127	48	22	95	147	T ₁₀ , T ₂₀	217	300	1T-2	9.7
841T/842T	100	4	112	156	54	24	110	170	T ₁₀ , T ₂₀	217	300	1T-2	10.9
773Z (NAV-Z)	125	5	137	185	56	23	139	185	T ₁₀ , T ₂₀	217	300	1T-2	14.2
700G/704G/705G	150	6	163	216	57	23.5	164	205	T ₁₀ , T ₂₀	297	350	1T-3	21.3

400 to 600 degrees C

	Nominal size		Dimension (mm)									Lever type	Approx. weight (kg)
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	W		
700E/700K													
704G/722F/720F	80	3	89	127	48	22	95	297	T ₁₀	217	300	1T-2	15
LRV	100	4	112	156	54	24	110	320	T ₁₀	217	300	1T-2	16.2
227P	125	5	137	185	56	23	139	335	T ₁₀	217	300	1T-2	19.6
MKT	150	6	163	216	57	23.5	164	385	T ₁₀	297	350	1T-3	28.8

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302A-1T



302A-1T Actuator mounting finish by temperature

Temp.range	- 29 to 250 degrees C	250 to 400 degrees C	400 to 600 degrees C
Body	80mm to 150mm	SCS14A SCP2	SCS14A

1T Installation direction

<p>Retainer side</p> <p>Stem side</p> <p>1TA</p>	<p>Retainer side</p> <p>Stem side</p> <p>1TB</p>	<p>Retainer side</p> <p>Stem side</p> <p>1TC</p>	<p>Retainer side</p> <p>Stem side</p> <p>1TD</p>
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Tom Disco 302A (Wafer) / 303Q (Lugged)

Worm gear type 302A-2U (80mm to 150m) / 302A-2S (200mm to 600mm)

Butterfly Valves

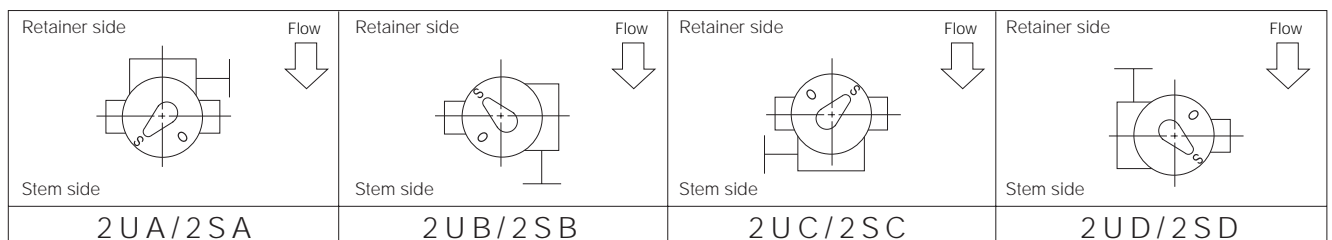
- 29 to 250 degrees C

	Nominal size		Dimension (mm)												Gear type	Approx. weight (kg)		
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	E	K	F	W				
TRITEC																		
TT2	80	3	89	127	48	22	95	147	T ₁₀ ,T ₂₀	61	44	53	173.5	160	2U-2	7.9		
334A	100	4	112	156	54	24	110	170	T ₁₀ ,T ₂₀	61	44	53	173.5	160	2U-2	9.1		
302A/303Q	125	5	137	185	56	23	139	185	T ₁₀ ,T ₂₀	61	44	53	173.5	160	2U-2	12.4		
	150	6	163	216	57	23.5	164	205	T ₁₀ ,T ₂₀	77.5	87.5	90	222.5	200	2U-4	29		
304A/304Q	200	8	213	269	64	27	190	235	T ₁₀ ,T ₂₀	72	85	126	246	280	DGH-2	33		
302Y/304Y	250	10	263	330	71	31	236	283	T ₁₀ ,T ₂₀	97	117	164	335	355	DGH-3	62		
	300	12	315	381	81	35	246	310	T ₁₀ ,T ₂₀	97	117	164	335	355	DGH-3	72		
304M (HLV)	350	14	350	416	92	39.5	308	340	A,B,C	97	117	164	335	355	DGH-3	99		
507V/508V	400	16	400	475	102	39	348	372	A	97	117	164	335	355	DGH-3	124		
									B,C	215	140	198	402	450	DGH-4	162		
846T/847T/847Q	450	18	450	534	114	43	366	406	A,B	127	140	198	402	450	DGH-4	198		
C									127	140	198	432	355	DGH-4+R/G5	200			
841T/842T	500	20	500	589	127	50	405	442	A	127	140	198	402	450	DGH-4	236		
B,C									127	140	198	432	355	DGH-4+R/G5	238			
773Z (NAV-Z)	600	24	600	693	154	64	461	493	A	127	140	198	432	355	DGH-4+R/G5	338		
B,C									245	185	264	497	355	DGH-4.5+R/G5	413			

250 to 400 degrees C

	Nominal size		Dimension (mm)												Gear type	Approx. weight (kg)	
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	E	K	F	W			
704G/704G/705G																	
731P/732P 732X/731X	80	3	89	127	48	22	95	147	T ₁₀ ,T ₂₀	134.5	44	53	173.5	160	2U-2	10.5	
700E/700K	100	4	112	156	54	24	110	170	T ₁₀ ,T ₂₀	134.5	44	53	173.5	160	2U-2	11.7	
704G/722F/720F	125	5	137	185	56	23	139	185	T ₁₀ ,T ₂₀	134.5	44	53	173.5	160	2U-2	17.2	
	150	6	163	216	57	23.5	164	205	T ₁₀ ,T ₂₀	223	87.5	90	222.5	200	2U-4	35	
LRV	200	8	213	269	64	27	190	235	T ₁₀ ,T ₂₀	217	85	126	246	280	DGH-2	39	
	250	10	263	330	71	31	236	283	T ₁₀ ,T ₂₀	205	117	164	335	355	DGH-3	75	
227P	300	12	315	381	81	35	246	310	T ₁₀ ,T ₂₀	205	117	164	335	355	DGH-3	85	
	350	14	350	416	92	39.5	308	340	A, B	205	117	164	335	355	DGH-3	108	
MKT	400	16	400	475	102	39	348	372	A	205	117	164	335	355	DGH-3	134	
									B	215	140	198	402	450	DGH-4	162	
903C/904C	450	18	450	534	114	43	366	406	A, B	245	140	198	402	450	DGH-4	212	
									A	245	140	198	402	450	DGH-4	250	
	500	20	500	589	127	50	405	442	B	245	140	198	432	355	DGH-4+R/G5	252	
									A	245	140	198	432	355	DGH-4+R/G5	351	
	600	24	600	693	154	64	461	493	B	245	185	264	497	355	DGH-4.5+R/G5	413	

2U/2S Installation direction

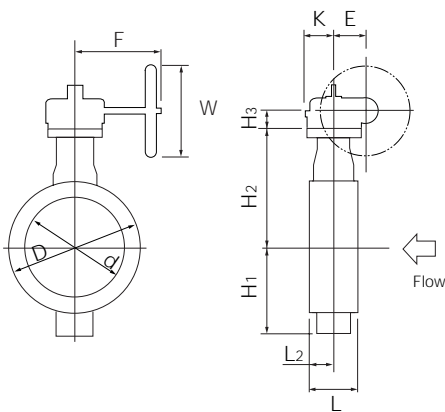


Worm gear type 302A-2U (80mm to 150m) / 302A-2S (200mm to 600mm)

400 to 600 degrees C

Nominal size		Dimension (mm)												Gear type	Approx. weight (kg)
mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	E	K	F	W		
80	3	89	127	48	22	95	297	T ₁₀	134.5	44	53	173.5	160	2U-2	16
100	4	112	156	54	24	110	320	T ₁₀	134.5	44	53	173.5	160	2U-2	17.2
125	5	137	185	56	23	139	335	T ₁₀	134.5	44	53	173.5	160	2U-2	22.7
150	6	163	216	57	23.5	164	385	T ₁₀	223	87.5	90	222.5	200	2U-4	42.5
200	8	213	269	64	27	190	415	T ₁₀	217	85	126	246	280	DGH-2	47
250	10	263	330	71	31	236	503	T ₁₀	205	117	164	335	355	DGH-3	88
300	12	315	381	81	35	246	530	T ₁₀	205	117	164	335	355	DGH-3	98
350	14	350	416	92	39.5	308	560	B	205	117	164	335	355	DGH-3	124
400	16	400	475	102	39	348	592	B	215	140	198	402	450	DGH-4	178
450	18	450	534	114	43	366	626	B	245	140	198	402	450	DGH-4	228
500	20	500	589	127	50	405	662	B	245	140	198	432	355	DGH-4+R/G5	270
600	24	600	693	154	64	461	713	B	245	185	264	497	355	DGH-4.5+R/G5	432

302A-2U/2S



302A-2U/2S Actuator mounting finish by temperature

Temp.range	-29 to 250 degrees C	250 to 400 degrees C	400 to 600 degrees C	Temp.range	-29 to 400 degrees C	400 to 600 degrees C
Body	80mm to 300mm	SCS14A SCPH2	SCS14A	400mm (DGH-4)	SCS13A SCPH2	SCS13A
	350mm to 600mm	SCS13A SCPH2	SCS13A	600mm (DGH-4.5 +R/G5)		

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® 302A (Wafer) / 303Q (Lugged)

Double-acting pneumatic cylinder type 302A-3E (80mm to 300mm)

Butterfly Valves

1.0 MPa or less

	Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)	
	mm	inch	d	D	L	L ₂	H ₁	H ₂	H ₃	H ₄	A	P	f ₁	f ₂			
TRITEC																	
TT2	80	3	89	127	48	22	95	147	133	26.5	226	136	53	51	K70	10	
334A	100	4	112	156	54	24	110	170	157	26.5	330	169	65	58	K170	14	
302A/303Q	125	5	137	185	56	23	139	185	157	26.5	330	169	65	58	K170	17	
304A/304Q	150	6	163	216	57	23.5	164	205	184	29.5	409	207	83	69	K370	26	
302Y/304Y	200	8	213	269	64	27	190	235	224	29.5	518	260	101	85	K700	42	
304M (HLV)	250	10	263	330	71	31	236	283	224	190	518	260	101	87.5	K700	70	
507V/508V	300	12	315	381	81	35	246	310	224	190	518	260	101	87.5	K700	79	

Over 1.0 MPa to 2.0 MPa or less

	Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)	
	mm	inch	d	D	L	L ₂	H ₁	H ₂	H ₃	H ₄	A	P	f ₁	f ₂			
841T/842T																	
773Z (NAV-Z)	80	3	89	127	48	22	95	147	157	26.5	330	169	65	58	K170	10	
700G/704G/705G	100	4	112	156	54	24	110	170	157	26.5	330	169	65	58	K170	14	
731P/732P 732X/731X	125	5	137	185	56	23	139	185	184	26.5	409	207	83	69	K370	17	
700E/700K	150	6	163	216	57	23.5	164	205	184	29.5	409	207	83	69	K370	26	
704G/722F/720F	200	8	213	269	64	27	190	235	224	29.5	518	260	101	85	K700	42	

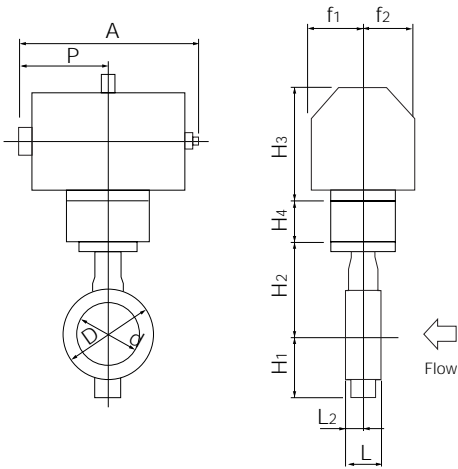
LRV

227P

MKT

903C/904C

302A-3E



302A-3E Actuator mounting finish by temperature

Temp.range	-29 to 250 degrees C	250 to 400 degrees C	400 to 600 degrees C
Body	80mm to 200mm	SCS14A SCPH2	SCS14A

Temp.range	-29 to 400 degrees C	400 to 600 degrees C	
Body	250mm 300mm	SCS14A SCPH2	SCS14A
	350mm	SCS13A SCPH2	

3E Installation direction

<p>3 E A</p>	<p>3 E B</p>	<p>3 E C</p>	<p>3 E D</p>
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Tom Disco® 302A (Wafer) / 303Q (Lugged)

Double-acting pneumatic cylinder type 302A-3A (250mm to 600mm)

Butterfly Valves

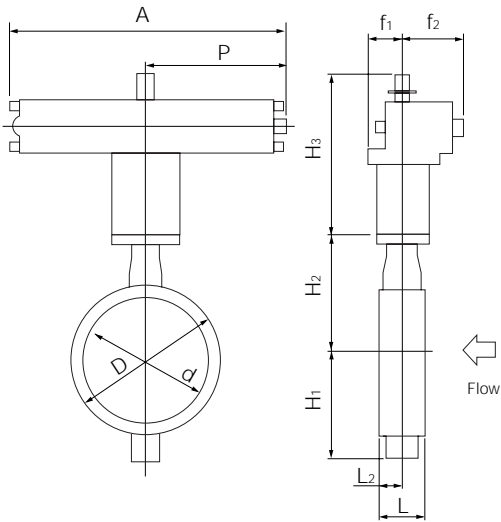
- 29 to 400 degrees C

Nominal size	Dimension (mm)													Cylinder type	Approx. weight (kg)		
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	A	P	f ₁			f ₂	
TRITEC																	
TT2	250	10	263	330	71	31	236	283	T ₂₀	424	743	381	100	164	TGA-125	79	
334A	300	12	315	381	81	35	246	310	T ₂₀	424	743	381	100	164	TGA-125	88	
302A/303Q	350	14	350	416	92	39.5	308	340	A	424	743	381	100	164	TGA-125	110	
B, C									472	810	417	100	180	TGA-140	121		
304A/304Q	400	16	400	475	102	39	348	372	A, B	472	810	417	100	180	TGA-140	147	
C									510	939	483	130	202	TGA-160	214		
304M (HLV)	450	18	450	534	114	43	366	406	A	502	810	417	100	180	TGA-140	207	
507V/508V									B, C	530	939	483	130	202	TGA-160	263	
846T/847T/847Q	500	20	500	589	127	50	405	442	A	530	939	483	130	202	TGA-160	302	
841T/842T									B, C	543	1053	543	130	218	TGA-180	330	
773Z (NAV-Z)	600	24	600	693	154	64	461	493	A	543	1053	543	130	218	TGA-180	431	
700G/704G/705G									B	610	1163	599	160	253	TGA-200	475	
731P/732P 732X/731X									C	640	1248	642	160	270	TGA-220	535	

400 to 600 degrees C

Nominal size	Dimension (mm)													Cylinder type	Approx. weight (kg)	
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	A	P	f ₁			f ₂
700E/700K																
704G/722F/720F	350	14	350	416	92	39.5	308	560	B	472	810	417	100	180	TGA-140	136
LRV	400	16	400	475	102	39	348	592	B	472	810	417	100	180	TGA-140	163
227P	450	18	450	534	114	43	366	626	B	530	939	483	130	202	TGA-160	280
MKT	500	20	500	589	127	50	405	662	B	543	1053	543	130	218	TGA-180	348
903C/904C	600	24	600	693	154	64	461	713	B	610	1163	599	160	253	TGA-200	494

302A-3A



302A-3A

Actuator mounting finish by temperature

Temp.range	-29 to 400 degrees C	400 to 600 degrees C
Body	350mm to 600mm SCS13A SCPH2	SCS13A

3A Installation direction

<p>Retainer side</p> <p>Stem side</p> <p>3 A A</p>	<p>Retainer side</p> <p>Stem side</p> <p>3 A B</p>	<p>Retainer side</p> <p>Stem side</p> <p>3 A C</p>	<p>Retainer side</p> <p>Stem side</p> <p>3 A D</p>
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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® 302A (Wafer) / 303Q (Lugged)

Single-acting pneumatic cylinder type 302A-3F (Air to open: 80mm to 150mm) / 302A-3G (Air to close: 80mm to 150mm)

Butterfly Valves

1.0 MPa or less

	Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)			
	mm	inch	d	D	L	L ₂	H ₁	H ₂	H ₃	H ₄	A	P	f ₁			f ₂		
TRITEC																		
TT2	80	3	89	127	48	22	95	147	157	26.5	444	218.5	65	58	K170S	15		
334A	100	4	112	156	54	24	110	170	184	26.5	545	269	83	69	K370S	23		
302A/303Q	125	5	137	185	56	23	139	185	224	26.5	707	350	101	85	K700S	40.5		
304A/304Q	150	6	163	216	57	23.5	164	205	224	29.5	707	350	101	85	K700S	44.5		

Over 1.0 MPa to 2.0 MPa or less

	Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)		
	mm	inch	d	D	L	L ₂	H ₁	H ₂	H ₃	H ₄	A	P	f ₁			f ₂	
507V/508V																	
846T/847T/847Q	80	3	89	127	48	22	95	147	184	26.5	545	269	83	69	K370S	22	
841T/842T	100	4	112	156	54	24	110	170	224	26.5	707	350	101	85	K700S	37.5	
773Z (NAV-Z)	125	5	137	185	56	23	139	185	224	26.5	707	350	101	85	K700S	40.5	

700G/704G/705G

731P/732P
732X/731X

700E/700K

704G/722F/720F

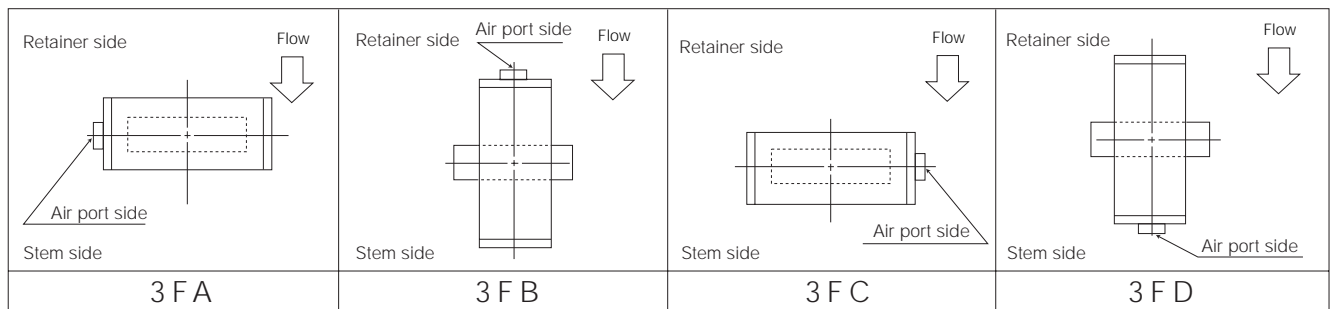
LRV

227P

MKT

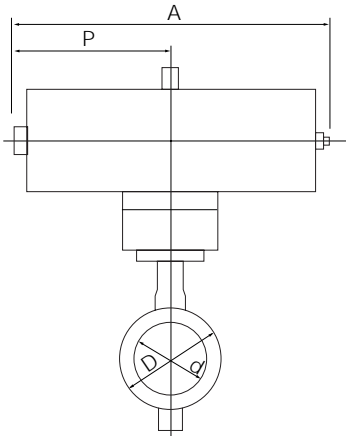
903C/904C

3F Installation direction

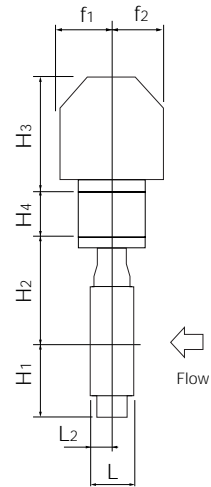
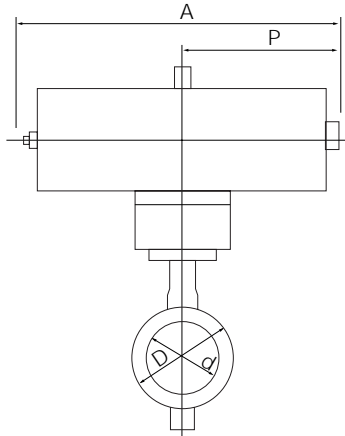


TRITEC
TT2
334A
302A/303Q
304A/304Q
302Y/304Y
304M ^(HLV)
507V/508V
846T/847T/847Q
841T/842T
773Z ^(NAV-Z)
700G/704G/705G
731P/732P 732X/731X
700E/700K
704G/722F/720F
LRV
227P
MKT
903C/904C

302A-3F



302A-3G



302A-3F/3G Actuator mounting finish by temperature

Temp.range	-29 to 250 degrees C	250 to 400 degrees C	400 to 600 degrees C
Body	80mm to 150mm	SCS14A SCPH2	SCS14A

3G Installation direction

<p>Retainer side</p> <p>Air port side</p> <p>Stem side</p> <p>3 G A</p>	<p>Retainer side</p> <p>Air port side</p> <p>Stem side</p> <p>3 G B</p>	<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>Air port side</p> <p>3 G C</p>	<p>Retainer side</p> <p>Flow</p> <p>Stem side</p> <p>Air port side</p> <p>3 G D</p>
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Tom Disco[®] 302A (Wafer) / 303Q (Lugged)

Single-acting pneumatic cylinder type 302A-3U (Air to open: 150mm to 600mm) / 302A-3K (Air to close: 150mm to 600mm)

Butterfly Valves

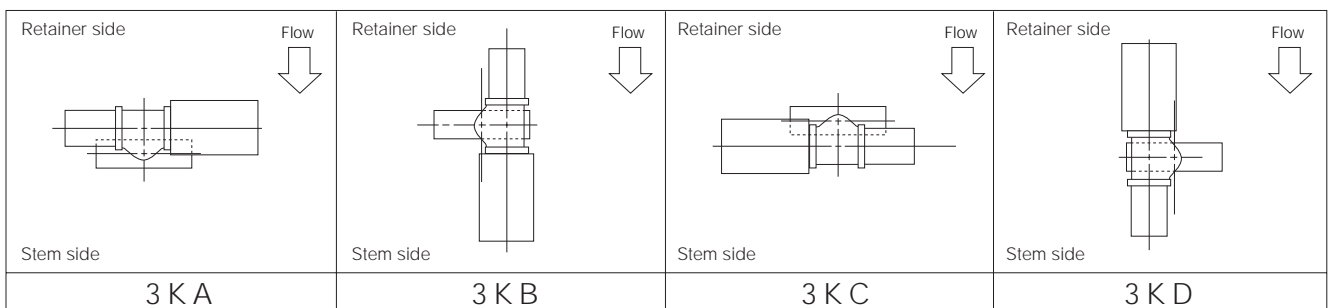
- 29 to 400 degrees C

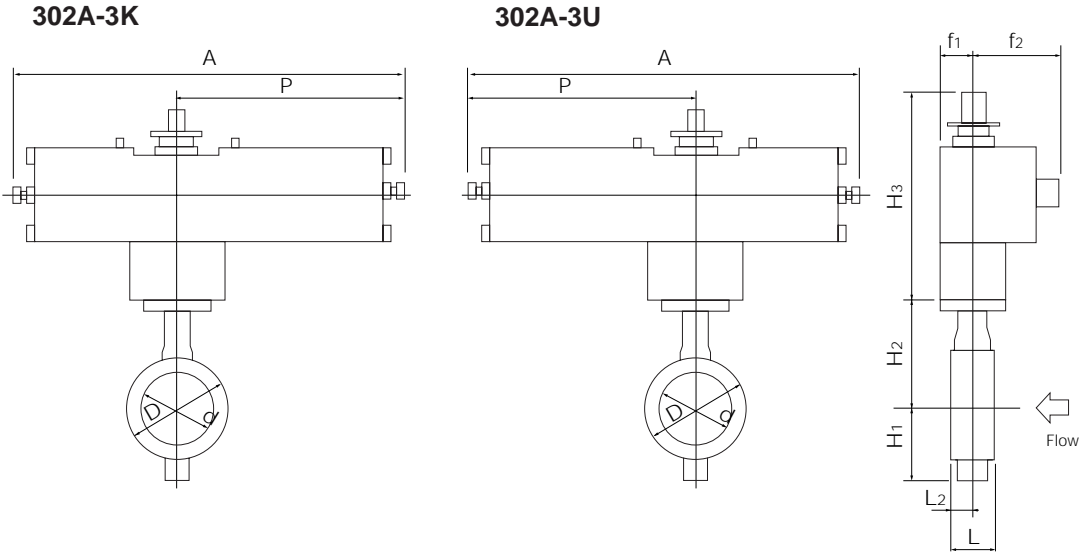
	Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)	
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	A	P	f ₁	f ₂			
TRITEC																	
TT2	150	6	163	216	57	23.5	164	205	T ₂₀	377	945	585	70	165	TG-10S	69	
334A	200	8	213	269	64	27	190	235	T ₁₀ , T ₂₀	377	1080	720	94	206	TG-12S	122	
302A/303Q	250	10	263	330	71	31	236	283	T ₁₀	417	1080	720	94	206	TG-12S	141	
304A/304Q									T ₂₀	450	1255	865	131	257	TG-14S	237	
302Y/304Y	300	12	315	381	81	35	246	310	T ₁₀	417	1080	720	94	206	TG-12S	150	
									T ₂₀	450	1255	865	131	257	TG-14S	246	
304M (HLV)	350	14	350	416	92	39.5	308	340	A	450	1255	865	131	257	TG-14S	264	
507V/508V									B, C	602	1655	1095	164	348	TG-20S	485	
846T/847T/847Q	400	16	400	475	102	39	348	372	A	450	1255	865	131	257	TG-14S	292	
									B, C	602	1655	1095	164	348	TG-20S	512	
841T/842T	450	18	450	534	114	43	366	406	A, B, C	624	1655	1095	164	348	TG-20S	564	
773Z (NAV-Z)	500	20	500	589	127	50	405	442	A, B	624	1655	1095	164	348	TG-20S	602	
700G/704G/705G	600	24	600	693	154	64	461	493	A	624	1655	1095	164	348	TG-20S	701	

400 to 600 degrees C

	Nominal size		Dimension (mm)												Cylinder type	Approx. weight (kg)	
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	A	P	f ₁	f ₂			
731P/732P 732X/731X																	
700E/700K	200	8	213	269	64	27	190	415	T ₁₀	377	1080	720	94	206	TG-12S	130	
704G/722F/720F	250	10	263	330	71	31	236	503	T ₁₀	417	1080	720	94	206	TG-12S	154	
LRV	300	12	315	381	81	35	246	530	T ₁₀	417	1080	720	94	206	TG-12S	164	
227P	350	14	350	416	92	39.5	308	560	B	602	1655	1095	164	348	TG-20S	500	
MKT	400	16	400	475	102	39	348	592	B	602	1655	1095	164	348	TG-20S	528	
903C/904C	450	18	450	534	114	43	366	626	B	624	1655	1095	164	348	TG-20S	582	
	500	20	500	589	127	50	405	662	B	624	1655	1095	164	348	TG-20S	620	

3K Installation direction

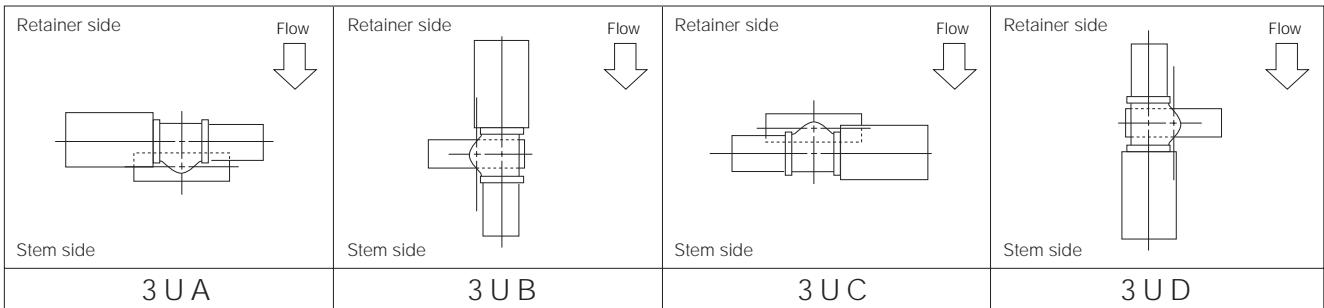




302A 3U/3K Actuator mounting finish by temperature

Temp.range	- 29 to 400 degrees C	400 to 600 degrees C
Body	150mm to 300mm	SCS14A SCPH2
	350mm to 600mm	SCS13A SCPH2
		SCS14A
		SCS13A

3U Installation direction



Tom Disco® 302A (Wafer) / 303Q (Lugged)

Single phase electric motor type 302A-4 I (80mm to 400mm)

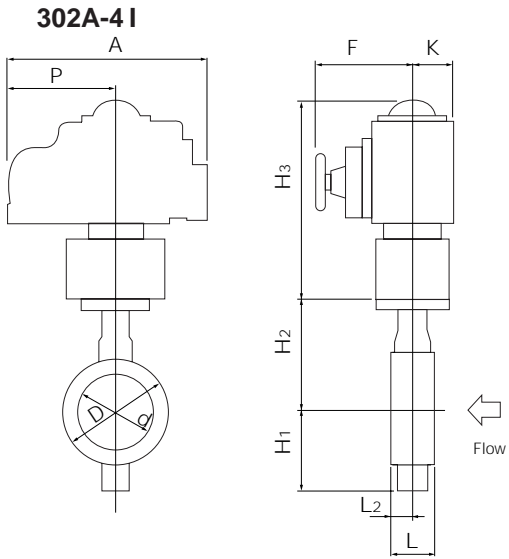
Butterfly Valves

- 29 to 400 degrees C

	Nominal size		Dimension (mm)											Motor type	Approx. weight (kg)	
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	A	P	F			K
TRITEC	80	3	89	127	48	22	95	147	T ₁₀	250	202	100	85	54	4 I-0	12.1
TT2									T ₂₀	265	252	138	126	65	4 I-1	14.3
334A	100	4	112	156	54	24	110	170	T ₁₀	265	252	138	126	65	4 I-1	15.5
302A/303Q									T ₂₀	298	310	167	154	85	4 I-2	21.5
304A/304Q	125	5	137	185	56	23	139	185	T ₁₀ , T ₂₀	298	310	167	154	85	4 I-2	24.5
302Y/304Y	150	6	163	216	57	23.5	164	205	T ₁₀	373	310	167	154	85	4 I-2	29.5
304M(HLV)									T ₂₀	373	310	167	154	85	4 I-2.5	31
507V/508V	200	8	213	269	64	27	190	235	T ₁₀	373	310	167	154	85	4 I-2.5	39
846T/847T/847Q									T ₂₀	405	388	223	246	136	4 I-3	49
841T/842T	250	10	263	330	71	31	236	283	T ₁₀ , T ₂₀	420	388	223	246	136	4 I-3	66
773Z (NAV-Z)	300	12	315	381	81	35	246	310	T ₁₀ , T ₂₀	420	388	223	246	136	4 I-3	75
700G/704G/705G	350	14	350	416	92	39.5	308	340	A, B	423	388	223	246	136	4 I-4	96
731P/732P 732X/731X	400	16	400	475	102	39	348	372	A	423	388	223	246	136	4 I-4	123

400 to 600 degrees C

	Nominal size		Dimension (mm)											Motor type	Approx. weight (kg)	
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	A	P	F			K
700E/700K	80	3	89	127	48	22	95	297	T ₁₀	250	202	100	85	54	4 I-0	17.6
704G/722F/720F	100	4	112	156	54	24	110	320	T ₁₀	265	252	138	126	65	4 I-1	21
LRV	125	5	137	185	56	23	139	335	T ₁₀	298	310	167	154	85	4 I-2	30
227P	150	6	163	216	57	23.5	164	385	T ₁₀	373	310	167	154	85	4 I-2	37.5
MKT	200	8	213	269	64	27	190	415	T ₁₀	373	310	167	154	85	4 I-2.5	47
903C/904C	250	10	263	330	71	31	236	503	T ₁₀	420	388	223	246	136	4 I-3	79
	300	12	315	381	81	35	246	530	T ₁₀	420	388	223	246	136	4 I-3	88
	350	14	350	416	92	39.5	308	560	B	423	388	223	246	136	4 I-4	138



302A-4 I
Actuator mounting finish by temperature

Temp.range	- 29 to 400 degrees C	400 to 600 degrees C
Body	80mm to 300mm	SCS14A SCPH2
	350mm 400mm	SCS13A SCPH2

4I Installation direction

<p>Retainer side</p> <p>Stem side</p> <p>4 I A</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 I B</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 I C</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 I D</p>
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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[®] 302A(Wafer)/303Q (Lugged)

Three phase motor actuator type 302A-4L(250mm to 600mm)

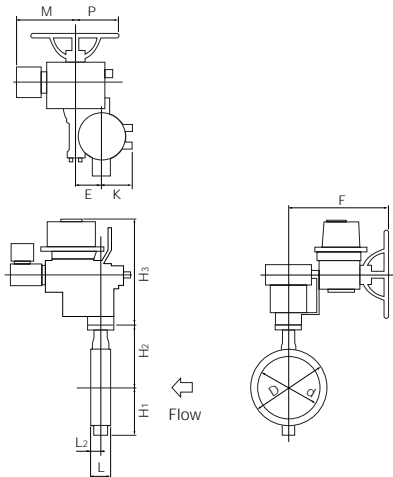
- 29 to 400 degrees C

Butterfly Valves	Nominal size		Dimension (mm)													Motor type	Approx. weight (kg)
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	E	K	F	M	P		
TRITEC																	
TT2	250	10	263	330	71	31	236	283	T ₁₀	547	117	164	533	357	230	LTKD-01 0.2kW/DGH-3	125
334A	300	12	315	381	81	35	246	310	T ₁₀ , T ₂₀	547	117	164	533	357	230	LTKD-01 0.2kW/DGH-3	133
302A/303Q	350	14	350	416	92	39.5	308	340	A,B	547	117	164	533	357	230	LTKD-01 0.2kW/DGH-3	171
304A/304Q									C	592	140	198	593	373	230	LTKD-02 0.4kW/DGH-4	221
302Y/304Y	400	16	400	475	102	39	348	372	A	547	117	164	533	357	230	LTKD-01 0.2kW/DGH-3	197
304M(HLV)									B	592	140	198	593	373	230	LTKD-02 0.4kW/DGH-4	247
507V/508V	450	18	450	534	114	43	366	406	C	592	140	198	593	400	230	LTKD-02 0.75kW/DGH-4	258
846T/847T/847Q									A	642	140	198	593	373	230	LTKD-02 0.4kW/DGH-4	308
841T/842T	500	20	500	589	127	50	405	442	B,C	642	140	198	593	400	230	LTKD-02 0.75kW/DGH-4	319
773Z(NAV-Z)	600	24	600	693	154	64	461	493	A,B,C	642	140	198	593	400	230	LTKD-02 0.75kW/DGH-4	357
700G/704G/705G									B,C	749	210	300	748	477	360	LTKD-05 1.5kW/DGH-5	605

400 to 600 degrees C

Butterfly Valves	Nominal size		Dimension (mm)													Motor type	Approx. weight (kg)
	mm	inch	d	D	L	L ₂	H ₁	H ₂	Category	H ₃	E	K	F	M	P		
731P/732P 732X/731X	300	12	315	381	81	35	246	530	T ₁₀	547	117	164	533	357	230	LTKD-01 0.2kW/DGH-3	146
700E/700K	350	14	350	416	92	39.5	308	560	B	547	117	164	533	357	230	LTKD-01 0.2kW/DGH-3	186
704G/722F/720F	400	16	400	475	102	39	348	592	B	592	140	198	593	373	230	LTKD-02 0.4kW/DGH-4	263
LRV	450	18	450	534	114	43	366	626	B	642	140	198	593	400	230	LTKD-02 0.75kW/DGH-4	336
227P	500	20	500	589	127	50	405	662	B	642	140	198	593	400	230	LTKD-02 0.75kW/DGH-4	375
MKT	600	24	600	693	154	64	461	713	B	749	210	300	748	477	360	LTKD-05 1.5kW/DGH-5	625
903C/904C																	

302A-4L



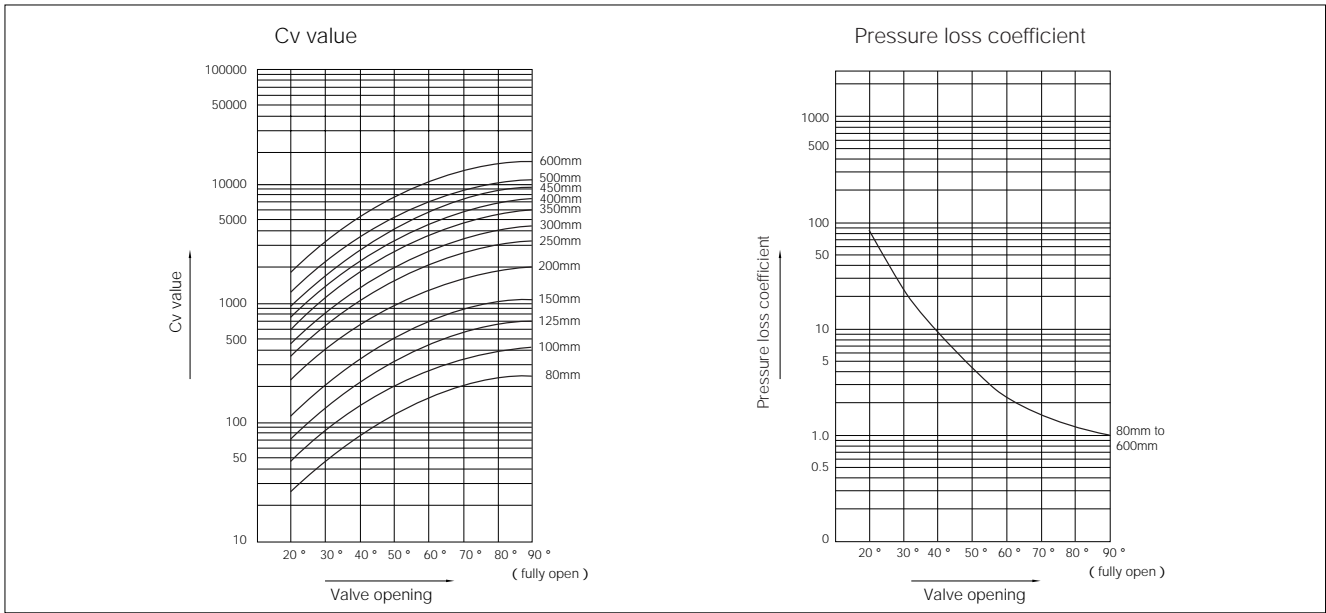
302A-4L Actuator mounting finish by temperature

Temp.range	- 29 to 400 degrees C	400 to 600 degrees C
Body	250mm 300mm	SCS14A SCPH2
	350mm to 600mm	SCS13A SCPH2

4L Installation direction

<p>Retainer side</p> <p>Stem side</p> <p>4 LA</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 LB</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 LC</p>	<p>Retainer side</p> <p>Stem side</p> <p>4 LD</p>
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302A Cv value/pressure loss coefficient



302A Cv value

Nominal size		Valve opening							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
80	3	29	52	85	122	162	207	243	252
100	4	49	88	144	207	279	351	414	432
125	5	77	140	230	333	441	549	648	684
150	6	126	225	369	531	720	900	1080	1116
200	8	234	423	693	990	1350	1710	1980	2070
250	10	390	703	1148	1648	2240	2857	3300	3443
300	12	492	888	1454	2081	2838	3612	4172	4354
350	14	648	1170	1915	2741	3739	4758	5496	5736
400	16	829	1496	2449	3505	4780	6084	7027	7334
450	18	1041	1879	3076	4403	6004	7642	8827	9212
500	20	1323	2387	3909	5595	7630	9710	11216	11705
600	24	1929	3481	5700	8159	11126	14161	16356	17070

302A Pressure loss coefficient

Nominal size		Valve opening							
mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
80	3	95	29	11	5	3	2	1	1
100	4	98	30	11	5	3	2	1	1
125	5	93	28	10	5	3	2	1	1
150	6	70	22	8	4	2	1	1	1
200	8	62	19	7	3	2	1	1	1
250	10	54	17	6	3	2	1	1	1
300	12	70	21	8	4	2	1	1	1
350	14	68	21	8	4	2	1	1	1
400	16	73	22	8	4	2	1	1	1
450	18	75	23	9	4	2	1	1	1
500	20	72	22	8	4	2	1	1	1
600	24	70	22	8	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® 302A(Wafer)/303Q (Lugged)

302A Applicable flange standard

Butterfly Valves

	Nominal size		JIS				ANSI/API/JPI	BS4504		DIN		BS10
	mm	inch	5K	10K	16K	20K	150Lb	PN10	PN16	NP10	NP16	Table E
TRITEC												
TT2	80	3	×	D	D	D		D	D	D	D	×
334A	100	4	×	D	D	D	D	D	D	D	D	×
302A/303Q	125	5	×	D	D	D	D	D	D	D	D	×
304A/304Q	150	6	×	D	D	D	D	D	D	D	D	×
302Y/304Y	200	8	×	D	D	D	D	D	D	D	D	×
304M(HLV)	250	10	×	D	D	D	D	D	D	D	D	×
507V/508V	300	12	×	D	D	D	D	D	D	D	D	×
846T/847T/847Q	350	14	D	D	D	D	D	D	D	D	D	D
841T/842T	400	16	D	D	D	D	D	D	D	D	D	D
773Z(NAV-Z)	450	18	D	T	T	T	D	T	T	T	T	D
700G/704G/705G	500	20	T	T	T	T	T	T	T	T	T	T
731P/732P 732X/731X	600	24	T	T	T	T	T	T	T	T	T	T
700E/700K												
704G/722F/720F												
LRV												
227P												
MKT												
903C/904C												

: Can be used without flange drilling.
 D : With flange drilling
 T : With flange tapping
 × : Not applicable

302A 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)	Retainer (up stream)	Stem Side (down stream)	
80	3															72.5
100	4															93.8
125	5															119.4
150	6															147.5
200	8								x		x					197.5
250	10								x		x					248.1
300	12								x	x	x					297.6
350	14								x	x	x	-	-	-	-	330
400	16								x		x	-	-	-	-	377
450	18								x		x	-	-	-	-	424
500	20								x		x	-	-	-	-	470
600	24	-	-						x	x	x	-	-	-	-	564

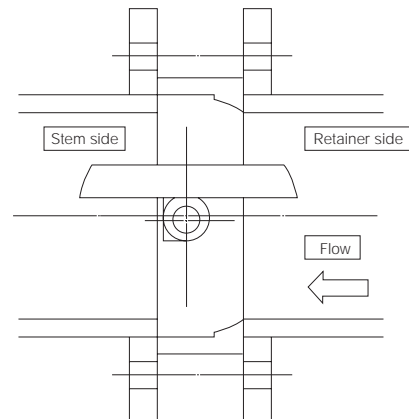
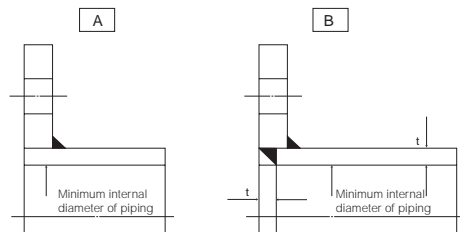
302A Applicable pipe list in case of **B**

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)	Retainer (up stream)	Stem Side (down stream)
80	3														
100	4														
125	5														
150	6														
200	8								x		x				
250	10								x		x				
300	12								x		x				
350	14								x		x	-	-	-	-
400	16								x		x	-	-	-	-
450	18								x		x	-	-	-	-
500	20								x		x	-	-	-	-
600	24	-	-						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.
80mm to 150mm: 1.5mm; 200mm to 500mm: 3.0mm, and 600mm: 6.4mm

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.



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® 302A (Wafer) / 303Q (Lugged)

302A Piping gasket

In case of sheet gasket Any standard can be used.
 In case of spiral gasket
 For API, JPI, ANSI flange Any standard gaskets with inner/outer ring can be used.
 For JIS flange Use special spiral gasket shown below.

Special spiral gasket for JIS flange size

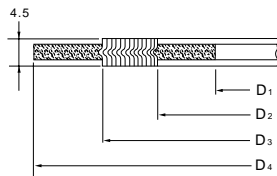
Applicable standard for spiral gasket

Nominal size		JIS flange					
		5K, 10K, 16K, 20K			5K	10K	16K, 20K
mm	inch	D ₁	D ₂	D ₃	D ₄	D ₄	D ₄
80	3	89	97	120	x	134	140
100	4	115	124	146	x	159	165
125	5	140	151	177	x	190	202
150	6	166	178	207	x	220	237
200	8	217	227	257	x	270	282
250	10	268	282	318	x	332	354
300	12	319	331	362	x	377	404
350	14	356	369	399	412	422	450
400	16	406	420	457	472	484	508
450	18	458	472	517	532	539	573
500	20	508	532	567	582	594	628
600	24	610	626	672	689	700	734

Nominal size		Tomoe special			Standard gasket		
		JIS 10K	JIS 16K JIS 20K	ANSI 125/150Lb	JIS 10K	JIS 16K JIS 20K	ANSI 125/150Lb
mm	inch						
80	3				x	x	
100	4				x	x	
125	5				x	x	
150	6				x	x	
200	8				x	x	
250	10				x	x	
300	12				x	x	
350	14				x	x	
400	16				x	x	
450	18				x	x	
500	20				x	x	
600	24				x	x	

Remark: x: Not applicable

Remark: : Applicable, x: Not applicable



302A 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 VALQUA or NICHIASU				
			JIS 5K	JIS 10K	JIS 16K JIS 20K	ANSI 125/150Lb	JPI 150Lb	JIS 5K	JIS 10K	JIS 16K JIS 20K	ANSI 125/150Lb	JPI 150Lb
mm	inch											
80	3	97	x					x				
100	4	124	x					x				
125	5	151	x					x				
150	6	178	x					x				
200	8	227	x					x				
250	10	282	x					x				
300	12	331	x					x				
350	14	362										
400	16	414										
450	18	468										
500	20	518										
600	24	619										

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

302A Piping bolts and nuts sizes

Butterfly Valves

Nominal size		JIS5K		JIS10K		JIS16K	
mm	inch	Long bolts and nuts	Setting bolts	Long bolts and nuts	Setting bolts	Long bolts and nuts	Setting bolts
80	3	-	-	8-M16×145	-	8-M20×170	-
100	4	-	-	8-M16×145	-	8-M20×170	-
125	5	-	-	8-M20×170	-	8-M22×190	-
150	6	-	-	8-M20×170	-	12-M22×190	-
200	8	-	-	12-M20×170	-	12-M22×190	-
250	10	-	-	12-M22×190	-	12-M24×210	-
300	12	-	-	16-M22×190	-	16-M24×225	-
350	14	12-M22×210	-	16-M22×210	-	16-M30(P3)×245	-
400	16	16-M22×220	-	16-M24×235	-	16-M30(P3)×265	-
450	18	16-M22×230	-	16-M24×250	4-M24×84×60	16-M30(P3)×280	4-M30(P3)×95×65
					4-M24×58×50		4-M30(P3)×73×50
500	20	16-M22×245	4-M22×80×50	16-M24×260	4-M24×90×60	16-M30(P3)×300	4-M30(P3)×105×65
			4-M22×60×50		4-M24×70×60		4-M30(P3)×81×50
600	24	16-M24×280	4-M24×84×60	20-M30(P3)×300	4-M30(P3)×81×50	20-M36(P3)×345	4-M36(P3)×100×60
			4-M24×65×50		4-M30(P3)×65×50		4-M36(P3)×82×50

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		JIS20K		ANSI150Lb, API/JPI150Lb	
mm	inch	Long bolts and nuts	Setting bolts	Long bolts and nuts	Setting bolts
80	3	8-M20×170	-	4-U5/8-11UNC×155	-
100	4	8-M20×170	-	8-U5/8-11UNC×155	-
125	5	8-M22×190	-	8-U3/4-10UNC×175	-
150	6	12-M22×190	-	8-U3/4-10UNC×175	-
200	8	12-M22×190	-	8-U3/4-10UNC×205	-
250	10	12-M24×210	-	12-U7/8-9UNC×215	-
300	12	16-M24×225	-	12-U7/8-9UNC×215	-
350	14	16-M30(P3)×260	-	12-U1-8UNC×240	-
400	16	16-M30(P3)×280	-	16-U1-8UNC×255	-
450	18	16-M30(P3)×300	4-M30(P3)×105×65	16-U1 1/8-8UN×280	-
			4-M30(P3)×81×50		
500	20	16-M30(P3)×315	4-M30(P3)×110×60	16-U1 1/8-8UN×295	4-U1 1/8-8UN×105×50
			4-M30(P3)×90×65		4-U1 1/8-8UN×80×50
600	24	20-M36(P3)×360	4-M36(P3)×108×60	16-U1 1/4-8UN×340	4-U1 1/4-8UN×100×50
			4-M36(P3)×90×50		4-U1 1/4-8UN×90×50

Remark: Use SNB 7/S45C (A193 B7/A, 194 2H) SUS304/SUS304

For long bolt, use full thread bolt.

For hexagon nut, use heavy nut.

A metric screw should have 3 pitches if its nominal diameter exceeds M30.

A unified screw should have 8 threads per inch if its nominal diameter exceeds 1 inch.

Hexagon bolts (set bolts) are indicated with the retainer side on the up side and the stem side on down side.

Examples

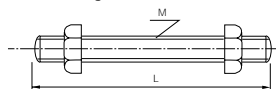
Long bolts: 12 - M22 × 185



Setting bolts: 4 - M30 × 95 × 65
(Hexagon bolts)



Long bolts and nuts (full thread)



Setting bolts (Hexagon bolts)

