

731P/732P (Wafer) 731Q/732Q (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

A variation of model 731/732X with vulcanized rubber lining on the body for use in high pressure, high velocity and industrial vacuum applications.

Valve nominal size: 50 to 300mm
Max. working pressure: 1.6/2.0MPa
Working temperature range: (NBR) - 10 to 80 degrees C (EPDM) - 20 to 120 degrees C

General description

Features a concentric design with tight 100% bi-directional shut off, low torque and a maximum working pressure of 1.6MPa to 2.0MPa.

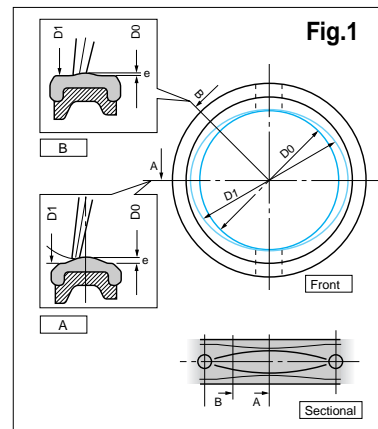
Features

Vulcanized rubber lining on the body

The seat is vulcanized to the body which ensures correct rubber compression and greater strength of the rubber seat. This design is much more effective in high velocity and industrial vacuum applications than soft resilient seated valves.

New cosine-curve seat

The new cosine-curve seat (Patent Pending) allows better performance in reducing friction, torque and wear than the previous design. This is shown in Fig.1, Fig. 2, and Fig. 3.

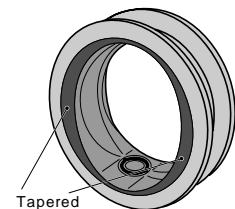


Cubical shape by lowering height (Fig.1)

The height of the raised part of the seat in the narrow area is lower. It provides strength and sealing performance by preventing the movement of the raised portion of the seat in high pressure applications.

Tapered finish (Fig. 2)

To make the flow characteristic at small valve opening as close to linear as possible, the edge of the seat is tapered. This makes for a smoother flow and better performance in high velocity working conditions. The taper is narrow around the stem area and wide around the wing of the disc area to provide strength and sealing performance for the rubber seat.



New streamlined shape around stem hole (Fig. 3)

Although the spherical disc provides good sealing performance and extended life for our rubber lined valves, it still produces relatively high forces around the stem hole area where a large contact surface exists. In order to produce greater pressure at this point of contact with less friction, we incorporate a labyrinth effect where six small raised lines are moulded around the stem hole.

Standard specifications

Valve nominal size	1.6MPa(16K) type		2.0MPa(20K) type	
	731P(wafer)	731Q(lug)	732P(wafer)	732Q(lug)
	50mm to 300mm		50mm to 300mm	
Applicable flange standard	JIS 10K, 16K, 20K ANSI 125, 150Lb DIN NP 10, 16, 25 BS 4504 PN 10, 16, 25			
Face-to-face dimensions	JIS B 2002(2032)46 series / ISO 5752(20 series) / BS1515			
Max. working pressure	1.6MPa		2.0MPa	
Body shell test(hydraulic)	2.4MPa		3.0MPa	
Seat leak test	1.76MPa		2.2MPa	
Velocity range	Max. 6m/sec			
Vacuum condition	2.0 torr or over			
Working temperature range	NBR : - 10 to 80 degrees C, * EPDM : - 20 to 120 degrees C			
Working temperature in continuous use ¹	NBR : 0 to 60 degrees C, * EPDM : 0 to 100 degrees C			
Standard materials	Body	Ductile iron(FCD450 / A395), Carbon steel(SCPH2 / WCB)		
	Disc	Stainless steel, SCS14 / CF8M		
	Stem	420J2 S.S, K-MONEL		
	Seat ring	NBR, * EPDM		
Actuators	Lock lever	50mm to 200mm		
	Worm gear			
	Pneumatic cylinder	50mm to 300mm		50mm to 300mm
	Motorized			
Coating	50mm to 300mm: Epoxy primer (Munsell N7)			

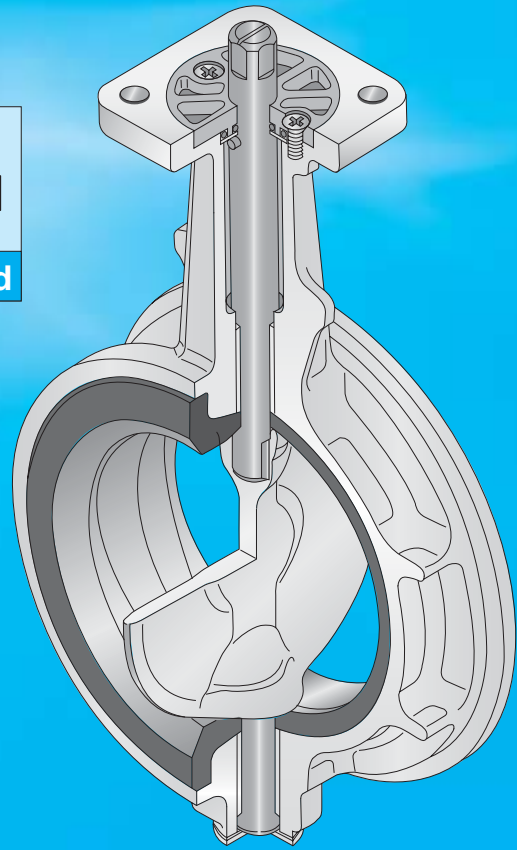
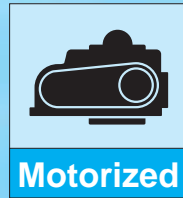
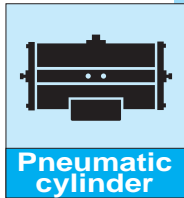
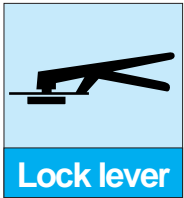
¹ "Working temperature in continuous use" stands for the temperature continuously kept exceeding one hour.

A resin column for condensation free applications is available.

Disc with pin finish is also available upon request for 732P.

Lug type is available with ANSI 125/150Lb. For other standards, please consult us.

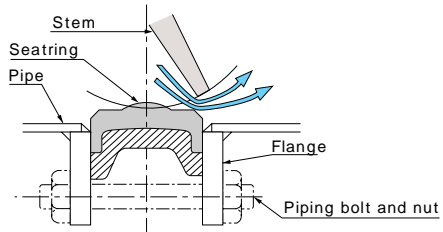
* Never use an EPDM rubber seat if the valve being used for oil or for a fluid containing even a slight amount of oil.



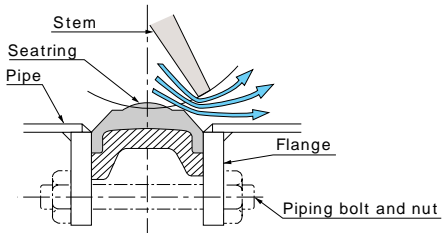
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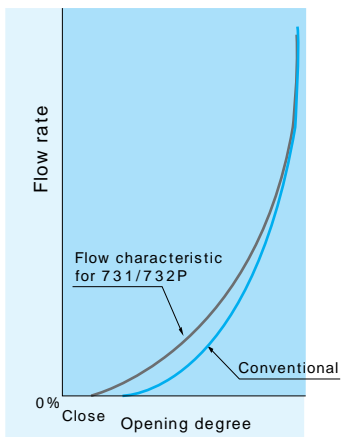
Fig. 2



Conventional design

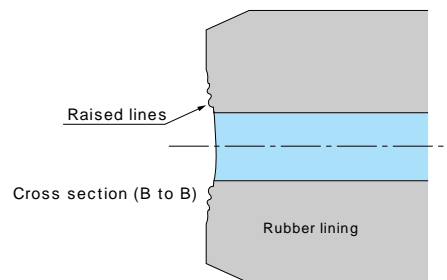
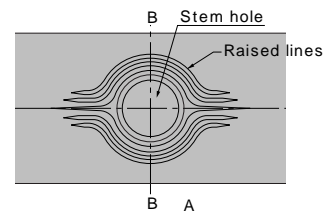
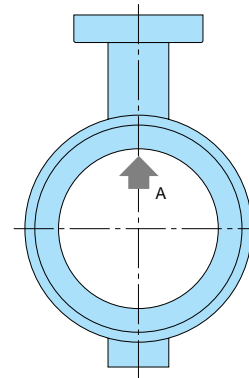


New design



Flow characteristic

Fig. 3



732X/731X (Wafer) 731Q/732Q (Lugged)

Butterfly Valves

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TT2

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302A/303Q

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302Y/304Y

304M (HLV)

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700G/704G/705G

731P/732P
732X/731X

700E/700K

704G/722F/720F

LRV

227P

MKT

903C/904C

Ideal, cost effective valve for use in high velocity, high pressure, and industrial vacuum applications.

Valve nominal size: 350 to 600mm
Max. working pressure: 1.57/1.96MPa
Working temperature range: (NBR) - 10 to 80 degrees C
(EPDM) - 20 to 120 degrees C

General description

With applications for high pressure service valves increasing, TOMOE has developed a new 20K type in addition to the traditional 16K type. The 20K type is designed to seal high pressures up to 1.96MPa, while the 16K type can seal up to 1.57MPa. This concentric butterfly valve incorporates a cosine-curve design seat ring reinforced with a metallic core and provides excellent cost advantages.

Features

Perfect sealing against high pressure up to 1.96MPa

By employing a cosine-curve design seat ring, the disc contacts simultaneously around the entire seat during closure which enables perfect sealing against pressures up to 1.96MPa. Perfect sealing is assured in high differential pressure, high velocity, and vacuum applications. The operation torque for the valve is substantially reduced. Also, since the body is covered with the seat ring, it is never exposed to fluid.

No restrictions in direction of flow even for high differential pressures

With a concentric design and low operating torque, 732X/731X can perfectly seal pressures up to 1.96MPa or 1.57MPa for both directions.

The rubber seat is reinforced with a metallic core.

Since this reinforced seat ring is clamped in position by the flanges, it is much more effective in high velocity and industrial vacuum applications than a soft resilient seat without a metallic core. Moreover, the seat ring can easily be replaced (100 to 600mm types). The bonded seat is used in sizes 50 to 80mm.



Face-to-face dimensions satisfy ISO standards.

The face-to-face dimensions satisfy BS 5155 and ISO 5752. It is also adaptable to many international flange standards.

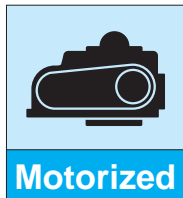
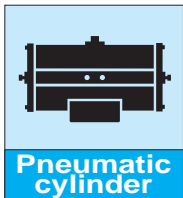
Standard specifications

Valve nominal size	16K type		20K type	
	732X 350 to 600mm	731X 450 to 600mm	732X 350 to 600mm	731X 450 to 600mm
Applicable flange standard	JIS 10K, 16K, 20K ANSI 125, 150Lb		DIN NP 10, 16 BS 4504 PN 10, 16	
Face-to-face dimensions	JIS B 2002(2032)46 series / ISO 5752(20 series) / BS5155			
Max. working pressure	1.57MPa		1.96MPa	
Body shell test(hydraulic)	2.35MPa		2.94MPa	
Seat leak test	1.73MPa		2.16MPa	
Velocity range	Max. 6m/sec (when fully open)			
Working temperature range	NBR : - 10 to 80 degree C, * EPDM: - 20 to 120 degree C			
Working temperature in continuous use ¹	NBR : 0 to 60 degrees C, * EPDM : 0 to 100 degrees C			
Standard materials	Body Ductile iron(FCD450 / A395), Carbon steel(SCPH2 / WCB)			
	Disc Stainless steel (SCS13 / CF8, SCS14 / CF8M), Aluminum bronze (ALBC2 / B148)			
	Stem 420J2 S.S, K-MONEL		630 S.S, K-MONEL	
Actuators	Seat ring NBR, * EPDM, CR			
	Lock lever 50mm to 150mm			
	Worm gear		50mm to 150mm	
	Pneumatic cylinder 350mm to 600mm		350mm to 600mm	
Coating	Motorized 50mm to 30mm: Epoxy primer (Munsell N7), 350mm to 600mm: Lacquer primer (Munsell N7)			

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

732Q/752W are available in lugged body versions with ANSI 150Lb flange accommodation.

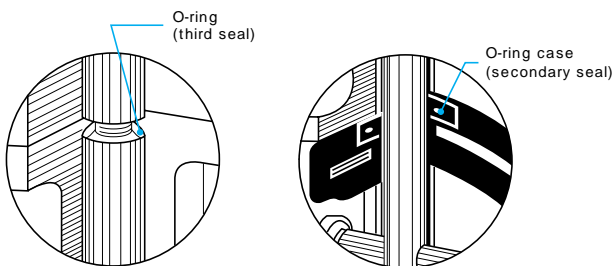
* Never use an EPDM rubber seat is ring if the valve being used for oil or for a fluid containing even a slight amount of oil.



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O-ring case with self-aligning stem seal function

The stainless steel O-ring case (utility model) counteracts any stem displacement and shaft tilt caused during the operation of the valve under fluid pressure. Because this O-ring is never exposed to the fluid, it never erodes.



Stainless steel disc as a standard material

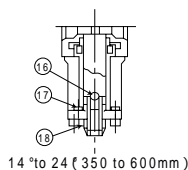
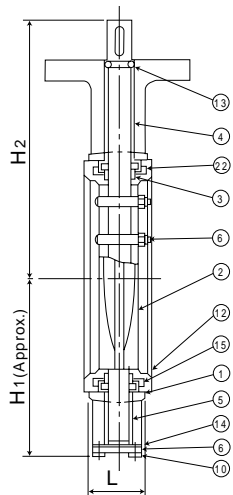
Stainless steel disc provides excellent corrosion resistance in various applications.

Long neck

The long neck enables insulation of up to 50mm after installation of the valve.

ISO top flange for 732X

The ISO5211 certified top flange makes it possible to mount the actuator directly.



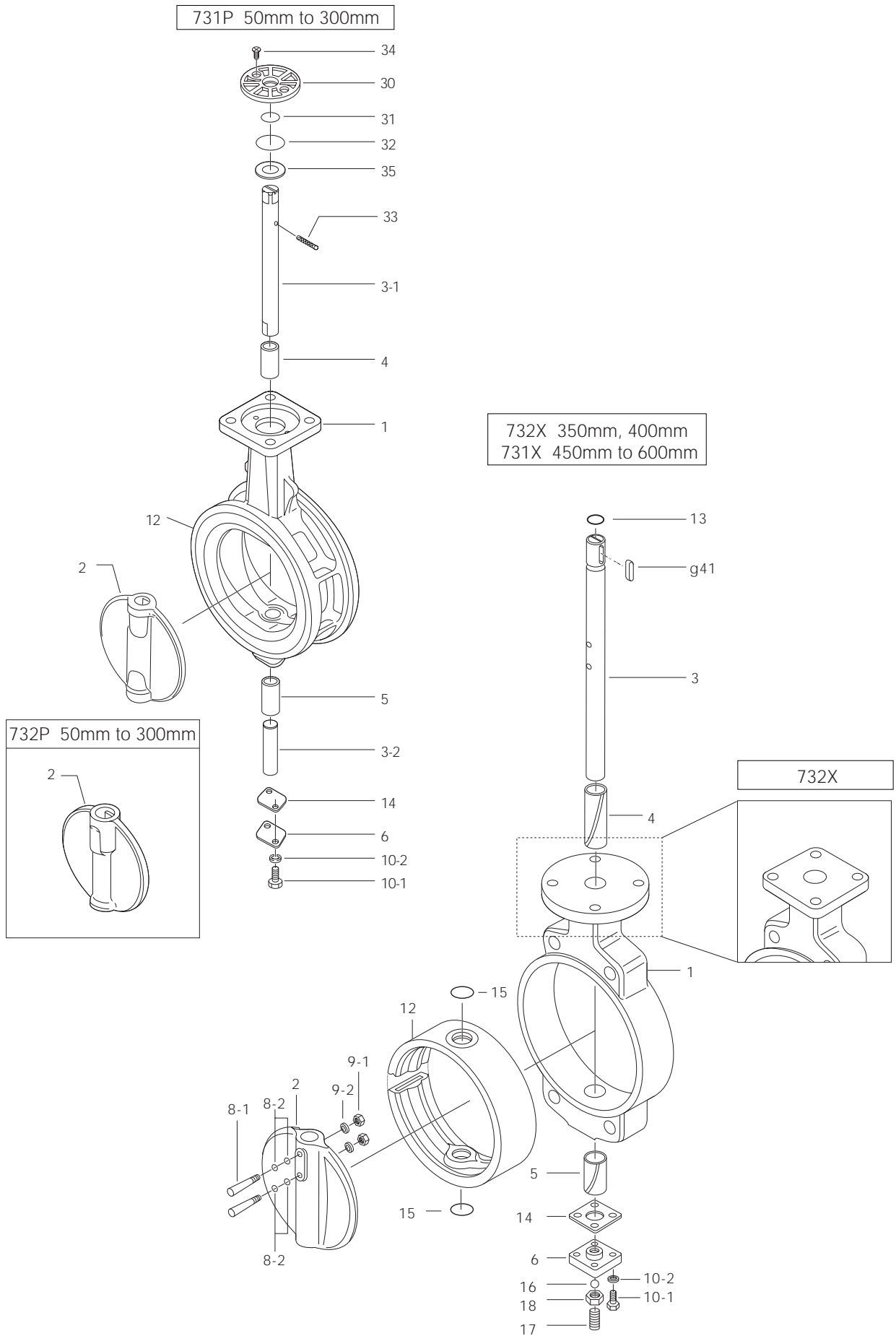
Parts list(standard)

No.	Parts	Materials
1	Body	Ductile cast Iron
2	Disc	Stainless steel casting
3	Stem	Stainless steel
4	Bush	METALOPLAST
5		
6	Mild steel / ductile cast iron	Bottom cover
8	Taper bolt	Stainless steel
10	Bolt & SP. washer	Mild steel / high carbon steel
12	Seat ring	Elastomer
13	O-ring	Elastomer
14	Packing	Asbestos
15	O-ring	Elastomer
16	Ball	Steel
17	Bolt	Carbon steel
18	Lock nut	Mild steel
22	Core	Mild steel

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

731P/732P/732X/731X Expanded view of components

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731P/732P/732X/731X Parts list

731P Parts list(50mm to 300mm)

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3-1	Upper stem	1	
3-2	Lower stem	1	
4	Bearing	1	
5	Bearing	1	
6	Bottom cover	1	
10-1	Hexagon bolt	2	
10-2	Spring washer	2	
12	Seat ring	1	Vulcanized to body
14	Gasket	1	
30	Bushing	1	
31	O-ring	1	
32	O-ring	1	
33	Spring pin	1	
34	Machine screw	2	
35	Plate	1	

732P Parts list(50mm to 300mm)

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3-1	Upper stem	1	
3-2	Lower stem	1	
4	Bearing	1	
5	Bearing	1	
6	Bottom cover	1	
10-1	Hexagon bolt	2	
10-2	Spring washer	2	
12	Seat ring	1	Vulcanized to body
14	Gasket	1	
30	Bushing	1	
31	O-ring	1	
32	O-ring	1	
33	Spring pin	1	
34	Machine screw	2	
35	Plate	1	

732X/731X Parts list(732X: 350mm, 400mm/731X: 450mm to 600mm)

No.	Description	Q'ty	Remarks
1	Body	1	
2	Disc	1	
3	Stem	1	
4	Bushing	1	
5	Bushing	1	
6	Bottom cover	1	
8-1	Taper bolt	2	
8-2	O-ring	4	
9-1	Hexagon nut	2	
9-2	Spring washer	2	
10-1	Hexagon bolt	4	
10-2	Stem key	4	
12	Seat ring	1	
13	O-ring	1	
14	Gasket	1	
15	O-ring	2	
16	Ball	1	
17	Hollow bolt	1	
18	Lock nut	1	
g41	Key	1	

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

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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

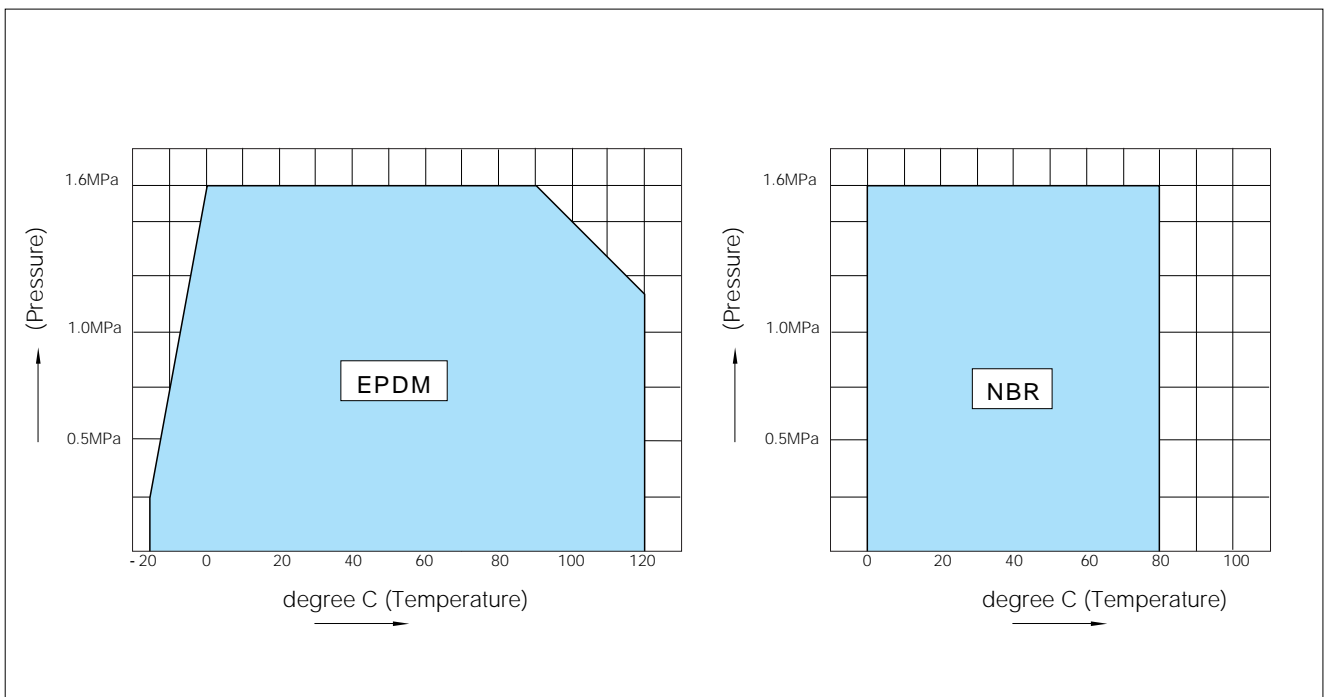
731P/732X/731X Actuator selection chart

731P/732X/731X

Model	Category	Size (mm/inch)															
		50	65	80	100	125	150	200	250	300	350	400	450	500	600		
TRITEC		2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24		
TT2		731P							732X / 731X								
334A		1T-1			1T-2			1T-3									
302A/303Q	1T	2I-0			2I-1		2I-2		2I-3		2I-4		2U-5		MGH-3		MGH-4
304A/304Q	2I,2U 2S	K30		K70		K170		K370		K700		TGA-125	TGA-140	TGA-160	TGA-200		
302Y/304Y	3E,3A	K70S		K170S		K370S		K700S		TG-12S	TG-14S		TG-20S				
304M(HLV)	3G,3F 3U,3K	4I-00		4I-0		4I-1		4I-2		4I-2.5		4I-3		4I-4			
507V/508V	4I	SRJ-010			SRJ-020			SRJ-060			LTKD-01 0.2kW /MGH-2	LTKD-01 0.4kW /MGH-3	LTKD-02 0.75kW /MGH-4	LTKD-05 0.75kW /MGH-5			
846T/847T/847Q	4J,4L																

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

731P/732X/731X Pressure-temperature rating



732P/732X/731X Actuator selection chart

732P/732X/731X

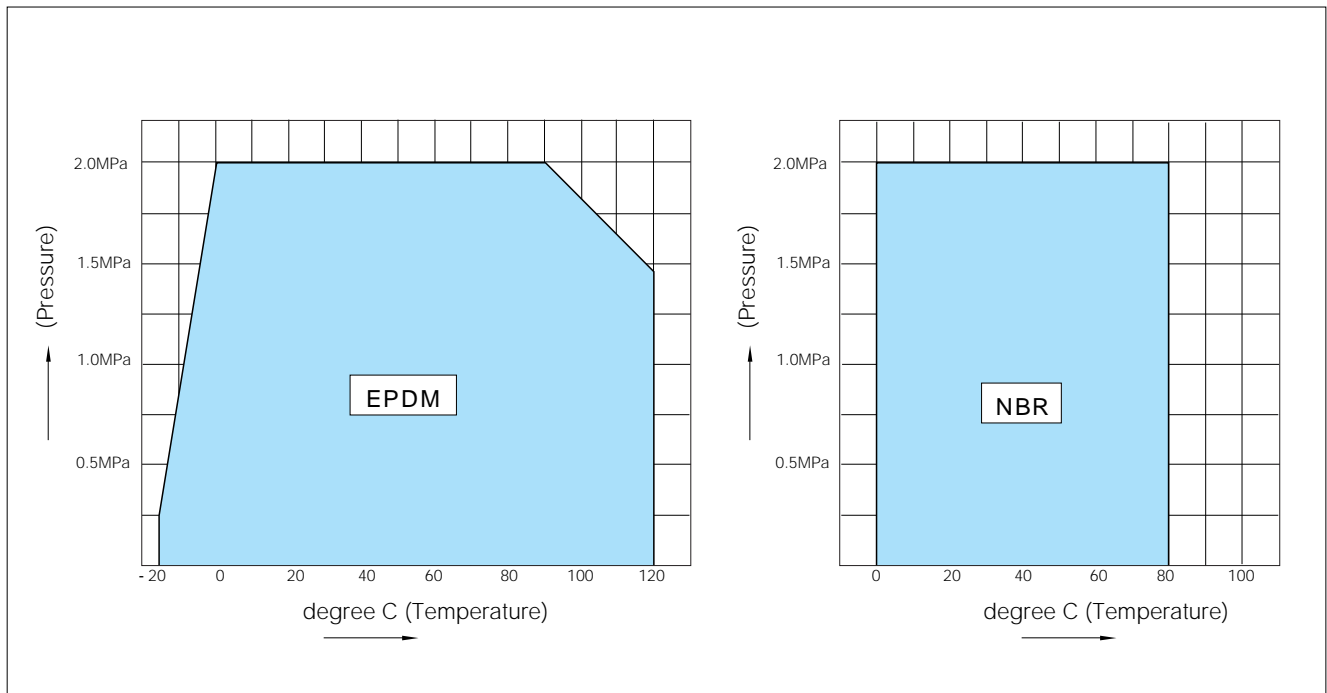
Model	Category	Size (mm/inch)															
		50	65	80	100	125	150	200	250	300	350	400	450	500	600		
		2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24		
1T	Standard	1T-1			1T-2			1T-3									
	Heavy duty	1T-1			1T-2			1T-3									
2I, 2U 2S	Standard	2I-0	2I-1	2I-2	2I-3	2I-4	2U-5	MGH-3	MGH-4								
	Heavy duty	2I-0	2I-1	2I-2	2I-3	2I-4	2U-5	MGH-3	MGH-4								
3E, 3A	Standard	K30	K70	K170	K370	K700	Please consult us regarding selection of drive parts for 350mm and higher types of 732X and 731X models.										
	Heavy duty	K30	K70	K170	K370	K700											
3G, 3F 3U, 3K	Standard	K70S	K170S	K370S	K700S	TG-10S										TG-12S	
	Heavy duty	K70S	K170S	K370S	K700S	TG-12S										TG-14S	
4I	Standard	4I-00	4I-0	4I-1	4I-2	4I-3											
	Heavy duty	4I-00	4I-0	4I-1	4I-2	4I-3											
4J, 4L	Standard	SRJ-010			SRJ-020											SRJ-060	LTKD-01
	Heavy duty	SRJ-010			SRJ-020											SRJ-060	LTKD-01 0.2kW /MGH-2

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

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- MKT
- 903C/904C

732P/732X/731X Pressure-temperature rating



731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

Bare shaft 731P-01(50mm to 300mm)/ 732X-02(350mm, 400mm)

731P-01(50mm to 300mm)/ 732X-02(350mm, 400mm)

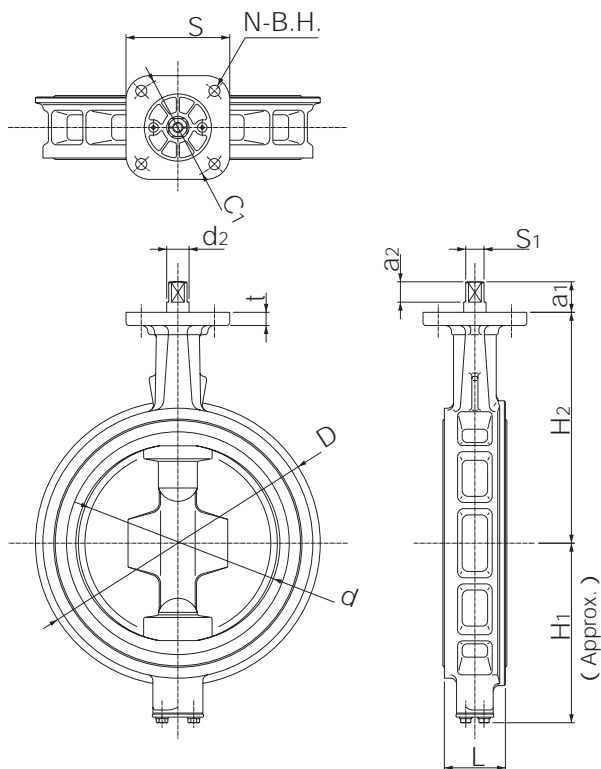
Type	Nominal size		Dimension (mm)													Approx. weight (kg)	
	mm	inch	d	D		L	H ₁	H ₂	a ₁	a ₂	S ₁	d ₂	b	t ₂	t		Flan ges
				JIS10K	JIS16K												
731P	50	2	54	102	102	43	68	138	21.5	10.5	8	10	-	-	11	F07	1.8
	65	2 1/2	67	122	122	46	79	151	21.5	10.5	8	10	-	-	11	F07	2.2
	80	3	82	132	138	46	86	156	22.5	11.5	10	12	-	-	11	F07	2.8
	100	4	103	157	163	52	103	167	22.5	11.5	12	14	-	-	11	F07	3.6
	125	5	129	188	200	56	118	191	27.5	16.5	14	16	-	-	13	F10	5.8
	150	6	152	218	235	56	135	202	27.5	16.5	14	18	-	-	13	F10	7.8
	200	8	198	267	280	60	177	227	29	20	18	22	-	-	13	F10	11.5
	250	10	251	330	353	68	216	280	34	30	24	28	-	-	14	F10	20.3
	300	12	300	375	403	78	254	312	35	30	24	32	-	-	16	F12	28.9
732X	350	14	336	415	415	78	304	340	54	48	-	40	12	3	20	F14	71
	400	16	390	477	477	102	343	380	65	59	-	46	14	3.5	20	F14	107

Flange dimensions

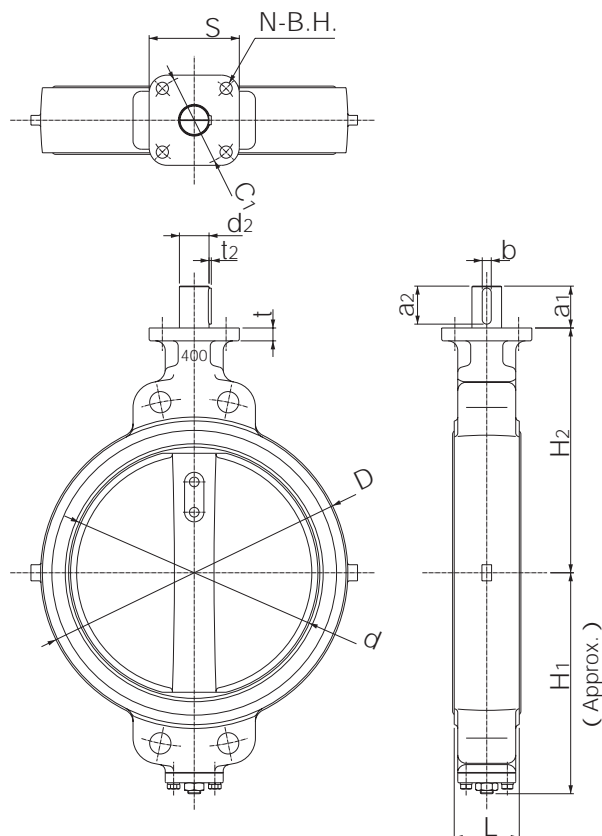
Flange	S	C ₁	N	B.H.
F07	70	70	4	9
F10	102	102	4	11
F12	125	125	4	13
F14	140	140	4	19

Stem design	01: Square
	02: Round with key

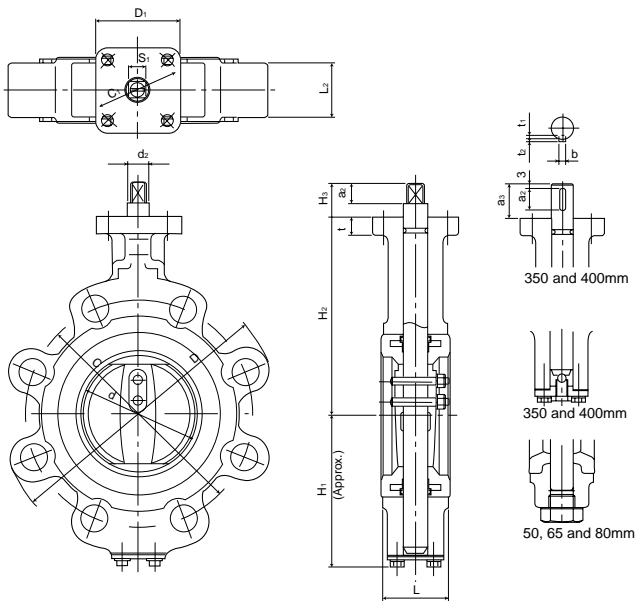
731P(16K) 50mm to 300mm



732X(16K) 350mm , 400mm



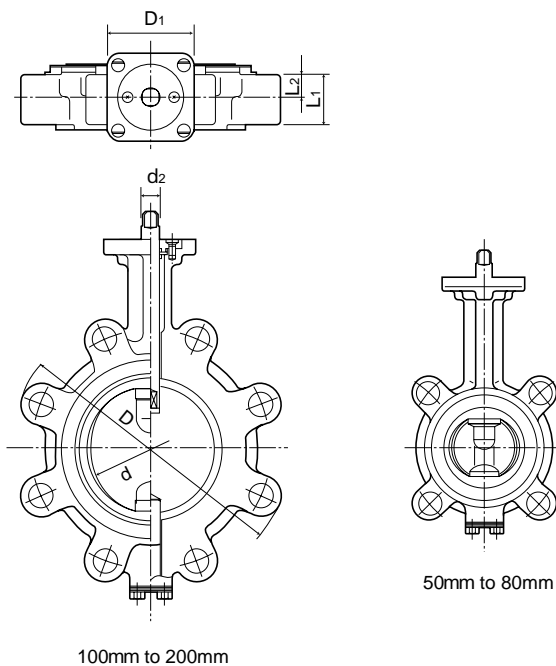
732Q Lugged type



Dimensions

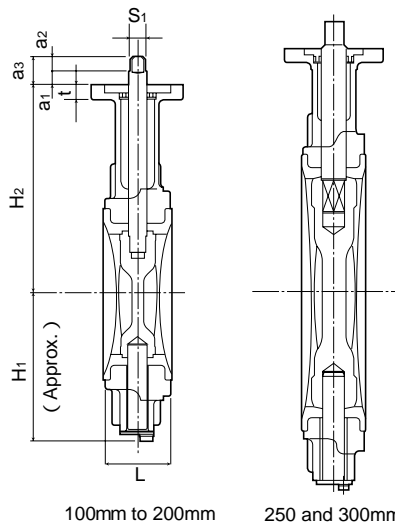
Nominal size		Dimension (mm)																	Approx. weight (kg)
mm	inch	d	D	L	L ₁	H ₁	H ₂	H ₃	d ₂	a ₂	S ₁	b	t ₁	t ₂	D ₁	t	C ₁		
50	2	55	152	43	32	76	120	23	14	12	12	-	-	-	70	12	70	4	
65	2 1/2	70	178	46	34	85	130	23	14	12	12	-	-	-	70	12	70	4.5	
80	3	80	190	46	34	94	140	23	14	12	12	-	-	-	70	12	70	5.5	
100	4	98	229	52	44	125	165	28	18	17	14	-	-	-	70	14	70	12	
125	5	123	254	56	48	148	180	28	18	17	14	-	-	-	102	16	102	15	
150	6	150	279	56	48	166	205	28	18	17	14	-	-	-	102	16	102	17	
200	8	202	343	60	52	190	230	35	28	30	24	-	-	-	102	18	102	24.5	
250	10	254	406	68	60	232	270	35	32	30	24	-	-	-	125	18	125	41	
300	12	304	483	78	62	259	300	35	32	30	24	-	-	-	125	18	125	69.5	
350	14	336	533	78	64	304	340	54	40	45	-	12	5	3	140	20	140	83	
400	16	390	597	102	82	380	380	65	46	56	-	14	5	3.5	140	20	140	133	

731Q Lugged type



Dimensions (ANSI 125/150Lb)

Nominal size		Dimension (mm)																	Approx. weight (kg)
mm	inch	d	D	L	L ₁	L ₂	H ₁	H ₂	d ₁	a ₁	a ₂	a ₃	S ₁	D ₁	t	E	C ₁	B.H.	
50	2	54	151	43	33	15	68	138	10	11	10.5	21.5	8	70	11	10	70	9	2.7
65	2 1/2	67	171	46	36	16	79	151	10	11	10.5	21.5	8	70	11	10	70	9	3.6
80	3	82	180	46	36	16	86	156	12	11	11.5	22.5	10	70	11	10	70	9	4.3
100	4	103	223	52	39	18	118	167	14	11	11.5	22.5	12	70	11	10	70	9	7.1
125	5	129	260	56	42	19	144	191	16	11	16.5	27.5	14	102	13	24	102	11	9.9
150	6	152	286	56	42	19	165	202	18	11	16.5	27.5	14	102	13	24	102	11	12.7
200	8	198	333	60	46	21	177	227	22	10	20	29	18	102	13	24	102	11	19.2
250	10	251	420	68	51	22	216	280	28	5	30	34	24	102	14	24	102	11	32
300	12	300	472	78	61	27	254	312	32	5	30	34	24	125	16	32	125	13	47



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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

Bare shaft 731X-02(450mm to 600mm)

Butterfly Valves

731X-02(450mm to 600mm)

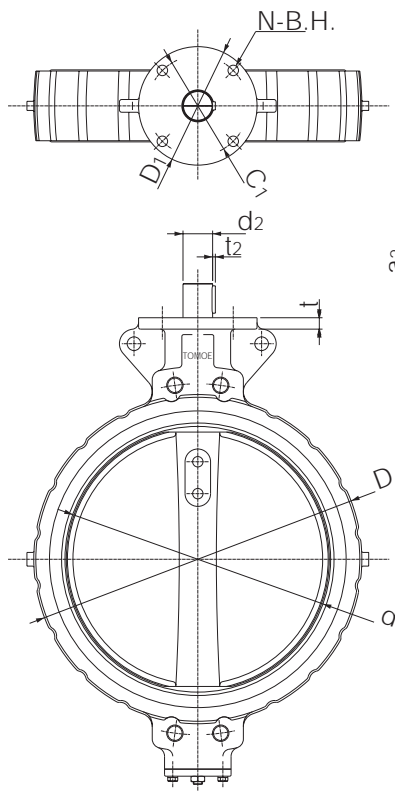
Type	Nominal size		Dimension (mm)																Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	a ₁	a ₂	d ₂	b	t ₂	t	D ₁	C ₁	N	B.H.	
				JIS10K	JIS16K														
334A	450	18	439	532	532	114	379	420	60	53	47	12	3.5	20	200	170	4	19	137
302A/303Q	500	20	490	610	610	127	422	450	60	53	47	12	3.5	20	200	170	4	19	188
304A/304Q	600	24	583	826	720	154	494	530	75	65	65	18	6	25	260	220	4	23	318(348)

Remark: Value in brackets is for JIS 10K flanges.

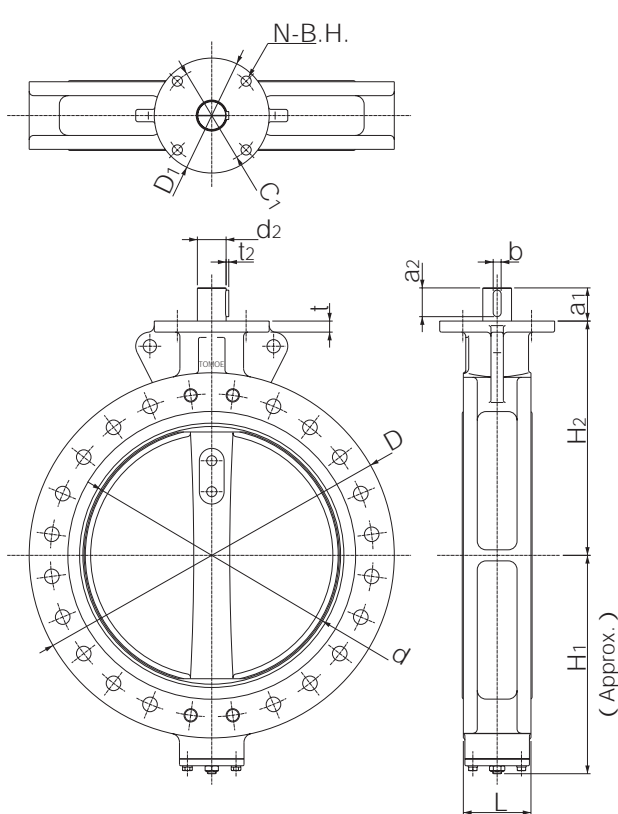
Flange dimensions

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

731X(16K)450mm to 600mm



731X(10K)600mm



Bare shaft 732P-01(50mm to 300mm) / 732X-02(350mm, 400mm) / 731X-02(450mm to 600mm)

732P-01(50mm to 300mm) / 732X-02(350mm, 400mm)

Type	Nominal size		Dimension (mm)													Approx. weight (kg)
	mm	inch	d	D	L	H ₁	H ₂	a ₁	a ₂	S ₁	d ₂	b	t ₂	t	Flange	
732P	50	2	54	102	43	68	138	21.5	10.5	8	10	-	-	11	F07	1.9
	65	2 1/2	67	122	46	79	151	21.5	10.5	8	10	-	-	11	F07	2.3
	80	3	82	138	46	86	156	22.5	11.5	10	12	-	-	11	F07	3
	100	4	103	163	52	103	167	22.5	11.5	12	14	-	-	11	F07	3.8
	125	5	129	200	56	118	191	27.5	16.5	14	16	-	-	13	F10	6.1
	150	6	152	235	56	135	202	27.5	16.5	14	18	-	-	13	F10	7.7
	200	8	198	280	60	177	227	29	20	18	22	-	-	13	F10	12.1
	250	10	251	353	68	216	280	34	30	24	28	-	-	14	F10	21
732X	300	12	300	403	78	254	312	35	30	24	32	-	-	16	F12	29
	350	14	336	415	78	304	340	54	48	-	40	12	3	20	F14	71
	400	16	390	477	102	343	380	65	59	-	46	14	3.5	20	F14	107

Flange dimensions

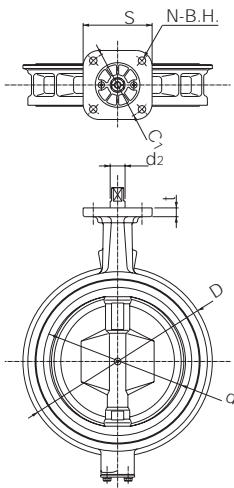
Flange	S	C ₁	N	B.H.
F07	70	70	4	9
F10	102	102	4	11
F12	125	125	4	13
F14	140	140	4	19

Stem design	01: Square
	02: Round with key

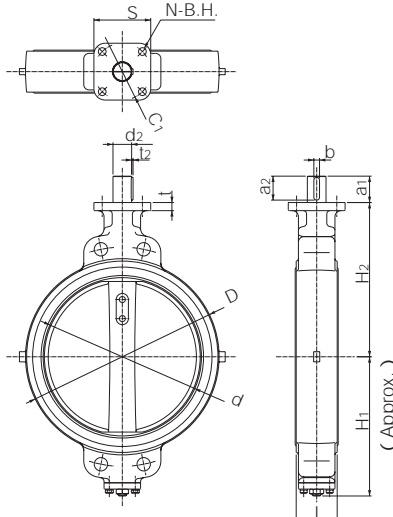
731X-02(450mm to 600mm)

Type	Nominal size		Dimension (mm)													Approx. weight (kg)		
	mm	inch	d	D	L	H ₁	H ₂	a ₁	a ₂	d ₂	b	t ₂	t	D ₁	C ₁		N	B.H.
731X	450	18	439	532	114	379	420	60	53	47	12	3.5	20	200	170	4	19	137
	500	20	490	610	127	422	450	60	53	47	12	3.5	20	200	170	4	19	188
	600	24	583	720	154	494	530	75	65	65	18	6	25	260	220	4	23	318

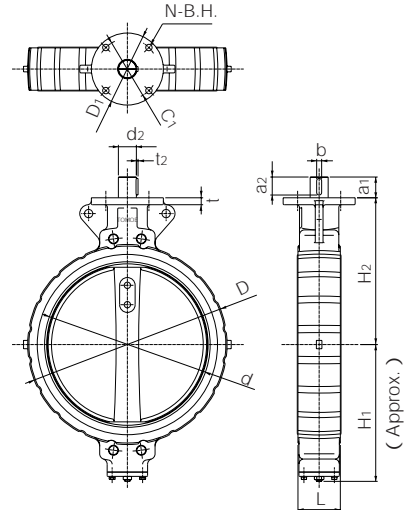
732P(20K)
50mm to 300mm



732X(20K)
350mm, 400mm



731X(20K)
450mm to 600mm



731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

Lock lever type 732P-1T(50mm to 200mm)

732P-1T

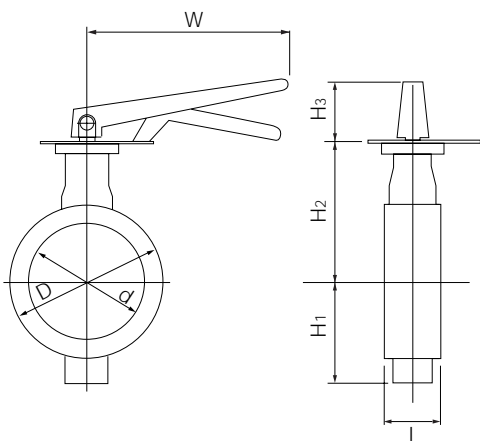
Nominal size	Dimension (mm)								Lever type	Approx. weight (kg)
	mm	inch	d	D	L	H ₁	H ₂	H ₃		
50	2	54	102	43	68	138	66	200	1T-1	2.5
65	2 1/2	67	122	46	79	151	66	200	1T-1	2.9
80	3	82	138	46	86	156	66	200	1T-1	3.6
100	4	103	163	52	103	167	66	200	1T-1	4.4
125	5	129	200	56	118	191	92	300	1T-2	7.4
150	6	152	235	56	135	202	92	300	1T-2	9
200	8	198	280	60	177	227	97	350	1T-3	13.8

Lock lever type 731P-1T(50mm to 200mm)

731P-1T

Nominal size	Dimension (mm)								Lever type	Approx. weight (kg)		
	mm	inch	d	D		L	H ₁	H ₂			H ₃	W
				JIS10K	JIS16K							
50	2	54	102	102	43	68	138	66	200	1T-1	2.4	
65	2 1/2	67	122	122	46	79	151	66	200	1T-1	2.8	
80	3	82	132	138	46	86	156	66	200	1T-1	3.4	
100	4	103	157	163	52	103	167	66	200	1T-1	4.2	
125	5	129	188	200	56	118	191	92	300	1T-2	7.1	
150	6	152	218	235	56	135	202	92	300	1T-2	9.1	
200	8	198	267	280	60	177	227	97	350	1T-3	13.2	

732P/731P-1T

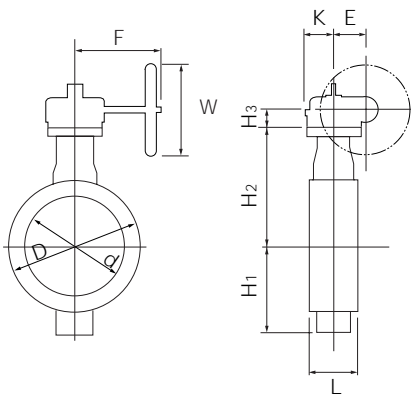


Worm gear type 732P-2I(50mm to 300mm) / 732X-2U(350mm, 400mm) / 731X-2S(450mm to 600mm)

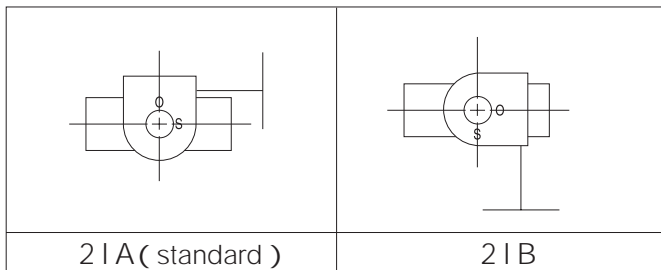
732P/732X/731X

Type	Nominal size		Dimension (mm)										Gear type	Approx. weight (kg)
	mm	inch	d	D	L	H ₁	H ₂	H ₃	E	K	F	W		
732P	50	2	54	102	43	68	138	24	28	35	83	70	2I-0	2.4
	65	2 1/2	67	122	46	79	151	24	28	35	83	70	2I-0	2.9
	80	3	82	138	46	86	156	27	46	48	145	100	2I-1	4.2
	100	4	103	163	52	103	167	27	46	48	145	100	2I-1	5
	125	5	129	200	56	118	191	30	53	51	160	125	2I-2	8
	150	6	152	235	56	135	202	30	53	51	160	125	2I-2	9.6
	200	8	198	280	60	177	227	36	71	65	208	200	2I-3	16
	250	10	251	353	68	216	280	36	71	65	208	200	2I-3	25
	300	12	300	403	78	254	312	38.5	71	65	193	200	2I-4	34
732X	350	14	336	415	78	304	340	50	90	105	266	280	2U-5	90
	400	16	390	477	102	343	380	50	90	105	266	280	2U-5	126
731X	450	18	439	532	114	379	420	55	117	164	335	355	MGH-3	172
	500	20	490	610	127	422	450	55	117	164	335	355	MGH-3	222
	600	24	583	720	154	494	530	65	140	198	400	450	MGH-4	378

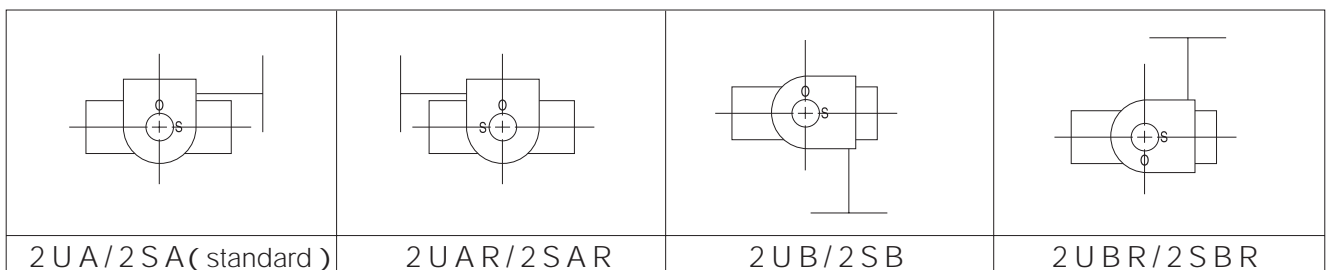
732P/732X/731X-2 I/2U/2S



2I Installation direction



2U/2S 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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

Worm gear type 731P-2I(50mm to 300mm)/732X-2U(350mm, 400mm)/731X-2S(450mm to 600mm)

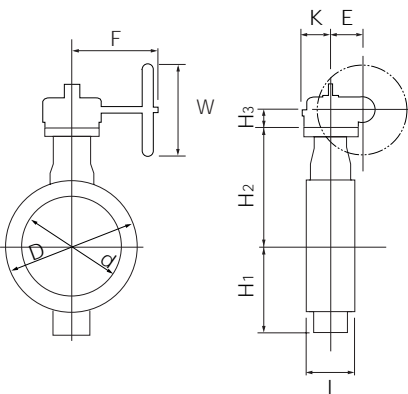
Butterfly Valves
TRITEC
TT2
334A
302A/303Q
304A/304Q
302Y/304Y
304M(HLV)
507V/508V
846T/847T/847Q
841T/842T
773Z(NAV-Z)
700G/704G/705G
731P/732P 732X/731X
700E/700K
704G/722F/720F
LRV
227P
MKT
903C/904C

732P/732X/731X

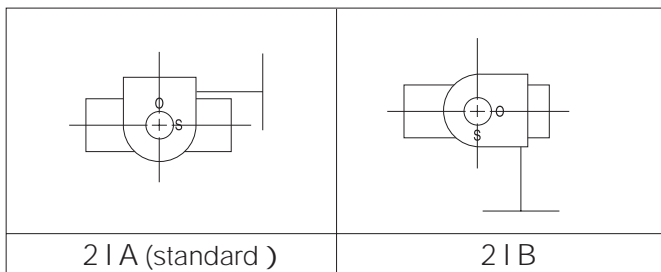
Type	Nominal size		Dimension (mm)											Gear type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	E	K	F	W		
				JIS10K	JIS16K										
731P	50	2	54	102	102	43	68	138	24	28	35	83	70	2I-0	2.4
	65	2 1/2	67	122	122	46	79	151	24	28	35	83	70	2I-0	2.8
	80	3	82	132	138	46	86	156	27	46	48	145	100	2I-1	4.1
	100	4	103	157	163	52	103	167	27	46	48	145	100	2I-1	4.8
	125	5	129	188	200	56	118	191	30	53	51	160	125	2I-2	7.7
	150	6	152	218	235	56	135	202	30	53	51	160	125	2I-2	9.7
	200	8	198	267	280	60	177	227	36	71	65	208	200	2I-3	15.5
	250	10	251	330	353	68	216	280	36	71	65	208	200	2I-3	24.3
	300	12	300	375	403	78	254	312	38.5	71	65	193	200	2I-4	34.1
732X	350	14	336	415	415	78	304	340	50	90	105	266	280	2U-5	90
	400	16	390	477	477	102	343	380	50	90	105	266	280	2U-5	126
731X	450	18	439	532	532	114	379	420	55	117	164	335	355	MGH-3	172
	500	20	490	610	610	127	422	450	55	117	164	335	355	MGH-3	222
	600	24	583	826	720	154	494	530	65	140	198	400	450	MGH-4	378 (408)

Remark: Value in brackets is for JIS 10K flanges.

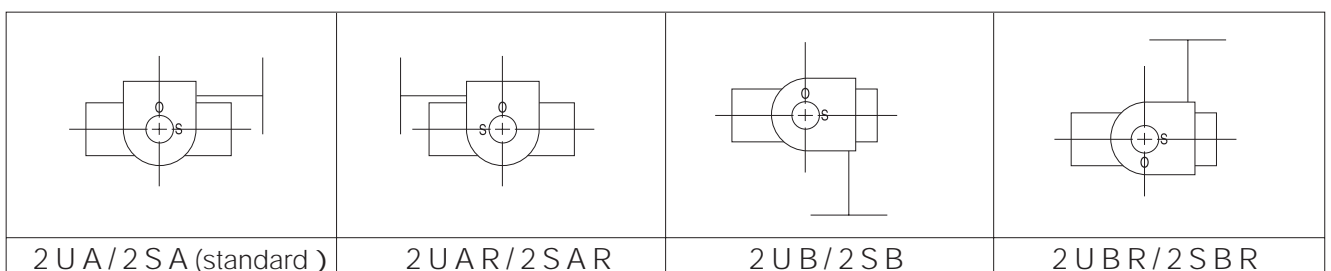
731P/732X/731X-2 I/2U/2S



2I Installation direction



2U/2S Installation direction



Double-acting pneumatic cylinder type 731P-3E(50mm to 300mm)

Standard

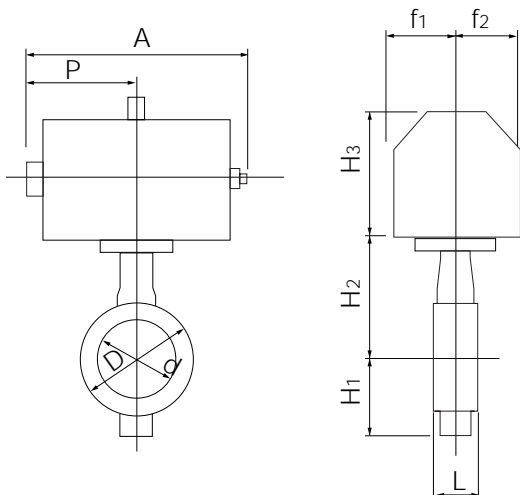
Type	Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
				JIS10K	JIS16K										
731P	50	2	54	102	102	43	68	138	113	216.5	111.5	35	50	K30	3.7
	65	2 1/2	67	122	122	46	79	151	113	216.5	111.5	35	50	K30	4.1
	80	3	82	132	138	46	86	156	113	216.5	111.5	35	50	K30	4.7
	100	4	103	157	163	52	103	167	133	266	136	53	51	K70	7.5
	125	5	129	188	200	56	118	191	157	330	169	65	58	K170	12.4
	150	6	152	218	235	56	135	202	157	330	169	65	58	K170	14.4
	200	8	198	267	280	60	177	227	184	409	207	83	69	K370	23.1
	250	10	251	360	353	68	216	280	184	409	207	83	69	K370	31.9
	300	12	300	375	403	78	254	312	224	518	260	101	85	K700	50.4

Heavy duty

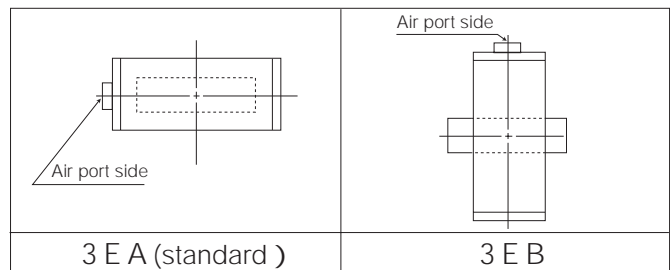
Type	Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
				JIS10K	JIS16K										
731P	50	2	54	102	102	43	68	138	113	216.5	111.5	35	50	K30	3.7
	65	2 1/2	67	122	122	46	79	151	133	266	136	53	51	K70	6.1
	80	3	82	132	138	46	86	156	133	266	136	53	51	K70	6.7
	100	4	103	157	163	52	103	167	133	266	136	53	51	K70	7.5
	125	5	129	188	200	56	118	191	157	330	169	65	58	K170	12.4
	150	6	152	218	235	56	135	202	184	409	207	83	69	K370	19.4
	200	8	198	267	280	60	177	227	184	409	207	83	69	K370	23.1
	250	10	251	330	353	68	216	280	224	518	260	101	85	K700	41.8

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

731P/732X-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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

Double-acting pneumatic cylinder type 731P-3A(300mm)/ 732X-3A(350mm, 400mm)/ 731X-3A(450mm to 600mm)

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

Standard

Type	Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
				JIS10K	JIS16K										
732X	350	14	336	415	415	78	304	340	364	743	362	100	164	TGA-125	177
	400	16	390	499	497	102	343	380	364	743	362	100	164	TGA-125	228
731X	450	18	439	532	532	114	379	420	407	810	417	100	180	TGA-140	194
	500	20	490	610	610	127	422	450	435	939	483	130	202	TGA-160	294
	600	24	583	826	720	154	494	530	570	1163	599	160	253	TGA-200	537 (567)

Remark: Value in brackets is for JIS 10K flanges.

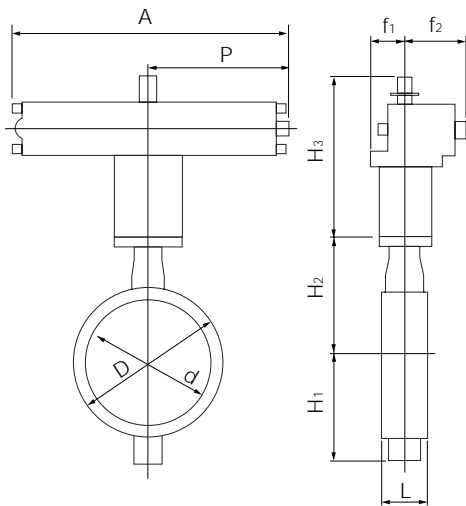
Heavy duty

Type	Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
				JIS10K	JIS16K										
731P	300	12	300	375	403	78	254	312	359	743	381	100	164	TGA-125	74
732X	350	14	336	415	415	78	304	340	412	810	393	100	180	TGA-140	128
	400	16	390	477	477	102	343	380	465	939	456	130	202	TGA-160	208
731X	450	18	439	532	532	114	379	420	478	1053	543	130	218	TGA-180	289
	500	20	490	610	610	127	422	450	570	1163	599	160	253	TGA-200	402
	600	24	583	826	720	154	494	530	633	1381	707	160	299	TGA-250	635 (665)

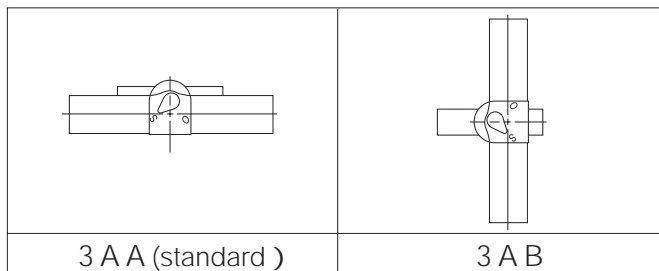
Remark: Value in brackets is for JIS 10K flanges.

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

732X/731X-3A



3A Installation direction



Single-acting pneumatic cylinder type 731P-3G(Air to open: 50mm to 200mm)/ 731P-3F(Air to close: 50mm to 200mm)

Standard

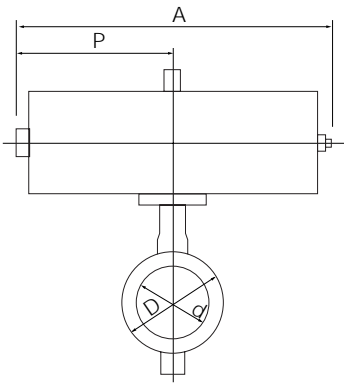
Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)
mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
			JIS10K	JIS16K										
50	2	54	102	102	43	68	138	133	360	176.5	53	51	K70S	6.9
65	2 1/2	67	122	122	46	79	151	133	360	176.5	53	51	K70S	7.3
80	3	82	132	138	46	86	156	133	360	176.5	53	51	K70S	7.9
100	4	103	157	163	52	103	167	157	444	218.5	65	58	K170S	12.5
125	5	129	188	200	56	118	191	184	545	269	83	69	K370S	21.6
150	6	152	218	235	56	135	202	224	707	350	101	85	K700S	37.7
200	8	198	267	280	60	177	227	224	707	350	101	85	K700S	41.4

Heavy duty

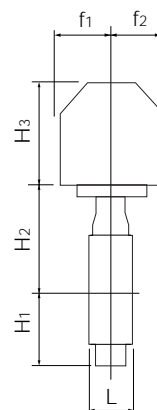
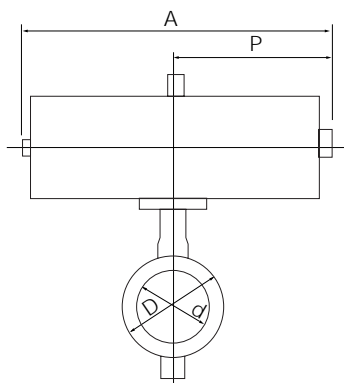
呼び径		Dimension (mm)											Cylinder type	Approx. weight (kg)
mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
			JIS10K	JIS16K										
50	2	54	102	102	43	68	138	133	360	176.5	53	51	K70S	6.9
65	2 1/2	67	122	122	46	79	151	157	444	218.5	65	58	K170S	11.1
80	3	82	132	138	46	86	156	157	444	218.5	65	58	K170S	11.7
100	4	103	157	163	52	103	167	184	545	269	83	69	K370S	19.4
125	5	129	188	200	56	118	191	224	707	350	101	85	K700S	35.7
150	6	152	218	235	56	135	202	224	707	350	101	85	K700S	37.7

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

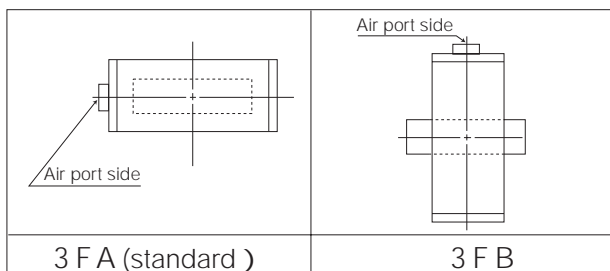
731P-3F



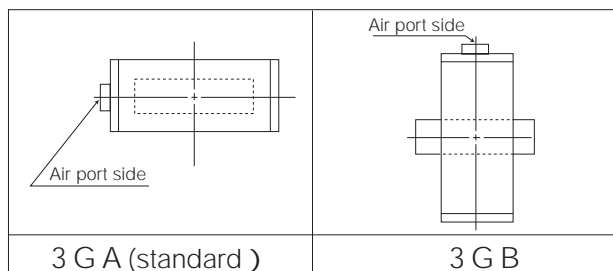
731P-3G



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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

Single-acting pneumatic cylinder type 731P-3U(Air to open: 200mm to 300mm)/ 731P-3K(Air to close: 200mm to 300mm)
 732X-3U(Air to open: 350mm, 400mm) / 732X-3K(Air to close: 350mm, 400mm)
 731X-3U(Air to open: 450mm to 600mm)/ 731X-3K(Air to close: 450mm to 600mm)

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

Standard

Type	Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
				JIS10K	JIS16K										
731P	200	8	198	267	280	60	177	227	307	945	585	70	165	TG-10S	67
	250	10	251	330	353	68	216	280	307	1080	720	94	206	TG-12S	121
	300	12	300	375	403	78	254	312	307	1080	720	94	206	TG-12S	130
732X	350	14	336	415	415	78	304	340	340	1255	865	131	257	TG-14S	269
	400	16	390	477	477	102	343	380	340	1255	865	131	257	TG-14S	305
731X	450	18	439	532	532	114	379	420	474	1655	1095	164	348	TG-20S	555
	500	20	490	610	610	127	422	450	474	1655	1095	164	348	TG-20S	606
	600	24	583	826	720	154	494	530	474	1655	1095	164	348	TG-20S	736 (766)

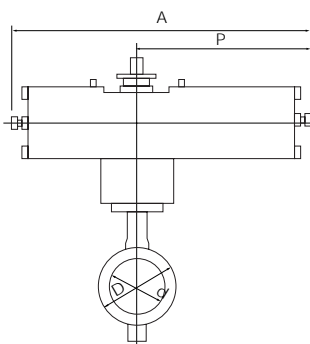
Remark: Value in brackets is for JIS 10K flanges.

Heavy duty

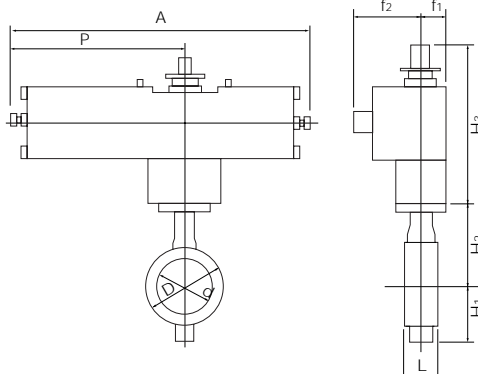
Type	Nominal size		Dimension (mm)											Cylinder type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
				JIS10K	JIS16K										
731P	200	8	198	267	280	60	177	227	307	1080	720	94	206	TG-12S	112
	250	10	251	330	353	68	216	280	307	1080	720	94	206	TG-12S	121
	300	12	300	375	403	78	254	312	340	1255	865	131	257	TG-14S	226
732X	350	14	336	415	415	78	304	340	340	1255	865	131	257	TG-14S	269
	400	16	390	477	477	102	343	380	474	1655	1095	164	348	TG-20S	519
731X	450	18	439	532	532	114	379	420	474	1655	1095	164	348	TG-20S	555
	500	20	490	610	610	127	422	450	474	1655	1095	164	348	TG-20S	606

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

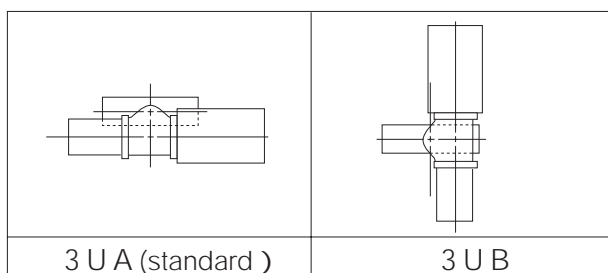
731P/732X/731X-3U



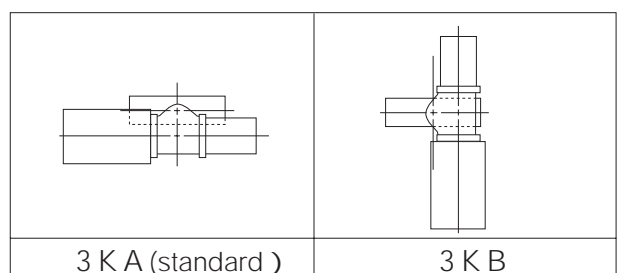
731P/732X/731X-3K



3U Installation direction



3K Installation direction



Single-acting pneumatic cylinder type 732P-3U(Air to open: 200mm to 300mm) / 732P-3K(Air to close: 200mm to 300mm)

Standard

Nominal size		Dimension (mm)										Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
200	8	198	280	60	177	227	307	945	585	70	165	TG-10S	68
250	10	251	353	68	216	280	307	1080	720	94	206	TG-12S	122
300	12	300	403	78	254	312	307	1080	720	94	206	TG-12S	130

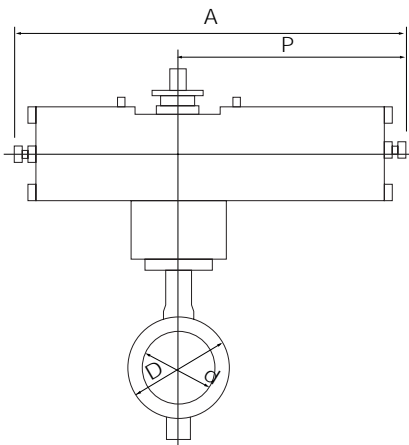
Heavy duty

Nominal size		Dimension (mm)										Cylinder type	Approx. weight (kg)
mm	inch	d	D	L	H ₁	H ₂	H ₃	A	P	f ₁	f ₂		
200	8	198	280	60	177	227	307	1080	720	94	206	TG-12S	112
250	10	251	353	68	216	280	340	1255	865	131	257	TG-14S	218
300	12	300	403	78	254	312	340	1255	865	131	257	TG-14S	226

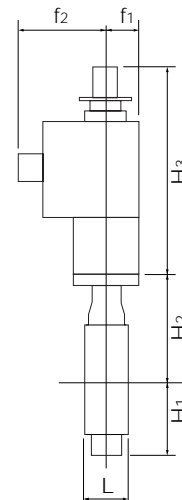
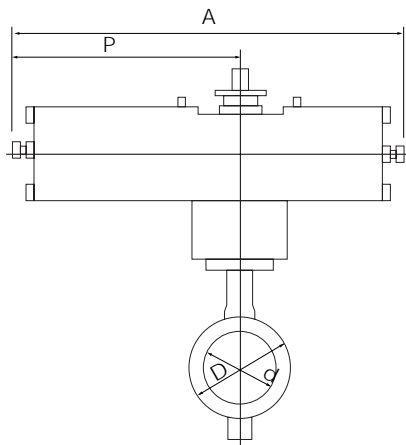
Please consult us regarding selection of drive parts for 350mm and higher types of 732X and 731X models.

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

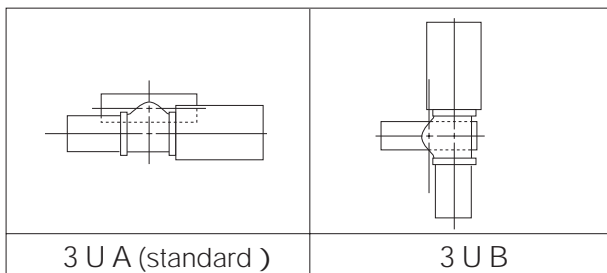
732P/732X/731X-3U



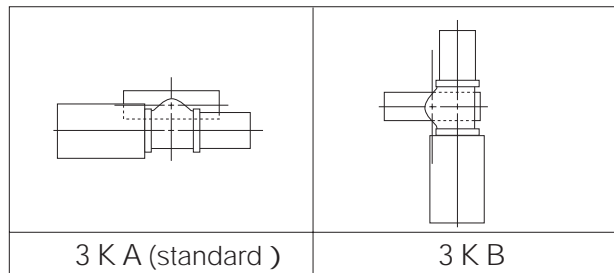
732P/732X/731X-3K



3U Installation direction



3K 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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

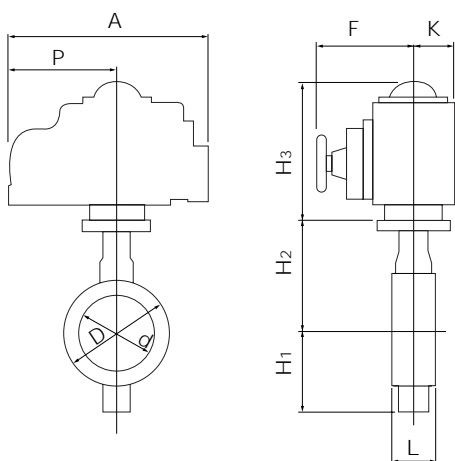
Single phase electric motor type 731P-4 I(50mm to 300mm)/ 732X-4 I(350mm, 400mm)

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

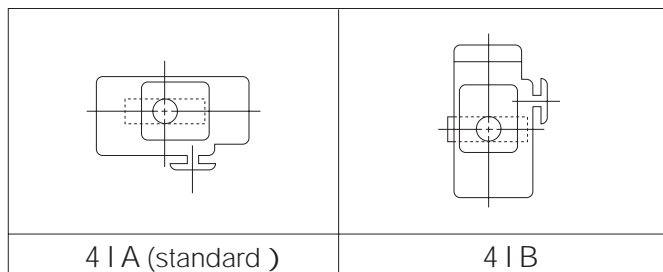
Type	Nominal size		Dimension (mm)											Motor type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	A	P	F	K		
				JIS10K	JIS16K										
731P	50	2	54	102	102	43	68	138	120	161	84	58	45	4I-00	4.3
									150						
	65	2 1/2	67	122	122	46	79	151	150	202	100	85	54	4I-0	6.4
	80	3	82	132	138	46	86	156	150	202	100	85	54	4I-0	7
	100	4	103	157	163	52	103	167	165	252	138	126	65	4I-1	10
	125	5	129	188	200	56	118	191	198	310	167	154	85	4I-2	17
	150	6	152	218	235	56	135	202	198	310	167	154	85	4I-2	19
	200	8	198	267	280	60	177	227	198	310	167	154	85	4I-2.5	24.3
	250	10	251	330	353	68	216	280	230	388	223	246	136	4I-3	43.5
732X	350	14	336	415	415	78	304	340	230	388	223	246	136	4I-4	100
	400	16	390	477	477	102	343	380	230	388	223	246	136	4I-4	136

Note 1: For nominal size 50 mm type (for control), the 4I-0 type should be selected. (The 4I-00 type is only designed for ON-OFF operation.)

731P/732X/731X-4 I



4 I Installation direction

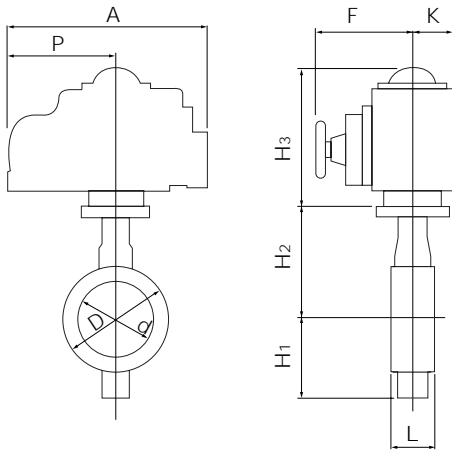


Single phase electric motor type 732P-4I(50mm to 300mm)

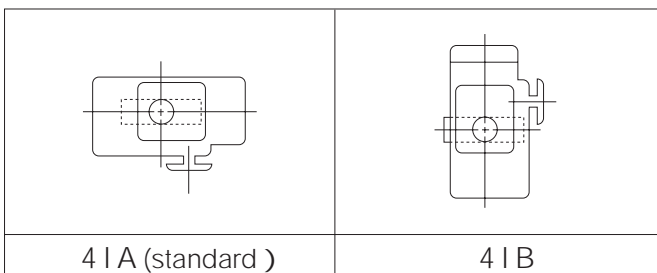
Nominal size		Dimension (mm)										Motor type	Approx. weight (kg)
mm	inch	d	D	L	H ₁	H ₂	H ₃	A	P	F	K		
50	2	54	102	43	68	138	120	161	84	58	45	4I-00	4.4
							150	202	100	85	54	4I-0	6.1
65	2 1/2	67	122	46	79	151	150	202	100	85	54	4I-0	6.5
80	3	82	138	46	86	156	150	202	100	85	54	4I-0	7.2
100	4	103	163	52	103	167	165	252	138	126	65	4I-1	10.2
125	5	129	200	56	118	191	198	310	167	154	85	4I-2	17.3
150	6	152	235	56	135	202	198	310	167	154	85	4I-2	19.1
200	8	198	280	60	177	227	230	388	223	246	136	4I-3	35.3
250	10	251	353	68	216	280	230	388	223	246	136	4I-3	44.2
300	12	300	403	78	254	312	230	388	223	246	136	4I-3	52.2

Note 1: For nominal size 50 mm type (for control), the 4I-0 type should be selected. (The 4I-00 type is only designed for ON-OFF operation.)
Please consult us regarding selection of drive parts for 350mm and higher types of 732X and 731X models.

732P-4I



4I 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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

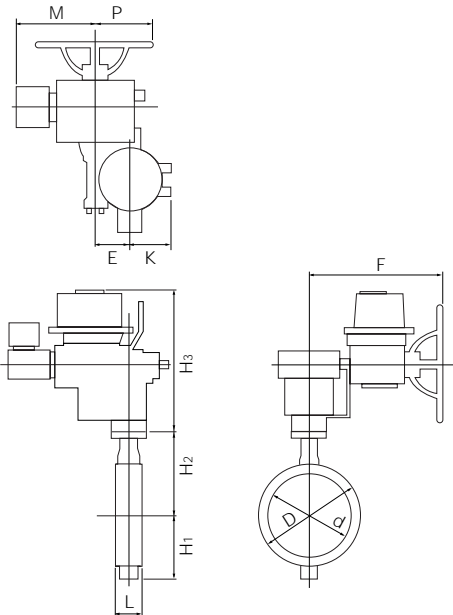
Three phase motor actuator type 731P-4L(300mm)/ 732X-4L(350mm, 400mm)/ 731X-4L(450mm to 600mm)

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

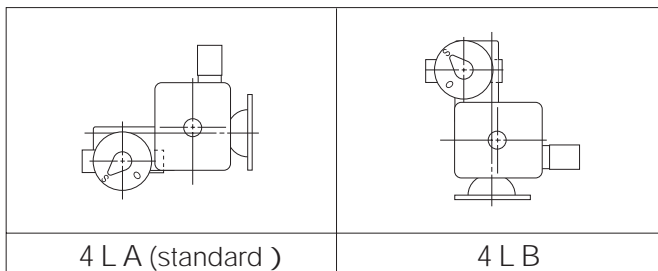
Type	Nominal size		Dimension (mm)												Motor type	Approx. weight (kg)
	mm	inch	d	D		L	H ₁	H ₂	H ₃	E	K	F	M	P		
				JIS10K	JIS16K											
731P	300	12	300	375	403	78	254	312	435	85	126	498	357	230	LTKD-01 0.2kW /MGH-2	112
732X	350	14	336	415	415	78	304	340	487	117	164	533	373	230	LTKD-01 0.4kW /MGH-3	178
	400	16	390	477	477	102	343	380	487	117	164	533	373	230	LTKD-01 0.4kW /MGH-3	215
731X	450	18	439	532	532	114	379	420	538	140	198	594	400	230	LTKD-02 0.75kW /MGH-4	297
	500	20	490	610	610	127	422	450	538	140	198	594	400	230	LTKD-02 0.75kW /MGH-4	348
	600	24	583	826	720	154	494	530	604	210	293	748	440	360	LTKD-05 0.75kW /MGH-5	645 (675)

Remark: Value in brackets is for JIS 10K flanges.

731P/732X/731X-4L



4L Installation direction

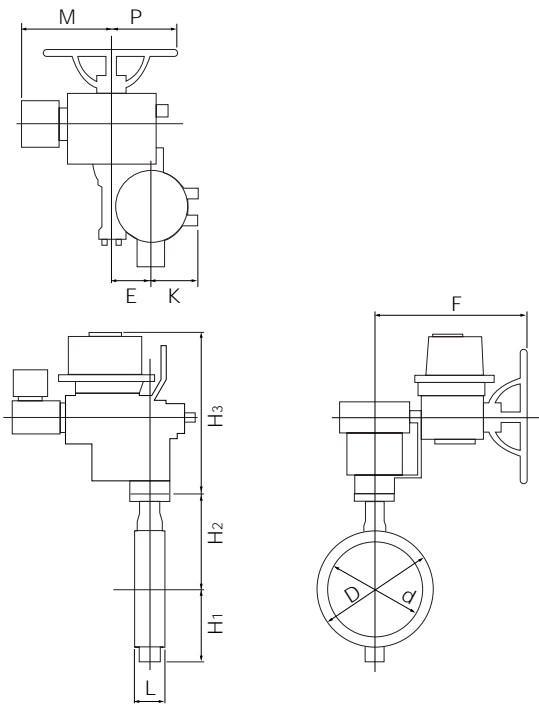


Three phase motor actuator type 732P-4L (250mm, 300mm)

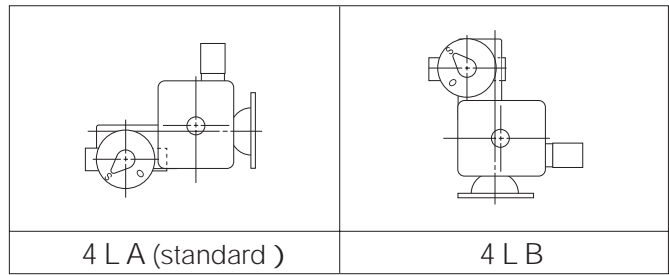
Nominal size		Dimension (mm)											Motor type	Approx. weight (kg)
mm	inch	d	D	L	H ₁	H ₂	H ₃	E	K	F	M	P		
250	10	251	353	68	216	280	435	85	126	498	357	230	LTKD-01 0.2kW /MGH-2	99
300	12	300	403	78	254	312	435	85	126	498	357	230	LTKD-01 0.2kW /MGH-2	110

Please consult us regarding selection of drive parts for 350mm and higher types of 732X and 731X models.

732P-4L



4L Installation direction

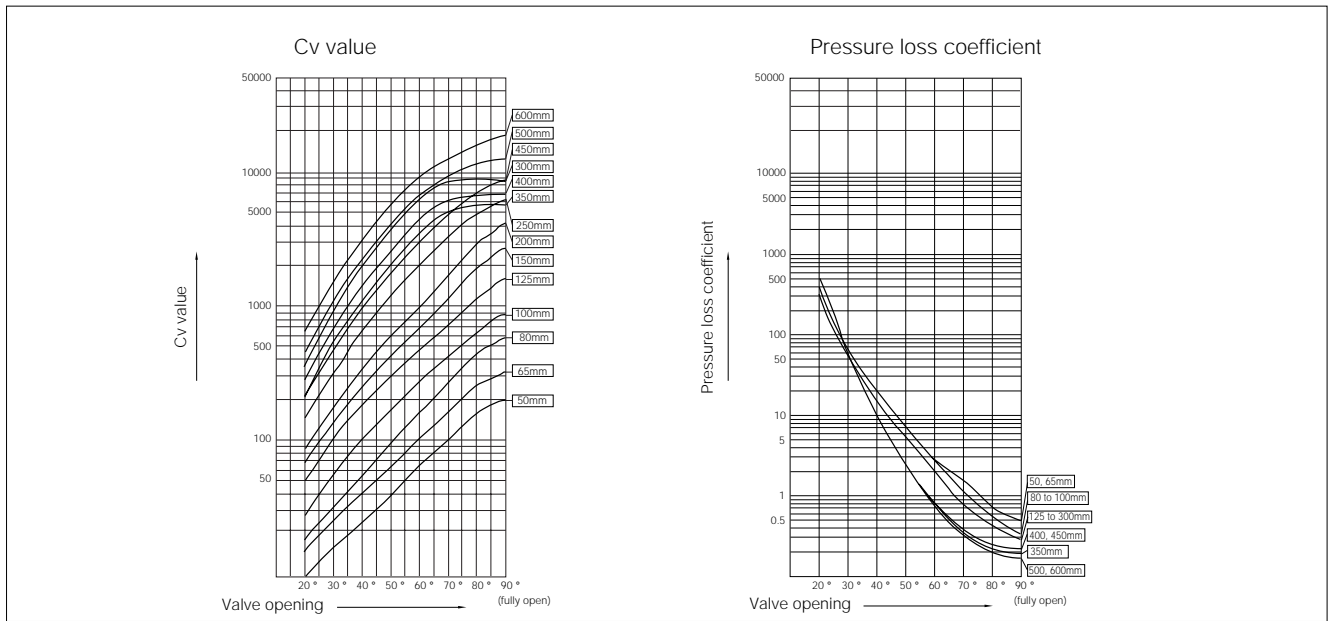


Butterfly Valves

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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

731P/732X/731X Cv value/Pressure loss coefficient



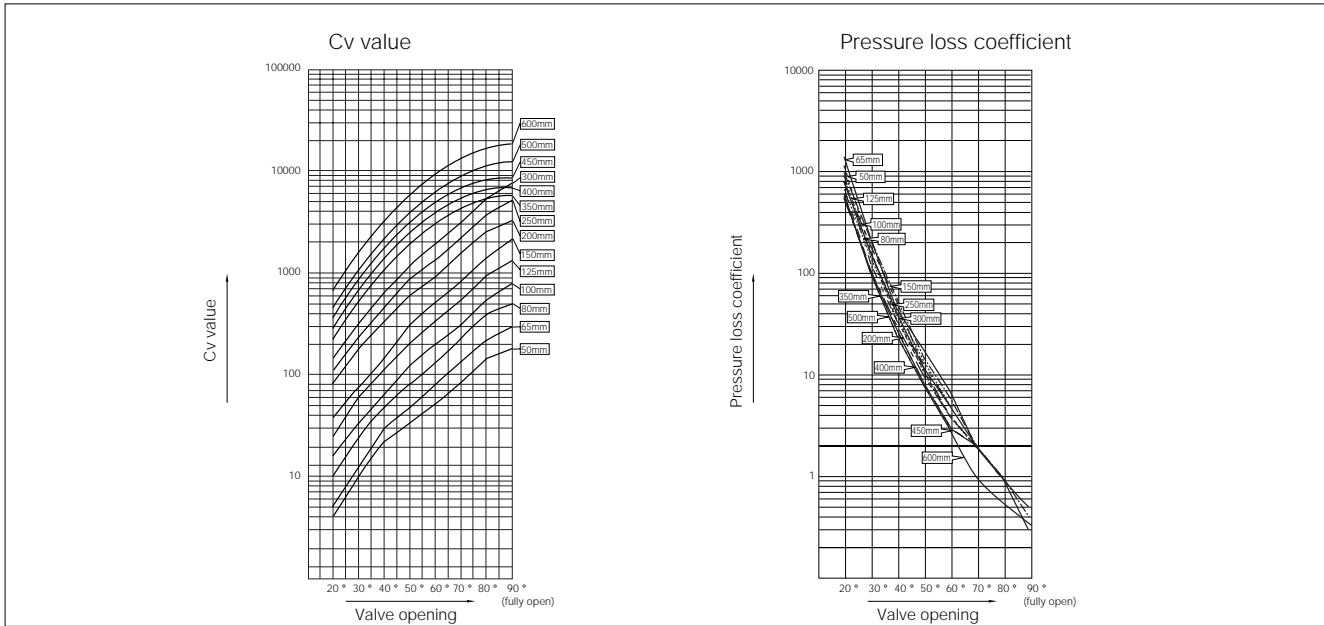
731P(50mm to 300mm)/732X(350mm, 400mm)/731X(450mm to 600mm) Cv value

Type	Nominal size		Valve opening							
	mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
731P	50	2	10	17	25	37	66	102	159	200
	65	2 1/2	16	27	41	64	103	162	260	320
	80	3	20	35	57	97	162	272	450	580
	100	4	32	62	103	164	276	431	628	880
	125	5	55	107	193	297	450	727	1150	1590
	150	6	71	145	264	439	671	1170	1910	2800
	200	8	96	189	344	606	957	1730	2940	4300
	250	10	174	340	707	1240	2160	3330	4880	6200
	300	12	254	491	1000	1780	3020	4910	7180	8900
732X	350	14	222	548	1101	1930	3080	4431	5451	5770
	400	16	289	717	1429	2515	3924	5482	6586	6920
731X	450	18	365	911	1807	3182	4953	6896	8262	8670
	500	20	457	1123	2265	3975	6395	9311	11571	12300
	600	24	664	1614	3307	5797	9328	13698	17243	18400

731P(50mm to 300mm)/732X(350mm, 400mm)/731X(450mm to 600mm) Pressure loss coefficient

Type	Nominal size		Valve opening							
	mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
731P	50	2	165	61	26	13	4	2	1	0.4
	65	2 1/2	162	58	24	10	4	2	1	0.4
	80	3	196	67	25	9	3	1	0.4	0.2
	100	4	233	61	22	9	3	1	0.6	0.3
	125	5	181	48	15	6	3	1	0.4	0.2
	150	6	222	53	16	6	2	1	0.3	0.1
	200	8	373	96	29	9	4	1	0.4	0.2
	250	10	270	71	16	5	2	1	0.3	0.2
	300	12	262	70	17	5	2	1	0.3	0.2
732X	350	14	579	95	24	8	3	1	1	1
	400	16	596	97	24	8	3	2	1	1
731X	450	18	609	98	25	8	3	2	1	1
	500	20	600	99	24	8	3	1	1	1
	600	24	603	102	24	8	3	1	1	1

732P/732X/731X Cv value/Pressure loss coefficient



732P(50mm to 300mm)/732X(350mm, 400mm)/731X(450mm to 600mm) Cv value

Type	Nominal size		Valve opening							
	mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
732P	50	2	4	10	22	33	51	85	145	179
	65	2 1/2	5	13	30	48	79	129	220	293
	80	3	10	25	49	80	130	225	396	500
	100	4	16	33	65	125	200	311	539	772
	125	5	25	60	112	201	338	535	951	1295
	150	6	37	77	145	303	517	807	1400	2166
	200	8	79	178	335	592	906	1557	2573	3248
	250	10	110	238	460	876	1359	2217	3763	5153
732X	350	14	222	548	1101	1930	3080	4431	5451	5770
	400	16	289	717	1429	2515	3924	5482	6586	6920
731X	450	18	365	911	1807	3182	4953	6896	8262	8670
	500	20	457	1123	2265	3975	6395	9311	11571	12300
	600	24	664	1614	3307	5797	9328	13698	17243	18400

732P(50mm to 300mm)/732X(350mm, 400mm)/731X(450mm to 600mm) Pressure loss coefficient

Type	Nominal size		Valve opening							
	mm	inch	20°	30°	40°	50°	60°	70°	80°	90°
732P	50	2	1132	170	35	15	6	2	1	0.5
	65	2 1/2	1389	225	45	18	7	2	1	0.5
	80	3	896	124	33	13	5	2	1	0.3
	100	4	971	214	56	15	6	2	1	0.4
	125	5	887	154	44	14	5	2	1	0.3
	150	6	801	189	53	12	4	2	1	0.3
	200	8	549	108	31	10	4	2	1	0.3
	250	10	675	145	39	11	4	2	1	0.3
732X	350	14	579	95	24	8	3	1	1	1
	400	16	596	97	24	8	3	2	1	1
731X	450	18	609	98	25	8	3	2	1	1
	500	20	600	99	24	8	3	1	1	1
	600	24	603	102	24	8	3	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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

731P/732X/731X Applicable flange standard

Butterfly Valves	Type	Nominal size		JIS		ANSI 150Lb	BS4504		DIN	
		mm	inch	10K	16K		PN10	PN16	NP10	NP16
TRITEC	731P	50	2							
TT2		65	2 1/2							
334A		80	3							
302A/303Q		100	4							
304A/304Q		125	5							
304Y/304Y		150	6							
304M(HLV)		200	8							
		250	10							
		300	12							
507V/508V	732X	350	14	D	D	D	D	D	D	D
846T/847T/847Q		400	16	D	D	D	D	D	D	D
841T/842T	731X	450	18	D	D	D	D	D	D	D
773Z(NAV-Z)		500	20	D	D	D	D	D	D	D
700G/704G/705G		600	24	T	T	T	T	T	T	T

: Can be used without flange drilling.
 : With additional flange drilling.
 D : With flange drilling.
 T : With flange tapping.

732P/732X/731X(20K) Applicable flange standard

Butterfly Valves	Type	Nominal size		JIS 20K	DIN NP25
		mm	inch		
LRV	732P	50	2		
227P		65	2 1/2		
MKT		80	3		
903C/904C		100	4		
		125	5		
		150	6		
		200	8		
		250	10		
		300	12		
	732X	350	14	D	D
		400	16	D	D
	731X	450	18	D	D
		500	20	D	D
		600	24	T	T

: Can be used without flange drilling.
 : With additional flange drilling.
 D : With flange drilling.
 T : With flange tapping.

731P/732X/731X Applicable pipe list in case of **A**

Type	Nominal size		SGP	STPY	Sch20	Sch40	Sch10S	Sch20S	Minimum internal diameter of piping (mm)
	mm	inch							
731P	50	2		-					34
	65	2 1/2		-					51
	80	3		-					70
	100	4		-					91
	125	5		-					118
	150	6		-					144
	200	8		-					194
	250	10		-					246
	300	12		-					294
732X	350	14					-	-	332
	400	16					-	-	379
731X	450	18					-	-	428
	500	20					-	-	477
	600	24	-				-	-	569

Butterfly Valves

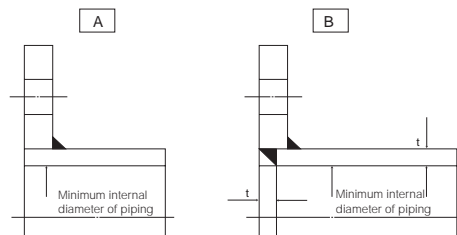
TRITEC
TT2
334A
302A/303Q
304A/304Q
302Y/304Y
304M(HLV)
507V/508V
846T/847T/847Q
841T/842T
773Z(NAV-Z)
700G/704G/705G
731P/732P 732X/731X
700E/700K
704G/722F/720F
LRV
227P
MKT
903C/904C

731P/732X/731X Applicable pipe list in case of **B**

Type	Nominal size		SGP	STPY	Sch20	Sch40	Sch10S	Sch20S
	mm	inch						
731P	50	2		-				
	65	2 1/2		-				
	80	3		-				
	100	4		-				
	125	5		-				
	150	6		-				
	200	8		-				
	250	10		-				
	300	12		-				
732X	350	14					-	-
	400	16					-	-
731X	450	18					-	-
	500	20					-	-
	600	24	-				-	-

Remark 1: =Applicable

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



731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

732P/732X/731X Applicable pipe list in case of **A**

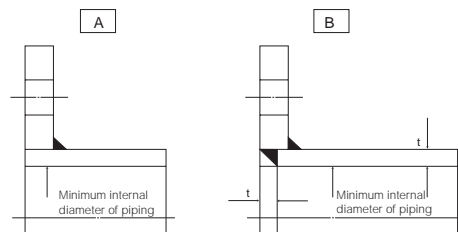
Butterfly Valves	Type	Nominal size		SGP	STPY	Sch20	Sch40	Sch20S	Minimum internal diameter of piping (mm)	
		mm	inch							
TRITEC	732P	50	2		-				34	
TT2		65	2 1/2		-				51	
334A		80	3		-				70	
302A/303Q		100	4		-				91	
304A/304Q		125	5		-				118	
302Y/304Y		150	6		-				144	
304M(HLV)		200	8		-				194	
507V/508V		250	10		-				246	
846T/847T/847Q		300	12		-				294	
841T/842T		732X	350	14					-	332
773Z(NAV-Z)	731X	400	16						-	379
700G/704G/705G		450	18						-	428
731P/732P 732X/731X		500	20						-	477
700E/700K		600	24	-				-	569	

732P/732X/731X Applicable pipe list in case of **B**

Butterfly Valves	Type	Nominal size		SGP	STPY	Sch20	Sch40	Sch20S	
		mm	inch						
700E/700K	732P	50	2		-				
704G/722F/720F		65	2 1/2		-				
LRV		80	3		-				
227P		100	4		-				
MKT		125	5		-				
903C/904C		150	6		-				
		200	8		-				
		250	10		-				
		300	12		-				
		732X	350	14					-
	731X	400	16						-
		450	18						-
		500	20						-
		600	24	-				-	

Remark 1: =Applicable

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



731P/732X/731X Piping bolt and nut sizes

Hexagon bolt & nut

Type	Nominal size		JIS 10K		JIS 16K	
	mm	inch	Hexagon bolts	Setting bolts	Hexagon bolts	Setting bolts
731P	50	2	4-M16×105×40	—	8-M16×95×35	—
	65	2 1/2	4-M16×105×40	—	8-M16×105×40	—
	80	3	8-M16×110×40	—	8-M20×110×50	—
	100	4	8-M16×110×40	—	8-M20×120×50	—
	125	5	8-M20×120×50	—	8-M22×130×40	—
	150	6	8-M20×130×50	—	12-M22×130×40	—
	200	8	12-M20×135×50	—	12-M22×140×40	—
	250	10	12-M22×150×60	—	12-M24×155×50	—
	300	12	16-M22×160×60	—	16-M24×170×50	—
732X	350	14	16-M22×160×60	—	16-M30(P3)×180×55	—
	400	16	16-M24×190×45	—	16-M30(P3)×215×55	—
731X	450	18	20-M24×205×45	—	20-M30(P3)×230×55	—
	500	20	20-M24×215×45	—	20-M30(P3)×245×55	—
	600	24	20-M30×260×50	8-M30×70×60	20-M36(P3)×285×65	8-M36(P3)×85

Long bolt & nut

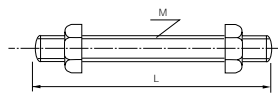
Type	Nominal size		JIS 10K		JIS 16K	
	mm	inch	Long bolts and nuts	Setting bolts	Long bolts and nuts	Setting bolts
731P	50	2	4-M16×120×30	—	8-M16×125	—
	65	2 1/2	4-M16×125×30	—	8-M16×125	—
	80	3	8-M16×125×30	—	8-M20×135	—
	100	4	8-M16×130×30	—	8-M20×150	—
	125	5	8-M20×150×40	—	8-M22×165	—
	150	6	8-M20×155×40	—	12-M22×165	—
	200	8	12-M20×155×40	—	12-M22×170	—
	250	10	12-M22×175×45	—	12-M24×190	—
	300	12	16-M22×185×45	—	16-M24×210	—
732X	350	14	16-M22×185×45	—	16-M30(P3)×225	—
	400	16	16-M24×220×50	—	16-M30(P3)×260	—
731X	450	18	20-M24×230×50	—	20-M30(P3)×280	—
	500	20	20-M24×245×50	—	20-M30(P3)×295	—
	600	24	20-M30×290×60	8-M30×70×60	20-M36(P3)×340	8-M36(P3)×85

Example

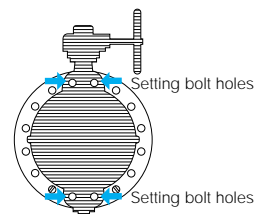
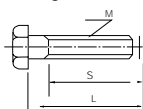
Long bolts: 12 - M22 × 185 × 45
 N M L S

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

Long bolts and nuts (full thread)



Setting bolts (Hexagon bolts)



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

731P/732P/732X/731X(Wafer) 731Q/732Q(Lugged)

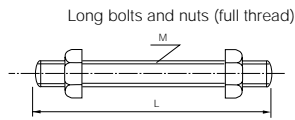
732P/732X/731X Piping bolt and nut sizes

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

Type	Nominal size		732P/732X/731X	
			JIS 20K	
	mm	inch	Long bolts and nuts	Setting bolts
732P	50	2	8-M16×125	—
	65	2 1/2	8-M16×125	—
	80	3	8-M20×135	—
	100	4	8-M20×150	—
	125	5	8-M22×165	—
	150	6	12-M22×165	—
	200	8	12-M22×170	—
	250	10	12-M24×190	—
	300	12	16-M24×210	—
	732X	350	14	16-M30(P3)×225
400		16	16-M30(P3)×260	—
731X	450	18	20-M30(P3)×280	—
	500	20	20-M30(P3)×295	—
	600	24	20-M36(P3)×340	8-M36(P3)×90

Example

Long bolts: 12 - M22 × 185
 M L S



Setting bolts (Hexagon bolts)

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

