

Catalogue

**OKM Butterfly Valve
Model 615 / 612**



612X 615X



Cert. No. Q17412

General Industries-Shipbuilding-Construction Equipment Application
1.0MPa Butterfly Valve For Various Application



OKUMURA ENGINEERING Corp. Japan.
OKM VALVE (M) SDN BHD

1.0MPa Butterfly Valve with excellent economical advantages in addition to its operational advantages and longer life

JIS conformed product



612X
Type C

A product that offers merits through its performance and economical features. It also reduces torque requirement through its unique OKM seat structure which makes it possible to have longer seat ring life.

Low torque & longer life due to its unique new OKM soft touch seat :

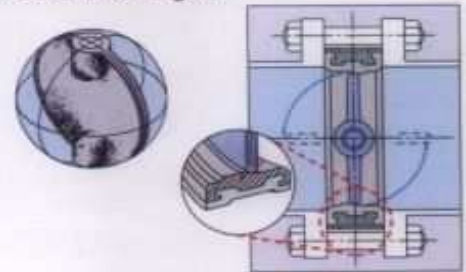
A newly developed soft touch seat that presses in with a smooth angle when the disc touches at the rubber seat surface.



(Patented pending)

A lighter and smaller actuator due to the lower torque requirement :

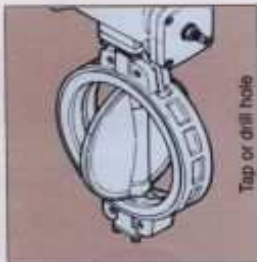
Due to the unique OKM seat development, no other products have this kind of patented seat structure. With the reduction of its torque requirement, the actuator could be made smaller and lighter



FCD450 as a body material : (40A - 300A)

FCD450 is used as the body for 612X Type C and E in order to strengthen and further improve it.

Valve flange Type



Tap or drill hole

● Type A (Tap hole)

40-300mm semi-standard spec.
350-1200mm standard spec.

● Type B (Drill hole)

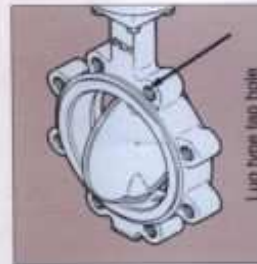
40-300mm sub-standard spec.



Pipe guide rib

● Type C (Pipe guide rib)

40-300 mm standard spec.



Lug type tap hole

● Type E (Lug type tap hole)

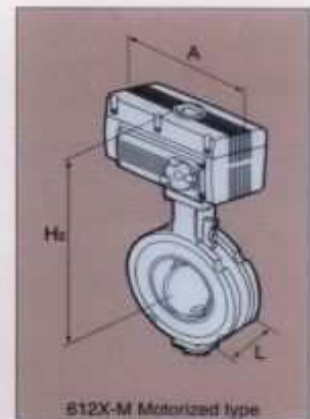
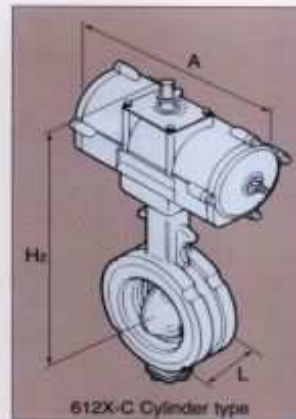
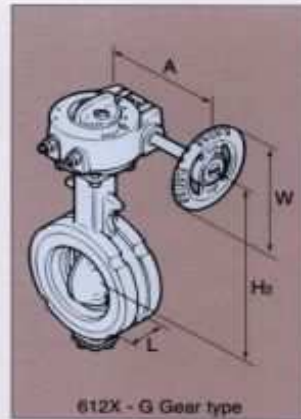
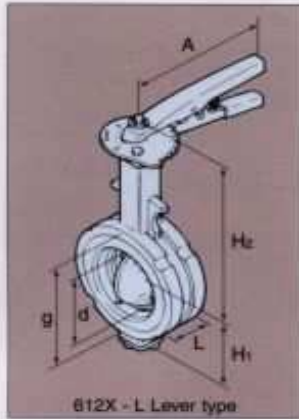
50-600mm customized product



Type C 40 - 300mm and Type A 350 - 1200 mm are in standard specification. Please request when other types are required.

612X

Dimensions and Weight Diagram (40mm-300mm)



Shapes vary according to sizes.

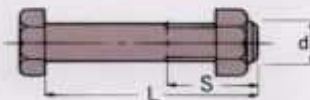
Valve size		L	d	g	H ₁	612X-L(Lever type)			612X-G(Gear type)			612X-C(Cylinder type)			612X-M(Motorized type)			
inch	mm					H ₂	A	Weight	H ₂	A	W	Weight	H ₂	A	Weight	H ₂	A	Weight
1 1/2	40	33	43	69	66	166	160	2.4	159	132	100	4.0	270	236	3.8	299	179	5.7
2	50	43	55	81	69	174	160	2.9	167	132	100	4.5	278	236	4.3	307	179	6.2
2 1/2	65	46	66	104	80	187	160	3.8	177	132	100	5.4	288	236	5.2	317	179	7.1
3	80	46	84	115	89	192	200	4.0	182	132	100	5.5	293	236	5.3	374	277	12.2
4	100	52	100	136	106	204	200	4.9	194	132	100	6.4	305	236	6.0	386	277	13.1
5	125	56	130	167	123	234	260	8.0	215	170	125	10.2	358	276	10.8	406	277	15.8
6	150	56	154	196	138	249	260	9.8	230	170	125	12.0	404	342	15.7	421	277	17.6
8	200	60	200	242	168	288	380	15.0	259	197	160	17.8	457	420	22.4	416	275	24.4
10	250	68	251	300	223	-	-	-	319	255	200	32.0	507	420	31.0	522	301	33.0
12	300	78	297	346	260	-	-	-	349	255	200	46.0	583	506	54.0	552	301	47.0

(Unit : Dimensions- mm; Weight-kg)

200mm lever type is suitable for fluid pressure less than 0.5 MPa
40-300mm motorized type will be CRV / RCEL / NOAH.

Pipe Bolt Dimensions Diagram

For Type C body shape



Valve Size		JIS 5K		JIS 10K	
inch	mm	Quantity	Hex. bolt & nut d x L x S	Quantity	Hex. bolt & nut d x L x S
1 1/2	40	4	M12 x 75 x 30	4	M16 x 85 x 38
2	50	4	M12 x 90 x 30	4	M16 x 100 x 38
2 1/2	65	4	M12 x 90 x 30	4	M16 x 110 x 38
3	80	4	M16 x 100 x 38	8	M16 x 110 x 38
4	100	8	M16 x 110 x 38	8	M16 x 110 x 38
5	125	8	M16 x 110 x 38	8	M20 x 120 x 46
6	150	8	M16 x 120 x 38	8	M20 x 130 x 52
8	200	8	M20 x 130 x 52	12	M20 x 130 x 52
10	250	12	M20 x 140 x 52	12	M22 x 150 x 56
12	300	12	M20 x 150 x 52	16	M22 x 160 x 56

1. Length of bolts are based on JIS standard and steel flange thickness.
2. Hexagonal bolts uses 8 pitch nuts.

1.0MPa Butterfly Valve for General Industries-Construction Equipment Application

Standard Specification

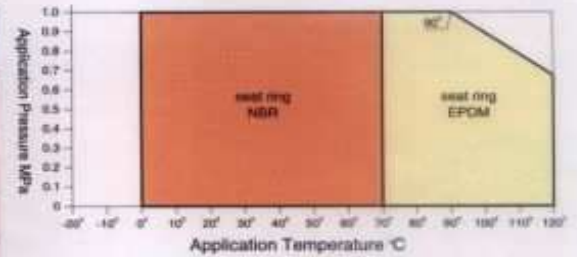
Model	612X	615X
Valve Nominal Diameter	40 - 300mm	350 - 1200mm
Applicable Flange Standard	JIS 5K, 10K, ANSI 125, 150Lb, PN10 *Others	
Maximum Application Pressure	1.0MPa	
Application Temperature Range	0° - 70°C (NBR) 0° - 120°C (EPDM)*	
Shell Test (Body)	1.5MPa	
Seat Test	1.1MPa	
Face To Face Dimension	JIS B 2032 series 46 / ISO 5752 series 20	
Actuator	lever type, gear type, cylinder type, motorized type	
Standard Coating	N5	Polyurethane/Pu *N7 (Optional)

☐ Contact OKM if use for temperature lower than 0°

☐ Do not use EPDM seat ring if fluid has oil or oil component contamination.

Standard Main Material Diagram Pressure-Temperature Rating

Parts name	Material	
	612X	615X
Body	Type C & E FCD450 Type A/B/C & E FC250	Type A/B/C & E FC250 *FCD 450 (optional)
Disc	SCS14 CAC701	SCS13 SCS14 FCD450
Seat ring	NBR, EPDM	
Upper/lower stem	SUS420J2	SUS403 /SUS420J2
O ring	NBR	
Gasket	NBR	Non-asbestos, others

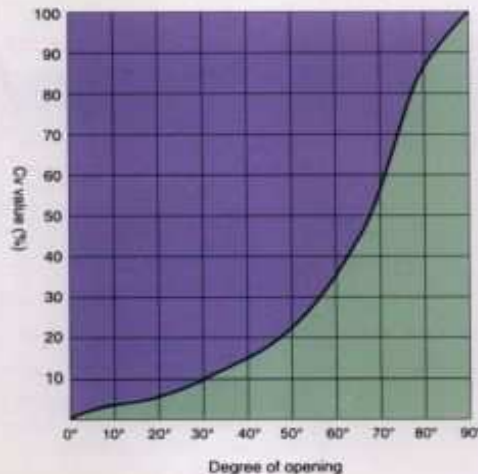


This diagram is based on JIS Standard (JIS B 2032).

☐ Please inform if application is out of the given range.

Cv Value-Flow Rate Full Open Cv Value Diagram

Characteristics Graph



Valve Size	Full open Cv value	Valve Size	Full open Cv value	Valve Size	Full open Cv value
40	102	300	6200	750	39500
50	165	350	7550	800	48000
65	250	400	10700	850	56000
80	380	450	13800	900	69400
100	650	500	17000	1000	80500
125	1100	550	21400	1100	99000
150	1790	600	25200	1200	118300
200	3300	650	28600	-	-
250	4400	700	35000	-	-

Precautions during handling

When using this product please read [Widely used Butterfly Valve Handling Instruction] packed together in the box for correct handling of product.

Storage

- For long term storage, when possible, store at a cool dark room. Avoid storing in a room with temperature less than -10° C or more than 40° C, humid or with vibration.
- When stored in opened boxes, prevent dust, rubbish or oil from contaminating the product.
- During packaging, the disc has been slightly turned open. Continue to store in this same condition.

Piping Installation

- When installing or dismantling the valve, the disc should slightly be turned at about 10° rather than in fully closed condition.
- Confirm that there are no scratches or distortion of flange and stem misalignment to valve. Failure in these could lead to leakage problem.
- Clean the internal pipe as well as the flange surface before fixing. Remove any foreign particles if any. Failure in this will lead to leakage.
- Enlarge flange pipe app. 6-10mm wider than the valve pipe when fixing. Do not push in by force or it could lead to seat peeling or malfunctioning of product.

- Do not use gasket meant for piping.

- Do not fix valve soon after welding of flange. Only install valve once temperature is cooled to room temperature.
- When tightening bolts, tighten diagonally. One-sided tightening will lead to leakage. Stop tightening once the seat ring is not visible.
- For installation of product at non ideal areas (dusty, extreme temperatures (less than -10° C or more than 60° C), freezing, foggy) contact our dealers or our company for more information.

Operation

- During piping pressure endurance test, where the valve's standard pressure is to be exceeded, do not treat valve so as to simulate a closed flange. Make sure that the disc is fully open during the test.
- For manual valves, do not use any other equipment such as pipe wrench to open or close the valve.
- Contact us if the valve is to be installed in a condition of 'one valve opened degree' at 30° or in a vacuum condition.
- To ensure valve's smooth operation, carry out maintenance 1-2 times a year.

GUARANTEE PERIOD Within 18 months from date shipped out of factory or within 12 months from date of trial run or whichever period that expires earlier.

Nomenclature :

Code	Operation Device		Flange		Body		Disc		Rubber		Stem		Nominal Bore	
	Sym	Device	Sym	Standard	Sym	Mat.	Sym	Mat.	Sym	Mat.	Sym	Mat.	MM	INCHI
612XC	BS	Bare Shaft	UF	JIS 5K	F	FC250	3	SCS13 (SUS 304)	E	EPDM	3	SUS403 / SUS420J2	40	1 1/2
612XE	AL	Aluminum Lever	UF	JIS 10K	D	FCD450	4	SCS14 (SUS 316)	N	NBR			50	2
615X	FL	FCMB Lever	UF	ISO 10K			2	CAC (ALBC)					65	2 1/2
	AG	Aluminum Gear	Not applicable/ for 100A, UF	ANSI 125 150Lb			1	FCD450					80	3
	FG	FC Gear	UF	ETC.									100	4
	EN	Actuator NOAH	Only for 100A, UC	ANSI 125 / 150Lb									125	5
	ER	Actuator RC	UC	ANSI 125 / 150Lb									150	6
	PR	Pneumatic RC											200	8
													250	10
													300	12

Sometimes specification may differs to design. Contact us for more information.

Towards Tomorrow With High Technology Valve



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OKM 612X

Polyurethane Seat
Mining , Cement
Abrasive Application



STANDARD SPECIFICATION

MODEL	612X POLYURETHANE SEAT		
SIZE	50A~300A		
FLANGE	JIS : 5K・10K		
	ANSI : 125Lb・150Lb		
	ISO : PN10		
DISC	316 + TUNGSTEN CARBIDE COATING		
MAX PRESSURE	1.0MPa		
MAX TEMPERATURE	0~80℃		
SEAT TEST	1.1MPa		
PRESSURE TEST	1.5MPa		
ACTUATOR	LEVER TYPE	(50A~200A)	ISO5211 50A~ 300A
	GEAR TYPE	(50A~300A)	
	CYLINDER TYPE	(50A~300A)	
	MOTORIZED TYPE	(50A~300A)	
FACE TO FACE	JIS / ISO		
PAIN			
FIELD	MINING		
	CEMENT PLANT		
	ABRASSIVE FLUID		

EU (Polyether Urethane Pre-Polimer)

Comparison of Material

Property	Unit	NBR	EPDM	Butyl	EU
Hardness	JIS A	73	73	70	71
Tensile	MPa	18	18	15	44
Extensibility	%	350	350	310	680
Resiliency	%	30	50	13	35

Test Plant : Shiga Industrial Inspection Authority in Japan

Comparison of Resilient Rubber

Abrasion Test by Taber Rotary Platform Abraser



Weight of Rubber Unit: g

Rotation	NBR	EPDM	Butyl	EU
0	20.5254	18.3197	20.1550	17.4583
1000	20.4056	18.1287	19.9621	17.4558
2000	20.2485	17.9356	19.7580	17.4419
3000	20.0328	17.6919	19.5488	17.4275

Wear of Rubber (From 0 rotate) Unit : g

Rotation	NBR	EPDM	Butyl	EU
1000	0.1198	0.1910	0.1929	0.0025
2000	0.2769	0.3841	0.3970	0.0164
3000	0.4926	0.6278	0.6062	0.0308

Wear of Rubber (per 1000 rotate) Unit : g

Rotation	NBR	EPDM	Butyl	EU
1000	0.1198	0.1910	0.1929	0.0025
2000	0.1571	0.1931	0.2041	0.0139
3000	0.2157	0.2437	0.2092	0.0144

