



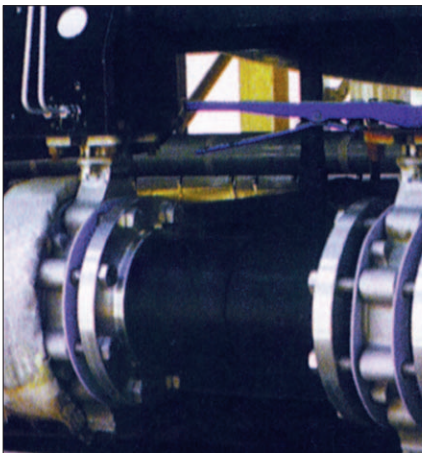
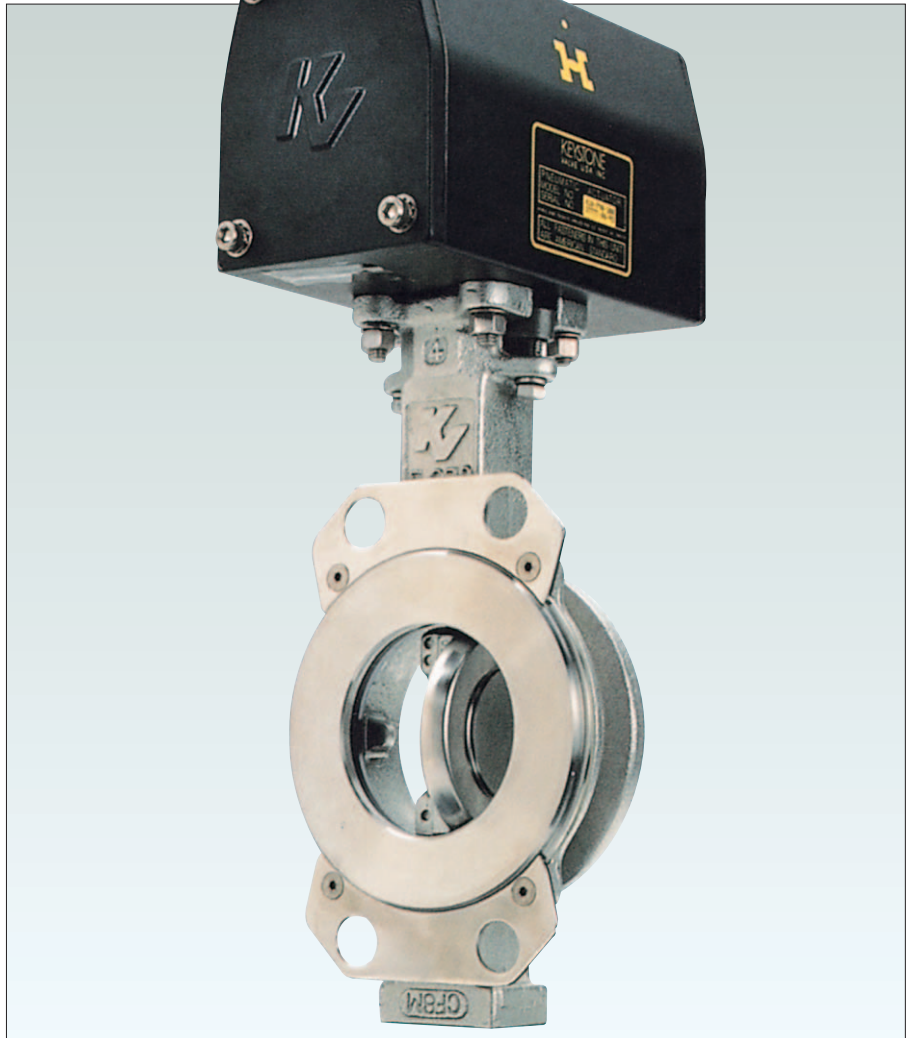
Flow Control

KEYSTONE

**K-LOK® High Performance Butterfly Valve**  
**Sizes 50 - 900 mm**  
**ASME/ANSI Class 150 and 300**

**Features & Benefits**

- Integrally cast mounting pad provides direct mounting of Keystone actuators.
- Rocker - shaped gland bridge compensates for uneven adjustment of gland nuts.
- Extended neck allows for two inches of pipeline insulation.
- Flattened body bore at stem journal ports positions stem bearings near disc, providing maximum stem support.
- Disc taper pins are tangentially positioned half in disc and half in stem, placing them in compression rather than shear, which eliminates potential for failure.
- Integrally cast disc position stop perfectly locates the disc in seat, achieving maximum seat and seal life.
- Uninterrupted flange face retaining ring allows use of standard spiral wound gaskets and provides unidirectional dead-end service as standard. Bi-directional dead-end service is available
- K-LOK polymer, elastomer, and fire-safe seats provide bi-directional, drop-tight closure in vacuum and throughout all pressure ranges, as well as at full rated differential pressure. A variety of materials allows optimum seat life in all applications.



**General Applications**

Many services have specific requirements. Keystone can meet most of these needs. The K-LOK product line can be ordered for the following special services:

- Food processing
- Sour gas
- Military
- Vacuum
- Oxygen
- Pharmaceutical
- Steam
- Steam jacketed
- Ammonia
- Chlorine
- Reverse osmosis
- Category 'M' Fluids
- Slurry
- Flow control
- Modulating control
- On/off control
- Dead-end service

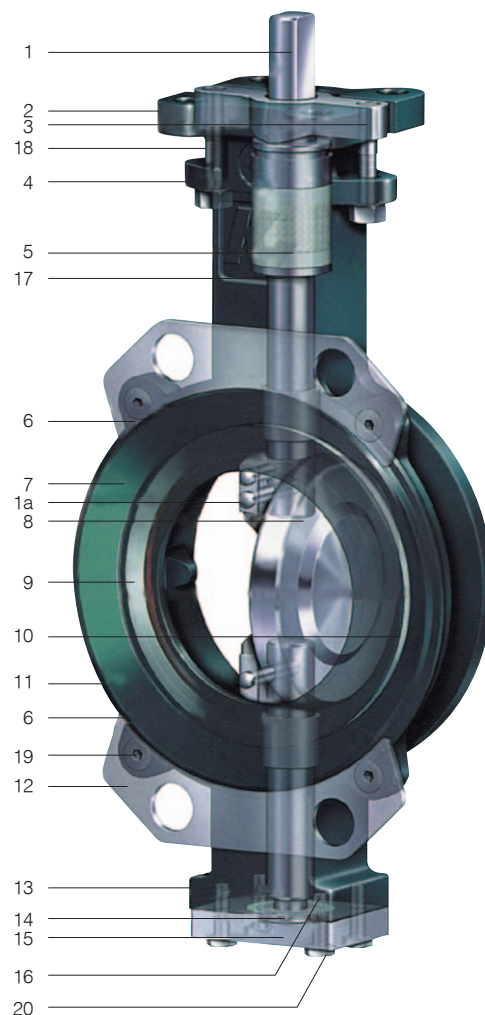
**Technical Data**

Pressure Rating : ASME/ANSI Class 150 and 300  
 Temperature : -28°C to 537°C (-20°F to 1000°F)  
 Size : 50mm to 900mm (2" to 36")  
 Flange Accommodation : ANSI 150/300 JIS 10K/16K/20K  
 Fire Safe Option NSF/ANSI Standard 61 50mm~600mm Range of application (2" to 24")

# Butterfly Valve Figure 360/362 and 370/372

## Materials

Part	Material	Material Standards
1 Stem	17-4PH SS	ASTM A564 Type 630 H1075 or H1100
1a Taper pins	17-4PH SS	ASTM A564 Type 630 H1075 or H1100
2 Body	Carbon Steel	ASTM A216 WCB
	Stainless Steel	ASTM A351 CF8M or CF8
	Ductile Iron	ASTM A536 65-45-12
	Ni-Al-Bronze	ASTM B148-958
3 Gland Bridge	17-4 PH SS	ASTM A747 CB7CU-1
4 Gland	316SS	ASTM A276 Type 316
	Bronze	ASTM B61
5 Packing	RTFE	
	Graphite	
6 Bearing	RTFE / fiberglass epoxy	
	316SS Nitrided	
7 Ring Gasket	Non-Asbestos fiber	
	Graphite / Teflon	
8 Disc	Stainless Steel	ASTM A351 CF8M or CF8
	Stainless Steel ENP	SS Electroless nickel plated
	Al -Bronze	ASTM B148-952
9 Seat	Polymer	PTFE or RTFE
	Elastomer	FKM, Buna-N(NBR), EPDM
	Metal(316SS)	ASTM A240 Type 316
	Fire-safe	RTFE/316 Stainless Steel
10 Seat Backing	Polyester or phenolics	
11 Ring	Stainless Steel	ASTM A276 Type 304
11 Seat Retainer	Carbon Steel	ASTM A36
	Stainless Steel	ASTM A351 CF8M/A240 Type 316L
	Ni-Al-Bronze	ASTM B148-958
12 Locating plate	Carbon Steel Zink Plate	ASTM A36
	Stainless Steel	ASTM A240 Type 304/316
13 Disc Locating	316SS	ASTM A276 Type 316
14 Bottom Cover	Non-Asbestos fiber	
	Gasket	Graphite / Teflon
15 Bottom Cover	316LSS	ASTM A351 CF3M
16 Thrust Washer	Stainless Steel/ RTFE	
	Stainless Steel Nitrided	
17 Anti Extrusion Ring	316SS	ASTM A276 Type 316
18 Stud Bolt & Nut	304SS	ASTM A276 Type 304
& Washer		
19 Hex Socket Screw	316SS	ASTM A276 Type 316
20 Hex Bolt & Washer	304SS	ASTM A276 Type 04



## Recommended Standard and Specifications

ANSI-	B16.34	Steel valves
	B31.1	Power piping
	B16.5	Steel pipe flanges and flange fittings
	B31.3	Chemical Plant and petroleum refinery piping
MSS-	SP-6	Standard finishes for pipe flanges
	SP-25	Standard marking systems for valves
	SP-55	Quality standard for steel casting
	SP-61	Pressure testing of steel valve
	SP-67	Butterfly valves
	SP-68	High pressure offset disc butterfly valves
API-	609	Butterfly valves
	607	Fire test for soft seated quarter-turn valves
	598	Valve inspection and test
BS-	6755	Inspection and test of steel valves for the petroleum, petrochemical and allied industries
	4504	Flanges and bolting for pipes, valves and fittings
DIN-	12266	Technical conditions of delivery for valves
ISO-	5752	Metal valves for use in flanged pipe systems
	7005	Pipeline flanges for general use

## Notes

Other materials or combination of materials are available on request.

**Principles of Operation**

**Double Offset Disc/Stem**

K-LOK's unique two-piece stem and double-offset disc/stem design allows for high cycling and creates a lower disc profile with increased capacity and a rangeability of 33:1

In addition to increasing the flow area across the disc, this design minimizes wear points between seat and disc.

The first offset is achieved by locating the stems downstream of the center-line of the seat. This allows for a totally unobstructed 360° sealing surface.

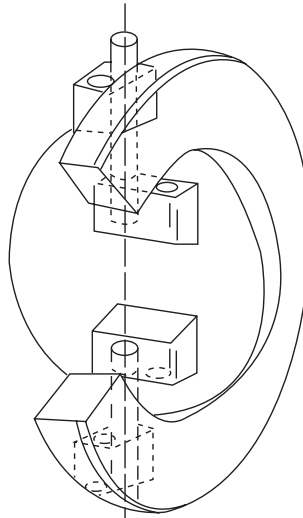
The second offset locates the stems off-center of the vertical axis of the seat.

The combination of these two offsets creates a camming effect as the disc swings into and out of the seat. The disc lifts quickly out of the seat in the first few degrees of travel and does not contact the seat again until it is nearly closed. There are no wear points between the seat and disc, while operating torques are reduced and seat life is extended.

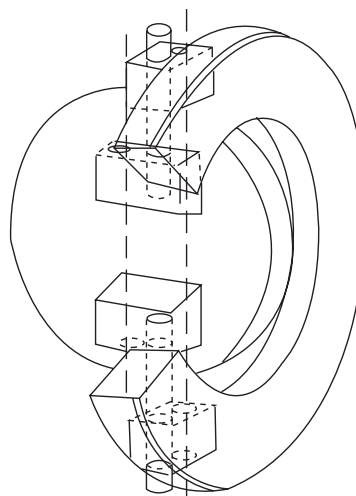
**Two-piece Stem vs. One-piece Stem**

K-LOK's disc geometry maximizes flow capacity by increasing the available flow area through the valve. This increase in disc efficiency results in a higher valve Cv.

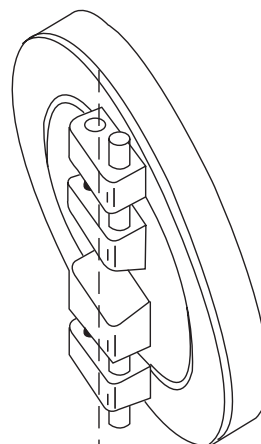
**First Offset**



**Second Offset**

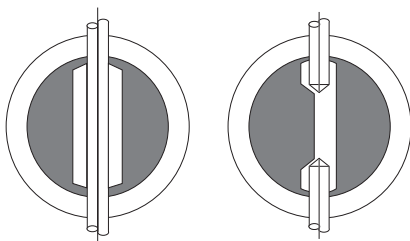


**Double Offset**



**Competitor one-piece stem**

**K-LOK two-piece stem**



Aspect Ratio = Open Area ÷ Disc Area

**Fire-Safe Valve  
API 607 4th Edition Approved by Third Party Witness**

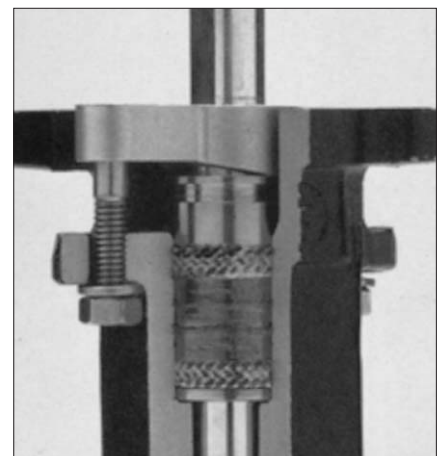
The K-LOK fire-safe design uses a stainless steel or MONEL® alloy seat of convoluted shape that mates with an RTFE member. In the full-closed position, the K-LOK provides continuous two-plane contact between the disc and both metal and RTFE seats. The fire-safe seat utilizes wire windings to provide the circumferential stiffness necessary to maintain interference between disc and seat.



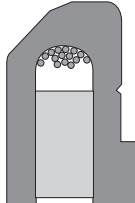
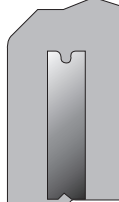


**Fire-Safe Packing**

K-LOK fire-safe packing is composed of three rings of preformed packing graphite between one ring of woven graphite rope at the top and bottom.

This arrangement creates a superior, high temperature seal against the outer wall of the packing box and around the rotating stem.



## Seat Materials

Seat	Material	Typical Applications	
PTEE	Polytetrafluoroethylene	Pharmaceuticals, water, jet fuel, river water, air	
RTFE	Reinforced polyterafluoroethylene	Saturated steam, chlorine, ammonia, natural gas, vacuum, oxygen, nitrogen	
UHMWPE	Ultra high molecular weight polyethylene	Abrasives, suspended solids, scaling mediums	
Wire Wrap	302 stainless steel braided wire		
Backing Ring	Rynite® Stainless steel	General purpose services Steam, ammonia	
EPDM		Cooling water, chilled water,	
NBR		HVAC, river water intakes,	
Fluoroelastomer(FKM)		abrasives, vacuum	
Backing ring	304 Spiral Wound Strip		
Metal	316 stainless steel (flash chrome coated)	High temperature, low temperature, abrasives, fly ash, slurries	
Wire Wrap	316 stainless steel		
Fire-safe	Reinforced polytetrafluoroethylene combined with 316 Stainless steel (flash chrome coated)	Fire-safe installations, abrasives, slurries, steam	
Wire Wrap	316 stainless steel		

## Seat Design

The K-LOK seat is a true interference seat design and does not rely on line pressure to assist in sealing. All seats seal drop-tight bi-directionally at low pressure as well as high pressure.

Polymer(PTFE,RTFE and UHMWPE)seats incorporate a stainless steel braided wire winding, enclosed in a U-shape envelope to provide seating energy and memory. This wire winding allows axial flexibility in both directions of flow. The winding also allows radial flexibility when the disc is not fully closed, reducing seat/disc interference, seat wear and stem torque. When the disc closes, it provides circumferential stiffness and assures the required disc/seat seals tight.

Elastomer seats are molded around a stack of V-shaped steel rings that provide the same stability, support and flexure as the wire windings in polymer seats.

Metal seats employ a stainless steel or MONEL® ring of convoluted shape, reinforced by stainless steel wire windings. The thin, convoluted shape allows for expansion and contraction from thermal cycling. Long life is assured by flash coating the seat with chrome.



## ANSI/FIC 70-2 Control Valve Seat Leakage, and Test Specifications

ANSI B16.104-1976	Maximum Leakage	Test Medium	Pressure and Temperature
Class IV	0.01% valve capacity at full travel	Air or Water	Service Δ P or 50 psig (3.4 bar differential), whichever is lower, eg at 10° to 52° (50° to 125°F)
Class V	5 X10 <sup>-4</sup> ml/min/psig/in.port dia. (5 X10 <sup>-12</sup> m <sup>3</sup> /sec/bar differential/mm port dia.)	Water	Service Δ P at 10° to 52°C (50° to 125°F)
Class VI	Nominal Port Diameter (in.)	Bubbles per Minute <sup>3</sup>	ml.per Minute
	2	3	0.45
	2½	4	0.60
	3	6	0.90
	4	11	1.70
	6	27	4.00
	8	45	6.75

### Notes

1. K-LOK polymer, elastomer and fire-safe seats provide ANSI Class VI shutoff.
2. K-LOK metal seats and firesafe seats (post fire exposure) provide ANSI Class IV shutoff.
3. Using the ANSI/FIC specified calibrated measuring device.

Reference ANSI/FIC 70-2 for further information.

## C<sub>v</sub> Values vs. Travel Position

Size (inch) (mm)	10°	20°	30°	Angle of Opening				80°	ANSI 150 90°	ANSI 300 90°
				40°	50°	60°	70°			
2 50	6	10	19	34	51	78	105	134	163	160
2½ 65	6	10	19	34	53	80	111	148	175	170
3 80	8	12	24	43	67	100	139	186	220	215
4 100	16	23	44	80	130	194	269	360	425	413
5 125	30	44	83	149	242	366	504	673	795	785
6 150	50	70	130	230	370	550	760	1,010	1,195	1,140
8 200	83	117	251	437	695	1,052	1,496	2,001	2,440	2,300
10 250	144	202	454	754	1,185	1,821	2,611	3,541	4,540	4,333
12 300	208	304	678	1,051	1,625	2,766	3,838	5,325	6,915	6,600
14 350	257	360	747	1,186	1,909	3,121	4,416	6,225	8,300	7,920
16 400	308	432	803	1,422	2,289	3,614	5,251	7,530	10,040	9,580
18 450	373	548	1,121	1,869	2,990	4,735	6,728	9,845	12,460	11,890
20 500	463	680	1,390	2,315	4,010	6,175	8,795	12,655	15,430	14,720
24 600	650	991	2,076	3,803	6,060	9,091	13,301	18,466	21,660	20,665
30 750	1,015	1,550	3,240	4,670	9,460	14,200	21,400	29,800	36,000	35,500
36 900	1,460	2,300	4,640	5,950	13,700	21,000	30,400	44,000	56,000	55,500

### Vacuum Rating

The combination of interference fit seats and bi-directional packing makes the K-LOK especially well suited for vacuum service.

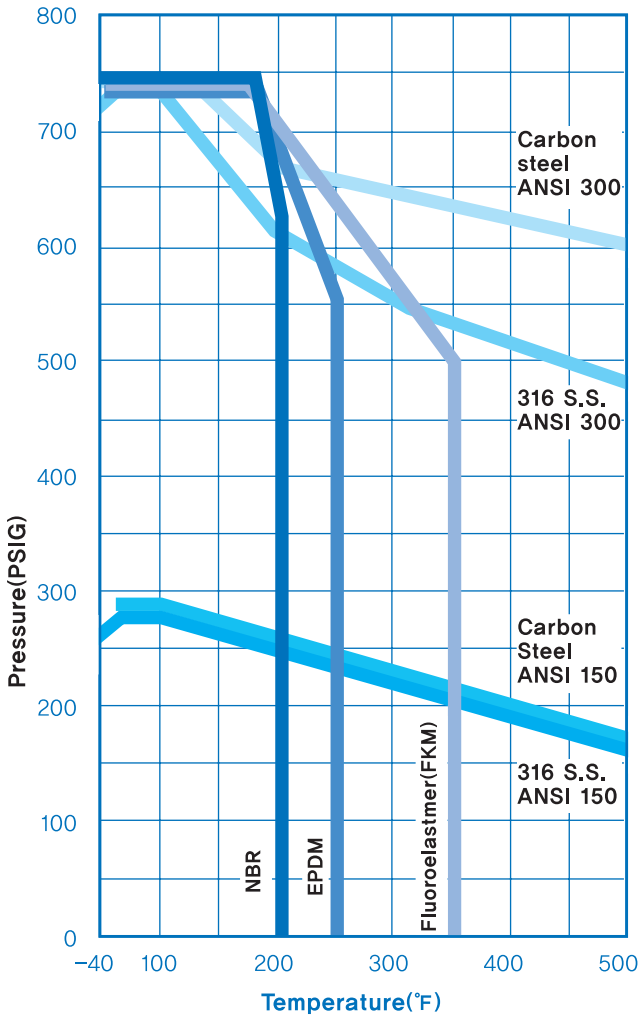
Standard K-LOK high performance valves are rated to an absolute pressure of 4X10<sup>-5</sup> inch Hg. Higher vacuum applications are available.

### Actuator Selection

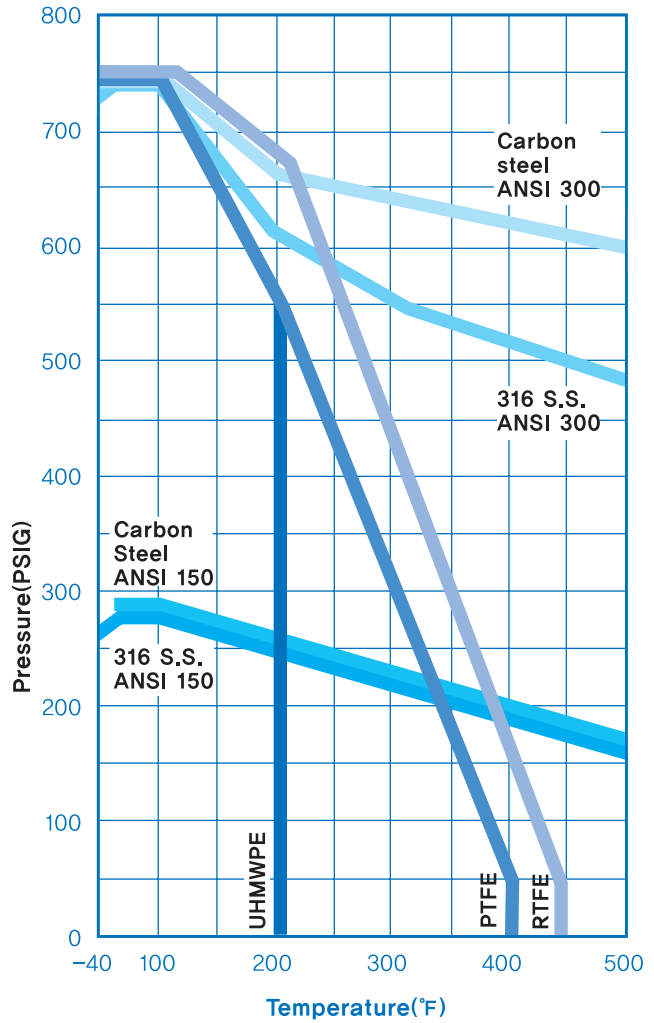
Actuator	Figure	Remarks
Handle	F401	Leverlock
Gear	F420 to F430	Range of heavy duty gear operators available
Pneumatic	F79U	Double acting and spring return rack and pinion designs
Gear & Pneumatic	F453/79U	Declutchable gear unit provides manual override for the Keystone pneumatic actuator
Electric	EPI <sub>2</sub>	Compact electric actuators

Pressure/Temperature Rating for Seat Materials

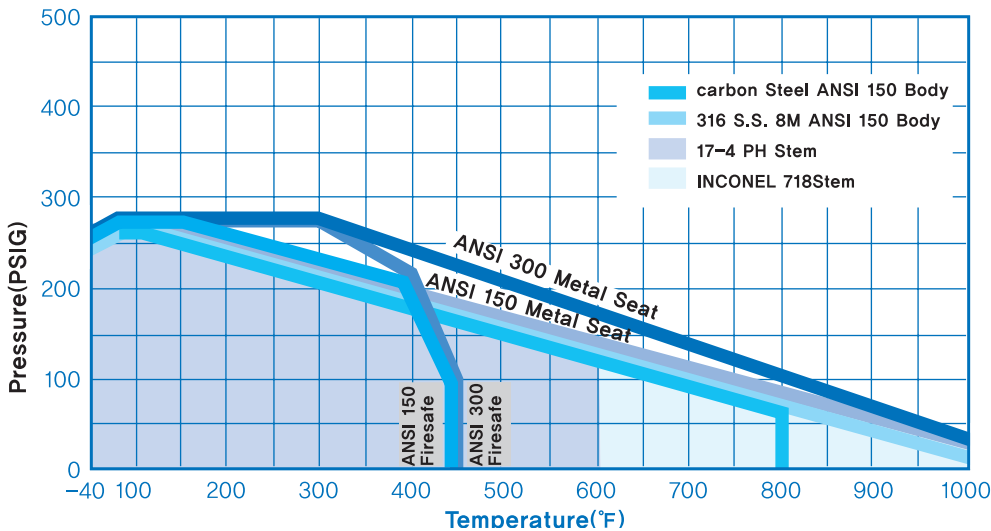
Elastomer Seats



Polymer Seats



Fire-Safe and Metal Seats



## Seating and Un-seating Torque

Seating and un-seating torques are a function of the size of the valve and the shutoff pressure of the system.

Specific torque ratings can be found in the Seating/Un-Seating chart at the intersection of the 'size' row and the 'shutoff pressure' column.

Torques listed are for PTFE and RTFE seated valves. For different seat materials specific multipliers are to be used as stated.

All torques listed are for normal service conditions (i.e. operating frequency is a minimum of once per month; disc corrosion is expected to be mild or minor, the media is a clean gas, liquid or steam, and is non-abrasive) and chemical affects upon the seat are minor.

### PTFE and RTFE Bi-Directional Seating and Un-Seating Torque Valves

Valve Size (inch) (mm)		Stem Mounting Code (ANSI)		Seating and Un-seating Torque (lbs. in.) System Shutoff Pressure (psig)						
				150	300	150	200	285	400	500
2	50	BAB	BAB	220		280	380	460	520	580
2½	65	BAB	BAB	220		280	380	460	520	580
3	80	BAC	BAC	250		320	430	520	590	650
4	100	BAD	BAD	475		600	820	995	1,120	1,235
5	125	BAD	BAD	925		1,125	1,350	1,570	1,750	1,900
6	150	CAD/CAE*	CAE	1,370		1,600	1,850	2,150	2,390	2,900
8	200	CAF	CAF	2,060		2,330	3,200	4,020	4,870	6,720
10	250	CAF/CAG*	CAG	3,340		3,650	4,700	6,250	7,450	9,850
12	300	DAG	DAG	6,750		5,250	6,400	8,160	9,690	12,940
14	350	DAH	DAJ	6,750		7,560	9,150	11,450	13,300	17,200
16	400	DAH	DAK	9,350		10,450	12,600	15,000	17,500	22,200
18	450	DAJ	DBA	11,900		13,300	15,800	19,500	21,900	28,500
20	500	DAK	LAX	15,600		17,500	21,000	25,200	28,700	36,140
24	600	DAK	MAY	21,700		25,340	30,600	36,900	42,100	54,000
30	750	MAZ	NAW	29,200		35,000	43,500	54,500	62,500	80,000
36	900	MBE	EBD	52,500		58,500	70,000	85,000	97,500	125,000

### Notes

- Torques are applicable only to PTFE and RTFE seats in noncorrosive or nonabrasive services such as water. For fire-safe and metal seats, select only the torque for the valve at 285 psig and multiply by 2.0.
- For other seat materials, select the torque applicable for the maximum differential pressure and multiply by the following factor:
 

EPDM/NBR/Fluoroelastomer (FKM):	x 1.4
UHMWPE (Clean Service):	x 1.3
UHMWPE (Slurry Service):	x 1.7
- For corrosive, abrasive or other services than water, multiply by the following factor:
 

High solids slurry:	x 1.5
Dry gas:	x 2.0
Dry powders:	x 2.7
Liquids other than water:	x 1.2
Lubricating fluids:	x 0.8

For services that combine unfriendly conditions such as extreme temperatures and high solids, or corrosive with high temperatures, contact the factory.

## Extension Brackets For Various Temperatures

Pipeline Fluid Temperature	Handle	Required Extension Lengths (inch)			EPI <sub>2</sub>
		Gear	93°C (200°F) Std. F79U	232°C (450°F) High Temp. F79U	
-73°C to 190°C (-100°F to 375°F)	None	None	None	None	None
191°C to 237°C (376°F to 460°F)	4	None	None	None	4
238°C to 293°C (461°F to 560°F)	6	4	4	None	4
293°C to 343°C (561°F to 650°F)	6	4	4	None	4
344°C to 385°C (651°F to 725°F)	6	6	6	4	6
386°C to 440°C (726°F to 825°F)	8	8	8	6	8
441°C to 496°C (826°F to 925°F)	10	8	8	6	8
497°C to 537°C (926°F to 1,000°F)	10	10	10	8	10

## Notes

- Surrounding air temperature is assumed to be 21°C (70°F) For every degree over 37°C (100°F) of the surrounding air, deduct 2 degrees from the temperature ranges shown above.  
(Example: 51°C (125°F) external reduces maximum temperature valves to 162°C (352°F), 210°C (410°F), 265°C (510°F), 148°C (300°F), etc.)
- Valves may be insulated or uninsulated.
- Brackets may be open rectangular tubes or the standard closed Keystone tubular stem extensions.
- All actuators have a maximum service temperature (atmospheric temperature). These temperature limitations apply regardless of K-LOK extension lengths.

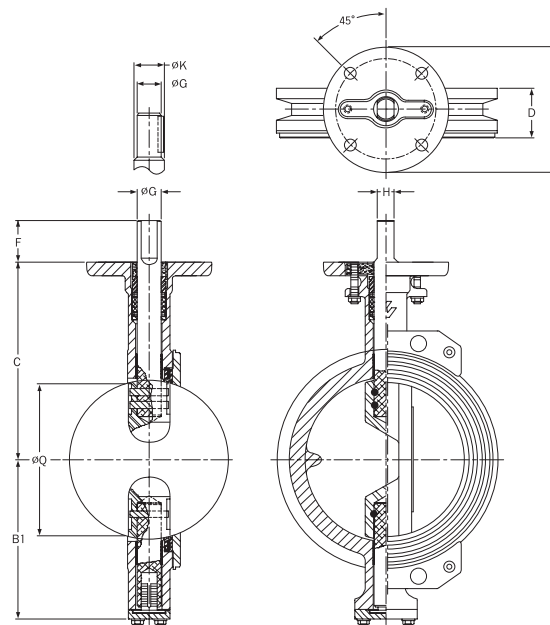
## Handle Capacity

Handle Size Valve Size		RTFE/PTFE		UHMWPE		EPDM/NBR		Metal Fire-safe	
(inch)(mm)	(inch)(mm)	ANSI 150	ANSI 300	ANSI 150	ANSI 300	ANSI 150	ANSI 300	ANSI 150/300	
10 <sup>1</sup> / <sub>2</sub>	266	2	50	Yes	Yes	Yes	Yes	Yes	Yes
10 <sup>1</sup> / <sub>2</sub>	266	2 <sup>1</sup> / <sub>2</sub>	65	Yes	Yes	Yes	Yes	Yes	Yes
10 <sup>1</sup> / <sub>2</sub>	266	3	80	Yes	Yes	Yes	Yes	Yes	Yes
10 <sup>1</sup> / <sub>2</sub>	266	4	100	Yes	Yes	Yes	No	Yes	Yes
10 <sup>1</sup> / <sub>2</sub>	266	5	125	Yes	No	No	No	No	No
14	350	6	150	No	No	No	No	No	No

## Notes

- The maximum safe pull made by an operator is about 55kg (120 lbs) The effective length of the handle moment arm is 241 mm (9<sup>1</sup>/<sub>2</sub> inch) for the 266 mm (10<sup>1</sup>/<sub>2</sub> inch) handle and 323 mm (12<sup>3</sup>/<sub>4</sub> inch) for the 350 mm (14 inch) handle.  
This is based on the average operator's hand width.
- Chart is based on full pressure differential.  
K-LOKs up to 150 mm (6 inch) can be fitted with a handle when pressure is reduced. Please contact Keystone Valve for assistance.

## Wafer Type



### Notes

\* E.N.P discs require larger upper stem connection diameters on 250 mm for metal seat and fire-safe seat trims.

The valve dimensions are for reference only.

For detailed information, please consult factory.

**Figure 360 Valve Dimensions (mm) ANSI Class 150**

Valve Size (inch) (mm)	B1	C	D	E	F	ØG	H	ØK	ØQ	Top Plate Data			Weight (kg)	
										B.C.D. No.	Hole Dia.	Hole Dia.		
2	50	103	152	60.3	102	32	14.3	9.5	-	52	82.6	4	11	4.0
2½	65	103	152	47.6	102	32	14.3	9.5	-	62	82.6	4	11	4.5
3	80	103	159	47.6	102	32	15.9	11.1	-	74	82.6	4	11	5.4
4	100	127	178	54.0	102	32	19.1	12.7	-	98	82.6	4	11	8.2
5	125	141	192	57.2	102	32	19.1	12.7	-	124	82.6	4	11	10.2
6	150	163	203	57.2	152	32	22.2	15.9	-	147	127.0	4	13	14.0
8	200	192	238	63.5	152	51	26.6	-	-	198	127.0	4	13	23.0
10	250	225	270	71.4	152	51	28.6	-	34.9	247	127.0	4	13	35.0
*10	250	225	270	71.4	152	76	34.9	-	-	247	127.0	4	13	35.0
12	300	256	311	81.0	203	76	34.9	-	38.1	293	165.0	4	21	56.0
14	350	274	337	92.1	203	76	41.3	-	-	322	165.0	4	21	64.0
16	400	319	368	101.6	203	76	41.3	-	44.5	368	165.0	4	21	85.0
18	450	341	406	114.3	203	108	47.6	-	-	415	165.0	4	21	126.0
20	500	383	443	127.0	203	108	57.2	-	-	459	165.0	4	21	158.0
22	550	443	500	170.0	203	108	57.2	-	63.5	531	165.0	4	21	236.0
24	600	443	500	154.0	203	108	57.2	-	63.5	552	165.0	4	21	281.0
26	650	521	622	210.0	241	178	76.2	-	-	621	247.7	4	26	360.0
28	700	521	622	220.0	241	178	76.2	-	-	634	247.7	4	26	405.0
30	750	521	622	187.0	241	178	76.2	-	-	695	247.7	4	26	463.0
36	900	616	721	216.0	241	203	88.9	-	-	860	247.7	4	26	839.0

**Figure 370 Valve Dimensions (mm) ANSI Class 300**

Valve Size (inch) (mm)	B1	C	D	E	F	ØG	H	ØK	ØQ	Top Plate Data			Weight (kg)	
										B.C.D. No.	Hole Dia.	Hole Dia.		
2	50	103	152	60.3	102	32	14.3	9.5	-	52	82.6	4	11	4.0
2½	65	103	152	47.6	102	32	14.3	9.5	-	62	82.6	4	11	4.5
3	80	118	168	47.6	102	32	15.9	11.1	-	74	82.6	4	11	6.0
4	100	140	191	54.0	102	32	19.1	12.7	-	98	82.6	4	11	9.0
5	125	141	192	58.7	102	32	19.1	12.7	-	124	82.6	4	11	11.5
6	150	170	222	58.7	152	32	22.2	15.9	-	147	127.0	4	13	15.0
8	200	205	257	73.0	152	51	28.6	-	-	198	127.0	4	13	30.0
10	250	238	289	82.6	152	76	34.9	-	-	247	127.0	4	13	43.0
12	300	268	330	92.1	203	76	34.9	-	38.1	293	165.0	4	21	66.0
14	350	311	365	117.5	203	108	47.6	-	-	322	165.0	4	21	123.0
16	400	340	408	133.4	203	108	57.2	-	-	368	165.0	4	21	139.0
18	450	375	432	149.2	203	108	63.5	-	-	415	165.0	4	21	175.0
20	500	414	513	158.8	191	165	69.9	-	-	459	203.0	4	21	204.0
24	600	492	594	181.0	241	173	88.9	-	-	554	247.7	4	26	580.0

## Lug Type

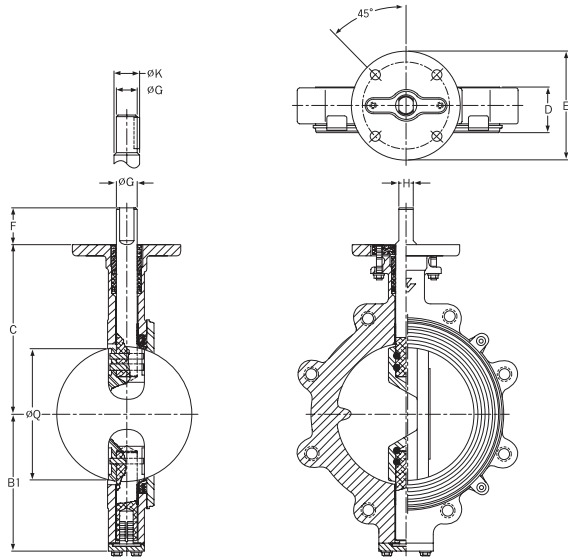


Figure 362 Valve Dimensions (mm) ANSI Class 150

Valve Size (inch) (mm)	B1	C	D	E	F	øG	H	øK	øQ	Top Plate Data		Weight (kg)		
										B.C.D. Hole No.	Hole Dia.			
2	50	103	152	60.3	102	32	14.3	9.5	-	52	82.6	4	11	7.0
2½	65	103	152	47.6	102	32	14.3	9.5	-	62	82.6	4	11	6.5
3	80	103	159	47.6	102	32	15.9	11.1	-	74	82.6	4	11	7.0
4	100	127	178	54.0	102	32	19.1	12.7	-	98	82.6	4	11	12.0
5	125	141	192	57.2	102	32	19.1	12.7	-	124	82.6	4	11	14.0
6	150	163	203	57.2	152	32	22.2	15.9	-	147	127.0	4	13	19.0
8	200	192	238	63.5	152	51	28.6	-	-	198	127.0	4	13	29.0
10	250	225	270	71.4	152	51	28.6	-	34.9	247	127.0	4	13	49.0
*10	250	225	270	71.4	152	76	34.9	-	-	247	127.0	4	13	49.0
12	300	256	311	81.0	203	76	34.9	-	38.1	293	165.0	4	21	73.0
14	350	294	337	92.1	203	76	41.3	-	-	322	165.0	4	21	99.0
16	400	319	368	101.6	203	76	41.3	-	44.5	368	165.0	4	21	114.0
18	450	341	406	114.3	203	108	47.6	-	-	415	165.0	4	21	162.0
20	500	383	443	127.0	203	108	57.2	-	-	459	165.0	4	21	227.0
22	550	443	500	170.0	203	108	57.2	-	63.5	531	165.0	4	21	305.0
24	600	443	500	154.0	203	108	57.2	-	63.5	552	165.0	4	21	340.0
26	650	521	622	210.0	241	178	76.2	-	-	621	247.7	4	26	460.0
28	700	521	622	220.0	241	178	76.2	-	-	634	247.7	4	26	570.0
30	750	521	622	187.0	241	178	76.2	-	-	695	247.7	4	26	617.0
36	900	616	721	216.0	241	203	88.9	-	-	860	247.7	4	26	1,021.0

Figure 372 Valve Dimensions (mm) ANSI Class 300

Valve Size (inch) (mm)	B1	C	D	E	F	øG	H	øK	øQ	Top Plate Data		Weight (kg)		
										B.C.D. Hole No.	Hole Dia.			
2	50	103	152	60.3	102	32	14.3	9.5	-	52	82.6	4	11	8.0
2½	65	103	152	47.6	102	32	14.3	9.5	-	62	82.6	4	11	8.5
3	80	118	168	47.6	102	32	15.9	11.1	-	74	82.6	4	11	9.0
4	100	140	191	54.0	102	32	19.1	12.7	-	98	82.6	4	11	12.0
5	125	141	192	58.7	102	32	19.1	12.7	-	124	82.6	4	11	14.0
6	150	170	222	58.7	152	32	22.2	15.9	-	147	127.0	4	13	25.0
8	200	205	257	73.0	152	51	28.6	-	-	198	127.0	4	13	36.0
10	250	238	289	82.6	152	76	34.9	-	-	247	127.0	4	13	62.0
12	300	268	330	92.1	203	76	34.9	-	38.1	293	165.0	4	21	84.0
14	350	311	365	117.5	203	108	47.6	-	-	322	165.0	4	21	154.0
16	400	340	408	133.4	203	108	57.2	-	-	368	165.0	4	21	196.0
18	450	375	432	149.2	203	108	63.5	-	-	415	165.0	4	21	250.0
20	500	414	513	158.8	191	165	69.9	-	-	459	203.0	4	21	386.0
24	600	492	594	181.0	241	173	88.9	-	-	554	247.7	4	26	580.0

### Notes

\* E.N.P discs require larger upper stem connection diameters on 250 mm for metal seat and fire-safe seat trims.

The valve dimension are for reference only.

For detailed information, Please consult factory.

# Butterfly Valve Figure 360/362 and 370/372

## Valve types

Figure No.	Valve Type
<b>F360 :</b>	ANSI Class 150, Wafer Style
<b>F362 :</b>	ANSI Class 150, Full-lugged
<b>F370 :</b>	ANSI Class 300, Wafer Style
<b>F372 :</b>	ANSI Class 300, Full-lugged

## Model Coding System

Example :	Valve size(mm)	Figure number	Trim code
	050	F360	T105

## General Purpose Trims

Trim Code	Body	Disc	Shaft	Seat/Backing Ring	Bushing	Packing
100	Steel	316SS	17-4PH SS	PTFE/polyester	RTFE/fiberglass epoxy	PTFE
102	316SS	316SS	17-4PH SS	PTFE/polyester	RTFE/fiberglass epoxy	PTFE
104	Steel	316SS	17-4PH SS	RTFE/polyester	RTFE/fiberglass epoxy	PTFE
105	316SS	316SS	17-4PH SS	RTFE/polyester	RTFE/fiberglass epoxy	PTFE
106	Steel	316SS/ENP	17-4PH SS	UHMWPE/polyester	RTFE/fiberglass epoxy	PTFE
107	316SS	316SS/ENP	17-4PH SS	UHMWPE/polyester	RTFE/fiberglass epoxy	PTFE
172	Steel	316SS	17-4PH SS	NBR	RTFE/fiberglass epoxy	PTFE
173	316SS	316SS	17-4PH SS	NBR	RTFE/fiberglass epoxy	PTFE
189	Steel	316SS	17-4PH SS	EPDM	RTFE/fiberglass epoxy	PTFE
154	316SS	316SS	17-4PH SS	EPDM	RTFE/fiberglass epoxy	PTFE
190	Steel	316SS	17-4PH SS	Fluoroelastomer(FKM)	RTFE/fiberglass epoxy	PTFE
191	316SS	316SS	17-4PH SS	Fluoroelastomer(FKM)	RTFE/fiberglass epoxy	PTFE

## Steam Trims

123	Steel	316SS/ENP	17-4PH SS	RTFE/SS	316SS DU	PTFE
124	316SS	316SS/ENP	17-4PH SS	RTFE/SS	316SS DU	PTFE
158	Steel	316SS	17-4PH SS	RTFE/SS	316SS DU	PTFE
159	316SS	316SS	17-4PH SS	RTFE/SS	316SS DU	PTFE

## Metal Seated-Low Temperature Trims

101	Steel	316SS/ENP	17-4PH SS	316SS chrome plated	RTFE/fiberglass epoxy	PTFE
103	316SS	316SS/ENP	17-4PH SS	316SS chrome plated	RTFE/fiberglass epoxy	PTFE

## Metal Seated-High Temperature Trims

113	Steel	316SS/ENP	17-4PH SS	316SS chrome plated	316SS nitrided	Graphite
114	316SS	316SS/ENP	17-4PH SS	316SS chrome plated	316SS nitrided	Graphite
244	316SS	316SS/ENP	INCONEL	316SS chrome plated	316SS nitrided	Graphite
250	Steel	316SS/ENP	INCONEL	316SS chrome plated	316SS nitrided	Graphite

## Corrosion Resistant Trims

133 (2½"-8")	316SS	316SS	316SS Cond.B	RTFE/SS	RTFE/fiberglass epoxy	PTFE
134 (10"-24")	316SS	316SS	Nitronic 50	RTFE/SS	RTFE/fiberglass epoxy	PTFE
135 (2½"-8")	316SS	316SS/ENP	316SS Cond.B	316SS chrome plated	RTFE/fiberglass epoxy	PTFE
136 (10"-24")	316SS	316SS/ENP	Nitronic 50	316SS chrome plated	RTFE/fiberglass epoxy	PTFE

## Fire-Safe Trims

115	Steel	316SS/ENP	17-4PH SS	316SS chrome plated & RTFE	316SS nitrided RTFE/fiberglass epoxy	Graphite
116	316SS	316SS/ENP	17-4PH SS	316SS chrome plated & RTFE	316SS nitrided RTFE/fiberglass epoxy	Graphite

## NACE Trims

Trim Code	Body	Disc	Shaft	Seat/Backing Ring	Bushing	Packing
117	Steel	316SS	17-4PH SS DHT	RTFE/Polyester	RTEE/fiberglass epoxy	PTFE
118	316SS	316SS	17-4PH SS DHT	RTFE/Polyester	RTEE/fiberglass epoxy	PTFE
119	Steel	316SS	17-4PH SS DHT	316SS chrome plated & RTFE	316SS nitrided RTFE/fiberglass epoxy	Graphite
120	316SS	316SS	17-4PH SS DHT	316SS chrome plated & RTFE	316SS nitrded RTFE/fiberglass epoxy	Graphite

## Notes

NACE trims:To comply with NACE, Keystone has produced NACE trim valves to meet MR-01-75 requirements.

Other trims are available, please contact factory.

INCONEL® is a registered trademark of the Inco family of companies.

NITRONIC 50® is a registered trademark of Armco, Inc.

