

FK Series Butterfly Valves

Submittal Data Sheet



Job or Customer:

Engineer:

Contractor:

Submitted by: Date

Approved by: Date

Order No: Date

Specification:

< STANDARDS >



ASTM D4101
 ASTM D1784
 ASTM D3222



ANSI B16.5



NSF 61

IPEX FK Series Butterfly Valves offer superior strength and chemical resistance in highly corrosive environments and process flow conditions. The special trapezoid shape of the liner and a serrated body cavity guarantee a bubble tight seal while keeping break-away torque at an absolute minimum. This versatile industrial valve features double self-lubricating seals, direct actuator mount capability, and the option of either a lever handle or mounted gear box. The FK lever handle includes the EasyFit labeling system for valve identification. A special integral stainless steel lug version provides for full bi-directional operation allowing disassembly of the downstream flange connection without weakening the integrity of the upstream connection to the pressurized line. FK Series Butterfly Valves are part of our complete systems of pipe, valves, and fittings, engineered and manufactured to our strict quality, performance, and dimensional standards.

VALVE AVAILABILITY

Body Material	Glass reinforced PP (GRPP)
Disc Material	PP, PVC, CPVC, PVDF
Size Range	1-1/2" through 16"
Pressure	See Sample Specifications
Seals	EPDM or FKM
Body Style	Wafer or Lugged
Control Style	Lever Handle or Mounted Gear Box
End Connections	Flanged (ANSI 150)

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Valve Selection

Significant Number	IPEX Part Number	Body Material	Body Style	Liner Material	Size	Disc Material	Control Style	Pressure Rating @ 73°F						
FKOM107	053198	GRPP	Wafer	EPDM	1-1/2"	PP	Lever Handle	150 PSI						
FKOM108	053199				2"									
FKOM109	052145				2-1/2"									
FKOM110	353088				3"									
FKOM111	053106				4"									
FKOM112	052146				5"									
FKOM113	053107				6"									
FKOM114	053108				8"									
FKOM207	053200	GRPP	Wafer	FKM	1-1/2"	PP	Lever Handle	150 PSI						
FKOM208	053201				2"									
FKOM209	052147				2-1/2"									
FKOM210	353105				3"									
FKOM211	053154				4"									
FKOM212	052148				5"									
FKOM213	053155				6"									
FKOM214	053156				8"									
FKOM109G	253145	GRPP	Wafer	EPDM	2-1/2"	PP	Gearbox	150 PSI						
FKOM110G	254096				3"									
FKOM111G	253106				4"									
FKOM112G	253146				5"									
FKOM113G	253107				6"									
FKOM114G	253108				8"									
FKOM115G	153014				10"									
FKOM116G	153015				12"				120 PSI					
FKOM117GM	253198				14"				100 PSI					
FKOM118GM	253199				16"				85 PSI					
FKOM117GV	253194				14"				100 PSI					
FKOM118GV	253195				16"				PVC	85 PSI				
FKOM209G	253147				GRPP				Wafer	FKM	2-1/2"	PP	Gearbox	150 PSI
FKOM210G	254097										3"			
FKOM211G	253154										4"			
FKOM212G	253148										5"			
FKOM213G	253155										6"			
FKOM214G	253156										8"			
FKOM215G	153016	10"	120 PSI											
FKOM216G	153017	12"	100 PSI											
FKOM217GM	353222	14"	85 PSI											
FKOM218GM	353223	16"	100 PSI											
FKOM217GV	253196	14"	PVC	85 PSI										
FKOM218GV	253197	16"	PVC	85 PSI										

Significant Number

Code	FK	O	M	1	07	G	
Position	1	2	3	4	5	6	7

Position	Code	Description
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1	Model	
	FK	Butterfly Valve

2	Connection	
	O	ANSI 150 Flange – Wafer
	L	ANSI 150 Flange – 316 SS LUG

3	Body Material	
	M	PP

4	Liner Material	
	1	EPDM
	2	FKM

5	Size	Imperial	DN
		07	1-1/2"
	08	2"	50 mm
	09	2-1/2"	65 mm
	10	3"	80 mm
	11	4"	100 mm
	12	5"	125 mm
	13	6"	150 mm
	14	8"	200 mm
	15	10"	250 mm
	16	12"	300 mm
	17	14"	350 mm
	18	16"	400 mm

6	Control Style	
		Lever Handle
	G	Gearbox

7	Disc Material	
	C	CPVC
	F	PVDF
		PP
	V	PVC

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Dimensions

Significant Number	IPEX Part Number	Body Material	Body Style	Liner Material	Size	Disc Material	Control Style	Pressure Rating @ 73°F
FKLM109	053133	GRPP	ANSI 316 SS LUG	EPDM	2-1/2"	PP	Lever Handle	150 PSI
FKLM110	353106				3"			
FKLM111	053135				4"			
FKLM112	053136				5"			
FKLM113	053137				6"			
FKLM114	053138				8"			
FKLM209	053139	GRPP	ANSI 316 SS LUG	FKM	2-1/2"	PP	Lever Handle	150 PSI
FKLM210	353107				3"			
FKLM211	053141				4"			
FKLM212	053142				5"			
FKLM213	053143				6"			
FKLM214	053144				8"			
FKLM109G	253133	GRPP	ANSI 316 SS LUG	EPDM	2-1/2"	PP	Gearbox	150 PSI
FKLM110G	254098				3"			
FKLM111G	253135				4"			
FKLM112G	253136				5"			
FKLM113G	253137				6"			
FKLM114G	253138				8"			
FKLM115G	053328				10"		85 PSI	
FKLM116G	053329				12"			
FKLM209G	253139	GRPP	ANSI 316 SS LUG	FKM	2-1/2"	PP	Gearbox	150 PSI
FKLM210G	254099				3"			
FKLM211G	253141				4"			
FKLM212G	253142				5"			
FKLM213G	253143				6"			
FKLM214G	253144				8"			
FKLM215G	053330				10"		85 PSI	
FKLM216G	053331				12"			

FK Series Butterfly Valves

About IPEX

Valve Selection

Significant Number	IPEX Part Number	Body Material	Body Style	Liner Material	Size	Disc Material	Control Style	Pressure Rating @ 73°F
FKOM107C	353112	GRPP	Wafer	EPDM	1-1/2"	CPVC	Lever Handle	232
FKOM108C	353113				2"			
FKOM109C	353114				2-1/2"			150
FKOM110C	353115				3"			
FKOM111C	353116				4"			
FKOM112C	353117				5"			
FKOM113C	353118				6"			
FKOM114C	353119				8"			
FKOM207C	353137	GRPP	Wafer	FKM	1-1/2"	CPVC	Lever Handle	232
FKOM208C	353213				2"			
FKOM209C	353214				2-1/2"			150
FKOM210C	353216				3"			
FKOM211C	353218				4"			
FKOM212C	353224				5"			
FKOM213C	353225				6"			
FKOM214C	353226				8"			
FKOM109GC	254100	GRPP	Wafer	EPDM	2-1/2"	CPVC	Gearbox	150
FKOM110GC	254134				3"			
FKOM111GC	254135				4"			
FKOM112GC	254136				5"			
FKOM113GC	254137				6"			
FKOM114GC	254138				8"			
FKOM115GC	254128				10"			
FKOM116GC	254139				12"			120
FKOM209GC	254144	GRPP	Wafer	FKM	2-1/2"	CPVC	Gearbox	150
FKOM210GC	254155				3"			
FKOM211GC	254156				4"			
FKOM212GC	254157				5"			
FKOM213GC	254158				6"			
FKOM214GC	254159				8"			
FKOM215GC	254160				10"			
FKOM216GC	254161				12"			120



FK Series Butterfly Valves

About IPEX

Dimensions

Significant Number	IPEX Part Number	Body Material	Body Style	Liner Material	Size	Disc Material	Control Style	Pressure Rating @ 73°F
FKLM109C	353120	GRPP	ANSI 316 SS LUG	EPDM	2-1/2"	CPVC	Lever Handle	150
FKLM110C	353121				3"			
FKLM111C	353122				4"			
FKLM112C	353123				5"			
FKLM113C	353129				6"			
FKLM114C	353130				8"			
FKLM209C	353159	GRPP	ANSI 316 SS LUG	FKM	2-1/2"	CPVC	Lever Handle	150
FKLM210C	353167				3"			
FKLM211C	353168				4"			
FKLM212C	353169				5"			
FKLM213C	353170				6"			
FKLM214C	353171				8"			
FKLM109GC	254171	GRPP	ANSI 316 SS LUG	EPDM	2-1/2"	CPVC	Gearbox	150
FKLM110GC	254172				3"			
FKLM111GC	254173				4"			
FKLM112GC	254174				5"			
FKLM113GC	254175				6"			
FKLM114GC	254176				8"			
FKLM115GC	254142				10"			85
FKLM116GC	254143				12"			
FKLM209GC	254165	GRPP	ANSI 316 SS LUG	FKM	2-1/2"	CPVC	Gearbox	150
FKLM210GC	254166				3"			
FKLM211GC	254167				4"			
FKLM212GC	254168				5"			
FKLM213GC	254169				6"			
FKLM214GC	254170				8"			
FKLM215GC	254119				10"			85
FKLM216GC	254164				12"			

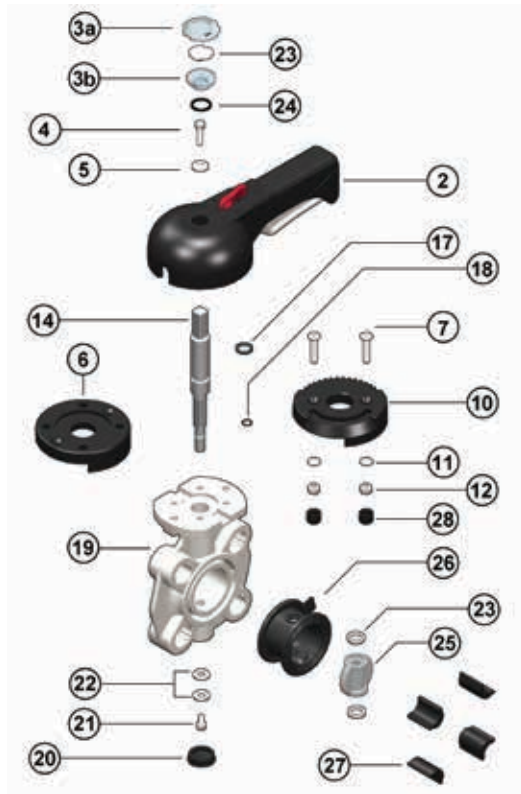


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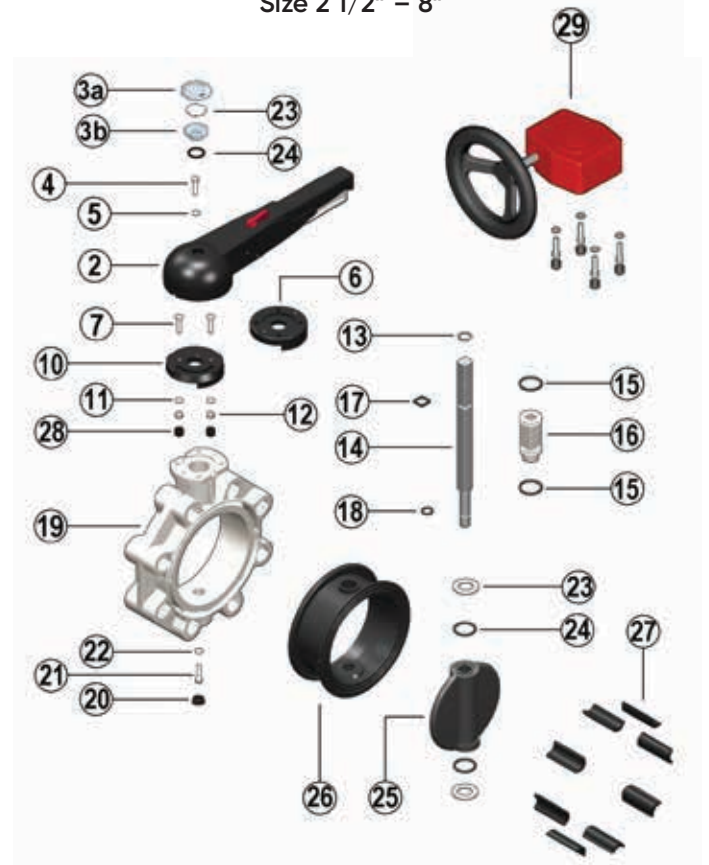
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Components

Size 1 1/2" – 2"



Size 2 1/2" – 8"



#	Component	Material	Qty
* 1	position indicator	PA	1
* 2	handle	PVC	1
* 3 a,b	transparent service plug	PVC	1
* 4	screw	SS	1
* 5	washer	SS	1
6	spacer pad	GRPP	1
7	screw	SS	2
8	screw	SS	2
9	ratchet	SS	1
10	pad	GRPP	1
11	washer	SS	2
12	nut	SS	2
13	retaining ring	SS	1
* 14	shaft	420 SS	1

* Spare parts available.

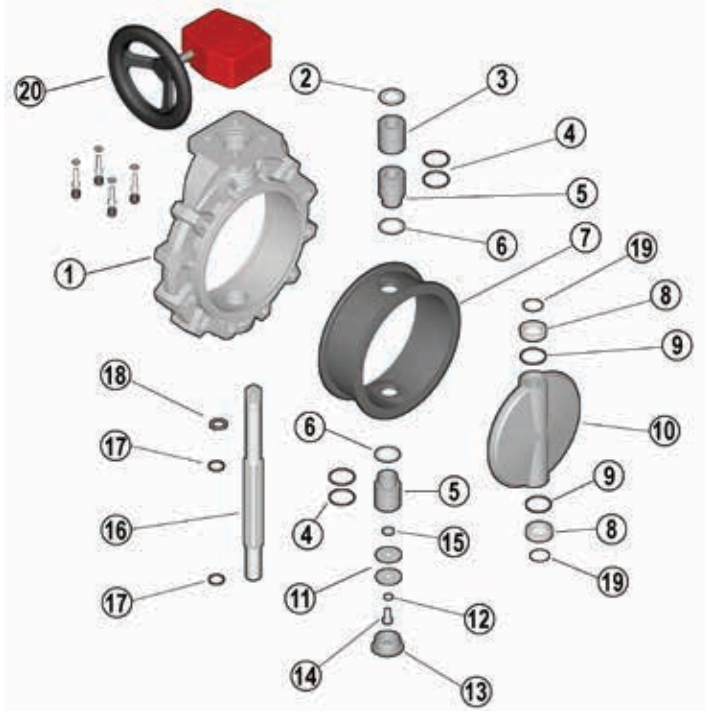
#	Component	Material	Qty
* 15	bushing o-ring	EPDM or FKM	2
16	bushing	Nylon	1
* 17	shaft o-ring	EPDM or FKM	1
* 18	shaft o-ring	EPDM or FKM	1
19	body	GRPP	1
20	cap	PE	1
21	screw	SS	1
22	washer	SS	1
* 23	anti-friction ring	PTFE	2
* 24	disc o-ring	EPDM or FKM	2
* 25	disc	PP / PVC / CPVC / PVDF	1
* 26	primary liner	EPDM or FKM	1
27	inserts	ABS	4 or 8
28	cap	PE	2
29	gearbox	Al, Steel	1

* Spare parts available.

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Size 10" – 12"



Size 14" – 16"



#	Component	Material	Qty
1	body	GRPP	1
2	washer	SS	1
3	bushing	PP	1
* 4	bushing o-ring	EPDM or FKM	4
5	bushing for o-ring	PP	2
6	washer	PTFE	2
* 7	primary liner	EPDM or FKM	1
* 8	anti-friction ring	PTFE	2
* 9	disc o-ring	EPDM or FKM	2
* 10	disc	PP / PVC / CPVC / PVDF	1
11	washer	SS	2
12	washer	SS	1
13	cap	PE	1
14	screw	SS	1
15	washer	SS	1
* 16	shaft	420 SS	1
* 17	shaft o-ring	EPDM or FKM	2
18	retaining ring	SS	1
19	o-ring	EPDM or FKM	2
20	gearbox	Al, Steel	1

* Spare parts available.

#	Component	Material	Qty
1	body	PP-GR	1
2	washer	Stainless Steel	1
3	bush	PP-H	1
4	bush o-ring	EPDM or FKM	6
5	bush	PP-H	1
6	washer	PP-H	2
7	liner (EPDM or FKM)	EPDM or FKM	1
8	anti-friction ring	PTFE	2
9	disk O-ring	EPDM or FKM	2
10	disk	PP-H	1
11	washer	Stainless Steel	1
12	washer	Stainless Steel	1
13	protection plug	PE	1
14	screw	Stainless Steel	1
16	stem	Stainless Steel	1
17	stem o-ring	EPDM or FKM	2
18	seeger ring	Stainless Steel	1
20	gearbox	Al, Steel	1
21	pin	Stainless Steel	21
22	washer	Stainless Steel	1
23	position indicator	PA	1

FK Series Butterfly Valves

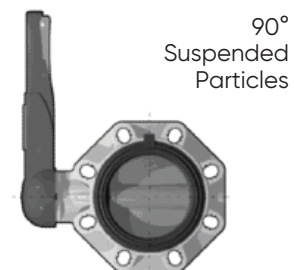
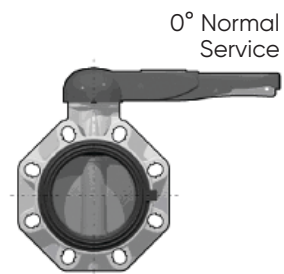
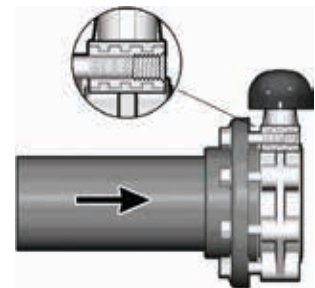
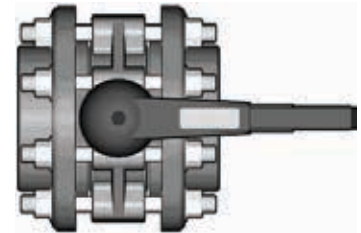
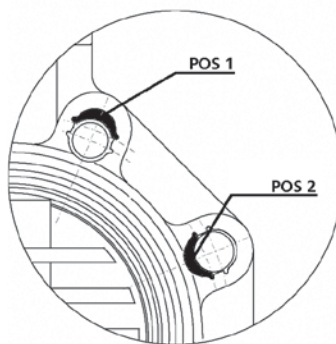
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Installation Procedures

- For the lever handle style, attach the handle (part #2 on previous pages) to the valve body (19) using the supplied bolt (4) and washer (5). Affix the cap (3) over the bolt.
- For non-lugged style sizes 1-1/2" through 8", push the inserts (27) into the body holes according to the position chart below.
- Ensure that the length of the bolts is sufficient for the size of valve being installed. Due to the varying designs of plastic flanges, there is no recommended minimum length. However, a length that results in at least 5 exposed threads on each side should be sufficient.**
- Please refer to the appropriate application sub-section:
 - For typical inline installation, ensure that the disc is in the partially closed position then carefully insert the valve into the piping system between the two flanges. Insert the bolts, washers, and nuts (if necessary), then hand tighten. **Take care to properly line up the valve and flanges as any misalignment may cause leakage.**
 - For lugged version end of line installation, ensure that the disc is in the partially closed position then carefully position the valve on the flange. Insert the bolts, and washers, then hand tighten. **Take care to properly line up the valve and flange as any misalignment may cause leakage.**
- To avoid damage to the primary gasket, cycle the valve to the open position before tightening the bolts. For correct joining procedure, please refer to the section entitled, "Joining Methods – Flanging" in the IPEX Industrial Technical Manual Series, "Volume I: Vinyl Process Piping Systems". The bolts should be tightened in an even pattern to the nominal torque in the table below. These torque ratings are sufficient to maintain a watertight seal at the maximum rated operating pressure.

NOTE: If the process media is dirty or contains suspended particles, it is advisable to install the valve in an orientation in which the shaft is not vertical (see diagrams). Over time, particles may collect at the bottom of the valve posing a threat to the seal between the disc, liner, and shaft.

Size (in.)	ANSI 150 Insert Position	Nominal Bolt Torque (ft-lbs)
1-1/2	POS 1	7
2	–	9
2-1/2	POS 2	11
3	POS 2	13
4	POS 2	15
5	POS 2	26
6	POS 2	30
8	POS 2	41
10	–	52
12	–	52
14	–	55
16	–	55



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Testing and Operating

The purpose of system testing is to assess the quality of all joints and fittings to ensure that they will withstand the design working pressure, plus a safety margin, without loss of pressure or fluid. Typically, the system will be tested and assessed in sub-sections as this allows for improved isolation and remediation of potential problems. With this in mind, the testing of a specific installed valve is achieved while carrying out a test of the overall system.

An onsite pressure test procedure is outlined in the IPEX Industrial Technical Manual Series, "Volume I: Vinyl Process Piping Systems" under the section entitled, "Testing". The use of this procedure should be sufficient to assess the quality of a valve installation. **In any test or operating condition, it is important to never exceed the pressure rating of the lowest rated appurtenance in the system.**

Important points:

- Never test thermoplastic piping systems with compressed air or other gases including air-over-water boosters.
- When testing, do not exceed the rated maximum operating pressure of the valve.
- Avoid the rapid closure of valves to eliminate the possibility of water hammer which may cause damage to the pipeline or the valve.

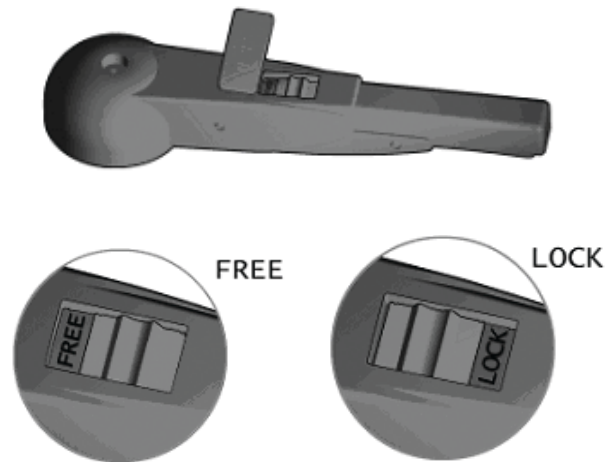
The FK handle incorporates a locking mechanism that prevents unintentional rotation. When engaged, the spring-loaded handle release is locked and the valve cannot be cycled. A padlock can be installed through this portion of the handle as an additional safety precaution.

Please contact IPEX customer service and technical support with regard to any concern not addressed in this data sheet or the technical manual.

Sizes 1-1/2" to 2"



Sizes 2-1/2" to 8"



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As leading suppliers of thermoplastic piping systems, the IPEX Group of Companies provides our customers with some of the world's largest and most comprehensive product lines. All IPEX products are backed by more than 50 years of experience. With state-of-the-art manufacturing facilities and distribution centers across North America, we have established a reputation for product innovation, quality, end-user focus and performance.

Markets served by IPEX group products are:

- Electrical systems
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- Industrial process piping systems
- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
- Electrofusion systems for gas and water
- Industrial, plumbing and electrical cements
- Irrigation systems
- PVC, CPVC, PP, PVDF, PE, ABS, and PEX pipe and fittings

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A policy of ongoing product improvement is maintained. This may result in modifications of features and/or specifications without notice.