

## INSTALLATION, OPERATION & MAINTENANCE MANUAL

KF SERIES 35

## CHECK VALVE



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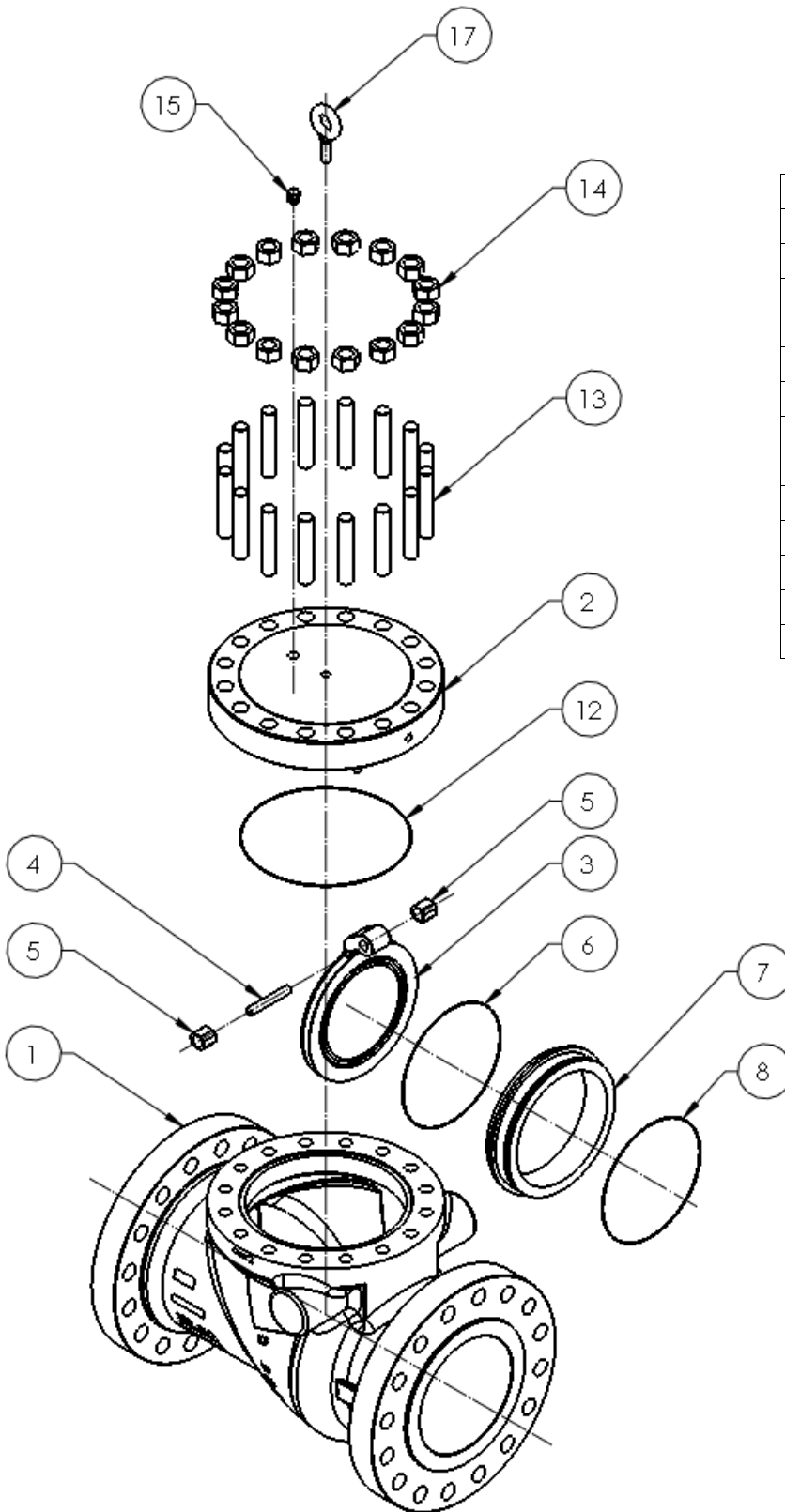
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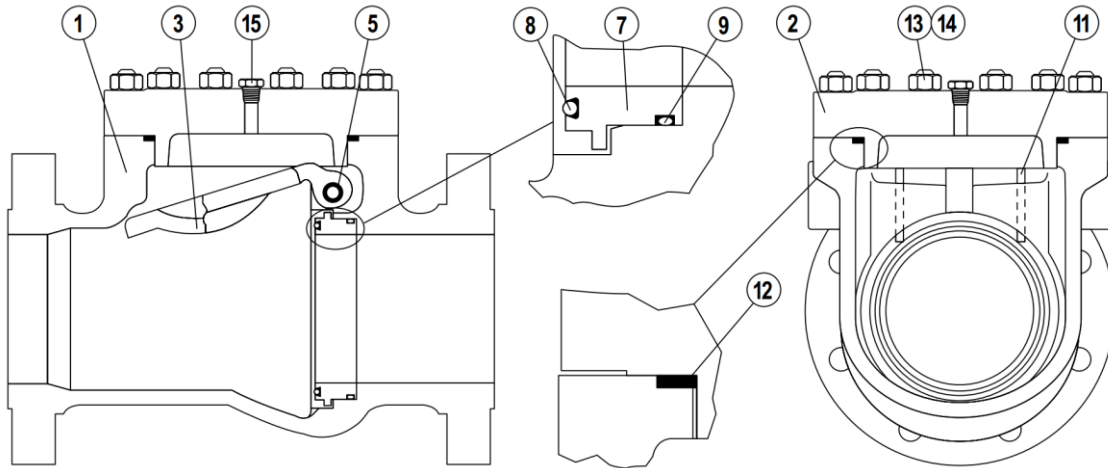
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**BILL OF MATERIALS**



Part No.	Description
1	Body
2	Bonnet
3	Disc
4	Shaft
5	Bushing
6	Disc Seal, O-Ring
7	Replaceable Seat
8	Seat Face Seal, O-Ring
12	Bonnet Seal
13	Stud
14	Hex Nut
15	Hex Plug
17	Lifting Eye

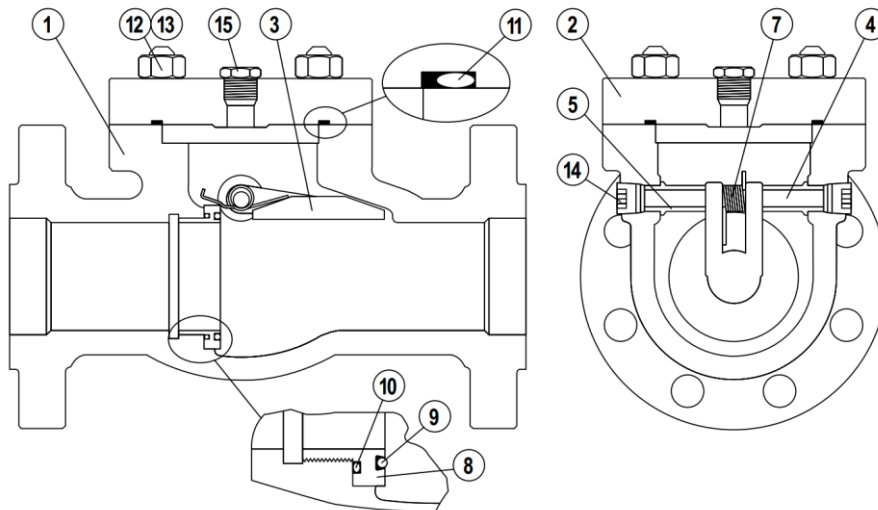
**TROUGH STYLE WITH "DROP-IN" STYLE DISC**



Part No.	Description
1	Body
2	Bonnet
3	Disc
5	Bushing
7	Repl. Seat
8	Seat Face Seal

Part No.	Description
9	Seat Sub Seal
11	Retaining Pin
12	Bonnet Seal
13	Stud
14	Nut
16	Bonnet Plug

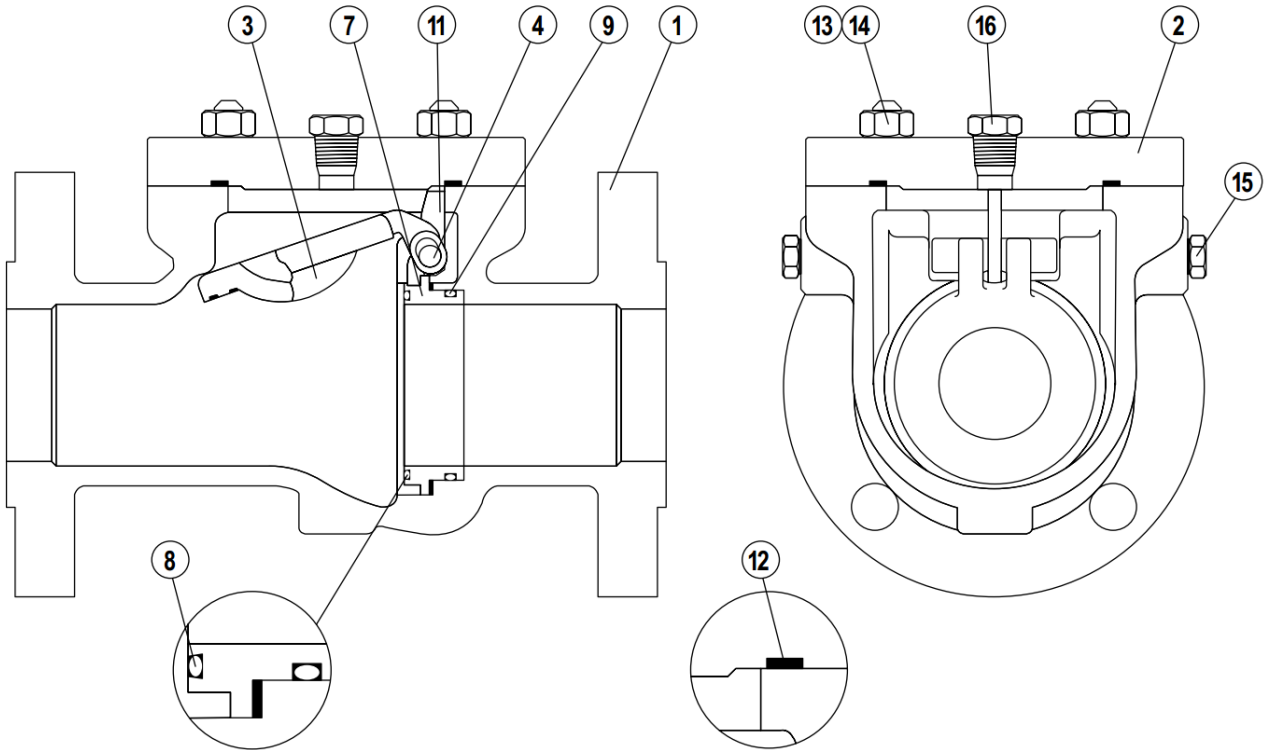
**OLD SHAFT STYLE**



Part No.	Description
1	Body
2	Bonnet
3	Disc
4	Shaft
5	Bushing
7	Spring
8	Repl. Seat

Part No.	Description
9	Face Seal
10	Back-up Seal
11	Bonnet Seal
12	Stud
13	Nut
14	Shaft Plug
15	Bonnet Plug

**NEW SPRINGLESS SHAFT STYLE**







Part No.	Description
1	Body
2	Bonnet
3	Disc
4	Shaft
7	Repl. Seat
8	Seat Face Seal
9	Seat Sub Seal

Part No.	Description
11	Seat Retainer
12	Bonnet Seal
13	Stud
14	Nut
15	Shaft Plug
16	Bonnet Plug

## 1) SCOPE

The following instructions are very important for the maintenance, disassembling and assembling of Series 35C Check Valve.

 KF CHECK VALVE - ASSEMBLED IN OK, USA FROM GLOBALLY SOURCED COMPONENTS 1706041	SN:	P/N:	NPS	BODY:	 FLOW
	DOM:	SIZE:	CLASS:	DISC:	
 ASSEMBLED IN OK, USA FROM GLOBALLY SOURCED COMPONENTS 1706041	SN:	P/N:	NPS	BODY:	 FLOW
	DOM:	SIZE:	CLASS:	DISC:	
		MOP:	QSL:	SHAFT:	
		MOP:	PSI@MIN	F SEATS:	
		MOP:	PSI@MAX	F SEALS:	

### NAME PLATE INFORMATION

## 2) INSTALLATION

Install valve in system using proper size and type mating flanges and appropriate gaskets (for RF) or seal rings (for RTJ). Observe the following precautions:

- Do not install the valve whereby it directly discharges downstream into a tee or elbow fitting.
- KF Series 35 Check Valves should not be used in vertical down flow installations.
- KF Series 35 Check Valves should not be used in severe pulsating services such as reciprocating compressor discharges.
- It is recommended that the check valves be installed a minimum of three pipe diameters downstream of the pump or compressor.
- KF suggests installing the check valves downstream of the silencer in an air or gaseous system.
- KF suggests installing the check valves downstream of any pulsation dampeners in any system.

## 3) MAINTENANCE

KF Series 35 Check Valves are permanently lubricated and normally require no routine maintenance.

## 4) RECONDITIONING

**Important!** Prior to disassembly, valve must first be isolated from system pressure and flow.

### 4.1) For Trough Style with “Drop-in” Style Disc:

**Disc Removal:** After observing the above precaution, the valve is ready to be serviced. At the option of the service personnel, the valve may be removed from the pipeline or serviced in line. Remove the bonnet nuts, bonnet and bonnet seal. Lift disc, shaft and bushings out of trough in body,

together. For valves which include an integral face seal in the disc or disc closure area of the body, seal may be removed from its dovetail holding groove. Clean and inspect seal and groove area.

**Replaceable Seat Removal:** (If applicable) After removal of disc, as described above, seat may be accessed and removed as follows: Simply remove the two retaining pins, pulling them upward and out of their holes in the body. Seat may now be easily removed by sliding it out of the seat pocket and into the body cavity. Remove seat from body and inspect both the seat face seal (if included) and the seat sub seal. Clean and inspect all parts for wear and/or damage. Observe seat pocket bore on replaceable seat models for rust pits and scale. If necessary, use fine emery for removal of deposits on the machined surfaces.

Cuts or nicks in any seal is cause for replacement. Flush all foreign matter from bonnet seal and seat pocket areas.

### 4.2) For Old Shaft Style & New Springless Shaft Style:

**Disc & Shaft Removal:** After observing the above precaution, the valve is ready to be serviced. At the option of the service personnel, the valve may be removed from the pipeline or serviced in line. Remove the bonnet nuts, bonnet and bonnet seal. Next, unscrew and remove two pipe plugs located on either side of the body. The disc shaft may now be removed by sliding it through the disc, disc spring and bushings and out one side of the body. Remove shaft bushings and disc from body. Inspect all parts for damage and wear.

On valves which include an integral face seal in the disc, seal may be removed from its dovetail holding groove. Clean and inspect seal and groove area.

**Replaceable Seat Removal:** (If applicable) After removal of disc, as described above, seat may be accessed and removed by unscrewing, in a counterclockwise direction, until seat is free of valve body. The use of a center-punch will be required to loosen seat. Remove and inspect both the seat face seal (if included) and the seat sub seal.

Clean and inspect all parts for wear and/or damage. Observe seat pocket bore on replaceable seat models for rust pits and scale. If necessary, use fine emery for removal of deposits on the machined surfaces. Cuts or nicks in any seal is cause for replacement. Flush all foreign matter from side shaft ports, bonnet seal and seat pocket areas.

## 5) REASSEMBLY

### 5.1) For Trough Style with “Drop-in” Style Disc:

Use new replacement parts, as required. Install O-ring seals in their proper locations. Use a liberal amount of general purpose grease (such as Mystic JT-6) on seals and machined mating surfaces. After replacing seals, as necessary, on removable seat (if applicable) reinstall seat by pressing it back into the seat pocket and securing it with the two retaining pins.

Install shaft into disc (6" and larger valves only) and slide bushings onto each end of the shaft. Reinsert the disc/shaft/bushings assembly into the trough in the body. Check for float. The disc should move up and down in the body without any binding.

Install bonnet seal making sure that the seal lays flat in the bonnet seal step. Lower the bonnet onto the body and replace bonnet nuts on studs. Bonnet nuts should be tightened using a cross-tighten method. A quality thread lubricant should be used when making up the bonnet nuts.

### 5.2) For Old Shaft Style & New Springless Shaft Style:

Use new replacement parts, as required. Install O-ring seals in their proper locations. Use a liberal amount of general purpose grease (such as Mystic JT-6) on seals and machined mating surfaces. After replacing seals, as necessary, on removable seat (if applicable) reinstall seat by placing it in the body and screwing it into the body in a clockwise direction. Tighten with centerpunch to fully engage o-ring seal.

**Note:** Do not use a petroleum based grease or oils on EPDM or EPT seals or seal damage will occur.

**Caution:** Be very careful not to cross-thread the seat into the body. Cross-threading the seat may result in irreparable damage to the valve.

Install bushings into the body. Reinsert disc into body cavity with shaft holes inline with side shaft ports. Slide shaft into the body through shaft bearing on one side. Continue sliding shaft through disc, disc spring and remaining bushing. Install pipe plugs into body using a good industrial grade thread sealant compound.

Install bonnet seal making sure that the seal lays flat in the bonnet seal step. Lower the bonnet onto the body and replace bonnet nuts on studs. Bonnet nuts should be tightened using a cross-tighten method. A quality thread lubricant should be used when making up the bonnet nuts.