

KF Series P Ball Valves



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Installation, Operation, And Maintenance

G U I D E



Installation

Install valve in system using proper size and type mating flanges and appropriate gaskets (for RF) or seal rings (for RTJ). Valve design allows for line flow in either direction.

Series P Ball Valves are provided with mounting holes on a machined bonnet surface for convenient actuator or gear operator mounting. Consult factory for location and dimensions of these holes.

KF offers an optional gear operator with handwheel which can be field mounted. Depending on size, some valves have gear operators mounted with exposed bolting. Installation of a gear operator on these valves simply requires placing the operator over the stem, onto the bonnet or supplied adapter plate and securing it with bolts. However, most valves require that the gear operator cover be removed for access to the mounting holes. Attachment is accomplished by socket head cap screws through the operator case and into the mating threaded holes provided in the bonnet.

Important! After attachment to the valve, you must adjust the threaded "Open" and "Closed" travel stops on the gear operator by observing ball port and stem key position. Complete assembly by installing covers. Failure to set maximum open and closed positions ▶



accurately may result in premature seat failure due to throttling or pinched flow condition. ▲

Operation

KF Series P Ball Valves are recommended for on-off service only. Throttling (partial opening) or "pinched flow" may cause excessive and non-uniform wear on the seats, preventing tight shut-off. Series P Ball Valves open by rotating the stem or gear operator handwheel in a counter-clockwise direction. Exact closed and open position is determined by the radial location of the stem key with respect to the fluid bore centerline of the body. When the keyway is perpendicular to the fluid bore the valve is closed. Positive stops and arrow indication are provided on gear operators.

Double Block and Bleed Operation:

KF Series P Ball Valves are well suited for sealing fluids, concurrently, at both ends. The installation of a bleed valve (28) provides a safe and convenient method for checking closed valve seat sealing effectiveness, as required for Block and Bleed Valves.

Caution! Before opening the bleed valve note orientation of the exhaust hole in the bleed valve body. Stand clear of this direction when opening the bleed valve. Never remove the bleed valve while valve is exposed to line pressure. ▲▶

Engineering Solutions for the World's Flow Control Industry

1500 S.E. 89th Street
Oklahoma City, OK 73143-5249
<http://www.kfvalves.com>



KF Industries

A Division of CIRCOR International, Inc.

Tel: 405 631-1533
Fax: 405 631-5034
Email: kfinfo@kfvalves.com

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Maintenance

Routine maintenance of KF Series P Ball Valves consists of periodic grease injections through the two adapter lube fittings (26). General purpose grease, such as Mystic JT-6, is recommended for this service. This should be done about twice per year. The stem journals are permanently lubricated at the factory and require no routine maintenance. It is recommended to inject grease through the lube fittings while the valve is in closed position. Open and close the valve at least three times during the grease injection process to spread grease over the seat seal face uniformly.

Note: *The stem journal fitting is for sealant injection only and should never be used for lubrication purposes. This fitting allows for temporary sealing in the event of stem seal failure. KF recommends the use of Sealweld "Ball Valve Sealant" No. 5050, available from Sealweld Corp., Houston, Texas or Calgary, Alberta-Canada. Also, in the event of internal seat/ball interface leakage, sealant may be injected through the two body lube fittings to provide temporary sealing.*

Caution! *The use of traditional "plug valve sealant" may result in failure of seat and/or stem seals and is not recommended.* ▲

Reconditioning

Important! *Prior to disassembly, valve must first be isolated from system pressure and flow. Also, with the valve set at approximately half open, internal pressure must be bled to 0 psi through the ball cavity bleed valve (28). Finally, as a safety precaution, remove the bleed valve entirely.* ►

After observing the above precautions, remove the valve from the pipeline. Operate the ball to the "Closed" position. If the valve is equipped with an actuator or gear operator, remove it. Also, remove the stem key (33). Remove any accessories or hydraulic tubing. **See Exploded View on page three.**

Stand the valve on end, resting on one of the adapters. Care should be taken during this step to avoid scarring the raised sealing portion or ring groove of the flange. Loosen the bonnet and trunnion cover cap screws (23). Remove the trunnion cover (7). Pull the bonnet (2) off, over the stem. Take the stem (5) out of the valve. There is a threaded hole in the end of the stem which may be used to facilitate this extraction.

Remove the lower trunnion (6) from the valve body. Be sure to retrieve the thrust bearing (9) and lower trunnion bearing (8) from the valve.

Remove the nuts (24) from the studs on the uppermost adapter. Carefully lift the adapter (3) off of the body.

Place a nylon lifting strap or rope through the ball port and lift the ball (4) straight out of the body. Care must be exercised to prevent the ball from being banged or scraped during this procedure. Set the ball down on a clean surface free of anything which might scar the ball finish.

Remove the nuts from the lower adapter. Then, pull the body (1) off of the lower adapter. Remove the seats (12) and seat springs (22) from the adapters. Take all the seals and back-up rings off of the valve components. Clean the parts and inspect them for damage, wear or corrosion. Replace seals and other parts, as required.

Reassemble in reverse order. Use a liberal amount of general purpose grease (such as Mystic JT-6) on all seals and machined mating surfaces. Fill the relief area between the o-ring grooves with grease on the stem and lower trunnion. A quality thread lubricant should be used when making up the adapter nuts. ▲ ► ◀

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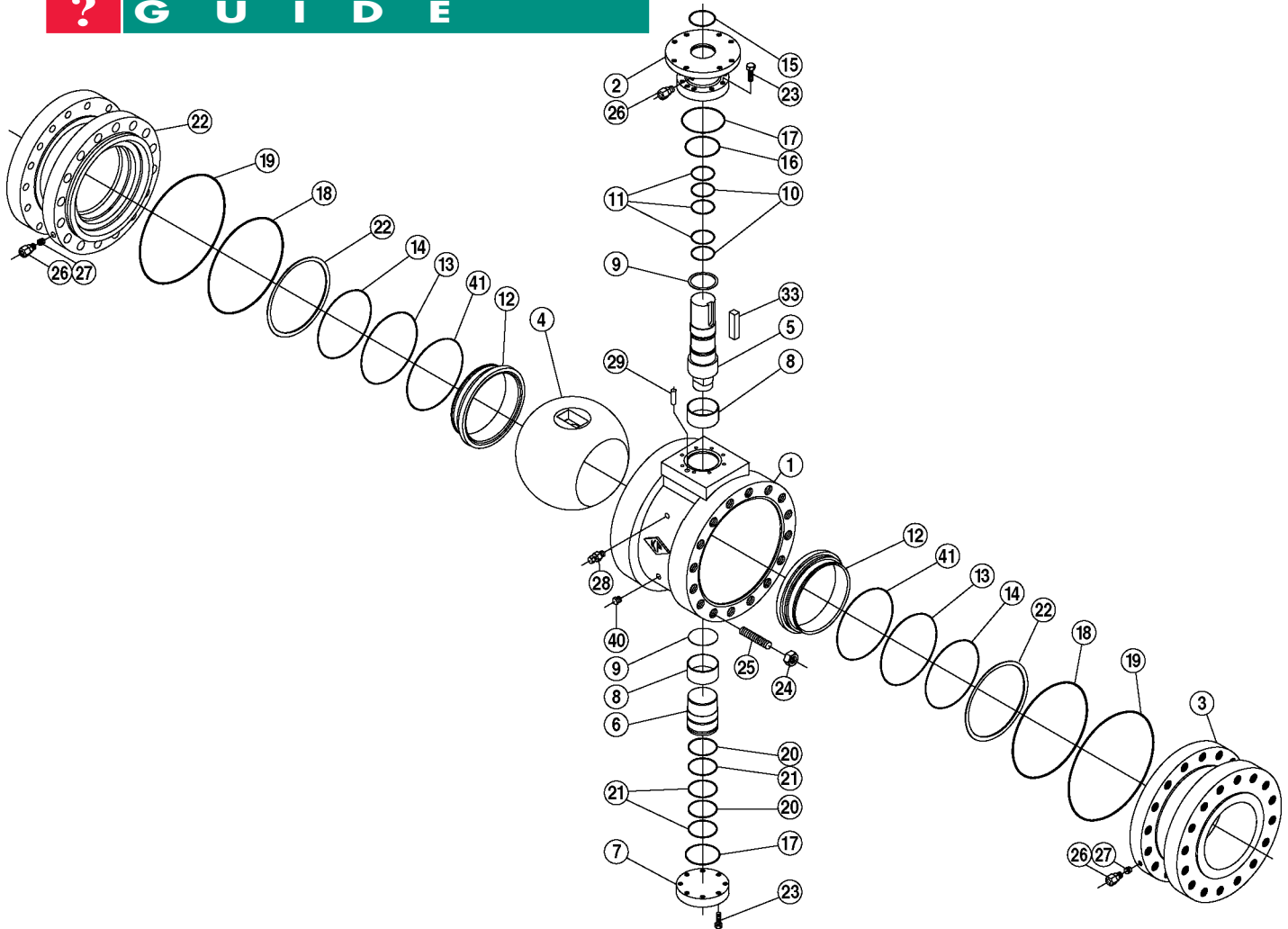
Tel: 405 631-1533
Fax: 405 631-5034
Email: kfinfo@kfvalves.com

KF Series P Ball Valves



Component Parts

? G U I D E



Parts List

No.	Description
1	Body
2	Bonnet
3	Adapter
4	Ball
5	Stem
6	Lower Trunnion
7	Trunnion Cover
8	Trunnion Bearing

No.	Description
9	Thrust Bearing
10	Stem Seal
11	Stem Back-up Ring*
12	Seat
13	Seat Seal
14	Seat Sub Seal
15	Weather Seal
16	Bonnet Primary Seal

No.	Description
17	Bonnet Gasket
18	Adapter Primary Seal
19	Adapter Gasket
20	Trunnion Seal
21	Trunnion Back-up Ring*
22	Seat Spring
23	Cap Screw
24	Hex Nut

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No.	Description
25	Stud
26	Injection Fitting
27	Ball Check
28	Bleed Valve
29	Dowel Pin
33	Key
40	Plug
41	Seat Back-up Ring*

*Used in CL600 & higher

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