

Combination valve-IOM

Installation

Install combination valve on discharge side of the pump with proper flow direction as indicated on the valve.

It is not recommended to install the valve directly to the pump. Use a spool piece between the pump and the valve.

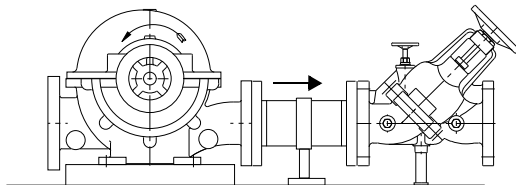
Allow enough room around the valve for easy access for removal and repair.



Warning

The bypass valve *MUST* be CLOSED at all times in normal operation. (See Fig. 4 and Fig. 5.)

Installation



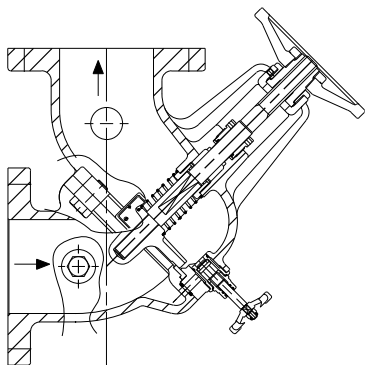
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Fig. 1 Pump installation with combination valve

Operation and Maintenance

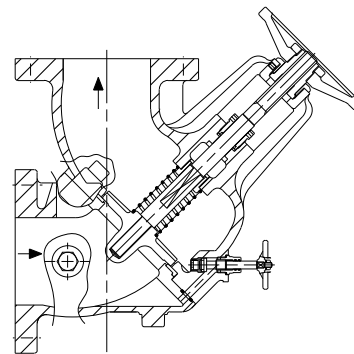
We suggest you slightly open the valve before starting the pump. Gradually adjust the stem until the proper flow rate is reached.

Procedure for Angle type conversion



TM 04 8046 2710

Fig. 2 Angle type combination valve 2" to 8"



TM 04 8048 2710

Fig. 3 Angle type combination valve 10" to 14"

Procedure

1. Place valve on an even and clean surface.
2. Open the handle (hand wheel) slightly.
3. Turn the handle so that the handle is facing the ground.
4. Remove bolts that connect upper and lower body. (Remember the original location of the bolts)
5. Rotate the lower body slowly to 180 degree.
6. Tighten the bolts in diagonal order.
7. Make sure all parts are in correct position. (See Fig 4. and Fig 5).

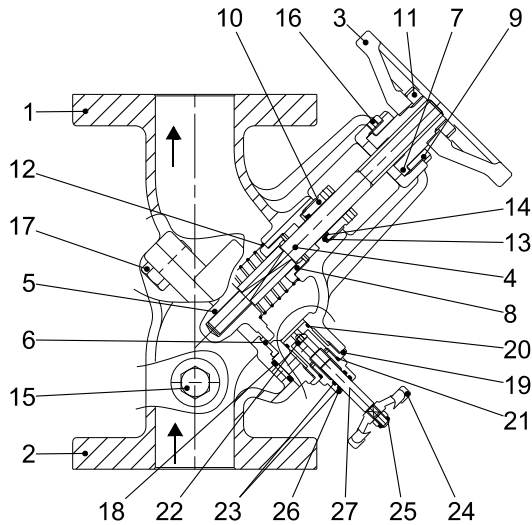
Caution

Conversion portion should be done by experienced worker.

Disc, o-ring, spring, and seat should be handled very carefully and should be in right position before installation.

Accessories

Sectional drawing and components



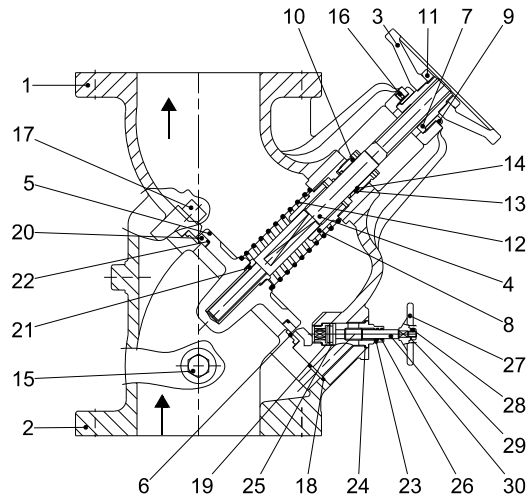
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Fig. 4 Sectional drawing of a combination valve
2" to 8"

Typical component list

Po no.	Description	Po no.	Description
1	Upper body	16	Socket set screw
2	Lower body	17	Bolt
3	Hand wheel	18	O-ring
4	Stem	19	Soft seat (bypass)
5	Disc	20	O-ring
6	Soft seat	21	O-ring
7	Sleeve (on shaft)	22	Disc packing
8	Bush	23	O-ring
9	Yoke nut (on shaft)	24	Hand wheel
10	Gland	25	Locknut
11	Hand wheel nut	26	Bonnet
12	Spring	27	Stem B
13	Gasket		
14	O-ring		
15	Plug		

Positions 20-27 cover the bypass valve only.
2" to 8" valves.



TM04 7388 2010

Fig. 5 Sectional drawing of a combination valve
10" to 14"

Typical component list

Po no.	Description	Po no.	Description
1	Upper body	16	Socket set screw
2	Lower body	17	Wrench bolt
3	Hand wheel	18	O-ring
4	Stem	19	Soft seat (bypass)
5	Disc	20	Disc ring
6	Soft seat	21	Disc bush
7	Sleeve (on shaft)	22	O-ring
8	Bush	23	Bonnet
9	Yoke nut (on shaft)	24	O-ring
10	Gland	25	Disc packing
11	Hand wheel nut	26	O-ring
12	Spring	27	Hand wheel
13	Gasket	28	Nut
14	O-ring	29	Spring washer
15	Plug	30	Stem B

Positions 23-30 cover the bypass valve only.
10" to 14" valves.