

Plunger valve is a type of valve that precisely controls the flow rate and pressure of liquids within a piping system. They are primarily used as shut-off and regulating devices in pressure pipe systems.

It is available in various sizes and has a better head loss coefficient than other control and shut-off devices.

The outer and inner bodies are made in such a way that the cross-section of the flow rate decreases continuously from the inlet side to the sealing point. The piston moves axially in the direction of the main flow and perpendicularly to the seat ring.

Mechanism & Function:

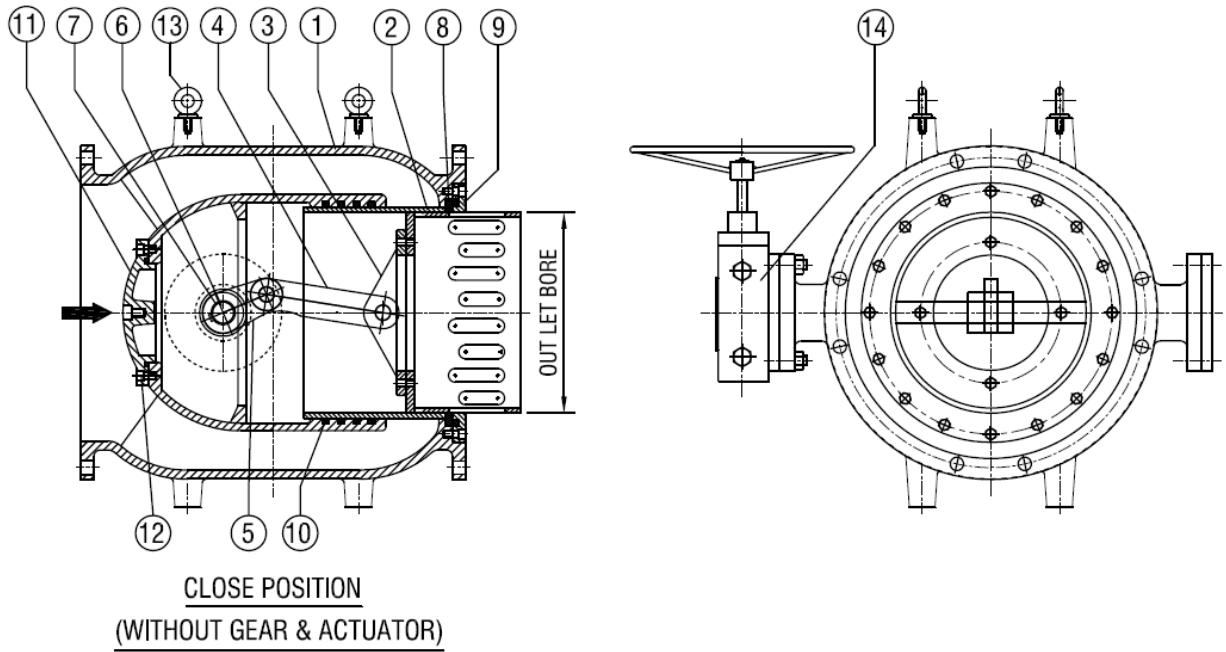
The basic mechanism of a plunger valve involves the axial (up and down) movement of a precision-ground, polished cylindrical plunger within a valve body.

- **Flow Control:** The movement of the plunger changes the size of the circular opening between the plunger and the valve body, allowing for a highly linear and precise adjustment of the flow rate.
- **Pressure Control:** By adjusting the position of the plunger, operators can safely and reliably reduce and control pressure heads within the system.
- **Actuation:** Plunger valves can be operated manually via hand wheels and gearboxes or automatically using electric or hydraulic actuators, making them compatible with modern control systems such as SCADA.
- **Cavitation Reduction:** Their design helps reduce the harmful effects of cavitation (the formation and collapse of bubbles in liquids) by directing energy conversion to the center of the flow away from the valve and pipe walls.



Technical Data:

- **Size range:** DN 100 – 600
- **Pressure rating:** PN-1.0, PN-1.6 & PN-2.0
- **Working Temperature:** Upto 45C°
- **Flow Media:** Clean Water / Raw Water
- **End Connection:** Flange ends machined and drilled according to IS 1538, BSEN 1092-2



MATERIALS OF CONSTRUCTION

ITEM	DESCRIPTION	MATERIAL	SPECIFICATION
1	BODY	CI/DI/CS	CAST IRON / DUCTILE IRON / CAST STEEL
2	PISTON	CI/DI/CS	CAST IRON / DUCTILE IRON / CAST STEEL
3	PISTON CONNECTING HOLDER	SS	SS 304
4	SHAFT CRANK	SS	SS 304
5	FULCRAM	CS	CAST STEEL (ASTM A 216, GR. WCB)
6	SHAFT	SS	SS 410
7	BUSH	BRONZE	LEADED TIN BRONZE
8	SEAL, SEAT	RUBBER	EPDM
9	SEAL RETAINER RING FLANGE	SS	SS 304
10	PISTON 'O' RING	RUBBER	EPDM
11	DOOM COVER	CI/DI/CS	CAST IRON / DUCTILE IRON / CAST STEEL
12	INTERNAL FASTNERS	SS	ASTM A276, TYPE 304
13	LIFTING EYE BOLT	CS	CAST STEEL
14	WORM GEAR BOX	-	-