

Mark 68HP Series

High Pressure Regulating Valves

DESCRIPTION

The Mark 68HP is designed primarily for high pressure steam service as commonly found in power plants, refineries, pulp & paper mills, and other high pressure process applications. Since high pressure superheated steam is routinely used for power generation (turbines), a pressure regulator capable of withstanding these pressures is needed for the distribution of lower pressure steam for individual process requirements. Common uses for the Mark 68HP include:

- Pressure reduction of turbine extraction steam to desuperheaters.
- Steam injection to turbine bearing seals to eliminate pressure differential across this area.
- Primary pressure reduction from the main steam header to lower pressure points of use.

OPERATION

The downward force of the spring holds the plug normally open. As the downstream pressure increases due to a decrease in flow demand, the diaphragm rises to close the valve. The controlled downstream pressure set point can be increased by rotating the adjusting screw clockwise or decreased by turning the adjusting screw counter-clockwise. A combination of springs is available so that all control settings can be accommodated with minimal droop.

FEATURES

- In-line maintainable — provides easy access to the seat for reduced downtime. Ideal for services where the valve is welded in line.
- Self-aligning plug — guided upper diaphragm plate, lower diaphragm plate, and stem ensures that the plug stays centered in the seat.
- Stellite seat insert, 17-4 plug — for long service life under high pressure conditions.
- Continuous un-perforated diaphragm — stands up to the rigorous demands of high pressure services for long diaphragm life.



SPECIFICATIONS

Sizes: 1/2" (DN15); 3/4" (DN20); 1" (DN25)

End Connections

- Threaded — NPT, FSW
- Flanged

Materials

- Body: WCB Carbon Steel or CF8M Stainless Steel
- Seat: Stellite
- Trim: Stainless Steel
- Spring Housing: Steel
- Diaphragm: Hastelloy C
- Gaskets: Grafoil

Service: steam, gas and non-cavitating liquid (for pressures above 900 psi (62 bar) we recommend the LowFlow Mark 6800HP)

Shutoff: ANSI Class III

Body Pressure Rating

- WCB: 900 psig @ -20°F to +650°F (62 bar @ -29°C to +343°C)
- CF8M: 900 psig @ -20°F to +100°F; 640 psig @ 650°F (62 bar @ -29°C to 38°C, 44 bar @ 343°C)

Maximum Pressure Drop: 800 psig (55 bar)

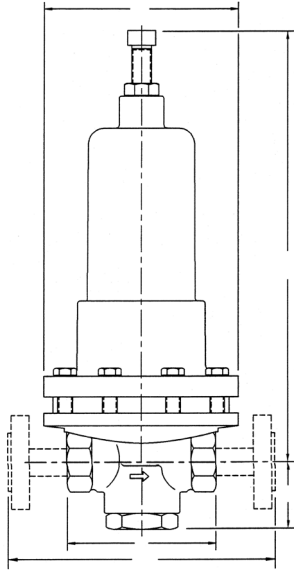
Cv (Kv) Rating

- 1/2" (DN15): 2.3 or 1.4 (2,0 or 1,2)
- 3/4" & 1" (DN20 & DN25): 5.0, 2.3 or 1.8 (4,3, 2,0 or 1,6)



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DIMENSIONS



ORDERING SCHEMATIC

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | - | 2 | - | 3 | / | 4 | 5 | 6 | 7 |
| | | | | | | | | | |

| 1 | Model | |
|---|-------|---------------|
| | 68HP | High Pressure |

| 2 | Size | |
|---|------|-------------|
| | 050 | 1/2" (DN15) |
| | 075 | 3/4" (DN20) |
| | 100 | 1" (DN25) |

| 3 | Body Material | |
|---|---------------|------------------------|
| | CS | Carbon Steel (WCB) |
| | S6 | Stainless Steel (CF8M) |

| 4 | End Connections | |
|---|-----------------|--------------|
| | PT | NPT |
| | SW | FSW |
| | F5 | 150# FE |
| | F3 | 300# FE |
| | ZZ | Non-Standard |

| 5 | Trim | |
|---|------|--------------|
| | C1 | Cv 1.4 |
| | C2 | Cv 1.8 |
| | C3 | Cv 2.3 |
| | C4 | Cv 5.0 |
| | ZZ | Non-Standard |

| 6 | Range PSI (BAR) | |
|---|-----------------|------------------------------------|
| | R1 | 100 - 300 (6,9 - 20,7) (1/2") |
| | R2 | 200 - 450 (13,8 - 31,0) (1/2") |
| | R3 | 100 - 350 (6,9 - 24,1) (3/4" - 1") |
| | R4 | 300 - 600 (20,7 - 41,4) (1/2 - 1") |
| | ZZ | Non-Standard |

| 7 | Actuator | |
|---|----------|--------------|
| | A1 | Actuator |
| | ZZ | Non-Standard |

• Threaded Ends

| Size | Dimensions (inches) | | | | Weight (lbs.) |
|-----------|---------------------|-------|------|------|---------------|
| | A | B | C | D | |
| 1/2" | 4.87 | 11.50 | 2.56 | 5.00 | 11 |
| 3/4" & 1" | 6.81 | 14.50 | 2.62 | 6.81 | 20 |

• Threaded Ends, DIN

| Size (DN) | Dimensions (mm) | | | | Weight (kg) |
|-----------|-----------------|-----|----|-----|-------------|
| | A | B | C | D | |
| 15 | 124 | 292 | 65 | 127 | 5,0 |
| 20 & 25 | 173 | 368 | 67 | 173 | 9,1 |

• Flanged Ends

| Size | ANSI Flange | Dimensions (inches) | | | | Weight (lbs.) |
|-----------|-------------|---------------------|-------|------|------|---------------|
| | | A | B | C | D | |
| 1/2" | 150# | 9.50 | 11.50 | 2.56 | 5.00 | 13 |
| | 300# | 9.75 | 11.50 | 2.56 | 5.00 | 16 |
| 3/4" & 1" | 150# | 11.31 | 14.50 | 2.62 | 6.81 | 24 |
| | 300# | 11.56 | 14.50 | 2.62 | 6.81 | 27 |

• Flanged Ends

| Size | ANSI Flange | Dimensions (inches) | | | | Weight (lbs.) |
|---------|-------------|---------------------|-----|----|-----|---------------|
| | | A | B | C | D | |
| 15 | 10/16 | 241 | 292 | 65 | 127 | 5,9 |
| | 25/40 | 248 | 292 | 65 | 127 | 7,3 |
| 20 & 25 | 10/16 | 287 | 368 | 67 | 173 | 10,9 |
| | 25/40 | 294 | 368 | 67 | 173 | 12,2 |

