Product Installation Orientation for Drainability

Sanitary Process & Clean Utility Regulators

Proper Installation Orientation for Drainability

SANITARY PROCESS & CLEAN UTILITY REGULATION

- **PRV:** MK96, MK96A, MK96AA, MK96C
- **BPRV:** MK95, MK95LL, MK95A, JSB, JSBLF

3 Installation Orientations to Insure Drainability

PRV: MK96, MK96A, MK96AA (3/4" – 3")

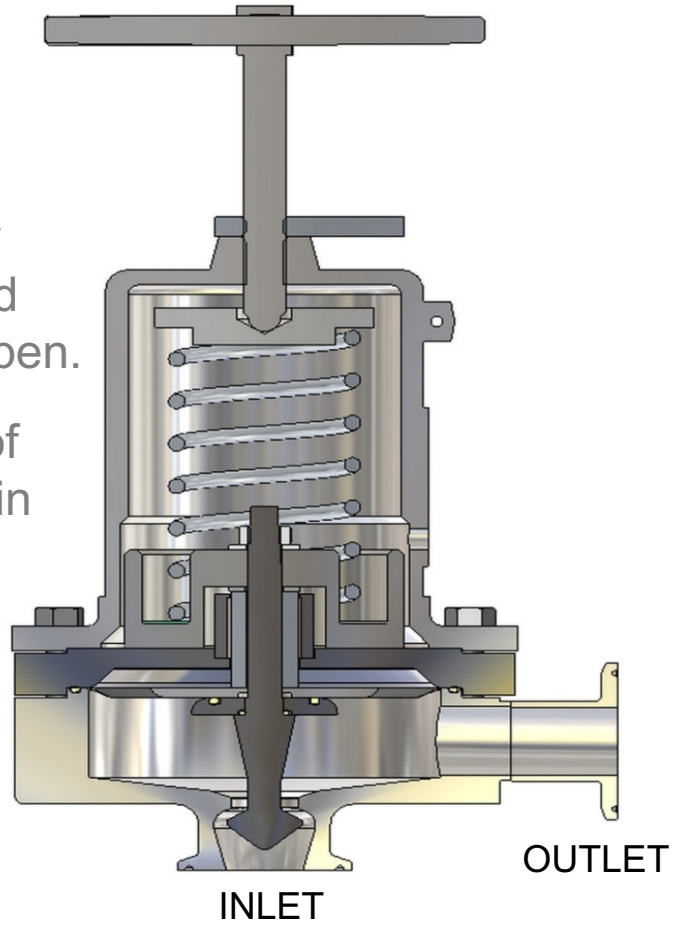
1. Vertical inlet (inlet facing floor)

For sanitization routines (Rinse/CIP/Blowdown):

- For manual valves (MK96)
  Turn adjusting screw clockwise to increase spring force to fully open valve. Insert CIP pin to make Sure it stays in that position.
- For air loaded valves (MK96A, MK96AA)
  Increase pneumatic pressure in spring housing to value greater than sanitization fluid pressure to insure valve is fully open. (CIP pin provided with MKK96AA)

Valve waterway completely drains through inlet, no hold up in body when valve is open.

To remove fluid upstream of inlet tubing, a separate drain point is recommended.



3 Installation Orientations to Insure Drainability

PRV: MK96, MK96A, MK96AA (3/4" – 3")

2. Horizontal Offset 45°

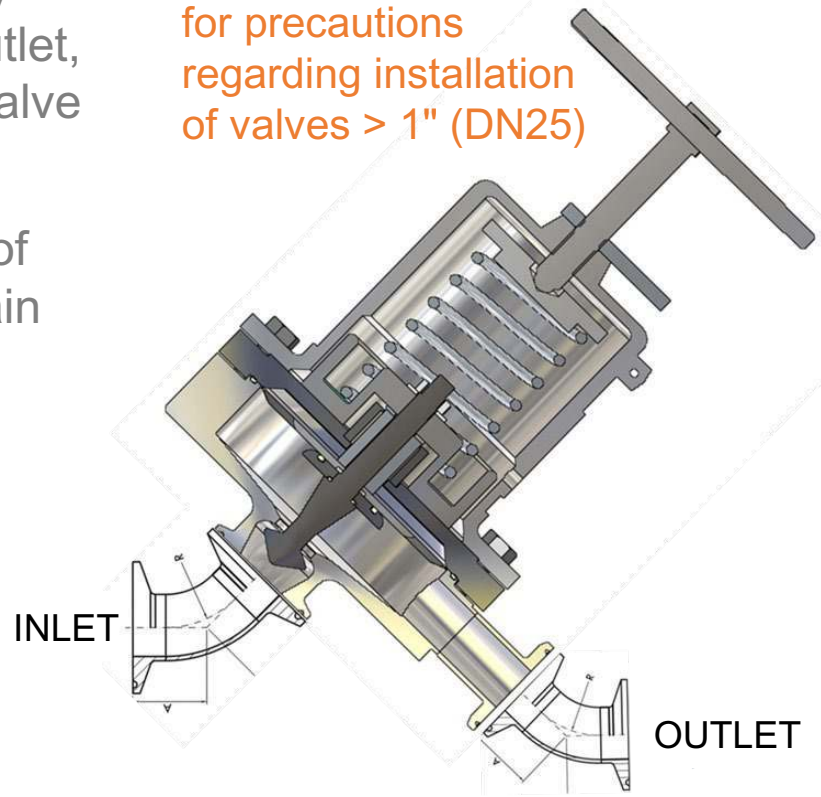
For sanitization routines (Rinse/CIP/Blowdown):

- For manual valves (MK96)
  Turn adjusting screw clockwise to increase spring force to fully open valve. Insert CIP pin to make sure it stays in that position.
- For air loaded valves (MK96A, MK96AA)
  Increase pneumatic pressure in spring housing to value greater than sanitization fluid pressure to insure valve is fully open. (CIP pin with MKK96AA can be used)

Valve waterway completely drains through inlet and outlet, no hold up in body when valve is open.

To remove fluid upstream of inlet tubing, a separate drain point is recommended.

- We recommend a soft seat for this installation.
- Contact Steriflow Engineering for precautions regarding installation of valves > 1" (DN25)



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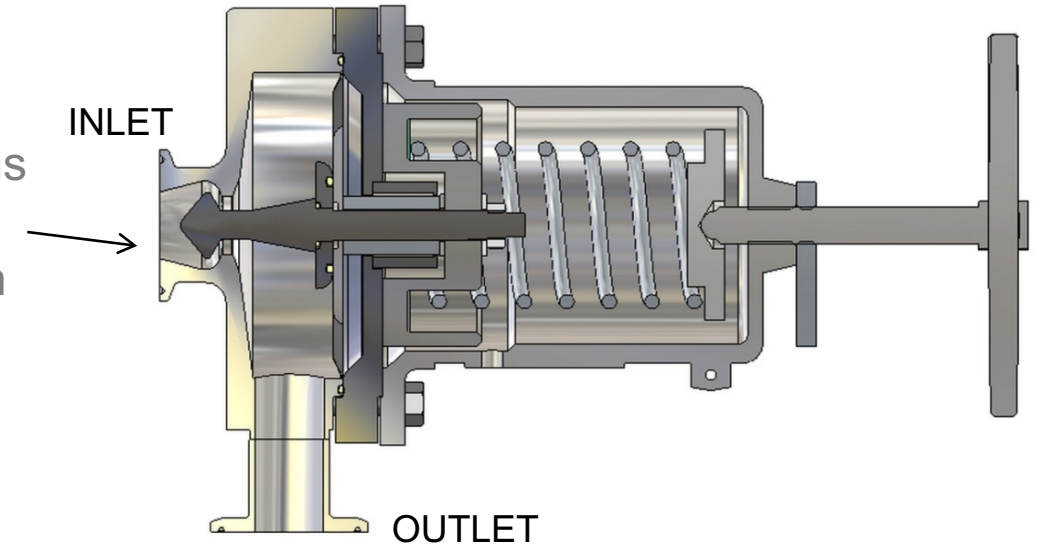
3 Installation Orientations to Insure Drainability

PRV: MK96, MK96A, MK96AA (3/4" – 3")

3. Horizontal Inlet – Outlet 90° Facing Floor

Valve body completely drains through outlet, **except** for a couple of milliliters holdup in the inlet waterway



For sanitization routines (Rinse/CIP/Blowdown):

- Follow previous recommendations

- This orientation is usually acceptable on clean steam installations. It may be accepted for WFI, buffer or other media. Check installation with end user prior to installation.
- We recommend a soft seat for horizontal installations.
- VIP! For installation > 1": run application thru Steriflow Engineering before quote or order

1 Installation Orientation to Insure Drainability

PRV: MK96C (1/2" – 1")

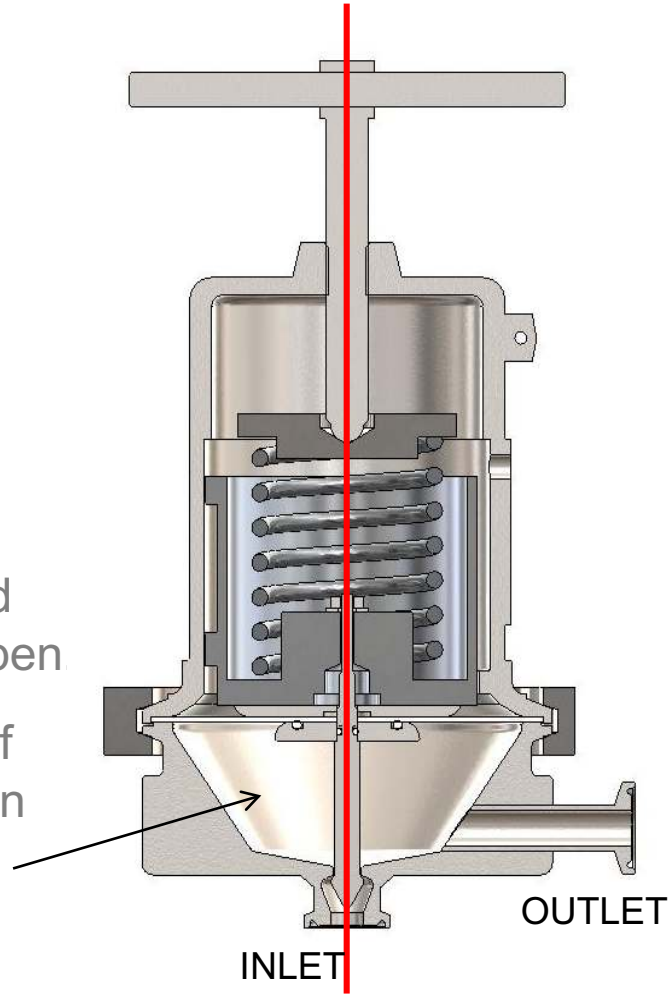
1. Vertical Inlet – Inlet Facing Floor

For sanitization routines (Rinse/CIP/Blowdown):

- Turn adjusting screw clockwise to increase spring force to fully open valve. Insert CIP Pin to make sure it stays in that position.

Valve waterway completely drains through inlet, no hold up in body when valve is open

To remove fluid upstream of inlet tubing, a separate drain point is recommended.



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1 Installation Orientation to Insure Drainability

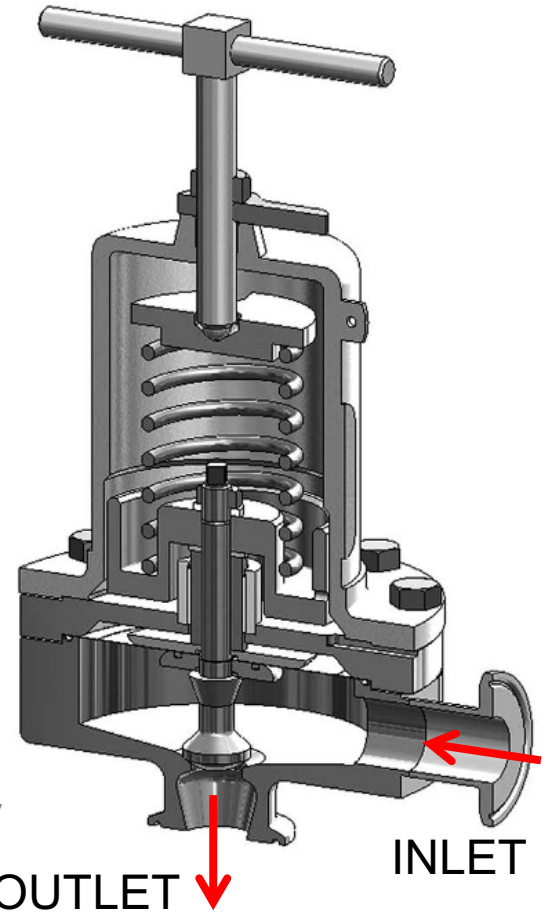
BPRV: MK95, FT, A, or AA (1/2" – 3")

1. Horizontal Inlet, Vertical Outlet (Outlet Facing Floor)

For sanitization routines (Rinse/CIP/Blowdown):

- For manual valves (MK95, MK95FT without LL option)
  - Remove spring force by turning adjusting screw counter clockwise to allow valve to fully open with minimal sanitization fluid pressure.
- For air loaded valves (MK95/FT/A, MK95/FT/AA)
  - Remove pneumatic pressure in spring housing to allow valve to fully open with minimal sanitization fluid pressure.
  (For MK96AA, also relieve any spring force)

All upstream liquids will gravity drain through the outlet. No holdup in body when valve is open.



1 Installation Orientation to Insure Drainability

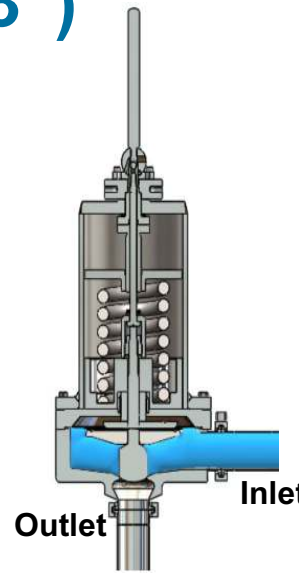
BPRV: MK95LL, MK95FTLL (1/2" – 3")

1. Horizontal Inlet, Vertical Outlet (Outlet Facing Fl

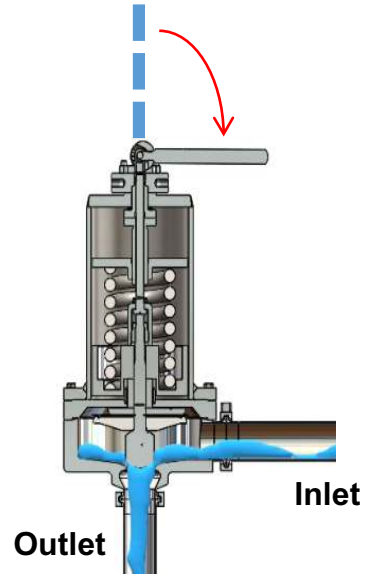
For sanitization routines (Rinse/CIP/Blowdown):

- Move the lever to horizontal to remove spring force and fully open valve without adjusting set point. All fluids will gravity drain through outlet without pressure assistance.*

  * Blowing down with air will insure that any fluid held up by surface tension will be blown out through the outlet. Especially recommended for Cv's d 1.



Lift Lever is upright during normal operating mode. Valve will modulate to relieve process pressure in excess of set point.



For sanitization, move the cammed lever to its horizontal position, Doing so lifts the stem/plug to a fully open position without affecting the set point.

1 Installation Orientation to Insure Drainability

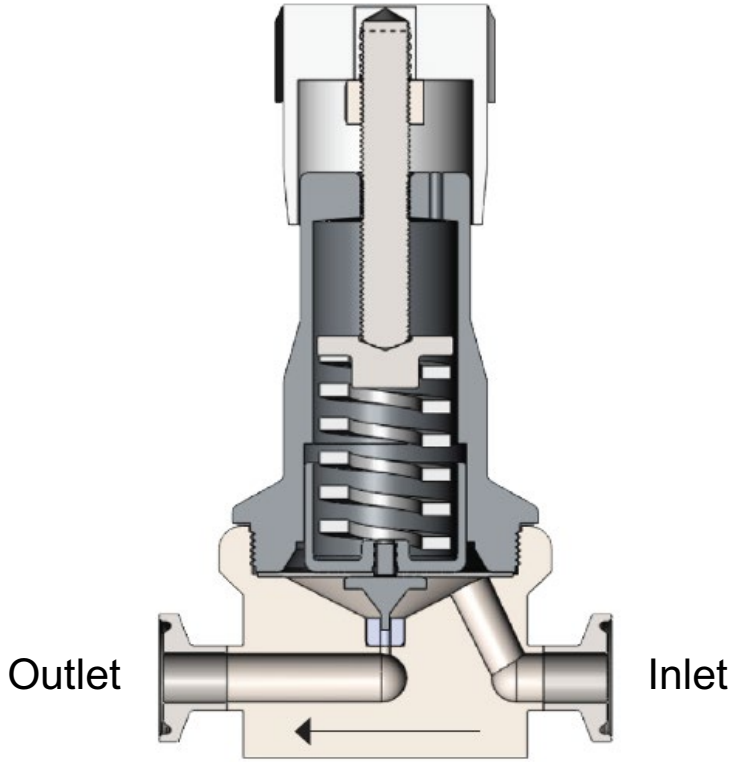
BPRV: JSB & JSBLF

1. Horizontal Inlet & Outlet

For sanitization routines (Rinse/CIP/Blowdown):

- Remove the spring force by adjusting the knob counter-clockwise. All fluids will drain through the outlet with pressure assistance.

Valve will open and all upstream liquids will drain through the outlet **with** pressure when all spring force is removed



Product Installation Orientation for Drainability

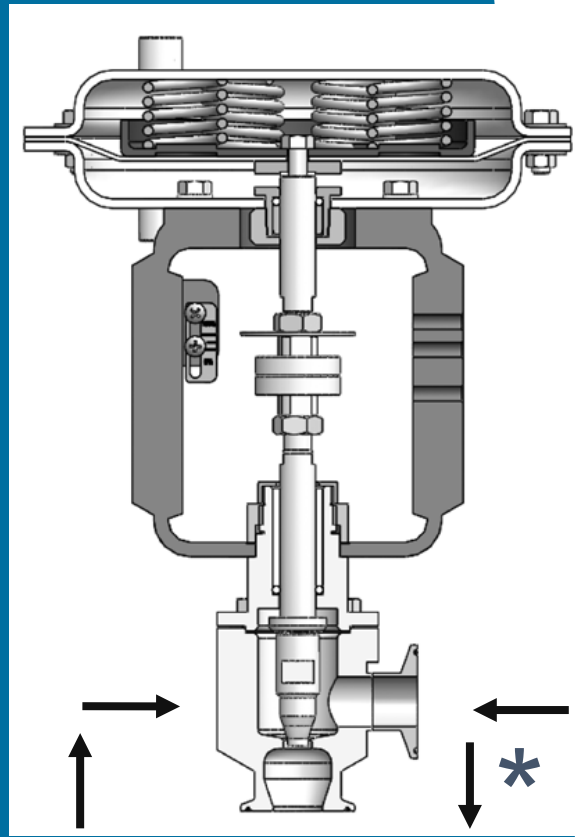
Sanitary Control Valves

Proper Installation Orientation for Drainability

SANITARY CONTROL VALVES

- MK978, MK978LF, JSHM Series ½” – 3” (DN15 – DN80)

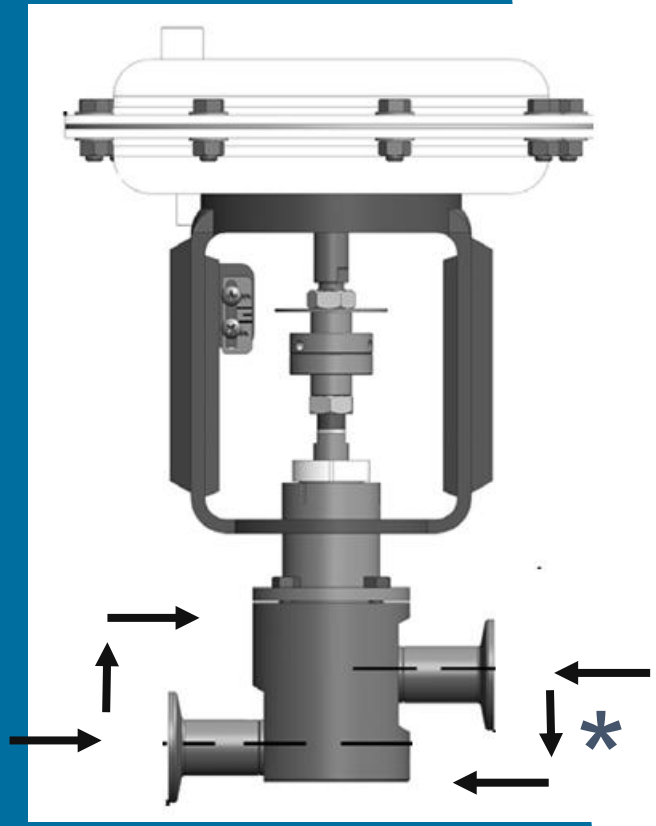
Mark 978E: 1/2" – 1", JD, OR



Vertical Upright Orientation

- Valve is bi-directional, flow can enter either connection
- When valve is open, there is no hold up volume
- Valve will operate normally if installed in a horizontal orientation but will not be drainable regardless of flow direction
- For gravity drainage from inlet through outlet, install upright as shown, with flow in the connection where indicated (*)

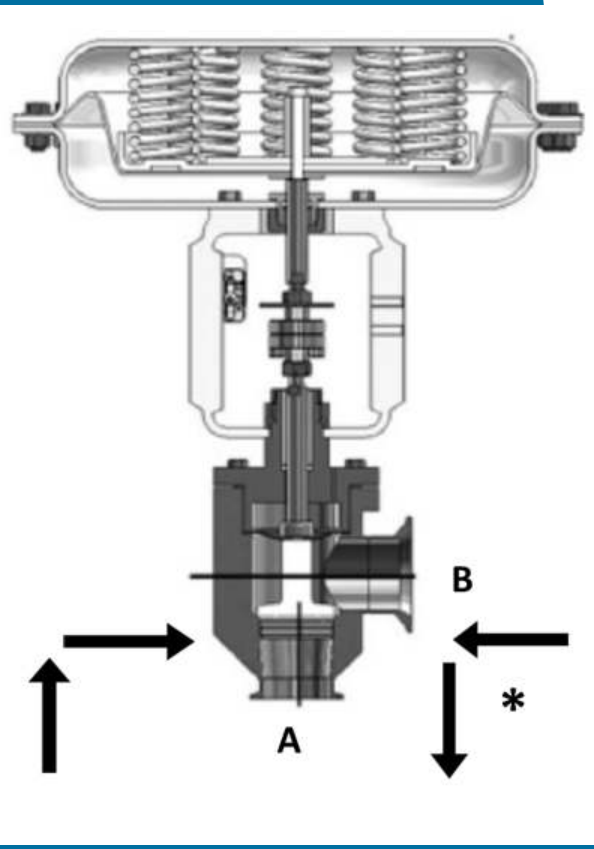
Mark 978E N: 1", Inline JD



Vertical Upright Orientation

- Valve is bi-directional, flow can enter either connection
- When valve is open, there is no hold up volume
- Valve will operate normally if installed in a horizontal orientation but will not be drainable regardless of flow direction
- For gravity drainage from inlet through outlet, install upright as shown, with flow in the connection where indicated (*)

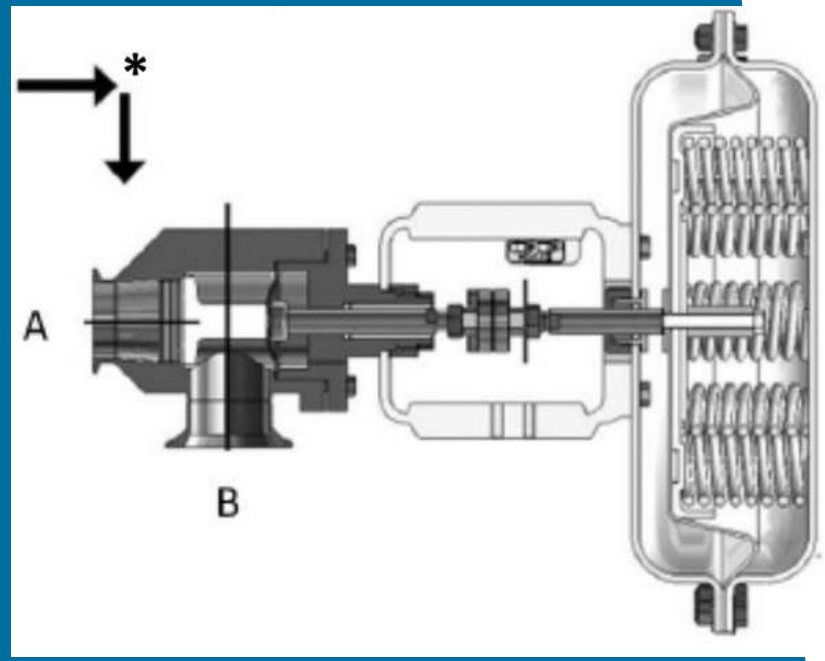
Mark 978: 1-1/2" – 2" JD, OR



Vertical Upright Orientation

- Valve is bi-directional, flow can enter either connection
- When valve is open, there is no hold up volume
- For gravity drainage from inlet through outlet, install upright as shown, with flow in the connection where indicated (*)

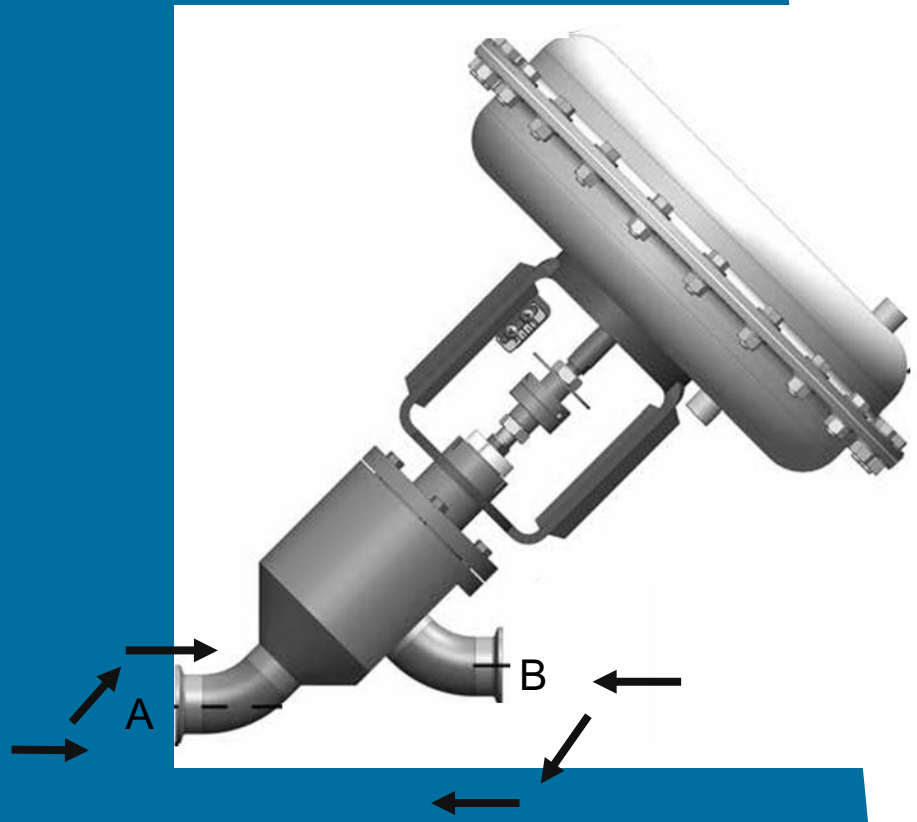
Mark 978: 1-1/2" – 2" JD, OR



Horizontal Orientation

- In this orientation, flow must enter through A and exit through outlet B.
- When valve is open, there is no hold up volume
- For gravity drainage from inlet through outlet, install valve in horizontal position as shown, with flow in the connection where indicated (*)

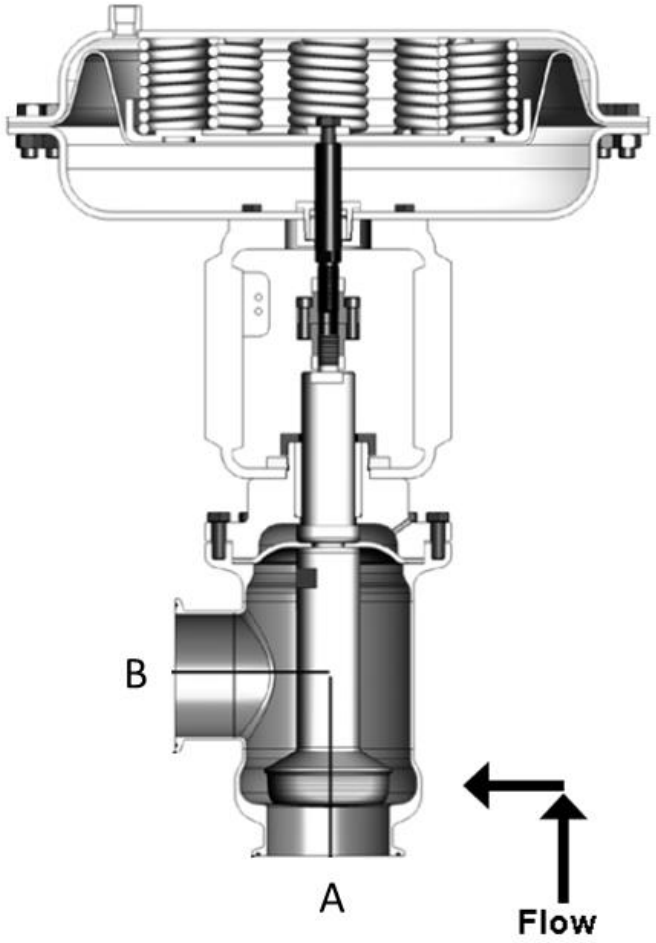
Mark 978: 1-1/2" – 2" JD, OR



Vertical Upright Orientation

- Valve is bi-directional, flow can enter either connection
- When valve is open, there is no hold up volume
- Valve is not gravity drainable in the direction of flow. Tubing should be drained upstream of inlet regardless of flow orientation

Mark 978: 3" JD

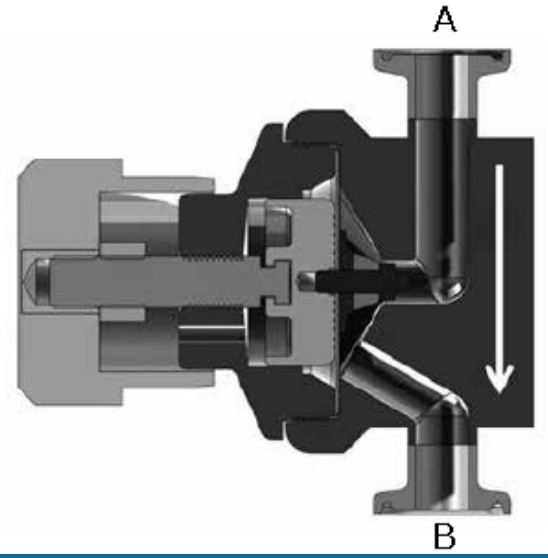


Vertical Upright Orientation

- When valve is open, there is no hold up volume
- Valve is not gravity drainable in the direction of flow. Tubing should be drained upstream of inlet

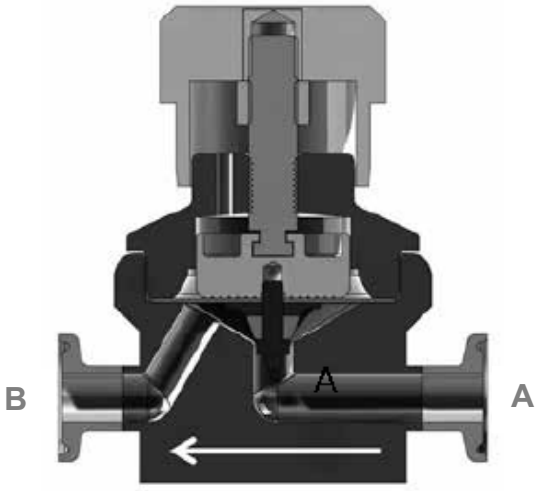
JSHM: 1/2" – 1-1/2" Precision Metering Valve

3 Installation Orientations to Insure Drainability



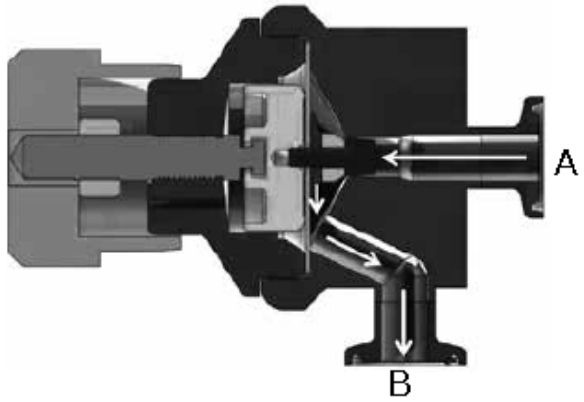
VERTICAL DOWN INSTALLATION

No holdup and gravity drainable from inlet (A) through outlet (B) with valve open in vertical down orientation*



HORIZONTAL INSTALLATION

No holdup and drainable **with pressure** from outlet (B) through inlet (A) with valve open in horizontal orientation*



HORIZONTAL INSTALLATION

Angle valve option: some holdup at inlet (A) with standard angle version as shown. **Note:** contact factory for offset (eccentric) inlet version for gravity drainability from port A through outlet (B)*

For Rinse/CIP/Rinse and clean air drying: Turn adjustment knob to fully open. All fluids will drain as indicated above

* Blowing down with air will insure that any water held up by surface tension will be blown through the outlet.

THANK YOU