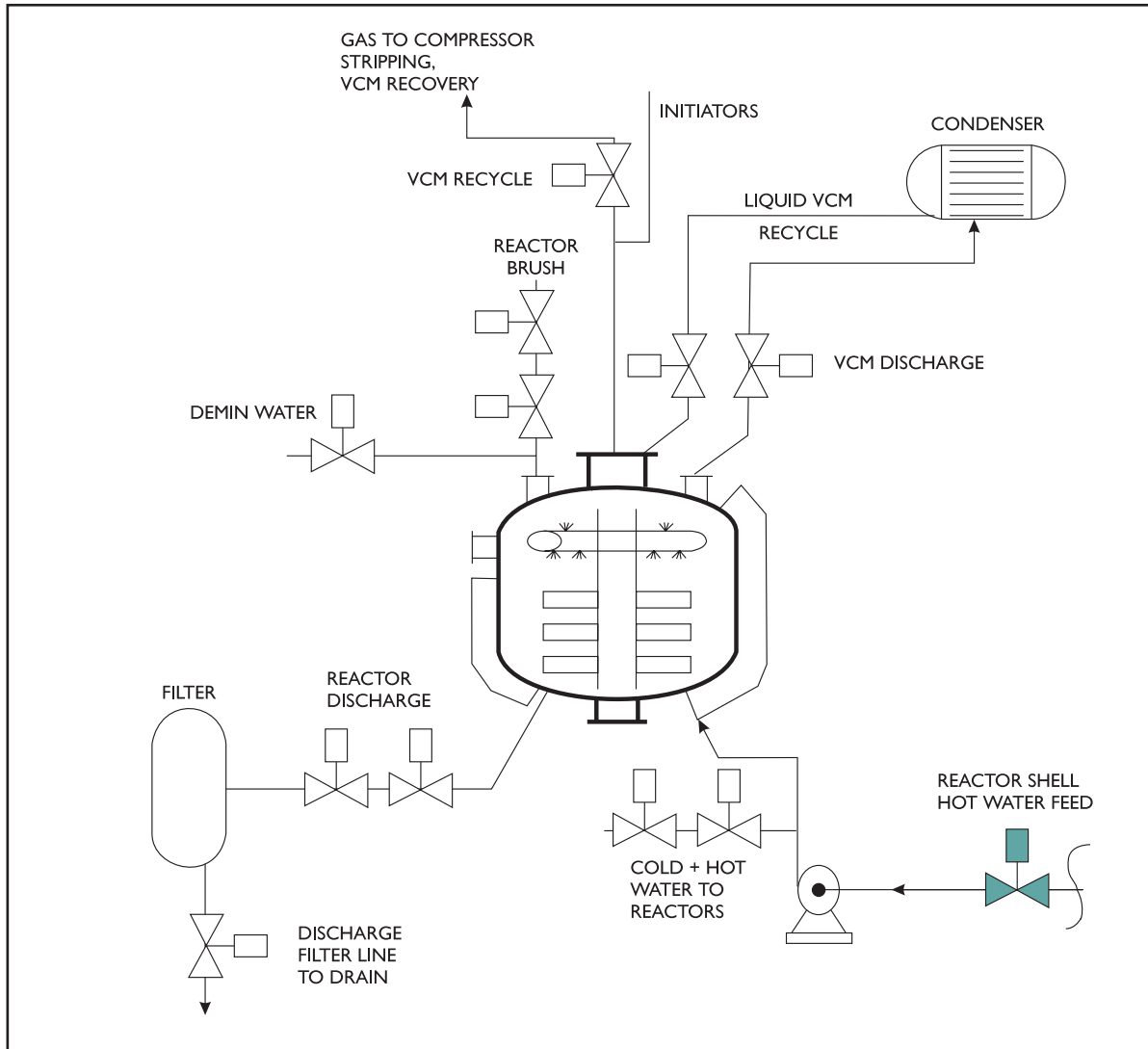


Steam stripping



Introduction

Polyvinyl chloride (PVC) is produced by polymerization of vinyl chloride monomer (VCM) and various comonomers. In all of the processes used to produce PVC, unreacted VCM is present at the end of the reaction. The VCM is most often removed by steam stripping. This bulletin describes the steam stripping process, the valve application requirements, and Metso Automation's solution.

The Process

VCM is a carcinogenic substance and its removal from the PVC end product is very important, both for avoiding downstream emissions and for recovery for reuse.

In the reactor, or in product tanks downstream of the reactor, superheated steam is injected into the polymerized product. This steam causes the residual VCM to vaporize, making it easy to remove, thereby stripping the PVC of the unwanted monomer. The VCM is then purified and recycled.

APPLICATION REPORT

The process conditions for the steam supply are usually:

- Fluid: Steam
- Temperature: 185 °C / 365 °F
- Pressure: 10 bar / 145 psi

Application demands

The application can prove difficult when

- PVC builds up on reactor side of valve
- PVC blocks the seating area

Valve selection

For this application, a metal seated ball valve is proposed.

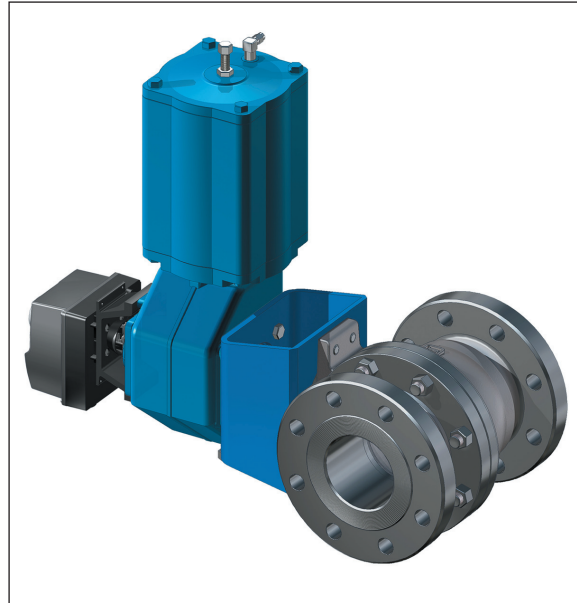
Features and benefits

- PVC build-up scraped off with special scraping seat
- Leakage due to PVC build up behind seat avoided with solids proof seat (J)
- Maximum lifetime with Stellite® seat
- Maximum capacity with full bore design
- Meets temperature requirements

Valve selected

Type X-MBV

- Full bore ball valve
- Body and trim stainless steel
- Stellite® or Stellite coated seat
- Scraping and solids proof seat (J)
- Flanged. ANSI 300
- Metso Automation piston actuator



Metso Automation X-MBV ball valve

The information provided in this bulletin is advisory in nature, and is intended as a guideline only. For specific circumstances and more detailed information, please consult with your local automation expert at Metso.

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