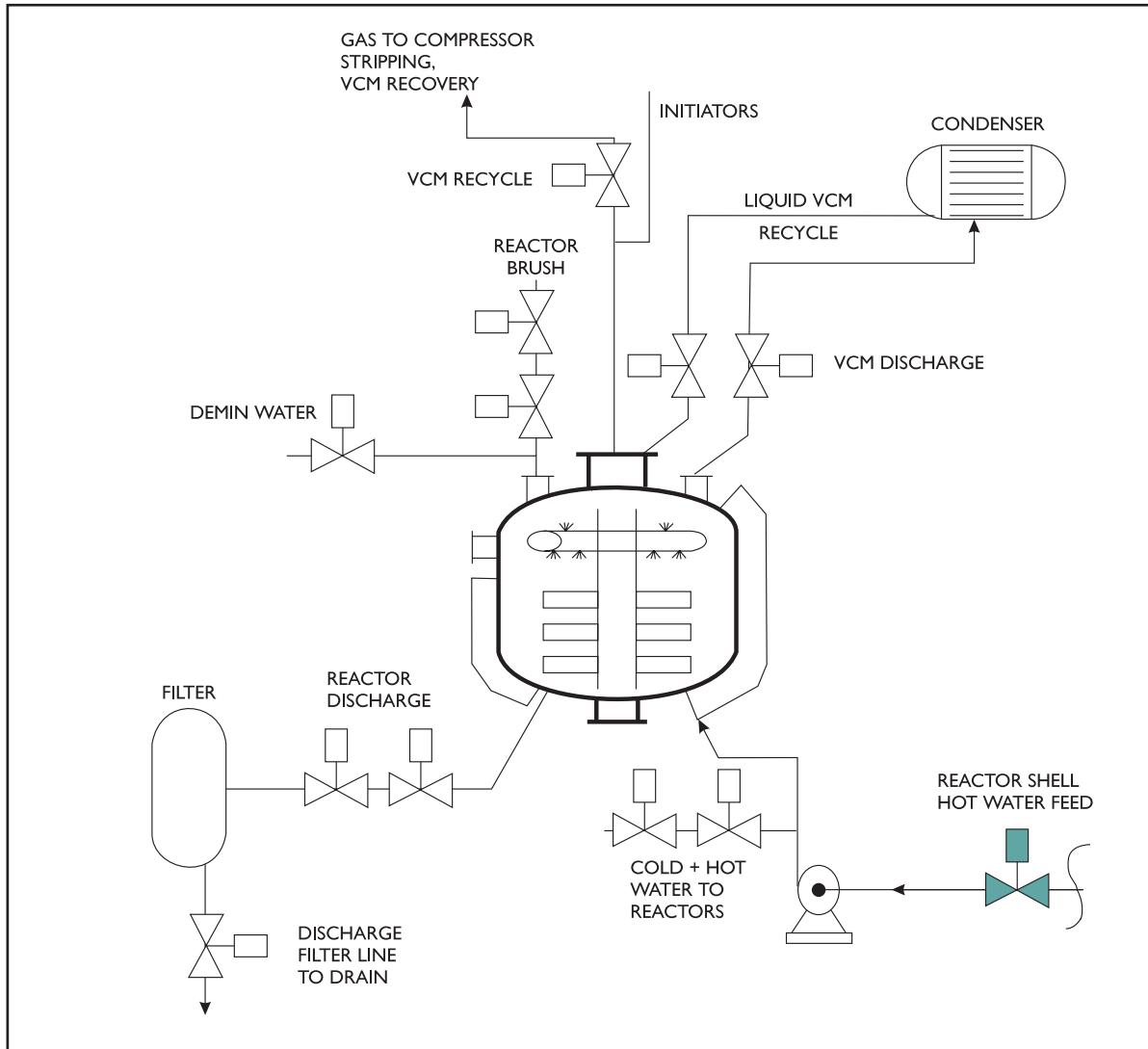


# Reactor discharge



## Introduction

In the batch PVC reactor process, the most difficult application is the discharge of the reactor after the PVC reaction has been completed.

This bulletin describes the process demands for this application and Metso Automation's solution.

## The Process

In the mass polymerization process of producing PVC, the secondary reactor; reactor "B" performs, the following functions:

- Reaction of PVC to 80-85%
- Degassing of PVC to remove unreacted VCM gas
- Discharge to filter

The reactor discharge valve allows the discharge to the filter, after the reaction steps have been completed.

Typical process conditions are:

- Fluid: PVC in 2 phase flow
- Flow: 400m<sup>3</sup>/h
- Temperature: 65 °C / 149 °F
- Pressure: 1 bar / 15 psi

### Application demands

The PVC product presents the following difficulties

- Viscosity
- Stickiness
- Tendency to block valve

The process requires

- Tight shutoff to avoid leakage
- Maximum capacity for production

### Valve selection

To meet above demands, a Metso Automation segment valve has been chosen.

### Features and benefits

The benefits of the segment valve are:

- Maximum capacity for discharge of reactor
- Cutting and cleaning action of segment and seat eliminate wear and valve blockage
- Tight shut-off maintains reactor process conditions during reaction
- Optional polished valve body inner surface
- reduces adherence of product

In this application, the segment ball valve selected actually increased production and reduced the maintenance required dramatically. The Metso Automation segment valve presents a larger bore area than any other valve of this configuration, and a polished inner surface further improves the flow.

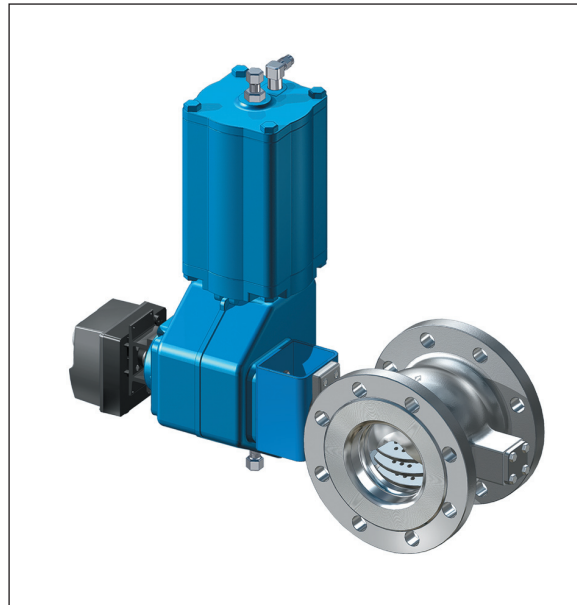
### Valve selected

Type RE

- Segment ball valve
- Body and trim stainless steel
- Metal seat
- Flanged, ANSI 300

Options and additional equipment:

- Optional polishing of body internals
- Metso Automation piston actuator



Metso Automation R series segment valve with Q-Trim™

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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