

Axial Control Valve

Streamlined flow path for demanding water applications

Type designation

Control valve

Mokveld model

RZD - R....

Size and pressure ratings

- Sizes 2" – 72" (DN 50 – DN 1800)
Larger sizes upon request
- Rating ASME Class 125 – 2500
(PN 16 – PN 420)

In preference to

- Sleeve valve (incl. submerged vertical)
- Plunger or needle valve
- Fixed cone valve

Typical applications

- High energy dissipation / anti-cavitation
- Dams, reservoirs and hydro power plants
- Waterworks and supply systems
- Desalination plants
- Turbine inlet, bypass and control
- Pump start-up and control
- Tank / reservoir level control
- Controlled outlet / discharge

Benefits

- One valve pressure reduction, zero cavitation, low noise, no vibration
- Very accurate control also at low openings
- Operation (closure) is not susceptible to debris
- Low maintenance / reduced downtime
- Considerable savings on total system cost
- Increased energy production at hydro power plants



Mokveld axial control valves offer the following main features:

Axial flow

The axial control valve is integrally cast and consists of an expanded outer body and an inner body which is positioned in the center by means of ribs. The streamlined flow path avoids turbulence and allows for compact installation with 2x DN straight pipe up- and downstream the valve being sufficient. Small installation footprint.

Anti-Cavitation

Cavitation is completely avoided by multi-stage pressure reduction trim technology. As all energy is dissipated there is no requirement for additional energy dissipation chamber or stilling basin / well. Also no downstream spool or air valves required.

Silent

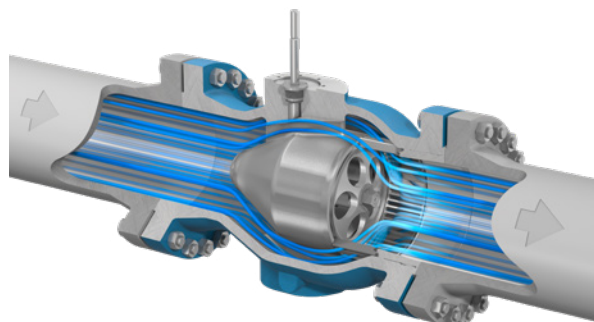
As cavitation is completely avoided the produced noise is substantially lower compared to conventional solutions that accept certain levels of cavitation.

Accurate control

Accurate control is possible (also at minimum opening) because of the fully pressure-balanced trim. Minimum controllable flowrate is a factor 10 - 20 lower compared to existing solutions.

Custom-designed trim selection

Depending on the process envelope we can produce a custom designed trim to suit the hydraulic profile of the specific application. A hybrid trim could typically consist of multi- and single-stage trim sections combined.



High capacity

The capacity of the axial valve is high and comparable to conventional sleeve and plunger valve solutions. The inherent control characteristic is linear and can be adjusted to equal% which means slow flow deceleration at closing.

Quick operation

The above mentioned equal% control characteristic and the fully pressure balanced trim make it possible to operate the valve quickly without the risk of pressure surges at closure. Typically a factor of 2 quicker compared to conventional sleeve valves. The valve is able to follow the relatively rapid adjustment of the turbines which means an increase of energy production.

Compact

The face-to-face dimensions of a Mokveld axial control valve is less than half when compared to sleeve valves.

Other unique features

- Reliable bi-directional tight shut-off (Class VI)
- Bi-directional flow
- Low actuation force / no gearbox
- Horizontal, vertical or rotated installation

For more information, please contact Mokveld.