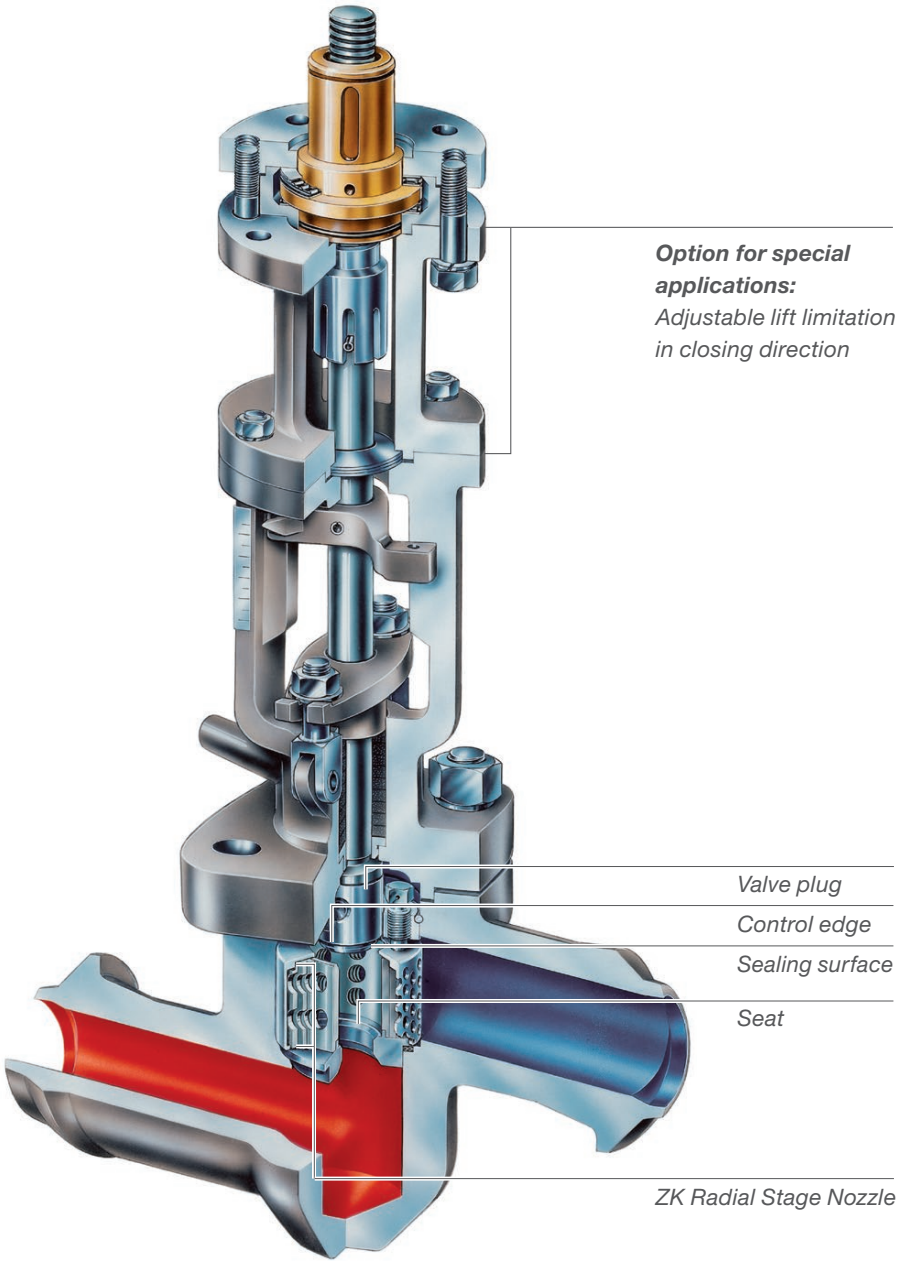
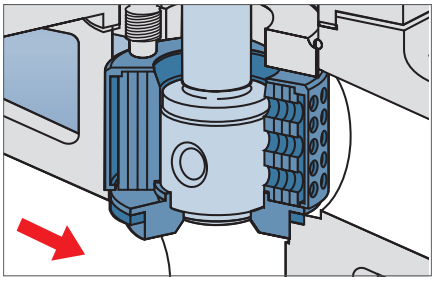
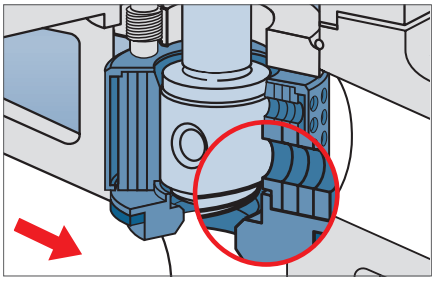
Control Valve ZK 29, Valve Plug in Open Position

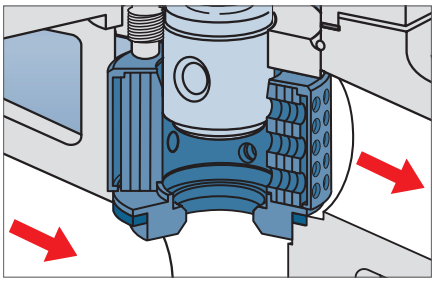




ZK 29: Valve plug in closed position



ZK 29: Valve plug no longer in closed position; control edge does not yet open up any orifices



ZK 29: Valve plug in control position

Control Valve ZK 29

PN 160 and class 900
Δp_{max} 100 bar (1450 psi)
K_{vs} 0.7 – 130 m³/h

With its permissible differential pressure of 100 bar, the ZK 29 control valve covers a large range of K_{vs} values.

The valve plug and control valve seat are as a rule subjected to very high flow velocities during opening and closing. To reduce this effect, the valve plug of the ZK control valve has a special control edge above the seating surface.

At the beginning of the opening process, the plug lifts off the seat, yet the flow admitted is very low. Only once a certain lift has been reached, and hence a larger annular channel has been opened between the seat of the valve and the sealing surface of the plug, are the annular rings of the radial stage nozzle opened one after the other by the control edge.

During the closing process, the flow is first considerably reduced by the control edge and then the sealing surface of the plug reaches the seat to close the valve completely.

The ZK 29 offers the possibility of adjusting for various K_{vs} values and characteristics at a later time, by rotating the stage nozzle.

This series of valves is available in overall lengths according to EN and to ISA.

Connections	Butt-weld ends, socket-weld ends, flanged ends (EN, ASME)
Actuators	Electric (rotary, linear or lever actuator), pneumatic, handwheel
Body material	DN 25-50: 13 CrMo 4 4 (1.7335), A182 F12
	DN 80-150: GS-17 CrMo 5 5 (1.7357), A217 WC6
	Other butt-weld ends and body materials on request

Control Valve ZK 210

PN 250
Δp_{max} 100 bar (1450 psi)
K_{vs} 0.7 – 28 m³/h
Δp_{max} 180 bar (2610 psi)
K_{vs} 0.5 – 5 m³/h

The control valve ZK 210 supplements the valve type ZK 29 primarily by extending the pressure rating to PN 250.

An additional radial stage nozzle arranged downstream makes it possible to overcome pressure differentials of up to Δp_{max} 180 bar, thus closing the gap to the existing high-pressure types. In comparison to the ZK 29, the required actuator forces are lower.

By changing the internals, pressure differentials of Δp_{max} 100 bar or Δp_{max} = 180 bar can be achieved. The ZK 210 offers the possibility of adjusting for various K_{vs} values and characteristics at a later time, by rotating the stage nozzle.

Connections	Butt-weld ends, socket-weld ends, flanged ends (EN, ASME)
Actuators	Electric (rotary or linear actuator), pneumatic, handwheel
Body material	13 CrMo 4 4 (1.7335)
	Other butt-weld ends and body materials on request