


DRE140CH




*Engineering
GREAT Solutions*

**High Pressure (HP)
Bypass Valves**

High Pressure Bypass Valves

The HP-Bypass Valve Type DRE is a steam conditioning valve for steam throttling with very high pressure drop combined with in-body desuperheating through spraywater injection. Its prime areas of application are high pressure bypass systems for fossil-fired power plants with subcritical as well as supercritical steam conditions. With the range of available body materials, the Type DRE valve can be used for main steam pressures and temperatures of today's most advanced thermal power plants.

Key features

The valve is specifically designed for the cyclic operation of bypass systems. Equipped with a hydraulic actuator and the necessary safety control devices the valve can be used as a combined HP-Bypass and the superheater safety valve according to TRD 421.

- > Unique "wing-type" plug design
- > Multi-function contoured cage
- > Optimised arrangement of spraywater nozzles

- > Compact, robust design
- > Spherical valve body design
- > Integrated desuperheating
- > 1 metre straight pipe length after the valve

Benefits

- > Compact, robust design
 - Reduced number of components
 - Easy to maintain
- > Integrated desuperheating allows for:
 - Water injection in area of highest turbulence
 - Optimal mixing of steam and water
 - Optimised body shape for minimal thermal stress
- > Noise level reductions of 10dBA over conventional plug designs
- > Very short evaporation length and an even temperature distribution at the valve outlet
- > Multi-function contoured cage
 - Breaks steam into smaller jets, ensuring noise attenuation
 - Prevents water droplets reaching boundary walls, eliminating thermal shocks
- > Spherical valve body design
 - Allows for cyclic operation and frequent start-ups

Reductions in noise level



Compact, robust design

Optional wing spindle also available



Product specification

Body Style

Angle type valve, spherical shaped valve body

Nozzle Connection

For steam pipes: butt-welding, according to customer's requirement
For spray water pipes: flanged connection with butt-welding to pipe

Steam data

Temperature range : ~ 500 - 610 °C

Inlet Pressure

~ 160 - 300 bar

Stem / Plug Design

Unbalanced wing type

Seat / Stem tightness

EN12266-1 cl.B, MSS-SP61 or ANSI/FCI 70.2 cl. V

Actuation

Double acting hydraulic actuator

Serviceability

Replaceable spindle, replaceable multi-function cage, replaceable spray-nozzle body, bolted bonnet with spray nozzle, service friendly seat configurations

Options

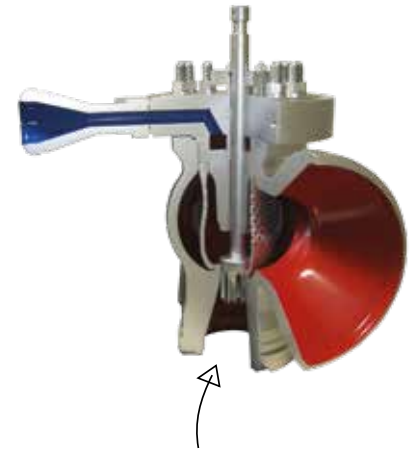
Outlet throttling orifice, transition pieces for large pipe diameters and material compatibility, prewarming connections available on request

Orientation

No restrictions to the valve operating position (for serviceability, actuator mounted on the top is recommended)

Design Code

EN12516-2
ASME Sec. VIII
ASME B16.34

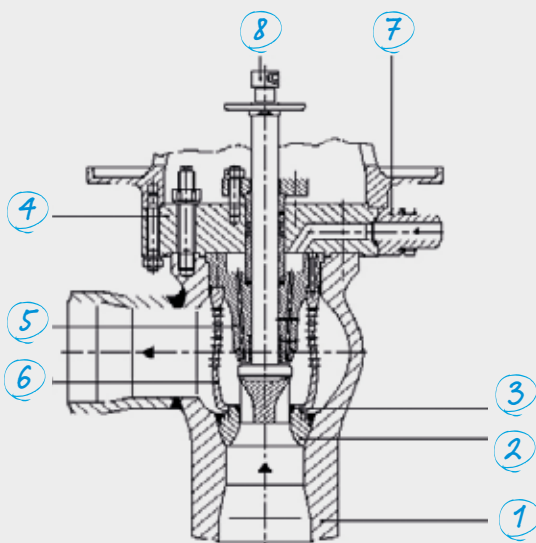


Cut-away example of the DRE valve

DRE140CH

Kv	518
Cv	601
Stroke	100mm

Valve breakdown



1 Valve body	A182 F22 A182 F91 A182 F92
2 Valve seat	A182 F22 A182 F91 A182 F92
3 Hard-Facing	S-CoCr20W15Ni
4 Cover	A182 F22 A182 F91
5 Nozzle body	A182 F22 A182 F91
6 Multi-function cage	A182 F22 A182 F91
7 Flange	A182 F22
8 Stem	X19CrMoVNbN111

Other materials available upon request

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