



Application No. 2

SOOT BLOWER

In a power station, boiler water is converted into steam by using pulverised coal. The coal leaves a soot deposit on the tubes, which restricts the energy transfer, and therefore the required heat of the steam for the turbine to operate efficiently may not be reached. To remove this build-up, boiler Bleed off Steam is bled off the system and directed to a nozzle arrangement that will flush the pipes. The valve that controls this feed is called the Soot Blower Valve. Depending on the number and type of soot blowers being used the steam requirement varies considerably.



Customer Application Data

The customer wanted the valve to operate under the following conditions:

- Max flow rate = 3 kg/s
- Min flow rate = 1 kg/s
- Inlet pressure-norm = 190 bar (a)
- Inlet pressure-max = 172 bar (a)
- Norm pressure drop = 160 bar (a)
- Max pressure drop = 174 bar (a)
- Temperature = 540°C
- Fail action = (open under spring tension with no air)

Customer – Kendal Power Station
Date supplied – 1999.10.06

Description of Valve Supplied

Trim

Type	=	StSt Energy Dissipating Disk Stack x10
Plug material	=	Stellite coated 316 StSt
Seat material	=	Stellite coated 316 StSt
Seat diameter	=	20mm
CV selected	=	5.5
Flow direction	=	Under
Leakage rate	=	ANSI V

Body

Size	=	2" - 50 mm
Style Valve	=	Globe Control Valve
Material	=	Cr Mo (WC6)
Flange type	=	Butt Weld
Flange rating	=	ANSI 2500#

Bonnet

Material	=	Cr Mo
Guide-Upper	=	StSt / Grafoil
Guide-Lower	=	Stellite
Packing	=	Graphite braid
Gaskets	=	StSt / Grafoil
Live loading	=	Yes

Actuator

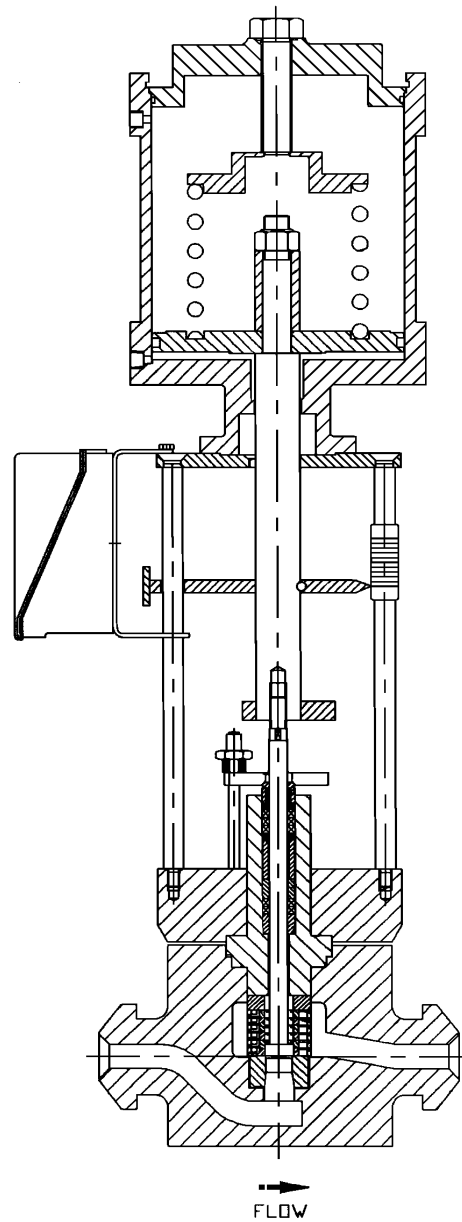
Type	=	Pneumatic piston
Fail position	=	Open - spring

Positioner

Type	=	Pneumatic / Pneumatic
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Previous Valve Used for Application:

Cage Guided Globe Control Valve

Problems experienced:

Body cracked due to wrong material (StSt) used

Trim lasted only a short time period due to only having a single pressure drop