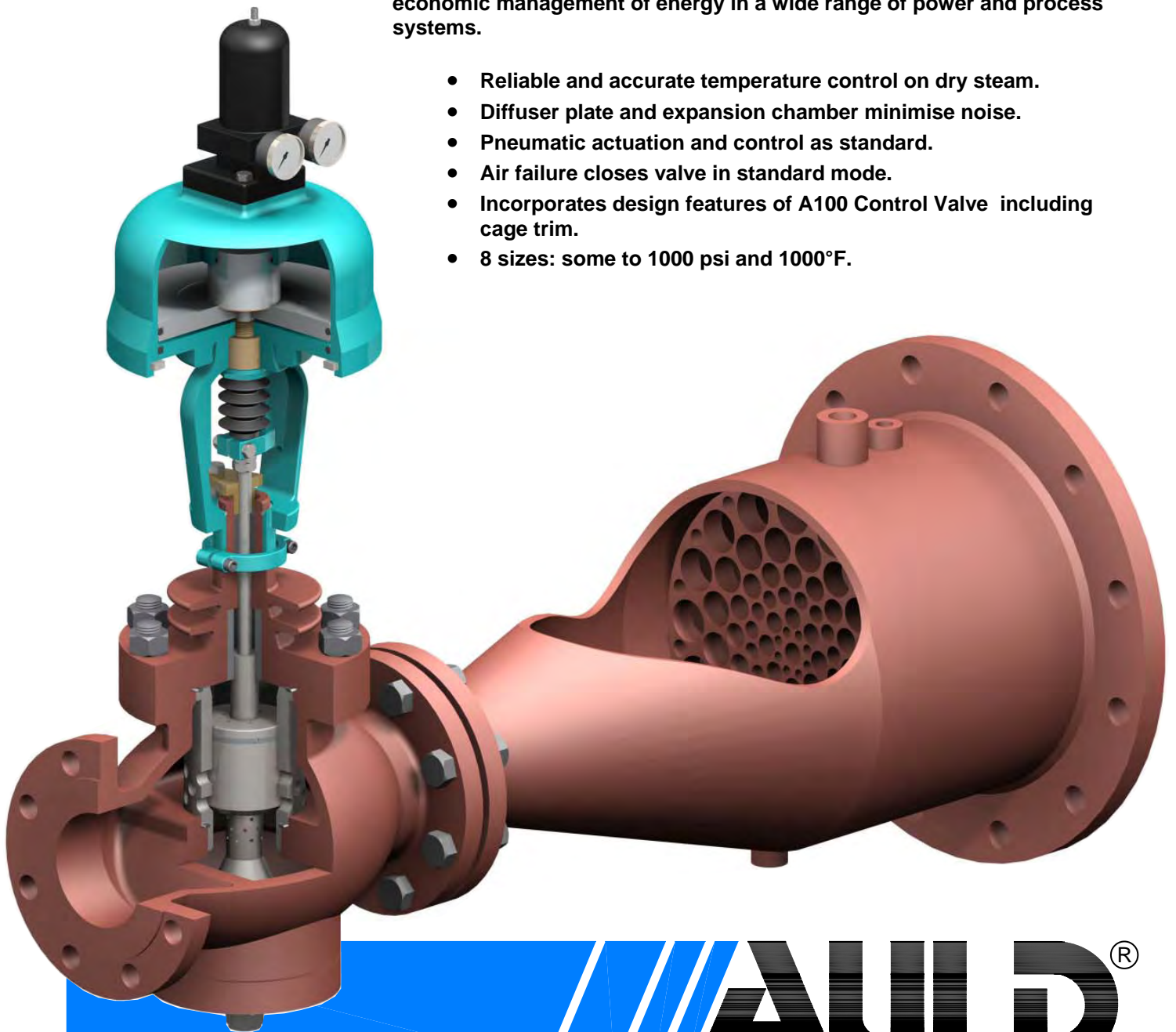


A100 Desuperheater Valve

...put the pressure drop to work for better steam conditioning.

The A100 combines pressure and temperature control in one easily installed and compact unit. It achieves its outstanding results by using the pressure drop velocities to make high initial absorption of cooling spray water. The expansion chamber and diffuser plate complete the mix and allow the use of accurate sensitive controls. The valve responds quickly to load changes of 50 to 1 and so contributes to the economic management of energy in a wide range of power and process systems.

- Reliable and accurate temperature control on dry steam.
- Diffuser plate and expansion chamber minimise noise.
- Pneumatic actuation and control as standard.
- Air failure closes valve in standard mode.
- Incorporates design features of A100 Control Valve including cage trim.
- 8 sizes: some to 1000 psi and 1000°F.



AULD®
PRESSURE CONTROL AND SAFETY VALVES

A100 DESUPERHEATER VALVE

DESIGN

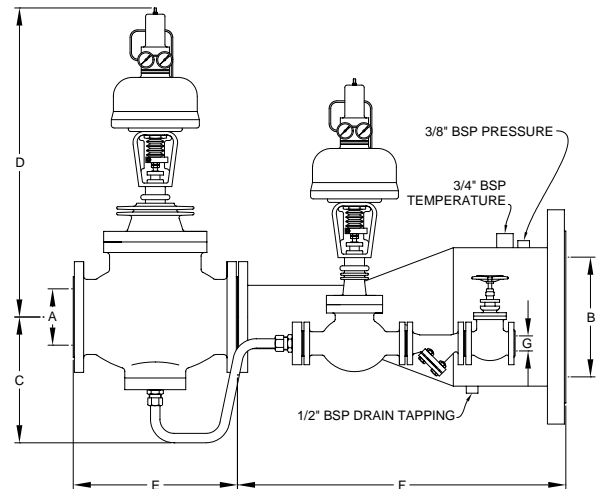
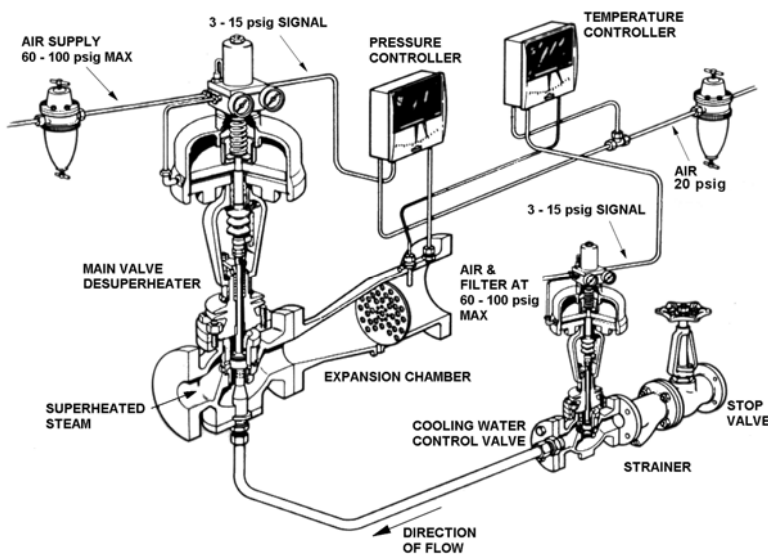
The high pressure steam on entering the reducing valve passes through the cage trim between the valve seat and lid, expanding and so lowering the pressure. At the valve seat the cooling water is injected into the high velocity turbulent steam causing the water to be atomised and flashed to steam. This process absorbs energy from the total heat of the superheated steam and so produces a mixture of increased weight at a lower temperature.

The mixture passes from the control valve into a tapered expansion chamber which reduces the gas velocity to a value compatible with normal piping practice and from the expansion chamber through a diffuser plate past the sensing elements for the pressure and temperature controllers and so out of the unit.

The diffuser plate prevents any water droplets adhering to the side of the pipe from escaping downstream. It also ensures excellent fluid mixing of the steam and water vapour so eliminating any risk of stratification and thus permitting the use of sensitive and accurate controls.

INSTALLATION

The drawing below shows the equipment supplied by Auld. Items shown but not supplied are the small bore piping and the air filter regulators. The filter regulators are recommended because the majority of instrument faults are traced to dirt. Equipment not shown but should be considered include stop valves, strainer and steam trap (essential) and safety valve. The water must be supplied at approximately 45 psi above the outlet pressure of the steam valve. It is recommended that the whole system be duplicated in continuous process plants.



DATA TABLE

Valve size	A	2"	2½"	3"	4"	6"	8"	10"	12"
C/L to bottom	C	11½"	11½"	11½"	13½"	15½"	20½"	21"	22"
C/L to top	D	26"	27"	29½"	29½"	33"	38"	38"	38"
Steam valve F/F	E	9"	11½"	11½"	14"	17½"	22"	24"	30"
Chamber (approx)	F	20"	20"	20"	24"	30"	36"	42"	48"
Cv for steam valve		28	58	80	120	210	380	520	700

Dimensions for B, F and G calculated at time of quotation

SIZING

The data table shows the rated Cv for the A100 Desuperheater valve. It is essential that sizing is confirmed by Auld. The following information is necessary:

- inlet pressure and temperature.
- outlet pressure and temperature.
- maximum and minimum flow rates.
- pressure, temperature and quantity of water.

FOR MORE INFORMATION

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