STEAM CONDITIONING VALVES

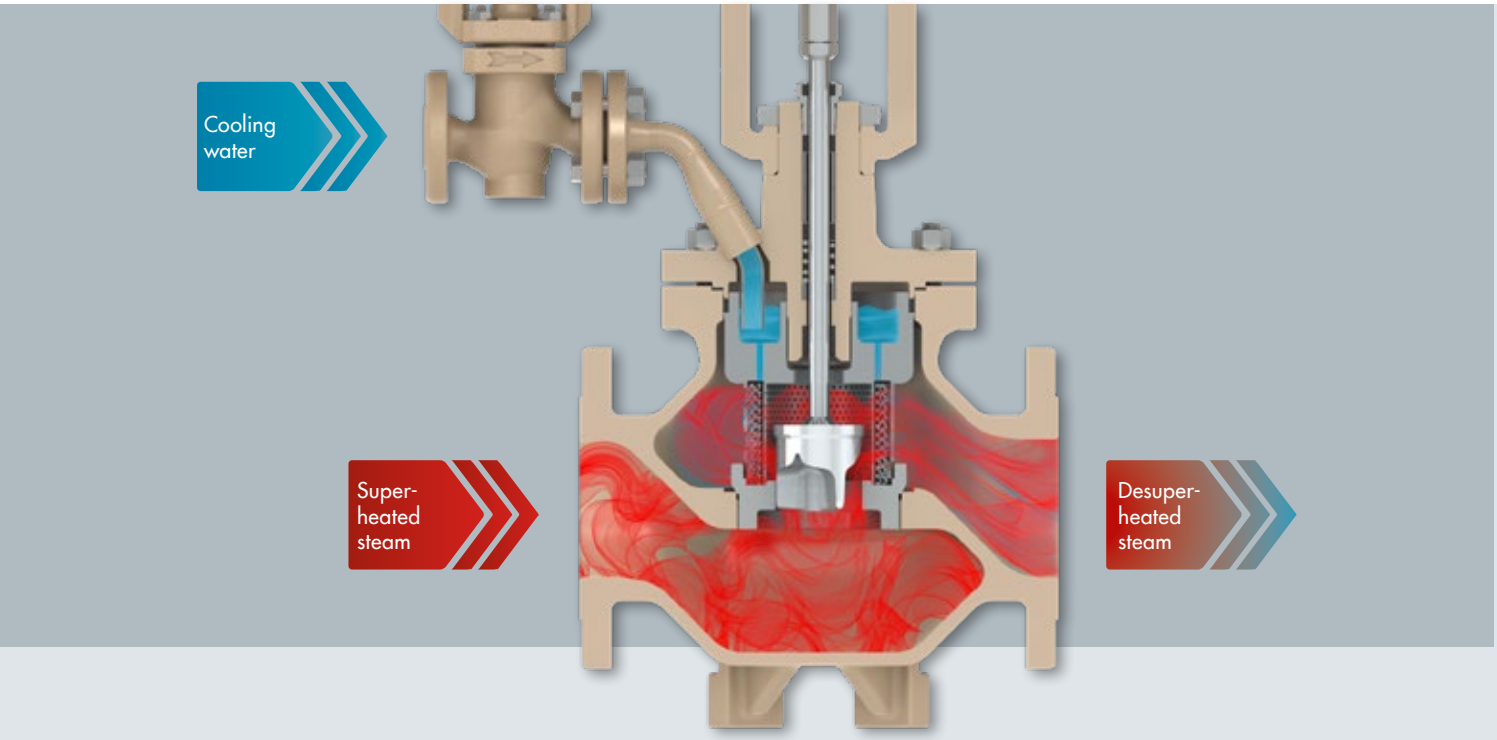
Series 280

SMART IN FLOW CONTROL

FIELDS OF APPLICATION

Valve size	Globe valve	DN 50 to 300	NPS 2 to 12
	Angle valve	DN 50 to 300	NPS 2 to 12
Pressure rating		PN 16 to 160	Class 150 to 900
Maximum steam temperature		Up to 500 °C	Up to 932 °F
Materials		1.0619 1.7357	A216 WCC A217 WC6
Cooling water temperature		At least 20 °C/68 °F, depending on the process conditions	

DESUPERHEATING AND PRESSURE REDUCTION



Desuperheating and pressure reduction in one unit

Steam conditioning valves simultaneously reduce the temperature and pressure of superheated steam. These control valves inject water into the steam directly downstream of the vena contracta, utilizing the very high velocities created, which ensures that steam and water are mixed optimally. SAMSON offers the Series 280 Valves for steam conditioning applications.

Steam conditioning valves

- Maximize process efficiency by using steam near the saturation temperature
- Minimize the cost of investment as the injected cooling water does not need to be preheated*
- Protect the downstream piping and equipment against excessive pressures and temperatures

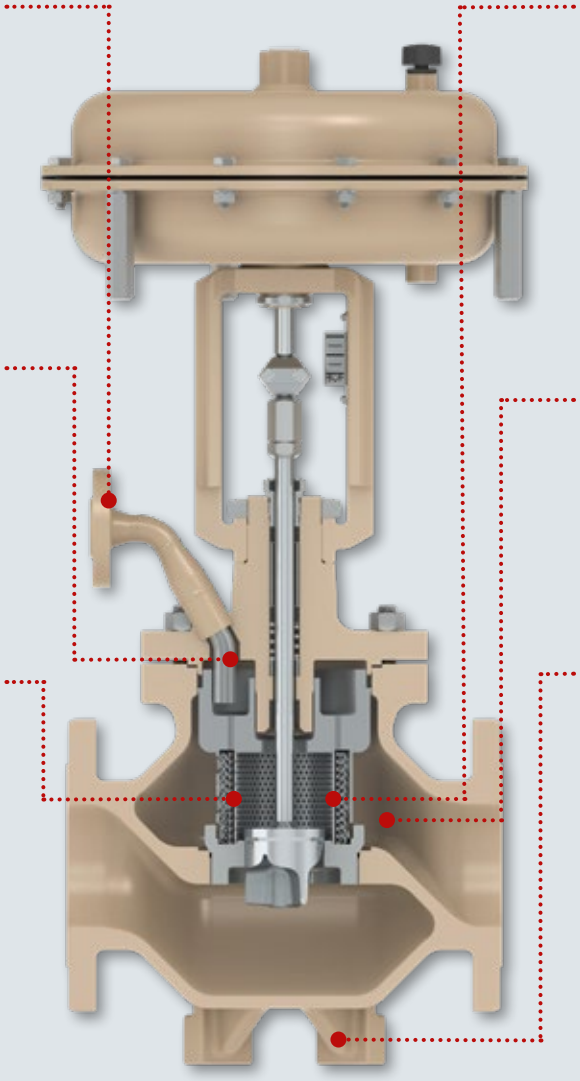
* Depending on the process conditions

EFFICIENCY AND RELIABILITY

- **Low cooling water temperature**
  - No preheating required above 20 °C/68 °F (depending on the process conditions)

- **Long service life**
  - No erosion and temperature shocks as there is no contact between the cooling water and the valve body

- **Flow divider ST 3**
  - Low-noise and low-vibration operation
  - Excellent heat transfer rates thanks to large surface area
  - Excellent mixing of steam and water
  - Fast evaporation of the steam



- **Good temperature control**
  - Excellent atomizing of the water across the entire operating range as the flow velocity at the vena contracta is independent of the flow rate

- **Short evaporation time**
  - Spray water and steam are mixed where the steam's flow velocity is at its maximum

- **Low cost of installation**
  - Compact valve design

SAMPLE APPLICATIONS

Heating up of substances in the chemical industry

- High efficiency of heat exchangers by using steam near the saturation curve
- Use of high-pressure or low-pressure steam
- Safe and efficient heating up of products

Steam box control in pulp and paper mills

- Supply of constant pressure and temperature to steam boxes
- Improved mill output thanks to more efficient drying of the paper
- Protection of paper from excessive pressures and temperatures as well as water droplet damage

Sterilization and cooking in the food industry

- Supply of steam near the saturation temperature to ensure a uniform heat transfer
- Accurate temperature control to ensure proper sterilization
- Exact control for short cooking times

SAMSON AT A GLANCE

STAFF

- Worldwide 4,500
- Europe 3,700
- Asia 600
- Americas 200
- Frankfurt am Main, Germany 2,000

INDUSTRIES AND APPLICATIONS

- Chemicals and petrochemicals
- Food and beverages
- Pharmaceuticals and biotechnology
- Oil and gas
- Liquefied Natural Gas (LNG)
- Marine equipment
- Power and energy
- Industrial gases
- Cryogenic applications
- District energy and building automation
- Metallurgy and mining
- Pulp and paper
- Water technology
- Other industries

PRODUCTS

- Valves
- Self-operated regulators
- Actuators
- Positioners and valve accessories
- Signal converters
- Controllers and automation systems
- Sensors and thermostats
- Digital solutions

SALES SITES

- More than 50 subsidiaries in over 40 countries
- More than 200 representatives

PRODUCTION SITES

- SAMSON Germany, Frankfurt, established in 1916
  Total plot and production area: 150,000 m²
- SAMSON France, Lyon, established in 1962
  Total plot and production area: 23,400 m²
- SAMSON Turkey, Istanbul established in 1984
  Total plot and production area: 11,053 m²
- SAMSON USA, Baytown, TX, established in 1992
  Total plot and production area: 9,200 m²
- SAMSON China, Beijing, established in 1998
  Total plot and production area: 10,138 m²
- SAMSON India, Pune district, established in 1999
  Total plot and production area: 18,000 m²
- SAMSON Russia, Rostov-on-Don, established in 2015
  Total plot and production area: 5,000 m²
- SAMSON AIR TORQUE, Bergamo, Italy
  Total plot and production area: 27,684 m²
- SAMSON CERA SYSTEM, Hermsdorf, Germany
  Total plot and production area: 14,700 m²
- SAMSON KT-ELEKTRONIK, Berlin, Germany
  Total plot and production area: 1,060 m²
- SAMSON LEUSCH, Neuss, Germany
  Total plot and production area: 18,400 m²
- SAMSON PFEIFFER, Kempen, Germany
  Total plot and production area: 35,400 m²
- SAMSON RINGO, Zaragoza, Spain
  Total plot and production area: 18,270 m²
- SAMSON SED, Bad Rappenau, Germany
  Total plot and production area: 10,370 m²
- SAMSON STARLINE, Bergamo, Italy
  Total plot and production area: 26,409 m²
- SAMSON VDH PRODUCTS, the Netherlands
- SAMSON VETEC, Speyer, Germany
  Total plot and production area: 27,090 m²

SAMSON AKTIENGESELLSCHAFT

Weismuellerstrasse 3 · 60314 Frankfurt am Main, Germany
Phone: +49 69 4009-0 · Fax: +49 69 4009-1507
E-mail: samson@samsongroup.com
Internet: www.samsongroup.com

2021-02 · WA315 EN

SMART IN FLOW CONTROL