

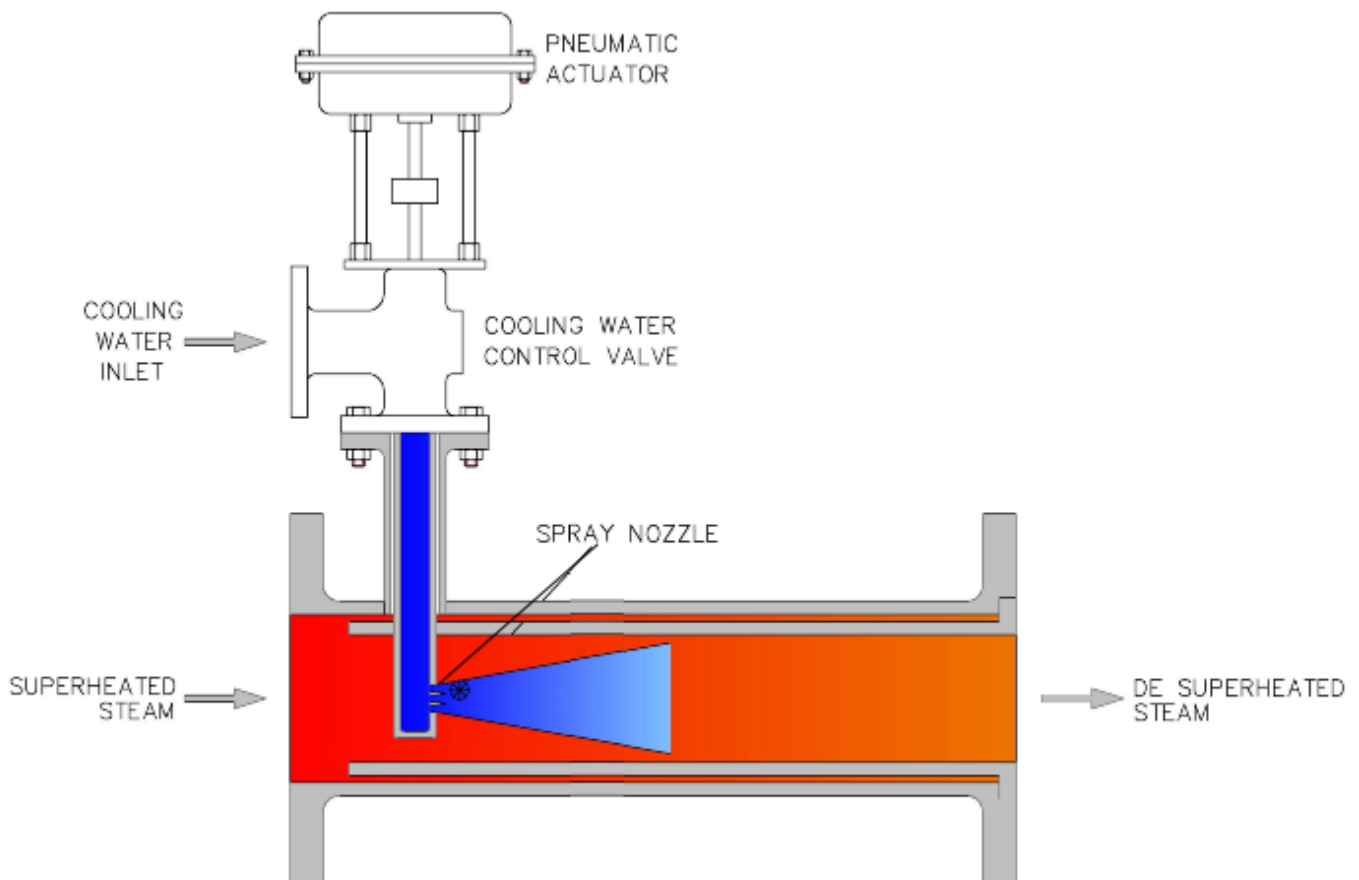
SPRAY TYPE DE-SUPERHEATER

SERIES - E3300

A de-superheater is a device that cools superheated steam to a temperature close to its saturation temperature, usually by spraying water into the flow of superheated steam. Superheated steam is steam that is at a temperature above its saturation temperature.

The two main reasons to reduce the steam or vapor temperatures are:

- 1) To maintain constant temperature for processes that require precise temperature control.
- 2) To permit operation of downstream process equipment that is designed for lower temperatures.



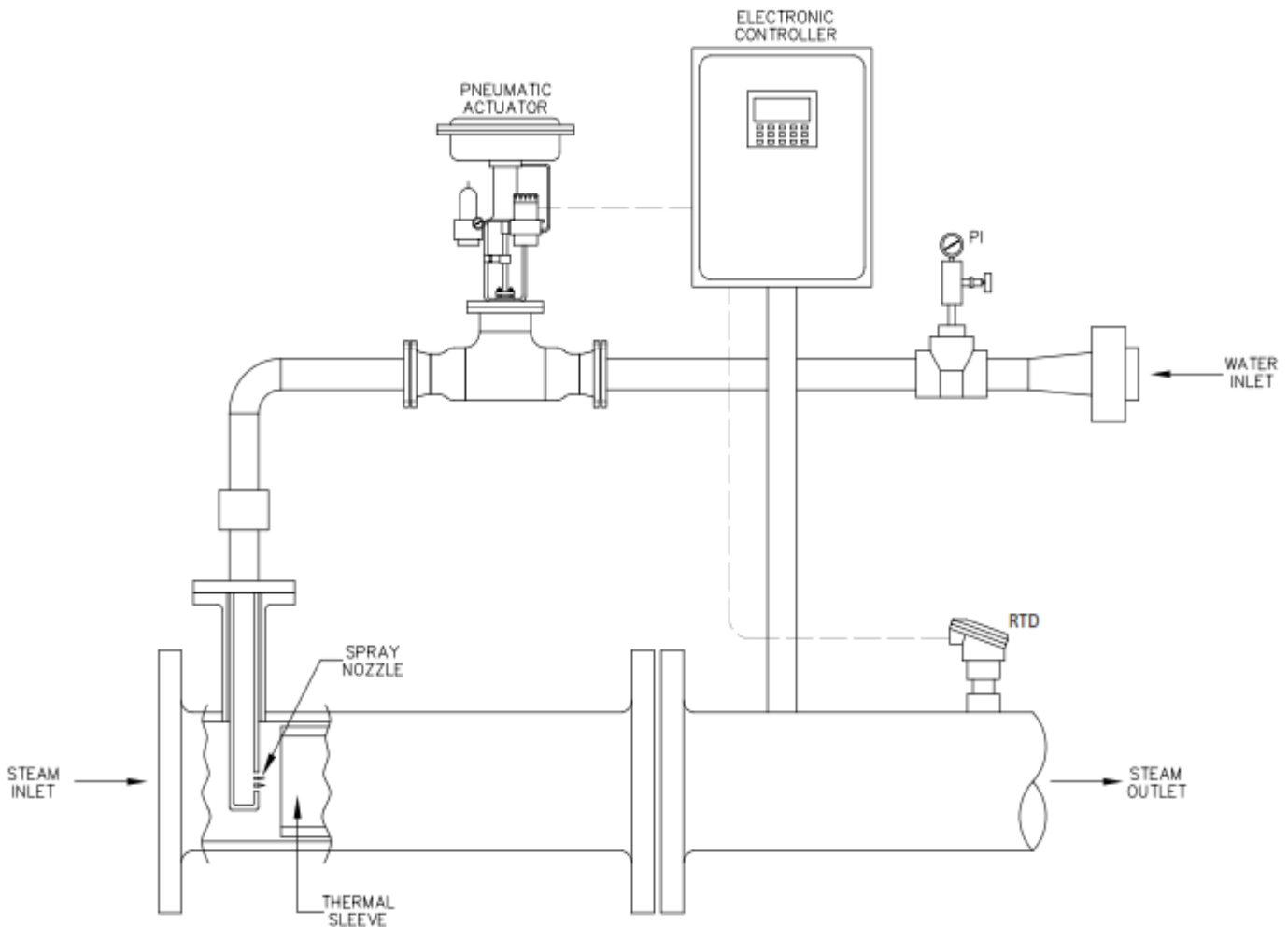
SPRAY TYPE DE-SUPERHEATER

SERIES - E3300

PRINCIPLE OF OPERATION:

When the de-superheater is operational, a measured amount of water is added to the superheated steam via a mixing arrangement within the de-superheater. As it enters the de-superheater, the cooling water evaporates by absorbing heat from the superheated steam. Consequently, the temperature of the steam is reduced. Control of the amount of water to be added is usually achieved by measuring the temperature of the downstream steam of the de-superheater.

TYPICAL TEMPERATURE CONTROL SCHEMATICS:



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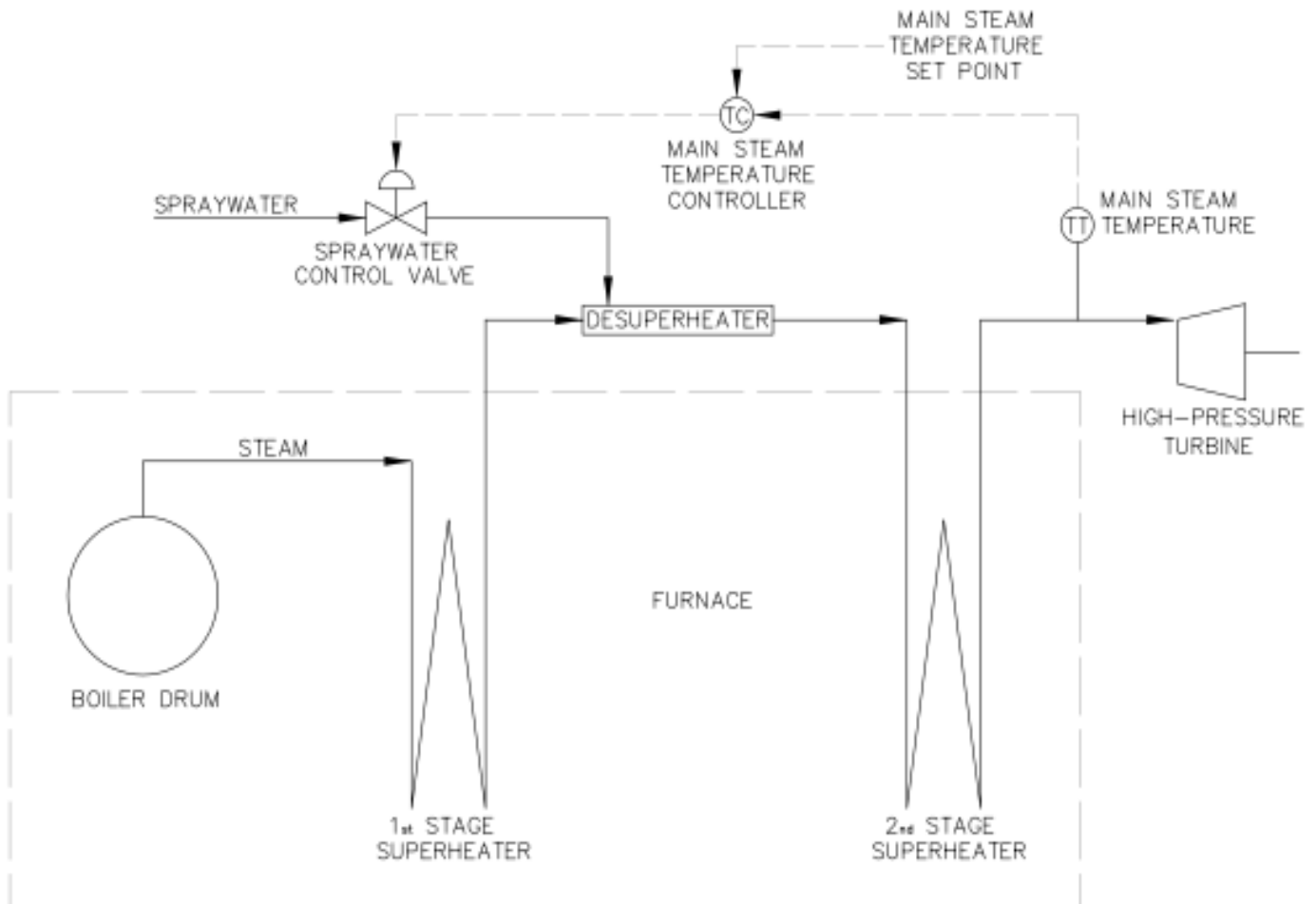
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SPRAY TYPE DE-SUPERHEATER

SERIES - E3300

TYPICAL APPLICATION - POWER BOILERS:

De-superheaters, are used in power boilers to control (reduce) the temperature of superheated steam to suit the requirements of downstream equipment – frequently a steam turbine. The usual position of a de-superheater in a boiler is between first and second stage superheaters. Performance of de-superheater at this location within a power boiler generally involves reducing temperatures of around 475°C by 50–100°C.



SPRAY TYPE DE-SUPERHEATER

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COMMON APPLICATIONS:

- 1) Paper & Board Industry - paper drying machines
- 2) Food Industry - Steam cooking kettles
- 3) Textile Industry - Fabric finishing autoclaves
- 4) Chemical & pharmaceutical industries
- 5) Refineries - thermal and catalytic crackers, vacuum distillation
- 6) Brewing & distilling

ADVANTAGES:

- 1) Range of maximum turndown ratios
- 2) Minimal pressure drop
- 3) Compact design
- 4) Easy to install & service
- 5) Consistent process performance
- 6) Improved heat transfer

MATERIAL OF CONSTRUCTION:

We offer the de-superheater with carbon steel and stainless steel as standard. Other materials can also be offered as per customer requirement.

END CONNECTIONS:

Flanged to ANSI B16.5 150# as standard. We can also provide other standard as per the requirement of the customer.