

# CSM-PD

pre-heating, degassing and storage system  
for clean steam generators



**spirax**  
**/sarco**

# Clean steam generator feedwater treatment system

To enable clean steam generators to provide the highest quality clean steam and for them to have the most efficient operation, they have to be supplied with the highest quality, treated and heated feedwater.

The CSM-PD is a complete solution designed to pre-heat, degas and then store treated feedwater prior to it being fed into a clean or pure steam generator. Three standard sizes are available, suitable for generators up to 4 200 kg/h capacity. Larger capacity units can be designed to order.



## The range at a glance

Model	Shell capacity	Working capacity	Generator capacity
CSM - PD500	500 litres	370 litres	1 100 kg/h
CSM - PD1000	1 000 litres	700 litres	2 100 kg/h
CSM - PD2000	2 000 litres	1 400 litres	4 200 kg/h

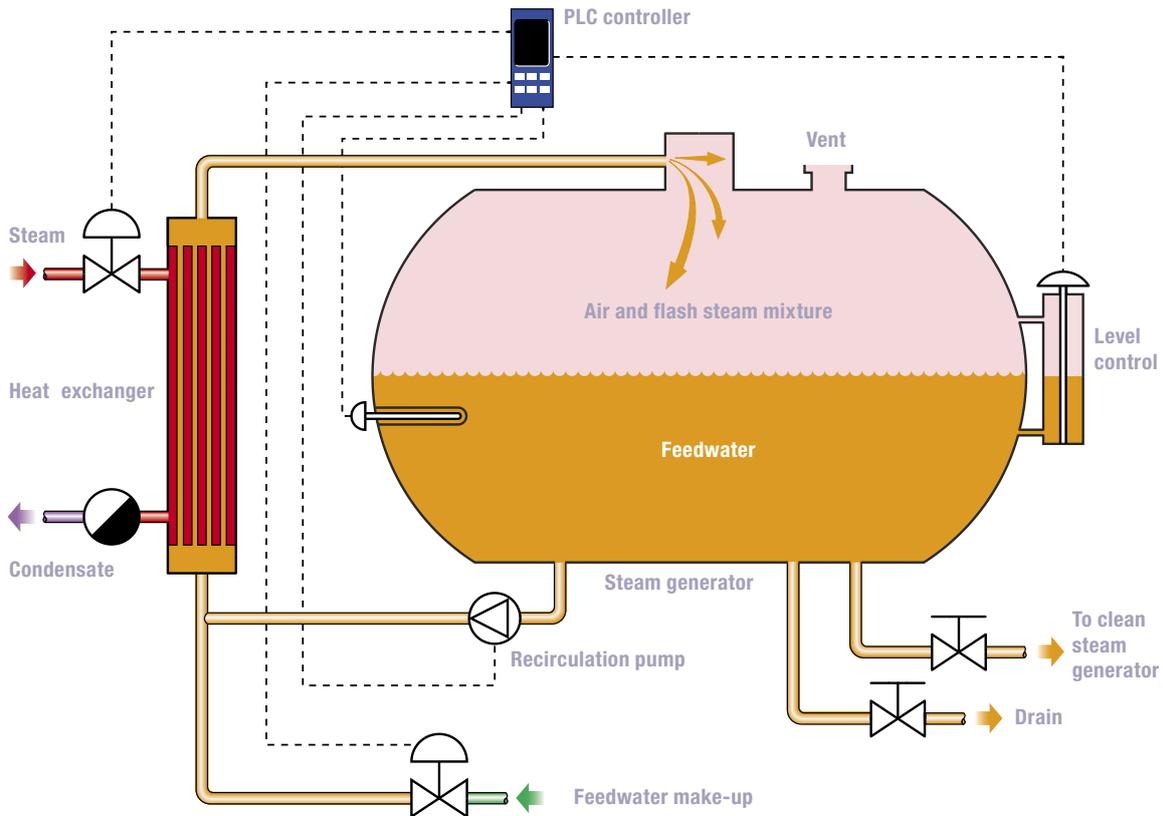
## Applications

Using the CSM-PD to pre-heat and degas feedwater before it is generated into clean steam, will increase the efficiency of the clean steam generator, reduce its whole life cycle costs and enable it to produce clean steam that meets the requirements of standards such as HTM 2031 and EN 285.

Applications	Industries
Feedwater storage Feedwater pre-heating Removal of dissolved gases from feedwater	Healthcare Food and beverages Pharmaceuticals Biotechnology Electronics Brewing



# How does the CSM-PD work?



The treated water is recirculated through a primary steam heat exchanger to drive off non-condensable gases.

## The package promise

We have long recognised that our customers want assistance with complex steam applications that are not necessarily a core competency of theirs, but are strategically important to their business.

### **As your clean steam specialists, we can:**

- help to assess your clean steam requirements.
- provide engineering services.
- supply high quality equipment.
- provide required documentation, certification and validation services.
- advise on installation.
- offer start-up and commissioning services.
- assist you in maintenance and ensure the units operate safely and efficiently throughout their working life.

You will deal with one vendor throughout the whole process, who will take on full responsibility, leaving you to do what you do best - run your business.

The CSM-PD is a complete solution to your clean steam feedwater treatment needs. It will ensure your clean steam generator operates at its optimum performance level.

Spirax Sarco is a true turnkey vendor of clean steam systems. From initial assessment of customers clean steam needs, through design, manufacturing, documentation and validation, delivery and deployment, to maintenance and life cycle support, we ensure all elements fit perfectly to achieve the highest system performance.

# Key features and benefits

## Key features

## Key benefits



**Pre-heats feedwater to 85°C without cold spots or stratification and provides storage.**

Improved pressure stability in the clean steam generator.

Improved water level stability in the clean steam generator, reducing the liquid entrainment in the clean steam.

Reduced thermal shock in the clean steam generator.

Increased output from the clean steam generator.



**Removes dissolved gases from the feedwater.**

Increased heat transfer efficiency in the clean steam generator.

Reduces corrosion in the clean steam generator.

Enables the clean steam generator to produce higher quality clean steam and meet the requirements of regulations such as HTM 2031 and EN 285.



**Pre-assembled modular design.**

Maximum output with minimum footprint.

Minimum installation time, with trouble free commissioning.

One vendor.



**Precisely matched automatic controls.**

Feedwater is supplied to the clean steam generator at the correct temperature, pressure and flowrate, however demand fluctuates.



**PLC control.**

Rapid, simple commissioning.

Accurate operation.

Operating parameters easily viewed.



**High quality, low maintenance components.**

Reliable operation with low cost of ownership.

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Some products, services or solutions may not be available in certain markets

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