

Press Release

5 November 2015

Aalborg CSP launches SGS4 configuration of steam generation systems optimized for molten salt CSP plants

As a result of continuous optimization practices, Aalborg CSP has recently developed the fourth edition of its steam generator technology for molten salt concentrated solar power plants. The upgraded SGS4 system achieves 10% reduction on technology CAPEX and up to €4 million saving on auxiliary equipment for the steam generation system designed for a 100MWe reference plant.

In order to meet emerging market expectations for lowering cost of energy for molten salt technologies, Aalborg CSP has developed a new configuration of its steam generation systems. The **SGS4** configuration is reusing the proven components with a new arrangement, allowing it to maintain key operational benefits from the former design, such as fast start-up, guaranteed leakage-free operation and low maintenance requirements.

To meet large-scale concentrated solar power (CSP) plants' critical requirements for high availability, the optimized SGS4 system is developed as **shell-and-tube type with header-and-coil equipment** complying with ASME and TEMA standards. The most significant feature of the optimized SGS4 technology is that it allows the shell-and-tube design to have **molten salt on the shell side** of all components while maintaining the option to use natural circulation for optimal and stable operation. This translates into up to €4 million saving¹ on auxiliary equipment for the steam generation system as well as lower operation and maintenance costs for two main reasons:

Firstly, the **natural circulation** in the **evaporator unit** eliminates the use of circulation pumps and the initial investment costs associated with it. Without the need to use circulation pumps, the electricity consumption and the risk for operational failures are greatly reduced.

Secondly, the components (evaporator, superheater, reheater, economizer) are placed in an **elevated layout**, contributing to **automatic venting** and achieving **easy draining** as the molten salt flows by gravity alone. Therefore, there is **less need for venting and drain valves**, enabling the customers to save on supporting equipment that they would normally have to purchase. The reduced amount of valves also makes operation and maintenance of the plant easier, especially in typical cases, such as molten salt crystallization, when cleaning of multiple valves becomes a costly burden.

To increase cost-competitiveness of the system itself, the SGS4 configuration allows smaller material thickness owing to an upgrade in the placement of tube bundles and pipes. While the basic component design is the same as the previous editions, decrease in the material thickness reduces the weight of the equipment significantly and lowers CAPEX of the system by 10%.

Meet Aalborg CSP at CSP Today Seville 2015

¹ Estimated based on a 100MWe molten salt reference plant

On 11-12 November, Aalborg CSP will be attending the 9th International Concentrated Solar Thermal Power Summit (CSP Today Seville) where latest developments, including the optimized SGS4 steam generation system for molten salt CSP plants will be introduced. To schedule a meeting with our representatives, all visitors are invited to contact Jens Taggart Pelle, Area Sales Manager on phone +45 88 16 88 46 or via email: jtp@aalborgcsp.com, as well as to stop by our booth (no. 23) at the conference to meet senior representatives from our company.

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About Aalborg CSP A/S

Aalborg CSP is leading developer and supplier of innovative renewable technologies with the definite purpose to change the way we produce energy today. Relying on extensive experience from some of the most efficient concentrated solar power (CSP) projects around the world, the company designs and delivers green technologies and integrated energy systems to lower cost of energy for industries and power plants worldwide.

Aalborg CSP places strong focus on R&D activities and partners with knowledge-based companies and institutions to create leading-edge technologies. As a result, the Aalborg CSP engineering design is centred on a value-adding concept providing solutions that excel in operation, increase plant revenue and contribute to a greener future.

Headquartered in Aalborg (Denmark) and with sales & service offices in Spain, the US, Kenya, Uganda, Australia and Indonesia, Aalborg CSP has realised cost effective green energy solutions to a variety of industries worldwide.

For more information visit www.AalborgCSP.com or follow us on [LinkedIn](#).