



January 2016

LOW SPEED VENTILATION DELIVERS HIGHLY EFFICIENT SERVER COOLING

Low Speed Ventilation (LSV) – a new, highly efficient cooling concept for server rooms – is the latest addition to Alfa Laval’s range of cooling solutions for data centers.

Millions of servers in data centers worldwide generate huge amounts of heat while handling and processing data. Conventional server cooling technology involves high air speeds of 8-9 metres per second. Moving air at this speed requires a lot of energy and can trigger the Venturi-effect, which leads to air pressure variations and the “hot spots” that can cause servers to overheat.

Alfa Laval has introduced a unique and patented cooling concept, Low Speed Ventilation, which delivers air at a considerably lower speed: 1.5 to 1.8 meters per second. Reducing air speed and delivering an optimum airflow eliminates the Venturi effect, minimizes pressure differences and therefore prevents problems such as ‘hot spots’. As LSV is a normal pressure technology, data center operators only need to control air availability, not air pressure, making it far easier to achieve optimum conditions in the server room.

As significant amounts of air are required for Low Speed Ventilation, LSV coolers are larger than conventional coolers. Alfa Laval Arctigo LSV air coolers are specially designed with a large cross-sectional area. Located outside the server room, these coolers ensure the servers are supplied with sufficient temperature-controlled air at all times, while consuming far less power than conventional server cooling solutions.

“Low Speed Ventilation is a unique technology that challenges current solutions for cooling server halls,” says Mats Carselid, Marketing Manager Data Center Cooling. “We live in an age obsessed with speed, so it may feel counter-intuitive that you can improve performance by slowing something down. However, our new concept shows that if you reduce air velocity, you can avoid problems often encountered in conventional server cooling and gain a lot of benefits such as increased energy efficiency and reduced energy costs. Just the fact that Low Speed Ventilation technology allows server halls to operate under normal air pressure makes it a true innovation.”

LSV technology, which is already operating successfully at server halls in the Netherlands, is now available in the Nordic countries.

LSV: key benefits

- **Lowest PUE** – Power Usage Effectiveness of 1.07 compared to market average for global data centers of 1.5.
- **Lower energy consumption** – “leaner cooling”, as EC fans distribute air to servers at low speed.
- **Easier maintenance** – LSV coolers are located outside the server room, making service access more convenient.
- **Lower costs** – reduces cooling-related energy bills by up to 30% depending on size, type and location of the data center



LSV coolers for server halls join the existing range of Alfa Laval products such as gasketed plate heat exchangers, dry coolers and adiabatic coolers, which can be combined in integrated systems to meet a data center's overall cooling needs.

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See more at: <http://www.alfalaval.com/datacenter>

About Alfa Laval

Alfa Laval is a leading global provider of specialized products and engineering solutions based on its key technologies of heat transfer, separation and fluid handling.

The company's equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes. The solutions help them to heat, cool, separate and transport products in industries that produce food and beverages, chemicals and petrochemicals, pharmaceuticals, starch, sugar and ethanol.

Alfa Laval's products are also used in power plants, aboard ships, in the mechanical engineering industry, in the mining industry and for wastewater treatment, as well as for comfort climate and refrigeration applications.

Alfa Laval's worldwide organization works closely with customers in nearly 100 countries to help them stay ahead in the global arena.

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