

Datacenter cooling

The Datacenter industry is a big industry in full expansion. Their needed cooling capacities grow fast, especially driven by the latest trend in cloud computing.

Typically, Datacenter owners and operators are looking for reliable, cost

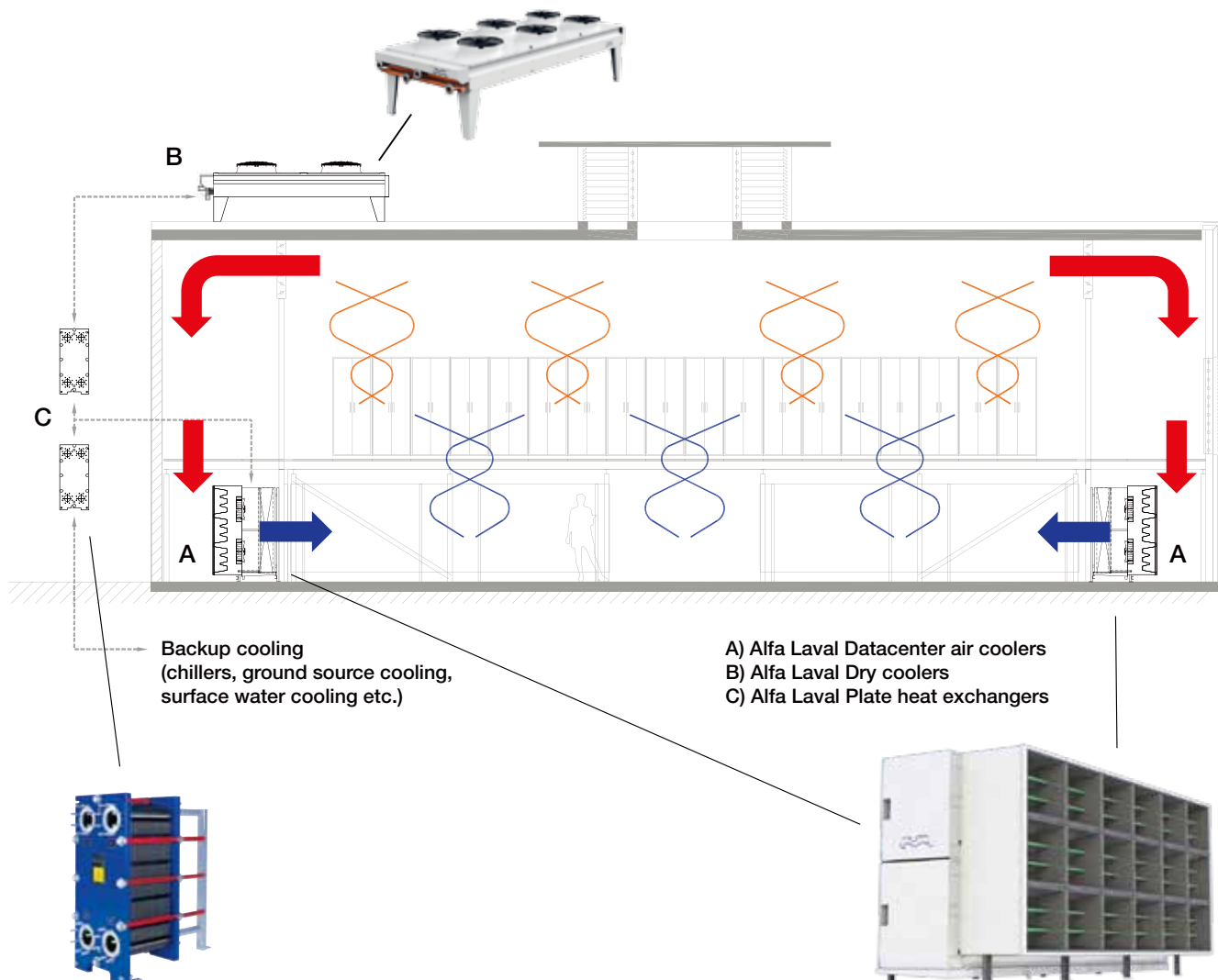
efficient equipment with long life-time, energy savings, elimination of hot spots in their servers and minimum maintenance.

The Low Speed Ventilation Datacenter concept is a completely integrated



building ventilation/recirculation system. It dissipates heat from the servers by means of low speed controlled air recirculation. As a result, hot spots are avoided at the lowest energy consumption possible (-30%).

Example of datacenter design





Additional benefits of the Low Speed Ventilation Datacenter™ concept are:

- Less investment compared with traditional Computer Room Air Conditioning units (CRAC): CAPEX -15%
- Very low maintenance cost (OPEX)
- Maintenance happens outside the whitespace, avoiding unauthorized people entering this sensitive area
- Suitable for both cold and hot containment
- Optimal temperature and humidity conditions at any server position
- Possibility to re-use dissipated heat
- No dust accumulation

Alfa Laval products used in the Low Speed Ventilation Datacenter™ concept

- **Alfa Laval THOR LSV Air Cooler**

THOR LSV air coolers are heavy duty industrial air coolers specifically designed for cooling down server heat production in datacenters that have been built according to “Low Speed Ventilation”. LSV air coolers operate with low fan speed, low air velocities and minimal pressure differences along the route of the air flow. This is achieved by the building itself being part of the system. For this reason all THOR-LSV air coolers have been designed with a nominal of 12 Pa air-sided pressure drop and a sensible heat factor of 1.0. In case of the use of direct fresh air in the computer room the THOR LSV air cooler contains a F7 or F9 filter, with a pressure drop of just 25 Pa.

- **Alfa Laval Plate heat exchangers**

Plate heat exchangers are used for general heating and cooling duties.

- **Alfa Laval Dry coolers**

Alfa Laval Dry coolers are mainly used for free cooling duties.



Alfa Laval THOR LSV Air Cooler



Alfa Laval Plate heat exchangers



Alfa Laval Dry coolers