



SCALEWAY DC5 DATA CENTER CASE STUDY



INDUSTRY: TELECOMMUNICATIONS, INTERNET HOSTING, CLOUD COMPUTING

CUSTOMER: Scaleway SAS, DC5 Datacenter

LOCATION: Saint-Ouen-l'Aumône, France

BACKGROUND: **Scaleway is an IT solutions provider that delivers hosting, cloud, colocation, and managed services to customers in the Paris metro region.**

As one of the largest data center operators in Europe, Scaleway designs, builds and operates data center infrastructures and manages over 60,000 square meters of reliable, efficient, secure data center space.

Scaleway's new hyperscale data center, DC5.

Scaleway selected an old, strategically located mail sorting office in a popular business and industrial park near Paris to convert into the new DC5 facility.

PROBLEMS TO SOLVE: **Reliable, cost-effective, year-round cooling that met the company's pressure drop requirements was a top priority for Scaleway's new data center, DC5.**

Cooling was crucial to the design of Scaleway's DC5. The facility is located in France, where the climate is temperate and air conditioning is uncommon. Europe's recommended maximum PUE of 1.3 for new data centers had to be met, and Scaleway's goal was to be below 190 Pa at 925 ft/min (4.7 m/s). Finding a solution below 200 Pa was a challenge.

WHY ARMSTRONG?: **Only Armstrong's customized, best-in-class adiabatic cooling technology could deliver the high level of performance Scaleway required.**

Scaleway turned to Armstrong's EvaPack™ because its innovative adiabatic process enables 100% of the outside air to evaporate through a cooling and humidification system. Armstrong's solution offered the dependable cooling and precise control of relative humidity required to maintain an optimum data center environment—while meeting the company's goals for efficiency and cost.

In order to keep construction simple, Scaleway limited the number of suppliers chosen for their DC5 project. Armstrong was one of only a few selected to help design and build the new data center.

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ARMSTRONG'S SOLUTION:

EvaPack™ Adiabatic Cooling.

Armstrong's unique, evaporative pad humidifier cooler utilizes free cooling while consistently delivering best-in-class PUE and WUE with lowest pressure drop and largest contact surface on the market.

Customization and Flexibility

EvaPack™ can be tailored to accommodate any customer size requirement, and performance can be increased according to the IT power density in the room. Once installed, EvaPack™ has the flexibility to adapt to future changes and requirements.

Efficiency and Savings

- | Energy sufficient design delivers a lower operating cost than any other humidifier type
- | Water wastage is significantly reduced compared to chillers or cooling towers

Safety

- | Natural evaporative process is safe and hygienic
- | No-glue construction allows compatibility with all water types
- | Noncombustible Euro Class A1 fire rating
- | World's strictest international hygienic certification, VDI6022

Simplicity and Ease of Use

- | Easier for on-site teams to maintain and operate
- | Minimizes risks of cooling equipment failure
- | Allows for the replacement of traditional cooling equipment



SCOPE OF WORK:

EvaPack™ was implemented at DC5 to provide year-round, maximum cooling power, improved PUE and WUE, and protection against smoke, outside dust and debris.

The infrastructure of Scaleway's DC5 was specifically designed for scalable cloud computing and big data.

About DC5

- | IT room (one floor)
- | Plenum dedicated to moving vast amounts of air (one floor)
- | 12 private suites
- | 16,000 square meters of surface area
- | 24MW of IT power

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SIGNIFICANT RESULTS:

Armstrong's EvaPack™ keeps DC5's servers at a constant temperature in summer and winter, without the use of any air conditioning.

EvaPack™ was less expensive to implement, the compact design was quick and easy to install, and it delivers 170 Pa—markedly surpassing Scaleway's goal of 190 Pa. Not only does EvaPack™ enable DC5 to meet Europe's new data center PUE requirements, it achieves the ASHRAE 90.4 Energy Standard for Data Centers.

A superior, highly efficient alternative to mechanical cooling,

With EvaPack™, air that enters DC5 is cooled before moving into the IT rooms. The direct free cooling system uses a natural evaporative process to maintain a constant temperature of 84°F (29°C +/- 1°C) in the cold aisles. When air temperature rises above 84°F (29°C), cooling is enabled.



Armstrong's EvaPack™ solves problems and prevents them for Scaleway and DC5.

As a direct result of EvaPack™ Adiabatic Cooling, the DC5 data center has achieved lower cooling costs and a higher rate of efficiency than any of Scaleway's previously constructed facilities. EvaPack™ has the ability to adapt to changes in cooling capacities, preparing the data center for expansions and increased server densities in the future.

Including EvaPack™ in the design of DC5 has resulted in substantial benefits for the data center and helped to sustain growth of Scaleway's business.

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