

# Sustainable cooling for global cloud data center

With the increasing reliance on IT operations in today's society, it is crucial to have energy efficient data centres with maximum reliability, security and performance. Aruba S.p.A. in Bergamo is the largest and most modern global cloud data center in Italy with services all around Europe. To maximise efficiency and energy savings, Aruba chose to work with Alfa Laval for their cooling system to secure the highest level of efficiency and reliability with minimal environmental impact.



## Data center solution reducing energy waste

Aruba is powered exclusively by energy from renewable sources with certificate of origins (GO – Guarantee of Origins). Moreover, the company uses their own renewable energy such as hydroelectric and photovoltaic, which is also delivered to the national grid.

Whilst it is essential to keep the temperature of the hardware under control, cooling the whole area of the data rooms would result in a significant waste of energy. The system used for cooling the servers and other equipment results from an extremely efficient containment of the flows of incoming cold air and outgoing hot air. Using groundwater as the main cooling energy source enables Aruba to reduce energy waste.

## Tailor-made solutions for minimum environmental impact

The groundwater cooling system for the primary circuit works on the heat exchangers (2N redundancy) that cool the secondary circuit towards the data rooms. Alfa Laval products are part of this core area of the geothermal system. For this reason, they are an essential part of the efficiency process.

To secure high-level performance and efficiency, whilst considering the the specific needs of the geothermal system, Alfa Laval provided tailor-made solutions with gasketed plate heat exchangers (GPHE) and Alfa Laval Filters (ALF). The customized T-series were specifically chosen because of the high-level performance features of the products.

“The solutions that we chose in Alfa Laval – both the heat exchangers and the water filter – contribute to reach the high level of quality and reliability of our Data Centers’ system. They allow us to optimize use of groundwater in terms of efficiency so as to have a minimum level of impact on the environment.”

Alessandro Bruschini, Infrastructure Manager of Aruba S.p.A.

With the support and consultancy provided by Alfa Laval in the process of purchase and installation of the solutions, the system was in place as planned.



### Footprint

Reducing environmental footprint by using energy from renewable sources and an energy efficient system.



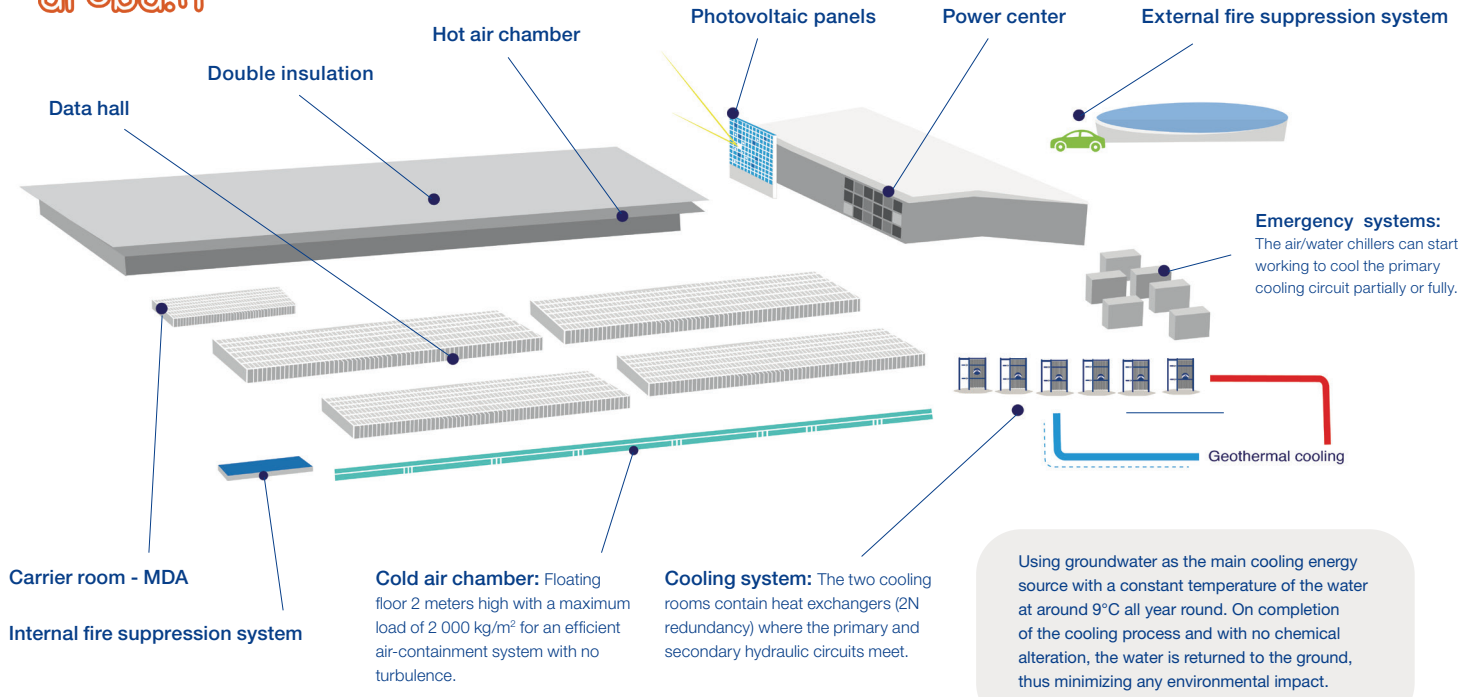
### Energy savings

The GPHE and ALF system allows for optimized efficiency through the use of groundwater.



### Cost savings

Shorter stops and less maintenance needed, saving time and money.



“What matters the most is the relationship with Aruba, it pays off in a long run being the main bond between the two companies, in addition to Alfa Laval top-notch equipment, expertise and reliability”

Bianca Restantia, HVAC & Data Center Sales Manager GPHE Energy Division Italy

The Alfa Laval team was available to support and follow throughout the whole process always considering top level and quality of the services creating a safe and reliable installation.

**Reliable, efficient, and sustainable**

The Alfa Laval solution resulted in a reduced energy consumption for the site due to the high efficiency of the heat exchangers. The system also reduced waste and provided a higher throughput. The high level of reliability results in shorter stops and less maintenance needed saving time and money.

To optimize the system’s efficiency and continuity, Alfa Laval ‘Smart Connectivity’ was tested to implement predictive maintenance using measuring devices and sensors to obtain data about the efficiency and the status of the product. The monitoring process is continual which will result in a fuller data set allowing for more system improvements to create further efficiency and greater performance.

“The relationship with Aruba was born and developed on common objectives such as energy saving, low environmental impact and optimization of the use of resources. The reliability and know-how of the products and solutions applied have successfully sealed this relationship.”

Stefano Meloni, GPHE Business Unit Manager and Product Manager HE Adriatic Region



GPHE & ALF SYSTEM

**How to contact Alfa Laval**

Up-to-date Alfa Laval contact details for all countries are always available on our website at [www.alfalaval.com](http://www.alfalaval.com)

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