

# Data Center Cooling

## Product Overview



# Systemair – your partner in Data Center Cooling

The data center industry is growing rapidly and is focusing more and more on efficiency and maximum uptime. With more capacity and higher density there is a need for energy efficient cooling of the IT equipment.

The most efficient data centers will use products and innovative techniques that can reach PUE value close to 1.0 as well as focus on ERE to recover as much energy as possible in all types of geographies and climate zones.

With more than 200 engineers and 11 R & D centers around the world Systemair offers a wide range of robust and reliable ventilation and air-conditioning products developed to the latest standards and rigorously tested. That's why we can guarantee that our products are delivering the correct performance.

Around the globe our competent and experienced engineers and sales support teams are at your service.

You can TRUST Systemair to be your partner in establishing and maintaining comprehensive HVAC solutions and products for a super efficient data center.



City	Yearly power saving below 23°C using free cooling [kWh]	Saving after 5 years operating with free cooling in a 300 kW DCC installation [€]
Berlin	181.000	435.000
London	185.000	444.000
Madrid	178.000	428.000
Moscow	171.000	411.000
Oslo	178.000	427.000
Paris	177.000	426.000

*Savings with free cooling operation in different places.*

## Direct Free Cooling units for Data Centers

Systemair units are specially designed for data center facilities for both outdoor and indoor installation. All units are modular and easy to install and maintain.

The units are always delivered with controls and every unit is commissioned in our factory to ensure functionality.

Systemair Direct Free Cooling units are high quality designed units that use the most efficient components which results in minimum operating costs and a low carbon footprint.

The units are available in the range from 50 to 300 kW cooling capacity and use outdoor air adiabatic cooling to obtain a low OPEX.

- Innovative cooling ensuring low OPEX
- Energy efficient EC-fans
- Efficient filtration of air
- Integrated controls and sensors
- Factory tested
- Tier 3 ready : ATyS & UPS for controls as option
- Compact sizes

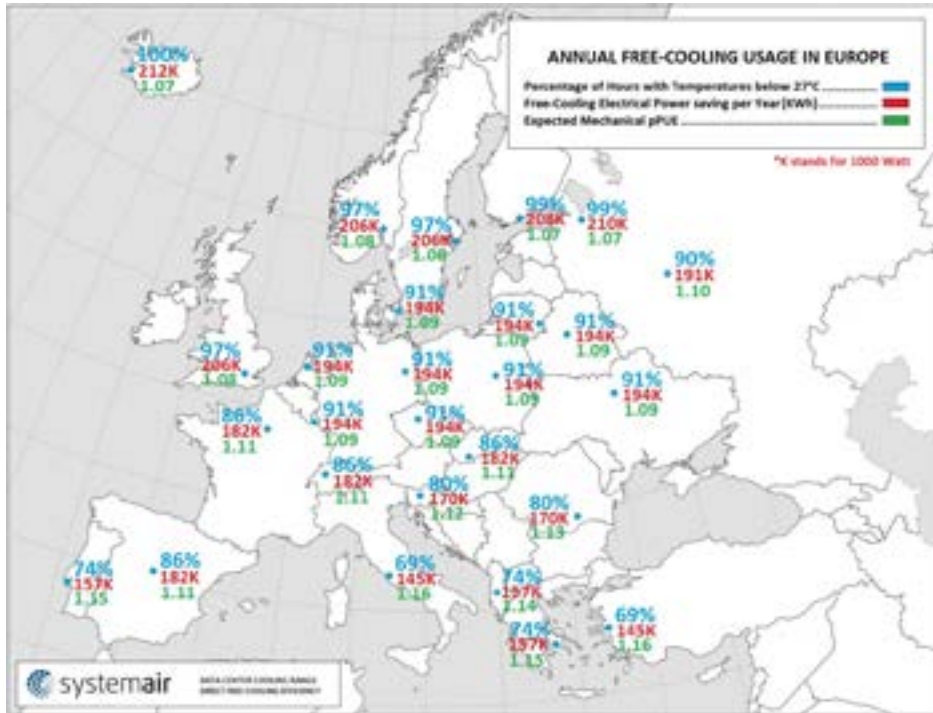


# Free Cooling air handling units

## Taking advantage of favorable outside conditions

Free cooling is a highly efficient method that uses low temperature outdoor air to cool the datacenter considerably thus reducing total energy consumption. Considering ASHRAE regulations for IT equipment

optimum operating conditions it is possible to free cool at a maximum outdoor air temperature of 27°C and directly apply air mixing without mechanical support in most European countries.



Systemair's Free Cooling technology stands for its class leading efficiency.

Calculations based on a one-year power saving of approximately 180.000 kW in the city of Madrid show that it is possible to estimate, for a 5 year basis and unit power of 250 kW, an average energy saving of 3.600.000 kWh.

In terms of money, cost reduction would add up to a total of above 432.000 € during the same period of time, using an energy cost reference value of 0.12 €/kWh.

## Indirect Free Cooling units for Data Centers

Systemair Indirect Free Cooling units are specially designed for energy efficient cooling of IT equipment in data center facilities.

The adiabatic free cooling unit have a water recovery solution to ensure a low WUE and will operate throughout most of the year in North and Central Europe.

If the design outdoor temperature is higher than 27°C a plug and play DX package can be integrated inside the unit for further mechanical support.

Systemair Indirect Free Cooling will ensure a low mechanical PUE and minimal OPEX and also has an optional energy recovery module to obtain a good Energy Re-use Factor and ERE-value.

- Ultra efficient freecooling with no outside air in datacenter
- Single stage adiabatic cooling with water recovery for low WUE
- Intergrated controls and sensors
- Factory tested
- Energy efficient EC-fans
- Tier 3 ready : ATyS & UPS for controls as option
- Plug and play DX-package as option
- Energy recover module as option



