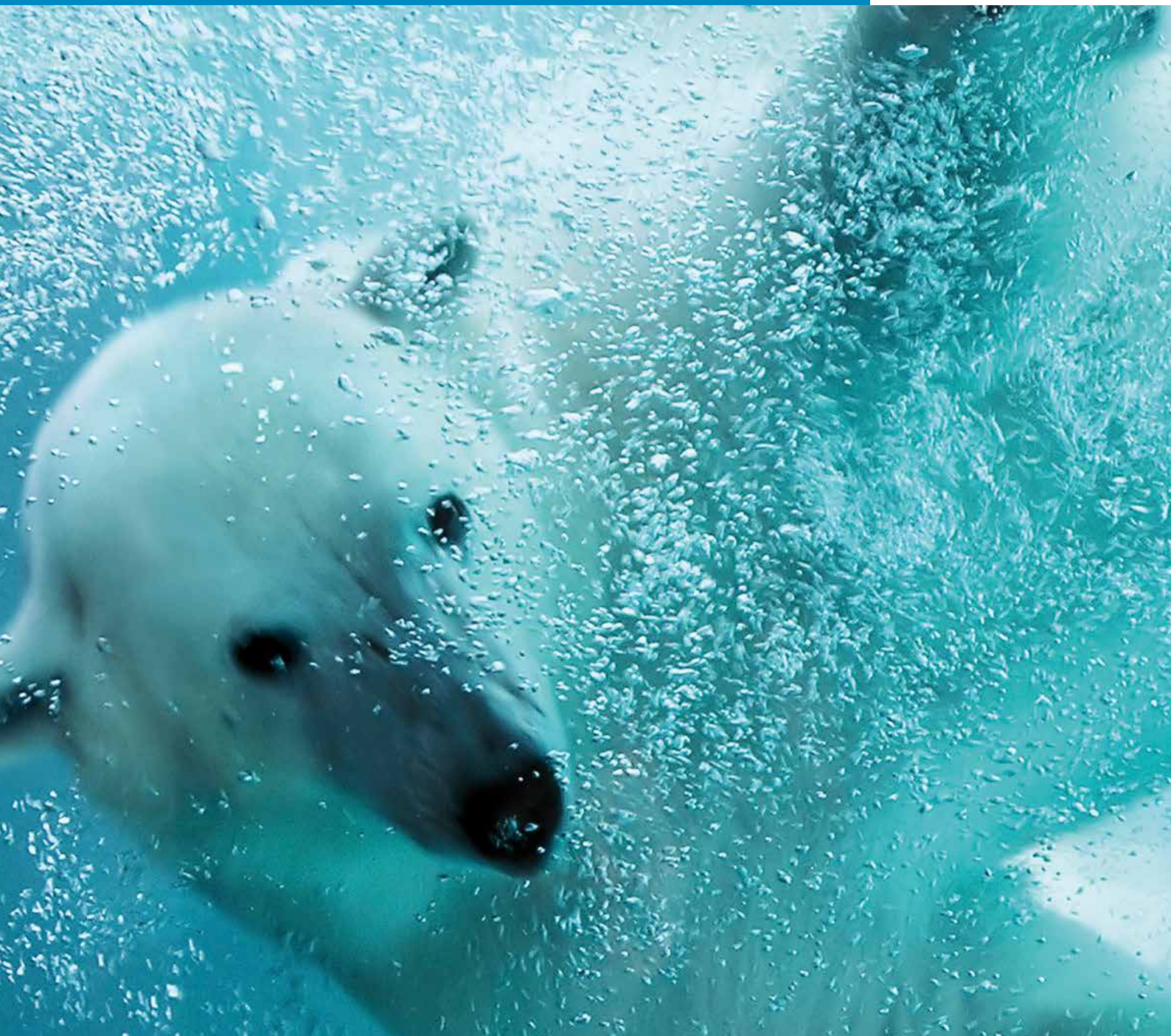


Quality of air means quality of life



## Adiabatic cooling systems

Reduce costs and CO<sub>2</sub> emissions  
through evaporative cooling



HANSA is a member of the association of manufacturers for air conditioning devices  
(Raumlufttechnische Geräte e.V.)

Blue Line ASB

# About us

## The company

Our company, the HANSA Klimasysteme GmbH, was founded in 1971 and is based in Strücklingen in the municipality Saterland. We have been guaranteeing sophisticated and high-quality air conditioning systems for more than 45 years.

Since the founding of the company, we have been known for the construction of air-conditioning systems for schools, sports halls, swimming pools and hospitals as well as for use in both industry and process engineering in Germany and world-wide.

As member of the association of manufacturers for air conditioning devices (RLT Herstellerverbandes e.V.), we undertake to construct our devices according to the associations' guidelines to always guarantee quality, operational safety and legal security for our customers and operators. Our certified (TÜV Süd) construction software ensures comparable energy efficiency labeling.

The construction and production are performed in QM-conditions according to DIN EN ISO 9001:2015.

## Our product range

Custom solutions for a range of applications is the central point of our work. We produce individual units for ventilation, air conditioning, heat dissipation and dehumidification.

Also, we offer configurable and scalable standard AHUs for a range of applications.



DIN EN ISO 9001  
REG.-NR. Q1 0195002



HANSA factory site

# Evaporative cooling

## Function

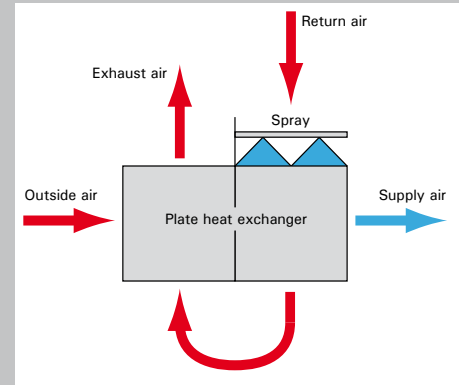
On cooling request, the return air side of the plate heat exchanger is sprayed with water, resulting in cooling the return air adiabatically and detracting the energy used for evaporation of residual water from the plate heat exchanger. This is called double-stage indirect adiabatic cooling. Using this process, the absolute humidity of the supply air can be kept constant.

## Advantages of the Blue Line ASB system

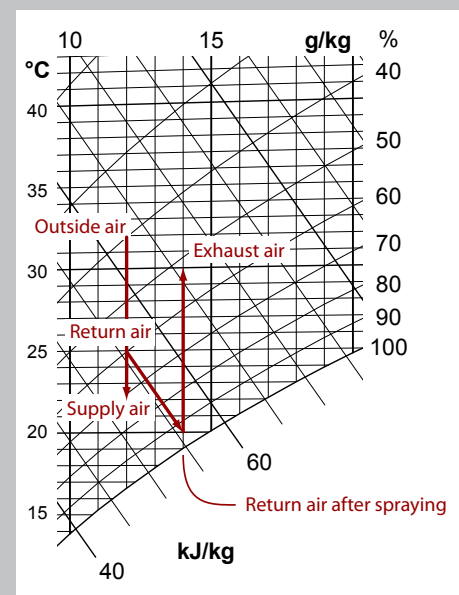
- no moving parts
- coplanar injection of evaporated water into the plate heat exchanger for evenly distributing the water
- nearly complete evaporation with little water consumption
- no circulating water, therefore perfect hygiene
- All-in-one solution including independent DDC and cleaning system

## HANSA Blue Line ASB

The HANSA Blue Line ASB system is based on a double plate heat exchanger. Cooling of the outside air is in the range of 10 K at a temperature of 32 °C (89.6 °F) and a relative air humidity of 40 %. Typically, this is enough to reach the recommended temperature difference between inside and outside temperature of 6 K. Any additional cooling requirements can be met by adding DX cooling, e.g., HANSA's etaCool system. Talk to us about if and how adiabatic cooling can be integrated into your project.



Shown are both airstreams outside air/supply air and return air/exhaust air through the plate heat exchanger. Spray valves are mounted on the return air side, injecting nebulized water into the airstream.



This image shows an example of air handling by a HANSA ASB. When there is a cooling request, the return air side of the plate heat exchanger is sprayed with water, resulting in evaporative cooling of the return air. This air flows through the heat exchanger, taking energy from the outside air. The indirect adiabatic cooling does not raise absolute humidity of the supply air.

## Operation modes Blue Line ASB – Examples



HANSA Blue Line ASB in summer operating mode with activated DX cooling and evaporative cooling (ASB).



HANSA Blue Line ASB in operating mode spring/autumn with partly free cooling by using a bypass.

- up to 10 K cooling (at 32 °C [89.6 °F] / 40 % r.h.)
- perfect hygiene without circulating water
- costs reduced by 2/3 compared to DX cooling
- auto cleaning

# References

More and more AHUs are equipped with HANSA ASB, e.g.:

- APS Bietigheim-Bissingen
- Berendsen Textilservice GmbH
- Archeology park, Xanten
- Hall Sportif à Lorentzweiler
- Roadhouse Hunsrück-West
- Office Building Thor Speyer
- Palace of Justice, Munich (Court)
- Sewage Works, Dresden-Kaditz
- Sophie Scholl School, Gießen
- Power Station Mittelbaden, Lahr
- La Maison Relais à Clemency (LU)
- Town Hall, Diekirch (LU)
- Office building, rue de Strasbourg (LU)
- Computing center Festo, Esslingen works
- School Center, Junglinster (LU)
- Seniorie Sainte Zithe, Contern (LU)
- Park Plaza, Karlsruhe
- University of Applied Sciences, Pforzheim
- Business Center, Koblenz
- University of Applied Sciences, Kaiserslautern
- Andernacher Bimswerk
- Central Institute of Mental Health, Mannheim
- Peppenhoven Ost service station



Palace of Justice, Munich (Court)



Sewage Works, Dresden-Kaditz



La Maison Relais à Clemency (LU)

# HANSA Climate Systems



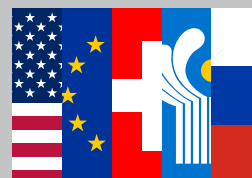
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