



ADC High Density

Adiabatic
Dry Cooler

500 – 3,500 kW



JAEGGI – The Original

Since 1929, JAEGGI has been involved in the development, production and sale of heat exchangers. Since 1995, the company has been part of the Güntner Group, a global manufacturer of components for refrigeration, air-conditioning technology and industrial applications with a total workforce of around 3,000 people. Through our production facilities in Europe, America and Asia, we have direct access to the market and can provide spare parts anywhere in the world.

JAEGGI places economic efficiency and environmental protection on an equal footing. Our products and services make an active contribution to lowering your operating costs and conserving resources.



Our coolers are tested for hygiene conformity and aerosol emissions. Our quality management system which complies with ISO 9001 and is provided by the Swiss Association for Quality and Management Systems SQS guarantees premium quality and maximum reliability for our customers throughout the world.

Adiabatic Dry Cooler High Density

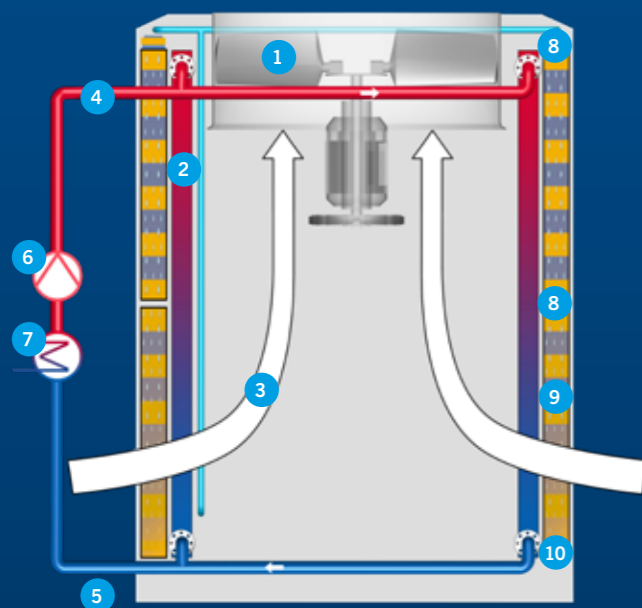
Maximum performance with a small footprint

When developing the ADC High Density, achieving maximum power density was a key priority. These units are therefore ideal for high-power applications such as the cooling of IT systems.

Even in dry operation, the extremely compact cube with a minimal footprint offers huge power and thus a high switch point for activating the adiabatic pre-cooling unit – saving you money in the process!

The adiabatic pre-cooling unit is attached over the entire height of the cube for maximum performance. All mounted parts and components are integrated into the casing. Even the fan cannot be seen from the outside.

Modular industrial design – tidy and practical.



- | | |
|-------------------|-------------------------|
| 1. Fan unit | 1. Primary circuit pump |
| 2. Heat exchanger | 2. Heat source |
| 3. Air flow | 3. Wetting water inlet |
| 4. Supply | 4. Humidification pad |
| 5. Return | 5. Wetting water outlet |



The ADC High Density in detail

One controller – everything under control

- Intelligent controller regulates speed and humidification
- Large display for operation and visualization
- Very low energy consumption thanks to the use of highly efficient industrial fans driven by IE3 standard motors
- Very low water consumption thanks to a high dry/wet switch point
- Volume regulation saves water

Perfect adjustment, easy bringing-in procedure

- Ideal dimensions for standard low-loader transport
- Torsion-resistant construction
- Factory-fitted transport lugs
- Simple crane transport without lifting beam

Numerous possible combinations

- Various combinations of materials
- Configurable tube materials and geometries
- Various tube circuitry options
- Various fin spacings possible

High Density – compact and powerful

- Maximum thermal performance with a small footprint
- Very large heat exchanger surface over the entire height of the unit
- Use of high-performance super low noise fans

Easy inspections, cleaning and maintenance

- Inspection doors ensure easy accessibility
- Easy to clean thanks to robust materials and clever design
- Spare parts available quickly anywhere in the world

Highly efficient humidification system

- Robust humidification pad
- No spraying
- Unlimited wetting duration
- Without water circulation as standard
- Generally no water treatment required

Adiabatic pre-cooling boosts performance

- Fluid cooling to below the ambient temperature is possible
- For high outdoor temperatures or heavy system loads
- Without direct wetting of the heat exchangers
- Energy can be dissipated by convection

Hygienic operation

- Automatic draining
- Dry heat exchanger
- Aerosol and vapour-free
- Filtering effect of the pads protects heat exchangers



Dry or wet – performance as required

Adiabatic operating principle

JAEGGI Hybrid Coolers can be used either wet or dry. Both modes offer excellent dry cooler performance with a small footprint and low operating costs. The cooling limit, i.e. the theoretically best possible return temperature for the ADC HD is tied to the wet bulb temperature of the ambient air at the heat exchanger.

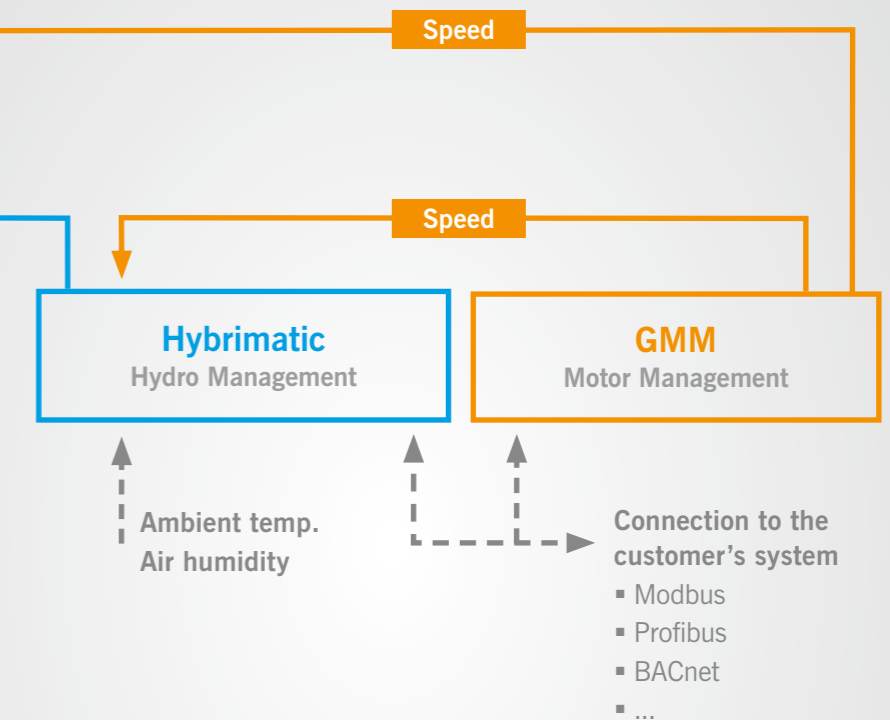
Our experts will configure the ADC HD specifically for your application and optimize it for use in your system. This is the only way of optimally dimensioning the dry coolers and minimising the cost of operating the entire system.



Hybrimatic – intelligent controller reduces operating costs

The smart Hybrimatic control unit continuously records the amount of water applied, the speed of the fans and the state of the ambient air. This reduces your operating costs without any loss of performance, **thus saving you money.** The necessary information for

this such as the fan speed is read out from Guntner Motor Management GMM via the bus communication. This speed information can alternatively be transmitted using a 0 – 10 volt signal.



Efficiency mode

The Hybrimatic is also capable of checking the operating costs during operation. This provides the basis for an **integrated cost management function**, which continually decides whether applying water or changing the speed represents the more cost-saving and therefore more efficient mode of operation. To this end, the water quantity is constantly recorded in this system.

Safe and hygienic operation

The clever design of the ADC High Density takes into account the recognized technical rules when it comes to the hygienic operation of evaporative cooling systems. The pre-cooling unit with humidification fluid is completely separate from the heat exchanger.

The humidification controller supplies the easily replaceable humidification pads only with the amount of water needed depending on the particular situation. This minimizes water consumption and prevents standing water. In the event of inactivity, the pre-cooling unit is automatically drained. The factory-fitted feed water line can also be drained or ventilated via the unit.

The heat exchanger remains completely dry thanks to the separate pre-cooling unit. As a result, regulations such as the 42nd federal law for the protection against emissions (BImSchV) which is in force in Germany do not apply to the unit. You will find a detailed statement from JAEGGI regarding the ADC High Density and how the 42nd BImSchV applies to it on our homepage at: www.jaeggi-hybrid.ch.

Sales staff have also taken part in "Hygiene Training under VDI 2047, Sheet 2" and are certified to ensure that evaporative cooling systems are operated in line with hygiene requirements.

As a result, JAEGGI offers its customers added value on three levels: expert advice over the entire life cycle of units, safety thanks to carefully constructed units equipped with suitable control systems and certified employees.



Inspection and maintenance

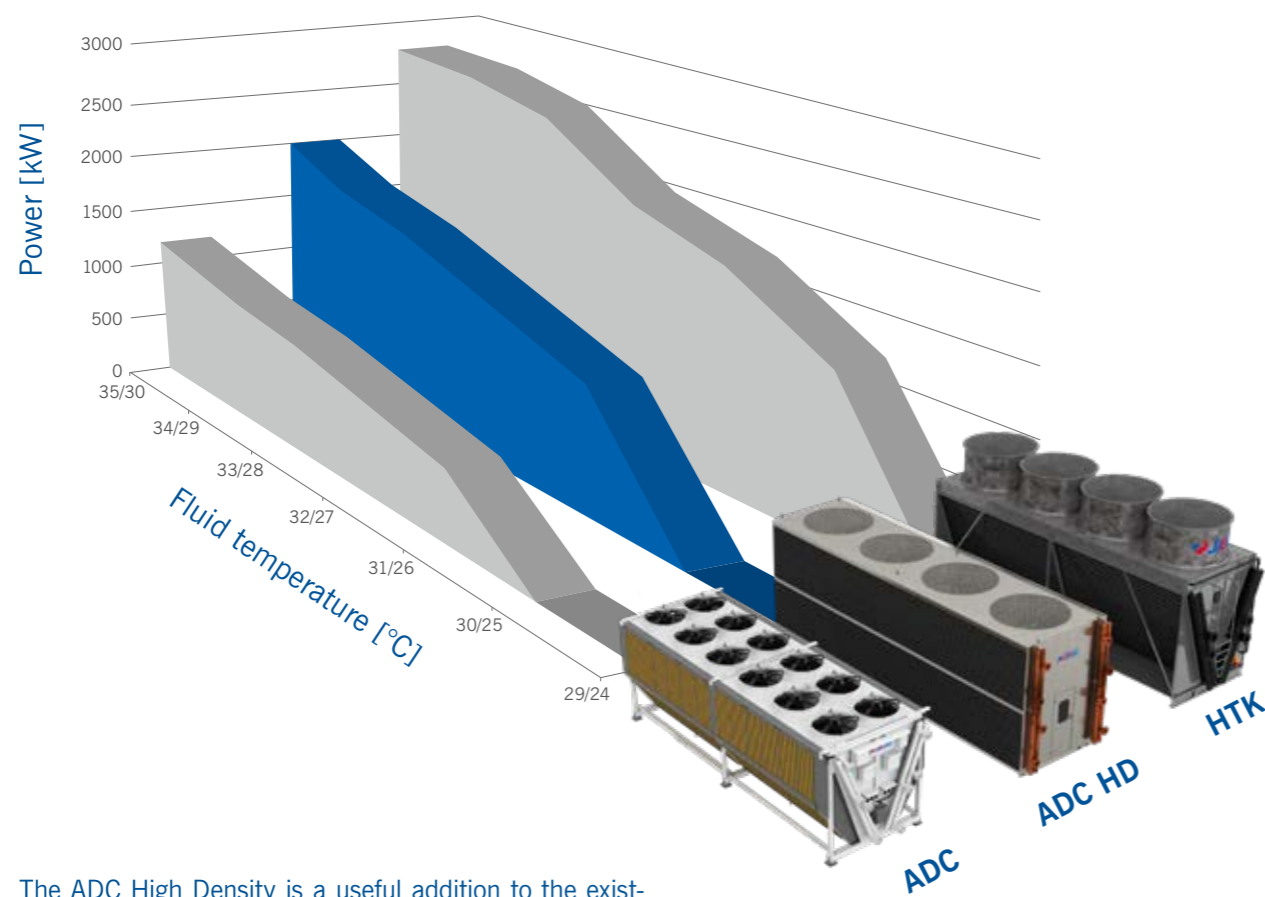
The ADC HD is easy to work on. Thanks to a large lockable inspection door, all internal components can be accessed quickly and easily. This makes all inspection, servicing and maintenance work easier.

Talking of service, not only are all spare parts available anywhere in the world, our service staff can assist you if you request this. The service includes all work which is necessary over the entire life cycle – from commissioning to disassembly.

Complete capacity range

The performance requirements as regards dry cooling technologies have been increasing for years. At the same time, the space available for installing units is becoming more and more limited. By developing our compact ADC High Density with an adiabatic pre-cooling system, we cater for these requirements and thus offer a high-performance solution for a wide variety of applications. Thanks to their large heat exchanger surfaces, ADC HD units offer excellent performance even in dry operation.

The system thus has a high switch point for activating the pre-cooling unit. With the aerodynamically optimized industrial valves, high airflow volumes and low noise emissions are achieved in spite of the high pressure loss across the heat exchanger and the pre-cooling unit. The unit's recessed fans ensure optimum air distribution over the entire face area.



The ADC High Density is a useful addition to the existing service portfolio. Thanks to its greater construction height, greater cooling capacity can be achieved with the same footprint.

Thanks to the adiabatic pre-cooling unit, our ADC and ADC HD adiabatic dry coolers achieve fluid outlet temperatures with an approach temperature (approaching the wet bulb temperature) of approx. 5 – 6 K.

The particular advantage of the pre-cooling unit lies in the fact that normal municipal water can be used. As a result, there is no need for water treatment such as softening or desalination and no need for biocides.

Because the heat exchangers remain dry, there is no risk of deposits and corrosion – unlike with sprayed coolers.

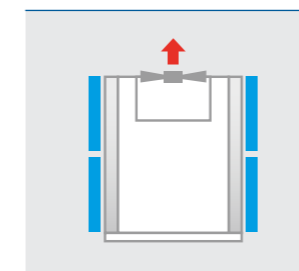
Hybrid dry coolers from the HTK series are available for smaller approach temperatures and for even greater capacities with the same footprint. Thanks to the direct evaporation of the wetting water on the heat exchangers, approach temperatures of up to 3 K can be achieved.

Technical details

Overview

Dimensions in metres	2.6 m to 11.4 m (length) x 3 m (width) x 3.95 m (height)
Empty weight in kg	3,800 – 16,800
Transportation/delivery	<ul style="list-style-type: none"> Delivered assembled Optimized for low-loader transport Wrapped in plastic film in inclement weather

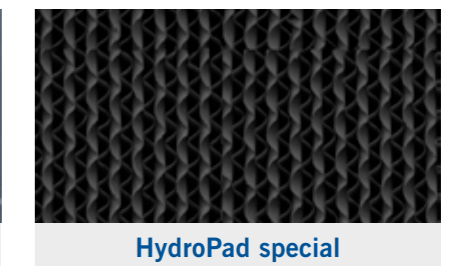
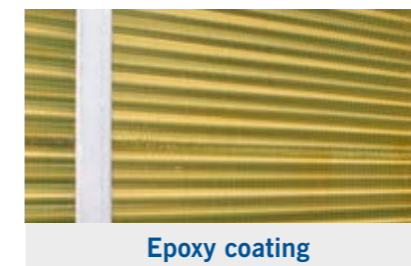
Unit set-up



Capacity

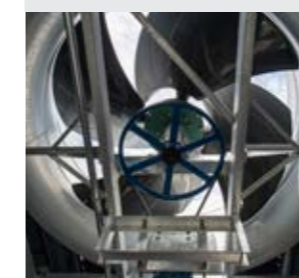
	Fluid	Nominal capacity	Pressure stages
Fluid cooler	Glycol	500 – 2,000 kW	16 bar

Available accessories



Fans

Number: 1 – 4
 Arrangement: one row
 Ø: 84"
 Air flow direction: draw-through
 Voltage: 400 V
 Frequency: 50 Hz



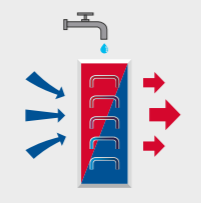
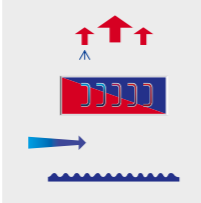
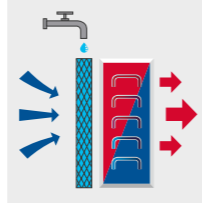
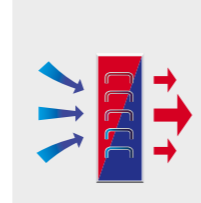
Available materials

	Tube	Fin	Casing	Frame
AlMg			✓	
Aluminium		✓		
Copper	✓			
Aluminium, epoxy-resin coated		✓		
Galvanised steel				✓
Galvanized sheet steel			✓	
Stainless steel	✓		✓	

✓ Standard version

Comparison

Comparison and assessment of the available dry cooling technologies according to various criteria:

	 JAEGGI HTK	 Closed cooling tower	 JAEGGI ADC HD	 Dry cooler
Power density	● ● ● ●	● ● ● ●	● ● ● ○	● ○ ○ ○
Approach temperature	● ● ● ◐	● ● ◐ ○	● ● ◐ ○	—
No introduction of contamination	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Low energy consumption	● ● ◐ ○	● ● ○ ○	● ● ● ◐	● ◐ ○ ○
Low water consumption	● ● ◐ ○	◐ ○ ○ ○	● ● ● ○	● ● ● ●
Legionella protection requirements	● ● ● ○	○ ○ ○ ○	● ● ● ●	● ● ● ●
Low noise emissions	● ● ◐ ○	● ○ ○ ○	● ● ● ●	● ● ● ●
Investment	● ○ ○ ○	● ● ○ ○	● ◐ ○ ○	● ● ● ●
Maintenance	● ◐ ○ ○	● ◐ ○ ○	● ● ● ○	● ● ● ●

● ● ● ● Very good ○ ○ ○ ○ Poor

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