



SINCE 1910

Hybrid dehumidifiers



Hybrid dehumidifiers

Reinders Industrial is the leading supplier of hybrid dehumidification systems. We offer you the most effective and technical solution for hybrid dehumidification available today. For the benefit of your production process, we can configure a dehumidifier entirely to your requirements.

Customized according to your requirements:

- + Guaranteed product quality
- + Excellent for processes with a maximum dehumidification temperature
- + More residual heat than condenser heat alone
- + All components are accessible through the housing
- + Optimized to minimize energy consumption
- + Subsidy opportunities for the heat pump technology used by the hybrid dehumidification

Reinders Industrial hybrid dehumidification are built with **high-quality materials:**

- + Robust steel frame
- + Aluminium cabinet profiles
- + Double-walled and insulated panels made of galvanized and powder-coated plate
- + Cabinet panels are smooth on the inside for hygiene reasons
- + Equipped with class EU7 bag filters to protect internal components and prevent rapid pollution of the rotor keeping the drying capacity intact

Configuration hybrid dehumidifier

Adsorption drying with heat pump regeneration

A hybrid dehumidifier is designed to draw air in from the outside. Regeneration is provided by a heat pump.

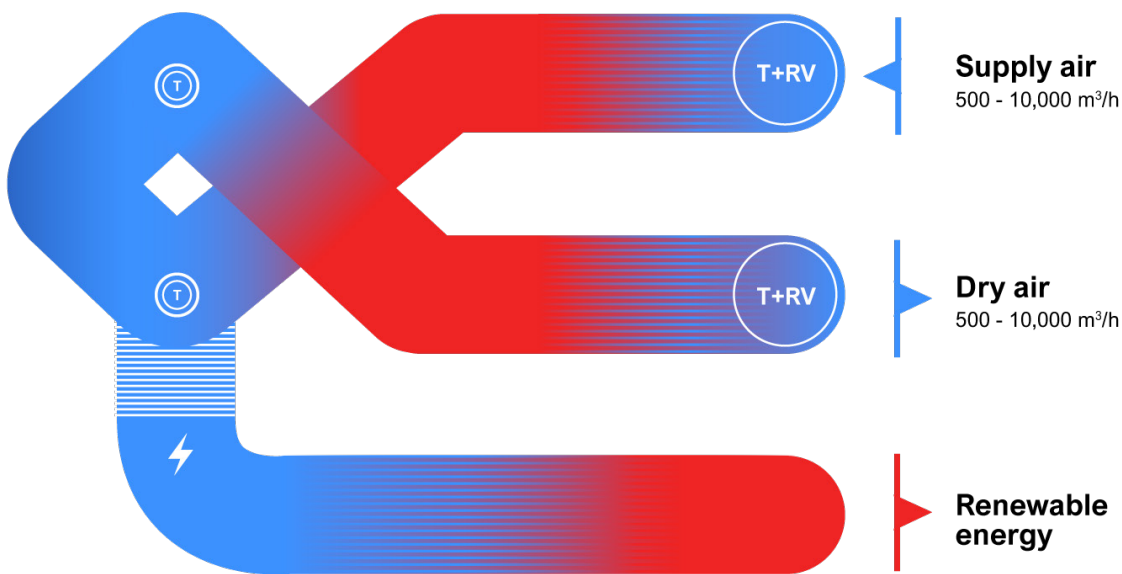
Process air

The heat pump is able to provide entirely independent regeneration energy. The process air is cooled and will have the required temperature and humidity levels after passing the rotor.

Regeneration air

The regeneration air is entirely obtained from the outside. It successively passes a liquid cooler, the condenser, the drying wheel and a cooling block. Some of the air

used to cool the condenser can pass through the rotor. Excess process air is returned to the regeneration section through a three-way valve. Dehumidification capacity increases as dried air is used for regeneration. In the liquid cooler, residual heat is extracted from the hot refrigerant. This increases the COP of the refrigeration system, allowing a smaller compressor with lower energy consumption.



Specifications

The Reinders Industrial dehumidification systems include:

- + PLC-control including stepless capacity control cooling system 25-100%
- + Touchscreen for process visualization, parameter setting and status readout
- + Integrated control cabinet with electrical components
- + Temperature sensors
- + Industrial T+RV sensor outside air
- + Semi-hermetic suction gas-cooled R513a compressor, frequency controlled. Includes oil pressure controller, oil pump and more powerful electric motor
- + High and low pressure protections according to PED
- + Adsorption motor in 50/50 configuration (82% bonded silica gel)
- + Cu/Al internal evaporator
- + Cu/Al internal condenser
- + Cu/Al internal liquid subcooler
- + Cu/Al internal evaporator for heat recovery
- + Frequency controlled radial fan
- + Expansion valve
- + EU7 filter section
- + Differential pressure sensors for filter resistance
- + Differential pressure sensors for flow rate measurement of fans
- + Airside three-way valve and actuator for bypass process regeneration

The following system specifications can be determined based on your requirements:

- | | |
|---|----------------------------------|
| + Dehumidification capacity (liters/hour) | + Housing dimensions (mm) |
| + Outside air maximum | Rotor diameter |
| Temperature (°C) | Housing |
| Absolute humidity (g.kg-1) | + Electrical connection (V/ph/A) |
| Associated RH (liters/hour) | + Outflow dehumidifier |
| + Filterclass process air | Flow rate (m3/h) |
| + Available external static pressure process air (Pa) | Available external pressure (Pa) |
| | Temperature (°C) |
| | Absolute moisture content |





Maintenance

Annual maintenance is essential for the optimal functioning of your dehumidifier as well as to prevent malfunctions and premature aging. If a defect is detected, our technician can intervene immediately by checking the correct parameters and settings, by cleaning the parts and repairing or replacing them. It is also good to know that preventively maintained dehumidifier(s) last even longer and are also more economical to operate.

Reinders Industrial can provide you the following options:

Maintenance plan

If you opt for a maintenance contract, Reinders Industrial will provide a full maintenance service once a year, including replacement of the suggested parts.

Maintenance and breakdown plan

In addition to the annual maintenance service, you also benefit from our breakdown service. Our 24-hour technical service is available 365 days a year, including weekends and holidays. With our dedicated service team, we will try to solve your breakdown the same day.



Industrial

Reinders Corporation

Reinders Industrial is a proud member of Reinders Corporation. A private company in the 4th generation, operating in more than 100 countries across six continents. Since 1910, the name Reinders has come to be associated with a reputation for excellence in air and climate solutions worldwide.

Interested or questions?

Get in touch with us. The experts of Reinders Industrial are at your service!

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