

Efficiency in food and energy processes

Further development of the GEA Fricostar *Micro* dehumidifier for swimming pools

Better than ever

For the new version of the GEA Fricostar *Micro* dehumidifiers for swimming pools, developers at GEA have combined the previous proven basic design with new efficiency technology. One example here is energy recuperation. Thanks to the ECOPLAT2 double-plate heat exchanger, the CWC version offers efficient dual heat recovery. An integrated heat pump circuit means that the CAC version features an additional, third stage of heat recovery. Both versions have built-in, continuously variable EC fans that enable power-saving partial-load operation. The DDC control system also make a contribution to lowering operational costs, since it automatically selects the optimal mode of operation.

GEA engineers have also optimized air routing in accordance with efficiency criteria. The new enclosure concept enables low internal air-flow speed. The interior flat flaps for recirculated air, mixed air, and bypass operations have been optimized in favor of reduced air turbulence – resulting in less air resistance.

The new versions, however, remain as compact as their predecessors. This is evident, for example, in the smallest model for a maximum of 1,500 m³/h air flow and 5 kg/h dehumidification rating, with dimensions of only 1,700 mm height, 1,640 mm width, and 760 mm depth. The largest model – 1,800 mm high, 2,760 mm wide and 760 mm deep – offers 3,700 m³/h throughput and removal of 23 kg/h of humidity from the air. Thanks to this small enclosure depth, all models can be delivered into machine rooms through standard-width doors. To save room, connections for outside air and outgoing air can be installed on the top side of the units.

The new GEA Fricostar *Micro* units are fast and convenient to install. The control cabinet with DDC control, for example, is now mounted on the inside of the enclosure, and is completely pre-wired. These units are, in addition, easy to service. They have large doors on the operator-control side, and the heat exchanger units are installed separately from each other, in accordance with hygiene regulations. This makes inspection and cleaning easy. Three model sizes of the GEA Fricostar *Micro* are available, with selection also possible of GEA corrosion-protection Class 2 for salt spa swimming pools.

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Energy monitoring with Fricostar

For the first time, GEA Fricostar models offer energy monitoring, for which the future-oriented M bus has been selected as basis. The M bus (meter bus) is internationally standardized and enables values from (for example) meters for heat, electrical power, and water to be read into a higher-level process-control system. In this way, the GEA Fricostar records consumption data for fans and compressors, which can be displayed by the control system. A meter provided on the customer's side for measuring heat volume for the electric heating coil completes the package. These monitoring features in this way allow display or read-off of current power consumption, cumulated consumption values, specific fan power values, or heat-recuperation data. In addition, bar diagrams give the operator the possibility to monitor plots for a week – which enables optimization of system operation on the basis of data on operational time, temperatures, etc. These monitoring systems provide for transmission of all data by bus (BACnet, MOD, LON, KNX, etc.) to a higher-level building management system. For the first time, this allows documentation of energy-saving operations.

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About GEA

GEA Group Aktiengesellschaft is one of the largest systems providers in the food and beverages industries and in energy production. Group sales in 2010 were more than 4.4 billion euros. As an internationally active technological enterprise, GEA Group has concentrated on process engineering and components for demanding production processes in a wide range of end-user markets. The Group generates around 70 % of its sales in long-term growth industries for food, beverages, and energy. As of 31 December 2010 the Group internationally employed more than 20,000 staff. In its business areas, GEA Group is among the leading companies on the market and in technological developments. GEA Group is listed on the German MDAX stock index (G1A, WKN 660200).