Air is our element
KLINGENBURG
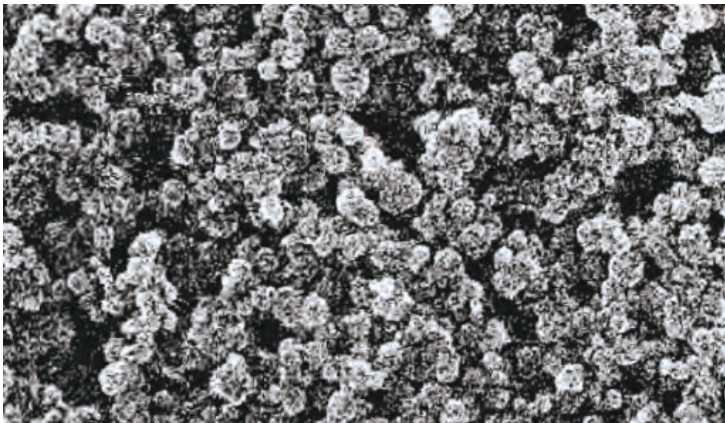*energy recovery our* *passion*

HUgo sorptions rotor
The global all-rounder

Coating Technology

HUgo sorption rotors – the global all-rounder

Effective in warm, humid climate zones
In warm, humid climates the HUgo extracts most of the moisture and heat from the inflowing external air, thus creating a pleasant indoor climate. At the same time, it recovers most of the cool and dry air from the room, thus reducing the otherwise high power consumption of the air-conditioning unit.

Effective in temperate climates
In temperate climates the HUgo recovers most of the energy from the air that is heated and humidified in the building. This significantly reduces the energy required to heat and humidify the building.

Excellent transfer properties
DekaTru® technology offers an exceptionally fine and homogenous coating for the rotor matrix. This ensures excellent transfer properties for both temperature and moisture and therefore very high heat and moisture recovery coefficients.
The HUgo sorption rotor offers less pressure loss than any competitor.

Particularly hygienic – no odour formation
HUgo offers optimal efficiencies – but without bacterial settling or odour formation. The sorption coating, developed by Klingenburg, possesses a unique surface structure. The particle size of the sorption medium is significantly smaller than other zeolites or even silica gel.

The pore size of the HUgo zeolite coating is just 0.3 or 0.4 nanometres (3 or 4 Ångstrom units). It thus captures water by harnessing the adsorption principle. Bacteria are not given a chance to collect, and odour formation does not occur. Known as selective sorption, this process guarantees maximum air hygiene.

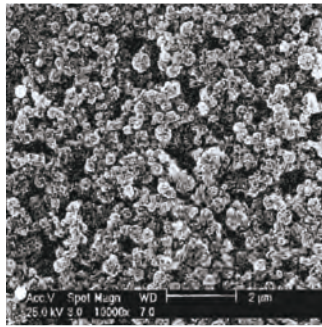**Comparison of SilicaGel-coating with HUgo zeolite-coating**

SilicaGel - no selective adsorption

● Bacteria ● Water

HUgo Zeolite coating
Selective adsorption
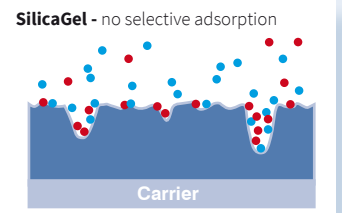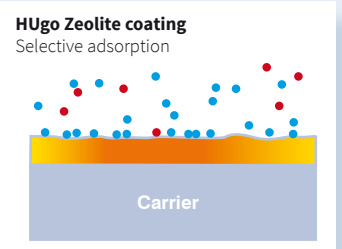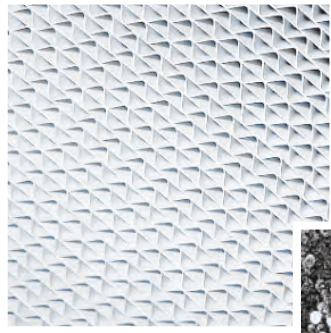
Original size
1,9 mm wave heigh

Surface electron microscope snapshot of a HUgo coating on aluminium foil. Good visibility of the spherical zeolite-A-particles in the nanometer region

The storage mass with DekaTru® coating technology can clean with high pressure water cleaning.

Comparison of sorption materials

	Salts	Silicagel	Zeolites	HUgo Zeolite
Capacity	+	+	−	+
Adhesion	−	−	+	+
Kinetics	+	+	−	+
Avoidance of odours	+	−	+	+
Long term stability	−	−	+	+
Costs performance / ratio	−	+	−	+
Number of possible applications	−	−	+	+
Sum	+++	+++	++++	+++++++

DekaTru® coating technology – unrivalled resistance and durability

The unique Klingenburg DekaTru® coating technology makes it possible to achieve unrivalled adhesion of the zeolite coating to the storage masses. This guarantees a high level of durability of up to 15 years. The HUgo thus completely meets VDI 2067 guidelines, Sheet 1.

Storage masses using DekaTru® coating can be cleaned with a high-pressure water jet without eroding the coating or causing the rotor conduction properties to decline.

Advantages of HUgo at a glance

- Can be used all over the world – for cooling and drying, for warming and humidifying
- Outstanding performance thanks to its high adsorption and desorption capacity
- Low pressure loss
- Rapid absorption and release of moisture (kinetics)
- Hygienically sound due to uniform pore size of just 0.3 or 0.4 nanometres (3 or 4 Ångstrom units)
- No odour formation
- Minimal coating thickness
- Smooth surface
- High level of durability and good adhesion to substrate thanks to DekaTru®coating technology
- Millimetre accuracy to customer's specified dimensions, supplied as internal unit or as flange rotor with lining
- Diameters available between 300 and 8000 millimetres

Talk to us. We would be happy to advise you, naturally also regarding planning and design. Telephone: +49 2043 96360.

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KLINGENBURG

energy recovery our **passion**

**Rotary
Heat Exchanger**

- ◼ Execution as aluminum, epoxy, enthalpy or sorption rotor
- ◼ High Temperature Rotor made of stainless steel

**Counterflow-
Plate Heat Exchanger**

- ◼ Aluminium, PET and epoxy versions available
- ◼ Highest efficiency

**Crossflow-
Plate Heat Exchanger**

- ◼ Aluminium, PET, epoxy and stainless steel versions available