PRODUCT SHEET

Munters HCE Series

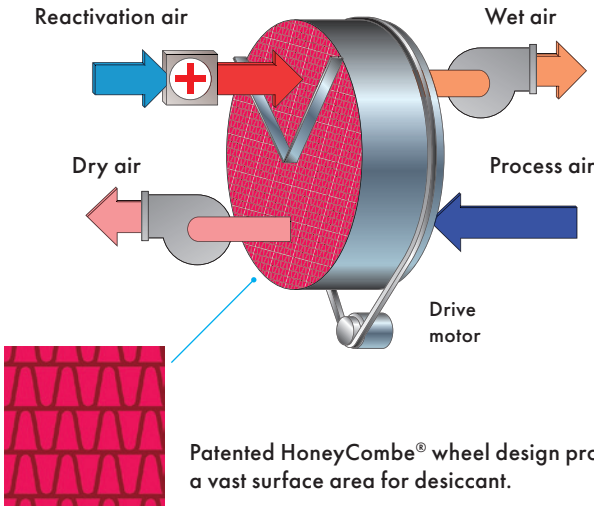
Large-scale modular desiccant dehumidifiers — 15,000, 20,000, 30,000, 40,000

Four large-scale, modular HCE models are available, designed for easy in-line adaptation to large volume air systems with high latent loads. They dry between 9,000 to 40,000 scfm with moisture removal up to 1060 pounds of water per hour (@ 75°F/50% RH). Dew points down to -55°F or lower can be provided. If greater capacity is needed, multiple units are the practical and economical way to get the job done.

Features

- Weather-tight construction for indoor or outdoor use
- Low profile cassette design
- Quick access for easy maintenance
- Sectored wheel
- Modulating electric, gas or steam reactivation
- Multiple blower orientations

Desiccant rotors



Patented HoneyCombe® wheel design provides a vast surface area for desiccant.

In the 1950s, Munters invented modern industrial dehumidification when it introduced the self-regenerating desiccant rotor, the heart of the dehumidifier.

Advantages of our industrial dehumidifying systems

Economical

They feature low operating and maintenance costs, low energy requirements and minimal preventive maintenance. HoneyCombe® high capacity dehumidifiers are designed with energy conservation as a prime consideration.

Sectored wheel

The high capacity HoneyCombe wheel is a unique sectored construction built up around a shaft, hub and bearing assembly mounted in the frame. This sectored construction provides additional structural integrity for high capacity systems. Also, disassembly features make it possible to incorporate in existing air handling systems without need for major redesign and building modification.

Engineering excellence

HoneyCombe units are compact, simple to control, offer easy access to working parts and are compatible with built up or package system techniques.

Continuous non-cyclic duty

They operate 24 hours a day, delivering constant dry air. They are ideal for critical process systems vital to production quality and flow, as well as storage applications.

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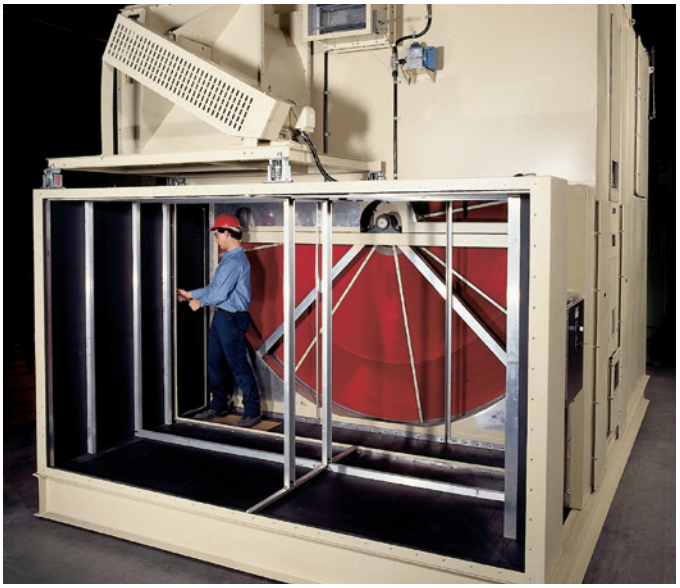
The HoneyCombe sectored desiccant wheel

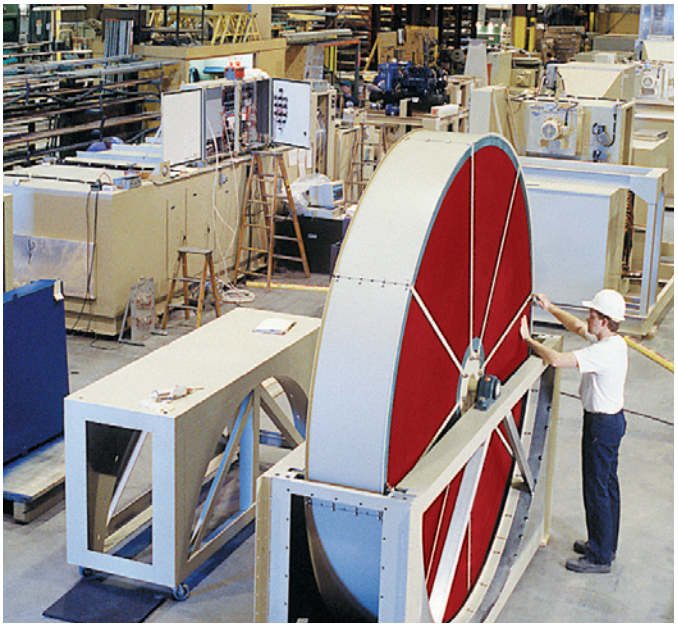
The drying efficiency, compactness and simplicity of this unique structure make it superior to other techniques and construction available today. There are no liquids, no granules and no dusting. Just dry air.

The wheel core is made of a non-metallic, non-corrosive, inert structure, impregnated with a non-granular, solid desiccant, which transfers water in the vapor phase. The desiccant is evenly dispersed throughout the wheel structure. There is no settling, erosion or attrition of the desiccant. The corrugated structure forms uniform channels parallel to the axis of air flow, allowing laminar air flow to give maximum moisture transfer with minimum air friction loss.

The wheel rotates slowly at approximately 6-10 rph. Humid process air passing through the channels is dried. Simultaneously, a counter flowing hot air stream passes through the channels in the reactivation sector and removes moisture picked up by the desiccant, assuring continuous predictable drying.

The wheel can be impregnated with a solid desiccant – such as lithium chloride, titanium silica gel, HPX, HCR or molecular sieve – as is best suited to your application. All Munters HoneyCombe desiccant wheels are NFPA 255 and ASTM E84 compliant.





Applications of the HCE dehumidifier

Many industrial processes require dehumidification. The Munters HCE dehumidifier is ideal for drying large areas, continuous drying tunnels or product drying conveyors. It can control moisture levels for hygroscopic and heat sensitive materials in the processing of chemicals, pharmaceuticals, candies, foods, plastics, pyrotechnics and semiconductors.

HCE units can provide continuous, close tolerance humidity control of clean rooms, laboratories, and medical research facilities. They provide condensation control in breweries, film lines, meat processing plants and other applications.

They can also provide automatic humidity control of storage areas above or below ground, for short or long term preservation of hygroscopic materials, semi finished and finished products, and documents and films.

Finally, they can provide effective humidity control of large volumes of outside air used for ventilation of laboratories, enclosed arenas or any occupied spaces. Chillers can be off loaded in peak AC situations as a result.

Whatever your requirements may be, the HCE dehumidifier can solve your humidity problems. If you should need a system tailored to your exact specification, we can integrate the dehumidifier into a complete HVAC system designed especially for you.

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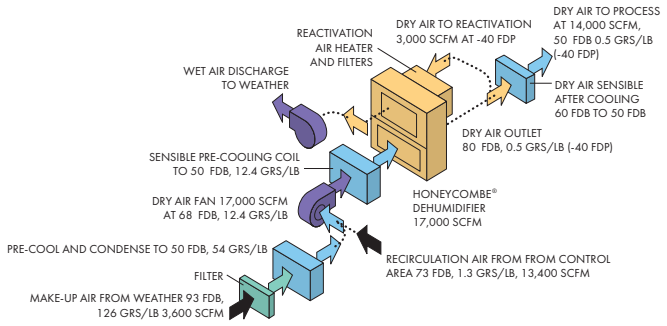
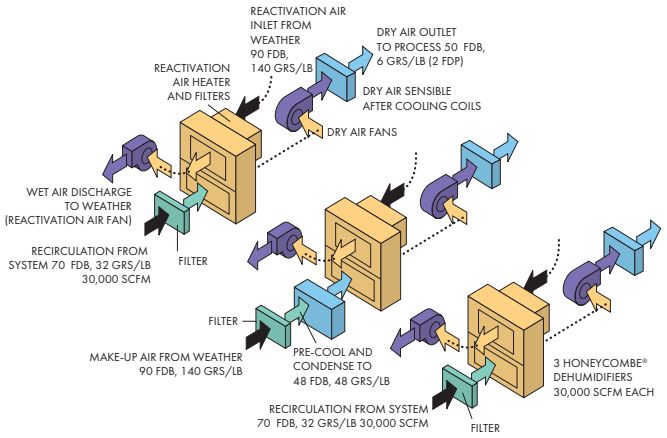
Typical applications

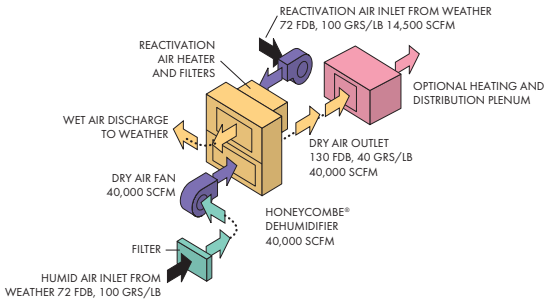
Low range dew point control for 17,000 SCFM process air system
Deliver -40 FDP air to process extremely moisture sensitive materials



Mid-range dew point control for 90,000 SCFM process system
Quality control in precision manufacturing area



High range dew point control for 40,000 SCFM process system
Heat drying and curing



Specifications

The HCE HoneyCombe desiccant wheel sectors shall be US manufactured and made of 5 micron diameter or larger extruded fiber glass paper impregnated with a desiccant. The wheel shall consist of 400 mm deep sectors mounted in a hub and spoke configuration supported by center shaft with radial steel plate members and carbon steel circumferential rims. Desiccant substrate to be NFPA-255 and ASTM E84 compliant.

Full face contact pressure seals of rulon coated silicon rubber bulb construction shall be provided to separate the process and reactivation air streams and eliminate detrimental leakage of air or moisture with static pressure differentials of up to 8" of water column. Wheel shall be rotated by twin V-belt arrangement from a motor/gear reducer assembly and housed in carbon steel or aluminum cassette frame. A 1" foil face fiberglass insulation on frame shall isolate the heated reactivation air stream to minimize heat transfer.

Standard HCE assembly shall provide for steam reactivation. Steam reactivation shall be provided by steam coils of non-freeze type construction with 5/8" O.D., 0.049" wall copper condensing tubes with mechanically bonded aluminum fins. Steam coils shall be suitable for up to 150 psig working pressure. Steam piping including traps and modulating steam valve shall be provided by others.

Filters on the reactivation air stream shall be provided. Filters shall be 2" deep washable metal mesh held in place by aluminum channels welded in place, top and bottom, with spacers on back-up plates to minimize bypass. Filters shall be removable from either side through quick release access panels.

The reactivation air blower shall be belt driven, non-overloading, backward inclined, air foil blade type with full OSHA belt guard. Blower motors shall be mounted on slide rails to allow adjustment of belt tension without repositioning of guard. Blower assembly is mounted on a rigid structural steel base supported at not less than four points by spring type vibration isolators with overall isolation efficiency of not less than 95% at design speed. A reactivation inlet air damper with proportioning actuator to modulate the air flow over the steam coils (and in turn modulate reactivation energy input), based on reactivation outlet air temperature, shall be provided.

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A NEMA 4 control enclosure shall be provided for remote mounting and display on the door panel, having a group of three unit status lights –"Power On", "Running" and "Fault" – and a selector switch for "Auto/Off/Manual" operation.

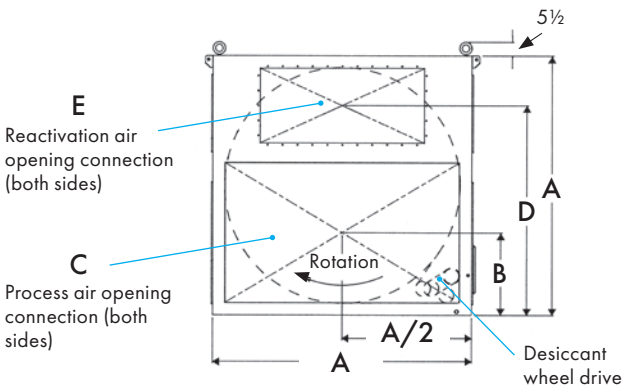
All sensors, switches, actuators and motors for reactivation air moving/heating and wheel rotation located on the dehumidifier shall be labeled and ready for interconnecting wiring by others to the corresponding labeled terminals in the control enclosure. A remote start/stop interlock (for auto operation) shall be provided at labeled terminals in the control enclosure. Fault circuitry shall provide for detection of wheel rotation failure and low reactivation outlet air temperature. All factory wiring shall be in accordance with the latest edition of the National Electric Code. The dehumidifier shall be functionally tested at the factory. Power supply by others shall be _____ Volts/3 Phase/_____Hertz.

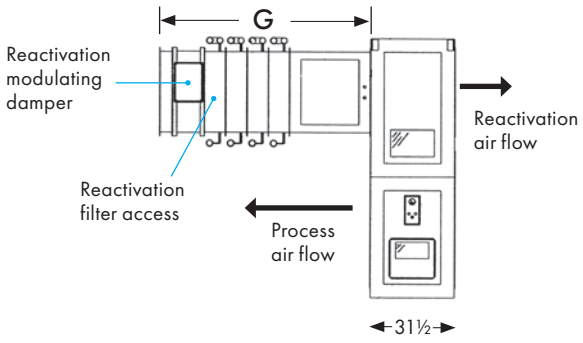
The supply air blower and filter shall be provided by others.

Gas fired (direct or indirect) or electric reactivation is available. Consult factory for further specifications on these alternatives to steam reactivation.

Refer to Munters psychrometric chart for performance estimates. Consult factory or local representative for detailed performance evaluation.

Model HCE dehumidifier





Dimensions table (in inches) for standard steam reactivated HCE dehumidifiers*

Model	A	B	C (H x W)	D	E (H x W)	G			Weight (lbs.)	
						2 Coils	3 Coils	4 Coils	HCE (4 coils with modulation)	Remote reactivation blower
HCE 15,000	96	29	48(H) x 86(W)	76	30(H) x 50(W)	63⅛	71⅛	79⅛	4500	1275
HCE 20,000	104	33	56(H) x 94(W)	84	30(H) x 66(W)	63⅛	71⅛	79⅛	5200	1360
HCE 30,000	122	37	64(H) x 112(W)	97	40(H) x 80(W)	63⅛	71⅛	79⅛	6700	1525
HCE 40,000	144	43½	77(H) x 134(W)	115	48(H) x 96(W)	63⅛	71⅛	79⅛	9600	1970

*Consult factory for dimensions on gas fired (direct or indirect) and electric reactivated HCE dehumidifiers.

Find your nearest Munters office at **www.munters.com**