

Why dehum recommends desiccant



There are a number of ways to affect the humidity of the air around you. Popular methods include:

1. Ventilation
2. Heating
3. Cooling

The drawbacks with the aforementioned list include:

1. **Ventilation** – ventilated air has to have a lower moisture content to be effective, Therefore, it is at the mercy of changing weather conditions.
2. **Heating** – lowers relative humidity (RH%) levels but absolute humidity and dew point remain unchanged. Can also be expensive in energy terms.
3. **Cooling** – compressor dehumidifiers reduce the absolute humidity by removing moisture on a cold coil. This increases the relative humidity to 100% and then a re-heat coil in the same machine reduced the relative humidity again. They are generally less efficient in ambient temperatures below 10°C and the process creates free water, leading to possible health concerns and increased risk of corrosion. They are also more maintenance intensive and contain HCFC's.



At dehum, we focus on desiccant dehumidifiers to:

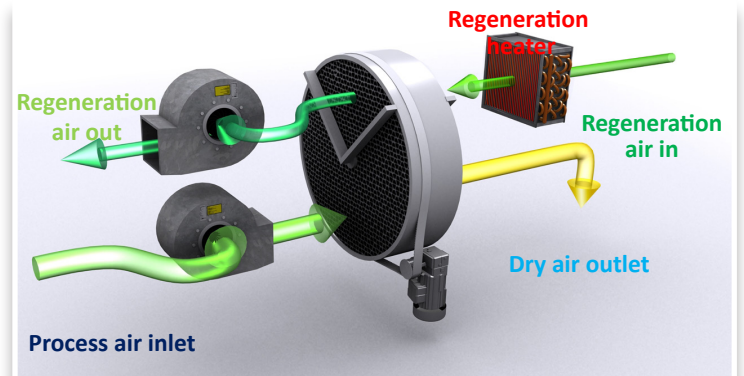
- Reduce RH levels
- Reduce absolute humidity
- Reduce dew point
- Use lower air volumes (less energy, less noise)
- Extend equipment life
- Provide options for energy usage (electricity, steam or gas for example)
- Operate at temperatures between -40°C and +40°C



How does a desiccant dehumidifier work?

Put simply, a fan draws air into the dehumidifier where it passes through a slowly moving rotor, impregnated with a silica gel salt. The gel absorbs the water vapour, allowing the air to pass through dry and warm.

The slowly moving rotor turns into the 'regeneration' section, where a smaller volume of air is heated and then removes the moisture directly from the silica gel, passing it out of the building as a warm wet air stream. It is a continuous process.



Advantages:

1. Desiccant dehumidifiers operate independently of temperature and continue to remove moisture well below freezing
2. Desiccant dehumidifiers contain no HCFC's and do not contribute to global warming in this respect
3. The lifespan of a desiccant dehumidifier is likely to be considerably longer than refrigeration dehumidifiers as there are fewer moving parts.
4. Although specific power ratings of desiccant dehumidifiers may appear higher than any comparable refrigeration unit, the reality is that they run for shorter periods and remove similar amounts of water for less energy input.
5. Where RH levels below 40% are required, the only really reliable option is a desiccant system. These machines can achieve RH levels of less than 1%.

Whatever the industry, the ranges of cutting-edge desiccant dehumidifiers and bespoke equipment that dehum specialises in designing, installing and servicing; ensure optimum humidity levels are created and sustained for any application.

To find out more about dehum, please visit www.dehum.com or call 01926 882624.