

COTES COLDSTORE

C30C / C35C / C65C

Special adsorption dehumidifiers for preventing ice from forming in sub-zero storage installations



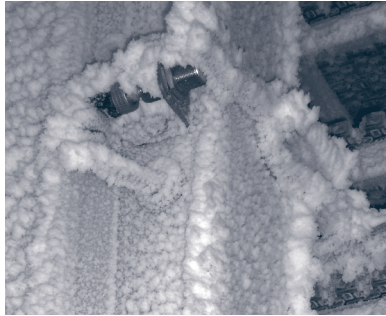
ICE GIVES PROBLEMS

Ice forming in the wrong places and at the wrong time:

- Affects the quality and shelf life of stored products
- Affects product packaging, resulting in leaks and spills
- Affects the appearance of the stored goods – and therefore their value
- Gives rise to safety issues
- Degrades the energy efficiency of evaporators and refrigeration systems in most cold storage setups



Ice forming on fixtures and equipment, and blocking ducting



Water and ice accumulating on structures



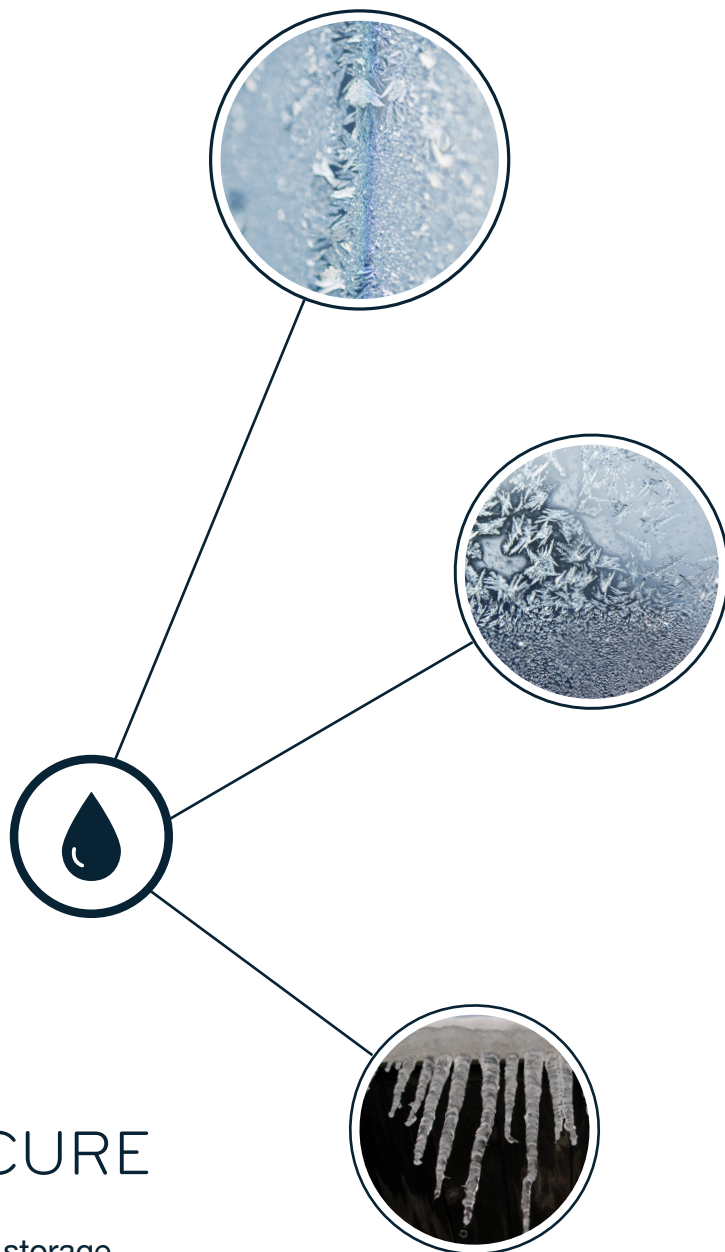
Ice and icicles forming on cold surfaces



Stored goods getting wet and damaged



Mist forming in the air



PREVENTION IS BETTER THAN CURE

Bringing the humidity levels in sub-zero storage installations under control enables you to eliminate problems with ice formation.

Eliminate ice problems in sub-zero storage

Low-temperature and sub-zero storage facilities often have to deal with problems caused by uncontrolled airborne moisture condensing or freezing into ice on cold surfaces.

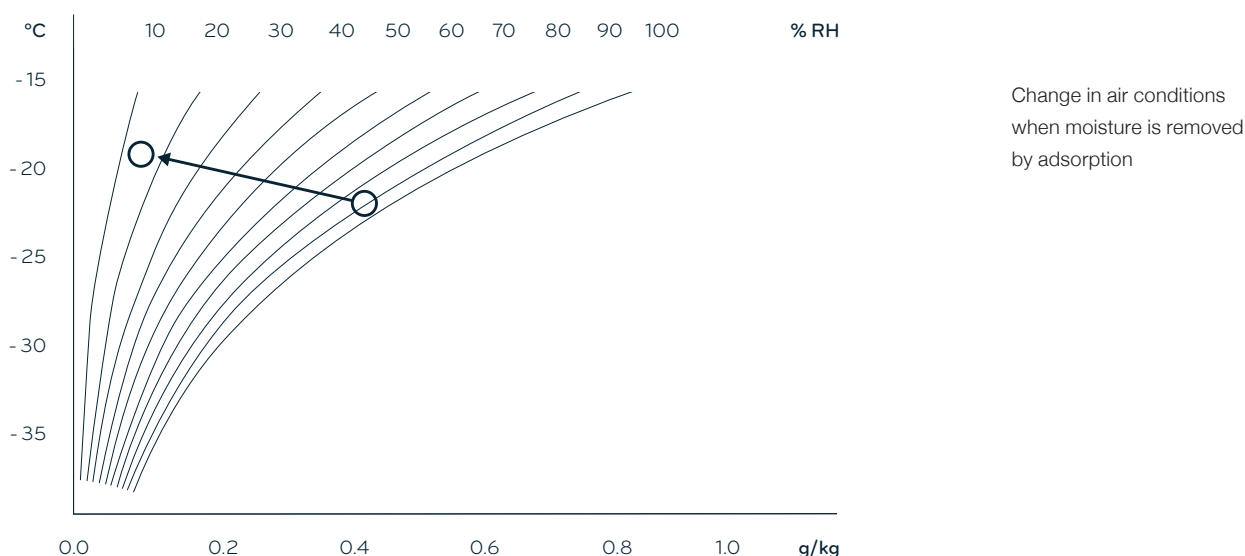
Ice in undesirable places quickly increases cold storage operating costs, as well as causing damage to stored products and increasing wastage rates—with big impacts on customers' satisfaction with your storage services.

Cotes Coldstore adsorption dehumidifiers enable you to quickly and easily bring humidity conditions in your cold storage setup under full control by dealing with the cause – not the symptoms.

This means you can prevent ice problems from even arising – using only a minimum of energy.

COLDSTORE ADSORPTION DEHUMIDIFIERS

Special dehumidifiers for bringing airborne humidity under control in sub-zero storage installations.



A question of control

Humidity fluctuates unpredictably depending on season and weather. The airborne moisture can't be seen – though its effects can – and is often poorly understood. Such uncertainty and lack of control are never good for business.

Cotes is one of the world's leading experts at bringing airborne moisture under control using adsorption dehumidification technology. We control the humidity – so you can control everything else.

The unique advantage of adsorption dehumidification

Cotes adsorption dehumidifiers make it possible to control airborne moisture (the humidity of the air inside any storage facility) effectively even at sub-zero temperatures down to -25°C. The laws of physics mean adsorption dehumidification is the only way to do this.

It cannot be done using condensation dehumidifiers or any kind of cooling-based dehumidification, because the moisture freezes, or ice forms on any cooling surface.

A question of balance

Effective humidity management is a question of balancing basic physical parameters to keep the humidity level (the dewpoint) at a point where condensation and ice-formation is simply impossible.

Mollier diagrams are an industry-standard way to show the relationship between air temperature, moisture content and enthalpy (the key measurement of energy in any thermodynamic system). We often use these diagrams to explain this key balance.

WHAT MAKES COLDSTORE DEHUMIDIFIERS SPECIAL?

Cotes Coldstore dehumidifiers are specially designed and configured for controlling airborne humidity at temperatures down to -25°C , in order to prevent moisture freezing to ice inside cold storage and freezer facilities – large and small.

Key features include:

- Specially designed for maximum low-temperature humidity management effectiveness with low energy consumption
- Insulated to prevent any ice forming inside the unit and condensation on the outside
- Pre-heater module that reduces the relative humidity of the regeneration air to avoid any condensate or ice in the ducts.
- Special control unit that keeps the rotor and fans moving just enough to prevent any ice forming

There are three different Cotes Coldstore models, with five different capacities.

For more detailed, technical information about using Cotes adsorption dehumidifiers in cold storage setups, see the Cotes Coldstore Booklet.



TECHNICAL DATA

| DEHUMIDIFIER MODEL | | C30C-0.3 | C35C-0.5 | C35C-0.9 | C65C-1.5 | C65C-3.0 |
|--------------------------------------------------------------|---------|--------------------|----------------|----------------|----------------|----------------|
| Dry air (nominal) | m³/hour | 300 | 750 | 1000 | 1900 | 3700 |
| Regeneration air (nominal) | m³/hour | 50 | 96 | 129 | 340 | 340 |
| Voltage/phases | V | 230/ 1Ph+N+Pe* | 400/ 3Ph+N+Pe* | 400/ 3Ph+N+Pe* | 400/ 3Ph+N+Pe* | 400/ 3Ph+N+Pe* |
| Regeneration air heater | kW | 1.2 | 2.3 | 3.4 | 5.1 | 7.2 |
| External duct heater | kW | 1.0 | 1 | 1 | 2.0 | 2.0 |
| Connected power load | kW | 1.4+1 (max. 2.1)** | 2.8+1 | 5.3+1 | 6.2+2 | 10+2 |
| Fuse | A | 10 | 10 | 16 | 20 | 20 |
| External pressure process air | Pa | 200 | 210 | 210 | 400 | 400 |
| External pressure regeneration air | Pa | 150 | 300 | 300 | 300 | 300 |
| Moisture removal capacity at -18°C and 95% relative humidity | kg/hour | 0.3 | 0.5 | 0.9 | 1.5 | 3.0 |
| Moisture removal capacity at -25°C and 95% relative humidity | kg/hour | 0.15 | 0.3 | 0.4 | 0.8 | 1.6 |
| Weight | kg | 53 | 102 | 110 | 274 | 305 |

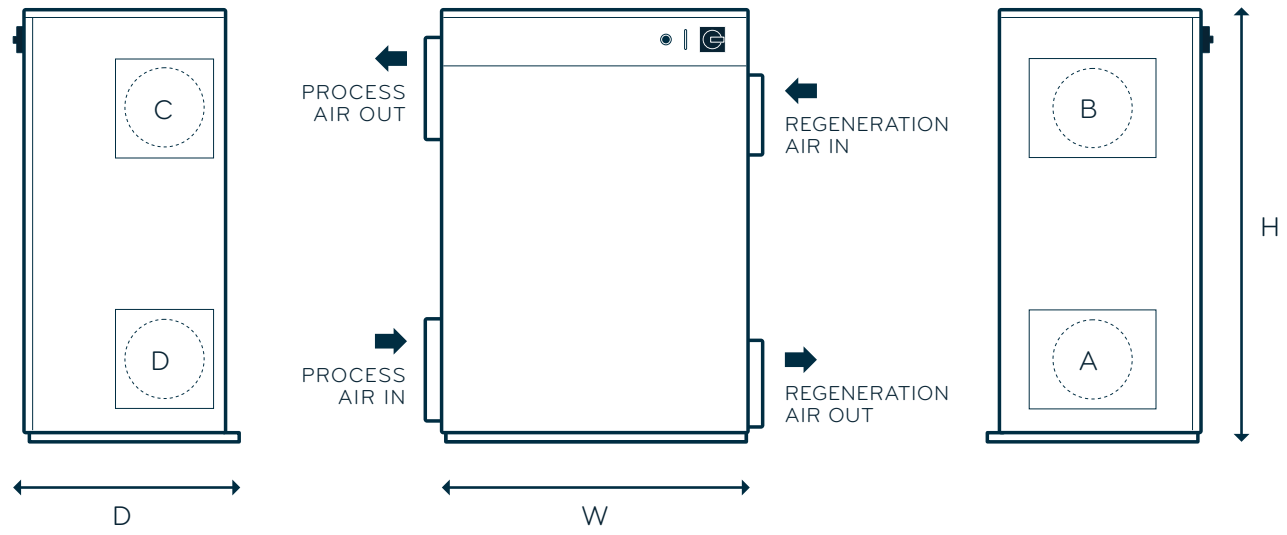
* Other power connections by request
** Power load limited due to the use of PTC heating elements

Equipment included as standard

- Pre-heater element for regeneration air
- Dehumidifier control optimised for sub-zero operation, to prevent ice forming during standstill
- Dehumidifier insulated

Optional equipment and configurations

- DA20 or DH24 hygrostat unit
- Special brackets for wall or floor mounting
- Different filter configurations on request
- Other power connections on request



DIMENSIONS

| DEHUMIDIFIER MODEL | | C30C-0.3 | C35C-0.5 | C35C-0.9 | C65C-1.5 | C65C-3.0 | |
|--------------------|-------------------------------------|----------|----------|----------|----------|----------|---------|
| D | Depth | mm | 398 | 532 | 532 | 820 | 820 |
| W | Width | mm | 554 | 756 | 756 | 1165 | 1165 |
| H | Height | mm | 771 | 1090 | 1090 | 1615 | 1615 |
| A | Process air inlet | mm | 200x200 | 350x260 | 350x260 | 650x400 | 650x400 |
| B | Process air outlet | mm | 200x200 | 350x260 | 350x260 | 650x400 | 650x400 |
| A & B | Process air duct (with ILU adapter) | mm | Ø 200 | Ø 250 | Ø 250 | Ø 315 | Ø 400 |
| C | Regeneration air inlet | mm | Ø 100 | 200x200 | 200x200 | 250x250 | 250x250 |
| D | Regeneration air outlet | mm | Ø 100 | Ø 125 | Ø 125 | 200x200 | 200x200 |

CLOSE TO YOU

We have a worldwide network of Cotes experts ready to provide you with solutions to virtually any humidity management requirement.



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TALK TO US ABOUT WHAT'S POSSIBLE

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