



Cotes Wind CWO solutions



Experts
in humidity
management

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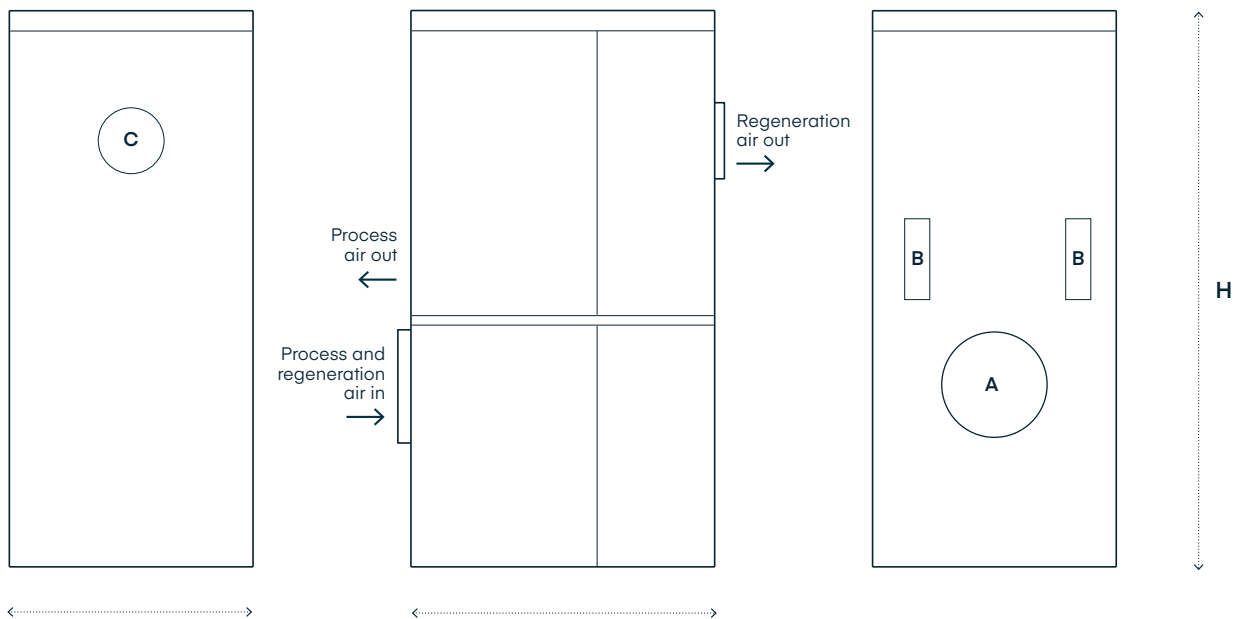
Cotes Wind CWO models available

All three models effectively filter out corrosive salts in the temperature range from -20 to 30°C*.

CWO26 units are designed for use in smaller offshore wind turbines where it is vital to prevent any ingress of moisture and salts, or as a supplement in large wind turbines fitted with a CWO65 unit. This provides a reliable flow of 80 m³/hour dry, desalted air into the nacelle and tower.

CWO35 units are designed for use in the nacelles and towers of medium-sized offshore wind turbines in which the ingress of moisture and salts is likely to cause significant operational problems and downtime. The unit automatically adjusts flow and performance to ensure a constant flow of 300 m³/hour dry, desalted air into the turbine.

CWO65 units are designed for use in the biggest offshore nacelles and towers. For the very latest and biggest turbines now emerging, two CWO65 units are often used for maximum protection of these extremely valuable assets. The unit automatically adjusts flow and performance to ensure a constant flow of 1000 m³/hour dry, desalted air into the wind turbine.



Technical data							
Model	Dry air nominal	Regeneration air nominal	Voltage/Phases	Regeneration air heater	External fuses max	External pressure dry air	Capacity*
	m ³ /hour	m ³ /hour		kW	A	Pa	kg/hour
CWO 26	80	40	230 V (PH+N+PE)	1,1	10	+/- 100	N/A
CWO 35	300	150	400 V (3PH+PE)	4	16	-2,75	N/A
CWO 65	1000	500	400 V (3PH+PE)	13,7	32	-3	N/A

Dimensions and weight							
	L	W	H	Air Inlet (A)	Dry air outlet (B)	Reg. air outlet (C)	Weight
	mm	mm	mm	Ø mm	Ø mm	Ø mm	kg/hour
CWO 26	329	480	851	100	N/A	80	33
CWO 35	450	630	1328	200	N/A	125	95
CWO 65	825	1075	2001	400	N/A	250	300

* At 60% relative humidity and 20°C. Exact temperature range may be limited depending on specific requirements with regard to final humidity in the wind turbine.

Cotes Wind CWO

Dehumidifier and desalter solutions



The patented Cotes Wind Offshore (CWO) system tackles the many problems caused by airborne, salt-laden moisture inside offshore wind turbines, keeping the humidity as well as salt content of the air under full control.

At wind speeds of 12 metres/second, any 1 square centimetre gap or opening in wind turbine nacelles or towers results in approx. 6 cubic metres of air entering every hour—round the clock, day in and day out. Whether at sea or on land, this incoming air is laden with a corrosive combination of moisture and salts.

The unique CWO design combines effective, reliable dehumidification and salt filtration capabilities in a single unit, ensuring a dry, salt-free environment inside offshore wind turbine nacelles and towers. This reduces downtime, rolls back service costs and prolongs their service life—ensuring a better return on investment for any offshore wind farm.

Filtering out the salt

The general design of Cotes Wind dehumidifiers is based on the fact that any salts present in air with a relative humidity of less than 70% are in the form of crystals, which can then be captured and removed using appropriate filters. This significantly reduces the negative impact of the salts on the dehumidifier itself as well as on the wind turbine tower and nacelle.

Where they're used

Cotes Wind CWO units are specially designed to deal with the pressing needs for effective ventilation/air circulation, corrosion and mould prevention inside modern offshore wind turbines.

The breakthrough capabilities of these overpressure and desalter systems can also be used in land-based installations where special protective requirements apply.

The Cotes Wind CWO system works by generating positive pressure inside nacelles and towers, in order to prevent the ingress of air laden with moisture and salts, and keep the internals dry and salt-free. The amount of positive pressure is determined by sensors mounted in appropriate places within the nacelle and tower.

All Cotes Wind CWO systems are also fitted with industry-standard G4/E10 filter cassettes, along with a pressure-neutralising air intake.

Air circulation and safety

Positive pressure is also the ideal way to maintain a forced air change in offshore wind turbines, in order to get rid of gases (hydrogen sulphide, hydrogen, ozone, etc.) from below ground and/or given off by materials, machinery and battery packs. This makes it safer for inspection, service and repair crews to work inside them.

Where to install

This type of unit is ideal for any wind turbine design where:

- * There are only limited numbers of openings or vents
- * Preventing corrosion is particularly important
- * It is particularly important to address safety issues and manage the working environment inside nacelles and towers
- * There is a big focus on protecting vital equipment

A single CWO system is normally mounted in the base of each tower. These high-performance units are designed higher rather than wider so they don't take up too much space.

The only fittings required are:

- * Ducting to lead dry air from bottom of tower to nacelle
- * Two vents in the tower door.

Wind energy plays a major role in the necessary transition to a responsible post-carbon world economy.

We apply Cotes humidity management technology and know-how to help manufacturers, operators and owners eliminate key practical challenges to the take-up of wind energy — via greater efficiency, better safety, lower cost and improved reliability.

Put our
expertise
to your
advantage

We're here to help. The first step is contact.

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