AIRDRY

Adsorption dehumidifiers
with wet air condensation

ADC 200

TFT
DRY AIR SOLUTIONS

PRINCIPLE OF OPERATION

The dehumidifier operates using three separate air streams: the main stream is the air to be dehumidified, a secondary stream, with a reduced flow rate, is used to regenerate the dehumidification rotor, and a further air stream is used to condense the extracted moisture. Two internal fans generate these flows, which pass through the rotor in opposite directions, ensuring an efficient process. Dehumidification can take place in a temperature range of +1°C to +30°C, with the moisture removed by the rotor being evacuated through condensation, turning into water. This solution ensures reliable operation and high performance even in difficult climatic conditions.

STRUCTURE

The structure of the dehumidifier is made of galvanised steel and aluminium, ensuring robustness and durability. The side panels are removable, allowing easy access for maintenance of both the electrical components and the internal mechanical parts. The unit can be supplied in a portable version, equipped with wheels, or in a fixed version, depending on operational requirements.

ELECTRICAL PANEL

The electrical panel is designed in accordance with European standards 73/23 and 89/336, guaranteeing safety and reliability. Access to the panel is facilitated by a special front panel located on the unit. Each dehumidifier is equipped as standard with the following components: main switch, hour meter and connector for connecting an external humidistat. In addition, the panel includes a dedicated switch for selecting operation in manual or automatic mode, ensuring flexible dehumidification management.

COMPONENTS

The fans are directly coupled to the electric motor, ensuring efficiency and reliability. The rotor, made of desiccant material, is non-combustible and non-flammable, ensuring maximum operational safety. The regeneration heater is an electrically armoured type, designed for high performance and durability. A large G4 filter, located at the process and cooling air inlet, ensures effective filtration, protecting internal components and improving the unit's overall efficiency.

NOTES FOR INSTALLATION

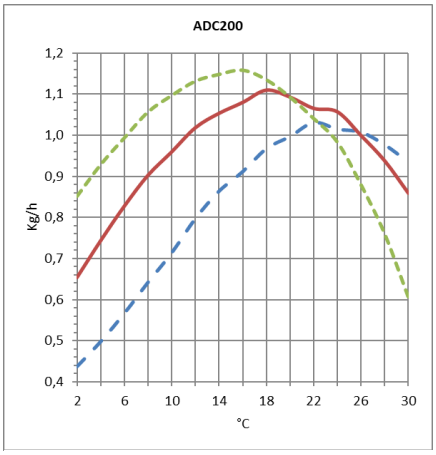
The ADC series units do not have thermal insulation; therefore, during selection and/or installation, it is essential to carefully evaluate the climatic conditions for process (indoor) air and outdoor air. This is necessary to prevent the formation of condensation or ice on the panels and to avoid possible damage to electrical components.

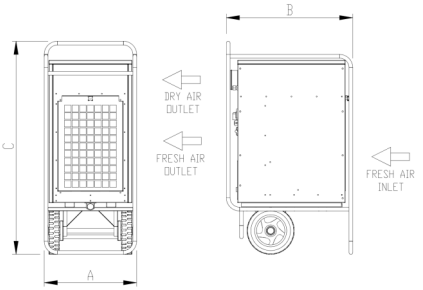
TECHNICAL CHARACTERISTICS		
MODEL	**ADC**	**200**
Performance		
Dehumidification capacity *	Kg/h	1,09
Fans		
Process air flow	m^3/h	250
Static pressure	Pa	200
Cooling air flow	m^3/h	250
Static pressure	Pa	50
Nominal fan power	W	157
Regeneration air flow	m^3/h	70
Nominal fan power	W	56,5
Motordrive		
Nominal power	VA	3,7
Electrical regeneration		
Power installed	KW	1,5
Heating coil temperature increase	°C	60
Electrical characteristics		
Power supply	Volt/Ph/Hz	230/1+N/50 ±5%
Maximum power consumption standard unit	KW	1,72
Absorbed current standard unit	A	8,0
Noise		
Sound pressure **	dB (A)	72
Dimensions		
Width x Depth x Height	mm	A x B x C 490 x 670 x 1130
Weight	Kg	48

* *At conditions of 20°C 60% RH*
** *Sound pressure level calculated in free field, 1 metre from unit, directionality factor Q=2, according to ISO 9614*

DEHUMIDIFICATION CAPACITY

Approximate capacity in kg/h with different values of relative humidity of inlet process air (%RH).





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