

Adsorption dehumidifier type series DryQube

MSL DryQube 280

Product description MSL DryQube 280

Compact dehumidifier series in an industrial standard for dehumidifying atmospheric air by means of a high-capacity silica gel sorption rotor.

All casing models, manufactured ourselves, are made of stainless steel.

A technically sophisticated and energy-efficient system enables economically efficient and long-term operation. Well thought out, detailed engineering also ensures minimal maintenance by the operating and service personnel.

The DryQube series is available for indoor and outdoor installation. Additional, optional accessories allow the series to cover a wide performance spectrum in a range of usage areas.

Applications

Our high-performance adsorption dryers can be used wherever conventional systems, such as condensation dryers, work inefficiently or are not sufficient in order to achieve the required level of dehumidification.

The adsorption principle we apply allows significantly lower dew points and works highly efficiently.

Adsorption dryers are primarily used in areas requiring low air humidity and consistent process conditions. These include ventilation, climate and process air technology, as well as the construction industry, production plants and storage spaces.

Further application areas

- Automobile industry
- Pharmaceutical industry
- Electrical industry
- Food industry
- Defence technology
- Energy generation
- Steel industry
- Archives/museums
- Tool construction
- Shipping/shipyards/naval industry

1,02 kg/h
Dehumidifying capacity*

120 - 300 m³/h
Dry air volume flow*

*nominal values at 20°C, 60% r.F.



(III. MSL DryQube 280)

Series specification

- Z-Line air filter in G4 process and regeneration air
- Ammeter and operating hours counter
- PTC self-regulating heat register
- Energy-saving, low-noise radial fan
- Internal heat recovery

Options/Accessories

- Filter monitoring
- Pre-filtering M5/F7
- Humidity switch controls
- Increased ext. pressure (add. 200Pa)
- Weather protection model
- Floor or wall bracket
- Throttle valves
- Duct adapter
- Connection adapter Ø 80 (for mixed air operation)

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Technical data

Dehumidifying capacity (nominal)	kg/h	1,02
Humidity difference ΔX	g/kg	3,03
Dry air volume (nominal)	m ³ /h	280
External pressure process air (nominal)	Pa	250
Regeneration air volume (nominal)	m ³ /h	70
External pressure regeneration air (nominal)	Pa	230
Power input (nominal/max.)	kW	1,3/1,9
Nominal current input (nominal/max)	A	5,9/8,8
Electricity connection		230 V – 50/60Hz*
Recommended fuse		C16 / 16A
Weight of basic model	kg	15,5
L x W x H	mm	335 x 350 x 432
Maintenance space		1 x high of unit
Noise level	dB	65

(nominal values at 280m³/h; 20°C/60%r.F./technical modifications excepted)
(*with minimal reduction of dehumidifying performance)

Determination of dehumidifying capacity

1. Determine ambient conditions
(Temperature in °C and absolute humidity in g/kg)
2. Take a reading of the air discharge humidity on the correctional diagram

Δx -diagram

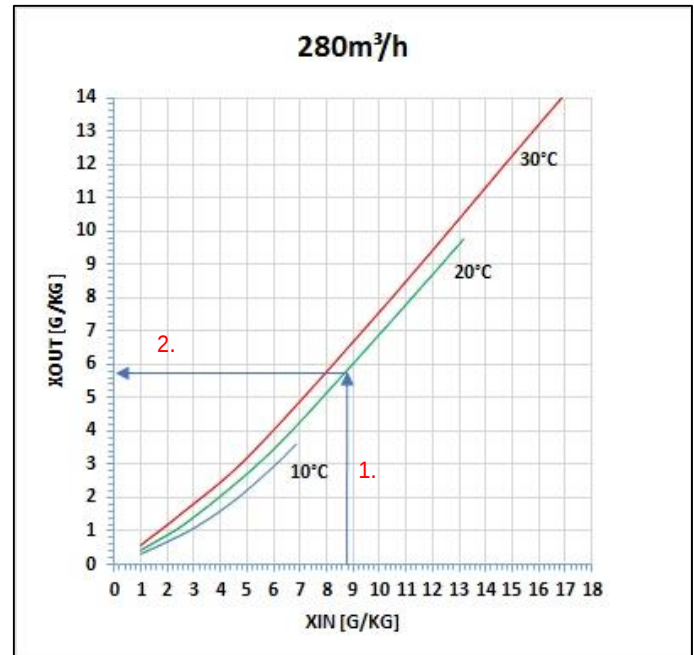


Diagram to determine the discharge humidity in different air intake conditions. (valid for the same process and regeneration air intake conditions)

Example of calculation:

Volume flow: $V=280 \text{ m}^3/\text{h}$

Air intake: $T_{IN}=20 \text{ °C}$, $X_{IN}=8,7 \text{ g/kg}$

Air output: $X_{OUT}=5,7 \text{ g/kg}$

Dehumidifying capacity W:

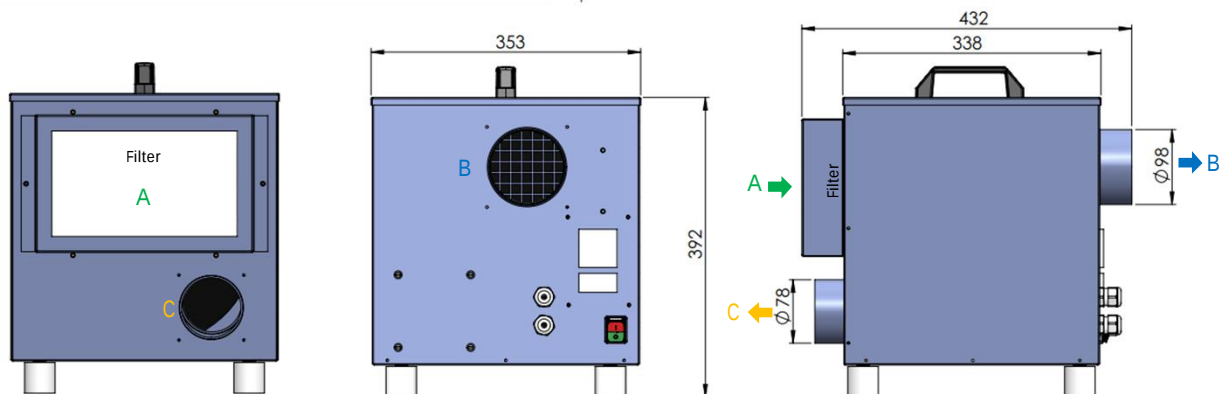
$$W = [V \cdot \rho_{\text{Luft}} \cdot (X_{IN} - X_{OUT})] / 1000$$

$$W = [280 \text{ m}^3/\text{h} \cdot 1,204 \text{ kg/m}^3 \cdot (8,7 \text{ g/kg} - 5,67 \text{ g/kg})] / 1000$$

$$W = 1,02 \text{ kg/h}$$

Measurements

(technical mod)



- A: Process and regeneration air inlet
B: Process air outlet
C: Regeneration air outlet