AD INDUSTRIAL SERIES · ADSORPTION DEHUMIDIFIERS

DanVex AD-5000

Adsorption dehumidifier · 36 kg/h · 3-phase



Industrial desiccant dehumidifiers for demanding cold and low-RH processes — pharmaceutical rooms, cold storage, freezers and ice rinks. An adsorption rotor dries the air down to very low humidity and operates well below freezing, where condensation dehumidifiers cannot. Three-phase, plant-scale, no condensate drainage required.

Pharma cleanrooms · Food production · Cold storage / freezers · Ice rinks · Indoor cultivation

KEY FEATURES

- **Adsorption (desiccant) drying** — operation from −20 °C and down to very low RH for cold, demanding processes
- **Robust insulated housing** — double-skin PU panels with anti-cold-bridge aluminium frame
- **Separate process & regeneration ducts** — independent supply and exhaust paths integrate into plant ductwork
- **Drying down to 2% RH** — reaches extremely low residual humidity where condensation units cannot
- **No condensate drainage** — moisture leaves on the regeneration airstream — no condensate plumbing
- **Modbus RTU RS-485** — BMS/SCADA integration on every model

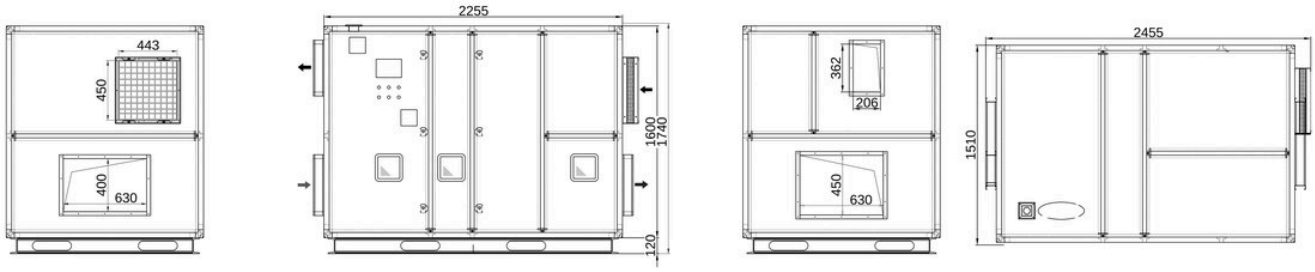
SPECIFICATIONS

Drying capacity (20 °C / 60% RH)	**36 kg/h**
Process airflow	**5000 m³/h**
Static pressure (process)	**600 Pa**
Static pressure (regen)	**400 Pa**
Regeneration airflow	**1650 m³/h**
Process duct in/out	**630 × 450 / 630 × 400 mm**
Regen duct in/out	**300 × 300 / 200 × 200 mm**
Process air filter	**G3**
Regen air filter	**G4**
Ingress protection	**IPX3**

Operating temperature	**−20 … +60 °C**
Total power	**67.1 kW**
Current	**89 A**
Voltage / Frequency	**380–415 V 3-ph / 50–60 Hz**
BMS protocol	**Modbus RTU RS-485**
Drainage	**Not required**
Dimensions (L×W×H)	**2455 × 1510 × 1740 mm**
Package size (L×W×H)	**Project-specific**
Net weight	**450 kg**

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DIMENSIONS & VIEWS



Dimensions in mm. Views: end panel with regeneration air connections, front view with inspection doors, end panel with process air connections (rectangular ducts), plan view.

UNIT L×W×H	PACKAGE L×W×H	NET WEIGHT	DUCTS PROCESS · REGEN
2455 × 1510 × 1740 mm	**Project-specific**	**450 kg**	**630 × 450 / 630 × 400 mm · 300 × 300 / 200 × 200 mm**

SCOPE OF SUPPLY

- Adsorption unit with process and regeneration air filters fitted
- Digital controller
- External humidity sensor (hygrostat)
- Modbus RTU RS-485 interface

INSTALLATION & CONNECTIONS

Mounting	Ducted, stationary installation indoors or outdoors (IP-rated housing); place on a level surface with access to the control panel and filter.
Duct connections	Two separate air circuits: process air in/out (dry air to the room) and regeneration air in/out. Regeneration exhaust (wet air) must be ducted outside the treated space with an insulated duct to avoid condensation; regeneration intake from outside or from the room per the design.
Condensate	No condensate drain required — moisture leaves with the regeneration exhaust air.
Electrical supply	380–415 V, 3-phase, 50–60 Hz. Dedicated circuit sized for the regeneration heater current (see specification); connection by a certified electrician.
Control & BMS	Digital controller with temperature/humidity sensor; external humidity sensor (hygrostat) included. Modbus RTU RS-485 for BMS/SCADA. Auto-restart with settings memory after power failure.
Service	Process and regeneration air filters accessible for cleaning/replacement; silica-gel rotor is maintenance-free.

AD INDUSTRIAL SERIES — MODEL RANGE

Parameter	AD-800	AD-1000	AD-1500	AD-3000	AD-5000
Drying capacity (20 °C / 60% RH)	5 kg/h	7 kg/h	11 kg/h	21.6 kg/h	**36 kg/h**
Process airflow	820 m³/h	1100 m³/h	1550 m³/h	3000 m³/h	**5000 m³/h**
Static pressure (process)	200 Pa	200 Pa	200 Pa	600 Pa	**600 Pa**
Static pressure (regen)	150 Pa	150 Pa	150 Pa	400 Pa	**400 Pa**
Regeneration airflow	250 m³/h	400 m³/h	580 m³/h	990 m³/h	**1650 m³/h**
Process duct in/out	Ø 200 / Ø 200 mm	Ø 200 / Ø 200 mm	Ø 250 / Ø 250 mm	500 × 300 / 500 × 300 mm	**630 × 450 / 630 × 400 mm**
Regen duct in/out	Ø 150 / Ø 150 mm	Ø 150 / Ø 150 mm	Ø 160 / Ø 160 mm	300 × 300 / 200 × 200 mm	**300 × 300 / 200 × 200 mm**
Process air filter	G4	G4	G4	G3	**G3**

Specifications, dimensions and drawings are subject to change without notice and may differ from the delivered unit; verify critical dimensions against the installation manual before design work. Drying capacity measured at 20 °C / 60% RH.