VAPORATIC

VDE Series
Desiccant Rotor Dehumidifiers

NORDEL

COMPANY PROFILE

As Nordel Engineering, our product range is particularly focused on HVAC equipment for air handling units and cold room manufacturers. As an engineering company, we supply humidifiers and dehumidifiers of different types and capacities to our business partners under the registered trademark "Vaporatic". In this direction, we are moving towards becoming a manufacturer and main supplier for all engineering equipment on air conditioning that manufacturers may need.

Our nearly 15 years of experience in the same industry and engineering field and special attention to each business partner make us stand out as a competitive and reliable supplier. Mechanical Engineering and air conditioning are our main fields of activity. In the air conditioning industry; We are known for our innovative solutions with a high price performance ratio and the ever growing diversity in our product range.

We pay great attention to creating our team from experienced and qualified professionals. Beyond engineering, we develop our relationships on honesty, transparency and sincerity in accordance with our business ethics rules. We are quality oriented and constantly improve our working methods, use modern technology and build our business processes on these strategies in order to remain competitive and provide our customers with the best value for the service received.

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VDE Serisi Desiccant Rotor Dehumidifiers

DEHUMIDIFICATION

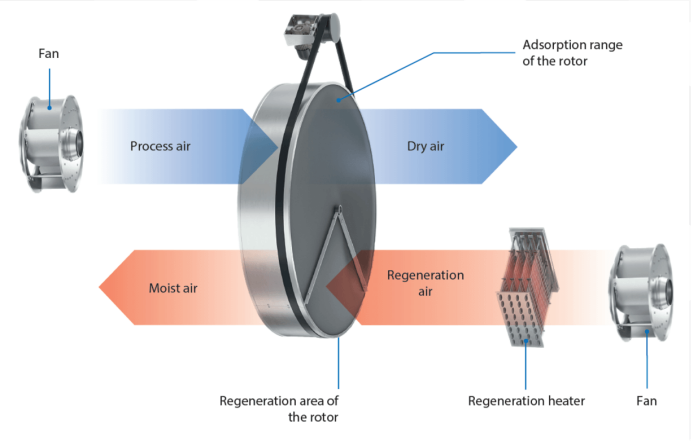
Desiccant
Rotor
Dehumidifiers

Entrance

Humidity control is critical to productivity, product quality and equipment life in many industries. In order for the processes to operate correctly and healthily in different sectors such as pharmaceutical, food, storage and glass production, the humidity in the environment must be reduced to certain levels. This can be done by many methods. These methods have advantages and disadvantages compared to each other. Dehumidification by adsorption is one of these methods. It is especially used to reach lower humidity levels. Thus, it exhibits high performance at low temperature and low humidity levels and stands out with its low maintenance requirements, reducing operating costs.

How Does Desiccant Rotor Dehumidification Unit Work?

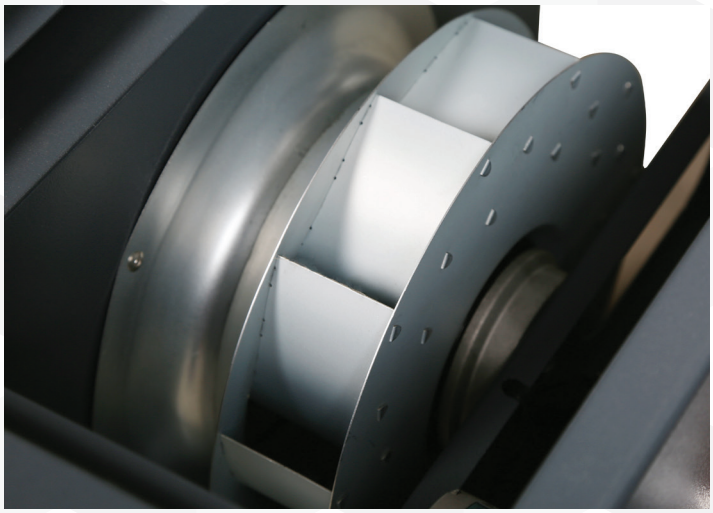
Vaporatic VDE series desiccant rotor dehumidification units remove moisture by adsorption method. The moisture in the process air is absorbed in the dehumidification section of the dryer rotor inside the unit. As the dryer absorbs moisture, the rotor rotates at a certain speed and discharges the trapped moisture by evaporating it at high temperatures in the regeneration section. After regeneration, the rotor returns to the process air stream to restart adsorption. Adsorption and reactivation, continuous and simultaneous occurs as. The positive seal between the two air streams prevents the flow of moist and dried air from mixing.

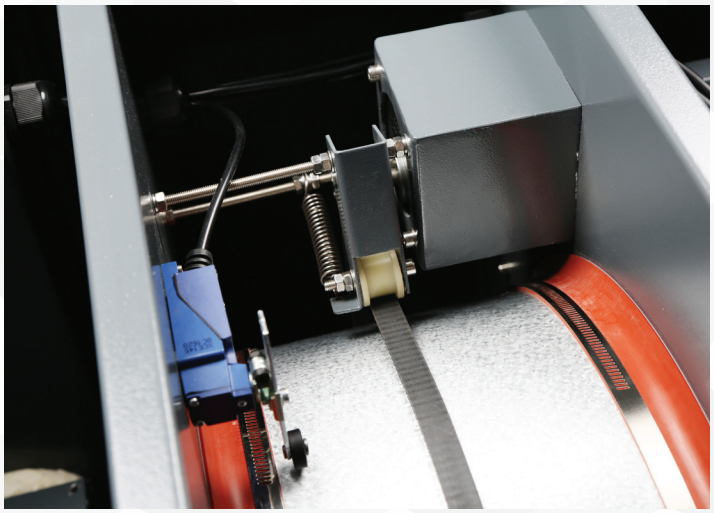


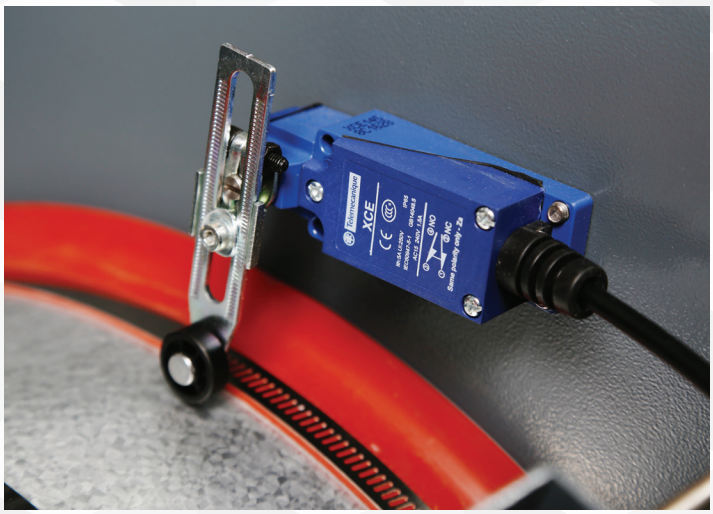
The desiccant rotor is made of ceramic fiber material and is coated with active silica gel. It can be used in different diameters and different thicknesses depending on the capacity requirement of the process. Although the main factor affecting the capacity is the desiccant rotor itself, many parameters such as regeneration temperature, temperature and relative humidity of the inlet air, and rotation speed of the rotor affect the capacity.

General Features

- Allowable air leakage rate meets European standards.
- GS, RoHS and CE certificates are available and production is made in accordance with these regulations.
- For a better performance, G4 (EU4) and F7 (EU7) filters are available in the standard configuration.
- High performance rotor provides effective dehumidification over a wide operating temperature range.
- Hinged side panel design provides easy access for maintenance and control panel.
- Electrical panel design complies with international EN60204 standard.
- Digital control panel, humidity sensor and RS485 are standard on the units.
- EC motor fan with adjustable air speed is used.
- Flanges compatible with circular air ducts are manufactured in accordance with the international ISO7807 standard.
- Using PTC and SCR resistors saves %20 ~ %30 in electricity consumption.
- Optionally, SS304 quality stainless steel frame is produced.
- Proflute brand desiccant rotor, which has a long life and low maintenance requirement, is used.
- Equipment from global brands such as ABB, Omron, Schneider and Chint are used in the electrical panel.






Telemecanique
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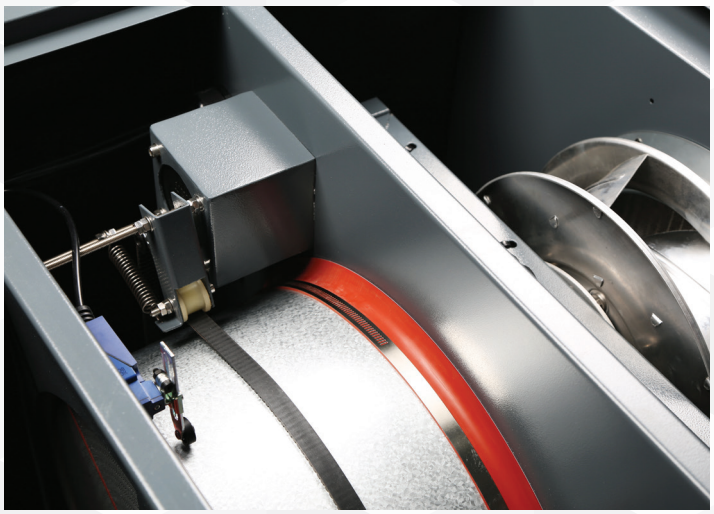
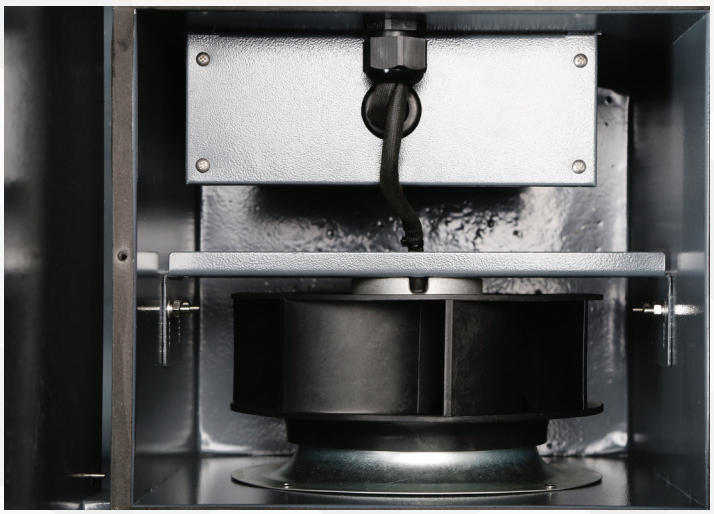
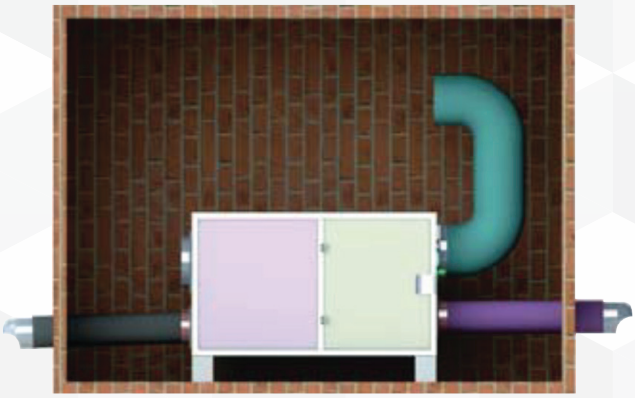




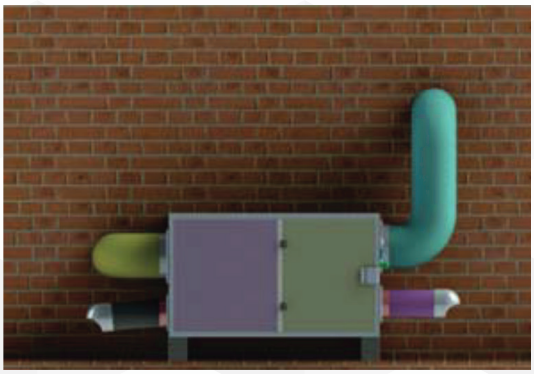
Indoor Installation

Regeneration air inlet and outlet pipes should be placed outside the environment where the unit is located. Dehumidified process air should be distributed homogeneously to the indoor environment. There is no need for any ducts for process air entry in indoor use.



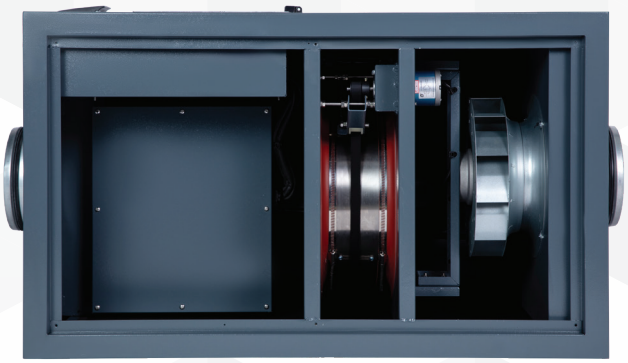
Outdoor Installation

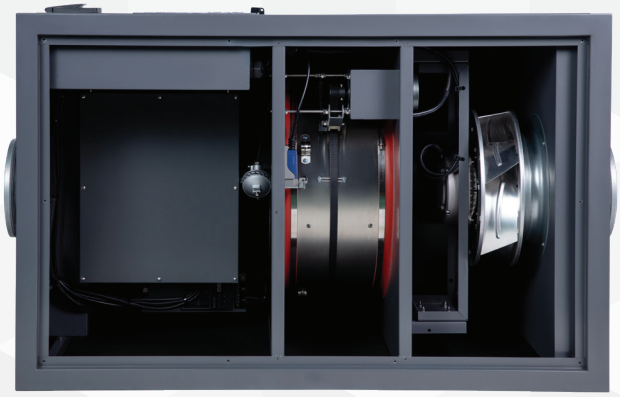
There is no need for any ducts for regeneration air inlet and outlet. As in indoor use, dehumidified process air must be distributed homogeneously to the indoor environment.



Assembly Instructions

- For unit positioning, care must be taken to ensure that the service cover is openable and easily accessible.
- Duct connections should be placed by calculating the rotation and corner connections should be calculated according to this distance.
- The unit must be transported gently by forklift.
- Process air inlet and outlet should be kept far away from each other in case of a possible By-Pass.
- Duct lengths must be calculated according to the pressure of the fan.
- Condensation may occur as there will be air at high temperature and relative humidity at the regeneration outlet. It is recommended to install this channel in an insulated and inclined manner.



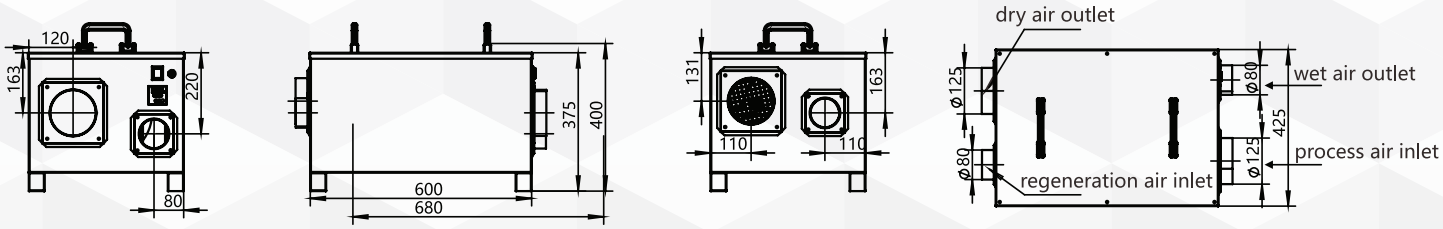


Application Areas

- Wind Power
- Chemical Industry
- Pharmaceutical Production and Storage
- Bridge Structure Protection
- Electronics and Semiconductor Manufacturing
- Lithium Battery Production
- Food Processing
- Office and Commercial Buildings
- Supermarkets
- Museums and Libraries
- Tobacco Production and Storage
- Swimming Pools
- Vehicle Production
- Glass Production
- Defense Industry
- Confectionery Production

Desiccant Rotor Dehumidifiers

VDE-D210K

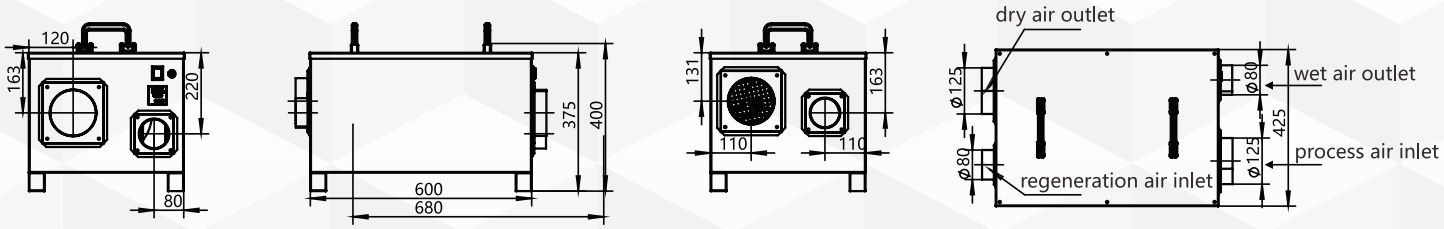


Technical Specifications

VDE-D210K			
Capacity (30°C, %80 RH)	0,60 kg/h	Rated Current	5,20 A
Rotor Size (Diameter x Thickness)	250 mm x 50 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	210 m³/h (60 Pa)	Humidity Sensor	√
Regeneration Air Flow	60 m³/h (50 Pa)	Control Panel	Digital
Process Inlet Size	ø100 mm	Power Supply	220V - 50 Hz
Process Outlet Size	ø100 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	ø80 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	ø80 mm	Body Material	Electrostatic Powder Coating
Rated Power	1,20 kW	Weight	28 kg
Maximum Power	1,50 kW	Size	421 mm x 578 mm x 705 mm

Desiccant Rotor Dehumidifiers

VDE-D400K

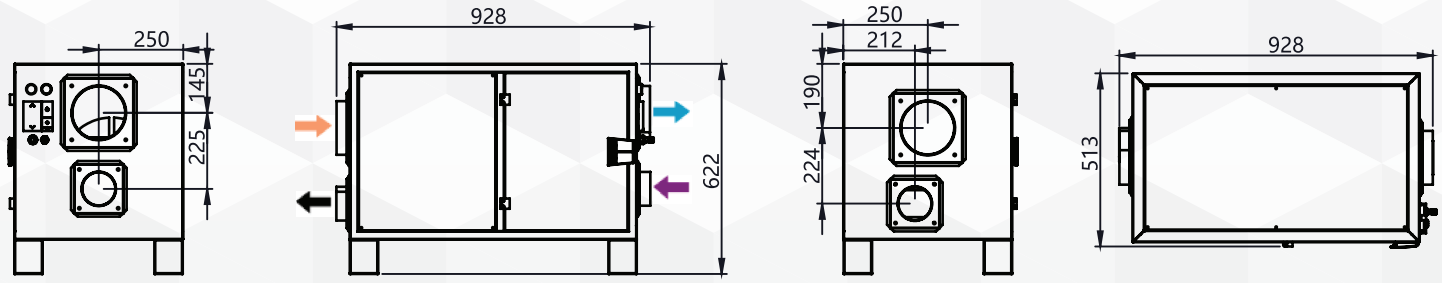


Technical Specifications

VDE-D400K			
Capacity (30°C, %80 RH)	1,50 kg/h	Rated Current	10,80 A
Rotor Size (Diameter x Thickness)	250 mm x 50 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	400 m³/h (100 Pa)	Humidity Sensor	√
Regeneration Air Flow	135 m³/h (50 Pa)	Control Panel	Digital
Process Inlet Size	ø125 mm	Power Supply	220V - 50 Hz
Process Outlet Size	ø125 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	ø80 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	ø80 mm	Body Material	Electrostatic Powder Coating
Rated Power	2,50 kW	Weight	35 kg
Maximum Power	3,00 kW	Size	421 mm x 578 mm x 705 mm

Desiccant Rotor Dehumidifiers

VDE-D600K

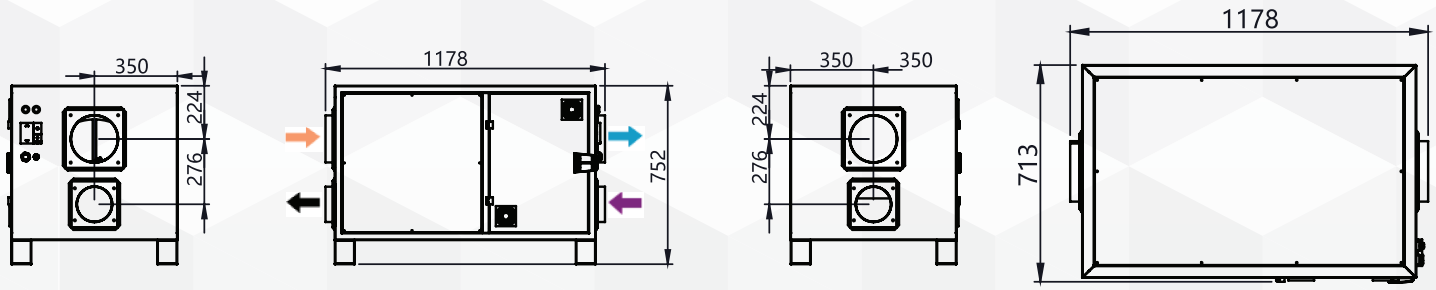


Technical Specifications

VDE-D600K			
Capacity (30°C, %80 RH)	3 kg/h	Rated Current	24 A
Rotor Size (Diameter x Thickness)	300 mm x 100 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	600 m³/h (150 Pa)	Humidity Sensor	√
Regeneration Air Flow	200 m³/h (80 Pa)	Control Panel	Digital
Process Inlet Size	ø160 mm	Power Supply	220V - 50 Hz
Process Outlet Size	ø160 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	ø100 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	ø100 mm	Body Material	Electrostatic Powder Coating
Rated Power	5,50 kW	Weight	62 kg
Maximum Power	6,20 kW	Size	903 mm x 513 mm x 622 mm

Desiccant Rotor Dehumidifiers

VDE-D820K

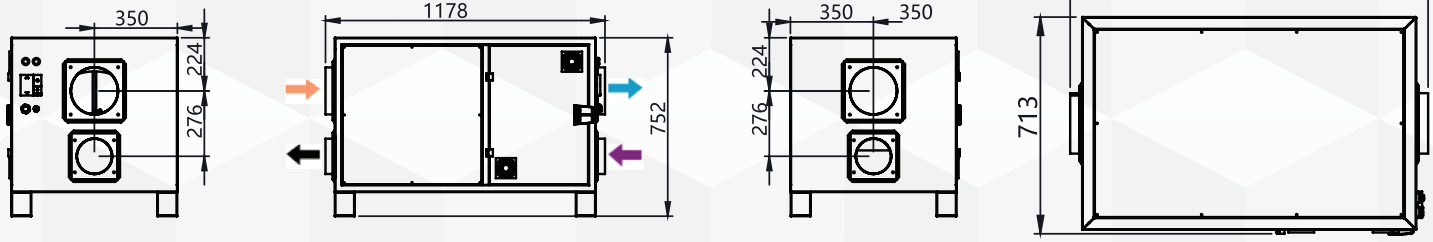


Technical Specifications

VDE-D820K			
Capacity (30°C, %80 RH)	4,50 kg/h	Rated Current	23,60 A
Rotor Size (Diameter x Thickness)	450 mm x 200 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	820 m³/h (200 Pa)	Humidity Sensor	√
Regeneration Air Flow	250 m³/h (100 Pa)	Control Panel	Digital
Process Inlet Size	ø200 mm	Power Supply	380V - 50 Hz
Process Outlet Size	ø200 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	ø125 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	ø125 mm	Body Material	Electrostatic Powder Coating
Rated Power	9,00 kW	Weight	88 kg
Maximum Power	9,50 kW	Size	1.178 mm x 713 mm x 790 mm

Desiccant Rotor Dehumidifiers

VDE-D1050K

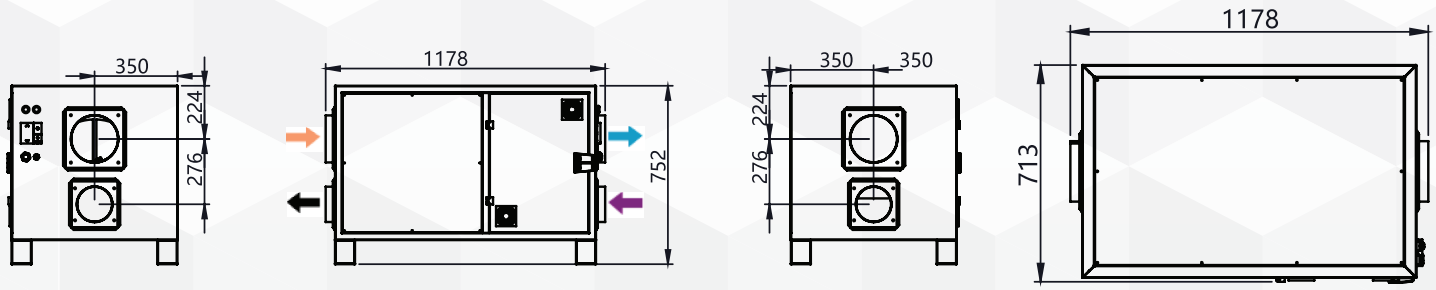


Technical Specifications

VDE-D1050K			
Capacity (30°C, %80 RH)	6,50 kg/h	Rated Current	27 A
Rotor Size (Diameter x Thickness)	450 mm x 200 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	1.050 m³/h (200 Pa)	Humidity Sensor	√
Regeneration Air Flow	350 m³/h (150 Pa)	Control Panel	Digital
Process Inlet Size	ø200 mm	Power Supply	380V - 50 Hz
Process Outlet Size	ø200 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	ø150 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	ø150 mm	Body Material	Electrostatic Powder Coating
Rated Power	10,50 kW	Weight	110 kg
Maximum Power	9,50 kW	Size	1.178 mm x 713 mm x 790 mm

Desiccant Rotor Dehumidifiers

VDE-D1280K

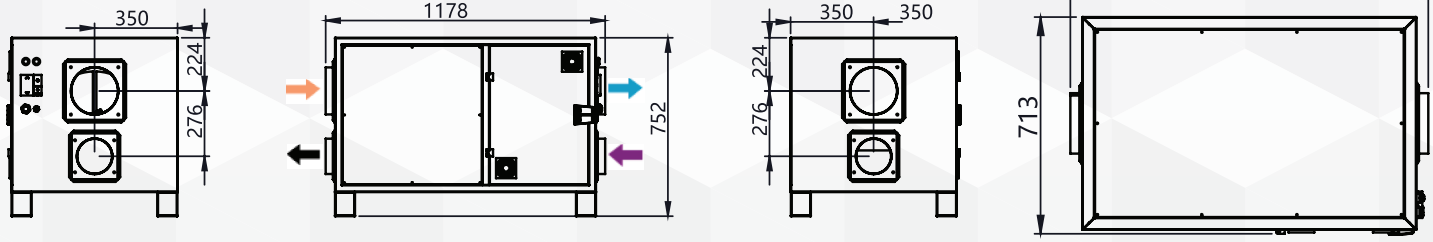


Technical Specifications

VDE-D1280K			
Capacity (30°C, %80 RH)	8,50 kg/h	Rated Current	31 A
Rotor Size (Diameter x Thickness)	450 mm x 200 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	1.300 m³/h (200 Pa)	Humidity Sensor	√
Regeneration Air Flow	450 m³/h (150 Pa)	Control Panel	Digital
Process Inlet Size	ø200 mm	Power Supply	380V - 50 Hz
Process Outlet Size	ø200 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	ø150 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	ø150 mm	Body Material	Electrostatic Powder Coating
Rated Power	11,80 kW	Weight	125 kg
Maximum Power	13,00 kW	Size	1.328 mm x 775 mm x 840 mm

Desiccant Rotor Dehumidifiers

VDE-D1550K

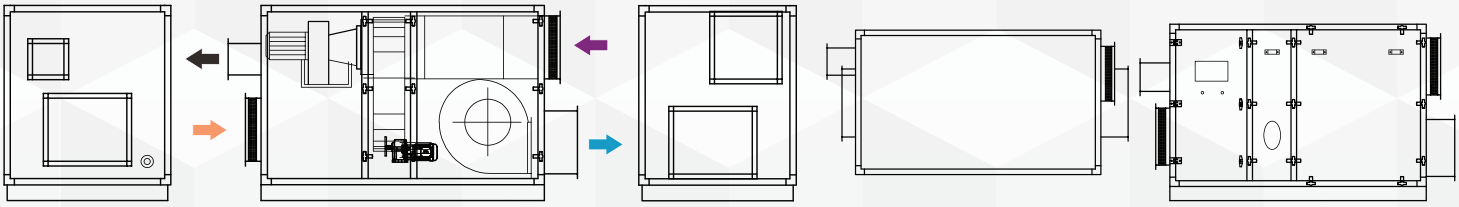


Technical Specifications

VDE-D1550K			
Capacity (30°C, %80 RH)	10 kg/h	Rated Current	34 A
Rotor Size (Diameter x Thickness)	550 mm x 200 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	1.550 m³/h (300 Pa)	Humidity Sensor	√
Regeneration Air Flow	550 m³/h (200 Pa)	Control Panel	Digital
Process Inlet Size	ø250 mm	Power Supply	380V - 50 Hz
Process Outlet Size	ø250 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	ø160 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	ø160 mm	Body Material	Electrostatic Powder Coating
Rated Power	13,00 kW	Weight	175 kg
Maximum Power	15,00 kW	Size	1.328 mm x 775 mm x 840 mm

Desiccant Rotor Dehumidifiers

VDE-D2000K

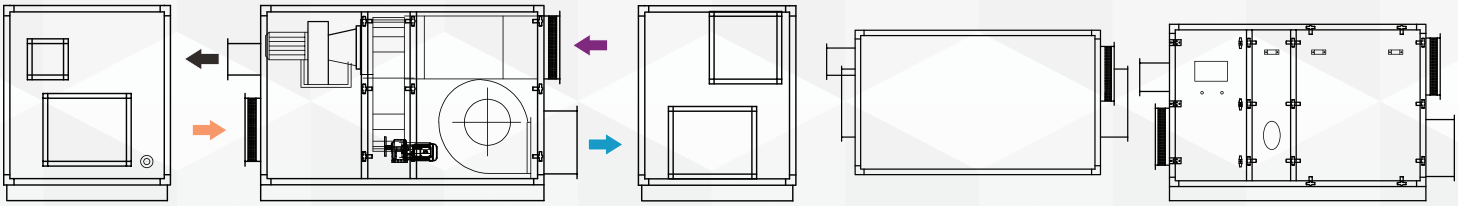


Technical Specifications

VDE-D2000K			
Capacity (30°C, %80 RH)	15 kg/h	Rated Current	38 A
Rotor Size (Diameter x Thickness)	550 mm x 200 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	2.000 m³/h (800 Pa)	Humidity Sensor	√
Regeneration Air Flow	700 m³/h (400 Pa)	Control Panel	Digital
Process Inlet Size	400 mm x 250 mm	Power Supply	380V - 50 Hz
Process Outlet Size	400 mm x 250 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	200 mm x 200 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	200 mm x 200 mm	Body Material	Electrostatic Powder Coating
Rated Power	25 kW	Weight	200 kg
Maximum Power	28 kW	Size	2.000 mm x 850 mm x 1.040 mm

Desiccant Rotor Dehumidifiers

VDE-D3000K

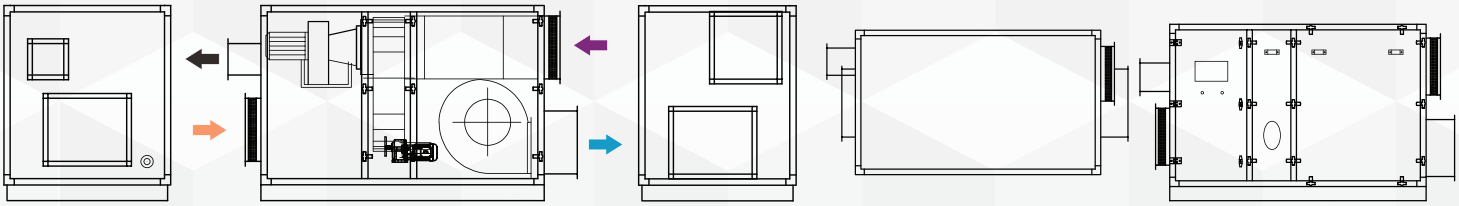


Technical Specifications

VDE-D3000K			
Capacity (30°C, %80 RH)	22 kg/h	Rated Current	52 A
Rotor Size (Diameter x Thickness)	650 mm x 200 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	3.000 m³/h (800 Pa)	Humidity Sensor	√
Regeneration Air Flow	1.000 m³/h (400 Pa)	Control Panel	Digital
Process Inlet Size	500 mm x 300 mm	Power Supply	380V - 50 Hz
Process Outlet Size	500 mm x 300 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	300 mm x 300 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	200 mm x 200 mm	Body Material	Electrostatic Powder Coating
Rated Power	34 kW	Weight	300 kg
Maximum Power	38 kW	Size	2.200 mm x 1.000 mm x 1.240 mm

Desiccant Rotor Dehumidifiers

VDE-D4000K

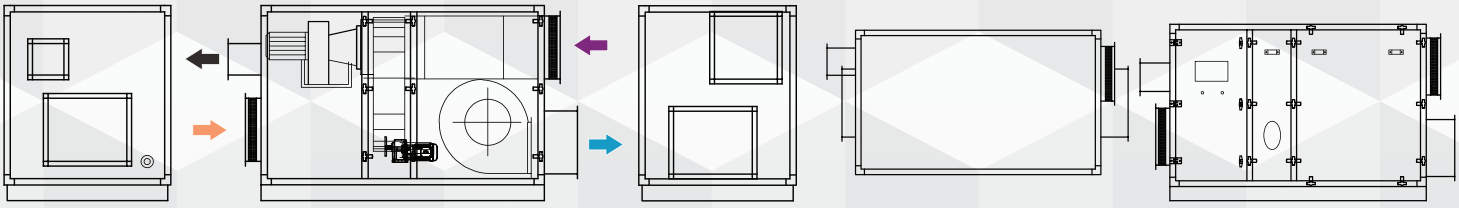


Technical Specifications

VDE-D4000K			
Capacity (30°C, %80 RH)	30 kg/h	Rated Current	70 A
Rotor Size (Diameter x Thickness)	770 mm x 200 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	4.000 m³/h (800 Pa)	Humidity Sensor	√
Regeneration Air Flow	1.500 m³/h (400 Pa)	Control Panel	Digital
Process Inlet Size	500 mm x 400 mm	Power Supply	380V - 50 Hz
Process Outlet Size	500 mm x 400 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	400 mm x 400 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	200 mm x 200 mm	Body Material	Electrostatic Powder Coating
Rated Power	45,50 kW	Weight	450 kg
Maximum Power	50 kW	Size	2.200 mm x 1.040 mm x 1.240 mm

Desiccant Rotor Dehumidifiers

VDE-D5000K



Technical Specifications

VDE-D5000K			
Capacity (30°C, %80 RH)	37 kg/h	Rated Current	89 A
Rotor Size (Diameter x Thickness)	850 mm x 200 mm	Filter	G4
Rotor Type	Silica Gel	Heater Type	PTC + SCR
Process Air Flow	5.000 m³/h (800 Pa)	Humidity Sensor	√
Regeneration Air Flow	1.660 m³/h (400 Pa)	Control Panel	Digital
Process Inlet Size	630 mm x 450 mm	Power Supply	380V - 50 Hz
Process Outlet Size	630 mm x 400 mm	Operating Temperature	-20°C ~ 60°C
Regeneration Inlet Size	400 mm x 400 mm	Waterproof Rating	IPX3
Regeneration Outlet Size	200 mm x 200 mm	Body Material	Electrostatic Powder Coating
Rated Power	58 kW	Weight	520 kg
Maximum Power	64 kW	Size	2.300 mm x 1.200 mm x 1.340 mm

NORDEL VAPORATIC

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