fisair
air humidity control

DFLEX series

Desiccant rotor air dehumidifiers

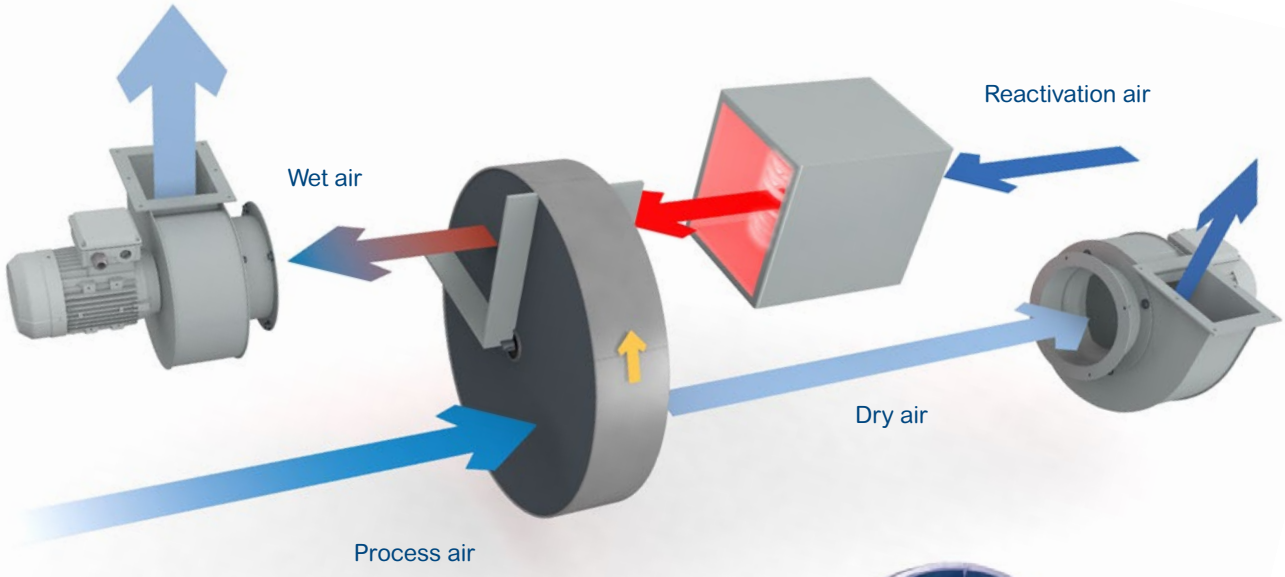
Electric reactivation

fisair.com

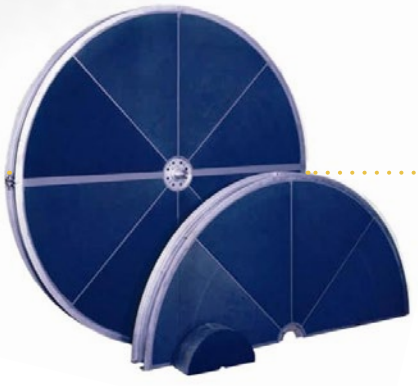
DFLEX **Description**

He foolproof operation of our DFLEX series dehumidifiers is based on the principle of two continuous and simultaneous airflows running in opposite directions through the desiccant rotor: the process airflow (airflow requiring dehumidification) and the reactivation airflow for the desiccant rotor (wet air).After filtration, the process airflow passes through the desiccant rotor, which adsorbs most of the water vapour contained in the air stream.

This is then expelled from the dehumidifier via a fan, in the form of dry air for supply to the process ventilation system or direct to the space in question. The reactivation airflow for the desiccant rotor is drawn from outside, filtered and heated by electricity/steam/thermal oil, or via a direct combustion natural gas burner. When it has reached the temperature required to carry over the molecules of water vapour retained in the rotor, this wet air is extracted from the dehumidifier by a fan and expelled to the outside. Our dehumidifiers are specially designed for easy installation, stable and continuous operation with minimum maintenance.



The effective dehumidification of the process airflow is achieved by the high efficiency of the **DESICCANT SILICA GEL ROTOR** which adsorbs molecules of water vapour, maintaining its performance even at low levels of ambient humidity. The synthesized silica gel is a chemically and thermally stable material, which is not subject to deliquescence like other desiccant materials and therefore provides continuous and stable performance. This silica gel is the foundation for the long service life provided by FISAIR dehumidifiers, as its chemical resistance plus its ability to be washed with water, ensures its longevity. Process air humidity values down to -20ºC Dew Point can be readily achieved, and even more demanding level are available on request.



Using the latest technology, the operating principle of FISAIR desiccant air dehumidifiers is based on the use of an exclusive, high performance, desiccant silica gel rotor to retain the water vapour.

DFLEX Typical applications

MANUFACTURING PROCESSES
Pharmaceuticals, plastics and polymers, textiles, chemicals…

PRODUCT DRYING
Sausages and ham, cheese, sweets, chocolate, food powders, photographic paper…

CORROSION PREVENTION
Cars, ships, power and water pumping stations, defense equipment, electronic material…

STORAGE
Dry air stores, paper and wood, indoor swimming pools, museums and libraries, bulk material silos…

TEMPORARY DRYING
Building works, paintwork, flood water damage limitation....

Our wide range of dehumidifiers provides solutions for industry and any applications where excess humidity is a problem.

DFLEX-XXXX-E-G4/G4/-0/0-0/0-SF/SF-0

Benefits (*)		Model (XXXX)					
		1100	**1300**	**1700**	**2100**	**2900**	**3500**
Dehumidification capacity	(kg/h)	50,45	62,03	78,86	101,43	125,74	152,03
	(kg/24h)	1210,8	1488,7	1892,6	2434,3	3017,8	3648,7
Specific capacity	(g/kg)	5,66	5,8	5,53	5,69	5,29	5,33
Proccess air	(°C)	22,7	22,3	22	21,5	20,8	20,0
Dry air flow	(m3/h)	7500	9000	12000	15000	20000	24000
Dry air available pressure	(Pa)	912	729	818	562	980	775
Wet air flow	(m3/h)	2250	2700	3600	4500	6000	7200
Wet air available pressure	(Pa)	750	488	140	241	488	283
Heater power	(kW)	81,0	99,0	126,0	162,0	200,0	240,0
Total power	(kW)						

(*)

1. Nominal drying capacity (Wn) for process and reactivation air inlet conditions: 20º C & 60% RH. For different ones, please check specific model technical data sheet.

2. Unit's efficiency under nominal reactivation built-in heater power, for reactivation heater by electrical resistance

3. Technical data are subject to change without prior notice.

4. Overall dimensions, weight and total power for electric heater reactivation. For steam coil or gas burner, please consult.

5. Control voltage 24 VAC

DFLEX **Main component**

Rugged, galvanized steel construction with an enamel finish, the basic design or our dehumidifiers comprises the following components:

1. Basic module
2. Desiccant silica gel rotor
3. Desiccant rotor drive system
4. Reactivation air heater
5. Electric panel with associated protection
6. Dry air plug-fan ventilator with flow or pressure control
7. Wet air fan
8. Air dampers
9. Air filters

OPTIONS

- Stainless steel construction.
- Higher efficiency air filters (G4 supplied as standard).
- Dual electric/vapour coil for the reactivation air.
- Plug-fan ventilator with flow or pressure control by means of EC motors.
- Integrated pre- and post-cooling/heating coils for cold/hot water or gas.
- Pressure probes for humidity and temperature.
- Regulator for controlling relative humidity in proportional mode, acting on the reactivation coil and temperature control, among other supervision functions, alarm and communication.
- Air by-pass for operating without drying.

Pre/Post coils

Plug-fan ventilator

HEPA filter