DT Group
Desiccant Technologies Group

THE MOST ADVANCED DESICCANT TECHNOLOGIES FOR PRECISE MICROCLIMATE CONTROL

EU STANDARDS

The equipment comply to all of the applicable EU directives and regulations.

MADE IN EUROPE

All components made exclusively by European manufacturers.

VAST EXPERIENCE

Practical experience in the desiccant dehumidification more than 15 years.

TECHNICAL DATASHEET

Desiccant dehumidifier MDC450R

www.destech.eu

GENERAL INFORMATION

The MDC450R desiccant dehumidifier is designed for general purposes – room air dehumidification and process drying. The compact construction allows extended periods of operation with a minimum of maintenance. Dehumidifier is designed for drying-out buildings, new buildings as well as water-damaged buildings; to control humidity in basements and garages. Furthermore, it is used for room air dehumidification, dry air storage, water works and pump stations, etc. Especially suitable for low temperature and low humidity operation.

In addition to above mentioned application, desiccant dehumidifiers are irreplaceable in:

Protecting against window condensation and glass ceiling in the administrative as well as residential buildings.

Improving the quality of the finishing works during apartment repairs due to drying without thermal movements in the covering products used for walls, floor and ceiling.

Elimination of the effects of the floods, drying new buildings.

Increasing the shelf life of hygroscopic materials: medicines, detergents, building materials and other bulk materials.

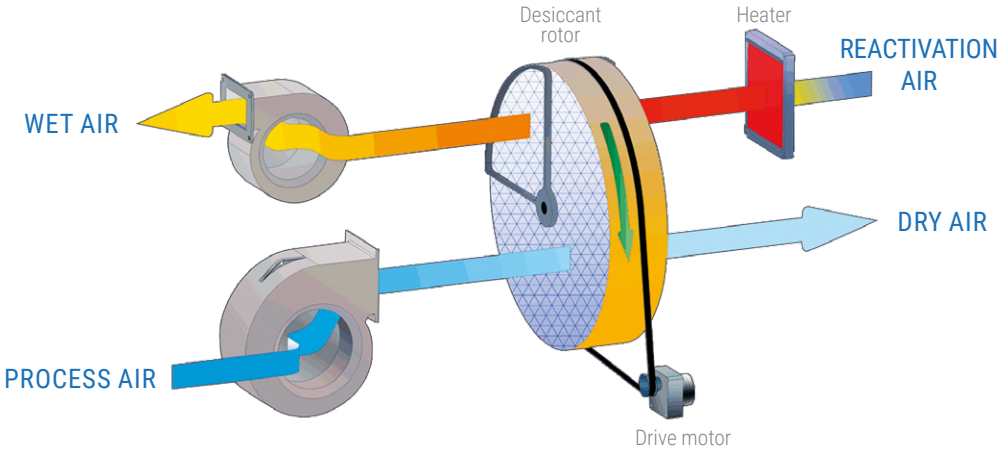
Maintaining a low level of humidity during the production of food items as well as products made of wood, rubber and plastic, during the manufacture of furs.

Maintaining the marketable condition of clothing and packaging items.

Reducing the growth of bacteria, etc.

METHOD OF OPERATION

A desiccant dehumidifier removes water from a flow of the air that passes through it. The heart of this process is an adsorption rotor coated with a special substance that absorbs the water molecules that make up the moisture in the passing air (Process air). When saturated, the rotor is rotated over to a regeneration zone, where it is dried with heated air (Reactivation air). The warm, humid regeneration air is led away out of the unit (Wet air) and the rotor is once again ready to absorb water molecules.



CONSTRUCTIONAL FEATURES

- The casing has high resistance to atmospheric corrosion and made of 1,0 mm stainless steel sheet metal; some parts made of 1,5 and 2,0 mm stainless steel in order to achieve rigidity;
- Compact design and low weight of the unit;
- High performance at low temperatures and low relative humidity in a room;
- Digital humidistat Micatrone HC2;
- Rigid frame for safe transportation and installation;
- Swivel wheels for easy movement;
- Easy access to the internal components of the dehumidifier for the maintenance;
- PTC-heater;
- High efficiency of the washable silica gel rotor;
- All components made exclusively by European manufacturers.

TECHNICAL DATA

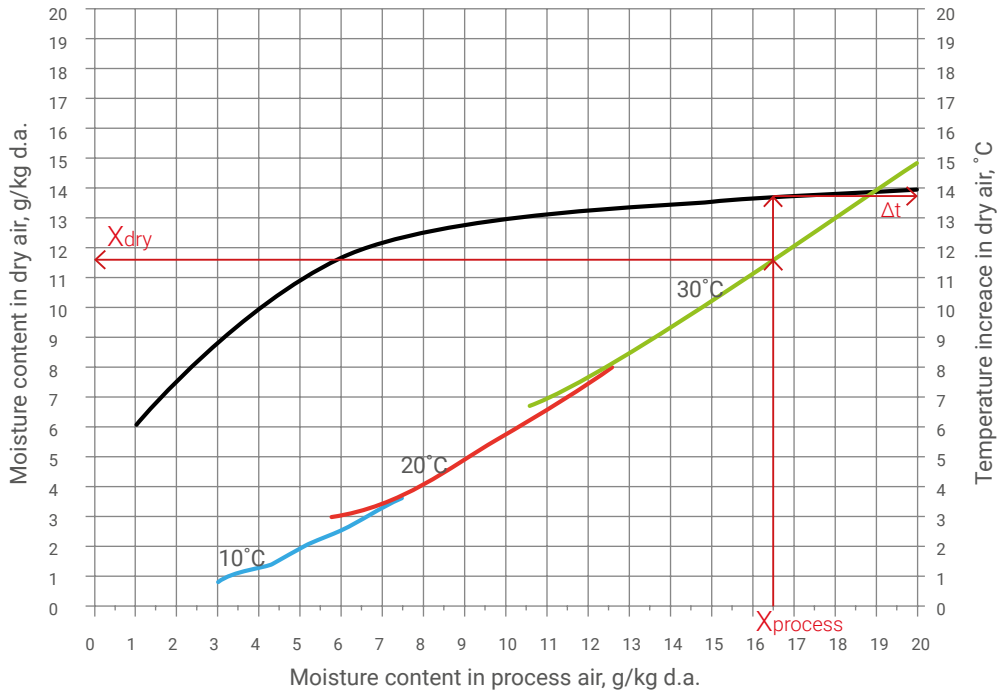
Process air	
Rated airflow	450 m³/h
Available static pressure	120 Pa
Reactivation air	
Rated airflow	120 m³/h
Available static pressure	50 Pa
Power supply	
(1ph+N 230V, 50 Hz)	3 kW
Current	13 A

Miscellaneous data	
Dehumidification capacity (at 20 ˚C, 60%RH)	2,2 kg/h
Weight	40 kg
Operating temperature	-30/+40˚C
Max noise level without ductworks	62 dBA
Air filter	EU4
IEC protective class	IP44

DEHUMIDIFICATION CAPACITY

	50%	60%	70%	80%	90%
5˚C	1,1	1,23	1,4	1,52	1,67
10˚C	1,4	1,6	1,7	1,9	2,0
20˚C	2,0	2,2	2,3	2,43	2,46
30˚C	2,5	2,6	2,7	2,8	2,9

Approximate capacity in kg/h at different inlet process air relative humidity (%) and temperature (˚C)

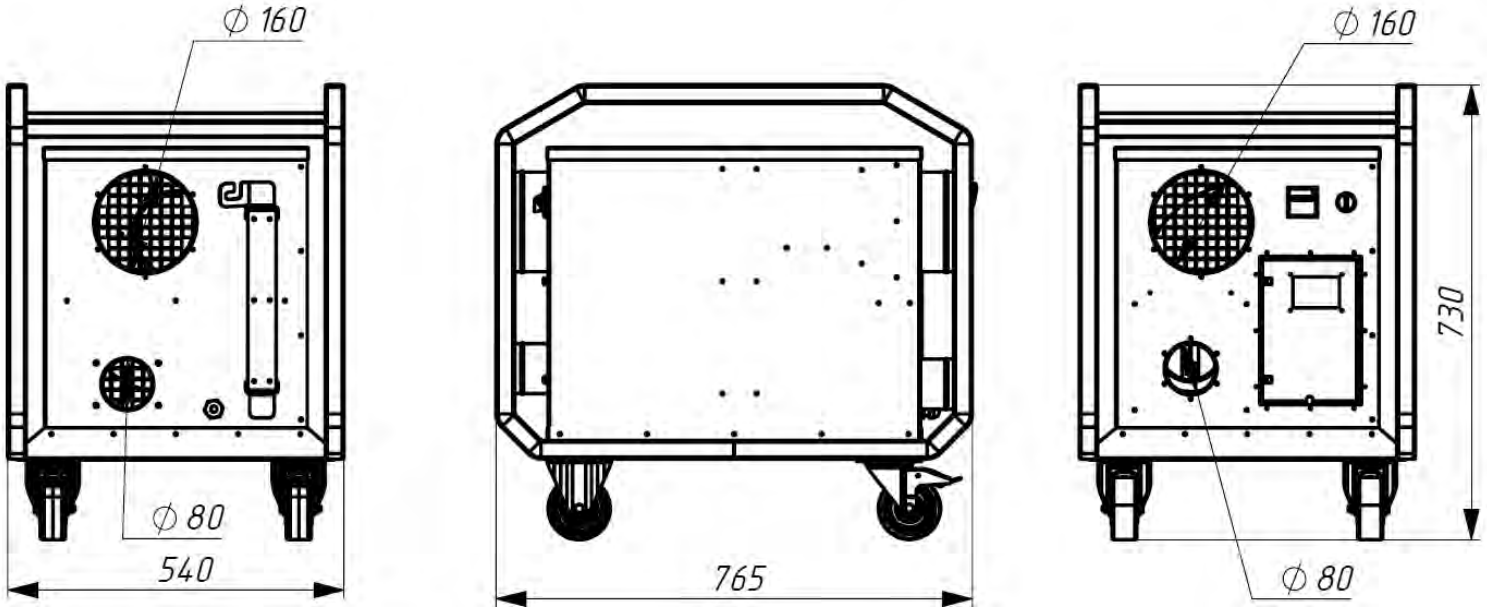


Temperature increase in dry air

Example

$X_{process}$=16,5g/kg d.a.;
$t_{process}$=30˚C

X_{dry}=11,6g/kg d.a.;
Δt=13,7˚C;
t_{dray}=30+13,7=43,7˚C



Changes are possible without notice.

UAB DESICCANT TECHNOLOGIES GROUP
E-mail: destech@destech.eu Ph.: +370 610 65665 www.destech.eu