



FORGET HUMIDITY FOR EVER!



**EU STANDARDS**

The equipments complies 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

# MDC 10 000 DD

## GENERAL INFORMATION

Desiccant dehumidifier MDC 10 000 DD designed for general purposes – room air dehumidification and process drying. The compact construction allows extended periods of operation with a minimum of maintenance. Especially suitable for low temperature

and low humidity operation. Unit includes desiccant rotor, ECfans, reactivation heater, pocket filters and controls. Panels insulated with 40 mm rock wool insulation.

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.

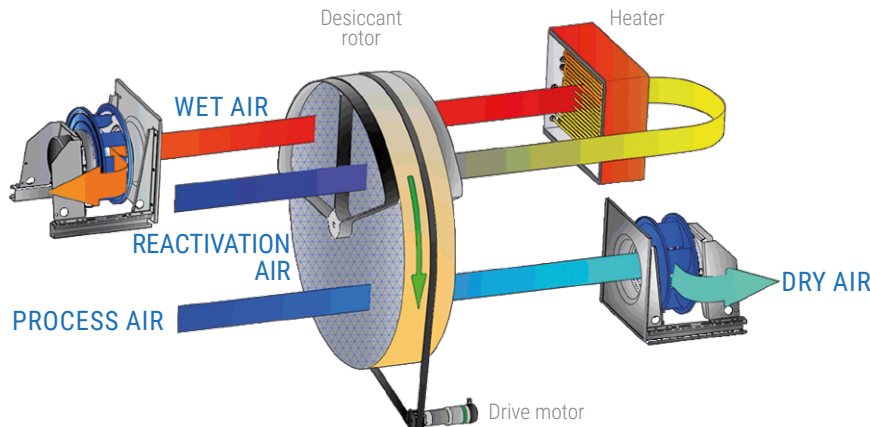


Reducing the growth of bacteria, etc.

## 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.



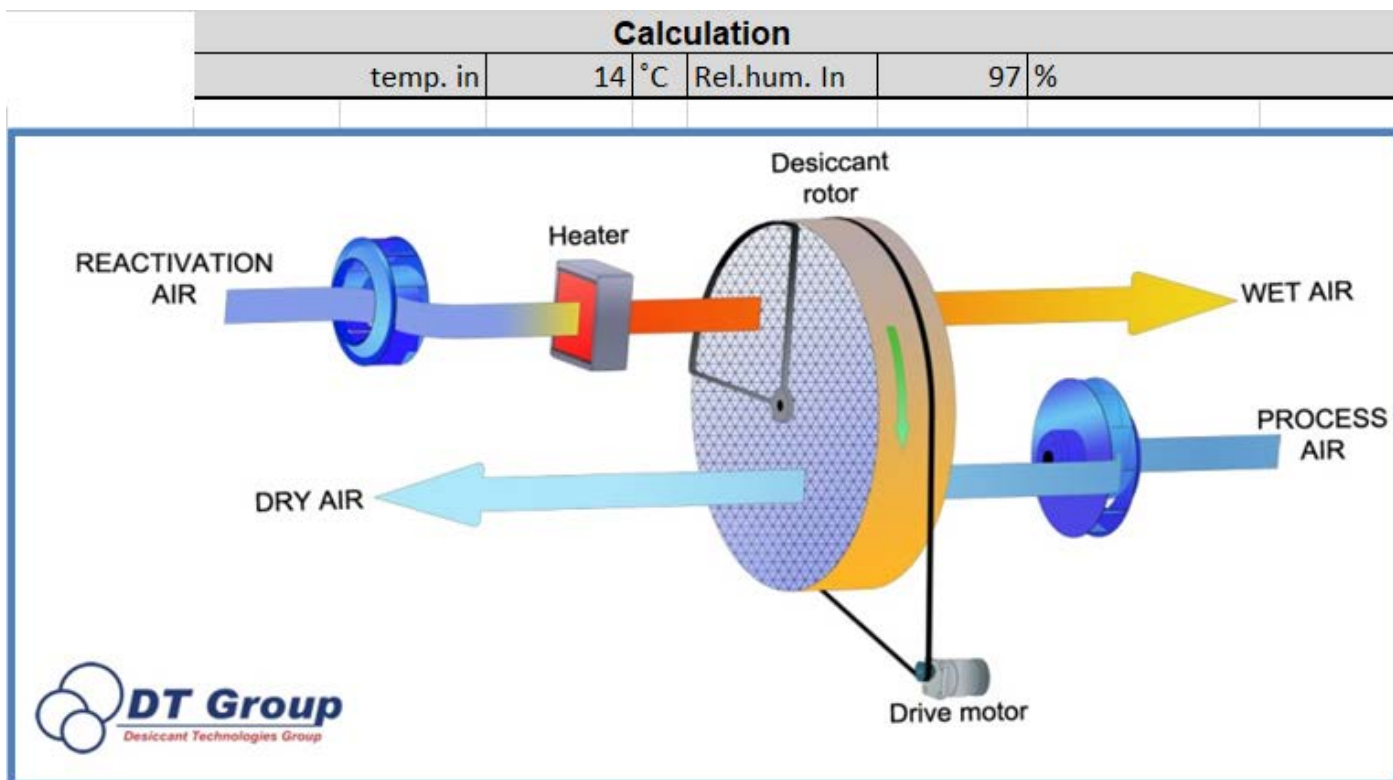
## CONSTRUCTIONAL FEATURES

- The casing is completely hermetic and panels are made of 1,0mm AluZinc sheet metal with isolation of 40mm (rock wool); it has high resistance to atmospheric corrosion. Powder painted panels (outside only); rigid frame made of 1,5mm AluZinc sheet metal (powder painted completely) to achieve rigidity;
- Compact design and low weight of the unit;
- High performance at low temperatures and low relative humidity in a room;
- Optional humidistat is available as an accessory;
- Microprocessor based control (optional);
- Tubular electric heating elements for regeneration (standard unit) as well as on request with water, steam or gas heating coil (customized unit);
- Easy access to the internal components of the dehumidifier for the maintenance;
- EC-fans;
- Pocket filters G4 to F9 on request;
- High efficiency of the washable silica gel rotor;
- All components made exclusively by European manufacturers.

## TECHNICAL DATA

Process air		Miscellaneous data	
Rated airflow	10000 m <sup>3</sup> /h	Dehumidification capacity (at 20 °C, 60%RH)	95 kg/h
Available static pressure	300 Pa	Weight	1400 kg
Reactivation air		Operating temperature	-30/+40°C
Rated airflow	5000 m <sup>3</sup> /h	Max noise level without ductworks	73 dBA
Available static pressure	250 Pa	Air filter (pocket)	G4÷F7
Power supply (steam/water/gas reactivation)		IEC protective class	IP55
(3x400V, 50 Hz)	12 kW	Insulation	40 mm
Current	18 A		

## CALCULATION



Process Air		Reactivation Air	
L	10000 m <sup>3</sup> /h	L	5000 m <sup>3</sup> /h
temp. in	14 °C	temp	120 °C
Rel. humid.	97 %	Abs. humid.	25 g/kg
Abs. humid.	9,67 g/kg		
Dry Air			
L	10000 m <sup>3</sup> /h		
temp.	47 °C		
Rel. humid.	3% %		
Abs. humid.	1,65 g/kg		
		<b>Dehumidification capacity</b>	<b>96,00 kg/h</b>
		<b>Max Heat load</b>	<b>111,00 kW</b>

**REACTIVATION HEATER**

**EXTERNAL FLUID: Air**

Ambient pressure	mmHg	760			
<b>Capacity</b>	<b>kW</b>	<b>172.41</b>			
<b>Gas quantity</b>	<b>Sm<sup>3</sup>/h</b>	<b>5000</b>			
Air treated weight	kg/h	6021	Sensible heat factor		1.00
<b>Inlet temperature</b>	<b>°C</b>	<b>20.00</b>	Condensed water	kg/h	0.00
Relative humidity	%	90.00	Actual velocity	m/s	3.03
<b>Outlet temperature</b>	<b>°C</b>	<b>119.18</b>	Pressure drop	Pa	124
Outlet relative humidity	%	1.09			

**INTERNAL FLUID: Steam**

<b>Condensing pressure</b>	<b>bar(a)</b>	<b>5.00</b>	<b>Condensing temperature</b>	<b>°C</b>	<b>151.43</b>
Superheating	°C	0.00	Subcooling	°C	0.00
Liquid weight	kg/h	251	Outlet temperature	°C	151.41
Pressure drop	bar	0.00	Pressure drop	°C	0.01
Vapour velocity inside tubes	m/s	2.95			

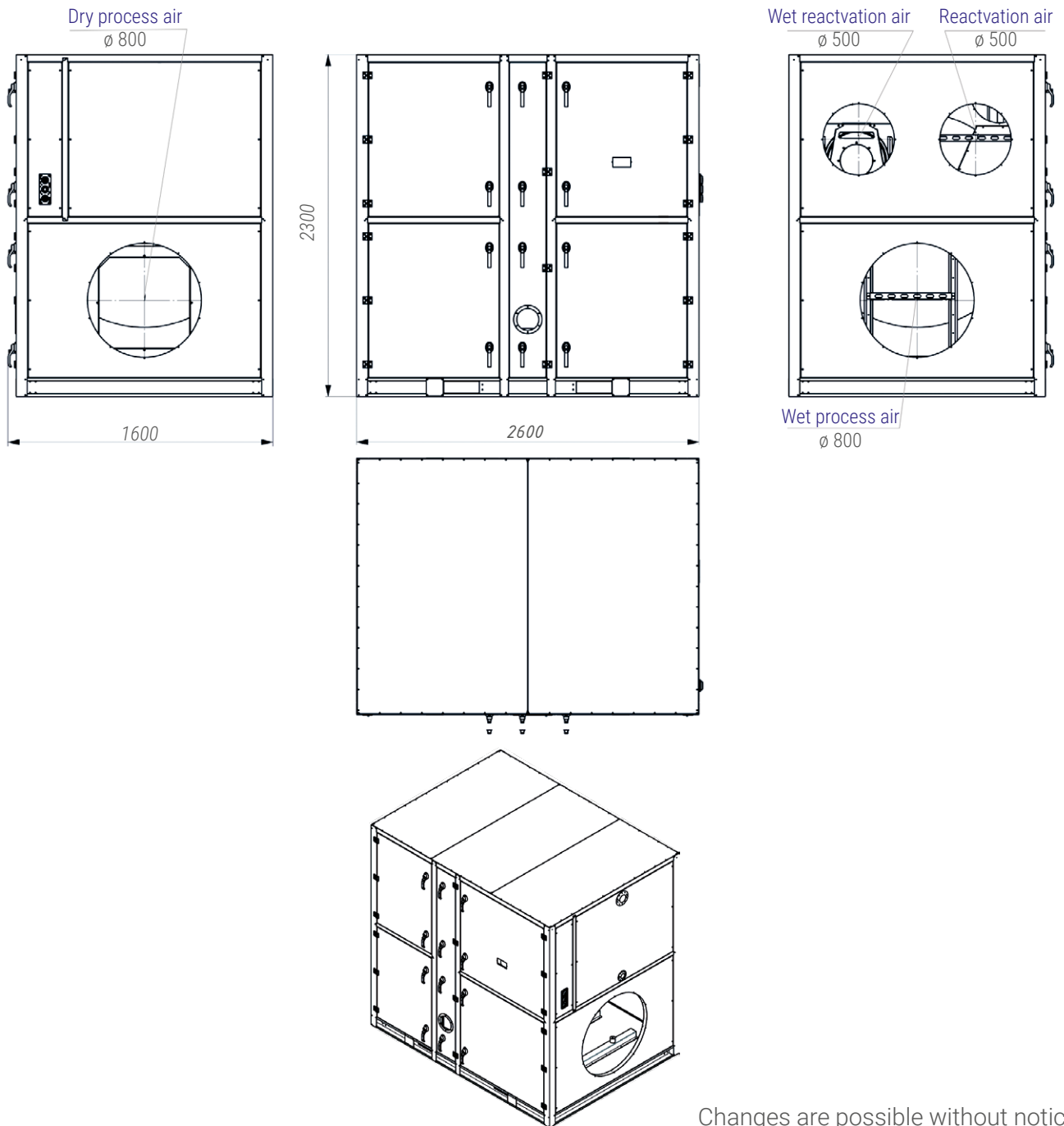
**N°1 Coil Inox304-AI-Inox304 P40VAP 3R-18T-650A-2.0pa 54C 3" 2 1/2"**

**TECHNICAL FEATURES**

Tubes	Inox304	16.45 x 1.00	mm	Weight	71 Kg
Fins	AI	0.40	mm	Internal volume	15 dm <sup>3</sup>
Frame	Inox304	2.00 / 2.00	mm	Total exchange surface	42.25 m <sup>2</sup>
Manifolds materia	Inox304			<b>PED 2014/68/UE Cat.</b>	<b>Class I</b>
				Maximum allowable pres	25.0 bar
Threads type	<b>EN 10226-2</b>			Min/Max allowable tem	-20/250 °C

**ACCESSORIES**

-  
Standard calculation tolerance - Counterflow

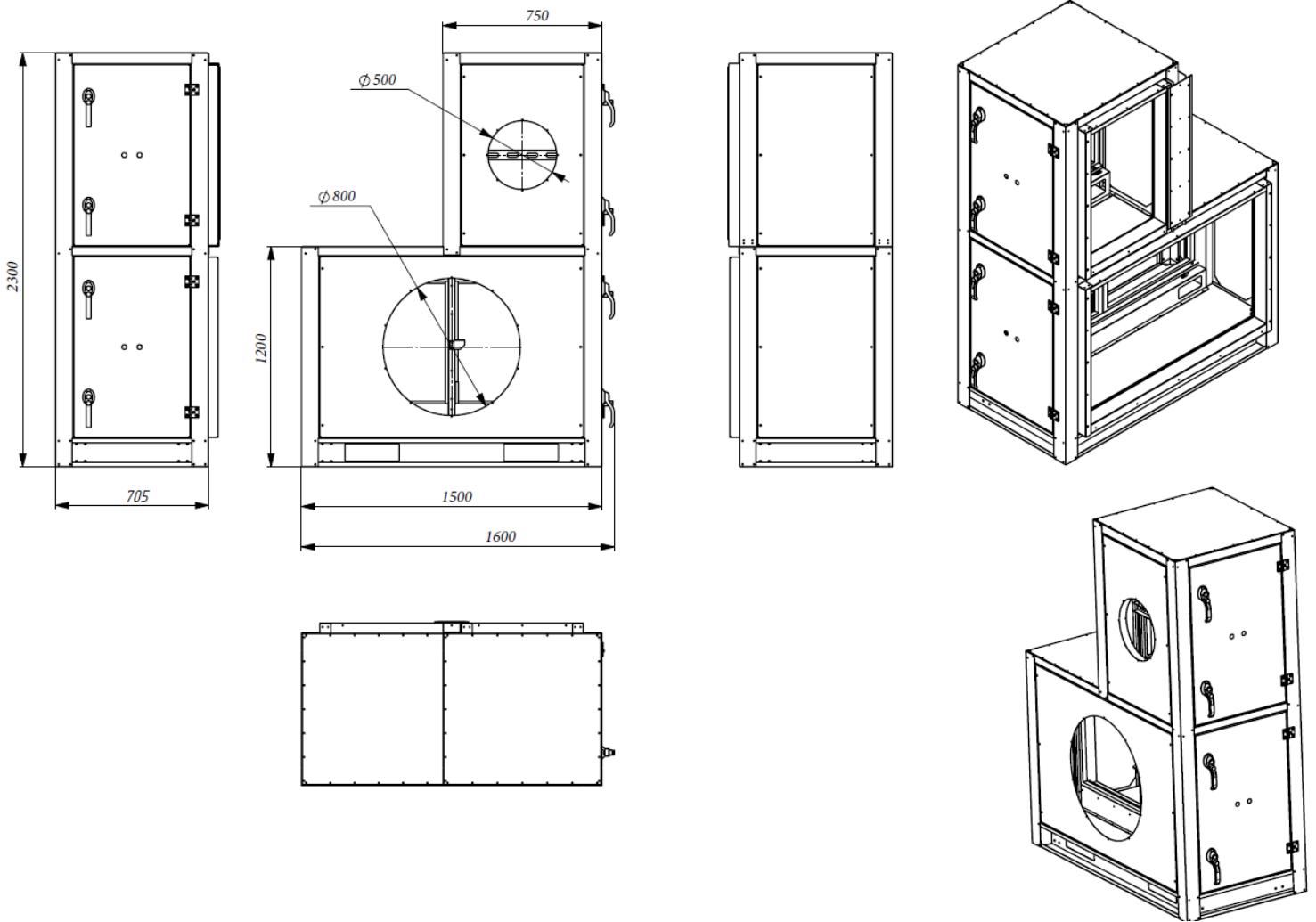


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