



DESICCANT DEHUMIDIFIER

MDC2000



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1 GENERAL INFORMATION

1.1 Application

Desiccant dehumidifier MDC2000 (hereinafter - Device) is designed to dehumidify indoor air (buildings, warehouses, basements, pumping stations, with special moisture and temperature parameters) and use in the dehumidifying process. The desiccant dehumidifier of air MDC have high efficiency and are irreplaceable at low temperatures and low level of relative humidity. Dehumidifiers are equipped with silica gel desiccant wheel, heating element, fans, and air filters. They can work as an independent device and in a combination with system of air handling. Efficiency at low temperatures, achievement and maintenance of very low humidity level are the distinctive properties of the desiccant dehumidifier.

In addition to the mentioned problems, desiccant dehumidifiers can:

- maintain the strength of load-bearing structures of various kinds of objects, including swimming pools, ice arenas, hydro-technical facilities;
- protect windows and glass ceilings against fogging in the administrative and residential buildings;
- improve the quality of the finishing works at repaired apartments due to the drying without thermal deformations of used coating walls, floor and ceiling;
- liquidate consequences of flooding, dry new building objects;
- increase the storage duration of hygroscopic materials: medicines, washing powders, construction materials and other bulk products;
- support a low level of humidity by manufacturing foodstuff and wood, rubber products and plastic, at manufacturing of fur skins;
- keep marketable condition of clothes and packaging;
- reduce growth of bacteria, fungus etc.



ATTENTION!

Use of this product for other purposes or with violation of instructions, may cause injury to personnel and / or equipment damage.

1.2 Mode of operation of the desiccant dehumidifier

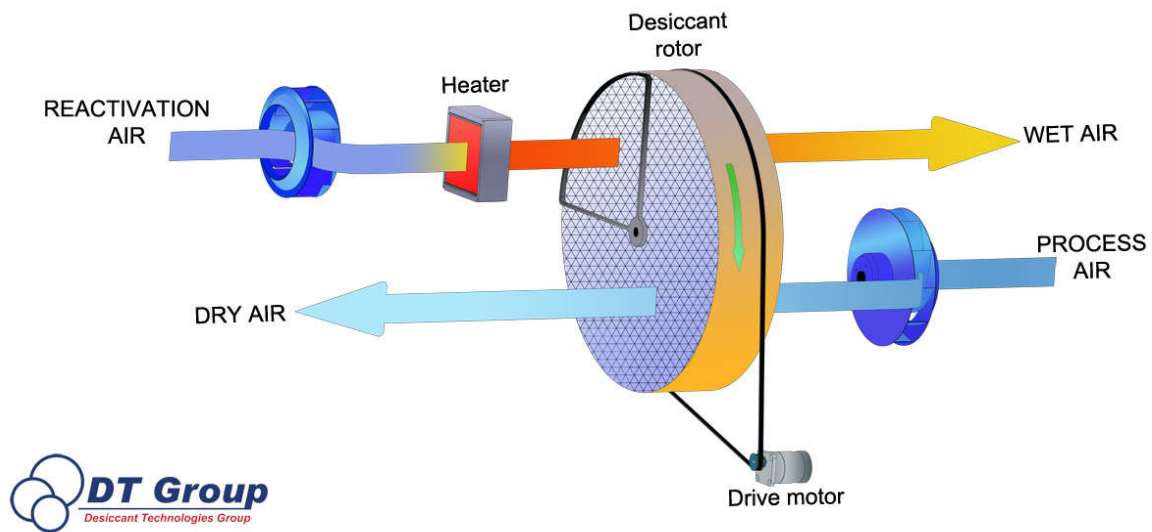


Figure 1.1: Mode of operation of desiccant dehumidifier

Mode of operation of desiccant dehumidifier is shown in Figure 1.1. desiccant wheel (rotor) is the main element of the Device. Its inner surface is formed in the honeycombs, thereby achieving tremendous increase of dehumidifying surface. It also contributes to a laminar flow of air in the rotor, so significantly reducing aerodynamic losses.

The supply of streams of air is carried out so that the dehumidified air (process air) passes through 75% of the rotor surface and the reactivation air passes through 25%. Wet dehumidified air passing through the rotor gives moisture to the sorbent (Silica Gel). Reactivation air, in turn, is warmed in the heater to 90 °C -140°C, so increasing the moisture saturation capacity, and passing through the rotor, restores its sorption capacity. Reactivation air, saturated with water vapor is ejected to outdoor. This reactivation air flow also performs the function of rotor cleaning from possible contamination. The constant rotor rotation provides a continuous sorption - reactivation process. Special sector seals are used to prevent mixing of process and reactivation air flows. The absence of condensate during dehumidification process allows installing the dehumidifier not connected to sewer network.

1.3 Packaging arrangement

The package includes:

- ◆ desiccant dehumidifier MDC2000 1pc;
- ◆ technical data sheet 1pc;
- ◆ packing..... 1pc.

2 TECHNICAL SPECIFICATIONS

2.1 General characteristics

The casing of a dehumidifier is made from stainless steel with isolation of 20mm that gives superresistance to atmospheric corrosion, and also increases durability.

Connection of air ducts are made through round air ducts of the standard sizes. The electric panel is in a separate section of internal part of a dehumidifier, the control panel is placed on frontal part of a dehumidifier.

Average moisture removal of a dehumidifier makes 12.2 kg/h of moisture (at 20°C and 60% RH). The dehumidification capacity at other conditions is given in Figure 2.1.

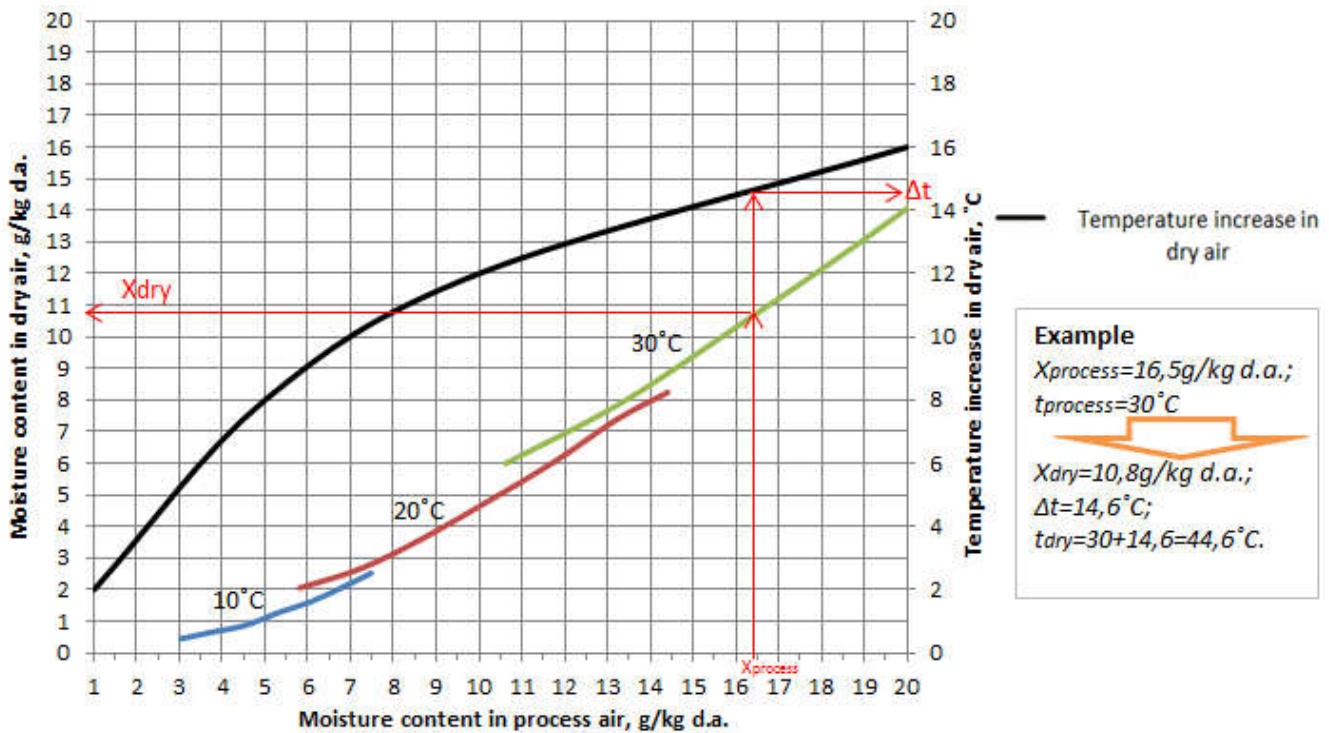


Figure 2.1: Performance curves of desiccant dehumidifier MDC2000

Technical data

Process air	
Nominal airflow	2000 m ³ /h
Available static pressure	200 Pa
Inlet air filter	panel, G4
Reactivation air	
Nominal airflow	400 m ³ /h
Available static pressure	280 Pa
Inlet air filter	panel, G4
Power supply	
Total power consumption	16.5 kW (3x400V, 50 Hz)
Current	24 A
Miscellaneous data	
Dehumidification efficiency	1.22 kW·h/kgH ₂ O
Operating temperature	-30/+40°C
Max noise level without ductworks	70 dBA
Weight	165 kg
IEC protective class	IP44
Insulation	20 mm

2.2 Overall and installation dimensions

Overall and installation dimensions of desiccant dehumidifier MDC2000 are shown in Figure 2.2

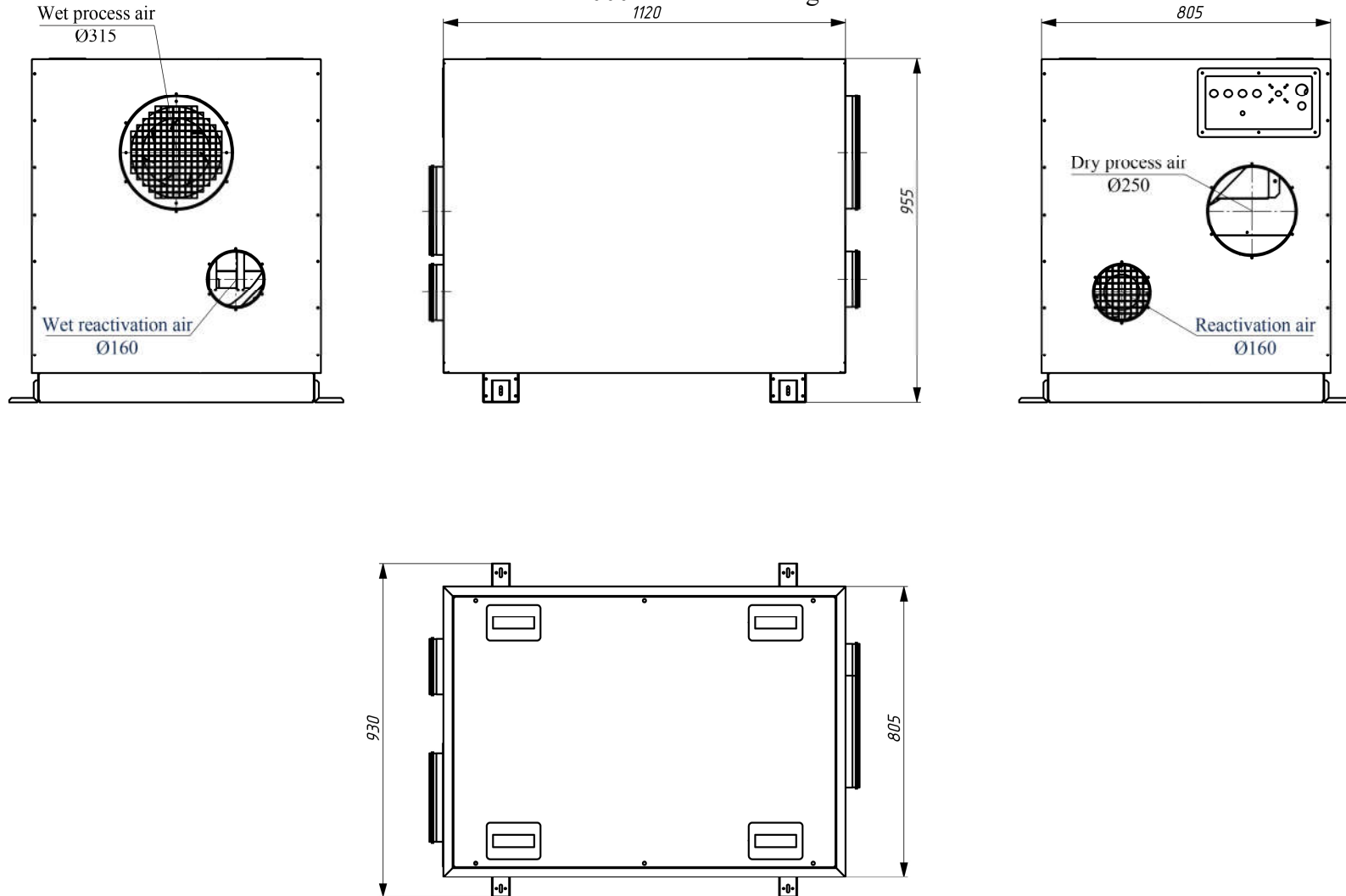


Figure 2.2: Overall and installation dimensions of desiccant dehumidifier MDC2000

2.3 Fans

The Device has modern EC fans. Energy efficiency of EC motors is many times higher in comparison with the AC motors. Low power consumption and easiness of management are the advantages of EC fans. EC technology is based on the use of the integrated electronic control system and allows the motor to operate always optimally. Integrated electronic control system can change the speed to meet the exact requirements for air flow and work with high efficiency.

The main advantages of EC fans:

- High efficiency (about 93%);
- Energy savings ensures lower operating costs by at least 30%;
- Low noise level at a relatively high power;
- Compact size at a relatively high power;
- The possibility of smooth and fine adjustments;
- The possibility of programming;
- Adjustment of capacity of the fan depending on the level of temperature, pressure, and humidity level;
- Protection of the engine against mechanical influences and electric overloads;
- Does not require service maintenance;
- Has long lifetime

The motors of EC series has higher reliability in comparison with the asynchronous motors with the frequency converter at voltage network fluctuations, and also, is resistant to voltage increases. The motors of the EC series smoothly stops and gives an alarm signal after network voltage lowering.

EC fans made in Germany are used in this Device. The impeller of the fan of unilateral suction is executed with backward curved blades. It has aerodynamically optimized shape of the blades of the impeller. The rotating vaneless diffuser increases efficiency and improves acoustic characteristics. The impeller is made of high-strength material according to ISO 1940. The fan has protection against overheating by active temperature control. Compliances to standards:

- Isolation class is IP 54;
- tests of fans are carried out in chamber, according to DIN 24163, part 2 or ISO 5801;
- specifications conform to accuracy class 2, according to DIN 24166;
- the efficiency of the electric motor corresponds to the class IE4.

Table 2.1 Specifications of the process air fan

Parameter	Measurement unit	Value
Phase		3~
Operating voltage	V	400
Operating voltage range	V	380...480
Frequency	Hz	50
RPM	min ⁻¹	2580
Nominal power consumption	kW	1
Current consumption	A	1.63
Minimum ambient temperature	°C	-30
Maximum ambient temperature	°C	+50
Airflow	m ³ /h	2000

Table 2.2 Specifications of the reactivation air fan

Parameter	Measurement unit	Value
Phase		3~
Operating voltage	V	400
Operating voltage range	V	380...480
Frequency	Hz	50
RPM	min ⁻¹	2750
Nominal power consumption	kW	0,5
Current consumption	A	0,7
Minimum ambient temperature	°C	-30
Maximum ambient temperature	°C	+50
Airflow	m ³ /h	400

2.4 Desiccant wheel (rotor)

Silica gel rotor R2000 made in Europe is the principal element of the Device. Rotors for 80% consist of active silica gel and that provides their highest performance data.

Silica gel is a solid adsorbent, dried gel of polysilicic acid. Silica gel according to its structure is highly porous, formed by the smallest and spherical particles, chemical composition is silicon dioxide SiO₂ (silica).

The main advantages of silica gel are:

- inertness, chemical and biological harmlessness;
- high mechanical resistance to abrasion and crushing;
- low temperature is required for regeneration (90° C - 140° C) and, as a consequence, lower energy consumption;
- explosion and fire safety.

Silica gel rotor is resistant to acidic environment, and can be used for drying air with relative humidity up to 100%. This material is highly efficient in the attraction and retention of water

molecules. The know-how techniques of rotor enables the manufacturing of products, capable to handle the saturated with moisture air without the risk of destruction. Effective and reliable rotor design provides unlimited uses. The rotor has bacteriostatic properties, so it can be used where there are high hygienic requirements. The adsorbing structure of the rotor can withstand a huge amount of adsorption-regeneration cycles, so the rotors are extremely durable, and their service life is 10-15 years. Special sealants in the places of air flow through the rotor are used to prevent mixing of process and reactivation air.

2.5 Heater

The unit uses a heating element, made on the basis of innovative technologies of thermo-resistors with a positive temperature coefficient (PTC) of resistance.

PTC-heating elements have the following advantages compared to the traditional tubular electric heaters.

- fire safety;
- properties of self-regulation: the thermal power output depends on the ambient temperature (the lower the temperature, the higher the power) and the speed of the airflow passing through the heater, which simply indicates the ability to quite easily control the heat power performance changes of the air flow (when you turn off the fan, power consumption is reduced substantially);
- environmentally friendly: oxygen is not burned, no carbon monoxide and other harmful substances are produced, specific odors are not emitted;
- power stability: changes in voltage $\pm 25\%$ results in power changes at about $\pm 10\%$;
- lack of infrared radiation, so you can have parts made from non-heat resistant plastic next to it, fan motors and that does not lead to overheating;
- long lifetime.

2.6 Air filters

The air filter is designed for the purposes of cleaning of the process air and for the air reactivation. The filter is made in the form of a cassette and is used to prevent clogging of the silica gel rotor and to clean the air according the required parameters.

2.7 Control system

The operation of the dehumidifier doesn't present difficulties and is intuitively clear. Desiccant dehumidifiers can work in two modes: «MAN» mode (manual) to ensure continuous operation, and «AUTO» mode (automatic) to work on a signal from the connected hydrostat.

2.8 Design features

- The casing is completely hermetic and panels are made of stainless steel with isolation of 20mm (rockwool). It is compact and lightweight.
- High efficiency at low temperatures and a low level of relative humidity in served rooms.
- Sufficient available static pressure to connect the dehumidifier to the duct system.
- Optional humidistat is an accessory.
- Highly efficient filters.
- Easy access to internal components of the dehumidifier for maintenance.
- High efficiency of washable silica gel rotor.

3 STORAGE AND TRANSPORTATION

It is necessary to implement the following recommendations for storage of the Device before installation (if required):

- Do not remove the dehumidifier from the packaging;
- Place the dehumidifier in a horizontal position on a flat, firm surface; upturning on either side can cause irreparable damage to some components;
- Ensure the protection of Device against mechanical damage;
- Cover the dehumidifier in order to protect from dust, rain, frost, chemical aggressive environments, etc.
- Valid storage period for dehumidifier depends on the surrounding environment. The maximum storage period for the Device in a well-ventilated heated premises is 5 months;
- Never place heavy objects on the dehumidifier.

Devices are transported fully assembled or in separate parts (sections), packed in a protective film. At transportation it is necessary to perform the following steps:

- It is necessary to make sure in completeness of the Device in the case of transportation in parts (sections);
- The Device may only be transported in a horizontal position;
- Special attention must be paid to prevent mechanical damage of the protruding parts;
- The Device can be transported by any type of transport, ensuring its safety and avoiding mechanical damage, according to the rules of cargo transportation for this transport.

4 INSTALLATION

4.1 Safety requirements

The requirements of this technical data sheet, „Electrical Installations Code," „Rules of the technical operation of electrical consumers", existing construction norms and regulations have to be fulfilled during installation and operation of the Device.

Desiccant dehumidifier MDC2000 is the electric equipment, therefore it is necessary to comply with safety rules on the treatment of electrical equipment. The Device should be used specifically on its purpose. It is forbidden to spend any works on the Device if it is connected to the power supply.



ATTENTION!

Never open the door if the dehumidifier is running. To avoid electrical shock, the replace of damaged power cables should be done only by qualified specialists.

Do not install the dehumidifier in the environment with corrosive chemicals, explosive and toxic gases, and high temperature vapor, in high temperature environment or extreme dust and dirt.

4.2 Location

The dehumidifier is designed for installation indoors and outdoors.



ATTENTION!

Do not install the dehumidifier in humid places where there is a risk of direct contact with the water to the device; in very dusty places and places with chemically aggressive environment.

The Device has to be placed thus that there was a possibility of an easy access to it and further opening of side doors for carrying out service for scheduled maintenance or repair of a dehumidifier.

The following options regarding the Device installation on the serviced premises are possible:

- ✓ Work of dehumidifier in "closed" circuit (indoor version), Figure 4.1;
- ✓ Work of dehumidifier on a "closed" circuit (outdoor version), Figure 4.2;
- ✓ Work of dehumidifier on an "open" circuit (indoor version), Figure 4.3;
- ✓ Work of dehumidifier on an "open" circuit (outdoor version), Figure 4.4;
- ✓ Work of dehumidifier on a "closed" circuit with the mixing of outside air (indoor version), Figure 4.5;
- ✓ Work of dehumidifier on a "closed" circuit with the mixing of outside air (outdoor version), Figure 4.6;
- ✓ Work of a dehumidifier on the "closed" scheme in the mode of "dehumidifying", Figure 4.7.

Figure 4.1 shows the installation of the dehumidifier inside serviced room when working on recirculation ("closed" circuit), i.e. the air is taken from the indoor volume, dehumidified and thrown back. Reactivation air is drawn outside the served room and ejected. In automatic mode the dehumidifier will work as long as it reaches the set point on the humidistat.

It is forbidden to use option of work of a dehumidifier on the "closed" circuit in the presence of particles or substances in internal air which can damage the Device elements.

Figure 4.2 shows the option of dehumidifier outside serviced room when working on recirculation. It differs from the first option (see Figure 4.1) only by the location of the dehumidifier.

Figure 4.3 shows indoor installation of the dehumidifier working on "open" circuit (in the mode of supply of fresh air), i.e. outdoor dehumidified air is blown into the premise. Reactivation air is taken from the outdoor and is thrown there back. This is useful if the inside air directly due to the presence of particles and substances in it that could damage the individual elements of the dehumidifier.

Figure 4.4 shows the outdoor installation of dehumidifier, working in the mode of fresh air supply. It differs from the third version (see Figure 4.3) only by the location of dehumidifier.

Figure 4.5 shows the indoor installation of dehumidifier when operating in recirculation mode ('closed' circuit) with mix of the outdoor fresh air. This is useful in situations where you must ventilate the room with fresh air, or create the overpressure in the served premises to prevent uncontrolled flow of outdoor air (infiltration). Outdoor air inlet duct must be equipped with manual or automatic air damper to adjust the amount of fresh air supply.

Figure 4.6 shows outdoor installation of dehumidifier when operating in recirculation mode ("closed" circuit) with mix of the outdoor fresh air. It differs from the fifth version (see Figure 4.5) only by the location of the dehumidifier.

Figure 4.7 shows the internal view of dehumidifier during the work in the recirculation mode with an intake of reactivation air from the room (the mode of "dehumidifying" of rooms). This is useful, for example, in cases of application of the Device for drainage of facilities after flooding, or before carrying out painting and decorating works.

Consult with our experts before selecting the options of operating mode and place of installation of the dehumidifier.

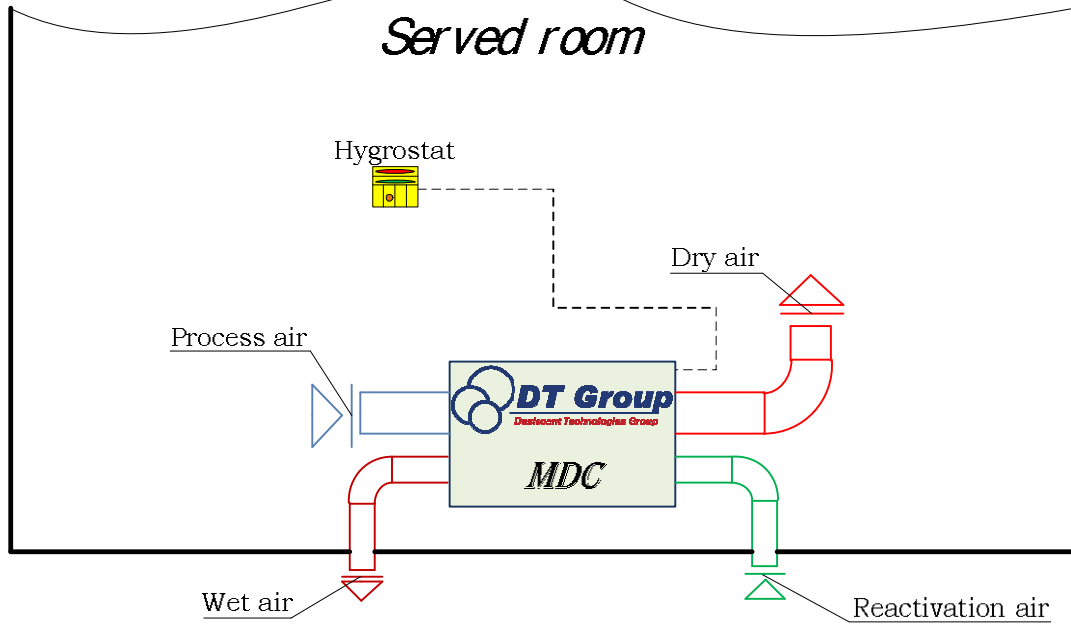


Figure 4.1: Work of a dehumidifier on the "closed" circuit (indoor version)

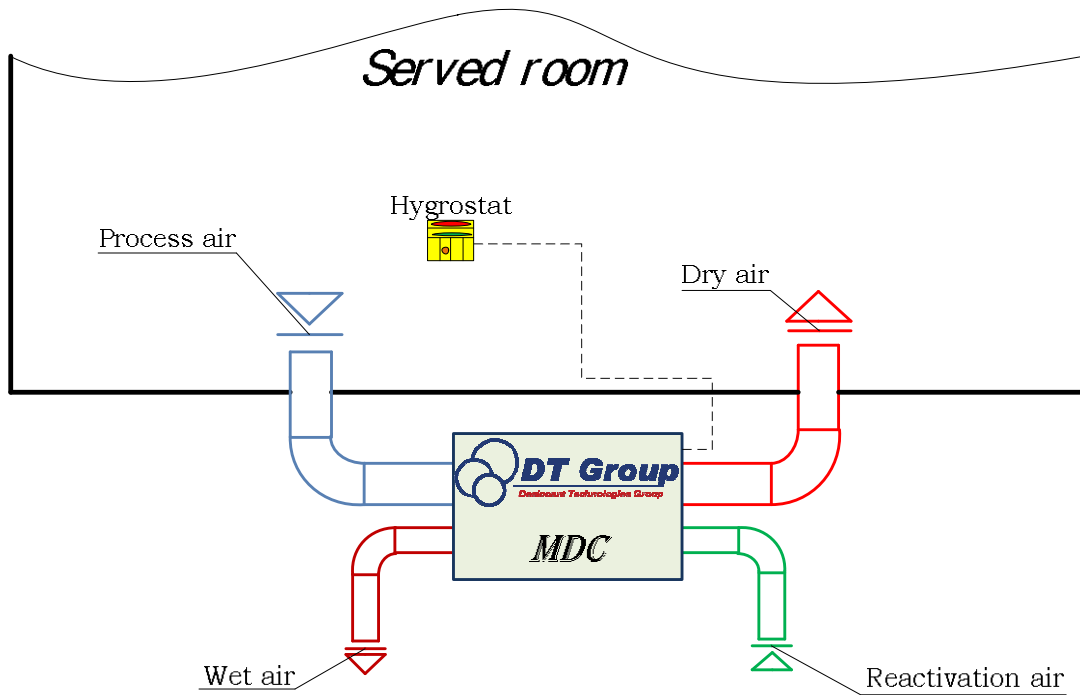


Figure 4.2: Work of dehumidifier on a "closed" circuit (outdoor version)

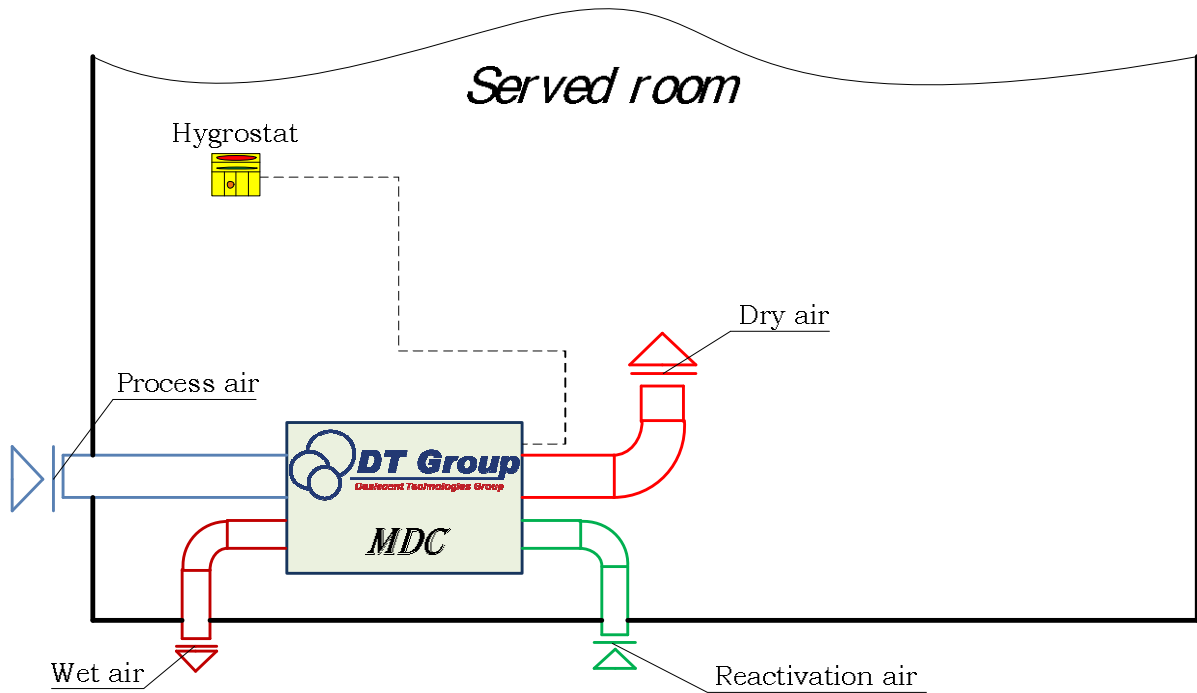


Figure 4.3: Work of dehumidifier on an "open" circuit (indoor version)

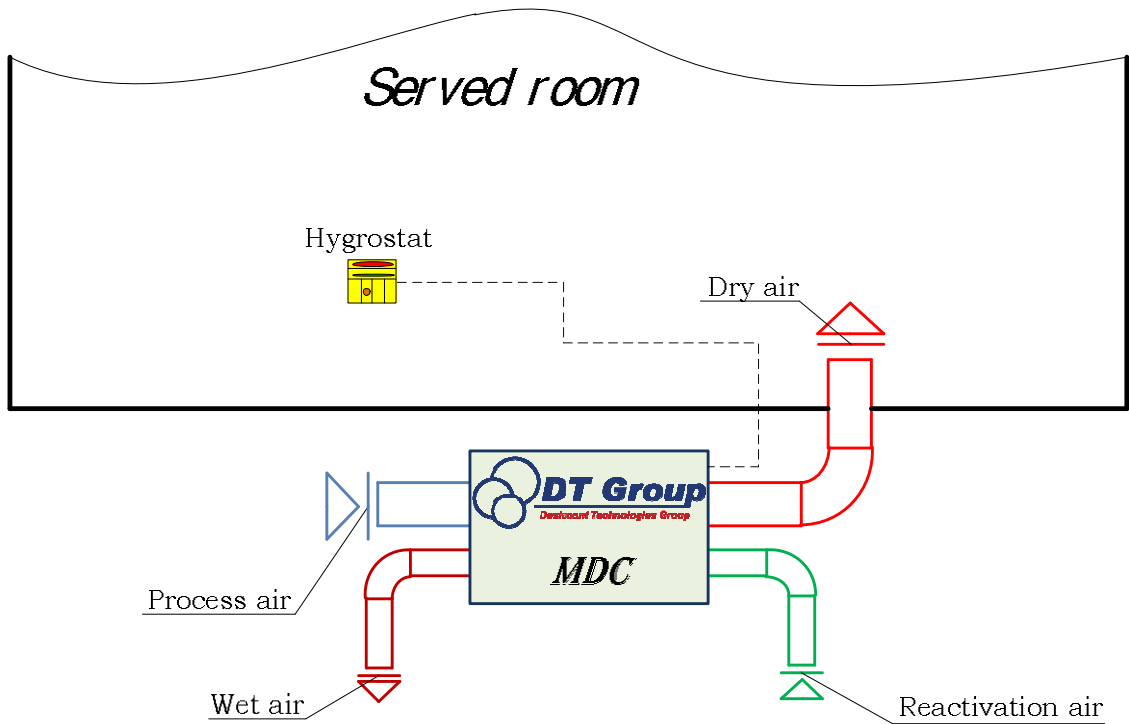


Figure 4.4: Work of dehumidifier on an "open" circuit (outdoor version)

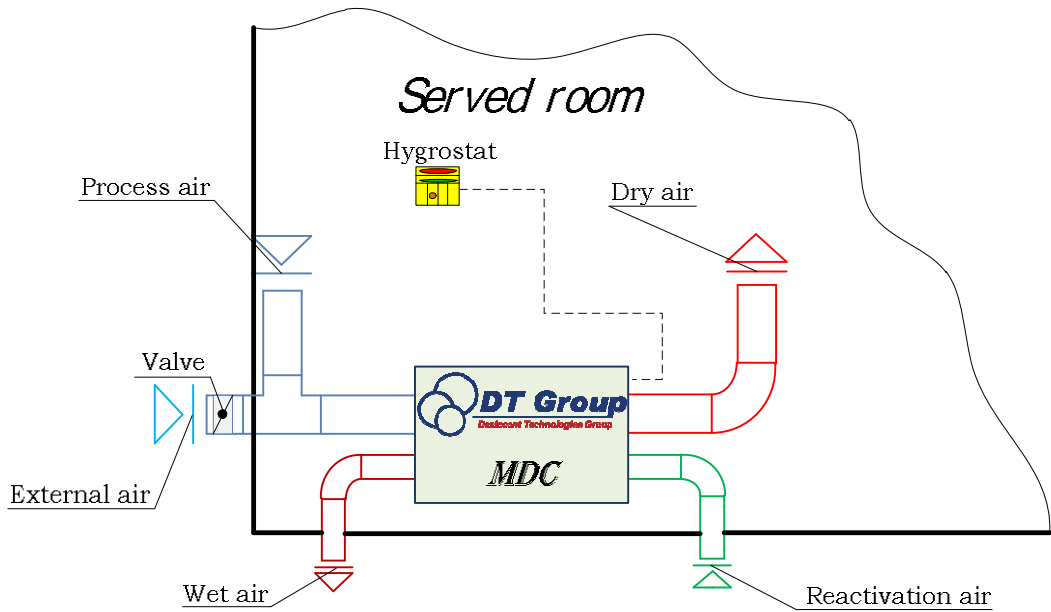


Figure 4.5: Work of dehumidifier on a "closed" circuit with the mixing of outdoor air (indoor version)

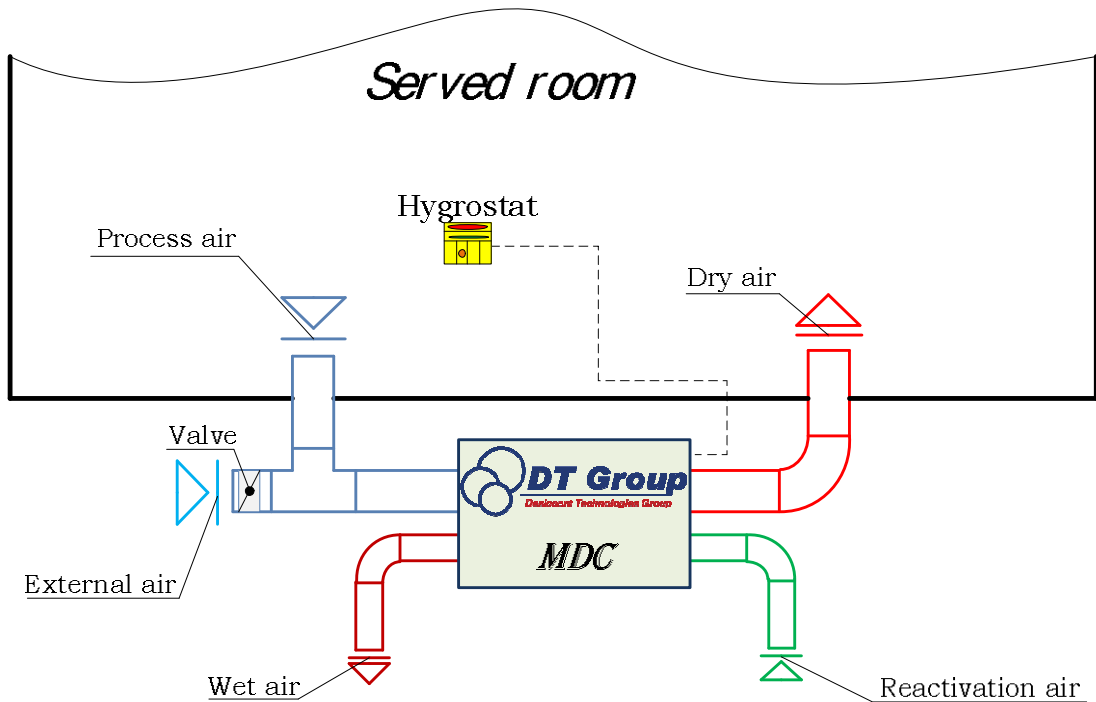


Figure 4.6: Work of dehumidifier on a "closed" circuit with the mixing of outdoor air (outdoor version)

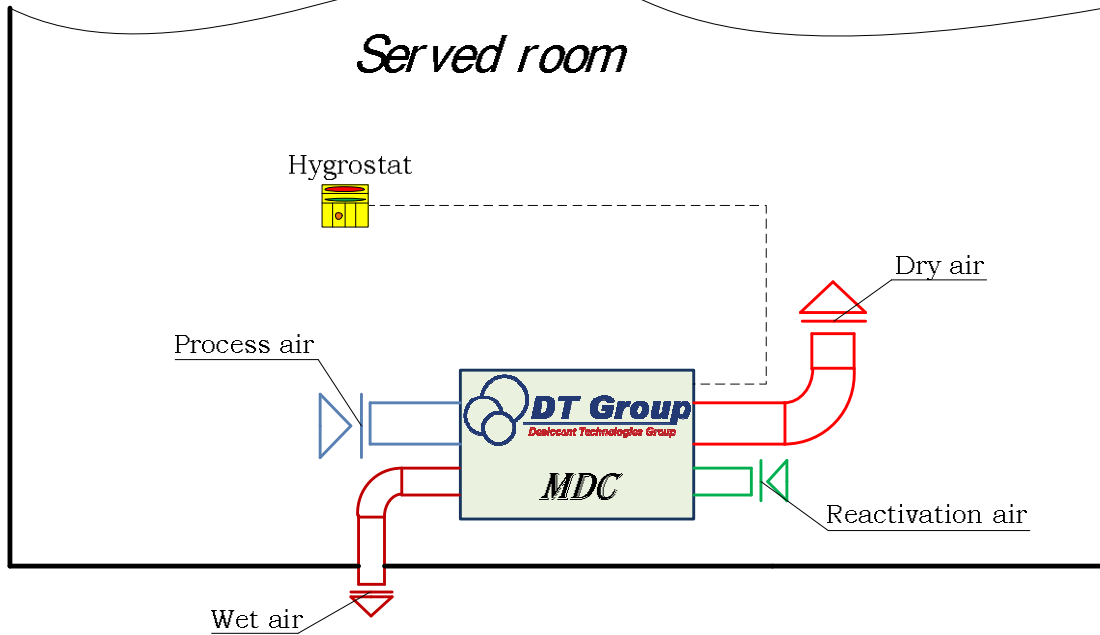


Figure 4.7: Work of a dehumidifier on the "closed" circuit in the mode of "dehumidifying"

The length of the connected duct system should be as small as possible in order to minimize pressure loss. The pressure of the fan allows connecting rather complex systems of air ducts to a dehumidifier, but before you should consult with experts.

At design of a dehumidifier the special attention was paid to reduction of the vibrations arising during the operation of the equipment, but, nevertheless, it is necessary to use flexible connectors at connection of rigid air ducts.

To reduce the load of its own weight, air ducts, directly connected to the dehumidifier, need to be mounted on supports.

It is recommended to install dampers with manual or the electric drive on air ducts of dehumidified and reactivation air for prevention of an uncontrolled flow of air when the dehumidifier is switched off. It is possible to establish sound attenuators on the inlet and on the outlet of the process air. This is required to be done taking into account the requirements for noise level of the served room.

4.3.1 Air duct for process air intake

The intake port of the duct must be positioned high enough above the ground in order to prevent the system from dust, dirt and sand. Air intake must also be located away from the sources of possible contamination, such as: steam, exhaust gases and other harmful substances.

Outdoor air intakes are not allowed to place closer than 8m horizontally from the waste bin, parking cars zone, driveways, loading areas, sewer vents, tops of chimneys and other similar sources of pollution and odours.

4.3 Connection of air ducts

It is necessary behind the intake to provide a chamber for settling large particles of dust, sand, etc. in areas with possible intensive transfer of dust and sand and position the bottom of air intake device not less than 3m above ground level.

4.3.2 Air duct for reactivation air intake

The requirements for connection of an air duct for intake of reactivation air are the same as to connection of an air duct for process air (see item 4.3.1).

4.3.3 Air duct for exhaust of wet reactivation air

Air duct for exhaust of wet reactivation air must be made of corrosion-resistant material (e.g., stainless steel). The air duct must withstand the temperature of air up to 60° C. The wet air exiting from the dehumidifier has very high moisture content, due to which it is high probability of condensation formation on the inner surface of the duct. In order to avoid this phenomenon it must be properly insulated.

Horizontal sections of the duct must be installed with a slope (greater than 2.5 cm per meter) from the dehumidifier (see Figure 4.8). If there are vertical air ducts, condensate drain trap is installed at the lowest point to drain the water in case of its occurrence (see Figure 4.9). The wet reactivation air exhaust should be done at least 2 m from the air intake devices of process and reactivation air.

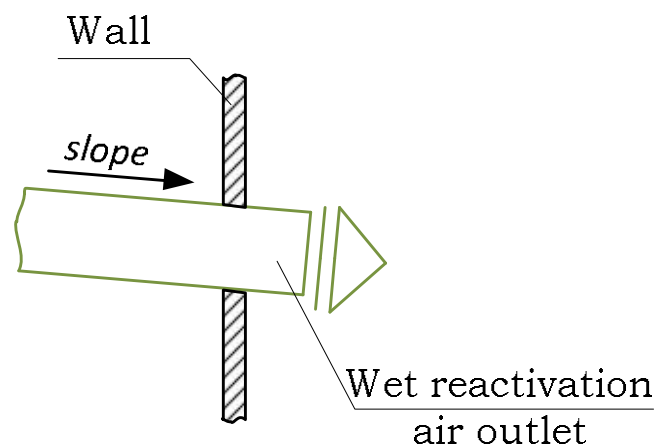


Figure 4.8: The example of laying horizontal air duct for the exhausted reactivation air

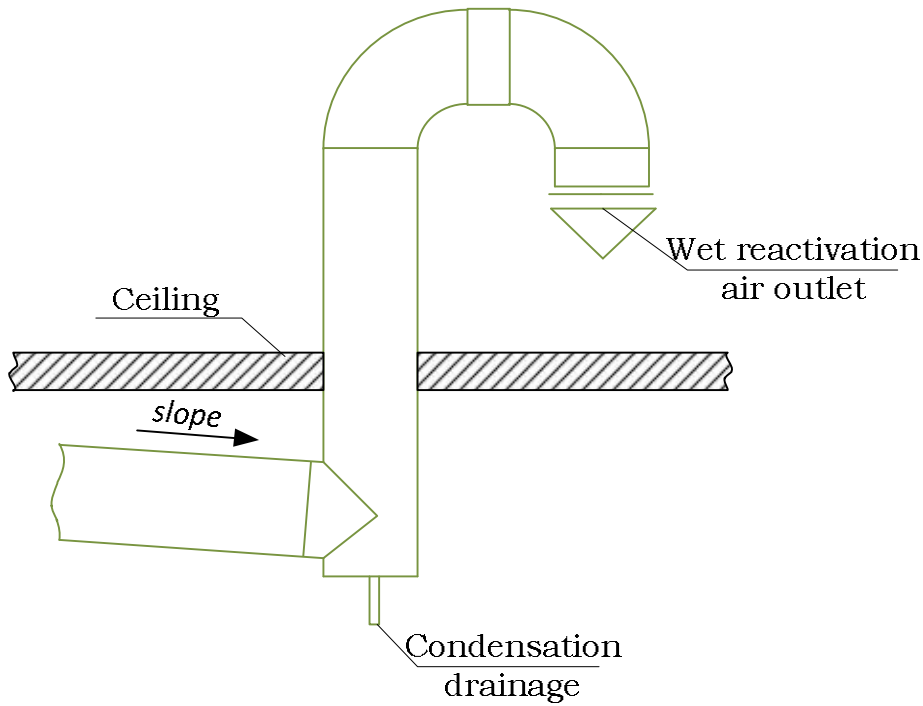


Figure 4.9: The example of laying vertical air duct for exhausted reactivation air

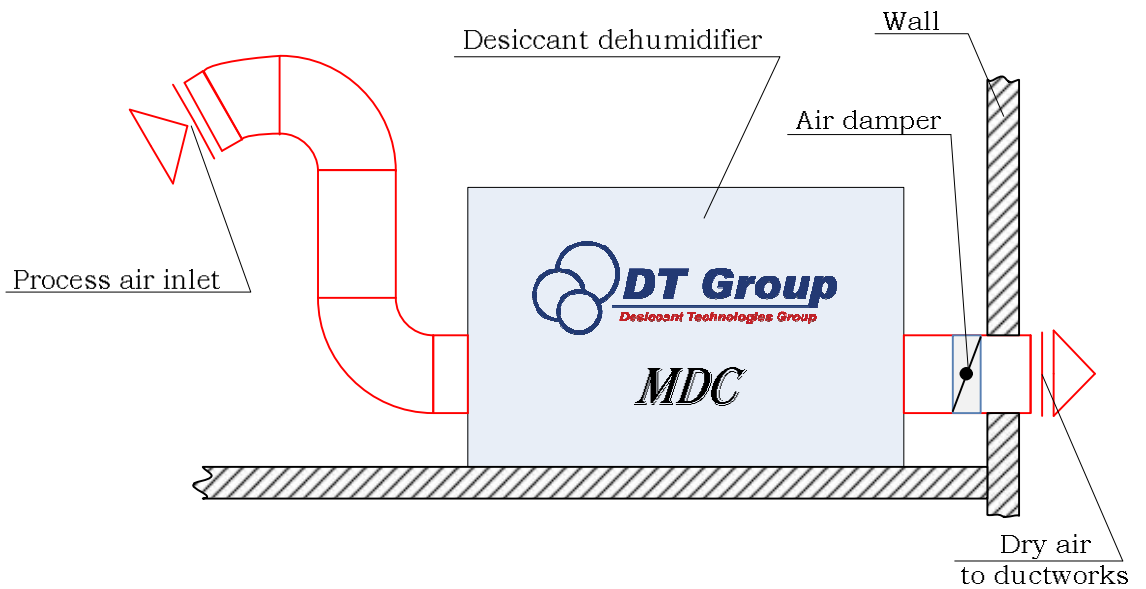
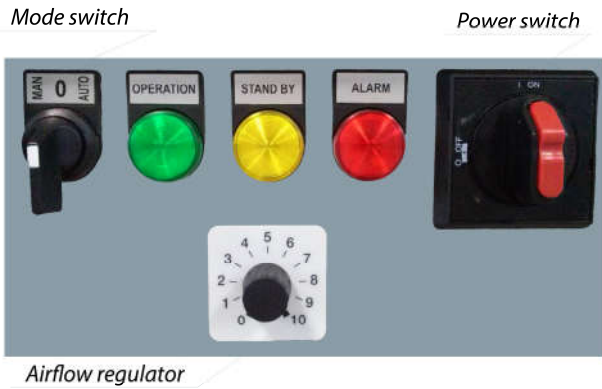


Figure 4.10: An example of laying air ducts for the process (dehumidified) air

5 OPERATION

Desiccant dehumidifier MDC2000 requires minimal maintenance. All components do not demand hard maintenance, i.e., lubrication or adjustment.

5.1 Start-up



Before start of the Device it is necessary to switch on power supply, then transfer the mode switch to the desired position. Never change the position of the air flow regulator without prior consultation with the representative of the manufacturer, it can lead to equipment malfunction and failure of regeneration heater.

Functions of switches and indicators of the control panel are given in Table 5.1.

Table 5.1 Functions of switches and indicators of the control panel

Switch / indicator	Function
Mode switch	<p>When the switch is in the position "MAN" (manual), the dehumidifier is running continuously at full power.</p> <p>When the switch is in position "AUTO" (automatic), the work of the dehumidifier is controlled via the external input signal.</p> <p>When the switch is in the "0" position (standby mode), the dehumidifier is switched off with a possible delay.</p>
Green light	Light is on, when the Device is running in basic mode.
Red light	Light is on the alarm signal
Yellow light	Light is on, when the device is in standby mode, ready to run

5.2 Maintenance

The dehumidifier MDC2000 is designed for prolonged continuous use and has a high degree of reliability. As in case of use of any other equipment, periodic maintenance service for maintenance of a dehumidifier in an optimum condition which will ensure the efficiency of its operation is required.

Frequency of maintenance is primarily determined by the operating conditions and environment in which the dehumidifier is installed. Reduction of intervals of servicing is necessary also at intensive operation of a dehumidifier.

During the normal work of a dehumidifier it is necessary to carry out the following preventive actions:

- monthly check and, if necessary, replacement of filters;
- monthly check of rotation of a rotor;
- monthly check of degree of wear of the desiccant wheel belt.

In addition it is recommended to make periodic survey of all dehumidifier components for correctness of functioning and the absence of wear of moving parts. Such check allows ensuring the functioning of a dehumidifier with the maximal productivity without additional energy consumption.

Close windows and doors of the served room for ensuring high efficiency of dehumidification. Windows and doors should be open only to ventilate the room.

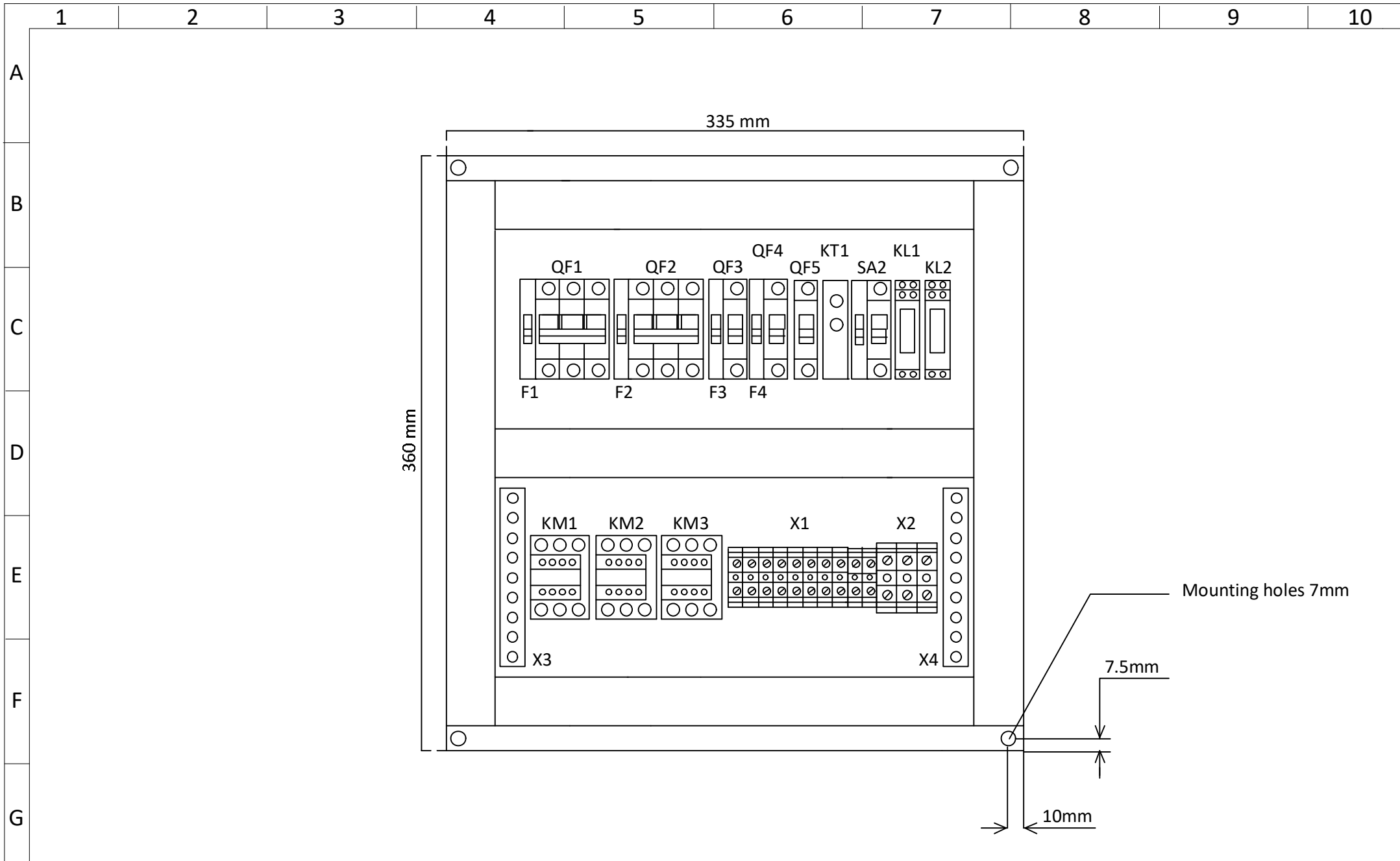
Use only specially designed tools for the maintenance.

6 ELECTRIC CIRCUIT AND CONTROL SYSTEM

The electric part of a dehumidifier and control system are made from high-quality components manufactured in Europe. Quality meets the international standards ISO 9001, ISO 14001 and other applicable standards.

The control system includes:

- protection of engines and cables against short circuit;
- protection of fans motors and heaters against thermal overload;
- a hygrostat for control and maintain of necessary humidity of air (option).



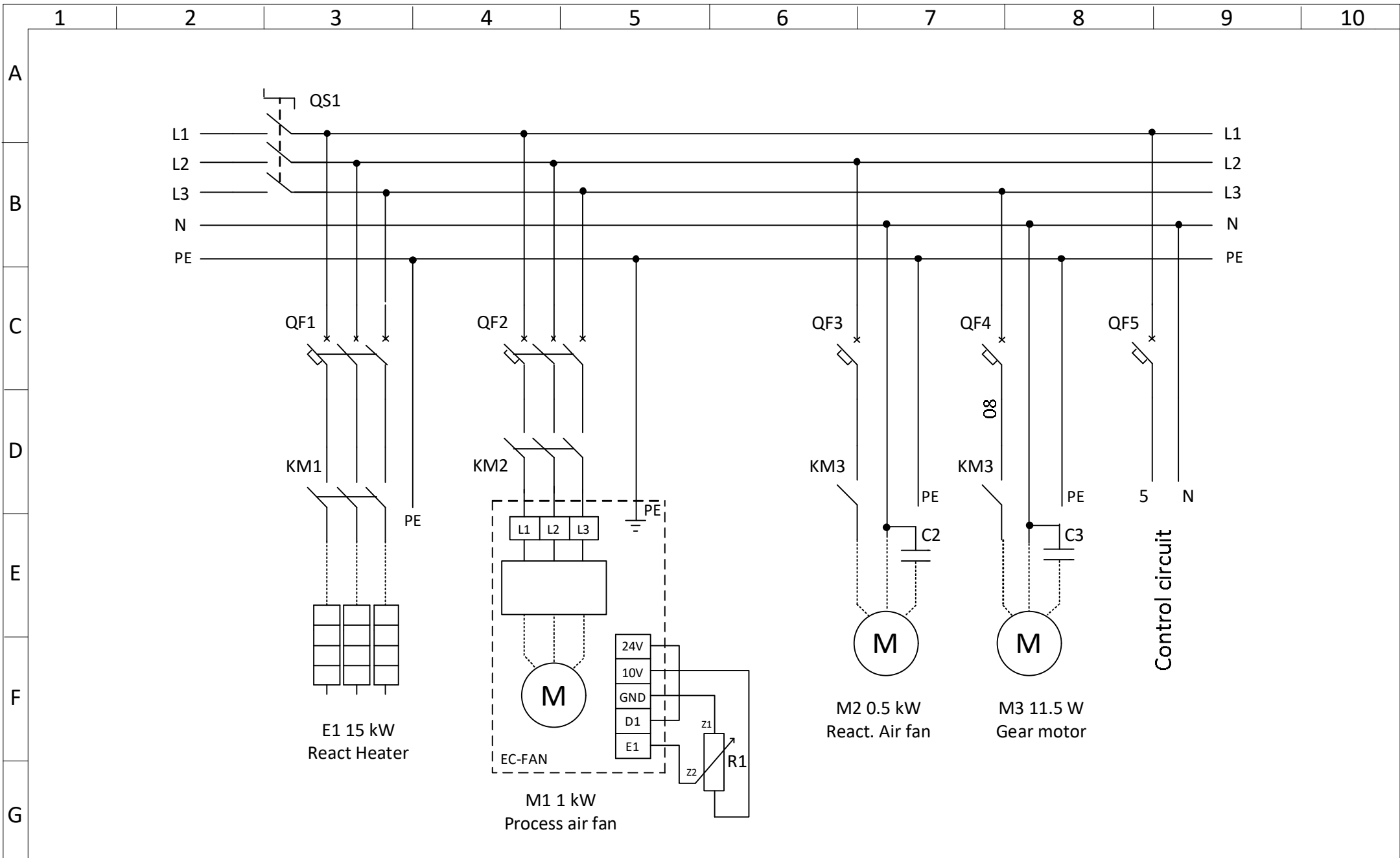
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Electrical mounting plate

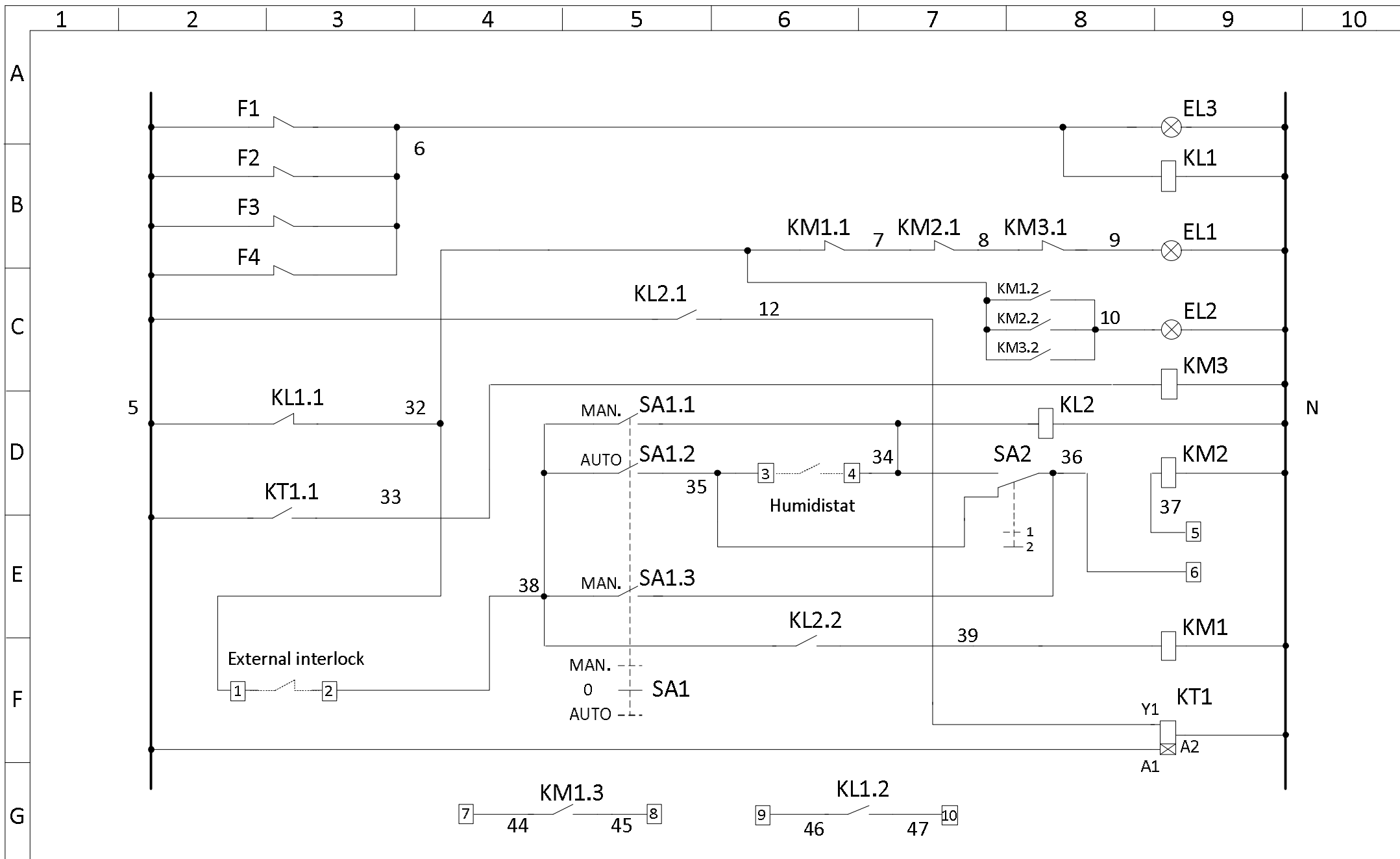
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IP Class	IP20	Constr.
Dwg no	Sh.	Cont
	101	

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A B C D E F G	Pos	No	Part	Type	Manuf.	Date					
	QS1	1	Main switch	K30C003AP	Schneider Electric	32A 3-pol					
	QF1	1	Circuit breaker	A9F79325	Schneider Electric	C 25A 3-pol					
	QF2	1	Circuit breaker	A9F79304	Schneider Electric	C 4A 3-pol					
	QF3 - QF5	3	Circuit breaker	A9F74102	Schneider Electric	C 2A 1-pol					
	F1 - F4	4	Aux. contact	A9A26924 iQF	Schneider Electric	1CO					
	KM1- KM3	3	Contactor	LC1E1210M5	Schneider Electric	AC3 12A					
		3	Aux. contactor	LAEN22	Schneider Electric	2NC 2NO					
	KL1, KL2	2	Relay	CR-P230AC2	ABB	8A 230V AC					
	KT1	1	Modular timer	RE17RCMU	Schneider Electric	OFF DELAY 230V AC					
	SA1	1	Switch	M3SS4-10B	ABB	Man 0 Auto					
	SA2	1	Switch	A9E18070	Schneider Electric	1CO					
	EL1	1	Ind. Lamp	XB7EV03MP	Schneider Electric	230V AC Green					
	EL2	1	Ind. Lamp	XB7EV05MP	Schneider Electric	230V AC Yellow					
	EL3	1	Ind. Lamp	XB7EV04MP	Schneider Electric	230V AC Red					
H							Specification	Scale	Date		
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	Rev.	Change	Date	Sign.					102		

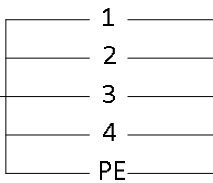
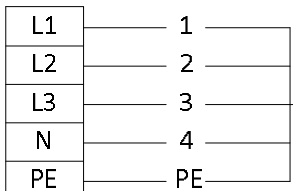
Pos	No	Part	Type	Manuf.	Date
X1	10	Terminals	IK100002	Schrack Technik	2.5 mm2
X2	5	Terminals	IK100006	Schrack Technik	10 mm2
X3	1	N - terminals		Hager	8*16 mm2
X4	1	PE - terminals		Hager	8*16 mm2



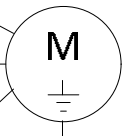
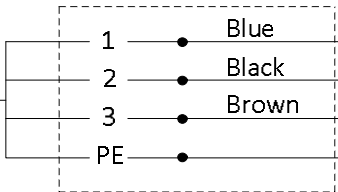
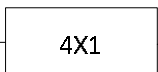
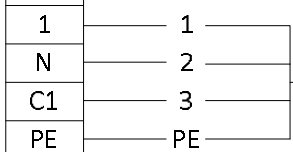
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						IP Class	IP 20	
						Dwg no	Sh.	Cont
	Rev.	Change	Date	Sign.			103	



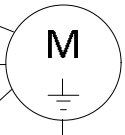
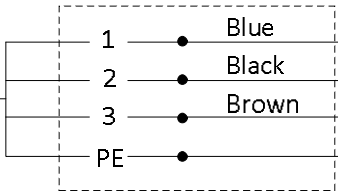
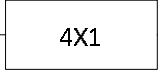
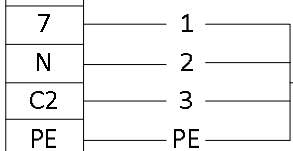
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								IP Class		Constr.	
								Dwg no		Sh. Cont	
Rev. Change		Date		Sign.				IP 20		104	



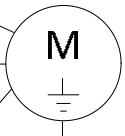
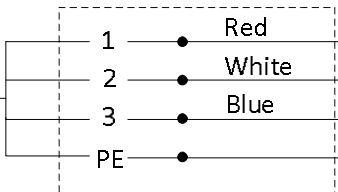
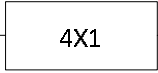
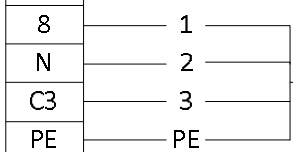
Power supply
32A 400V 50Hz



M1 Process air fan



M2 React. air fan

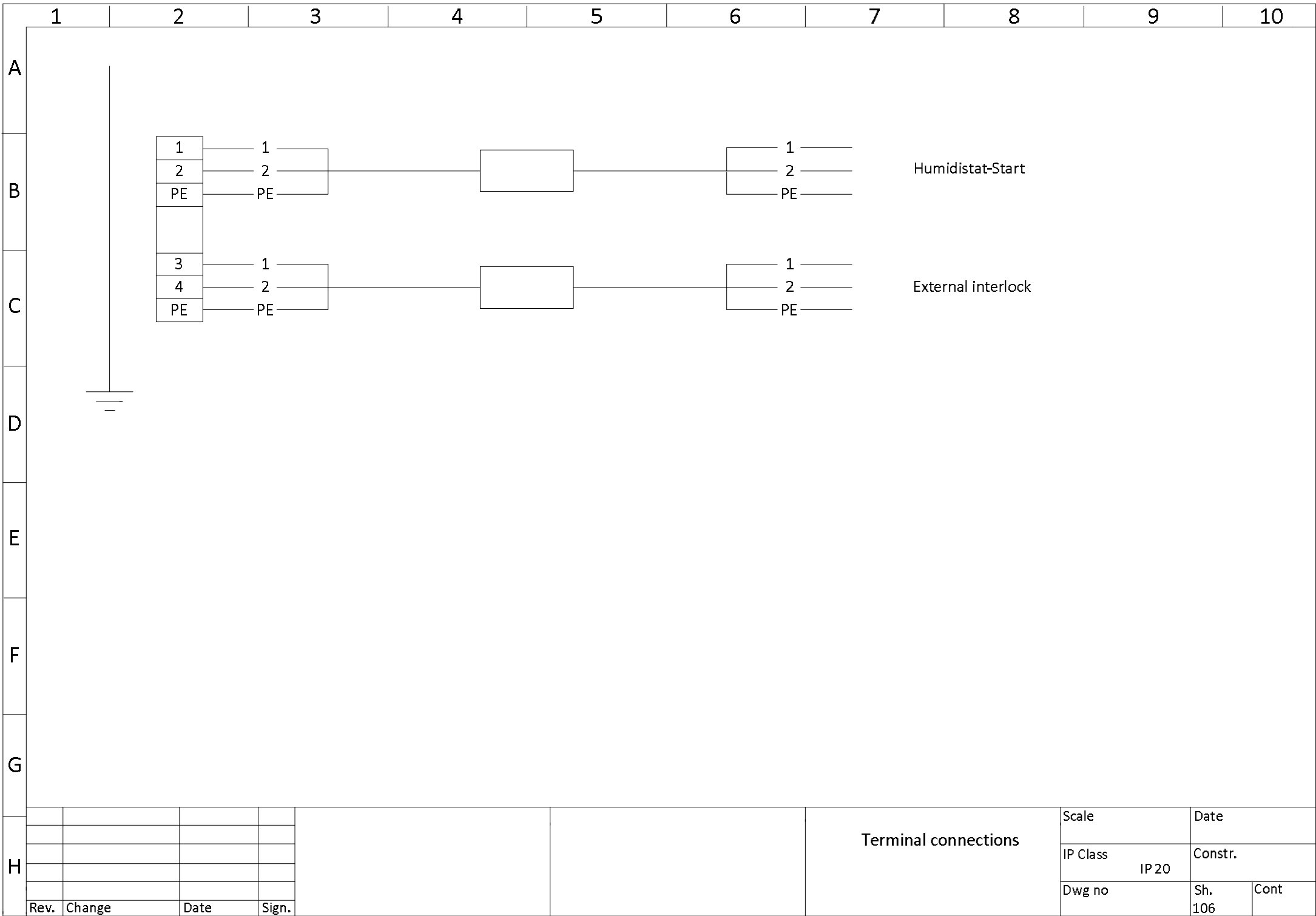


M3 Gear motor

Rev.	Change	Date	Sign.

Terminal connections

Scale	Date	
IP Class IP 20	Constr.	
Dwg no	Sh. 105	Cont



Humidistat-Start

External interlock

Terminal connections

Scale	Date
IP Class IP 20	Constr.
Dwg no	Sh. 106
	Cont

Rev.	Change	Date	Sign.

7 THE BASIC TROUBLESHOOTING

Failure description	Possible cause	Solution
Dehumidification capacity decrease	Clogged air filters Reactivation heater does not work Reduced air flow Rotor does not rotate Process air mixing with reactivation air Changed air volume Changed the reactivation temperature Inner air mixing	Replace the filter Check fuses Check shutoff dampers Check belt tensioner Check consolidations of a rotor Check value of air volumes Check operability of the heater Check all sealings of a dehumidifier
The main circuit breaker does not work or switches off	Malfunction of the fan Too high air volume The rotor doesn't rotate The heater doesn't work	Check the fan Check air flow and shutoff dampers Check the drive rotor Check the heater of reactivation
The dehumidifier does not turn on	Interruption of electric circuit Malfunction of the control signal Phase failure Fault of control systems	Check automatic devices and an electric circuit Check the external start / stop signal Check automatic devices and sequence of phases Check all automatic components on working capacity
The rotor does not rotate	Slips a driving belt The driving belt is damaged Jammed rotor Malfunction of the rotor drive	Check the belt tensioner Replace a belt Check bearings and rotor seals Replace of the rotor drive
There is no process or regeneration air	Clogged air filter Fan is faulty Phase failure No air passing through the air ducts	Replace the filter Check the fan, the motor or the driving wheel of the fan Check the main circuit and the phase sequence Check the air ducts and shutoff dampers

8 SPECIFICATION

ITEM	MODEL	QTY
The process air fan	R3G310-2000	1
The reactivation air fan	R2E280-400	1
Desiccant wheel (rotor)	R2000	1
Heater	PTC 15 kW	1
Rotor drive motor	ASM 24 SG 10 KK	1
Rotor drive belt	11249 L	1
Belt tensioner	20L 100	1
Belt tensioner	Rosta RE10	1
Process air filter	G4 700x460x50	1
Reactivation air filter	G4 320x400x50	1

9 WARRANTY TERMS

The warranty period for the desiccant dehumidifier MDC2000 is 12 months from the date of sale.

- The manufacturer during the warranty period assumes liabilities on elimination of troubleshooting of the equipment that occurs due to factory defects of Device or its parts and elements.
- The basis for consideration of claims on implementation of guarantee certificates is the Claim. The order of submission and contents of the Claim are specified in section 10 of the present Technical data sheet.
- The executed guarantee service doesn't prolong a warranty period; a guarantee for the replaced parts expires with the termination of guarantee period on the Device.
- These conditions of a guarantee are valid for all contracts on acquisition of the Device of the Manufacturer if other conditions aren't defined in these contracts.

These warranties do not apply to:

- parts of the equipment and the consumables which are the subject to natural physical wear (filters, seals, belts, light bulbs, fuses, etc.).
- the Device damages, resulting from:
 - a) appearance of foreign subjects or liquids in Device;
 - b) natural phenomena;
 - c) influences of environment;
 - d) unauthorized access to nodes and details of the Device of the persons who aren't authorized on carrying out the specified works,
 - e) all mechanical damages and breakages that occurred as a result of non-compliance with the recommendations of this present technical data sheet, norms, standards and rules of work.
- Various modifications, changes of work parameters, processing, repairs and replacements of parts of the Device which are carried out without consent of the Manufacturer or his representative.

Warranty works:

- works within this guarantee are performed within 30 days from the date of submission of the claim. In exceptional cases this period may be extended, in particular when time for delivery of a necessary component is required;
- the parts which are dismantled from the Device within warranty repair and are replaced by new ones, are the property of the Manufacturer;
- Manufacturer has the right to refuse to carry out guarantee works or service, if the customer delays the payment for the equipment.

10 CLAIMS SUBMISSION PROCEDURE

- At detection of discrepancy of quality, the consumer is obliged to send the Claim to the Producer which is the basis for a decision on the validity of the claim which is presented.
- The Claim in writing should be provided to the Producer. It is permitted to provide a complaint by fax or e-mail. The claim has to contain type, serial number and date of purchase of the Device, and also the exact address of a place where the dehumidifier has been installed as well as phone numbers of the responsible person on site.
- The Claim has to contain also the description of problems with the Device, and moreover (if it is possible) list of the damaged parts.
- Quality claims are not accepted if the user (customer) violates the rules of transportation, acceptance, storage, installation and operation of the dehumidifier.

EC DECLARATION OF COMFORMITY

Date:

Manufacturer: UAB Desiccant Technologies Group

Address: Verkiu str. 5, LT-08218 Vilnius, Lithuania

Product: Desiccant dehumidifier MDC2000 (S/N)

Desiccant Technologies Group UAB, under sole responsibility, declares that the equipment listed above complies with following European directives :

2006/42/EC

Council directive on machinery

2006/ 95 / EC

Council Directive on the harmonization laws of Member States relating to electrical equipment designed for use within certain voltage limits (low voltage)

2004/108/EC

Council Directive of 15 December 2004 on the approximation of the laws of Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC (EMC)

Applied standards:

EN 61000-6-2 (EMC interference immunity)

EN 61000-6-3 (EMC interference emission)

EN 60335 part 1: 94+A1+A2+A11 to A16: 2001

Dainius Ramanauskas
General Manager





Desiccant Technologies Group, UAB

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E-mail: destech@destech.eu

<http://destech.eu>