

Figure 1.5 Label position

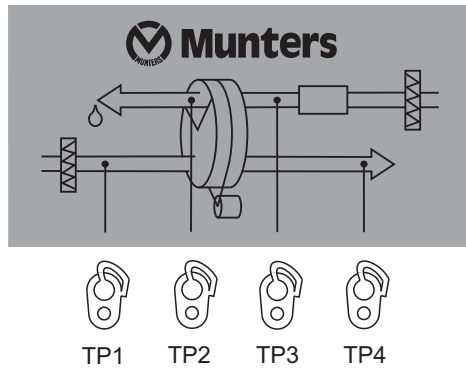


Figure 1.6 Pressure test points

TP1. Process air

TP2. Wet air

TP3. Reactivation air

TP4. Dry air

TP1–TP4. Differential pressure, process air

TP2–TP3. Differential pressure, reactivation air

2 Dehumidifier design

2.1 Product description

The desiccant dehumidifier has been designed to effectively dehumidify the air in environments requiring low air humidity.

All functional components are enclosed in a corrosion resistant Aluzink® casing (standard) or stainless steel casing (option) which makes installation and maintenance easy. The unit is constructed on a steel base frame which allows the use of a fork-lift truck during transportation and installation.

The electrical control system complies with standard EN 60204-1. The electrical components are mounted on bus bars. The dehumidifier is manufactured according to European standards and the established requirements for CE-marking.

2.2 Principle of operation

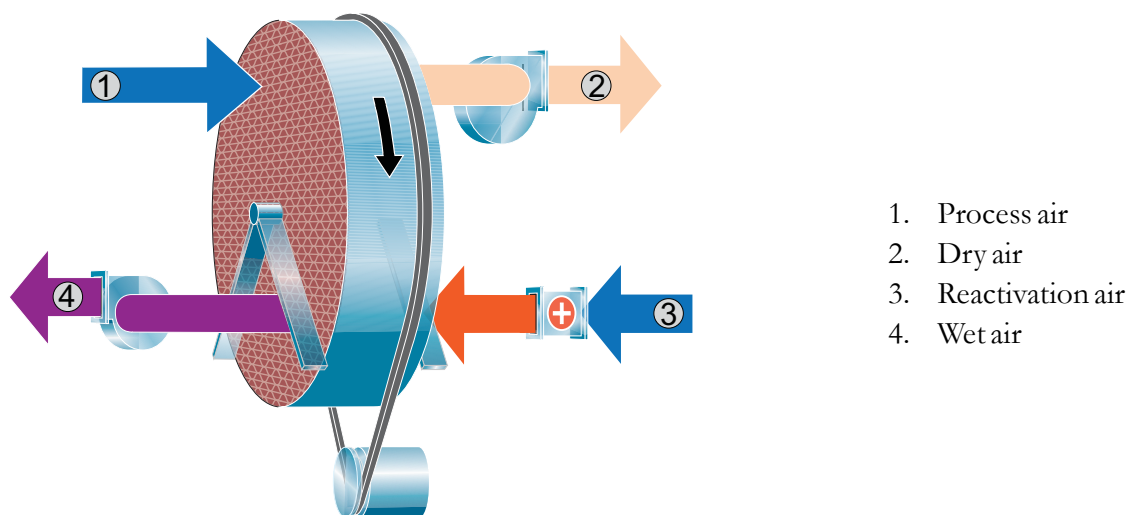
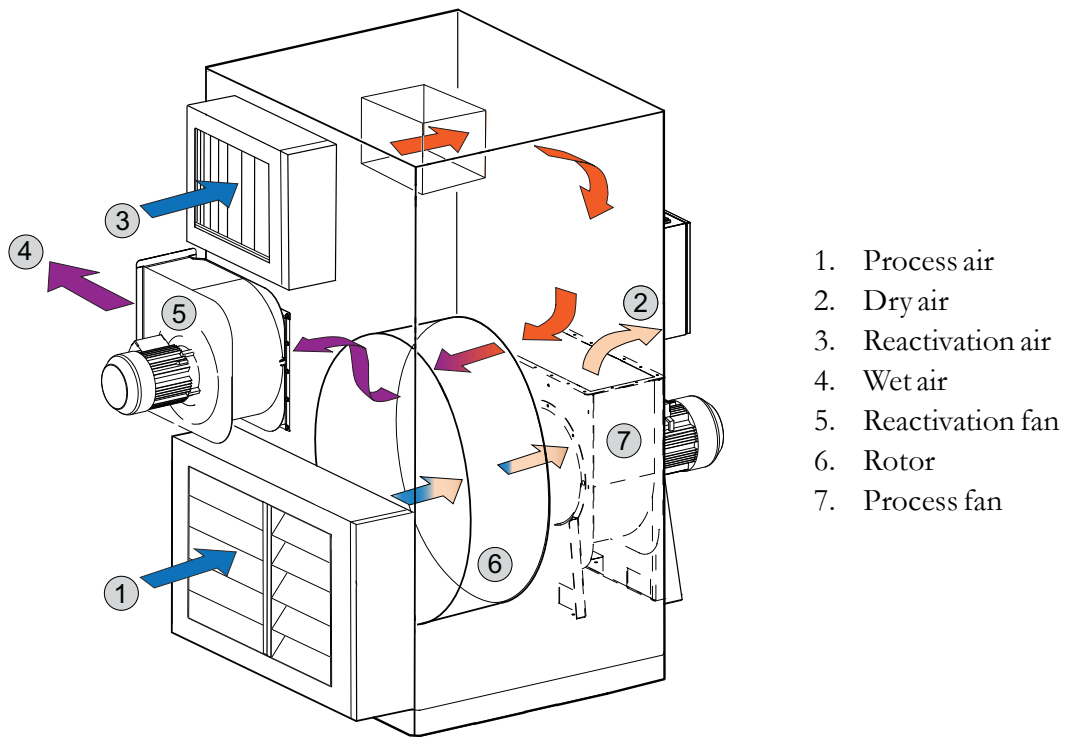


Figure 2.1 Rotor principle

The desiccant rotor is the adsorption dehumidifying component in the unit. The rotor structure is comprised of a large number of small air channels.

The desiccant rotor is made of a composite material that is highly effective in attracting and retaining water vapour. The rotor is divided in two zones. The airflow to be dehumidified, **process air**, passes through the largest zone of the rotor and then leaves the rotor as **dry air**. Since the rotor rotates slowly, the incoming air always meets a dry zone on the rotor, thus creating a continuous dehumidification process.

The airflow that is used to dry the rotor, **reactivation air**, is heated. The reactivation air passes through the rotor in the opposite direction to the process air and leaves the rotor as **wet air** (warm, moist air). This principle enables the dehumidifier to work effectively, even at freezing temperatures.



1. Process air
2. Dry air
3. Reactivation air
4. Wet air
5. Reactivation fan
6. Rotor
7. Process fan

Figure 2.2 Airflow overview

2.3 Main components, MX²30

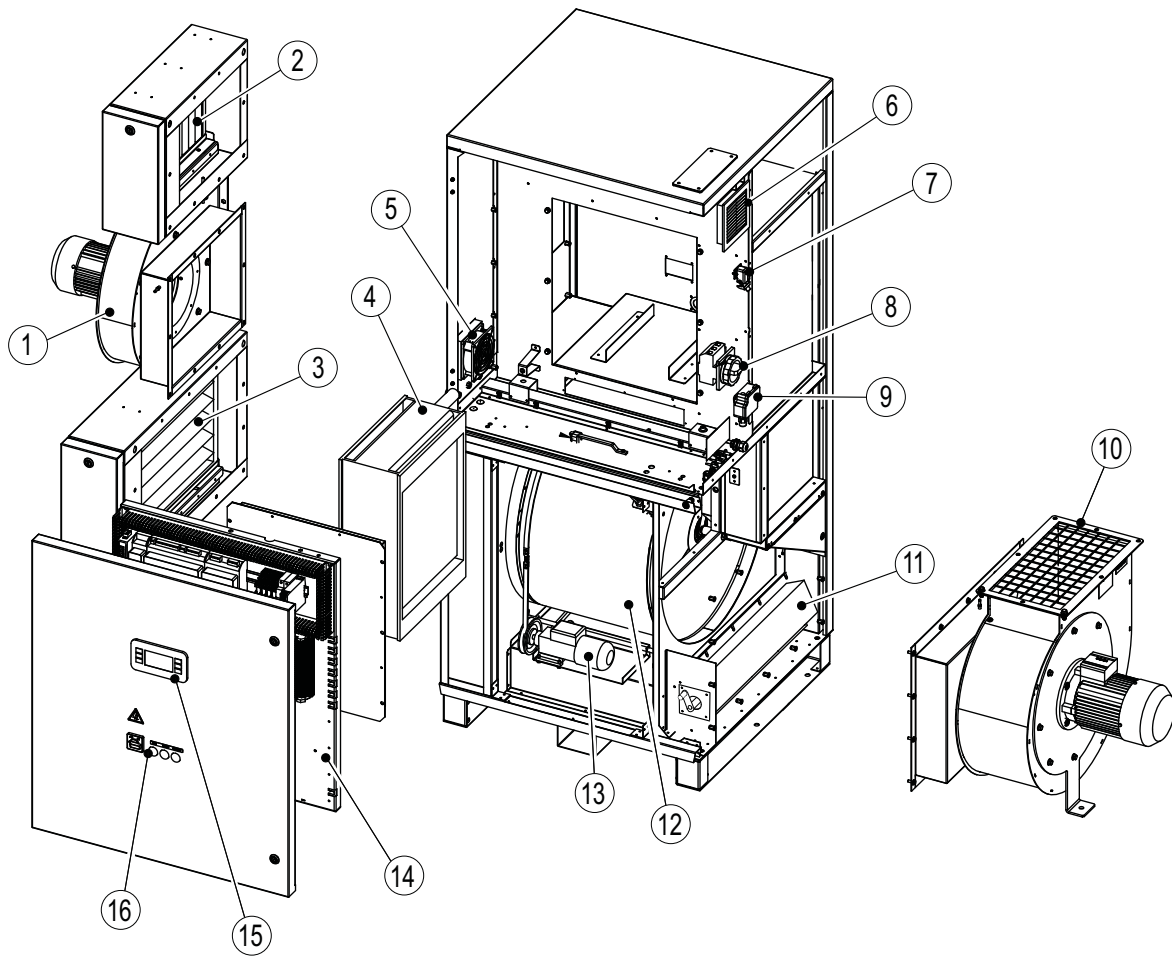


Figure 2.3 Exploded view

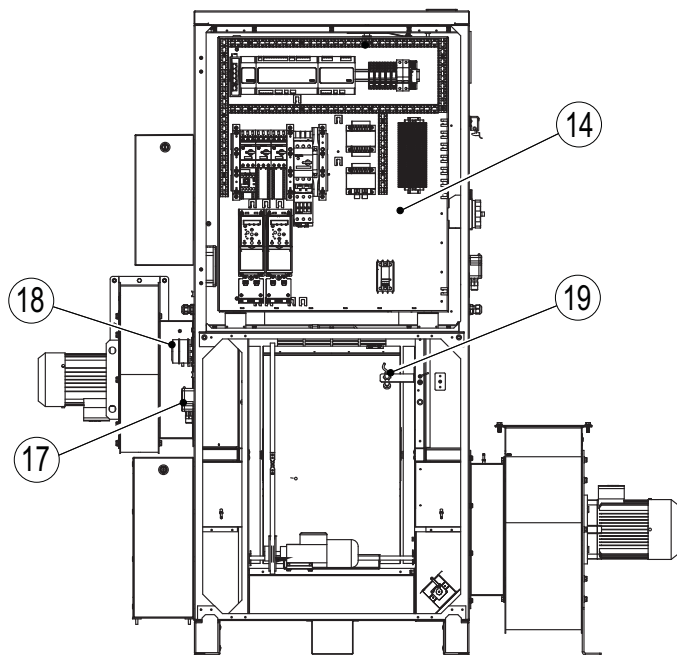


Figure 2.4 Front view

Item No.	Description
1.	Reactivation fan
2.	Filter, reactivation air
3.	Filter, process air
4.	Steam coil
5.	Cooling fan with filter
6.	Filter, cooling fan
7.	Connector, RJ45
8.	Main power switch
9.	Pressure sensor
10.	Process fan
11.	Duct, bypass damper ¹⁾
12.	Rotor
13.	Drive motor, rotor
14.	Electrical panel
15.	Control system display
16.	Control panel
17.	Pressure sensor ¹⁾
18.	Filter guard
19.	Sensor, rotor stop
¹⁾ Option	

Table 2.1 Main components, MX² 30

2.4 Main components, MX² 35–95

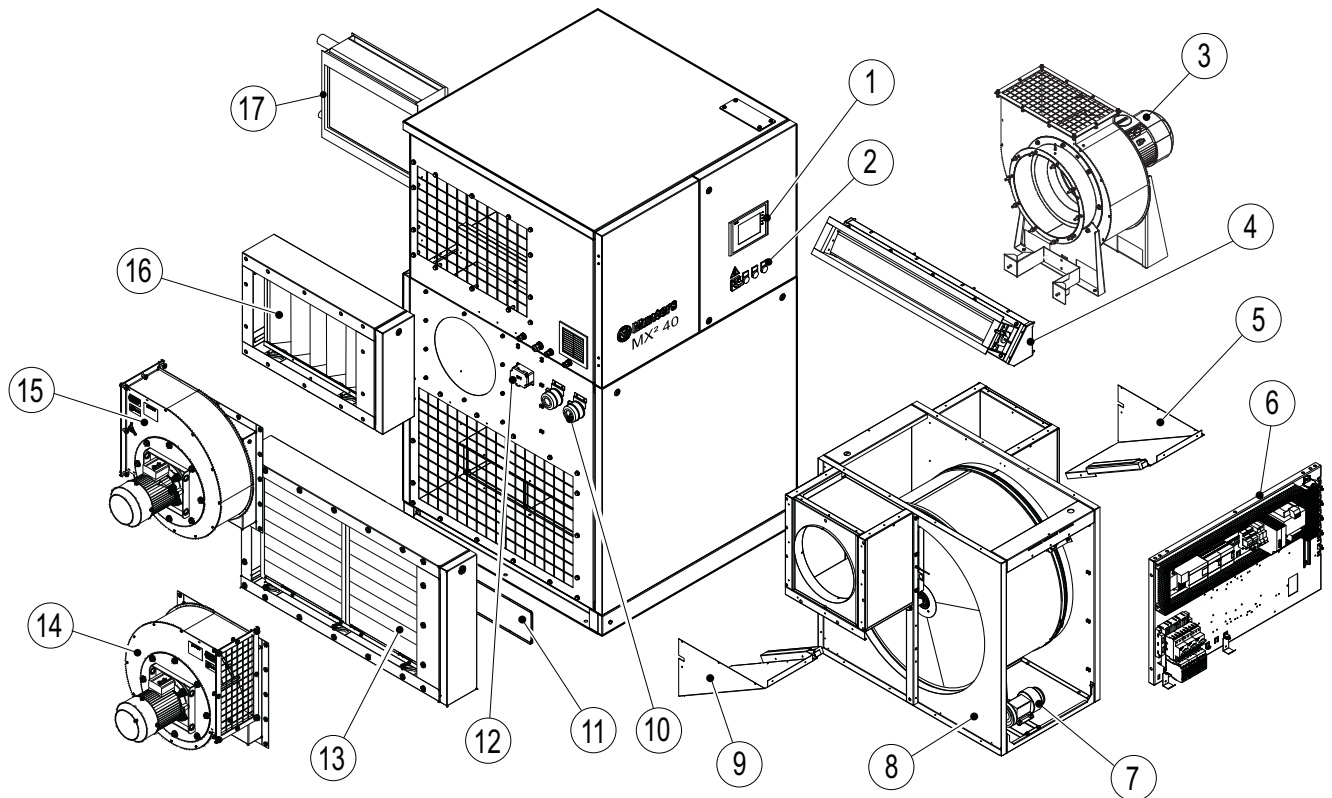


Figure 2.5 Exploded view

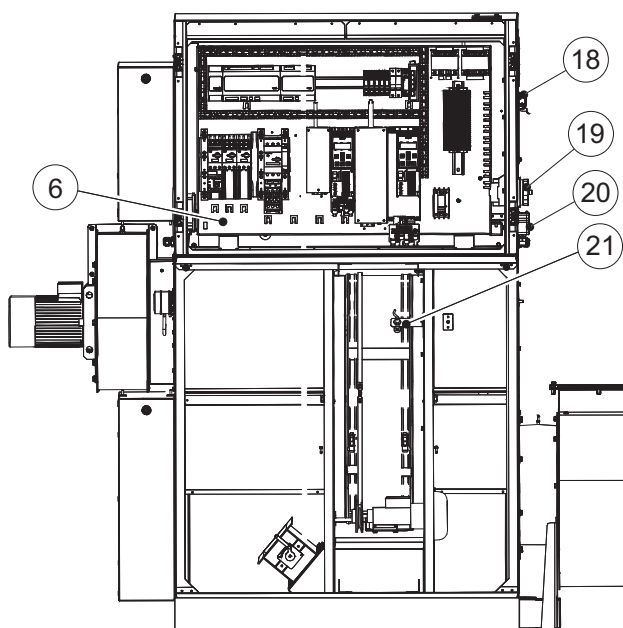


Figure 2.6 Front view

Item No.	Description
1.	Control system display
2.	Control panel
3.	Process fan
4.	Duct, bypass damper ¹⁾
5.	Duct, purge, right ¹⁾
6.	Electrical panel
7.	Drive motor, rotor
8.	Rotor cassette
9.	Duct, purge, left ¹⁾
10.	Filter guard
11.	Plate, bypass
12.	Pressure sensor ¹⁾
13.	Filter, process air
14.	Reactivation fan (left) ²⁾
15.	Reactivation fan
16.	Filter, reactivation air
17.	Steam coil
18.	Connector, RJ45
19.	Main power switch
20.	Pressure sensor
21.	Sensor, rotor stop
¹⁾ Option	
²⁾ Only used for reversed assemblies	

Table 2.2 Main components, MX² 35–95