ENGLISH

Dehumidifier ComDryNX

User manual from serial no. 670000

T-ComDry NX-B2512

Original instructions

This manual covers the four ComDryNX models M160L, M170L, M190Y and M210X.

IMPORTANT
Read these instructions before using the product.

Table of Contents

1. Important user information

1.1. Intended use

Munters dehumidifiers are intended to be used for the dehumidification of air. Any other use of the unit, or use which is contrary to the instructions given in this manual, can cause personal injury and damage to the unit and other property.

No modification of the unit is allowed without prior approval by Munters. Installation of additional devices is only allowed after written agreement by Munters.

1.2. Users

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

1.3. Warranty

The warranty period is valid from the date the unit left our factory, unless otherwise stated in writing. The warranty is limited to a free exchange of parts or components which have failed as a result of defects in materials or workmanship.

All warranty claims must include proof that the fault has occurred within the warranty period and that the unit has been used in accordance with the specifications. All claims must specify the unit type and serial number. This information is stamped on the identification label.

It is a condition of the warranty that the unit for the full warranty period is serviced and maintained as described in section Maintenance [27]. The service and maintenance must be documented for the warranty to be valid.

1.4. Copyright

The contents of this manual can be changed without prior notice.

NOTE

This manual contains information which is protected by copyright laws. It is not allowed to reproduce or transmit any part of this manual without written consent from Munters.

Munters Europe AB, P.O. Box 1150, SE-16426 KISTA Sweden

1.5. Safety information

Information about dangers are in this manual indicated by the common hazard symbol:

WARNING

Indicates a possible danger that can lead to personal injury.

CAUTION

Indicates a possible danger that can lead to damage to the unit or other property, or cause environmental damage.

NOTE

Highlights supplementary information for optimal use of the unit.

2. Introduction

2.1. About this manual

This manual is written for the user of the dehumidifier. It contains necessary information for how to install and use the dehumidifier in a safe and efficient way.

Read through the manual before the dehumidifier is installed and used.

Contact your nearest Munters office if you have any questions about the installation or the use of your dehumidifier.

This manual must be stored in a permanent location close to the dehumidifier.

2.2. Unintended use

- The dehumidifier is not intended for outdoor installation.
- The dehumidifier is not intended for use in classified areas where explosion safety compliant equipment is required.
- The dehumidifier must not be installed near any heat generating devices that can cause damage to the equipment.
- The dehumidifier is not intended for treating air polluted with solvents, acids, bases or substances with a high boiling point. Dust or other aggressive, corrosive or abrasive particles must also be avoided.

CAUTION
Do not sit, stand, or place any objects on the unit.

NOTE
When a dehumidifier is placed in a building with radon it is necessary to contact an expert to secure the best overall solution. All changes affecting the ventilation or the pressure balance in the building can result in a changed concentration of radon.

2.3. Safety

The information in this manual shall in no way take precedence over individual responsibilities or local regulations.

During operation and other work with a machine it is always the responsibility of the individual to consider:

- The safety of all persons concerned.
- The safety of the unit and other property.
- The protection of the environment.

WARNING

- The unit must not be splashed with or immersed in water.
- All electrical installations must be done by an authorized electrician in accordance with local regulations. An incorrect installation can cause electrical shock hazards and damage to the unit.
- The unit must be connected to an earthed electrical outlet.
- The unit must never be connected to another voltage or frequency than what is specified on the identification plate. Too high line voltage can cause electrical shock hazards and damage to the unit.
- The unit can restart automatically without warning following a power cut.
- Do not operate the unit if the power cable or plug is damaged, risk of electrical shock.
- If the supply cord is damaged, it must be replaced by the manufacturer, or a qualified service agent to avoid a hazard.
- Do not pull the plug with wet hands, risk of electrical shock.
- Do not insert fingers or any objects into the air vents, rotating fans are inside.
- Do not cover the unit as that can block air intake or outlet and cause a fire.
- If the unit has overturned, cut the power immediately.
- Disconnect the mains plug from the socket before starting any maintenance work.
- If the rotor is to be cut in pieces, wear a suitable CE marked face mask selected and fitted in accordance with the applicable safety standards to protect from the dust.

2.4. Safety measures

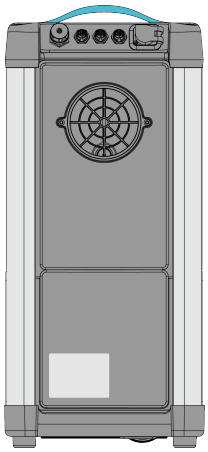
- This appliance has been designed for use in environments of pollution degree 3.
- This appliance has been designed for AC CURRENT measurement on installations with overvoltage category II.

NOTE

Overvoltage category II is for measurements performed on circuits directly connected to the low-voltage installation. Examples are measurements on household appliances, portable tools and similar equipment.

2.5. Marking

The identification label is placed on the connection side of the dehumidifier.



Munters

Type	ComDry NX M190Y Pro
Serial no.	
Production.year	2025
Max Power	0,95 kW IP44
Voltage	220 - 230V ~ 50 - 60 Hz

Munters Europe AB
P.O Box 1150
SE-164 26 Kista, Sweden

Made in Sweden

Identification label example

3. Function overview

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

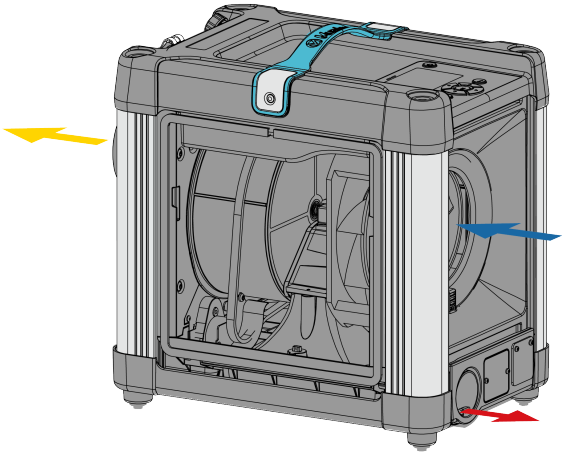
The desiccant rotor is made of a composite material that is highly effective in attracting and retaining water vapour. The rotor is divided in two zones.

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 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).

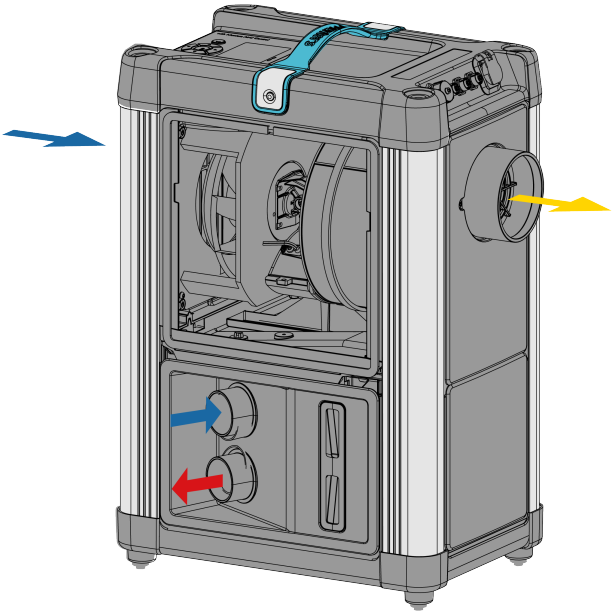
	Process/Reactivation air
	Dry air
	Wet air
	Cooling air out

ComDry M190Y uses the same inlet airflow for process air and for reactivation of the rotor.



Airflows

ComDry M210X has separate inlets for process and reactivation air.



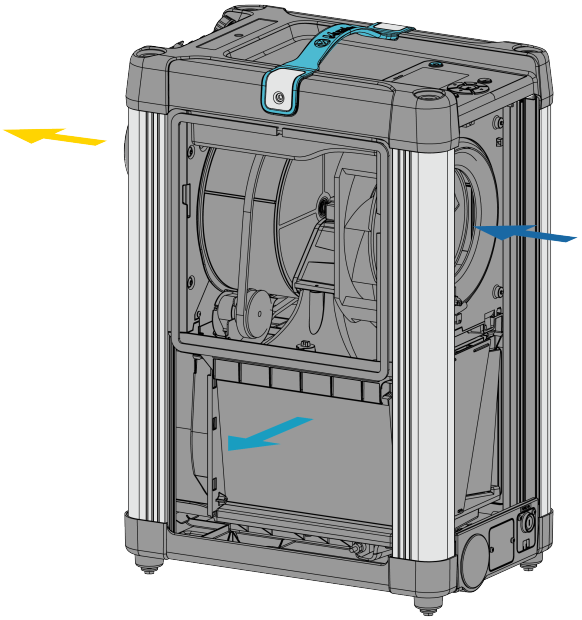
Airflows

ComDry M160L and M170L

The wet air re-circulates through a condenser that cools the air to condense the water using a part of the process air.

The condensed water is drained through a hose (M160L) or discharged by a pump (M170L).

This principle enables the dehumidifier to work effectively, even at low temperatures from 0 °C.



Airflows

4. Transport, delivery inspection and storage

4.1. Transport

Transport the dehumidifier by carrying it by its handle or in the original packaging.

The unit must always be placed in an upright position during transport. Failure to comply with this can cause the unit to malfunction.

The power cable should be detached, rolled up and placed under the handle. See section Attach power cable [21]

For M160L and M170L

Before moving the dehumidifier, make sure there is no water left in the drain by pulling the drain plug out.

CAUTION
Remove the drain pipe from the tray to avoid damage.

4.2. Delivery inspection

- Do an inspection of the delivery and compare with the delivery note, order confirmation or other delivery documentation. Make sure that everything is included and nothing is damaged.
- Contact Munters immediately if the delivery is not complete or damaged in order to avoid installation delays.
- Any damage to the packaging must be documented with photos before the packaging is removed.
- Remove all packaging material from the unit, and make sure that no damage has been made during transportation.
- Any damage to the unit must be documented with photos.
- Any visible damage must be reported in writing to Munters within 3 days and prior to installation of the unit.
- Discard the packaging material according to local regulations.

4.3. Storage

CAUTION
Always unplug the unit from the power supply when not in use.

Follow these instructions if the dehumidifier is to be stored prior to installation:

- Place the dehumidifier in an upright position on a horizontal surface.
- Re-use the packaging material to provide protection for the unit.
- Protect the dehumidifier from physical damage.
- Store the dehumidifier under cover and protect it from dust, rain and aggressive contaminants.

5. Installation

5.1. Safety

WARNING

All electrical installations must be done by an authorized electrician in accordance with local regulations. An incorrect installation can cause electrical shock hazards and damage to the unit.

The unit must never be connected to another voltage or frequency than what is specified on the identification plate. Too high line voltage can cause electrical shock hazards and damage to the unit.

The unit must be connected to an earthed electrical outlet.

Do not operate the unit if the power cable or plug is damaged, risk of electrical shock.

CAUTION

Do not sit, stand, or place any objects on the unit.

NOTE

When a dehumidifier is placed in a building with radon it is necessary to contact an expert to secure the best overall solution. All changes affecting the ventilation or the pressure balance in the building can result in a changed concentration of radon.

5.2. Closed system

A closed system is preferable when there is a need for dehumidification to a very dry climate. It is more economical to run compared to an open system.

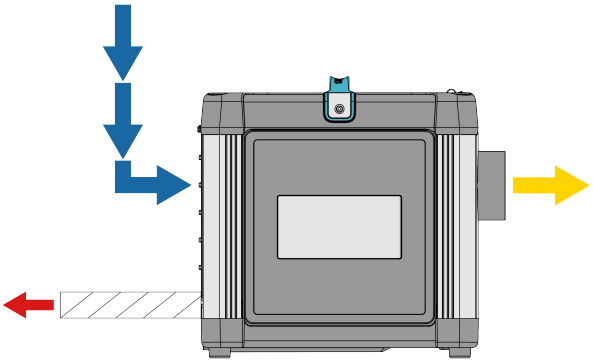
To ensure that the dry air is distributed evenly in the space to be dehumidified a ducting can be connected to the dry air outlet of the dehumidifier.

	Process/Reactivation air
	Dry air
	Wet air
	Condensed water

M190Y

The process/reactivation air is taken from the space to be dehumidified.

The wet air is transported outdoors through ducting.

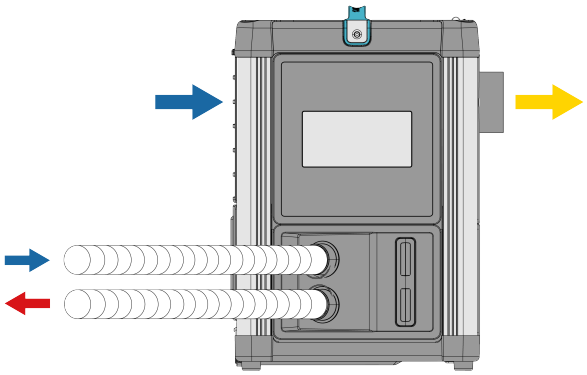


M210X

The process air is taken from the space to be dehumidified.

The reactivation air is taken from outside through ducting.

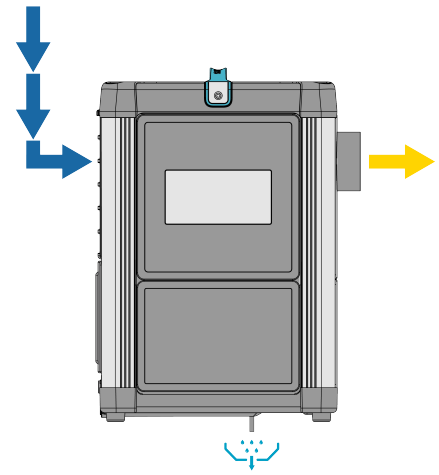
The wet air is transported outdoors through ducting.



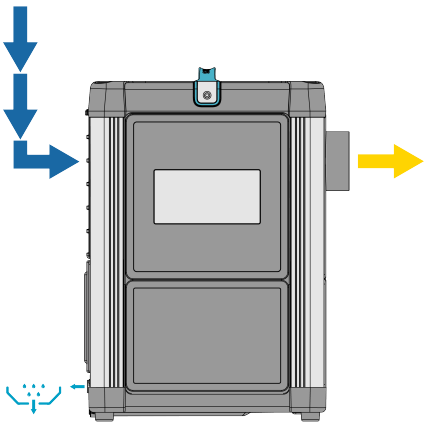
M160L and M170L

The process/reactivation air is taken from the space to be dehumidified.

The condensed water is drained through a hose (M160L) or discharged by a pump (M170L).



M160L



M170L

5.3. Open system

The process air is taken from outside the space to be dehumidified.

The installation is used to solve the following problems:

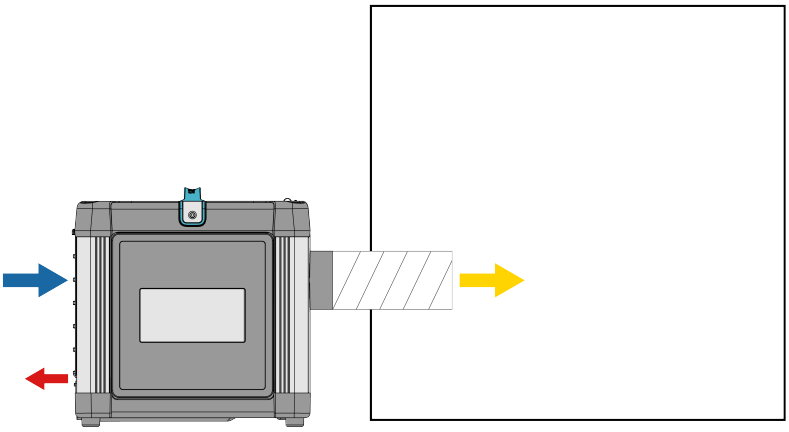
- When moisture damaged objects are to be dehumidified.
- Dust or corrosion causing particles are present in a space where dry air will be supplied.
- To prevent moisture from entering the dehumidified space/object.

Dry air is transported with ducting to the space to be dehumidified.

	Process/Reactivation air
	Dry air
	Wet air
	Condensed water

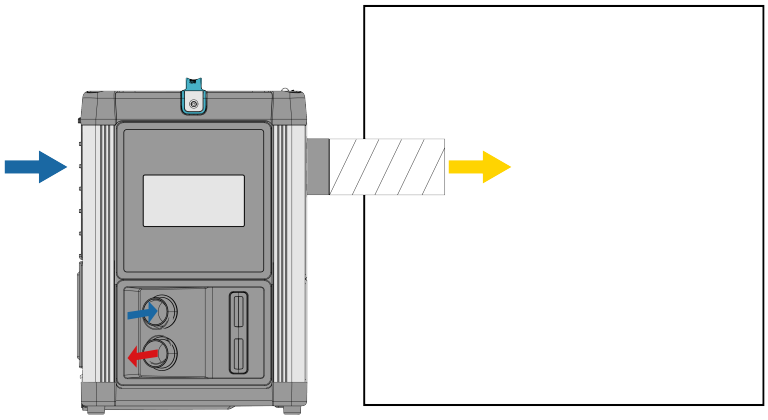
M190Y

The wet air is to be discharged away from the unit, minimum of 2 m away from the reactivation or process inlet.



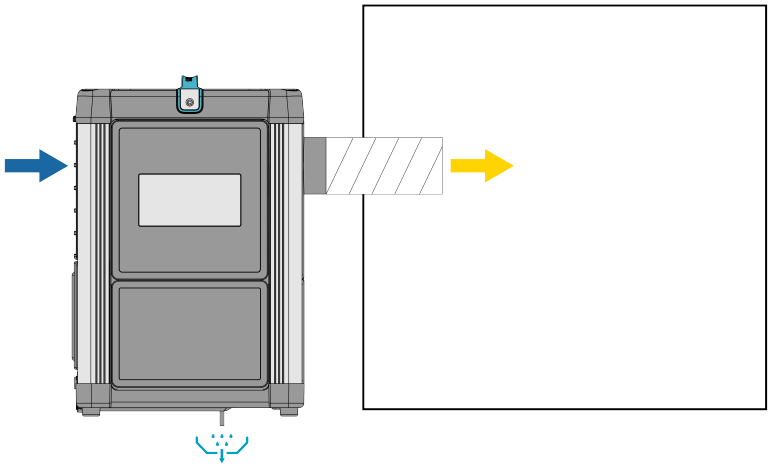
M210X

The wet air is to be discharged away from the unit, minimum of 2 m away from the reactivation or process inlet.

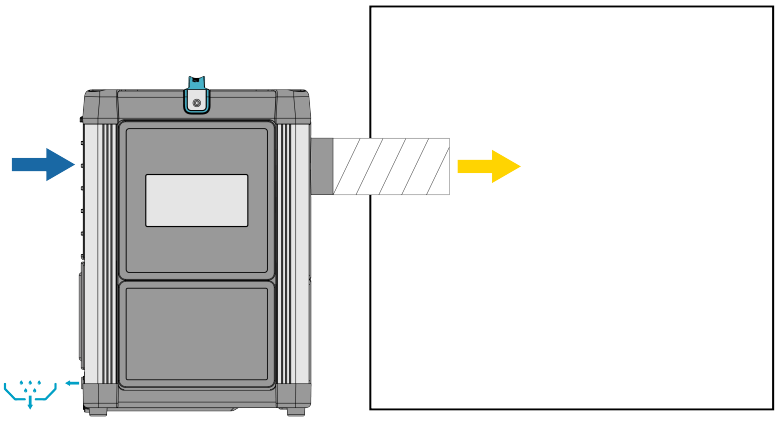


M160L and M170L

The condensed water is drained through a hose (M160L) or discharged by a pump (M170L).



M160L



M170L

5.4. Site requirements

The dehumidifier is only intended for indoor installation.

Avoid installing the dehumidifier where there is a risk of water entering the unit or in a very dusty environment. If in doubt, contact Munters.

NOTE
It is important that the intended installation site meets the location and space requirements for the equipment in order to achieve the best possible performance and trouble free operation.

For space requirements, see section Dimensions and service space [32]

If the dehumidifier is to be placed on the wall we recommend the specially designed wall bracket.

Always leave minimum 10 cm space between the unit and the wall.

5.5. Ducts and hoses

When installing ductwork between the dehumidifier and the inlet and outlet connections, the following recommendations should be observed:

- Duct length must be kept as short as possible to minimize static pressure loss.
- All duct and hose connections must be air tight and vapour tight to ensure full performance.
-
- The total resistance in the ductwork must not exceed the performance rating of the dehumidifier fans.

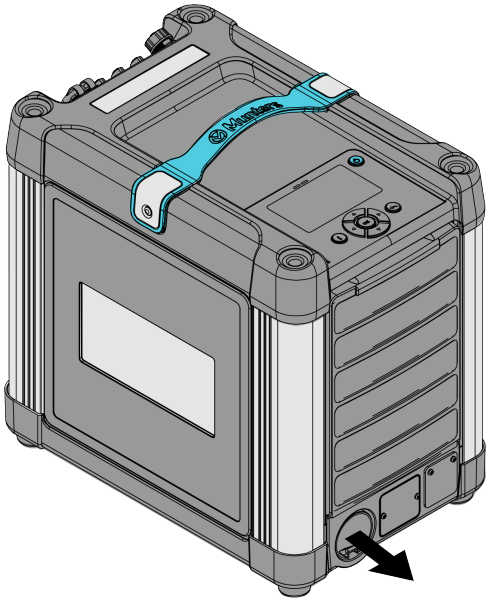
NOTE
Maximum length of dry air hose is 25 m.

5.5.1. Connecting the wet air hose on ComDry M190Y

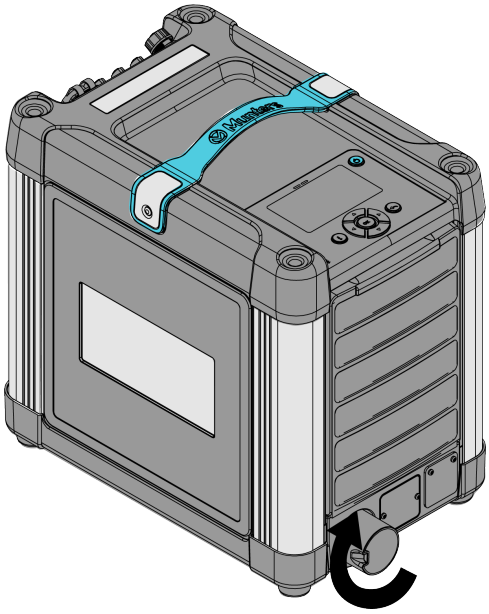
The wet air outlet is hidden for transportation purposes.

The outlet diameter is 50 mm.

1. Pull out the outlet.



2. Turn the outlet clockwise to lock it in position.



3. Connect the hose.

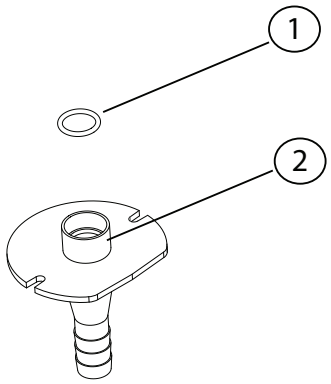
NOTE

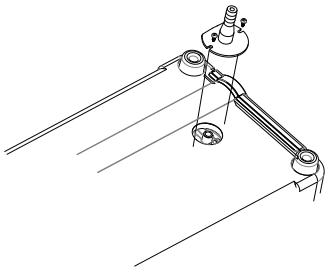
Maximum available static pressure, see Technical data. [37]

5.6. Installation of ComDry M160L drain

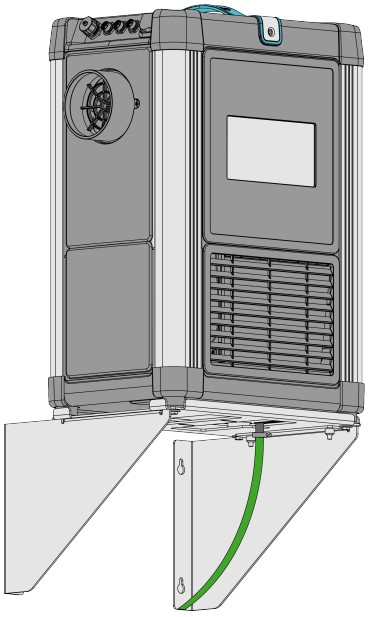
ComDry M160L is designed to be mounted on a wall using the wall bracket included in the delivery of the unit. See the separate wall bracket leaflet.

1. Assemble the three main parts of the wall bracket. Use the four screws included.
2. Mark four wall holes using the enclosed drill pattern. Make sure to get at least 25 cm space between the dehumidifier and the floor.
3. Use four screws with a maximum diameter of 7 mm (not included) to mount the bracket on the wall.
4. Screw the wall bracket on to the wall.
5. Lay the dehumidifier down.
6. Insert the O-ring (1) in to the drain pipe sleeve (2). Press the O-ring so it is properly seated in the groove.





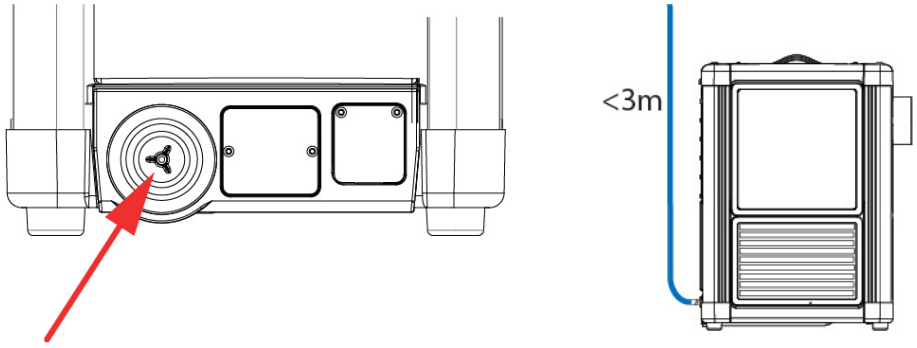
7. Push the drain pipe on to the drain connection of the tray.
8. Fasten the drain pipe with the two enclosed screws.
9. There are two slots in the shelf enabling a lashing strap to be mounted if the dehumidifier is to be fixed by a strap.
10. Alternatively the four feet can be locked simply by changing the screw in each foot to a longer (not included) and use the four pre-drilled holes in the bracket. Four new washers will also be needed.
11. Finally put the hose on to the drain pipe and lock the hose using a hose clamp.



Drain hose connection

5.7. Connecting the drain hose on ComDry M170L

When connecting the drain hose to the dehumidifier make sure that the vertical pumping distance is maximum 3 metres and that the end of the hose is always above the top of the collected water.



Drain hose connection Ø6 mm and maximum vertical pumping distance

5.8. Electrical connections

The dehumidifier is delivered with a power cable, with a plug for connection to an earthed outlet.

WARNING

All electrical installations must be done by an authorized electrician in accordance with local regulations. An incorrect installation can cause electrical shock hazards and damage to the unit.

The unit must never be connected to another voltage or frequency than what is specified on the identification plate. Too high line voltage can cause electrical shock hazards and damage to the unit.

The unit must be connected to an earthed electrical outlet.

Do not operate the unit if the power cable or plug is damaged, risk of electrical shock.

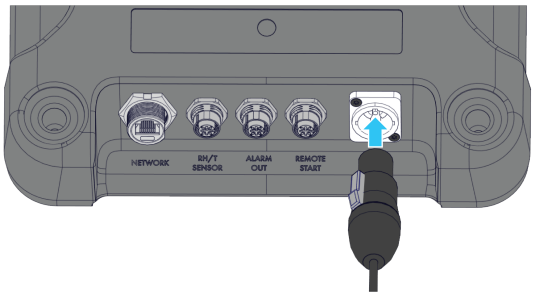
CAUTION

In case of a fixed installation where the plug is replaced by a circuit breaker, make sure that the fuse rating in the circuit breaker is correct, see Technical data. [37]

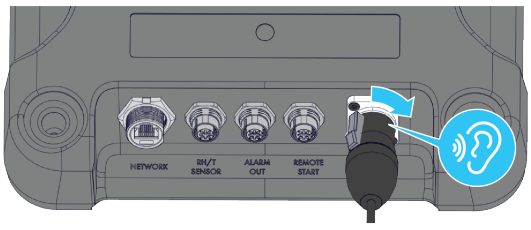
5.8.1. Attach power cable

Install power cable

1. Insert the power cable connector into the power port.

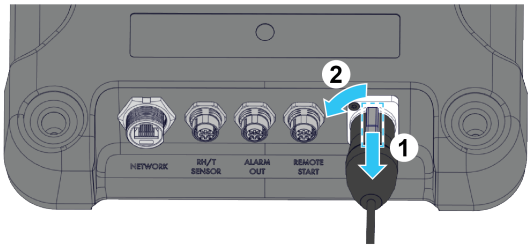


2. Turn the connector clockwise until it locks into position and an audible click is heard.



Remove power cable

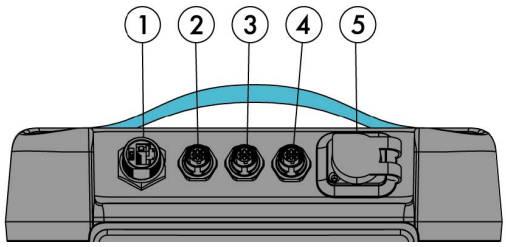
1. Unlock the connector by sliding the lock tab down.
2. Turn the connector counter clockwise.



3. Remove the power cable.

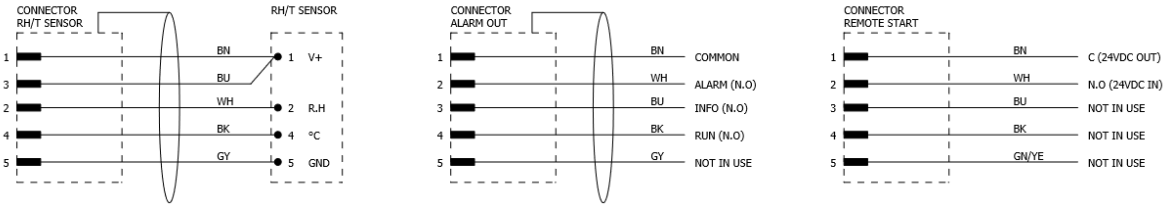
5.9. Expanding the system

CAUTION
Never connect the old ComDry accessories to the new updated system. Even if the connector type is the same (RJ45-8, modular connector), this can cause damage to the new ComDry NX control system and/or the accessories.



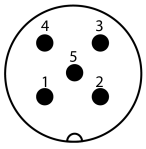
All ComDry NX dehumidifiers are equipped with five external connectors located on the unit.

1. RJ45 connector for the Modbus TCP and the service tool connection.
2. External humidity and temperature sensor connector (5-pol, M12, A-coded).
3. Alarm output connector (5-pol, M12, A-coded).
4. Remote start connector (5-pol, M12, A-coded).
5. Power inlet 230V/10A.



Connection diagram

M12 Pin connector color code	
BK	Black
BN	Brown
BU	Blue
GY	Grey
WH	White
GN/YE	Green/Yellow



Pin assignment M12 male connector 5 pol

6. Operation

6.1. Safety

WARNING

- The unit must not be splashed with or immersed in water.
- The unit can restart automatically without warning following a power cut.
- Do not operate the unit if the power cable or plug is damaged, risk of electrical shock.
- Do not pull the plug with wet hands, risk of electrical shock.
- Do not insert fingers or any objects into the air vents, rotating fans are inside.
- Do not cover the unit as that can block air intake or outlet and cause a fire.
- If the unit has overturned, cut the power immediately.

CAUTION

Do not sit, stand, or place any objects on the unit.

6.2. Humidity control

The ComDry dehumidifier is equipped with a powerful microprocessor based control system. This, in combination with the built-in humidity/temperature sensor in the process air inlet, makes it possible to set both the control and presentation of the humidity to either relative humidity (RH%), dew point (Dp °C) or absolute humidity (X gr/kg).

The control system additionally checks the temperatures before and after the heater, as well as in the wet air after the rotor.

A high safety level is obtained by various temperature sensors. Too high temperatures gives a reduction of the heater power, while excessive temperatures will make the system issue an alarm and shut the dehumidifier down in a controlled way. For further explanation, see the ComDry Control System Supplement or Quick Guide.

NOTE

The dehumidifier always operates in automatic mode (moisture based operation). As default it will use the built-in humidity/temperature sensor, as option an external sensor.

6.3. Process fan modes

There are three process fan modes:

Fan mode	Description
Continuous	The dehumidifier will run the process fan continuously, regardless if there is a need for dehumidification or not.
Intermit	The fan will stop when the desired humidity (Set Value minus Hysteresis) is reached. If the humidity reading stays below the Set Value, the fan will start after 60 minutes and run for 5 minutes to let the built-in sensor more accurately sense the condition of the incoming process air. If the humidity is still below the Set Value, the fan will stop. This process is repeated until the humidity reaches the Set Value, which will re-activate the dehumidification process and start the fan.
On Demand	The fan will stop when the desired humidity (Set Value minus Hysteresis) is reached. When the sensed humidity is equal to, or greater then, the Set Value plus Hysteresis the fan will start. This gives a control with greater hysteresis than “Intermit”, depending on the following: When the dehumidifier has reached the desired humidity level, it will shift to stand-by and stop the fan. After a while, internal machine heat will increase the temperature of the humidity sensor. This makes the sensor reading even lower, i.e. the system functions as if there was a “negative hysteresis”. As a result, a greater humidity load will be necessary to make the dehumidifier re-activate compared to the “Intermit” mode.

6.4. Control panel overview

NOTE

For more information about the control system and the operation of the dehumidifier, see the ComDry Control System Supplement or Quick Guide.

6.5. Start the dehumidifier

Attach the power cable according to section Attach the power cable [21] and connect to mains.

The control system will initiate by turning on both LEDs on the control panel and showing the Munters logo and software version number on the display for a few seconds.

NOTE

The boot sequence takes about 10 seconds. Let the control system finish the booting before attempting to start the dehumidifier.

Press the On/Off button once to start the dehumidifier.

LED indicator overview

Unit status	Green LED	Red LED
Power up (Initiating)	On	On
Off	Off	Off
Alarm	Off	Blinking
Standby	On	Off
Running	On	Off
Starting	On	Off
Stopping	Blinking	Off
Waiting (remote start)	Blinking short	Off

6.6. Stop the dehumidifier

Press the On/Off button once to stop the dehumidifier.

The green operating indicator starts flashing with equally long and short on and off periods.

The unit continues to run for a while in order to cool down and then stops.

6.6.1. Quick stop

In case of emergency, stop the dehumidifier by pulling the mains plug or, if it is permanently connected to mains, by using the external circuit breaker.

CAUTION

Only quick stop the dehumidifier in case of an emergency. The fan stops and the heater can be very hot, which can result in damage to the heater and other components close to it.

6.7. Automatic start after power failure

This can be disabled in the unit settings. See the *AirC200 manual* for further instructions.

7. Maintenance

7.1. General

WARNING
Disconnect the mains plug from the socket before starting any maintenance work.

The dehumidifier is designed for continuous use over a long period of time with a minimal amount of supervision. The service interval depends mainly on the operational conditions and working environment.

NOTE
It is recommended to contact Munters for service or repair. Operating faults can occur if the unit is maintained insufficiently or incorrectly.

Munters Service can offer a service plan adapted to suit the conditions of a specific installation. See contact details at the back of this manual.

7.2. Service alternatives

In addition to commissioning (**S**) of the unit there are five service alternatives (**A - E**).

A - Inspection and change of filters. General operation inspection.

B - In addition to A, additional inspections and measurements.

C - In addition to B, preventive replacement of safety components after 3 years / 24000 hours of operation.

D - In addition to C, preventive replacement of rotatable parts after 6 years / 48000 hours of operation.

E - In addition to C, preventive replacement of electrical components after 9 years / 72000 hours of operation.

Alternative A is done at every service occasion, and the other alternatives are added at the intervals according to the schedule.

NOTE
It is recommended to contact Munters for service or repair. Operating faults can occur if the unit is maintained insufficiently or incorrectly.

NOTE
Commissioning/Start-up inspection "S" by Munters is mandatory to validate the full warranty.

7.3. Maintenance schedule

NOTE
Service work should be performed at each interval of operating hours or calendar time, whichever is reached first.

Service alternative	S	A	B	C	D	E
Operating time [hours]	0	4000	8000	24000	48000	72000
Calendar time [years]	0	0.5	1	3	6	9
Inspection of filter, replace if necessary	X	X				
Replace filter			X			
Operation inspection	X	X				
Mechanical inspection	X		X			
Inspection of rotor, seals and flexible connections	X		X			
Electrical inspection	X		X			
Inspection of controls, sensors, settings, safety and interlock	X		X			
Capacity and flow balance measurement	X		X			
Maintenance Safety kit				X		
Maintenance Rotating parts kit					X	
Maintenance Electrical parts kit						X
Rotor cassette						X[1]

[1] Desiccant Rotor will not be replaced preventively, capacity monitoring will indicate rotor replacement.

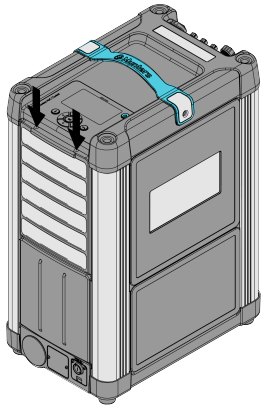
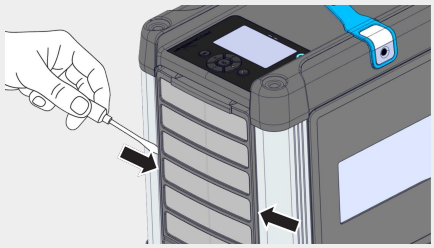
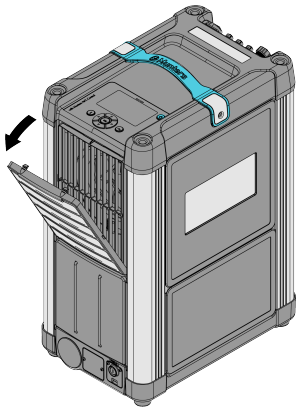
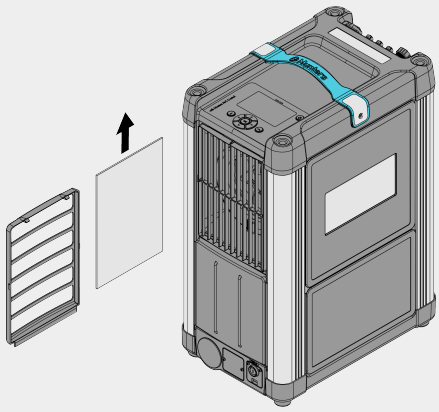
Service alternatives A to E have a fixed price and can also be ordered separately.

Start up inspection "S" is needed to validate the full warranty. Labor included.

NOTE
Units in heavy duty areas have a different schedule, this will be made in relation to the operational conditions.

7.4. Filter change

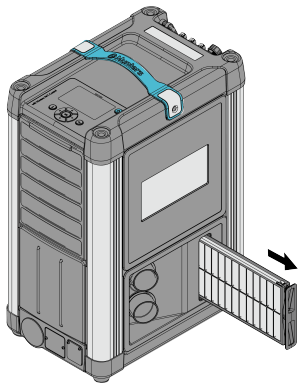
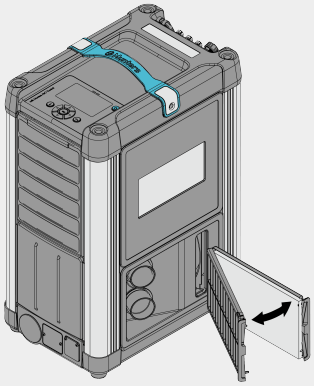
7.4.1. Process air

1	Push the filter frame down.	
2	Use a flat screwdriver to release the snap lock from the side of the filter frame and remove it from the unit.	
3	Pull the filter frame out and remove it from the unit.	
4	Remove the old filter.	
5	Replace it with a new filter and install the frame.	

7.4.2. Reactivation air

Only on M210X

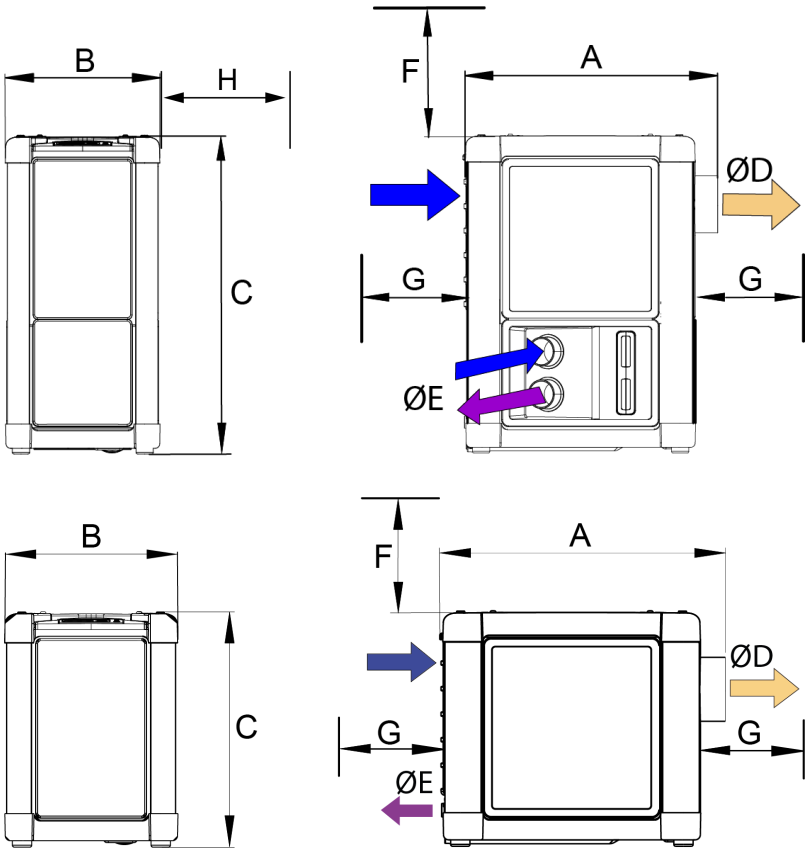
Minimum service space, see section 8.1: Dimensions and service space [32]

1	Pull out the filter frame.	
2	Open the filter frame.	
3	Remove the old filter.	
4	Replace it with a new filter and install the frame.	

8. Technical specification

8.1. Dimensions and service space

Dimensions in mm



Model	A	B	C	ØD	ØE*	F	G	H	Weight
M160L	445	270	571	100	-	350	500	250**	17 kg
M170L	445	270	571	100	-	350	500	250**	17 kg
M190Y	445	270	382	100	50	350	500	250**	12 kg
M210X	445	270	571	100	50	350	500	250**	15 kg

* ØE reactivation/wet air not applicable for M160L or M170L.

** Minimum service space 250 mm. For filter change 400 mm.

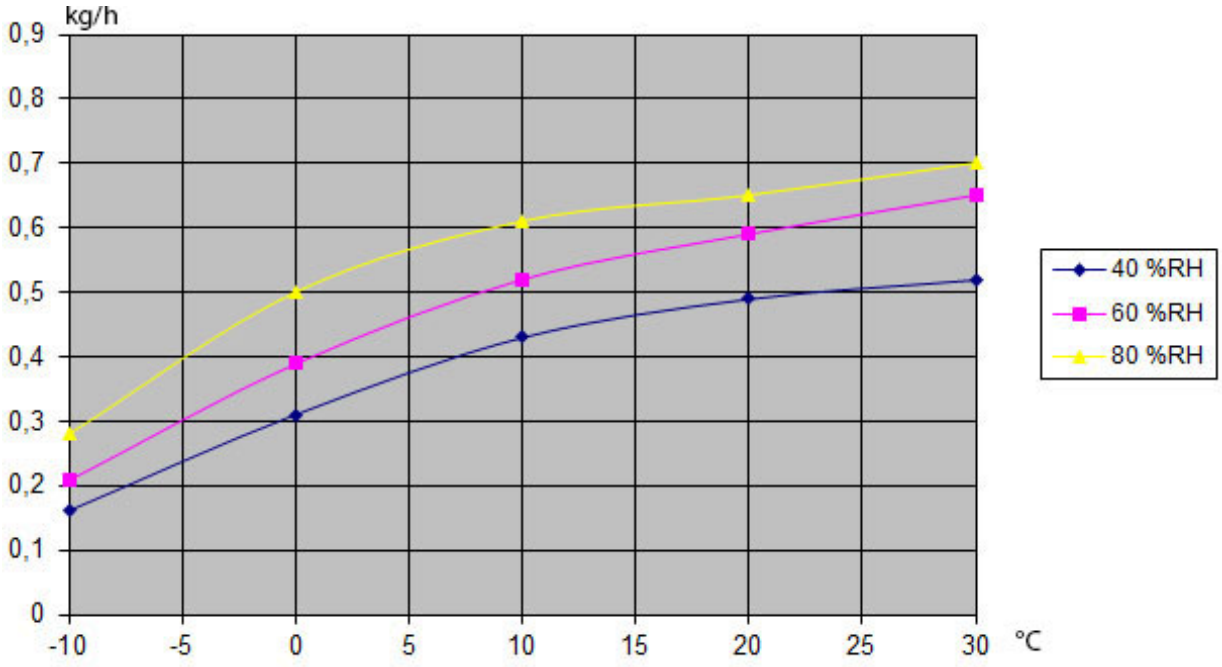
8.2. Capacity diagram

The diagram shows approximate process air dehumidification capacity as a function of the process air temperature for three different air humidity conditions. The values are tested at rated airflows. See Technical data. [37]

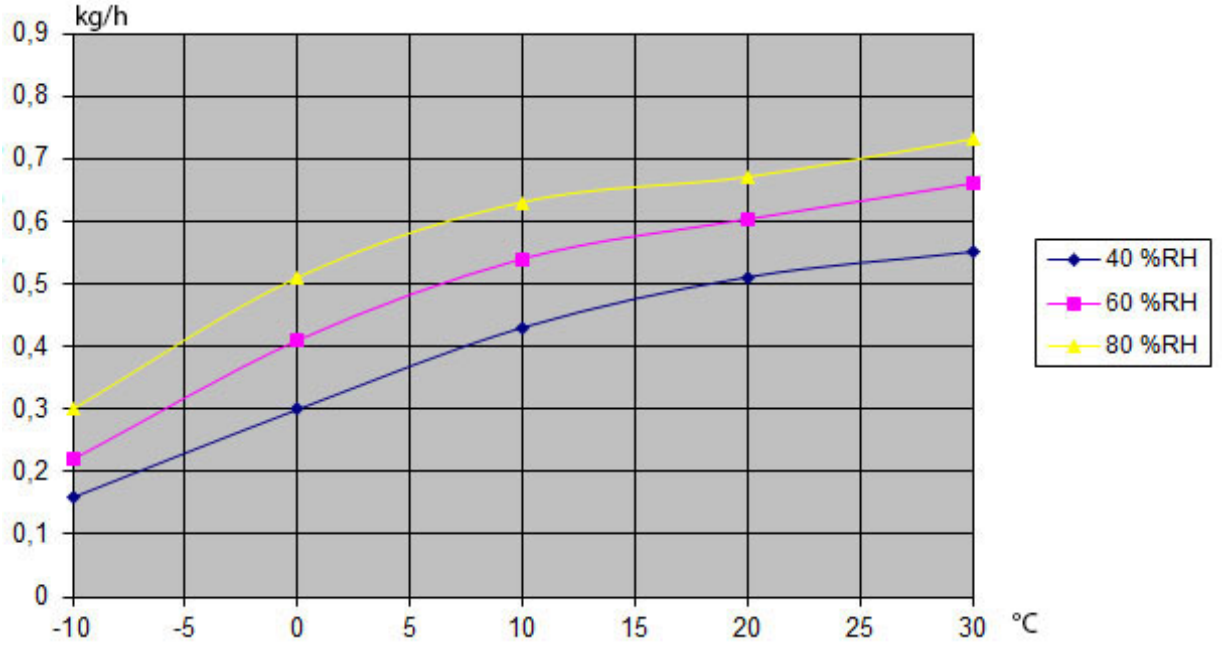
This may not, depending on conditions, correspond to actual drained water volume.

For detailed information, contact your nearest Munters office.

M190Y



M210X



M160L and M170L

X-axis = Temperature, process air (°C)

Y-axis = Dehumidification capacity (kg/h)

8.3. Fan curve

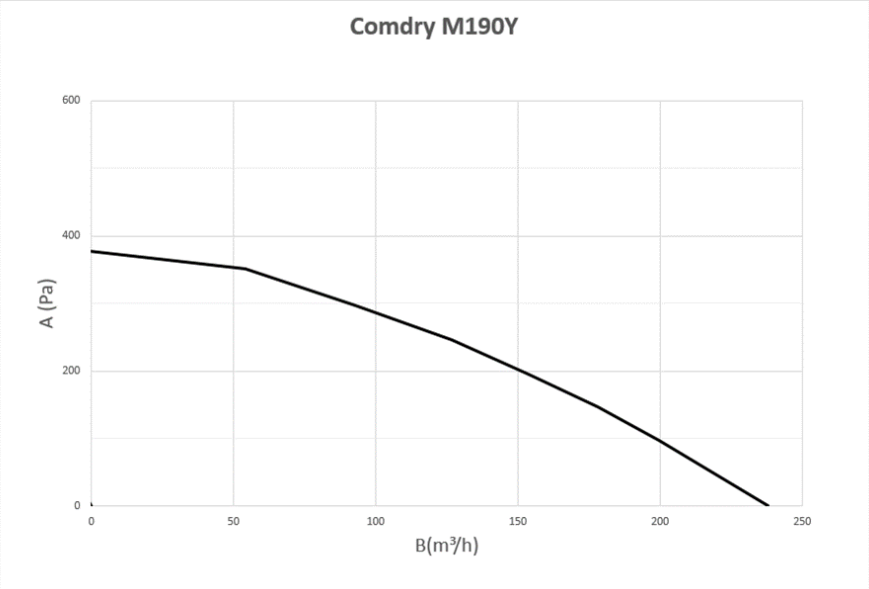
Density 1,2 kg/m^3

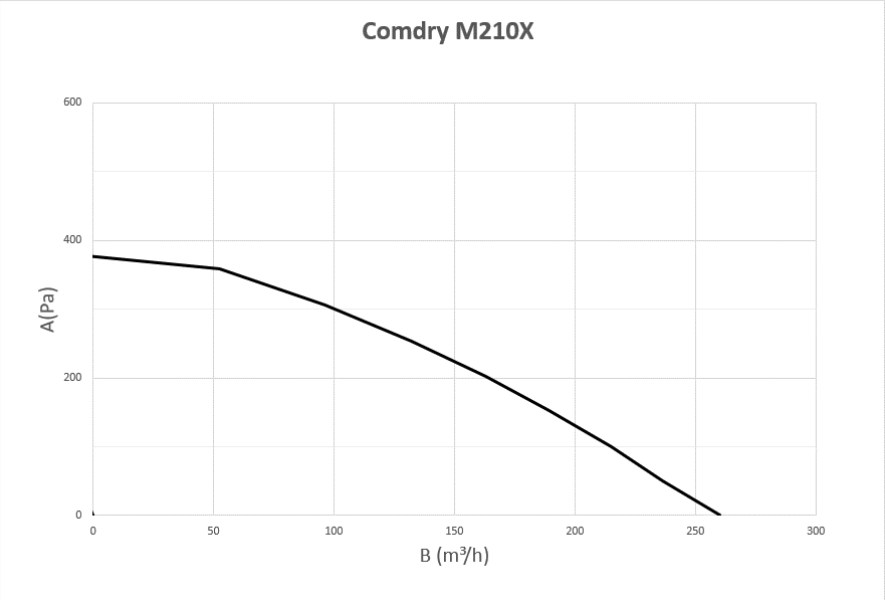
A. Static pressure (Pa)

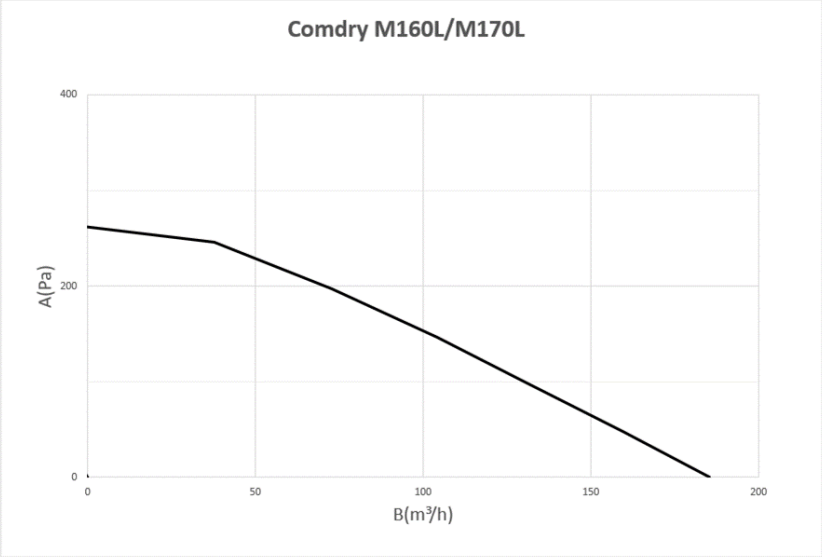
B. Airflow (m^3/hour

Process air

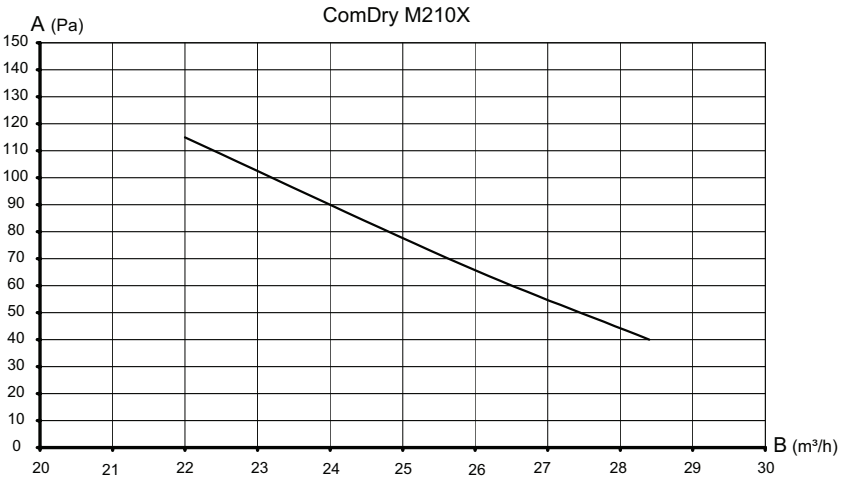
The process fan (both process and reactivation for M190Y model) can be adjusted from the control system menu, see AirC200 manual. The fan curve below corresponds to the factory setting of the unit.







Reactivation air M210X



8.4. Technical data

Process air [1]	M160L	M170L	M190Y	M210X
Free-blowing air (m³/h)	185	185	235	260
Rated airflow (m³/h)	150 at 40 Pa	150 at 40 Pa	190	210
Max. static pressure (Pa)	225	225	300	300
Fan motor power (kW)	0.09	0.09	0.09	0.09
Reactivation air [1]				
Rated airflow (m³/h)	-	-	30 at 90 Pa	25 at 70 Pa
Max. static pressure (Pa)	-	-	260	250
Heater power (kW)	0.84			
Factory set wet air temperature (Wt) limit (°C)	-	-	75	75
Temperature increase across heater (°C)	100	100	100	100
Fan motor power (kW)	0.08	0.08	- [2]	0.08
Other				
Max. pump distance horizontal (m)	-	12	-	-
Max. pump distance vertical (m)	-	3	-	-
Sound pressure level, free blowing process fan (dBA)	58			
Ingress protection rating, IP (IEC60529)	IP44 (unit+electrical)			
Fan motor winding insulation class	Class B			
Drive motor winding insulation class	Class B			
Rotor type	Munters HPS			
Environmental conditions				
Operating temperature (°C)	0... +30	0... +30	-20...+40	-20...+40
Maximum installation altitude, above sea level (m)	2000			
Transport and storage temperature (°C)	-20... +70			
Total power, voltage and current[1]				
Total power (W)	1110	1110	950	1110
Current (A)	4.8	4.8	4.8	4.8
Frequency (Hz)	50/60			
Voltage (V)	230			

[1] The specified performance is based on 20 °C and air density of 1.2 kg/m³.

[2] The same fan is used for process air and reactivation air.

9. Disposal

The unit and consumables must be disposed of in accordance with applicable legal requirements and regulations. Contact your local authorities.

If the rotor or filters have been exposed to chemicals that are dangerous to the environment the risk must be assessed. The chemicals can accumulate in the material. Take the necessary precautions to comply with applicable local legal requirements and regulations.

The rotor material is not combustible, and should be deposited like fiberglass materials.

WARNING

If the rotor is to be cut in pieces, wear a suitable CE marked face mask selected and fitted in accordance with the applicable safety standards to protect from the dust.

10. Contact Munters

Find your nearest Munters office at **www.munters.com**.