CONDENSING DRYER K5 HP PX

USER MANUAL

CorroVenta®

Contents

User instructions K5 HP PX

Area of use

Condensing dryer K5 HP PX is primarily intended for professional use. It has been specially developed for use in occupied areas in event of emergency damage or where it is difficult to eliminate the humid air from an adsorption dehumidifier or run-off water from a more stationary condensing dryer. K5 HP PX has a built-in pump to allow continuous operation and a bucket for occasions when it is difficult to get rid of condensation water.

Properties:

• High capacity level	• Robust
• Fan has high and low speeds, quiet operation	• Demand controlled defrosting
• Easy to transport	• Stackable
• Service-friendly	• kWh counter
• Hygrostat connection	• Very compact
• Low weight	• Ergonomic
• Energy efficient	• Portable and rollable
• K5 HP PX has a thermostat controlled additional heater that improves the drying effect.	

Delivery check

K5 HP PX is delivered fully assembled and ready to use.
The packaging contains:

Designation
K5 HP PX Dryer Corroventa

Manufacture directive

Condensing drier K5 HP PX is tested according to applicable directives and standards by Intertek. The dryer is CE labelled.

Disclaimer

- Incorrect installation and/or incorrect use can cause damage to property as well as injury.
- The manufacturer assumes no liability for property damage or injury incurred as a result of failing to follow these instructions, the machine being used for purposes other than those intended or failure to observe these warnings. Such damage, injury or liability is not covered by the product warranty.
- The product warranty does not cover consumable parts or normal wear.
- The purchaser is responsible for checking the product upon delivery and before use to ensure it is in good condition. The product warranty does not cover damages resulting from the use of defective products.
- No changes or modifications to the machine may be performed without written consent from Corroventa Avfuktning AB.
- The product, technical data and/or installation and operating instructions are subject to change without notice.
- These user instructions contain information protected by applicable intellectual property laws. No part of these user instructions may be reproduced, stored in a retrieval system or transmitted to third parties in any form or by any means without the prior written consent of Corroventa Avfuktning AB.

Any comments regarding the content of this document must be sent to:

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Safety information

The device can be used by children over 8 years old and people (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, if they have received guidance or information on how to use the device safely and understand the risks that may occur. Children must not play with the device. Cleaning and maintenance must not be carried out by children without the supervision of an adult.

Electrical installations carried out in connection with the dryer installation must be done by a qualified electrician in accordance with local and national regulations.

1. The dryer is only intended for indoor use.
2. The dryer must not be covered during operation, as this may cause overheating and fire.
3. The dryer's protective covers and shields must always be in place during operation.
4. The dryer must not be used as a worktable, trestle or stool.
5. The dryer is not intended to be stood or climbed on.
6. Never operate the dryer without installing the filter as this may damage the dryer. Ensure that the filter is clean. If it is blocked, the machine may overheat.
7. Avoid sucking oil, grease or similar into the dryer.
8. The dryer may not be used in areas where it can produce explosive gases.
9. Do not insert objects into the intake or exhaust vents as this could damage the dryer and people.
10. The machine must be used and transported upright.
11. The dryer must always be upright when it is in operation. Place the dryer on a firm and flat surface so that it cannot overturn.
12. Do not damage the electrical cable. Extension cables must be intact and of the right quality and dimension. They must nor run through water or over sharp edges. If the electrical cable is damaged, it should be replaced by the manufacturer, its' service personnel or equivalent qualified personnel.
13. Never carry or drag the dryer by the electrical cable or the drain hose.
14. Using electrical equipment in very damp or wet conditions can be dangerous. Do not operate the dryer if it is standing in water.
15. Always use an earth-fault breaker to minimize the risk of electric shock.
16. Water must not encounter the dryer's electrical components. If it does, ensure that they are dried thoroughly before the dryer is used again.
17. Never open the dryer for cleaning or service without first ensuring that the dryer is disconnected from power.
18. Repairs and maintenance of the dryer's cooling system must be performed by a qualified refrigeration engineer.
19. Repairs and maintenance of the dryer's electrical system must be performed by a qualified electrician.
20. The dryer must not be used with accessories other than those described in this manual or approved by Corroventa Avfuktning AB.
21. The dryer must be placed at a distance of at least half (0.5) a metre from walls and ceilings to ensure that air can circulate.
22. The equipment must be scrapped in accordance with local regulations.

Contact the supplier of this dehumidifier for further advice on the safety and use of the product.


- The dryer contains Propane (R290), a natural refrigerant with low environmental impact.
- The refrigerant gas is flammable.
- Ensure that the cooling circuit's pipelines are not damaged. In case of damage to the cooling circuit, carry the machine out or ventilate the space and avoid naked flames or other spark-generating sources.
- Note that the refrigerant gas is odourless.
- The machine must always be stored upright, frost-free and in a ventilated area without sources that may cause sparking or near flammable substances.
- Do not use agents/methods to accelerate defrosting or cleaning other than those recommended by the manufacturer.
- The cooling circuit must not be punctured.

Relative humidity and its impact on materials

All air contains a greater or lesser degree of moisture. We cannot see it with the naked eye until it appears in the form of small water drops against a cold metal or glass surface for example. However, before it is visible, moisture is already causing problems by affecting materials and manufacturing processes, causing corrosion and growth of micro-organisms.

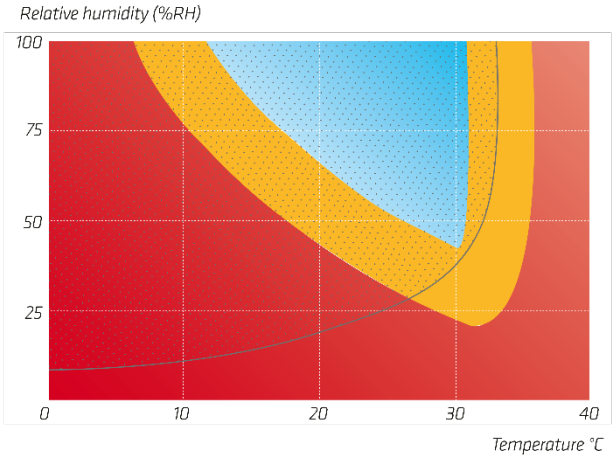
Air moisture is measured and usually given in relative humidity (% RH). It is a measurement of how much water vapour the air contains over how much it can hold in total at a given temperature and pressure. The higher the temperature, the more water the air can hold, but it is the relative humidity that is calculated and must be controlled to prevent corrosion or mould growth.
At 100% RH the air is saturated, and the moisture falls in the form of small water droplets. Steel corrodes at 60% RH and at 70% RH there is a risk of mould. A rule of thumb is that 50% RH is a good climate for most materials.

How to choose dehumidification technique for a given situation

Compared to the adsorption principle, condensing dehumidification has the advantage of not having to route the wet air out from the room.

As a general aid to selecting technology for a given drying situation, it can be said that condensing dehumidification is the primary choice for drying in warm and humid spaces where drying must be achieved in an energy efficient way and when it is difficult to route the wet air out. One of the advantages over the adsorption technique is that the heat is not dissipated with the wet air from the room.

An adsorption dehumidifier with air-cooled condenser like L4, bridges these properties by working within a large area, including the primary area of the condensing dehumidifier. In other words, it is the best option for room drying at low temperatures, ideal for emergency damage and construction dehumidification.



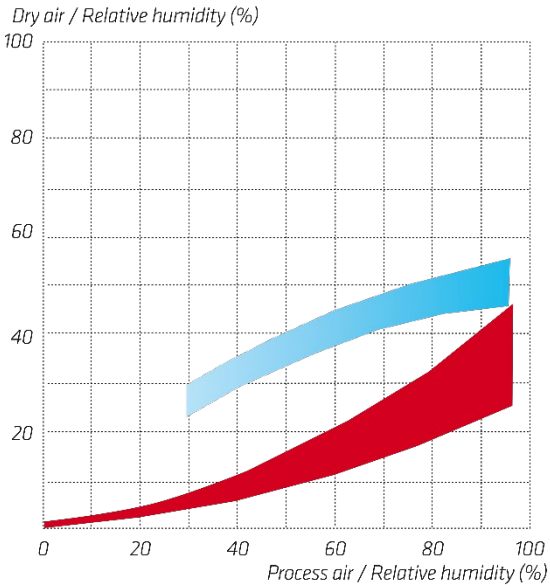
The diagram shows the type of dehumidifier that works best in each climate.

Adsorption dehumidifier *– superior performance in the red area. Also works in the yellow and blue area.*

Adsorption dehumidifier with condenser *– functions in the dotted area.*

Condensing dehumidifier *– superior technology in the blue area. Does not work in the red area.*

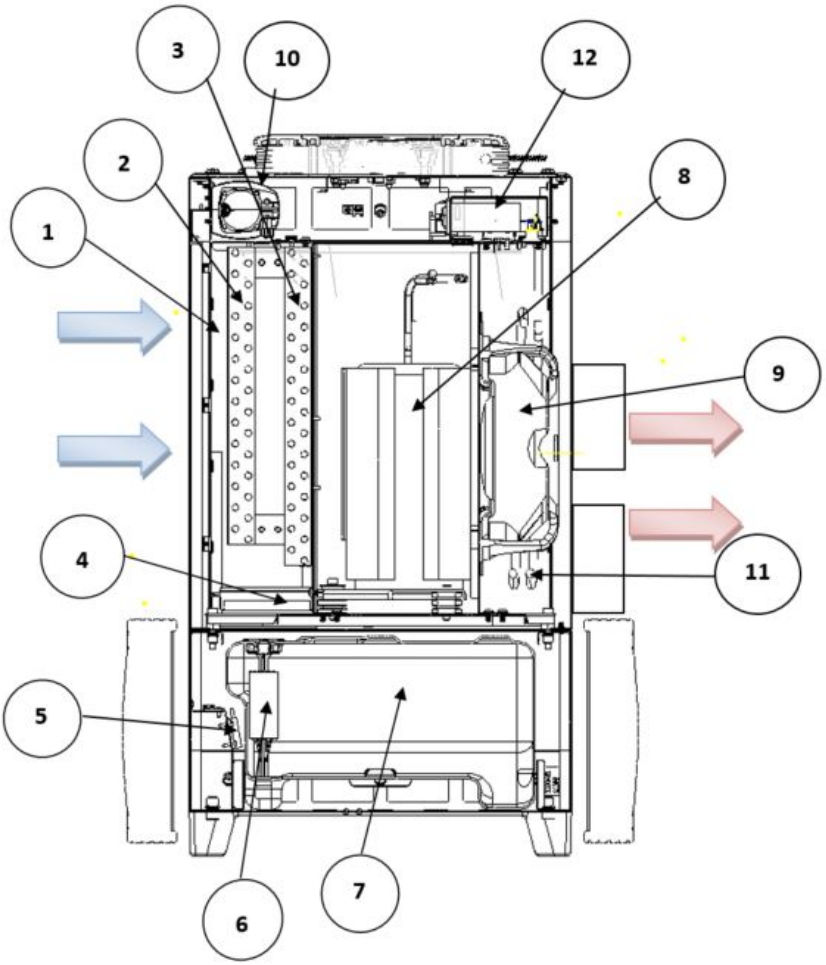
Transition zone



Dry air quality at 20°C
Example of basic differences between selecting a condensing dehumidifier or an adsorption dehumidifier.

As the graph above shows, condensing dehumidifiers are used in hot and humid spaces if room drying is required.

This is how the dryer works



1. Process air filter
2. Evaporator
3. Condenser
4. Drip tray/condensation filter
5. Overflow sensor
6. Float
7. Bucket
8. Compressor
9. Fan
10. Water pump
11. Additional heater
12. Electronic control

The integrated fan (9) circulates the room air through the dryer. When the moist air passes through the evaporator (2) it is cooled down to dew point and condensation water is deposited. The water runs down into the bucket (7) via a condensation filter (4). The condensation water is evacuated from there automatically by the integrated water pump (10), which can manage a height of up to five metres. The pump runs continuously and if it does not manage to drain the water because of a pinched hose or other fault, the overflow sensor (5) activates, which stops the machine.
The dry and cold air then goes through the condenser (3) where it is heated, partly by the compressor heater and partly by the energy recovered during the previous transformation of water vapour to water. The dry and hot air is then blown into the premises again.
For optimal operation, machine defrosting is demand controlled and is only activated when the temperature and humidity conditions are such that frost forms on the cooling coil.

Overview, controls and connections

The images below show Corroventa K5 HP PX with its external parts and controls.

Folding handle as well as cable/
condensation water hose
parking

kWh counter

Operation selector:

- MAN position for continuous operation
- HYG position for operation controlled by external hygrostat

Connection for external hygrostat

Indicator lamp red:

- High/ low Ambient temperature
- High hot gas temperature
- Pump error
- Presence/overfill protection for the bucket

Fan speed selector:

- High position for optimum performance
- Low position for low sound level

Additional heater selector:

- On/off

Indicator lamp yellow:

- Additional heater

Alarm/Indicator lamp

RED

	Alarms	Action/advice
1	Ambient temperature too high.	The fan continues to run. The machine resumes operation automatically if the temperature drops.
2	Ambient temperature too low.	The fan continues to run. The machine resumes operation automatically if the temperature rises.
3	Water level high	The bottom tray is filled with condensation water. Check that the condensation hose is not blocked. Check that the pump runs by holding the outlets on the condensation water hose and feel for a small pressure build up.
4	Internal sensor fault ambient temperature	Internal fault. Disconnect the machine from power for a few minutes and restart again. If the alarm remains, contact a service technician.
5	Hot gas sensor fault	Internal fault. Disconnect the machine from power for a few minutes and restart again. If the alarm remains, contact a service technician.
6	Stop defrosting takes longer than expected	Internal fault. Disconnect the machine from power for a few minutes and restart again. If the alarm remains, contact a service technician.
7	Compressor operation interruption	Internal fault. Disconnect the machine from power for a few minutes and restart again. If the alarm remains, contact a service technician.
8	Fault with temperature sensor in the evaporator	Internal fault. Disconnect the machine from power for a few minutes and restart again. If the alarm remains, contact a service technician.
9	Insufficient Cooling capacity	Internal fault. Disconnect the machine from power for a few minutes and restart again. If the alarm remains, contact a service technician.

YELLOW

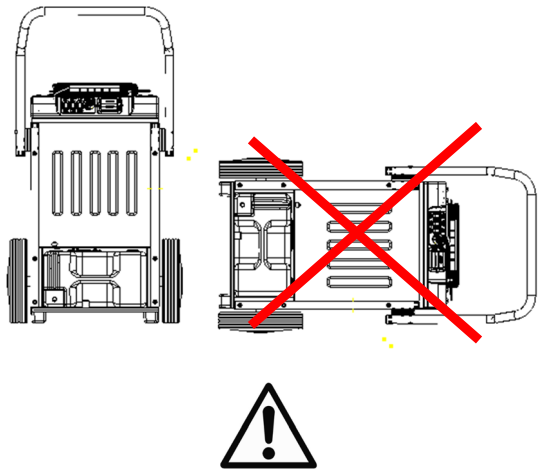
The lamp indicates that the additional heater function has been activated.

Electrical connection

The machine is connected to the earthed 230V/50Hz socket. K5 HP PX can be connected to a 10A, max 16A, fuse. Electronic control delays the start approx. 2 minutes.

Starting and operating

- Operating range humidity: 30-100% RH
- Operating range temperature: +9 °C to +38 °C
- The dryer must reach ambient temperature before starting, if stored in colder conditions.



The machine must be transported upright and must always be upright during operation.

1. Place the dryer on a firm and flat surface where it is not at risk of overturning. The surface should not be sensitive to water as some spillage may occur, for example when handling the bucket and condensation water hose. The dryer can be positioned against a wall as illustrated. In all other cases, the dryer must be placed at a distance of at least half (0.5) a metre from walls and ceilings to ensure that air can circulate.
2. If possible, close doors and windows etc. to use all the dehumidification capacity in the intended space rather than to dry the whole house/building. To minimise power consumption, try to ensure that the ambient temperature is approximately 20°C.
3. If using a condensation water hose, ensure that it is routed to a drain, sink or similar frost-free runoff for continuous operation.
4. For continuous operation, set the operation selector to I (Man), the upper position. When using a hygrostat, set the selector to position II (Hyg), the lower position, connect the hygrostat and set the desired setpoint on it.
5. The ambient temperature must be +9°C to +38°C.

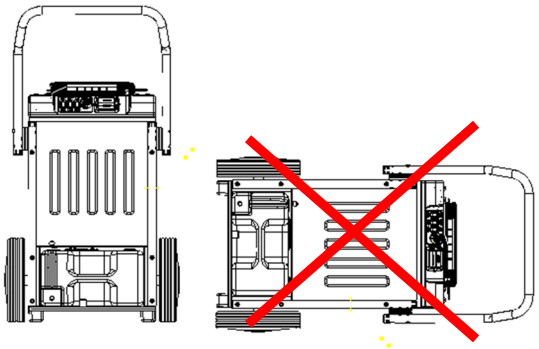
6. K5 HP PX is equipped with demand-controlled defrosting. If ice forms on the evaporator, the dryer defrosts automatically by stopping the machine. The machine restarts automatically when the evaporator is clear of ice.
7. K5 HP PX is equipped with an additional heater that increases the dry air temperature and thus improves the drying effect further. The additional heater's operating range is between 20-26 °C. The machine is also equipped with double overheating protection. A manual resettable MR that trips at 130°C and an automatic device that trips at 60°C. The manually resettable overheating protection is located under the cover above the fan.

For use on sensitive surfaces, note the following:

When the machine is turned off, any frost on the evaporator thaws and, if there is a lot of frost, this can cause spillage because the pump is off.

Transportation

Secure the dryer well when being transported.
If the machine toppled over during transportation, the machine must stand upright for at least 30 minutes prior to starting.



The machine must be transported upright and must always be upright during operation.

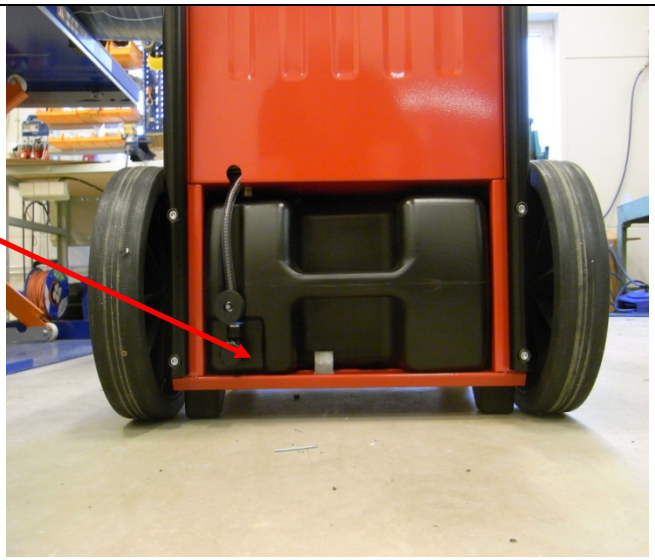
Transportation must be carried out in accordance with local regulations.

Storage

K5 HP PX can be stored stacked on top of each other as shown below, thus saving floor space. The machine must always be stored upright, frost-free and in a ventilated area without sources that may cause sparking or near flammable substances.

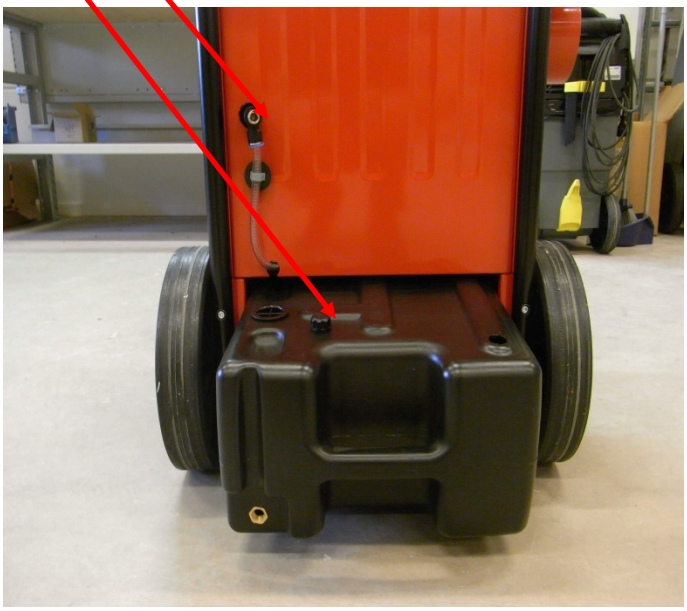
Bucket

During pump operation: Connect hose connection with knob to the bucket. Reinstall the plug in the relevant hole on top of the bucket.



During bucket operation:
Slacken off the knob on the hose connection and secure it with the magnet. Remove the plug on top of the bucket and screw it in instead of the knob. The bucket holds 9 litres. The compressor stops when the bucket is full and the red lamp illuminates. In order for the machine to resume drying, the bucket must be emptied

Depress the catch and pull the bucket straight out.



Maintenance and service

Before starting any maintenance and servicing, the dryer must be unpowered.

Remove the plug from the wall socket.

All maintenance of the electrical system must be performed by a qualified electrician.

All maintenance of the cooling system must be performed by a qualified refrigeration engineer.

Do not use agents/methods to accelerate defrosting or cleaning other than those recommended by the manufacturer.

Replace the process air filter frequently, preferably before each new job it is installed for, and clean the dryer regularly, as dust and dirt reduce capacity and may cause overheating and fire.

Inspection and cleaning of process air filters, water filters and cleaning of drip trays and bucket

Inspect or clean water filters annually or more frequently if the machine is used in dirty environments, replace if necessary. Follow the instructions below:

Before starting any maintenance and servicing, the dryer must be unpowered.

Remove the plug from the wall socket.

Replacing/cleaning process air filter 1. Remove, carefully pull out the black process air filter. Clean or replace as necessary. Carefully replace the air filter, ensure it is inside the support edge and seals tightly.	
Replacing/cleaning condensation water filter 2. Remove, carefully pull out the condensation water filter. Clean or replace as necessary. Check and clean the drip tray. Reinstall the water filter carefully.	

Accessories and consumables

The following parts are available as accessories and consumables for K5 HP PX:

Part number	Designation
01100	Hygrostat HS1-5 (5m cable)
1003146	Condensation water filter
1002827	Process air filter

Fault tracing

Fault symptom	Probable cause	Actions
The capacity of the dryer seems to be low	Low ambient temperature or low relative air humidity.	Check relative air humidity. Increase the temperature in the area.
	The air flow is heavily reduced because of dirty filter.	Replace the filter.
	If the dehumidifier is used with a hygrostat, this may be incorrect or incorrectly set to too high a relative humidity.	Check the external hygrostat function by raising and lowering its setpoint and note that the machine switches off and on.
	The machine has, during the time it was installed, stopped on numerous occasions because of either too high or low ambient temperature. If this is the case it is also reflected in the energy consumption, which does not seem to correspond to continuous operation during the time the machine was installed.	Ensure that the temperature is kept within the machine's operating range, +9 °C to +38 °C, and note that the capacity increases with increasing temperature.

Technical data

	K5 HP PX
Operating range, RH, %	30-100%
Operating temperature range, °C	+9 to +38
Rated output, W	500 (incl. additional heater: 1700)
Additional heater W	1200 (full temperature control)
Actual output at 20°C,60% RH W	530
Dehumidification, max., litres per 24 hours	45
Dehumidification at 30°C, 80% RH, litres per 24 hours	36
Dehumidification at 20°C, 60% RH, litres per 24 hours	18
Airflow, m^3/hour	500
Supply voltage, 1 phase, 50Hz, V	230
Safety class	IP X4
Weight, kg	39,5
Collection receptacle volume, litre	9
Dimensions, length x width x height etc	520 x 445 x 710
Noise level, dB (A) 3m high speed	53
Noise level, dB (A) 3m low speed	48
Refrigerant	R290

DO YOU HAVE QUESTIONS OR NEED HELP?

Visit www.corroventa.com or call us to speak with an expert.
We have the knowledge and the equipment to find a solution as efficiently as possible.

Corroventa develops, manufactures, sells and rents high quality products for dealing with water damage, moisture, odours and radon. We are one of the market leaders and specialists in innovation within the industry. Our products are compact, effective, ergonomic and energy efficient. In emergency situations and during flooding, Corroventa's customers have access to one of the largest rental parks in Europe. All our products are manufactured in Bankeryd, Sweden.

www.corroventa.com

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