

User instructions



Drying room dehumidifier A155F/A155HW

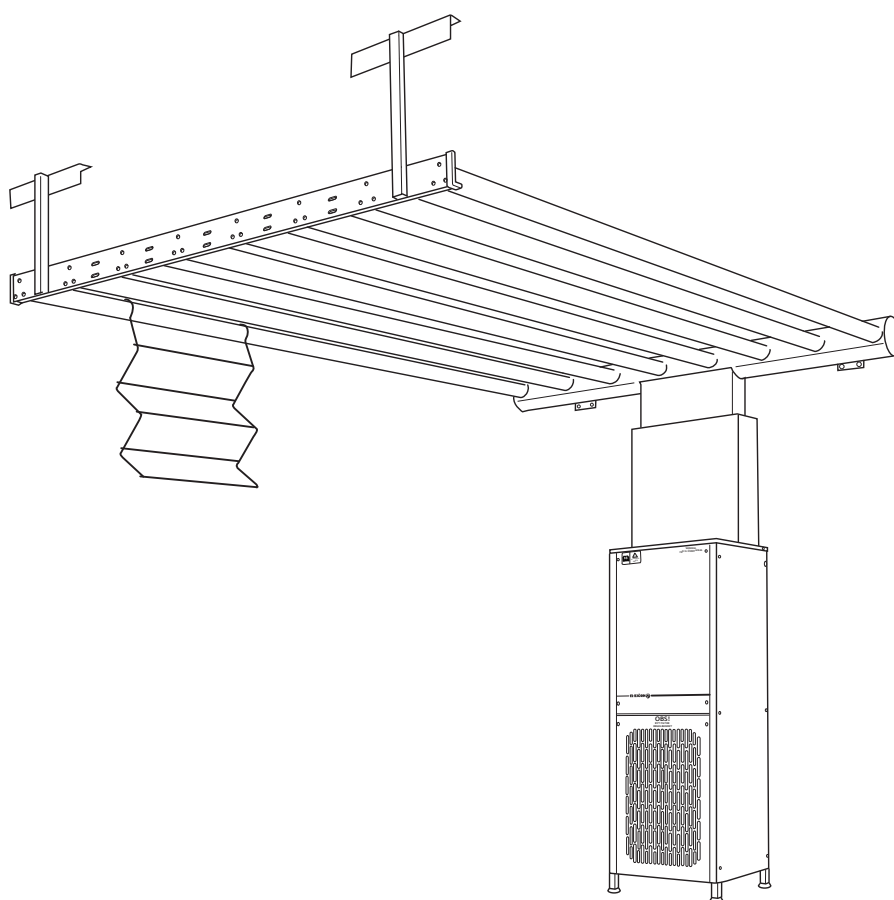


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INTRODUCTION

The A 155 dehumidifier is designed for the high capacity drying of laundry in large drying rooms, for example in apartment / multi occupancy buildings or on site Portacabins. An optional pipe system for hanging laundry on can be ordered with the dehumidifier. See web site for more information

This instruction manual covers the free-blowing dehumidifiers A 155F (standard electric) and the 155HW (hot water), model designed for district heating.

The manual contains detailed instructions for use, maintenance and inspection of the dehumidifier with or without a pipe system. It includes instructions for insuring maximum safety and information on the design and use of the safety features.

NOTE: All persons using or repairing the dehumidifier should carefully read the section on safety.

This manual contains instructions on use of the product and maintenance that can be carried out by the operator.

More detailed servicing or troubleshooting may only be performed by the manufacturer's service staff or representative.

The user instructions describe all the necessary safety features.. The first thing the user should do following delivery, is to read the instruction manual carefully. This should be done before connecting to the electricity supply.

The manufacturer reserves the right to make modifications.

Various symbols and warning signs are shown in this manual and displayed on the dehumidifier. They are listed on the next page.

If any of the warning signs on the dehumidifier are damaged in any way, a new one must be ordered and attached immediately to ensure maximum safety during use of the dehumidifier. The dehumidifier may only be used for the applications described in this user manual.

The manufacturer reserves the right to make any modifications.

TECHNICAL DATA

Technical data, dehumidifier

Width: 470 mm
Height: 1498 mm
Depth: 370 mm

Noise level: 66dB

Weight: 70 kg
Electrical connection: 3N~400V
Fuse: 10 A slow

Rated power (A 155F): 5400W
Rated power (A 155HW): 1200W
Auxiliary heating: 3990W

Operating range, temp.: 15-35°C
Operating range, RH: 35-99%
Dehumidification capacity: Max. 3 l/h

Refrigerant, type: R134a
Refrigerant, amount: 870g

SAFETY INSTRUCTIONS

Warning signs on the dehumidifier



Read the instruction manual carefully before using the dehumidifier.

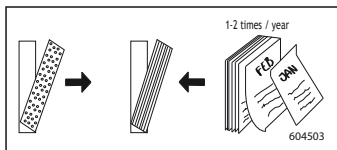


WARNING!
400V

Warning of high voltage if the hatch is opened before the power supply to the dehumidifier has been turned off.



The manufacturer's guarantee that this product meets the safety provisions of the Low Voltage Directive.



The filter should be replaced 1–2 times per year. Also see under “Maintenance”.



The dehumidifier's air intake and air outlet must never be covered.

Warning signs in these user instructions



Read the instruction manual carefully before using the dehumidifier.



Caution! The dehumidifier may be dangerous. Careless or incorrect use could result in serious or even fatal injury.



The manufacturer's guarantee that this product meets the safety provisions of the Low Voltage Directive.

Safety during installation

Electrical connection of the dehumidifier and its peripheral equipment should be carried out by a qualified electrician.

Safety during use

The dehumidifier's air intake and air outlet must never be covered during operation. It is strictly forbidden to remove the protective hoods or cover plates during operation.

- The product may not be used by persons (including children) with physical or mental disabilities, unless they have received information or instruction on safe use of the product from a person with responsibility for their safety.
- However, the product is suitable for use in environments where there are persons (including children) with physical or mental disabilities or impaired judgement.
- If children have access to the product, they must be instructed not to use the product for playing with.

Safety during maintenance

The power supply to the machine must be cut off before performing maintenance on the dehumidifier. This can be done by pulling the connector out of the power socket, or by breaking the current with the circuit breaker.

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

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

When cleaning the condenser and evaporator, use gloves to avoid cutting injuries.

Caution! and Note:

The following boxes are shown in this instruction manual where appropriate.



CAUTION!

These boxes warn of injury or damage to people or objects. The caution boxes are shown in front of the procedure they refer to.

NOTE:

These boxes contain special instructions and information on how to make specific procedures easier.

DESCRIPTION

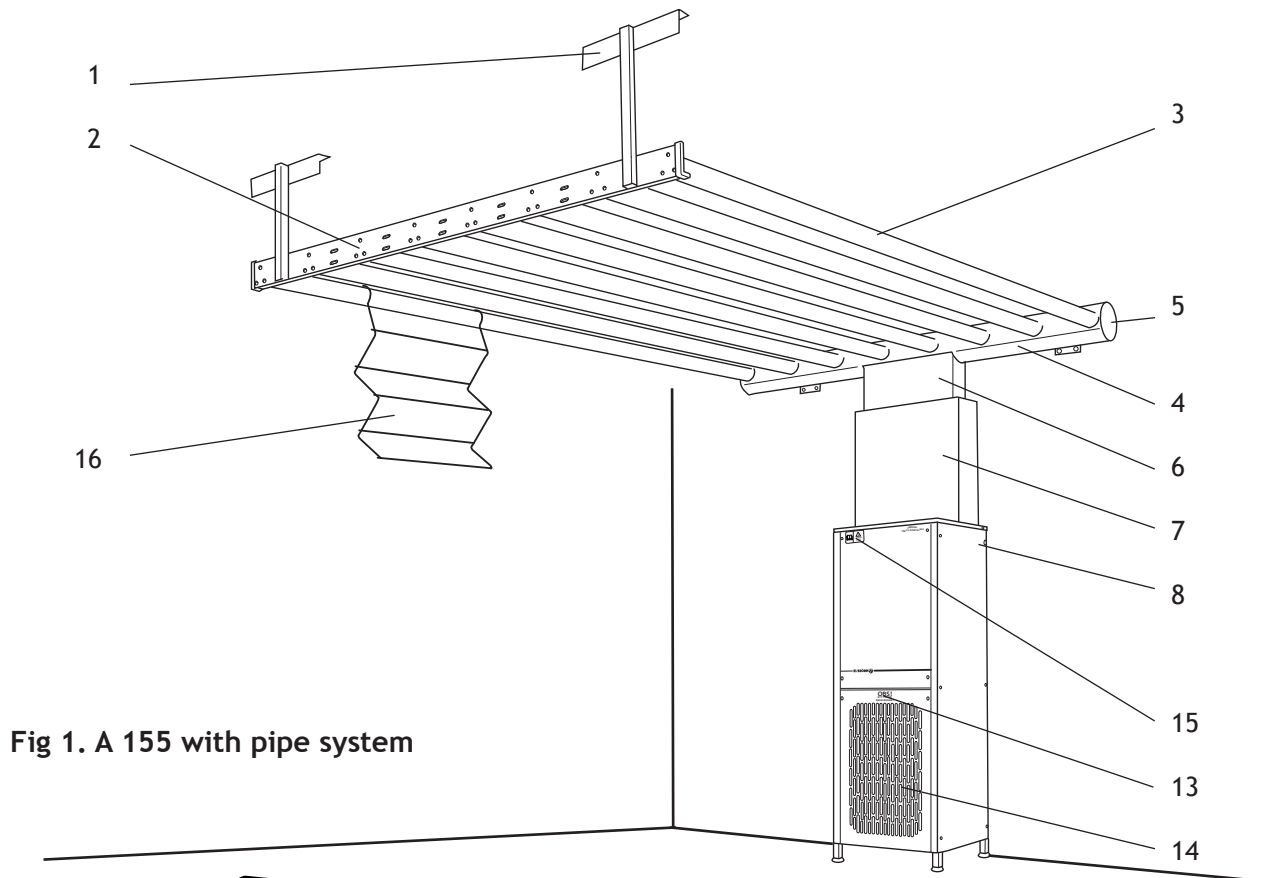


Fig 1. A 155 with pipe system

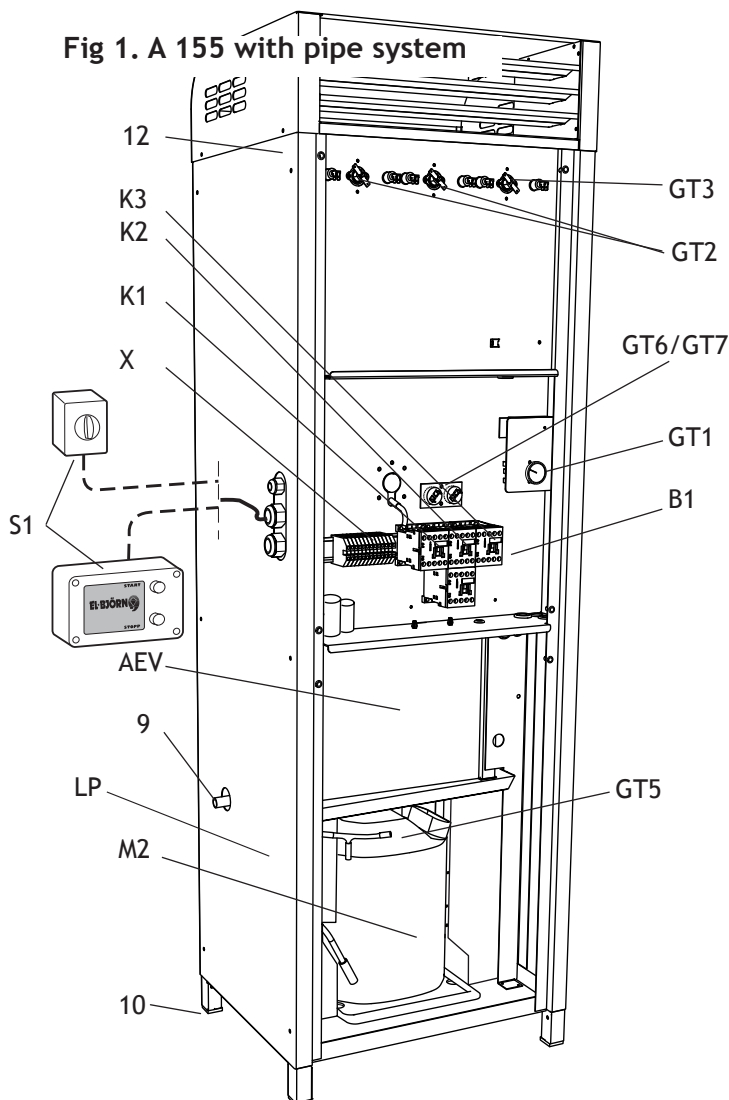


Fig 1. A 155 with pipe system

- 1 Ceiling mounting with suspension bars.
- 2 Side bar
- 3 Drying pipes
- 4 Base pipe
- 5 End plate
- 6 Inner telescopic tube
- 7 Outer telescopic tube
- 8 Anti-tip device
- 9 Drain water connection, for copper pipe Ø15 mm
- 10 Adjustable foot
- 12 Type plate
- 13 Sticker "Replace filter regularly"
- 14 Filter cassette (inside door)
- 15 Sticker "Do not cover"
- 16 Hanger (accessory)
- B1 Overcurrent relay
- AEV Evaporator. (Also see next page).
- E Auxiliary heating 3990 W. (1330x3)(See next page or water condenser A 155HW
- FT Dryer filter. (See next page).
- GT1 Thermostat for control of heating coil
- GT2 Overheating protector, manual reset (x 2).
- GT3 Overheating protector, automatic reset GT4 Thermocontact switch in fan (not shown).
- GT5 Low pressure control
- GT6 Overload protection device, compressor
- GT7 Overload protection device, compressor
- K1 Contactor for fan
- K2 Contactor for compressor
- K3 Contactor for heating coil
- KD Capacitor. (See next page).
- M1 Fan. (See next page).
- M2 Compressor
- S1 Timer, 2 options
- X Terminal block
- SD Capillary tube, throttle (see next page).
- LP Low pressure control

DESCRIPTION

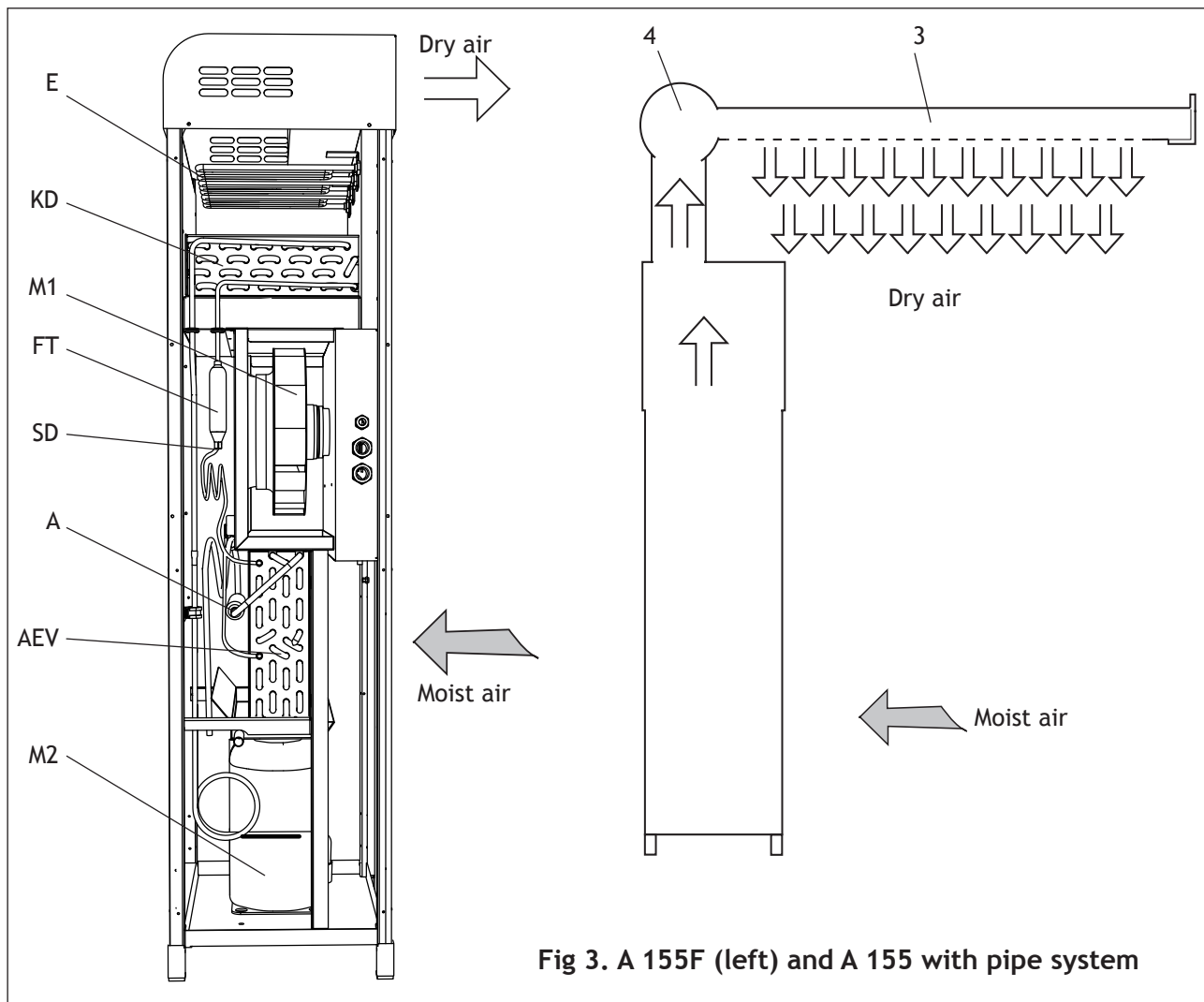


Fig 3. A 155F (left) and A 155 with pipe system

Function

Dehumidifier A 155

The A 155 is a condensation dehumidifier, and is based on the principle that air moisture condenses on cold surfaces.

The cold surfaces are created on the evaporator (AEV) when the compressor (M2) transfers heat from the evaporator to the condenser (KD).

The dehumidifier is equipped with a fan (M1) that transports the air through the dehumidifier.

The air first passes through the evaporator (AEV), where the moisture condenses and is deposited on the evaporator.

The condensate collects in a trough located underneath the evaporator, is transported away.

The air then passes through the fan (M1) and the condenser (KD). In the condenser, the air is warmed up and the condenser is simultaneously cooled.

After this, the air can be heated by the auxiliary heating system (E) before being released from the dehumidifier.

Pipe system

The pipe system has two functions: it distributes the air and is used for hanging washing on. The diameter of the drying pipes is (Ø60 mm) (3) prevents clothes from creasing whilst drying.

Dry air from the dehumidifier is blown into the pipe system and distributed to the drying pipes (3) via the base pipe (4).

Dry air is blown downwards through holes in the drying pipes, and is distributed between the items of laundry.

This dries the laundry evenly, even in the places that are least exposed.

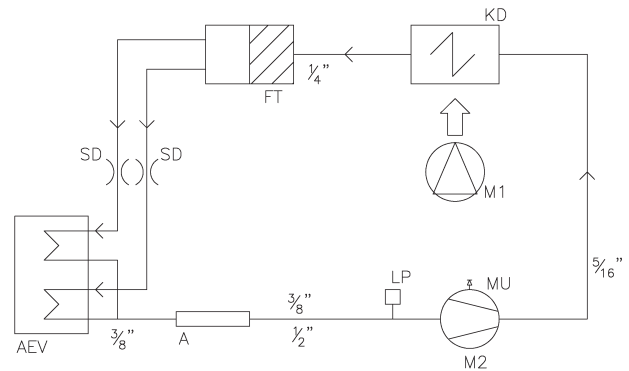
All tubes are made of extruded, anodised aluminium, making them highly durable and corrosion-resistant.

DESCRIPTION

Principle diagram, pipe A 155

Components

KD	Condenser
MU	Measurement socket
FT	Dryer filter
M1	Fan
M2	Compressor
AEV	Evaporator
SD	Capillary tube, throttle
A	Accumulator
LP	Low pressure control



Electrical system

Function

Instructions on connecting the control unit/timer can be found under "Installation".

When the timer (S1) is activated, the following occurs:

1. The contactor (K1) is activated and starts the fan (M1) and the auxiliary heating (E).
2. K2 is activated via GT5 and starts the compressor (M2).
3. When the temperature has risen to the set value, GT1 cuts off the power to the auxiliary heating (E).
4. The temperature is regulated by the thermostat (GT1), which, if necessary, connects the heating coil (E) according to the set value.
5. When the temperature of the evaporator sinks, there is a risk of ice crystals forming. If ice forms, LP breaks the current to K2 and the compressor stops.
6. When the timer cuts out, the dehumidifier stops running.

Compressor (M2)

The compressor has two separate external motor guards (GT6 and GT7). The motor guard function (TK) is also built into the motor windings, stopping the motor if it overheats. The function resets automatically when the temperature returns to normal.

Thermal overload relay (QF1)

Protects the compressor from overload (Set value: 2.5A). It breaks the current to the whole machine if it is activated.

Low pressure control(LP)

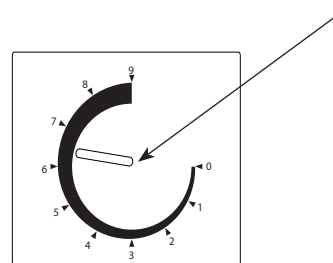
Breaks the current to the compressor if the temperature is too low or if the refrigerant runs out.

Fan (M1)

The fan motor has no separate motor guard. Instead, it is equipped with a thermocontact switch (GT4). The thermocontact switch is located inside the motor winding, and breaks the current if the motor overheats. The thermocontact switch resets automatically when the temperature returns to normal. A capacitor is used to ensure correct fan function.

Thermostat (GT1)

GT1 controls the auxiliary heating (E) and can be set from 0-9 (equivalent to approx. 0-40°C).



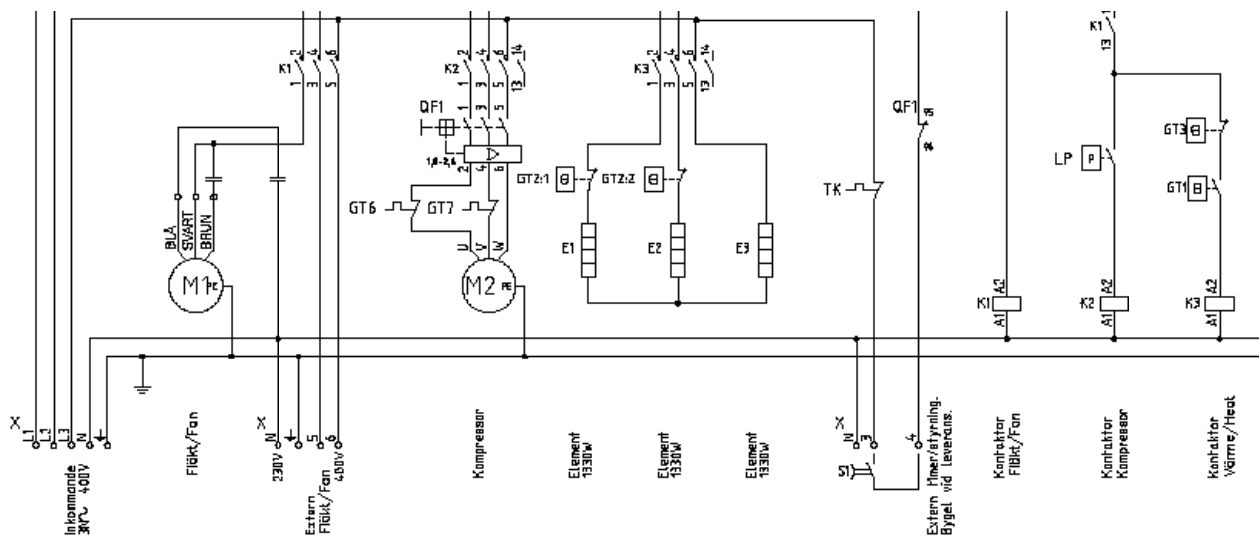
Overheating protector A 155F (GT2:1 and GT2:2)

GT2:1 and GT2:2 are two thermocontacts inside the heating coil (E). GT2:1 and GT2:2 break the current at 90°C. They must be reset manually when the temperature has dropped. See the section on maintenance.

Overheating protector A 155F (GT3)

GT3 is an overheating protector inside the heating coil. It breaks the current to C3 at 70°C. GT3 resets automatically when the temperature has dropped.

DESCRIPTION A155F



ENGLISH

Wiring diagram, A 155F

Components:

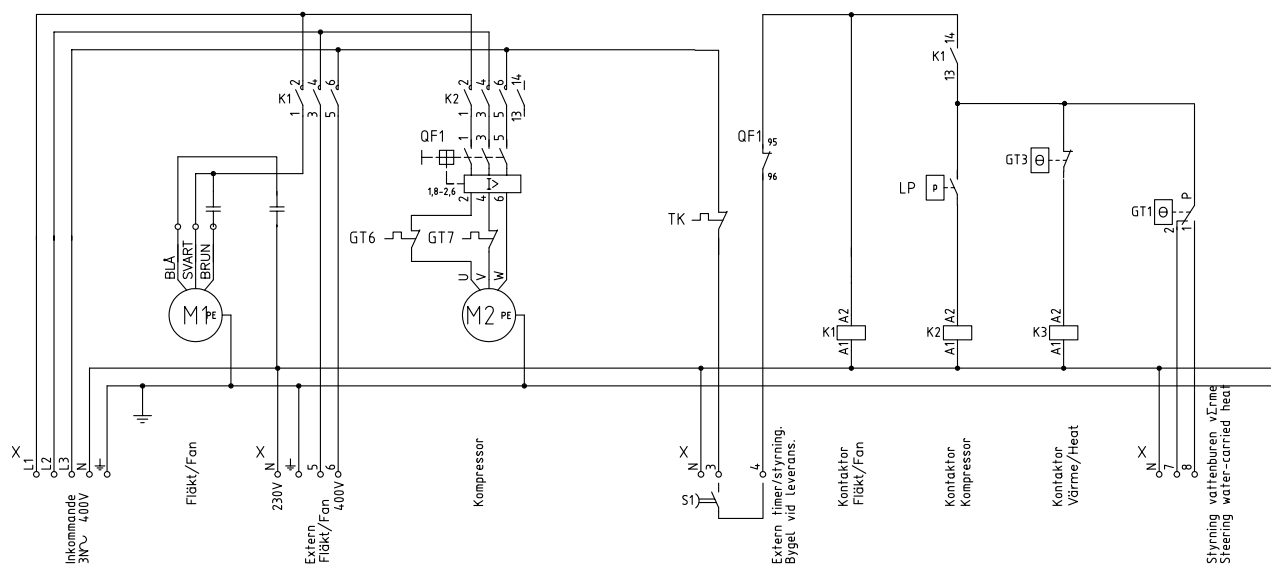
- E1-3 Heater battery, 3x1330W
- GT1 Thermostat for heater battery
- GT2:1, GT2:2 Overheating protection-manual reset.
- GT3 Overheating protection. Automatic reset.
- GT4 Thermocontact in fan
- LP Low Pressure
- GT6 Overload/Internal thermostat
- GT7 Overload/Internal thermostat
- K1 Contactor, fan
- K2 Contactor, compressor
- K3 Contactor, heater battery
- M1 Fan
- M2 Compressor
- QF1 Thermal overload relay
- S1 Extern timer/steering
- TK Internal thermal switch Compressor
- X Terminal block

Terminal block X:

Extern timer/steering (S1) will be connect between 3 and 4 in terminal block X.
Remove the ring between 3 and 4 when external timer/steering will be connected.

5-6 connect external fan 400V.
5-N connect external fan 230V
or
6-N connect external fan 230V.

DESCRIPTION A155HW



ENGLISH

Wiring diagram, A 155HW

Components:

- GT1 Thermostat for heater battery
- GT4 Thermocontact in fan
- LP Low Pressure
- GT6 Overload/Internal thermostat
- GT7 Overload/Internal thermostat
- K1 Contactor, fan
- K2 Contactor, compressor
- M1 Fan
- M2 Compressor
- QF1 Thermal overload relay
- S1 Extern timer/steering
- TK Internal thermal switch Compressor
- X Terminal block

Terminal block X:

Extern timer/steering (S1) will be connect between 3 and 4 in terminal block X.
Remove the ring between 3 and 4 when external timer/steering will be connected.

5-6 connect external fan 400V.
5-N connect external fan 230V
or
6-N connect external fan 230V.
7-8 Steering water-carried heat.

INSTALLATION

INSTALLATION OF PIPE SYSTEM

The dehumidifier can be ordered and delivered with or without a clothes drying pipe system. After delivery, the pipe system should be installed according to the instructions on this page.

The pipe system can be ordered separately.

Room size

The room in which the pipe system is installed must have the following dimensions:

Pipe assembly	Base pipe, L	Drying pipe, quantity x L	Room, W x L
1	2500 mm	12 x 2500 mm	2.7 x 2.9 m
2	2500 mm	12 x 3000 mm	2.7 x 3.4 m
3	2000 mm	10 x 3000 mm	2.2 x 3.4 m

Tools

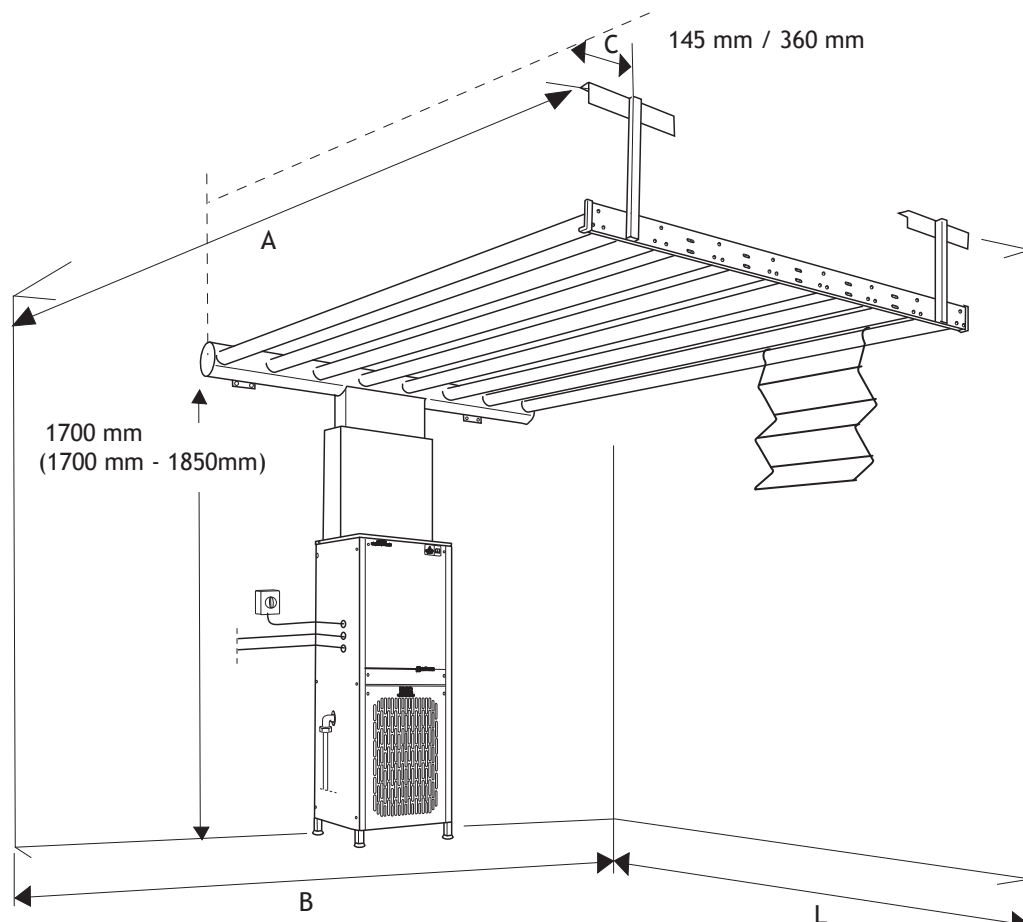
If the pipe system is installed in a room with concrete in the walls and ceilings, the following tools are needed:

- Tape measure
- Water level
- Hammer drill 12 mm drill bit
- Spanner 13 mm
- Cross-head screwdriver
- Hack saw



CAUTION!

Use a respirator and protective goggles when performing hammer drilling, especially in the ceiling.



Base pipe

1. Use a water level and tape measure and mark the position of the wall mountings.
Recommended height: 1700 mm
Min. height: 1700 mm
Mex. height: 1850 mm
The wall mountings can be slid along the base pipe, and should be positioned roughly 300 mm from the ends of the base pipe.
2. Drill the holes with the hammer drill and a 12 mm drill bit and screw the ceiling mountings into place with the screw holes facing downwards.
3. Attach the inner telescopic tube to the base pipe with the six sheet metal screws. The joint on the telescopic tube should be turned backwards (against the wall when the base pipe is installed).
4. Suspend the base pipe on the wall mountings and secure it with the included screws.

INSTALLATION

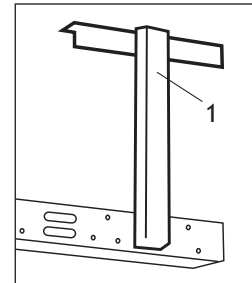
Ceiling mountings

1. Mark out the position of the ceiling mountings (1) using a tape measure, See the dimension table below and the figure on the previous page.

Dimension table

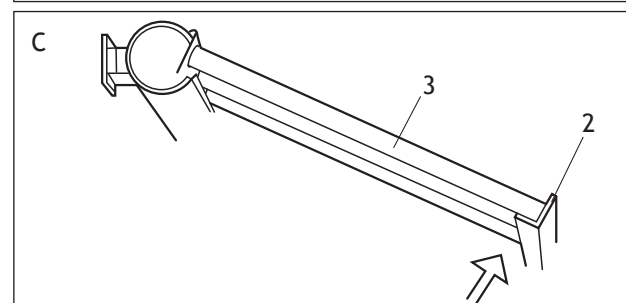
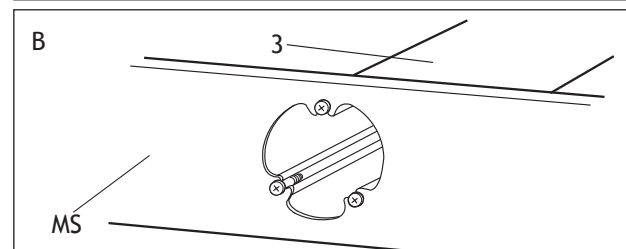
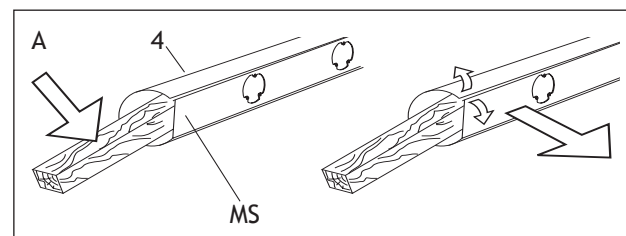
If drying pipes are used	Distance from wall, A
L=2500 mm	2695 mm
L=3000 mm	3195mm
If base pipe is used	Distance from outer ends of base pipe, C
L=2000 mm	145 mm
L=2500mm	360 mm

2. Drill the holes using the hammer drill with a 12 mm drill bit and screw the ceiling mountings into place.
3. Attach the ceiling mountings (see picture). Attach the screws loosely so they can be adjusted when the drying pipes are installed.



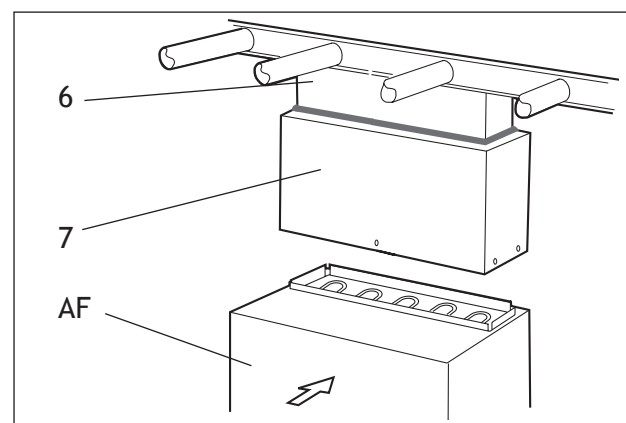
Drying pipes

1. Carefully bend the base pipe (4) and remove the mounting bar (MS), see fig. A.
2. Fit together the drying pipes (3), mounting bar and side bar (2). Using the cross-head screwdriver, attach each drying pipe (3) with six sheet metal screws (included), see figs. B and C.
3. Place the lower edge of the mounting bar, along with the attached drying pipes, in the base pipe.
4. Carefully lift the side bar (2) so that the mounting bar snaps into the base pipe, see fig. C. Fix the side bar into the rods in the ceiling mountings.
5. Tighten the screws in the ceiling mountings.
6. Cut the rod to size if it is too long.
7. Install the end plates on the base pipe with 4 sheet metal screws in each plate.



Dehumidifier

1. Lubricate the rubber strip with dishwashing liquid or soft soap. Thread the outer telescopic tube (7) onto the inner telescopic tube (6). Push the tube up as far as it will go.
2. Position the dehumidifier (AF) with the air outlet centred underneath the telescopic tubes.
3. Push the outer telescopic tube (7) down into the dehumidifier (AF) and fasten with the six sheet metal screws.
4. Continue installing the dehumidifier according to the instructions on the next page.



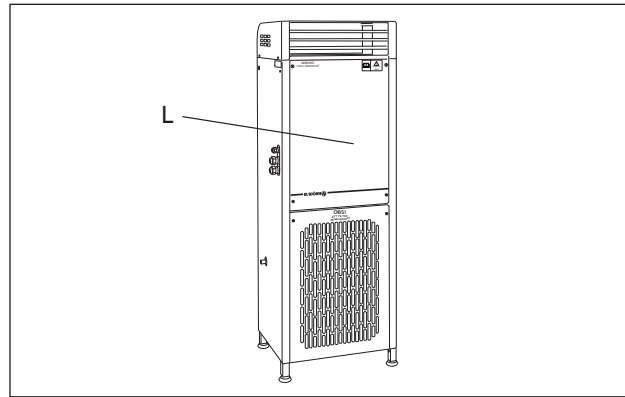
INSTALLATION

Dehumidifier

Unpacking

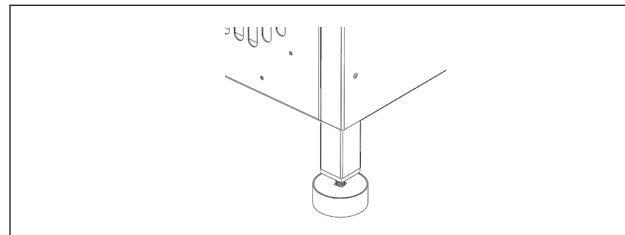
Before installing the dehumidifier, unpack and check the parts listed below. The parts are in a bag inside the hatch (L).

- Four adjustable feet.
- Two anti-tip devices.
- Three cable glands with nuts.
- Clamp connection

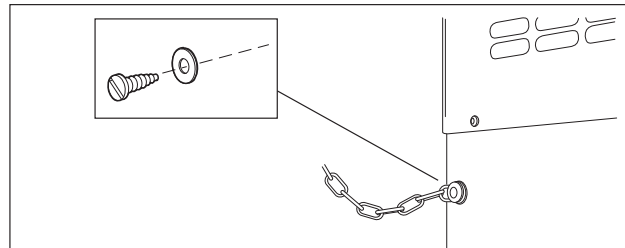


Assembly

Assemble the dehumidifier horizontally on a flat, stable surface next to a wall. Attach and adjust the feet until the dehumidifier is standing horizontal.

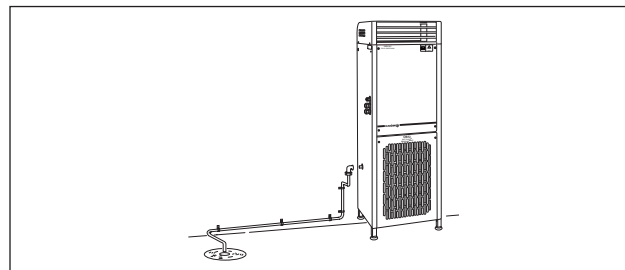


Attach the two anti-tip devices on either side between the dehumidifier and the wall.



Condensate

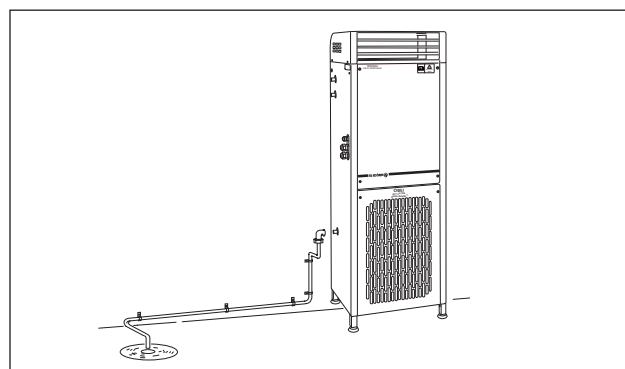
The dehumidifier has a condensate outlet. Fit the included clamp connection in the outlet and connect a pipe Ø15 mm. Screw the pipe into place so that it points down towards a floor drain.



Hot water connection A 155HW

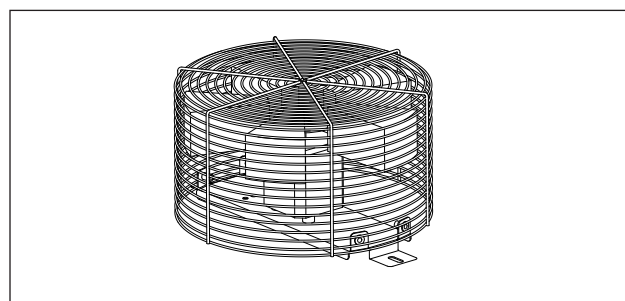
Connect the inlet to the upper 15 mm pipe. Install an external solenoid valve here to regulate the flow.

It is regulated by a thermostat (GT1) in the dehumidifier. Connect it to 7-8 in the terminal strip.



External circulation fans (accessory)

One or more external fans can be installed to increase air circulation. (Not necessary if a pipe system is installed.) If there are other circulation fans in the drying room, they must not blow air directly onto the dehumidifier's inlet or outlet.



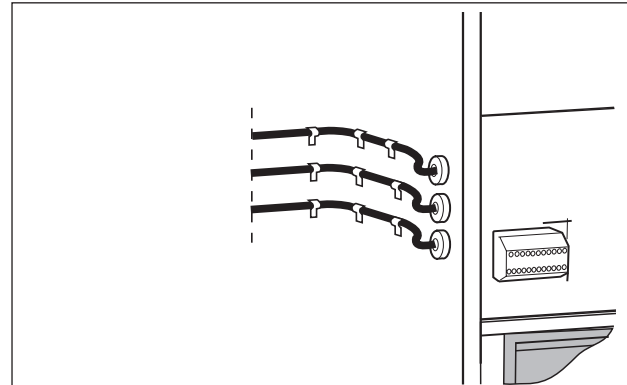
INSTALLATION

Electrical connection

Connect the dehumidifier via the circuit breaker to 3N~400 V and earth. Fuse with at least a 10A slow fuse. Connect to the terminal block (X). Use a cable equivalent to (A05RN-F) 5x1.5 mm².



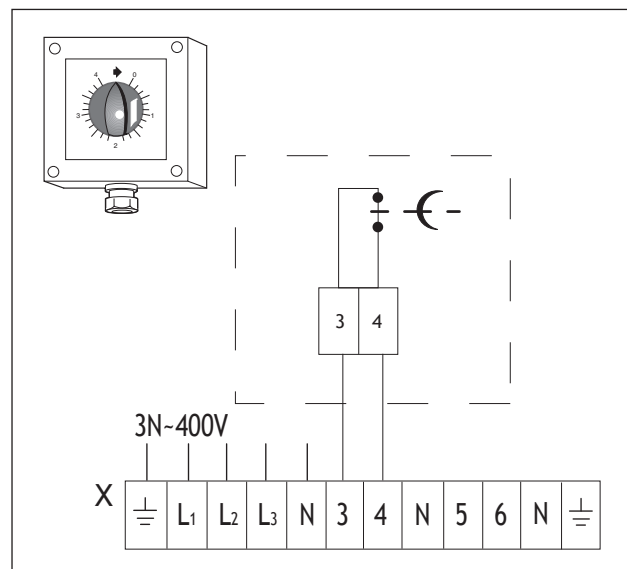
CAUTION!
Electrical connection of the dehumidifier and its peripheral equipment should be carried out by a qualified electrician according to national installation regulations.



Timer with mechanical upward adjustment (accessory)

Install the timer in a suitable place in the drying room and wire it as follows:

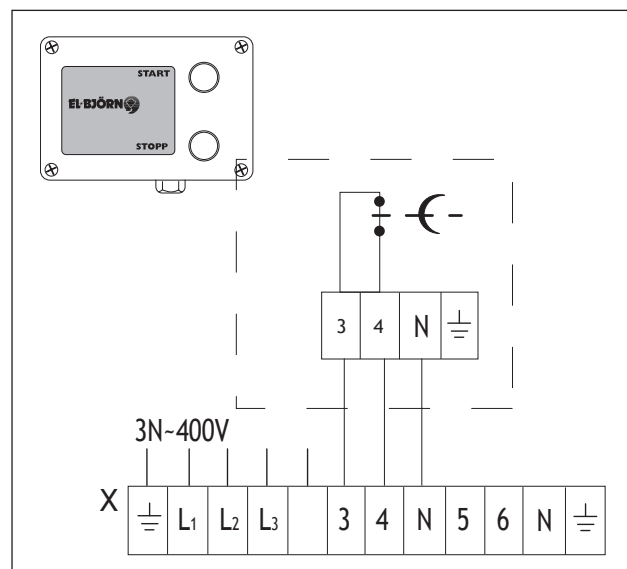
- Use cable with min. area of 0.75 mm².
- Connect outlets 1 and 3 in the timer to outlets 3 and 4 on the terminal block (X) in the dehumidifier.



Timer with preset time (accessory)

Install the timer in a suitable place in the drying room and wire it as follows:

- Use cable with min. area of 0.75 mm².
- Connect the timer's outlets to the corresponding outlets on the terminal block (X) in the dehumidifier.



DRYING

Important



CAUTION!
The dehumidifier's air intake and air outlet must never be covered during operation. It is strictly forbidden to remove the protective hoods or cover plates during operation.

Timer

The dehumidifier is equipped with one of the following timers:

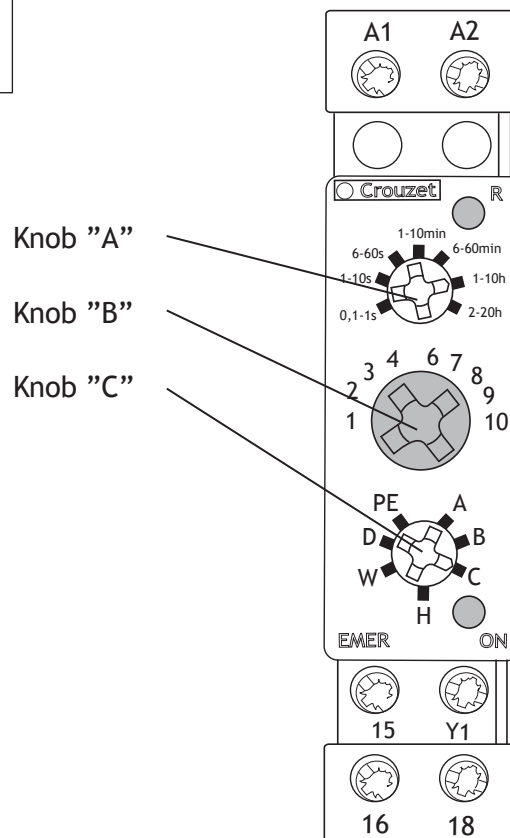
- Mechanical upward adjustment.
- Preset time.

If the dehumidifier has a timer with preset time, set the desired time as follows:

1. Break the current to the drying room dehumidifier with the circuit breaker.
2. Open the timer's lid and set the cycle time (factory set to 2.5 hrs) using knob B, which is calibrated in hours.

Adjust the cycle time on the time relay as follows:

1. Knob A to the position "1-10 h" (1-10 hours).
2. Knob B to the position "2.5" (2.5 hours recommended).
3. Knob C to position "C".
4. Replace the lid and connect the dehumidifier to the power using the circuit breaker.



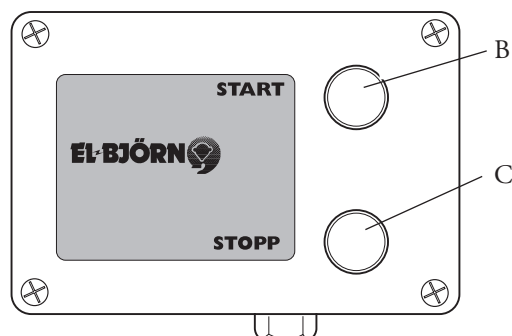
Start

Timer with preset time

Press the start button (B) and the dehumidifier will run for the set cycle time.

If the start button is pressed during operation, the cycle time will restart from zero.

The dehumidifier can be stopped by pressing the stop button (C).



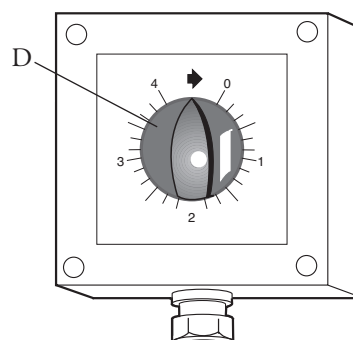
Start

Timer with mechanical upward adjustment

Turn the timer knob (D) to the desired start time.

NOTE:

Never turn the timer knob backwards without first turning it all the way forwards.



DRYING

General advice on drying

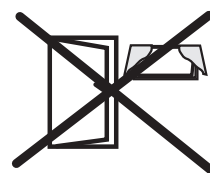
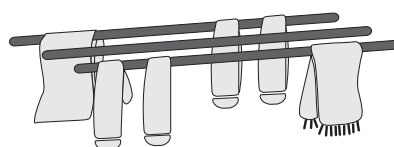
OBSERVERA!

- Spin washing for at least 5 minutes before hanging it to dry. The higher the spinning speed, the shorter the drying time. Avoid slow spinning if you have limited time for using the drying room dehumidifier.
- Distribute the washing evenly when hanging it in the drying room.
- Keep doors and windows closed to prevent damp air from entering the room.

5 min



SPIN



Dehumidifiers without a pipe system can have a pipe system added later. A pipe system offers the following drying advantages:

- The wide diameter of the tubes prevents creases from forming on the laundry while drying.
- The dry air is blown underneath the drying pipes. The air is distributed evenly through the laundry, including the parts that are hard to reach, drying the laundry from the inside out.
- Faster, cheaper drying.
- The drying pipes are stable and fixed into place. No drying room lines that hang down or risk breaking

Once assembled, the pipe system can be supplemented with a separate suspended clothes drying rack. The drying rack can be used for drying small garments such as underwear, gloves and socks.

MAINTENANCE



CAUTION!

The power supply to the machine must be cut off before performing maintenance on the dehumidifier. To do this, break the current with the circuit breaker.

All maintenance of the electrical system must be carried out by an authorised electrician.

All maintenance of the refrigeration system should be carried out by an authorised refrigeration technician.

Every 6 months

Check every 6 months that the dehumidifier is clean inside.



CAUTION!

Use gloves when performing work on the condenser and evaporator. The sharp fins can cause cutting injuries.

Perform the following operations as necessary:

- Replace the filter cassette. 1-2 times per year.
- Wash the fins of the evaporator (AEV) with dishwashing liquid and water as necessary.

Once a year

Check the following points once a year. The points must be checked by an authorised staff member.

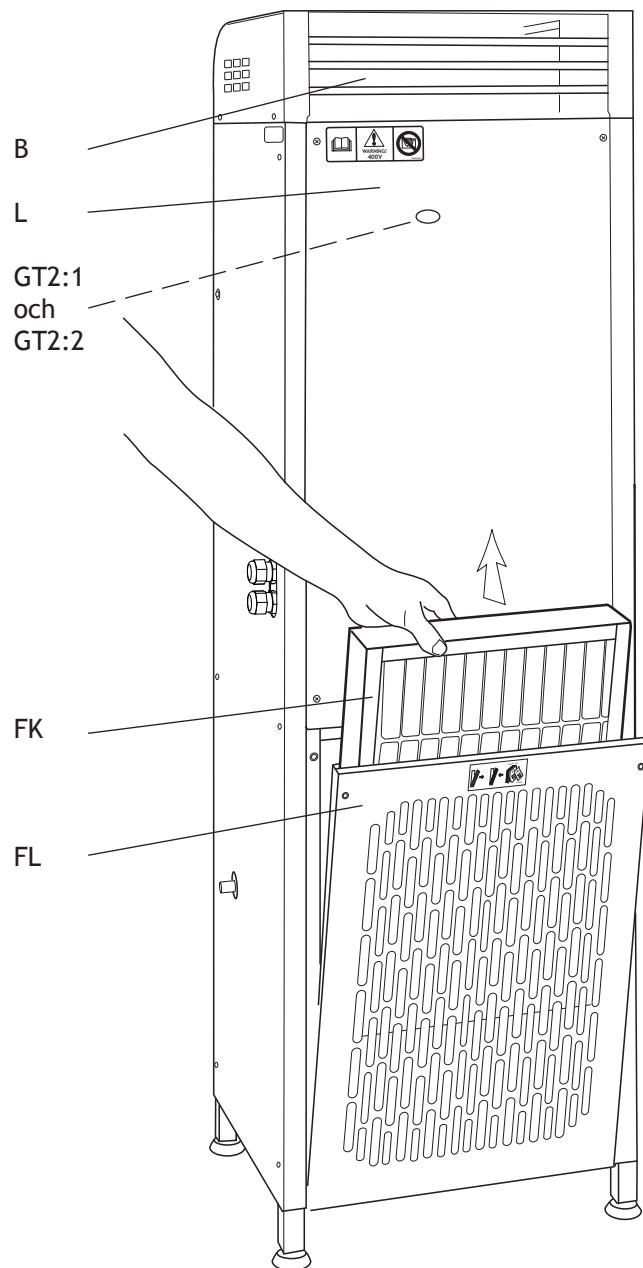
- Clean the evaporator.
- Clean the drip pan and outlet.
- Check the bearings in the fan motor.
- Check all couplings.
- Check the refrigeration system, check for leaks.
- Check the electrical system.

MAINTENANCE

Overheating protector (GT2:1, GT2:2)

If the heating coil stops working, this may be because the overheating protector (GT2:1 or GT2:2) has been activated. GT2:1 and GT2:2 are positioned inside the hatch (L), and are reset as follows:

1. Break the current with the dehumidifier's circuit breaker.
2. Find out what triggered the overheating protector and correct the fault. Possible causes are electrical faults or poor air circulation.
3. Unscrew the dehumidifier's top hood (B) and hatch (L). Reset the overheating protector(s) by pressing the relevant button(s).
4. Attach the hatch and the hood and switch on the power.



Replacing the filter

1. Undo the upper screws on the filter hatch (FL). Pull the filter hatch outwards.
2. Pull out the filter cassette (FK). Insert a clean filter cassette. The arrow on the filter cassette should point in towards the machine.
3. Push the filter hatch inwards and tighten the screws.

Repair

If extensive repair is necessary, contact your dealer. Always contact the supplier if repairs are needed during the warranty period.

SPARE PARTS/ACCESSORIES

When ordering accessories, always specify the following information:

- Type
- Serial number

This information is displayed on the dehumidifier's type plate.

Pos indicates the position of the part in the figures.

Page indicates the page where the relevant figure is shown.

Quantity specifies how many units of each part the humidifier contains

Pos	Page	Designation	Quantity	Item No.
3	7	Drying pipe, L=2500 mm	12	KL603115
3	7	Drying pipe, L=3000 mm	10	KL603106
4	7	Base pipe, L=1250 mm	1	KL603112
4	7	Base pipe, L=2000 mm	1	KL603100
4	7	Base pipe, L=2500 mm	1	KL603109
8	6	Anti-tip device	2	KL503210
9	6	Clamb connection	1	KL602070
10	6	Adjustable foot	4	KL503251
12	6	Type plate	1	SE9003-TR
15	6	Sticker "Do not cover"	1	KL604204
	6	Cable gland M25	2	1477684
	6	Nut for cable gland M25	2	1477633
	6	Cable gland M16	1	1477682
	6	Nut for cable gland M16	1	1477631
AEV	6, 7	Evaporator	1	KL400150
QF1	7, 8, 9	Thermal overload relay	1	3236515
E	7, 9	Heater, 1330 W	3	KL305040
FT	7	Dryer filter	1	KL401211
GT1	6, 9	Thermostat	1	KL304125
GT2: 1,2	9	Overheating protector	2	KL304236
GT3	6, 9	Overheating protector	1	KL304235
LP	6, 9	Low pressure control	1	1416580
K1-K3	6, 9	Contactors	3	3230604
KD	7	Condenser	1	KL400152
M1	7, 9	Radial fan	1	KL300303
		Capacitor 7 uF (for radial fan)	1	KL300302
		Capacitor 30 uF (for radial fan)	1	KL503252
M2	6, 9	Compressor	1	KL410110
SD	7, 8	Throttle, 1000 mm	2	KL405001
A	7, 8	Accumulator	1	KL401010
X1	6, 9	Terminal block, 2x2,4/6 mm white/grey	8	2930399
X1	6, 9	Terminal block, 2x2,4/6 mm blue	3	2930401
X1	6, 9	Terminal block, 2x2,4/6 mm yellow/green	2	2930402
Accessory				
14	6	Filter cassette 2 -pack	-	E8745030
14	6	Filter cassette 6 -pack	-	E8745031
16	6	Hanger for pipe assembly, laundry hanger	-	E8745058
S1	6,13	Timer with mechanical upward adjustment 0-4 hrs	-	E8745050
S1	6, 13	Timer, electronic A 150 F/R	-	E8745051
S1	-	Timer, electronic incl. hygrometer	-	E8745053
-	-	Transformer, 400/230V 300VA	-	KL303005
-	12	1 Circulation fan CF400V drying room	-	E8745055
-	12	1 Circulation fan CF230V drying room	-	E8745056
-		Pipe system 2.5x2.5 M	-	E8745040
-		Pipe system 2.5x3.0 M	-	E8745041
-		Pipe system 2.0x3.0 M	-	E8745042

This image shows a full page of primary-ruled paper. It features approximately 20 horizontal dotted lines spaced evenly down the page, providing a guide for handwriting practice. The paper is otherwise blank, with no margins, text, or other markings.

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