AMW

AIRMASTER
DEHUMIDIFIERS

cdh industries nv

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INSTALLATION MANUAL

The dehumidifier
has been designed and produced
to give many years of faultless operation,
but like every mechanical system
a correct installation and
regular maintenance are vital.

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Contents

COMPOSITION

HOUSING

Zinc plates painted in epoxy RAL 7011.
Internal plates in epoxy painted zinc plates and galvanized plates.
The panels are secured with self-tapping screws and sanitary washers.
The maintenance panel – behind which the air filter is installed – should always remain accessible.
Sound-absorbing and flame extinguishing 20 mm insulation (DIN EN 13 501-1)..

IDENTIFICATION LABEL

Each unit bears a self-adhesive identification label on the back.
This label mentions besides the type of unit, its serial number and technical data.

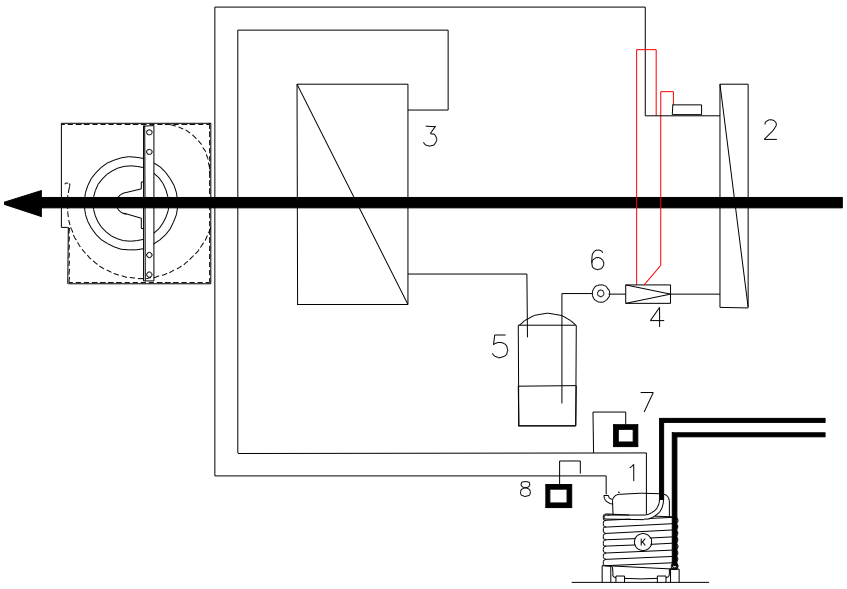
NEVER REMOVE THE IDENTIFICATION LABEL: THE GUARANTEE WILL EXPIRE.

COOLING CIRCUIT

- Hermetically sealed compressor with R454C, vibration-free fitted and cooled with suction gas
- Evaporator and condenser with copper pipes (3/8") with pressed-on aluminium fins, coated with epoxy varnish
- ABS condensation tray
- Expansion valve with distribution head for several injections.
- Combi-dryer: combination of filter, dryer, liquid reservoir and sight-glass
- High and low pressure thermostat
- Electronic control with shut-off at LP, HP, TC and TF *

* LP = low pressure HP = high pressure TC = thermal contact compressor TF = thermal contact fan

The diagram below shows the composition of the cooling circuit and OPTIONAL swimming pool condenser (K), indicating the different components.



(1) Compressor
(2) Evaporator
(3) Condenser
(4) Expansion valve
(5) Combi dryer
(6) Sight-glass
(7) HP pressure gauge
(8) LP pressure gauge
(K) Swimming pool condenser

SAFETY PRECAUTIONS R454C – A2L

WARNING: LOW FLAMMABLE. THE REFRIGERANT IN THIS UNIT IS LOW FLAMMABLE
WARNING: DO NOT DRILL OR BURN ANY REFRIGERANT CYCLE PARTS.
WARNING: REMEMBER THAT THE REFRIGERANT IN THESE UNITS ARE ODORLESS.

PRACTICAL LIMIT

Any gas in a room will displace oxygen, this also applies to refrigerants. The degree to which the oxygen is expelled varies per gas. The practical limit indicates how many kg of refrigerant there are per m^3 departure contents may be present. The practical limit of a refrigerant represents less than half of the concentration of a refrigerant in a room which can lead to asphyxiation due to the displacement of oxygen.

Below is an overview of the practical limit of R454C:

Refrigerant	GWP	Safety Class	Practical Limit
R454C	148	A2L	0,059 kg/m^3

When determining the practical limit, it must be assumed that the entire refrigerant content of the system will enter the room in question if, for example, a leak occurs in that room.

If the practical limit cannot be met, additional measures must be taken, such as refrigerant detection, to comply with the standard.

To clarify this, the maximum system filling is determined in the overview below, for example a smaller pool area of 36 m^2 with a height of 2.7 m. Refrigerant Maximum refrigerant charge for a room of 36m^2 (97.2m^3)
R454C = 5.73kg

Coolant content of appliances (without swimming pool condenser option):

Unit	AMW65	AMW92M/AMW100	AMW142M/AMW140
Coolant Content(kg)	1,9	2,1	2,4

IF THE MAXIMUM REFRIGERANT CONTENT IS EXCEEDED, THE CONTRACTOR MUST ADD ADDITIONAL COUNTERMEASURES AS DESCRIBED IN THE APPLICABLE LEGISLATION

FANS

One or two directly driven fan(s) mounted on one deck with plastic impeller and housing and backward curved blades.

Type of unit	Fan	Number	Air flow rate	Current
65	D3G146AK0511	1	650 m³/h	0,44 A
92M-100		2	940 m³/h	2 x 0,44 A
140-142M		3	1400 m³/h	3 x 0,44 A

FILTERS

One curved dust filter in the suction-side.

COMPOSITION

Synthetic fibres stiffed with supporting wire gauze, in a galvanized frame.
Class EU2
Gravimetric efficiency > 65 < 80 %

FILTER DIMENSIONS PER TYPE

Type of unit	Filter dimensions
65-92M-100	295 x 695
140-142M	305 x 895

SWITCHBOARD CABINET

The switchboard cabinet is built inside the unit, when removing the housing on the left side panel (view from the back).
Completely pre-wired according CE standards.

WEIGHTS

Weights are net weights of basic units.
Weight of options – combined or not – are not added.

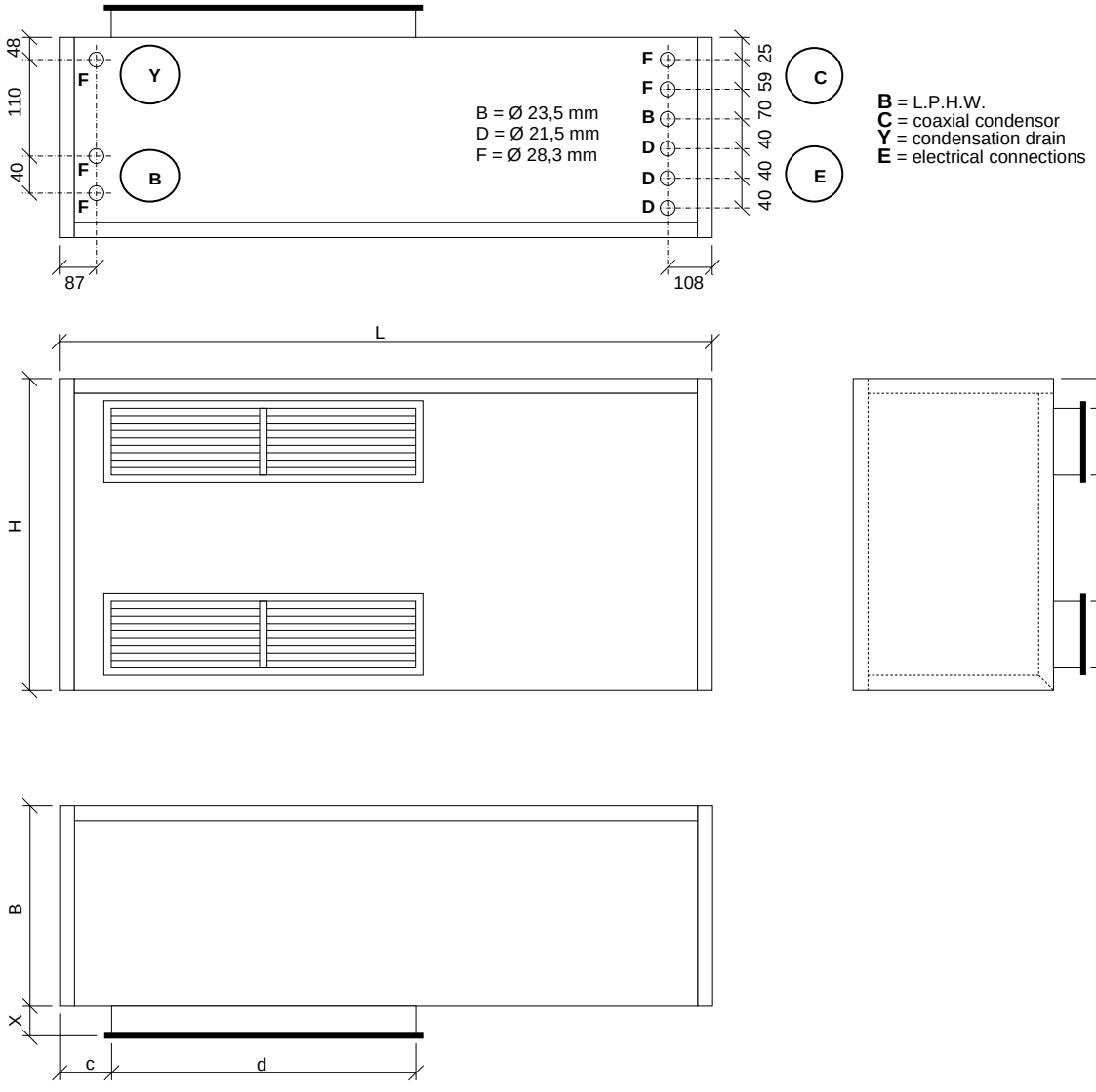
Type toestel	Gewicht in kg
65	104
92M-100	109
140-142M	134

DIMENSIONS

HORIZONTAL EXECUTION

Type of unit	L (mm)	D (mm)	H (mm)	c	d	X	B	C	Y
65-92M-100	1325	341	651	135	705	VAR	∅ ½"	∅ ½"	∅ 22
140-142M	1530	341	651	135	905	VAR	∅ ½"	∅ ½"	∅ 22

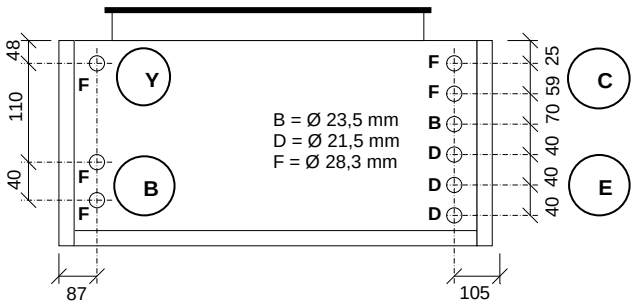
X = WALL DUCTS = VAR(iable): adaptable
(standard 100 mm extendable to maximum 170 mm)
OPTION ☒ EXTENSION PIECES WALL DUCTS



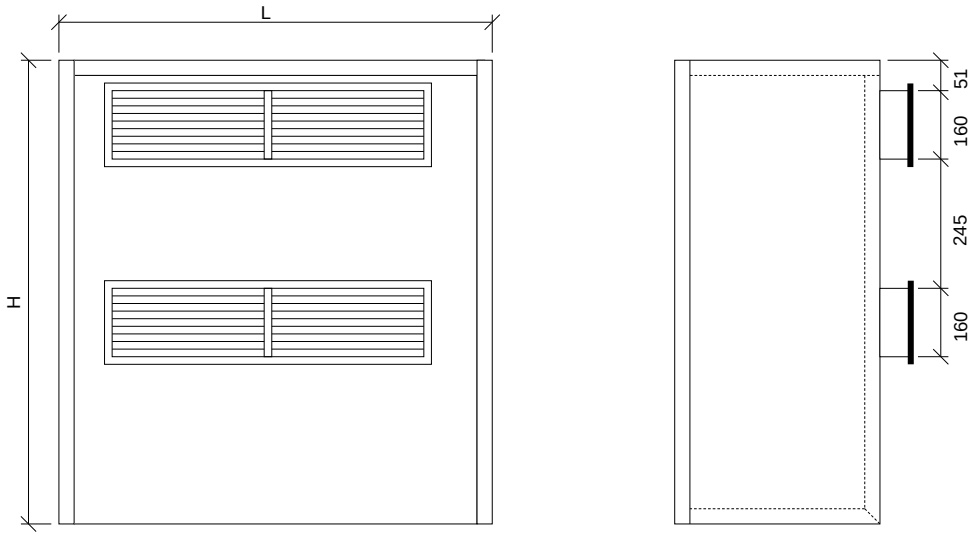
VERTICAL EXECUTION "V"

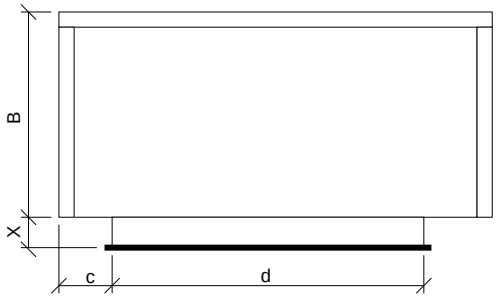
Type of unit	L (mm)	D (mm)	H (mm)	c	d	X	B	C	Y
65-92M-100 "V"	997	341	1071	135	705	VAR	∅ ½"	∅ ½"	∅ 22
140-142M "V"	1197	341	1071	135	905	VAR	∅ ½"	∅ ½"	∅ 22

X = WALL DUCTS = VAR(iable): adaptable
(standard 100mm extendable to maximum 170mm)
OPTION ✉ EXTENSION PIECES WALL DUCTS



B = L.P.H.W.
C = coaxial condensor
Y = condensation drain
E = electrical connections





OPTIONS & ACCESSORIES

OPTIONS

REPLACEMENT FILTER

Air filter to replace soiled or worn filter

EXTENSION PIECES WALL DUCTS

Available in two executions:

- Depth 250 upto 500 mm
- Depth 500 upto 1000 mm

WALL MOUNTING

L-Console for vibration-free mounting of the unit against the wall.

OUTDOOR EXECUTION

HOT WATER BATTERY

BUILT-IN THREE-WAY VALVE

ELECTRICAL HEATING

SWIMMING POOL CONDENSER

ACCESSORIES

HYGROSTAT

Wall mounted model
Control of the dehumidifier

HYGROSTAT CONNECTION TO SEVERAL UNITS

To be used when several AMT units are installed in the same room.

HYGROTHERMOSTAT

Wall mounted model
Control of dehumidifiers with heating

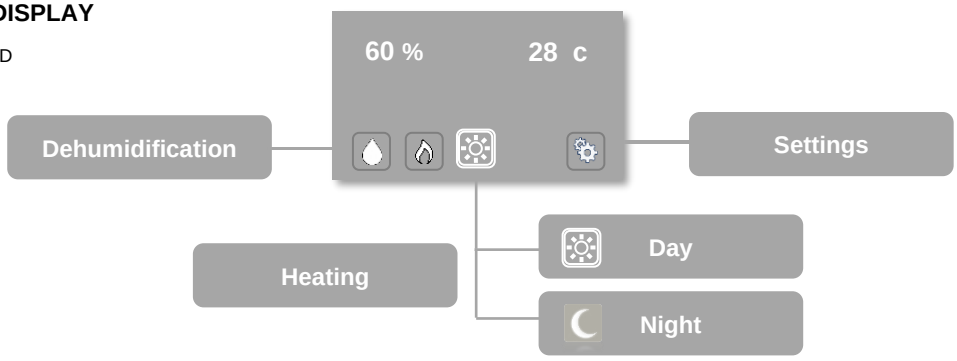
HYGROTHERMOSTAT CONNECTION TO SEVERAL UNITS

To be used when several AMT units with heating are installed in the same room

REMOTE DISPLAY

MOUNTED

BUILT-IN



REMOTE DISPLAY CONNECTION TO SEVERAL UNITS

To be used when several AMT units are installed in the same room

CONDENSATION PUMP

If the air dryer is placed lower than the sewage level.
Synthetic collector tank fitted with float and pump (2 l/min, 3 m lift)

TRANSPORT AND UNPACKING

GENERAL

The units are separately packed in a cardboard box, on one pallet tied with tape.
To prevent damage to the unit, it is recommended that the unit is transported to its final destination **IN** its packing.
When the unit is stored temporarily, it must be stored in a dry place until transport to its final destination

TRANSPORT

Smaller units can usually be moved by manpower and/or using a trolley.
To move larger units, a forklift should be used.
The units are always supplied on a pallet: please leave this in place until the final destination.

The units should always be transported the right way up. Although under some circumstances they have to be transported flat, e.g. to clear a narrow passage, they should never be placed flat for transport in trucks or for long term storage (> 12 hours).

If the units must be moved in another way, other precautions must be taken to prevent damage to the housing.

IGNORING THESE GUIDELINES CAN CAUSE DAMAGE

UPON RECEIPT OF THE UNIT,
ENSURE THAT NO TRANSPORT DAMAGE HAS OCCURRED.
THE CARRIER MUST BE INFORMED OF ANY DAMAGE IMMEDIATELY IN WRITING

UNPACKING

ALWAYS DETERMINE WHERE THE UNIT IS TO BE INSTALLED.
ENSURE THAT THE UNIT WILL LATER BE EASILY ACCESSIBLE FOR MAINTENANCE
(SEE WORKING SPACE).

When the equipment has reached its final destination, it can be removed from the pallet.
No specific instructions can be given here, as this action depends on the size of the unit and the room.

INSTALLATION DIRECTIONS

GENERAL

CEILING MOUNTING AND INSTALLATION OF THE FLOOR IS N O T P O S S I B L E

THE RED MARKED TRANSPORT SCREWS OF THE COMPRESSOR HAVE TO BE REMOVED ON INSTALLATION.

- Supporting material must be sufficiently strong
- To prevent resonance, make use of sound insulating material – see wall mounting.
- Fitting the unit to wooden walls is not recommended. This requires special precautions (anti-rumble materials).
- The units must always be levelled.

IGNORING THESE GUIDELINES CAN CAUSE NOISE AND DAMAGE

WORKING AREA

On installation of the unit, ensure there is sufficient space to allow practical and safe maintenance to the unit: back side of the unit. However, electrical and hydraulic connections have to be done through the side of the unit.

CONDENSATION DRAIN

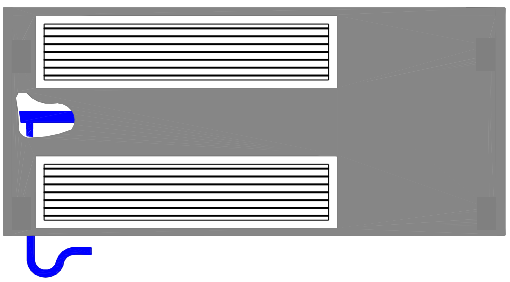
THE CONDENSATION DRAIN MUST BE POSITIONED FROST-FREE.

The condensation drain is connected via the bottom of the unit.

The condensation outlet is a 22 ∅ mm flexible hose which must be connected to a PVC outlet pipe ∅32 mm, ideally fitted with an odour trap (siphon). To prevent water splashing into the unit and any undesirable odours, the connection must be made airtight to prevent the intake of air via the outlet.

THE OUTLET SHOULD BE LAID RUNNING DOWNWARD TO THE DRAIN

If the unit is placed below the drain level, the condensation pump may be used with a collector tank and float to evacuate the water: flow 2 l/min and 3 m lift.



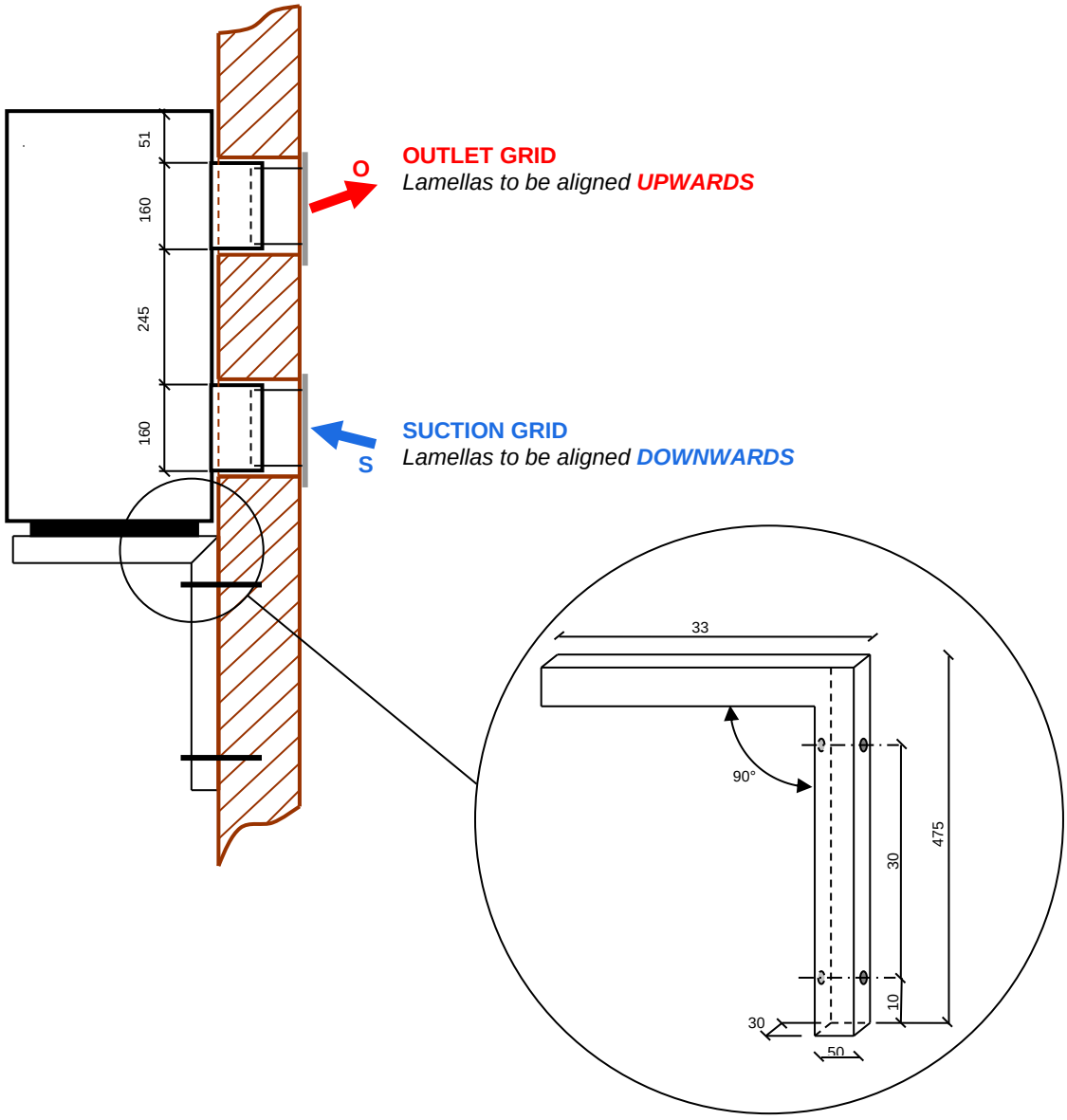
WALL MOUNTING

It is always recommended to install the unit vibration-free with the optional **L-CONSOLE.**
Vibration isolation is always provided factory-wise.

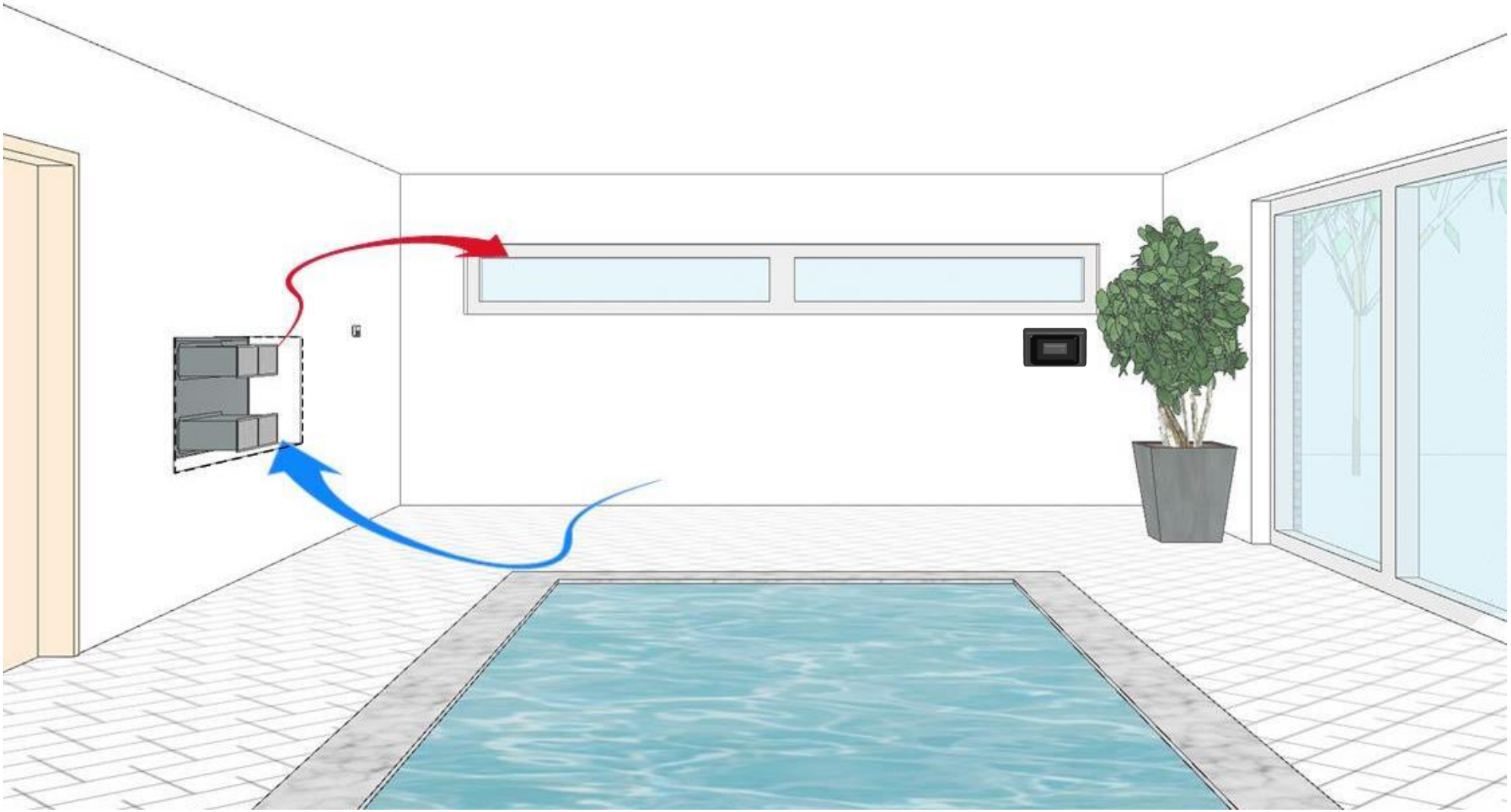
Always ensure that the wail-ducts through the wall are isolated with vibration-free material, in a way that there is no transmitting of vibrations between the wall and the unit.

SUCTION GRATE MINIMUM 0,5 M AND MAXIMUM 1 M FROM THE FLOOR.

Position of grate lamellas to be set as follows:



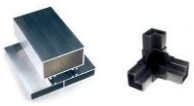
INSTALLATION EXAMPLE



OUTDOOR EXECUTION

FRAMEWORK

Rectangular thermal profiles for preventing condensation by cold bridges.



PANELS

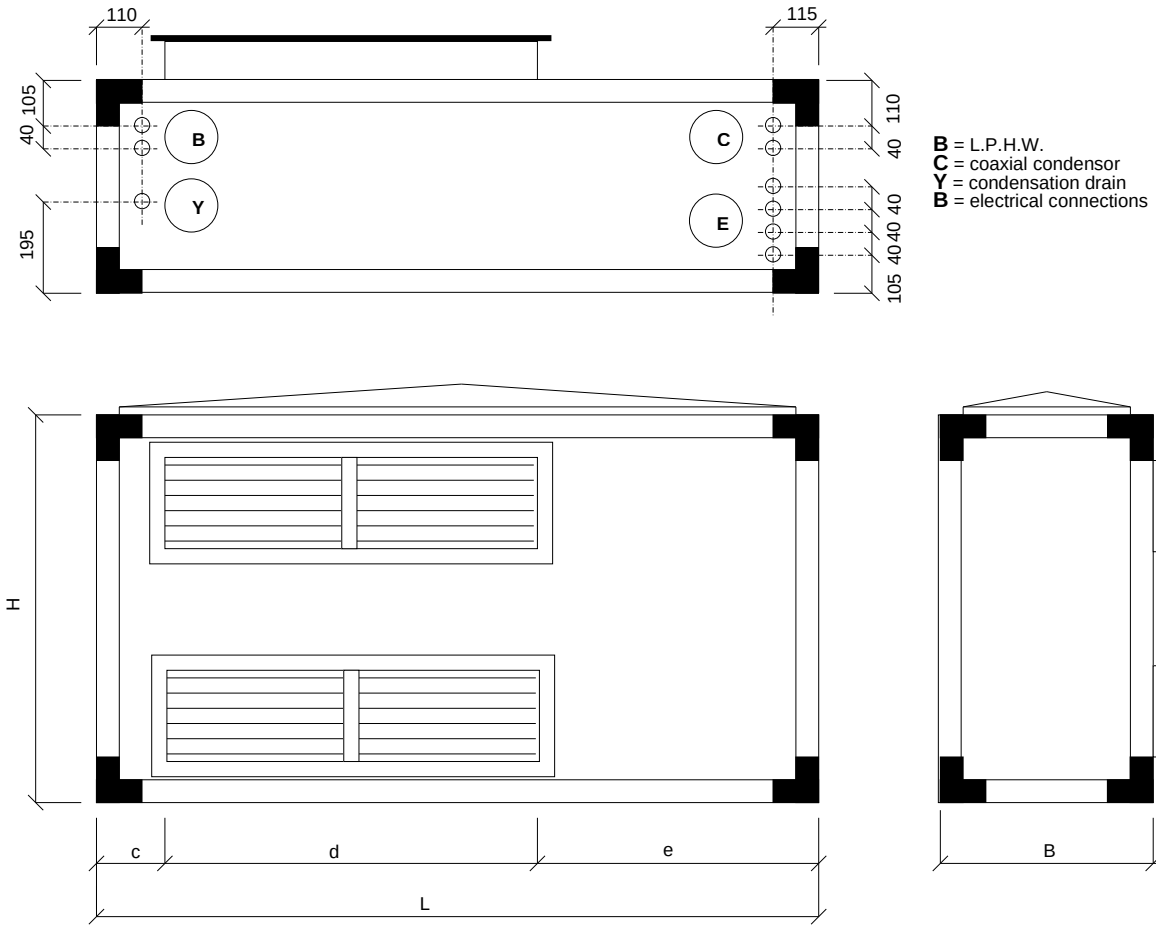
The outer panels are double insulated: flame extinguishing and sound absorbent 40mm thick insulation.
Fastening with inox parker screws, covered with a plastic cap.
The roof panels are extra heightened and chamfered and insulated with flame extinguishing and sound absorbent 60 mm thick insulation (DIN EN 13 501-1).

EXCEPT THE MAINTENANCE PANEL, ALL JOINTS HAVE TO BE SEALED WITH SILICONES - PROVIDED TOGETHER WITH THE UNIT – BY THE INSTALLER AFTER INSTALLATION, IN ORDER TO AVOID ANY WATER INFILTRATION

DIMENSIONS

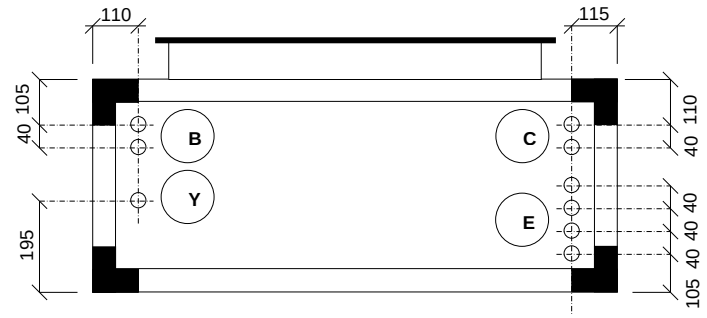
HORIZONTAL EXECUTION

Type of unit	L (mm)	B (mm)	H (mm)	c	d	e	X	B	C	Y
65-92M-100	1400	450	775	175	700	525	VAR	∅ ½"	∅ ½"	∅ 22
140-142M	1600	450	775	175	900	525	VAR	∅ ½"	∅ ½"	∅ 22

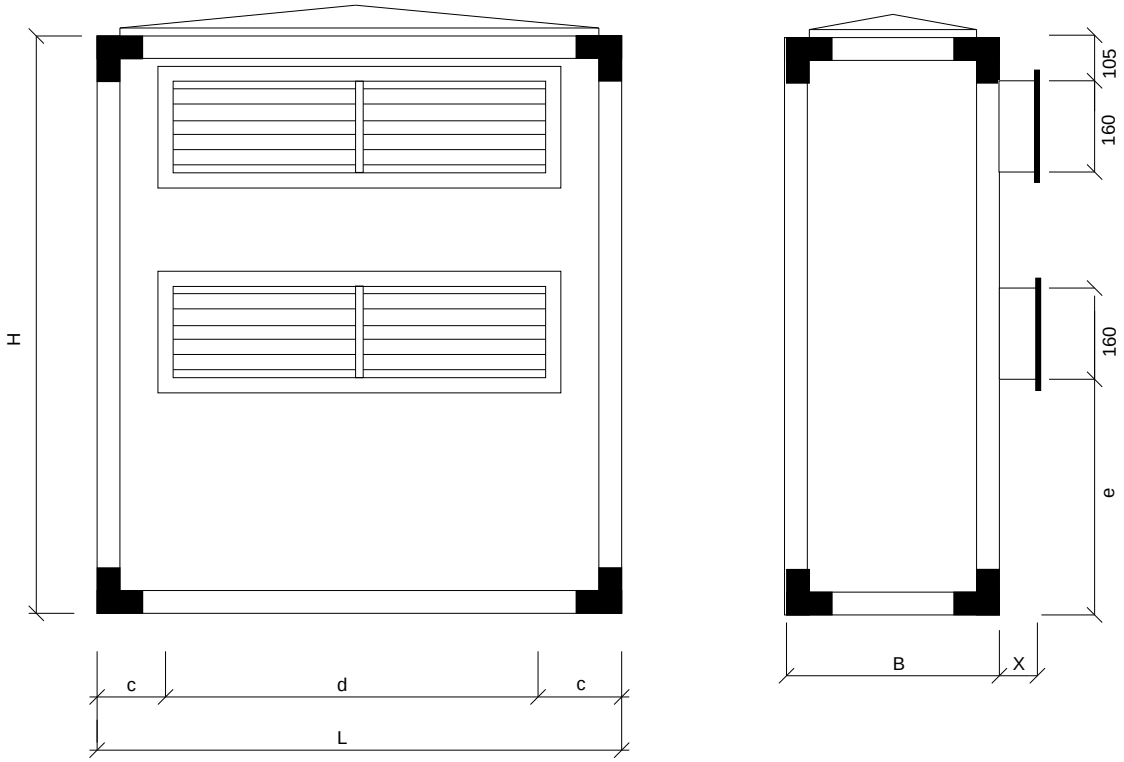


VERTICAL EXECUTION "V"

Type of unit	L (mm)	B (mm)	H (mm)	d	e	X	B	C	Y
65-92M-100 "V"	1060	450	1170	700	535	VAR	∅ ½"	∅ ½"	∅ 22
140-142M "V"	1260	450	1170	900	535	VAR	∅ ½"	∅ ½"	∅ 22



B = L.P.H.W.
C = coaxial condensor
Y = condensation drain
E = electrical connections



ATTENTION
AMW 100 AND 140 UNITS ARE EQUIPPED WITH A CARTER HEATING
UNIT MUST BE LIVE 24 HOURS BEFORE STARTING UP

HOT WATER BATTERY

GENERAL

Type of unit		65	²92M-100	140-142M
Nominal output *	kW	7	9	13
Nominal flow	l/h	277	356	517
Pressure loss	kPa	1,68	2,64	5,94

* At 80°C WT° and 20°C AT°

Used to keep the ambient area to temperature or bring this to temperature depending on capacity.

The hot-water battery (LPHW) is fitted on the outlet side of the unit.
The connection of the LPHW is on the left side of the unit.
The LPHW must be connected to the CH boiler by a registered installer. The unit is not fitted with a circulating pump. This must be fitted by the CH fitter and adapted to the capacity of the LPHW. The incorporated control can be used to control the circulating pump and/or the CH boiler.

The unit can be OPTIONALLY equipped with a:

BUILT-IN THREE WAY VALVE
To prevent hot water flowing through when the swimming pool area is on temperature.
ADVANTAGE: on heat demand, the three-way valve opens and water flows directly through the LPHW, immediately providing heat.

HYDRAULIC CONNECTIONS

Fitted with ½" nipple connection to the LPHW.
The optional three-way valve is ¾ " external.

On the LPHW, the IN and OUT are marked **LPHW IN** and **LPHW OUT**

CONTROL

ELECTRICAL CONNECTIONS/ SEE DIAGRAM

The LPHW is controlled independently of the central heating via the built-in 24V = control. When the dehumidifier functions, the fan also transfers air over the LPHW.

The hygrothermostat (HYTH) or remote display commands the unit control to provide heat. The fan and circulation pump are controlled by the PCB. A non-return valve should be fitted in the hydraulic circuit.

ELECTRICAL HEATING

GENERAL

	Type of unit	65	92M-100	140-142M
Output	kW	3	3 - 6	6

Used to keep the ambient area to temperature or bring this to temperature, depending on capacity of the heating resistors.
Composed of reinforced resistors of 1, 1,5 or 2 kW RUS321 with ribs of galvanised steel.
Including one-stage control, with run-on delay on the fan and excess temperature protection.

SUPPLY

WE RECOMMEND ALWAYS PROVIDING A SEPARATE SUPPLY FOR THE ELECTRICAL HEATING.

		3 kW	3 kW	6 kW	6 kW
Control stages		1			
Voltage	V	230	3 x 400+N	230	3 x 400+N
Nominal	A/ph	13	4,33	26	8,8
		To be provided			
Automatic fuse	A	2P 20A	4P 20A	2P 40A	4P 20A

CONTROL

ELECTRICAL CONNECTIONS/ SEE DIAGRAM

The hygrothermostat or remote display orders the unit control to heat: the fan and the one-stage control engage.

PROTECTION THERMOSTAT

The resistors are always fitted with a safety thermostat which disconnects the resistors when the air temperature exceeds 110°C. The resistors can only be reconnected when the temperature has dropped and the unit has been reset.

P C B

REMOTE DISPLAY

E032
Thermal contact electrical heating

SWIMMING POOL CONDENSER

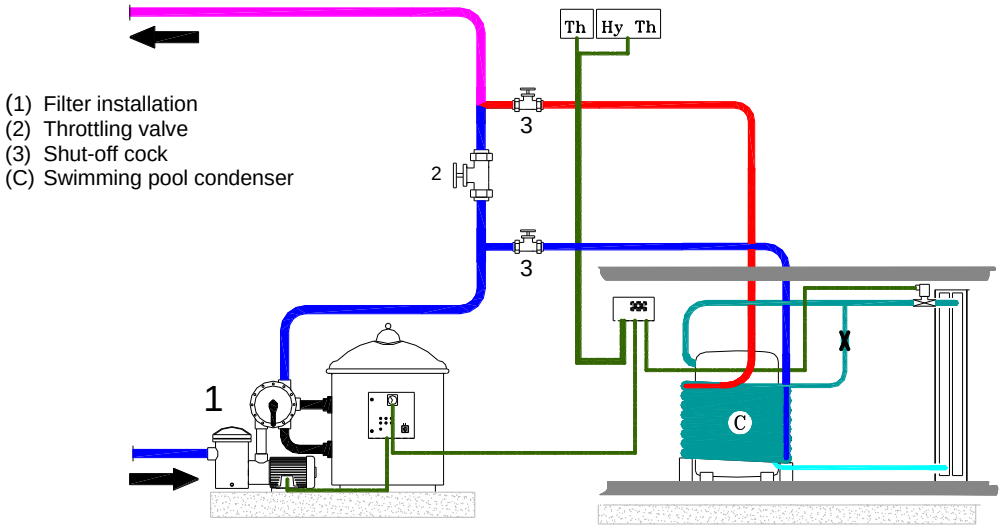
GENERAL

Makes sure that the unit will keep working at a higher ambient temperature than the standard value – see technical specifications – and discharges the surplus heat to the swimming pool water.
At excess temperature (> 32°C) the unit control (PCB) orders to give off the excess heat to the pool water. The temperature of the blown out air is equal to that of the sucked in air

HYDRAULIC CONNECTION

Via a bypass or a separate pump to the return circuit line from the filter installation.

CONNECTION OF THE POOL CONDENSER HAS TO BE EXECUTED
B E F O R E
CONNECTION TO THE WATER TREATMENT INSTALLATION.



IN and **OUT** are marked **COAX IN** and **COAX OUT**.
The throttling valve must be turned such that the temperature difference between **IN** and **OUT** is ± 8°C.
We recommend using a heat- and pressure-resistant line for the first 3 m (eg: PEX).

Type of unit		65	100-102M	140-142M
Capacity	kW	3,62	4,66	6,63
Air flow	L/h	400	550	660
Pressure loss	kPa	5	15	21
Diameter	Ø	20	20	20
*Connection **IN/OUT***		*1/2" F*	*½" F*	*½" F*

CONTROL

ELECTRICAL CONNECTIONS/ SEE DIAGRAM

At excess temperature (> 32°C) the unit control (PCB) orders to give off the excess heat to the pool water

ELECTRICAL DATA AND SUPPLIES

POWER SUPPLY

GENERAL

All units are equipped with an electric switchboard cabinet with control circuit board, compressor relay and connection terminals. External control equipment should be ordered and installed separately.
All controls are 24VDC and thus of the ultra-low safety voltage type.
The units are fully pre-wired and constructed to CE standard.

CIRCUIT BREAKERS

A multi-pole circuit breaker with at least 3 mm contact opening is to be placed on the supply.
This must be adapted to the maximum current strength of the unit..

Type of unit		65	92M	100	140	142M
Voltage	V	230	230	3x400+N	3x400+N	230
Nominal	A	5	5,98	3,3	4,1	8,5
		To be foreseen				
Fuses *	A	2P 20A	2P 20A	4P 20A	4P 20A	2P 20A

***** Always use slow fuses. Three-phase fuses must always be a four pole automatic type.

SWITCHBOARD CABINET

GENERAL

The switchboard cabinet is built-in the unit and located on removal of the housing against the large support (view from the right). Cables must always be lead in the back or via the feet via the cable inlets.
Ensure that the cables form a loop before they enter the switchboard cabinet so that the lowest point of the cable sits below the cable openings of the switchboard cabinet.

**NEVER RUN THE CABLES THROUGH THE TOP OF THE SWITCH CABINET:
DATA PRIVACY IP24 WILL THUS BE CANCELLED.**

CONNECTION DIAGRAM

Each installation manual and each switchboard cabinet contains a specific connection diagram for the supply and a connection diagram for options and controls

- Diagrams are drawn in quiescent condition
- All PCB are equipped with a fast glass fuse of 6,3 A for transformer supply and 230V exits

CONNECTION TERMINALS

The supply must be connected to the connection terminals as given on the diagram supplied.

**NEVER CONNECT 230VAC TO THE LOW VOLTAGE BOARD TERMINALS.
THIS WILL INEVITABLY LEAD TO A FAULT IN THE ELECTRONIC CONTROL**

**CONNECTIONS MUST BE MADE ACCORDING TO THE RULES OF THE ART,
IN ACCORDANCE WITH THE CE STANDARDS AND EXECUTED BY A REGISTERED INSTALLER
THEY ARE THEREFORE NEVER OUR RESPONSIBILITY.**

COMPONENTS

All components used – except the PCB (CDH product) - are standard electrical components.
They can be replaced easily thanks to their mounting on DIN rails.
Equivalent types must replace the relays used.

REGULATORS

HYGROSTAT AND HYGROTHERMOSTAT

- 120 cm above the floor
- Preferably in a dead corner and against a smooth wall, in such a way that they are not affected by:
  - Nor the air blown out of the units (i.e. not immediately next to or opposite the outlet)
  - Nor by draughts or other hot or cold air displacements.
- As far as possible from the unit in other cases.
- Always check if wall ducts and tubes behind thermostats and hygrostats are properly sealed: the here out following draught can affect the operation of the units.

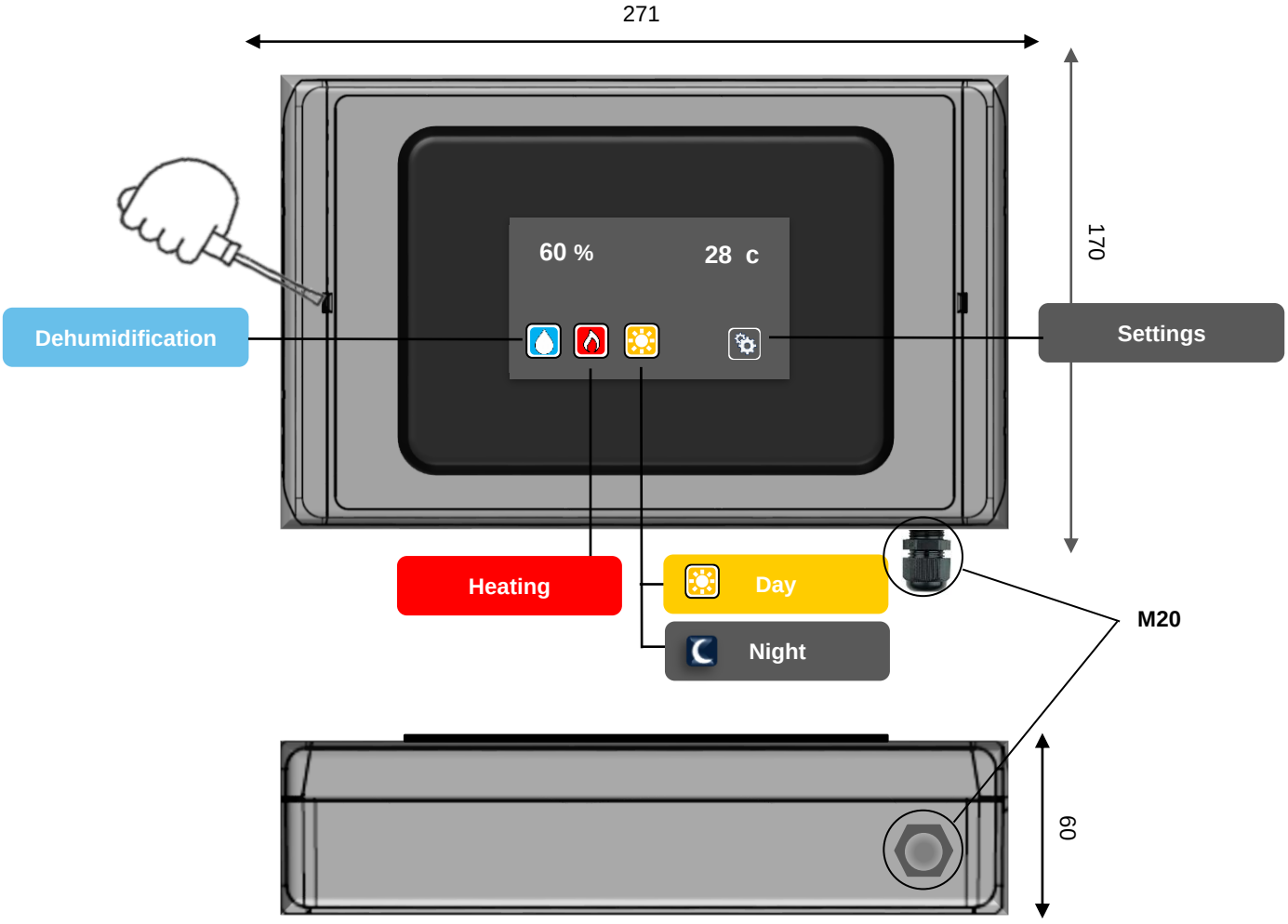
DISREGARDING THESE DIRECTIONS CAN LEAD TO BAD OPERATION

REMOTE DISPLAY

SETTING OF RH% AND T° VIA DISPLAY
READOUT OF ERROR MESSAGES

MOUNTED

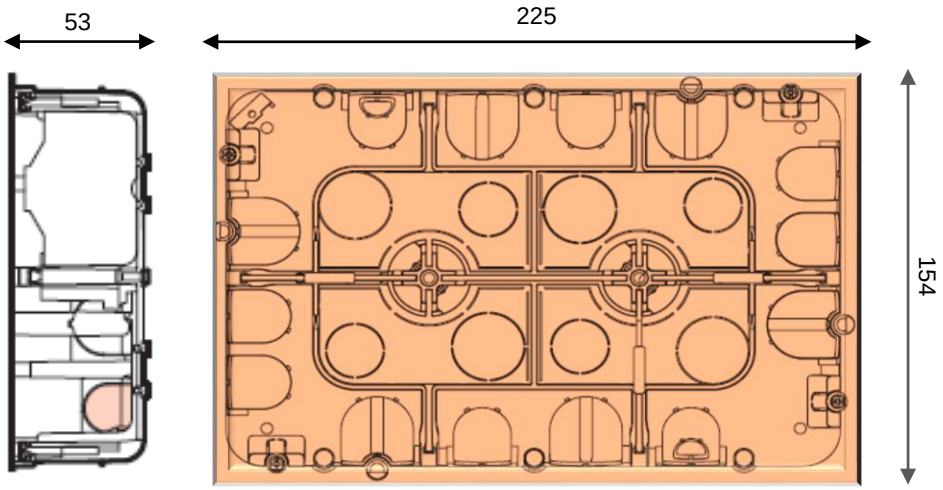
- To be foreseen in a corridor, technical room, closet …
- Granite-grey RAL 7024 ABS-housing
- 5 m UTP Cable Cat 5 - standard co-supplied – to be lead through the M20 swivel
- RJ45 pin to be plugged into respectively display input and RS485 output PCB



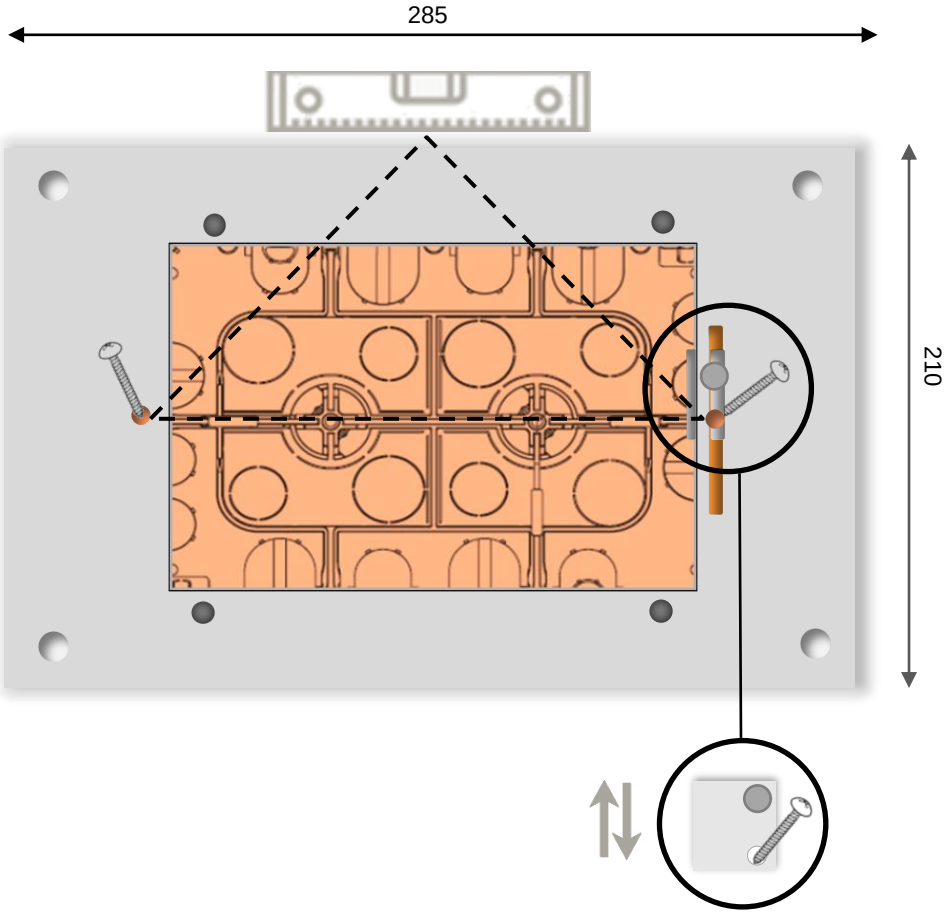
BUILT-IN

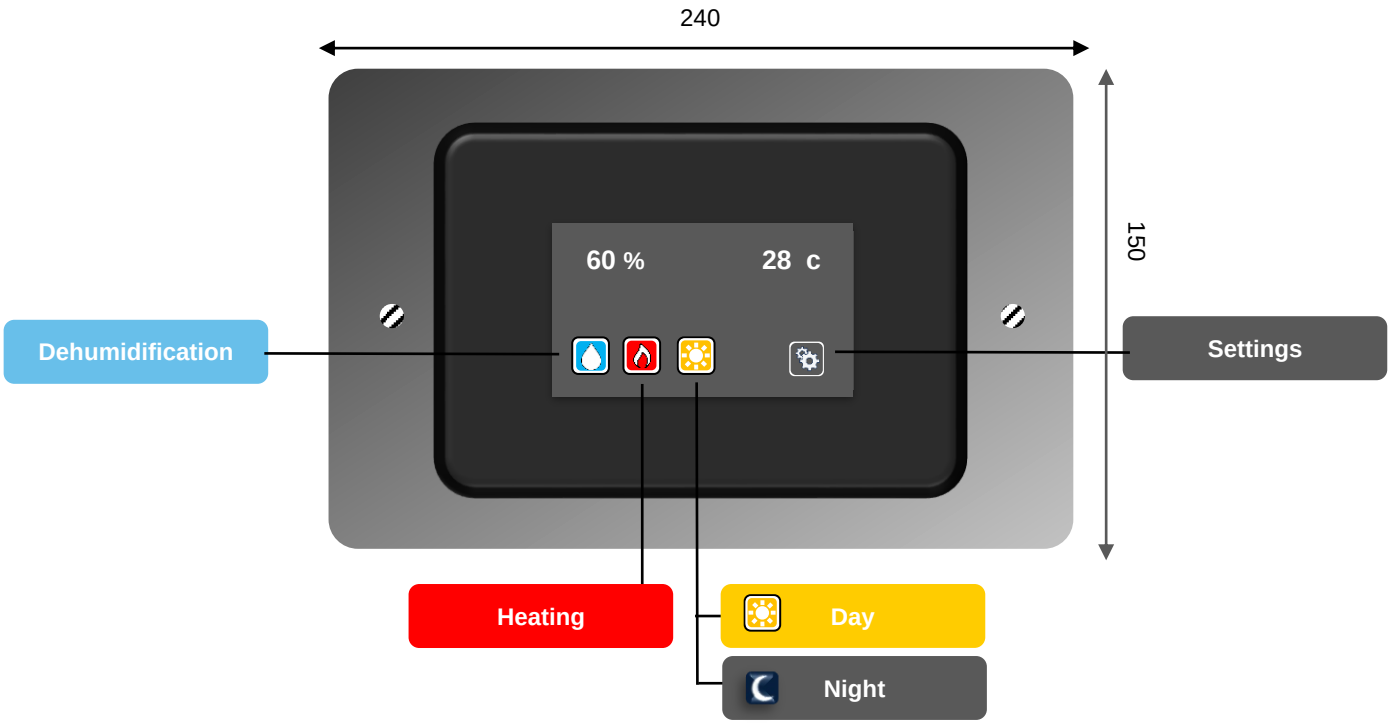
- To be foreseen in a corridor, swimming pool area…
- Orange installation box with pre-mounted galvanized frame – to be plastered whilst finishing.
- UTP Cable - minimum Cat 5 - with RJ45 pins to be lead through – NOT co-supplied
- Connect the RJ45 pins on the UTP Cable: pins to be plugged into respectively display input and RS485 output PCB
- Bolt the frame with the 2 co-supplied stainless steel M4 30 mm socket screws.

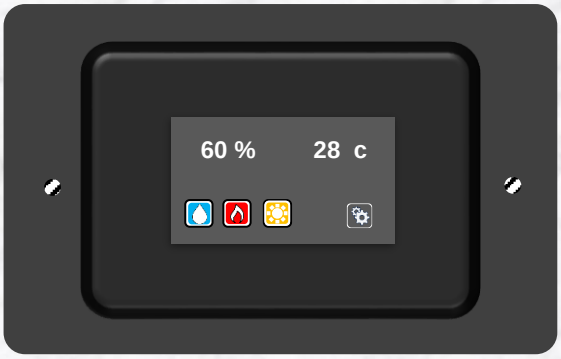
DIMENSIONS INSTALLATION BOX



FITTING WITH GALVANISED FRAME




240
150
60 %
28 c
Dehumidification
Settings
Heating
Day
Night


60 %
28 c

MAINTENANCE AND SAFETY REGULATIONS

MAINTENANCE

FILTERS

All types are equipped with air filters. On start up a lot of building dust can be drawn in, so it is recommended that after a few weeks from starting up a new installation, the filters be checked and cleaned if necessary.
After a time, the period between two checks can be extended but it is still recommended to check the filters at least twice a year and replace them once a year.

ALWAYS DISCONNECT THE UNIT BEFORE REPLACING THE FILTER

The filter is accessible by removing the back.
Unscrew the 6 screws of the back panel: the back panel can now be removed.

Lift the filter and remove it.
Replace the cleaned or new filter in its position and screw the back panel down.

HOUSING

The housing can be cleaned regularly with a detergent without aggressive agents.

SAFETY REGULATIONS

FROST

The unit must be protected against frost. When current less, the LPHW can freeze.

AIR FLOW

AMW units cannot be equipped with ducts: the fan can never absorb the pressure loss in the ducts.

INTAKE AND OUTLET

The intake and outlet grids should always be clear. Blocked grids can lead to a reduction in air flow which causes the unit to switch into safety mode where it can only be restarted after manual reset.

CONTROL BY HYTH

START-UP

As soon as the unit is installed according to the guidelines, the power can be connected.

Connect the unit manually by turning the HYGROSTAT to the minimum value of 35%.
The so-called “normal value” is 60%. The unit will dehumidify automatically when the set value is exceeded.

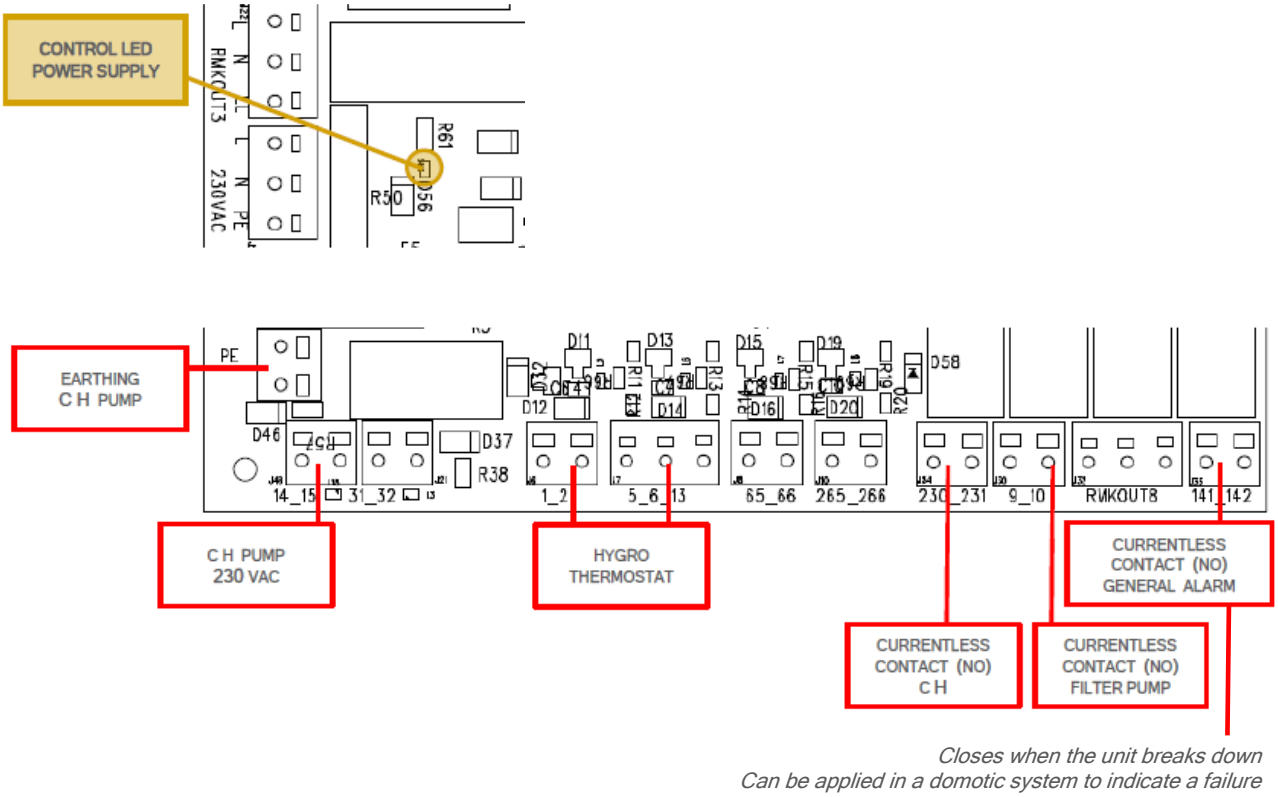
ON/OFF SWITCH MUST BE SET ON 1 (= ON)

For units with built-in heating, the THERMOSTAT must be set to the required temperature: always keep in mind that the ambient temperature is at least equal to or – recommended – 2°C higher than the water temperature.

**A DELAY TIME OF 10 MINUTES PREVENTS THE COMPRESSOR FROM RESTARTING.
THE DELAY TIME STARTS EVERY TIME THE COMPRESSOR SWITCHES OFF.
COMPRESSOR CAN RESTART MAXIMUM 6 TIMES PER HOUR.**

CONNECTION

D I R E C T CONNECTION ON THE P C B

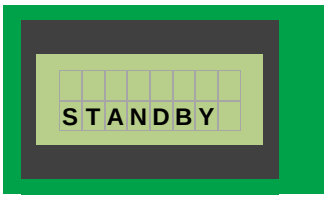


Closes when the unit breaks down
Can be applied in a domotic system to indicate a failure

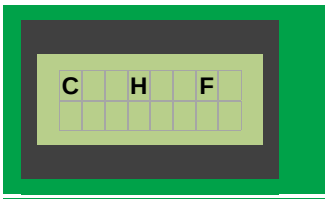
READ OUT

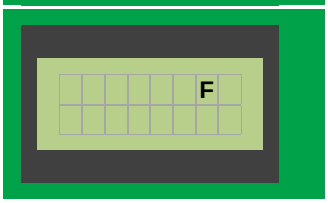
GENERAL

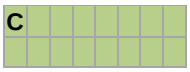
NO ACTIONS



ACTION DISPLAY

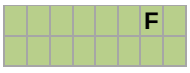




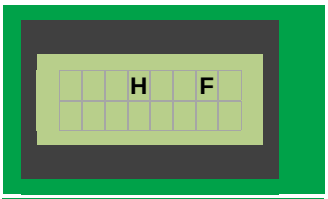


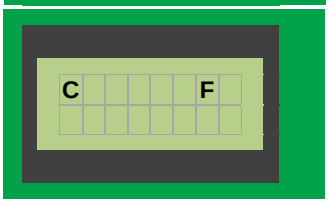
Dehumidification

Heating



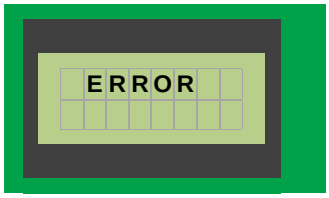
Fan runs





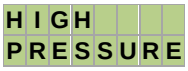
FAILURE MESSAGES

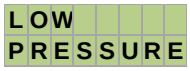
- The message **ERROR** appears:

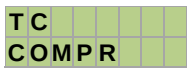


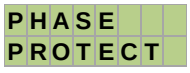
- Next the nature of the failure:

GENERAL

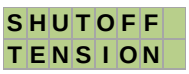








ELEKTRICAL HEATING

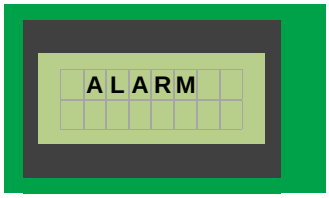


➔

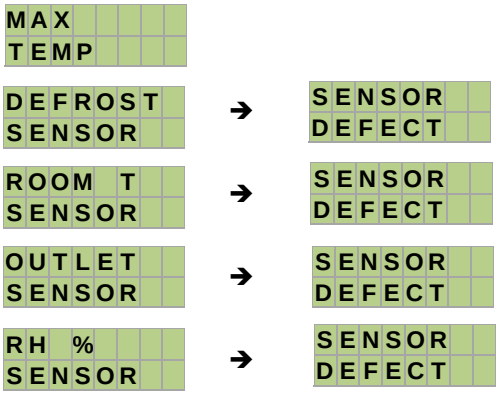
- Failure messages disappear only after eliminating the problem – see Failure messages.
- RESET unit manually

ALARM MESSAGES

- The message **ALARM** appears



- Next the nature of the alarm:



- Alarm messages are only messages of an active action which stops by itself or that an action should be taken in order to solve a problem – see **Alarm messages**..

MANUAL RESET

RESETTING THE UNIT
= SWITCHING OFF THE SUPPLY VOLTAGE AND SWITCHING IT BACK ON AFTER 0,5 MIN.

FAILURES

FAILURE MESSAGES

HIGH PRESSURE	▪ Decrease ambient temperature if this exceeds the maximum working range (see ID label). ▪ Check if the grids are free and/or the fan is not blocked. ▪ Check the filter on clogging: replace if necessary. Reset unit. When the unit does not restart: *notify technical service..*
LOW DRUK	▪ Check if the grids are free and/or the fan is not blocked ▪ Possible leak in the cooling circuit (shortage of refrigerant). Reset unit. When the unit does not restart: *notify technical service.*
TC COMPR PHASE PROTECT	▪ For three-phase unit check that all three phases conduct. ▪ Possibly the compressor valves are defective Reset unit. When the unit does not restart: *notify technical service.*
TC EC FAN	▪ Check if the grids are free and/or the fan is not blocked. ▪ Check the filter on pollution: replace if necessary ▪ Check evaporator on pollution Reset unit. When the unit does not restart: *notify technical service.*
TC EL HEAT	▪ Check if the grids are free and/or the fan is not blocked. ▪ Check the filter on pollution: replace if necessary Reset unit. When the unit does not restart: *notify technical service.*
SHUTOFF TENSION CALL SERVICE	▪ Protection of the RH% and T° control ▪ Shut off tension of the (separate) power supply of the electrical heating. *Notify tecnical service.*

ALARM MESSAGES

MAX TEMP	▪ Maximum ambient temperature exceeded. ▪ Lower ambient temperature.
DEFROST SENSOR SENSOR DEFECT	▪ Defrost sensor defective. ▪ Sensor needs to be replaced. *Notify tecnical service*
ROOM T SENSOR SENSOR DEFECT	▪ Ambient temperature sensor defective. ▪ Sensor needs to be replaced. *Notify tecnical service*
OUTLET SENSOR SENSOR DEFECT	▪ Air outlet temperature sensor defective. ▪ Sensor needs to be replaced. *Notify tecnical service*
RH % SENSOR SENSOR DEFECT	▪ RH% sensor defective. ▪ Sensor needs to be replaced. *Notify tecnical service*

UNIT DOESN'T WORK

Hygro(thermos)stat set too high	▪ Set the hygro(thermostat) to normal value (60%).
Hygro(thermos)stat defective	▪ Check the operation. When defective, replace HY(TH).
6,3 A Glass fuse defective	▪ Before replacing the fuse, first determine the cause. ▪ Replace by a fuse of the same value. ▪ Check 230V exit on the PCB relay. When not possible to re-engage the fuse: *notify technical service.*.
Unit gets no voltage	▪ .Check supply cable.

UNIT RUNS CONTINUOUSLY

Hygro(thermos)stat set too low	▪ Set the hygro(thermostat) to normal value (60%).
Hygro(thermos)stat defective	▪ Check the operation. When defective, replace HY(TH).

OTHER

Unit loses water.	• Check if the unit is levelled and adjust if necessary. • Check if the condensation drain is laid running downward to the drain • Check if there is an obstruction either in the condensation tank or in the drain. Unblock the drain.
Unit makes noise.	▪ Check if the transport screws are removed ▪ The unit does not rest on all support points or is not levelled due to an uneven floor. Check support points and fill up if necessary. ▪ Unit is placed on or suspended from a resonating background or wall. Move unit or fix differently.

CONTROL BY REMOTE DISPLAY

START-UP

As soon as the unit is installed according to the guidelines, the power can be connected.
Plug in the RJ45 pin.

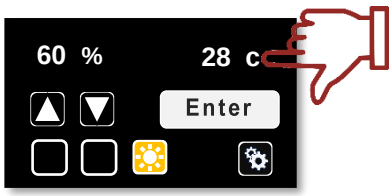
Factory-wise:

- Is the RH% set at the so-called “normal value” of 60%
- Is the day temperature – pool cover open – set at 28°C
- Is the night temperature – pool cover closed – set at 24°C *(recommended ΔT of 4°C *)*.

If desired, these values can be adapted – whilst always keeping in mind that the ambient temperature is at least equal to or – recommended – 2°C higher than the water temperature.

TEMPERATURE °C

➔ Press 2 sec on the T° value

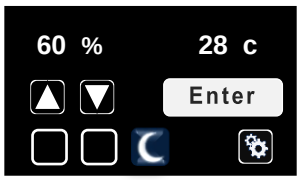


➔ Icon day T° appears

➔ Adapt the value with the key or

➔ Save with **Enter**

➔ Icon night T° appears

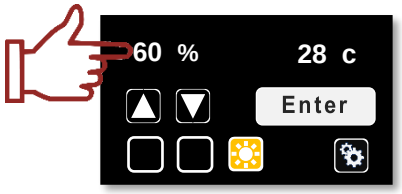


➔ Adapt the value with the key or – *see also * **

➔ Save with **Enter**

HUMIDITY PERCENTAGE RH%

➔ Press 2 sec on the RH% value



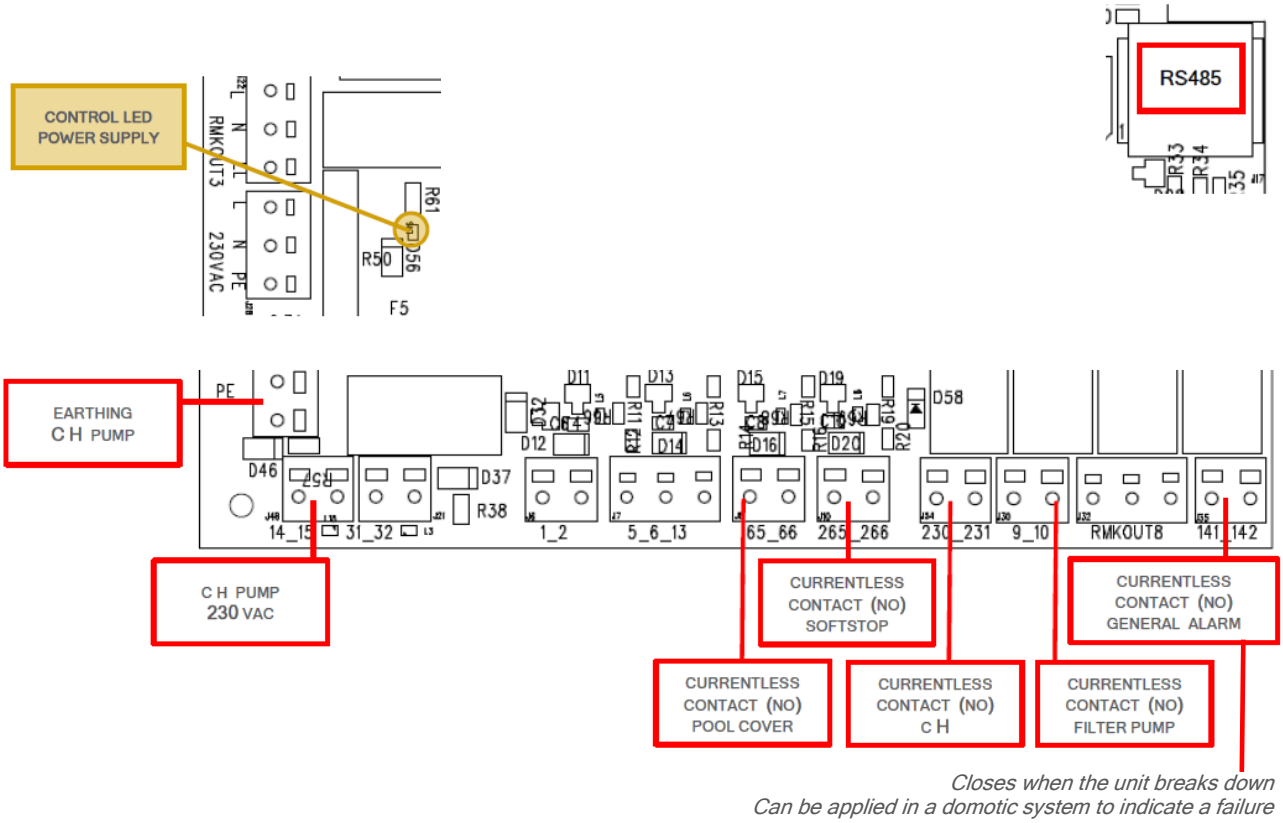
➔ Adapt the value with the key or

➔ Save with **Enter**

**A DELAY TIME OF 10 MINUTES PREVENTS THE COMPRESSOR FROM RESTARTING.
THE DELAY TIME STARTS EVERY TIME THE COMPRESSOR SWITCHES OFF.
COMPRESSOR CAN RESTART MAXIMUM 6 TIMES PER HOUR.**

CONNECTION

D I R E C T CONNECTION ON THE P C B

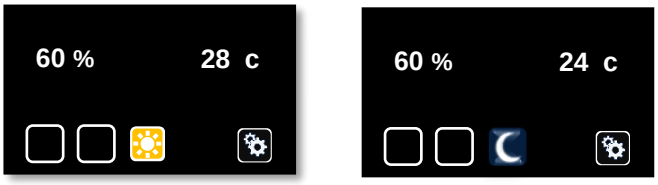


Closes when the unit breaks down
Can be applied in a domotic system to indicate a failure

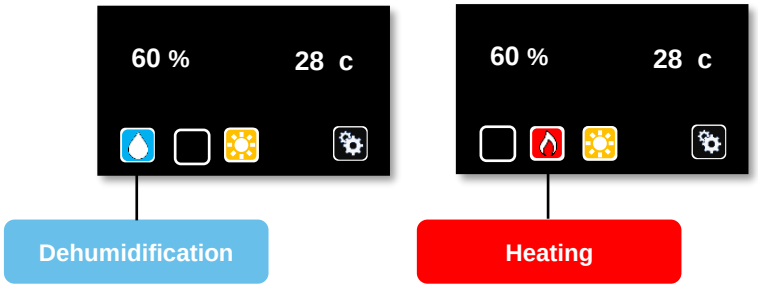
READ OUT

GENERAL

NO ACTIONS

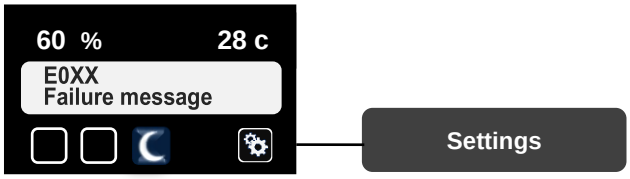


ACTION DISPLAY



FAILURE MESSAGES

- Failure message appears



- Next the nature of the failure

GENERAL HEATING

E000
High pressure protection

E001
Low pressure protection

E002
Thermal contact compressor or phase protection

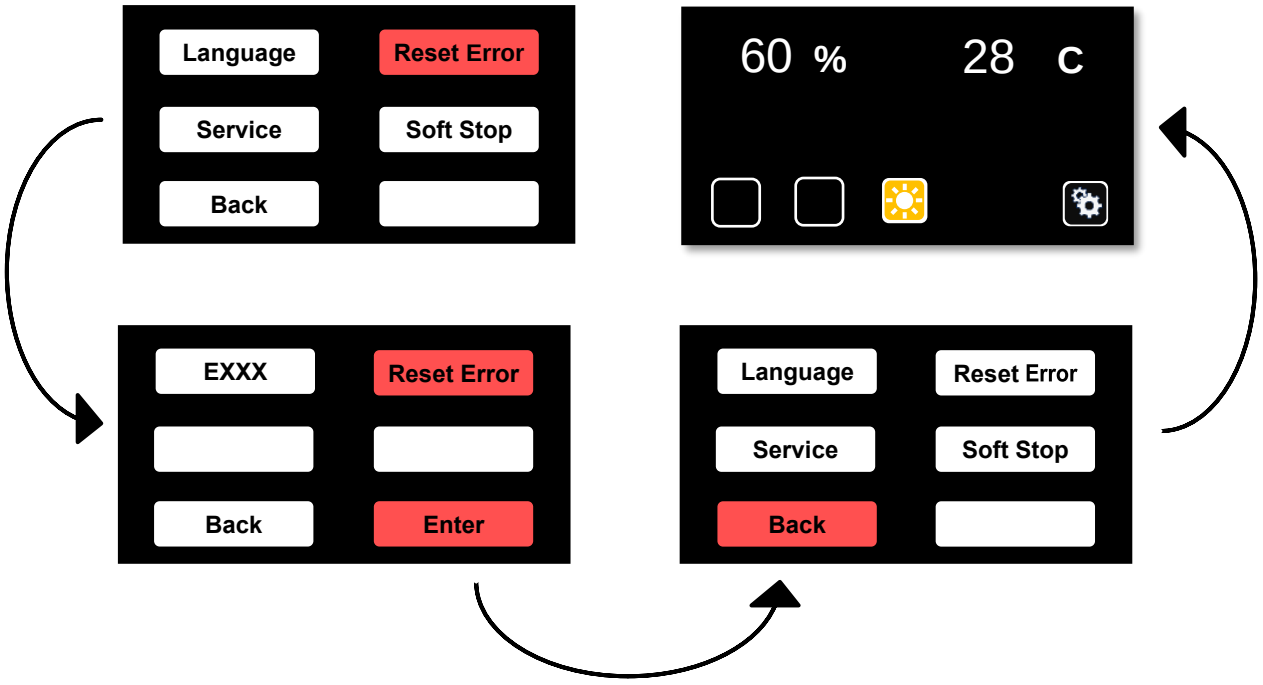
E013
Thermal contact EC fan

ELECTRICAL

E060
SHUT OFF TENSION
Set-up protection T° and RH%

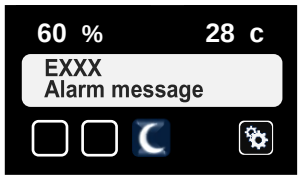
E032
Thermal contact electrical heating

- Failure messages disappear only after eliminating the problem – see Failure messages
- RESET unit via display
  - Press 3 sec on  Settings
  - Perform the following actions AFTER the failure is repaired – till return to the initial screen:



ALARM MESSAGES

- Alarm message appears



- Alarm messages are only messages of an action that is active and stops by itself, or an action that has to be undertaken in order to solve the problem – see ALARM MESSAGES.

- Possible alarm messages:

ACTIVE ACTION	ACTIONS THAT HAVE TO BE UNDERTAKEN
E800 **Soft Stop**	**E888** **Maximum ambient temperature exceeded**
	E900 **Defrost sensor defective**
	E901 **Ambient temperature sensor defective**
	E902 **Air outlet temperature sensor defective**
	E903 **Room humidity sensor defective**
	E904 **Communication problem**

RESET VIA DISPLAY

See FAILURE MESSAGES.

Manual RESET is also possible

FAILURES

FAILURE MESSAGES

E000 **High pressure protection**	▪ Decrease ambient temperature if this exceeds the maximum working range (see ID label). ▪ Check if the grids are free and/or the fan is not blocked. ▪ Check the filter on clogging: replace if necessary. Reset unit. When the unit does not restart: *notify technical service..*
E001 **Low pressure protection**	▪ Check if the grids are free and/or the fan is not blocked ▪ Possible leak in the cooling circuit (shortage of refrigerant). Reset unit. When the unit does not restart: *notify technical service.*
E002 **Thermal contact compressor or phase protection**	▪ For three-phase unit check that all three phases conduct. ▪ Possibly the compressor valves are defective Reset unit. When the unit does not restart: *notify technical service.*
E013 **Thermal contact EC fan**	▪ Check if the grids are free and/or the fan is not blocked. ▪ Check the filter on pollution: replace if necessary ▪ Check evaporator on pollution Reset unit. When the unit does not restart: *notify technical service.*
E060 **SHUT OFF TENSION** **Set-up protection T° and RH%**	▪ Check if the grids are free and/or the fan is not blocked. ▪ Check the filter on pollution: replace if necessary Reset unit. When the unit does not restart: *notify technical service.*
E032 **Thermal contact electrical heating**	▪ Protection of the RH% and T° control ▪ Shut off tension of the (separate) power supply of the electrical heating. *Notify tecnical service.*

ALARM MESSAGES

E800 **Soft Stop**	▪ Soft stop active
E888 **Maximum ambient temperature exceeded**	▪ Maximum ambient temperature exceeded. ▪ Lower ambient temperature.
E900 **Defrost sensor defective**	▪ Defrost sensor defective. ▪ Sensor needs to be replaced. *Notify tecnical service*
E901 **Ambient temperature sensor defective**	▪ Ambient temperature sensor defective. ▪ Sensor needs to be replaced. *Notify tecnical service*
E902 **Air outlet temperature sensor defective**	▪ Air outlet temperature sensor defective. ▪ Sensor needs to be replaced. *Notify tecnical service*
E903 **Room humidity sensor defective**	▪ RH% sensor defective. ▪ Sensor needs to be replaced. *Notify tecnical service*
E904 **Communication problem**	▪ No communication with PCB *Notify tecnical service*

UNIT DOESN'T WORK

Hygro(thermos)stat set too high	▪ Set the hygro(thermostat) to normal value (60%).
Hygro(thermos)stat defective	▪ Check the operation. When defective, replace HY(TH).
6,3 A Glass fuse defective	▪ Before replacing the fuse, first determine the cause. ▪ Replace by a fuse of the same value. ▪ Check 230V exit on the PCB relay. When not possible to re-engage the fuse: *notify technical service.*.
Unit gets no voltage	▪ .Check supply cable.

UNIT RUNS CONTINUOUSLY

Hygro(thermos)stat set too low	▪ Set the hygro(thermostat) to normal value (60%).
Hygro(thermos)stat defective	▪ Check the operation. When defective, replace HY(TH).

OTHER

Unit loses water.	• Check if the unit is levelled and adjust if necessary. • Check if the condensation drain is laid running downward to the drain • Check if there is an obstruction either in the condensation tank or in the drain. Unblock the drain.
Unit makes noise.	▪ Check if the transport screws are removed ▪ The unit does not rest on all support points or is not levelled due to an uneven floor. Check support points and fill up if necessary. ▪ Unit is placed on or suspended from a resonating background or wall. Move unit or fix differently.