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Questionary about swimming hall

Master



Please fill out completely.

Project name:	_____	Executing company	_____
_____	_____	Street	_____
Project location:	_____	City	_____
_____	_____	Contact person	_____
		Tel.	_____
		Fax	_____

Use:	<input type="checkbox"/> private	<input type="checkbox"/> public	<input type="checkbox"/> commercial	<input type="checkbox"/> owner's association
Swimming hall:	Lenght _____ m	Windows _____ (lenght in m)		
	Width _____ m	Rooflight _____ (quantity)		
	Height _____ m	Dome light _____ (quantity)		
	Temperature hall _____ 30 _____ °C ¹⁾²⁾			
	Humidity hall _____ 60 _____ % r. F. ¹⁾²⁾			
Swimming pool:	Lenght _____ m	Spillway <input type="checkbox"/> yes <input type="checkbox"/> no		
	Width _____ m	Jet <input type="checkbox"/> yes <input type="checkbox"/> no		
	Water temperature _____ 28 _____ °C ¹⁾	Covering <input type="checkbox"/> yes <input type="checkbox"/> no		
	¹⁾ Private use ²⁾ Commercial use 30°C, 55% r.F.			
Whirlpool:	Lenght _____ m	Spillway <input type="checkbox"/> yes <input type="checkbox"/> no		
	Width _____ m	Diameter _____ m ²		
	Water temperature _____ °C	Covering <input type="checkbox"/> yes <input type="checkbox"/> no		
Intended device:	<input type="checkbox"/> Case device	<input type="checkbox"/> Back wall device	<input type="checkbox"/> Recirculating air device	
	External-air-exhaust-air in air duct design			
	<input type="checkbox"/> Heat pump	<input type="checkbox"/> Heat pump and recuperator	<input type="checkbox"/> recuperator	

Device selection

Device types

Air dehumidifying units are manufactured in many different construction types. Device selection is geared towards technical and structural requirements and the wishes of the client. The right choice of construction type greatly influences the comfort and value of the pool.

Before delivery, SET air dehumidifying units undergo an extensive documented test run. This checks all device functions in the different operational areas and determines optimum settings. This ensures efficient operation within the customer system.

Larger duct units can be dismantled into several parts for transportation. Assembly is simple and requires only a short time expenditure. The fully operational device wiring requires only the connection of the selected external consumer. The device parts are connected one beneath the other with plugs. Regulation parameters are already set and functions are tested. Operational start-up following operational start-up protocol can be carried out entirely by the system installation company.

The SET device range comprises:

- Free-standing devices with heat recovery via heat pump system for installation directly in the swimming pool
- Wall-mounted devices with heat recovery via heat pump system for installation in adjoining frost-protected room

Devices for use in installations room or pool area

- Circulating air duct units with heat recovery via heat pump system for luxurious pools with specific air flow
- Duct units 01 AF-MC with one-level heat recovery via heat pump system for sophisticated luxury requirements or hotel areas
- Duct units 01 AF-MC 2800 with increased air and heat output with one-level heat recovery via heat pump system for sophisticated luxury requirements or hotel area for swimming pool areas with large room volumes or large glass areas
- Duct units 02 AF-MC with two-level heat recovery via heat pump system and cross-flow heat exchanger (recuperator) for sophisticated luxury requirements and hotel areas and for reducing energy requirements
- Duct units 02 AF-MC 2800 with increased air and heat output with two-level heat recovery via heat pump system and cross-flow heat exchanger (recuperator) for sophisticated luxury requirements or hotel areas and for reducing energy requirements, for swimming pool areas with large room volumes or large glass areas
- Duct units 03 AF-MC with multi-level heat recovery for reducing energy requirements via heat pump system and High Performance Recuperator (HPR) for well-used hotel pools or pools with prolonged swimming use
- Air handling units RLG with heat recovery from cross-flow heat exchanger (recuperator) for adjoining rooms such as showers or changing areas
- Air handling units RLG production series K with increased air and heat output with heat recovery from cross-flow heat exchanger (recuperator) for fitness rooms, sauna and spa areas and their adjoining rooms such as showers or changing areas
- Air handling units RLG 03 with multi-level heat recovery for reducing energy requirements via High Performance Recuperator (HPR) for larger well-used fitness rooms, sauna and spa areas and their adjoining rooms such as showers or changing areas with prolonged use periods

With all types, care must be taken than the condensation pipe work can be laid with sufficient gradient and a trap or air trap.

Device selection

Preliminary structural work

General

Condensation drainage $\varnothing = 20$ mm to 50 mm depending on device size / from 2 m length HT pipe DN 50 to DN 100 with 1 % gradient, device feed-in 230 V or 400 V with FI circuit breaker and preliminary fuse (C, time-delay) service, switch, junction box

Warning: If no junction box is installed in free-standing devices, the supply cable must be approx. 1.5 m longer.

Electronic regulation

- Control line 2, 3, and/or 8 wire cable 0.6 or 0.8 from room controller to dehumidification unit, ideally a 5 paired shielded internal telecommunications cable
- for optional external consumer (exhaust fan, heating circuit pump, etc.) 3 x 1.5 cable for 230 Volt as direct connection between device and consumer

Digital regulation MC 2001

- the device is supplied as standard with an integrated sensor (required minimum circulating air always "on")
- for optional room sensor a 6 wire cable 0.6 or 0.8 from room sensor to dehumidification unit, ideally a 3 paired shielded internal telecommunications cable
- for remote control with a control panel up to 50 m away a 6 wire cable 0.6 or 0.8 from control panel to dehumidification unit with 2 6P6 jacks, ideally a 3 paired shielded internal telecommunications cable
- for remote control with an additional control panel or for remote control with a control panel up to 50 m away a 6 wire ribbon cable with two-sided 6P6 modular jack
- for remote control with SET interface, with central controller of a different manufacturer or on site BMS with 2 wire cable 0.6 or 0.8 via interface RS 485

New-build in the planning phase

In principle, all types of device can be installed in new-build planning. The decision for the construction type of the device is geared towards the wishes and comfort requirements of the operator. Consultancy with architects and/or planners and the company carrying out the work has an important influence on this decision. SET is happy to make appropriate suggestions to suit your requirements.

Today new-builds are very well insulated. For exterior doors, glass areas and window frames a U value of around 1.1 or higher is desirable. The thermal insulation of the walls and ceilings should adhere to the provisions of the Energy Saving Ordinance. As a matter of course the swimming pool area are must be upgraded to be sealed against vapour diffusion. For the secure upgrading of swimming pool area, SET offers you its own insulation with vapour barrier. Of course if you desire you can obtain building component certification.

Good insulation of the building body makes necessary the sensible distribution of the recovered heat. Simultaneously, the feed-in of fresh air is increasing in significance. For this the airflow system DUCTSET is available for duct units. SET offers a complete programme for any system size - from construction to the duct system with sound dampers, floor exhaust rails in different vent widths and different grills and installation parts.

Learn about the different possibilities for this in the individual device groups or ask SET directly.

Device selection

Ready-made new-builds / renovations

In terms of physical construction, the same provisions apply as for new-builds. At first glance dehumidification using a free-standing unit is preferred. However in most cases, relatively small additional outlay can enable the installation of a wall-mounted or circulating air duct unit or even a luxurious AF device. Prerequisites and possibilities are found in each device group.

Exchange of existing air dehumidifying units / ventilation systems

Our extensive standard range enables the replacement of a variety of different older models. With the extraordinary flexibility of the standard range, adaptation to duct connections is possible. So air dehumidifying units from SET can for the most part be integrated into existing duct systems without notable alterations. Details, possibilities and prerequisites can be found in each device group or ask SET directly about your replacement requirements.,

Device selection in the private sector

In the private sector free-standing units, wall-mounted units, circulating air duct units and fresh air-/exhaust air units are used. The selection of unit type is determined by the comfort requirements of the client.

1. Principles

Device selection is geared primarily towards the pool water surface, where any overflow gutter must be factored in. Private pools are predominantly operated at a water temperature of 28°C. Room temperature is then around 30°C with a relative humidity of 60%.

2. Temperatures and evaporation

The room temperature should be 2 – 3 Kelvin above the water temperature. In private pools swimming use of around 2 hours is assumed. In practice on this basis the following values for private pools are given:

- evaporation during low use approx. 60 g / m² and hour
- evaporation during swimming use approx. 200 g / m² and hour

3. Dehumidification capacity

With free-standing and circulating air devices, depending on type of pool use, a calculating value of 100 - 150 g/m² of water surface and hour is the basis for evaporation during normal use. For a standard pool with a skimmer of 4 x 8 m = 32 m² water surface evaporation arises of around 3.2 kg per hour during low use. With this value the appropriate device size can be selected using the dehumidification capacity in the technical data.

The necessary air flow for duct units is geared towards the length and height of the glass areas and the room volume. With fresh air-/exhaust air devices, evaporation during swimming use is an additional value, determined by the necessary air flow.

Device selection

4. Private hot tub rooms

Device selection here is also geared towards the pool water surface, where any overflow gutter must be factored in. Jacuzzis are predominantly operated at a water temperature of 37°C. The room temperature in a hot tub room is around 25°C. In practice on this basis the following values are given:

- evaporation during low use approx. 200 - 400 g / m² and hour
- evaporation during swimming use approx. 1,300 g / m² and hour

A disproportionately large device must be used for this evaporation.

The device size can be limited using the following combination.

Example: up to a size of around 3 m² including overflow gutter

- small dehumidification unit (LC 22, TC 22, 2501 E, EW, H or 2601 U)
- further regulation hot tub module
- exhaust air regulation with fan
- fresh air connection - in case no fresh air can be drawn in from adjoining rooms.
- pumped hot water heater battery (PWW, if needed)

Dehumidification must be switched on simultaneously with the hot tub without any time delay. Dehumidification works according to the set target values only after the elapsing of an internal time delay.

5. Covering

The covering of a water surface during low use reduces evaporation and therefore the energy loss of the pool. This leads to a significant shortening of the running time of the air dehumidifying unit. Using a cover does not however make the dehumidification unit smaller. During swimming use and with the cover open, normal evaporation values are to be calculated.

If a smaller unit is chosen, the dehumidification unit serves purely as a swimming pool dryer. With the cover open and during swimming use humidity in the swimming pool increases sharply. The limits of comfort are far exceeded and it is extremely muggy in the swimming pool. Only after covering the pool does the dehumidification unit achieve the desired humidity values after a correspondingly longer running time.

Device selection in the public sector

Public pools are all pools that are accessible to all. These are local authority pools, hotel pools, pools in medical facilities and also pools in owner-occupied community associations. Different official provisions, standards and guidelines apply to device selection.

1. Principles

Device selection is geared primarily towards VDI 2089. In these guidelines the different pool uses and associated water temperatures are set out. For swimming use a fresh air proportion is required per m² of water surface of at least 15% to 30% of the highest required fresh air column flow per hour; for low use dehumidification can be effected by air circulation mode.

2. Temperatures and evaporation

Temperatures and evaporation values are determined using the VDI 2089 guidelines. Room temperature in public pools is around 30°C with a relative humidity of 55%. Humidity limits should not be exceeded.

Device selection

3. Dehumidification capacity

Device size is determined by evaporation during low use. The necessary air flow is geared towards evaporation during swimming use, the length and height of the glass areas and the room volume. During low use dehumidification is effected by air circulation mode; any excess humidity and/or excess temperature is limited by a continuously regulated proportion of fresh air. During swimming use the required proportion of fresh air is added by the dehumidification unit.

Any excess humidity and/or excess temperature is limited by raising the proportion of fresh air. A majority of the transmission heat loss is covered by the recovered heat generated from dehumidification. When there is excess heat, which occurs with higher water temperatures ($>30^{\circ}\text{C}$), this can optionally be delivered by the heat pump units to the pool water.

Depending on intensity of use, several device construction types are deployed in public pools. For use of around 2 hours per day, i.e. pools of smaller community associations or smaller hotels, devices of production series 01 AF are used. Reasonable investment and heat recovery by the heat pump ensures economic operation.

For more intensive use or long opening hours air dehumidifying units with multi-level heat recovery 02 AF or 03 AF are deployed.

The above also applies to air handling units of production series RLG, RLG production series K and 03 RLG for the ventilation of adjoining rooms. Air handling units are usually unsuitable for the dehumidification of swimming pools with continuous evaporation.

During partial renovations, the combination circulating air-dehumidification unit with the separately available added and exhaust air system has proven successful. The coupling of dehumidification and added and exhaust air systems ensures the required proportion of fresh air. The advantage of this concept lies in the low investment costs and an enormous saving in heat energy through the limitation of ventilation heat loss.

For new-builds or exchanges of an existing ventilation system you can also request direct support from SET. The preparation of quotes, pricing offers or the preparation together of property-related solutions reduces your outlay.

Planning tips

Free-standing units production series LC, TC, E, EW, T and T-MC

Free-standing units are positioned directly in the swimming pool area. The swimming pool air is drawn into the lower part of the unit and blown out upwards or forwards. Free-standing units are available in many different designs.

An optimal degree of efficiency takes priority during construction and the extensive range of accessories covers every eventuality. The best possible noise minimisation, low-maintenance premium surfaces and a high degree of corrosion resistance are further criteria.

The optimal placing of a free-standing unit is lengthways to the pool. With this set-up the air cylinders achieve the optimum range. In swimming pools with more complex layouts or L shapes, optimum air circulation is not always possible.

The room controller should be positioned on the opposite side of the room to the unit at a distance of min. 8 m, at a height of around 1.5 to 1.7 m. External influence on the controller from radiators, direct sunlight or leaky cable inlets must be avoided to ensure the faultless functioning of the dehumidification system. The room controller must not be directly in the blow path of the dehumidification unit.

When using a free-standing unit in the swimming pool, the external glass areas cannot be guaranteed mist-free throughout the year. Additional radiators or floor convectors must therefore be present in front of glass areas.

The device must be placed on firm ground; wooden constructions or duck boards are not suitable acoustically. In such cases wall-mounting should be selected. A prerequisite for this is a viable wall and suitable fixing materials for the SET wall console. Walls with a column design are not suitable for wall mounting.

The production series EW is designed exclusively for wall mounting with a wall console integrated into the device. Standing units of production series LC, TC and E can be fixed to the wall in connection with an SET wall console. Production series T is not designed for wall mounting. For wall mounting, the distance from the upper surface of the device to the ceiling should be > 0.5 m.

Warning

Threaded spacers must be used in internally insulated walls to bridge the insulation, in order to prevent noise transmission. In this case please contact SET.

All devices can be equipped with a pool water-heat exchanger of stainless steel. This can deliver recovered heat to the pool water. Optimum output and simple incorporation into the pool hydraulics ensure easy handling. Electronic temperature regulation works inside the device and makes external regulators superfluous. Externally only an optionally available flow monitor is required.

Free-standing unit design

- compact construction in premium combination aluminium / plastic / stainless steel
- High corrosion resistance
- extensive accessories
- 5 different device sizes
- Precise control electronics for economic operation
- production series T optionally with microcontroller MC 2001

Planning tips

Wall-mounted units production series H and H-MC

Wall-mounted units are positioned in a frost protected room adjoining the swimming pool area. In the swimming pool only an adjustable inlet and outlet grill (optional) can be seen.

Airflow is effected via short duct sections and boxes built into the walls. Complete sets are optionally available in different designs.

The swimming pool air is drawn in at the lower grill and blown out at the upper. An optimal degree of efficiency takes priority during construction and the extensive range of accessories covers every eventuality. Construction features of this production series are the sturdy framework and service access at the rear. Placement in an adjoining room ensures noise minimisation.

The optimal placing of a wall-mounted unit is lengthways to the pool. With this set-up the air cylinders achieve the optimum range. In swimming pools with more complex layouts or L shapes, optimum air circulation is not always possible.

The room controller should be positioned on the opposite side of the room to the unit at a distance of min. 8 m, at a height of around 1.5 to 1.7 m. External influences on the controller from radiators, direct sunlight or leaky cable inlets must be avoided to ensure the faultless functioning of the dehumidification system. The room controller must not be directly in the blow path of the dehumidification unit.

When using a wall-mounted unit in the swimming pool, external glass areas cannot be guaranteed mist-free throughout the year. Additional radiators or floor convectors must therefore be present in front of glass areas.

The device must be placed on firm ground; wooden constructions or duck boards are not suitable acoustically. In such cases wall-mounting should be selected. A prerequisite for this is a viable wall and suitable fixing materials for the SET wall console. Walls with a column design are not suitable for wall mounting.

All devices can be equipped with a pool water-heat exchanger of stainless steel. This can deliver recovered heat to the pool water. Optimum output and simple incorporation into the pool hydraulics ensure easy handling. Electronic temperature regulation works inside the device and makes external regulators superfluous. Externally only an optionally available flow monitor is required.

Wall-mounted unit design

- compact construction in premium framework
- High corrosion resistance
- optional accessories for optimum airflow
- extensive device accessories
- 4 different device sizes
- Precise control electronics for economic operation
- optionally also with microcontroller MC 2001

Planning tips

Circulating air duct unit production series U and U-MC

Circulating air duct units are placed in a frost protected adjoining room, usually an installations room or pool area. The connection between the swimming pool area and the dehumidification unit is via an air duct system. The dehumidified air is blown out from floor exhaust rails or ceiling exhaust rails in front of exterior windows and exterior doors. Opposingly the air is drawn out underneath the ceiling and directed to the dehumidification unit. An optional heater battery satisfies the heating requirements of the swimming pool area. If no pool area is available, floor heating is needed to temper the floor.

The SET airflow system provides all accessories, from sound absorbers through floor exhaust rails and grills to complete ducts. At first glance the investment costs seem high but these are balanced by the savings on additional radiators and floor convectors and the simultaneous considerable increase in comfort.

The framework construction and the extensive device accessories cover every eventuality. In connection with the DUCTSET® duct system and the DUCTSET® airflow accessories, placement in an installations room provides almost “noiseless” operation.

Optimum air circulation is always possible even in swimming pools with more complex layouts. If desired, regulation of the air dehumidifying units can also undertake the overall energy management of the swimming pool. Plant with a microcontroller MC 2001 can optionally be controlled from anywhere in the world and integrated into the central control unit.

Seamless integration into existing duct systems is also possible. A variety of duct connection possibilities ensure a high degree of device flexibility.

The device must be placed on firm ground. Wall fixing with an SET wall console is also possible. A prerequisite for this is a viable wall and suitable fixing materials for the SET wall console.

All devices can be equipped with a pool water-heat exchanger of titanium. This can deliver recovered heat to the pool water. With the titanium heat exchanger, delivery of the recovered heat is possible to any quality of water, e.g. salt water, brine etc. Optimum output and simple incorporation into the pool hydraulics ensure easy handling. Electronic temperature regulation works inside the device and makes external regulators superfluous. For pool water heat exchangers only an optionally available stainless steel flow monitor is required externally; this is already integrated into the titanium heat exchanger.

Circulating air duct unit design

- compact construction in premium framework
- High corrosion resistance
- small device dimensions for simple insertion, multi-piece construction possible (optional)
- complete airflow system for optimal airflow
- extensive device accessories such as PWW, electro heater battery, exhaust air regulation, fresh air connection, hot tub module, etc. (optional)
- pool water heat exchanger in stainless steel or titanium (optional)
- 5 different device sizes with different air flow capacities
- Precise control electronics for economic operation
- optionally also with microcontroller MC 2001 (from 3601 U)

Planning tips

Fresh air-/exhaust air-duct unit 01 AF-MC

Fresh air-/exhaust air-duct units of production series 01 AF-MC fulfil the highest comfort requirements with simultaneous operational efficiency thanks to the interplay of device construction and microcontroller MC 2001.

Placement and duct system are comparable with that of production series U. A fresh air and exhaust air duct for the overall air volume is also required.

Depending on type of operation (low or swimming use) and outdoor temperature, the swimming pool area is provided with 0 - 100% fresh air. The moisture and heat are removed from the expelled exhaust air and returned to the swimming pool area. The drive power of the compressor is added as heat energy.

During low use dehumidification is effected in air circulation mode, i.e. without a proportion of fresh air. Any excess humidity and/or excess temperature is limited by a continuously regulated proportion of fresh air. During swimming use the dehumidification unit adds the required freely definable proportion of fresh air.

Any excess humidity and/or excess temperature is limited by raising the proportion of fresh air. A majority of the transmission heat loss is covered by the recovered heat generated from dehumidification.

The remaining heat requirement is covered by the heating by means of the hot water heater battery integrated in the device. Ideally a separate unregulated heating circuit is available for this. Additional radiators or floor convectors are not required. When there is excess heat, which occurs with higher water temperatures (>30° C), this can optionally be delivered to the pool water. In winter or during low outdoor temperatures, the proportion of fresh air can be restricted to a selectable value. In summer or during high outdoor temperatures, when no heating is required in the swimming pool area, the heat pump system is switched off and operation is in ventilation mode.

If desired, regulation of the air dehumidifying units can also undertake the overall energy management of the swimming pool. The microcontroller MC 2001 can optionally be controlled from anywhere in the world and integrated into the central control unit.

Seamless integration into existing duct systems is also possible. A variety of duct connection possibilities ensures a high degree of device flexibility.

The device must be placed on firm ground. Noise dampening device bases are included in the scope of delivery for the device.

All devices can be equipped with a pool water-heat exchanger of stainless steel or titanium. This can deliver recovered heat to the pool water. With the titanium heat exchanger, delivery of the recovered heat is possible to any quality of water, e.g. salt water, brine etc. Optimum output and simple incorporation into the pool hydraulics ensure easy handling. Electronic temperature regulation works inside the device and makes external regulators superfluous. For pool water heat exchangers only an optionally available stainless steel flow monitor is required externally; in titanium heat exchangers this is already integrated.

Planning tips

Fresh air-/exhaust air-duct unit 01 AF-MC design

- complete, premium equipment with microcontroller MC 2001
- compact multi-part construction in premium framework
- High corrosion resistance
- complete airflow system for optimal airflow
- Fan activation selectable by frequency converter (optional)
- fan with energy-saving EC motors selectable (optional)
- pool water heat exchanger in stainless steel or titanium (optional)
- different device sizes with air flow of 800 m³/h to 6,000 m³/h
- customised devices to suit the property
- controlled by microcontroller MC 2001
- remote controllable using modem or BUS (optional)

Fresh air-/exhaust air-duct units 02 AF-MC and 03 AF-MC

Fresh air-/exhaust air-duct units of production series 02 AF-MC and 03 AF-MC fulfil the highest requirements for efficiency in intensively used luxury pools. Through the device construction and the microcontroller MC 2001 a high level of heat recovery is achieved.

The multi-part construction, 3 to 5 parts depending on size, ensures simple insertion and assembly. Large devices have crane eyes and transport stands. The ready to plug in construction ensures simple assembly and reduces assembly costs.

Placement and duct system are comparable with that of production series 01 AF-MC. Depending on type of operation (low or swimming use) and outdoor temperature, the swimming pool area is provided with 0 - 100% fresh air. Moisture and heat are removed from the expelled exhaust air by the production series 02 AF-MC with a cross-flow heat exchanger and the heat pump, then the added air is returned to the swimming pool area. The drive power of the compressor is added as heat energy. With production series 03 AF-MC, a High Performance Recuperator Unit (HPR) is deployed in the place of the cross-flow heat exchanger. When drive power remains continuous this increases the achieved heat recovery and the dehumidification capacity considerably.

During low use dehumidification is effected in air circulation mode, i.e. without a proportion of fresh air. Any excess humidity and/or excess temperature can be limited by a continuously regulated proportion of fresh air.

During swimming use the dehumidification unit adds the required freely definable proportion of fresh air. Any excess humidity and/or excess temperature is limited by raising the proportion of fresh air. A majority of the transmission heat loss is covered by the recovered heat generated by dehumidification.

The remaining heat requirement is covered by the heating by means of the hot water heater battery integrated in the device. Ideally a separate unregulated heating circuit is available for this. Additional radiators or floor convectors are not required. When there is excess heat, which occurs with higher water temperatures (>30° C), this can optionally be delivered to the pool water.

In winter or during low outdoor temperatures, the proportion of fresh air can be restricted to a selectable value. In summer or during high outdoor temperatures, when no heating is required in the swimming pool area, the heat pump system is switched off and operation is in ventilation mode. The optional summer bypass bypasses the recuperator and/or the High Performance recuperator unit and enables free ventilation.

Planning tips

If desired, regulation of the air dehumidifying units can also undertake the overall energy management of the swimming pool. The microcontroller MC 2001 can optionally be controlled from anywhere in the world and integrated into the central control unit.

Seamless integration of the devices of production series 02 AF-MC and 03 AF-MC into existing duct systems is also possible. A variety of duct connection possibilities ensure a high degree of device flexibility.

The device must be placed on firm ground. Noise dampening device bases are included in the scope of delivery for the device.

All devices can be equipped with a pool water-heat exchanger of titanium. This can deliver recovered heat to the pool water. With the titanium heat exchanger, delivery of the recovered heat is possible to any quality of water, e.g. salt water, brine etc. Optimum output and simple incorporation into the pool hydraulics ensure easy handling. Electronic temperature regulation works inside the device and makes external regulators superfluous. For pool water heat exchangers only an optionally available stainless steel flow monitor is required externally; in titanium heat exchangers this is already integrated.

Fresh air-/exhaust air-duct units 02 AF-MC and 03 AF-MC design

- complete, premium equipment with microcontroller MC 2001
- compact multi-part construction in premium framework
- High corrosion resistance
- complete airflow system for optimal airflow
- Fan activation selectable by frequency converter (optional)
- fan with energy-saving EC motors selectable (optional)
- pool water heat exchanger in stainless steel or titanium (optional)
- different device sizes with air flow of 800 m³/h to 25,000 m³/h
- customised devices to suit the property
- controlled by microcontroller MC 2001
- remote controllable using modem or BUS (optional)

Air handling units RLG, RLG production series K and 03 RLG

air handling units of production series RLG, RLG production series K and 03 RLG fulfil the highest requirements of efficiency in the ventilation and heating of showers, changing areas and adjoining rooms in swimming pool areas, saunas, spas and fitness centres. These devices are also deployed in multi-purpose halls, production plant or on camp sites. The highest degree of recovered heat is achieved thanks to a device construction targeting the highest efficiency and the microcontroller MC 2001.

The multi-part construction, 3 to 5 parts depending on size, ensures simple insertion and assembly. Large devices have crane eyes and transport stands. The ready to plug in construction ensures simple assembly and reduces assembly costs.

Placement and duct system are comparable with those of other duct units. Depending on type of operation (low or swimming use) and outdoor temperature, the rooms to be treated are ventilated with 0 - 100% fresh air. The heat and moisture is removed from the exhaust air to be dissipated on a generously dimensioned cross-flow heat exchanger and the added air is redirected back to the adjoining rooms. The generous dimensions ensure a high degree of efficiency throughout the entire usage period.

Planning tips

With devices of production series 03 RLG, a High Performance Recuperator Unit (HPR) is deployed in the place of the cross-flow heat exchanger. In this way, the achievable heat recovery can be increased by over 20%.

During swimming use the dehumidification unit adds the required proportion of fresh air defined by the room target value. The majority of the transmission heat loss is covered by the recovered heat that is generated. The remaining heat requirement is covered by the building heating by means of the hot water heater battery integrated in the device. A separate unregulated heating circuit is available for this. Any excess temperature is limited by raising the proportion of fresh air. Exclusive heat operation is effected in air circulation mode.

In summer or during high outdoor temperatures, when no heat recovery is required, the optional summer bypass bypasses the recuperator and/or the High Performance recuperator unit and enables free ventilation.

The microcontroller MC 2001 can optionally be controlled from anywhere in the world and integrated into the central control unit.

Seamless integration of the devices of production series RLG, RLG production series K and 03 RLG into existing duct systems is also possible. A variety of duct connection possibilities ensures a high degree of device flexibility.

The device must be placed on firm ground. Noise dampening device bases are included in the scope of delivery for the device.

Air handling units RLG, RLG production series K and 03 RLG design

- complete, premium equipment with microcontroller MC 2001
- compact multi-part construction in premium framework
- High corrosion resistance
- complete airflow system for optimal airflow
- Fan activation selectable by frequency converter (optional)
- fan with energy-saving EC motors selectable (optional)
- different device sizes with air flow of 700 m³/h to 25,000 m³/h
- customised devices to suit the property
- controlled by microcontroller MC 2001
- remote controllable using modem or BUS (optional)



Dehumidification unit

type SET

Technical data

Dehumidification unit type SET

1 Dehumidification unit type SET in free-standing version

with heat recovery by heat pump system in air circulation mode, with room controller and integrated wall bracket or 4 height adjusters (accessory pack) consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with integrated specially shaped blowers of anodised aluminium; air intake is via floor assembly, side panels of white acrylic similar to RAL 9010, cover panels of naturally anodised aluminium A6/CO, installed therein:

1 dehumidification unit with heat recovery by heat pump system, constructed on a plastic ground trough. The structure is AlMg3 plating with additional acoustic and thermal insulation, installed therein:

1 heat pump unit filled with safety refrigerant R 407 C, consisting of:

1 fully hermetic engine compressor, vibration-cushion mounted

1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated

1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated

1 low pressure switch

1 high pressure switch (TÜV tested)

1 filter dryer

1 inspection glass with indicator

1 refrigerant collector

1 cooling piping of CU pipe, inc. condensation insulation

1 bypass damper, manually adjustable

1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

1 electronic control system with LEDs for operation/fault report diagnosis as well as all safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed downtime of the compressor, fuses, contacts

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m ³ /h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm
+ adjustable device feet (Option)	40	mm

Brand SET Schmidt Energietechnik, Hemmingen

Type SET

Supply from factory €

Dehumidification unit type SET

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat output at 80/60 °C	.... kW
Flow rate	.... m ³ /h
Pressure decrease	.... kPa

Type	PWW-SET	
Supply from factory		€

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output kW
-------------	---------

Type	EHZ-SET	
Supply from factory		€

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler of temperature sensor, operating speed increase on increasing temperature with operation selection switch included in room controller, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow	.... m ³ /h
Power input	.... W

Type	FOL-SET	
Supply from factory		€

1 Fresh air connection for installation in external wall

(only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1
- 1 plastic extension spline end with integrated thermal insulation to reconcile the distance to the dehumidification console with foam seal

Type	AATE	
Supply from factory		€

Dehumidification unit type SET

1 Jacuzzi module

through add of the Jacuzzi module, the inertance of the room controller at Jacuzzi operation will be ignored, consisting of:

- 1 Jacuzzi module with floating contact, wired installed in a switchbox
- 1 Humidistat (external)

Type	WPM	
Supply from factory		€

1 Operation and fault reporting unit

installed in the dehumidification unit ready for operation, to display by LED - voltage, heating, dehumidification, low pressure, high pressure, motor protection (highly recommended for cost-effective remote diagnosis in case of fault) consisting of:

- 1 control electronics only in connection with FOL/FOR/BP
- 1 display print
- 1 BSE display

Type	BSE	
Supply from factory		€

1 Modulated bypass damper regulator

including automatic defroster, installed in the dehumidification unit ready for operation. The bypass damper, driven by an actuator, is controlled with the help of electronics in such a way that the evaporation temperature is maintained at the optimum temperature for dehumidification (only required if very great temperature differences are required in the swimming pool area). Operating range 8 – 38 °C, consisting of:

- 1 control electronics
- 1 temperature sensor
- 1 actuator

Type	BP	
Supply from factory		€

1 Additional humidity switch

for excess moisture regulation in connection with an exhaust fan

Type	HYG	
Supply from factory		€

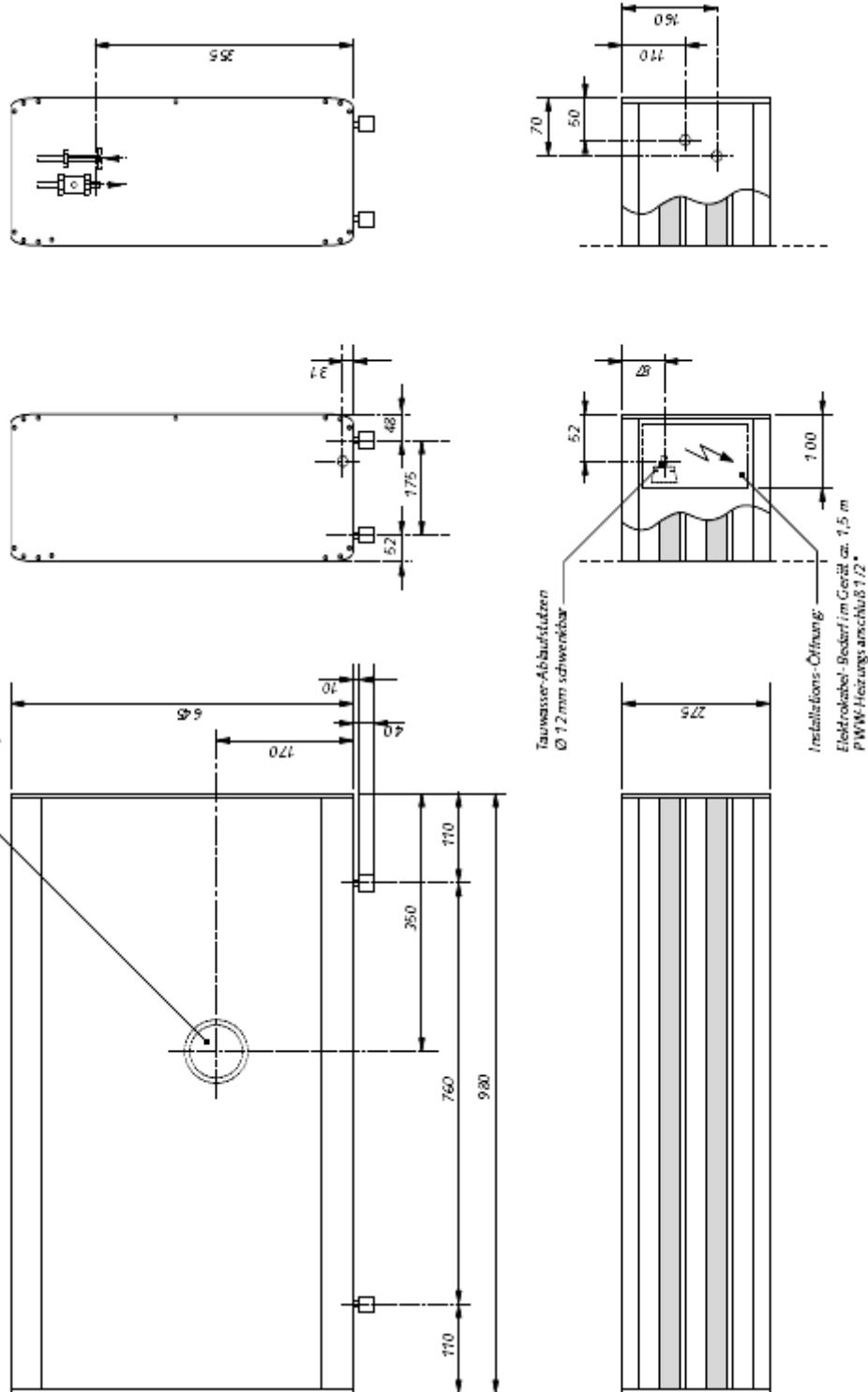
Technical data

Device type		SET 3011	SET 5022
Water surface up to approx. ¹	m ²	5-15	20-30
Air nominal power	m ³ /h	400	470
Dehumidification capacity (30 °C, 60 %)	kg/24h	36	50
Dehumidification capacity (30 °C, 60 %)	kg/h	1,5	2,1
Air heat recovery ¹	kW	1,7	2,6
Compressor power input on average	kW	0,75	1,2
Feed-in		AC 230 V 1 N	
Dimensions W x D x H	mm	980 x 275 x 655	1140 x 275 x 655
+ adjustable device feet (Option)	mm	40	40
PWW air heater			
PWW air heater capacity ²	kW	2,6	3,4
Water volume	m ³ /h	0,2	0,2
Drag (inc. valve)	kPa	12	12
Fan for wall installation			
Free flowing air flow	m ³ /h	500	500
Power input	W	45	45

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

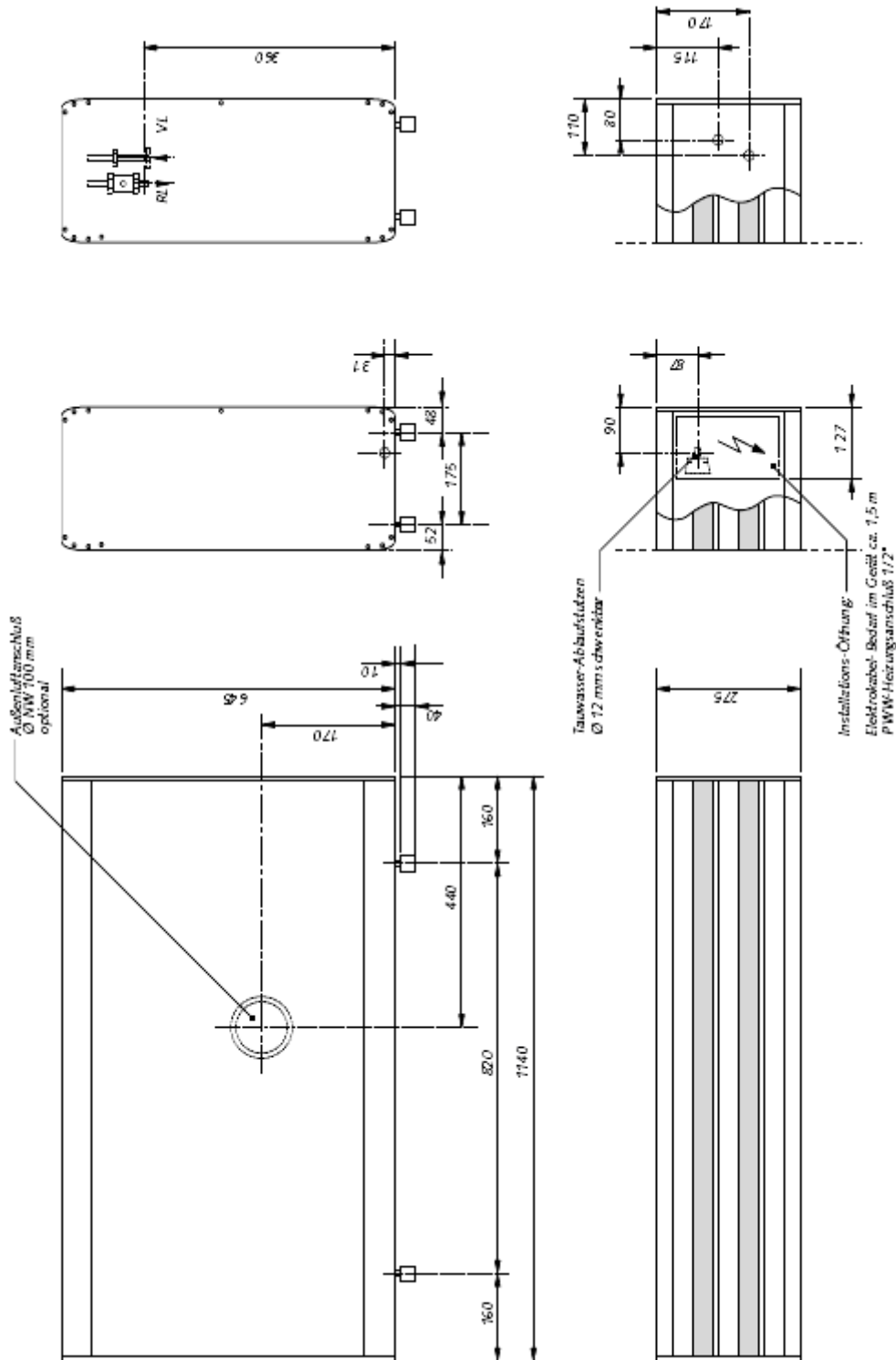
² Flow temperature 80/60° C

Maßblatt SET
 Entfeuchtungsgerät
 Typ SET 3011



Technische Änderungen vorbehalten.

Maßblatt SET
 Entfeuchtungsgerät
 Typ SET 5022



Technische Änderungen vorbehalten.



Dehumidification unit

type LC

Technical data

Dehumidification unit type LC

1 Dehumidification unit type LC .. in free-standing version

with heat recovery by heat pump system in air circulation mode, with room controller and 4 height adjusters (accessory pack) consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with integrated specially shaped blowers of anodised aluminium; air intake is via floor assembly, side panels of night blue acrylic similar to RAL 5022, cover panels of naturally anodised aluminium A6/CO, installed therein:

1 dehumidification unit with heat recovery by heat pump system, constructed on a plastic ground trough. The structure is AlMg3 plating with additional acoustic and thermal insulation, installed therein:

1 heat pump unit filled with safety refrigerant R 407 C, consisting of:

1 fully hermetic engine compressor, vibration-cushion mounted

1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated

1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated

1 expansion valve (thermal and external pressure balance), coated

1 low pressure switch

1 high pressure switch (TÜV tested)

1 filter dryer

1 inspection glass with indicator

1 refrigerant collector

1 cooling piping of CU pipe, inc. condensation insulation

1 bypass damper, manually adjustable

1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

1 electronic control system with LEDs for operation/fault report diagnosis as well as all safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed downtime of the compressor, fuses, contacts

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m ³ /h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm
+ adjustable device feet	40	mm

Brand SET Schmidt Energietechnik, Hemmingen

Type **LC..**

Supply from factory €

Dehumidification unit type LC

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat output at 80/60 °C	.... kW
Flow rate	.... m ³ /h
Pressure decrease	.... kPa

Type	PWW-LC..	
Supply from factory		€

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output kW
-------------	---------

Type	EHZ-LC..	
Supply from factory		€

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler of temperature sensor, operating speed increase on increasing temperature with operation selection switch included in room controller, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow	.... m ³ /h
Power input	.... W

Type	FOL-LC..	
Supply from factory		€

1 Fresh air connection for installation in external wall

(only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1
- 1 plastic extension spline end with integrated thermal insulation to reconcile the distance to the dehumidification console with foam seal

Type	AATE	
Supply from factory		€

Dehumidification unit type LC

- 1 Wall console** of stainless steel for wall mounting, coated, complete with 4 stainless steel fixing screws

Type	WKT-LC	
Supply from factory		€

1 Jacuzzi module

through add of the Jacuzzi module, the inertance of the room controller at Jacuzzi operation will be ignored, consisting of:

- 1 Jacuzzi module with floating contact, wired installed in a switchbox
- 1 Humidistat (external)

Type	WPM	
Supply from factory		€

1 Operation and fault reporting unit

installed in the dehumidification unit ready for operation, to display by LED - voltage, heating, dehumidification, low pressure, high pressure, motor protection (highly recommended for cost-effective remote diagnosis in case of fault) consisting of:

- 1 control electronics only in connection with FOL/FOR/BP
- 1 display print
- 1 BSE display

Type	BSE	
Supply from factory		€

1 Modulated bypass damper regulator

including automatic defroster, installed in the dehumidification unit ready for operation. The bypass damper, driven by an actuator, is controlled with the help of electronics in such a way that the evaporation temperature is maintained at the optimum temperature for dehumidification (only required if very great temperature differences are required in the swimming pool area). Operating range 8 – 38 °C, consisting of:

- 1 control electronics
- 1 temperature sensor
- 1 actuator

Type	BP	
Supply from factory		€

1 Additional humidity switch

for excess moisture regulation in connection with an exhaust fan

Type	HYG	
Supply from factory		€

Technical data

Device type		LC 11	LC 22	LC 33	LC 44	LC 55
Water surface up to approx. ¹	m ²	5-15	20-30	30-40	40-50	50-60
Air nominal power	m ³ /h	400	470	800	1.000	1.100
Dehumidification capacity (30 °C, 60 %)	kg/h	1,5	2,1	3,2	4,1	5,2
Air heat recovery ¹	kW	1,7	2,6	3,9	4,9	6,1
Compressor power input on average	kW	0,75	1,2	1,65	1,54	1,94
Feed-in		AC 230 V 1 N			AC 400 V 3 N	
Dimensions W x D x H	mm	980 x 275 x 655	1140 x 275 x 655	1400 x 310 x 750	1600 x 360 x 770	
+ adjustable device feet	mm	40	40	40	40	40
PWW air heater						
PWW air heater capacity ²	kW	2,6	3,4	6,7	8,0	8,4
Water volume	m ³ /h	0,2	0,2	0,35	0,6	0,6
Drag (inc. valve)	kPa	12	12	10	14	14
Fan for wall installation						
Free flowing air flow	m ³ /h	500	500	500	900	900
Power input	W	45	45	45	60	60

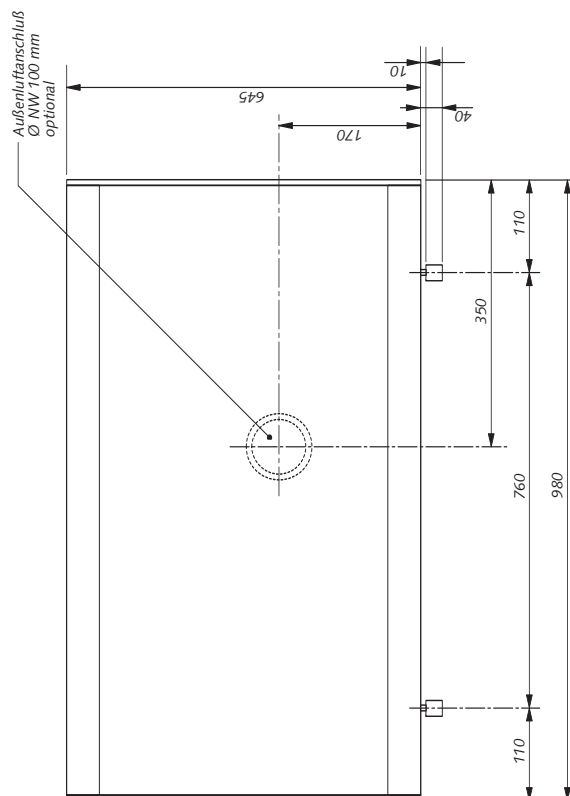
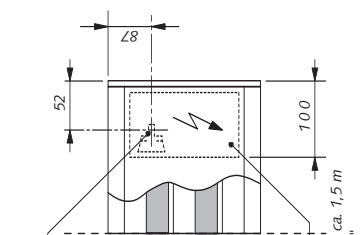
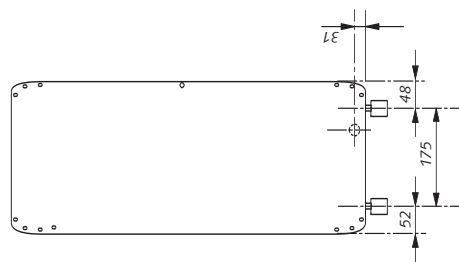
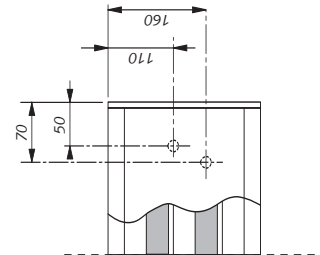
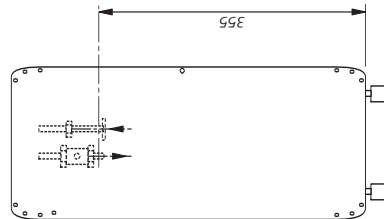
¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

² Flow temperature 80/60° C

Maßblatt LC / TC

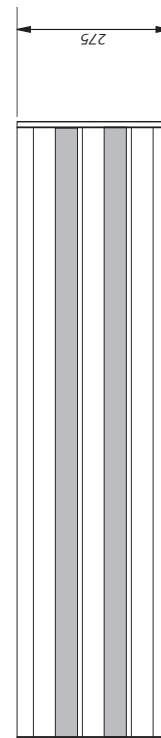
Entfeuchtungsgerät

Typ LC / TC 11



Tauwasser-Abflusstutzen
Ø 12 mm schwenkbar

Installations-Öffnung:
Elektrolabel-Bedarf im Gerät ca. 1,5 m
PWW-Heizungsanschluss 1/2"



Technische Änderungen vorbehalten.

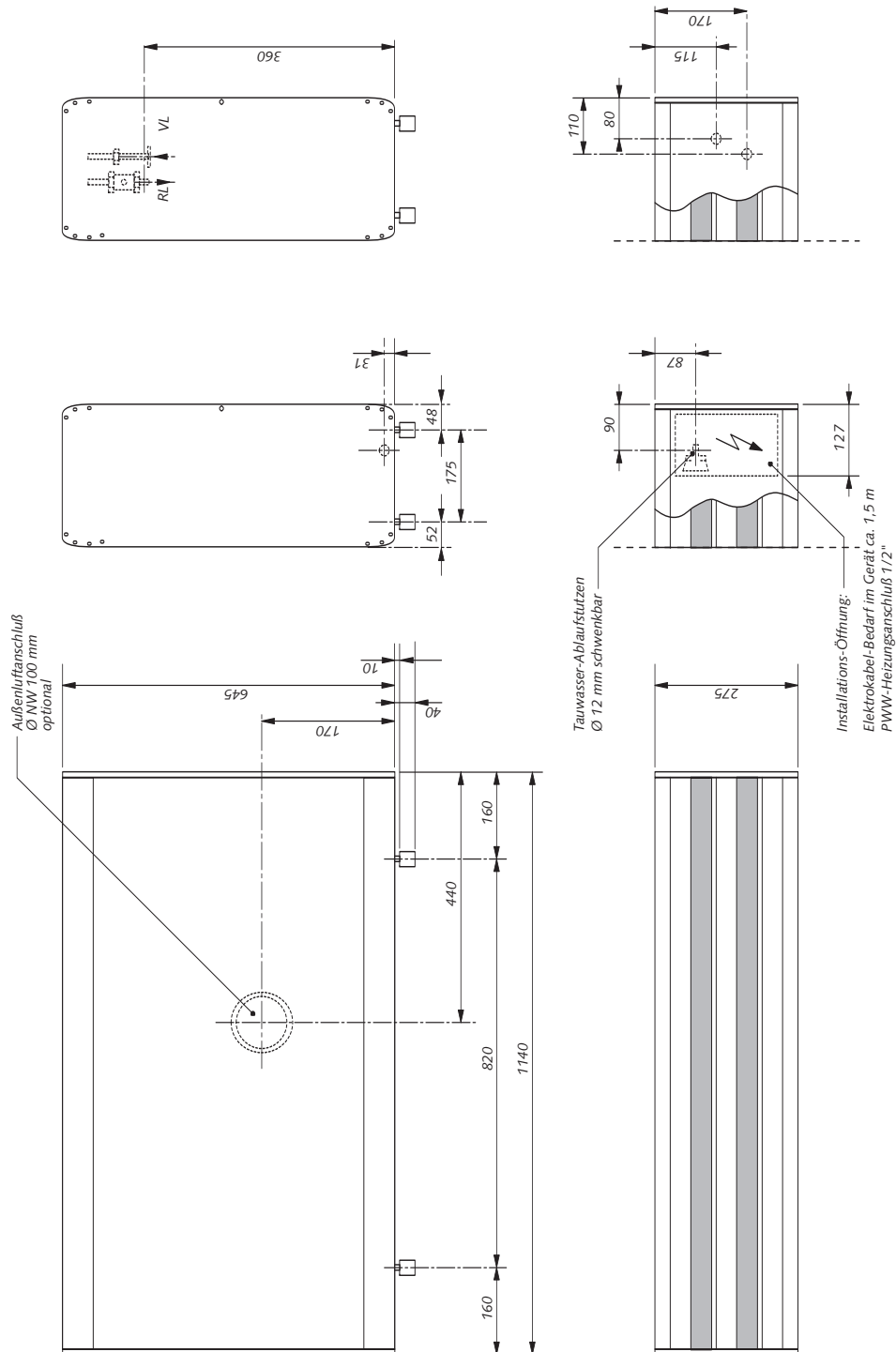
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Maßblatt LC / TC

Entfeuchtungsgerät

Typ LC / TC 22



Technische Änderungen vorbehalten.

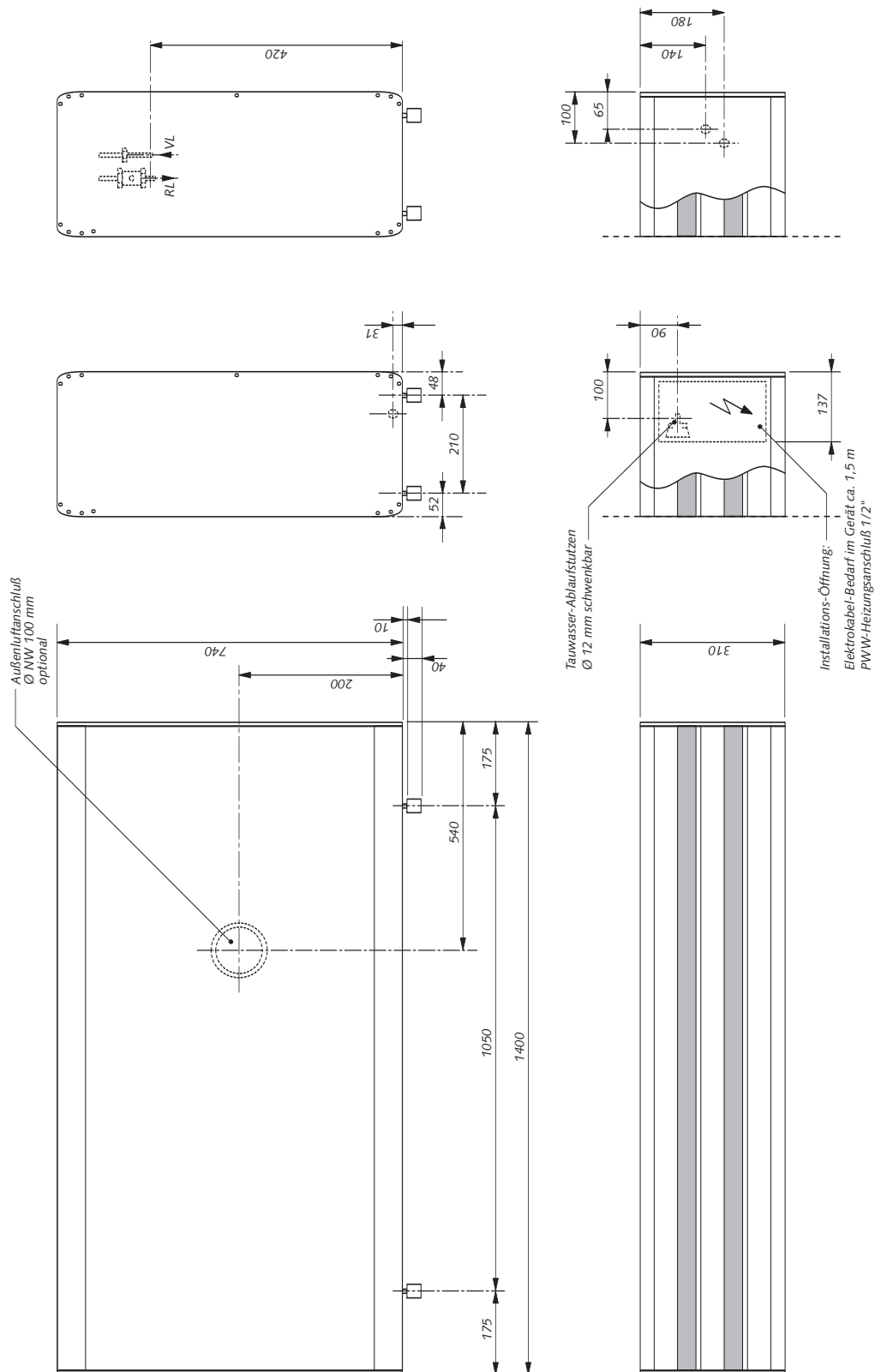
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Maßblatt LC / TC

Entfeuchtungsgerät

Typ LC / TC 33

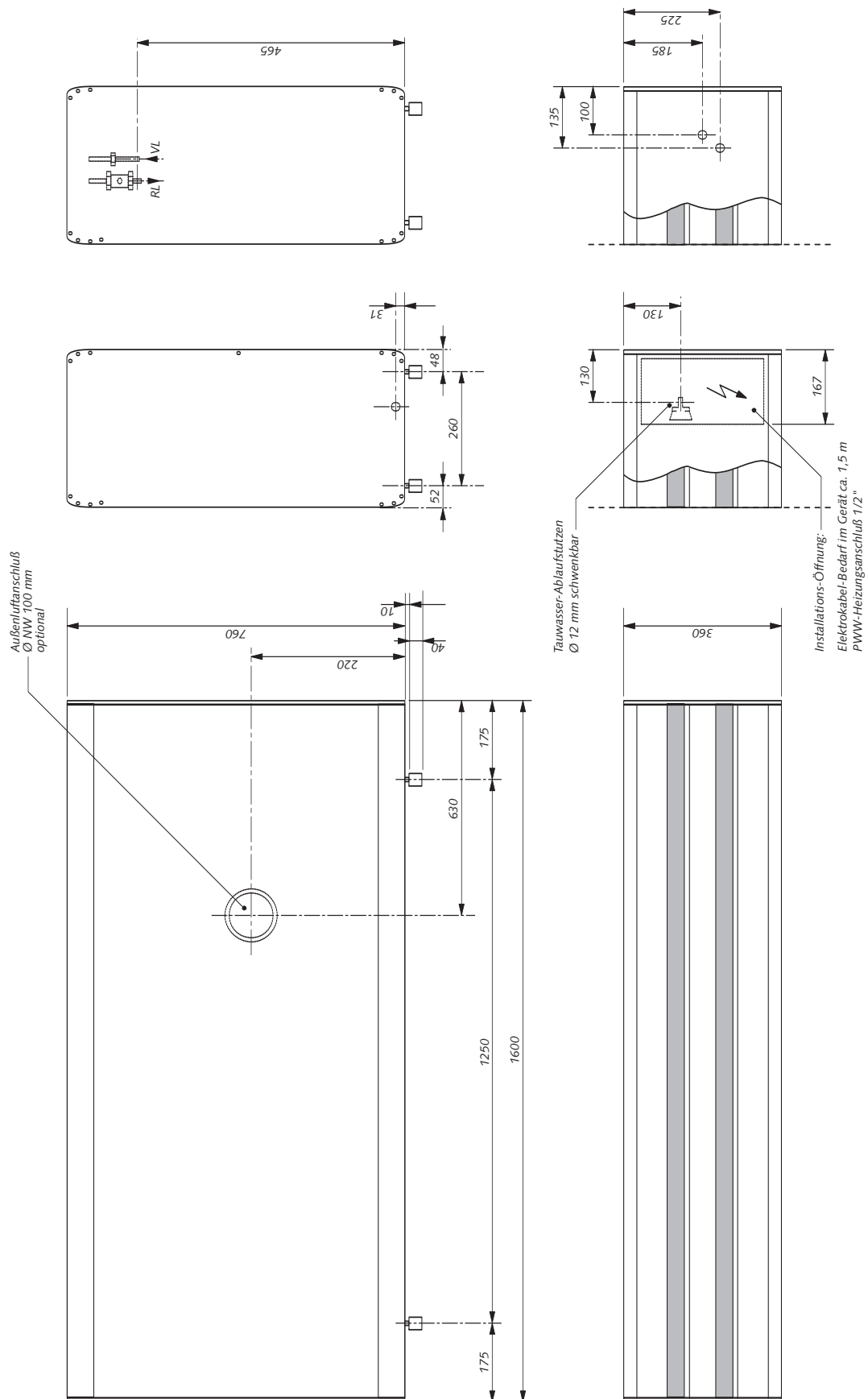


Technische Änderungen vorbehalten.

Maßblatt LC / TC

Entfeuchtungsgeräte

Typ LC / TC 44 / 55



Technische Änderungen vorbehalten.

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Dehumidification unit

type TC

Technical data

Dehumidification unit type TC

1 Dehumidification unit type TC .. in free-standing version

with heat recovery by heat pump system in air circulation mode, with room controller and 4 height adjusters (accessory pack) consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with integrated specially shaped blowers of anodised aluminium; air intake is via floor assembly, side panels of 5 mm naturally anodised aluminium A6/CO, cover panels of naturally anodised aluminium A6/CO, installed therein:

1 dehumidification unit with heat recovery by heat pump system, constructed on a plastic ground trough. The structure is AlMg3 plating with additional acoustic and thermal insulation, installed therein:

1 heat pump unit filled with safety refrigerant R 407 C, consisting of:

1 fully hermetic engine compressor, vibration-cushion mounted

1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated

1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated

1 expansion valve (thermal and external pressure balance), coated

1 low pressure switch

1 high pressure switch (TÜV tested)

1 filter dryer

1 inspection glass with indicator

1 refrigerant collector

1 cooling piping of CU pipe, inc. condensation insulation

1 bypass damper, manually adjustable

1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

1 electronic control system with LEDs for operation/fault report diagnosis as well as all safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed downtime of the compressor, fuses, contacts

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m ³ /h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm
+ adjustable device feet	40	mm

Brand SET Schmidt Energietechnik, Hemmingen

Type **TC..**

Supply from factory €

Dehumidification unit type TC

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat output at 80/60 °C	.... kW
Flow rate	.... m ³ /h
Pressure decrease	.... kPa

Type	PWW-TC..	
Supply from factory		€

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output kW
-------------	---------

Type	EHZ-TC..	
Supply from factory		€

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler of temperature sensor, operating speed increase on increasing temperature with operation selection switch included in room controller, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow	.... m ³ /h
Power input	.... W

Type	FOL-TC..	
Supply from factory		€

1 Fresh air connection for installation in external wall

(only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1
- 1 plastic extension spline end with integrated thermal insulation to reconcile the distance to the dehumidification console with foam seal

Type	AATE	
Supply from factory		€

Dehumidification unit type TC

- 1 Wall console** of stainless steel for wall mounting, coated, complete with 4 stainless steel fixing screws

Type	WKT-TC	
Supply from factory		€

1 Jacuzzi module

through add of the Jacuzzi module, the inertance of the room controller at Jacuzzi operation will be ignored, consisting of:

- 1 Jacuzzi module with floating contact, wired installed in a switchbox
- 1 Humidistat (external)

Type	WPM	
Supply from factory		€

1 Operation and fault reporting unit

installed in the dehumidification unit ready for operation, to display by LED - voltage, heating, dehumidification, low pressure, high pressure, motor protection (highly recommended for cost-effective remote diagnosis in case of fault) consisting of:

- 1 control electronics only in connection with FOL/FOR/BP
- 1 display print
- 1 BSE display

Type	BSE	
Supply from factory		€

1 Modulated bypass damper regulator

including automatic defroster, installed in the dehumidification unit ready for operation. The bypass damper, driven by an actuator, is controlled with the help of electronics in such a way that the evaporation temperature is maintained at the optimum temperature for dehumidification (only required if very great temperature differences are required in the swimming pool area). Operating range 8 – 38 °C, consisting of:

- 1 control electronics
- 1 temperature sensor
- 1 actuator

Type	BP	
Supply from factory		€

1 Additional humidity switch

for excess moisture regulation in connection with an exhaust fan

Type	HYG	
Supply from factory		€

Technical data

Device type		TC 11	TC 22	TC 33	TC 44	TC 55
Water surface up to approx. ¹	m ²	5-15	20-30	30-40	40-50	50-60
Air nominal power	m ³ /h	400	470	800	1.000	1.100
Dehumidification capacity (30 °C, 60 %)	kg/h	1,5	2,1	3,2	4,1	5,2
Air heat recovery ¹	kW	1,7	2,6	3,9	4,9	6,1
Compressor power input on average	kW	0,75	1,2	1,65	1,54	1,94
Feed-in		AC 230 V 1 N			AC 400 V 3 N	
Dimensions W x D x H	mm	980 x 275 x 655	1140 x 275 x 655	1400 x 310 x 750	1600 x 360 x 770	
+ adjustable device feet	mm	40	40	40	40	40
PWW air heater						
PWW air heater capacity ²	kW	2,6	3,4	6,7	8,0	8,4
Water volume	m ³ /h	0,2	0,2	0,35	0,6	0,6
Drag (inc. valve)	kPa	12	12	10	14	14
Fan for wall installation						
Free flowing air flow	m ³ /h	500	500	500	900	900
Power input	W	45	45	45	60	60

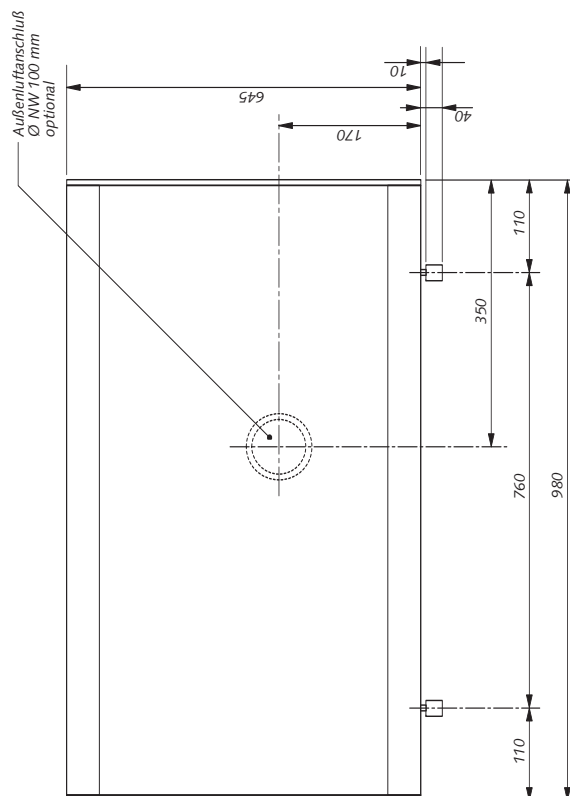
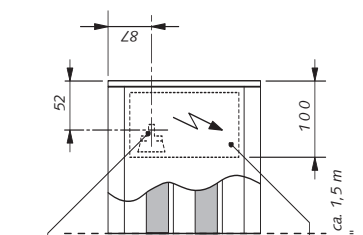
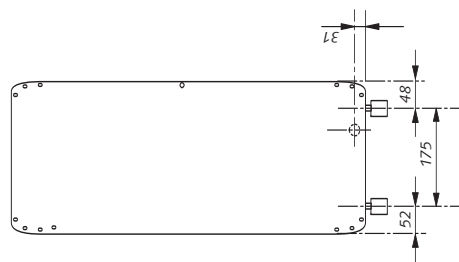
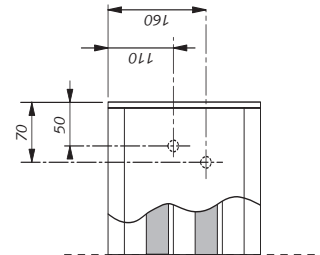
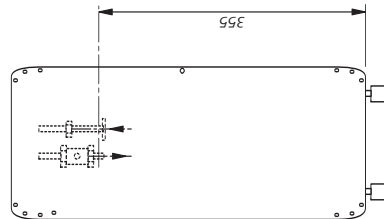
¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

² Flow temperature 80/60° C

Maßblatt LC / TC

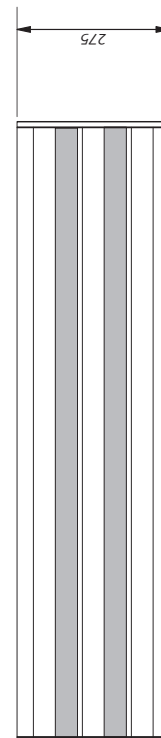
Entfeuchtungsgerät

Typ LC / TC 11



Tauwasser-Abflusstutzen
Ø 12 mm schwenkbar

Installations-Öffnung:
Elektrolabel-Bedarf im Gerät ca. 1,5 m
PWW-Heizungsanschluß 1/2"



Technische Änderungen vorbehalten.

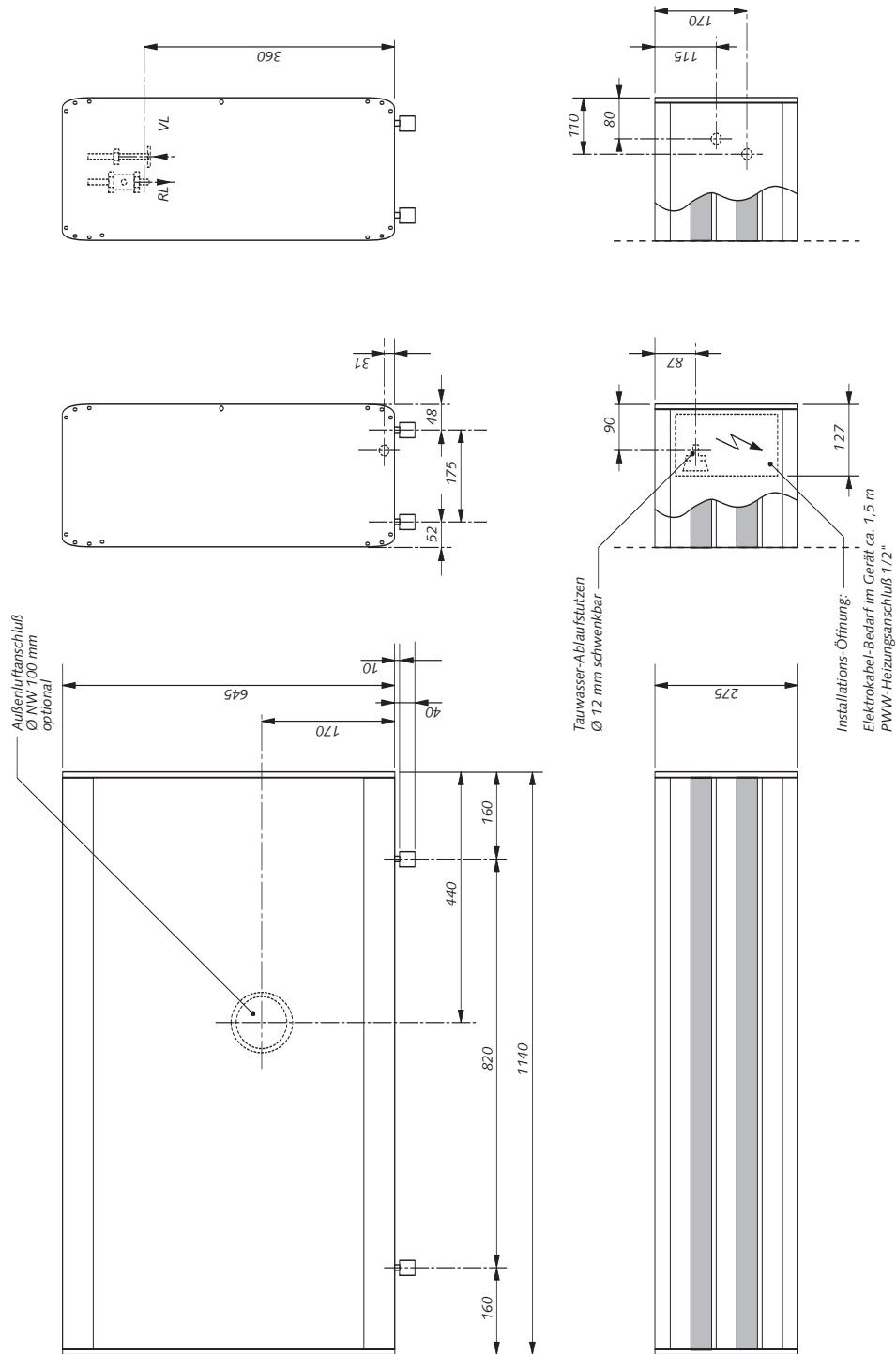
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Maßblatt LC / TC

Entfeuchtungsgerät

Typ LC / TC 22



Technische Änderungen vorbehalten.

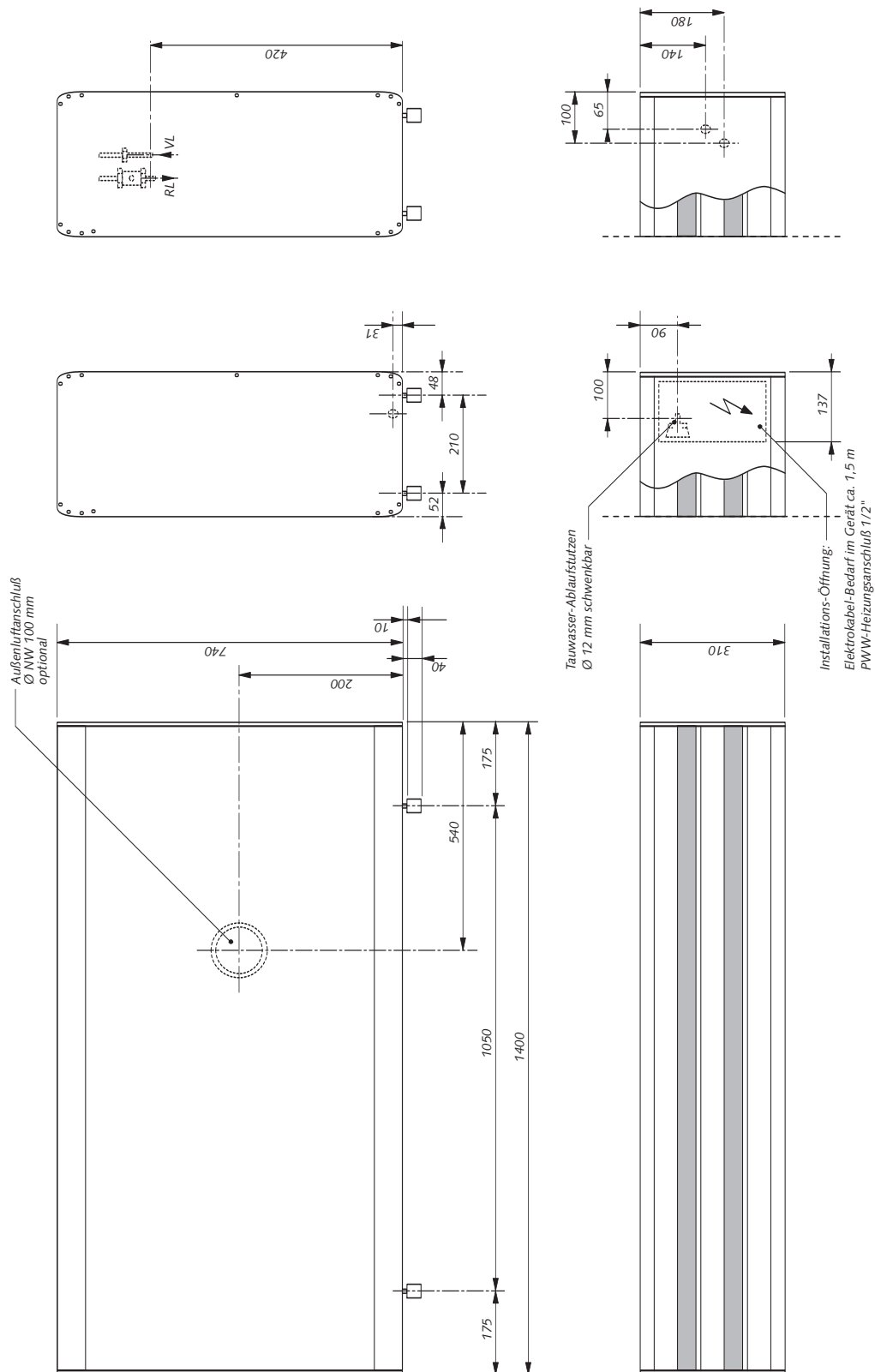
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Maßblatt LC / TC

Entfeuchtungsgerät

Typ LC / TC 33

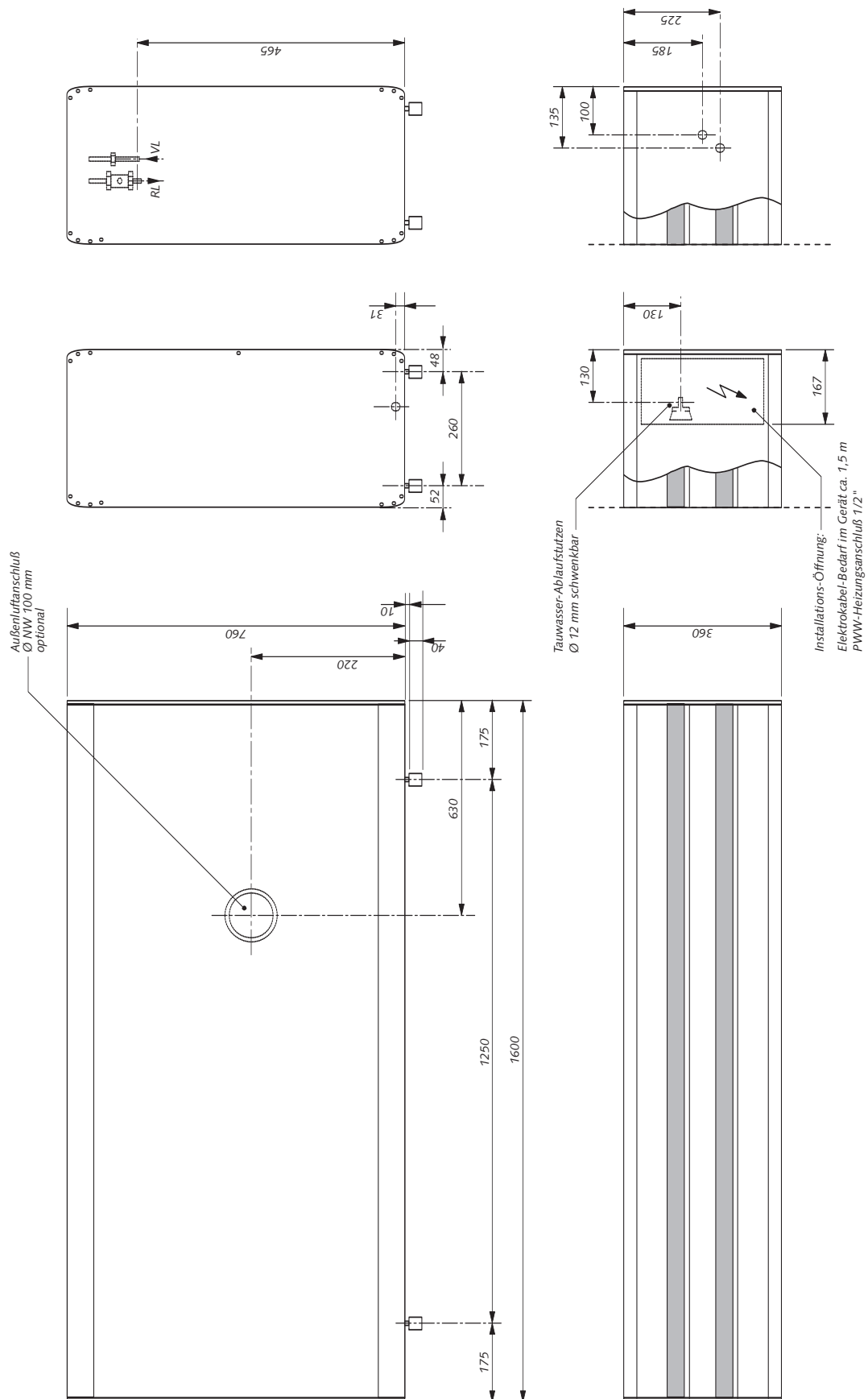


Technische Änderungen vorbehalten.

Maßblatt LC / TC

Entfeuchtungsgeräte

Typ LC / TC 44 / 55



Technische Änderungen vorbehalten.

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Dehumidification unit

type EW

Technical data

Dehumidification unit type EW

1 Dehumidification unit type .501 EW free-standing version

exclusively for wall-mounting, with heat recovery by heat pump system in air circulation mode, with room controller and integrated wall bracket consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with integrated blower openings; air intake is via floor assembly, side panels of 5 mm naturally anodised aluminium A6/CO, cover panels of naturally anodised aluminium A6/CO, installed therein:

1 dehumidification unit with heat recovery by heat pump system, constructed on a plastic ground trough. The structure is AlMg3 plating with additional acoustic and thermal insulation, installed therein:

1 heat pump unit filled with safety refrigerant R 407 C, consisting of:

1 fully hermetic engine compressor, vibration-cushion mounted

1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated

1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated

1 expansion valve (thermal and external pressure balance), coated

1 low pressure switch

1 high pressure switch (TÜV tested)

1 filter dryer

1 inspection glass with indicator

1 refrigerant collector

1 cooling piping of CU pipe, inc. condensation insulation

1 bypass damper, manually adjustable

1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

1 electronic control system with LEDs for operation/fault report diagnosis as well as all safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed downtime of the compressor, fuses, contacts

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m³/h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm

Brand SET Schmidt Energietechnik, Hemmingen

Type **.501 EW**

Supply from factory €

Dehumidification unit type EW

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat output at 80/60 °C	.... kW
Flow rate	.... m ³ /h
Pressure decrease	.... kPa

Type **PWW-.501 EW**
Supply from factory €

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output kW
-------------	---------

Type **EHZ-.501 EW**
Supply from factory €

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler of temperature sensor, operating speed increase on increasing temperature with operation selection switch included in room controller, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow	.... m ³ /h
Power input	.... W

Type **FOL-.501 EW**
Supply from factory €

1 Fresh air connection for installation in external wall

(only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1
- 1 plastic extension spline end with integrated thermal insulation to reconcile the distance to the dehumidification console with foam seal

Type **AATE**
Supply from factory €

Dehumidification unit type EW

1 Jacuzzi module

through add of the Jacuzzi module, the inertance of the room controller at Jacuzzi operation will ignored, consisting of:

- 1 Jacuzzi module with floating contact, wired installed in a switchbox
- 1 Humidistat (external)

Type	WPM	
Supply from factory		€

1 Operation and fault reporting unit

installed in the dehumidification unit ready for operation, to display by LED - voltage, heating, dehumidification, low pressure, high pressure, motor protection (highly recommended for cost-effective remote diagnosis in case of fault) consisting of:

- 1 control electronics only in connection with FOL/FOR/BP
- 1 display print
- 1 BSE display

Type	BSE	
Supply from factory		€

1 Modulated bypass damper regulator

including automatic defroster, installed in the dehumidification unit ready for operation. The bypass damper, driven by an actuator, is controlled with the help of electronics in such a way that the evaporation temperature is maintained at the optimum temperature for dehumidification (only required if very great temperature differences are required in the swimming pool area). Operating range 8 – 38 °C, consisting of:

- 1 control electronics
- 1 temperature sensor
- 1 actuator

Type	BP	
Supply from factory		€

1 Additional humidity switch

for excess moisture regulation in connection with an exhaust fan

Type	HYG	
Supply from factory		€

Technical data

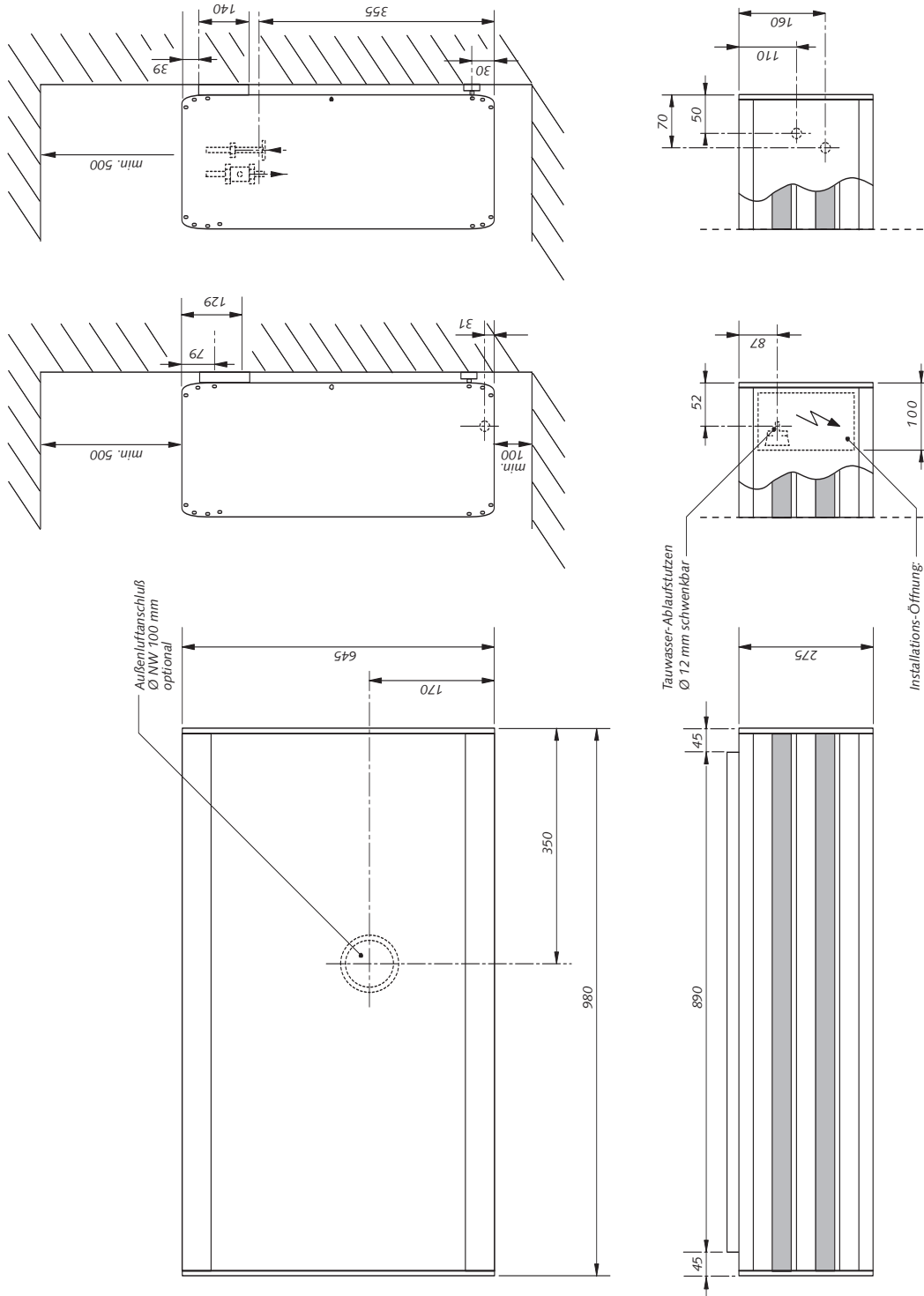
Device type		1501 EW	2501 EW	3501 EW
Water surface up to approx. ¹	m ²	5-15	20-30	30-40
Air nominal power	m ³ /h	400	470	800
Dehumidification capacity (30 °C, 60 %)	kg/h	1,5	2,1	3,2
Air heat recovery ¹	kW	1,7	2,6	3,9
Compressor power input on average	kW	0,75	1,2	1,65
Feed-in		AC 230 V 1 N		
Dimensions W x D x H	mm	980 x 275 x 655	1140 x 275 x 655	1400 x 310 x 750
PWW air heater				
PWW air heater capacity ²	kW	2,6	3,4	6,7
Water volume	m ³ /h	0,2	0,2	0,35
Drag (inc. valve)	kPa	12	12	10
Fan for wall installation				
Free flowing air flow	m ³ /h	500	500	500
Power input	W	45	45	45

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

² Flow temperature 80/60° C

Maßblatt EW

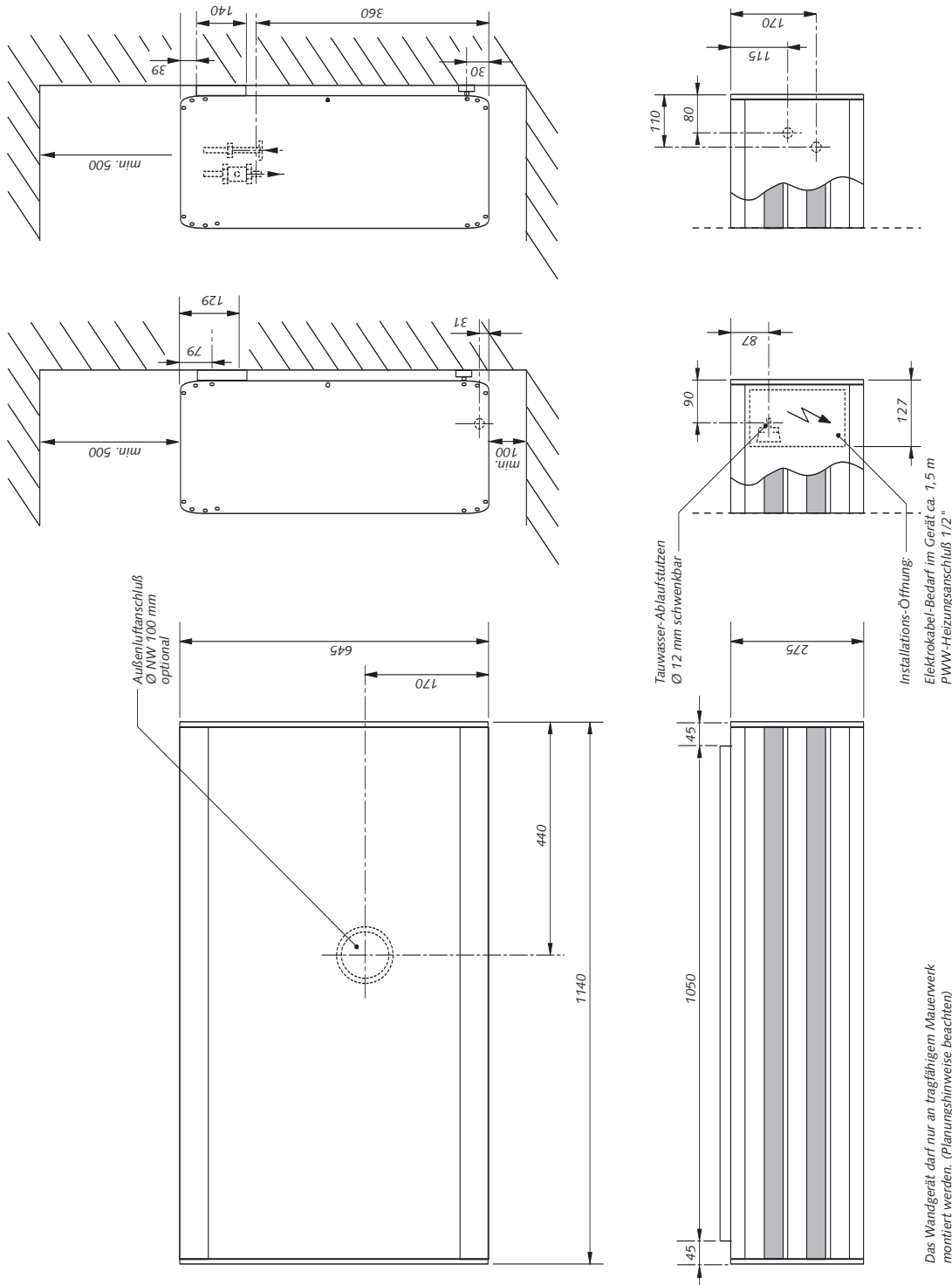
Entfeuchtungsgerät in Truhenbauweise zur Wandmontage
Typ 1501 EW



Technische Änderungen vorbehalten.

Maßblatt EW

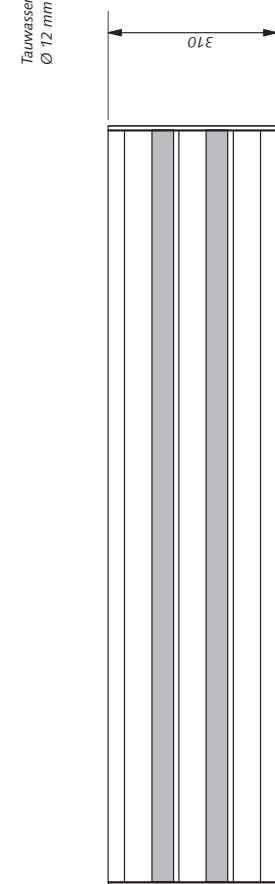
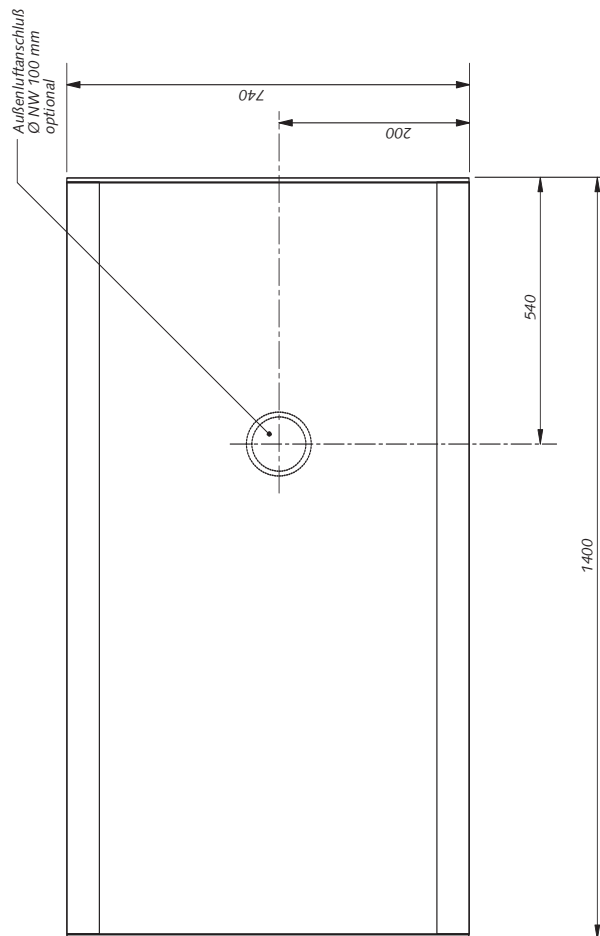
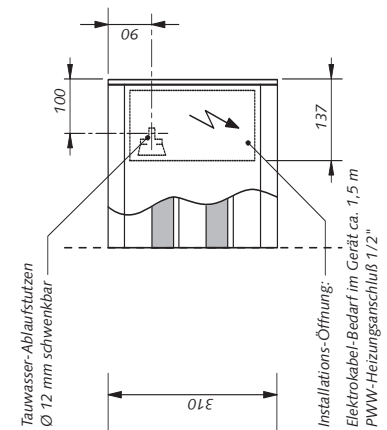
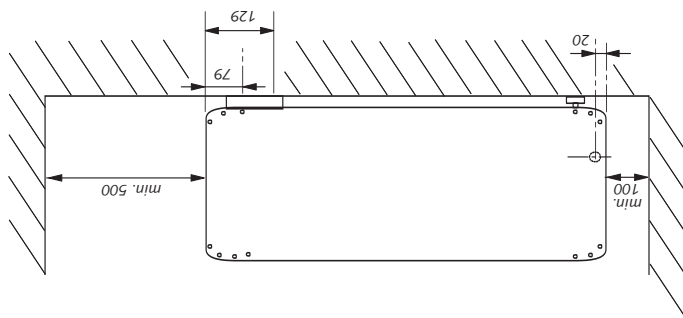
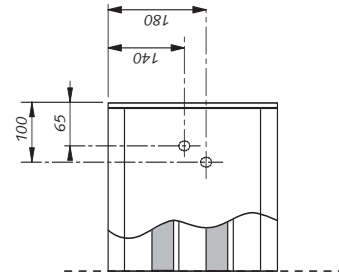
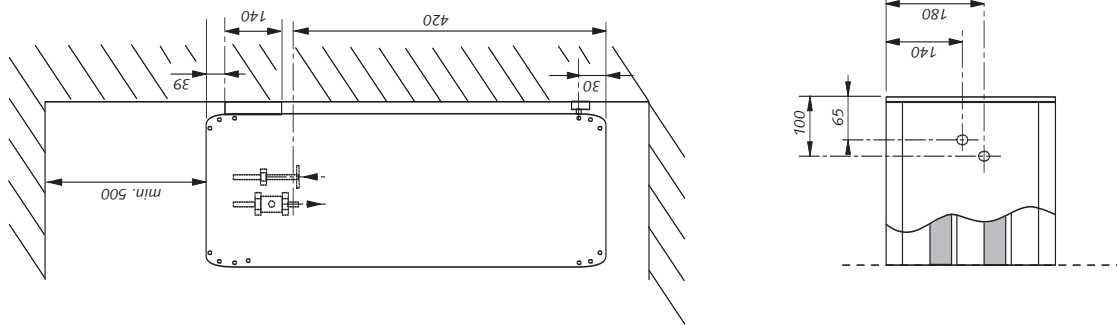
Entfeuchtungsgerät in Truhenbauweise zur Wandmontage
Typ 2501 EW



Technische Änderungen vorbehalten.

Maßblatt EW

Entfeuchtungsgerät in Truhenbauweise zur Wandmontage
Typ 3501 EW



Installation-Öffnung:
Elektrolabel-Bedarf im Gerät ca. 1,5 m
PWW-Heizungsanschluß 1/2"

Das Wandgerät darf nur an tragfähigem Mauerwerk montiert werden. (Planungshinweise beachten)

Technische Änderungen vorbehalten.



Dehumidification unit

type E

Technical data

Dehumidification unit type E

1 Dehumidification unit type .501 E free-standing version

with heat recovery by heat pump system in air circulation mode, with room controller and 4 height adjusters (accessory pack) consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with integrated blower openings with vertical air adjusters; air intake is via a front grill and floor assembly, side panels of 5 mm naturally anodised aluminium A6/CO, cover panels of naturally anodised aluminium A6/CO, installed therein:

1 dehumidification unit with heat recovery by heat pump system, constructed on a plastic ground trough. The structure is AlMg3 plating with additional acoustic and thermal insulation, installed therein:

1 heat pump unit filled with safety refrigerant R 407 C, consisting of:

1 fully hermetic engine compressor, vibration-cushion mounted

1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated

1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated

1 expansion valve (thermal and external pressure balance), coated

1 low pressure switch

1 high pressure switch (TÜV tested)

1 filter dryer

1 inspection glass with indicator

1 refrigerant collector

1 cooling piping of CU pipe, inc. condensation insulation

1 bypass damper, manually adjustable

1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

1 electronic control system with LEDs for operation/fault report diagnosis as well as all safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed downtime of the compressor, fuses, contacts

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m ³ /h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm
+ adjustable device feet	24	mm

Brand SET Schmidt Energietechnik, Hemmingen

Type **.501 E**

Supply from factory €

Dehumidification unit type E

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat output at 80/60 °C	.... kW
Flow rate	.... m ³ /h
Pressure decrease	.... kPa

Type	PWW-.501 E	
Supply from factory		€

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output kW
-------------	---------

Type	EHZ-.501 E	
Supply from factory		€

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler of temperature sensor, operating speed increase on increasing temperature with operation selection switch included in room controller, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow	.... m ³ /h
Power input	.... W

Type	FOL-.501 E	
Supply from factory		€

1 Fresh air connection for installation in external wall

(only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1
- 1 plastic extension spline end with integrated thermal insulation to reconcile the distance to the dehumidification console with foam seal

Type	AATE	
Supply from factory		€

Dehumidification unit type E

1 Jacuzzi module

through add of the Jacuzzi module, the inertance of the room controller at Jacuzzi operation will ignored, consisting of:

- 1 Jacuzzi module with floating contact, wired installed in a switchbox
- 1 Humidistat (external)

Type	WPM	
Supply from factory		€

1 Operation and fault reporting unit

installed in the dehumidification unit ready for operation, to display by LED - voltage, heating, dehumidification, low pressure, high pressure, motor protection (highly recommended for cost-effective remote diagnosis in case of fault) consisting of:

- 1 control electronics only in connection with FOL/FOR/BP
- 1 display print
- 1 BSE display

Type	BSE	
Supply from factory		€

1 Modulated bypass damper regulator

including automatic defroster, installed in the dehumidification unit ready for operation. The bypass damper, driven by an actuator, is controlled with the help of electronics in such a way that the evaporation temperature is maintained at the optimum temperature for dehumidification (only required if very great temperature differences are required in the swimming pool area). Operating range 8 – 38 °C, consisting of:

- 1 control electronics
- 1 temperature sensor
- 1 actuator

Type	BP	
Supply from factory		€

1 Additional humidity switch

for excess moisture regulation in connection with an exhaust fan

Type	HYG	
Supply from factory		€

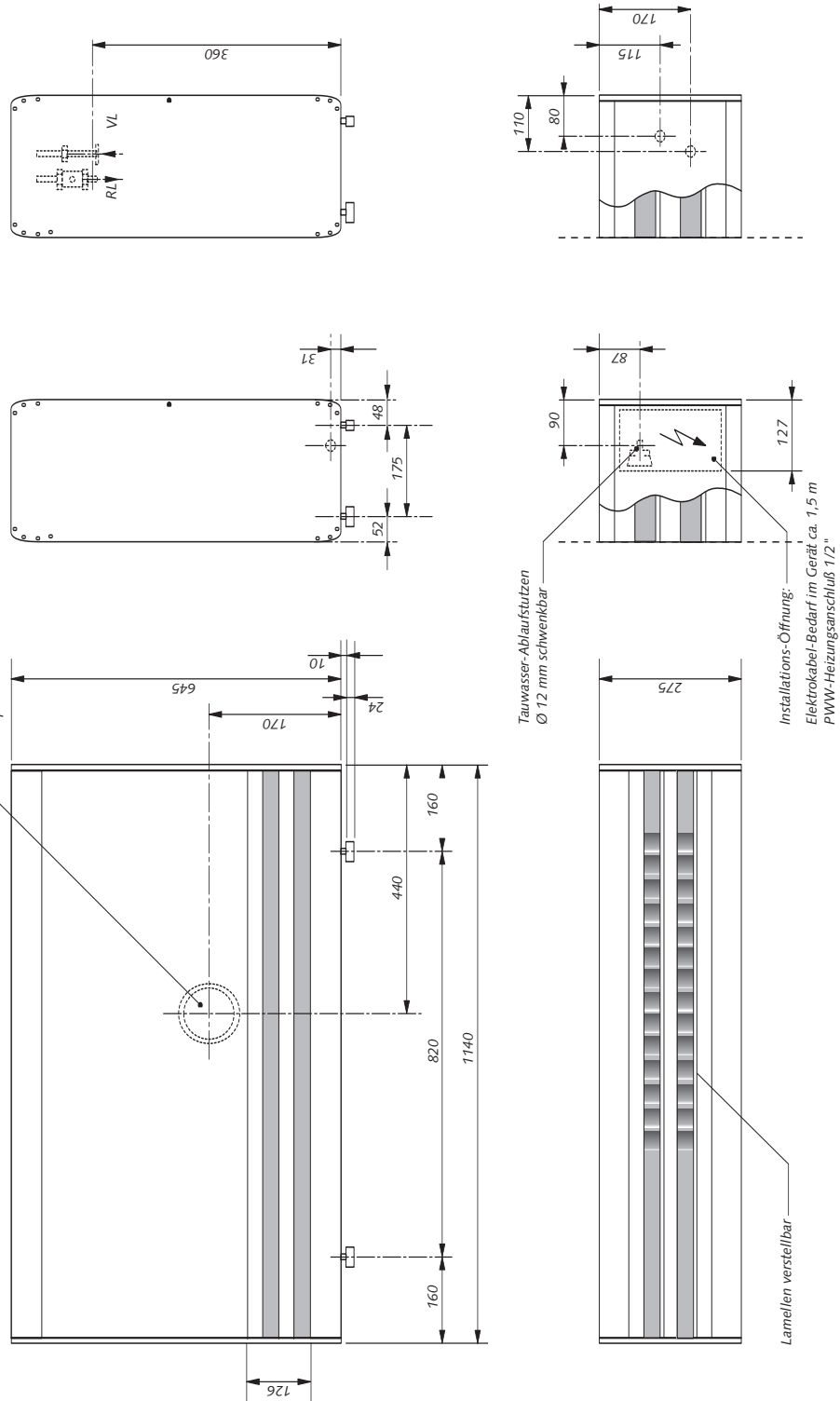
Technical data

Device type		2501 E	3501 E	4501 E	5501 E
Water surface up to approx. ¹	m ²	20-30	30-40	40-50	50-60
Air nominal power	m ³ /h	470	800	1.000	1.100
Dehumidification capacity (30 °C, 60 %)	kg/h	2,1	3,2	4,1	5,2
Air heat recovery ¹	kW	2,6	3,9	4,9	6,1
Compressor power input on average	kW	1,2	1,65	1,54	1,94
Feed-in		AC 230 V 1 N		AC 400 V 3 N	
Dimensions W x D x H	mm	1140 x 275 x 655	1400 x 310 x 750	1600 x 360 x 770	
+ adjustable device feet	mm	40	40	40	40
PWW air heater					
PWW air heater capacity ²	kW	3,4	6,7	8,0	8,4
Water volume	m ³ /h	0,2	0,35	0,6	0,6
Drag (inc. valve)	kPa	12	10	14	14
Fan for wall installation					
Free flowing air flow	m ³ /h	500	500	900	900
Power input	W	45	45	60	60

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

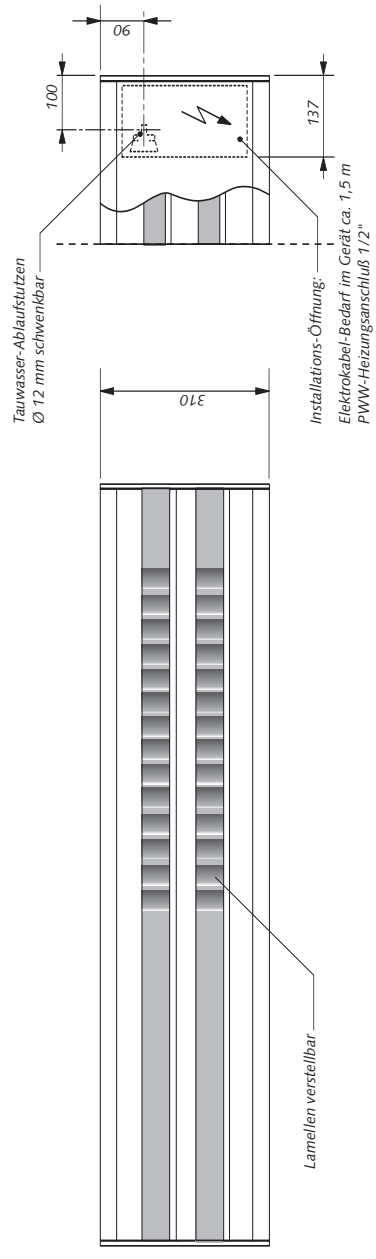
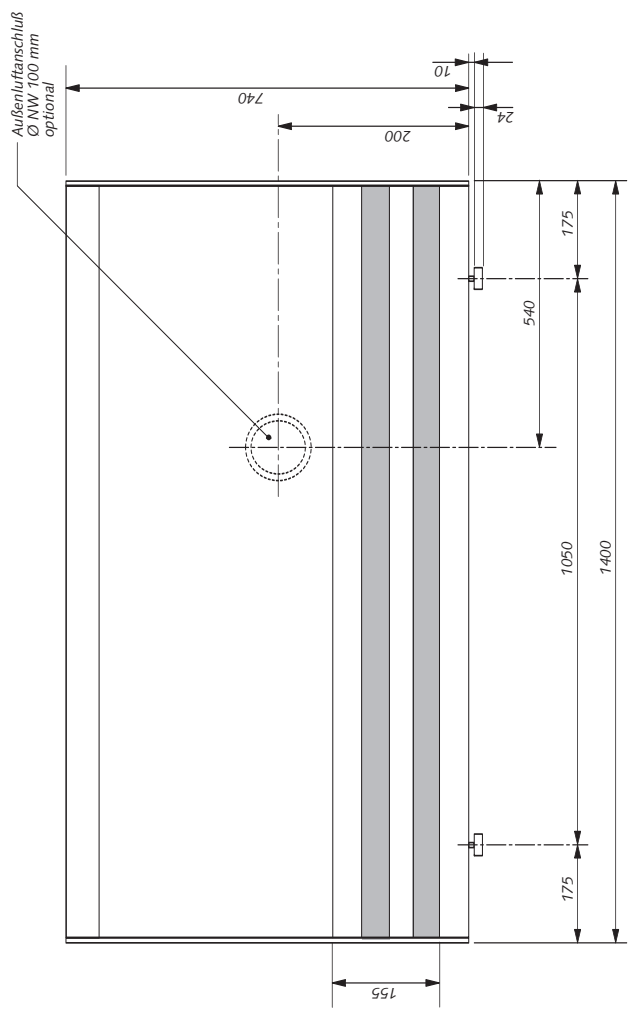
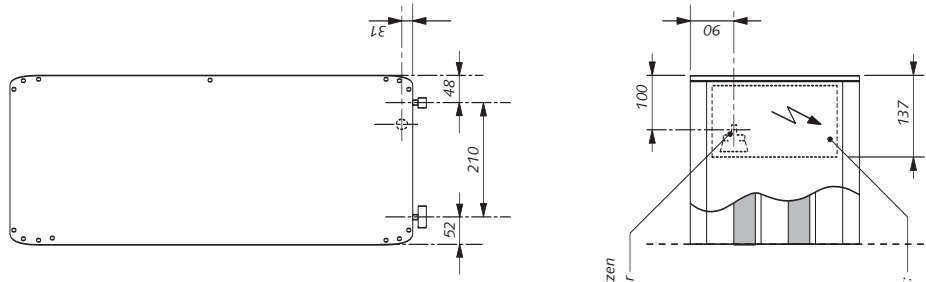
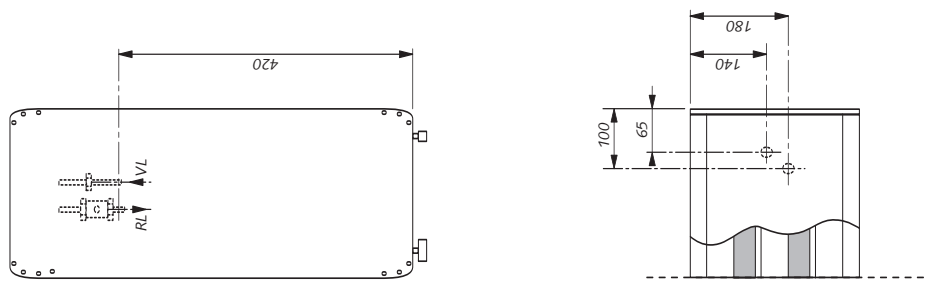
² Flow temperature 80/60° C

Maßblatt E
 Entfeuchtungsgerät
 Typ 2501 E



Technische Änderungen vorbehalten.

Maßblatt E
 Entfeuchtungsgerät
 Typ 3501 E



Technische Änderungen vorbehalten.



Dehumidification unit

type T

Technical data

Dehumidification unit type T

1 Dehumidification unit type .701 T free-standing version

with heat recovery by heat pump system in air circulation mode, with room controller and 4 height adjusters (accessory pack) consisting of:

Housing of coated aluminium, standard colour pure white RAL 9010 with side panels of naturally anodised extruded aluminium A6/CO and night blue acrylic similar to RAL 5022 with 45° adjustable air outlet of naturally anodised extruded aluminium A6/CO with side panels of night blue acrylic similar to RAL 5022, air intake is through the floor assembly

1 dehumidification unit with heat recovery by heat pump system, constructed on a plastic ground trough. The structure is AlMg3 plating with additional acoustic and thermal insulation, installed therein:

1 heat pump unit filled with safety refrigerant R 407 C, consisting of:

1 fully hermetic engine compressor, vibration-cushion mounted

1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated

1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated

1 expansion valve (thermal and external pressure balance), coated

1 low pressure switch

1 high pressure switch (TÜV tested)

1 filter dryer

1 inspection glass with indicator

1 refrigerant collector

1 cooling piping of CU pipe, inc. condensation insulation

1 bypass damper, manually adjustable

1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

1 electronic control system with LEDs for operation/fault report diagnosis as well as all safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed downtime of the compressor, fuses, contacts

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m ³ /h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm
+ adjustable device feet	20	mm

Brand SET Schmidt Energietechnik, Hemmingen

Type **.701 T**

Supply from factory €

Dehumidification unit type T

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat output at 80/60 °C	.... kW
Flow rate	.... m ³ /h
Pressure decrease	.... kPa

Type	PWW-.701 T	
Supply from factory		€

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output kW
-------------	---------

Type	EHZ-.701 T	
Supply from factory		€

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler of temperature sensor, operating speed increase on increasing temperature with operation selection switch included in room controller, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow	.... m ³ /h
Power input	.... W

Type	FOL-.701 T	
Supply from factory		€

1 Fresh air connection for installation in external wall

(only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1
- 1 plastic extension spline end with integrated thermal insulation to reconcile the distance to the dehumidification console with foam seal

Type	AATE	
Supply from factory		€

Dehumidification unit type T

1 Jacuzzi module

through add of the Jacuzzi module, the inertance of the room controller at Jacuzzi operation will ignored, consisting of:

- 1 Jacuzzi module with floating contact, wired installed in a switchbox
- 1 Humidistat (external)

Type	WPM	
Supply from factory		€

1 Operation and fault reporting unit

installed in the dehumidification unit ready for operation, to display by LED - voltage, heating, dehumidification, low pressure, high pressure, motor protection (highly recommended for cost-effective remote diagnosis in case of fault) consisting of:

- 1 control electronics only in connection with FOL/FOR/BP
- 1 display print
- 1 BSE display

Type	BSE	
Supply from factory		€

1 Additional humidity switch

for excess moisture regulation in connection with an exhaust fan

Type	HYG	
Supply from factory		€

Dehumidification unit type .701 T-MC

1 Dehumidification unit type .701 T-MC free-standing version

with heat recovery by heat pump system in air circulation mode, complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors), and 4 height adjusters (accessory pack), consisting of:

Housing of coated aluminium, standard colour pure white RAL 9010 with side panels of naturally anodised extruded aluminium A6/CO and night blue acrylic similar to RAL 5022 with 45° adjustable air outlet of naturally anodised extruded aluminium A6/CO with side panels of night blue acrylic similar to RAL 5022, air intake is through the floor assembly

1 dehumidification unit with heat recovery by heat pump system, constructed on a plastic ground trough. The structure is AlMg3 plating with additional acoustic and thermal insulation, installed therein:

1 heat pump unit filled with safety refrigerant R 407 C, consisting of:

1 fully hermetic engine compressor, vibration-cushion mounted

1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated

1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated

1 expansion valve (thermal and external pressure balance), coated

1 low pressure switch

1 high pressure switch (TÜV tested)

1 filter dryer

1 inspection glass with indicator

1 refrigerant collector

1 cooling piping of CU pipe, inc. condensation insulation

1 bypass damper, manually adjustable

1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

1 SET Microcontroller MC 2001

consisting of:

aluminium base plate with MC 2001 including fuses, overcurrent release

contacts, connection cable with multipoint connector for

operator control unit, switchboard wiring to VDE,

fully wired for external room controllers, pumps etc.

Hardware

Operation and display unit in accessory pack, illuminated, for actual/target value display, heating valve position, exhaust fan function, hours of operation and display texts for operation and fault reporting. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of room temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Dehumidification unit type .701 T-MC

Software

Control functions:

- Pool area temperature regulation (optional)
- Humidity regulation
- Control of the exhaust fan (optional)
- Mode of operation selector
- Error messages
- PWW pumps activation (optional)

During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short (optional); it switches off again when the operational target values are reached.

The exhaust fan generates a vacuum in the swimming pool and limits excess humidity and temperature.

Installed as standard is a sensor for temperature and humidity, which requires minimum circulating air always to be "on" or intermittent operation.

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m ³ /h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm
+ adjustable device feet	25	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type **.701 T-MC**
 Supply from factory €

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat output at 80/60 °C	....	kW
Flow rate	....	m ³ /h
Pressure decrease	....	kPa

Type **PWW-.701 T-MC**
 Supply from factory €

Dehumidification unit type T-MC

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output	....	kW
Type	EHZ-.701 T-MC	
Supply from factory		€

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using MC 2001, operating speed increase on increasing temperature, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow	....	m ³ /h
Power input	....	W
Type	FOL-.701 T-MC	
Supply from factory		€

1 Fresh air connection

for installation in the external wall (only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation and spigot NW 100 with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1

Type	AAHU	
Supply from factory		€

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type	RF	
Supply from factory		€

Dehumidification unit type T-MC

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	
Supply from factory		€

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

Technical data

Device type		2701 T	3701 T	4701 T	5701 T
Water surface up to approx. ¹	m ²	20-32	30-42	40-52	50-62
Air nominal power	m ³ /h	550	850	1.100	1.150
Dehumidification capacity (30 °C, 60 %)	kg/h	2,3	3,6	4,4	5,5
Air heat recovery ¹	kW	2,7	3,9	4,5	5,6
Compressor power input on average	kW	1,15	1,47	1,49	1,88
Feed-in		AC 230 V 1 N		AC 400 V 3 N	
Dimensions W x D x H	mm	1295 x 400 x 845	1555 x 400 x 950	1755 x 415 x 970	
+ adjustable device feet	mm	20	20	20	20
PWW air heater					
PWW air heater capacity ²	kW	5,8	9,8	12,0	12,3
Water volume	m ³ /h	0,2	0,35	0,6	0,6
Drag (inc. valve)	kPa	12	10	14	14
Fan for wall installation					
Free flowing air flow	m ³ /h	500	500	900	900
Power input	W	45	45	60	60

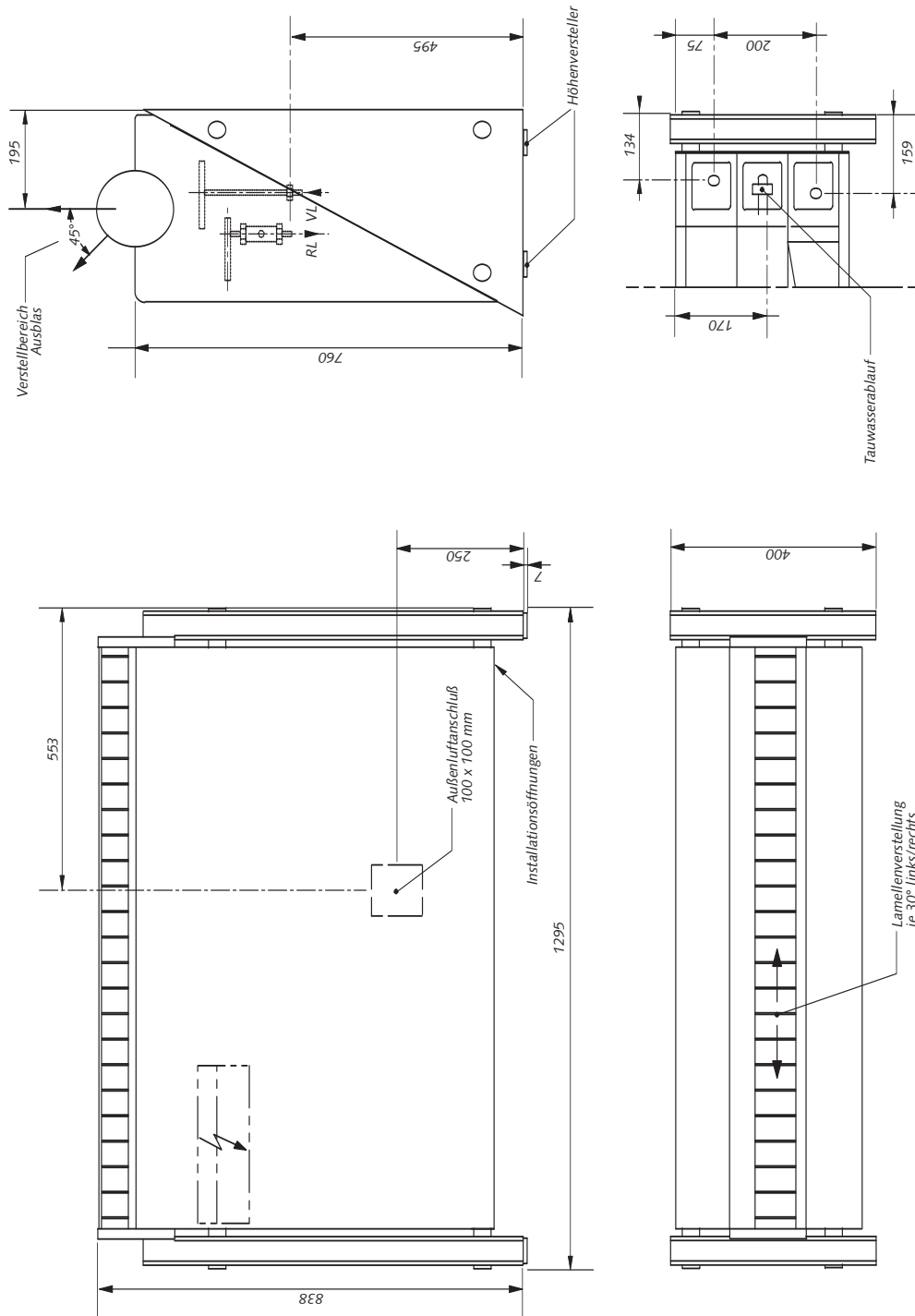
¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

² Flow temperature 80/60° C

Maßblatt T / T-MC

Entfeuchtungsgerät

Typ 2701 T / T-MC



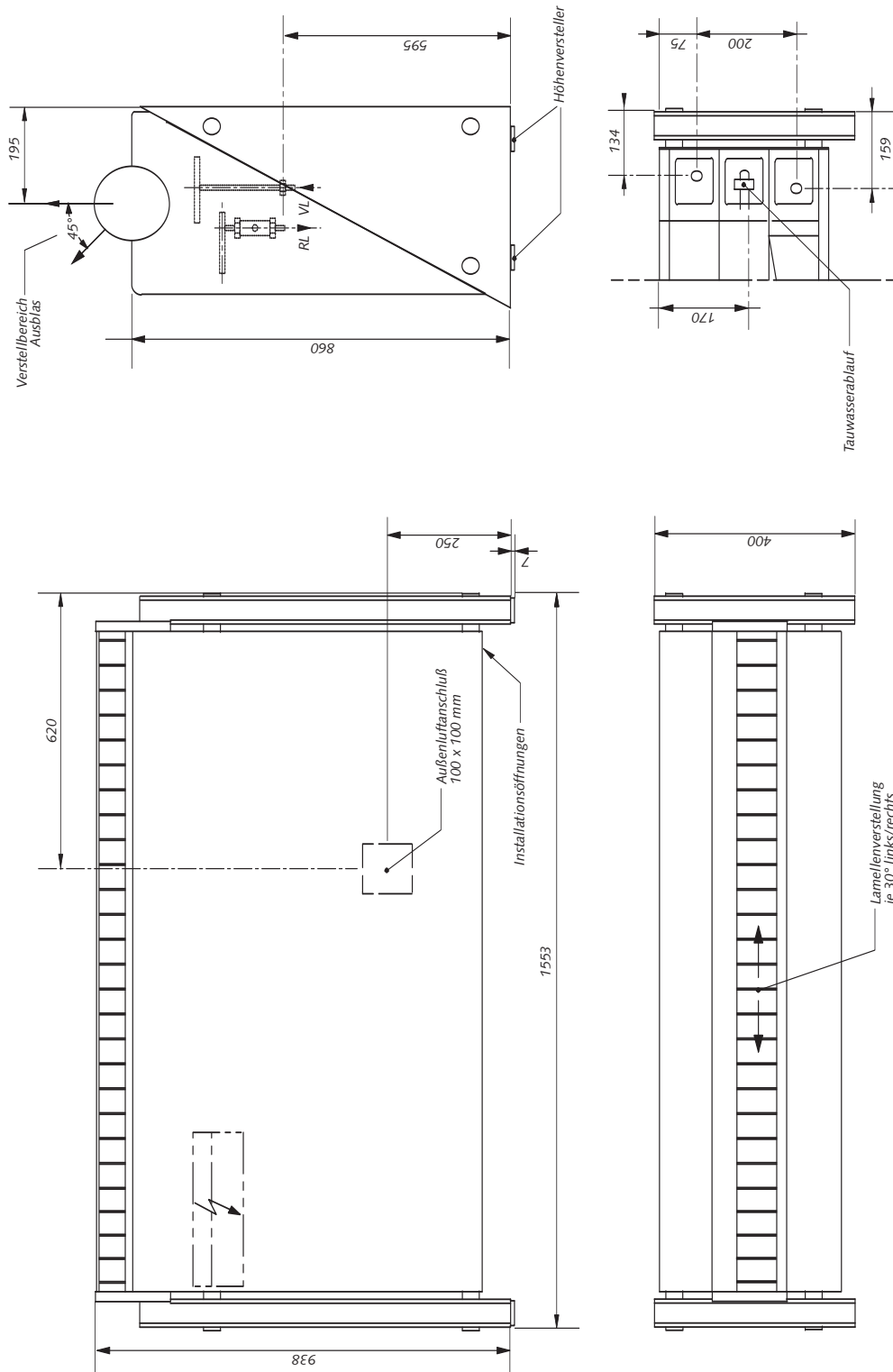
Installationsöffnungen
Elektrokabelbedarf im Gerät 1,5 m
PWW Heizungsanschluss 1/2"

Technische Änderungen vorbehalten.

Maßblatt T / T-MC

Entfeuchtungsgerät

Typ 3701 T / T-MC



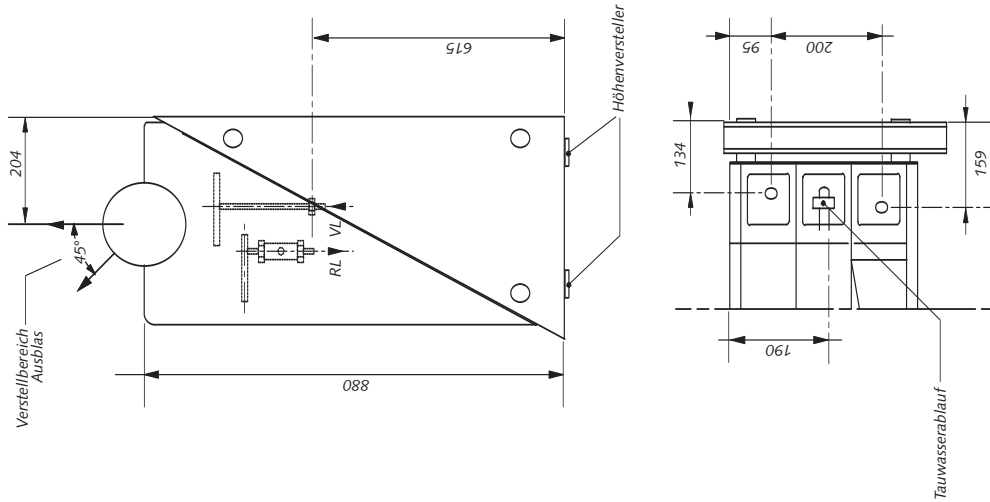
Installationsöffnungen
Elektrokabelbedarf im Gerät 1,5 m
PWW Heizungsanschluss 1/2"

Technische Änderungen vorbehalten.

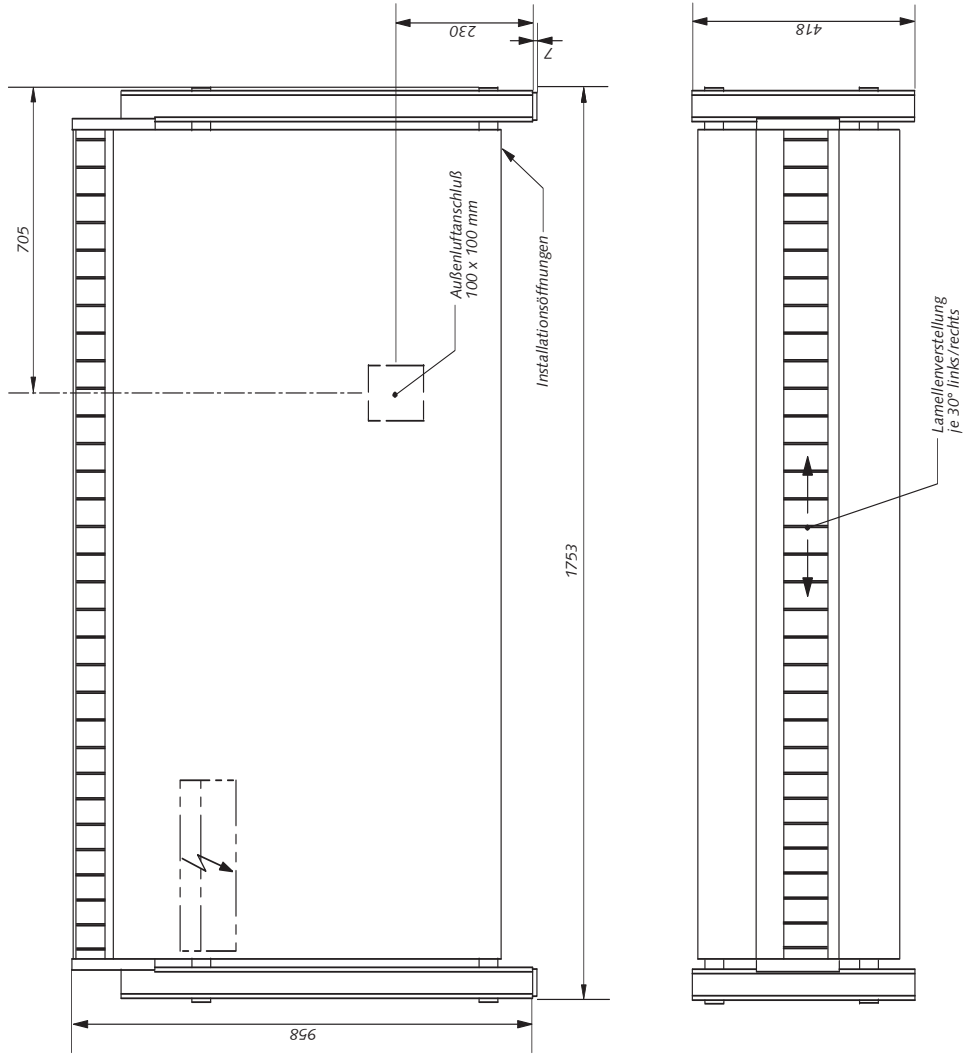
Maßblatt T / T-MC

Entfeuchtungsgerät

Typ 4701 T / T-MC / 5701 T / T-MC



Installationsöffnungen
Elektrobedarf im Gerät 1,5 m
PWW Heizungsanschluß 1/2"



Technische Änderungen vorbehalten.



Dehumidification unit

type H

Technical data

Dehumidification unit type .501 H

1 Dehumidification unit type 2501 H back-wall version

with heat recovery by heat pump system in air circulation mode, with room controller, for placement in adjoining frost protected rooms. Connection to the swimming pool area is via airflow tracks (optional), which are covered in the swimming pool area with air grills (optional),

consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, plastic ground trough, cover panels of plastic with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Flexible added air connector with canvas supports (distance over hubs 20 mm), 4 height adjusters (accessory pack) vibration-cushion mounted therein:

1 heat pump unit filled with safety refrigerant R 407 C, consisting of:

1 fully hermetic engine compressor, vibration-cushion mounted

1 crankcase heater

1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated

1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated

1 expansion valve (thermal and external pressure balance), coated

1 low pressure switch

1 high pressure switch (TÜV tested)

1 filter dryer

1 inspection glass with indicator

1 refrigerant collector

1 cooling piping of CU pipe, inc. condensation insulation

1 bypass damper, manually adjustable

1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

1 electronic control system with LEDs for operation/fault report diagnosis as well as all safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed downtime of the compressor, fuses, contacts

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m ³ /h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm
+ adjustable device feet	25	mm

Brand SET Schmidt Energietechnik, Hemmingen

Type **.501 H**

Supply from factory €

Dehumidification unit type H

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat output at 80/60 °C	.... kW
Flow rate	.... m ³ /h
Pressure decrease	.... kPa

Type	PWW-.501 H	
Supply from factory		€

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output kW
-------------	---------

Type	EHZ-.501 H	
Supply from factory		€

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler of temperature sensor, operating speed increase on increasing temperature with operation selection switch included in room controller, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow	.... m ³ /h
Power input	.... W

Type	FOL-.501 H	
Supply from factory		€

1 Fresh air connection

for installation in the external wall (only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

1 plastic wall sleeve with integrated thermal insulation and spigot NW 100 with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1

Type	AAHU	
Supply from factory		€

Dehumidification unit type H

1 Jacuzzi module

through add of the Jacuzzi module, the inertance of the room controller at Jacuzzi operation will be ignored, consisting of:

- 1 Jacuzzi module with floating contact, wired installed in a switchbox
- 1 Humidistat (external)

Type	WPM	
Supply from factory		€

1 Operation and fault reporting unit

installed in the dehumidification unit ready for operation, to display by LED - voltage, heating, dehumidification, low pressure, high pressure, motor protection (highly recommended for cost-effective remote diagnosis in case of fault) consisting of:

- 1 control electronics only in connection with FOL/FOR/BP
- 1 display print
- 1 BSE display

Type	BSE	
Supply from factory		€

1 Additional humidity switch

for excess moisture regulation in connection with an exhaust fan

Type	HYG	
Supply from factory		€

1 Connection duct set,

consisting of:

- 1 front blower unit of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, cover panels of plastic with integrated acoustic and thermal insulation, ready-mounted on dehumidification unit,
- 2 plastic wall sleeves with integrated thermal insulation and slots for hidden grill fixings,
- 2 plastic extension splines with integrated thermal insulation and foam sealant

Type	AKH	
Supply from factory		€

Dehumidification unit type H

1 Duct extension section

for blower side, consisting of:

- 1 duct section with integrated plastic headpiece for front blowing with integrated thermal insulation
- 1 set wall fixing materials, including aluminium fixing bracket

Type	KVH	
Supply from factory		€

1 Added and exhaust air grill set

consisting of:

- 2 ventilation grills of anodised aluminium E6EV1 with hidden fixings, adjustable horizontal blades

Type	LGH	
Supply from factory		€

Dehumidification unit type .501 H-MC

1 Dehumidification unit type 2501 H-MC back-wall version

with heat recovery by heat pump system in air circulation mode, basic configuration, complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors), , for placement in adjoining frost protected rooms. Connection to the swimming pool area is via airflow tracks (optional), which are covered in the swimming pool area with air grills (optional),

consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, plastic ground trough, cover panels of plastic with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Flexible added air connector with canvas supports (distance over hubs 20 mm), 4 height adjusters (accessory pack) vibration-cushion mounted therein:

- 1 heat pump unit filled with safety refrigerant R 407 C, consisting of:
 - 1 fully hermetic engine compressor, vibration-cushion mounted
 - 1 crankcase heater
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated
 - 1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 filter dryer
 - 1 inspection glass with indicator
 - 1 refrigerant collector
 - 1 cooling piping of CU pipe, inc. condensation insulation
 - 1 bypass damper, manually adjustable
 - 1 high performance radial fan, directly driven by external rotary engine of quiet running performance

1 switchbox, device fully wired to VDE, consisting of:

- 1 SET Microcontroller MC 2001
 - consisting of:
 - aluminium base plate with MC 2001 including fuses, overcurrent release contacts, connection cable with multipoint connector for operator control unit, switchboard wiring to VDE, fully wired for external room controllers, pumps etc.

Hardware

Operation and display unit in accessory pack, illuminated, for actual/target value display, heating valve position, exhaust fan function, hours of operation and display texts for operation and fault reporting. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of room temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Dehumidification unit type .501 H-MC

Software

Control functions:

- Pool area temperature regulation (optional)
- Humidity regulation
- Control of the exhaust fan (optional)
- Mode of operation selector
- Error messages
- PWW pumps activation (optional)

During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short (optional); it switches off again when the operational target values are reached.

The exhaust fan generates a vacuum in the swimming pool and limits excess humidity and temperature.

Installed as standard is a sensor for temperature and humidity, which requires minimum circulating air always to be "on" or intermittent operation.

Technical data

Dehumidification capacity (30°C/60% r.h.)	.....	kg/h
Air flow	.....	m ³ /h
External compression	.....	Pa
Heat recovery to air	.....	kW
Compressor power input (on average)	.....	kW
Power supply line	AC ... V . N	
Dimensions W x H x D		mm
+ adjustable device feet	25	mm

Brand	SET Schmidt Energietechnik, Hemmingen
Type	.501 H-MC
Supply from factory	€

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve,
Target value indicator and sensor included in room controller

Heat output at 80/60 °C	....	kW
Flow rate	....	m ³ /h
Pressure decrease	....	kPa

Type	PWW-.501 H-MC
Supply from factory	€

Dehumidification unit type H-MC

1 Electro heater battery

installed in the dehumidification unit ready for operation, including electronic regulation, fan overrun, excess temperature switch and excess temperature fuse, target value indicator and sensor included in room controller

Heat output kW

Type **EHZ-.501 H-MC**
Supply from factory €

1 Exhaust air regulation with fan

installed in the dehumidification unit ready for operation, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using MC 2001, operating speed increase on increasing temperature, with fan for wall installation, internal protection grill and self-activating cover flap

Free flowing air flow m³/h
Power input W

Type **FOL-.501 H-MC**
Supply from factory €

1 Fresh air connection

for installation in the external wall (only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

1 plastic wall sleeve with integrated thermal insulation
and spigot NW 100 with filter insert, washable filter medium
and weather protection grill of anodised aluminium E6EV1

Type **AAHU**
Supply from factory €

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type **RF**
Supply from factory €

Dehumidification unit type H-MC

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	
Supply from factory		€

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

1 Connection duct set, consisting of:

- 1 front blower unit of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, cover panels of plastic with integrated acoustic and thermal insulation, ready-mounted on dehumidification unit,
- 2 plastic wall sleeves with integrated thermal insulation and slots for hidden grill fixings,
- 2 plastic extension splines with integrated thermal insulation and foam sealant

Type	AKH	
Supply from factory		€

Dehumidification unit type H-MC

1 Duct extension section

for blower side, consisting of:

- 1 duct section with integrated plastic headpiece for front blowing with integrated thermal insulation
- 1 set wall fixing materials, including aluminium fixing bracket

Type	KVH	
Supply from factory		€

1 Added and exhaust air grill set

consisting of:

- 2 ventilation grills of anodised aluminium E6EV1 with hidden fixings, adjustable horizontal blades

Type	LGH	
Supply from factory		€

Dehumidification unit type H

Access connection elements



Technical data

Device type		2501 H	3501 H	4501 H	5501 H
Water surface up to approx. ¹	m ²	15-30	30-40	40-50	50-60
Air nominal power	m ³ /h	550	900	1.100	1.200
Dehumidification capacity (30 °C, 60 %)	kg/h	2,1	3,2	4,1	5,2
Air heat recovery ¹	kW	2,7	4,0	4,7	6,0
Compressor power input on average	kW	1,27	1,65	1,54	1,94
Feed-in		AC 230 V 1 N	AC 400 V 3 N		
Dimensions W x D x H	mm	1150 x 295 x 655	1390 x 328 x 746	1595 x 377 x 790	
+ adjustable device feet	mm	25	25	25	25
PWW air heater					
PWW air heater capacity ²	kW	4,2	7,5	8,8	9,2
Water volume	m ³ /h	0,2	0,35	0,6	0,6
Drag (inc. valve)	kPa	12	10	14	14
Fan for wall installation					
Free flowing air flow	m ³ /h	500	500	900	900
Power input	W	45	45	60	60

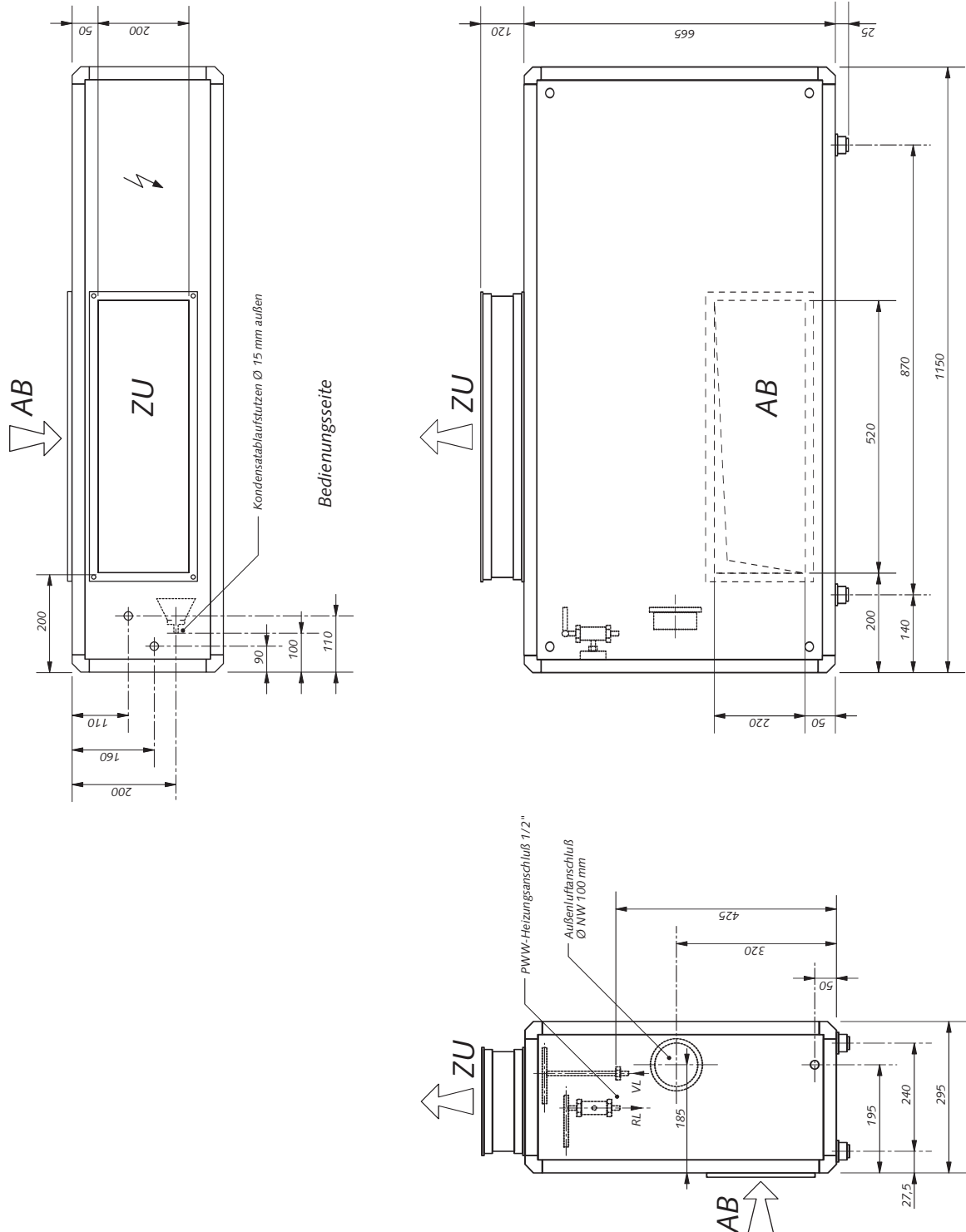
¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

² Flow temperature 80/60° C

Maßblatt H / H-MC

Hinterwandgerät

Typ 2501 H / H-MC

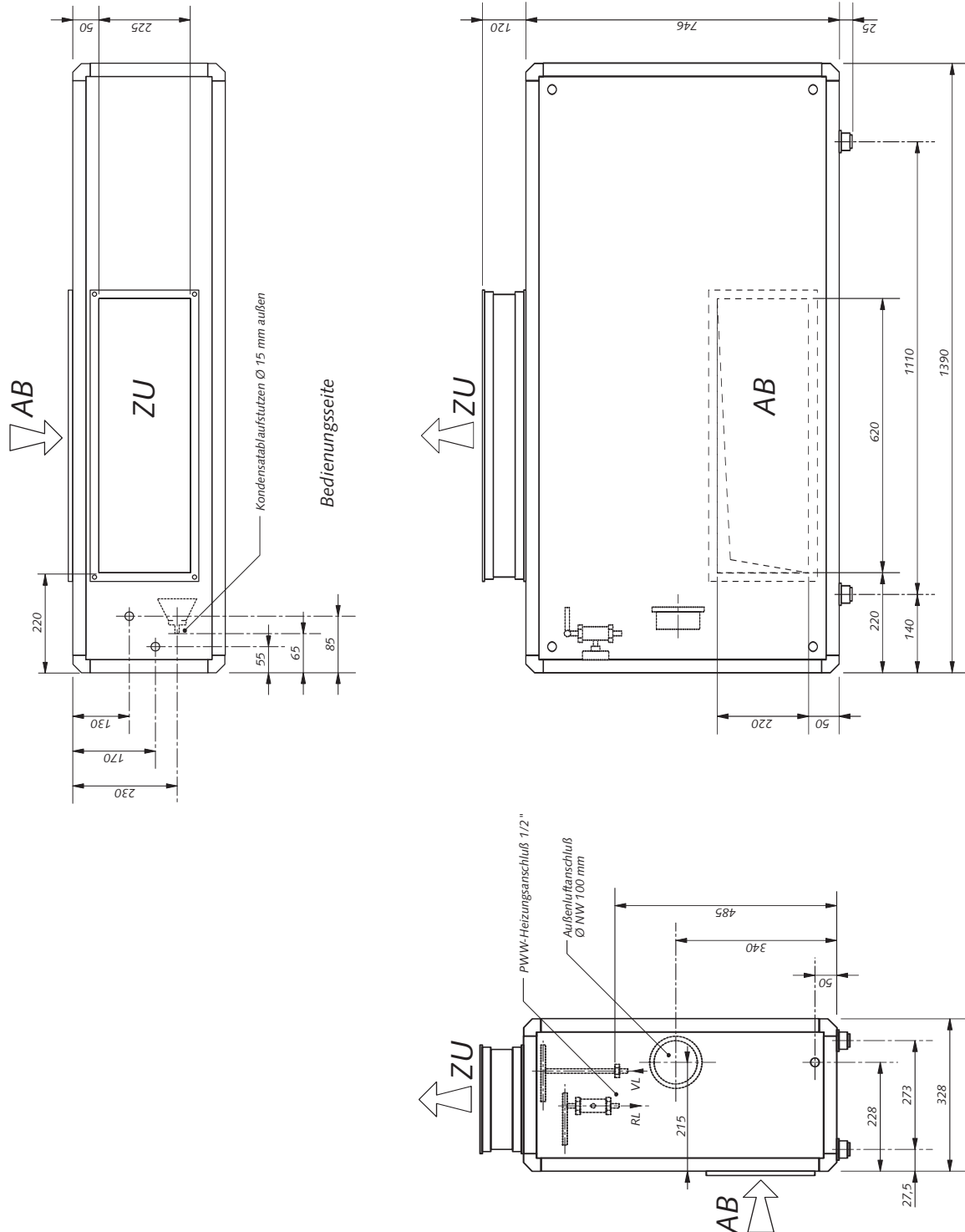


Technische Änderungen vorbehalten.

Maßblatt H / H-MC

Hinterwandgerät

Typ 3501 H / H-MC

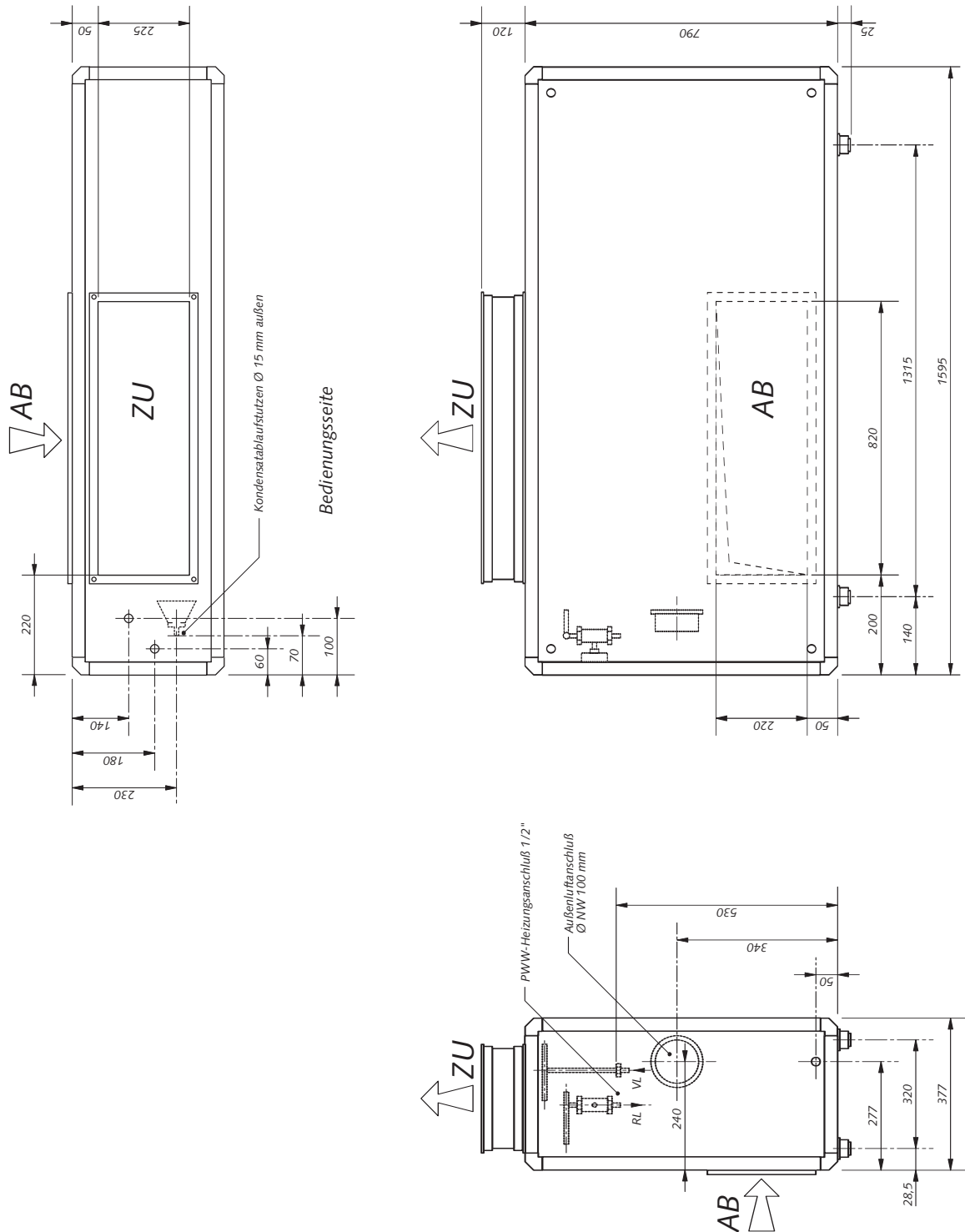


Technische Änderungen vorbehalten.

Maßblatt H / H-MC

Hinterwandgerät

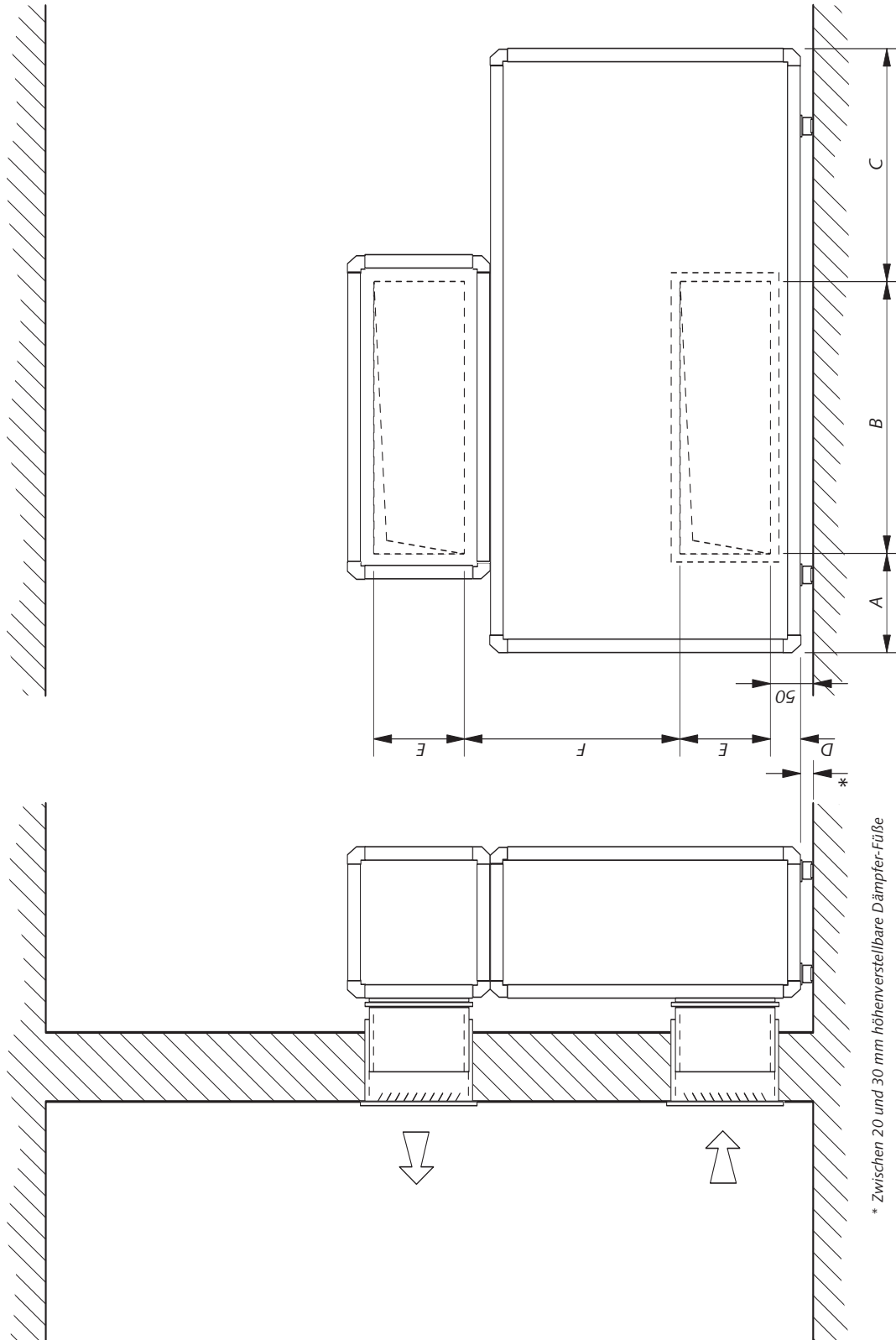
Typ 4501 H / H-MC und 5501 H / H-MC



Technische Änderungen vorbehalten.

Maßblatt H / H-MC

Kanalanschluß Hinterwandgeräte
(ohne Kanalverlängerung)



	A	B**	C	D	E**	F
2501 H / 2701	190	540	400	30	240	405
3501 H / 3701	210	640	540	30	240	485
4501/5501 H / 4701 / 5701	210	840	545	30	240	530

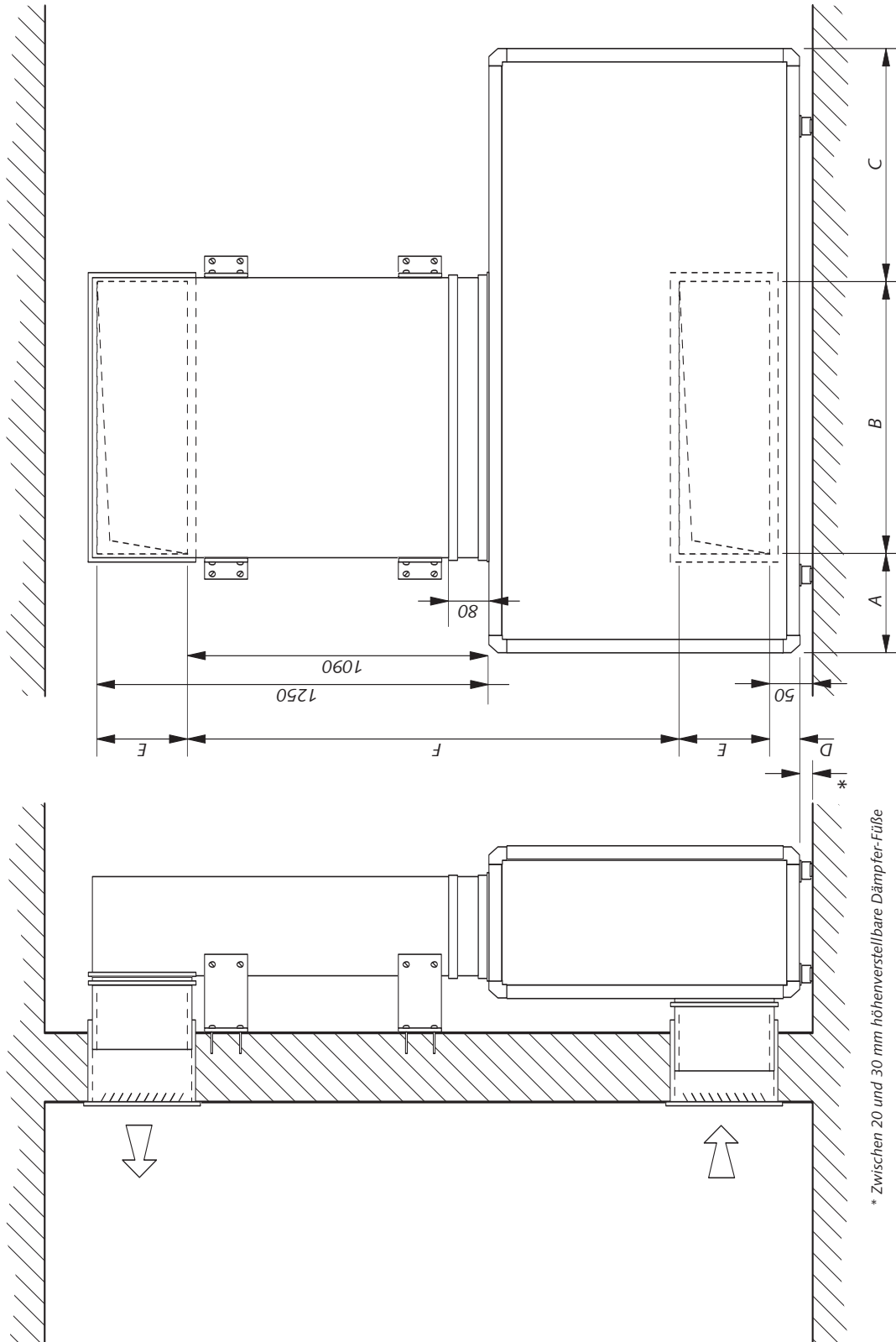
** Außenmaß Mauerkasten

* Zwischen 20 und 30 mm höhenverstellbare Dämpfer-Füße

Technische Änderungen vorbehalten.

Maßblatt H / H-MC

Kanalanschluß Hinterwandgeräte
(mit Kanalverlängerung)



	A	B**	C	D	E**	F
2501 H	190	540	400	30	240	1465
3501 H	210	640	540	30	240	1546
4501/5501 H	210	840	545	30	240	1590

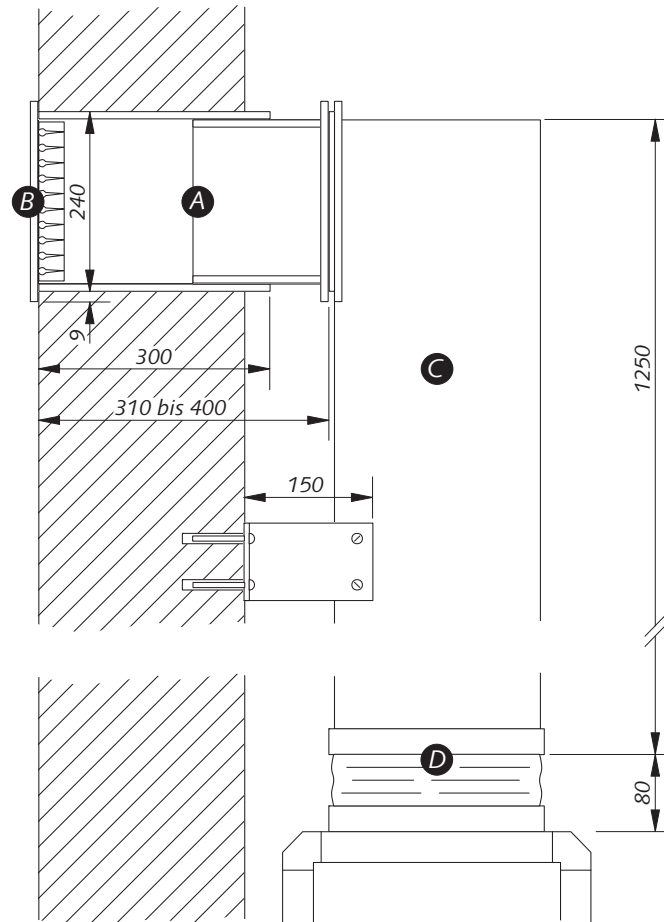
** Außenmaß Mauerkasten

* Zwischen 20 und 30 mm höhenverstellbare Dämpfer-Füße

Technische Änderungen vorbehalten.

Maßblatt H / H-MC

Kanalanschluß Hinterwandgeräte
(Detail Kanalverlängerung)



A: Wanddurchführung

bestehend aus Schiebestück und Mauerkasten aus 10 mm Integral-Hartschaum (weiß).

- Mauerkasten ist für Gitter mit verdeckter Befestigung vorgesehen.
- Mauerkasten kann bei Bedarf mit Stich- oder Kreissäge abgelängt werden.
- Mauerkasten ist bündig mit Fertigwand zu setzen.

B: Lüftungsgitter

Gitter aus Aluminium, natur eloxiert (E6 EV1), mit verdeckter Befestigung.

C: Kanalverlängerung

bestehend aus Kanalstück aus 10 mm Integral-Hartschaum (weiß), sowie

- 4 Befestigungswinkel mit Schrauben

D: Segeltuchstutzen

ca. 80 mm hoch.

im Standardlieferungsumfang enthalten

Technische Änderungen vorbehalten.



Dehumidification unit

**type ..01 U-EC
..01 U-MC-EC**

Function description

Technical data

SET Circulating air dehumidifying units with heat recovery ..01 U-EC and ..01 U-MC-EC

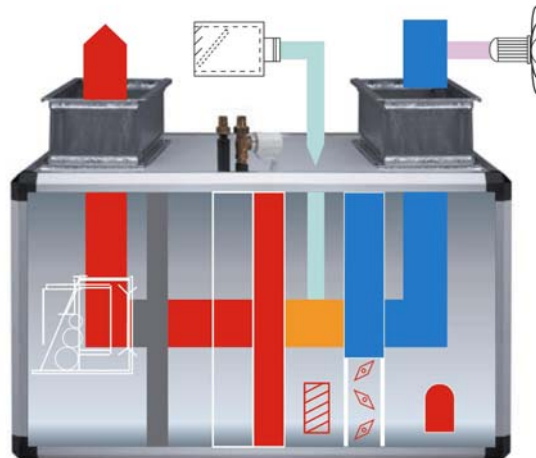
The air dehumidifying units of production series ..01 U-EC and ..01 U-MC-EC are equipped with a heat pump. Different unit outputs save the air-treatment of private swimming pools. In connection with an external air intake and exhaust system, they are also used in smaller indoor swimming pools in community associations and small hotels.

The air dehumidifying units ensure complete dehumidification of the adjoining spaces. Additional fixtures for room heating are not required if a pumped hot water heater battery is optionally installed. With optional exhaust air regulation, the feed-in of an unregulated proportion of fresh air of 10-20% of the nominal air flow is possible. The exhaust fan generates a gentle vacuum in the swimming pool via the adjoining rooms or fresh air flows into the swimming pool via the fresh air intake filter.

Unit functions, Function description

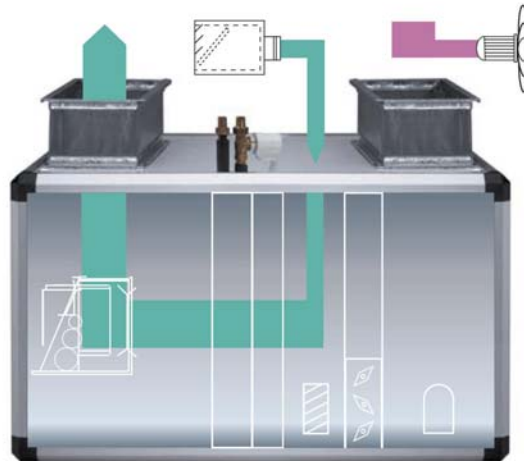
Air dehumidifying units from SET Schmidt Energietechnik have been developed and constructed especially for use in swimming pools. The use of premium and corrosion resistant materials ensures a long lifespan of the air dehumidifying units. Different surface coatings and finishes enable application for almost any purpose. Also available are titanium heat exchangers for thermal or salt water.

Every swimming pool must be dehumidified, ventilated and heated in order to guarantee a pleasant indoor climate and to avoid structural damage. Simple air extraction from the pool hall uses a great deal of energy, which can be significantly reduced by the heat recovery of an air dehumidifying unit.



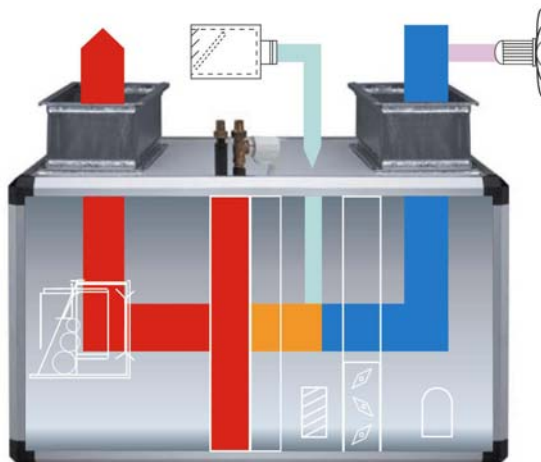
Dehumidification

Dehumidification is effected in circulating air operation by cooling the swimming pool air on the evaporator of the heat pump. The dehumidified air is heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water and in this way problems of excess temperature in the swimming pool can be kept to a minimum. The exhaust fan (optional) generates a slight vacuum in the swimming pool.



Excess temperature / Excess humidity

The dissipation of excess temperature and excess humidity is effected by the exhaust fan (optional). If the target value for temperature or humidity is exceeded, the speed of the exhaust fan increases and thus the amount of air expelled. Air flows into the pool area via the optional fresh air inlet or the adjoining rooms.



Heat

The heating of the pool area is effected by the pumped hot water heater battery, optionally integrated into the unit.

Regulation

Electronic regulation is provided as standard for the regulation of circulating air duct units. All functions can be covered in different increments with this regulation. The measurement of humidity and optional temperature and excess humidity, as well as the setting of target values for these parameters, is effected by the room controller built into the swimming pool. The room controllers are connected to the dehumidification unit by an 8-wire shielded cable.

Digital regulation is optionally available for circulating air duct units. The DDC regulation MC 2001 undertakes all control and regulation functions of the swimming pool climate. The target values for temperature and humidity are set on the operation and display unit, which has a four-line LCD display. Exhaust air is controlled automatically and is regulated depending on room temperature, room humidity and how the pool is used. During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operation target values are reached. Correspondingly, the heat valve continually regulates to the set target value. During low use and swimming use different target values can be set for temperature and humidity. Switching between low use and swimming use is done on the operation and display unit, via the optional clock module or optionally with an external switch, e.g. cover switch. The air flow of the fans can be adjusted by the step-down transformers on the duct system.

Thermal output to pool water

All SET air dehumidifying units of production series ..01 U-EC and ..01 U-MC-EC can optionally be installed with a pool water condenser. This is recommended for high water temperatures ($\geq 30^{\circ}\text{C}$) or when the room in question has low heat requirements. Overheating of the room with heat recovered from dehumidification can be avoided using the heat recovery output to the pool water.

Before delivery, SET air dehumidifying units undergo an extensive documented test run. This checks all device functions in the different operational areas and determines optimum settings. This ensures efficient operation within the customer system.

All devices with higher air flow (from 2,000 m³/h) can be dismantled into several parts for transportation. Assembly is simple and requires only a short time. The fully operational device wiring requires only the connection of the selected external consumer. The device parts are connected one beneath the other with plugs. Operational start-up can be carried out entirely by the system installation company.

Dehumidification unit type .. 01 U-EC

1 Dehumidification unit type .. 01 U-EC

with heat recovery by heat pump system for operation from 0 – 20% proportion of fresh air in connection with exhaust air fan (optional), basic hardware, complete with room controller,

consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, plastic cover panels with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 20 mm), installed therein:

- 1 heat pump unit with safety refrigerant R 407 C, consisting of:
 - 1 fully hermetic engine compressor, vibration-cushion mounted
 - 1 crankcase heater
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated
 - 1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 dryer
 - 1 inspection glass with indicator
 - 1 refrigerant collector
 - 1 cooling piping of CU pipe, inc. condensation insulation

- 1 opposing bypass damper, manually adjustable, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs

unit 2601 U

- 1 high performance radial fan, directly driven by external rotary engine of quiet running performance

unit .601 U-EC

- 1 fan unit with EC-engine for energy saving operation across all load ranges with the highest degree of efficiency as a freely running, backward curved radial impeller, directly driven by external rotary engine as EC engine, fan unit to VDI standard 2060, Goods class Q 6.3, dynamically balanced in two planes, meeting EN 610200-3-2, speed infinitely adjustable by speed controller, engine in safety class IP 54, ISO class F, motor protection self-protecting

Dehumidification unit type .. 01 U-EC

- 1 switchbox, fully wired to VDE, consisting of:
aluminium base plate and plastic cover bonnet, installed therein:
 - 1 electronic control system of cartridge construction and all necessary safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor controls, timer for guaranteed compressor downtime, fuses, overcurrent release, contacts, auxiliary contacts

Technical data

Dehumidification (+ 30°C / 60% r.h.)	..	kg/h
Air flow	..	m ³ /h
Air fan		
Nominal power	..	kW
Nominal current	..	A
external pressure drop max.	..	Pa
Sound pressure level LpA in 1m	..	dB(A)
Compressor		
Operating current on average	..	A
Power input on average	..	kW
Air heat recovery	..	kW
Feed-in	AC ... V . N	
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage	DC 24 V	
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type **.601 U-EC**
 Supply from factory €

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat performance PWW at 80/60°C	.....	kW
Flow rate	.....	m ³ /h
Pressure decrease inc. valve	.....	kPa

Type **PWW U .6**
 Supply from factory €

Dehumidification unit type .. 01 U-EC

1 Pumped Hot Water Heater Battery PWW Low Temperature

installed in place of the available heater battery in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat performance PWW at 50/40°C	.....	kW
Flow rate	.....	m ³ /h
Pressure decrease inc. valve	.....	kPa

Type **NT-PWW U .6**
Supply from factory €

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance	.....	kW
Feed-in	AC ... V . N	

Type **EHZ U**
Supply from factory €

1 Exhaust air regulation with pipe ventilator

installed ready for operation in dehumidification unit, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler on temperature sensor, operating speed increase on increasing temperature with operation mode selection switch - included in room controller, with pipe ventilator and self-activating cover flap

Free flowing air flow	.....	m ³ /h
Power input	.....	W

Type **FOL U**
Supply from factory €

1 Fresh air connection

for installation in the external wall (only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation and spigot NW 100 with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1

Type **AAHU**
Supply from factory €

Dehumidification unit type .. 01 U-EC

1 Pool water heat exchanger of titanium

for the release of heat recovery into the pool water, fully wired installed in dehumidification unit, regulated on the cooling side, complete with electronic temperature regulation using MC 2001. With flow monitor, the pool water heat exchanger deactivates when there is insufficient water,

1 pool water sensor is supplied unconnected

Power from / to	..... /.....	kW
Flow rate	.....	m ³ /h
Pressure decrease	.....	kPa

Type	WRGU Titan	
Supply from factory		€

Technical data

Device type		2601 U	3601 U-EC	4601 U-EC	6601 U-EC	8601 U-EC
Water surface up to approx. ¹	m ²	30	30-40	40-50	50-70	70-100
Dehumidification (+ 30°C / 60% r.h.)	kg/h	2,4	3,3	4,1	6,1	8,2
Air flow	m ³ /h	500	1.000	1.200	1.400	2.500
Air fan nominal power	kW	0,26	0,2	0,3	0,35	0,77
Air fan nominal current	A	1,12	1,0	1,4	1,6	1,4
external pressure drop	Pa	110	180	200	220	250
Sound pressure level LpA in 1m	dB(A)	49	55	57	58	61
Air heat recovery	kW	2,9	3,9	4,8	7,1	9,0
Compressor operating current on average	A	110	180	200	220	250
Compressor power input on average	kW	1,27	1,65	1,54	1,94	2,23
Total connected load	kW	1,43	1,9	2,2	2,9	3,23
Preliminary fuse (time-delay)	A	1 x 16	3 x 10	3 x 10	3 x 16	3 x 16
Feed-in		AC 230 V 1 N		AC 400 V 3 N		
Dimensions W x D x H	mm	1100 x 550 x 522		1425 x 740 x 640		2140 x 790 x 740
largest transport unit W x D x H	mm					1400 x 790 x 740
Operating weight	kg	70	105	125	135	180
Heater Battery PWW						
Heat performance PWW at 80/60°C	kW	4,0	10,0	11,2	12,2	15,8
Flow rate	m ³ /h	0,28	0,43	0,5	0,6	1,1
Pressure decrease inc. valve	kPa	7	11	12	14	10
Heater Battery NT-PWW						
Heat performance PWW at 50/40°C	kW	-	5,7	6,7	7,6	12,0
Flow rate	m ³ /h	-	0,5	0,6	0,7	1,1
Pressure decrease inc. valve	kPa	-	10	11	12	10
Pipe ventilator						
Free flowing air flow	m ³ /h	300	300	300	300	600
Power input	W	80	80	80	80	110

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

² Flow temperature 80/60° C

Dehumidification unit type .. 01 U-MC-EC

1 Dehumidification unit type .. 01 U-MC-EC

with heat recovery by heat pump system for operation from 0 – 20% proportion of fresh air in connection with exhaust air fan (optional), basic hardware, complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors),

consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, plastic cover panels with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 20 mm), installed therein:

- 1 heat pump unit with safety refrigerant R 407 C, consisting of:
 - 1 fully hermetic engine compressor, vibration-cushion mounted
 - 1 crankcase heater
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated
 - 1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 dryer
 - 1 inspection glass with indicator
 - 1 refrigerant collector
 - 1 cooling piping of CU pipe, inc. condensation insulation
- 1 opposing bypass damper, manually adjustable, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 1 fan unit with EC-engine for energy saving operation across all load ranges with the highest degree of efficiency as a freely running, backward curved radial impeller, directly driven by external rotary engine as EC engine, fan unit to VDI standard 2060, Goods class Q 6.3, dynamically balanced in two planes, meeting EN 610200-3-2, speed infinitely adjustable by speed controller, engine in safety class IP 54, ISO class F, motor protection self-protecting
- 1 switchbox, fully wired to VDE, consisting of:
 - 1 SET Microcontroller MC 2001 consisting of:
 - aluminium base plate with MC 2001 including fuses, overcurrent release contacts, connection cable with multipoint connector for operator control unit, switchboard wiring to VDE, fully wired for external room controllers, pumps etc.

Dehumidification unit type .. 01 U-MC-EC

Hardware

Operation and display unit in accessory pack, illuminated, for actual/target value display, heating valve position, exhaust fan function, hours of operation and display texts for operation and fault reporting. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of room temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Software

Control functions:

- Pool area temperature regulation (optional)
- Humidity regulation
- Control of the exhaust fan (optional)
- Mode of operation selector
- Error messages
- Filter monitoring (optional)
- PWW pumps activation (optional)

During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short (optional); it switches off again when the operational target values are reached.

The exhaust fan generates a vacuum in the swimming pool and limits excess humidity and temperature.

Installed as standard is a sensor for temperature and humidity, which requires minimum circulating air always to be "on" or intermittent operation.

Technical data

Dehumidification (+ 30°C / 60% r.h.)	.. kg/h
Air flow	.. m ³ /h
Air fan	
Nominal power	.. kW
Nominal current	.. A
external pressure drop max.	.. Pa
Sound pressure level LpA in 1m	.. dB(A)
Compressor	
Operating current on average	.. A
Power input on average	.. kW
Air heat recovery	.. kW
Feed-in	AC ... V . N
Total connected load	.. kW
Preliminary fuse (time-delay)	.. A
Control voltage	DC 24 V
Operating weight	.. kg
Dimensions W x H x D	.. mm
largest transport unit W x H x D	.. mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type **.601 U-MC-EC**
 Supply from factory €

Dehumidification unit type .. 01 U-MC-EC

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. electronic regulation, pump control and control valve, target value indicator and sensor included in MC 2001.

Heat performance PWW at 80/60°C	.....	kW
Flow rate	.....	m ³ /h
Pressure decrease inc. valve	.....	kPa

Type **PWW U-MC .6**
Supply from factory €

1 Pumped Hot Water Heater Battery PWW Low Temperature

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, target value indicator and sensor included in MC 2001.

Heat performance PWW at 50/40°C	.....	kW
Flow rate	.....	m ³ /h
Pressure decrease inc. valve	.....	kPa

Type **NT-PWW U-MC .6**
Supply from factory €

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance	.....	kW
Feed-in	AC ... V . N	

Type **EHZ U-MC**
Supply from factory €

1 Exhaust air regulation with pipe ventilator

installed ready for operation in dehumidification unit, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight, activation using MC 2001, operating speed increase on increasing temperature, with pipe ventilator and self-activating cover flap

Free flowing air flow	.....	m ³ /h
Power input	.....	W

Type **FOL U-MC**
Supply from factory €

Dehumidification unit type .. 01 U-MC-EC

1 Fresh air connection

for installation in the external wall (only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation and spigot NW 100 with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1

Type	AAHU	
Supply from factory		€

1 Pool water heat exchanger of titanium

for the release of heat recovery into the pool water, fully wired installed in dehumidification unit, regulated on the cooling side, complete with electronic temperature regulation using MC 2001. With flow monitor, the pool water heat exchanger deactivates when there is insufficient water,

1 pool water sensor is supplied unconnected

Power from / to	..... /.....	kW
Flow rate	.....	m ³ /h
Pressure decrease	.....	kPa

Type	WRGU Titan	
Supply from factory		€

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type	RF	
Supply from factory		€

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	
Supply from factory		€

Dehumidification unit type .. 01 U-MC-EC

1 Remote indication (additional control panel)

(up to 50 m distance from main device) consisting of:
 2nd operation and display unit with input and function button field,
 four line LCD display, illuminated, for actual/target value display, damper positions,
 Hours of operation and message texts as well as coloured LEDs
 for operation and fault reporting (with acoustic alarm)

Type	BDT 2	
Supply from factory		€

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

1 Remote control module

Further regulation for the remote control of the air dehumidifying units with the on-site central controller OSPA Bluecontrol.

Type	OSPA	
Supply from factory		€

1 Further regulation RS 485

Further regulation for the remote control of the air dehumidifying units, MC 2001 interface RS 485 for communication with external control units, implementation of the data point list takes place on site

Type	RS 485	
Supply from factory		€

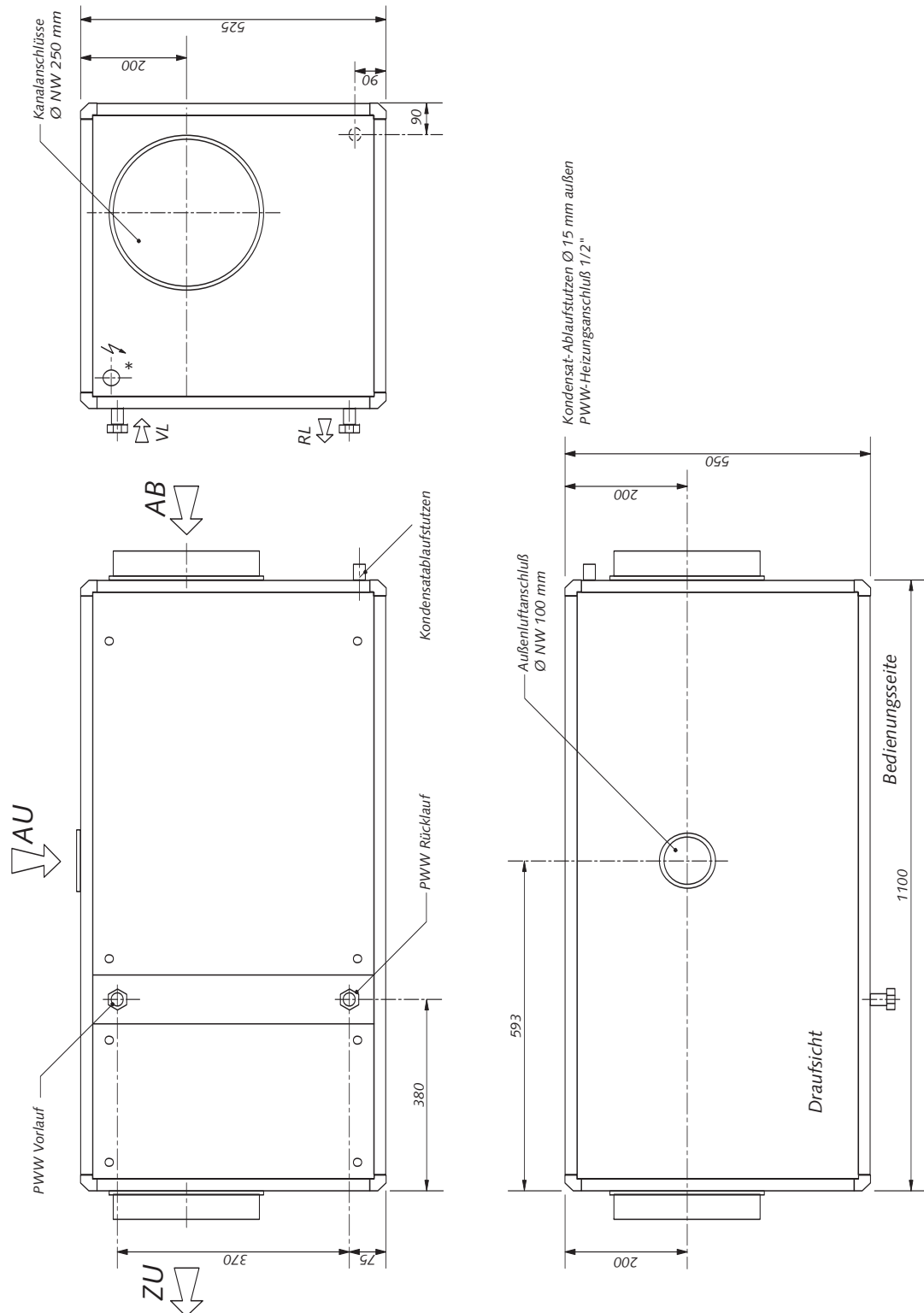
Technical data

Device type		3601 U-MC-EC	4601 U-MC-EC	6601 U-MC-EC	8601 U-MC-EC
Water surface up to approx. ¹	m ²	30-40	40-50	50-70	70-100
Dehumidification (+ 30°C / 60% r.h.)	kg/h	3,3	4,1	6,1	8,2
Air flow	m ³ /h	1.000	1.200	1.400	2.500
Air fan nominal power	kW	0,2	0,3	0,35	0,77
Air fan nominal current	A	1,0	1,4	1,6	1,4
external pressure drop	Pa	180	200	220	250
Sound pressure level LpA in 1m	dB(A)	55	57	58	61
Air heat recovery	kW	3,9	4,8	7,1	9,0
Compressor operating current on average	A	180	200	220	250
Compressor power input on average	kW	1,65	1,54	1,94	2,23
Total connected load	kW	1,9	2,2	2,9	3,23
Preliminary fuse (time-delay)	A	3 x 10	3 x 10	3 x 16	3 x 16
Feed-in		AC 400 V 3 N			
Dimensions W x D x H	mm	1425 x 740 x 640			2140 x 790 x 740
largest transport unit W x D x H	mm				1400 x 790 x 740
Operating weight	kg	105	125	135	180
Heater Battery PWW					
Heat performance PWW at 80/60°C	kW	10,0	11,2	12,2	15,8
Flow rate	m ³ /h	0,43	0,5	0,6	1,1
Pressure decrease inc. valve	kPa	11	12	14	10
Heater Battery NT-PWW					
Heat performance PWW at 50/40°C	kW	5,7	6,7	7,6	12,0
Flow rate	m ³ /h	0,5	0,6	0,7	1,1
Pressure decrease inc. valve	kPa	10	11	12	10
Pipe ventilator					
Free flowing air flow	m ³ /h	300	300	300	600
Power input	W	80	80	80	110

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

Maßblatt U

Kanalgerät
Typ 2601 U

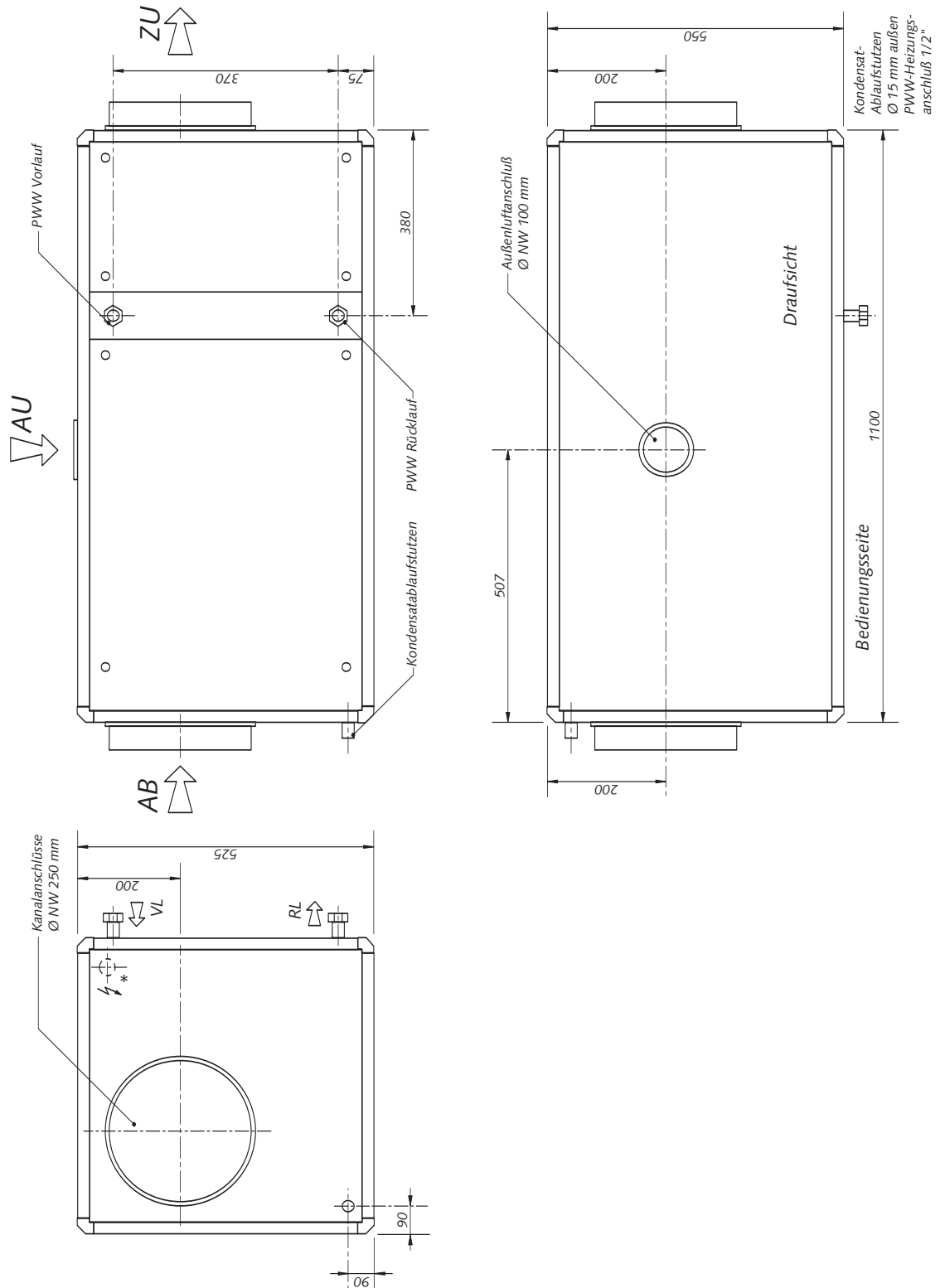


Technische Änderungen vorbehalten.

Maßblatt U

Kanalgerät

Typ 2601 U-S (spiegelverkehrt)



Technische Änderungen vorbehalten.

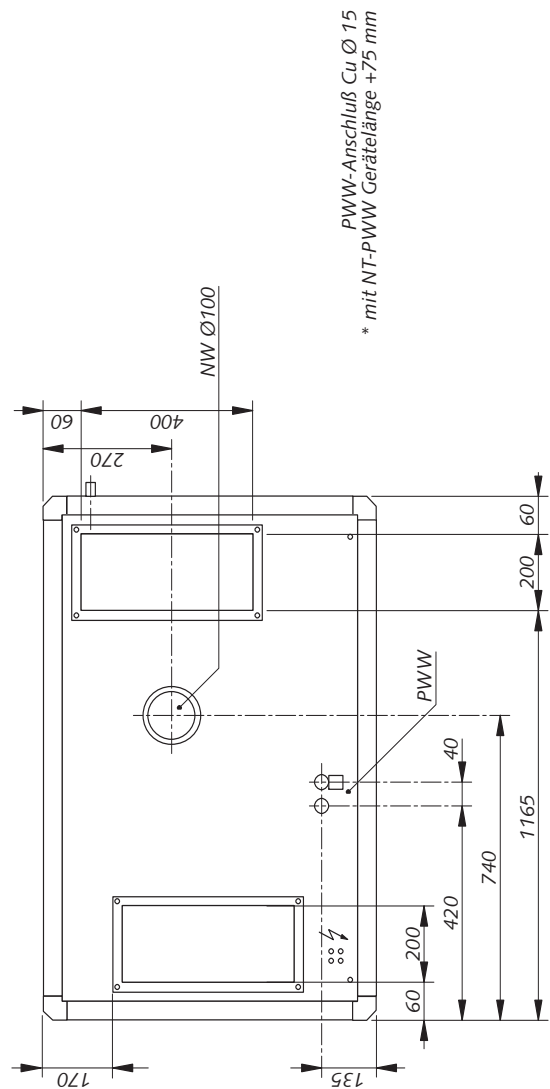
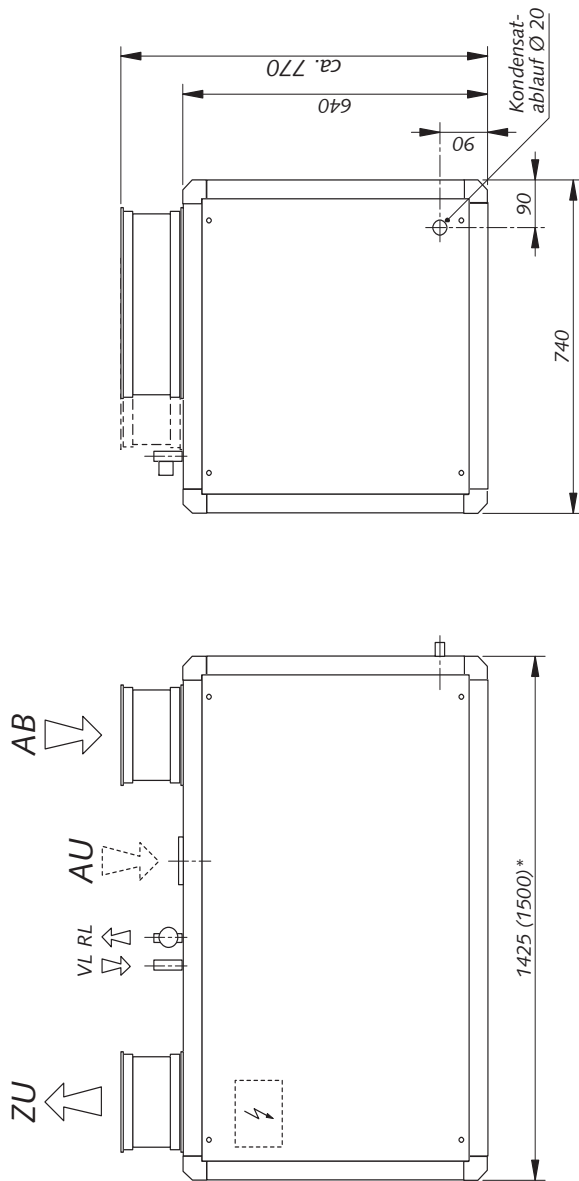
SET Schmidt Energietechnik · August-Blessing-Straße 5 · D-71282 Hemmingen

Telefon +49 (0) 71 50/94 54-0 · Telefax +49 (0) 71 50/23 37 · info@set-schmidt.de · www.set-schmidt.de

Maßblatt U-EC / U-MC-EC

Kanalgerät

Typ 3601 U-EC / U-MC-EC



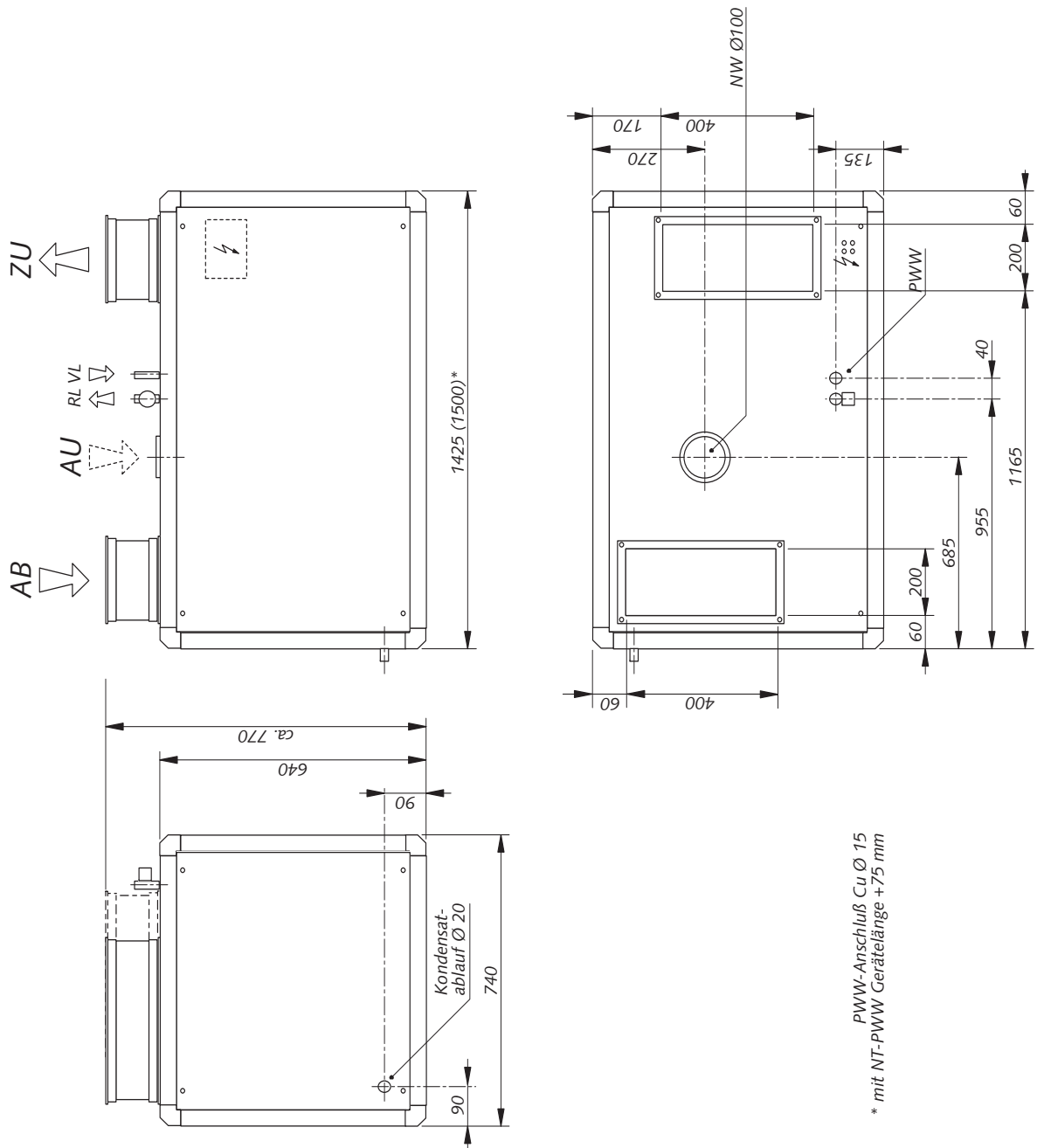
PWW-Anschluß Cu \varnothing 15
* mit NT-PWW Gerätelänge +75 mm

Technische Änderungen vorbehalten.

Maßblatt U-EC / U-MC-EC

Kanalgerät

Typ 3601 U-EC-S / U-MC-EC-S (spiegelverkehrt)



PWV-Anschluß Cu Ø 15
* mit NT-PWV Geräterlänge + 75 mm

Technische Änderungen vorbehalten.

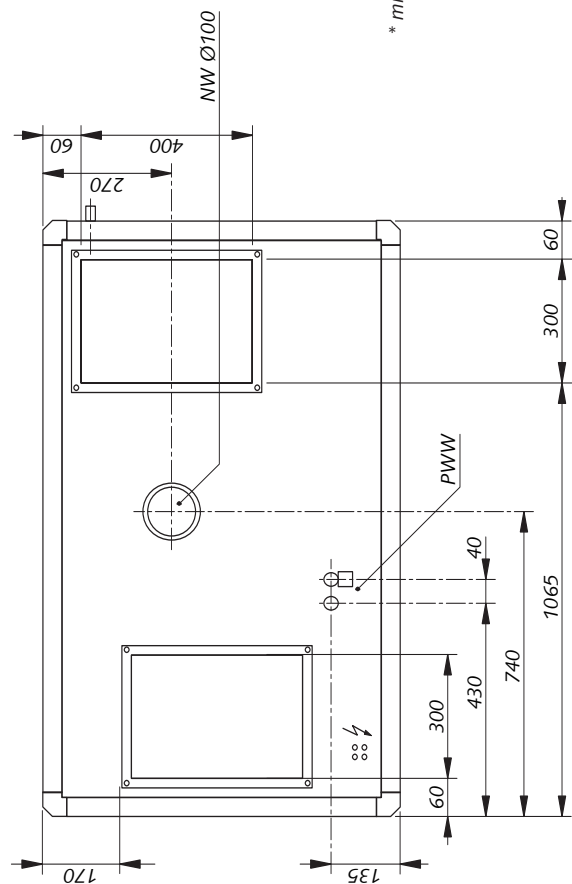
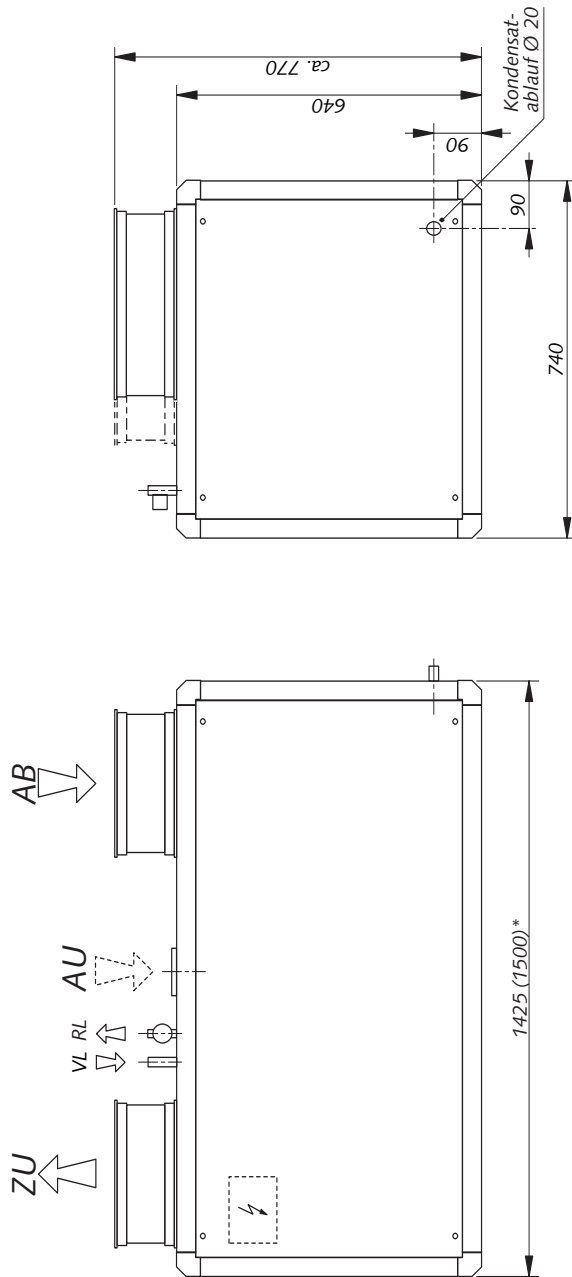
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Maßblatt U-EC / U-MC-EC

Kanalgeräte

Typ 4601, 6601 U-EC / U-MC-EC und 3601 U-EC / U-MC-EC 1500



PWW-Anschluß Cu Ø 15
* mit NT-PWW Gerätelänge +75 mm

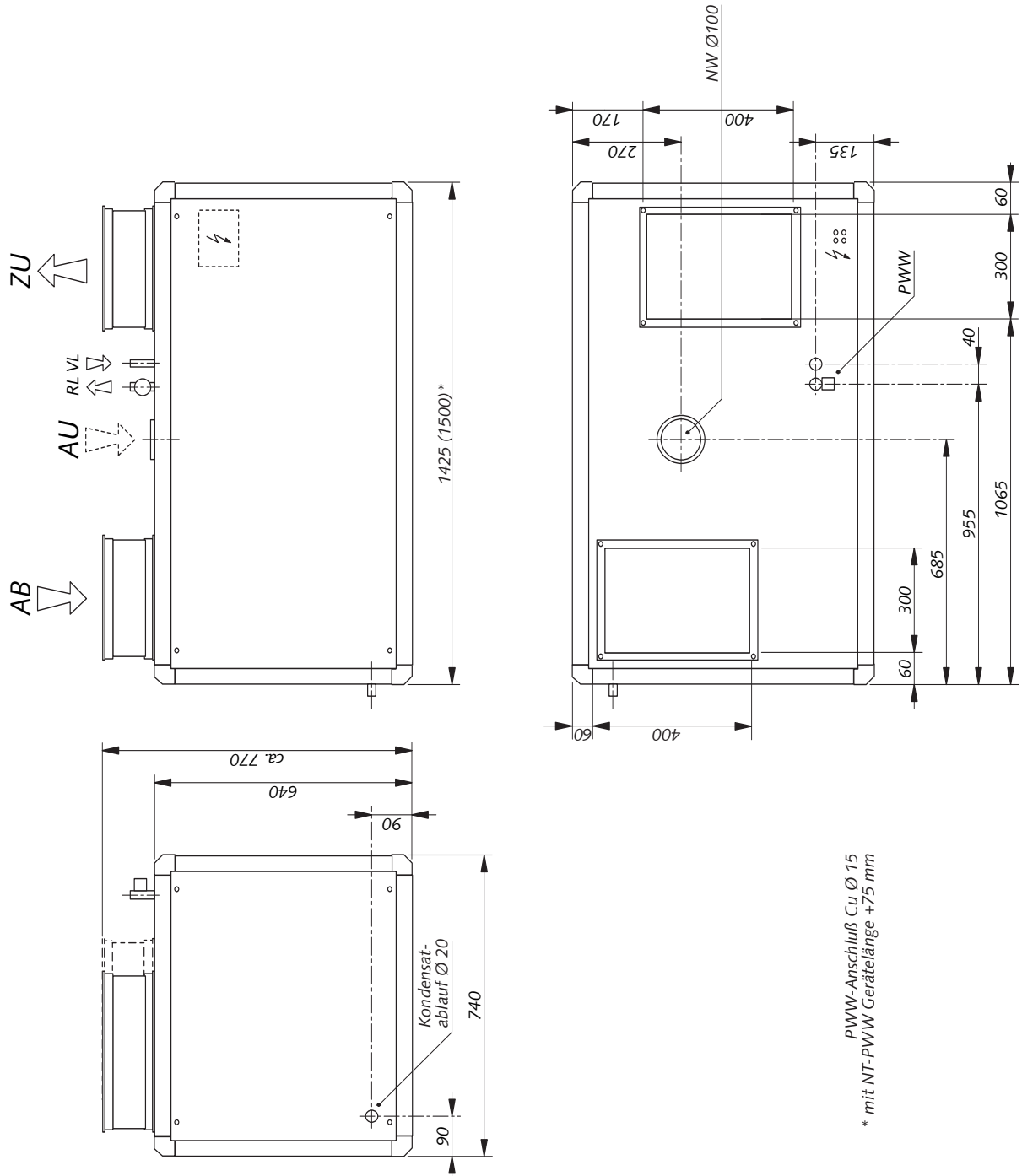
Technische Änderungen vorbehalten.

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Maßblatt U-EC / U-MC-EC

Kanalgeräte Typ 4601 U-EC-S / U-MC-EC-S, 6601 U-EC-S / U-MC-EC-S
und 3601 U-EC-S / U-MC-EC-S 1500 (spiegelverkehrt)



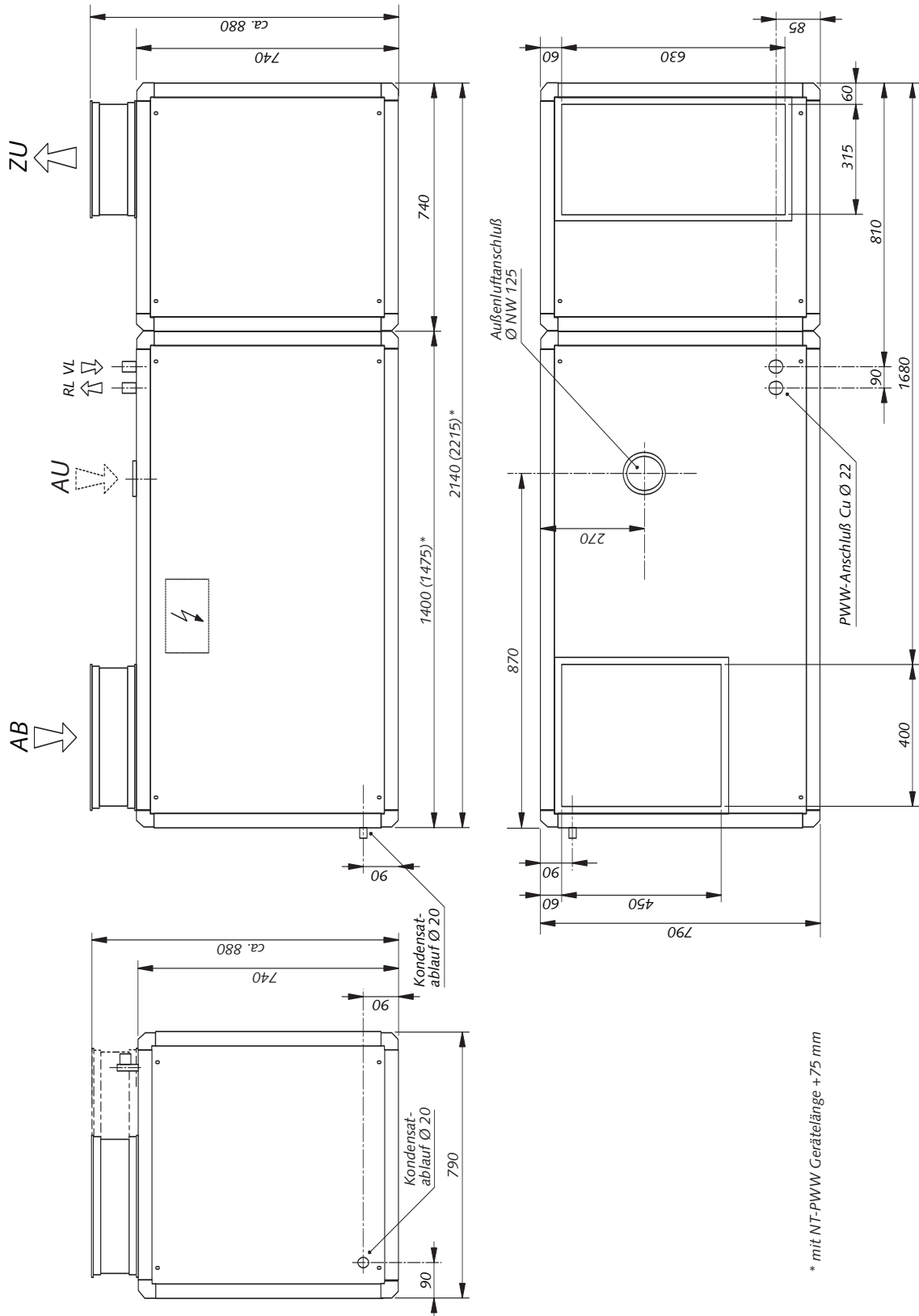
PWW-Anschluß Cu Ø 15
* mit NT-PWW Gerätelänge +75 mm

Technische Änderungen vorbehalten.

Maßblatt U-EC / U-MC-EC

Kanalgerät

Typ 8601 U-EC / U-MC-EC-S (spiegelverkehrt)



* mit NT-PWW Gerätelänge + 75 mm

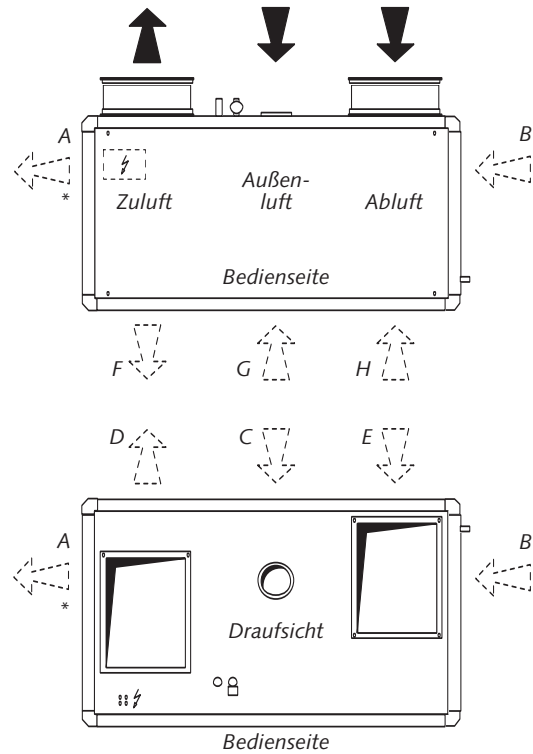
Technische Änderungen vorbehalten.

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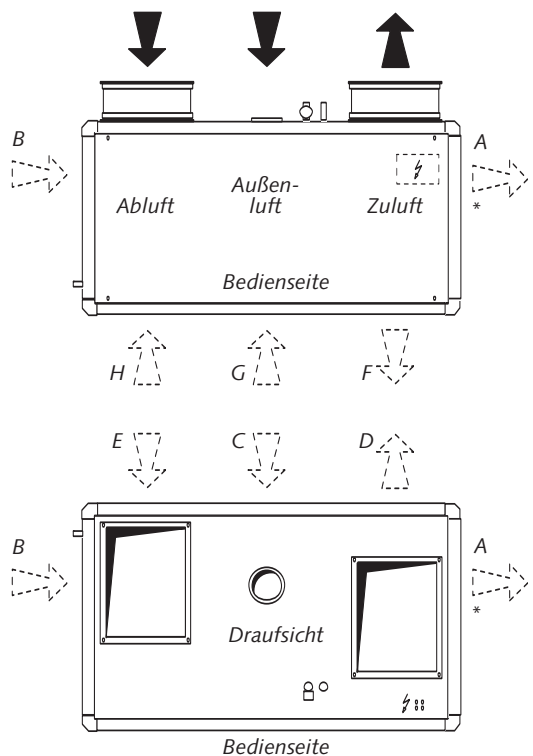
Luftseitige Anschlußmöglichkeiten bei Umluftgeräten mit Außenluftanteil

Standardausführung



serienmäßig
alternativ
 (bei Bestellung angeben)

Ausführung „S“
(spiegelverkehrt)



serienmäßig
alternativ
 (bei Bestellung angeben)

* Bei Ausführung A (Zuluft stirnseitig)
Gerätelänge +150 mm

Technische Änderungen vorbehalten.



Dehumidification unit

**type ..02 U-EC
..02 U-MC-EC**

Technical data

Dehumidification unit type .. 02 U-EC

1 Dehumidification unit type .. 02 U-EC

with multi-level heat recovery by heat pump system and recuperative heat exchanger for operation from 0 – 20% proportion of fresh air in connection with exhaust air fan (optional), basic hardware, complete with room controller,

consisting of:

device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners,
plastic cover panels with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 20 mm), installed therein:

- 1 heat pump unit with safety refrigerant R 407 C,
consisting of:
 - 1 fully hermetic engine compressor, vibration-cushion mounted
 - 1 crankcase heater
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated
 - 1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 dryer
 - 1 inspection glass with indicator
 - 1 refrigerant collector
 - 1 cooling piping of CU pipe, inc. condensation insulation

- 1 opposing bypass damper, manually adjustable, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs

- 1 Cross-flow plate heat exchanger of special-form aluminium plates plastic-coated, with positive and negative indentations to maintain spacing. Thus there are no ducts; currents and condensation drainage is possible in all directions. The plates are interlocked beneath one another with a double seam. Thus there is 6-fold material strength for the air inlet and outlet. The double seam is additionally waterproofed with artificial resin. The corners of the exchange section are moulded with permanently elastic artificial resin using a patented procedure. The heat exchanger block is easily removable and can be taken out for cleaning purposes.

- 1 fan unit with EC-engine for energy saving operation across all load ranges with the highest degree of efficiency as a freely running, backward curved radial impeller, directly driven by external rotary engine as EC engine, fan unit to VDI standard 2060, Goods class Q 6.3, dynamically balanced in two planes, meeting EN 610200-3-2, speed infinitely adjustable by speed controller, engine in safety class IP 54, ISO class F, motor protection self-protecting

Dehumidification unit type .. 02 U-EC

- 1 switchbox, fully wired to VDE,
consisting of:
aluminium base plate and plastic cover bonnet, installed therein:
- 1 electronic control system of cartridge construction and all necessary
safety and control loops for the heat pump, such as phase monitoring,
low pressure, high pressure, fan and compressor controls,
timer for guaranteed compressor downtime,
fuses, overcurrent release, contacts, auxiliary contacts

Technical data

Dehumidification (+ 30°C / 60% r.h.)	..	kg/h
Air flow	..	m ³ /h
Air fan		
Nominal power	..	kW
Nominal current	..	A
external pressure drop max.	..	Pa
Sound pressure level LpA in 1m	..	dB(A)
Compressor		
Operating current on average	..	A
Power input on average	..	kW
Air heat recovery	..	kW
Feed-in	AC ... V . N	
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage	DC 24 V	
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
Type **.602 U-EC**
Supply from factory €

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat performance PWW at 80/60°C	.....	kW
Flow rate	.....	m ³ /h
Pressure decrease inc. valve	.....	kPa

Type **PWW U .6**
Supply from factory €

Dehumidification unit type .. 02 U-EC

1 Pumped Hot Water Heater Battery PWW Low Temperature

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, Target value indicator and sensor included in room controller

Heat performance PWW at 50/40°C	.....	kW
Flow rate	.....	m ³ /h
Pressure decrease inc. valve	.....	kPa

Type **NT-PWW U .6**
 Supply from factory €

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance	.....	kW
Feed-in	AC ... V . N	

Type **EHZ U**
 Supply from factory €

1 Exhaust air regulation with pipe ventilator

installed ready for operation in dehumidification unit, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight. Activation using optical coupler on temperature sensor, operating speed increase on increasing temperature with operation mode selection switch - included in room controller, with pipe ventilator and self-activating cover flap

Free flowing air flow	.....	m ³ /h
Power input	.....	W

Type **FOL U**
 Supply from factory €

1 Fresh air connection

for installation in the external wall (only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation and spigot NW 100 with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1

Type **AAHU**
 Supply from factory €

Dehumidification unit type .. 02 U-EC

1 Pool water heat exchanger of titanium

for the release of heat recovery into the pool water, fully wired installed in dehumidification unit, regulated on the cooling side, complete with electronic temperature regulation using MC 2001. With flow monitor, the pool water heat exchanger deactivates when there is insufficient water,

1 pool water sensor is supplied unconnected

Power from / to	..... /.....	kW
Flow rate	.....	m ³ /h
Pressure decrease	.....	kPa

Type	WRGU Titan	
Supply from factory		€

Technical data

Device type		3602 U-EC	4602 U-EC	6602 U-EC	8602 U-EC
Water surface up to approx. ¹	m ²	30-50	40-60	50-75	70-100
Dehumidification (+ 30°C / 60% r.h.)	kg/h	3,6	4,7	6,4	9,6
Air flow	m ³ /h	1.000	1.200	1.400	2.500
Air fan nominal power	kW	0,2	0,3	0,35	0,77
Air fan nominal current	A	1,0	1,4	1,6	1,4
external pressure drop	Pa	180	200	220	220
Sound pressure level LpA in 1m	dB(A)	58	59	59	63
Air heat recovery	kW	3,7	4,9	5,9	9,3
Compressor operating current on average	A	180	200	220	250
Compressor power input on average	kW	0,84	1,35	1,54	1,94
Total connected load	kW	1,1	1,5	2,2	2,9
Preliminary fuse (time-delay)	A	1 x 10	1 x 16	3 x 10	3 x 16
Feed-in		AC 230 V 1 N		AC 400 V 3 N	
Dimensions W x D x H	mm	1880 x 740 x 1100			2400 x 790 x 1225
largest transport unit W x D x H	mm	1880 x 740 x 640			1660 x 790 x 740
Operating weight	kg	145	155	165	210
Heater Battery PWW					
Heat performance PWW at 80/60°C	kW	10,0	11,2	12,2	15,8
Flow rate	m ³ /h	0,43	0,5	0,6	1,1
Pressure decrease inc. valve	kPa	11	12	14	10
Heater Battery NT-PWW					
Heat performance PWW at 50/40°C	kW	5,7	6,7	7,6	12,0
Flow rate	m ³ /h	0,5	0,6	0,7	1,1
Pressure decrease inc. valve	kPa	10	11	12	10
Pipe ventilator					
Free flowing air flow	m ³ /h	300	300	300	600
Power input	W	80	80	80	110

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

² Flow temperature 80/60° C

Dehumidification unit type .. 02 U-MC-EC

1 Dehumidification unit type .. 02 U-MC-EC

with multi-level heat recovery by heat pump system and recuperative heat exchanger for operation from 0 – 20% proportion of fresh air in connection with exhaust air fan (optional), basic hardware, complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors),

consisting of:

device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, plastic cover panels with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 20 mm), installed therein:

- 1 heat pump unit with safety refrigerant R 407 C, consisting of:
 - 1 fully hermetic engine compressor, vibration-cushion mounted
 - 1 crankcase heater
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated
 - 1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 dryer
 - 1 inspection glass with indicator
 - 1 refrigerant collector
 - 1 cooling piping of CU pipe, inc. condensation insulation
- 1 opposing bypass damper, manually adjustable, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 1 Cross-flow plate heat exchanger of special-form aluminium plates plastic-coated, with positive and negative indentations to maintain spacing. Thus there are no ducts; currents and condensation drainage is possible in all directions. The plates are interlocked beneath one another with a double seam. Thus there is 6-fold material strength for the air inlet and outlet. The double seam is additionally waterproofed with artificial resin. The corners of the exchange section are moulded with permanently elastic artificial resin using a patented procedure. The heat exchanger block is easily removable and can be taken out for cleaning purposes.
- 1 fan unit with EC-engine for energy saving operation across all load ranges with the highest degree of efficiency as a freely running, backward curved radial impeller, directly driven by external rotary engine as EC engine, fan unit to VDI standard 2060, Goods class Q 6.3, dynamically balanced in two planes, meeting EN 610200-3-2, speed infinitely adjustable by speed controller, engine in safety class IP 54, ISO class F, motor protection self-protecting

Dehumidification unit type .. 02 U-MC-EC

- 1 switchbox, fully wired to VDE, consisting of:
 - 1 SET Microcontroller MC 2001 consisting of:
 - aluminium base plate with MC 2001 including fuses, overcurrent release contacts, connection cable with multipoint connector for operator control unit, switchboard wiring to VDE, fully wired for external room controllers, pumps etc.

Hardware

Operation and display unit in accessory pack, illuminated, for actual/target value display, heating valve position, exhaust fan function, hours of operation and display texts for operation and fault reporting. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of room temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Software

Control functions:

- Pool area temperature regulation (optional)
- Humidity regulation
- Control of the exhaust fan (optional)
- Mode of operation selector
- Error messages
- Filter monitoring (optional)
- PWW pumps activation (optional)

During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short (optional); it switches off again when the operational target values are reached.

The exhaust fan generates a vacuum in the swimming pool and limits excess humidity and temperature.

Installed as standard is a sensor for temperature and humidity, which requires minimum circulating air always to be "on" or intermittent operation.

Dehumidification unit type .. 02 U-MC-EC

Technical data

Dehumidification (+ 30°C / 60% r.h.)	..	kg/h
Air flow	..	m ³ /h
Air fan		
Nominal power	..	kW
Nominal current	..	A
external pressure drop max.	..	Pa
Sound pressure level LpA in 1m	..	dB(A)
Compressor		
Operating current on average	..	A
Power input on average	..	kW
Air heat recovery	..	kW
Feed-in	AC ... V . N	
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage	DC 24 V	
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type **.602 U-MC-EC**
 Supply from factory €

1 Pumped Hot Water Heater Battery PWW

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. electronic regulation, pump control and control valve, target value indicator and sensor included in MC 2001.

Heat performance PWW at 80/60°C	.....	kW
Flow rate	.....	m ³ /h
Pressure decrease inc. valve	.....	kPa

Type **PWW U-MC .6**
 Supply from factory €

1 Pumped Hot Water Heater Battery PWW Low Temperature

installed in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, target value indicator and sensor included in MC 2001.

Heat performance PWW at 50/40°C	.....	kW
Flow rate	.....	m ³ /h
Pressure decrease inc. valve	.....	kPa

Type **NT-PWW U-MC .6**
 Supply from factory €

Dehumidification unit type .. 02 U-MC-EC

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance	..... kW
Feed-in	AC ... V . N

Type	EHZ U-MC	
Supply from factory		€

1 Exhaust air regulation with pipe ventilator

installed ready for operation in dehumidification unit, to generate a slight vacuum in the swimming pool area and to dissipate excess temperature e.g. from direct sunlight, activation using MC 2001, operating speed increase on increasing temperature, with pipe ventilator and self-activating cover flap

Free flowing air flow	..... m ³ /h
Power input	..... W

Type	FOL U-MC	
Supply from factory		€

1 Fresh air connection

for installation in the external wall (only required in connection with exhaust air fan, if sufficient fresh air can not flow in from suitable adjoining rooms), consisting of:

- 1 plastic wall sleeve with integrated thermal insulation and spigot NW 100 with filter insert, washable filter medium and weather protection grill of anodised aluminium E6EV1

Type	AAHU	
Supply from factory		€

Dehumidification unit type .. 02 U-MC-EC

1 Pool water heat exchanger of titanium

for the release of heat recovery into the pool water, fully wired installed in dehumidification unit, regulated on the cooling side, complete with electronic temperature regulation using MC 2001. With flow monitor, the pool water heat exchanger deactivates when there is insufficient water,

1 pool water sensor is supplied unconnected

Power from / to	..... /.....	kW
Flow rate	.....	m ³ /h
Pressure decrease	.....	kPa

Type	WRGU Titan	
Supply from factory		€

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type	RF	
Supply from factory		€

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	
Supply from factory		€

1 Remote indication (additional control panel)

(up to 50 m distance from main device) consisting of:
2nd operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display, damper positions, Hours of operation and message texts as well as coloured LEDs for operation and fault reporting (with acoustic alarm)

Type	BDT 2	
Supply from factory		€

Dehumidification unit type .. 02 U-MC-EC

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

1 Remote control module

Further regulation for the remote control of the air dehumidifying units with the on-site central controller OSPA Bluecontrol.

Type	OSPA	
Supply from factory		€

1 Further regulation RS 485

Further regulation for the remote control of the air dehumidifying units, MC 2001 interface RS 485 for communication with external control units, implementation of the data point list takes place on site

Type	RS 485	
Supply from factory		€

Technical data

Device type		3602 U-MC-EC	4602 U-MC-EC	6602 U-MC-EC	8602 U-MC-EC
Water surface up to approx. ¹	m ²	30-50	40-60	50-75	70-100
Dehumidification (+ 30°C / 60% r.h.)	kg/h	3,6	4,7	6,4	9,6
Air flow	m ³ /h	1.000	1.200	1.400	2.500
Air fan nominal power	kW	0,2	0,3	0,35	0,77
Air fan nominal current	A	1,0	1,4	1,6	1,4
external pressure drop	Pa	180	200	220	220
Sound pressure level LpA in 1m	dB(A)	58	59	59	63
Air heat recovery	kW	3,7	4,9	5,9	9,3
Compressor operating current on average	A	180	200	220	250
Compressor power input on average	kW	0,84	1,35	1,54	1,94
Total connected load	kW	1,1	1,5	2,2	2,9
Preliminary fuse (time-delay)	A	1 x 10	1 x 16	3 x 10	3 x 16
Feed-in		AC 230 V 1 N		AC 400 V 3 N	
Dimensions W x D x H	mm	1880 x 740 x 1100			2400 x 790 x 1225
largest transport unit W x D x H	mm	1880 x 740 x 640			1660 x 790 x 740
Operating weight	kg	145	155	165	210
Heater Battery PWW					
Heat performance PWW at 80/60°C	kW	10,0	11,2	12,2	15,8
Flow rate	m ³ /h	0,43	0,5	0,6	1,1
Pressure decrease inc. valve	kPa	11	12	14	10
Heater Battery NT-PWW					
Heat performance PWW at 50/40°C	kW	5,7	6,7	7,6	12,0
Flow rate	m ³ /h	0,5	0,6	0,7	1,1
Pressure decrease inc. valve	kPa	10	11	12	10
Pipe ventilator					
Free flowing air flow	m ³ /h	300	300	300	600
Power input	W	80	80	80	110

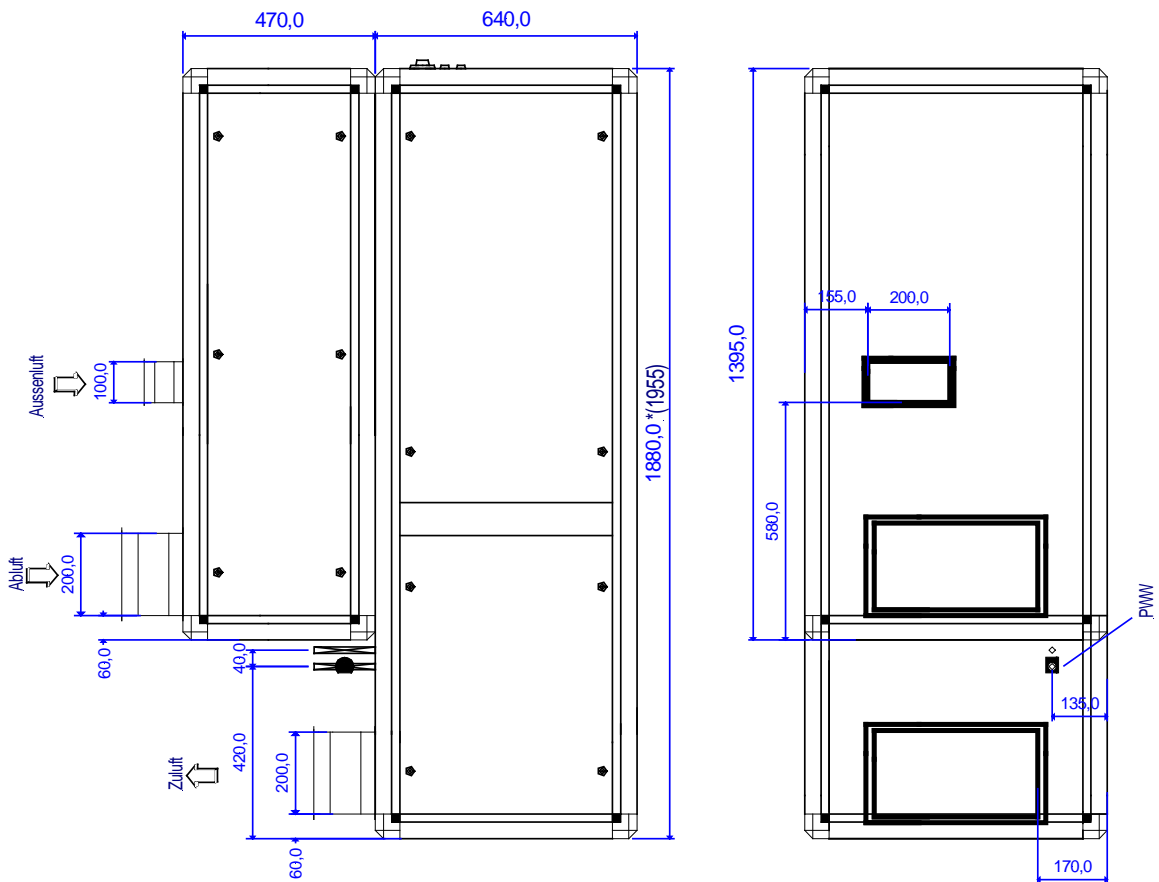
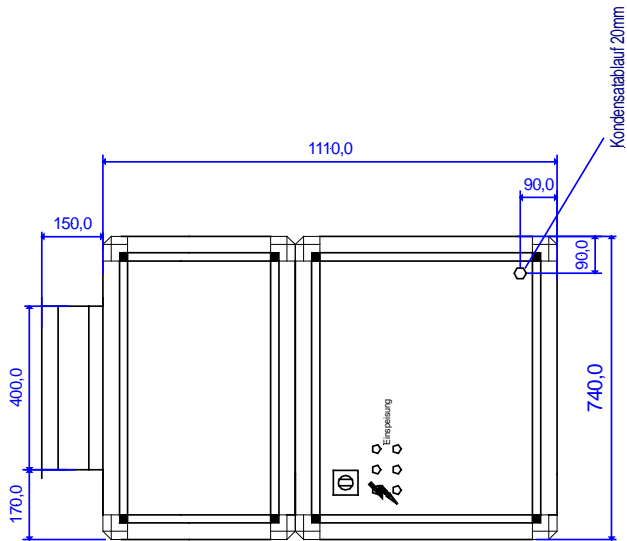
¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

² Flow temperature 80/60° C

Maßblatt 02 U-EC / 02 U-MC-EC

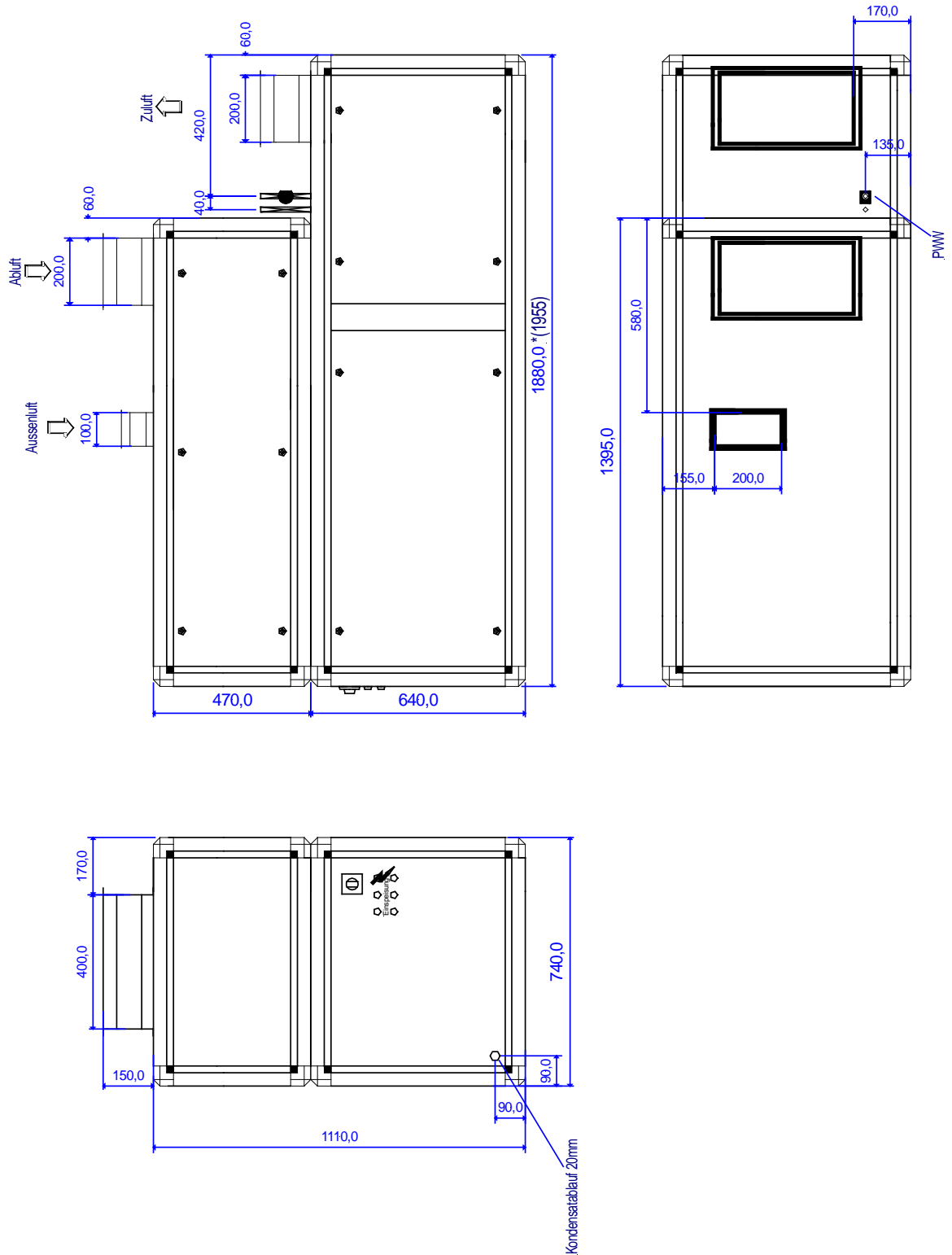
Kanalgerät

Typ 3602 U-EC / U-MC-EC



Technische Änderungen vorbehalten.

Maßblatt 02 U-EC / 02 U-MC-EC
Kanalgerät
Typ 3602 U-EC-S / U-MC-EC-S (spiegelverkehrt)

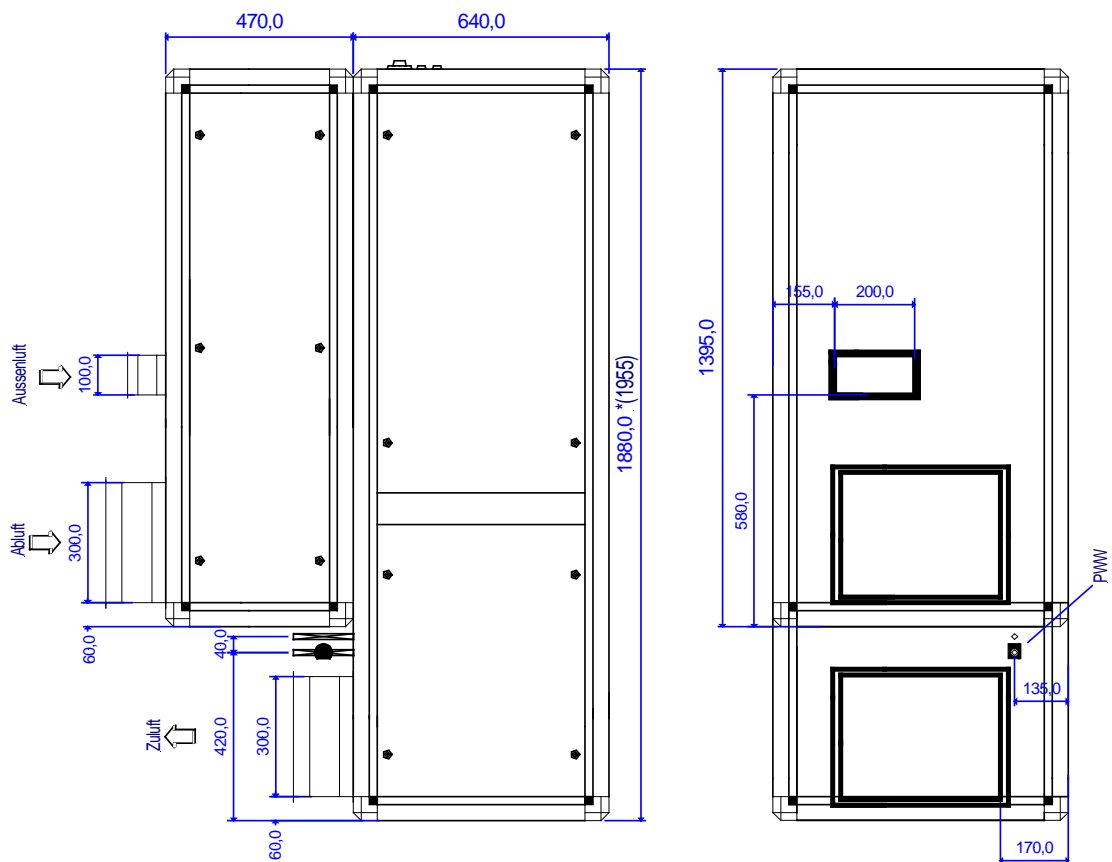
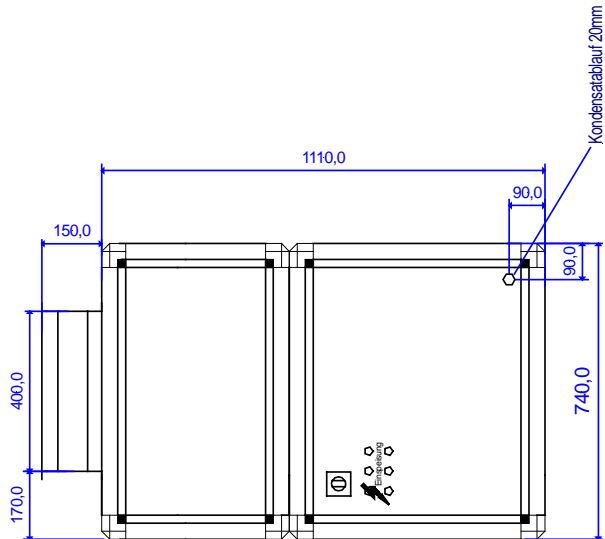


Technische Änderungen vorbehalten.

Maßblatt 02 U-EC / 02 U-MC-EC

Kanalgerät

Typ 4602 – 6602 U-EC / U-MC-EC

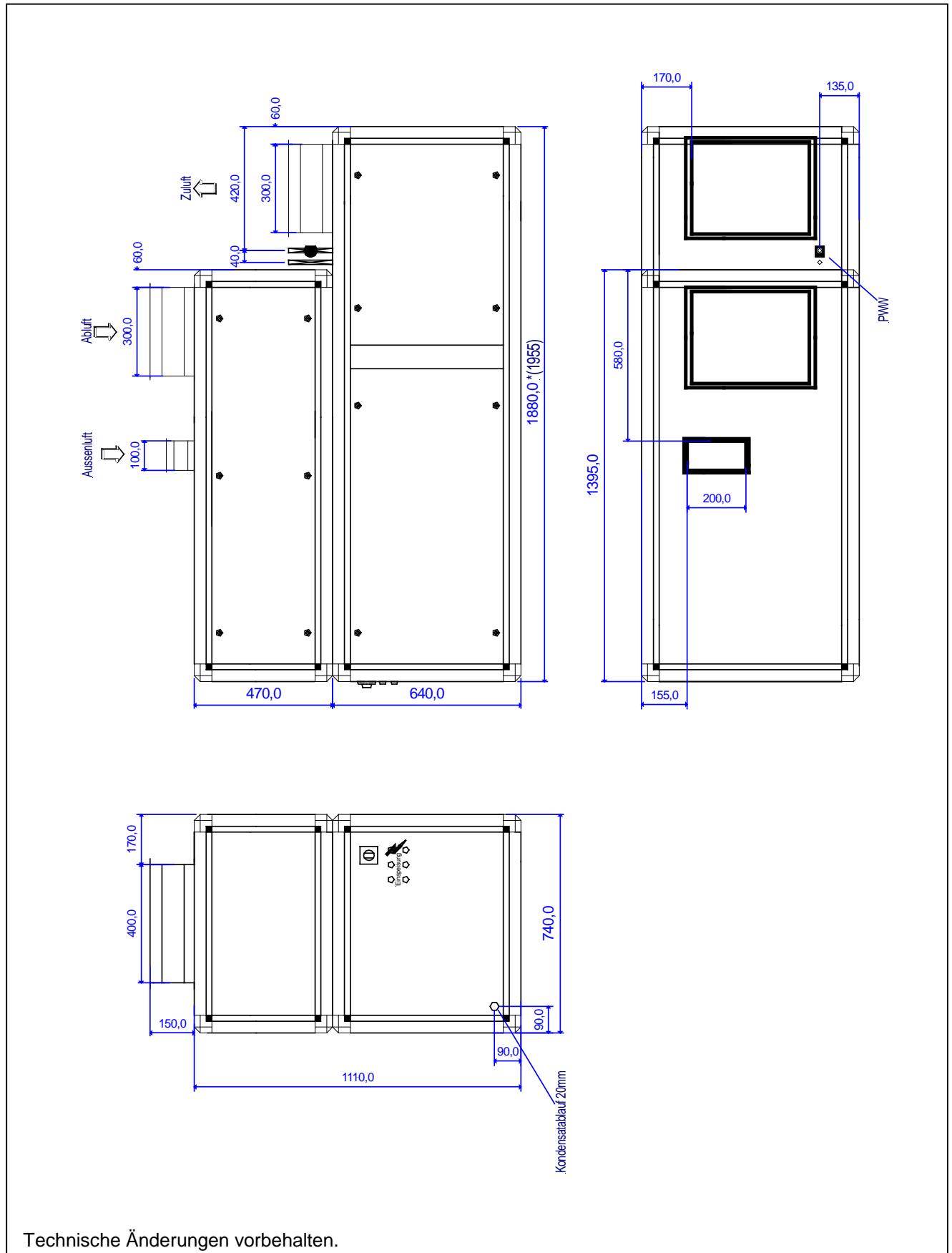


Technische Änderungen vorbehalten.

Maßblatt 02 U-EC / 02 U-MC-EC

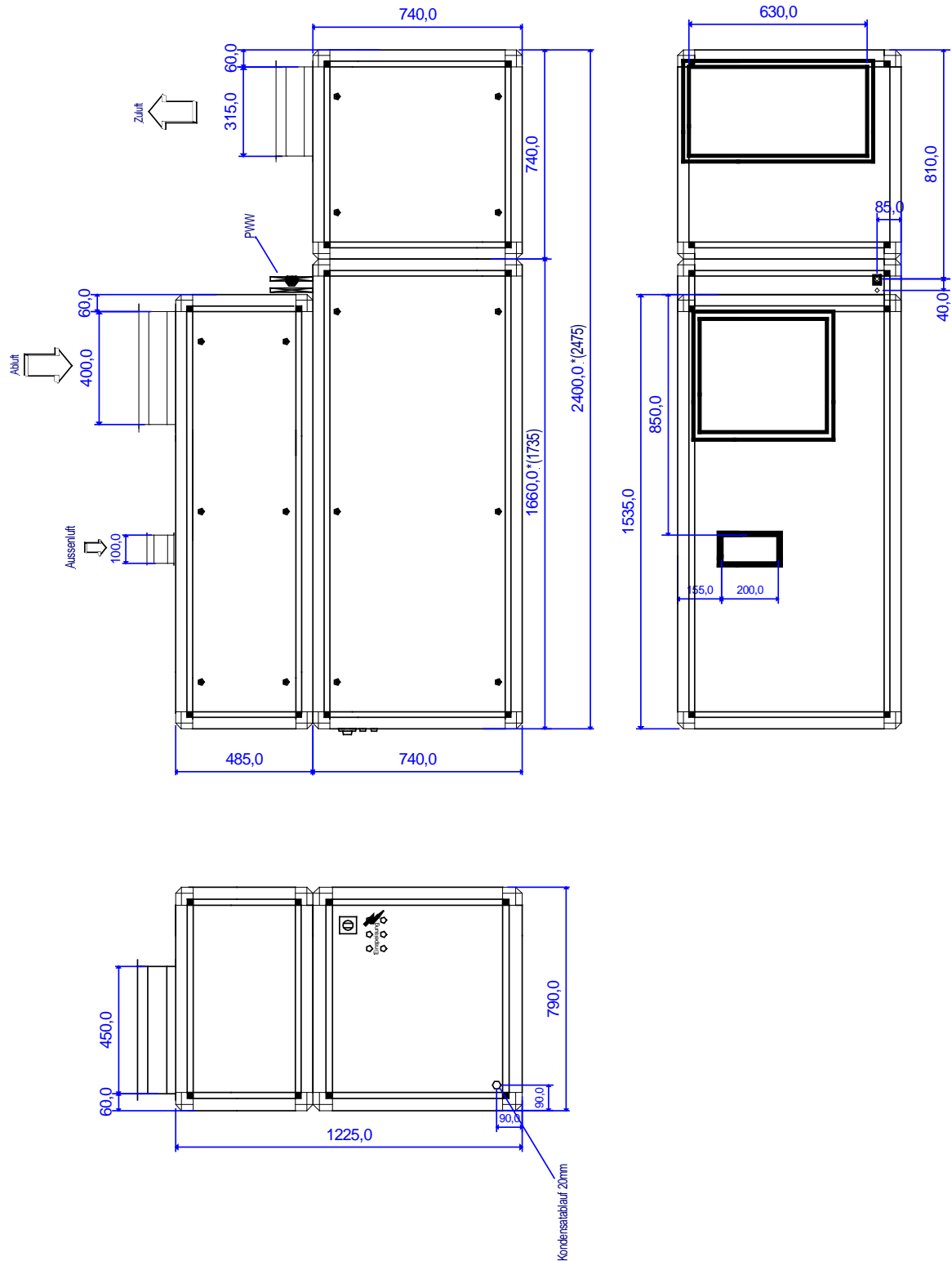
Kanalgerät

Typ 4602 – 6602 U-EC-S / U-MC-EC-S (spiegelverkehrt)



Technische Änderungen vorbehalten.

Maßblatt 02 U-EC / 02 U-MC-EC
Kanalgerät
Typ 8602 U-EC-S / U-MC-EC-S (spiegelverkehrt)



Technische Änderungen vorbehalten.



Dehumidification unit

type ..01 AF-MC-EC

Function description

Technical data

SET Fresh air - exhaust air - air dehumidifying units with heat recovery ...01 AF-MC

The air dehumidifying units of production series ..01 AF-MC are equipped with a heat pump. Different unit outputs treat the air luxurious private swimming pools and the smaller indoor pools of community associations, small hotels and small medical facilities or in sporting and leisure areas.

The air dehumidifying units ensure the complete dehumidification, heating and ventilation of the adjoining spaces. Additional fixtures for room heating are not required.

Unit functions, Function description

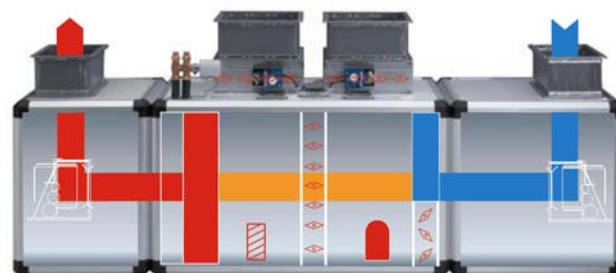
Air dehumidifying units from SET Schmidt Energietechnik have been developed and constructed especially for use in swimming pools. The use of premium and corrosion resistant materials ensures a long lifespan of the air dehumidifying units. Different surface coatings and finishes enable application for almost any purpose. Also available are titanium heat exchangers for thermal or salt water.

Every swimming pool must be dehumidified, ventilated and heated in order to guarantee a pleasant indoor climate and to avoid structural damage. Simple air extraction from the pool hall uses a great deal of energy, which can be significantly reduced by the heat recovery of an air dehumidifying unit.



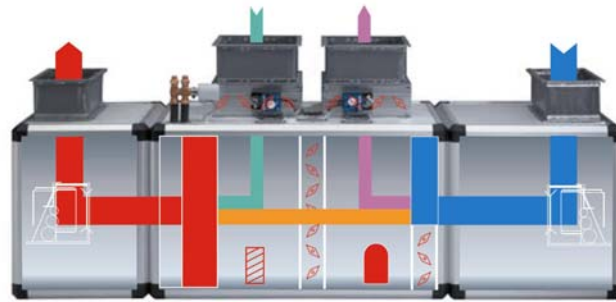
Heat

Heating the swimming area with the pumped hot water heater battery in air circulation mode.



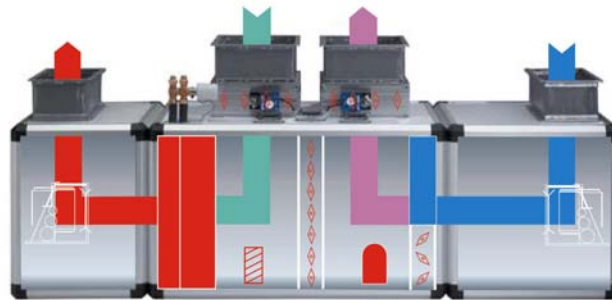
Dehumidification during low use

Dehumidification is effected in circulating air operation by cooling the swimming pool air on the evaporator of the heat pump. The dehumidified air is heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water.



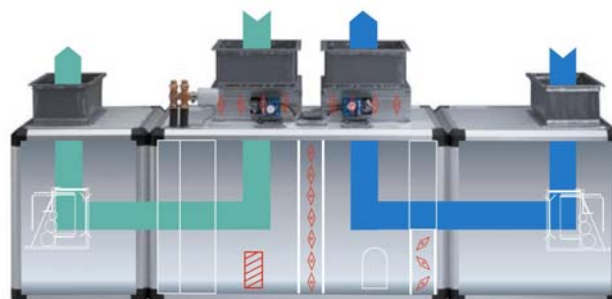
Dehumidification during swimming use with a proportion of fresh air

Dehumidification is effected in fresh air-/exhaust air operation by cooling and dehumidifying the swimming pool air on the evaporator of the heat pump. The dehumidified air is directed outside in a branch current. The remaining part of the dehumidified air is heated with the proportion of fresh air on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water. During the colder months the opening of the fresh air-/exhaust air valves is restricted by regulation.



Dehumidification during swimming use with 100% fresh air

Dehumidification is effected in fresh air-/exhaust air operation by cooling the swimming pool air on the evaporator of the heat pump. The dehumidified air is directed outside. The fresh air is heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water. Additional thermal energy for achieving the room temperature can be introduced via the pumped hot water heater battery. The fresh air considerably increases the dehumidification performance of the unit.



Summer dehumidification, cooling / ventilation

When outdoor temperatures are higher than the room target temperature, dehumidification is effected in fresh air-/exhaust air operation. The compressor does not work then.

Regulation

The DDC regulation MC 2001 undertakes all control and regulation functions of the swimming pool climate. The target values for temperature and humidity are set on the operation and display unit, which has a four-line LCD display. The fresh air mixture is controlled automatically and is regulated depending on the outdoor temperature and how the pool is used. During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operation target values are reached. If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to fresh air mode. Correspondingly, the heat valve continually regulates to the set target value. During low use and swimming use different target values can be set for temperature and humidity. Switching between low use and swimming use is done on the operation and display unit, via the optional clock module or optionally with an external switch, e.g. cover switch.

The air flow of the fans can be adjusted individually by the step-down transformers, frequency converters or speed controllers (on EC motors) on the duct system.

Thermal output to the pool water

All SET air dehumidifying units of production series ..01 AF-MC can optionally be installed with a pool water condenser. This is recommended for high water temperatures ($\geq 30^{\circ}\text{C}$) or when the room in question has low heat requirements. Overheating of the room with heat recovered from dehumidification can be avoided using the heat recovery output to the pool water.

Before delivery, SET air dehumidifying units undergo an extensive documented test run. This checks all device functions in the different operational areas and determines optimum settings. This ensures efficient operation within the customer system.

All devices can be dismantled into several parts for transportation. Assembly is simple and requires only a short time. The fully operational device wiring requires only the connection of the selected external consumer. The device parts are connected one beneath the other with plugs. Operational start-up can be carried out entirely by the system installation company.

Dehumidification unit type ..01 AF-MC-EC

1 Dehumidification unit type 01 AF-MC-EC

with heat recovery from a heat pump system for fresh air-/exhaust air operation, in basic configuration complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors), infinitely adjustable damper control, PWW with valve. Automatic mixing of the fresh air- / exhaust air rate from 0 – 100% according to mode of operation and target value deviation of the pool area,

consisting of:

3-part device housing (exhaust part, heat pump part, added air part), device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, plastic cover panels with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 20 mm), installed therein:

- 1 heat pump unit with safety refrigerant R 407 C, consisting of:
 - 1 fully hermetic engine compressor, vibration-cushion mounted
 - 1 crankcase heater
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated
 - 1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 dryer
 - 1 inspection glass with indicator
 - 1 refrigerant collector
 - 1 cooling piping of CU pipe, inc. condensation insulation
 - 1 opposing bypass damper, manually adjustable, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 3 air control dampers, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 1 air filters G4, removable
- 3 damper motors 24 V
- 1 pumped hot water heater battery of CU pipe with pressed-on alu-blades inc. 3-way valve with continuous drive
- 1 frost protection facility via MC 2001
- 1 outdoor temperature sensors via MC 2001

Dehumidification unit type ..01 AF-MC-EC

Added air part and exhaust part, each consisting of

- 1 fan unit with EC-engine for energy saving operation across all load ranges with the highest degree of efficiency as a freely running, backward curved radial impeller, directly driven by external rotary engine as EC engine, fan unit to VDI standard 2060, Goods class Q 6.3, dynamically balanced in two planes, meeting EN 610200-3-2, speed infinitely adjustable by speed controller, engine in safety class IP 54, ISO class F, motor protection self-protecting

1 SET Microcontroller MC 2001

consisting of:

Control cabinet with structured stove enamel, or stainless steel, control cabinet doors with tightly closing rubber seals and quick-release fasteners, alternatively installed in device. Fuses, overcurrent release, contacts, and connection cable with multipoint connector for dehumidification unit control cabinet wiring to VDE, fully wired for external pumps etc.

Hardware

operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display damper positions, hours of operation and message texts as well as coloured LEDs for operation and fault reporting, 1 main switch. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of outdoor temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Software

Control functions:

- Pool area temperature regulation
- Humidity regulation
- Control of fresh air mixture, automatically regulated depending on the outdoor temperature and how the pool is used.
- Mode of operation selector
- Error messages
- Filter monitoring
- PWW pumps activation

During low use mode the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operational target values are reached.

If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to defined fresh air mode.

Installed as standard is a sensor for temperature and humidity (minimum circulating air always "on").

Dehumidification unit type ..01 AF-MC-EC

Technical data

Dehumidification	..	kg/h
Dehumidification capacity to VDI 2089	..	kg/h
Air flow	..	m ³ /h
Added air		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m	..	dB(A)
Added air fan		
Nominal power	..	kW
Nominal current	..	A
Exhaust		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m	..	dB(A)
Exhaust fan		
Nominal power	..	kW
Nominal current	..	A
Compressor		
Operating current on average	..	A
Power input on average	..	kW
Air heat recovery	..	kW
PWW air heater capacity (80/60°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
NT PWW air heater capacity (50/40°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
Feed-in	AC 400 V 3 N	
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage	DC 24 V	
Switchbox/device safety class	IP 55 / 33	
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type **..01 AF-MC-EC**
 Supply from factory €

Dehumidification unit type ..01 AF-MC-EC

1 Pumped Hot Water Heater Battery PWW Low Temperature

installed in place of the available heater battery in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, target value indicator and sensor included in MC 2001.

Heat performance PWW at 50/40°C	.....	kW
Flow rate	.....	m³/h
Pressure decrease inc. valve	.....	kPa

Type	NT-PWW AF-MC	
Supply from factory		€

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance	.....	kW
Feed-in	AC ... V . N	

Type	EHZ AF-MC	
Supply from factory		€

1 Pool water heat exchanger of titanium

for the release of heat recovery into the pool water, fully wired installed in dehumidification unit, regulated on the cooling side, complete with electronic temperature regulation using MC 2001. With flow monitor, the pool water heat exchanger deactivates when there is insufficient water,

1 pool water sensor is supplied unconnected

Power from / to	..... /.....	kW
Flow rate	.....	m³/h
Pressure decrease	.....	kPa

Type	WRGAF Titan	
Supply from factory		€

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type	RF	
Supply from factory		€

Dehumidification unit type ..01 AF-MC-EC

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	
Supply from factory		€

1 Remote indication (additional control panel)

(up to 50 m distance from main device) consisting of:
2nd operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display, damper positions, Hours of operation and message texts as well as coloured LEDs for operation and fault reporting (with acoustic alarm)

Type	BDT 2	
Supply from factory		€

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

1 Remote control module

Further regulation for the remote control of the air dehumidifying units with the on-site central controller OSPA Bluecontrol.

Type	OSPA	
Supply from factory		€

Dehumidification unit type ..01 AF-MC-EC

1 Further regulation RS 485

Further regulation for the remote control of the air dehumidifying units,
MC 2001 interface RS 485 for communication with external control units,
implementation of the data point list takes place on site

Type	RS 485	
Supply from factory		€

1 Pocket filter for duct installation

Air filter F5 in housing for installation in the air duct

Type	TFK ..01 AF ...	
Supply from factory		€

1 Filter monitoring with display on MC 2001

Type	FÜ	
Supply from factory		€

Technical data

Device type		3601 AF-MC-EC	4601 AF-MC-EC	6601 AF-MC-EC	8601 AF-MC-EC
Water surface up to approx. ¹	m ²	40-50	40-60	50-75	70-100
Air flow	m ³ /h	1.000	1.200	1.400	2.500
Dehumidification (30°C / 60% r.h.)	kg/h	3,3	4,1	6,1	8,2
Dehumidification capacity to VDI 2089	kg/h	6,3	7,6	8,9	15,9
Fresh air proportion	%	0-100	0-100	0-100	0-100
Added air external pressure drop	Pa	240	240	240	240
Sound pressure level LpA in 1m	dB(A)	57	57	57	61
Added air fan nominal power	KW	0,3	0,3	0,3	0,77
Added air fan nominal current	A	1,4	1,4	1,4	1,4
Exhaust external pressure drop	Pa	260	260	260	240
Sound pressure level LpA in 1m	dB(A)	55	55	55	59
Exhaust fan nominal power	kW	0,3	0,3	0,3	0,77
Exhaust fan nominal current	A	1,4	1,4	1,4	1,4
Compressor operating current on average	kW	1,6	1,54	1,94	2,23
Compressor power input on average	A	3,3	3,0	3,7	4,2
Air heat recovery	kW	3,9	4,8	7,1	9,0
PWW air heater capacity (80/60°C)	kW	10,0	11,2	12,2	20,0
Water volume	m ³ /h	0,45	0,5	0,55	0,9
Drag (inc. valve)	kPa	5	6	6	10
NT PWW air heater capacity (50/40°C)	kW	5,7	6,7	7,6	12,0
Water volume	m ³ /h	0,5	0,6	0,7	1,1
Drag (inc. valve)	kPa	10	11	12	10
Control voltage		DC 24 V			
Feed-in		AC 400 V 3 N			
Total connected load	kW	2,5	2,5	3,0	4,0
Preliminary fuse (time-delay)	A	3 x 10	3 x 10	3 x 16	3 x 16
Operating weight	kg	130	140	155	220
Dimensions W x D x H	mm	2240 x 740 x 640			2880 x 790 x 740
largest transport unit W x D x H	mm	1100 x 740 x 640			1400 x 790 x 740

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

Technical data

Device type		3601 AF-MC 2800 EC	4601AF-MC 2800 EC	6601 AF-MC 2800 EC	8601 AF-MC 3200 EC
Water surface up to approx. ¹	m ²	40-50	40-60	50-75	70-100
Air flow	m ³ /h	2.800	2.800	2.800	3.200
Dehumidification (30°C / 60% r.h.)	kg/h	3,3	4,1	6,1	8,2
Dehumidification capacity to VDI 2089	kg/h	17,8	17,8	17,8	20,3
Fresh air proportion	%	0-100	0-100	0-100	0-100
Added air external pressure drop	Pa	240	240	240	240
Sound pressure level LpA in 1m	dB(A)	65	65	65	66
Added air fan nominal power	KW	0,77	0,77	0,77	0,8
Added air fan nominal current	A	1,4	1,4	1,4	1,5
Exhaust external pressure drop	Pa	240	240	240	240
Sound pressure level LpA in 1m	dB(A)	63	63	63	64
Exhaust fan nominal power	kW	0,77	0,77	0,77	0,8
Exhaust fan nominal current	A	1,4	1,4	1,4	1,5
Compressor operating current on average	kW	1,6	1,54	1,94	2,23
Compressor power input on average	A	3,3	3,0	3,7	4,2
Air heat recovery	kW	3,9	4,8	7,1	9,0
PWW air heater capacity (80/60°C)	kW	20,2	20,2	20,2	23,0
Water volume	m ³ /h	0,9	0,9	0,9	1,0
Drag (inc. valve)	kPa	10	10	10	11
NT PWW air heater capacity (50/40°C)	kW	13,5	13,5	13,5	15,0
Water volume	m ³ /h	1,2	1,2	1,2	1,3
Drag (inc. valve)	kPa	11	11	11	12
Control voltage		DC 24 V			
Feed-in		AC 400 V 3 N			
Total connected load	kW	3,3	3,3	3,3	4,2
Preliminary fuse (time-delay)	A	3 x 16	3 x 20	3 x 20	3 x 25
Operating weight	kg	200	210	220	230
Dimensions W x D x H	mm	2880 x 790 x 740			
largest transport unit W x D x H	mm	1400 x 790 x 740			

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

Technical data

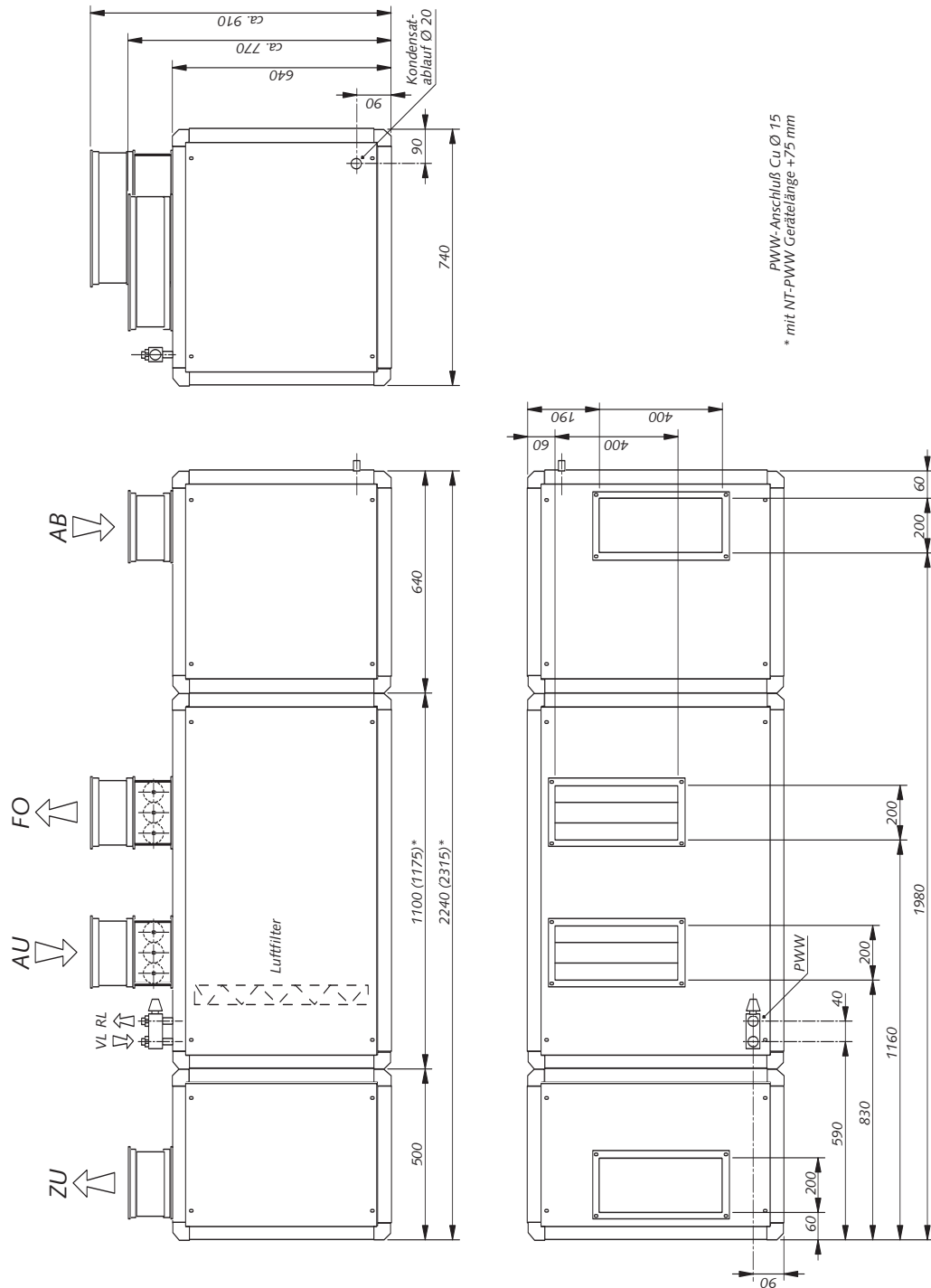
Device type		0401 AF-MC-EC	0501 AF-MC-EC	0601 AF-MC-EC
Water surface up to approx. ¹	m ²	100-130	130-160	150-190
Air flow	m ³ /h	4.000	5.000	6.000
Dehumidification (30°C / 60% r.h.)	kg/h	10,1	11,5	13,8
Dehumidification capacity to VDI 2089	kg/h	25,4	31,8	38,1
Fresh air proportion	%	0-100	0-100	0-100
Added air external pressure drop	Pa	350	350	350
Sound pressure level LpA in 1m	dB(A)	81	81	82
Added air fan nominal power	KW	1,0	1,1	1,1
Added air fan nominal current	A	4,4	4,4	4,6
Exhaust external pressure drop	Pa	400	400	400
Sound pressure level LpA in 1m	dB(A)	81	81	84
Exhaust fan nominal power	kW	0,95	1,0	1,0
Exhaust fan nominal current	A	4,1	4,1	4,1
Compressor operating current on average	kW	2,8	3,6	4,2
Compressor power input on average	A	5,0	6,0	7,0
Air heat recovery	kW	9,7	11,4	13,6
PWW air heater capacity (80/60°C)	kW	45,8	53,0	58,0
Water volume	m ³ /h	2,0	2,3	2,6
Drag (inc. valve)	kPa	16	16	16
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	5,2	5,9	6,4
Preliminary fuse (time-delay)	A	3 x 20	3 x 20	3 x 25
Operating weight	kg	420	450	470
Dimensions W x D x H	mm	3825 x 985 x 985		
largest transport unit W x D x H	mm	2100 x 985 x 985		

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft

Typ 3601 AF-MC-EC

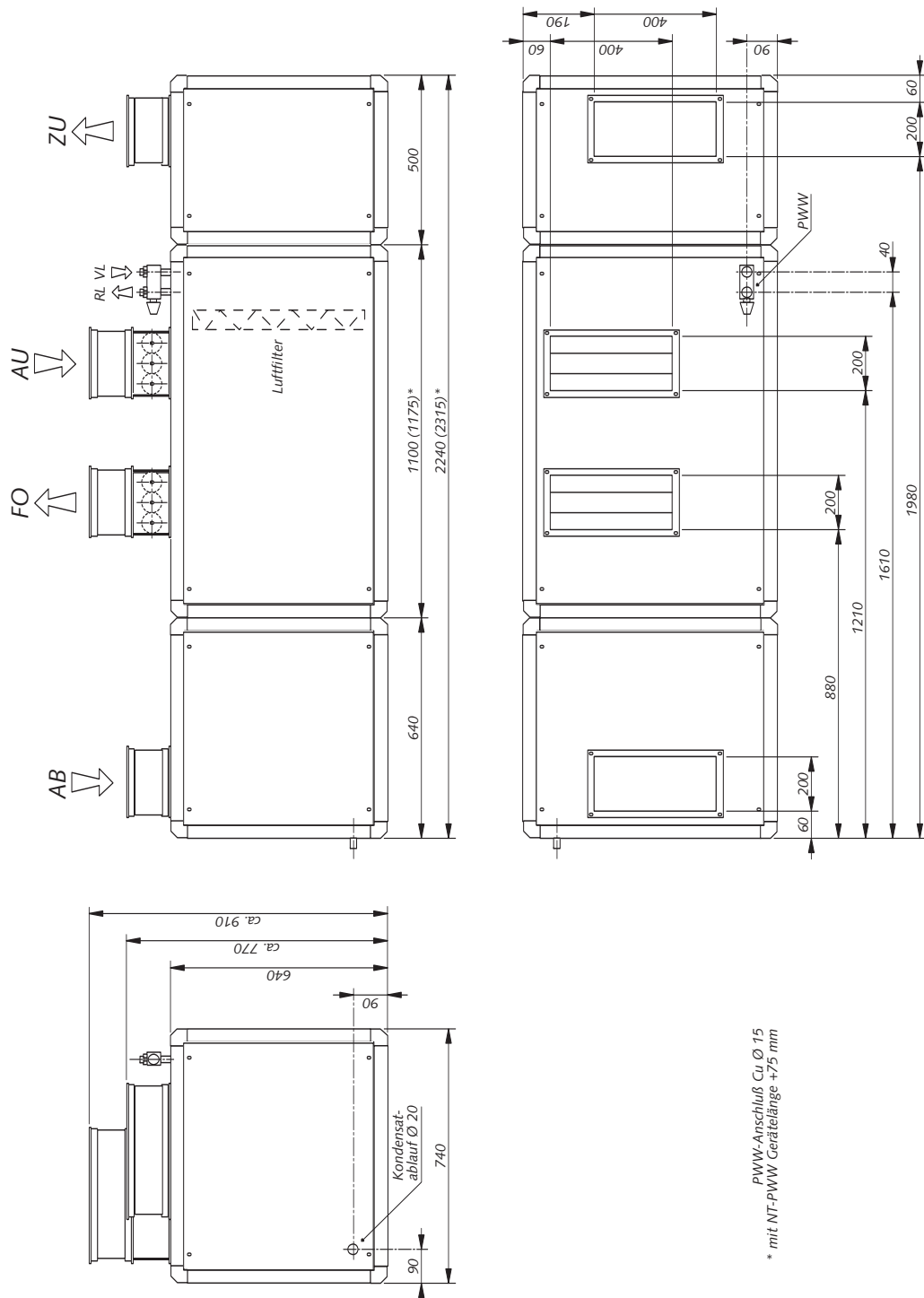


Technische Änderungen vorbehalten.

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft

Typ 3601 AF-MC-EC-S (spiegelverkehrt)

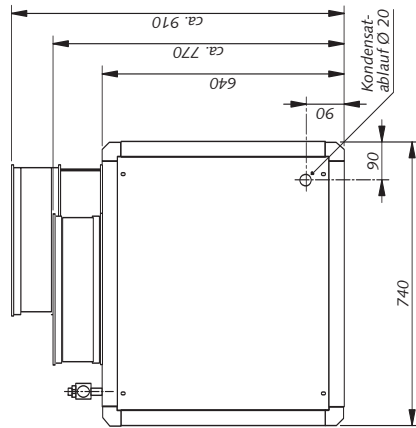


PWV-Anschluß Cu Ø 15
* mit NT-PWV Gerätelänge +75 mm

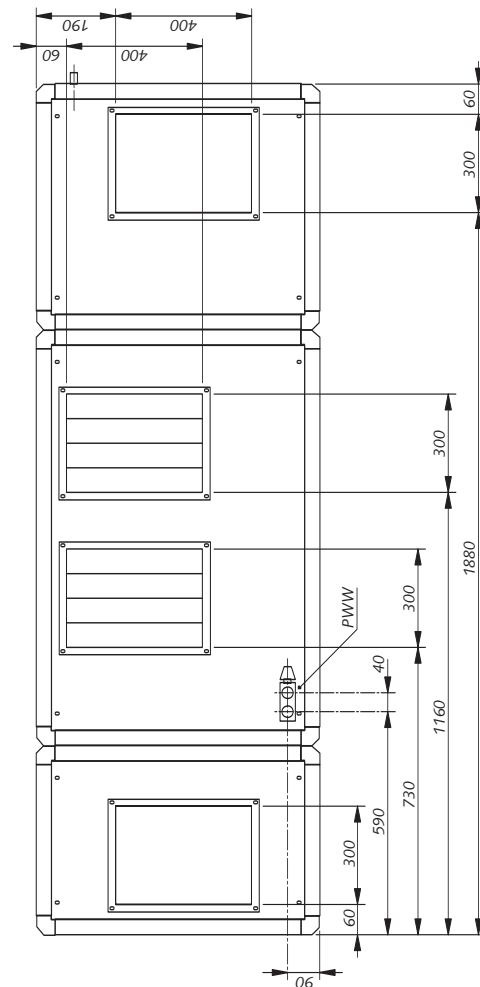
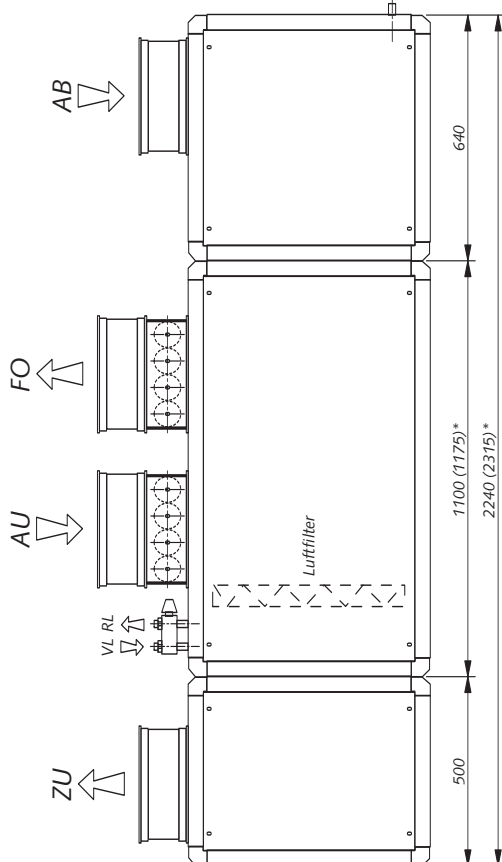
Technische Änderungen vorbehalten.

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft
Typ 4601 und 6601 AF-MC-EC



PWW-Anschluß Cu Ø 15
* mit NT-PWW Gerätelänge + 75 mm

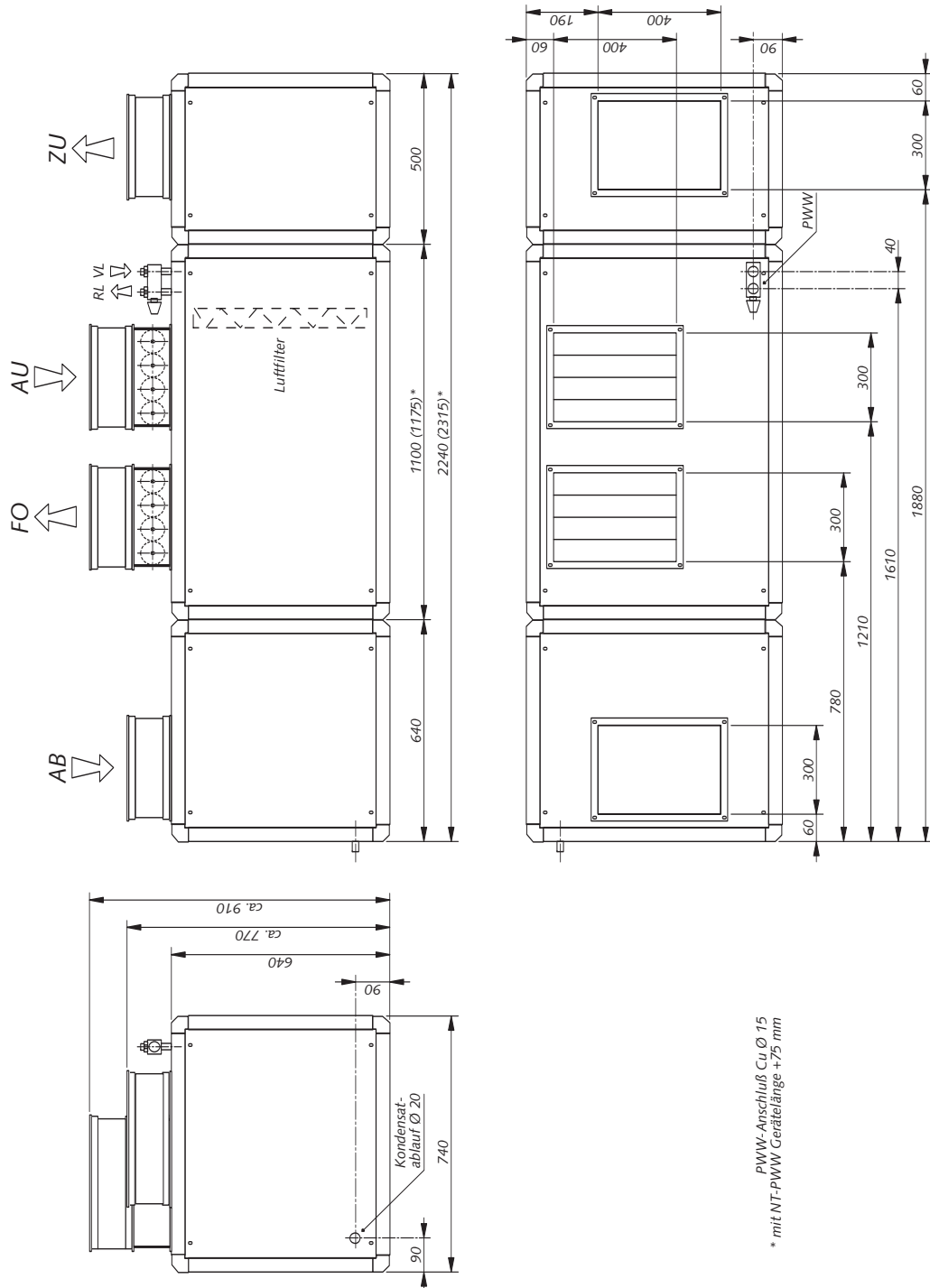


Technische Änderungen vorbehalten.

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft

Typ 4601 und 6601 AF-MC-EC-S (spiegelverkehrt)

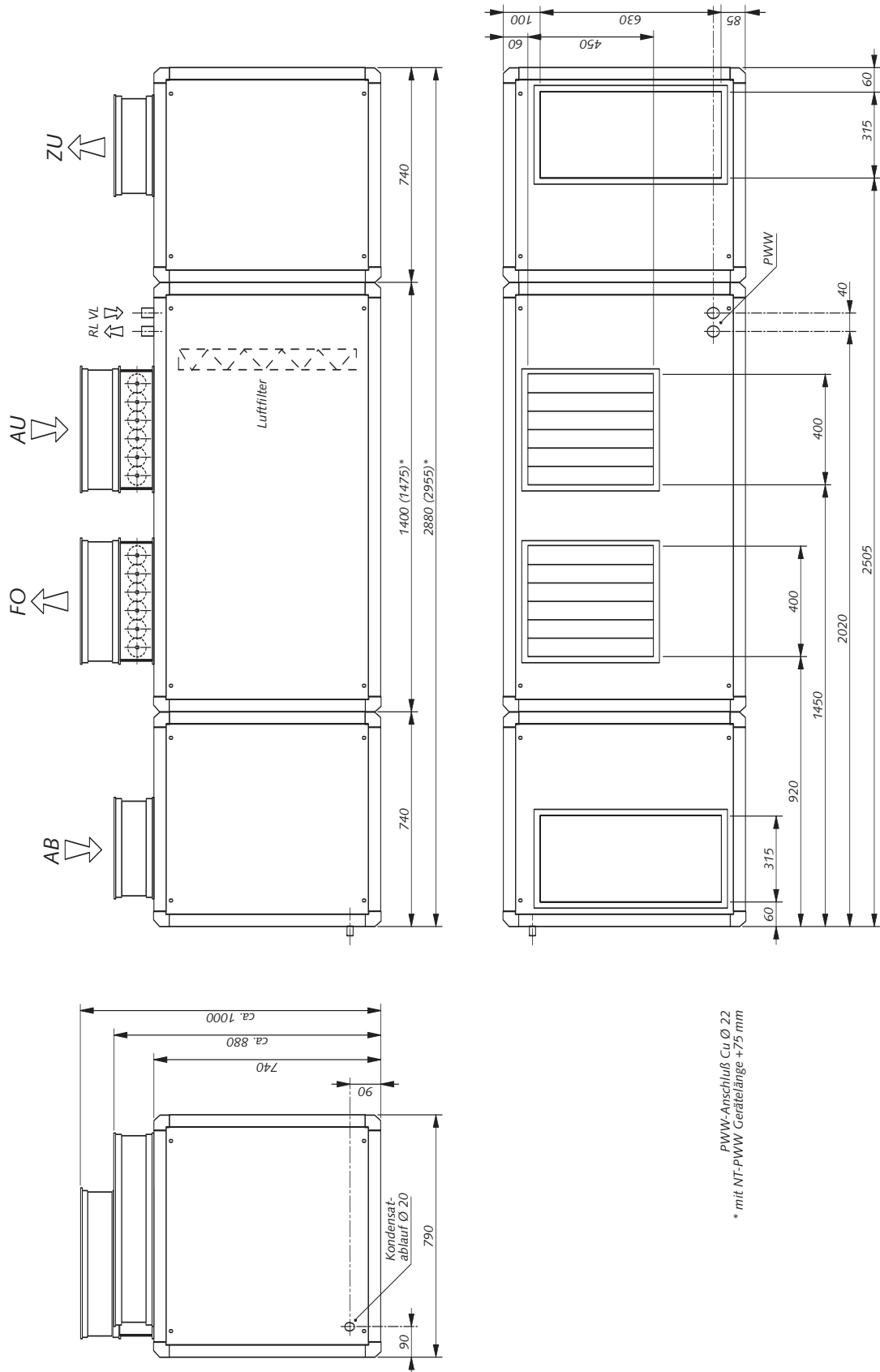


PWW-Anschluß Cu Ø 15
* mit NT-PWW Gerätelänge +75 mm

Technische Änderungen vorbehalten.

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft Typ 3601, 4601 und
6601 AF-MC-EC-S 2800, 8601 AF-MC-EC-S 3200 (spiegelverkehrt)



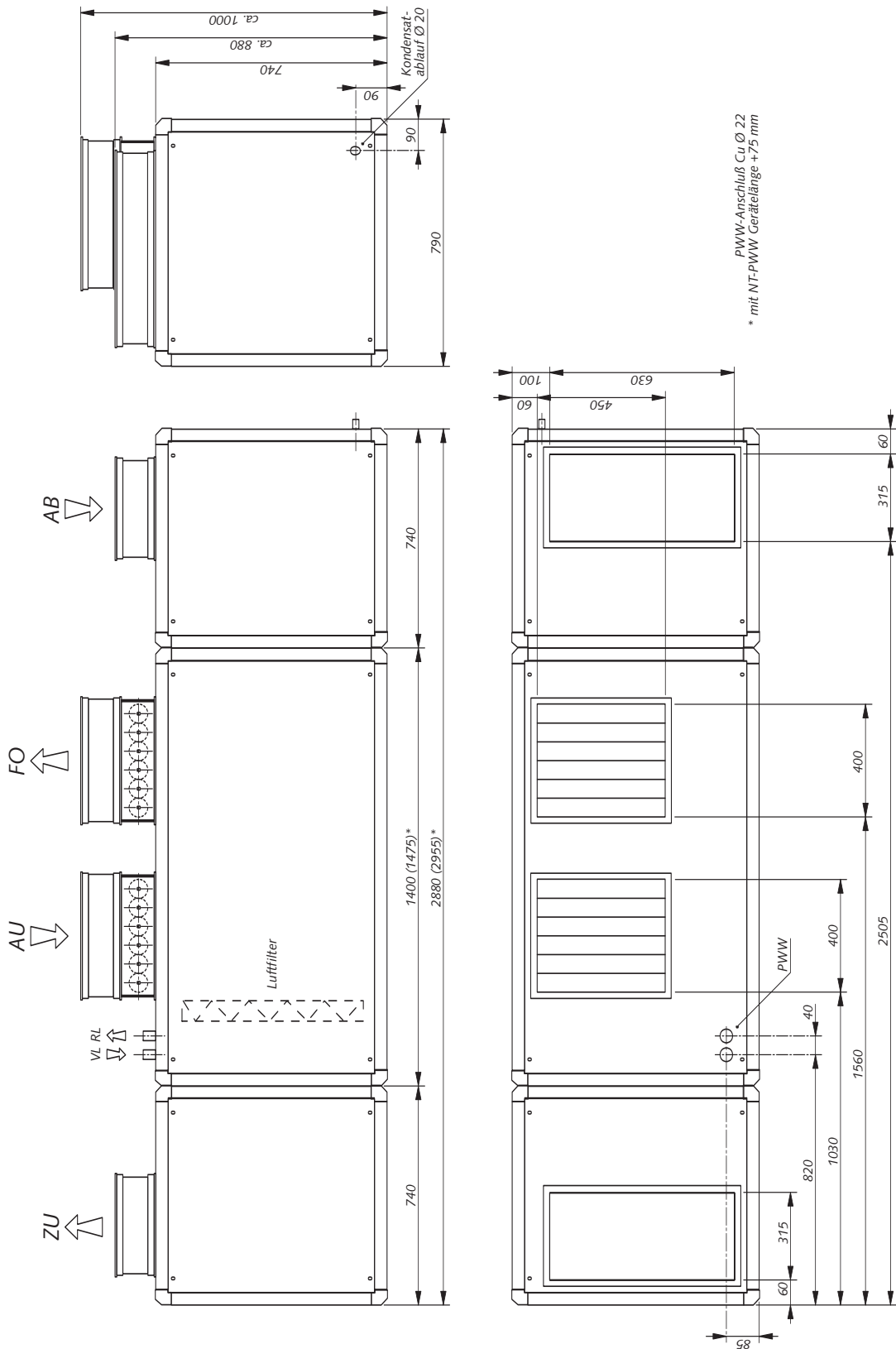
PWV-Anschluß Cu \varnothing 22
* mit NT-PWV Geräterlänge +75 mm

Technische Änderungen vorbehalten.

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft

Typ 8601 AF-MC-EC

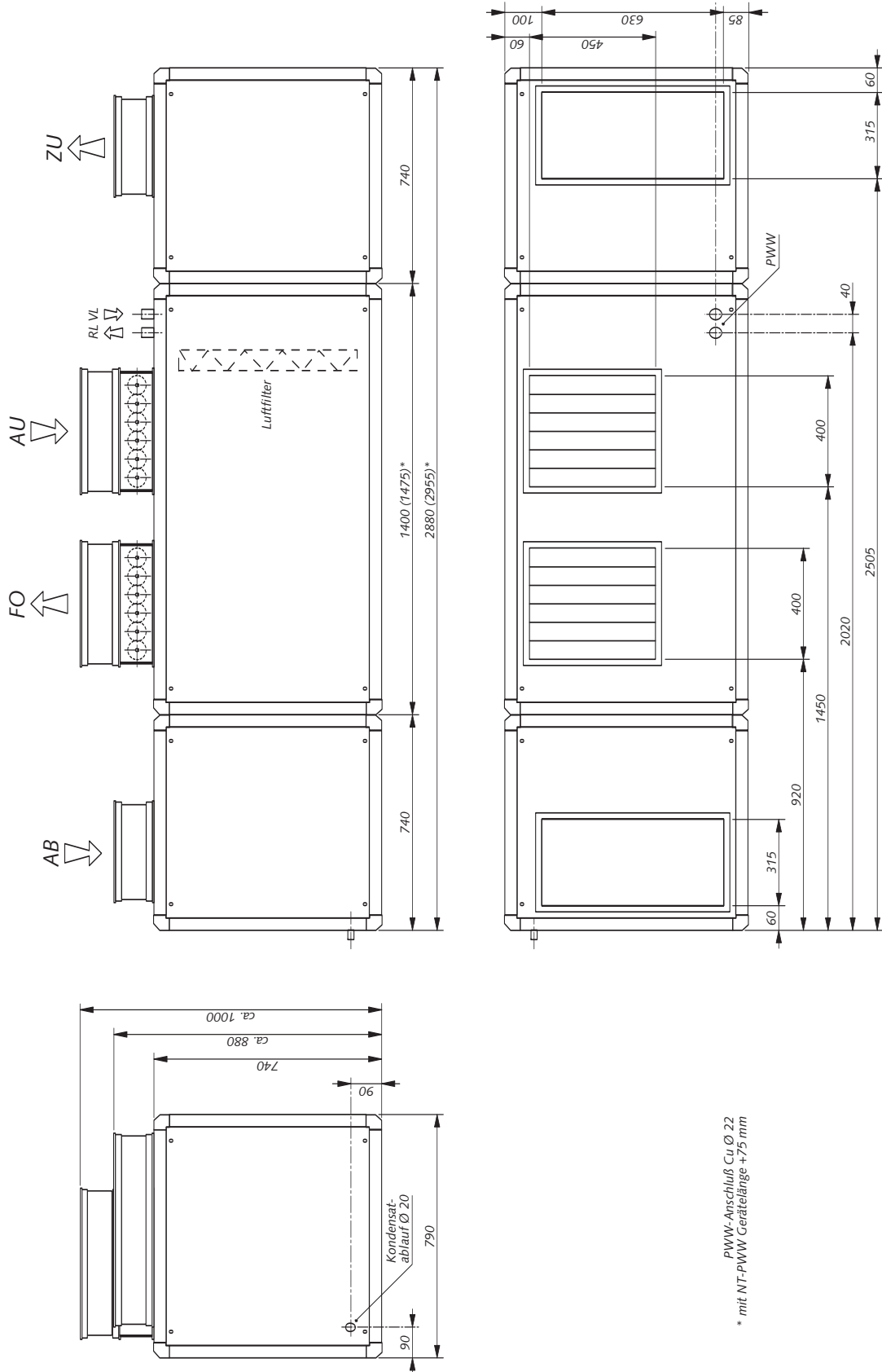


Technische Änderungen vorbehalten.

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft

Typ 8601 AF-MC-EC-S (spiegelverkehrt)



PWV-Anschluß Cu Ø 22
* mit NT-PWV Gerätlänge +75 mm

Technische Änderungen vorbehalten.

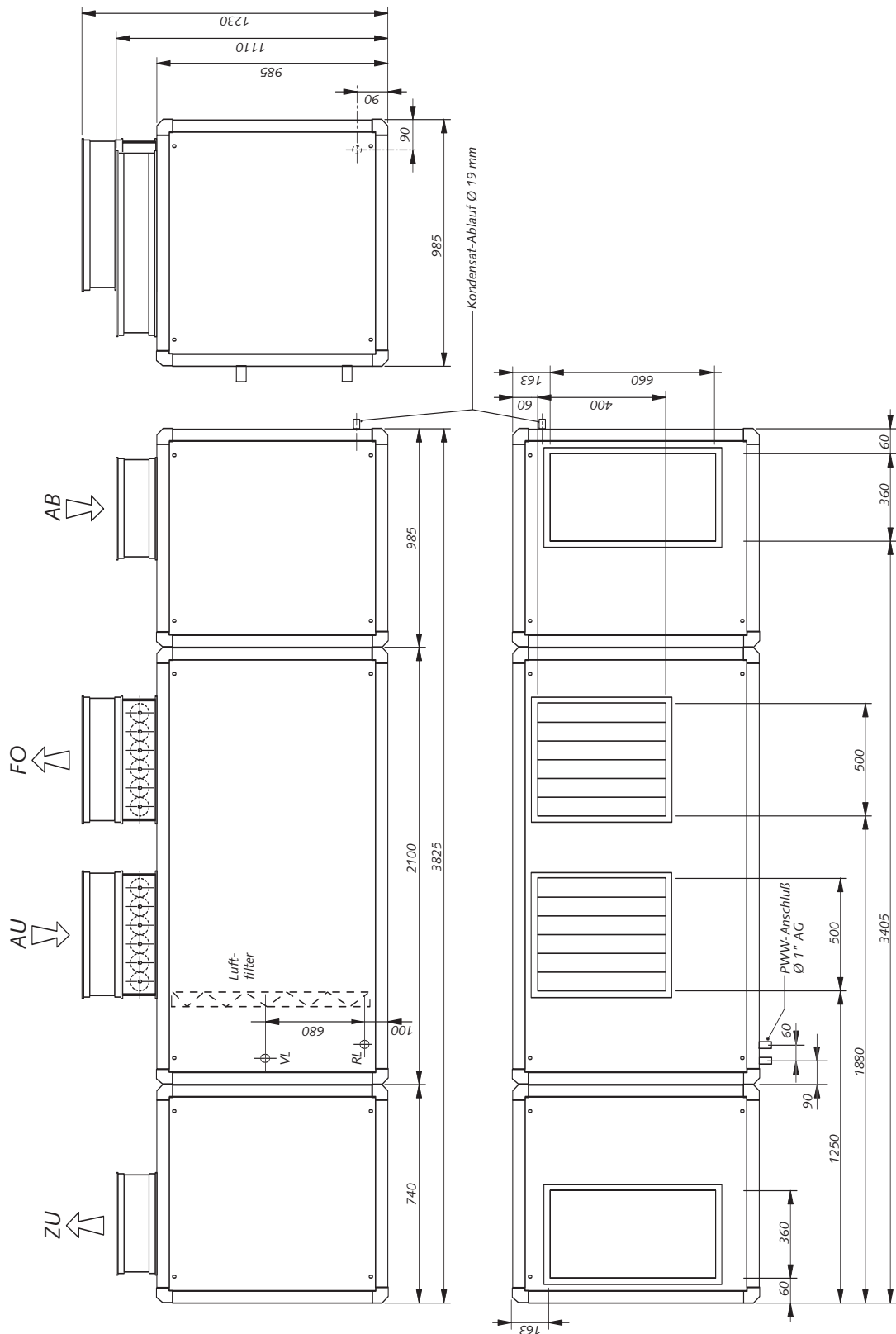
SET Schmidt Energietechnik · August-Blessing-Straße 5 · D-71282 Hemmingen

Telefon +49 (0) 71 50/94 54-0 · Telefax +49 (0) 71 50/23 37 · info@set-schmidt.de · www.set-schmidt.de

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft

Typ 0401 AF-MC-EC

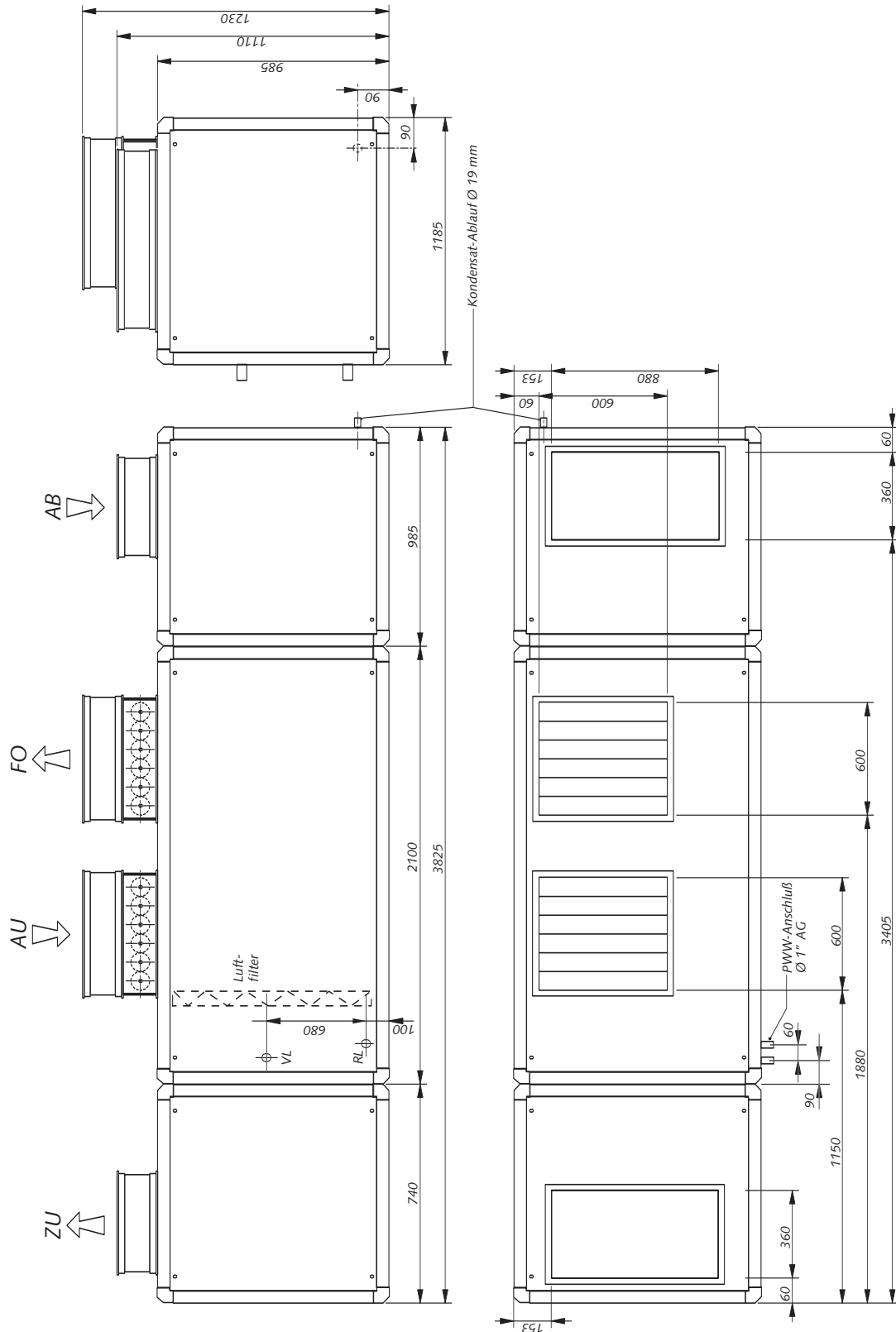


Technische Änderungen vorbehalten.

Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft

Typ 0501 AF-MC-EC



Technische Änderungen vorbehalten.

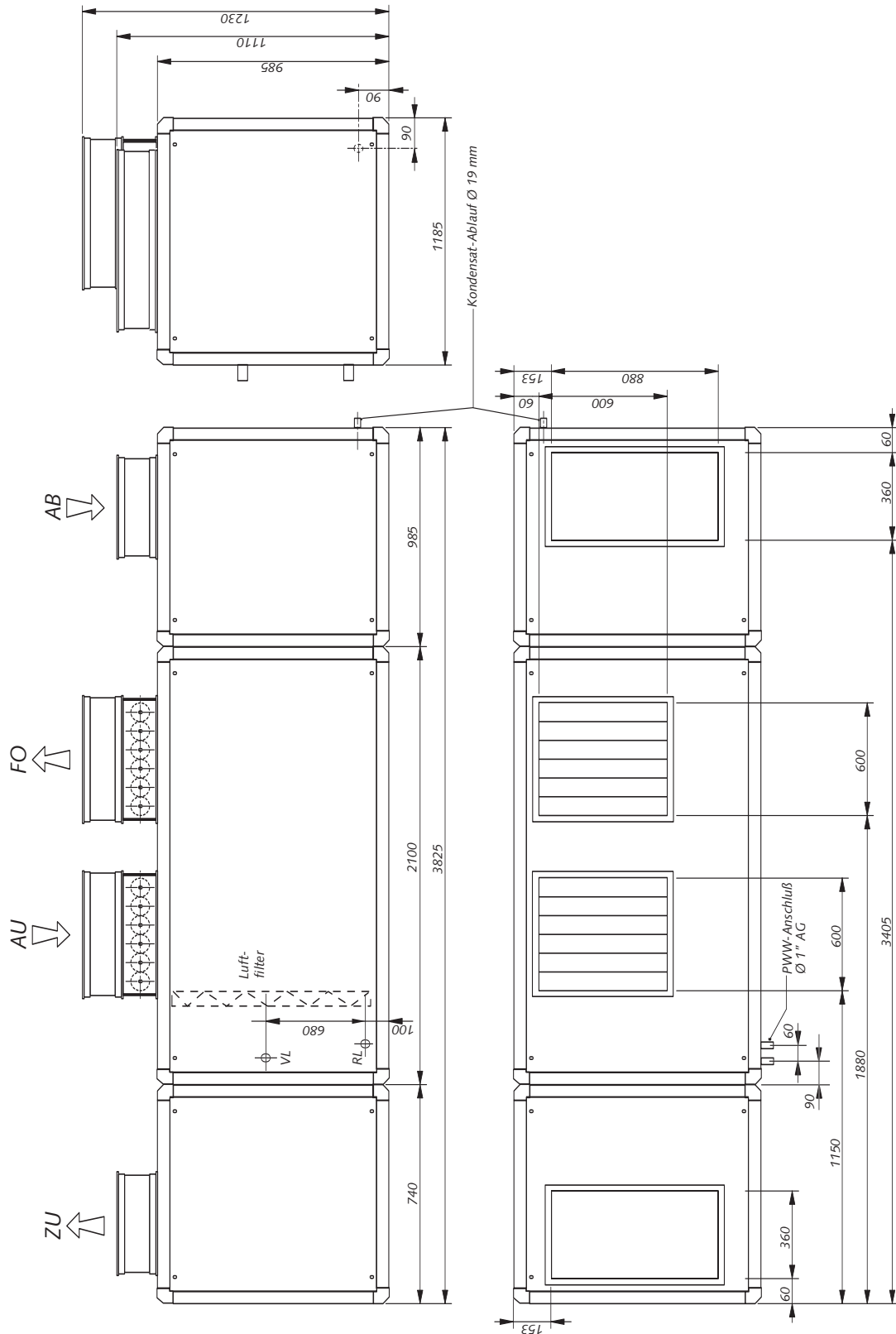
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Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft

Typ 0601 AF-MC-EC



Technische Änderungen vorbehalten.

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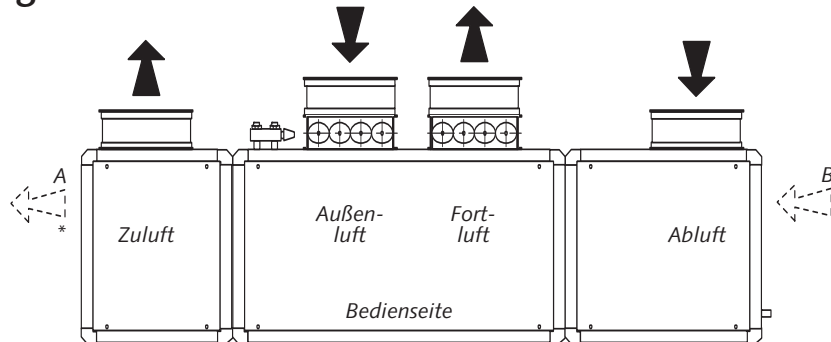
Maßblatt 01 AF-MC-EC

Kanalgeräte Außenluft-Fortluft
Anschlußmöglichkeiten

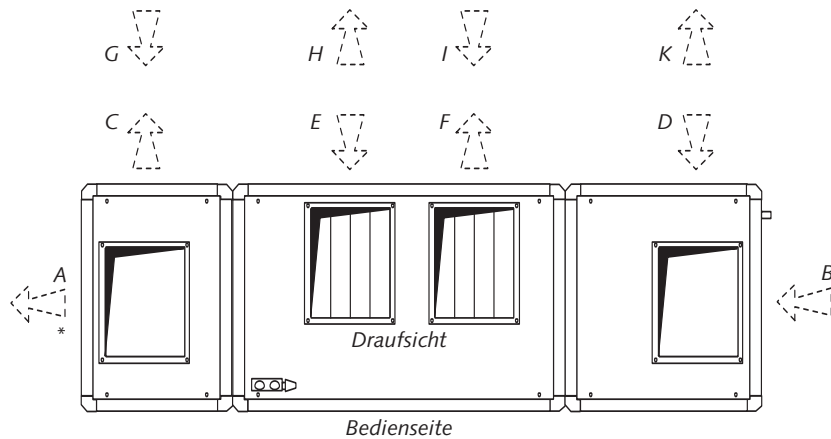


Luftseitige Anschlußmöglichkeiten bei Außenluft-Fortluftgeräten

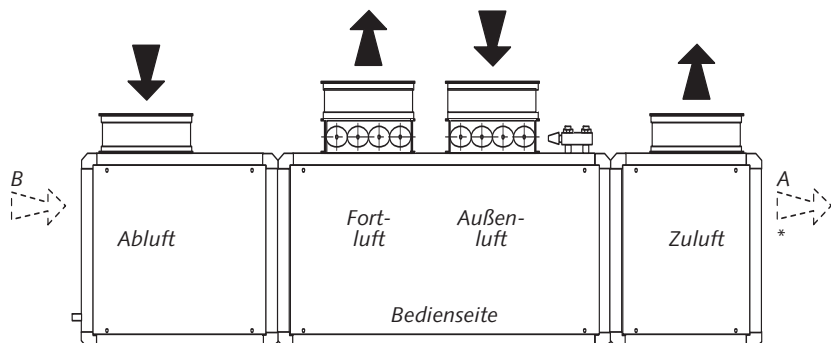
Standard-
ausführung



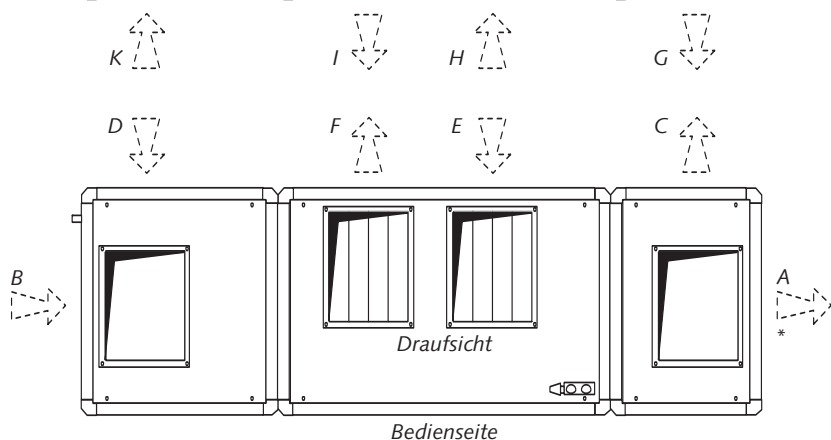
➔ *serienmäßig
alternativ
(bei Bestellung
angeben)*



Ausführung „S“
(spiegelverkehrt)



➔ *serienmäßig
alternativ
(bei Bestellung
angeben)*



* Bei Ausführung A
(Zuluft stirnseitig)
Gerätelänge +150 mm

Technische Änderungen vorbehalten.



Dehumidification unit

type **..02 AF-MC-EC**

Function description

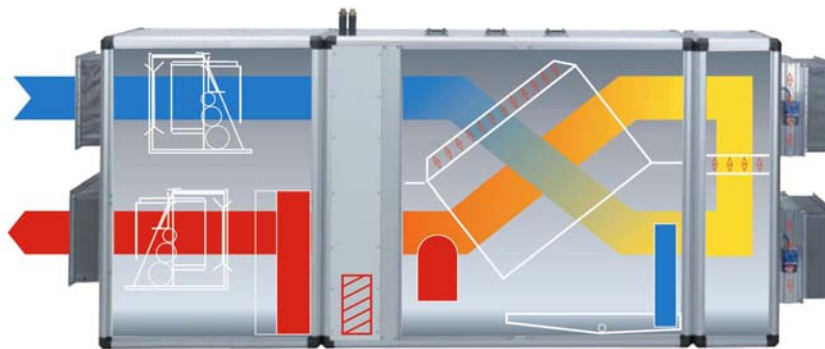
Technical data

Dehumidification unit type ..02 AF-MC-EC with multi-level heat recovery

The air dehumidifying units of production series ..02 AF-MC are equipped with a recuperator unit and a heat pump. Different unit outputs treat the air of luxurious private swimming pools and public indoor pools in hotels, in small medical facilities or in sporting and leisure areas.

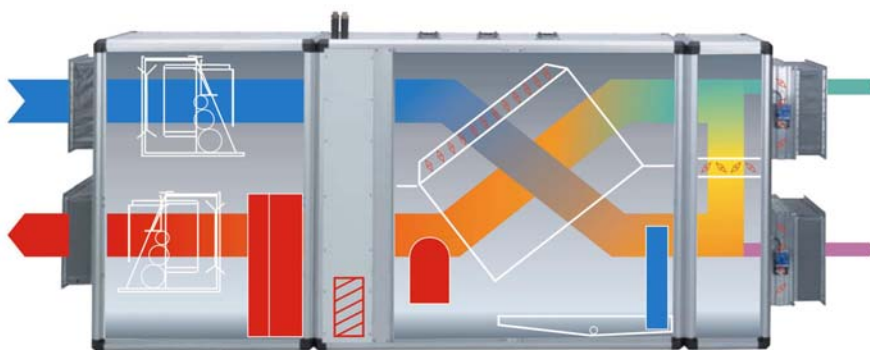
The air dehumidifying units ensure the complete dehumidification, heating and ventilation of the adjoining spaces. Additional fixtures for room heating are not required.

Unit functions, Function description



Dehumidification during low use

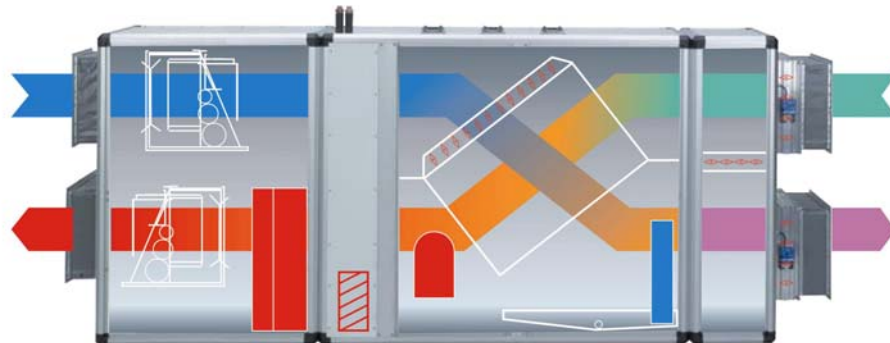
Dehumidification is effected in circulating air operation by cooling the swimming pool air on the evaporator of the heat pump. The dehumidified air is pre-warmed in the recuperator unit and heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water. The connection of the recuperator unit increases heat recovery considerably.



Dehumidification during swimming use with a proportion of fresh air

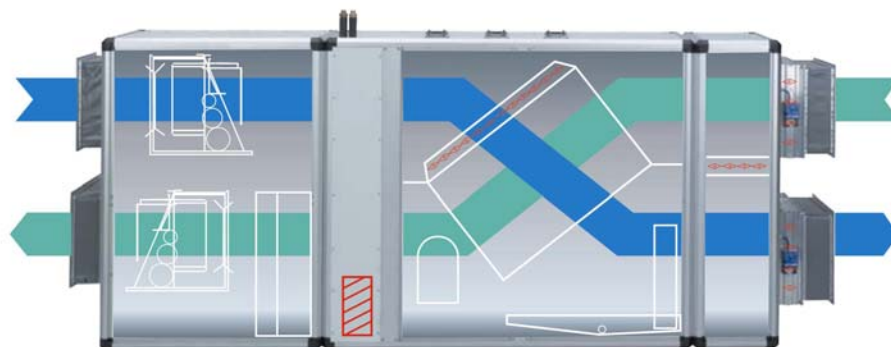
Dehumidification is effected in regulated fresh air-/exhaust air operation by cooling the swimming pool air in the recuperator unit and on the evaporator of the heat pump. The dehumidified air is directed outside in a branch current. The remaining part of the dehumidified air is pre-warmed with the proportion of fresh air in the recuperator unit and heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water. The mixing of cooler fresh air improves the cooling effect in the recuperator

unit and increases the dehumidification in the unit considerably. During the colder months the opening of the fresh air-/exhaust air valves is restricted by regulation.



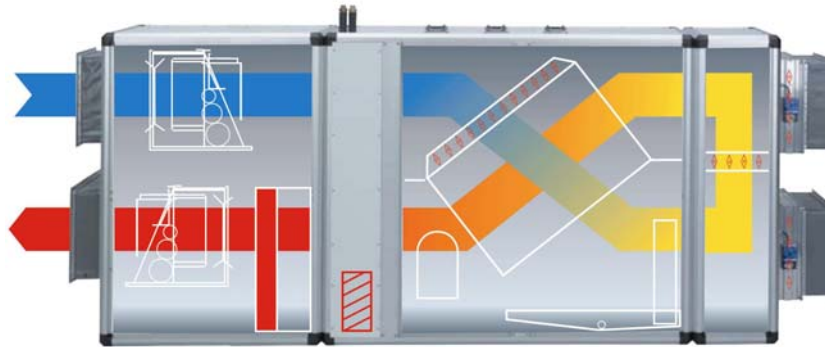
Dehumidification during swimming use with 100% fresh air

Dehumidification is effected in fresh air-/exhaust air operation by cooling the swimming pool air in the recuperator unit and on the evaporator of the heat pump. The dehumidified air is directed outside. The fresh air is pre-warmed in the recuperator unit and heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water. Additional thermal energy for achieving the room temperature can be introduced via the pumped hot water heater battery. The fresh air considerably increases the dehumidification performance of the unit.



Summer dehumidification, cooling / ventilation

When outdoor temperatures are high, dehumidification is effected in fresh air-/exhaust air operation using regulated heat recovery in the recuperator unit without using the heat pump. An increase in the air quantity is effected by using the optional summer bypass with regulated heat recovery or without heat recovery.



Heat

Heating the swimming area with pumped hot water heater battery in air circulation mode.

Air filter

Air is filtered constantly by pocket or cassette filters. These are available in various filter types for different requirements.

Regulation

The DDC regulation MC 2001 undertakes all control and regulation functions of the swimming pool climate. The target values for temperature and humidity are set on the operation and display unit, which has a four-line LCD display. The fresh air mixture is controlled automatically and is regulated depending on the outdoor temperature and how the pool is used. During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operation target values are reached. If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to fresh air mode. Correspondingly, the heat valve continually regulates to the set target value. During low use and swimming use different target values can be set for temperature and humidity. Switching between low use and swimming use is done on the operation and display unit, via the optional clock module or optionally with an external switch, e.g. cover switch.

The air flow of the fans can be adjusted individually by the step-down transformers, frequency converters or speed controllers (on EC motors) on the duct system.

Thermal output to the pool water

All SET air dehumidifying units of production series ..02 AF-MC can optionally be installed with a pool water condenser. This is recommended for high water temperatures ($\geq 30^{\circ}\text{C}$) or when the room in question has low heat requirements. Overheating of the room with heat recovered from dehumidification can be avoided using the heat recovery output to the pool water.

Before delivery, SET air dehumidifying units undergo an extensive documented test run. This checks all device functions in the different operational areas and determines optimum settings. This ensures efficient operation within the customer system.

All devices can be dismantled into several parts for transportation. Assembly is simple and requires only a short time. The fully operational device wiring requires only the connection of the selected external consumer. The device parts are connected one beneath the other with plugs. Operational start-up can be carried out entirely by the system installation company.

Dehumidification unit type ..02 AF-MC-EC

1 Dehumidification unit type ..02 AF-MC-EC

with multi-level heat recovery by heat pump system and recuperative heat exchanger for fresh air-/exhaust air operation, in basic configuration complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors), infinitely adjustable, damper control, PWW with valve. Automatic mixing of the fresh air- / exhaust air rate from 0 – 100% according to mode of operation and target value deviation of the pool area,

consisting of:

multi-part device housing (fan part, heat pump and heat exchanger parts, damper part)
device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners,
plastic cover panels with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 20 mm), installed therein:

- 1 heat pump unit with safety refrigerant R 407 C,
consisting of:
 - 1 fully hermetic engine compressor, vibration-cushion mounted
 - 1 crankcase heater
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated
 - 1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 dryer
 - 1 inspection glass with indicator
 - 1 refrigerant collector
 - 1 cooling piping of CU pipe, inc. condensation insulation
 - 1 opposing bypass damper, manually adjustable, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 3 air control dampers, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 2 air filters G4, removable
- 3 damper motors 24 V
- 1 pumped hot water heater battery of CU pipe with pressed-on alu-blades inc. 3-way valve with continuous drive
- 1 frost protection facility via MC 2001
- 1 outdoor temperature sensors via MC 2001

- 1 Cross-flow plate heat exchanger with EUROVENT certification, of special-form aluminium plates plastic-coated, with positive and negative indentations to maintain spacing. Thus there are no ducts; currents and condensation drainage is possible in all directions. The plates are interlocked beneath one another with a double seam. Thus there is 6-fold material strength for the air inlet and outlet. The double seam is additionally waterproofed with artificial resin. The corners of the exchange section are moulded with permanently elastic artificial resin using a patented procedure. The heat exchanger block is easily removable and can be taken out for cleaning purposes.

Dehumidification unit type ..02 AF-MC-EC

Added air part and exhaust part, each consisting of:

- 1 fan unit with EC-engine for energy saving operation across all load ranges with the highest degree of efficiency as a freely running, backward curved radial impeller, directly driven by external rotary engine as EC engine, fan unit to VDI standard 2060, Goods class Q 6.3, dynamically balanced in two planes, meeting EN 610200-3-2, speed infinitely adjustable by speed controller, engine in safety class IP 54, ISO class F, motor protection self-protecting

1 SET Microcontroller MC 2001

consisting of:

Control cabinet with structured stove enamel, or stainless steel, control cabinet doors with tightly closing rubber seals and quick-release fasteners, alternatively installed in device. Fuses, overcurrent release, contacts, and connection cable with multipoint connector for dehumidification unit control cabinet wiring to VDE, fully wired for external pumps etc.

Hardware

operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display damper positions, hours of operation and message texts as well as coloured LEDs for operation and fault reporting, 1 main switch. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of outdoor temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Software

Control functions:

- Pool area temperature regulation
- Humidity regulation
- Control of fresh air mixture, automatically regulated depending on the outdoor temperature and how the pool is used.
- Mode of operation selector
- Error messages
- Filter monitoring
- PWW pumps activation

During low use mode the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operational target values are reached.

If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to defined fresh air mode.

Installed as standard is a sensor for temperature and humidity (minimum circulating air always "on").

Dehumidification unit type ..02 AF-MC-EC

Technical data

Dehumidification	..	kg/h
Dehumidification capacity to VDI 2089	..	kg/h
Air flow	..	m ³ /h
Heat recovery coefficient (8°C/80% – 28°C/60%)	..	%
Added air		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m	..	dB(A)
Added air fan		
Nominal power	..	kW
Nominal current	..	A
Exhaust		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m	..	dB(A)
Exhaust fan		
Nominal power	..	kW
Nominal current	..	A
Compressor		
Operating current on average	..	A
Power input on average	..	kW
Air heat recovery	..	kW
PWW air heater capacity (80/60°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
NT PWW air heater capacity (50/40°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
Feed-in	AC 400 V 3 N	
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage	DC 24 V	
Switchbox/device safety class	IP 55 / 33	
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type ..02 AF-MC-EC
 Supply from factory €

Dehumidification unit type ..02 AF-MC-EC

1 Summer bypass

motor-driven multi-leaf damper for bypassing the recuperator in summer, activation by MC 2001

Type **SBP-MC**
Supply from factory €

1 Pumped Hot Water Heater Battery PWW Low Temperature

installed in place of the available heater battery in the dehumidification unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, target value indicator and sensor included in MC 2001.

Heat performance PWW at 50/40°C kW
Flow rate m³/h
Pressure decrease inc. valve kPa

Type **NT-PWW AF-MC**
Supply from factory €

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance kW
Feed-in AC ... V . N

Type **EHZ AF-MC**
Supply from factory €

1 Pool water heat exchanger of titanium

for the release of heat recovery into the pool water, fully wired installed in dehumidification unit, regulated on the cooling side, complete with electronic temperature regulation using MC 2001. With flow monitor, the pool water heat exchanger deactivates when there is insufficient water,

1 pool water sensor is supplied unconnected

Power from / to /..... kW
Flow rate m³/h
Pressure decrease kPa

Type **WRGAF Titan**
Supply from factory €

Dehumidification unit type ..02 AF-MC-EC

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type	RF	
Supply from factory		€

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	
Supply from factory		€

1 Remote indication (additional control panel)

(up to 50 m distance from main device) consisting of:
2nd operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display, damper positions, Hours of operation and message texts as well as coloured LEDs for operation and fault reporting (with acoustic alarm)

Type	BDT 2	
Supply from factory		€

1 Humidity displacer

Further regulation for the "displacement" of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the "displacement" of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

Dehumidification unit type ..02 AF-MC-EC

1 Remote control module

Further regulation for the remote control of the air dehumidifying units with the on-site central controller OSPA Bluecontrol.

Type	OSPA	
Supply from factory		€

1 Further regulation RS 485

Further regulation for the remote control of the air dehumidifying units, MC 2001 interface RS 485 for communication with external control units, implementation of the data point list takes place on site

Type	RS 485	
Supply from factory		€

1 Pocket filter for duct installation

Air filter F5 in housing for installation in the air duct

Type	TFK ..02 AF ...	
Supply from factory		€

1 Filter monitoring with display on MC 2001

Type	FÜ	
Supply from factory		€

Technical data

Device type		3602 AF-MC-EC	4602 AF-MC-EC	6602 AF-MC-EC
Water surface up to approx. ¹	m ²	40-50	40-60	50-75
Air flow	m ³ /h	1.200	1.400	1.600
Dehumidification (30°C / 60% r.h.)	kg/h	3,6	4,7	6,4
Dehumidification capacity to VDI 2089	kg/h	7,6	8,9	10,1
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	61	61	60
Added air external pressure drop	Pa	220	200	180
Sound pressure level LpA in 1m	dB(A)	57	57	57
Added air fan nominal power	KW	0,3	0,3	0,3
Added air fan nominal current	A	1,4	1,4	1,4
Exhaust external pressure drop	Pa	270	250	230
Sound pressure level LpA in 1m	dB(A)	55	55	55
Exhaust fan nominal power	kW	0,3	0,3	0,3
Exhaust fan nominal current	A	1,4	1,4	1,4
Compressor operating current on average	kW	1,26	1,65	1,54
Compressor power input on average	A	2,3	2,8	3,0
Air heat recovery	kW	3,7	4,9	6,4
PWW air heater capacity (80/60°C)	kW	11,2	12,2	12,75
Water volume	m ³ /h	0,43	0,47	0,54
Drag (inc. valve)	kPa	5	6	8
NT PWW air heater capacity (50/40°C)	kW	6,7	7,6	8,5
Water volume	m ³ /h	0,6	0,7	0,75
Drag (inc. valve)	kPa	11	12	12
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	2,2	2,5	2,6
Preliminary fuse (time-delay)	A	3 x 10	3 x 16	3 x 16
Operating weight	kg	330	330	330
Dimensions W x D x H	mm	2640 x 740 x 1236		
largest transport unit W x D x H	mm	1500 x 740 x 1236		

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

Technical data

Device type		3602 AF-MC 3200 EC	4602 AF-MC 3200 EC	6602 AF-MC 3200 EC	8602 AF-MC 3200 EC
Water surface up to approx. ¹	m ²	40-50	40-60	50-75	70-100
Air flow	m ³ /h	3.200	3.200	3.200	3.200
Dehumidification (30°C / 60% r.h.)	kg/h	3,6	4,7	6,4	9,6
Dehumidification capacity to VDI 2089	kg/h	20,3	20,3	20,3	20,3
Fresh air proportion	%	0-100	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	69	69	69	69
Added air external pressure drop	Pa	240	240	240	240
Sound pressure level LpA in 1m	dB(A)	75	75	75	76
Added air fan nominal power	KW	0,8	0,8	0,8	0,8
Added air fan nominal current	A	1,6	1,6	1,6	1,6
Exhaust external pressure drop	Pa	260	260	260	260
Sound pressure level LpA in 1m	dB(A)	75	75	75	75
Exhaust fan nominal power	kW	0,8	0,8	0,8	0,8
Exhaust fan nominal current	A	1,6	1,6	1,6	1,6
Compressor operating current on average	kW	1,26	1,65	1,54	1,94
Compressor power input on average	A	2,3	2,8	3,0	3,7
Air heat recovery	kW	3,7	4,9	6,4	9,3
PWW air heater capacity (80/60°C)	kW	24,0	24,0	24,0	24,0
Water volume	m ³ /h	1,2	1,0	1,0	1,0
Drag (inc. valve)	kPa	14	14	14	14
NT PWW air heater capacity (50/40°C)	kW	15,0	15,0	15,0	15,0
Water volume	m ³ /h	1,3	1,3	1,3	1,3
Drag (inc. valve)	kPa	12	12	12	12
Control voltage		DC 24 V			
Feed-in		AC 400 V 3 N			
Total connected load	kW	3,1	3,5	3,4	3,8
Preliminary fuse (time-delay)	A	3 x 10	3 x 16	3 x 16	3 x 20
Operating weight	kg	350	350	350	400
Dimensions W x D x H	mm	2845 x 790 x 1436			
largest transport unit W x D x H	mm	1700 x 790 x 1436			

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

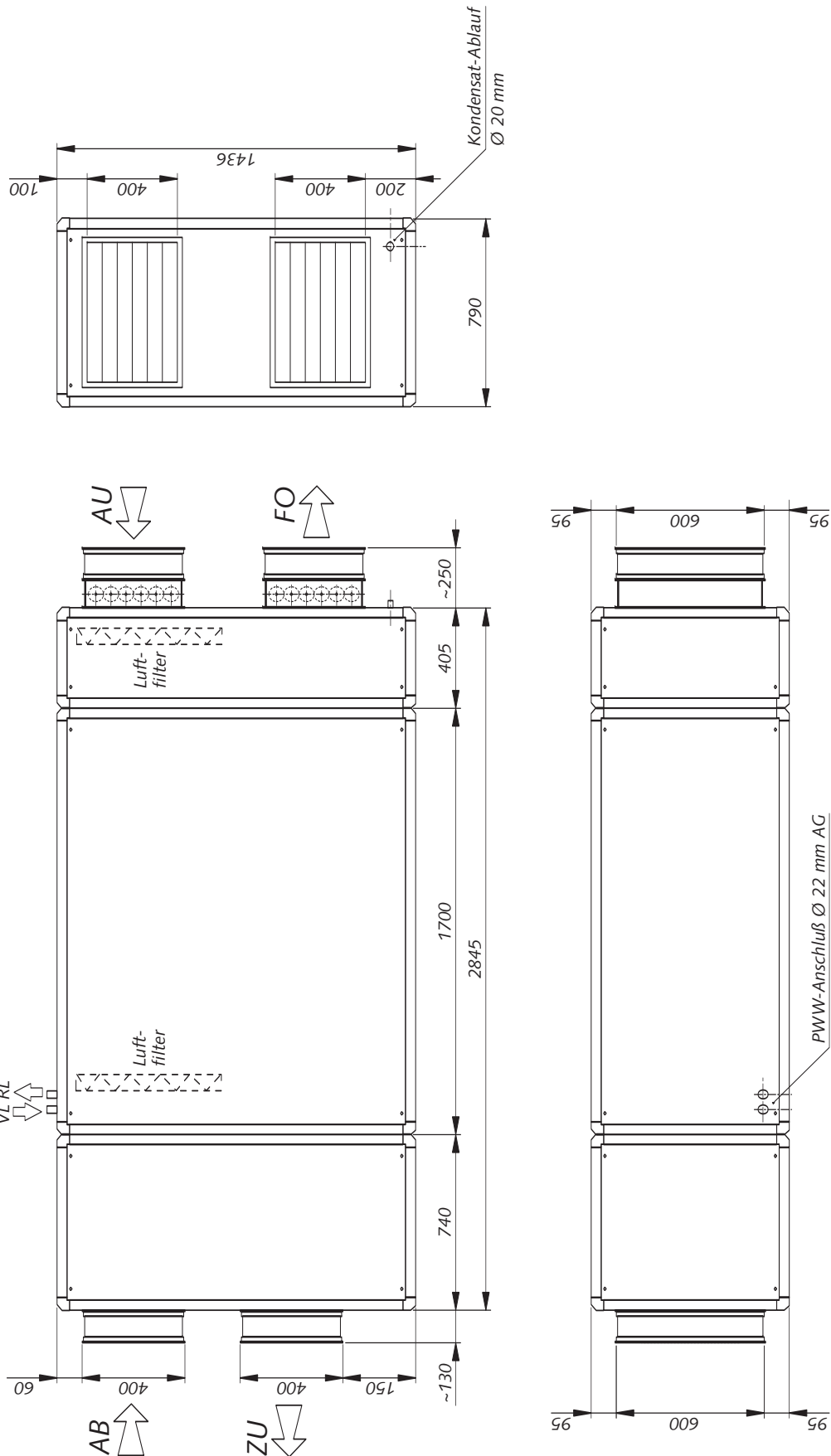
Technical data

Device type		0402 AF-MC-EC	0502 AF-MC-EC	0602 AF-MC-EC
Water surface up to approx. ¹	m ²	100-130	130-160	150-190
Air flow	m ³ /h	4.000	5.000	6.000
Dehumidification (30°C / 60% r.h.)	kg/h	10,1	11,5	13,8
Dehumidification capacity to VDI 2089	kg/h	25,4	31,8	38,1
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	66	66	66
Added air external pressure drop	Pa	400	400	400
Sound pressure level LpA in 1m	dB(A)	81	81	84
Added air fan nominal power	KW	1,4	2,3	2,4
Added air fan nominal current	A	2,6	3,9	4,0
Exhaust external pressure drop	Pa	400	400	400
Sound pressure level LpA in 1m	dB(A)	81	81	84
Exhaust fan nominal power	kW	1,3	2,1	2,2
Exhaust fan nominal current	A	2,5	3,8	3,9
Compressor operating current on average	kW	2,8	3,6	4,2
Compressor power input on average	A	5,0	6,0	7,0
Air heat recovery	kW	9,7	11,4	13,6
PWW air heater capacity (80/60°C)	kW	45,8	53,0	58,0
Water volume	m ³ /h	2,0	2,3	2,6
Drag (inc. valve)	kPa	16	16	16
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	5,2	5,9	6,4
Preliminary fuse (time-delay)	A	3 x 20	3 x 20	3 x 25
Operating weight	kg	420	450	470
Dimensions W x D x H	mm	3825 x 985 x 1970	3170 x 1185 x 1970	
largest transport unit W x D x H	mm	1970 x 985 x 1970	1970 x 1185 x 1970	

¹ Ambient air condition + 30°C / 60 - 80% r. h., Pool water temperature 27 - 28 °C

Maßblatt 02 AF-MC-EC

Kanalgeräte mit 2-stufiger Wärmerückgewinnung
Typ 3602 bis 8602 AF-MC-EC 3200



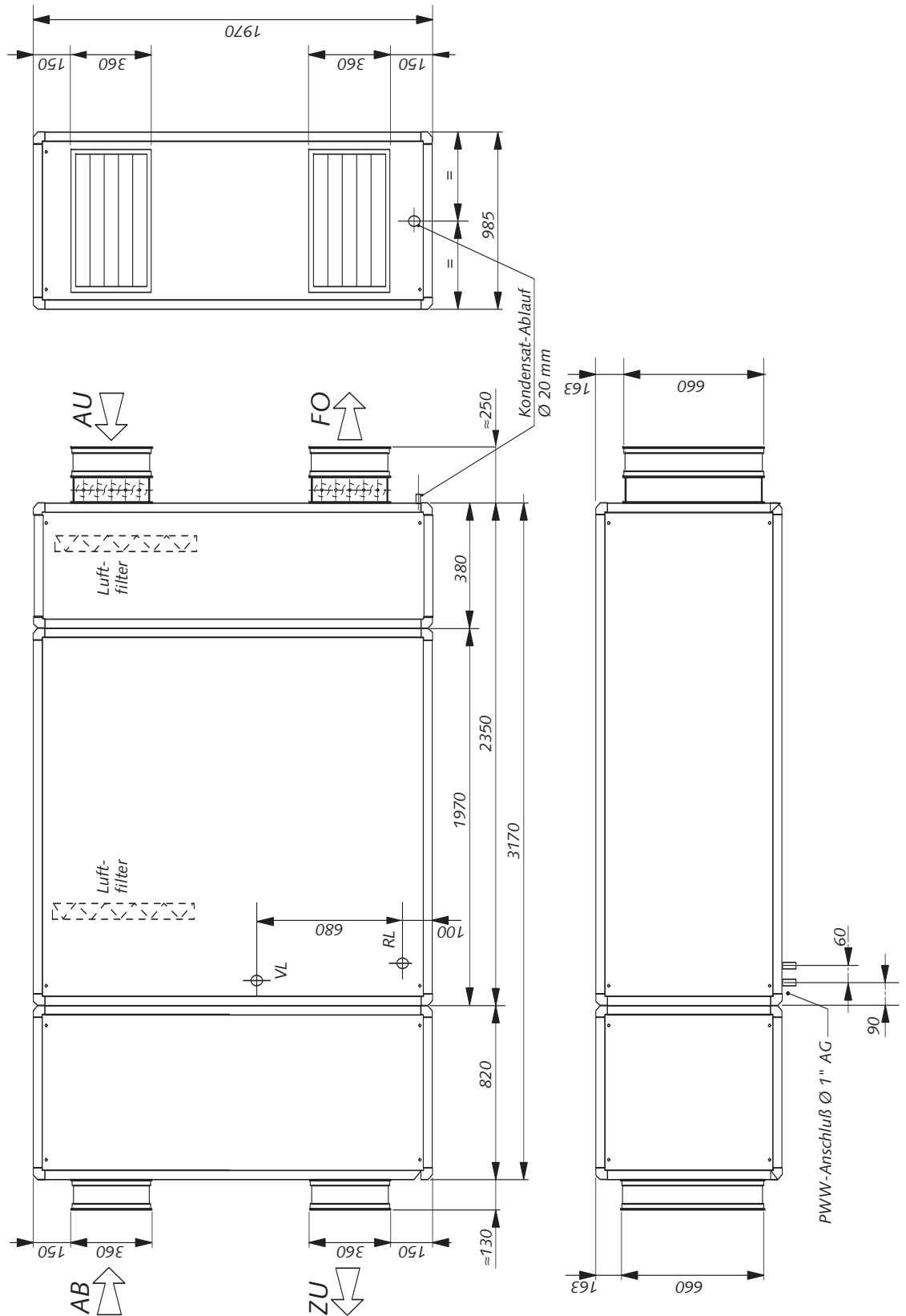
Technische Änderungen vorbehalten.

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Maßblatt 02 AF-MC-EC

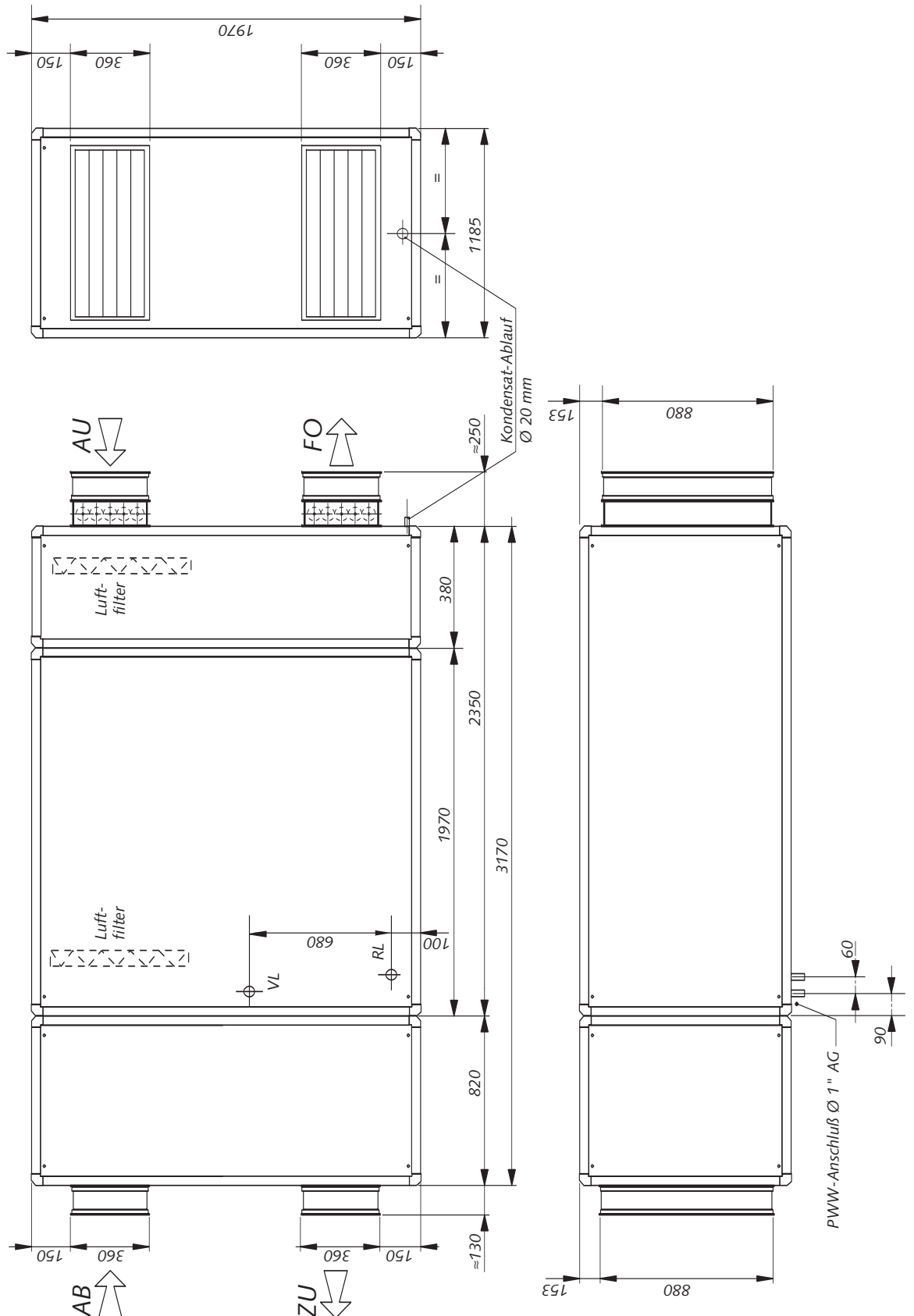
Kanalgeräte mit 2-stufiger Wärmerückgewinnung
Typ 0402 AF-MC-EC



Technische Änderungen vorbehalten.

Maßblatt 02 AF-MC-EC

Kanalgeräte mit 2-stufiger Wärmerückgewinnung
Typ 0602 AF-MC-EC



Technische Änderungen vorbehalten.



Dehumidification unit

type ..03 AF-MC-EC

Function description

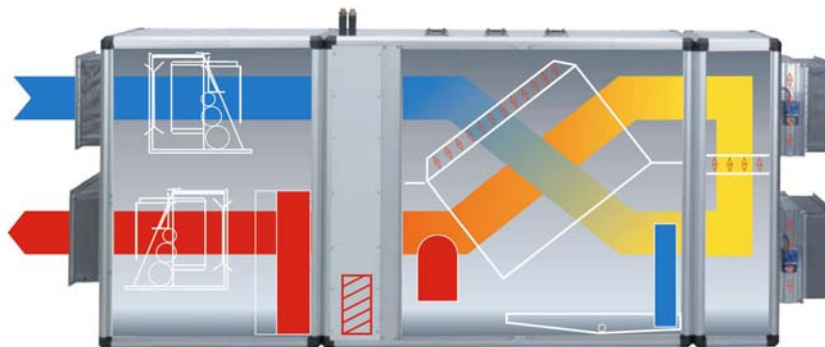
Technical data

Dehumidification unit type ..03 AF-MC-EC with multi-level heat recovery

The air dehumidifying units of production series ..03 AF-MC are equipped with a multiple recuperator unit and a heat pump. Different unit outputs treat the air of luxurious private swimming pools and public indoor pools in hotels, in small medical facilities or in sporting and leisure areas.

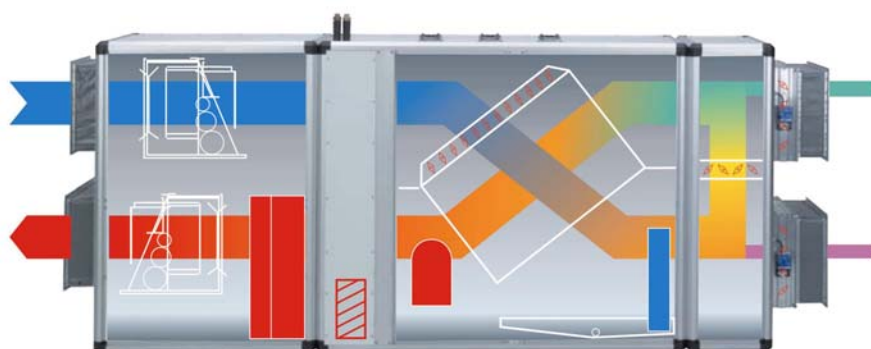
The air dehumidifying units ensure the complete dehumidification, heating and ventilation of the adjoining spaces. Additional fixtures for room heating are not required.

Unit functions, Function description



Dehumidification during low use

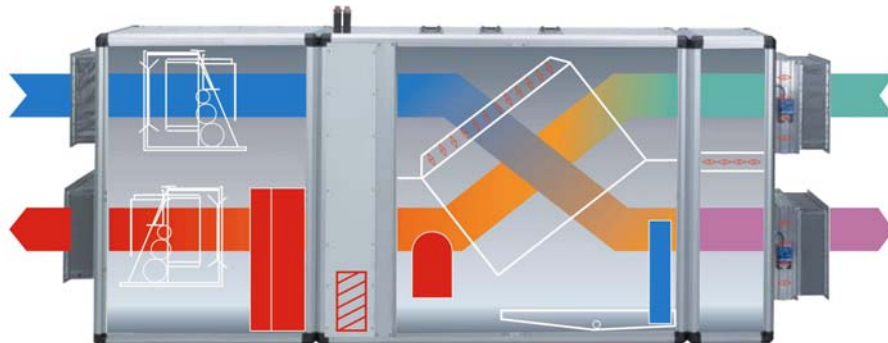
Dehumidification is effected in circulating air operation by cooling the swimming pool air on the evaporator of the heat pump. The dehumidified air is pre-warmed in the multiple recuperator unit and heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water. The connection of the multiple recuperator unit increases heat recovery considerably.



Dehumidification during swimming use with a proportion of fresh air

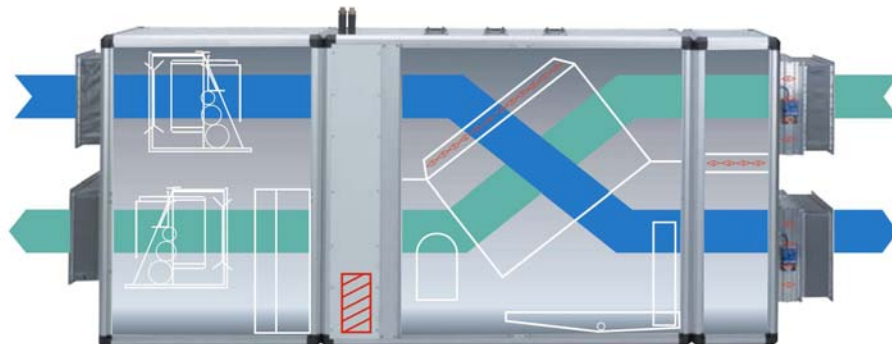
Dehumidification is effected in regulated fresh air-/exhaust air operation by cooling the swimming pool air in the multiple recuperator unit and on the evaporator of the heat pump. The dehumidified air is directed outside in a branch current. The remaining part of the dehumidified air is pre-warmed with the proportion of fresh air in the multiple recuperator unit and heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water. The mixing of cooler fresh air improves the cooling effect

in the multiple recuperator unit and increases the dehumidification in the unit considerably. During the colder months the opening of the fresh air-/exhaust air valves is restricted by regulation.



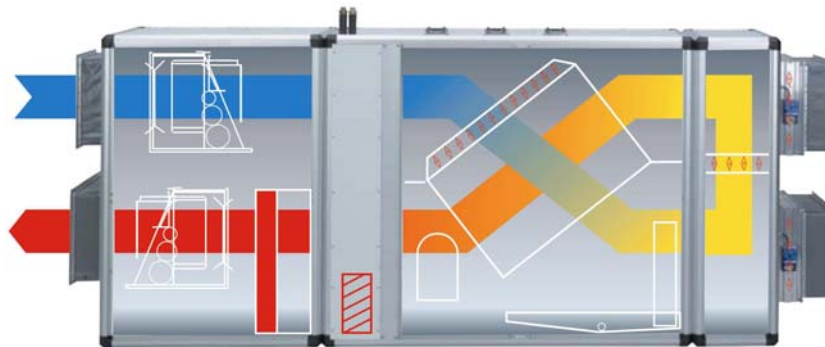
Dehumidification during swimming use with 100% fresh air

Dehumidification is effected in fresh air-/exhaust air operation by cooling the swimming pool air in the multiple recuperator unit and on the evaporator of the heat pump. The dehumidified air is directed outside. The fresh air is pre-warmed in the multiple recuperator unit and heated on the condenser of the heat pump using the heat pump heat recovery resulting from dehumidification. Optionally a heat recovery output from dehumidification is possible for the pool water. Additional thermal energy for achieving the room temperature can be introduced via the pumped hot water heater battery. The fresh air considerably increases the dehumidification performance of the unit.



Summer dehumidification, cooling / ventilation

When outdoor temperatures are high, dehumidification is effected in fresh air-/exhaust air operation using regulated heat recovery in the multiple recuperator unit without using the heat pump. An increase in the air quantity is effected by using the optional summer bypass with regulated heat recovery or without heat recovery.



Heat

Heating the swimming area with pumped hot water heater battery in air circulation mode.

Air filter

Air is filtered constantly by pocket or cassette filters. These are available in various filter types for different requirements.

Regulation

The DDC regulation MC 2001 undertakes all control and regulation functions of the swimming pool climate. The target values for temperature and humidity are set on the operation and display unit, which has a four-line LCD display. The fresh air mixture is controlled automatically and is regulated depending on the outdoor temperature and how the pool is used. During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operation target values are reached. If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to fresh air mode. Correspondingly, the heat valve continually regulates to the set target value. During low use and swimming use different target values can be set for temperature and humidity. Switching between low use and swimming use is done on the operation and display unit, via the optional clock module or optionally with an external switch, e.g. cover switch.

The air flow of the fans can be adjusted individually by the step-down transformers, frequency converters or speed controllers (on EC motors) on the duct system.

Thermal output to the pool water

All SET air dehumidifying units of production series ..01 AF-MC can optionally be installed with a pool water condenser. This is recommended for high water temperatures ($\geq 30^{\circ}\text{C}$) or when the room in question has low heat requirements. Overheating of the room with heat recovered from dehumidification can be avoided using the heat recovery output to the pool water.

Before delivery, SET air dehumidifying units undergo an extensive documented test run. This checks all device functions in the different operational areas and determines optimum settings. This ensures efficient operation within the customer system.

All devices can be dismantled into several parts for transportation. Assembly is simple and requires only a short time. The fully operational device wiring requires only the connection of the selected external consumer. The device parts are connected one beneath the other with plugs. Operational start-up can be carried out entirely by the system installation company.

Dehumidification unit type ..03 AF-MC-EC

1 Dehumidification unit type ..03 AF-MC-EC

with multi-level heat recovery by High Performance multiple recuperator unit and heat pump system, for fresh air-/exhaust air operation, in basic configuration complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors), infinitely adjustable, damper control, PWW with valve. Automatic mixing of the fresh air- / exhaust air rate from 0 – 100% according to mode of operation and target value deviation of the pool area,

consisting of:

multi-part device housing (exhaust part, added air part, multiple recuperator part, external exhaust damper part) of hollow-chamber steel with aluminium die cast corners with transport lugs, white finished RAL 9010, cover panels of galvanized sheet steel, double-skinned with integrated acoustic and thermal insulation, white finished RAL 9010, service cover with external quick-release fasteners, white finished RAL 9010, condensate tray of AlMg3, Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 30 mm), installed therein:

- 1 heat pump unit with safety refrigerant R 407 C, consisting of:
 - 1 fully hermetic or half hermetic (from 1203 AF-MC) engine compressor, vibration-cushion mounted
 - 1 crankcase heater
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades, coated
 - 1 air heater (condenser) of CU pipe with pressed-on alu-blades, coated
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 dryer
 - 1 inspection glass with indicator
 - 1 refrigerant collector
 - 1 cooling piping of CU pipe, inc. condensation insulation
 - 1 opposing bypass damper, manually adjustable, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
 - 3 air control dampers, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
 - 2 air filters F5, removable
 - 1 air filters F7, removable
 - 3 filter-monitoring
 - 3 damper motors 24 V
 - 1 pumped hot water heater battery of CU pipe with pressed-on alu-blades inc. 3-way valve with continuous drive
 - 1 frost protection facility via MC 2001
 - 1 outdoor temperature sensors via MC 2001

Dehumidification unit type ..03 AF-MC-EC

- 1 double cross-flow plate heat exchanger with EUROVENT certification, of special-form aluminium plates plastic-coated, with positive and negative indentations to maintain spacing. Thus there are no ducts; currents and condensation drainage is possible in all directions. The plates are interlocked beneath one another with a double seam. Thus there is 6-fold material strength for the air inlet and outlet. The double seam is additionally waterproofed with artificial resin. The corners of the exchange section are moulded with permanently elastic artificial resin using a patented procedure. The heat exchanger block is easily removable and can be taken out for cleaning purposes.

Added air part and exhaust part, each consisting of:

- 1 radial fans with free-running impeller, the single inlet, backward curved high efficiency impeller from sea-waterproof aluminium, mounted onto the speed controllable external rotor motor, equipped with an air flow optimized inlet cone from galvanized sheet steel. The impeller can be supplied as single unit or as a complete module of galvanized sheet steel. The fan is balanced on two levels according to quality class G 2.5, DIN/ISO 1940. Closed motor, protection class IP 44/54 with protection against humidity and thermal contacts wired in windings for motor protection. Maintenance free ball bearings, closed on both sides, sealed for life. Electrical connection through terminal box (notconnected) in IP 44, speed infinitely adjustable by frequency converter

1 SET Microcontroller MC 2001

consisting of:

Control cabinet with structured stove enamel, or stainless steel, control cabinet doors with tightly closing rubber seals and quick-release fasteners, alternatively installed in device. Fuses, overcurrent release, contacts, and connection cable with multipoint connector for dehumidification unit control cabinet wiring to VDE, fully wired for external pumps etc.

Hardware

operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display damper positions, hours of operation and message texts as well as coloured LEDs for operation and fault reporting, 1 main switch. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of outdoor temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Software

Control functions:

- Pool area temperature regulation
- Humidity regulation
- Control of fresh air mixture, automatically regulated depending on the outdoor temperature and how the pool is used.
- Mode of operation selector
- Error messages
- Filter monitoring

Dehumidification unit type ..03 AF-MC-EC

- PWW pumps activation

During low use mode the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operational target values are reached.

If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to defined fresh air mode.

Installed as standard is a sensor for temperature and humidity (minimum circulating air always "on").

Technical data

Dehumidification	..	kg/h
Dehumidification capacity to VDI 2089	..	kg/h
Air flow	..	m ³ /h
Heat recovery coefficient (8°C/80% – 28°C/60%)	..	%
Added air		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m		.. dB(A)
Added air fan		
Nominal power	..	kW
Nominal current	..	A
Exhaust		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m		.. dB(A)
Exhaust fan		
Nominal power	..	kW
Nominal current	..	A
Compressor		
Operating current on average	..	A
Power input on average	..	kW
Air heat recovery	..	kW
PWW air heater capacity (80/60°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
NT PWW air heater capacity (50/40°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
Feed-in		AC 400 V 3 N
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage		DC 24 V
Switchbox/device safety class		IP 55 / 33
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type ..03 AF-MC-EC
 Supply from factory €

Dehumidification unit type ..03 AF-MC-EC

1 Summer bypass

motor-driven multi-leaf damper for bypassing the recuperator in summer, activation by MC 2001

Type **SBP-MC**
Supply from factory €

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance kW
Feed-in AC ... V . N

Type **EHZ AF-MC**
Supply from factory €

1 Pool water heat exchanger of titanium

for the release of heat recovery into the pool water, fully wired installed in dehumidification unit, regulated on the cooling side, complete with electronic temperature regulation using MC 2001. With flow monitor, the pool water heat exchanger deactivates when there is insufficient water,

1 pool water sensor is supplied unconnected

Power from / to /..... kW
Flow rate m³/h
Pressure decrease kPa

Type **WRGAF Titan**
Supply from factory €

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type **RF**
Supply from factory €

Dehumidification unit type ..03 AF-MC-EC

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	include
------	-----	---------

1 Remote indication (additional control panel)

(up to 50 m distance from main device) consisting of:
2nd operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display, damper positions, Hours of operation and message texts as well as coloured LEDs for operation and fault reporting (with acoustic alarm)

Type	BDT 2	
Supply from factory		€

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

Dehumidification unit type ..03 AF-MC-EC

1 Remote control module

Further regulation for the remote control of the air dehumidifying units with the on-site central controller OSPA Bluecontrol.

Type	OSPA	
Supply from factory		€

1 Further regulation RS 485

Further regulation for the remote control of the air dehumidifying units, MC 2001 interface RS 485 for communication with external control units, implementation of the data point list takes place on site

Type	RS 485	
Supply from factory		€

1 Filter monitoring with display on MC 2001

Type	FÜ	
Supply from factory		€

Technical data

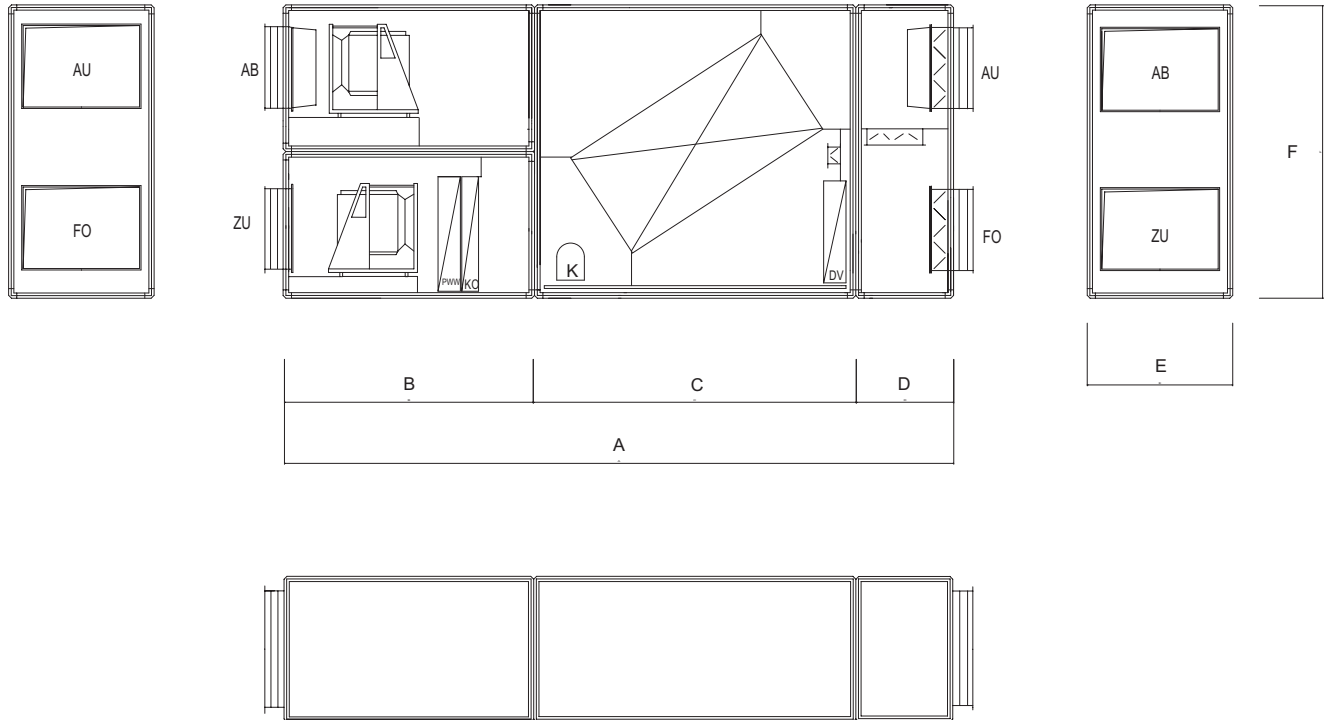
Device type		0703 AF-MC	1003 AF-MC	1253 AF-MC
Air flow	m ³ /h	7.000	10.000	12.500
Dehumidification (30°C / 55% r.h.)	kg/h	14,0	21,2	23,0
Dehumidification capacity to VDI 2089	kg/h	44,5	63,6	79,5
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	>75	>75	>75
Air heat recovery	kW	12,9	18,9	21,2
Added air external pressure drop	Pa	400	400	400
Added air fan nominal power	kW	2,7	4,3	5,0
Exhaust external pressure drop	Pa	400	400	400
Exhaust fan nominal power	kW	2,0	2,7	4,2
Compressor operating current on average	kW	3,4	4,5	5,5
PWW air heater capacity (70/50°C, air 28°)	kW	58,0	91,6	114
Water volume	m ³ /h	3,9	3,9	4,9
Drag (inc. valve)	kPa	11	11	11
Connect	DN	1 ¼"	1 ¼"	2"
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	8,1	11,5	14,7
Operating weight	kg	1400	1760	1950
Dimensions W	mm	4830	5070	5070
Dimensions D	mm	1050	1350	1350
Dimensions H	mm	2100	2100	2100
largest transport unit				
Operating weight	kg	600	650	800
Dimensions W	mm	2730	2730	2730
Dimensions D	mm	1050	1350	1350
Dimensions H	mm	2100	2100	2100

Technical data

Device type		1603 AF-MC	1903 AF-MC	2503 AF-MC
Air flow	m ³ /h	16.000	19.000	25.000
Dehumidification (30°C / 55% r.h.)	kg/h	33,3	38,7	55,8
Dehumidification capacity to VDI 2089	kg/h	101,7	120,8	159,0
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	>75	>75	>75
Air heat recovery	kW	30,6	36,6	51,6
Added air external pressure drop	Pa	400	400	400
Added air fan nominal power	kW	7,5	10,7	12,1
Exhaust external pressure drop	Pa	400	400	400
Exhaust fan nominal power	kW	5,2	6,3	8,3
Compressor operating current on average	kW	8,0	10,3	13,7
PWW air heater capacity (70/50°C, air 28°)	kW	146,0	174	228
Water volume	m ³ /h	6,2	7,4	9,8
Drag (inc. valve)	kPa	11	20	24
Connect	DN	2 "	2 ½ "	2 ½ "
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	20,7	27,3	34,1
Operating weight	kg	2100	2300	3550
Dimensions W	mm	5310	5310	6270
Dimensions D	mm	1680	1680	1980
Dimensions H	mm	2700	2700	3360
largest transport unit				
Operating weight	kg	850	920	1500
Dimensions W	mm	2970	2970	3690
Dimensions D	mm	1680	1680	1980
Dimensions H	mm	2700	2700	3360

Maßblatt – 03 AF-MC HPR

Entfeuchtungsgeräte mit mehrstufiger Wärmerückgewinnung durch WP-System und High Performance Rekuperatoreinheit



	A	B	C	D	E	F
0703 AF-MC HPR	4830	1530	2730	570	1050	2100
1003 AF-MC HPR	5070	1530	2730	810	1350	2100
1253 AF-MC HPR	5070	1530	2730	810	1350	2100
1603 AF-MC HPR	5310	1530	2970	810	1680	2700
1903 AF-MC HPR	5310	1530	2970	810	1680	2700
2503 AF-MC HPR	6270	1770	3690	810	1980	3360
3003 AF-MC HPR	7665	1770	4845	1050	1980	3360

Vor Planungsbeginn technische Daten und Maße bestätigen lassen.

Technische Änderungen vorbehalten.



air handling unit

type RLG ..00 MC-EC

Function description

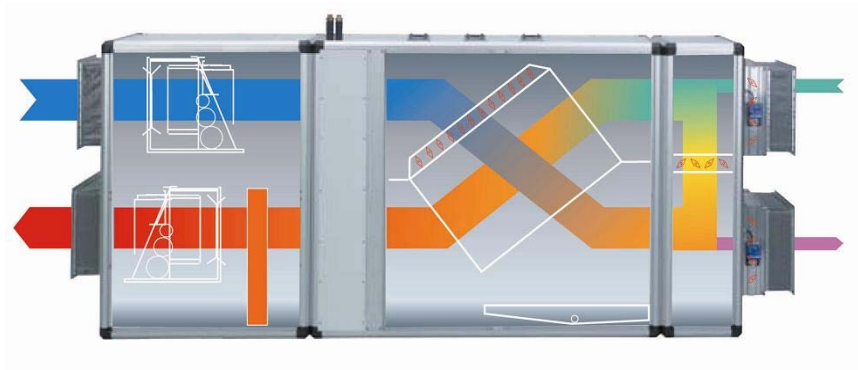
Technical data

Air handling units type RLG ..00 MC-EC with heat recovery

The air handling units of production series RLG ..00 MC-EC are equipped with a cross-flow heat exchanger (recuperator). Different unit outputs treat the air of public indoor pools in hotels, in small medical facilities or in sporting and leisure areas.

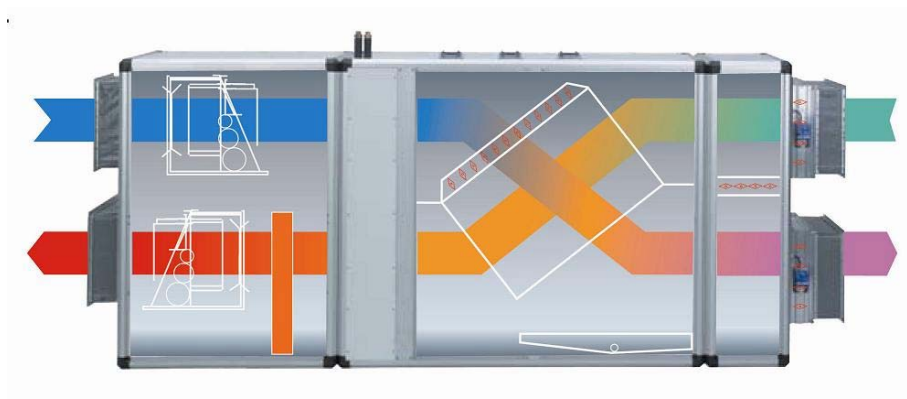
The air handling units ensure the complete dehumidification, heating and ventilation of the adjoining spaces. Additional fixtures for room heating are not required.

Unit functions, Function description



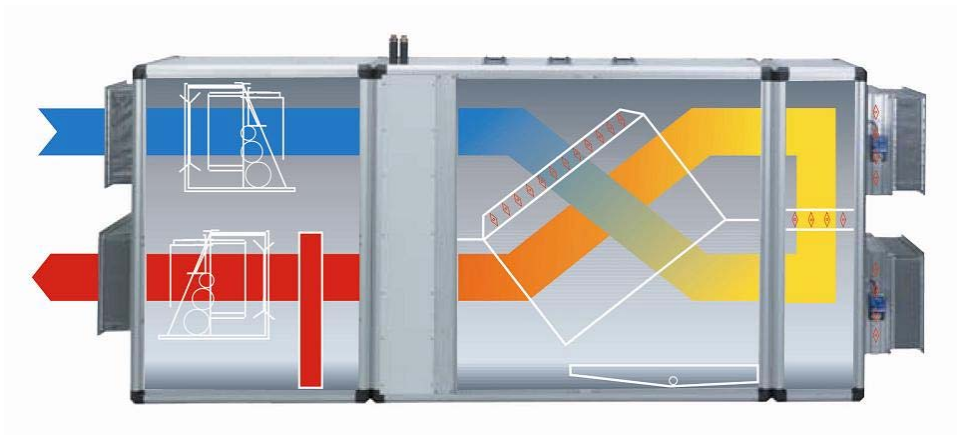
Winter dehumidification

Dehumidification in regulated fresh air-/exhaust air operation with maximum heat recovery in the cross-flow heat exchanger.



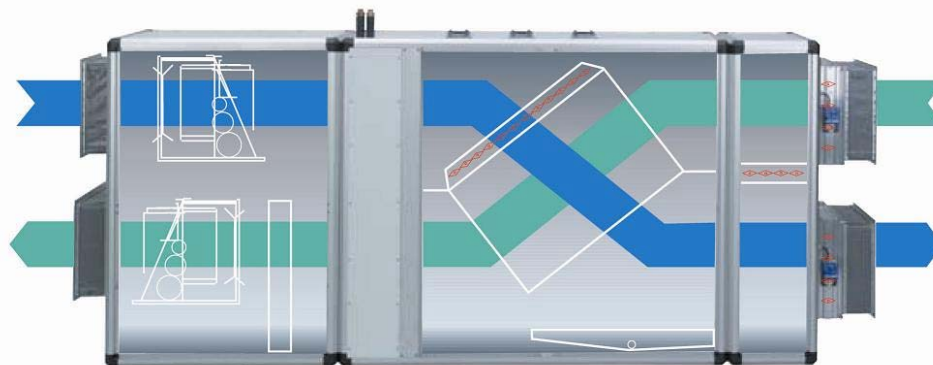
Summer dehumidification

Dehumidification in regulated fresh air-/exhaust air operation with regulated heat recovery in the cross-flow heat exchanger.



Heat

Heating the swimming area with pumped hot water heater battery in air circulation mode.



Cooling / ventilation (optional)

Increase in air quantity effected using summer bypass with regulated heat recovery or without heat recovery.

Air filter

Air is filtered constantly by pocket or cassette filters. These are available in various filter types for different requirements.

Regulation

The DDC regulation MC 2001 undertakes all control and regulation functions of the swimming pool climate. The target values for temperature and humidity are set on the operation and display unit, which has a four-line LCD display. The fresh air mixture is controlled automatically and is regulated depending on the outdoor temperature and how the pool is used. During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operation target values are reached. If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to fresh air mode. Correspondingly, the heat valve continually regulates to the set target value. During low use and swimming use different target values can be set for temperature and humidity. Switching between low use and swimming use is done on the operation and display unit, via the optional clock module or optionally with an external switch, e.g. cover switch.

The air flow of the fans can be adjusted individually by the step-down transformers, frequency converters or speed controllers (on EC motors) on the duct system.

Thermal output to the pool water

Before delivery, SET air handling units undergo an extensive documented test run. This checks all device functions in the different operational areas and determines optimum settings. This ensures efficient operation within the customer system.

All devices can be dismantled into several parts for transportation. Assembly is simple and requires only a short time. The fully operational device wiring requires only the connection of the selected external consumer. The device parts are connected one beneath the other with plugs. Operational start-up can be carried out entirely by the system installation company.

Air handling unit type RLG ..00 MC-EC

1 air handling units type RLG ..00 MC-EC

with heat recovery by recuperative heat exchanger for fresh air-/exhaust air operation, in basic configuration complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors), infinitely adjustable, damper control, PWW with valve. Automatic mixing of the fresh air- / exhaust air rate from 0 – 100% according to mode of operation and target value deviation of the pool area,

consisting of:

multi-part device housing (fan part, heat exchanger parts, damper part)
device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners,
plastic cover panels with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 20 mm), installed therein:

- 3 air control dampers, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 2 air filters G4, removable
- 3 damper motors 24 V
- 1 pumped hot water heater battery of CU pipe with pressed-on alu-blades inc. 3-way valve with continuous drive
- 1 frost protection facility via MC 2001
- 1 outdoor temperature sensors via MC 2001

- 1 Cross-flow plate heat exchanger with EUROVENT certification, of special-form aluminium plates plastic-coated, with positive and negative indentations to maintain spacing. Thus there are no ducts; currents and condensation drainage is possible in all directions. The plates are interlocked beneath one another with a double seam. Thus there is 6-fold material strength for the air inlet and outlet. The double seam is additionally waterproofed with artificial resin. The corners of the exchange section are moulded with permanently elastic artificial resin using a patented procedure. The heat exchanger block is easily removable and can be taken out for cleaning purposes.

Added air part and exhaust part, each consisting of:

- 1 fan unit with EC-engine for energy saving operation across all load ranges with the highest degree of efficiency as a freely running, backward curved radial impeller, directly driven by external rotary engine as EC engine, fan unit to VDI standard 2060, Goods class Q 6.3, dynamically balanced in two planes, meeting EN 610200-3-2, speed infinitely adjustable by speed controller, engine in safety class IP 54, ISO class F, motor protection self-protecting

Air handling unit type RLG .00 MC-EC

1 SET Microcontroller MC 2001

consisting of:

Control cabinet with structured stove enamel, or stainless steel, control cabinet doors with tightly closing rubber seals and quick-release fasteners, alternatively installed in device. Fuses, overcurrent release, contacts, and connection cable with multipoint connector for dehumidification unit control cabinet wiring to VDE, fully wired for external pumps etc.

Hardware

operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display damper positions, hours of operation and message texts as well as coloured LEDs for operation and fault reporting, 1 main switch. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of outdoor temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Software

Control functions:

- Pool area temperature regulation
- Humidity regulation
- Control of fresh air mixture, automatically regulated depending on the outdoor temperature and how the pool is used.
- Mode of operation selector
- Error messages
- Filter monitoring
- PWW pumps activation

During low use mode the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operational target values are reached.

If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to defined fresh air mode.

Installed as standard is a sensor for temperature and humidity (minimum circulating air always "on").

Air handling unit type RLG ..00 MC-EC

Technical data

Dehumidification capacity to VDI 2089	..	kg/h
Air flow	..	m ³ /h
Heat recovery coefficient (8°C/80% – 28°C/60%)	..	%
Added air		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m		.. dB(A)
Added air fan		
Nominal power	..	kW
Nominal current	..	A
Exhaust		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m		dB(A)
Exhaust fan		
Nominal power	..	kW
Nominal current	..	A
PWW air heater capacity (80/60°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
NT PWW air heater capacity (50/40°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
Feed-in		AC 400 V 3 N
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage		DC 24 V
Switchbox/device safety class		IP 55 / 33
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type **RLG ..00 MC-EC**
 Supply from factory €

Air handling unit type RLG ..00 MC-EC

1 Summer bypass

motor-driven multi-leaf damper for bypassing the recuperator in summer, activation by MC 2001

Type **SBP-MC**
Supply from factory €

1 Pumped Hot Water Heater Battery PWW Low Temperature

installed in place of the available heater battery in the air handling unit ready for operation, for connection to the available building heating, inc. regulation, pump activation and control valve, target value indicator and sensor included in MC 2001.

Heat performance PWW at 50/40°C kW
Flow rate m³/h
Pressure decrease inc. valve kPa

Type **NT-PWW AF-MC**
Supply from factory €

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance kW
Feed-in AC ... V . N

Type **EHZ AF-MC**
Supply from factory €

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type **RF**
Supply from factory €

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type **Uhr**
Supply from factory €

Air handling unit type RLG ..00 MC-EC

1 Remote indication (additional control panel)

(up to 50 m distance from main device) consisting of:
 2nd operation and display unit with input and function button field,
 four line LCD display, illuminated, for actual/target value display, damper positions,
 Hours of operation and message texts as well as coloured LEDs
 for operation and fault reporting (with acoustic alarm)

Type	BDT 2	
Supply from factory		€

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

1 Remote control module

Further regulation for the remote control of the air dehumidifying units with the on-site central controller OSPA Bluecontrol.

Type	OSPA	
Supply from factory		€

1 Further regulation RS 485

Further regulation for the remote control of the air dehumidifying units, MC 2001 interface RS 485 for communication with external control units, implementation of the data point list takes place on site

Type	RS 485	
Supply from factory		€

Air handling unit type RLG ..00 MC-EC

1 Filter monitoring with display on MC 2001

Type	FÜ	
Supply from factory		€

Technical data

Device type		RLG 1200 MC-EC	RLG 1800 MC-EC	RLG 2400 MC-EC
Air flow	m ³ /h	1.200	1.800	2.400
Dehumidification capacity to VDI 2089	kg/h	9,5	12,7	15,9
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	67	70	71
Added air external pressure drop	Pa	180	200	280
Sound pressure level LpA in 1m	dB(A)	75	75	85
Added air fan nominal power	KW	0,3	0,73	0,73
Added air fan nominal current	A	1,4	1,3	1,3
Exhaust external pressure drop	Pa	180	200	280
Sound pressure level LpA in 1m	dB(A)	75	75	85
Exhaust fan nominal power	kW	0,3	0,73	0,73
Exhaust fan nominal current	A	1,4	1,3	1,3
PWW air heater capacity (80/60°C)	kW	11,0	16,0	20
Water volume	m ³ /h	0,48	0,7	0,9
Drag (inc. valve)	kPa	14	14	14
NT PWW air heater capacity (50/40°C)	kW	6,7	9,1	11,8
Water volume	m ³ /h	0,6	0,9	1,1
Drag (inc. valve)	kPa	11	10	10
Control voltage		DC 24 V		
Feed-in		AC 230 V 1 N	AC 400 V 3 N	
Total connected load	kW	0,8	1,5	1,5
Preliminary fuse (time-delay)	A	1 x 10	3 x 10	3 x 10
Operating weight	kg	230	280	330
Dimensions W x D x H	mm	2140 x 740 x 1236	2170 x 790 x 1436	2275 x 790 x 1436
largest transport unit W x D x H	mm	1400 x 740 x 1236	1430 x 790 x 1436	1535 x 790 x 1436

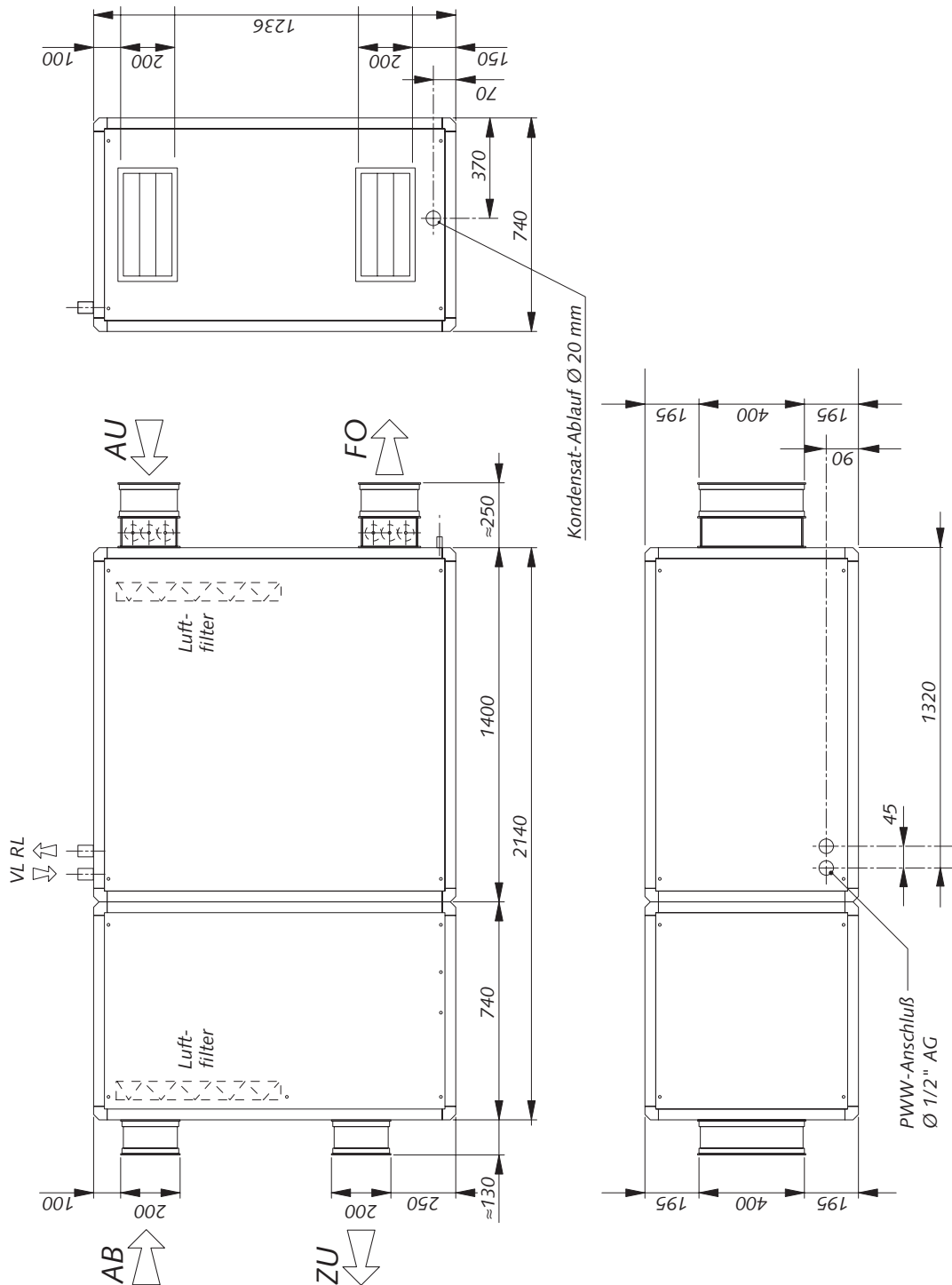
Technical data

Device type		RLG 3000 MC-EC	RLG 4500 MC-EC	RLG 6000 MC-EC
Air flow	m ³ /h	3.000	4.500	6.000
Dehumidification capacity to VDI 2089	kg/h	20,3	28,6	38,2
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	71	71	71
Added air external pressure drop	Pa	280	350	350
Sound pressure level LpA in 1m	dB(A)	85	85	85
Added air fan nominal power	KW	0,77	1,8	2,4
Added air fan nominal current	A	1,54	3,0	4,0
Exhaust external pressure drop	Pa	280	400	400
Sound pressure level LpA in 1m	dB(A)	85	85	85
Exhaust fan nominal power	kW	0,77	1,8	2,4
Exhaust fan nominal current	A	1,54	3,0	4,0
PWW air heater capacity (80/60°C)	kW	22,0	28,0	35
Water volume	m ³ /h	0,97	1,23	1,5
Drag (inc. valve)	kPa	14	14	14
NT PWW air heater capacity (50/40°C)	kW	14,0		
Water volume	m ³ /h	1,3		
Drag (inc. valve)	kPa	12		
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	1,6	3,6	4,8
Preliminary fuse (time-delay)	A	3 x 16	3 x 16	3 x 16
Operating weight	kg	380	450	480
Dimensions W x D x H	mm	2410 x 790 x 1436	3015 x 985 x 1970	3045 x 1185 x 1970
largest transport unit W x D x H	mm	1670 x 790 x 1436	1650 x 985 x 1970	1680 x 1185 x 1970

Maßblatt RLG MC

Lüftungsgerät mit Wärmerückgewinnung

Typ RLG 1200 MC

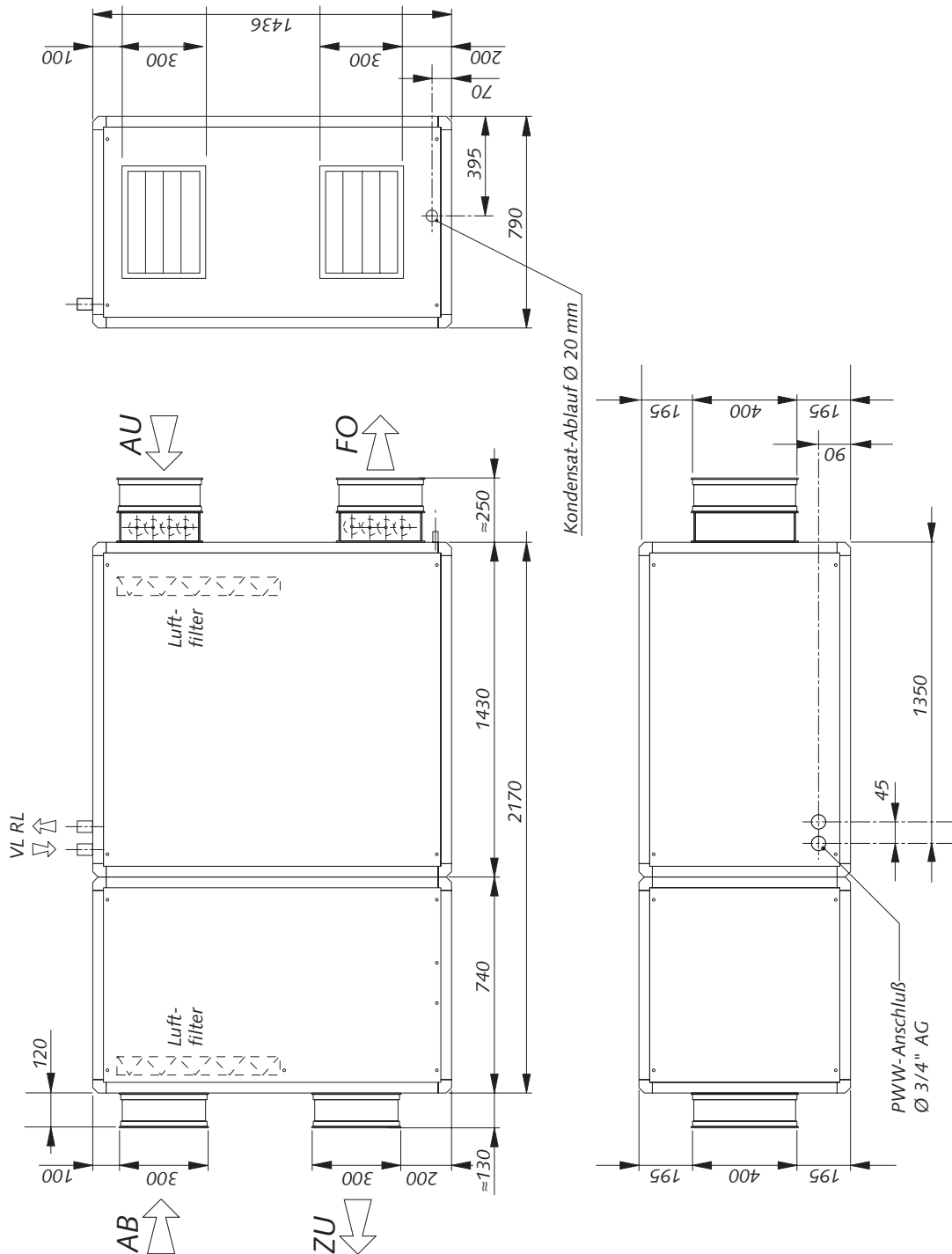


Technische Änderungen vorbehalten.

Maßblatt RLG MC

Lüftungsgerät mit Wärmerückgewinnung

Typ RLG 1800 MC



Technische Änderungen vorbehalten.

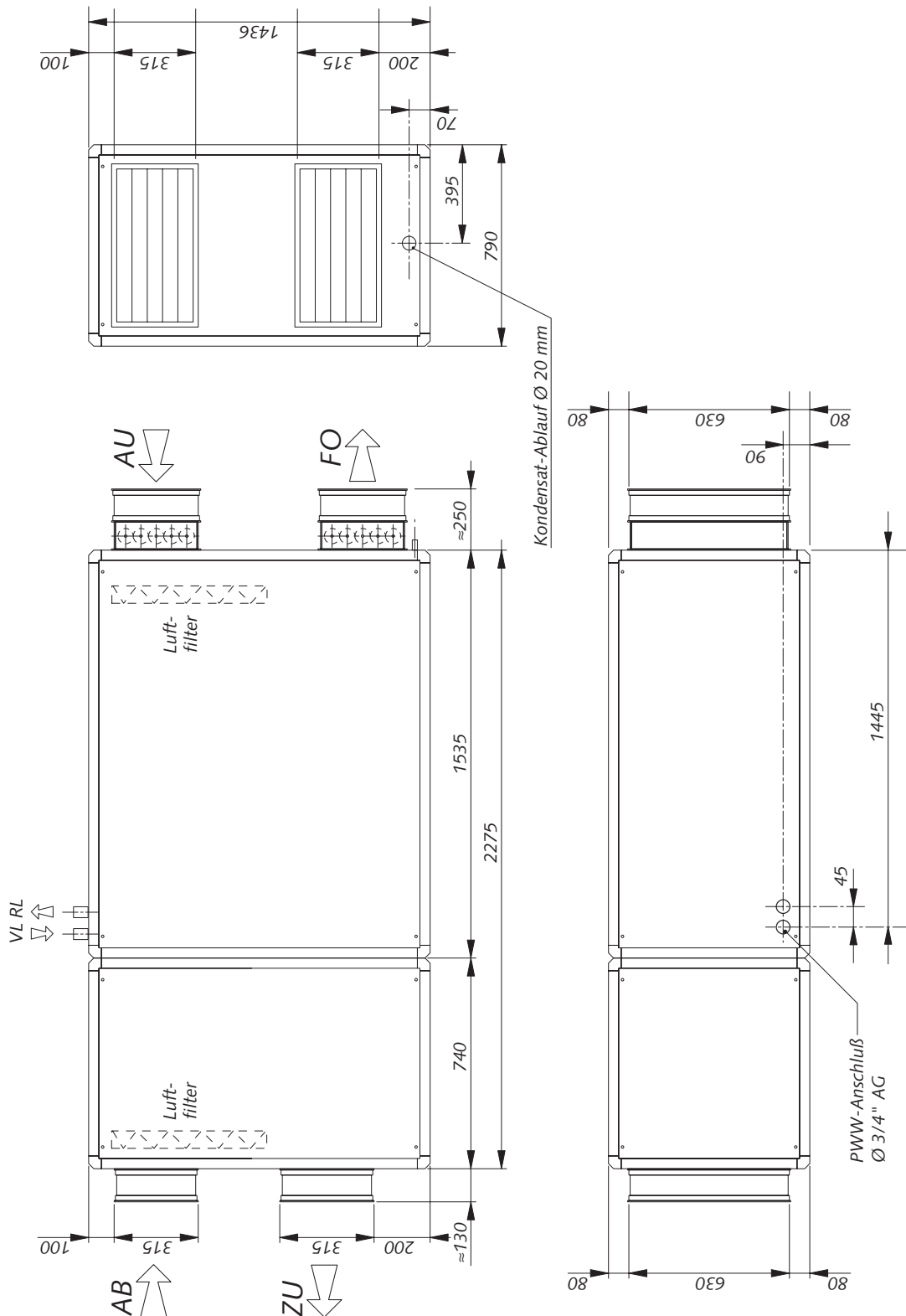
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Maßblatt RLG MC

Lüftungsgerät mit Wärmerückgewinnung

Typ RLG 2400 MC



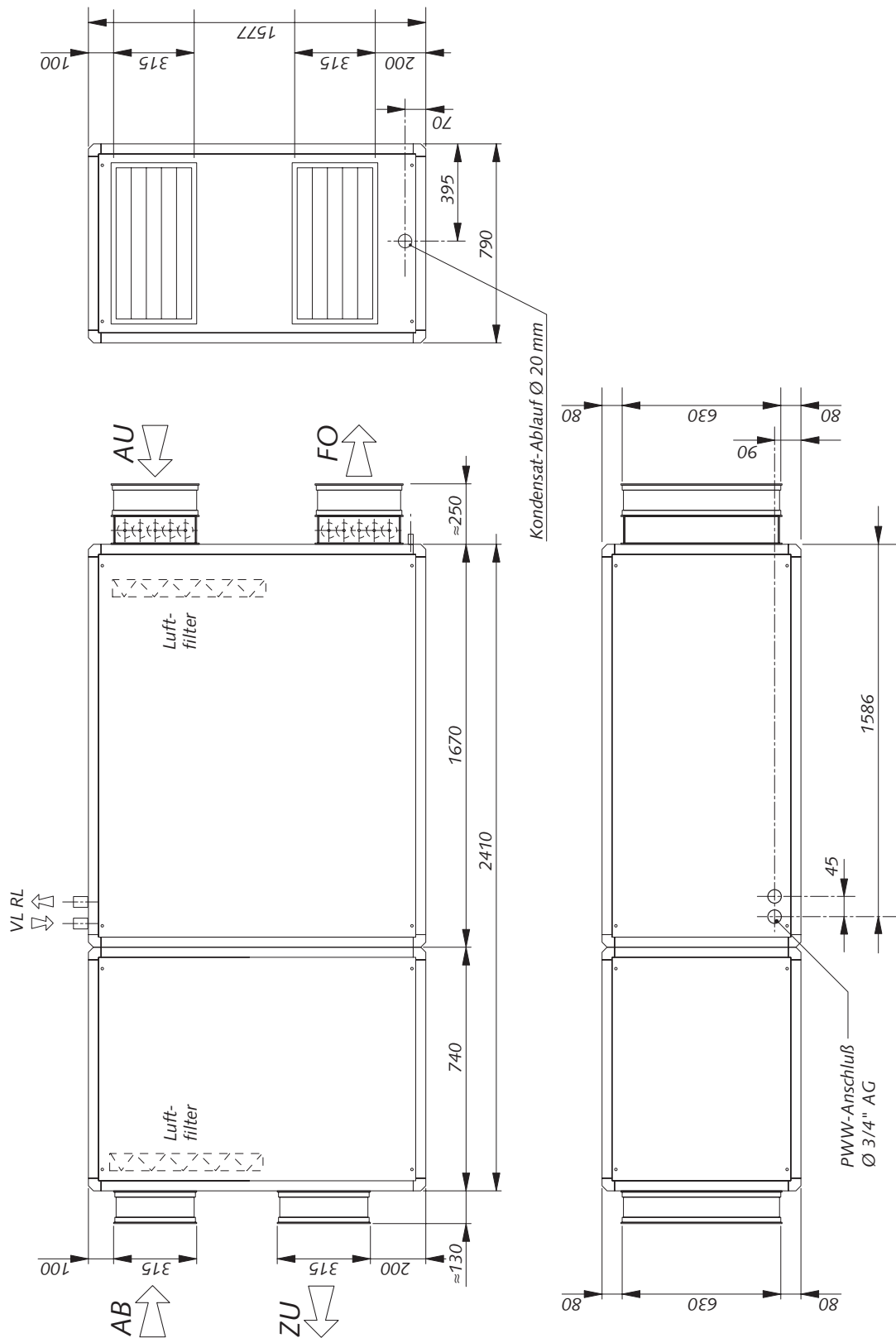
Technische Änderungen vorbehalten.

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Maßblatt RLG MC

Lüftungsgerät mit Wärmerückgewinnung
Typ RLG 3000 MC



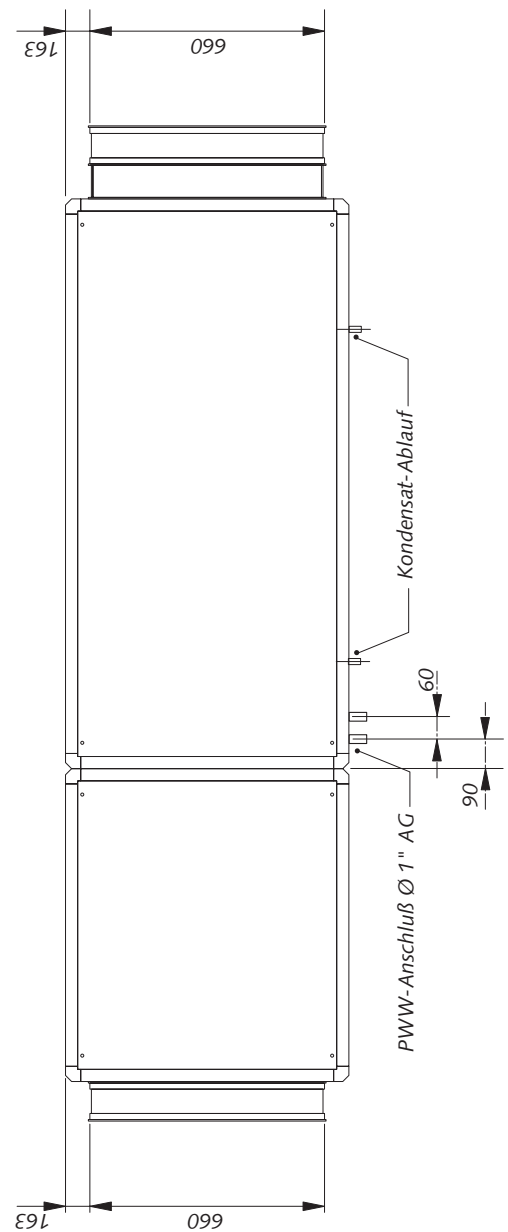
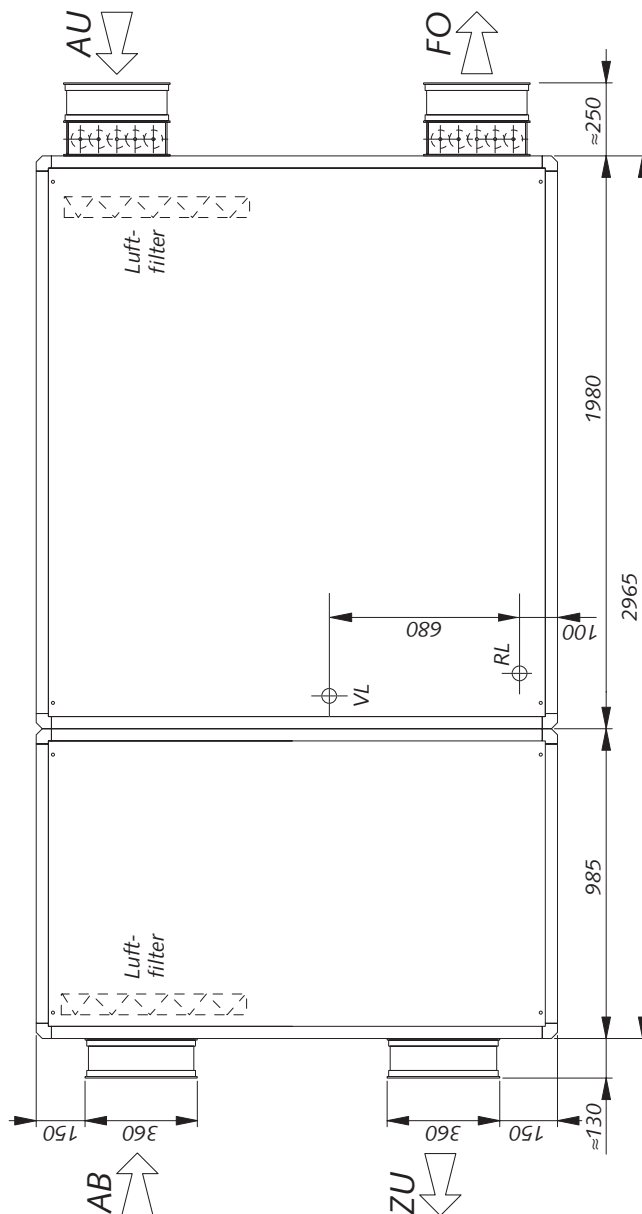
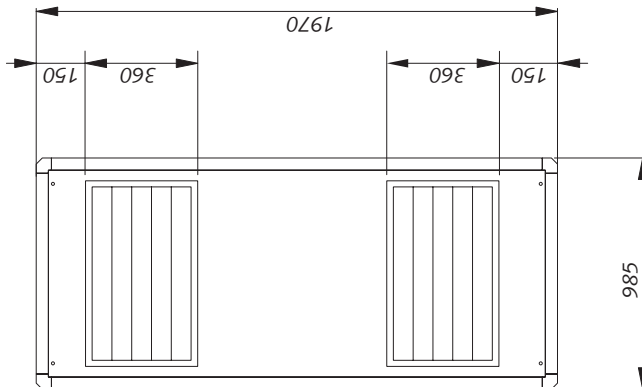
Technische Änderungen vorbehalten.

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Maßblatt RLG MC

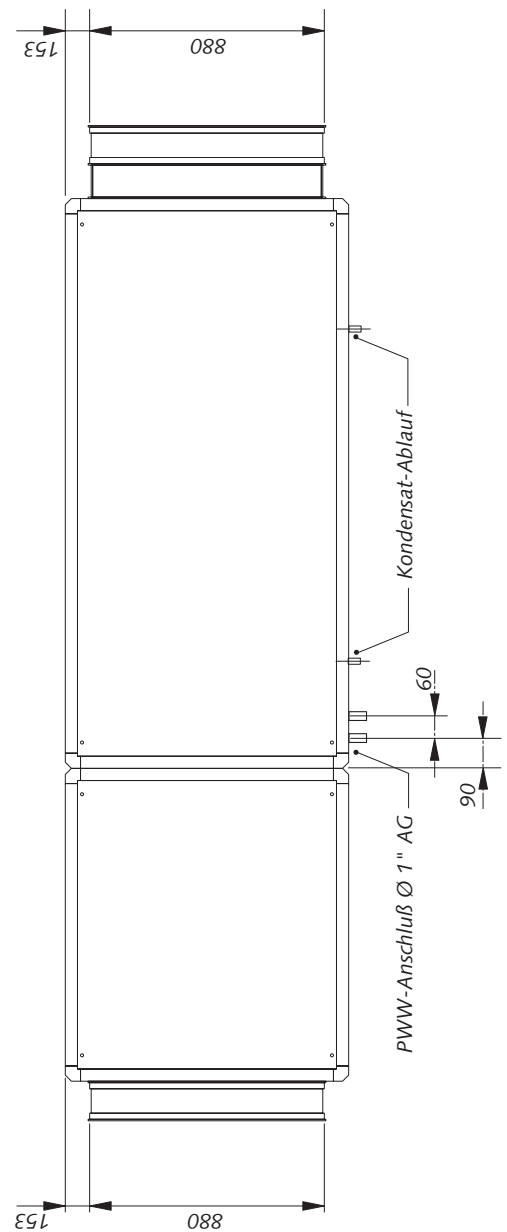
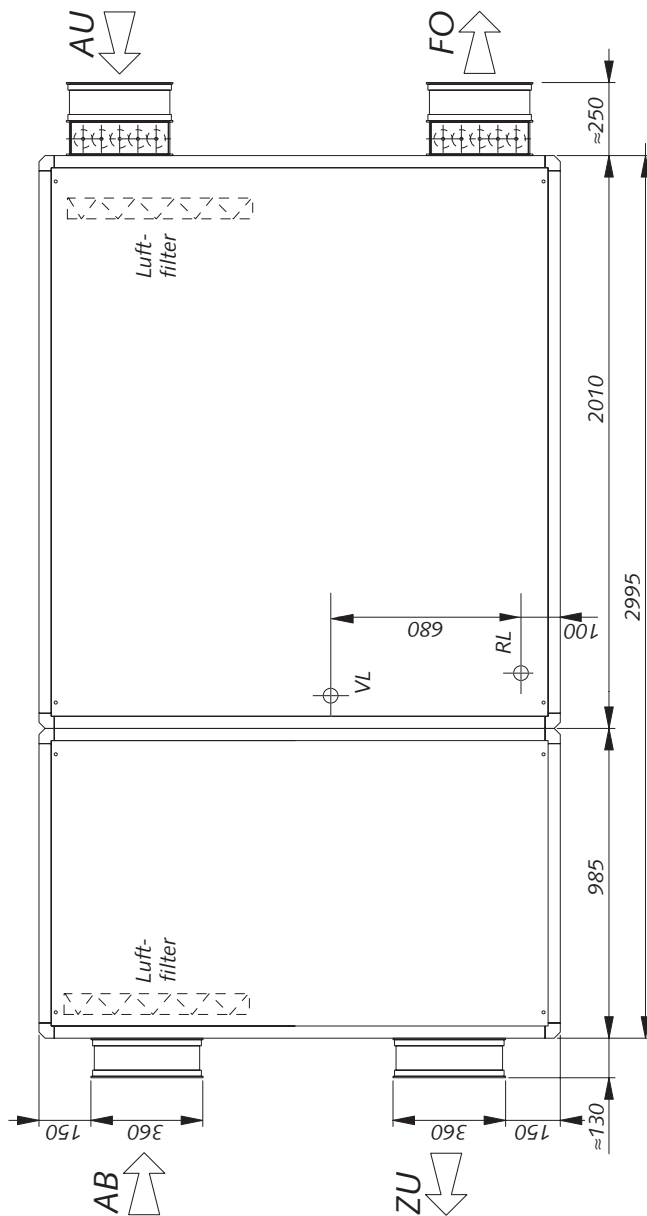
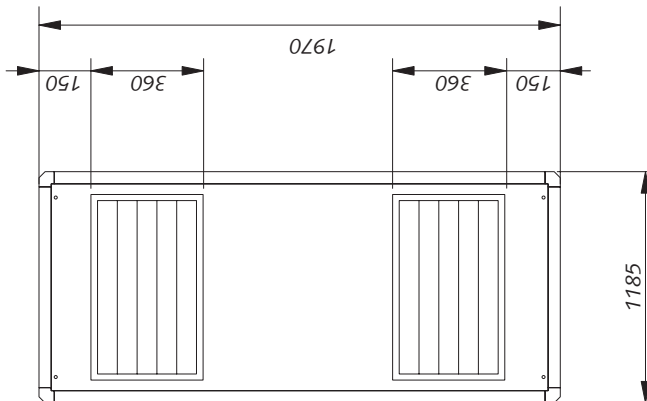
Lüftungsgerät mit Wärmerückgewinnung
Typ RLG 4500 MC



Technische Änderungen vorbehalten.

Maßblatt RLG MC

Lüftungsgerät mit Wärmerückgewinnung
Typ RLG 6000 MC



Technische Änderungen vorbehalten.

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air handling unit

type RLG MC K

Function description

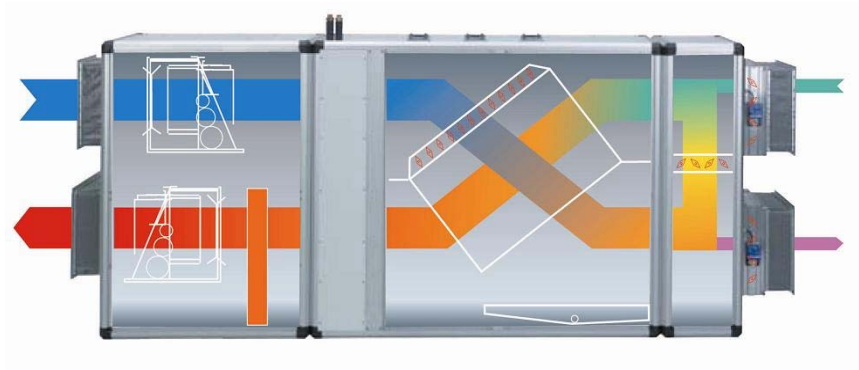
Technical data

air handling unit type RLG MC K with heat recovery

The air handling units of production series RLG MC K are equipped with a cross-flow heat exchanger (recuperator). Different unit outputs treat the air of public indoor pools in hotels, in small medical facilities or in sporting and leisure areas.

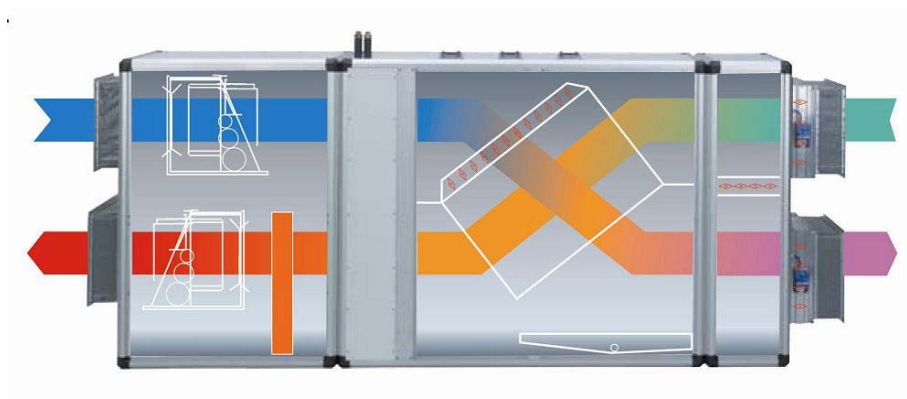
The air handling units ensure the complete dehumidification, heating and ventilation of the adjoining spaces. Additional fixtures for room heating are not required.

Unit functions, Function description



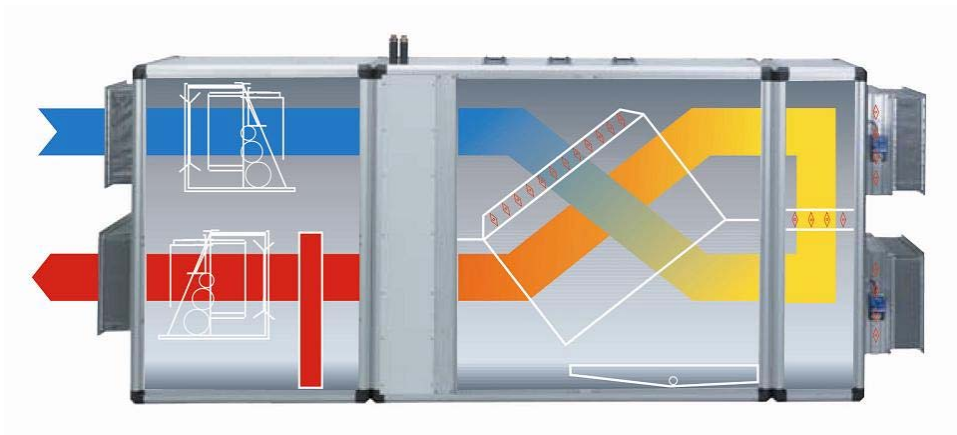
Winter dehumidification

Dehumidification in regulated fresh air-exhaust air operation with maximum heat recovery in the cross-flow heat exchanger.



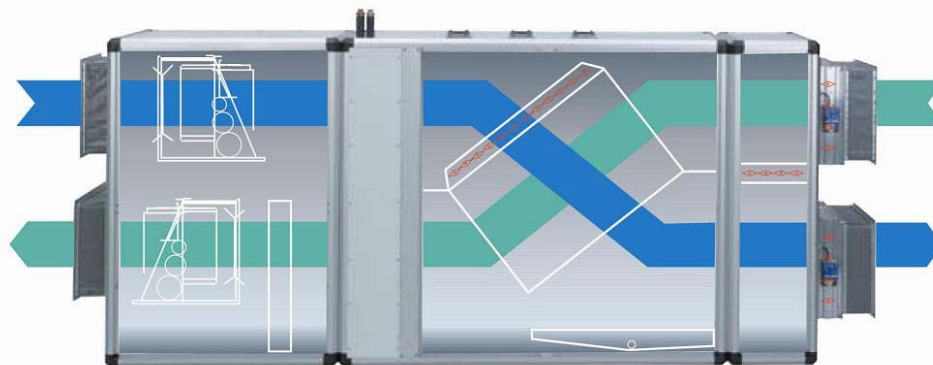
Summer dehumidification

Dehumidification in regulated fresh air-exhaust air operation with regulated heat recovery in the cross-flow heat exchanger.



Heat

Heating the swimming area with pumped hot water heater battery in air circulation mode.



Cooling / ventilation (optional)

Increase in air quantity effected using summer bypass with regulated heat recovery or without heat recovery.

Air filter

Air is filtered constantly by pocket or cassette filters. These are available in various filter types for different requirements.

Regulation

The DDC regulation MC 2001 undertakes all control and regulation functions of the swimming pool climate. The target values for temperature and humidity are set on the operation and display unit, which has a four-line LCD display. The fresh air mixture is controlled automatically and is regulated depending on the outdoor temperature and how the pool is used. During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operation target values are reached. If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to fresh air mode. Correspondingly, the heat valve continually regulates to the set target value. During low use and swimming use different target values can be set for temperature and humidity. Switching between low use and swimming use is done on the operation and display unit, via the optional clock module or optionally with an external switch, e.g. cover switch.

The air flow of the fans can be adjusted individually by the step-down transformers, frequency converters or speed controllers (on EC motors) on the duct system.

Thermal output to the pool water

Before delivery, SET air dehumidifying units undergo an extensive documented test run. This checks all device functions in the different operational areas and determines optimum settings. This ensures efficient operation within the customer system.

All devices can be dismantled into several parts for transportation. Assembly is simple and requires only a short time. The fully operational device wiring requires only the connection of the selected external consumer. The device parts are connected one beneath the other with plugs. Operational start-up can be carried out entirely by the system installation company.

Air handling units type RLG MC K

1 air handling units type RLG MC K

with heat recovery by High Performance recuperator unit for fresh air-exhaust air operation, in basic configuration complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors), infinitely adjustable, damper control, PWW with valve. Automatic mixing of the fresh air- / exhaust air rate from 0 – 100% according to mode of operation and target value deviation of the pool area,

consisting of:

multi-part device housing (exhaust part, added air part, recuperator part, external exhaust damper part) of hollow-chamber steel with aluminium die cast corners with transport lugs, white finished RAL 9010, cover panels of galvanized sheet steel, double-skinned with integrated acoustic and thermal insulation, white finished RAL 9010, service cover with external quick-release fasteners, white finished RAL 9010, condensate tray of AlMg3, Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 30 mm), installed therein:

- 3 air control dampers, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 2 air filters F5, removable
- 3 damper motors 24 V
- 1 pumped hot water heater battery of CU pipe with pressed-on alu-blades inc. 3-way valve with continuous drive
- 1 frost protection facility via MC 2001
- 1 outdoor temperature sensors via MC 2001

- 1 cross-flow plate heat exchanger with EUROVENT certification, of special-form aluminium plates plastic-coated, with positive and negative indentations to maintain spacing. Thus there are no ducts; currents and condensation drainage is possible in all directions. The plates are interlocked beneath one another with a double seam. Thus there is 6-fold material strength for the air inlet and outlet. The double seam is additionally waterproofed with artificial resin. The corners of the exchange section are moulded with permanently elastic artificial resin using a patented procedure. The heat exchanger block is easily removable and can be taken out for cleaning purposes.

Added air part, exhaust part

- 1 radial fans with free-running impeller, the single inlet, backward curved high efficiency impeller from sea-waterproof aluminium, mounted onto the speed controllable external rotor motor, equipped with an air flow optimized inlet cone from galvanized sheet steel. The impeller can be supplied as single unit or as a complete module of galvanized sheet steel. The fan is balanced on two levels according to quality class G 2.5, DIN/ISO 1940. Closed motor, protection class IP 44/54 with protection against humidity and thermal contacts wired in windings for motor protection. Maintenance free ball bearings, closed on both sides, sealed for life. Electrical connection through terminal box (not connected) in IP 44, speed infinitely adjustable by frequency converter

Air handling units type RLG ... MC K

1 SET Microcontroller MC 2001

consisting of:

Control cabinet with structured stove enamel, or stainless steel, control cabinet doors with tightly closing rubber seals and quick-release fasteners, alternatively installed in device. Fuses, overcurrent release, contacts, and connection cable with multipoint connector for dehumidification unit control cabinet wiring to VDE, fully wired for external pumps etc.

Hardware

operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display damper positions, hours of operation and message texts as well as coloured LEDs for operation and fault reporting, 1 main switch. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of outdoor temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Software

Control functions:

- Pool area temperature regulation
- Humidity regulation
- Control of fresh air mixture, automatically regulated depending on the outdoor temperature and how the pool is used.
- Mode of operation selector
- Error messages
- Filter monitoring
- PWW pumps activation

During low use mode the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operational target values are reached.

If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to defined fresh air mode.

Installed as standard is a sensor for temperature and humidity (minimum circulating air always "on").

Air handling units type RLG MC K

Technical data

Dehumidification capacity to VDI 2089	..	kg/h
Air flow	..	m ³ /h
Heat recovery coefficient (8°C/80% – 28°C/60%)	..	%
Added air		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m	..	dB(A)
Added air fan		
Nominal power	..	kW
Nominal current	..	A
Exhaust		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m	..	dB(A)
Exhaust fan		
Nominal power	..	kW
Nominal current	..	A
PWW air heater capacity (80/60°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
NT PWW air heater capacity (50/40°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
Feed-in	AC 400 V 3 N	
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage	DC 24 V	
Switchbox/device safety class	IP 55 / 33	
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type **RLG MC K**
 Supply from factory €

Air handling units type RLG MC K

1 Summer bypass

by means of a motor-driven multi-leaf damper for bypassing the recuperator in summer, activation by MC 2001

Type	SBP-MC	
Supply from factory		€

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance	..... kW
Feed-in	AC ... V . N

Type	EHZ AF-MC	
Supply from factory		€

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type	RF	
Supply from factory		€

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	
Supply from factory		€

1 Remote indication (additional control panel)

(up to 50 m distance from main device) consisting of:
2nd operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display, damper positions, Hours of operation and message texts as well as coloured LEDs for operation and fault reporting (with acoustic alarm)

Type	BDT 2	
Supply from factory		€

Air handling units type RLG MC K

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

1 Remote control module

Further regulation for the remote control of the air dehumidifying units with the on-site central controller OSPA Bluecontrol.

Type	OSPA	
Supply from factory		€

1 Further regulation RS 485

Further regulation for the remote control of the air dehumidifying units, MC 2001 interface RS 485 for communication with external control units, implementation of the data point list takes place on site

Type	RS 485	
Supply from factory		€

1 Filter monitoring with display on MC 2001

Type	FÜ	
Supply from factory		€

Technical data

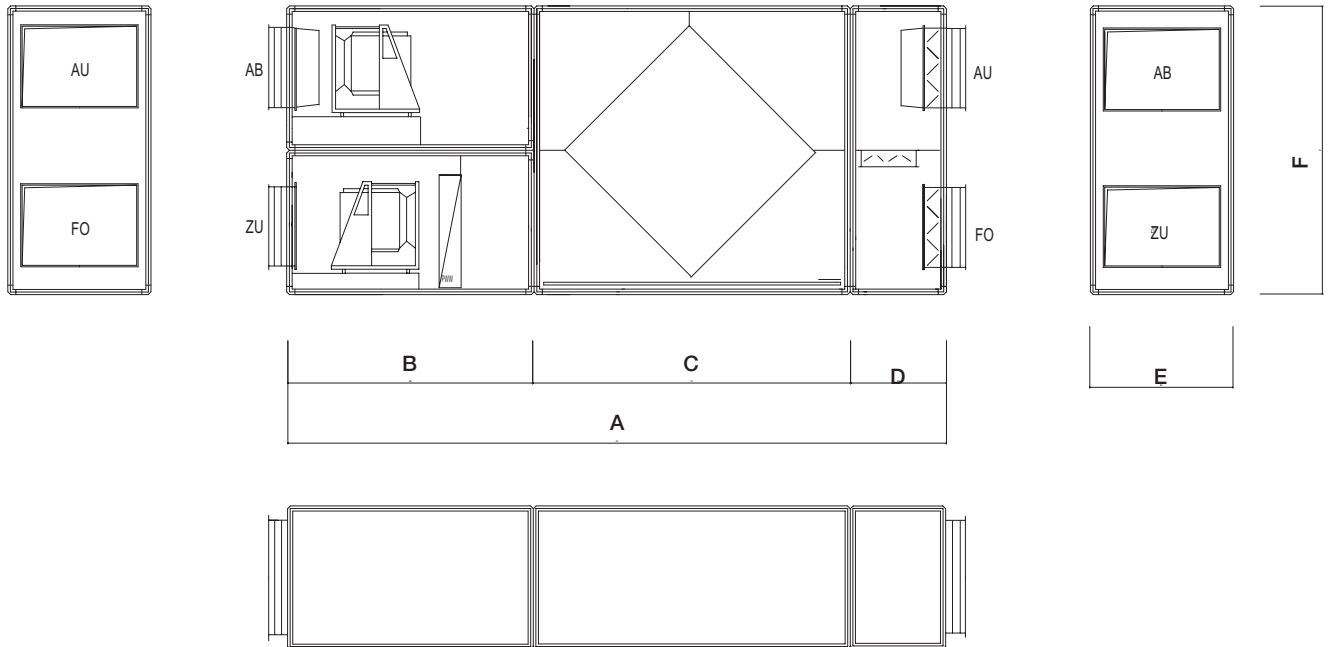
Device type		RLG 7000 MC K	RLG 10000 MC K	RLG 12500 MC K
Air flow	m ³ /h	7.000	10.000	12.500
Dehumidification capacity to VDI 2089	kg/h	44,5	63,6	79,5
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	>75	>75	>75
Added air external pressure drop	Pa	400	400	400
Added air fan nominal power	kW	2,4	3,1	4,4
Exhaust external pressure drop	Pa	400	400	400
Exhaust fan nominal power	kW	2,0	2,7	4,2
PWW air heater capacity (70/50°C, air 28°)	kW	58,0	91,6	114
Water volume	m ³ /h	3,9	3,9	4,9
Drag (inc. valve)	kPa	11	11	11
Connect	DN	1 ¼"	1 ¼"	2"
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	4,5	5,9	8,8
Operating weight	kg	1050	1220	1400
Dimensions W	mm	3870	4110	4110
Dimensions D	mm	1050	1350	1350
Dimensions H	mm	2100	2100	2100
largest transport unit				
Operating weight	kg	400	450	500
Dimensions W	mm	1770	1770	1770
Dimensions D	mm	1050	1350	1350
Dimensions H	mm	2100	2100	2100

Technical data

Device type		RLG 16000 MC K	RLG 19000 MC K	RLG 25000 MC K
Air flow	m ³ /h	16.000	19.000	25.000
Dehumidification capacity to VDI 2089	kg/h	101,7	120,8	159,0
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	>75	>75	>75
Added air external pressure drop	Pa	400	400	400
Added air fan nominal power	kW	5,8	8,3	8,9
Exhaust external pressure drop	Pa	400	400	400
Exhaust fan nominal power	kW	5,2	6,3	8,3
PWW air heater capacity (70/50°C, air 28°)	kW	146	174	228
Water volume	m ³ /h	6,2	7,4	9,8
Drag (inc. valve)	kPa	11	20	24
Connect	DN	2 "	2 ½ "	2 ½ "
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	11,0	15,3	17,6
Operating weight	kg	1750	1900	2650
Dimensions W	mm	4350	4350	5070
Dimensions D	mm	1680	1680	1980
Dimensions H	mm	2700	2700	3360
largest transport unit				
Operating weight	kg	700	800	1000
Dimensions W	mm	2010	2010	2490
Dimensions D	mm	1680	1680	1980
Dimensions H	mm	2700	2700	3360

Maßblatt – RLG MC K

Lüftungsgeräte mit Wärmerückgewinnung
durch Kreuzstrom-Wärmetauscher-Einheit



	A	B	C	D	E	F
RLG 7000 MC K	3870	1530	1770	570	1050	2100
RLG 10000 MC K	4110	1530	1770	810	1350	2100
RLG 12500 MC K	4110	1530	1770	810	1350	2100
RLG 16000 MC K	4350	1530	2010	810	1680	2700
RLG 19000 MC K	4350	1530	2010	810	1680	2700
RLG 25000 MC K	5070	1770	2490	810	1980	3360
RLG 30000 MC K	5310	1770	2490	1050	1980	3360

Vor Planungsbeginn technische Daten und Maße bestätigen lassen.

Technische Änderungen vorbehalten.



air handling unit

type RLG ..03 MC

Function description

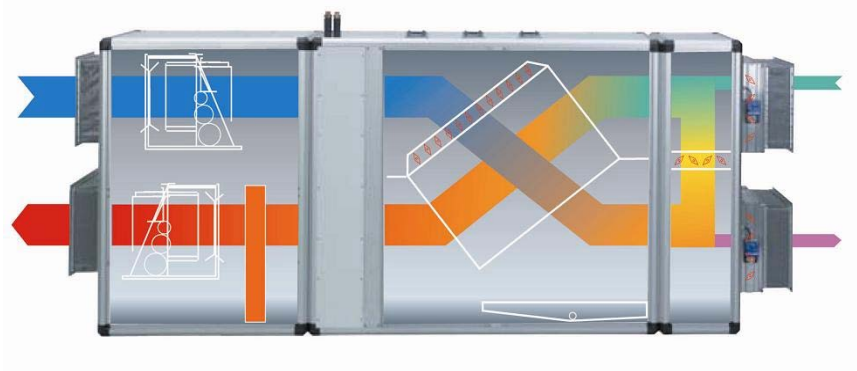
Technical data

air handling unit type RLG ..03 MC with multi-level heat recovery

The air handling units of production series RLG ..03 MC are equipped with a multiple cross-flow heat exchanger (multiple recuperator). Different unit outputs treat the air of public indoor pools in hotels, in small medical facilities or in sporting and leisure areas.

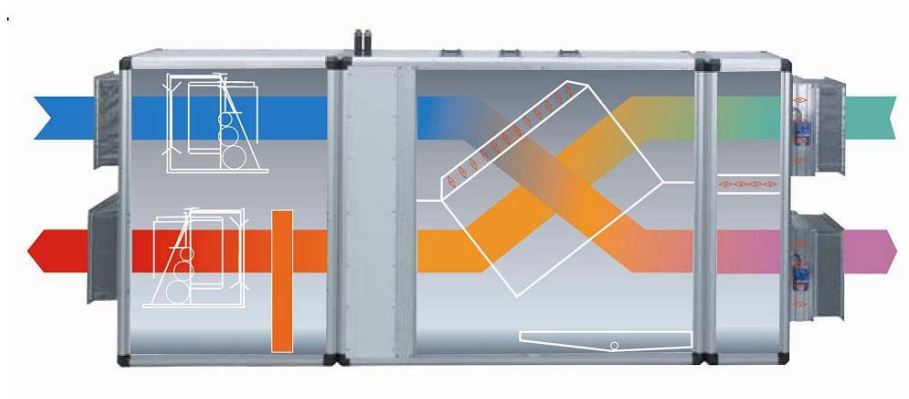
The air handling units ensure the complete dehumidification, heating and ventilation of the adjoining spaces. Additional fixtures for room heating are not required.

Unit functions, Function description



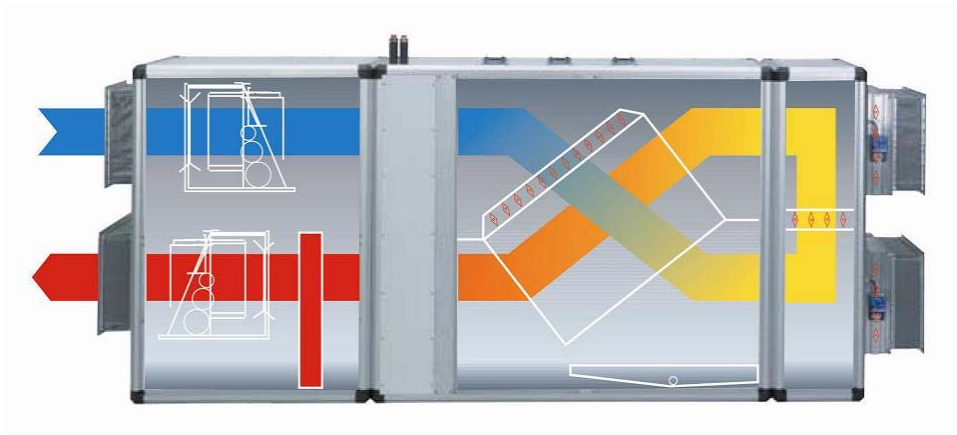
Winter dehumidification

Dehumidification in regulated fresh air-/exhaust air operation with maximum heat recovery in the cross-flow heat exchanger.



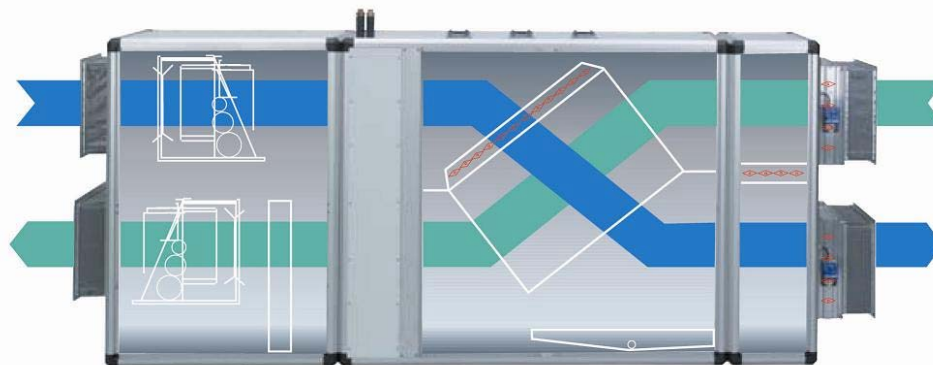
Summer dehumidification

Dehumidification in regulated fresh air-/exhaust air operation with regulated heat recovery in the cross-flow heat exchanger.



Heat

Heating the swimming area with pumped hot water heater battery in air circulation mode.



Cooling / ventilation (optional)

Increase in air quantity effected using summer bypass with regulated heat recovery or without heat recovery.

Air filter

Air is filtered constantly by pocket or cassette filters. These are available in various filter types for different requirements.

Regulation

The DDC regulation MC 2001 undertakes all control and regulation functions of the swimming pool climate. The target values for temperature and humidity are set on the operation and display unit, which has a four-line LCD display. The fresh air mixture is controlled automatically and is regulated depending on the outdoor temperature and how the pool is used. During low use the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operation target values are reached. If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to fresh air mode. Correspondingly, the heat valve continually regulates to the set target value. During low use and swimming use different target values can be set for temperature and humidity. Switching between low use and swimming use is done on the operation and display unit, via the optional clock module or optionally with an external switch, e.g. cover switch.

The air flow of the fans can be adjusted individually by the step-down transformers, frequency converters or speed controllers (on EC motors) on the duct system.

Thermal output to the pool water

Before delivery, SET air handling units undergo an extensive documented test run. This checks all device functions in the different operational areas and determines optimum settings. This ensures efficient operation within the customer system.

All devices can be dismantled into several parts for transportation. Assembly is simple and requires only a short time. The fully operational device wiring requires only the connection of the selected external consumer. The device parts are connected one beneath the other with plugs. Operational start-up can be carried out entirely by the system installation company.

Air handling units type RLG ..03 MC

1 air handling units type RLG ..03 MC

with multi-level heat recovery by High Performance multiple recuperator unit for fresh air-/exhaust air operation, in basic configuration complete with Microcontroller MC 2001 and temperature and humidity sensors installed (optionally as room sensors), infinitely adjustable, damper control, PWW with valve. Automatic mixing of the fresh air- / exhaust air rate from 0 – 100% according to mode of operation and target value deviation of the pool area,

consisting of:

multi-part device housing (exhaust part, added air part, multiple recuperator part, external exhaust damper part) of hollow-chamber steel with aluminium die cast corners with transport lugs, white finished RAL 9010, cover panels of galvanized sheet steel, double-skinned with integrated acoustic and thermal insulation, white finished RAL 9010, service cover with external quick-release fasteners, white finished RAL 9010, condensate tray of AlMg3, Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 30 mm), installed therein:

- 3 air control dampers, frames of extruded aluminium, blades of hollow-chamber aluminium inlaid with special seals and plastic cogs
- 2 air filters F5, removable
- 3 damper motors 24 V
- 1 pumped hot water heater battery of CU pipe with pressed-on alu-blades inc. 3-way valve with continuous drive
- 1 frost protection facility via MC 2001
- 1 outdoor temperature sensors via MC 2001

- 1 double cross-flow plate heat exchanger with EUROVENT certification, of special-form aluminium plates plastic-coated, with positive and negative indentations to maintain spacing. Thus there are no ducts; currents and condensation drainage is possible in all directions. The plates are interlocked beneath one another with a double seam. Thus there is 6-fold material strength for the air inlet and outlet. The double seam is additionally waterproofed with artificial resin. The corners of the exchange section are moulded with permanently elastic artificial resin using a patented procedure. The heat exchanger block is easily removable and can be taken out for cleaning purposes.

Added air part and exhaust part, each consisting of

- 1 radial fans with free-running impeller, the single inlet, backward curved high efficiency impeller from sea-waterproof aluminium, mounted onto the speed controllable external rotor motor, equipped with an air flow optimized inlet cone from galvanized sheet steel. The impeller can be supplied as single unit or as a complete module of galvanized sheet steel. The fan is balanced on two levels according to quality class G 2.5, DIN/ISO 1940. Closed motor, protection class IP 44/54 with protection against humidity and thermal contacts wired in windings for motor protection. Maintenance free ball bearings, closed on both sides, sealed for life. Electrical connection through terminal box (not connected) in IP 44, speed infinitely adjustable by frequency converter

Air handling units type RLG ..03 MC

1 SET Microcontroller MC 2001

consisting of:

Control cabinet with structured stove enamel, or stainless steel, control cabinet doors with tightly closing rubber seals and quick-release fasteners, alternatively installed in device. Fuses, overcurrent release, contacts, and connection cable with multipoint connector for dehumidification unit control cabinet wiring to VDE, fully wired for external pumps etc.

Hardware

operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display damper positions, hours of operation and message texts as well as coloured LEDs for operation and fault reporting, 1 main switch. Microprocessor, digital and analogue inputs and outputs, digital relay outputs, summer and alarm relay, sensors for the measurement of outdoor temperature, added air temperature and humidity are built into the device and fully wired.

Preparation of a modem interface for maintenance and remote operation.

Software

Control functions:

- Pool area temperature regulation
- Humidity regulation
- Control of fresh air mixture, automatically regulated depending on the outdoor temperature and how the pool is used.
- Mode of operation selector
- Error messages
- Filter monitoring
- PWW pumps activation

During low use mode the system switches on when there is excess humidity or when the pool area temperature is exceeded and/or falls short; it switches off again when the operational target values are reached.

If the temperature falls short, the system switches to air circulation mode and if humidity is exceeded to defined fresh air mode.

Installed as standard is a sensor for temperature and humidity (minimum circulating air always "on").

Air handling units type RLG ..03 MC

Technical data

Dehumidification capacity to VDI 2089	..	kg/h
Air flow	..	m ³ /h
Heat recovery coefficient (8°C/80% – 28°C/60%)	..	%
Added air		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m		.. dB(A)
Added air fan		
Nominal power	..	kW
Nominal current	..	A
Exhaust		
external pressure drop	max.	.. Pa
Sound pressure level LpA in 1m		dB(A)
Exhaust fan		
Nominal power	..	kW
Nominal current	..	A
PWW air heater capacity (80/60°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
NT PWW air heater capacity (50/40°C)	..	kW
Water volume	..	m ³ /h
Drag (inc. valve)	..	kPa
Feed-in		AC 400 V 3 N
Total connected load	..	kW
Preliminary fuse (time-delay)	..	A
Control voltage		DC 24 V
Switchbox/device safety class		IP 55 / 33
Operating weight	..	kg
Dimensions W x H x D	..	mm
largest transport unit W x H x D	..	mm

Brand SET Schmidt Energietechnik, Hemmingen
 Type **RLG ..03 MC**
 Supply from factory €

Air handling units type RLG ..03 MC

1 Summer bypass

motor-driven multi-leaf damper for bypassing the recuperator in summer, activation by MC 2001

Type	SBP-MC	
Supply from factory		€

1 Electro heater battery for duct installation

constructed ready for operation in dehumidification unit, chassis with flange or aluminium with built-in temperature monitor and temperature limiter to VDE 0110/11.72,

Heat performance	..... kW
Feed-in	AC ... V . N

Type	EHZ AF-MC	
Supply from factory		€

1 Room sensor

for installation in the swimming pool area, instead of installed sensors

Type	RF	
Supply from factory		€

1 MC 2001 Real-time clock module

Real-time clock and storage module with popular back-up battery for powercut-proof memory of the time, and to enable time-programmed periods of swimming use and low use. Factory installed and configured ready for operation

Type	Uhr	
Supply from factory		€

1 Remote indication (additional control panel)

(up to 50 m distance from main device) consisting of:
2nd operation and display unit with input and function button field, four line LCD display, illuminated, for actual/target value display, damper positions, Hours of operation and message texts as well as coloured LEDs for operation and fault reporting (with acoustic alarm)

Type	BDT 2	
Supply from factory		€

Air handling units type RLG ..03 MC

1 Humidity displacer

Further regulation for the “displacement” of room humidity depending on the outdoor temperature. When room humidity falls short of the dew point on a building component it is reduced by regulation.

Adjustment to the selected building component is made by adaptation within regulation.

1 building component sensor is supplied unconnected

Type	FS	
Supply from factory		€

1 Temperature displacer

Further regulation for the “displacement” of room temperature depending on the pool water temperature.

Room temperature follows pool water temperature at a selected margin (0 - 9K).

1 pool water sensor is supplied unconnected

Type	TS	
Supply from factory		€

1 Remote control module

Further regulation for the remote control of the air dehumidifying units with the on-site central controller OSPA Bluecontrol.

Type	OSPA	
Supply from factory		€

1 Further regulation RS 485

Further regulation for the remote control of the air dehumidifying units, MC 2001 interface RS 485 for communication with external control units, implementation of the data point list takes place on site

Type	RS 485	
Supply from factory		€

1 Filter monitoring with display on MC 2001

Type	FÜ	
Supply from factory		€

Technical data

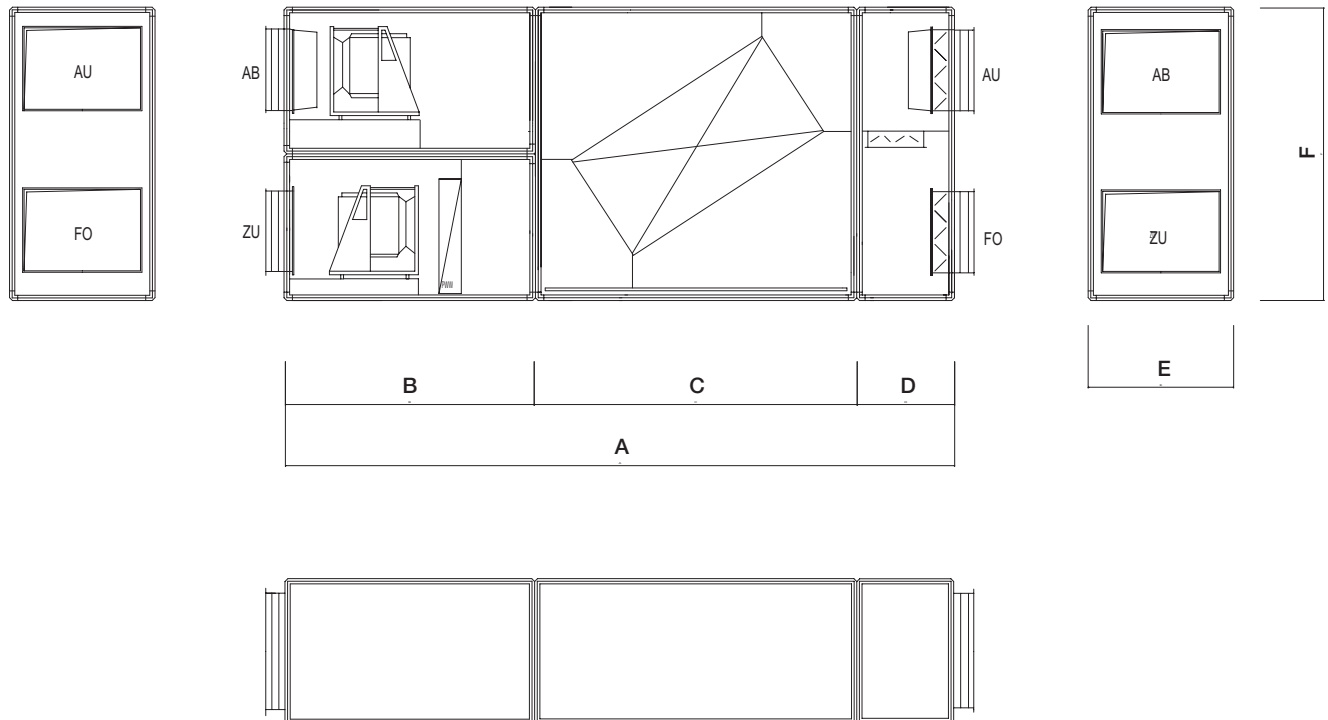
Device type		RLG 7003 MC	RLG 10003 MC	RLG 12503 MC
Air flow	m ³ /h	7.000	10.000	12.500
Dehumidification capacity to VDI 2089	kg/h	44,5	63,6	79,5
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	>75	>75	>75
Added air external pressure drop	Pa	400	400	400
Added air fan nominal power	kW	2,7	4,3	5,0
Exhaust external pressure drop	Pa	400	400	400
Exhaust fan nominal power	kW	2,0	2,7	4,2
PWW air heater capacity (70/50°C, air 28°)	kW	58,0	103	135
Water volume	m ³ /h	3,9	4,0	5,3
Drag (inc. valve)	kPa	11	11	11
Connect	DN	1 ¼"	1 ¼"	2"
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	4,7	7,0	9,2
Operating weight	kg	1280	1560	1750
Dimensions W	mm	4830	5070	5070
Dimensions D	mm	1050	1350	1350
Dimensions H	mm	2100	2100	2100
largest transport unit				
Operating weight	kg	550	600	700
Dimensions W	mm	2730	2730	2730
Dimensions D	mm	1050	1350	1350
Dimensions H	mm	2100	2100	2100

Technical data

Device type		RLG 16003 MC	RLG 19003 MC	RLG 25003 MC
Air flow	m ³ /h	16.000	19.000	25.000
Dehumidification capacity to VDI 2089	kg/h	101,7	120,8	159,0
Fresh air proportion	%	0-100	0-100	0-100
Heat recovery coefficient (8°C/80% – 28°C/60%)	%	>75	>75	>75
Added air external pressure drop	Pa	400	400	400
Added air fan nominal power	kW	7,5	10,7	12,1
Exhaust external pressure drop	Pa	400	400	400
Exhaust fan nominal power	kW	5,2	6,3	8,3
PWW air heater capacity (70/50°C, air 28°)	kW	173,0	205	270
Water volume	m ³ /h	6,6	7,9	10,5
Drag (inc. valve)	kPa	11	20	24
Connect	DN	2 "	2 ½ "	2 ½ "
Control voltage		DC 24 V		
Feed-in		AC 400 V 3 N		
Total connected load	kW	12,7	17,0	20,4
Operating weight	kg	1900	2100	3250
Dimensions W	mm	5310	5310	6270
Dimensions D	mm	1680	1680	1980
Dimensions H	mm	2700	2700	3360
largest transport unit				
Operating weight	kg	720	800	1300
Dimensions W	mm	2970	2970	3690
Dimensions D	mm	1680	1680	1980
Dimensions H	mm	2700	2700	3360

Maßblatt – RLG 03-MC HPR

Lüftungsgeräte mit mehrstufiger Wärmerückgewinnung durch High Performance Rekuperatoreinheit (HPR)



	A	B	C	D	E	F
RLG 7003 MC HPR	4830	1530	2730	570	1050	2100
RLG 10003 MC HPR	5070	1530	2730	810	1350	2100
RLG 12503 MC HPR	5070	1530	2730	810	1350	2100
RLG 16003 MC HPR	5310	1530	2970	810	1680	2700
RLG 19003 MC HPR	5310	1530	2970	810	1680	2700
RLG 25003 MC HPR	6270	1770	3690	810	1980	3360
RLG 30003 MC HPR	7665	1770	4845	1050	1980	3360

Vor Planungsbeginn technische Daten und Maße bestätigen lassen.

Technische Änderungen vorbehalten.

Air duct material

Air duct components

Coming soon



Outdoor pool heat pump

type FWP .. S

Technical data

Outdoor pool heat pump type FWP .. S

1 Outdoor pool heat pump type FWP .. S

for outdoor use,
consisting of:

pool water heat exchanger of titanium, flow monitor, including a hot gas defrosting system, device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, cover panels of naturally anodised aluminium with integrated acoustic and thermal insulation, screw-on service cover, interior of AlMg3,
installed therein:

- 1 heat pump unit filled with safety refrigerant R 407 C,
consisting of:
 - 1 fully hermetic scroll motor compressor, vibration-cushion mounted,
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades
 - 1 pool water heat exchanger of titanium
 - 1 4-way valve with magnetic switch
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 filter dryer
 - 1 refrigerant collector
 - 1 flow monitor
 - 1 cooling piping of CU pipe, inc. condensation insulation
 - 1 (2) axial fan with crescent vanes and touch guard in quiet running performance

- 1 Microcontroller installed in front door as control unit,
consisting of:

display with weatherproof plastic film cover, with 4 operation buttons for programming and target value setting, display of target/actual values, pool water temperature, parameter and operation display, error reporting as icons and text code.

Hardware

Microprocessor with digital and analogue inputs and outputs, digital relay outputs, alarm relay, sensors for the measurement of water temperature and function values of the heat pump are installed in the device and fully wired, preparation for interface for operation with a remote control.

Software

Control functions:

Regulation of the pool water temperature and all necessary safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed compressor downtime.

- 1 switchbox, fully wired to VDE,
consisting of:
 - Aluminium base plate, constructed thereon:
 - Transformer(s), fuses, overcurrent release, contacts, auxiliary contacts

Outdoor pool heat pump type FWP .. S

Technical data

Heat output Air 16/ water 25	.. kW
Coefficient of performance	
Air flow	.. m ³ /h
Compressor power input	.. kW
Compressor current consumption	.. A
Fan power input	.. W
Fan current consumption	.. A
Water flow	.. m ³ /h
Water pressure drop	.. kPa

Brand SET Schmidt Energietechnik, Hemmingen
Type **FWP .. S**
Supply from factory €

1 Remote control for heat pump

connection with 2-wire cable up to a distance of approx.
150 m, optionally surface or flush-mounted installation.

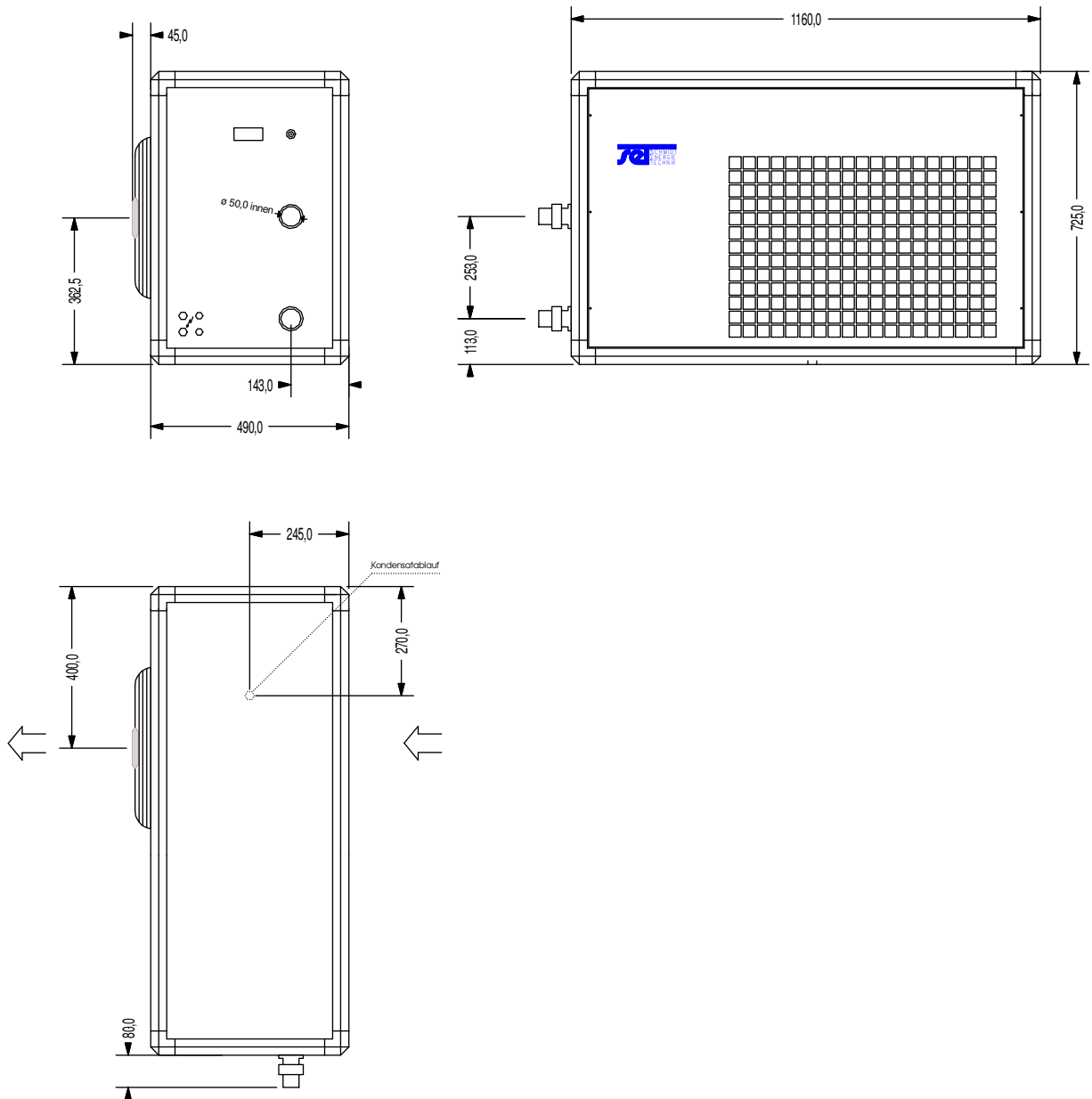
Type **FWP -FB**
Supply from factory €

Technical data

Device type		FWP 7 S	FWP 10 S	FWP 15 S	FWP 20 S	FWP 30 S
Water surface up to approx. ¹	m ²	30	45	60	90	130
Heat output Air 16/ water 25	kW	6,5	9,8	13,0	20,1	28,6
Coefficient of performance		5,0	5,1	5,0 (5,1) ²	5,1	5,4
Air flow	m ³ /h	2.600	2.600	2.600	5.200	5.200
Sound level 3m/10m	dB(A)	52/45	52/45	53/46	57/49	58/50
Compressor power input	kW	1,3	1,9	2,6 (2,55) ²	3,95	5,2
Compressor current consumption	A	4,9	8,0	3,8 (9,4) ²	6,1	9,5
Fan power input	W	110	110	110	220	220
Fan current consumption	A	0,5	0,5	0,5	1,0	1,0
Water flow	m ³ /h	4-10	4-10	6-12	6-20	9-24
Water pressure drop	kPa	10	10	10	15	15
Pipe dimension		PVC d50	PVC d50	PVC d50	PVC d63	PVC d63
Control voltage		DC 24 V				
Feed-in		AC 230 V 1 N		AC 400 V 3 N (AC 230 V 1 N) ²	AC 400 V 3 N	
Total connected load	kW	1,5	2,2	2,8	4,3	5,5
Preliminary fuse (time-delay)	A	1 x 16	1 x 16	3 x 10 (1 x 16)	3 x 16	3 x 16
Operating weight	kg	75	85	91	160	175
Dimensions W	mm	1160		1160	1160	1160
D	mm	490		490	490	490
H	mm	730		890	1460	1780

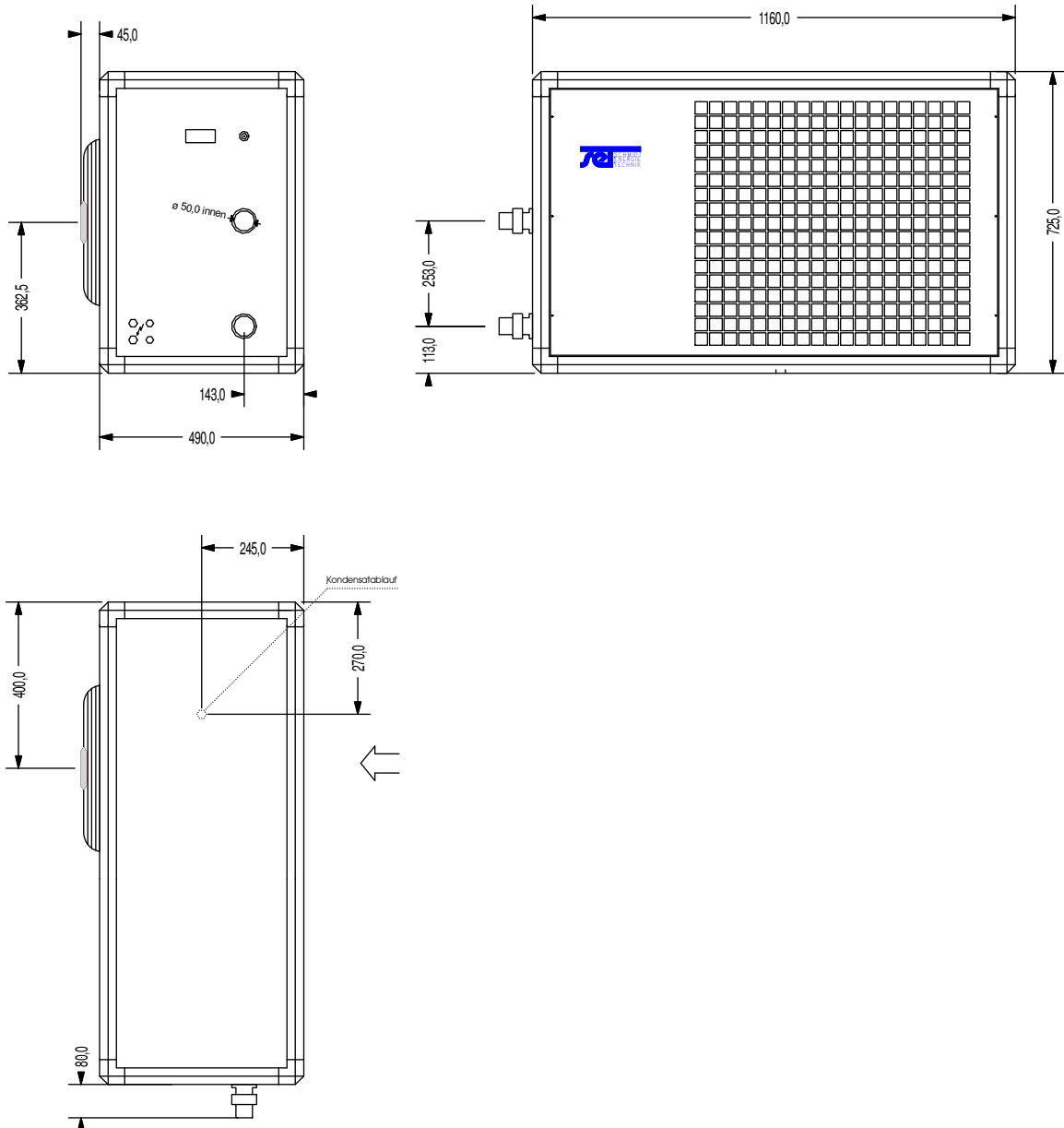
¹ with cover

Maßblatt FWP 7 S
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



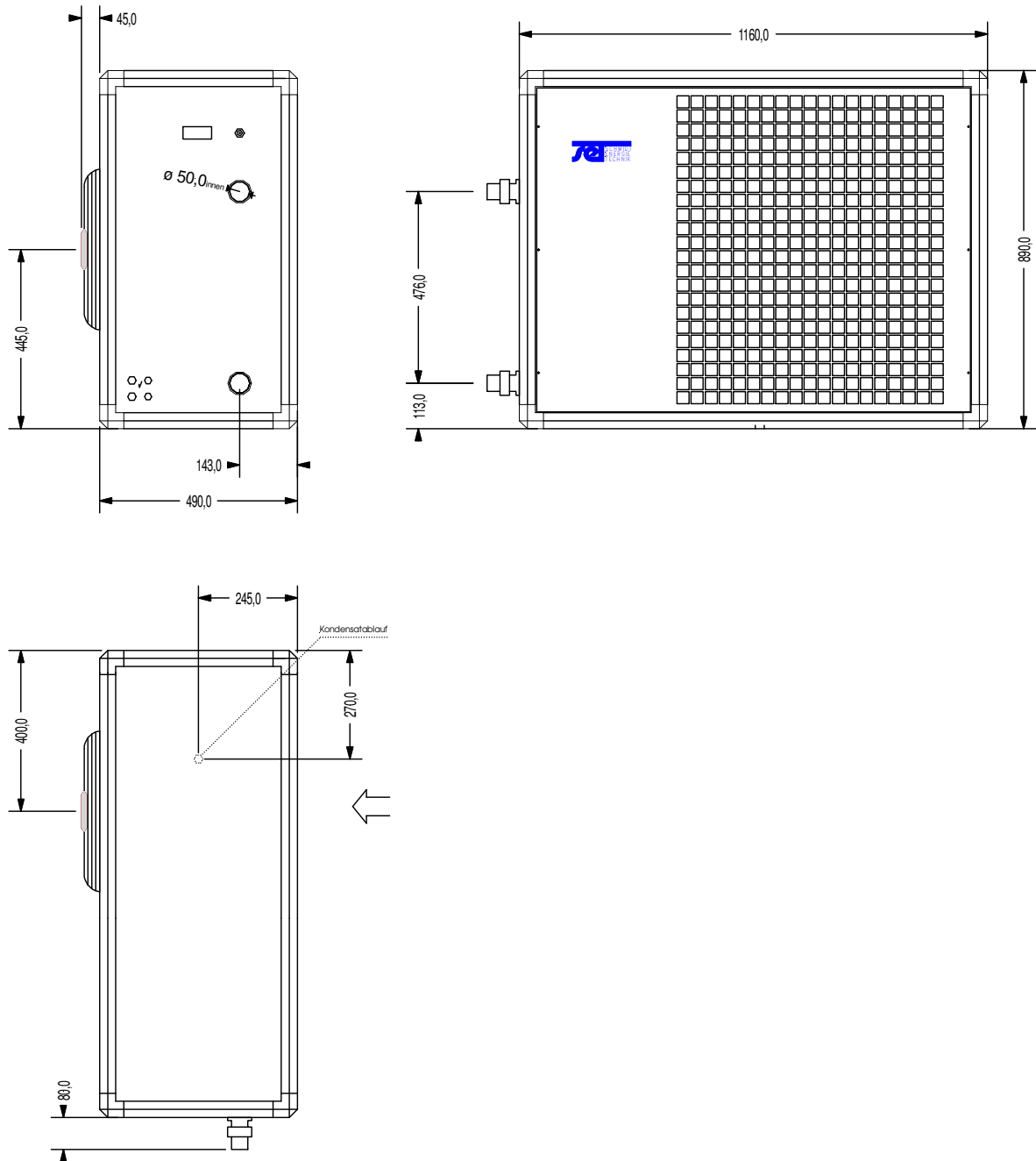
Technische Änderungen vorbehalten.

Maßblatt FWP 10 S
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



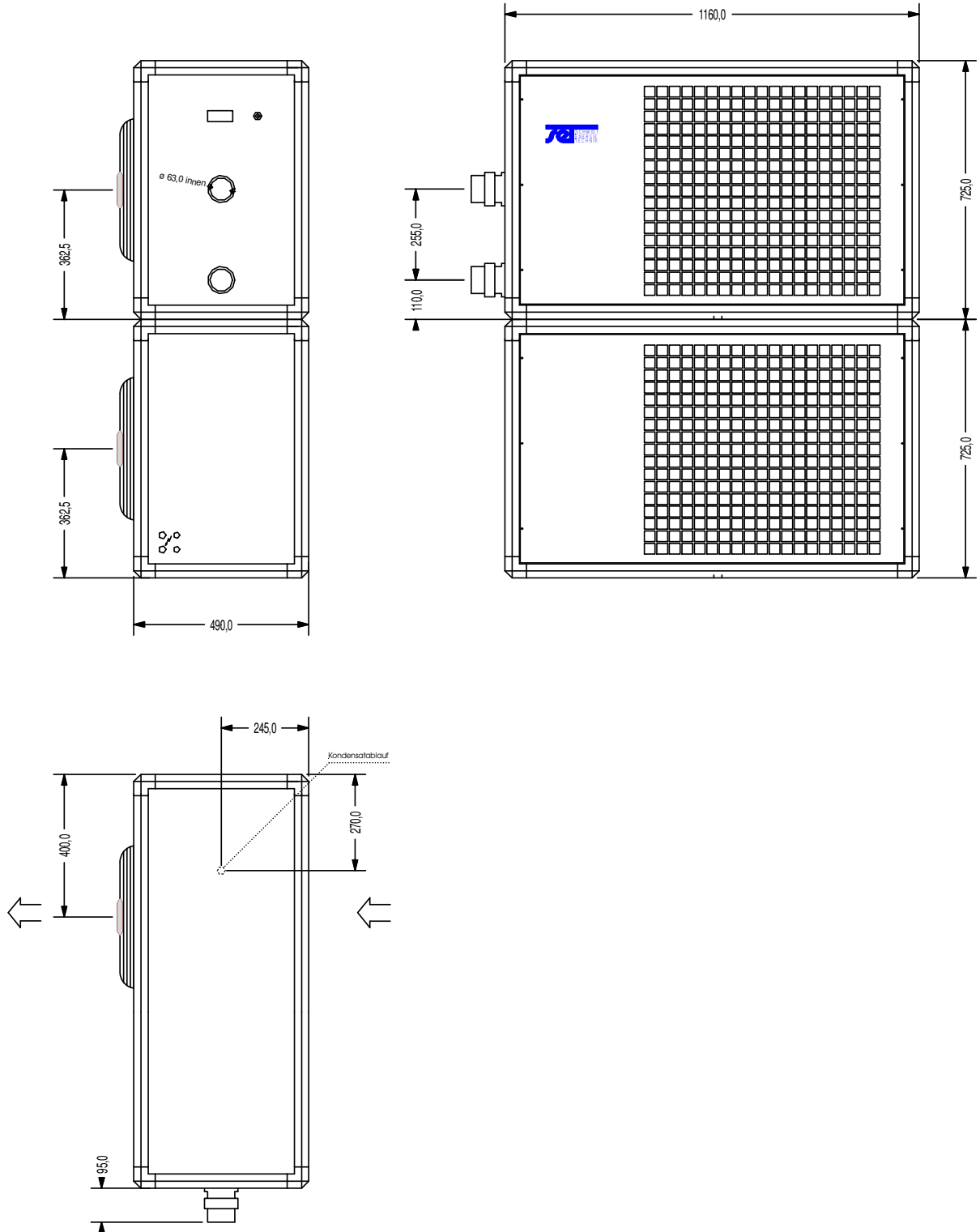
Technische Änderungen vorbehalten.

Maßblatt FWP 15 S
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



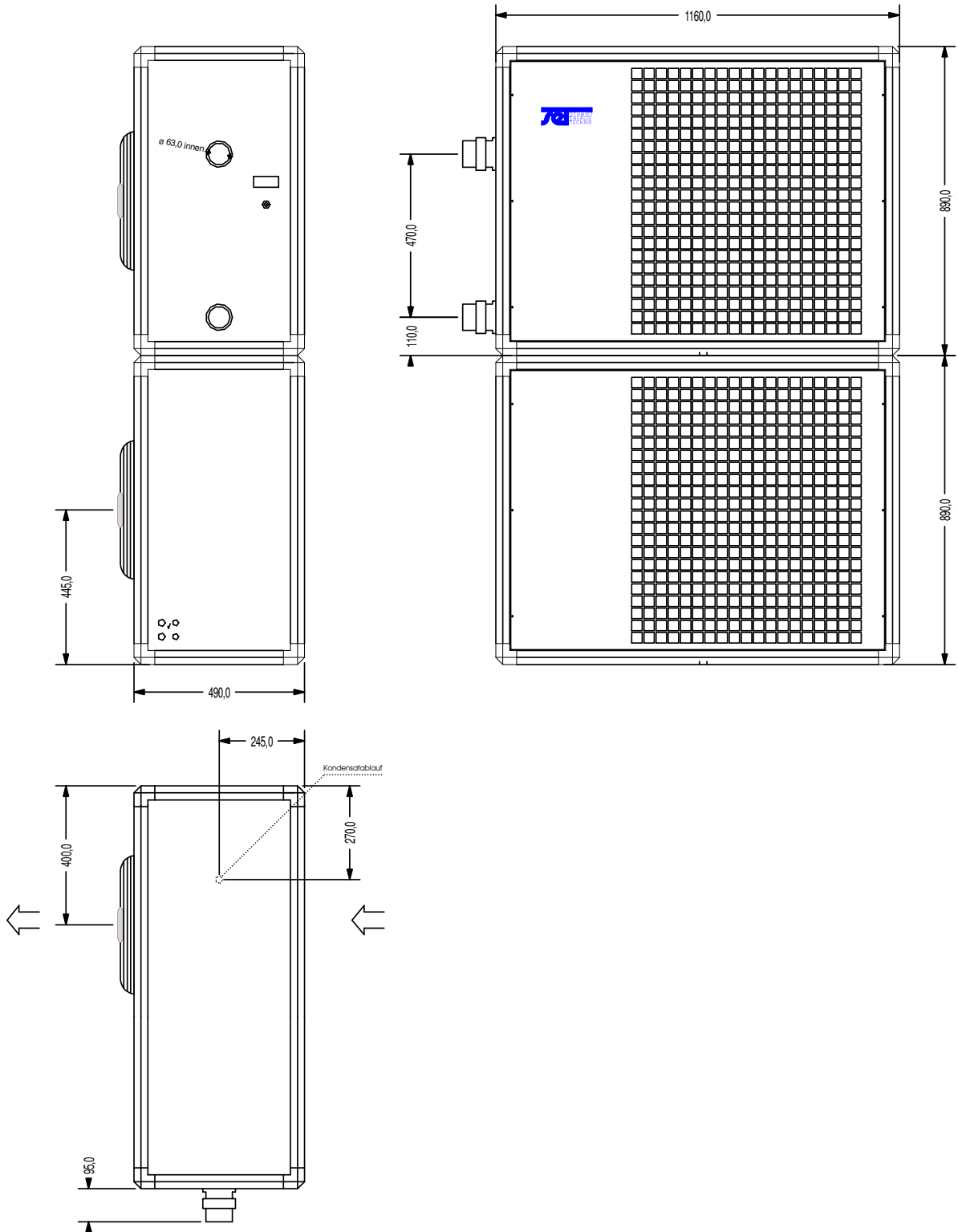
Technische Änderungen vorbehalten.

Maßblatt FWP 20 S
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



Technische Änderungen vorbehalten.

Maßblatt FWP 30 S
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



Technische Änderungen vorbehalten.



Outdoor pool heat pump type Silent ..

Technical data

Outdoor pool heat pump type Silent ..

1 Outdoor pool heat pump type Silent ..

High performance heat pump in especially quiet construction, for outdoor use, consisting of:

pool water heat exchanger of titanium, flow monitor, including a hot gas defrosting system to use at temperatures from -4°C.

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, cover panels of

naturally anodised aluminium with integrated acoustic and thermal insulation, screw-on service cover, interior of AlMg3,

installed therein:

- 1 heat pump unit filled with safety refrigerant R 410 A, consisting of:

- 1 fully hermetic scroll motor compressor, vibration-cushion mounted,

- 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades

- 1 pool water heat exchanger of titanium

- 1 4-way valve with magnetic switch

- 1 low pressure switch

- 1 high pressure switch (TÜV tested)

- 1 filter dryer

- 1 refrigerant collector

- 1 flow monitor

- 1 cooling piping of CU pipe, inc. condensation insulation

- 1 (2) "Geen-Tech"-axialfans with protection against contacts,

- ventiator with EC-motor, infinitely adjustable for a very low noisy and energy saving use

- 1 Microcontroller installed in front door as control unit, consisting of:

display with weatherproof plastic film cover, with 4 operation buttons

for programming and target value setting, display of

target/actual values, pool water temperature, parameter and operation display, error reporting as icons and text code.

Hardware

Microprocessor with digital and analogue inputs and outputs, digital relay outputs, alarm relay, sensors for the measurement of water temperature and function values of the heat pump are installed in the device and fully wired, preparation for interface for operation with a remote control.

Software

Control functions:

Regulation of the pool water temperature and all necessary

safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed compressor downtime.

- 1 switchbox, fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

Transformer(s), fuses, overcurrent release, contacts, auxiliary contacts

Outdoor pool heat pump type Silent ..

Technical data

Heat output Air 16/ water 25	.. kW
Coefficient of performance	
Air flow	.. m ³ /h
Compressor power input	.. kW
Compressor current consumption	.. A
Fan power input	.. W
Fan current consumption	.. A
Water flow	.. m ³ /h
Water pressure drop	.. kPa

Brand SET Schmidt Energietechnik, Hemmingen
 Type **Silent ..**
 Supply from factory €

1 Remote control for heat pump

connection with 2-wire cable up to a distance of approx.
 150 m, optionally surface or flush-mounted installation.

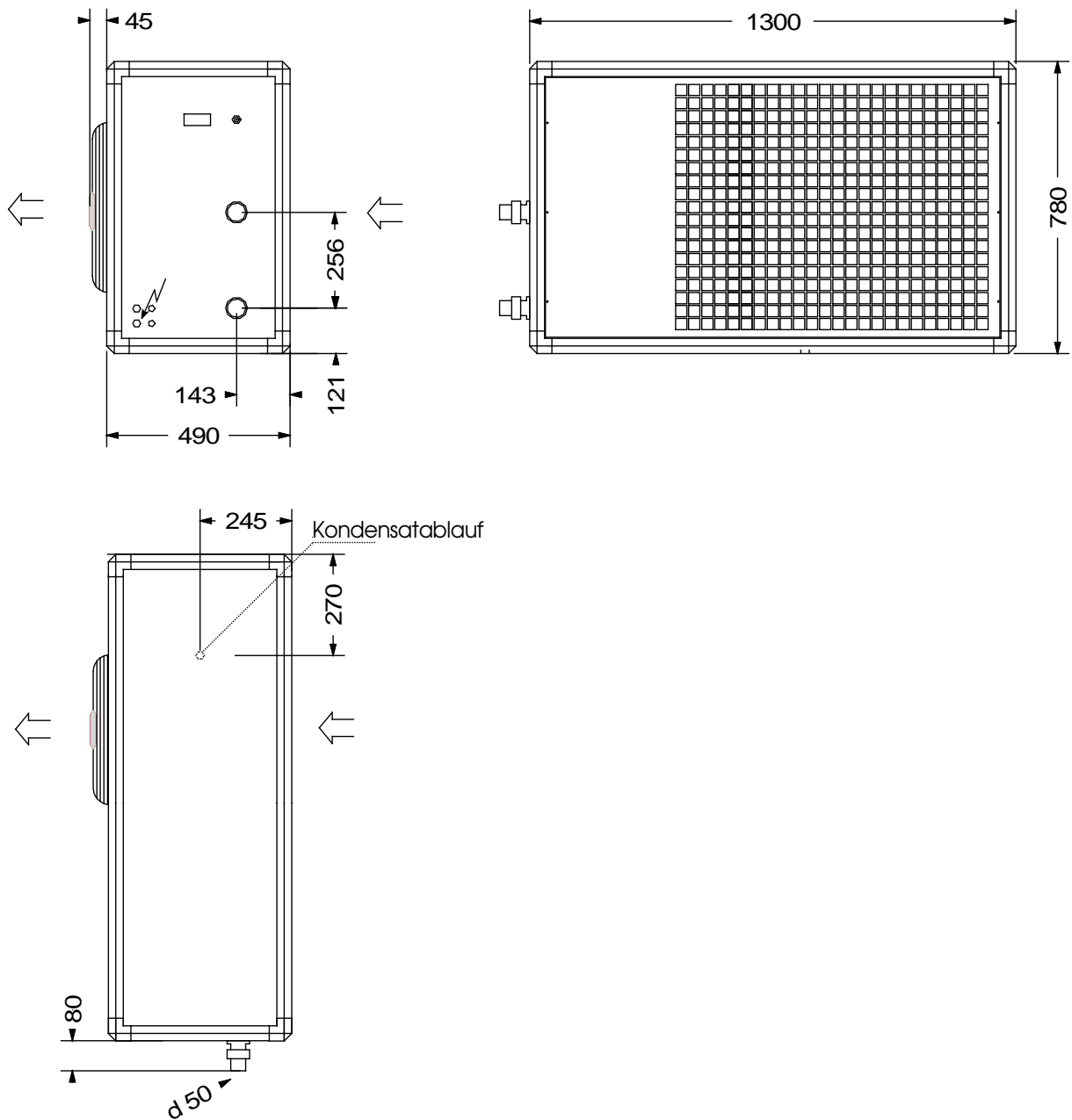
Type **FWP -FB**
 Supply from factory €

Technical data

Device type		Silent 10	Silent 15	Silent 20	Silent 30
Water surface up to approx. ¹	m ²	45	60	90	130
Heat output Air 16/ water 25	kW	10,2	13,8	20,6	27,9
Coefficient of performance		5,6	5,5 (5,8) ²	5,1	5,4
Air flow	m ³ /h	2.100	2.100	5.200	5.200
Sound level direct 3m/10m	dB(A)	40/30	40/30	41/32	41/32
Compressor power input	kW	1,83	2,38 (2,35) ²	3,93	5,18
Compressor current consumption	A	8,7	12,2 (4,7) ²	7,3	9,7
Fan power input	W	74	74	148	148
Fan current consumption	A	0,5	0,5	1,0	1,0
Water flow	m ³ /h	4-10	6-12	10-20	10-24
Water pressure drop	kPa	10	10	15	15
Pipe dimension		PVC d50	PVC d50	PVC d63	PVC d63
Control voltage		DC 24 V			
Feed-in		AC 230 V 1 N	AC 230 V 1 N (AC 400 V 3 N) ²	AC 400 V 3 N	
Total connected load	kW	2,0	2,8	4,3	5,5
Preliminary fuse (time-delay)	A	1 x 16	1 x 16 (3 x 10) ²	3 x 16	3 x 16
Operating weight	kg	95	106	180	212
Dimensions W	mm	1300	1450	1300	1450
D	mm	490	490	490	490
H	mm	780	970	1560	1940

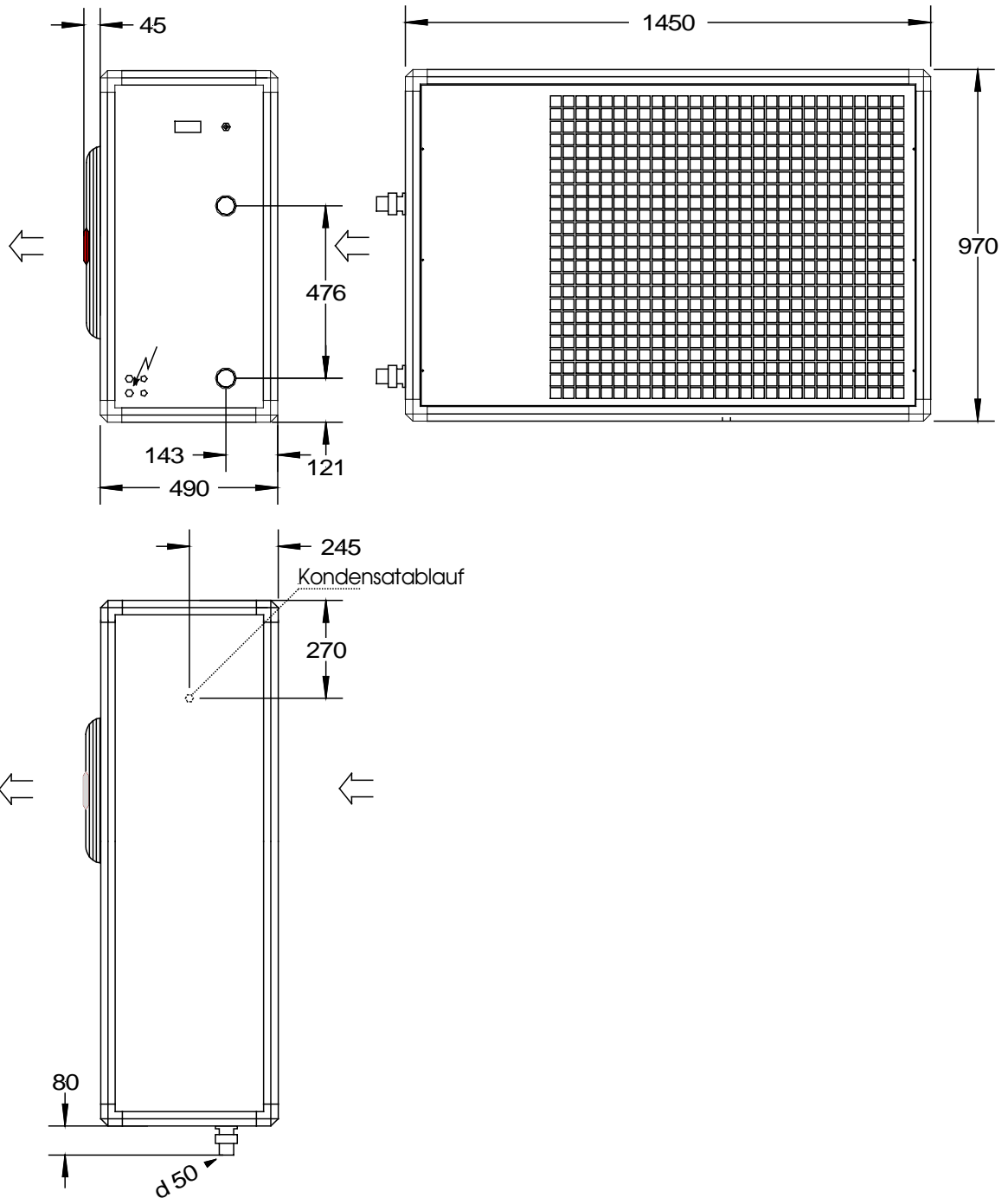
¹ with cover

Maßblatt Silent 10
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



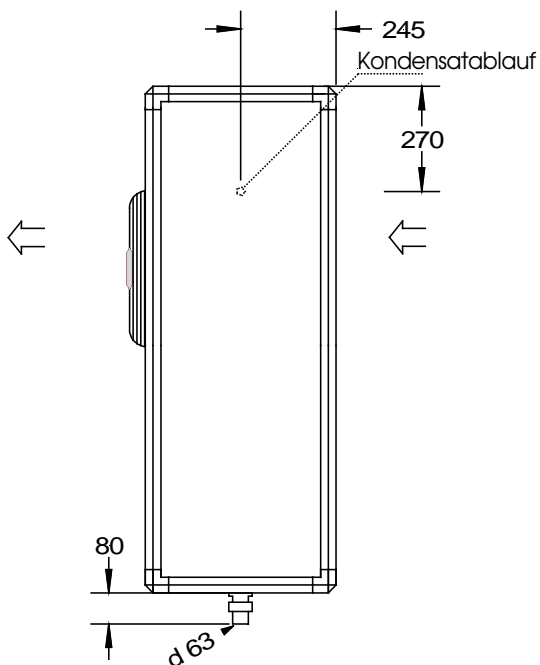
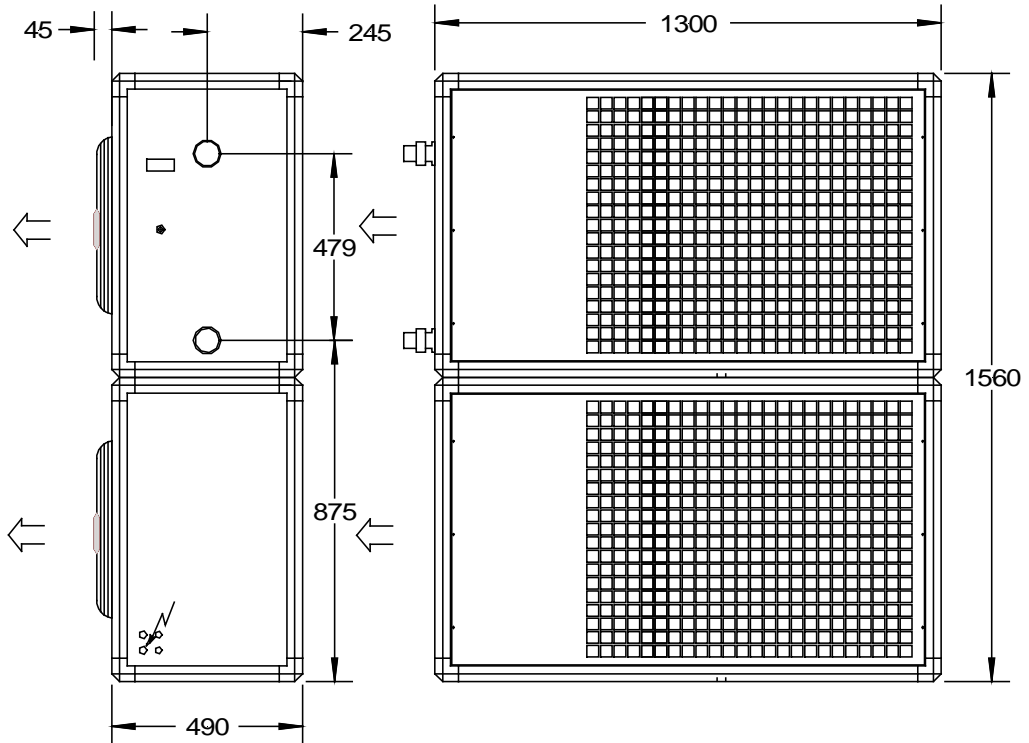
Technische Änderungen vorbehalten.

Maßblatt Silent 15
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



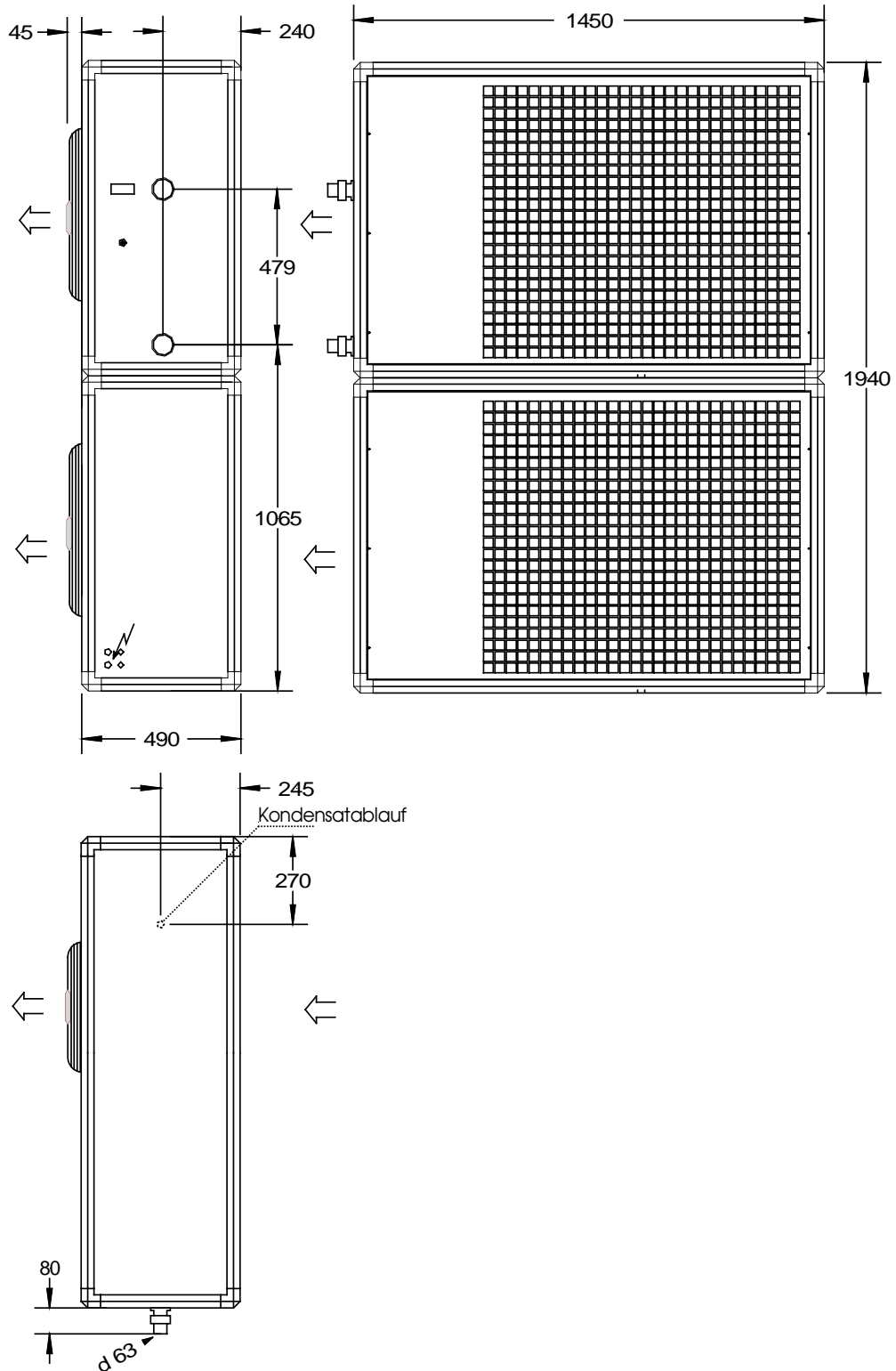
Technische Änderungen vorbehalten.

Maßblatt Silent 20
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



Technische Änderungen vorbehalten.

Maßblatt Silent 30
Wärmepumpen zur Aussenaufstellung
Titan-Ausführung



Technische Änderungen vorbehalten.



Outdoor pool heat pump

type WP I-Ti

Technical data

Outdoor pool heat pump type WP I-Ti

1 Outdoor pool heat pump type WP I-Ti

for installation in an frost-protected room, for connection with an air duct system, consisting of:

Device housing of naturally anodised extruded hollow-chamber aluminium A6/CO with black plastic corners, plastic cover panels with integrated acoustic and thermal insulation, service cover with internal quick-release fasteners. Internal structures of Al Mg3. Flexible air connections with canvas supports (distance over hubs 20 mm), installed therein:

- 1 heat pump unit filled with safety refrigerant R 407 C, consisting of:
 - 1 fully hermetic scroll motor compressor, vibration-cushion mounted,
 - 1 air cooler (evaporator) of CU pipe with pressed-on alu-blades
 - 1 pool water heat exchanger of titanium
 - 1 low pressure switch
 - 1 high pressure switch (TÜV tested)
 - 1 crankcase heater
 - 1 outdoor temperature limiter
 - 1 expansion valve (thermal and external pressure balance), coated
 - 1 inspection glass with indicator
 - 1 filter dryer
 - 1 refrigerant collector
 - 1 flow monitor
 - 1 cooling piping of CU pipe, inc. condensation insulation
 - 1 freely running, backward curved impeller, directly driven by external rotary engine, engine in safety class IP 54, motor protection by integrated thermal contacts,

- 1 Microcontroller installed in front door as control unit, consisting of:

display with weatherproof plastic film cover, with 4 operation buttons for programming and target value setting, display of target/actual values, pool water temperature, parameter and operation display, error reporting as icons and text code.

Hardware

Microprocessor with digital and analogue inputs and outputs, digital relay outputs, alarm relay, sensors for the measurement of water temperature and function values of the heat pump are installed in the device and fully wired, preparation for interface for operation with a remote control.

Software

Control functions:

Regulation of the pool water temperature and all necessary safety and control loops for the heat pump, such as phase monitoring, low pressure, high pressure, fan and compressor activation, timer for guaranteed compressor downtime.

- 1 switchbox, fully wired to VDE, consisting of:

Aluminium base plate, constructed thereon:

Transformer(s), fuses, over current release, contacts, auxiliary contacts

Outdoor pool heat pump type WP I-Ti

Technical data

Heat output Air 16/ water 25	.. kW
Coefficient of performance	
Air flow	.. m ³ /h
Compressor power input	.. kW
Compressor current consumption	.. A
Fan power input	.. W
Fan current consumption	.. A
Water flow	.. m ³ /h
Water pressure drop	.. kPa

Brand	SET Schmidt Energietechnik, Hemmingen
Type	WP I-Ti
Supply from factory	€

1 Remote control for heat pump

connection with 2-wire cable up to a distance of approx. 150 m, optionally surface or flush-mounted installation.

Type	FWP -FB
Supply from factory	€

Technical data

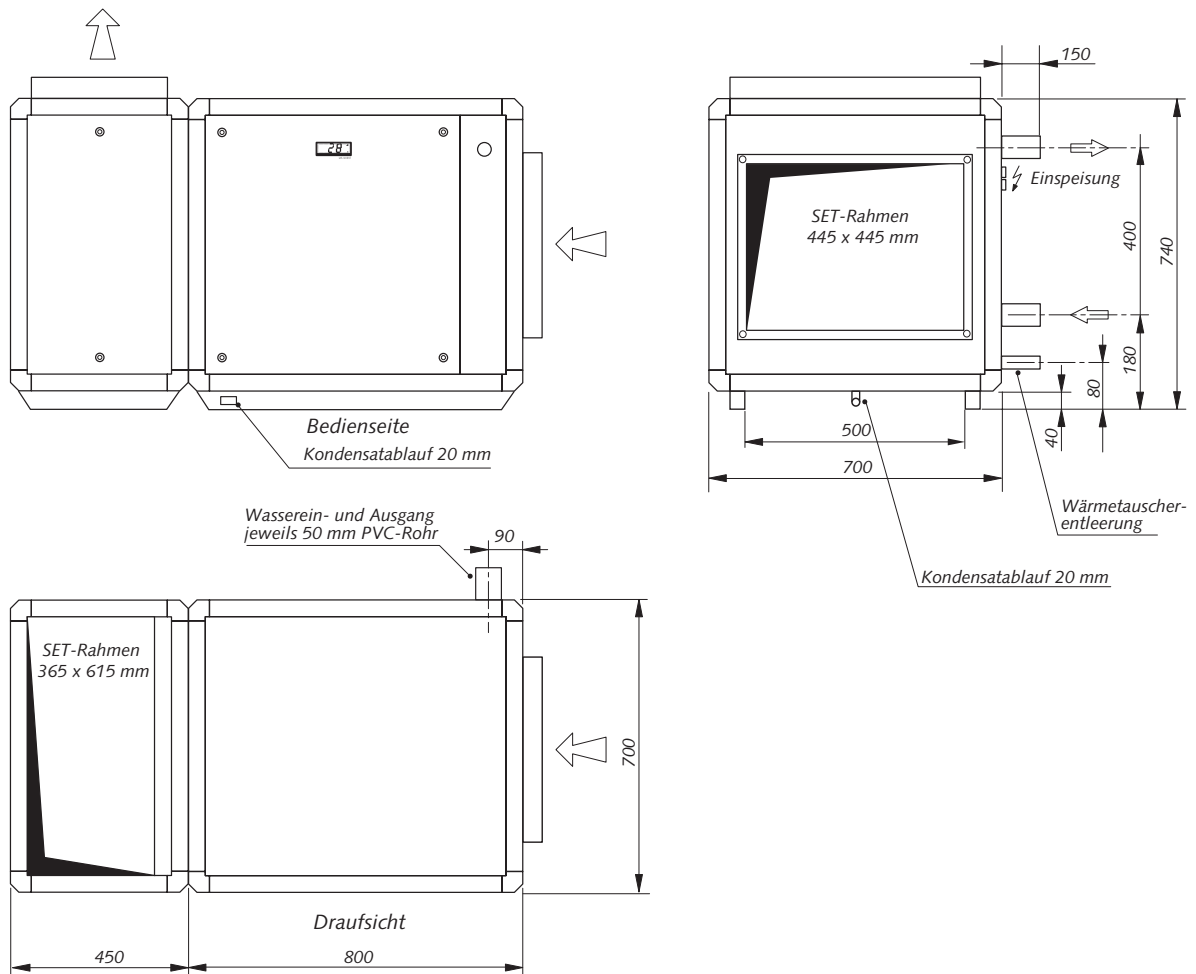
Device type		WP 2001 I-Ti	WP 3001 I-Ti	WP 5001 I-Ti	WP 8001 I-Ti
Water surface up to approx. ¹	m ²	40	60	80	120
Heat output Air 16/ water 25	kW	8,8	14,0	17,3	27,6
Coefficient of performance		5,1	5,4	5,1	5,4
Air flow	m ³ /h	2.300	3.200	4.600	6.400
Compressor power input	kW	1,6	2,4	3,2	4,8
Compressor current consumption	A	2,9	4,5	5,8	9,0
Fan power input	W	0,39	0,6	0,87	1,2
Fan current consumption	A	1,7	1,0	1,3	1,8
external pressure drop	Pa	150	150	150	150
Sound pressure level LpA in 1m	dB(A)	75	79	82	85
Water flow	m ³ /h	3-10	3-12	6-20	6-24
Water pressure drop	kPa	2	2	2	2
Pipe dimension		PVC d50	PVC d50	PVC d63	PVC d63
Control voltage		DC 24 V			
Feed-in		AC 400 V 3 N			
Total connected load	kW	2,0	3,0	4,1	6,0
Preliminary fuse (time-delay)	A	3 x 16	3 x 16	3 x 16	3 x 20
Operating weight	kg	90	140	170	260
Dimensions W	mm	1250	1250	1350	1250
D	mm	700	700	700	700
H	mm	740	1040	1440	2040

¹ with cover

Maßblatt WP 2001 F-I-Ti

Wärmepumpen zur Innenaufstellung

Titan-Ausführung



Technische Änderungen vorbehalten.

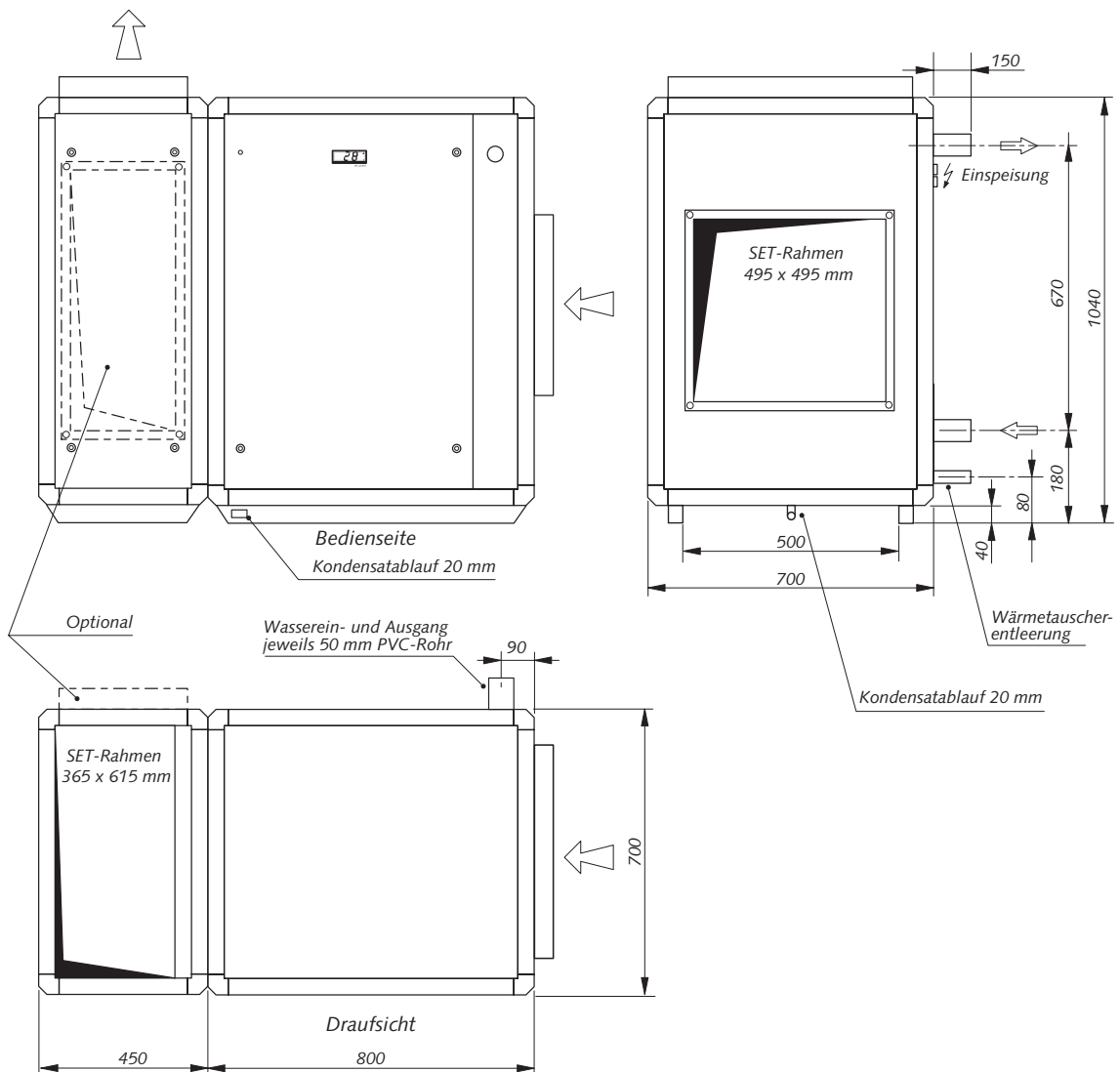
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Maßblatt WP 3001 F-I-Ti

Wärmepumpen zur Innenaufstellung

Titan-Ausführung



Technische Änderungen vorbehalten.

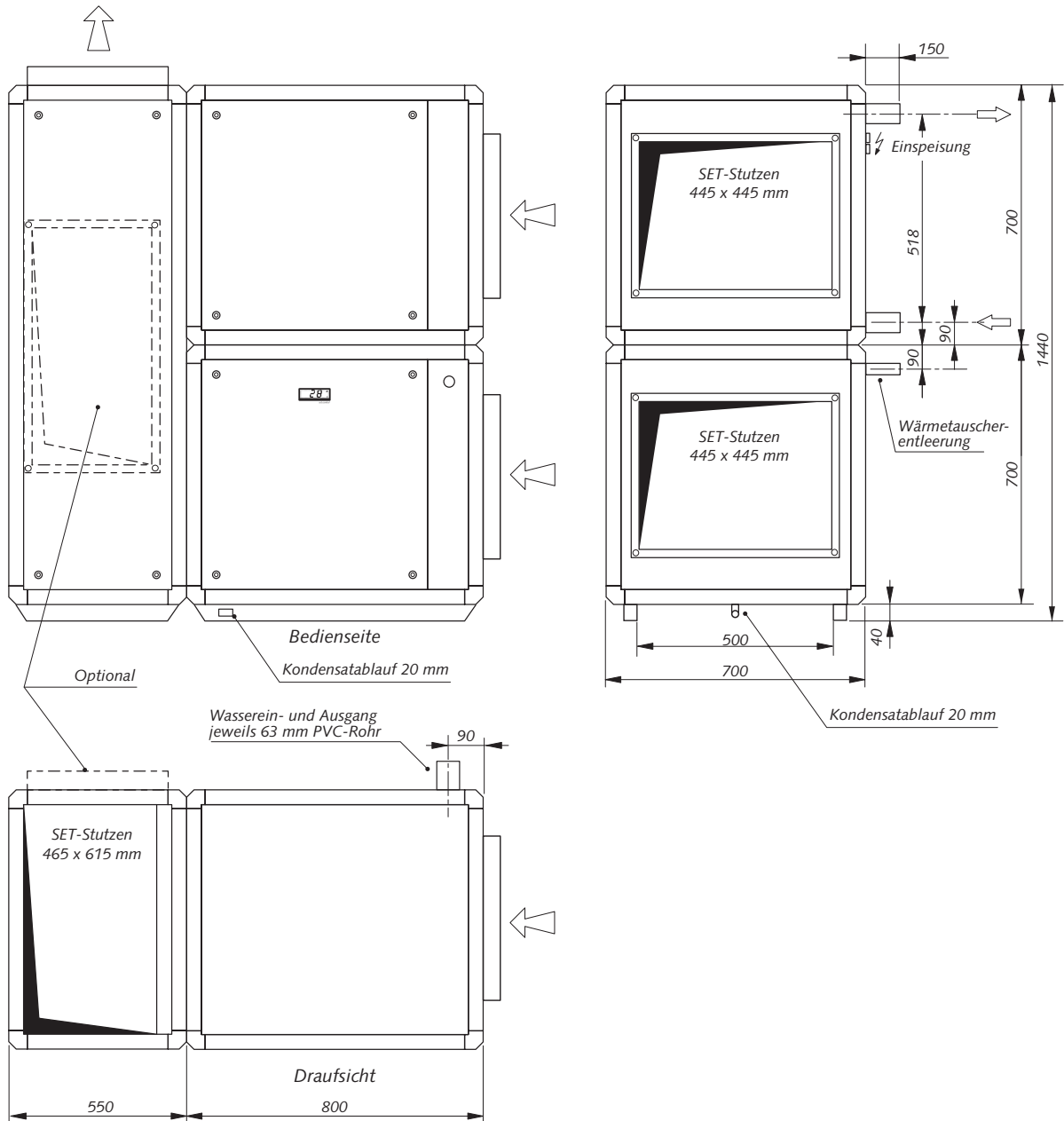
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Maßblatt WP 5001 F-I-Ti

Wärmepumpen zur Innenaufstellung

Titan-Ausführung



Technische Änderungen vorbehalten.

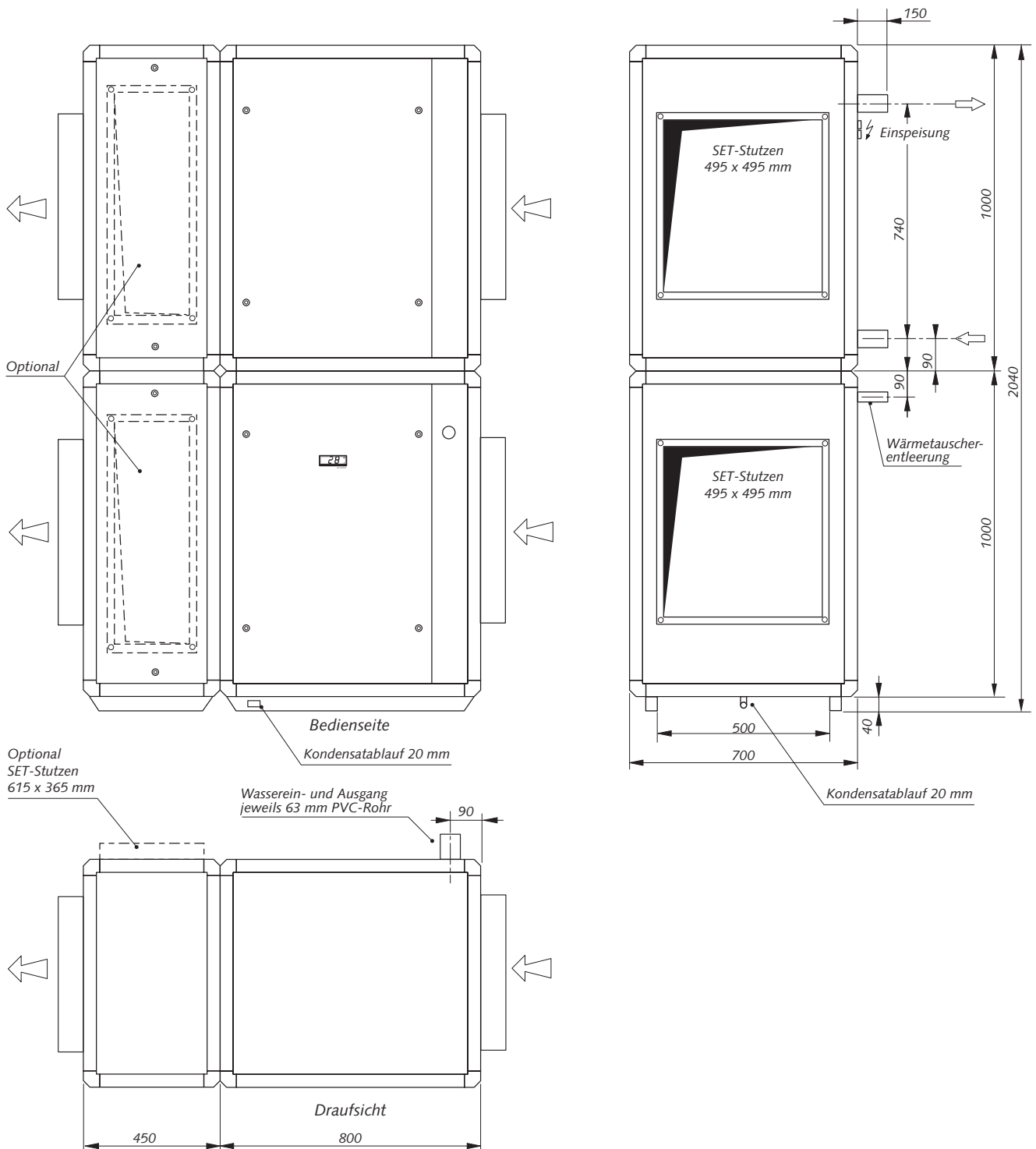
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Maßblatt WP 8001 F-I-Ti

Wärmepumpen zur Innenaufstellung

Titan-Ausführung



Technische Änderungen vorbehalten.

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Planungskatalog planning catalog

Version: 3.09.09

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