Smart air handling unit for swimming pools

AmberAir Pool

SALDA

IN CONFORMITY WITH THE REQUIREMENTS OF VDI 2089

PERSONALIZED SOLUTION

CORROSION-RESISTANT AND RELIABLE

SAVING ENERGY RESOURCES

AmberAir Pool

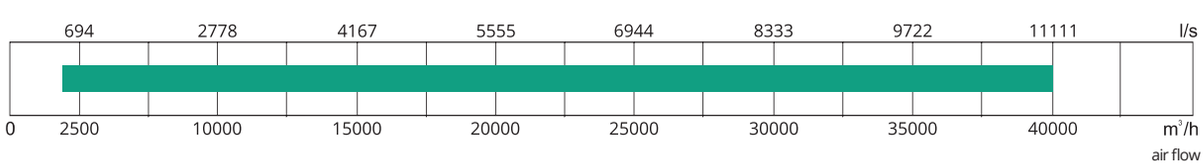
FOR A COMFORTABLE MICROCLIMATE AT A SWIMMING POOL

AmberAir Pool units have been designed to create an ideal microclimate for indoor swimming pool premises. Depending on settings and air parameters, smart control automatically ensures air quality parameters by extracting excessive humidity, supplying fresh air, returning most of the extracted air heat, and maintaining the required temperature of supplied air. The internal components and surfaces are made of corrosion-resistant materials thus ensuring perfect hygiene.

WHY AmberAir Pool?

› **User-friendly control:** SALDA AIR mobile app.
› **Highly durable, hermetic casing SW50+ characteristic of the highest thermal resistance on the market** (D1, L1, F9, T2, TB1) (also available 3 alternative casing options).
› **Developed in accordance with the highest requirements of the German Standard VDI 2089.**
› **Customized solution:** the facilities may be arranged by choosing from a variety of available component options.
› **Reliable:** the selection program and the facilities have been certified by Eurovent Certita Certification.

Air flows from 1950 m^3/h to 40000 m^3/h



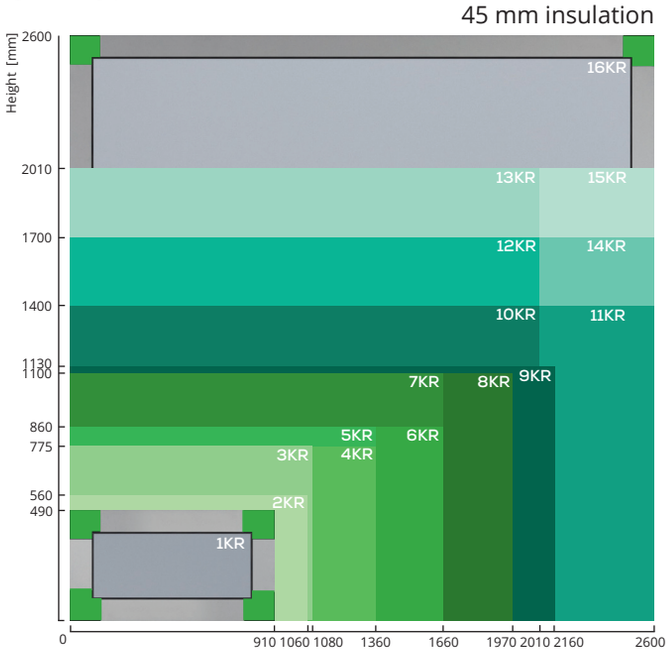
MAINTAINED COMFORT WITH LOW
ENERGY AND MAINTENANCE COSTS

In accordance with Part 1 of VDI 2089, a temperature of 30-34^0 C and relative air humidity of 40%-64% must be maintained at the swimming pool premises. Since the required air temperature is almost always higher than the outdoor temperature, heat return as well as dehumidification and recirculation of the present air are required for optimum use of energy resources. Counter-flow plate heat exchanger returns up to 95% of the exhaust air heat, meanwhile simultaneous operation of heat pump results in maximum efficiency of even up to 140%. Whereas steady recirculation is maintained at the swimming pool premises, we offer choosing the latest low-energy EC and PM fans. The smart control system selects an optimum ventilation mode based on external parameters in this way saving up to 30% of electricity and thermal energy. The unit is easy to maintain and the components can be removed easily for cleaning or replacement, thus minimizing maintenance and servicing costs.

Before choosing the unit, you are welcome to check its energy consumption on a free LCC module, which is available on selection program VentMaster!

AVAILABLE
SIZES:

45 mm insulation



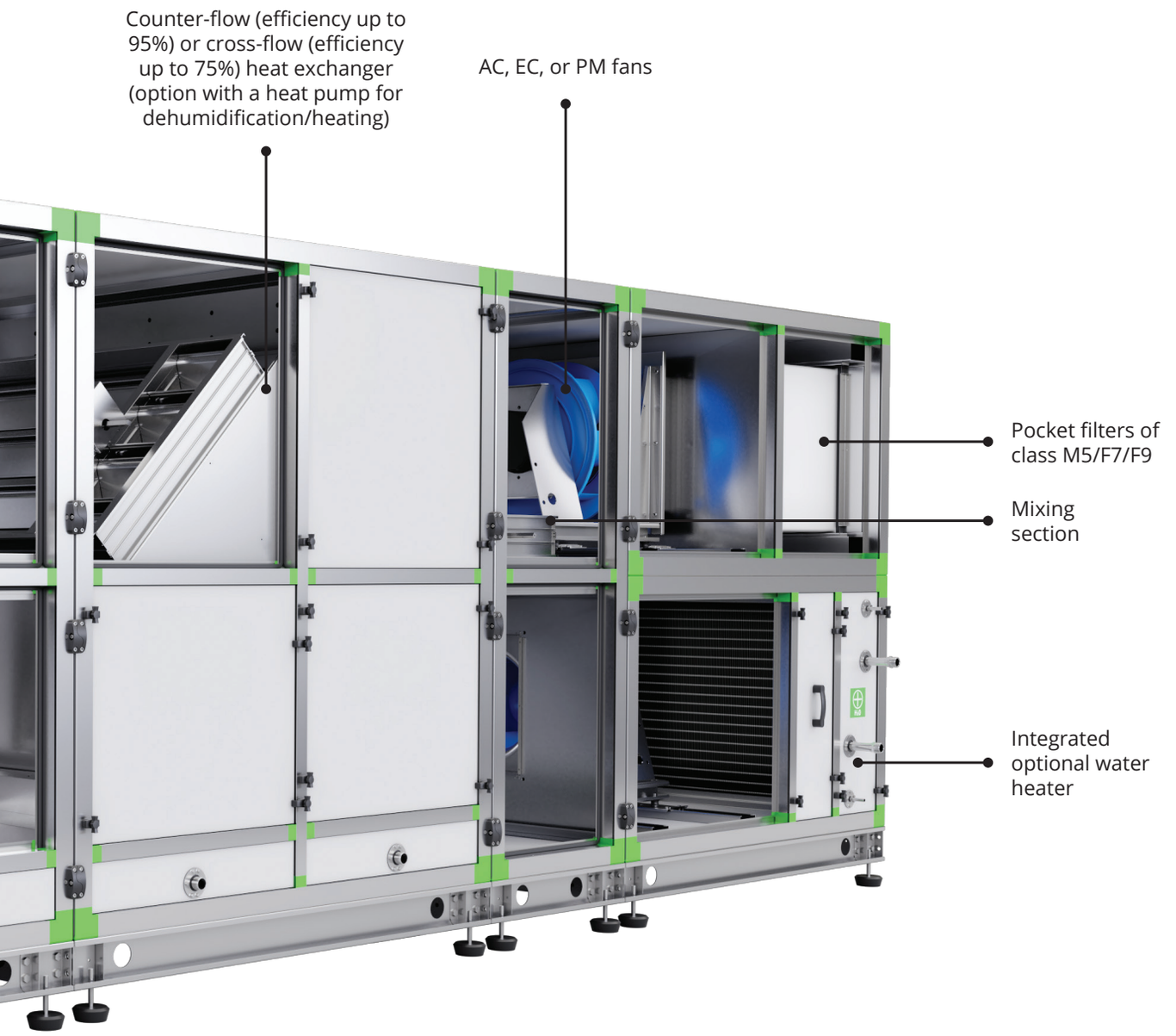
EUROVENT CERTIFIED PERFORMANCE
AHU N°: 13.09.004
Range: AmberAir
www.eurovent-certification.com

CORROSION-RESISTANT DESIGN
AND AVAILABLE OPTIONS

TECHNICAL CHARACTERISTICS
OF CASING SW50+*

Model	Casing strength class	Casing air leakage class at -400 Pa	Casing air leakage class at +700 Pa	Filter bypass leakage class	Thermal transmittance class	Thermal bridging factor class
SW50+	D1(M)	L1(M)	L1(M)	F9(M)	T2	TB1

* - It is planned to introduce additional profiles from mid QII 2018: with mineral wool or with PU insulation and with or without a thermal bridge.



CHARACTERISTICS
OF THE DESIGN

› Structural components are made of AZ185 – corrosion resistance class C4;
› Internal panel walls are made of AZ185 or AISI 304 – AISI 316;
› Drip trays are made of AISI 304 or AISI 316;
› Components (heat exchanger, heating-cooling elements, compressor) are made of aluminium or covered with epoxy coating;
› Dampers are equipped with actuators designed for swimming pools (IP 66);
› Casing profile is made of anodised aluminium;
› Control unit installed on the door in order to protect components from corrosion.

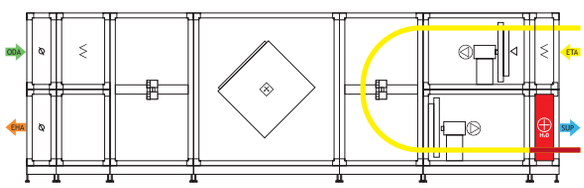
USER-FRIENDLY CONTROL
MODES

Good microclimate at swimming pool premises is ensured by using automatic programs, which are activated depending on input and environment parameters.

PROGRAMS FOR AN AIR HANDLING UNIT
WITHOUT A HEAT PUMP:

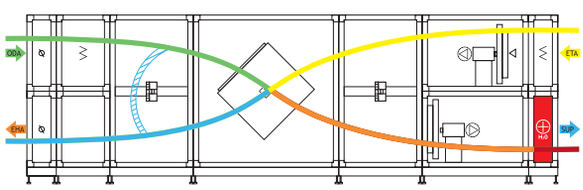
Program P1

Flow – all air is taken only from the inside, only one (supply) fan works, 30% of the flow.
The Program is used at night time, when no people are at the swimming pool. There is no need for supplying the air from the outside, when there are no people at the swimming pool, i.e. no energy is wasted on heating. The air is extracted from the swimming pool, if necessary, it is heated, and returned to the swimming pool. Operation of this Program requires minimum energy consumption in order to make sure that air would not set in at the swimming pool premises and a constant temperature would be maintained.



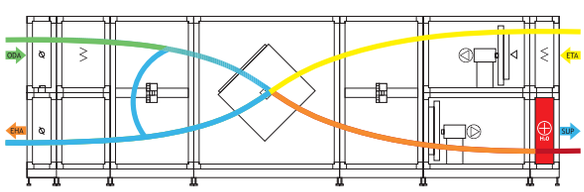
Program P2

Flow – from 30% to 100% of air from the outside.
The Program is used during the day, when the humidity level is high, at the swimming pool premises, when people are at the swimming pool. Up to 100% of air may be supplied from the outside based on the required level of dehumidification (the air becomes drier, if more air is supplied from the outside. This applies when the temperature is under +25°C). The air from the outside mixes with a portion of the air indoors, it is pre-heated and dehumidified in the heat exchanger and additionally heated in the heater. This Program ensures efficient reduction of humidity.



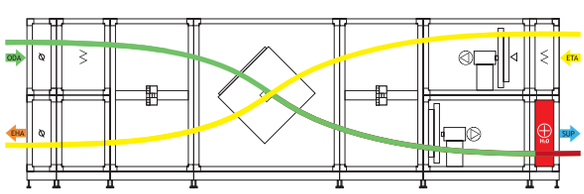
Program P3

Flow – 30% of air from the outside.
The Program is used during the day, when people are at the swimming pool. The air from the outside mixes with a portion of the air indoors, it is pre-heated and dehumidified in the heat exchanger and additionally heated in the heater. This is the main mode which ensures a good level of dehumidification, sufficient amount of fresh air (based on the standards of hygiene) and a part of energy is saved.



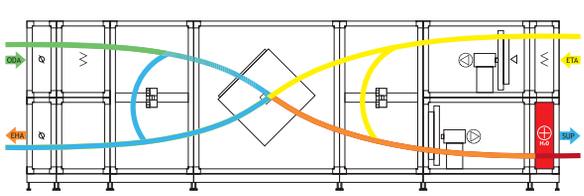
Program P4

Flow – 100% of air from the outside, through the by-pass.
The Program is used in summer, during the day, when people are at the swimming pool. No heat exchange takes place because of the small temperature difference outdoors and indoors, thus the entire flow goes through the by-pass.



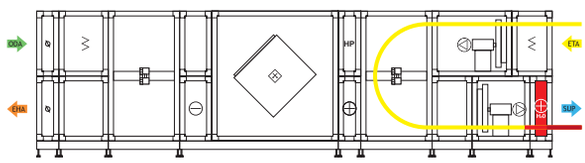
Program P5

Flow – cyclically: 30% of air from the outside; 30% of air is returned through the heat exchanger (it is dehumidified and warmed); 40% of air is returned directly.
The Program is used during the day, when the humidity level is low, at the swimming pool premises, when people are at the swimming pool. A portion of the extracted air is dehumidified in the heat exchanger and is mixed with the fresh air, then this air is additionally heated in heat exchanger and mixed with a portion of warm and humid air extracted from the swimming pool and, if necessary, additionally heated with the heater.
This Program ensures the required amount of fresh air, helps maintaining the required level of air humidity at the swimming pool premises and saves a lot of energy.

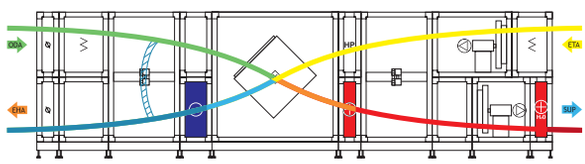


PROGRAMS FOR AN AIR HANDLING UNIT
WITH A HEAT PUMP

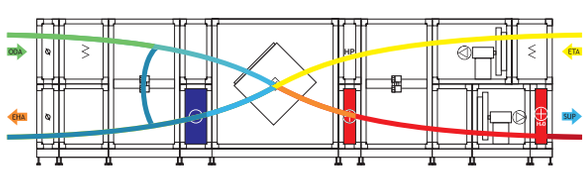
Program P1.1
Flow – all air is taken only from the inside, only one (supply) fan works, 30% of its capacity.
The Program is used at night time, when no people are at the swimming pool. There is no need for supplying the air from the outside, when there are no people at the swimming pool, i.e. no energy is wasted on heating. The air is extracted from the swimming pool, if necessary, it is pre-heated and returned to the swimming pool. Operation of this Program requires minimum energy consumption in order to make sure that air would not set in at the swimming pool premises and a constant temperature would be maintained. The heat pump is not operated in this Program.



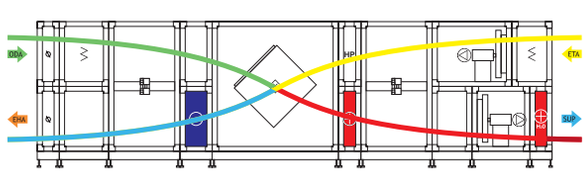
Program P2.1
Flow – from 30% to 100% of air from the outside.
The Program is used during the day, when the humidity level is high, at the swimming pool premises, when people are at the swimming pool. Up to 100% of air may be supplied from the outside based on the required level of dehumidification (the air becomes drier, if more air is supplied from the outside. This applies when the temperature is under +25°C). The air from the outside mixes with a portion of the air indoors cooled down with the HP, it is pre-heated and dehumidified in the heat exchanger, pre-heated with the HP, and, if necessary, additionally heated in the heater. This Program ensures the required amount of fresh air, helps maintaining the required level of air humidity at the swimming pool premises, and reduces energy consumption because of high efficiency of the HP.



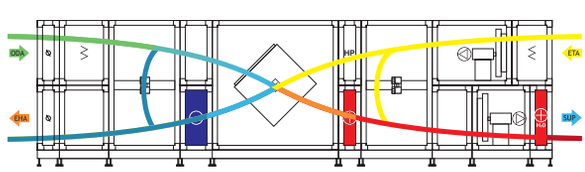
Program P3.1
Flow - 30% of air from the outside.
The Program is used during the day, when people are at the swimming pool. This is the main mode which ensures a good level of dehumidification, sufficient amount of fresh air (based on the standards of hygiene) and a part of energy is saved. The air from the outside mixes with the air indoors cooled down with the HP, it is pre-heated and dehumidified in the heat exchanger, heated with the HP, and, if necessary, additionally heated in the heater. This Program ensures the required amount of fresh air, helps maintaining the required level of air humidity at the swimming pool premises, and reduces energy consumption because of high efficiency of the HP.



Program P4.1
Flow - 100% of air from the outside, through the by-pass.
The Program is used in summer, during the day, when people are at the swimming pool. No heat exchange takes place because of the small temperature difference outdoors and indoors, thus the entire flow goes through the by-pass. The HP works, only if it is necessary to pre-heat the supplied air.



Program P5.1
Flow – cyclically: 30% of air from the outside; 30% of air is returned through the heat exchanger and HP (it is dehumidified and warmed); 40% of air is returned directly.
The Program is used during the day, when the humidity level is low, at the swimming pool premises, when people are at the swimming pool. A portion of the extracted air is dehumidified in the heat exchanger and with the heat pump and mixed with the fresh air, then this air is additionally heated in heat exchanger and with the heat pump and mixed with a portion of warm and humid air extracted from the swimming pool and, if necessary, additionally heated with the heater. This Program ensures the required amount of fresh air, helps maintaining the required level of air humidity at the swimming pool premises and saves a lot of energy. During the cycle, the HP works when air is being supplied from the outside. The HP does not function when no air is being supplied from the outside.



Program P6.1
Flow - 100% of air from the inside. The heat pump works and dehumidifies the air.
The Program is used at night time, when the humidity level is high, at the swimming pool premises. Warm and humid air from the swimming pool passes through the heat exchanger, then it is cooled down with the HP, pre-heated and dehumidified in the heat exchanger, pre-heated with the HP, and, if necessary, it may be additionally heated with the heater.