



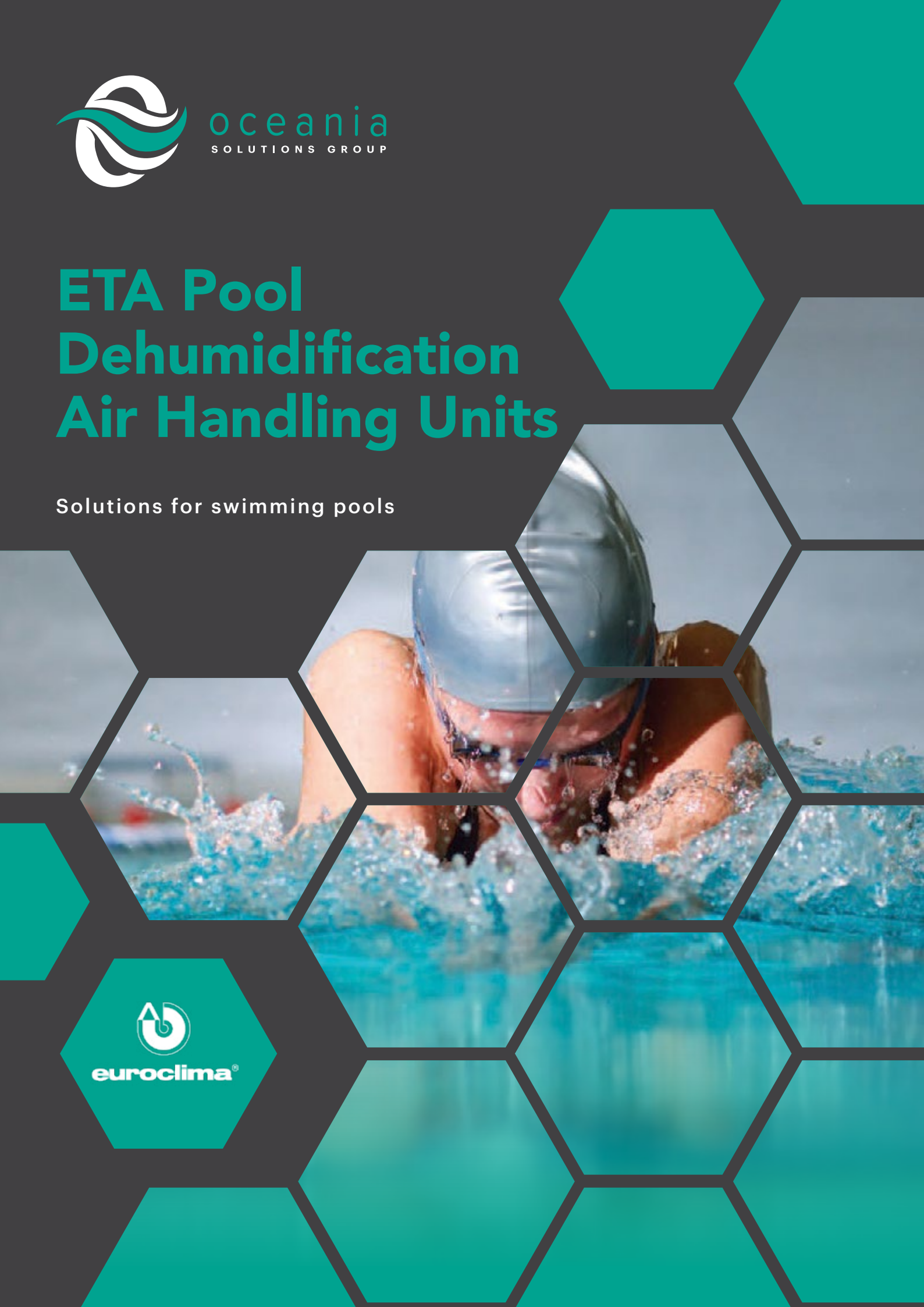
oceania
SOLUTIONS GROUP

ETA Pool Dehumidification Air Handling Units

Solutions for swimming pools



euroclima[®]





Your projects, challenges and requirements are our focus. We have a dedicated team that can engineer tailored solutions for your commercial HVAC application.

Oceania Solutions Group is an Australian owned business that focuses on providing engineered HVAC solutions. We value the importance of relationships with our clients and partners. Our team enjoy collaborating and solving complex 'design and construct' projects for your business with our product solutions.

Oceania Solutions Group are proud of our extensive portfolio and experience within HVAC industry. From industrial applications through to commercial air conditioning installations for tropical and high humidity environments.

Operating throughout Australia, New Zealand and the South Pacific Islands, we provide engineered technical data and commercial support for a wide range of HVAC solutions.

Our experienced team of HVAC professionals work hand-in-hand with market leading suppliers of HVAC solutions and equipment.

With international accreditation from Eurovent, CTI, AHRI, TÜV and AMCA, our products are rigorously tested and certified, meeting Australian and New Zealand standards and regulations.

Partnering with trusted international suppliers, we are available to provide an engineered solution for your next project.



Your best partner for air handling units

Since 1963, Euroclima has been a leader in customised air conditioning and ventilation systems. Our partners develop, manufacture and commercialise high quality air handling products for all applications, from basic comfort to healthcare, process air and installations with highly efficient heat recovery systems.

Euroclima is a company with extensive international operations and five manufacturing facilities in Italy, Austria, India and UAE, with more than 36,000m² of production and offices. They are specialists in the manufacturing and worldwide distribution of air handling units and fan coil units.

Approximately 400 employees are presently employed with a well distributed network of sales and service all over Europe, Asia, Middle East and Northern Africa.

A fully certified system

Euroclima are a part of a number of international certification programs, related to quality, performance, hygiene or energy consumption.



Euroclima participates in the ECP programme for Air Handling Units (AHU) and Fan Coil Units (FCU); Check ongoing validity of certificate: eurovent-certification.com



ISO 9001:2015	No. 03578/0
ISO 14001:2204	No. 02301/0
BS OHSAS 18001:2007	No. 00559/0



It certifies that every unit leaving our production lines is built in accordance with the standards required by the European Union.



CERTIFIED PRESSURE EQUIPMENT MANUFACTURER

TÜV AUSTRIA SERVICES GMBH



Ventilation and Air-Conditioning technology

- ✓ VDI 6022 (07/2011)
- ✓ DIN 1946-4 (12/2008)
- ✓ SWKI VA104-01 (04/2006)
- ✓ ONORM H 6021 (09/2003)
- ✓ ONORM H 6020 (02/2007)

Validity Period: 2012 - 2017



Air treatment for indoor pools

To combat high humidity in enclosed swimming pools, specialised AHUs are required to provide comfort to users and protect buildings.

The air-conditioning system has to operate continuously, and in order to keep energy consumption low a high efficiency unit is required.

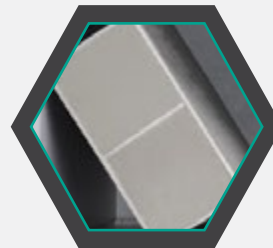
EUROCLIMA air handling units offer the following advantages:

- Optimised operation depending on outside air conditions
- Reduction of humidity inside the room
- Removal of air pollution particles
- Efficient cooling circuit with scroll compressor
- Ecological refrigerant R407C or R410A
- Heat recovery
- Two-stage heat recovery
- Corrosion resistant materials

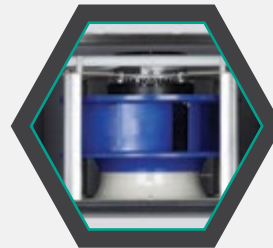
Features

- Optimal comfort
- Energy saving control strategies based on temperatures or enthalpies
- Free cooling and efficient fresh air management with filters M5 and F7 (EN 779)
- Compact, plug and play solution
- High dehumidification efficiency as per VDI 2089
- Pre-programmed, easy to use Siemens DDC controller
- Low energy plug fans with AC and EC motors
- Single or double plate heat exchanger with up to 90% efficiency
- All internal parts corrosion protected
- Unit available compliant to VDI 6022
- 50mm double skin panels
- Casing features: D1/F9/L1/T2/TB2 as per EN 1886
- Easy installation and maintenance
- Low sound levels
- High efficiency integrated heat pump with scroll compressor
- Optional pool water condensor

**ETA
pool spa**



**ETA
pool olympic**



ETA pool spa



Type: Basic

The essential feature of this air handling unit type is that the dry outside air is used to dehumidify the indoor swimming pool, and with the necessary exchange of air reaches a comfortable climate. The core component of the BASIC version is a high efficient double-plate heat exchanger with an efficiency of > 90 %. If necessary, a post-heating coil will reheat the air to the required supply air temperature. Plug fans of the latest generation with EC motors are providing the required air movement. The BASIC version can be used, when no additional cooling machine for dehumidification is required.



Type: Dry

With an additional dehumidifying mode by refrigeration system.

The system DRY builds on the BASIC version and has an additional air circulation system, where a cooling machine provides the necessary dehumidification of indoor air. Dehumidification will be achieved by leading the circulating air through a direct expansion coil.

This circulating airflow is about 70% of the nominal flow rate, so that the best air quality is kept in the room by continuously adding fresh air. The refrigeration machine for dehumidification of indoor air uses the condensation coil heating to heat up the supply air.



Type: Cooling

With an additional dehumidifying mode by refrigeration system and additional summer cooling.

In areas with high outdoor air temperatures it may be necessary to cool and/or dehumidify fresh air in the summer.

To meet these requirements, the version COOLING has been developed. It includes in addition to the BASIC- and DRY-version summer cooling. This is achieved by a reversible refrigeration circuit where the heat is removed by an additional condensing coil located in the exhaust air stream.

ETA pool olympic



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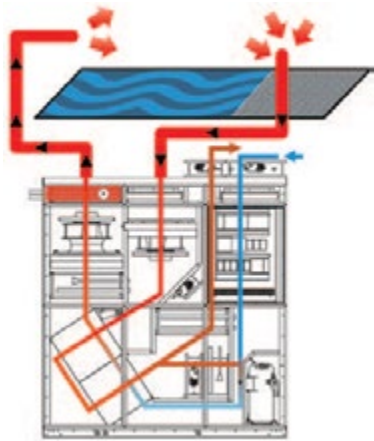


Type: Cooling

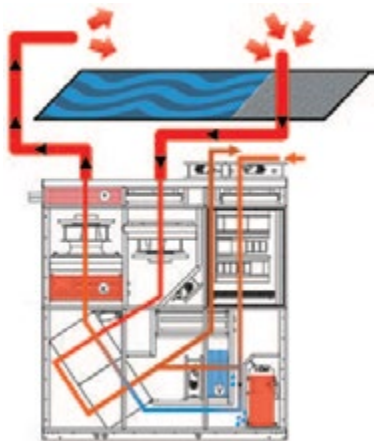
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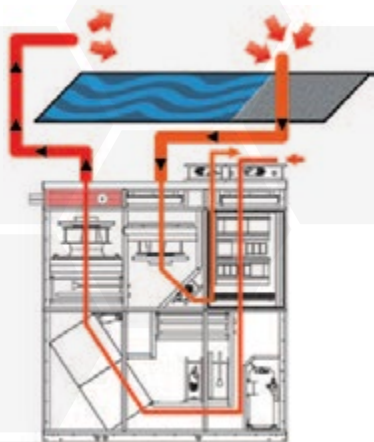
ETA pool spa



Basic+dry+cooling



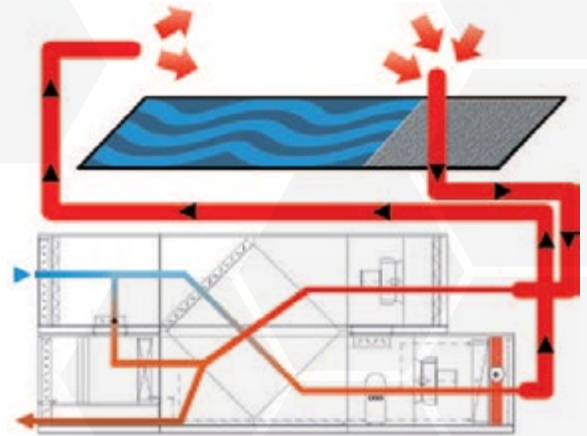
Dry+cooling



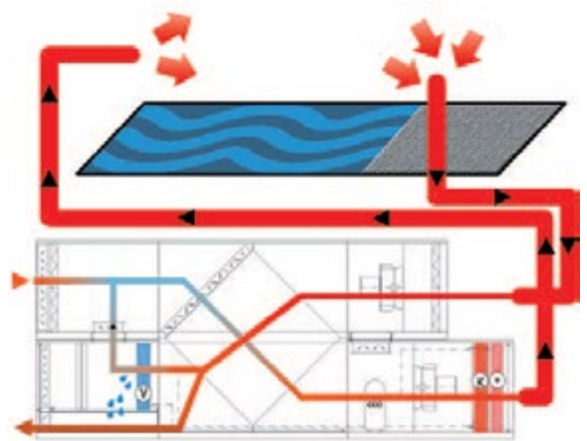
Basic+dry+cooling

K - Condenser
V - Evaporator

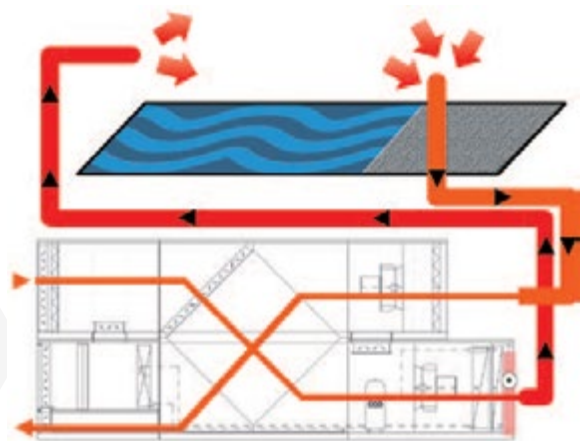
ETA pool olympic



Also available with double plate heat exchanger



Also available with double plate heat exchanger



Also available with double plate heat exchanger

Modes of operation

Air circulation in idle mode / warm up operations

In start-up mode, the control logic will commence warm-up operations by circulating the indoor pool air throughout the Euroclima unit, by-passing the energy recovery system through dampers whilst the system checks all temperatures and selects mode of operation.

In idle mode and in warm up operations, the indoor pool air moving in complete circulation air operation, leading the air through a circulation air damper fitted upstream of the energy recovery system.

Summer operation with moderate outside air temperature

In this mode the indoor air is dehumidified by the refrigeration system and mixed with the necessary fresh air depending on outside conditions. There is a two-stage heat recovery with plate heat exchanger and the refrigeration system, which heats up the supply air through to the condensation heat passing by the condensing coil.

Winter operation

In this mode the air handling unit operates in recirculation mode. Depending on the necessity the required proportion of dry outside air will be mixed in for dehumidification. The heat recovery happens due to the high efficient plate heat exchangers. By the PWW-heater the supply air will be warmed up to a variable SET value. The refrigeration system is not in operation in this operating state.

Summer operation with high outside air temperature

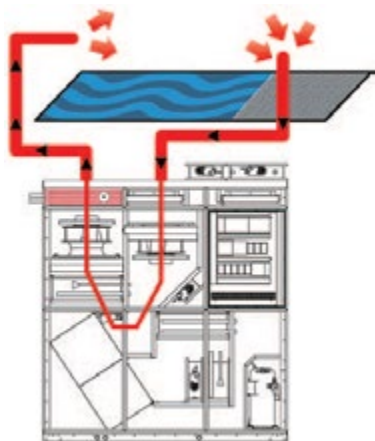
In this mode the amount of air that is blown out from the pool area will be replaced by 100 % fresh air. No recirculation air operation required. In addition, there is no heat recovery which will be bypassed by the bypass-damper. The lower moisture content of air in the fresh air dehumidifies the indoor swimming hall. If necessary, the supply air will be heated up to variable SET value post-PWW-heater.

Summer cooling

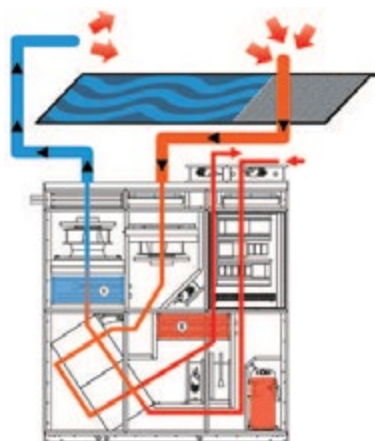
In this mode the air handling unit works with 100% outside air cooled down and dehumidified by a reversible refrigeration circuit. The resultant heat is carried off through an additional condensing coil in the exhaust air flow.



ETA pool spa



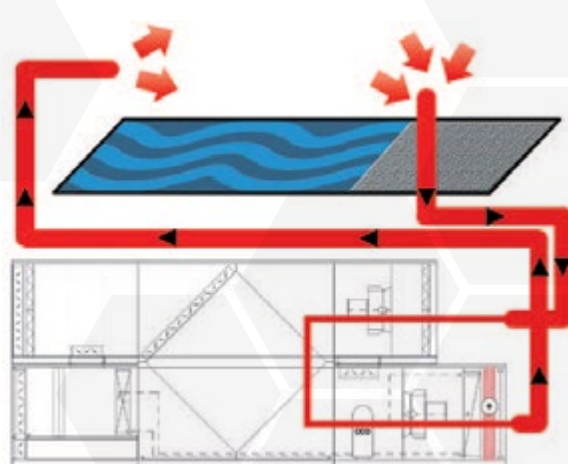
Basic+dry+cooling



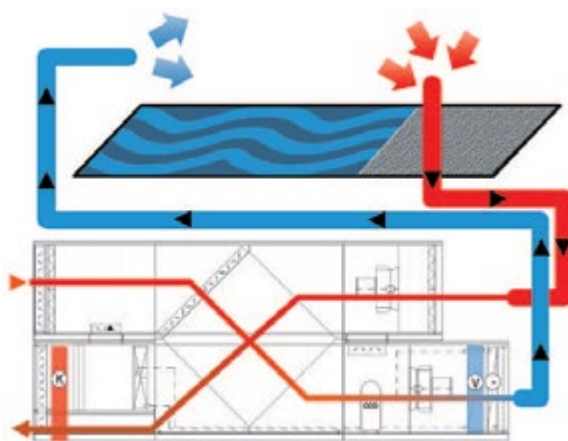
Cooling

K - Condenser
V - Evaporator

ETA pool olympic



Also available with double plate heat exchanger



Also available with double plate heat exchanger

Casing

Housing is assembled with self supporting modular panels based on the ZHK design which is Eurovent certified and with sections along the upper sides of the square unit. Inside and outside walls are completely smooth. The construction of the inner and outer skin gives a 50mm thick double skin panel. Insulation fixed between the panel skins for maximum acoustic and thermal insulation. Certified data of AHU casing conform to EN 1886 (MB):

- Mechanical stiffness of AHU casing: class D1
- Air tightness of casing at -400 Pa: class L1
- Air tightness of casing at +400 Pa: class L1
- Thermal conductivity of casing: class T2
- Heat bridge factor of casing: class TB2

Panel execution

Inner skin: 1,0 mm galvanized sheet coated for corrosion protection. Outer skin: 0,7 mm galvanized sheet with surface coating in white plastic type A47SME for additional corrosion protection and optical design. The thickness of the coating is approx. 130 µm. Guides made of galvanized coated steel or aluminium. Large dimensional access doors in same thickness and execution as panel, adjustable hinges, and door frame made of aluminium, special rubber seal with welded corners, with safety handles.

Damper

Damper for horizontal or vertical mounting with aerofoil blades made of aluminium with rubber seal. Frame with flange made of galvanized steel sheet. Seat of the blades and transmission gears made of plastic PP/PPS resistant to corrosion and temperature. Electric driven actuation of the damper.

Fans

Impeller optimized for operation without volute casing. The blades are designed to achieve a high efficiency coupled with a low noise level. Surface powder coating in RAL 7032. Directly-driven radial fans with no energy losses and no maintenance. The motors are built in compliance of norm EN 55011 against radio frequency emissions.

Air filters

Air panel filters for supply and exhaust air.

Plate heat exchanger

Double plate heat exchanger designed as a cross-flow heat exchanger made of aluminium foils, plates separately formed and bonded cross-wise on top of each other forming an air-tight seal. Floor designed as condensate tray PVC coated. The section includes inspection apertures for any inspection and maintenance work.

Cooling section

Heat pump with scroll-compressor (digital scroll optional), air cooled condenser, direct evaporator with pre-coated aluminium fins. The refrigeration system uses refrigerant R407C or R410A. The system includes; compressor, refrigerant dryer, inspection glass, thermostatic expansion valve and refrigerant control.

Anti-vibration mounting and flexible refrigerant piping are used to stop transmission vibration.

Heating section

Hot water heating coil made of copper tubes and aluminium fins, steel header and pipe connections on the service side. 3-way valve control will be fitted on site. The heating coil is EUROVENT certified, in compliance with "Rating standard 6/C/005-2009".

Control functions

- Optimal operation mode selection due to energetic aspects
- Temperature and humidity control for swimming pool & spa areas
- Automatic fresh air admixing
- Control of evaporator and condenser pressure
- Day & week scheduler with exception program
- External contacts for heating and cooling batteries
- Filter control
- Supply and control for primary heating water pump and mixing valve
- Summer compensation
- Failure visualisation

Control components

Complete automatic free programmable DDC-Control with external display for the whole control and monitoring of all operation conditions and components. All components which are required for control and protection are implemented inside the control panel: Main switch, circuit breakers, motor overload switches, control loop and all clamps for main supply and external components. All functions and operation modes are see- and choose able with the display. Different control strategies for air flow, temperature, humidity and air quality are available.

Optional equipment ETA pool, spa & olympic

- 3-way valve with electric servomotor for heating battery
- External damper: control and supply (air flow damper, zone damper)
- Flexible connection tube for supply, return, fresh and exhaust air
- Air flow control with duct pressure
- Room unit for remote control of the AHU
- Communication modules for BMS: Modbus RTU, BAC Net IP, BAC Net MS/TP, LON and potential free hardware contacts
- Commissioning with acceptance of the AHU
- Maintenance: annual maintenance of the AHU corresponding to maintenance guide of the manufacturer
- Digital scroll compressor

Optional equipment ETA pool olympic

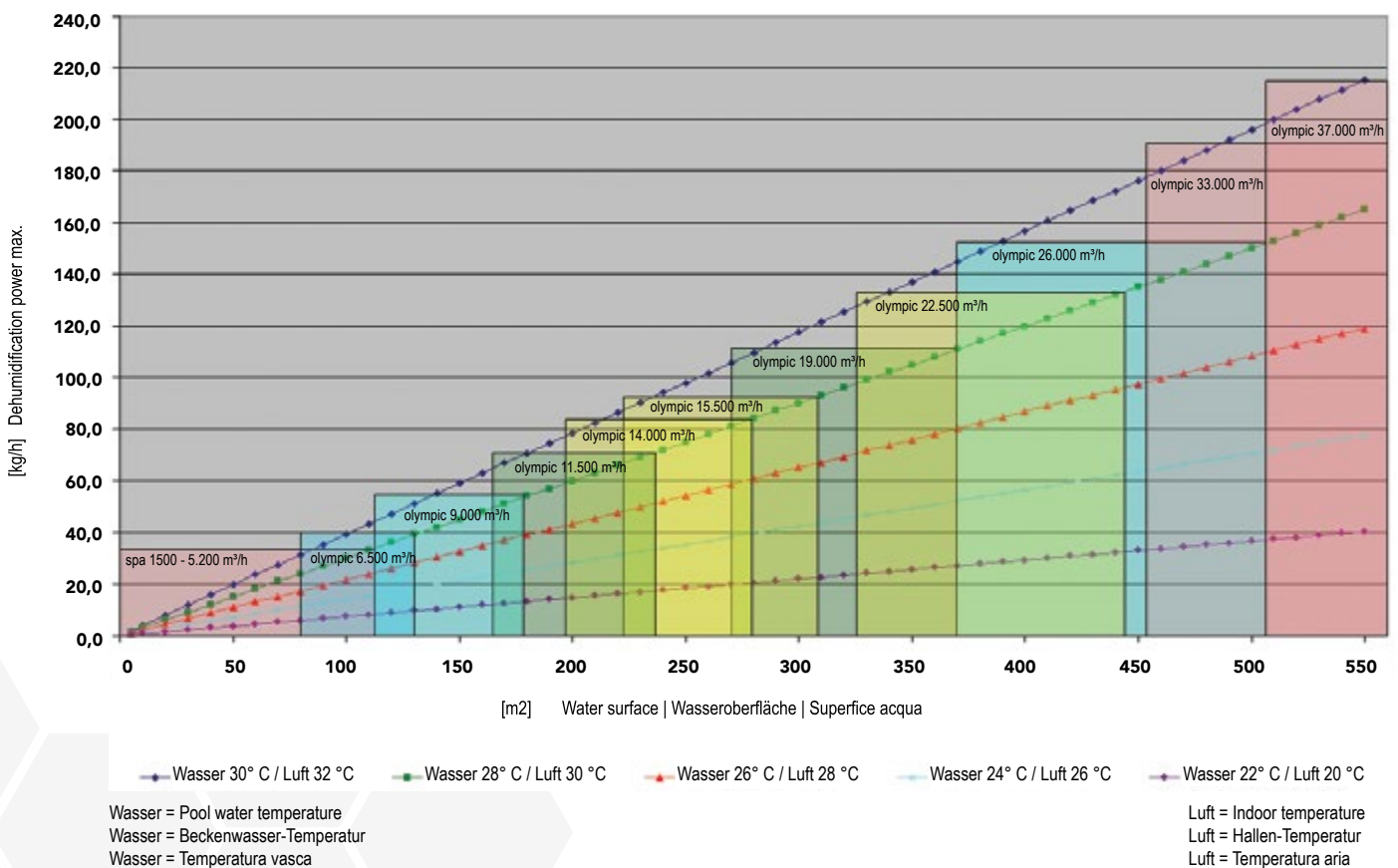
- Basin water condensator: for preheating of basin water with an additional plate heat exchanger
- Sanitary water condensator: see basin water condensator
- Bag filter: fine dust bag filter (M5 to F9) corresponding to DIN EN 779 for maximum hygienic requirements (DIN EN 13779)
- Vibration sensor: control of faultless fan operation
- Filter sensor: decrease in pressure in every operation mode viewable in the display
- Electrical heater for pre-heating

ETA Pool		ETA Pool				Olympic											
Type	m³/h	1.500	2.500	3.500	5.200	Type / Version	6.5	9.0	11.5	14.0	15.5	19.0	22.5	26.0	33.0	37.0	
Size		XS	S	M	L		12/9	15/9	18/9	18/12	21/12	24/12	24/15	27/15	30/15	30/15	
Length	mm	1.830	1.830	1.830	2.135	Basic	6.252,5	6.710	6.862,5	7.472,5	7.015	7.777,5	8.540	8.387,5	9.912,5	9.912,5	
							Dry	6.862,5	7.320	7.472,5	8.082,5	7.625	8.387,5	9.150	9.150,0	10.522,5	10.522,5
							Cooling	7.167,5	7.625	7.777,5	8.387,5	7.930	8.692,5	9.760	9.912,5	10.980,0	10.980,0
Width	mm	710.000	862,5	1.167,5	1.320	1.320	1.625	1.930	1.930	2.235	2.540	2.540	2.845	3.150	3.150	3.150	
Height	mm	1.785	2.087,5	2.087,5	2.242	2.090	2.090	2.700	2.700	2.740	3.350	3.350	3.350	3.350	3.550	3.550	
Weight	mm	495.000	600.000	758.000	833.000	Basic	1.717	2.202	2.511	3.032	3.556	4.885	5.744	6.109	8.130		
							Dry	2.107	2.693	3.087	3.654	4.341	5.881	6.872	7.627	9.327	8.303
							Cooling	2.319	2.957	3.403	4.024	4.758	6428.000	7.699	8.681	10.234	10.046
							2.319	2.957	3.403	4.024	4.758	6428.000	7.699	8.681	10.234	11.033	

We reserve the right of technical modifications relating to product improvement without notice.

- Outside dimensions basic unit without dampers and flexible canvas

ETA pool spa





Characteristics of ETA POOL/SPA units



Optimal comfort



Energy saving control strategies based on temperatures or enthalpies



Free cooling and efficient fresh air management with filters M5 and F7 (EN 779)



Compact, plug and play solution



High dehumidification efficiency as per VDI 2089



Pre programmed, easy to use Siemens DDC controller



Low energy plug fans with AC and EC motors



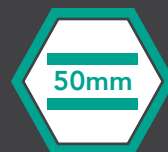
Single or double plate heat exchanger with up to 90% efficiency



All internal parts corrosion protected



Unit available compliant to VDI 6022



50mm double skin panels



Casing features: as per EN 1886 D1/F9/L1/T2/TB1 optional



Easy installation and maintenance



Low sound levels



High efficiency integrated heat pump with scroll compressors



Optional pool water heating from the condenser



Cairns Aquarium
Queensland



Christchurch
Entertainment Centre
New Zealand



Toyota Altona
Victoria



Sydney Airport
New South Wales



Brisbane Airport
Queensland



Toowoomba Grand
Central
Queensland

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