

Menerga TX ThermoCond

Energy-efficient & comfortable indoor
climate **for small swimming pools**



AIR QUALITY

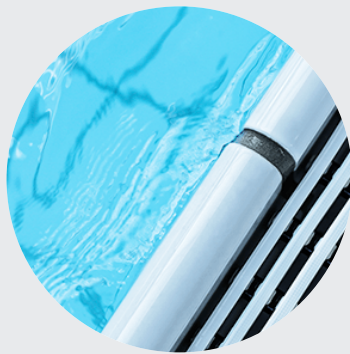
Why are ventilation and dehumidification so important in a swimming pool?

- Comfort
- Hygiene
- Building protection

Air quality is key.

A private wellness area - the dream of many people: A personal retreat for yourself, family and friends within your own four walls. For us at Menerga, the focus is on providing clean and efficient indoor air

while protecting the most important thing - you. At Menerga, we have been developing innovative solutions for the ideal climate for decades.



Hygiene: With water evaporation, disinfection by-products of water treatment enter the air. The amount of these airborne by-products must be recorded and controlled, and a corresponding amount of fresh air must be introduced into the pool. The humidity as well as other airborne contaminants are carried out of the swimming hall with the exhaust air.



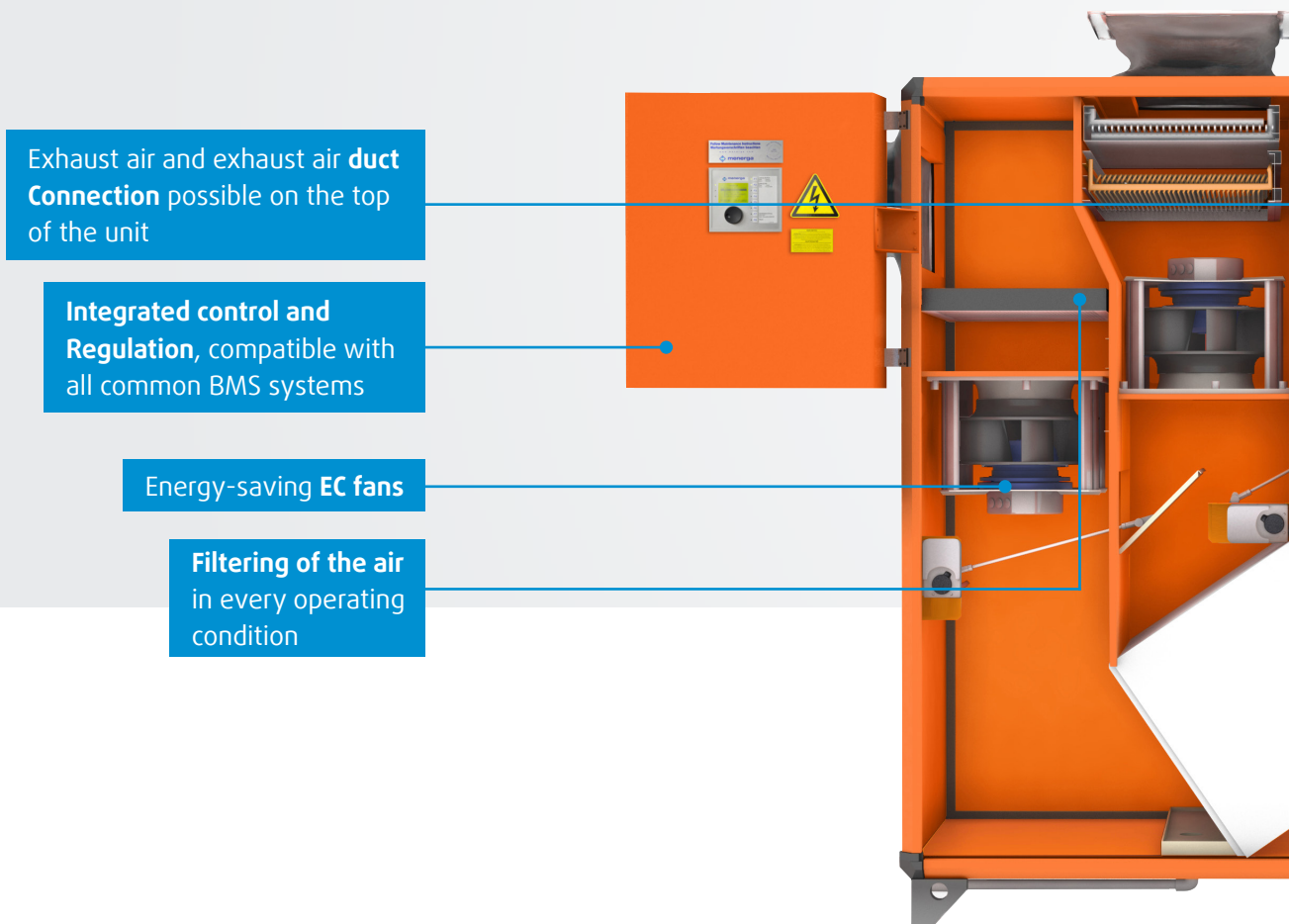
Building protection: Air quality control and intelligent air distribution are essential for protecting the building structure of the swimming pool hall in order to avoid an aggressive environment. This way, the owner can sit back and relax and enjoy an oasis of well-being without any worries.



Comfort: Room temperature and humidity have a decisive influence on the feeling of comfort. To meet the requirements of the owners and due to constant water evaporation, systems for swimming pool hall dehumidification are essential.

THERMOCOND TX: ALL-IN-ONE

Dehumidification, Ventilation and heating



Exhaust air and exhaust air duct
Connection possible on the top
of the unit

**Integrated control and
Regulation**, compatible with
all common BMS systems

Energy-saving **EC fans**

Filtering of the air
in every operating
condition

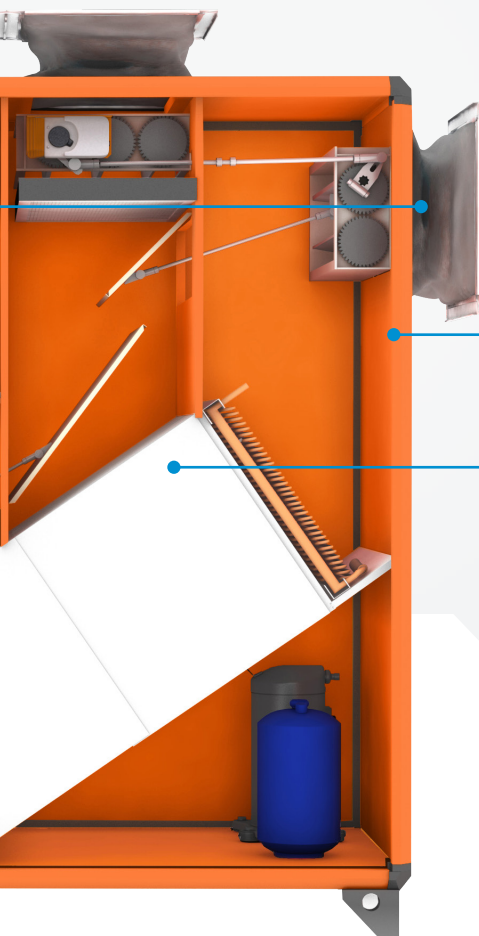


MSR (measurement, control and regulation technology) - The intelligent control and regulation guarantees that the system works perfectly and economically at all times.



Compact design: The compact design enables easy installation in the technical room. If required, the units can be split approximately in the middle for installation.

Air volume flow:
770 - 3.500 m³/h



Compact design for minimal space requirement

Dual heat recovery with **cross-counterflow heat exchanger** made of 100% recyclable, corrosion-free polypropylene



All-in-One: Complete unit ready for connection, contains all components for conditioning the indoor swimming pool air, including all switching and control elements. Optimum operation and maximum energy efficiency are thus ensured.



Flexibility - Do you need a system that is tailored exactly to your needs? We have the solution. There are optional accessories for the ThermoCond TX that provide an energy-efficient solution for every application.



Awareness of energy consumption and cost savings when using Menerga is an important factor. Sustainability is the future. Your energy saving is our goal - helping you to achieve it is our job.

IDEAL SOLUTION FOR YOUR BUILDING

Save energy and relax at the same time



Cross-counterflow heat exchanger: A unit with a recuperator achieves a high degree of heat recovery and can thus recover a large part of the energy from the indoor swimming pool air. As a result, the ventilation heat loss and also the energy requirement for dehumidification can be significantly minimised. This saves you resources and energy costs.



Cross-counterflow heat exchanger + Heat pump: When selecting a system, the use of an integrated heat pump can be useful, as this can contribute to an increase in the overall efficiency of a swimming pool dehumidifier.



Pool water condenser

To increase the overall efficiency, units with a heat pump can be optionally equipped with a pool water condenser. In this way, surplus heat can be used to heat the pool water.

Domestic heat pump

An existing house heat pump can also be used energy-efficiently to heat the air. In this case, the house heat pump is connected to the integrated pump hot water heating coil.

RECYCLABLE AND AGE-RESISTANT

Facts about our Heat exchanger



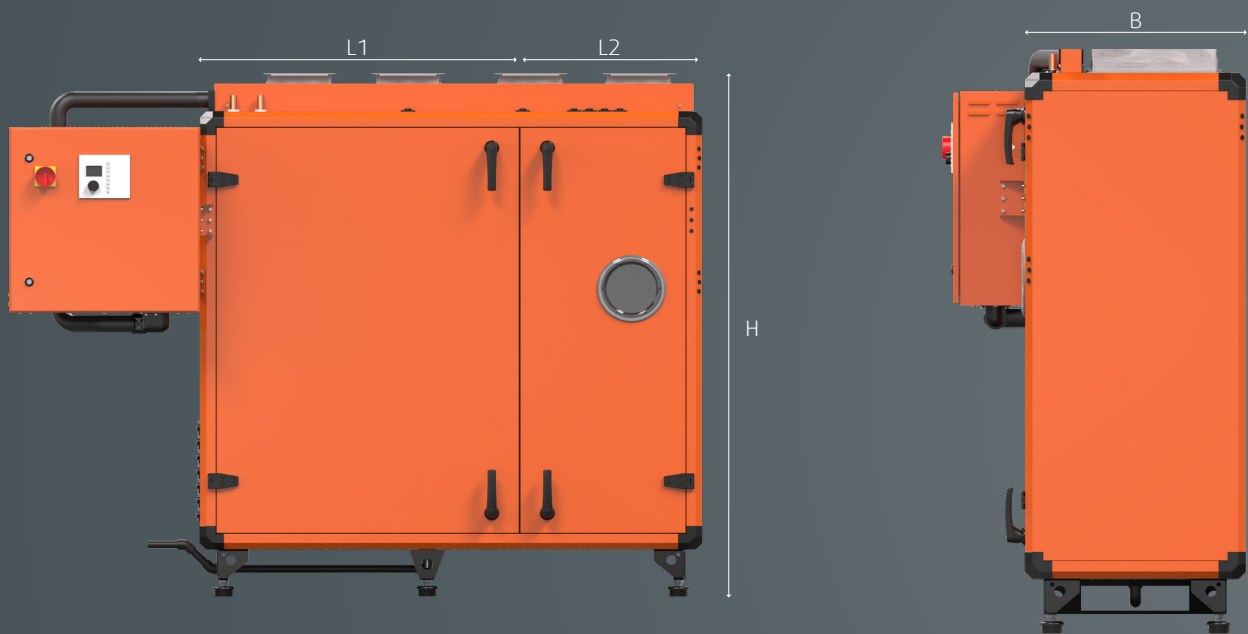
Polypropylene (PP) is a thermoplastic that is ideally suited for use in air conditioning and ventilation technology. Free of toxic substances and groundwater-neutral. Polypropylene has a high resistance to many types of acids, alkalis, salts and solvents.

A sustainable material: Highly resistant to corrosion and ageing, it is not microbiologically metabolisable and therefore provides no basis for the growth of germs or algae deposits. Its production causes significantly fewer CO2 emissions than the alternative material aluminium and is also easy to recycle.

UNIT MEASUREMENTS

Compact sizes with best in class performance

Measurements for the **Unit**:



Unit size	L1	L2	B	H	Weight	Weight (HP)
10	887	686	615	1.635	315 kg	391 kg
15	887	686	775	1.635	353 kg	410 kg
20	890	843	775	1.955	405 kg	470 kg
25	890	843	935	1.955	456 kg	514 kg
35	890	843	1.255	1.955	577 kg	639 kg

Measurements for the **Control cabinet**:

The control cabinet has dimensions of **600 x 600 x 200 mm (L x H x W)** for **all unit sizes**. This can be mounted on the right or left side of the unit or on the wall. Thanks to this flexibility, you can make the best possible use of the given space.

The information contained within this catalog and the functions offered are intended to provide information about products available for purchase from Menerga. All reasonable efforts have been made to ensure the accuracy of the information. However, Menerga cannot be held responsible for any errors. Menerga reserves the right to make changes to the catalog and its functions at any time without notice.

ACHIEVING PERFECT CONDITIONS

Technical data

with **cross-counterflow heat exchanger**

Unit size		10	15	20	25	35
Optimum flow rate	m ³ /h	770	1,020	1,380	1,730	2,420
Optimal volume flow at nominal density	m ³ /h	740	990	1,330	1,670	2,330
Dehumidification capacity according to VDI 2089	kg/h	4.7	6.2	8.4	10.6	14.8
Percentage of heat recovery ¹	%	93.0	93.0	93.1	93.2	93.2
Heat recovery efficiency according to EN 308	%	73.1	73.2	73.1	73.1	73.0
Total electrical power rating ²	kW	0.50	0.58	0.84	0.95	1.60
Max. current consumption ²	A	3.2	3.2	3.8	3.8	7.6
Operating voltage		3 / N / PE 400 V 50 Hz				
Sound power level ³						
Acoustic pressure at a distance of 1 m from the unit ³	dB(A)	57	55	55	50	57

with **cross-counterflow heat exchanger + heat pump**

Unit size		10	15	20	25	35
Optimum flow rate	m ³ /h	1,100	1,500	2,000	2,500	3,500
Optimal volume flow at nominal density	m ³ /h	1,040	1,420	1,890	2,370	3,310
Dehumidification capacity according to VDI 2089	kg/h	6.7	9.2	12.2	15.3	21.4
Percentage of heat recovery ¹	%	89.0	88.8	90.5	90.4	90.4
Dehumidification capacity in recirc mode	kg/h	5.0	5.7	7.0	9.1	13.1
Total electrical power rating ²	kW	2.30	2.24	3.33	3.73	5.72
Max. current consumption ²	A	7.4	7.4	8.9	10.1	17.6
Operating voltage		3 / N / PE 400 V 50 Hz				
Sound power level						
Acoustic pressure at a distance of 1 m from the unit ³	dB(A)	58	54	54	51	56
Integrated heat pump						
Heating capacity ⁴	kW	6.4	7.2	8.8	11.1	15.8
Verdichteraufnahmeleistung ⁴	kW	1.5	1.3	1.8	2.0	2.9
Coefficient of performance (COP) ⁴	COP	4.3	5.5	4.9	5.6	5.4

Specifications of technical data relate to the optimum flow rate and return air condition 30° C / 54 % r.h., outside air condition 15° C / 84 % r.h.

¹ - With outside air conditions -12° C / 90% rh as well as a reduced proportion of outside air (according to VDI 2089)

² - Depends on configuration of control system/unit

³ - At 250 Hz mid-band frequency

⁴ - Dehumidifying in recirc mode without PWC



Perfect comfort climate thanks to professional advice

We will be happy to advise you on the ideal air climate for your dream swimming pool. In the technical data and explanations we refer to examples, if you need a detailed design, please contact us:

mypool@menerga.com



What are our design recommendations for pool hall ventilation?

- Ventilation rate 10 l/s per m² pool and wetted area
- Air circulation rate 4 - 6 air changes per hour
- Hydrotherapy pools recommend 10 air changes due to higher temperatures
- Pool hall temperature min. 1 °C > pool water temperature
- Pool hall humidity 50 - 70 % r.h.



Photo: T. Philippi

Modern private pool

Application: Modern private swimming pool with three-sided panorama glazing.

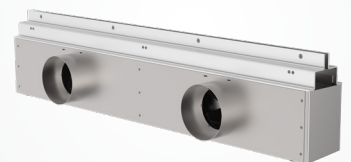
The challenge in this project: In addition to the usual design criteria for dehumidification, ventilation and heating of the swimming hall, the freedom from fogging of the glass fronts was a decisive factor in the design. The great view is guaranteed at all times of the day and night thanks to the ideal room climate and optimum air circulation.

The solution: ThermoCond from Menerga is supplied as standard with a summer bypass for free cooling and multi-stage heat recovery. Free cooling adds cool outdoor air from the shady side of the building and lowers the indoor temperature cost-effectively. An integrated heat pump ensures energy-efficient operation. The extract air is dehumidified and the recovered evaporative heat is raised to a higher temperature level to heat the supply air or water.

Slot diffuser: The fresh and heated supply air is introduced via the built-in slot diffusers in the floor. This ensures optimal airflow and thus provides for misting-free windows.



Follow-up model:
ThermoCond TX



Slot diffuser embedded
in the floor

CONTACT

We look forward to hearing from you!

We will be happy to advise you on the ideal air-conditioning technology for your dream swimming pool. So you always reach the right ones.



mypool@menerga.com



+49 (0)208 9981-0



info@menerga.com



[linkedin.com/company/menerga-gmbh/](https://www.linkedin.com/company/menerga-gmbh/)

Direction



Alexanderstraße 69
45472 Mülheim an der Ruhr
Germany

Austria - Belgium - Czech - Denmark - Hungary - Spain - Estonia - Finland
France - Germany - Greece - Croatia - Italy - Luxembourg - Latvia
Netherlands - Norway - Poland - Russia - Sweden - Switzerland - Slovakia
Slovenia - Serbia - Lithuania / Belarus - United Kingdom