



optima pool AUL

Air handling technology for indoor swimming pools





WE DELIVER SUSTAINABLE SOLUTIONS

ALL FROM ONE SOURCE

Long-standing quality

Having initially specialised in burners, we have evolved over more than 90 years to become a full-range supplier of heating and air handling equipment – connected by intelligent control technology. Thanks to our knowledge of all energy sources, we can find the best solution for your property. With all components perfectly matched, bösch systems are both convenient and reliable. Because we don't just offer products, but sustainable solutions!

A family business with vision

We are aware of our responsibility as an owner-managed, Austrian family business and are committed to the cause of a liveable environment – now and in the future. By growing at a sustainable level, we ensure we are a reliable partner for our customers and employees, through the generations.

Personal, local and ready to go

Useful services complete our portfolio. Our service team is made up of trained employees with many years of experience in the heating and air handling sectors. More than 230 technicians are at your service 24 hours a day, 365 days a year. Just pick up the phone – you can depend on us to reach you quickly. Our technicians carry all commonly needed spare parts in their service vehicles.



SYSTEM SOLUTIONS – THE BÖSCH WAY

ECONOMICAL, RELIABLE AND GREEN

We have the perfect heating, DHW, air conditioning and ventilation system for every customer. All from one source. After all, convenience and reliability can only be guaranteed when the individual components are matched to one another.



bösch ventilation and air conditioning units **deliver, filter, heat and cool the supply air** in compliance with current energy and hygiene standards. The design and production of our high grade ventilation systems are based on over 40 years of know-how.



Whether you rely on gas, wood or a heat pump for heating, bösch has the perfect solution for your needs. Enjoy efficient green heat with the various bösch units while saving money through many possible funding options.



Useful services complete our portfolio. Our service team is made up of trained employees with many years of experience. More than 230 technicians are at your service 24 hours a day, 365 days a year.



The bösch building automation department guarantees high operational reliability and low running costs by ensuring the efficient and seamless operation of all of the systems in use at your property.



OPTIMA POOL

EFFICIENT VENTILATION AND AIR CONDITIONING FOR INDOOR SWIMMING POOLS

An indoor swimming pool offers exercise and fun all year round! A pool dehumidifier from bösch ensures a pleasant climate. It is extremely efficient in standby and swim mode and keeps the humidity and air temperature within a comfortable range. The building is also safeguarded against damage from moisture.

bösch indoor pool dehumidifiers:

- With 1 stage heat recovery
- Standardized in 4 air volumes, also available with 2-stage heat recovery on request.
- For private, hotel, leisure and sports pools
- For pools of any size

PHYSICAL CONDITIONS OF AN INDOOR POOL

- Prevention of building damage caused by excessively high humidity levels:
As a preventative measure, relative humidity should be in the range of $40\% < \varphi < 64\%$ in accordance with VDI 2089.
(Recommendation 14,3 g/kg)
- Intelligent air circulation to prevent stagnant air (in corners, etc.)
- Negative pressure in the swimming pool (to protect the building structure in other areas)
- Room temperature 2-3 kelvin above the water temperature



PROTECT, SAVE AND RELAX

THE INDOOR POOL VENTILATION SYSTEM TAKES CARE OF EVERYTHING

Efficient indoor pool air handling

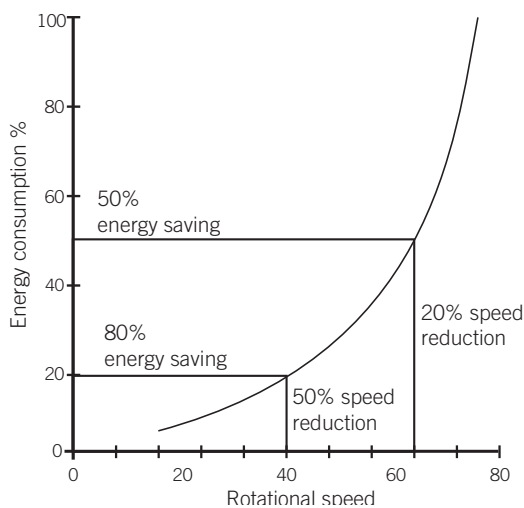
Indoor swimming pools are used for recreation and exercise all year round. Water evaporation from the pool surface, wet areas and the bodies of swimmers increase the humidity of the air around the pool.

An indoor pool dehumidifier from bösch protects the building structure against damage. The physical conditions of the swimming pool as a building structure must be observed when the pool is open as well as when it is closed. The humidity and air temperature during and outside swimming times are kept at a specific value. This value is within a comfort range, as visitors should feel relaxed and at ease in the indoor swimming pool.

No doubt about it – dehumidification is a must!

To avoid the formation of corners with stagnant air in the indoor swimming pool, sufficient air circulation must be ensured. The air circulation in the indoor swimming pool also plays a decisive and important role. The indoor pool dehumidifier is always in operation as long as there is water in the pool.

Optimum energy consumption at a certain speed



ECONOMICAL

- Highly efficient recuperative heat recovery
- Variable speed fans

CONVENIENT

- Optimally matched control unit

LONG LASTING

- Corrosion-protected components promise a long service life

BÖSCH OPTIMA POOL AUL

COMPACT INDOOR SWIMMING POOLS – AIR HANDLING UNITS

Application areas:

Private, hotel and all other regular, indoor, freshwater swimming pools. The control unit is integrated into the optima pool AUL, which uses outdoor air (AUL) to dehumidify your indoor swimming pool. The units are especially suitable for modernisations thanks to the integral control unit (plug & play), compact dimensions and straightforward installation of the various segments. Even small building entry portals do not pose an issue, as bösch offers a tried and tested on-site assembly service as an option.



THE BENEFITS FOR YOU:

- Compact dimensions
- Operating side/supply air optionally left or right
- Supply/exhaust air connectors at the top or front as required
- Air filters in the highest energy efficiency classes (A+)
- High performance heat recovery with high efficiency and bypass, particularly suited to indoor swimming pools
- Efficient EC fans with plastic impellers
- Built-in heat exchanger for heating including 3-way control valve with actuator and fittings
- Integral control unit with many useful features, e.g.
 - On-board BACnet TCP/IP and Modbus (slave)
 - Connection via web browser for ease of operation
- All units factory-tested with standard program (plug & play)
- Quick delivery times
- bösch customer service for commissioning, adjustment and maintenance



NUMEROUS OPTIONS:

- ⊗ Replacement outdoor and extract air filters
- ⊗ Adjustable levelling feet
- ⊗ Siphon, supplied loose
- ⊗ KNX remote controller
- ⊗ Water-dependent temperature control
- ⊗ Purge mode or fresh air purge

BÖSCH OPTIMA POOL AUL

COMPACT VENTILATION UNITS FOR INDOOR SWIMMING POOLS

These units with their compact dimensions and various designs can be used in a variety of ways in hotel, private and all other indoor swimming pools with regular pool water. Particular attention is required when dealing with indoor saltwater swimming pools. We are also happy to help in this area.

Our optima pool AUL is supplied ready for connection with an integral control unit and is fully wired. The units are designed for indoor installation. The modules are easy to assemble thanks to their intelligent construction. The units are provided in segments for installation, with an on-site assembly service available as an option.

Energy efficiency and sustainability are ensured by high grade components, such as the coated, especially airtight aluminium countercurrent heat exchanger with over 84 % efficiency, high performance EC fans, energy saving compact filters (efficiency classes A+) with filter clamping device and DHW reheating coils.

Internal wiring of all sensors, actuators, drives and motors. The wiring, mostly ready-prepared lines with coded connectors, ensures straightforward connection of the individual unit segments and allows for simple component inspection and replacement.

External cables can be fed in through a cable entry plate on the top of the unit, which features 21 openings of different diameters (IP 66) sealed by a membrane.



CONTROL UNIT

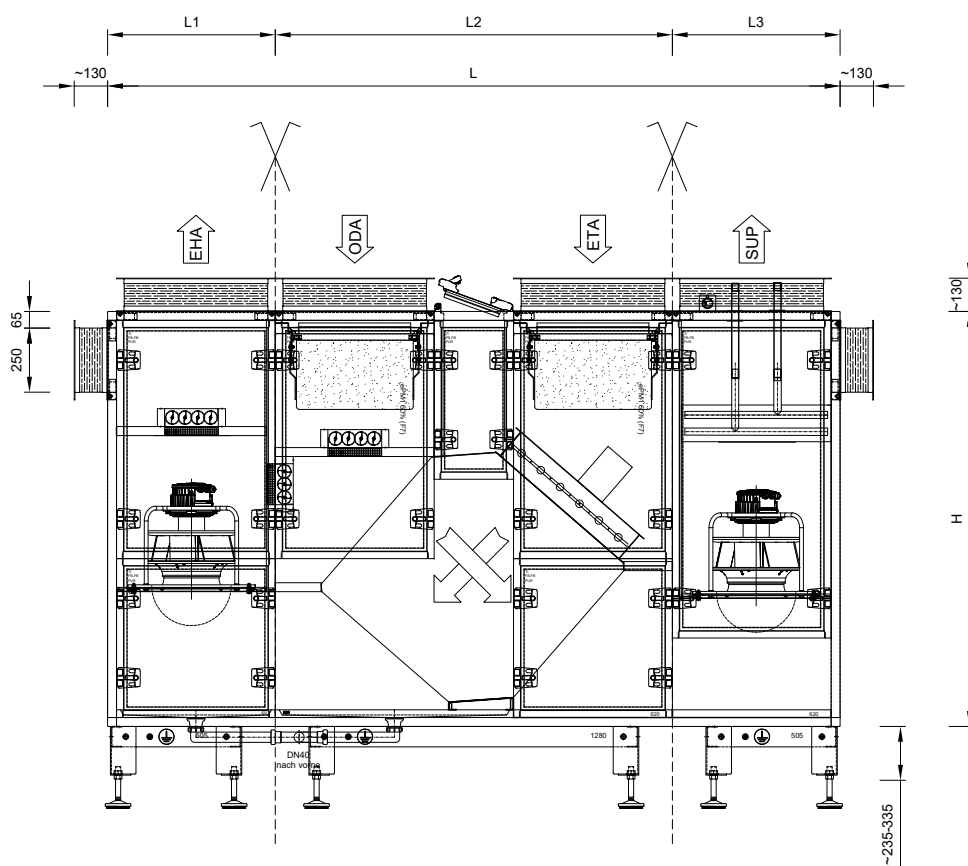
Electrical control panel including controller and operating device installed in the unit, advanced communication technology (BACnet, Modbus), two EC fans with Modbus control, 400 V/50 Hz feed, max. total current drawn 15 A

Ventilation application features

- Cascade control with supply air limitation
- External setpoint setting/shift
- Heating coil with continuously controlled valve, actuator (included in standard delivery) and pump control
- Outdoor, recirculation and exhaust air damper control
- Continuously variable fans
- Automatic selection of standby and swim mode depending on the setpoint and actual values (relative humidity)
- Interlocking through central fire alarm system
- External interlocking (e.g. window contact, if all patio doors are opened)
- "Party" function via external button: 100 % outdoor air with 100 % air flow rate (optional)
- Floating input for swim mode, e.g. via on-site motion detectors
- Control cabinet away from the air flow, protected against corrosion and spray water

BÖSCH OPTIMA POOL AUL

SPECIFICATION



SUP operating side to the left or right as required, also connectors (SUP, EHA) at the top or front

bösch optima pool AUL

Unit type	P-M-0.50-W-GS	P-M-1.00-W-GS	P-M-1.50-W-GS	P-M-2.00-W-GS
Air flow rate m³/h	1300	2500	4000	5500
Ext. pressure Pa	400	400	400	400
Dehumidification capacity to VDI 2089 kg/h	8.3	15.9	25.4	35.0
Filter class	ePM1 60 %	ePM1 60 %	ePM1 60 %	ePM1 60 %
HR efficiency %	84.1	90.0	89.8	89.8
Heating output approx. kW	6	9.0	14	20
Mains voltage V	400	400	400	400
Current drawn A	5.6	6.0	7.5	9.5
Power consumption kW	2.9	3.1	4.5	5.5
Length mm	1930	2860	2860	2860
Length 2** mm	-	1550	1550	1550
Width mm	690	690	1000	1310
Height* mm	1310	1620	1620	1620
Transport units	1	3	3	3
Weight kg	approx. 390	approx. 580	approx. 720	approx. 820

* Without fittings and/or superstructural parts

** Maximum transport dimensions

INTELLIGENT OPERATING PRINCIPLE

= PERFECT INDOOR CLIMATE AT ALL TIMES

Dehumidification is achieved by the constant admixing of outdoor air. This air is preheated by means of a highly efficient corrosion-resistant recuperative heat recovery system.

Pool water reference variable – water-dependent temperature control (optional)

The room temperature should be 2 to 4 kelvin above the water temperature, but should not exceed 34 °C. The room temperature setpoint is subject to the pool water temperature. The temperature base load in the indoor swimming pool is generally covered by static heating surfaces or underfloor heating.

Humidity setpoint reference variable

The achievement of optimum indoor comfort levels is a dynamic process (subject to room temperature, relative humidity and pool water temperature). To ensure convenient and energy-conscious operation, the comfort limit is mapped on the sultriness curve.

Exchange humidity for heat (air handling system with heat pump)

The heat pump converts latent heat into useful heat. Compressors ensure quiet and economical operation. The perceptible heat is used for heating the indoor air or the pool water.



BÖSCH OPTIMA POOL AUL ...

... THE ANSWER TO RISING ENERGY PRICES

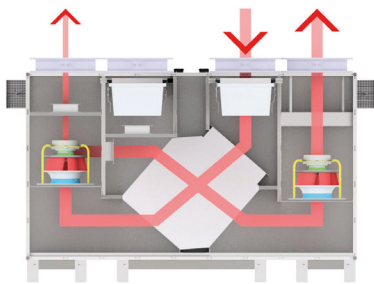


optima pool appliances are equipped with advanced humidity and temperature control units that promote economical operation. You can choose between the two operating modes described below.

OPERATING MODES

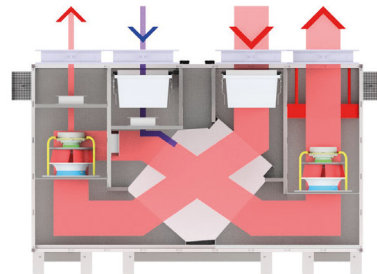
STANDBY:

The system runs in small amounts of air in recirculation mode. The minimal amount of exhaust air ensures a negative pressure in the swimming pool hall. This prevents the indoor pool air from overflowing into other areas. (Structural measures, e.g. an airlock, are highly recommended).



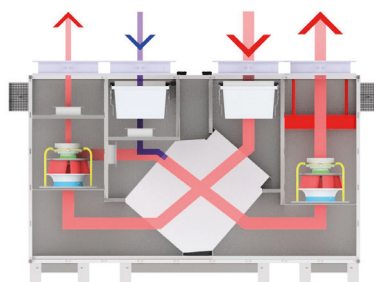
SWIMMING:

The system runs with large amounts of air, the adjustable minimum fresh air proportion is regulated. The proportion of outside air is continuously increased as required. This ensures that the relative humidity is maintained and the aerosols and trihalogenmethane produced by evaporation are removed. If required, the heating valve is controlled continuously. If the temperature exceeds the desired setpoint (e.g. solar radiation), free cooling is provided by means of outside air.



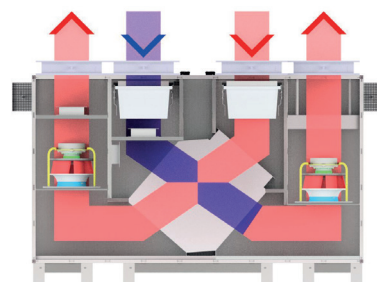
STANDBY WITH DEHUMIDIFICATION:

If the humidity deviates, the outside/exhaust air damper is opened continuously and the humid indoor pool air is discharged. If the humidity continues to rise, the fans are ramped up to large amounts of air. If the indoor pool temperature is too low, the heating coil is used to reheat. If the temperature exceeds the desired setpoint (e.g. due to solar radiation), the excess heat is dissipated by means of outside air.



FRESH AIR PURGE (optional)

The system runs with separately adjustable amounts of air at 100% fresh air. The purge function can be used to achieve a rapid air change in the event of very high occupancy or a party. The function must be limited in time by the customer.



The operating mode "Off" is selected if the pool is not filled or if maintenance work is being conducted.



OVERVIEW OF BÖSCH SERVICES

OUR SERVICE – YOUR GAIN



COMMISSIONING & TRAINING

Our employees help you to correctly commission your new system. Once your system has been set up by the installer and wired by the electrician, our service technician carries out an inspection to ensure everything has been properly connected.

Parameters are checked and optimised during the initial test run. After that, the system is adjusted and fine-tuned. We accompany you during commissioning so that you additionally benefit from our professional training in the process.



TROUBLESHOOTING

The bösch customer service department provides outstanding support in an emergency. The first step if you have an issue is simply to pick up the phone and contact us. We will gladly assist you there and then, or can be with you on site in no time.

As we always aim to solve any issue at the first attempt, our technicians carry all the most important spare parts in their vehicles.



MAINTENANCE AGREEMENTS

You can avoid call-outs and ensure your system is operating at a hygienic and energy efficient level through routine maintenance. Regular filter replacement is not only very important for your health but also for a long service life. Get in touch, we'd be delighted to put together a quote for you. At the end of the day, you can save yourself unnecessary stress and expense by finding and remedying issues before they become a problem.



MODERNISATION ADVICE

Nobody is more familiar with your system than our service technicians. They know when it is time to replace components in order to guarantee uninterrupted, consistent and economical operation.

And they are happy to provide (energy-)neutral, no-obligation advice. Together with our in-house modernisation experts, we can find the best solution for your needs and your budget.

A PARTNER YOU CAN TRUST

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