PRODUCT BROCHURE

Dehumidifier Units
CAIR®*pool*

Efficient swimming pool air handling for optimal comfort

DencoHappel®

FEEL-GOOD CLIMATE

The CAIR*pool* units provide comfortable air handling in private and public swimming pools, at maximum energy efficiency. Thanks to innovative technology and an intelligent control system, we can optimally satisfy any dehumidifying, heating, or cooling requirement.

WE MASTER EVERY CLIMATE

Intelligent solutions for the highest demands

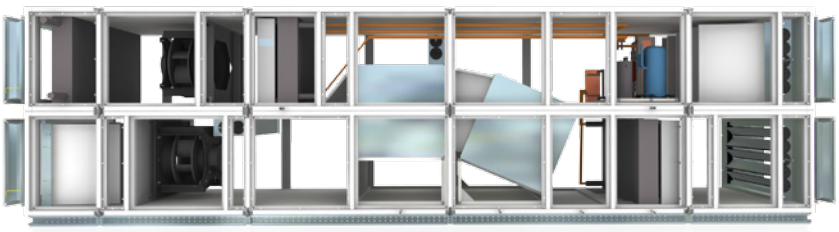
Swimming pools pose a multitude of challenges for planners in the air conditioning sector: demanding architecture, complex building structures, and high technical requirements must be taken into consideration. As experts for air treatment, we can meet every challenge with a good solution: for more than 45 years we have developed efficient customer-specific solutions for swimming pool air conditioning. Today we are among the major manufacturers of climate and air handling systems in Europe. We are members in associations such as Eurovent or the German RLT. Our components are certified, and we ensure the regular examination of our production facilities and our configuration software as well as operational safety at actual operation and consumption values. A Europe-wide service organization makes us a continuously reliable partner. As a matter of course, we always meet all decisive technical standards, such as VDI 6022, VDI 2067 Sheet 1, or VDI 2089 Sheet 1.

CAIR®*pool* – a guarantee for efficiency and sustainability

The CAIR*pool* series is characterized by the use of highly efficient multi-level recuperators and an optional inverter-controlled heat pump. Upon request, it can be simultaneously equipped as a reversible heat pump for the cooling operation. Thanks to these features, CAIR*pool* achieves energy savings of more than 40 % compared to conventional market solutions. Using this system thereby protects valuable resources, relieves the environment, and reduces operating costs to a minimum. This efficiency also rapidly pays for itself for smaller pool systems.

New challenges drive us forward

The swimming pool landscape has been continuously changing for decades. Functional pools and spa baths are increasingly being replaced by recreational complexes that meet every wish for well-being and comfort. No matter whether municipal facilities or in hotels or health spas. The range extends from highly specialized therapeutic baths to large-scale adventure water parks to ultra-modern high-tech pools for competitive athletics. The technical requirements on the air conditioning system differ accordingly. We have continuously attended to developments and acquired a uniquely rich know-how in this sector, and can provide optimum support for your project.



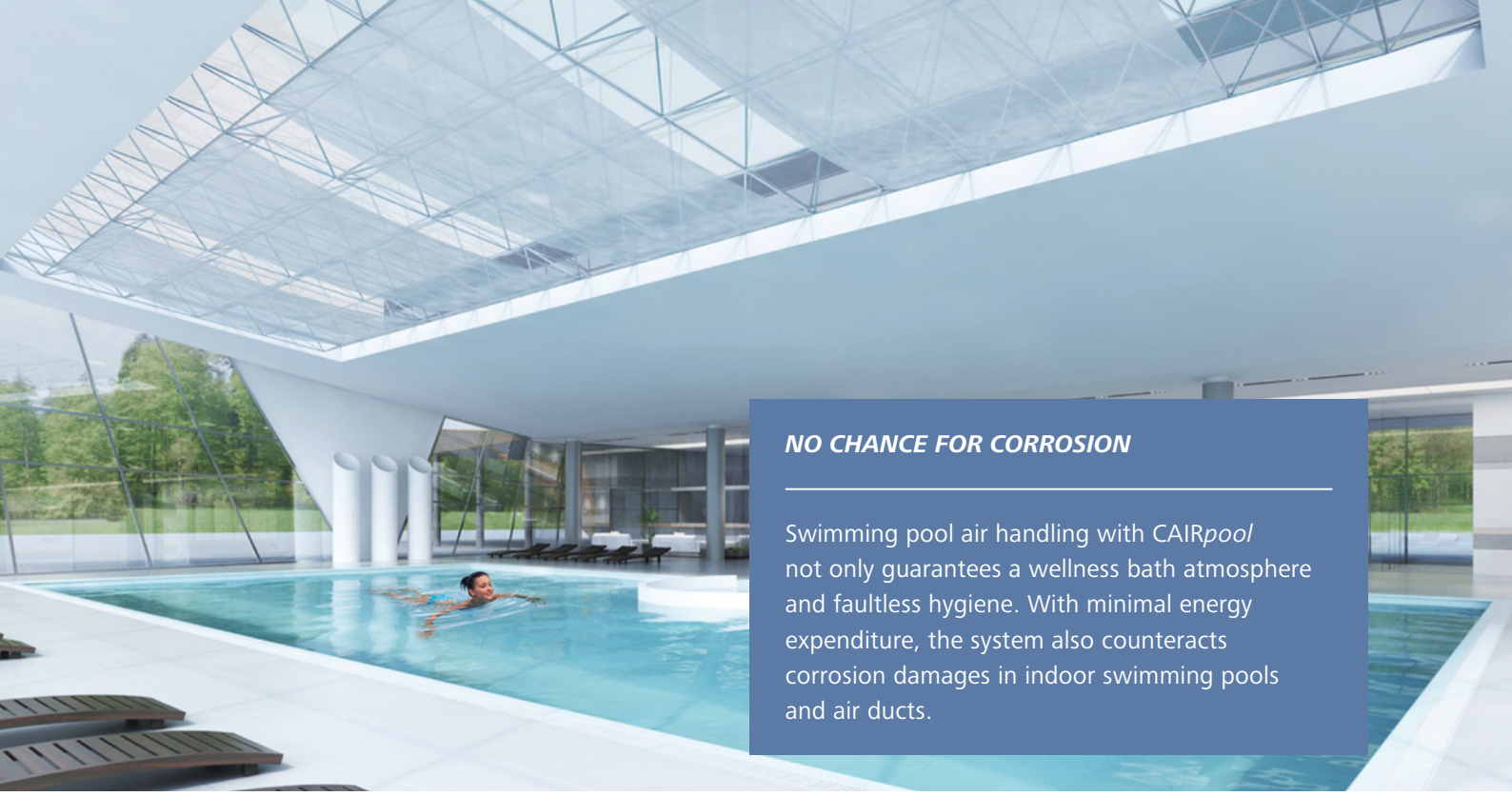
CAIR*pool* - efficient dehumidification, heating and cooling

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

certified recuperators

Our Know-how

- Tested and certified components guarantee quality and long service life
- Certainty through 45 years of experience and comprehensive market know-how
- Customized configurations for all pools
- Europe-wide service
- Minimum operating costs thanks to more than 40 % energy savings
- Heat exchangers with the highest energy efficiency H1
- Efficiency factor of up to 89 %
- Optimal corrosion protection
- 24 hours fresh air
- Simple cleaning satisfies the hygiene standard VDI 6022
- Successful certification and fulfillment of technical standards

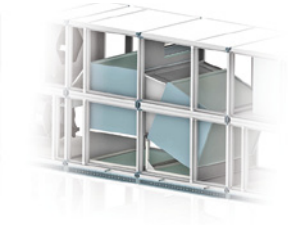


NO CHANCE FOR CORROSION

Swimming pool air handling with CAIR*pool* not only guarantees a wellness bath atmosphere and faultless hygiene. With minimal energy expenditure, the system also counteracts corrosion damages in indoor swimming pools and air ducts.

HYGIENIC, INTELLIGENT AND SAFE

Patented technology for an optimal climate



multi-stage recuperator

Excellent heat recovery

The central component of the CAIR*pool* consists of our certified multi-level recuperators for heat recovery. They have the highest energy efficiency class H1 and an efficiency of up to 89 %. The patented “angled hygiene design” is moreover characterized by a special configuration of the recuperator, with a service access in the intermediate area according to the hygiene standard VDI 6022. This makes it easy to clean the recuperators and interstices. Furthermore, hygienists can easily remove samples from the interstices.

intelligent recirculating-air louvres

Intelligent damper blade control

In order to avoid possible overheating of the indoor swimming pool in the summer, the outdoor air is routed around the recuperator with a bypass. This bypass function is continually controlled for a 0…100 % outdoor air operation and in the nighttime furthermore serves as “Free Night Cooling”. The damper blades are separated for a reduction of pressure losses and controlled in sequence, whereby the energy consumption is reduced to a minimum. We have registered a patent for this state-of-the-art system.

innovative fans

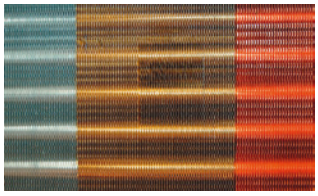
Innovative fan regulation

The innovative fan controller additionally reduces the energy consumption by mixing the outdoor air with the recirculating air in the pool mode according to VDI 2089. The outdoor air rate is continuously adapted to the water evaporation and the current occupation of the pool. In the event of fan failure, the patented fan-wall control system ensures a sufficient air flow rate by operating the remaining fans. This significantly increases the operational safety and protects the building from possible damage from corrosion.

A PLUS FOR COMFORT

Precise control and optimal heat utilisation

In addition, the dehumidification units can be equipped with an inverter-controlled heat pump for heating or a reversible heat pump for heating and cooling. The inverter regulates the heat pump precisely to the required setpoint temperature. With an optional condenser, the extra heating energy can furthermore be delivered either to a storage tank or directly to the pool water.



heat exchanger fins

Fresh air for intact walls

Outdoor air is exclusively used for dehumidification. The indoor swimming pool is thereby flushed 24 hours per day with agreeable fresh air. Detrimental trihalogen methane emission (THMs), chloramines and corrosion-promoting substances are reduced by this process. Different materials of the unit casing, unit frame, heat exchangers, damper blades, screw and sheet metal components as well as diverse coatings for the components offer optimal protection in three classes:

Protection class 1 (Cat. C3, according to DIN ISO 12944)

Pools with drinking water supply

Protection class 2 (Cat. C4, according to DIN ISO 12944)

Pools in coastal regions and/or pool water with a salinity of up to 6 %

Protection class 3 (Cat. C5, according to DIN ISO 12944)

Pools with thermal pool water

You have the choice:

- Inverter-controlled heat pump
- Pool water condenser

Intelligently and efficiently controlled

Simple and efficient:

- Intelligent control
- Understandable operation
- DDC controls
- Remote maintenance
- Linkage to a building management system
- Touch-screen display

The intelligent control system of the CAIR*pool* automatically selects the most efficient operating mode and satisfies all requirements of VDI 2089. The controller monitors the air treatment in the indoor swimming pool around the clock and can thus optimally control the dehumidification continuously.

The integrated DDC control system permits the settings and adaptation of all important parameters with a touch-screen display. This shows the device function and the applicable data in a well-organized and clear manner.

All components are networked with each other via the internal MODbus system. All usual commercial building management systems, e.g. MOD, LON or BACnet can also be connected for remote maintenance and diagnosis.

If one changes the temperature in the indoor swimming pool, the humidity setpoint is automatically adapted according to VDI 2089. The climate then always remains optimal.

Three versions for every requirement

CAIR*pool* dehumidifies swimming pools with a pool water surface of up to 750 m². The unit achieves a dehumidification efficiency of up to 230 kg/h. Depending on the requirements, in total 13 model sizes with 3 equipment versions are available for optimal adaptation to specific needs:

Series PPX – High Performance – air volume flow 800...36,000 m³/h

- Corrosion protection class 1, 2 or 3
- Dehumidifying - ventilating - heating
- Multi-stage recuperator
- EC energy-saving fans
- DDC control

Series PPI – High Performance – technology like PPX, however:

- 3-/4 speed heat recovery
- Inverter-controlled heat pump for heating
- Pool/fresh water heating

PPR Series – High Performance – technology like Series PPI, however:

- Dehumidifying - ventilating - heating - cooling
- Inverter-controlled, reversible heat pump for heating and cooling

Series PPX

Multi-stage high performance recuperator							
Type	**015**	**025**	**035**	**043**	**053**	**065**	**090**
Size	**064.052**	**064.052**	**064.064**	**096.064**	**096.064**	**096.096**	**128.096**
Pool water surface about	40 m²	50 m²	70 m²	90 m²	110 m²	135 m²	180 m²
Dehumidification efficiency acc. to VDI							
Pool mode	10 kg/h	16 kg/h	22 kg/h	27 kg/h	34 kg/h	41 kg/h	57 kg/h
COP	-	-	-	-	-	-	-
EMRE [1]	10.6	11.3	12.0	12.2	12.3	11.8	10.6
Fans							
Air volume flow	1,500 m³/h	2,500 m³/h	3,500 m³/h	4,300 m³/h	5,300 m³/h	6,500 m³/h	9,000 m³/h
Pressure ext. supply/outdoor air - total	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa
Ext. pressure extract/exhaust air - total	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa
Power consumption of supply air [2]	0.48 kW	0.74 kW	0.97 kW	1.14 kW	1.42 kW	2.01 kW	2.93 kW
Power consumption of extract air [2]	0.46 kW	0.67 kW	0.86 kW	1.08 kW	1.34 kW	1.45 kW	2.46 kW
Recuperative heat recovery							
Energy class/RLT	H1	H1	H1	H1	H1	H1	H1
Winter operation power	87%	89%	89%	87%	89%	88%	88%
Average annual power	81%	83%	83%	80%	83%	82%	81%
Without heat pump							
Compressor power consumption	-	-	-	-	-	-	-
Max. heating capacity	-	-	-	-	-	-	-
Max. cooling capacity	-	-	-	-	-	-	-
Fresh water heating	-	-	-	-	-	-	-
Max. heating capacity	-	-	-	-	-	-	-
Mass flow	-	-	-	-	-	-	-
Water resistance	-	-	-	-	-	-	-
Med. connect. - fresh-water condenser	-	-	-	-	-	-	-
Pool water heating	-	-	-	-	-	-	-
Max. heating capacity	-	-	-	-	-	-	-
Mass flow	-	-	-	-	-	-	-
Water resistance	-	-	-	-	-	-	-
Med. connect. - pool-water condenser	-	-	-	-	-	-	-

Technical data subject to change

[1] European Moisture Removal Efficiency; dehumidification efficiency rel. to electrical input capacity

[2] Relative to pool/idle mode with outdoor pro-rated air

Series PPX

Multi-stage high performance recuperator						
Type	**120**	**150**	**190**	**250**	**320**	**360**
Size	**160.096**	**188.096**	**220.128**	**252.128**	**280.128**	**312.128**
Pool water surface about	240 m²	315 m²	420 m²	560 m²	670 m²	750 m²
Dehumidification efficiency acc. to VDI						
Pool mode	76 kg/h	95 kg/h	125 kg/h	159 kg/h	204 kg/h	229 kg/h
COP	-	-	-	-	-	
EMRE [1]	10.6	11.1	12.4	9.6	10.0	9.5
Fans						
Air volume flow	12,000 m³/h	15,000 m³/h	19,000 m³/h	25,000 m³/h	32,000 m³/h	36,000 m³/h
Pressure ext. supply/outdoor air - total	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa
Ext. pressure extract/exhaust air - total	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa
Power consumption of supply air [2]	3.64 kW	4.64 kW	5.30 kW	8.81 kW	11.25 kW	13.11 kW
Power consumption of extract air [2]	3.51 kW	3.91 kW	4.77 kW	7.81 kW	9.11 kW	11.04 kW
Recuperative heat recovery						
Energy class/RLT	H1	H1	H1	H1	H1	H1
Winter operation power	88%	88%	90%	87%	87%	87%
Average annual power	82%	82%	80%	80%	80%	80%
Without heat pump						
Compressor power consumption	-	-	-	-	-	-
Max. heating capacity	-	-	-	-	-	-
Max. cooling capacity	-	-	-	-	-	-
Fresh water heating	-	-	-	-	-	-
Max. heating capacity	-	-	-	-	-	-
Mass flow	-	-	-	-	-	-
Water resistance	-	-	-	-	-	-
Med. connect. - fresh-water condenser	-	-	-	-	-	-
Pool water heating	-	-	-	-	-	-
Max. heating capacity	-	-	-	-	-	-
Mass flow	-	-	-	-	-	-
Water resistance	-	-	-	-	-	-
Med. connect. - pool-water condenser	-	-	-	-	-	-

Technical data subject to change

[1] European Moisture Removal Efficiency; dehumidification efficiency rel. to electrical input capacity

[2] Relative to pool/idle mode with outdoor pro-rated air

Series PPX

Multi-stage high performance recuperator							
Type	**015**	**025**	**035**	**043**	**053**	**065**	**090**
Size	**064.052**	**064.052**	**064.064**	**096.064**	**096.064**	**096.096**	**128.096**
Re-heater coil - PWW 70/50 °C							
Max. heating capacity	7.9 kW	12.3 kW	16.7 kW	22.8 kW	26.9 kW	33.5 kW	47.2 kW
Medium connection	DN 20	DN 20	DN 20	DN 20	DN 20	DN 20	DN 20
Unit electrical rating							
Power [3]	5.00 kW	5.00 kW	5.00 kW	5.00 kW	6.60 kW	6.90 kW	10.20 kW
Current	8.00 A	8.00 A	8.00 A	8.00 A	10.80 A	11.20 A	16.40 A
Operating voltage	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V
Dimension							
Length about (varies dep. on features)	3.960 mm	3.960 mm	4.320 mm	4.320 mm	4.320 mm	4.720 mm	4.920 mm
Width	760 mm	760 mm	760 mm	1,080 mm	1,080 mm	1,080 mm	1,400 mm
Height	1,360 mm	1,360 mm	1,600 mm	1,600 mm	1,600 mm	2,240 mm	2,240 mm
Condensate drains	**DN 20**	**DN 20**	**DN 20**	**DN 20**	**DN 20**	**DN 20**	**DN 20**

Technical data subject to change

[3] Max. power consumption/installed load without special equipment

Series PPX

Multi-stage high performance recuperator						
Type	**120**	**150**	**190**	**250**	**320**	**360**
Size	**160.096**	**188.096**	**220.128**	**252.128**	**280.128**	**312.128**
Re-heater coil - PWW 70/50 °C						
Max. heating capacity	60.2 kW	75.9 kW	98.9 kW	131.0 kW	154.6 kW	177.4 kW
Medium connection	DN 20	DN 25	DN 25	DN 25	DN 25	DN 25
Unit electrical rating						
Power [3]	13.20 kW	20.00 kW	20.00 kW	30.60 kW	40.20 kW	40.20 kW
Current	21.60 A	32.00 A	32.00 A	49.20 A	65.50 A	65.60 A
Operating voltage	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V
Dimension						
Length about (varies dep. on features)	5.360 mm	5.360 mm	5.960 mm	5.960 mm	5.960 mm	6.080 mm
Width	1,720 mm	2,000 mm	2,320 mm	2,640 mm	2,920 mm	3,240 mm
Height	2,240 mm	2,320 mm	2,960 mm	2,960 mm	2,960 mm	2,960 mm
Condensate drains	**DN 20**	**DN 40**	**DN 40**	**DN 40**	**DN 40**	**DN 40**

Technical data subject to change

[3] Max. power consumption/installed load without special equipment

Series PPI / PPR

PPI – Multi-stage high performance recuperator – Inverter-regulated heat pump PPR – Multi-stage high performance recuperator – Inverter-regulated, reversible heat pump for heating and cooling operation							
Type	**015**	**025**	**035**	**043**	**053**	**065**	**090**
Size	**064.052**	**064.052**	**064.064**	**096.064**	**096.064**	**096.096**	**128.096**
Pool water surface about	40 m²	50 m²	70 m²	90 m²	110 m²	135 m²	180 m²
Dehumidification efficiency acc. to VDI							
Pool mode	10 kg/h	16 kg/h	22 kg/h	27 kg/h	34 kg/h	41 kg/h	57 kg/h
COP	7.8	8.4	8.2	7.9	7.9	8.0	7.9
EMRE [1]	9.8	10.4	11.1	11.6	12.2	11.3	9.7
Fans							
Air volume flow	1,500 m³/h	2,500 m³/h	3,500 m³/h	4,300 m³/h	5,300 m³/h	6,500 m³/h	9,000 m³/h
Pressure ext. supply/outdoor air - total	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa
Ext. pressure extract/exhaust air - total	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa
Power consumption of supply air [2]	0.52 kW	0.81 kW	1.05 kW	1.17 kW	1.54 kW	2.18 kW	3.18 kW
Power consumption of extract air [2]	0.50 kW	0.73 kW	0.94 kW	1.17 kW	1.24 kW	1.45 kW	2.67 kW
Recuperative heat recovery							
Energy class/RLT	H1	H1	H1	H1	H1	H1	H1
Winter operation power	87%	89%	89%	87%	89%	88%	88%
Average annual power	81%	83%	83%	80%	83%	82%	81%
Heat pump - heating (PPI Series) **Heat pump reversible heating/cooling (PPR Series)**							
Compressor power consumption	0.82 kW	1.49 kW	2.30 kW	2.47 kW	3.00 kW	3.40 kW	3.25 kW
Max. heating capacity	4.1 kW	6.2 kW	9.3 kW	11.4 kW	12.3 kW	15.4 kW	17.2 kW
Cooling capacity (only PPR Series) [3]	6.50 kW	10.30 kW	15.60 kW	19.00 kW	21.20 kW	26.30 kW	36.80 kW
Fresh water warming from 10 °C to	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
Max. heating capacity	2.7 kW	4.1 kW	6.2 kW	7.6 kW	8.2 kW	10.3 kW	11.5 kW
Mass flow	0.13 m³/h	0.13 m³/h	0.20 m³/h	0.24 m³/h	0.26 m³/h	0.33 m³/h	0.37 m³/h
Water resistance	0.20 kPa	0.20 kPa	0.30 kPa	0.30 kPa	0.30 kPa	0.40 kPa	0.40 kPa
Med. connect. - fresh-water condenser	DN 15	DN 15	DN 15	DN 15	DN 15	DN 20	DN 20
Pool water warming to	28 °C	28 °C	28 °C	28 °C	28 °C	28 °C	28 °C
Max. heating capacity	0.6 kW	0.9 kW	1.3 kW	1.6 kW	1.8 kW	2.1 kW	2.3 kW
Mass flow	0.67 m³/h	1.06 m³/h	1.59 m³/h	1.95 m³/h	2.10 m³/h	2.63 m³/h	2.94 m³/h
Water resistance	2.20 kPa	1.30 kPa	2.50 kPa	2.50 kPa	3.00 kPa	4.10 kPa	3.40 kPa
Med. connect. - pool-water condenser	DN 15	DN 15	DN 15	DN 15	DN 15	DN 20	DN 20

Technical data subject to change

[1] European Moisture Removal Efficiency; dehumidification efficiency rel. to electrical input capacity

[2] Relative to pool/idle mode with outdoor pro-rated air

[3] Cooling capacity for summer operation

Series PPI / PPR

PPI – Multi-stage high performance recuperator – inverter-controlled heat pump PPR – Multi-stage high performance recuperator – inverter-controlled, reversible heat pump for heating and cooling operation						
Type	**120**	**150**	**190**	**250**	**320**	**360**
Size	**160.096**	**188.096**	**220.128**	**252.128**	**280.128**	**312.128**
Pool water surface about	240 m²	315 m²	420 m²	560 m²	670 m²	750 m²
Dehumidification efficiency acc. to VDI						
Pool mode	76 kg/h	95 kg/h	125 kg/h	159 kg/h	204 kg/h	229 kg/h
COP	8,2	8,5	8,5	8,5	8,5	8,5
EMRE [1]	10,0	10,8	12,1	8,8	9,4	8,7
Fans						
Air volume flow	12,000 m³/h	15,000 m³/h	19,000 m³/h	25,000 m³/h	32,000 m³/h	36,000 m³/h
Pressure ext. supply/outdoor air - total	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa
Ext. pressure extract/exhaust air - total	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa	300 Pa
Power consumption of supply air [2]	3.81 kW	4.77 kW	5.54 kW	9.58 kW	12.23 kW	14.25 kW
Power consumption of extract air [2]	3.81 kW	4.01 kW	4.77 kW	8.50 kW	9.58 kW	12.00 kW
Recuperative heat recovery						
Energy class/RLT	H1	H1	H1	H1	H1	H1
Winter operation power	88%	88%	90%	87%	87%	87%
Average annual power	82%	82%	80%	80%	80%	80%
Heat pump - heating (series PPI) **Heat pump reversible heating/cooling (PPR Series)**						
Compressor power consumption	6.67 kW	10.38 kW	9.26kW	15.41 kW	19.64 kW	26.30 kW
Max. heating capacity	31.5 kW	40.5 kW	47.7 kW	70.3 kW	89.4 kW	102.2 kW
Cooling capacity (only PPR Series) [3]	48.80 kW	61.40 kW	76.80 kW	101.30 kW	127.60 kW	144.00 kW
Fresh water warming to 10 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
Max. heating capacity	21.0 kW	27.0 kW	31.8 kW	46.9 kW	59.6 kW	68.1 kW
Mass flow	0.68 m³/h	0.87 m³/h	1.03 m³/h	1.51 m³/h	1.92 m³/h	2.20 m³/h
Water resistance	4.00 kPa	5.10 kPa	5.70 kPa	12.30 kPa	15.80 kPa	15.10 kPa
Med. connect. - fresh-water condenser	DN 20	DN 25	DN 25	DN 25	DN 25	DN 25
Pool water warming to	28 °C	28 °C	28 °C	28 °C	28 °C	28 °C
Max. heating capacity	4.3 kW	5.5 kW	6.4 kW	9.7 kW	12.4 kW	13.4 kW
Mass flow	5.39 m³/h	6.94 m³/h	8.16 m³/h	12.04 m³/h	15.32 m³/h	17.52 m³/h
Water resistance	6.80 kPa	7.40 kPa	8.30 kPa	11.30 kPa	12.80 kPa	13.90 kPa
Med. connect. - pool-water condenser	DN 20	DN 25	DN 25	DN 25	DN 25	DN 25

Technical data subject to change

[1] European Moisture Removal Efficiency; dehumidification efficiency rel. to electrical input capacity

[2] Relative to pool/idle mode with outdoor pro-rated air

[3] Cooling capacity for summer operation

Series PPI / PPR

PPI – Multi-stage high performance recuperator – inverter-controlled heat pump PPR – Multi-stage high performance recuperator – inverter-controlled, reversible heat pump for heating and cooling operation							
Type	**015**	**025**	**035**	**043**	**053**	**065**	**090**
Size	**064.052**	**064.052**	**064.064**	**096.064**	**096.064**	**096.096**	**128.096**
Re-heater coil - PWW 70/50 °C							
Max. heating capacity	7.9 kW	12.3 kW	16.7 kW	22.8 kW	26.9 kW	33.5 kW	47.2 kW
Medium connection	DN 20	DN 20	DN 20	DN 20	DN 20	DN 20	DN 20
Unit electrical rating							
Performance [4]	5.22 kW	5.89 kW	6.70 kW	9.07 kW	10.20 kW	12.60 kW	13.65 kW
Current	11.69 A	12.43 A	14.50 A	17.32 A	22.50 A	25.20 A	27.08 A
Operating voltage	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V
Dimension							
Length about (varies dep. on features)	5.000 mm	5.000 mm	5.360 mm	5.360 mm	5.360 mm	5.760 mm	5.960 mm
Width	760 mm	760 mm	760 mm	1,080 mm	1,080 mm	1,080 mm	1,400 mm
Height	1,360 mm	1,360 mm	1,600 mm	1,600 mm	1,600 mm	2,240 mm	2,240 mm
Condensate drains	**DN 20**	**DN 20**	**DN 20**	**DN 20**	**DN 20**	**DN 20**	**DN 20**

Technical data subject to change

[4] Max. power consumption/installed load without special equipment

Series PPI / PPR

PPI – Multi-stage high performance recuperator – inverter-controlled heat pump PPR – Multi-stage high performance recuperator – inverter-controlled, reversible heat pump for heating and cooling operation						
Type	**120**	**150**	**190**	**250**	**320**	**360**
Size	**160.096**	**188.096**	**220.128**	**252.128**	**280.128**	**312.128**
Re-heater coil - PWW 70/50 °C						
Max. heating capacity	60.2 kW	75.9 kW	98.9 kW	131.0 kW	154.6 kW	177.4 kW
Medium connection	DN 20	DN 25	DN 25	DN 25	DN 25	DN 25
Unit electrical rating						
Performance [4]	22.07 kW	29.18 kW	30.06 kW	48.41 kW	63.64 kW	70.30 kW
Current	38.01 A	53.15 A	49.74 A	77.70 A	113.63 A	138.94 A
Operating voltage	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V
Dimension						
Length about (varies dep. on features)	6.400 mm	6.400 mm	7.000 mm	7.000 mm	7.000 mm	7.120 mm
Width	1,720 mm	2,000 mm	2,320 mm	2,640 mm	2,920 mm	3,240 mm
Height	2,240 mm	2,320 mm	2,960 mm	2,960 mm	2,960 mm	2,960 mm
Condensate drains	**DN 20**	**DN 40**	**DN 40**	**DN 40**	**DN 40**	**DN 40**

Technical data subject to change

[4] Max. power consumption/installed load without special equipment

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Our nearest consulting and service teams will be glad to discuss ideas and develop creative and effective solutions with you.

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