

ZHK NANO

*Fresh air in the most economical way,
to suit minimum space requirements*



euroclima®
We care for better air



WE CARE FOR
BETTER AIR



THE COMPANY

Since 1963 Euroclima has been a market leader in the production and worldwide distribution of Air Handling Units and Fan Coil Units.

We develop, produce and market **high quality Air Handling Units and Fan Coil Units** for all areas. From simple, convenient applications to solutions in hygiene and air processing plants. Euroclima is an international industrial business working across **5 production sites in Italy, Austria, India and the United Arab Emirates and with over 40,000m² of production sites**. Our core competencies are the production and the worldwide distribution of customized Air Handling Units and Fan Coil Units.

We strive to exceed our clients' expectations through innovation, quality and a comprehensive service. Euroclima currently employs **over 450 members of staff** in addition to a widespread **distribution network** with sales and service branches in the whole of **Europe, Asia, the Middle East, North Africa and Australia**. Cooperation with partners in various countries enables us to cover an extensive market whilst providing optimal customer service.



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

OUR CERTIFICATIONS

PROVEN QUALITY

Euroclima Air Handling Units will be checked and certified according to well-known guidelines.

The specified unit data are guaranteed by **different certifications**. This applies both to the components used and to the mechanical characteristics of the casing.

Our units are **tested for the casing characteristics according to EN 1886 by TÜV Süd**.

For medical and special hygienic applications, where the air cleanliness in the critical zones is essential, Euroclima has developed innovative and unique options to comply with highly demanding regulations such as the **VDI 6022, the DIN 1946-4, the SWKI 99-3, the ÖNORM H 6020 or the HTM 03-01 NHS**. Also, units to be installed in hazardous areas, can be certified according to the **ATEX directive 2014/34/EU**.

The **European regulation EU No. 1253/2014** is implementing the Ecodesign requirements from the European directive 2009/125/EG for non-residential ventilation units. Euroclima Air Handling units can be selected to this standards.


In addition to the **quality management certification ISO 14001:2015, ISO 45001:2018 and ISO 9001:2015** Euroclima has a policy to continuously improve its administrative and manufacturing processes to provide products with top quality and reliability for the satisfaction of our customers. Because every project is unique, every country has its own laws and regulations, every building its own constraints, Euroclima participate to a number of international certification programs, related to quality, performances, hygiene or energy consumption.

Our units are marked with the **CE symbol** according to EU-regulation 765/2008. With the CE marking, the manufacturer indicates the conformity of the product with the "basic requirements" to be fulfilled according to the relevant harmonization guidelines.





ZHK NANO INDOOR AIR TREATMENT



Preconfigured units, compact design and short delivery times - for everyday applications.

The ZHK NANO series was developed to bring **fresh air into your building in the most economical way possible and at the same time with the smallest space requirement.**

All components were selected on the basis of an optimal price/performance ratio and the operating parts are adapted to the current safety guidelines.

The ZHK NANO includes energy efficient direct driven plug fans, fiber glass filters on return and fresh air streams, heat recovery device such as a counterflow plate heat exchanger or a heat wheel.

The ZHK NANO is a compact unit available in **4 unit sizes to cover air flow up to to 8800 m³/h.**

The unit performances and the mechanical casing characteristics have been tested by a third party laboratory according to EN 13053 and EN 1886 and certified by **EUROVENT certification.**



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



Extremely smooth inside for highest hygiene standard



Filter quick-clamping system



High efficiency fan

ZHK NANO TECNICAL DETAILS

Standardized compact units

nevertheless you decide about the configuration!

Main features

- » 50 mm casing thickness (T2/TB2)
- » Galvanized steel inner skin, externally white PVC-coated panels for the best anti-corrosion-protection
- » Environmentally friendly and fire-resistant insulation
- » 80 mm base frame
- » Plug & Play units

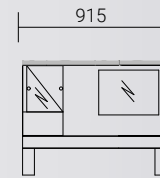
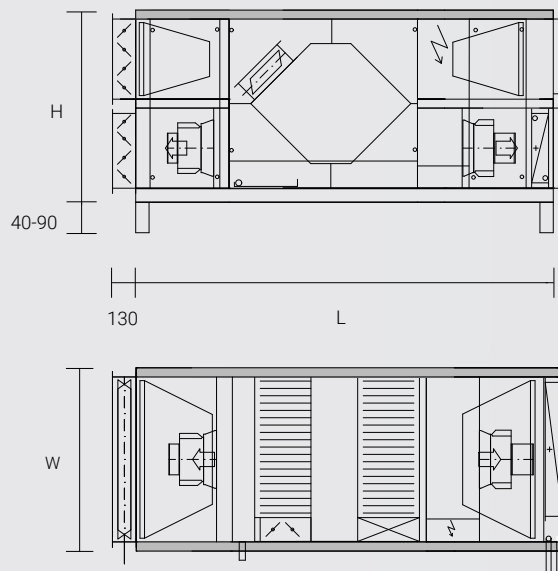
Main components

- » High efficiency radial EC fans for stepless operation
- » Thermal wheels with variable speed or counterflow plate heat exchangers with bypass damper
- » Long glass fiber bag filters M5 (exhaust) and F7 (supply) with filter quick-clamping system
- » Integrated heating coil
- » Construction based on VDI 6022
- » Control unit integrated in the air handling unit

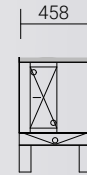
Optionals

- » Outdoor version
- » Cold water heat exchanger
- » DX-cooler
- » 3-way valve + actuator for cooling coil
- » Recirculation damper
- » Electric heater
- » Flexible or sound uncoupling connection
- » Height-adjustable supporting feet (40 - 90 mm)
- » Connection and access-side selectable
- » Control dampers C2 included
- » Digital display
- » Condensing unit

All units with control are tested at the factory prior the shipment to job site.



Electric heater



Cooling coil (DX or H₂O)



ZHK NANO

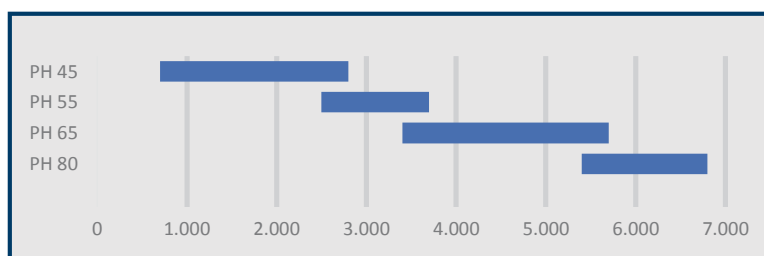
PLATE HEAT EXCHANGER

ZHK NANO DIMENSIONS & PERFORMANCE					
Type		45	55	65	80
Length L *	mm	2.288	2.440	3.050	3.050
Width W *	mm	1.000	1.200	1.400	1.700
Height H *	mm	1.080	1.280	1.480	1.780
Weight	kg	373	472	653	795
Max. airflow supply & exhaust **	m³/h	2.800	3.600	5.700	6.800
Temperature efficiency ***	%	91	90	90	87
Nominal power total	kW	2,1	3,6	5,0	6,9
Nominal voltage	V	3x400V/50 hz	3x400V/50 hz	3x400V/50 hz	3x400V/50 hz
Air entering temperature supply air	°C	-15°C / 90%	-15°C / 90%	-15°C / 90%	-15°C / 90%
Air entering temperature exhaust air	°C	22°C / 50%	22°C / 50%	22°C / 50%	22°C / 50%
Capacity heating coil	kW	6,8	10,1	15,3	20,7
Temperature medium	°C	70 / 50	70 / 50	70 / 50	70 / 50
Water pressure drop	kPa	9,0	8,8	15,8	35,6

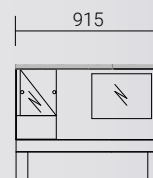
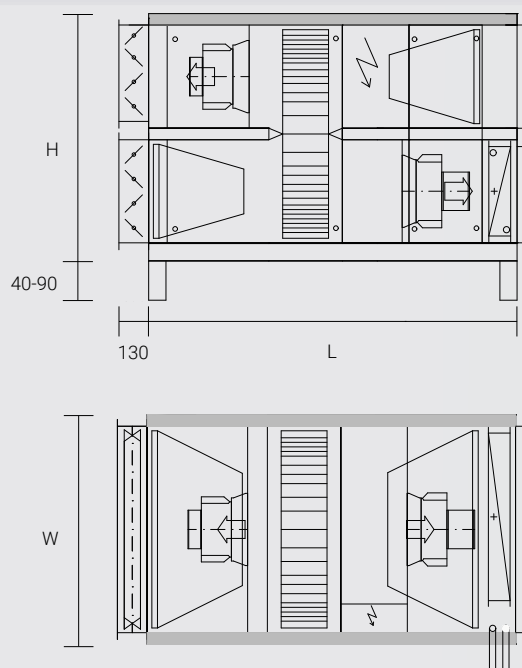
- * Roof dimensions not considered
 ** Without cooling coil and electrical heater
 *** Based on the values in this table

OPTIONALS						
Type			45	55	65	80
Direct expansion coil	Capacity	kW	19,9	29,7	44,6	61,04
	Evaporating temperature	°C	7	7	7	7
	Connection size	IN [mm]	22	28	35	35
		OUT [mm]	28	35	42	54
Water cooling coil	Capacity	kW	12,4	18,3	28,0	50,2
	Temperatur medium	°C	7 / 13	7 / 13	7 / 13	7 / 13
	Water pressure drop	kPa	13,1	16,4	24,0	42,3
Electric heating coil	Capacity	kW	9	14	22	28
	Nominal voltage	V	400/3ph/ 50Hz	400/3ph/ 50Hz	400/3ph/ 50Hz	400/3ph/ 50Hz

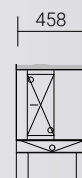
Connection size: Heating coil = 3/4" (all sizes); Cooling coil = 3/4" (45, 55), 1" (65), 1 1/2" (80)



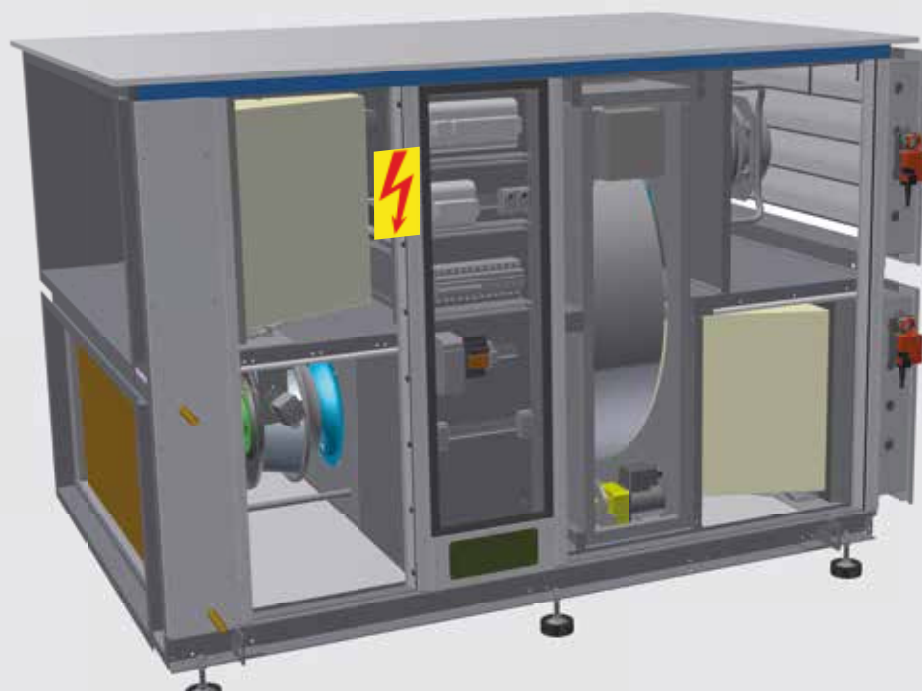
Air flow range



Electric heater



Cooling coil (DX or H₂O)



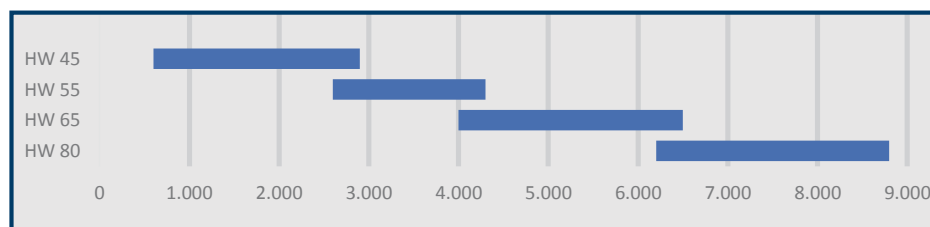
ZHK NANO HEAT WHEEL

ZHK NANO DIMENSIONS & PERFORMANCE					
Type		45	55	65	80
Length L *	mm	1.830	1.830	2.135	2.440
Width W *	mm	1.000	1.200	1.400	1.700
Height H *	mm	1.080	1.280	1.480	1.780
Weight	kg	349	460	645	760
Max. airflow supply & exhaust **	m ³ /h	2.900	4.100	6.500	8.800
Temperature efficiency ***	%	80	81	80	81
Nominal power total	kW	2,1	3,6	5,0	6,9
Nominal voltage	V	3x400V/50 hz	3x400V/50 hz	3x400V/50 hz	3x400V/50 hz
Air entering temperature supply air	°C	-15°C / 90%	-15°C / 90%	-15°C / 90%	-15°C / 90%
Air entering temperature exhaust air	°C	22°C / 50%	22°C / 50%	22°C / 50%	22°C / 50%
Capacity heating coil	kW	6,8	10,1	15,3	20,7
Teperature medium	°C	70 / 50	70 / 50	70 / 50	70 / 50
Water pressure drop	kPa	9,0	8,8	15,8	35,6

- * Roof dimensions not considered
 ** Without cooling coil and electrical heater
 *** Based on the values in this table

OPTIONALS						
Type			45	55	65	80
Direct expansion coil	Capacity	kW	19,9	29,7	44,6	61,04
	Evaporating temperature	°C	7	7	7	7
	Connection size	IN				
		[mm]	22	28	35	35
OUT [mm]		28	35	42	54	
Water cooling coil	Capacity	kW	12,4	18,3	28,0	50,2
	Temperatur medium	°C	7 / 13	7 / 13	7 / 13	7 / 13
	Water pressure drop	kPa	13,1	16,4	24,0	42,3
Electric heating coil	Capacity	kW	9	14	22	28
	Nominal voltage	V	400/3ph/ 50Hz	400/3ph/ 50Hz	400/3ph/ 50Hz	400/3ph/ 50Hz

Connection size: Heating coil = 3/4" (all sizes); Cooling coil = 3/4" (45, 55), 1" (65), 1 1/2" (80)



Air flow range

ZHK NANO

TECHNICAL DESCRIPTION

Casing

The unit casing is based on the Eurovent certified ZHK design.

Self supporting modular panels with sections along the upper sides of the square unit; Inside and outside walls completely smooth. The construction of the inner and outer skin gives a 50 mm 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 INOVA):

Mechanical stiffness of AHU casing: class D1(M)

Air tightness of casing at -400 Pa: class L1(M)

Air tightness of casing at +400 Pa: class L1(M)

Thermal conductivity of casing: class T2

Heat bridge factor of casing: class TB2

Panel execution

Inner skin: 1,0 mm galvanized sheet. Outer skin: galvanized sheet with PVC coating, the additional plastic coating it's an optimal protection against corrosion and an optical design element. The thickness of the coating is approx. 130 µm. Guides made of steel. 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.

General data controls

Freely programmable DDC controller for autonomous operation or within a Building Management System. Configuration occur with integrated 8 line display and the rotary knob button. Software gets loaded with a common SD-Card. All parameters and set points are set in factory. Customer can change the software at any time and all parameters are storable on a SD card for later reconfigurations. Thus, a simple adaptation of the software without a PC is possible.

- » 3 password levels for users, service technicians and commissioning, display of values is possible without password
- » Settings can be done on the display, out- and inputs can be switched to manual operation (for testing)

Predefined modes:

- » Off (Standby)
- » Freecooling mode
- » ECO mode (50% nominal speed)
- » Comfort mode (100% nominal speed)

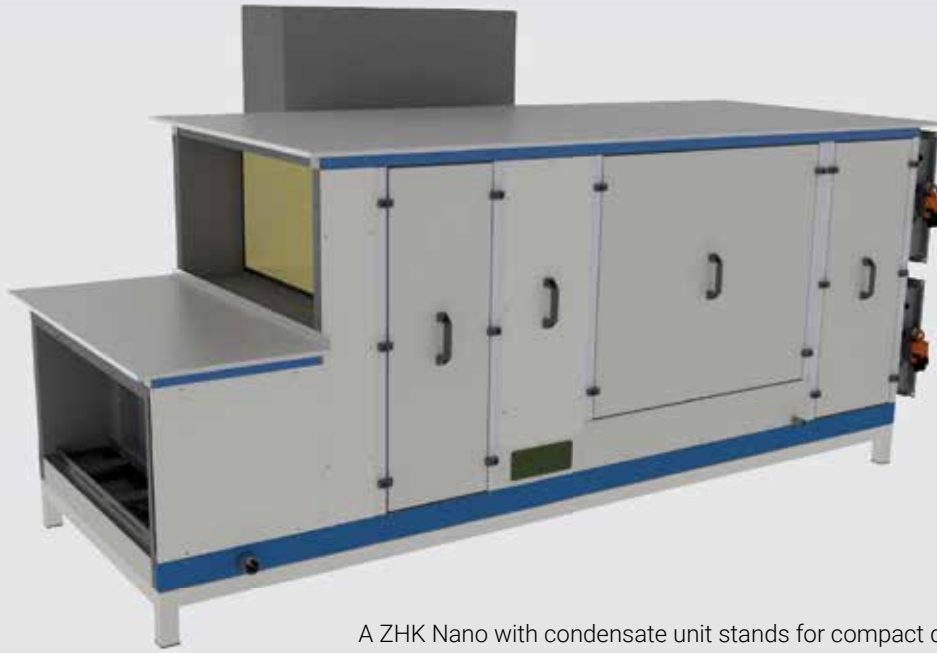
Timer for all days a week, up to 6 switching cycles per day. Mode for special days, On/Off according to integrated calendar, special mode for events. Main switch, power supply 230VAC / 24VDC with primary and secondary circuit breaker, circuit breaker for control components, actuators, sensors, necessary terminals. Alarm LED, fire protection contact.

Components

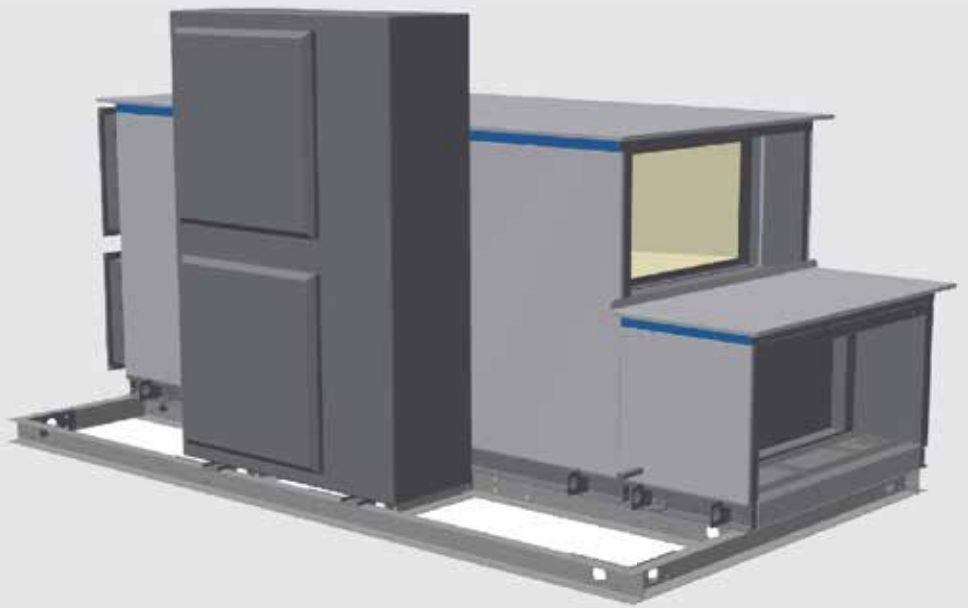
- » Fresh air temp. sensor
- » Supply and exhaust air temp. sensor
- » Anti freeze sensor
- » Communication Modules Modbus IP (included in basic selection)
- » Digital display
- » Smoke detector
- » Climatix IC Cloud remote access
- » Universal hardware contacts

Options

- » Room unit for remote control
- » Air flow control VAV
- » Pressure control CAV
- » Humidity control
- » Filter pressure switches
- » Pressure sensor for airvolume
- » Supply air humidity sensor
- » Exhaust air humidity sensor
- » Air quality sensor CO₂
- » Pressure sensor für pressure control
- » Thyristor for electrical heating coil
- » Safety thermostat for electrical heating coil
- » Saturation temperature sensor
- » Modbus RTU/RS485
- » BACnet IP, BACnet MS/TP



A ZHK Nano with condensate unit stands for compact design.



ZHK NANO CONDENSING UNIT

Autonomous plug & play solution

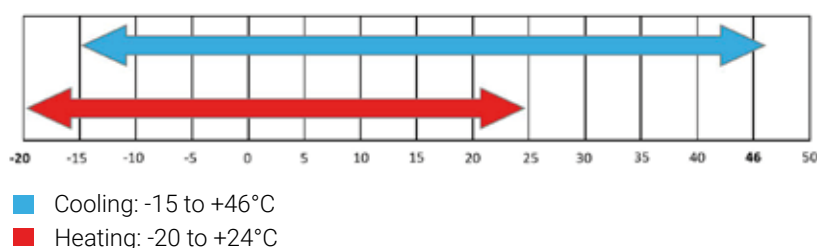
We also offer a unit combination:

Air handling unit ZHK NANO + condensing unit

The combination between the air handling unit (AHU) ZHK Nano and a condensing unit was specially designed for quick and easy installation and commissioning. The autonomous plug & play solution does not require long-term assembly on site and the entire unit comes "from a single source". The system can also be called autonomous because for heating and cooling no water pipes have to be installed. As a result, there is only one contact person for the customer who is responsible for the function. The combination between the individual components has been tested and harmonizes with each other perfectly as a system. Euroclima focus on smaller air volumes from 1,000 to 8,700 m³/h. This solution can also be used to run with 100% fresh air and the built-in rotary wheel or plate heat exchanger (counterflow) promises very high heat recovery.

ZHK NANO									
Type		45 PHE	45 HW	55 PHE	55 HW	65 PHE	65 HW	80 PHE	80 HW
Length L	mm	2905,0	2447,5	3057,5	2447,5	3667,5	2752,5	3667,5	3057,5
Width W	mm	1525,0	1525,0	1200,0	1200,0	1400,0	1400,0	1700,0	1700,0
Height H	mm	1496,0	1496,0	80,0	80,0	80,0	80,0	80,0	80,0
Weight	kg	671,0	608,0	679,0	654,0	883,0	842,0	1065,0	1028,0
Nom. power condensing unit/cooling	kW	11,5		14,0		22,4		28,0	
Nom. power condensing unit/heating	kW	15,0		16,0		25,0		31,5	
max. Current	A	25		10		20		20	
Nominal voltage condensing unit	V	230 V / 50 Hz			3x400 V / 50 Hz				

PHE = Plate heat exchanger
HW = Heat wheel





JABER AL AHMED AL JABER AL SABAH HOSPITAL KUWAIT



HOLY HARAM MOSQUE MEKKAH - SAUDI ARABIA



CRUISERS, FERRIES, YACHTS, TANKER - WORLDWIDE



PARCO DELLA MUSICA - ITALY



HILTI INNOVATION CENTER - LIECHTENSTEIN



INFINEON



LOACKER - AUSTRIA



KASHAGAN ÖLPLATTFORM - KASACHSTAN

WORLDWIDE FLAGSHIP PROJECTS



euroclima[®]

We care for better air

Euroclima group factories

Euroclima AG | SpA

St. Lorenzner Str. | Via S. Lorenzo 36
39031 Bruneck | Brunico (BZ)
ITALY
Tel. +39 0474 570 900
info@euroclima.com
www.euroclima.com

Euroclima Apparatebau Ges.m.b.H.

Arnbach 88
9920 Sillian
AUSTRIA
Tel. +43 (0) 48 42 66 61 -0
info@euroclima.at
www.euroclima.com

Euroclima Middle East

P.O.Box: 119870
Dubai
UNITED ARAB EMIRATES
Tel. +9714 802 4000
eumeinfo@euroclima.com
www.euroclima.com

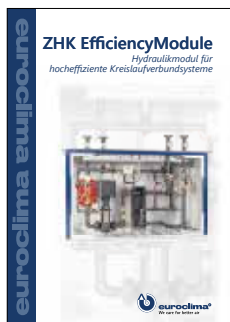
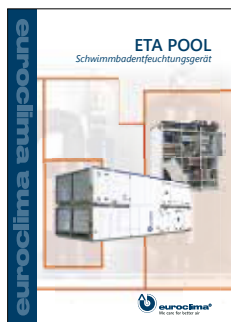
Euroclima India Pvt Ltd.

Gut No. 45, 65/1, Khaire Ambiwali, Kudus
Khaire Ambiwali Road, Taluka
421 303 Wada
INDIA
Tel. +91 22 4015 8934
info@euroclima.in
www.euroclima.com

Bini Clima S.r.l.

Via A. Prato, 4 / A
38068 Rovereto
ITALY
Tel. +39 0464 437 232
info@biniclima.eu
www.biniclima.eu

Euroclima product catalogues



Euroclima February 2023

Due to its commitment of continuous product development and improvement, Euroclima reserves the right to change specifications without notice.



euroclima®
We care for better air