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CHAPTER I

KLIMOR BRAND

50 YEARS OF EXPERIENCE & INNOVATION
CERTIFICATES AND AWARDS
KLIMOR IN NUMBERS
KLIMOR SOLUTIONS
WE CARE ABOUT AIR FOR...
For 50 years, Klimor has developed advanced air conditioning and ventilation solutions, meeting both the strictest quality standards and individual demands of customers throughout Europe – and now also in North America.

Our motto “We care about Air” reflects perfectly the essence of Klimor’s attitude. It underlines the attention we draw to the air quality and comfortable living. It motivates us to the sustainable, innovation-driven development of the Klimor brand and its portfolio – in past, present and in the future.

As a manufacturer, Klimor implements its own solutions applied in the wide range of air conditioning and ventilation systems. Klimor AHUs are developed in our own production plant located in the heart of Europe – in Poland. Klimor’s factory and the R&D division are situated in the northern part of the country, in Gdynia, directly by the Baltic Sea.

We are known for our commitment to highest quality and professionalism.
The Klimor company was founded in 1967 in Gdynia (Poland). We take pride in its rich tradition and global experience in the field of manufacturing both standard as well as custom air conditioning, ventilation and refrigeration systems.

Foundation of The Company

1967

CERTIFICATES AND AWARDS

ETL LISTED

The ETL Listed Mark is accepted throughout the United States when denoting compliance with nationally recognized standards such as ANSI, IEC, UL and CSA.

EUROPEAN STANDARD CONFIRMATION


ISO 9001

Klimor products have certificates of compliance, issued by PRS confirming meeting of specific design and functional requirements.

CE

Proves that products had been executed in line with European Union Directives and regulations.

EAC

Certificate of quality and compliance with standards and regulations of Russian Federation confirms that products underwent all certification procedures and that it meets the quality requirements and requirements of engineering and safety standards.

V I S I T  K L I M O R . C O M  F O R  M O R E  I N F O R M A T I O N
40 over countries

THOUSANDS

semi-custom and custom AHUs yearly

1700 vessels

around the world equipped with KLIMOR AHUs
KLIMOR SOLUTIONS

Klimor’s offer is based on the extensive range of modern air conditioning and ventilation units designed for any kind of commercial and industrial application as well as different types of residential buildings.

COMMERCIAL SOLUTIONS: office and residential buildings, sport facilities, shopping malls
PUBLIC UTILITY FACILITIES: government buildings, universities, museums
HEALTHCARE & PHARMACEUTICAL INDUSTRY: hospitals, laboratories
INDUSTRY PLANTS INCL. HIGH HUMIDITY FACILITIES: warehouses, technical rooms, indoor swimming pools, production plants
MARITIME INDUSTRY: ships, boats

Klimor offers more than products. We deliver comprehensive range of services, including selection of units based on our own selection software, assembly and installation of units.

CONSULTING SUPPORT        SELECTION

DELIVERY & ASSEMBLY        WARRANTY SERVICE

VISIT KLIMOR.COM FOR MORE INFORMATION
For half a century Klimor has offered its customers and business partners various HVACR system solutions, in order to meet versatile needs for the air comfort.

Klimor air handling and cooling systems installed in thousands of facilities all over the Old Continent, especially in Central and Eastern Europe. Thanks to Klimor’s vast experience, flexibility and high quality of products the company is successfully implementing HVACR solutions in office and government buildings, public utility facilities, hotels, in hospitals and laboratories, swimming pools as well as industrial plants.
WE CARE ABOUT AIR FOR:

AUTOLIV  BORG-AUTOMOTIVE  BORGWARNER  BSH
CEREAL PARTNERS WORLDWIDE  DANFOSS  DECATHLON
DECATHLON  DELPHI  DR. OETKER  FLEXTRONICS
FORTUM  FRITO LAYS  GOOD YEAR  HILTON HOTELS
HUTCHINSON  IBIS  IKEA  LEROY MERLIN  MABION
MARS  MICHELIN  NESTLE GROUP  OLIMP LABORATORIES
PANATTONI  POLSKONE  PRATT & WHITNEY  PHILIP MORRIS
POLPHARMA  SAINT-GOBAIN  SANOFI  TAURON  TEVA
TIKKURILA  TRUMPF MAUXION CHOCOLATES  SUPER-PHARM
VALEANT EUROPE  VALEO  ROSSMANN  RESERVED
RECKIT BENCKISER  TARKETT
CHAPTER II

KLIMOR EVO

PRODUCT GUIDE

PRODUCT PHILOSOPHY: THE EVOLUTION OF AIR
SELECTION SOFTWARE
EVO S CHARACTERISTICS
EVO TECHNICAL DATA
CODIFICATION & ENCODING
SAMPLE CONFIGURATIONS
THE EVOLUTION OF AIR

Taking into account a variety of specific needs and demands of our Clients, we succeeded in creating an innovative product line by extending our way of thinking about perfect HVACR solutions.

“Klimor EVO” is an evolution of technological thought and engineering excellence. We care about every single detail of the entire process – from design to production. Our confidence comes from implementation of the strictest standards of the quality management, proven know-how and almost five decades of manufacturing experience.

EFFICIENT | VERSATILE | OPTIMAL
EFFICIENT

EC / VFD TECHNOLOGY
Solutions that meet the requirements of ecodesign in terms of highest energy efficiency ratios.
Stepless capacity control as standard allowing to optimize energy consumption per unit of time.

ERP 2018 – ADVANCED ENERGY RECOVERY SOLUTION
A wide range of energy recovery systems in the group of recuperators and regenerators suitably applied to the expectations of air treatment technology.

CROSS-FLOW PLATE HEAT EXCHANGER
COUNTER-FLOW PLATE HEAT EXCHANGER
ENERGY RECOVERY WHEEL
MIXING BOX

DIRECT DRIVE PLENUM FANS
Minimization of energy losses due to exclusion of belt drive
Single fan and multifan technology
Application of impellers with backward curved blades with high mechanical efficiency
VERSATILE

WIDE RANGE OF CLIMATIC ZONES
Versatile climate zone operation temperature

-40° to 158°F

THERMAL BRAKE TECHNOLOGY
A unique housing design that uses modern composite technologies and panels without thermal bridges

WIDE RANGE OF BUILDING APPLICATIONS
A wide range of performances along with a large-scale of model sizes that allows you to adapt the product to the size of buildings

19 sizes
600 CFM to 25,000 CFM
EFFICIENT  VERSATILE  OPTIMAL

OPTIMAL

FLEXIBILITY
Various configurations and wide range of functions will let users select KLIMOR EVO according their needs of air treatment, sound level and cost. Klimor Evo can be selected in two types of unit construction: monoblock or multiblock. This provides unique horizontal or vertical modularity.

MULTIBLOCK ADVANTAGES
- Variety of configurations and executions during selection
- Easy transport and delivery to the place of multiblock assembly

MONOBLOCK ADVANTAGES
- Shorter construction time
- Competitive price
- High air tightness guarantee
- Lower total weight

WIDE RANGE OF AIR TREATMENT FUNCTIONS
A rich portfolio of air treatment features optically adjusts the device in terms of available energy carriers vs. expectations of air treatment technology.

MECHANICAL FILTERS
- Electrostatic filters (on request)

WATER HEATER
- Electric heater (on request)

ADAPTED TO BUILDING CAPABILITIES
MODULAR DESIGN ALLOWS FREE CONFIGURATION OF FUNCTIONAL BLOCKS

AVAILABLE BLOCKS:
- primary filtration, mixing, heating, cooling, silencing, secondary filtration, heat recovery, fan

ADDITIONAL EQUIPMENT FOR OUTDOOR EXECUTION:
- outdoor dampers, exchangers with freezing protection, canopy, hood

MEETS THE REQUIREMENTS OF EN 1886:2008, CERTIFIED BY ACCREDITED LABORATORIES
Klimor Air Designer is our hallmark and competitive advantage. Klimor web-based selection software offers rapid product selection to specific project requirements. It provides users with all technical information they need.

Our selection software offers in particular: simple and user-friendly configuration of AHU, product dimensioning and optimization, defining of all technical data, precise selection of components, various formats of results and drawings.

DISCOVER THE POSSIBILITIES
OF OUR NEW SELECTION SOFTWARE

WEB BASED APPLICATION
compatible with all main internet browsers
EASY-TO-USE
just a few steps to design complete unit

1 ENTER INITIAL PARAMETERS
2 PICK FUNCTIONS YOU NEED
3 CALCULATE & CHOOSE OPTIMAL SOLUTION
4 SELECT EXPORT OPTION (PDF, DXF 2D&3D)
MODULAR AIR HANDLING UNIT

STANDARD EXECUTION

Component | Construction
---|---
Framework | Aluminium, aluminium with thermal brake or high anticorrosive steel composite profiles or galvanised metal sheet profiles (2”), composite corners. For the gas modules, corners made of composit resistant to a temperature of 347°F.
Panels | Unique Thermal Brake panels made of galvanised metal sheet 0,8mm thick | Panel thickness of 2” (floor 2.7”) filled with PU foam – A1 class fire protection. | Fixed panels riveted to the framework and insulated with silicone. | Access panels fixed by clamps, with pull handles. | Access doors fixed by handles. | Access panels with pull handles fixed by clamps. | Access panels and doors equipped with profiled gasket.
Base Rail | Base rail made from galvanised metal sheet | Standard base rail height – 4.7”
Drain Pan | Made of stainless steel, triple sloped, insulated with rubber mat. | Recessed in floor. | Drainage pipe made of stainless steel pipe, led out to the side through the AHU’s profile beyond the outline. | It is not required to elevate the frame for the pressure of 2.4 inWg.
Coil framing | Made of stainless steel
Air Dampers | “Dumbo” terminals for pressure switch hoses connection, installed on the AHU’s fixed casing. | Lighting – low voltage led technology – option
Add. equipment | Porthole – option
RIGID FRAME CONSTRUCTION

UNIVERSAL IN WHOLE RANGE
2 OPTIONS OF PROFILES: COMPOSITE OR HIGH ANTICORROSIVE STEEL

THERMAL BRAKE PANELS

REDUCTION OF THERMAL CONDUCTIVITY
ECONOMIC BENEFITS

INSULATION

2" PU FOAM

FAN SET

DDP | SINGLE OR MULTIFAN | AC OR EC SOLUTIONS
FLEXIBLE ARRANGEMENT OF OUTLETS (TOM / BOTTOM / SIDE / FORWARD)

DRAIN PAN

TRIPLE SLOPED
EASY MAINTENANCE
EASY "SLIDE-OUT" COIL ACCESS

PRACTICAL SOLUTIONS

HINGES / HANDLES / CLAMPS

ENERGY RECOVERY

HIGH EFFICIENCY HEAT
ENERGY RECOVERY

Energy recovery wheel efficiency ≤ 80%
Plate heat exchanger efficiency ≤ 70%
Counter flow plate heat exchanger efficiency ≤ 92%

ANTICORROSIVE COATING

OPTIONS: PAINTED OR STAINLESS ANTIFLEX SURFACE

The source data: manufacturer, surface treatment: Zn (HDG), Zn-Al (ZA), Al-Zn (AZ), Zn-Mg-Al (ZM) ** The moment of red rust appearance on the given surface (salt spray test)
### Available Sizes

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>27.56</td>
<td>19.69</td>
<td>686</td>
<td></td>
</tr>
<tr>
<td>1300</td>
<td>37.40</td>
<td>19.69</td>
<td>1100</td>
<td></td>
</tr>
<tr>
<td>1600</td>
<td>37.40</td>
<td>23.62</td>
<td>1429</td>
<td></td>
</tr>
<tr>
<td>2200</td>
<td>47.24</td>
<td>23.62</td>
<td>1924</td>
<td></td>
</tr>
<tr>
<td>2900</td>
<td>51.18</td>
<td>27.56</td>
<td>2500</td>
<td></td>
</tr>
<tr>
<td>3400</td>
<td>51.18</td>
<td>31.50</td>
<td>2969</td>
<td></td>
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<tr>
<td>4000</td>
<td>59.06</td>
<td>31.50</td>
<td>3597</td>
<td></td>
</tr>
<tr>
<td>4800</td>
<td>59.06</td>
<td>37.40</td>
<td>4544</td>
<td></td>
</tr>
<tr>
<td>5500</td>
<td>66.93</td>
<td>37.40</td>
<td>5337</td>
<td></td>
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<tr>
<td>8300</td>
<td>70.87</td>
<td>47.24</td>
<td>7406</td>
<td></td>
</tr>
<tr>
<td>7500</td>
<td>59.06</td>
<td>59.06</td>
<td>7762</td>
<td></td>
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<tr>
<td>9500</td>
<td>78.74</td>
<td>51.18</td>
<td>9247</td>
<td></td>
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<td>11500</td>
<td>94.49</td>
<td>51.18</td>
<td>11496</td>
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<tr>
<td>12500</td>
<td>70.87</td>
<td>70.87</td>
<td>11946</td>
<td></td>
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<tr>
<td>14000</td>
<td>94.49</td>
<td>59.06</td>
<td>13863</td>
<td></td>
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<tr>
<td>15500</td>
<td>78.74</td>
<td>78.74</td>
<td>15231</td>
<td></td>
</tr>
<tr>
<td>18500</td>
<td>110.24</td>
<td>66.93</td>
<td>18215</td>
<td></td>
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<tr>
<td>20000</td>
<td>122.05</td>
<td>66.93</td>
<td>20497</td>
<td></td>
</tr>
<tr>
<td>24500</td>
<td>122.05</td>
<td>78.74</td>
<td>24464</td>
<td></td>
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</table>

### Codification of Functional Blocks

- **PF**: Primary Filter
- **SF**: Secondary Filter
- **VF**: Fan
- **WC**: Chilled Water Coil
- **DX**: Direct Expansion Cooling Coil
- **WH**: Hot Water Coil
- **SL**: Silenciser
- **RR**: Energy Recovery Wheel
- **PR CPR**: Plate Cross-Flow Heat Exchanger (High-performance Counter Flow Heat Exchanger)
- **MX**: Mixing Section
- **ES**: Empty Section
- **EH**: Electric Heater (Page 52)
ENCODING METHOD

<table>
<thead>
<tr>
<th>AHU RANGE NAME</th>
<th>SIZE OF UNIT</th>
<th>AIR FLOW RATE /100</th>
<th>STATIC PRESSURE DROP *10</th>
<th>ACCESS SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>KLIMOR EVO-S</td>
<td>800, 1300, 1600, 2200, 2900, 3400, 4000, 4800, 5500, 8300, 7500, 9500, 11500, 12500, 14000, 15500, 18500, 20000, 24500</td>
<td>5300 CFM</td>
<td>2 IN. W. C.</td>
<td>R - RIGHT</td>
</tr>
</tbody>
</table>

EXAMPLE

KLIMOR EVO-S-5500-53-20-R-PFWHVWCVFSL

COMPLETE DESIGNATION OF THE EVO AHUS CONTAINS ALSO CODES OF AIR SECTIONS. EXAMPLE: THE EVO AHU IN STANDARD RIGHT-SIDE VERSION, SIZE 5500, AIR FLOW: 5300 CFM, AVAILABLE PRESSURE: 2 IN. W. C., EQUIPPED WITH FILTER, WATER HEATING COIL, WATER COOLING COIL, FAN AND SILENCER.

FAN SET

<table>
<thead>
<tr>
<th>AHU size</th>
<th>800</th>
<th>1300</th>
<th>1600</th>
<th>2200</th>
<th>2900</th>
<th>3400</th>
<th>4000</th>
<th>4800</th>
<th>5500</th>
<th>8300</th>
<th>7500</th>
<th>9500</th>
<th>11500</th>
<th>12500</th>
<th>14000</th>
<th>11500</th>
<th>18500</th>
<th>20000</th>
<th>24500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>Multi (qty)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2 or 3</td>
<td>3</td>
<td>3 or 6</td>
<td>3 or 6</td>
<td>3 or 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

POSSIBLE AHU ARRANGEMENT

ONE ON ANOTHER SIDE VIEW

ONE NEXT TO ANOTHER TOP VIEW

SEPARATELY SIDE VIEW

ONE AFTER ANOTHER SIDE VIEW
SAMPLE CONFIGURATIONS

1. supply & exhaust AHU with energy recovery wheel

2. supply & exhaust AHU with counter flow heat exchanger

3. supply & exhaust AHU & energy recovery wheel

4. supply & exhaust AHU with counter flow heat exchanger & gas module

5. supply units heating, cooling

6. supply units mixing box
supply units heating, cooling

7

supply and exhaust units with energy recovery wheel

8

supply and exhaust units with energy recovery wheel

9

supply and exhaust units with cross-flow heat exchanger heat recovery

10

supply and exhaust units with cross-flow heat exchanger heat recovery

11

Much more configurations available in KLIMOR AIR DESIGNER selection software

ELEVATION VIEW

ELEVATION VIEW

ELEVATION VIEW

ELEVATION VIEW

ELEVATION VIEW

ELEVATION VIEW

ELEVATION VIEW

ELEVATION VIEW
CHAPTER III

FUNCTIONAL BLOCKS

CASING
MECHANICAL FILTER
FAN SET
HOT WATER COIL
CHILLED WATER COIL
DIRECT EXPANSION COOLING COIL
ENERGY RECOVERY WHEEL
PLATE HEAT EXCHANGER (STANDARD & HIGH PERFORMANCE)
ELECTRIC HEATER
SILENCER
functions and application

framework
Supporting framework structure based on internal system of aluminum or steel frame

environment
AHU for indoor and outdoor installation

panels
Sandwich type with thermal brake solution

casing

construction

external materials
- Magnesium sheet
- Galvanized and coated (option)
- Stainless steel sheet (option)

insulation
- PU foam
- Mineral wool (option)

internal material
- Galvanized sheet
- Stainless steel
- Coated sheet (option)

access
- On the side
- Butterfly clamps and hinges

cover
- Other panels riveted with framework structure

base rail
- Steel rail for transport/foundation of the unit

parameters (panels)

working temperature
-40° to 194°F

panel thickness
2 in

type of sheets
- Galvanized sheet with magnesium (DX51+ZM250)
- Optional: galvanized and polyester coated steel sheet RAL 9010, stainless sheet type 304 and 316
functions and application

**type**
- Pleated filter
- MERV8 ÷ MERV14
- Air purification

**usage**
- As base filter in systems with standard purity requirements
- As preliminary filter in systems with strict purity requirements

**application**
- Public utility buildings, office spaces, hotels, arenas, collective and individual residential buildings, etc.

parameters

**filtration class**
- MERV8 ÷ MERV14

**end pressure drop**
- Δp = 1 in w.g.

**filtration grade**
- Am = up to 98%

**air velocity**
- Maximum v = 625 FPM

**working temperature**
- Maximum 200°F

construction

**class**
- MERV8 ÷ MERV13 pleated filters
- MERV14 cartridge filters

**installation**
- Mounted on steel frames
fan set

functions and application

application
Low and medium pressure ventilation and air-conditioning systems with overall pressures up to 8.03 in w.g.

construction

type
Radial fan without casing
One-way suction
PLUG type with backward curved blades

insulation
Fan and motor set on common frame
Insulated from unit structure by rubber shock absorbers

mounting
Direct drive – rotor mounted on motor shaft

optional
ECM
Shaft Grounding Rings

motor
TEFC (Totally Enclosed Fan Cooled) motors conforming to PREMIUM efficiency class
All units equipped with direct drive fans are equipped with factory mounted Variable Frequency Drives (VFD)

parameters

<table>
<thead>
<tr>
<th>rated voltage</th>
<th>protection type / index</th>
<th>motor insulation</th>
<th>bearing lifecycle</th>
<th>working environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3×208...460V 50/60Hz.</td>
<td>PTC / IP55</td>
<td>insulation class: F</td>
<td>L10 = 20000h / L50 = 100000h</td>
<td>140°F</td>
</tr>
</tbody>
</table>
hot water coil

functions and application

supply air
Heating of supply air to premises in air conditioning and ventilation systems

process air
Heating of process air in industry-grade air conditioning and ventilation systems

source
Heat source is required, supplying the coil with hot water

construction

structure
Galvanized steel sheet casing
CuAl package with copper pipes and aluminum fins
Manifolds and connectors made of copper or steel

standard fin spacing 0.08 in
standard fin thickness 0.006 in
tube wall thickness 0.02 in
tube diameter 3/8” + 5/8”

connector types (nominal diameter)

<table>
<thead>
<tr>
<th>Ø NPS (in)</th>
<th>0.75</th>
<th>1.00</th>
<th>1.25</th>
<th>2.00</th>
<th>3.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector ending</td>
<td>Thread R 3/4”</td>
<td>Thread R 1”</td>
<td>Thread R 1 1/4”</td>
<td>Thread R 2”</td>
<td>Thread R 3”</td>
</tr>
</tbody>
</table>

parameters

max. medium temp. 302°F
max. medium pressure 535.30 in w.g. = 0.005 in w.g. (tested 0.007 in w.g.)
max. permitted air flow v = 480.31 fpm
additional data Thermal output, pressure losses, etc. available in KAD selection software
air temperature Min/max temperature of air for the coil: -40 °C to 140°F

Protection: permissible minimum temperature of air downstream coil is monitored by freezing protection thermostat (optional)
functions and application

cooling*

Of supply air to premises in air conditioning and ventilation systems
Of process air in industry-grade air conditioning and ventilation systems

construction

general info
Copper pipes; aluminium fins

standard fin spacing
Distance between fins: 0.08 in

number of rows
4÷10

drain pan
Triple sloped drain pan made of stainless steel

connector types (nominal diameter)

<table>
<thead>
<tr>
<th>Ø NPS [in.]</th>
<th>0.75</th>
<th>1.00</th>
<th>1.25</th>
<th>2.00</th>
<th>3.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector ending</td>
<td>Thread R 3/4”</td>
<td>Thread R 1”</td>
<td>Thread R 1 1/4”</td>
<td>Thread R 2”</td>
<td>Thread R 3”</td>
</tr>
</tbody>
</table>

parameters

medium temp.**
Min temperature of the medium: 35°F*

medium pressure
Maximum working pressure of the medium: 535.30 in w.g. = 0.005 in w.g. (tested 0.007 in w.g.)

glycol content
Max glycol content: 50%

air velocity
Max. permitted air velocity: v = 480.31 fpm

additional data
Cooling capacity, pressure drop, etc. available in KAD

* Cold source is required, supplying the coil with chilled water.
** Possibility to select individually according to non standard parameters.
direct expansion cooling coil

functions and application

cooling*

Supply air to premises in air conditioning and ventilation systems

Process air in industry-grade air conditioning and ventilation systems

construction

general info
Copper pipes; aluminium fins stainless steel coil casing

standard fin spacing
Distance between fins: 0.08 in

number of rows
4÷10

automatic pan
Made of stainless steel

heat exchanger
Single (100%) or double section

connection stub pipes
Connection stub pipes are on the service side of the unit.

parameters

medium temp.**
Minimum evaporating temperature of cooling medium evaporation: 37.4°F*

medium pressure
Maximum working pressure of the medium up to 11241.27 in w.g. = 0.112 in w.g. (tested 0.128 in w.g.)

air velocity
Max. permitted air velocity 
v = 480.31 fpm

additional data
Cooling capacity, pressure drops, etc. available in KAD selection software

* Cold source is required, supplying the coil with refrigerant.
** Possibility to select individually according to non standard parameters.
energy recovery wheel
(heat wheel)

functions and application

heat & humidity recovery
Transfers sensible and latent heat (i.e. energy bound up in moisture) simultaneously

energy recovery
Energy recovery without full separation of supply and exhaust air streams

application
Applicable in combined supply and exhaust units

construction

general info
Shaft mounted rotor, framework casing

hygroscopic rotary heat exchanger
Rotor made of aluminium strips/sheets

brush sealing
Protects against additional air leaks

purification lock
Reduces the quantity of “contaminated” exhaust air to the supply section of the unit

speed belt
belt driven transmission – controlling recuperation degree and freezing protection for humidity condensing on rotor

parameters

efficiency
Up to 80%

tightness
Heat-exchanger tightness for rated working parameters 97%

air velocity
Maximum air velocity 1023.62 fpm

rotor speed
Rotor rotational speed: 10rpm

pressure drop
Maximum pressure drop: 1.806 in w.g.

working environment
-20÷158°F
plate heat exchanger

2 OPTIONS AVAILABLE

[PR] standard cross-flow plate heat exchanger

[CPR] high performance counter cross-flow plate heat exchanger

functions and application

heat recovery
Indirect heat recovery from exhaust air and transfer of such energy to supply air, without possibility of humidity recovery

supply air
Complete separation of supply air from exhaust air streams

application
Used in combined supply and exhaust units

construction

materials
The block is made of aluminium plates with separated supply and exhaust air streams flowing between them

face & bypass damper
Installed damper allows to bypass the plate heat exchanger in order to:
• decrease efficiency or “switch off” energy recovery
• protect the exchanger against freezing

drop tray
Drop separator with drip pan

parameters

efficiency
Up to 70% – cross flow plate heat exchanger
Up to 90% – counter flow plate heat exchanger

air velocity
Maximum air velocity: 866.14 fpm

medium pressure
Heat-exchanger tightness for rated working parameters 99.9%

additional data
Maximum pressure drop: 1.806 in w.g.

working environment
-40÷175°F
electric heater

functions and application

application
- Heating of supply air to premises in air conditioning and ventilation systems
- Heating of process air in industry-grade air conditioning and ventilation systems

construction
- Single or multi-stage heating components
- Radiator heaters combined in groups
- Casing: framework made of galvanized metal sheet
- Connection to terminal strip
- Overheating protection thermostat (standard)

exchanger medium connection
- Connection stub pipes are on the service side of the unit

parameters
- Rated voltage: 208/230V or 460V
- Min. / max. rating capacity: 4/168kW
- Permitted min. air velocity: v = 295 fpm
- Max. permissible ambient temperature around heating components: 149°F
functions and application

silent operation
Installed to ensure silent operation of the AHU

sound levels reduction
Reduces noise spreading throughout ventilation ducts

construction

materials
The block is fitted with silencing cartridges made of non-flammable mineral wool, 3.9 or 7.87 in thick

wool insert
The surface of wool insert is protected with veil

protection
Protection prevents permeating of condensate into slotted cartridges

execution
2 sets of baffle silencer are being produced

accessories

Roof/Weather hoods
- Components with water drainage to the side opposite from the viewing side can be additionally installed on air handling units that are designed to be used outdoors

Door Locks and Handles
- Easy to use door locks and handles ensure safe unit maintenance

Inspection window
- Inspection window enables to observe unit’s internal operation. The diameter of plastic window is 8in

Internal lighting
- Internal lighting enables to observe unit’s internal operation through inspection window. Economy light is used with switch outside the unit
NORMAL TEMPERATURE

BAROMETRIC PRESSURE: 406.793 in w.g
If you cannot find suitable solution please let us know. *We will design a custom solution especially for you.*