



**AHU name:** KLIMOR EVO-S COMPACT 2500 4532LPFRRVFWH/7032RPFRRVF+FC+AD+O+CS

Supply: 1274 l/s 325 Pa

Exhaust: 1958 l/s 325 Pa

# KLIMOR EVO-S

**Date:**

2025-07-07

**SELECTION:**

1229401

**AHU NAME:**

Luminous Oak - Rentec - AHU 01 Rev A

**PROJECT:**

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# DEVICE DATA



ASHRAE 2017 (ref. city/db.S/wb.S/dp.S/db.W)  
London/27.1/18.3/13.4/-0.9

| DEVICE PARAMS                            |                                |    |
|------------------------------------------|--------------------------------|----|
| Type                                     | <b>EVO-S</b>                   |    |
| Size                                     | <b>2500</b>                    |    |
| Casing                                   | <b>Steel frame</b>             |    |
| Insulation                               | <b>Mineral wool - 50mm</b>     |    |
| Execution                                | <b>Standard</b>                |    |
| Version                                  | <b>Outdoor</b>                 |    |
| Automation                               | <b>Yes</b>                     |    |
| Cable service                            | <b>Yes</b>                     |    |
| Width                                    | <b>1300</b>                    | mm |
| Height                                   | <b>1470</b>                    | mm |
| Length                                   | <b>2300</b>                    | mm |
| Base rail                                | <b>Full base rail 120.0</b>    | mm |
| Weight                                   | <b>578</b>                     | kg |
| Regulation UE 1253/2014                  | 2018                           |    |
| EUROVENT - Energy Efficiency Class       | <b>A(2016)/BC(2023)</b>        |    |
| Absorbed power factor (fs-pref) - winter | <b>0.92 (2016)/0.96 (2023)</b> |    |

\* Dimensions do not include protruding elements, including: roofs, dampers with pins, actuators, exchanger connectors, condensate drain connectors with siphons, etc.

| CASING PARAMETERS AC.EN1886:2007 (MB) |                   |                      |
|---------------------------------------|-------------------|----------------------|
| Mechanical strength +/-1000 Pa        | < 2 mm            | <b>D1 (M)</b>        |
| Thermal transmittance                 | k = 0,94 W/m²K    | <b>T2 (M)</b>        |
| Thermal bridging factor               | kb = 0,45         | <b>TB3 (M)</b>       |
| Air leakage factor -400 Pa            | 0,11/0,26 l/(sm²) | <b>L1 (M)/L2 (R)</b> |
| Air leakage factor +700 Pa/+400 Pa    | 0,29/0,45 l/(sm²) | <b>L2 (M)/L2 (R)</b> |
| Filter bypass leakage +/-400 Pa       | 0,2/0,3 %         | <b>F9 (M)</b>        |

|                                         | SUPPLY   | EXHAUST |        |
|-----------------------------------------|----------|---------|--------|
| Air volume                              | 1274     | 1958    | l/s    |
| External Pressure                       | 325      | 325     | Pa     |
| Air velocity                            | 1.9      | 2.9     | m/s    |
| Fan power consumption                   | 1.39     | 2.04    | kW     |
| Power of fan motors                     | 3.3      | 2 x 1.5 | kW     |
| Current                                 | 5.4      | 2 x 2.4 | A      |
| Power supply*                           | 3~400/50 |         | V/Hz   |
| Service side                            | Left     | Right   |        |
| Air density according to EN 13053: 2019 | 1,2      |         | kg/m3  |
| SFPv                                    | 1710     |         | W/m3/s |
| SFPe                                    | 1753     |         | W/m3/s |
| * Control cabinet power supply          |          |         |        |

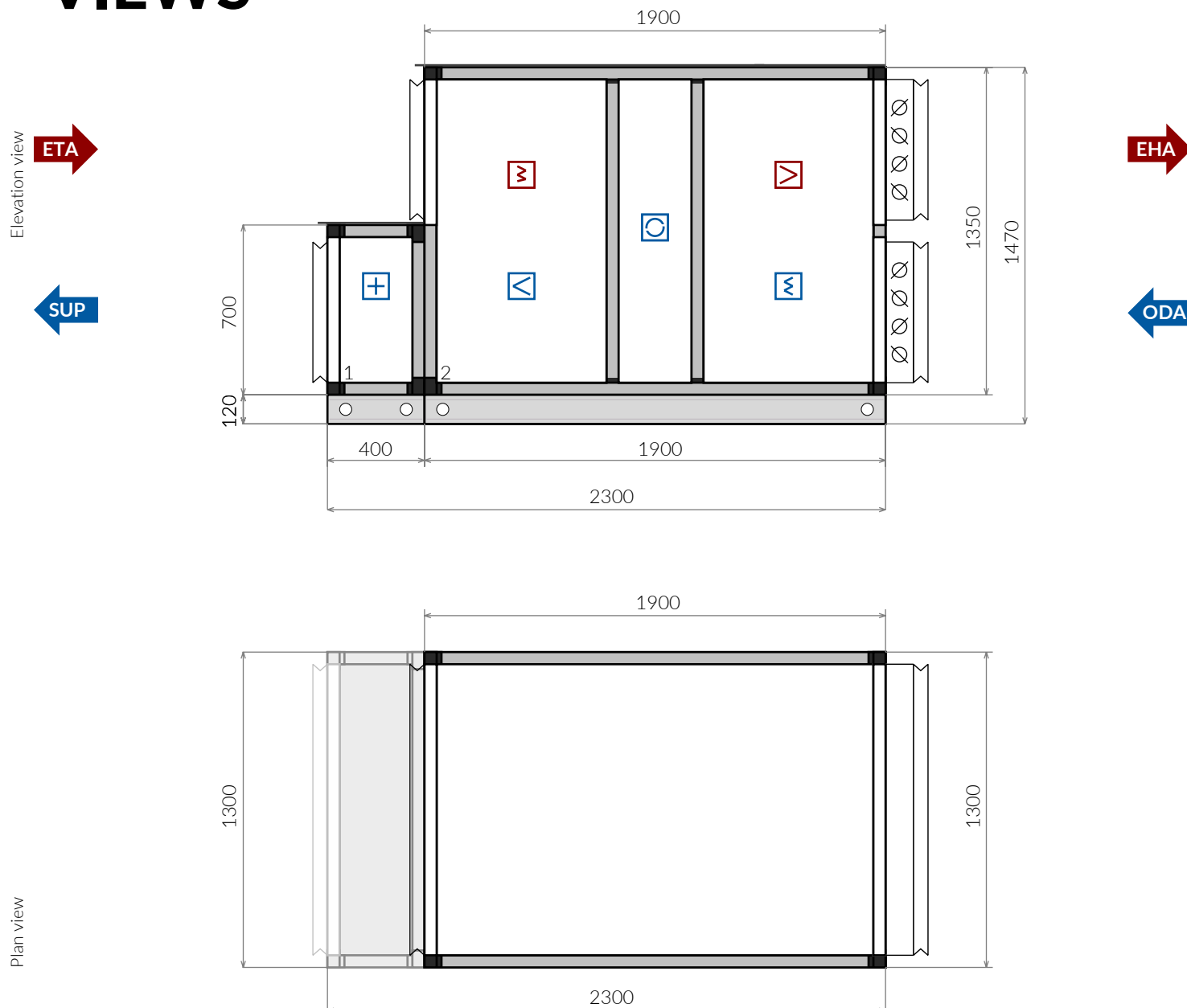
| PROJECT CONDITIONS     |                     |        |
|------------------------|---------------------|--------|
| Outdoor air parameters |                     |        |
| Winter                 | <b>-4.0 / 100.0</b> | °C / % |
| Summer                 | <b>32.0 / 45.0</b>  | °C / % |
| Inside air parameters  |                     |        |
| Winter                 | <b>20.0 / 40.0</b>  | °C / % |
| Summer                 | <b>24.0 / 55.0</b>  | °C / % |
| Recirculation          | <b>0</b>            | %      |

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## VIEWS





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# SECTIONS WEIGHTS AND DIMENSIONS

| Section number | Weight [kg] | Length [mm] | Height [mm] | Width [mm] |
|----------------|-------------|-------------|-------------|------------|
| 1              | 89          | 400         | 820         | 1300       |
| 2              | 449         | 1900        | 1470        | 1300       |
| Other          | 41          |             |             |            |
| Sum            | 579         |             |             |            |

\* Weight tolerance +/- 10%%

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# BASIC FUNCTIONS

## Supply

### Flexible connection

|              |          |    |
|--------------|----------|----|
| Width/Height | 1200/580 | mm |
|--------------|----------|----|

### Air damper

|                     |              |    |
|---------------------|--------------|----|
| Width/Height/Length | 1200/580/115 | mm |
|---------------------|--------------|----|

### Filter (PF/SF)

|                                       |                         |     |
|---------------------------------------|-------------------------|-----|
| Name                                  | EVO 2500 B_FLR ePM1 60% |     |
| Filter type                           | F7 / ePM1 60% (KL)      |     |
| Filter type                           | Bag                     |     |
| Energy performance (Class / AEC)      | C / >2050               |     |
| Filter insert (W x H x L - pcs) no. 1 | 1200x550x500 - 1        |     |
| Air velocity                          | 1.9                     | m/s |
| Pressure drop                         | 164                     | Pa  |
| Air pressure drop - Clean filter      | 114                     | Pa  |
| Air pressure drop - Maximum           | 214                     | Pa  |

### Energy recovery wheel (RR)

|                          |                            |    |
|--------------------------|----------------------------|----|
| Name                     | RR_HH_A_HTX_ASM 2500 /230V |    |
| Exchanger type           | Condensation               |    |
| Air pressure drop Winter | 162                        | Pa |

## Exhaust

### Flexible connection

|              |          |    |
|--------------|----------|----|
| Width/Height | 1200/580 | mm |
|--------------|----------|----|

### Filter (PF/SF)

|                                       |                            |     |
|---------------------------------------|----------------------------|-----|
| Name                                  | EVO 2500 P_FLR G4_ISOC 80% |     |
| Filter type                           | G4 / Coarse 80%            |     |
| Filter type                           | Panel                      |     |
| Energy performance (Class / AEC)      | NA / NA                    |     |
| Filter insert (W x H x L - pcs) no. 1 | 1200x550x48 - 1            |     |
| Air velocity                          | 3                          | m/s |
| Pressure drop                         | 73                         | Pa  |
| Air pressure drop - Clean filter      | 48                         | Pa  |
| Air pressure drop - Maximum           | 98                         | Pa  |

### Energy recovery wheel (RR)

|                                                         |                            |      |
|---------------------------------------------------------|----------------------------|------|
| Name                                                    | RR_HH_A_HTX_ASM 2500 /230V |      |
| Exchanger type                                          | Condensation               |      |
| Air pressure drop Winter                                | 255                        | Pa   |
| Air pressure drop - Winter (standard conditions) Winter | 267                        | Pa   |
| EAT Temperature/Humidity Winter                         | 20/40                      | °C/% |
| LAT Temperature/Humidity Winter                         | 5.8/95.8                   | °C/% |
| Thermal dry efficiency - winter (CR)                    | 75.90                      | %    |

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## Energy recovery wheel (RR)

|                                                         |                  |      |
|---------------------------------------------------------|------------------|------|
| Air pressure drop – Winter (standard conditions) Winter | <b>176</b>       | Pa   |
| EAT Temperature/Humidity Winter                         | <b>-4/100</b>    | °C/% |
| LAT Temperature/Humidity Winter                         | <b>18.3/22</b>   | °C/% |
| Thermal dry efficiency - winter (CR 1253/2014)          | <b>75.90</b>     | %    |
| Humidity efficiency - summer                            | <b>0.00</b>      | %    |
| Humidity efficiency - winter                            | <b>5.39</b>      | %    |
| Thermal efficiency Winter                               | <b>93.08</b>     | %    |
| Rated power Winter                                      | <b>35.2</b>      | kW   |
| Air pressure drop Summer                                | <b>181</b>       | Pa   |
| Air pressure drop – Summer (standard conditions) Summer | <b>172</b>       | Pa   |
| EAT Temperature/Humidity Summer                         | <b>32/45</b>     | °C/% |
| LAT Temperature/Humidity Summer                         | <b>24.5/69.5</b> | °C/% |
| Thermal efficiency Summer                               | <b>93.43</b>     | %    |
| Rated power Summer                                      | <b>11.8</b>      | kW   |
| OACF                                                    |                  | 0    |
| EATR                                                    | <b>0.6</b>       | %    |
| Voltage                                                 | <b>230</b>       | V    |
| Voltage                                                 | <b>230</b>       | V    |
| Voltage                                                 | <b>230</b>       | V    |
| Motor power                                             | <b>0.06</b>      | kW   |
| FLA                                                     | <b>0.6</b>       | A    |
| Frequency                                               | <b>50</b>        | Hz   |

\* Maximum carry over rate 1,5%

\* Wheel motor with onboard speed controller

## Fan (VF)

|                   |                             |
|-------------------|-----------------------------|
| Name              | <b>EVO 2500 VF4-P EC x1</b> |
| Air volume        | <b>1274</b> l/s             |
| External Pressure | <b>325</b> Pa               |
| Dynamic pressure  | <b>28</b> Pa                |
| Static pressure   | <b>735</b> Pa               |

## Energy recovery wheel (RR)

|                                                         |                       |
|---------------------------------------------------------|-----------------------|
| 1253/2014)                                              |                       |
| Humidity efficiency - summer                            | <b>0.00</b> %         |
| Humidity efficiency - winter                            | <b>5.39</b> %         |
| Thermal efficiency Winter                               | <b>93.08</b> %        |
| Rated power Winter                                      | <b>35.2</b> kW        |
| Air pressure drop Summer                                | <b>274</b> Pa         |
| Air pressure drop – Summer (standard conditions) Summer | <b>263</b> Pa         |
| EAT Temperature/Humidity Summer                         | <b>24/55</b> °C/%     |
| LAT Temperature/Humidity Summer                         | <b>28.9/41.3</b> °C/% |
| Thermal efficiency Summer                               | <b>93.43</b> %        |
| Rated power Summer                                      | <b>11.8</b> kW        |

\* Maximum carry over rate 1,5%

\* Wheel motor with onboard speed controller

## Fan (VF)

|                                               |                                   |
|-----------------------------------------------|-----------------------------------|
| Name                                          | <b>EVO 2500 VF3-P EC x2</b>       |
| Air volume                                    | <b>1958</b> l/s                   |
| External Pressure                             | <b>325</b> Pa                     |
| Dynamic pressure                              | <b>69</b> Pa                      |
| Static pressure                               | <b>672</b> Pa                     |
| Total pressure                                | <b>741</b> Pa                     |
| K-factor                                      | <b>115</b>                        |
| Rotations                                     | <b>3261</b> 1/min                 |
| Absorbed electrical power (clean filter)      | <b>2.04</b> kW                    |
| Absorbed electrical power                     | <b>2.04</b> kW                    |
| Fan efficiency for UVUs (ηVU)                 | <b>46.43</b> %                    |
| SFP                                           | <b>1043</b> W/m3/s                |
| Internal Specific Fan Power SFPint (Eurovent) | <b>1043</b> W/m3/s                |
| Fan set static efficiency                     | <b>64.42</b> %                    |
| Fan set total efficiency                      | <b>71.01</b> %                    |
| Fan sound power                               | <b>83.52</b> dB                   |
| Frequency                                     | <b>125 250 500 1K 2K 4K 8K</b> Hz |

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### Fan (VF)

|                                               |                                         |        |
|-----------------------------------------------|-----------------------------------------|--------|
| Total pressure                                | <b>763</b>                              | Pa     |
| K-factor                                      | <b>140</b>                              |        |
| Rotations                                     | <b>2521</b>                             | 1/min  |
| Absorbed electrical power (clean filter)      | <b>1.31</b>                             | kW     |
| Absorbed electrical power                     | <b>1.39</b>                             | kW     |
| Fan efficiency for UVUs (ηVU)                 | <b>44.05</b>                            | %      |
| SFP                                           | <b>1026</b>                             | W/m3/s |
| Internal Specific Fan Power SFPint (Eurovent) | <b>1092</b>                             | W/m3/s |
| Fan set static efficiency                     | <b>67.33</b>                            | %      |
| Fan set total efficiency                      | <b>69.86</b>                            | %      |
| Fan sound power                               | <b>83.46</b>                            | dB     |
| Frequency                                     | <b>125 250 500 1K 2K 4K 8K</b>          | Hz     |
| Inlet                                         | <b>68.2 73 71.8 66.3 62.8 60.5 60.8</b> | [dB]   |
| Outlet                                        | <b>71.8 78.5 76.4 76 73.1 68.6 67</b>   | [dB]   |
| Motor type                                    | <b>EC</b>                               |        |
| Rated power                                   | <b>1 x 3.3</b>                          | kW     |
| Voltage                                       | <b>3~400</b>                            | V/Hz   |
| Control voltage                               | <b>7.4</b>                              | V      |
| FLA                                           | <b>1 x 5.4</b>                          | A      |
| Nominal Rpm                                   | <b>3410</b>                             | 1/min  |
| NEMA Class                                    | <b>EC</b>                               |        |
| Protection class                              | <b>IP55</b>                             |        |

\* Fan set designed for wet operating conditions

\* The fan parameters take into account the influence of the installation in the device

### Fan (VF)

|                  |                                         |       |
|------------------|-----------------------------------------|-------|
| Inlet            | <b>66.3 74.8 70.5 72.9 74 76 71.9</b>   | [dB]  |
| Outlet           | <b>66.9 73.7 74.6 79 77.9 78.7 73.8</b> | [dB]  |
| Motor type       | <b>EC</b>                               |       |
| Rated power      | <b>2 x 1.5</b>                          | kW    |
| Voltage          | <b>3~400</b>                            | V/Hz  |
| Control voltage  | <b>8.19</b>                             | V     |
| FLA              | <b>2 x 2.4</b>                          | A     |
| Nominal Rpm      | <b>3800</b>                             | 1/min |
| NEMA Class       | <b>EC</b>                               |       |
| Protection class | <b>IP55</b>                             |       |

\* Fan set designed for wet operating conditions

\* The fan parameters take into account the influence of the installation in the device

### Air damper

|                     |                     |    |
|---------------------|---------------------|----|
| Width/Height/Length | <b>1200/580/115</b> | mm |
|---------------------|---------------------|----|

### Flexible connection

|              |                 |    |
|--------------|-----------------|----|
| Width/Height | <b>1200/580</b> | mm |
|--------------|-----------------|----|

### Hot water coil (WH)

|                                 |                               |        |
|---------------------------------|-------------------------------|--------|
| Name                            | <b>EVO_2500_WCL_02_1_R_EU</b> |        |
| Pressure drop                   | <b>65</b>                     | Pa     |
| Air velocity                    | <b>2.3</b>                    | m/s    |
| EAT Temperature/Humidity Winter | <b>-4/100</b>                 | °C / % |

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## Hot water coil (WH)

|                                 |                    |         |
|---------------------------------|--------------------|---------|
| LAT Temperature/Humidity Winter | <b>23/15.6</b>     | °C / %  |
| Total capacity Winter           | <b>42.35</b>       | kW      |
| EAT Temperature/Humidity Summer | <b>24.5/69.5</b>   | °C / %  |
| LAT Temperature/Humidity Summer | <b>24.5/69.5</b>   | °C / %  |
| Total capacity Summer           | <b>0</b>           | kW      |
| Medium type                     | <b>Water</b>       |         |
| EWT/LWT winter                  | <b>50/40</b>       | °C / °C |
| EWT/LWT summer                  | <b>45/40</b>       | °C / °C |
| Medium flow                     | <b>1 x 3.69</b>    | m3/h    |
| Medium pressure drop            | <b>34.81</b>       | kPa     |
| Exchanger capacity              | <b>1 x 4.4</b>     | l       |
| Number of sections              | <b>1</b>           |         |
| Connection size IN/OUT          | <b>1 x 1" / 1"</b> |         |

\* Water heater: Glycol content for the temperature -4 needs to be at least 10 %

\* Water Coil is equipped with anti-freeze protection

## Flexible connection

|              |                 |    |
|--------------|-----------------|----|
| Width/Height | <b>1200/580</b> | mm |
|--------------|-----------------|----|

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# ACOUSTICS

## SOUND POWER LEVEL

| Frequency            | Hz     | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 | SUM  |
|----------------------|--------|------|------|------|------|------|------|------|------|
| Outdoor air (ODA)    | dB     | 63.2 | 67.0 | 63.8 | 51.3 | 41.8 | 30.5 | 24.8 | 69.8 |
| Outdoor air (ODA)    | dB (A) | 47.1 | 58.4 | 60.6 | 51.3 | 43.0 | 31.5 | 23.7 | 63.1 |
| Supply air (SUP)     | dB     | 71.8 | 77.5 | 75.4 | 75.0 | 71.1 | 64.6 | 63.0 | 81.9 |
| Supply air (SUP)     | dB (A) | 55.7 | 68.9 | 72.2 | 75.0 | 72.3 | 65.6 | 61.9 | 78.9 |
| Extract air (ETA)    | dB     | 62.3 | 70.8 | 66.5 | 66.9 | 68.0 | 68.0 | 62.9 | 75.8 |
| Extract air (ETA)    | dB (A) | 46.2 | 62.2 | 63.3 | 66.9 | 69.2 | 69.0 | 61.8 | 74.2 |
| Exhaust outlet (EHA) | dB     | 66.9 | 73.7 | 74.6 | 79.0 | 77.9 | 78.7 | 73.8 | 84.7 |
| Exhaust outlet (EHA) | dB (A) | 50.8 | 65.1 | 71.4 | 79.0 | 79.1 | 79.7 | 72.7 | 84.6 |

## SOUND POWER LEVEL OUTSIDE OF AHU

|        |      |      |      |      |      |      |      |      |
|--------|------|------|------|------|------|------|------|------|
| dB     | 57.3 | 55.4 | 46.2 | 50.7 | 48.5 | 37.9 | 34.6 | 60.5 |
| dB (A) | 41.2 | 46.8 | 43.0 | 50.7 | 49.7 | 38.9 | 33.5 | 54.8 |

## SOUND PRESSURE LEVEL OUTSIDE OF AHU AT THE DISTANCE 1M (3.28 FOOT)

|        |      |      |      |      |      |      |      |      |
|--------|------|------|------|------|------|------|------|------|
| dB (A) | 33.7 | 39.4 | 35.5 | 43.2 | 42.3 | 31.4 | 26.1 | 47.3 |
|--------|------|------|------|------|------|------|------|------|

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# REGULATION UE 1253/2014

## EU REGULATION 1253/2014

|                                                                             |                                                |            |
|-----------------------------------------------------------------------------|------------------------------------------------|------------|
| a) manufacturers name                                                       | Klimor Spółka z ograniczoną odpowiedzialnością |            |
| b) manufacturers model identifier                                           | EVO-S                                          |            |
| c) declared typology                                                        | NRVU-BVU                                       |            |
| d) type of drive installed                                                  | Variable speed drive                           |            |
| e) type of HRS                                                              | Other                                          |            |
| f) Thermal efficiency of heat recovery                                      | 75.90                                          | [%]        |
| g) nominal NRVU flow rate                                                   | 1.27 / 1.96                                    | [m3/s]     |
| h) effective electric power input                                           | 1.31 / 2.04                                    | [kW]       |
| i) Internal specific fan power SFPint                                       | 994.0                                          | [W/(m3/s)] |
| j) face velocity                                                            | 1.9 / 2.9                                      | [m/s]      |
| k) nominal external pressure dps_ext                                        | 325 / 325                                      | [Pa]       |
| l) internal pressure drop of ventilation components dps,int                 | 277 / 370                                      | [Pa]       |
| m) internal pressure drop of non-ventilation components dps,add             | 133 / -23                                      | [Pa]       |
| n) static efficiency of fans ac. with Regulation EU No 327/2011             | 67.3 / 64.4                                    | [%]        |
| o) declared maximum external leakage rate                                   | 0.10                                           | [%]        |
| p) energy performance of the filters (type/class/annual energy consumption) |                                                |            |
| q) description of visual filter warning for NRVUs                           | In control system                              |            |
| r) the casing sound power level LWA                                         | 54.8                                           | [dB(A)]    |
| s) internet address                                                         | www.klimor.com                                 |            |
| The UNIT complies with the requirements of Regulation UE 1253/2014          | 2018 No                                        |            |

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# AUTOMATION

Application code: RRCS 2

| Symbol                                | Name                                     | Index          | Quantity |
|---------------------------------------|------------------------------------------|----------------|----------|
| Service Switch                        | Safety switch                            | 99000581001643 | 1        |
| ROOM_TEMP_SNR /HMI TOUCH 4,3" /KLIMOR | HMI panel with room temperature sensor   | 1019725        | 1        |
| TEMP_SNR /DUCT                        | Duct temperature sensor                  | 1007626        | 3        |
| DFF_PRSS_GG                           | Pressure gauge                           | 1000264        | 3        |
| 3W_VALVE KVS6,3 DN20                  | Three-way valve with an actuator         | 1008482        | 1        |
| CG EVO-S-CMPT /KLIMOR                 | Control Unit with built in ethernet card | 2184171        | 1        |
| CIRCT_BRKR B6/3                       | 1036448                                  | 1036448        | 1        |
| CIRCT_BRKR B6/3                       | 1036448                                  | 1036448        | 2        |
| CIRCT_BRKR B6/1                       | 1022536                                  | 1022536        | 1        |
| A_DPR_ACTUR 4 Nm /ON-OFF              | Air damper actuator                      | 1011469        | 1        |
| A_DPR_ACTUR 5 Nm /ON-OFF /SPRING      | Air damper actuator                      | 1011490        | 1        |
| CMPT_E_WIRG_ASM MNT_SET /EVO          | Unit cable service                       | 2201245        | 1        |

\* !!! The selection of a three-way valve for a water heater and water cooler requires verification and confirmation by the water system designer. The manufacturer recommends that the heater valve be installed in the qualitative adjustment position, the cooler valve - in the quantity adjustment position.

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## PRINCIPLES OF CONTROL SYSTEM OPERATION

1. Control of all air supply AHU's functions is provided via the control box or control panel installed in a remote location.
2. Cascading operation of exchangers: the recirculation unit or heat exchanger is turned on first and then the heater/cooler.
3. In case of systems with the water heater in the heating period defined by external temperature the so called „hot start” is realized. Once the AHU is turned on, first the water heater valve is open at 100% and the circulation pump is started. Once the set delay time pass, the fans are started and the dampers begin to open..
4. In the case of systems with electric and gas heaters, the heater is switched off first, and after a set delay – fans and air dampers begin to close.
5. Systems with the water heater are equipped with the air supply damper with the actuator with a return spring..
6. Systems with water coolers and/or heaters are equipped with the three-way mixing valves. Assembly method of the heaters/coolers supply node should be the same as in case of solutions listed in the corresponding control system diagrams.
7. After power failure or emergency power shutdown the air supply AHU system remembers the last operation algorithm (before the shutdown). Once the power is resumed the system AUTOMATICALLY RESUMES OPERATIONS WITH THE PREVIOUS SETTINGS.
8. The temperature control based on the leading sensor selected in the controller menu. It can be:
  - a) air supply temperature sensor
  - b) room temperature sensor
  - c) air exhaust temperature sensor
9. Each air supply AHU's control system is equipped with a non-voltage contact for concurrent control of an additional air exhaust fan.
10. Systems with the DX cooler are equipped with two non-voltage contacts which enable control of the two-speed cooler.
11. Each control system of air supply AHUs can be additionally equipped with:
  - a) system maintaining constant air flow or constant air pressure– additional pressure transducers (one for SCS systems and two for the other ones);
  - b) indication of additional filter contamination – additional pressure gauge.
12. In each system equipped with the gas heater – the gas module is equipped with its own control system with th algorithm ensuring its correct operation. The principles of operation are provided in the module's documentation. The module with 230V power supply provided by a separate cable.
13. Air exhaust AHUs – two-speed, enabling signal control using CO/LPG sensors.
14. The cooling systems and heat pumps are provided in the following versions:
  - only cooling systems – CM system
  - heat pump – HPMBoth system are on inverter or digital compressors.
15. The control system of the HPM heat pump or the CM cooling system consists of one control gear. The control system consists of:
  - the control gear with the PLC controller with the operational algorithm of the cooling system or heat pump
  - the power supply module of the cooling system or heat pumpSeparate power supply should be provided to the control gear module.

Due to the control algorithm and energy saving option each air supply system with mixing chamber and air supply/exhaust system with the recirculation and/or heat recovery has to be equipped with air exhaust temperature sensor – regardless the leading sensor selection. If the room sensor is selected as the leading sensor, it is recommended to use also the air supply temperature sensor.

## AHU name: KLIMOR EVO-S COMPACT 2500 4532LPFRRVFWH/7032RPFRRVF+FC+AD+O+CS

Supply: 1274 l/s 325 Pa

Exhaust: 1958 l/s 325 Pa

16. The CM cooling systems and the heat pump work only at the max AHU output.

17. Systems with electric heater are equipped with a separate heater control module. 3x400V power supply, with a separate cable.

18. Standard control gear works only with electrode steam humidifier.

19. The humidifier is equipped with its own control system with the algorithm ensuring its correct operation. The principles of operation are provided in the humidifier's documentation. The 3x400V 50Hz power supply using a separate cable.

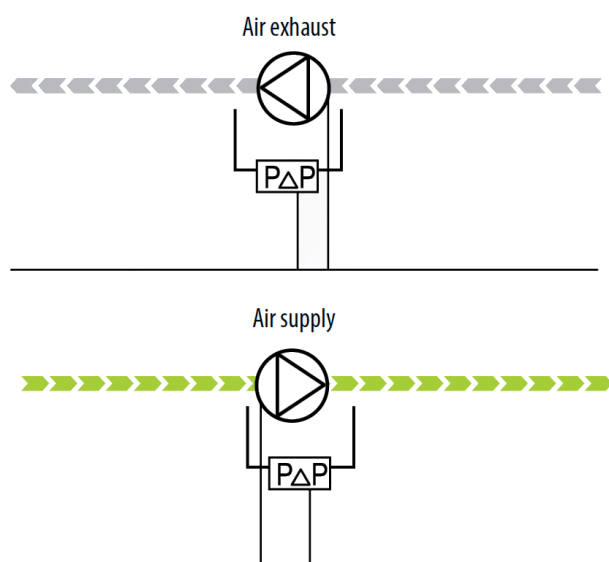
20. Possibility of cooperation with BMS using Modbus RTU or BACnet MS/TP protocols.

21. The possibility of communication via ETHERNET - a separate series of controllers, not interchangeable with the standard solution.

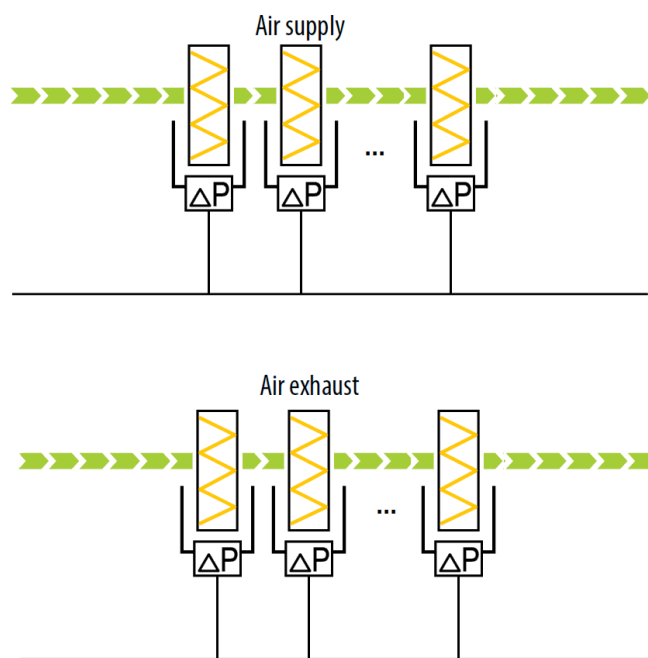
### Auxiliary equipment diagrams:

System maintaining constant air flow.

Maintaining constant fan output (or fans in air supply/exhaust systems). The pressure transducer via inverter adjusts the fan motor RPMs, maintaining constant pressure, regardless the air flow resistance fluctuation



Additional filter contamination indication.

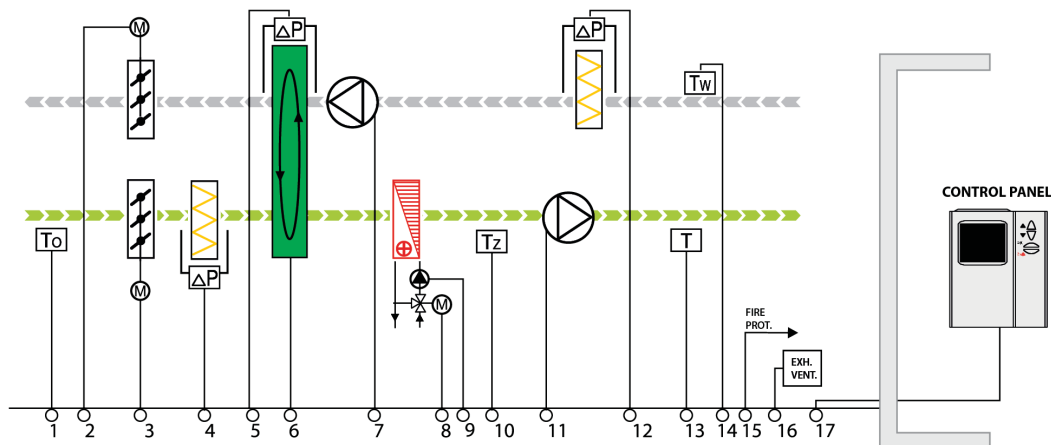


**AHU name:** KLIMOR EVO-S COMPACT 2500 4532LPFRRVFWH/7032RPFRRVF+FC+AD+O+CS

Supply: 1274 l/s 325 Pa

Exhaust: 1958 l/s 325 Pa

## The control system of the air supply-exhaust unit with the rotary heat exchanger and water heater



### Delivery specification:

| No. | Description                                                 | Element in the diagram | Number (pcs) |
|-----|-------------------------------------------------------------|------------------------|--------------|
| 01  | Duct temperature sensor                                     | 1, 13, 14              | 3            |
| 02  | Pressure gauge                                              | 4, 5, 12               | 3            |
| 03  | Anti-freeze thermostat                                      | 10                     | 1            |
| 04  | Air damper ON/OFF actuator with return spring               | 3                      | 1            |
| 05  | Air damper ON/OFF actuator                                  | 2                      | 1            |
| 06  | 3-way valve for heater operation with 0-10V actuator        | 8                      | 1            |
| 07  | Rotor motor inverter – delivered separately                 | 6                      | 1            |
| 08  | Fan motor inverter – delivered separately                   | 7, 11                  | 2            |
| 09  | Control cabinet with PLC controller and 3x400V power supply |                        | 1            |
| 10  | Remote control panel                                        | 17                     | 1            |

NOTE: The heater's circulation pump is not contained in the delivery.

### Setting AHU operating parameters at the control cabinet or remote control panel.

- External temperature sensor To (1) enables „hot start“ of the system, depending on external temperature.
- Opening the damper after the fans start.
- Air supply temperature control with the leading temperature sensor Tw (14) controlling operation of the rotary heat exchanger and water heater. The T (13) temperature sensor limits the max/min air supply temperature.
- Filter contamination indication.
- Anti-frost protection of the rotary heat exchanger – pressure gauge (5). Pressure increase above the setting/heat exchanger frosting changes the rotary heat exchanger's RPM in a stepless way.
- Freezing protection of the water heater – Tz thermostat (10). Drop of the air temperature below the setting opens the heater valve at 100%, closes the air dampers and turns off the motors as well as indicates the alarm status. Restarting the system – once the failure is cleared.
- Air flow adjustment (inverter).

### Additional system properties:

- System operation according to the calendar – temperature, output, operation mode
- Info on alarm status
- Drive system overload protection
- Supports MODBUS RTU or BACNet MS/TP communication protocols
- Communication via ETHERNET – see point 21, page 18
- Power supply of the 1x230V 50 Hz heater circulation pump with power up to 500W

OPTIONS – see chapter "PRINCIPLES OF CONTROL SYSTEM OPERATION" in the CONTROL SYSTEM catalog.

- Additional filter contamination indication
- Maintaining constant output