Overview

Exceptional Energy Efficiency

GOLD RX NA
Certified Passive House
Air Handling Unit for North America
EXCEPTIONAL ENERGY EFFICIENCY AND COMFORT WITH PASSIVE HOUSE

Passive house projects are both residential and commercial. The goal is ultra-low energy use while maintaining exceptional occupant comfort. This is accomplished by a high performance building envelope (fenestration, insulation and low leakage rates). In many cases the building can be heated and cooled by just conditioning the ventilation air.

The Energy Recovery Ventilator (ERV) system is the heart of most Passive House HVAC systems. Passive House Institute offers certification programs for most critical components including residential and commercial ERV units. The Swegon GOLD RX unit was the first commercial unit to be certified by Passive House Institute.

The PHI ERV certification program covers power consumption, cross contamination, energy recovery, air leakage, sound level and airflow control.

SURPASS COMFORT AND ENERGY EFFICIENCY EXPECTATIONS WITH GOLD RX NA

The Swegon GOLD is designed for low leakage, excellent thermal performance and low sound levels. Energy recovery is accomplished with Swegon’s own heat or energy recovery wheel which is also permissible under the PHI certification. Swegon surpasses the 75% efficiency Passive House Institute minimum requirement with wheel efficiencies reaching 86%. Minimizing internal leakage through the wheel is critical for Passive House with a maximum level of 3%. The Swegon GOLD unit is certified 0.45% internal leakage.

Minimizing fan energy consumption is critical to achieve Passive House goals. GOLD RX units achieve the electrical power target of < 0.77 W/CFM. Swegon GOLD units utilize specially designed mixed flow direct drive plenum fans with EC motors.

Swegon GOLD units include integral controls with airflow monitors to optimize airflow and energy recovery and to meet PHI requirements for automated airflow balancing. IQLogic controls can integrate with BACnet, Lonmark, N2, Modbus and are BTL certified.

UNPARALLELED ENERGY EFFICIENCY LEVELS WITH RX

GOLD RX units are designed to perform efficiently and quietly, making them desirable for projects that need to consider space and energy. The GOLD RX is the first air handling unit for commercial buildings to be certified as a Passive House component.

<table>
<thead>
<tr>
<th>GOLD RX</th>
<th>Dimensions</th>
<th>Airflow Range for PHI Certified Operation</th>
<th>Max. PD (in.wc)*</th>
<th>Electrical Power Consumption (w/CFM)**</th>
<th>Heat Recovery Temperature Efficiency %†</th>
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</thead>
<tbody>
<tr>
<td>Size</td>
<td>Length (in)</td>
<td>Width (in)</td>
<td>Height (in)</td>
<td>Minimum CFM</td>
<td>Maximum CFM</td>
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<tr>
<td>05</td>
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</table>

* Max Pressure Drop: The maximum pressure drop takes into account the external duct pressure drop, filter pressure drop, and the pressure drop of any Gold coils or accessories.

** Electric Power Consumption: Required value must not exceed 0.77 w/CFM and covers the total power consumption of the unit.

† Heat Recovery Temperature Efficiency: Required value is at least 75%
WE HELP YOU ACHIEVE ENERGY SAVINGS AND COMFORT BY FOCUSING ON SYSTEM DESIGN, WITH DESIGNEDGE™

Through DesignEdge™, Swegon offers specifiers the requirements needed to create the best passive house solution at the design stage. We minimize your risk and reduce the time needed to prepare budgets, plan mechanical space requirements and arrive at an optimal design.

Swegon's DesignEdge™ service will help solidify you and your firm as the expert in passive house design. Try our complimentary DesignEdge™ service on your next project.

For Consultants, DesignEdge™ will

1. Minimize your risk
2. Reduce time required to achieve an optimum design
3. Give clients confidence in your passive house system design

What we need to get started

1. Total floor area (TFA)
2. Room heating and cooling load calculations
3. Room ventilation requirements
4. Ceiling height

Send DesignEdge™ opportunities to your local Swegon Sales Representative

Find your local Swegon Sales Representative at www.swegon.com.

DESIGNEDGE™ DELIVERABLES:

A Ventilation strategies and budgets
B Project Specific ERV/HRV Specification
C ERV/HRV Layout
D ERV/HRV Detail
E ERV/HRV data for PHPP & WUFI
F Submittal Review Guideline
G Heating & cooling strategy and integration
H Ventilation system control sequence & points list

Hi (Insert Name) Welcome to DesignEdge™, Swegon's HVAC application engineering service for DOAS application

Please use powerpoint template edge.png for project packages

Here are some important things you should note:

- Gold units are Passive House certified

For energy, design and sizing, we are based on the following climate and assumptions:

- Winter QH = 8.57 kW, Winter QH/CB 238.24%, WUFI 5.63
- Summer QH = 88.38 kW, Summer HRV 35%, WUFI 5.63
- 52% RH

Your DesignEdge™ package includes the following:

A Project specific schedule
B Project specific motor specification
C Unit technical product
D Front Control for Gold RX
E Gold BACnet Points List
F Gold Passive House Brochure
G Sequence of Operation
**Certificate**

**Certified Passive House Component**
For cool, temperate climates.

**Category:** Heat recovery unit  
**Manufacturer:** Swegon AB  
53523 Kvånum, Sweden  
**Product name:** GOLD RX Series

This certificate was awarded based on the following criteria:

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal comfort</td>
<td>Supply air ≥ 62°F, 16.5°C at outdoor air = 14°F, -10 °C</td>
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<tr>
<td>Effective heat recovery rate</td>
<td>η_{HR,eff} ≥ 75%</td>
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<tr>
<td>Electric power consumption</td>
<td>( P_{el} &lt; 0.77 \text{ W/CFM}, \leq 0.45 \text{ Wh/m}^3</td>
</tr>
<tr>
<td>Performance number</td>
<td>≥ 10</td>
</tr>
<tr>
<td>Airtightness</td>
<td>Interior(^1)(^2)) and exterior air leakage rates less than 3% of nominal air flow rate</td>
</tr>
</tbody>
</table>
| Balancing and adjustability | Air flow balancing possible: required  
Automated air flow balancing: required |
| Sound insulation          | It is assumed that large ventilation units are installed in a separate building services room.  
Sound levels documented in the appendix of this certificate |
| Indoor air quality        | Outdoor air filter F7 (MERV 13)  
Return air filter F5 (MERV 10) |
| Frost protection          | Not required at \( T_{OA} > 5°F, -15°C \)                                  |

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1) Carry-over from return air to supply air side  
2) Due to heat exchanger condition the risk of carry-over from return air to supply air side exists. In order to avoid carry over into the supply air side, pressure conditions in the device must be set as given by the manufacturer.

Further information can be found in the appendix of this certificate.

www.passivehouse.com