

Overview

Exceptional Energy Efficiency



GOLD RX NA
Certified Passive House
Air Handling Unit for North America



Swegon

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.

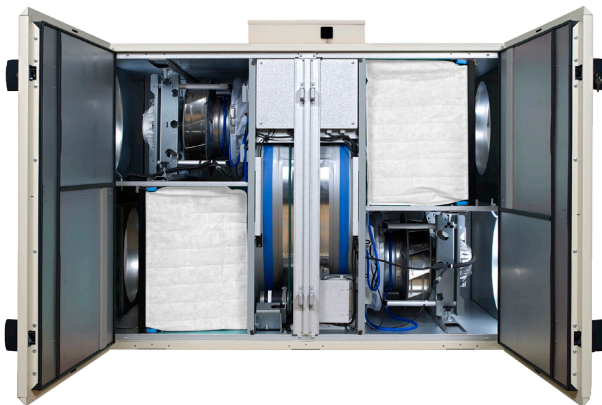
The PHI ERV certification program covers power consumption, cross contamination, energy recovery, air leakage, sound level and airflow control.

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 (cross contamination) through the wheel is critical for Passive House with a maximum level of 3%. The Swegon GOLD unit is certified 0.45% internal leakage, thanks to unique control algorithms.

Minimizing unit energy consumption is critical to achieve Passive House goals. GOLD RX units are PHI-certified to achieve the electrical power target of < 0.77 W/CFM. This is achieved with direct-drive ECM motors and unique control algorithms.

Swegon GOLD units include integral controls with air flow 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.



GOLD RX Size	Dimensions			Airflow Range for PHI Certified Operation		Max. PD (in.wc)*	Electrical Power Consumption (w/cfm)**	Heat Recovery Temperature Efficiency %†
	Length (in)	Width (in)	Height (in)	Minimum	Maximum			
				CFM	CFM			
05	60	30	40	318	589	0.888	<0.77	85
07	64	40	47	318	1071	1.063	<0.77	86
08	64	40	47	635	1047	1.04	<0.77	84
11	75	55	55	635	1450	1.128	<0.77	85
12	75	55	55	1059	1530	1.128	<0.77	84
14	82	55	62	1059	2522	1.168	<0.77	84
20	82	55	62	1483	2354	1.236	<0.77	84
25	87	63	70	1483	3237	1.316	<0.77	84
30	87	63	70	2118	2254	1.236	<0.77	84
35	96	78	82	2118	4414	1.393	<0.77	85
50	105	91	93	3178	5297	1.441	<0.77	85

* 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%

DesignEdge™

for Passive House projects



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

DesignEdge™
HVAC design made comfortable

Swegon®
April 11, 2017

Welcome to DesignEdge™
for Passive House

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

Please download your DesignEdge™ package
[Project: Insert Project Name](#)

Here are some important things you should note

- Note 1
- Note 2
- Note 3

Our analysis, design and selection are based on the following criteria and assumptions

- Criteria and assumptions 1
- Criteria and assumptions 2
- Criteria and assumptions 3

Your DesignEdge™ package includes the following

A	Project specific schedule
B	Project specific master specification
C	Unit technical printout

Certificate

Certified Passive House Component

For cool, temperate climates.

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

This certificate was awarded based on the following criteria:

Thermal comfort	Θ supply air $\geq 62^\circ\text{F}$, 16.5°C at Θ outdoor air = 14°F , -10°C
Effective heat recovery rate	$\eta_{\text{HR,eff}} \geq 75\%$
Electric power consumption	$P_{\text{el}} < 0.77 \text{ W/cfm}$, $\leq 0.45 \text{ Wh/m}^3$
Performance number	≥ 10
Airtightness	Interior ¹⁾²⁾ and exterior air leakage rates less than 3% of nominal air flow rate
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)
Frostprotection	Not required at $T_{\text{OA}} > 5^\circ\text{F}$, -15°C

- 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.

Certified for air flow rates of (total series)

317 – 5297 cfm
540 – 9000 m³/h

Requirements non residential buildings

$\eta_{\text{HR,eff}} \geq 84\%$

Electric power consumption
0.77 W/cfm,
0.45 Wh/m³



CERTIFIED COMPONENT

Passive House Institute