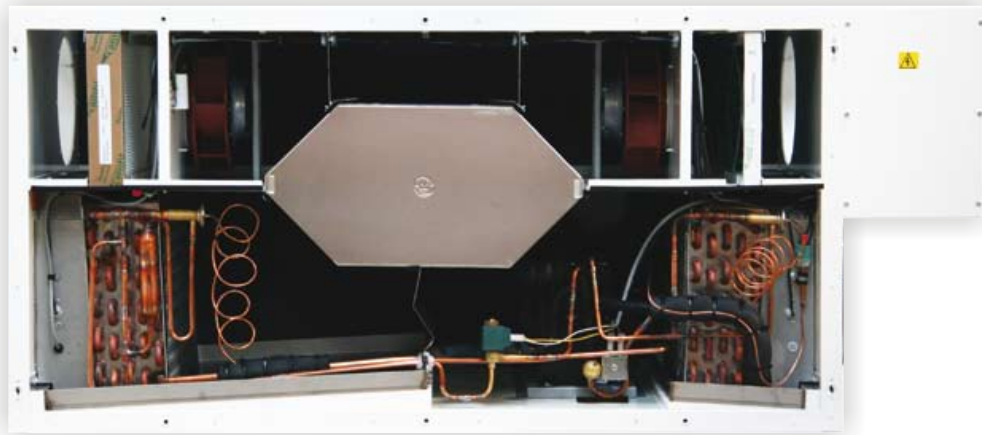


# GE Premium 2



## Description

This is a heat recovery ventilation appliance consisting counter-current heat exchanger, an integral heat pump with heating and cooling, supply and extract air fans, F7 pollen supply air filter, G4 extract air filter and Optima 300 Design controller.

The GE Premium 2 can be supplied with the following options:

- Water frost sensor
- Fresh air and extract air damper with motor for Ø200 mm duct
- Water and electrical heating element for Ø200 mm duct
- Thermostat and motor valve
- Fan Guard

## Suitability

The GE Premium 2 is used when mechanical balanced ventilation is needed. Energy from the extract air is recovered and delivered to the supply air.

At first the energy is recovered in the counter-current heat exchanger and then further heat is supplied to the air by the heat pump, providing comfort heating for the residence.

The heat pump can also cool the supply air during the summer.

It is suitable for homes with an area up to 316m<sup>2</sup> at an average room height of 2.4m but with a minimum air change of 180m<sup>3</sup>/h at 125Pa.

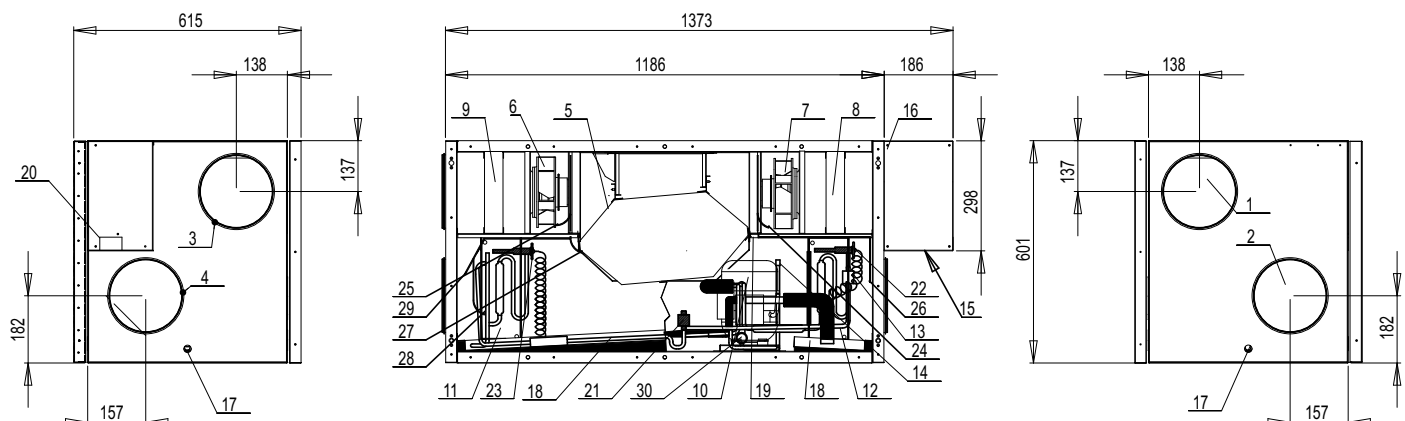
Air exchange/h	Max. capacity m <sup>3</sup> /h	Living area m <sup>2</sup> *
0.5	380	316

\* The power consumption is not included when calculating the living area

## Dimensions

GE Premium 2

Dimensions in mm



- |                              |                      |                       |                              |                              |
|------------------------------|----------------------|-----------------------|------------------------------|------------------------------|
| 1 Fresh air                  | 7 Extract air fan    | 13 High pressure gov. | 19 Supply boss at back       | 25 Fresh air sensor          |
| 2 Exhaust air                | 8 Extract air filter | 14 Process valve      | 20 Switch                    | 26 Supply air sensor         |
| 3 Extract air                | 9 Supply air filter  | 15 Cable entry        | 21 Magnetic valve defrosting | 27 Before cooling air sensor |
| 4 Supply air                 | 10 Compressor        | 16 Electrical box     | 22 Thermo valve condenser    | 28 Cooling coil sensor       |
| 5 Counter current heat exch. | 11 Evaporator        | 17 Condensat.conn Ø15 | 23 Thermo valve evaporator   | 29 Exhaust air sensor        |
| 6 Supply air fan             | 12 Condensator       | 18 Condensation tray  | 24 Extract air sensor        | 30 Four-way valve            |



## Technical data

### Electrical connections:

**Without electrical heating and preheating coil**

1 x 230V + N + PE + 10 A, 50 Hz

**With electrical heating and preheating coil**

Max 1.2 + 1.0 kW

1 x 230V + N + PE + 16 A, 50 Hz

### Fans:

R3G 190

### Motor:

EC motor with integrated electronics

### Insulation class

B

### Protection class

IP 44

### Fan speed (Max. per motor):

3,320 Rpm

### Fan power input (Max. per motor):

71 W

### Fan current (Max. per motor):

0.50 A

### Speed regulation:

Individually the fans can be set to 3 different speeds

### Temperature working range of the heat pump:

-15°/+35°C

### Compressor:

NE 9213GK

### Min. air volume:

180m<sup>3</sup>/h

### Max. compressor power input:

767W

### Max. compressor current:

3.3A

### Average compressor power output:

1,800W

### Average compressor power input:

575W

### Refrigerant:

R407c

### Refrigerant weight:

900/1,000g

## Automation

The GE Premium 2 is delivered with an Optima 300 controller with factory settings, so that the appliance can be started without setting-up the menu. The settings are standard and can be changed to the specific needs and demands of your living area.

## Control panel



### Speed (1)

This sets the fan speed to levels 0-1-2-3-4.



### Extended operation (2)

This sets the timer to forced operation from 0 to 9 hours.



### After-heat (3)

This turns the supplementary after-heat on or off.



### Temperature (7)

This sets the room temperature.



### Information (6)

This gives a good overview of the appliance's current operating condition.



### Filter (5)

Use this function to reset the filter alarm.

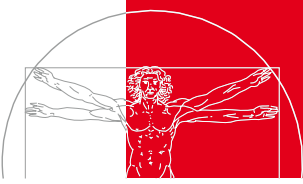
## Sound data

Measuring point	1 m in front of the unit			Extract duct			Supply duct			
	Airflow	1	2	3	1	2	3	1	2	3
		Lp dB			Lwu dB			Lwi dB		
63 Hz	49	50	58	90	92	94	89	93	94	
125 Hz	51	55	55	87	94	97	87	97	98	
250 Hz	47	53	55	82	90	94	84	93	94	
500 Hz	34	43	45	65	78	84	74	79	83	
1000 Hz	-	-	33	60	71	77	64	73	77	
2000 Hz	-	-	-	59	70	75	61	71	74	
4000 Hz	-	-	-	44	63	68	51	64	68	
8000 Hz	-	-	-	31	49	57	38	50	55	
Average		Lp dB(A)			Lwu dB(A)			Lwi dB(A)		
	41	46	48	75	84	88	76	86	88	

1: Measured at 40% of max. speed with compressor on

2: Measured at 70% of max. speed with compressor on

3: Measured at 100% of max. speed with compressor on



# GE Premium 2

## Capacity

The capacity lines are based on an average of the supply and extract air volume in an appliance with filters.

### Max. Capacity:

At 125 Pa the max. capacity is: 380m<sup>3</sup>/h.  
With an average room height of 2.4 m, the living area is calculated as follows:

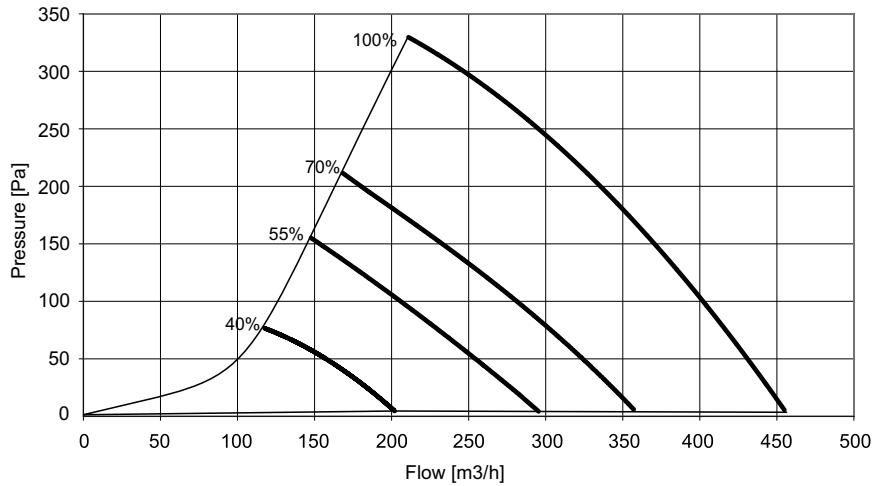
Living area (m<sup>2</sup>) x Room height (m) x Air-change/h  
= Max. capacity

$$\text{Living area (m}^2\text{)} = \frac{\text{Max. capacity (m}^3\text{/h)}}{\text{Room height (m)} \times \text{Air-change}}$$

### Example:

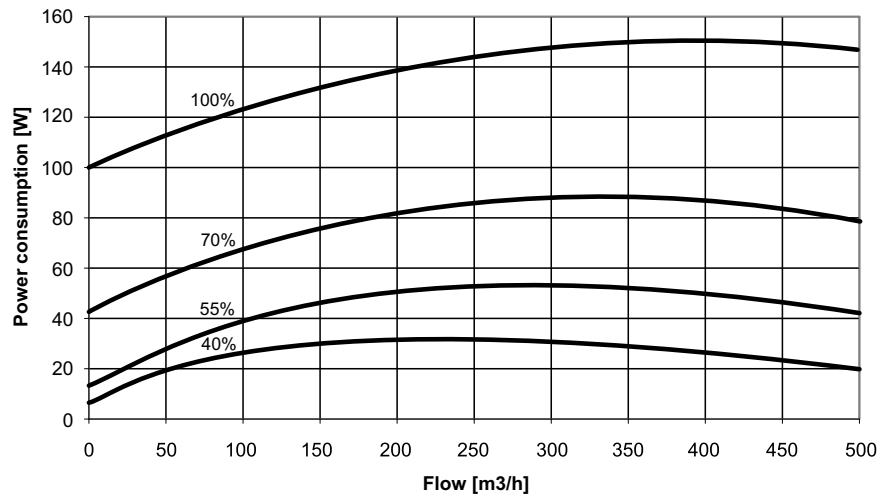
$$\text{Living area (m}^2\text{)} = \frac{380\text{m}^3\text{/h}}{2.4 \times 0.5\text{/h}} = 316\text{m}^2 *$$

\* The power consumption is not included when calculating the living area



## Total power consumption:

For both fans and controller.

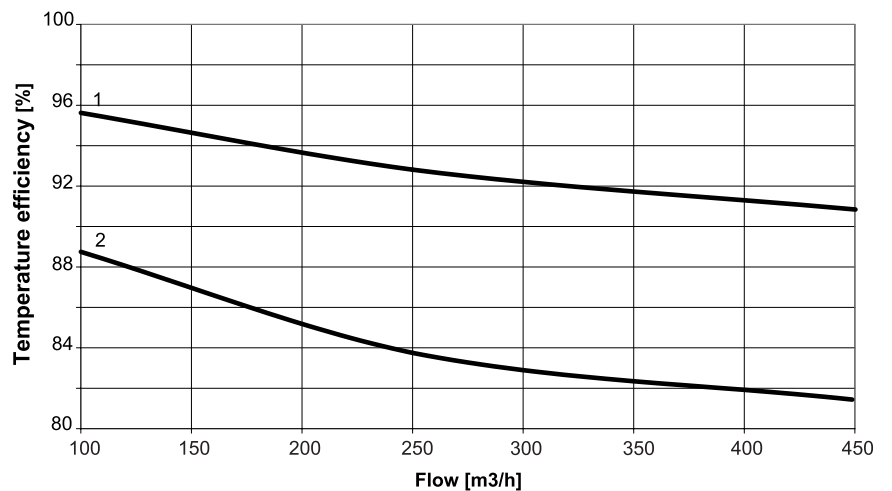


## Heat recovery rate

Heat recovery rate, flow  $m_{in} = m_{out}$   
There has been no consideration taken for any freezing of the heat exchanger at low outdoor temperatures.

1 = Temp.: -12 °C  
RF: 50%

2 = Temp.: 4 °C  
RF: 50%



# GE Premium 2



## Construction

### Size:

(h x l x d) ex. connecting pieces and electric box  
601 x 1,186 x 615mm

### Cabinet:

Fully closed hot galvanised plate with 30mm insulation.  
Plastic-coated white RAL 9010.

### Duct connection:

Ø200mm with rubber ring seal

### Front:

Front with quick locks for filter service

### Heat exchanger:

Salt-water resistant aluminium

### Condensation tray:

Stainless steel

### Condensation connection:

Stainless steel Ø15mm

### Filters:

#### Fresh air

F7 filter

#### Exhaust air

G4 filter

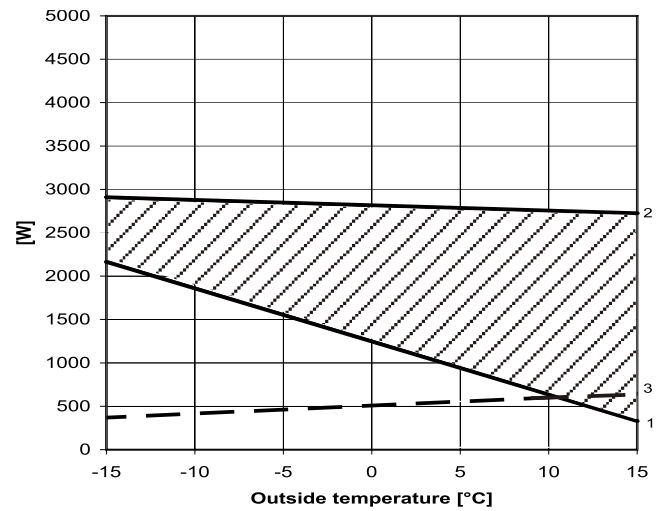
### Weight:

126kg

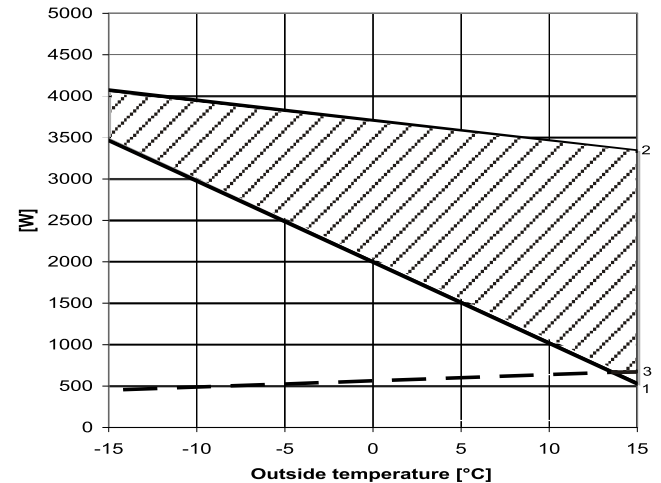
## Capacity

The GE Premium 2's capacity varies with air quantity and outdoor air

Airflow 178 m<sup>3</sup>/h.



Airflow 285 m<sup>3</sup>/h.



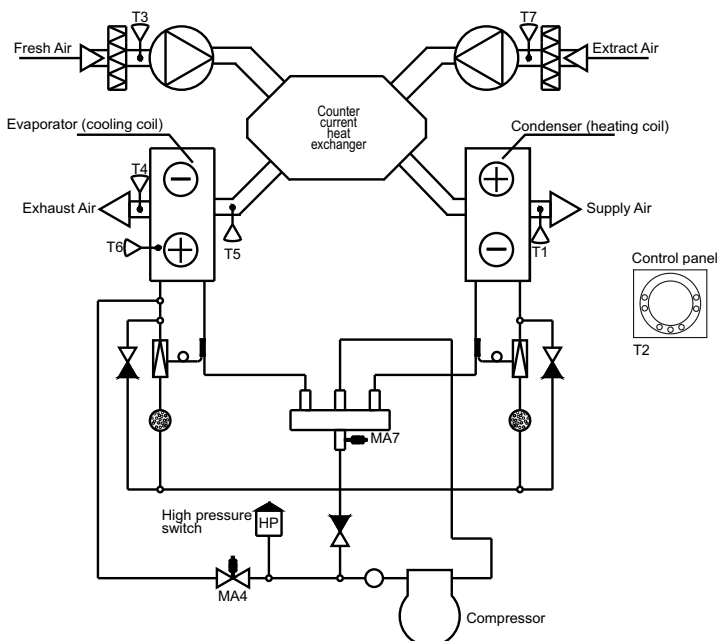
- 1) Energy consumption for heating incoming fresh air to room temperature 20°C.
- 2) Total capacity of the appliance
- 3) Power input with compressor running

The hatched area is GE Premium 2's contribution to room heating

### Cooling capacity:

With an outside temperature of 26°C, relative humidity of 45% and full speed, the cooling power output is 1,580 W.

## Flow diagram



### Sensors:

- T1: Supply air
- T2: Room
- T3: Fresh air
- T4: Extract air
- T5: Before the cooling coil
- T6: Cooling coil
- T7: Exhaust air
- T8: Water freezing (for the water-afterheating surface)

### Magnetic valve:

- MA4: Defrosting
- MA7: Heat/cooling