



## Description

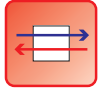
The GES Energy is a heat recovery ventilation appliance equipped with a counter-flow heat exchanger with a recovery rate of up to 97%. The ventilation appliance has supply air and extract air fans with energy saving EC motors and forward curved fan blades.

The GES Energy is delivered with the following:

- Counter current heat exchanger
- 100% summer bypass
- Fans with energy saving EC motors and forward curved fan blades
- F7 filter on supply air motor and G4 filter on exhaust air motor
- Complete Optima 250 DESIGN automation
- User friendly Optima DESIGN control panel

GES Energy options:

- In-line duct heater
- Fresh air damper, motorised
- Exhaust air damper, motorised



## Suitability

It is suitable for domestic ventilation installations where high temperature efficiency and low energy consumption are required. This means that new regulations for low energy consumption can be met.

The GES Energy is normally used in homes with an area up to 208m<sup>2</sup> (at an average room height of 2.4m and an air exchange rate of 0.5 air changes per hour).

Air exchange/h	Max. capacity m <sup>3</sup> /h	Living area m <sup>2</sup> *
0.5	250 (at 125Pa/hr)	208

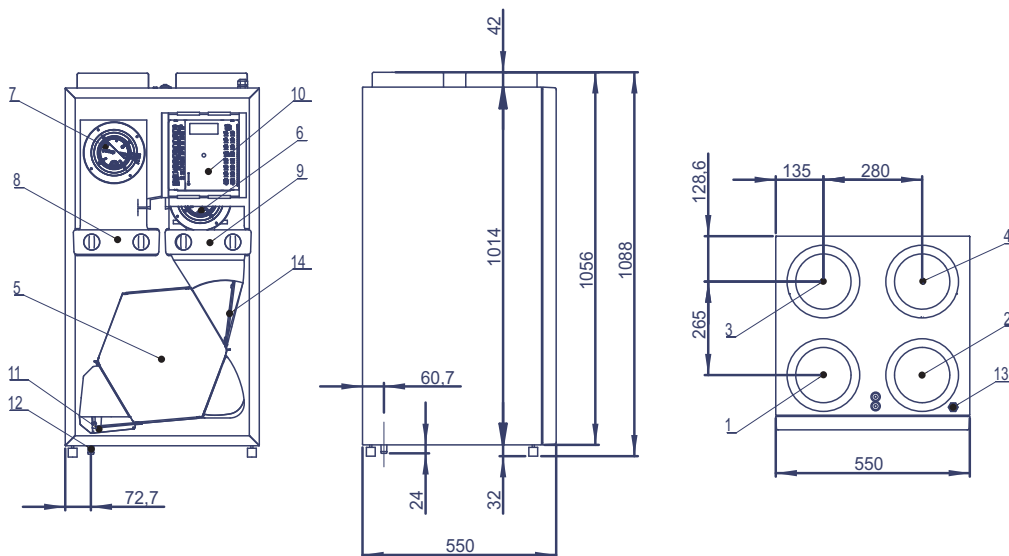
\* The power consumption is not included when calculating the max. living area

## Types

- GES Energy vertical with bypass
- GES Energy horizontal with bypass

## Dimensions

GES Energy (vertical)  
Dimensions in mm



- |                |                                   |                             |               |
|----------------|-----------------------------------|-----------------------------|---------------|
| 1: Fresh air   | 5: Counter current heat exchanger | 9: Extract air filter       | 13: 230V/50Hz |
| 2: Extract air | 6: Supply air fan                 | 10: Electrical box          | 14: Bypass    |
| 3: Exhaust air | 7: Extract air fan                | 11: Condensate tray         |               |
| 4: Supply air  | 8: Fresh air filter               | 12: Condensate drain/outlet |               |



## Technical data

### Electrical connection

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

### Fans

Forward curved fan blades

### Motor

EC motor with integrated electronics

### Insulation class

B

### Fan protection class

IP 44

### Fan speed (Max. per motor)

1,970 Rpm

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

83 W

### Fan current (Max. per motor)

0.68 A

## Construction

### Size

(l x d x h) excl. connections

1,014 x 550 x 550 mm

### Cabinet

Galvanized steel plate 0,7 mm with powder coating

### Duct connection

Ø160 mm

### Front

Made of ABS with insert in EPS and removable filter drawers

### Wall mounting

With Ø8 mm holes for wall mounting

### Counter current heat exchanger

Made of PS (polystyrene) and operates within a temperature range of -20°C to +50°C

### Condensation drain

PA tube Ø15 mm (outside)

### Filters

F7 filter (supply air)

G4 filter (extract air)

### Weight

32 kg

## Automatic Settings

GES ENERGY is delivered with a complete Optima 250 Design controller with default factory settings, so that the appliance can be started, without first setting-up the menu. The settings are standard and can be changed to your requirements, thereby getting the most out of the appliance.

## 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.



### Main menu (4)

This function enables the main menu and hence access to the sub-menus.

## Sound data

Measuring point	1m in front of the appliance			Extract air duct			Supply air duct			
	Air flow (%)	1	2	3	1	2	3	22	46	100
		Lo dB)			Lwu dB			Lwi dB		
63 Hz	-	-	-	45	62	68	50	65	70	
125 Hz	-	-	-	39	56	64	49	66	74	
250 Hz	-	-	-	31	45	52	44	60	68	
500 Hz	-	-	-	28	39	44	41	55	61	
1000 Hz	-	-	-	23	33	40	42	56	63	
2000 Hz	-	-	-	16	24	31	29	47	55	
4000 Hz	-	-	-	17	19	24	22	40	48	
8000 Hz	-	-	-	19	19	20	19	28	36	
Average		Lo dB(A)			Lwu dB(A)			Lwi dB(A)		
	-	-	40	31	44	51	45	59	67	

Measured at 40% with airflow of 265m<sup>3</sup>/h  
 Measured at 70% with airflow of 185m<sup>3</sup>/h  
 Measured at 100% with airflow of 100m<sup>3</sup>/h



## Capacity

The capacity (performance) lines are based on an average of the supply and extract air volume.

The blue line shows the consumption of energy for both fans and controller according to Passiv Haus regulations (0.45 W/m<sup>3</sup>/h = 1,620 J/m<sup>3</sup>).

### Max. Capacity

At 125Pa the maximum capacity is: 250m<sup>3</sup>/h.  
At an average room height of 2.4 m, the living area is calculated to cover:

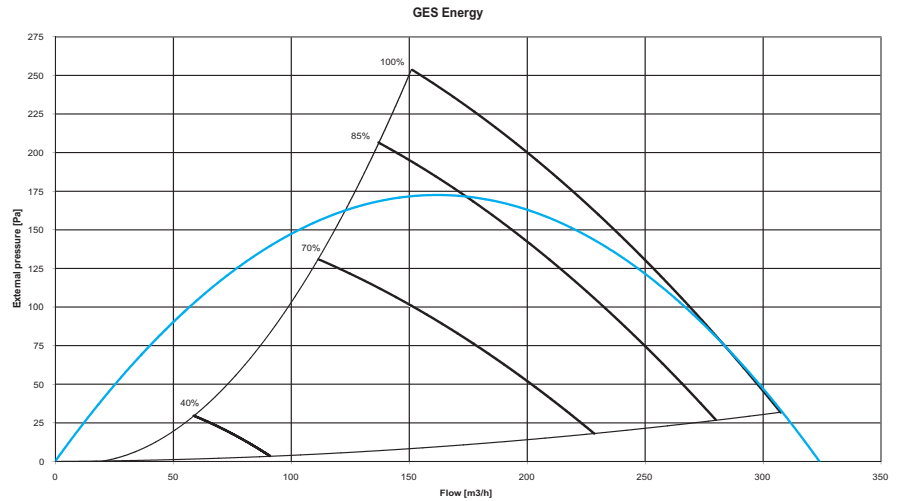
Living area (m<sup>2</sup>) x Room height (m) x Air exchange/h = Max. capacity

Living area (m<sup>2</sup>) =

$$\frac{\text{Max. capacity (m}^3\text{/h)}}{\text{Room height (m) x Air exchange}}$$

Example:

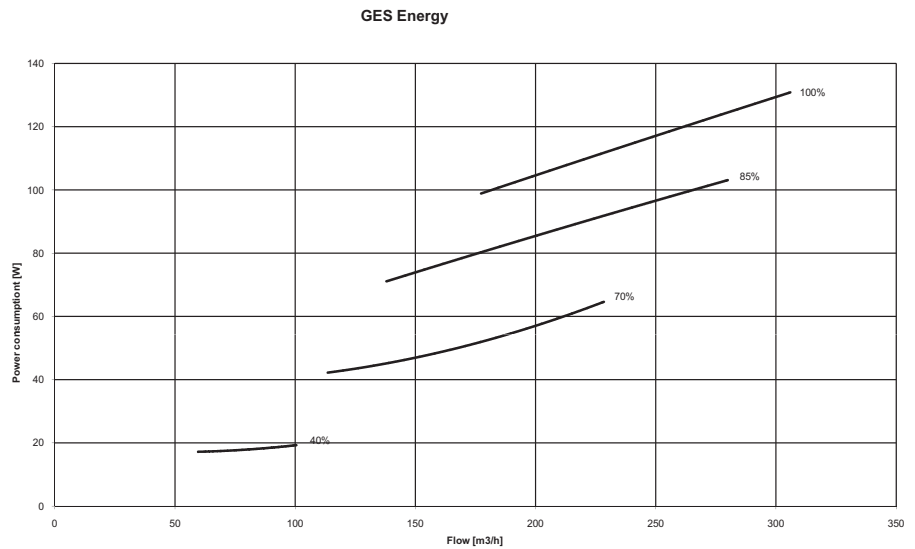
$$\text{Living area (m}^2\text{)} = \frac{250\text{m}^3\text{/h}}{2.4 \times 0.5} = 208\text{m}^2$$



## Total power consumption

For both fans and controller.

- 1 = 100%
- 2 = 85%
- 3 = 70%
- 4 = 40%



## Heat recovery rate

Heat recovery rate, Volume Flow  $m_{in} = m_{out}$

There has been no consideration taken of freezing of the heat exchanger at low outdoor temperatures.

'Dry' heat recovery rate according to EN 308 with fresh and extract airflows being equal.

Fresh air temperature = 5°C  
Extract air temperature = 25°C  
Relative Humidity of Extract air <27.7%

