

# Centralised Heat Recovery

## (PHS\_HRV550\_H)



Whole-house heat recovery unit.  
Suitable for vertical installation.



Multifunction Controller  
(supplied as standard)

### Features & Benefits

- **Ease of installation:** fixing bracket supplied to easily wall mount the unit.
- **Simplified electric wiring:** the unit is supplied pre-cabled.
- **Removable front panel** for quick access to filters and heat exchanger.
- **G4 filters** easy removable for cleaning. The unit is also provided with the F7 filter accessory at the intake side.
- **Integral automatic summer bypass (filtered)** to stop recovered heating re-entering house.
- **Automatic anti-frost protection** to prevent ice build-up in the unit.
- **Left/right configuration** of the unit for mounting flexibility.

### Specification

- **Outer fan casing** manufactured from powder coated galvanised sheet steel providing long lasting and robust construction. The unit is finished in white RAL 9010.
- **Internal structure** manufactured from EPP (expanded polypropylene) providing reduced sound emissions and maximised air tightness and thermal insulation.
- **EC external rotor motors** fitted as standard for energy saving. Provided with integral thermal protection, mounted on sealed for life ball bearings.
- **Backward curved centrifugal impeller** dynamically balanced and directly driven by the motor to provide a smooth airflow through the unit.
- Highly efficient **counterflow heat exchanger** to maximise thermal recovery.

### Operation

The unit is supplied with a multi-function LCD display as standard for automatic control and convenience, providing:

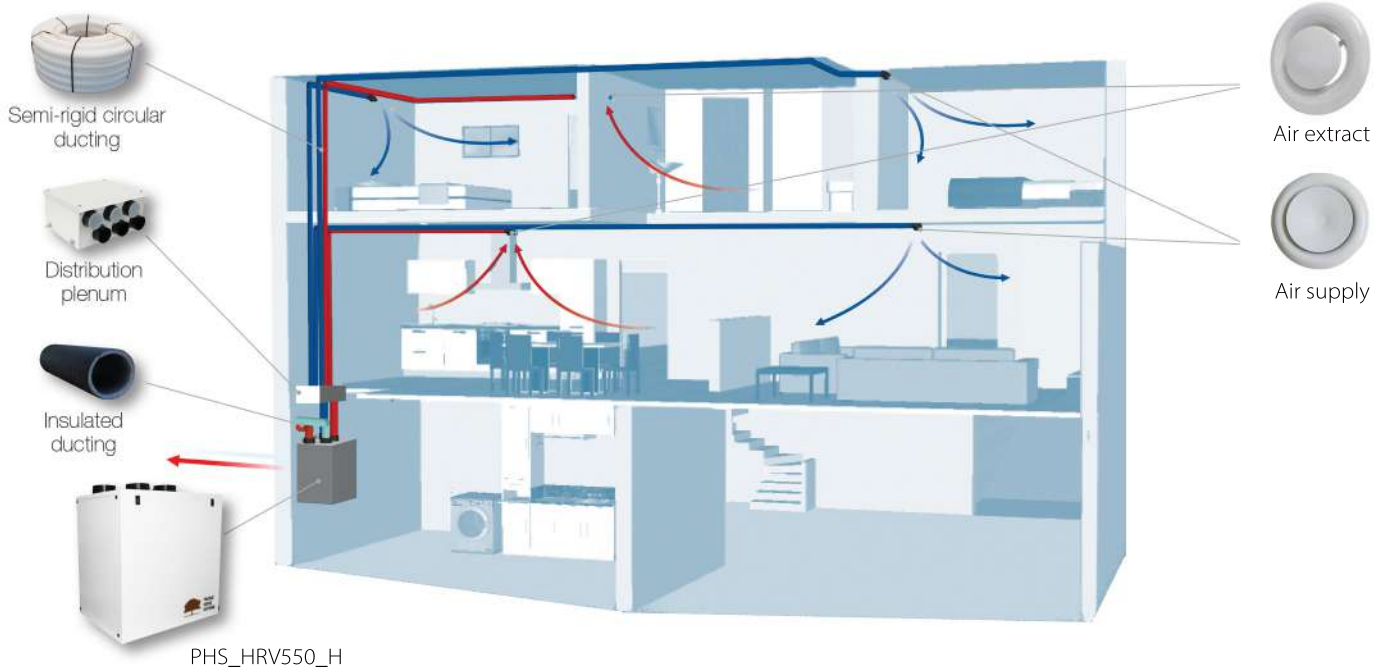
- 3 speed settings (adjustable).
- Boost option.
- Holiday mode.
- Night mode.
- Weekly timer.
- Bypass setting.
- Airflow balancing.
- Filter replacement and fan failure indicator.
- Working hour counter.
- Setting saving and loading.
- Suitable for remote ambient sensors.
- ModBus interface.
- Connection to remote pre/post heating element.

### SAP Appendix Q Performance

K+n wet rooms	SFP (W/l/s) [2009]	Efficiency (%) [2009]	SFP (W/l/s) [2012]	Efficiency (%) [2012]
n=1	0.58	94%	0.57	93%
n=2	0.53	93%	0.58	92%
n=3	0.54	93%	0.63	91%
n=4	0.58	92%	0.73	90%
n=5	0.63	91%	0.86	90%
n=6	0.72	90%	1.04	89%
n=7	0.84	90%	1.23	88%

### AGENT DETAILS:

# Example of a complete MVHR System



**Application:** Can be used for both new builds and retrofit projects.

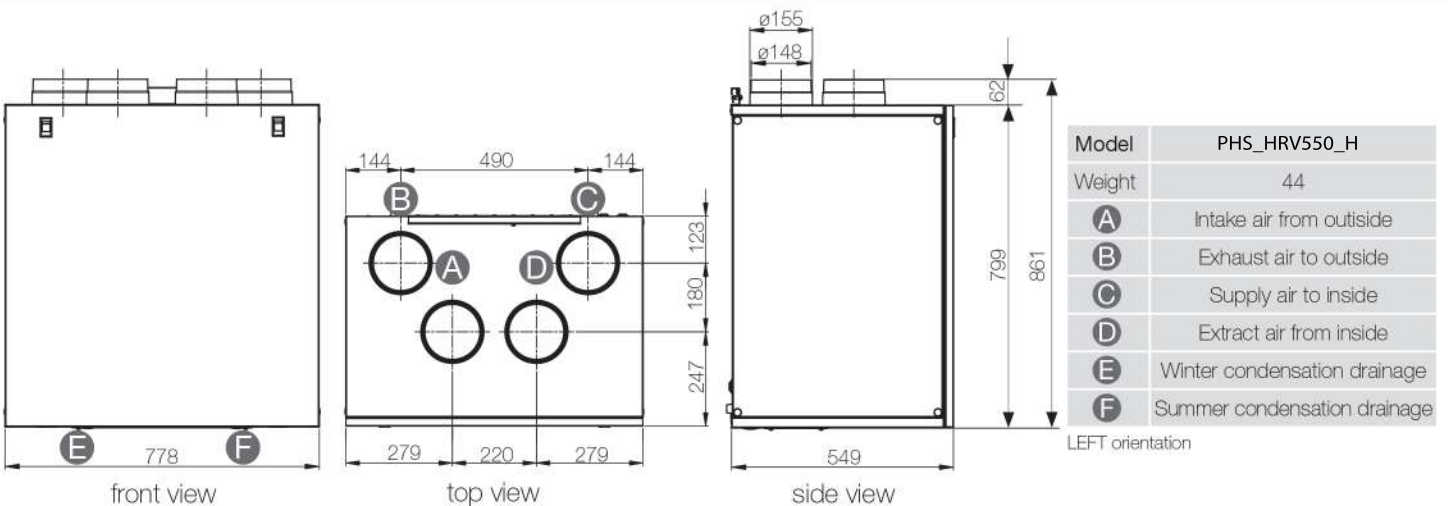
**How it works:** A heat recovery ventilation system works by extracting moist and stale (used) air from wet rooms, kitchen and the utility room in your home, it recovers the otherwise lost heat from the extracted air and results in reduced energy costs.

It also continuously supplies balanced, clean and filtered fresh air which results in very controlled humidity levels, reduced condensation risks, reduced opportunities for mould growth and an overall healthier living environment.

**Energy saving:** The preheated fresh air and continuous air changes reduce the demand for additional space heating. The EC brushless motors significantly reduce the electricity consumption. The nighttime mode further reduces consumption.

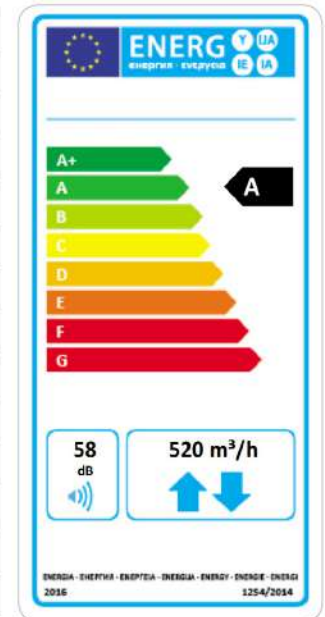
**Indoor Air Quality:** A correctly specified mechanical ventilation system can ensure the quality of the indoor air is constantly maintained for the health and well-being of the occupants as well as of the building. Duly maintained filters ensure that incoming air is suitably filtered of dust and pollen before it enters the home.

## Dimensions (mm) and Weight (kg)



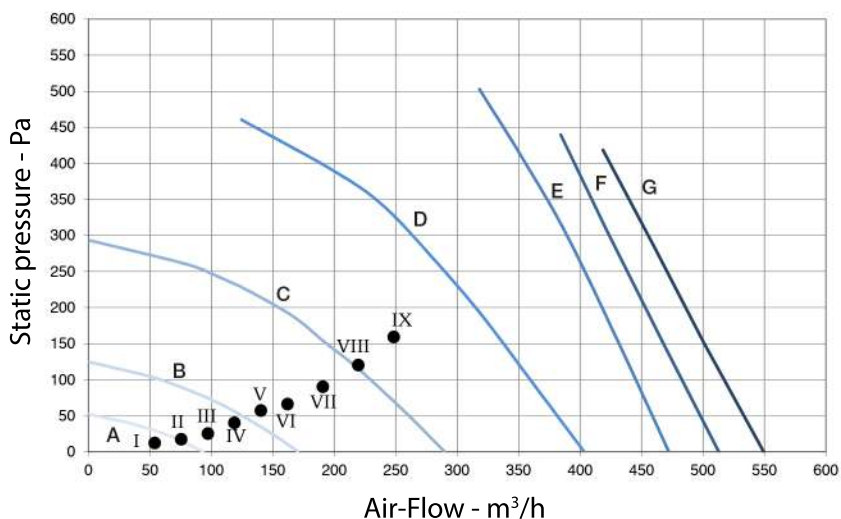
# Product fiche - ErP Directive, Regulations 1253/2014 - 1254/2014

a)	Mark	-	PASSIVE HOUSE SYSTEMS		
b)	Model	-	PHS_HRV550_H		
c)	SEC class	-	A	A	B
c1)	SEC warm climates	kWh/m <sup>2</sup> .a	-15	-10,7	-6,7
c2)	SEC average climates	kWh/m <sup>2</sup> .a	-39,4	-34,4	-30,0
c3)	SEC cold climates	kWh/m <sup>2</sup> .a	-77,4	-71,3	-66,1
	Energy label	-	Yes		
d)	Unit typology	-	Residential - bidirectional		
e)	Type of drive	-	Variable speed drive		
f)	Type of Heat Recovery System	-	Heat recovery		
g)	Thermal efficiency of heat recovery	%	82		
h)	Maximum flow rate @ 100 Pa	m <sup>3</sup> /h	520		
i)	Electric power input (maximum flow rate)	W	333		
j)	Sound power level (L <sub>WA</sub> )	dBA	58		
k)	Reference flow rate	m <sup>3</sup> /h	364		
l)	Reference pressure difference	Pa	50		
m)	Specific power input (SPI)	W/m <sup>3</sup> /h	0,412		
n1)	Control factor	-	0,65	0,85	1,0
n2)	Control typology	-	Local demand control	Central demand control	Manual control (no DCV)
o1)	Maximum internal leakage rate	%	0,8		
o2)	Maximum external leakage rate	%	0,5		
p1)	Internal mixing rate	%	N/A		
p2)	External mixing rate	%	N/A		
q)	Visual filter warning	-	Visual filter warning on display		
r)	Instructions to install regulated grilles	-	N/A		
s)	Internet address for pre/disassembly instructions	-	www.passivehousesystems.com		
t)	Airflow sensitivity to pressure variations	%	N/A		
u)	Indoor/outdoor air tightness	m <sup>3</sup> /h	N/A		
v1)	AEC - Annual electricity consumption - warm climates	kWh	2,2	3,7	5,2
v2)	AEC - Annual electricity consumption - average climates	kWh	2,6	4,2	5,6
v3)	AEC - Annual electricity consumption - cold climates	kWh	8,0	9,6	11,0
w1)	AHS - Annual heating saved - warm climates	kWh	20,5	20,0	19,6
w2)	AHS - Annual heating saved - average climates	kWh	45,3	44,2	43,4
w3)	AHS - Annual heating saved - cold climates	kWh	88,7	86,5	84,8
	Sound pressure @ 3m <sup>(1)</sup>	dB(A)	34		
	Ambient temperature max	°C	+40		
	Degree of protection IP	-	X4		
	Marking	-	CE		



- 220-240V ~ 50/60Hz.
- air performance measured according to ISO 5801 a 230V 50Hz, air density 1,2 Kg/m<sup>3</sup>.
- data measured in the TÜV Rheinland accredited internal laboratory according to the operating document IEC OD 2048 (level CTF1)

# Performance curve



Curve	Speed %	W max	m³/h max
A (min)	23	10	94
B	32	24	170
C	46	68	289
D	60	150	403
E	75	286	472
F	90	311	513
G (max)	100	333	550

Working point	W	m³/h	SPI (W/m³/h)	ηt % <sup>(1)</sup>
I	8,6	54	0,1585	93
II	10,7	76	0,1413	93
III	13,9	97	0,1431	93
IV	19,3	119	0,1621	92
V	25,5	140	0,1818	91
VI	32,2	162	0,1990	91
VII	46,1	191	0,2414	90
VIII	63,4	220	0,2885	89
IX	84,5	248	0,3402	89

(1) thermal efficiency of the unit.



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