

ECOACTIVE HEAT RECOVERY SYSTEMS

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EcoActive
HEAT RECOVERY SYSTEMS

GDL AIR SYSTEMS LTD
AIR DISTRIBUTION SPECIALIST

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OUR PRODUCTS & SERVICES

ECOACTIVE HRU



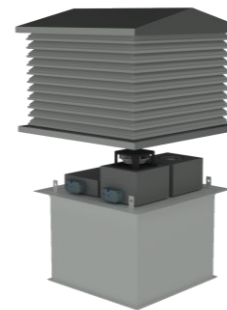
GDL's Heat Recovery Units provide fresh air ventilation with minimum efficiencies of 80% and utilise low energy fans, reducing the overall cost of heating and ventilation.

ECOACTIVE HYBRID



The EcoActive RC Hybrid unit is designed to provide ventilation all year round. Ventilation is achieved using the naturally occurring forces of air movement, wind and buoyancy by creating a differential in pressure within the unit.

ECOACTIVE HRPT



The HRPT provides ventilation into spaces all year round. The unit provides 100% fresh air whilst recovering heat to provide winter ventilation. The unit also provides passive ventilation for summer periods



ECOACTIVE

Our Eco Active units are a new addition to our energy efficient product range. All our units are manufactured to the latest ErP2018 directive for energy recovery and consumption.

The units can be situated in a high-level void, exposed within the room or mounted externally. These units give Winter and Summer ventilation, including Summer night time purging to each room.

Our Eco Active range consists of HRU's, recirculation units and HRPT (heat recovery penthouse turrets).

Our heat recovery unit has been independently tested to BS EN ISO 3744:2010, the heat exchanger has been tested to EN 308 and the specific power consumption of less than 0.45Wh/m³.

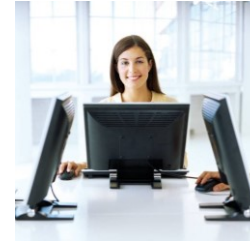
The aerodynamic characteristics of the ventilation unit was carried out to the standard EN 13141-7: 2011.

The sound power emitted by the device was in accordance with the requirements of the standard EN ISO 3744:2011.

Our project sales division can assist to select the most suitable products for your requirements.

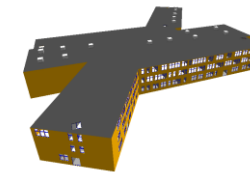
PRODUCT & SERVICES

DESIGN CONSULTANCY



Our projects division have a wealth of experience designing low energy, cost effective ventilation projects nationwide for Architects, M&E Consultants and Contractors. We offer a design and consultancy service to our clients including assistance in selecting products and putting forward proposals for ventilation systems based on industry specifications, guidelines and criteria.

THERMAL MODELLING

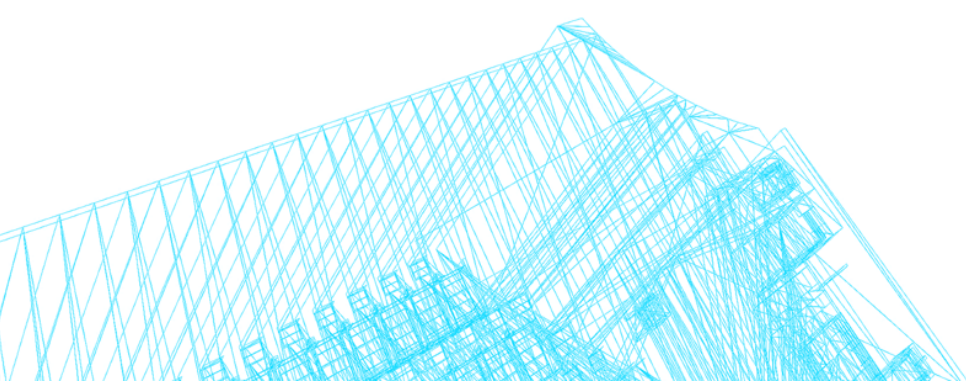


GDL has in-house thermal and air flow modelling software to simulate overheating and ventilation for the construction industry. Our designers and engineers can use 3D modelling techniques to model buildings for simulating solar heat gains using EDSL TAS. Thermal modelling is an integral part of designing systems to ensure overheating and over cooling of buildings for the future is kept to a minimum.

INSTALL SERVICE & MAINTANANCE



GDL Air Systems Ltd offer a full professional on-site installation service for all of our product range. Full turnkey packages can be offered, from manufacture, delivery and install to annual or monthly maintenance contracts. Our highly trained site installation team are experienced in the installation of our full product range.



HEAT RECOVERY UNIT

Situated within a high-level void or exposed, giving winter and summer ventilation and also summer night time purging to each room. These units can also be externally roof mounted.

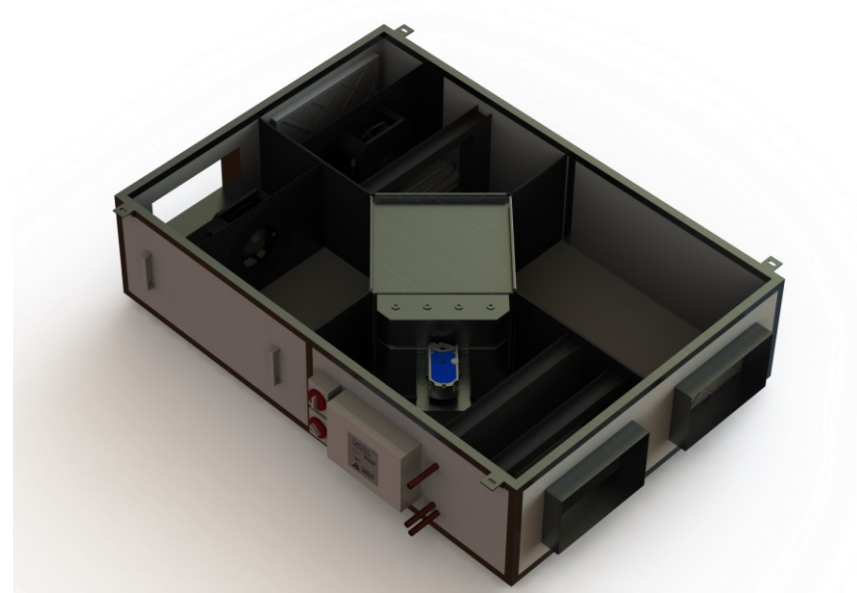
Each unit contains a heat exchanger with a minimum efficiency of 80%, giving a minimum supply air temperature of 18°C. Units also have low energy EC supply and extract fans handling volumes up to 1.0m³/s.

Each unit is controlled via a CO₂ / Temperature room sensor and intelligent controller to give the correct ventilation at all times.

Winter – Heat Recovery Ventilation through Air Quality Monitoring. The plate heat exchanger and two low energy fans provide tempered fresh air by recovering the heat from the exhaust air. This ensures the delivery temperature is always no more than 5°C below the desired occupied temperature, even if external temperatures are as low as -5°C.

Summer – Bypass Ventilation. With the use of bypass dampers, the supply or extract air does not pass through the plate heat exchanger.

Extras: LPHW coil | Electric coil | DX Cooling | Attenuators | Filters



HEAT RECOVERY UNIT

ECOACTIVE 100SB HEAT RECOVERY UNIT

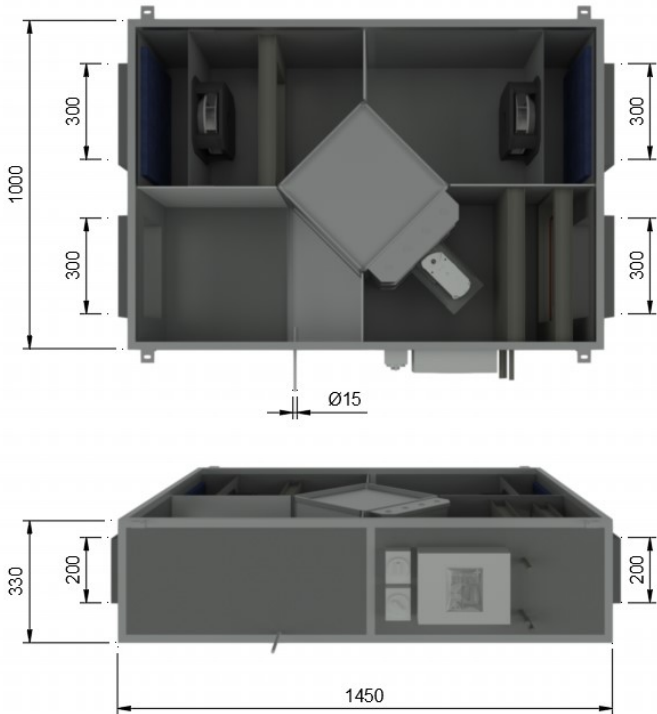
For ventilation of spaces with occupancies of up to 12 people (based on 8l/s/p). Comes with summer bypass facility.

Can be used for residential new homes when supplied with air distribution plenum box.

High efficiency counterflow heat exchanger with min. 80% efficiency.

Standard 60l/s unit or 100l/s unit available.

Optional heating and cooling coils available (increases length of unit).



Supply & Extract Fan

Power:	230V
Duty:	0.1m ³ /s
SFP:	0.43
Ext Pressure:	250Pa
Start Power:	170W
Run Power:	44W
Start Amps:	1.7A
Run Amps:	0.43A

Counterflow Heat Exchanger

PHX Eff.:	85%
Temp In (Fresh):	-3°C
Temp In (Extract):	20°C
Temp Out (Fresh):	18°C
Temp out (Extract):	7°C
Condensate:	1.2Kg/h

Noise Data Fan [Sound Power dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.1	31	37	55	53	58	61	59	51

Noise Data Casing [Break Out dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.1	31	37	55	53	58	61	59	51

*Break out noise is taken 1.5m away from unit

Unit weight: 134Kg

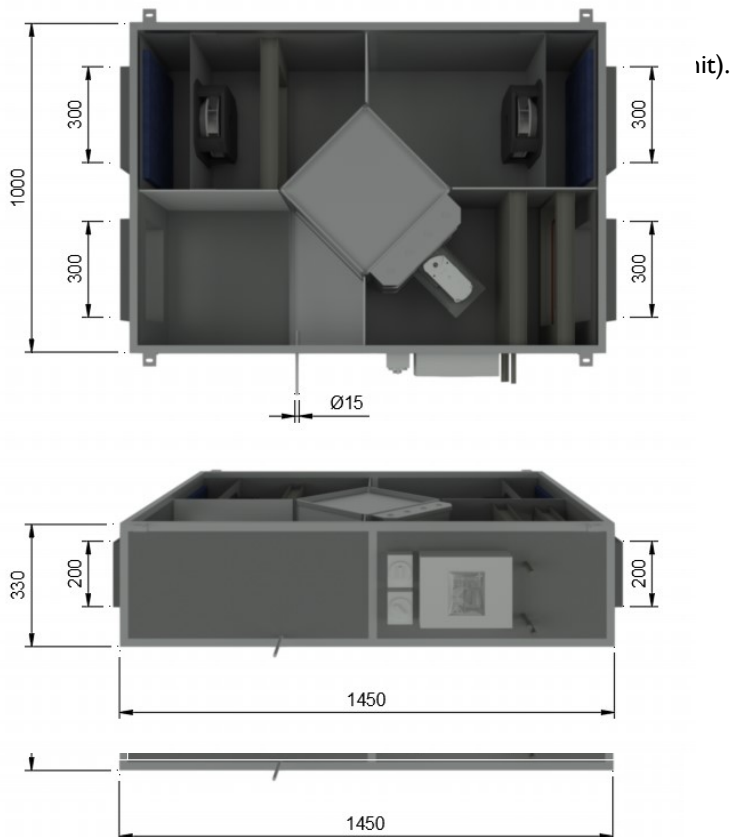
HEAT RECOVERY UNIT

ECOACTIVE 200SB HEAT RECOVERY UNIT

For ventilation of spaces with occupancies of up to 25 people (based on 8/l/s/p). Comes with summer bypass facility.

Can be used for residential new homes when supplied with plenum distribution box.

High efficiency counterflow heat exchanger with min. 80% efficiency.



Supply & Extract Fan

Power:	230V
Duty:	0.2m ³ /s
SFP:	0.57
Ext Pressure:	250Pa
Start Power:	170W
Run Power:	101W
Start Amps:	1.7A
Run Amps:	0.87A

Counterflow Heat Exchanger

PHX Eff.:	83%
Temp In (Fresh):	-3°C
Temp In (Extract):	20°C
Temp Out (Fresh):	18°C
Temp out (Extract):	7°C
Condensate:	2.5Kg/h

Noise Data Fan [Sound Power dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.2	32	42	54	65	68	70	69	66

Noise Data Casing [Break Out dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.2	21	31	43	54	57	59	58	55

*Break out noise is taken 1.5m away from unit

Unit weight: 195Kg

HEAT RECOVERY UNIT

ECOACTIVE 300SB HEAT RECOVERY UNIT

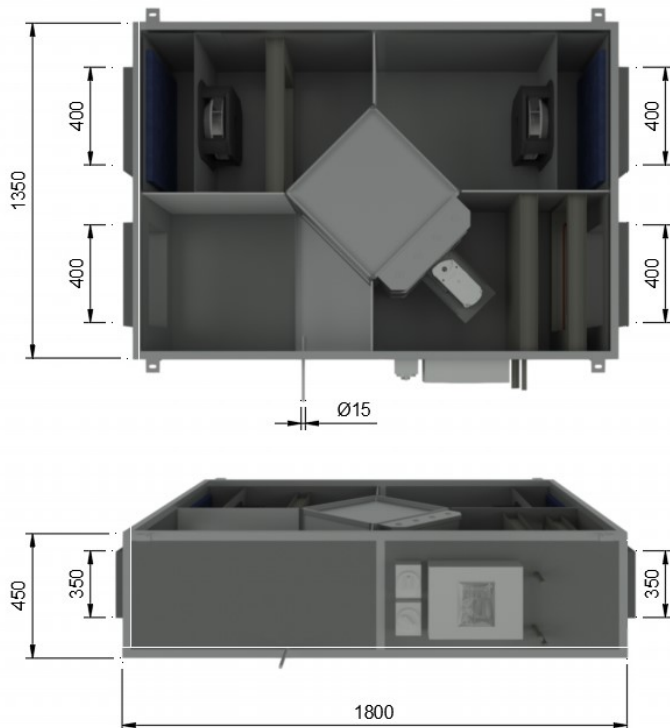
For ventilation of spaces with occupancies of up to 37 people (based on 8/l/s/p). Comes with summer bypass facility.

High efficiency counterflow heat exchanger with min. 80% efficiency.

Standard 260l/s unit or 300l/s unit available.

Optional heating and cooling coils available (increases length of unit).

Our EcoActive 300SB has been tested to Passivhaus criteria.



Supply & Extract Fan

Power:	230V
Duty:	0.3m ³ /s
SFP:	0.37
Ext Pressure:	250Pa
Start Power:	170W
Run Power:	113W
Start Amps:	1.7A
Run Amps:	1.05A

Counterflow Heat Exchanger

PHX Eff.:	84%
Temp In (Fresh):	-3°C
Temp In (Extract):	20°C
Temp Out (Fresh):	18.9°C
Temp out (Extract):	7.5°C
Condensate:	3.8Kg/h

Noise Data Fan [Sound Power dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.3	36	46	51	55	60	63	55	45

Noise Data Casing [Break Out dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.3	25	35	40	44	49	52	44	34

*Break out noise is taken 1.5m away from unit

Unit weight: 306Kg

HEAT RECOVERY UNIT

ECOACTIVE 400SB HEAT RECOVERY UNIT

For ventilation of spaces with occupancies of up to 50 people (based on 8/l/s/p). Comes with summer bypass facility.

High efficiency counterflow heat exchanger with min. 80% efficiency.

Standard 360l/s unit or 400l/s unit available.

Optional heating and cooling coils available (increases length of unit).

Supply & Extract Fan

Power:	230V
Duty:	0.4m ³ /s
SFP:	0.43
Ext Pressure:	250Pa
Start Power:	170W
Run Power:	169W
Start Amps:	1.7A
Run Amps:	1.48A

Counterflow Heat Exchanger

PHX Eff.:	88%
Temp In (Fresh):	-3°C
Temp In (Extract):	20°C
Temp Out (Fresh):	19.4°C
Temp out (Extract):	7.3°C
Condensate:	5.2Kg/h

Noise Data Fan [Sound Power dB]

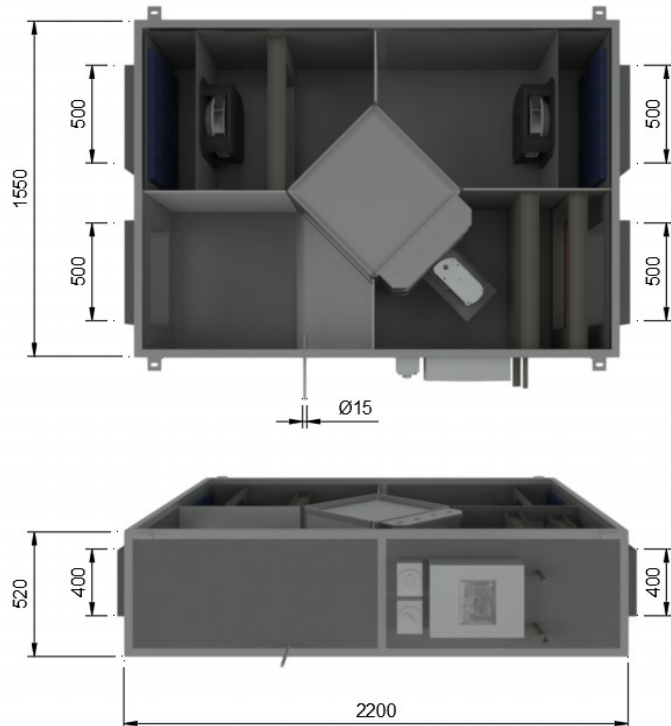
m ³ /s	63	125	250	500	1k	2k	4k	8k
0.4	32	45	53	57	63	66	60	51

Noise Data Casing [Break Out dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.4	21	34	42	46	52	55	49	40

*Break out noise is taken 1.5m away from unit

Unit weight: 496Kg



HEAT RECOVERY UNIT

ECOACTIVE 500SB HEAT RECOVERY UNIT

For ventilation of spaces with occupancies of up to 62 people (based on 8/l/s/p). Comes with summer bypass facility.

High efficiency counterflow heat exchanger with min. 80% efficiency.

Standard 460l/s unit or 500l/s unit available.

Optional heating and cooling coils available (increases length of unit).

Supply & Extract Fan

Power:	230V
Duty:	0.5m ³ /s
SFP:	0.39
Ext Pressure:	250Pa
Start Power:	740W
Run Power:	169W
Start Amps:	3.8A
Run Amps:	0.9A

Counterflow Heat Exchanger

PHX Eff.:	87%
Temp In (Fresh):	-3°C
Temp In (Extract):	20°C
Temp Out (Fresh):	19.3°C
Temp out (Extract):	7.3°C
Condensate:	6.5Kg/h

Noise Data Fan [Sound Power dB]

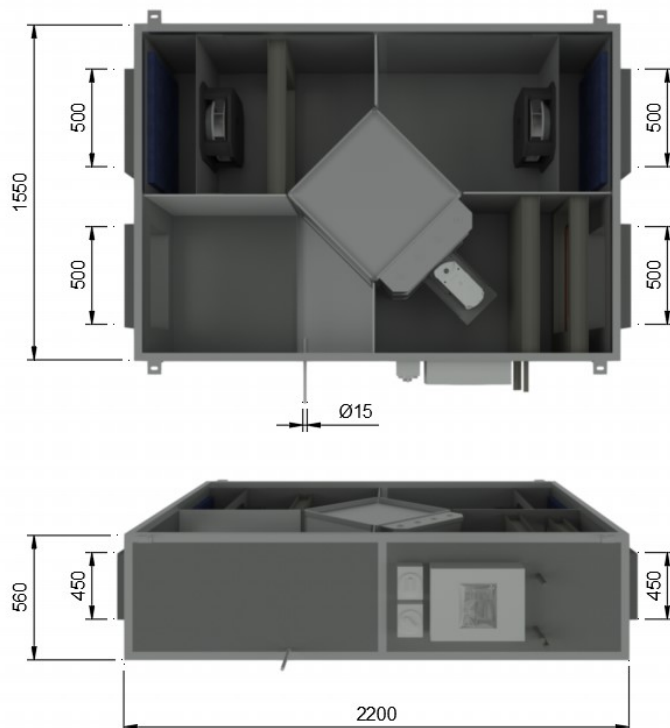
m ³ /s	63	125	250	500	1k	2k	4k	8k
0.5	27	48	50	63	62	59	53	47

Noise Data Casing [Break Out dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.5	16	37	39	52	51	48	42	36

*Break out noise is taken 1.5m away from unit

Unit weight: 535Kg



HEAT RECOVERY UNIT

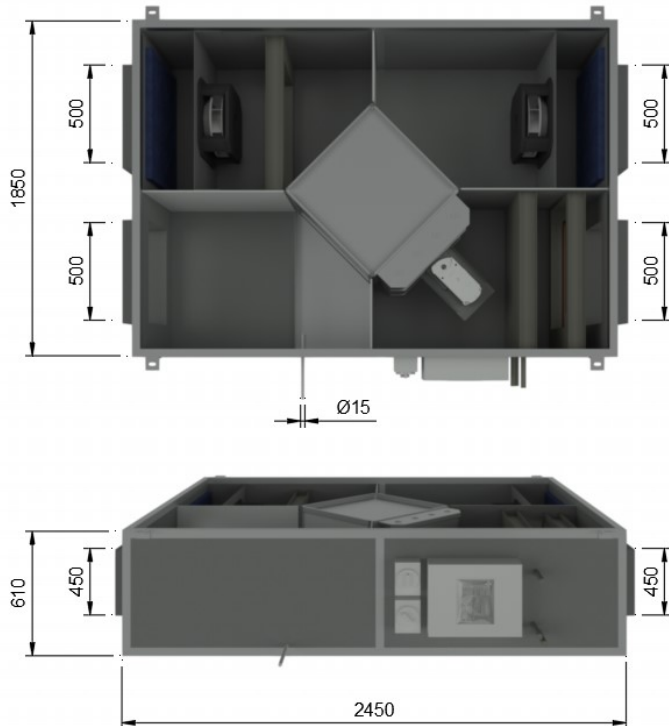
ECOACTIVE 600SB HEAT RECOVERY UNIT

For ventilation of spaces with occupancies of up to 75 people (based on 8/l/s/p). Comes with summer bypass facility.

High efficiency counterflow heat exchanger with min. 80% efficiency.

Standard 560l/s unit or 600l/s unit available.

Optional heating and cooling coils available (increases length of unit).



Supply & Extract Fan

Power:	230V
Duty:	0.6m ³ /s
SFP:	0.39
Ext Pressure:	250Pa
Start Power:	740W
Run Power:	239W
Start Amps:	3.8A
Run Amps:	1.06A

Counterflow Heat Exchanger

PHX Eff.:	87%
Temp In (Fresh):	-3°C
Temp In (Extract):	20°C
Temp Out (Fresh):	19.3°C
Temp out (Extract):	7.3°C
Condensate:	7.8Kg/h

Noise Data Fan [Sound Power dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.6	32	51	53	62	63	60	57	51

Noise Data Casing [Break Out dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.6	21	40	42	51	52	49	46	40

*Break out noise is taken 1.5m away from unit

Unit weight: 774Kg

HEAT RECOVERY UNIT

ECOACTIVE 700SB HEAT RECOVERY UNIT

For ventilation of spaces with occupancies of up to 87 people (based on 8l/s/p). Comes with summer bypass facility.

High efficiency counterflow heat exchanger with min. 80% efficiency.

Standard 660l/s unit or 700l/s unit available.

Optional heating and cooling coils available (increases length of unit).

Supply & Extract Fan

Power:	230V
Duty:	0.7m ³ /s
SFP:	0.40
Ext Pressure:	250Pa
Start Power:	740W
Run Power:	285W
Start Amps:	3.8A
Run Amps:	1.26A

Counterflow Heat Exchanger

PHX Eff.:	87%
Temp In (Fresh):	-3°C
Temp In (Extract):	20°C
Temp Out (Fresh):	19.3°C
Temp out (Extract):	7.3°C
Condensate:	9.1Kg/h

Noise Data Fan [Sound Power dB]

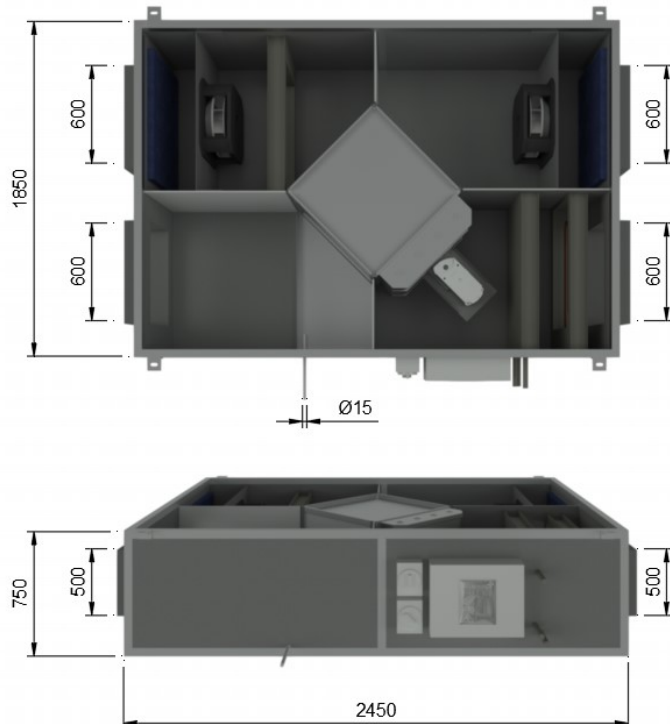
m ³ /s	63	125	250	500	1k	2k	4k	8k
0.7	38	56	57	64	66	62	60	56

Noise Data Casing [Break Out dB]

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.7	27	45	46	53	55	51	49	45

*Break out noise is taken 1.5m away from unit

Unit weight: 955Kg



HYBRID HEAT RECOVERY UNIT

ECOACTIVE HYBRID VENTILATION

The EcoActive RC Hybrid unit is designed to provide ventilation all year round. Ventilation is achieved using the naturally occurring forces of air movement, wind and buoyancy by creating a differential in pressure within the unit.

The unit incorporates an ultra-low energy fan to assist (as and when required) in providing ventilation at all times and the unit is kept pressurised to ensure an efficient natural ventilation solution with the added benefit of heat recovery.

The RC Hybrid units can be installed within high level ceiling voids or exposed within the room; the ceiling void units are supplied with spigots for ductwork connections.

The unit uses buoyancy with low energy fan assistance to deliver the supply of fresh air whilst mixing a controlled amount of extract air for heat recovery without the need for a heat exchanger.

Our units are assembled and constructed from double skinned panels to prevent condensation and limit breakout noise. The panels are insulated with 30mm mineral wool fiber.

The EcoActive RC Hybrid unit costs less than £4 a year to operate. This is based on the 128l/s unit operating for 8 hours a day for a total of 195 days.

GDL's EcoActive RC Hybrid units are manufactured in two sizes; the RC 200 Hybrid can ventilate spaces to a minimum of 128l/s and the RC 300 Hybrid provides a minimum ventilation of 256l/s.



HYBRID HEAT RECOVERY UNIT

ECOACTIVE RC200 HYBRID

For ventilation of spaces with occupancies of up to 16 people (based on 8l/s/p).

Optional heating and cooling coils available.

A pair of units can be used on a Master & Slave configuration with a single room controller.

Noise Data Fan [Sound Power dB] Exposed Unit

m ³ /s	63	125	250	500	1k	2k	4k	8k	LwA	Pa	SFP
0.128	38	48	43	41	37	34	31	25	43	50	0.129

Noise Data Casing [Break Out dB] Exposed Unit

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.128	22	27	27	25	21	18	15	9

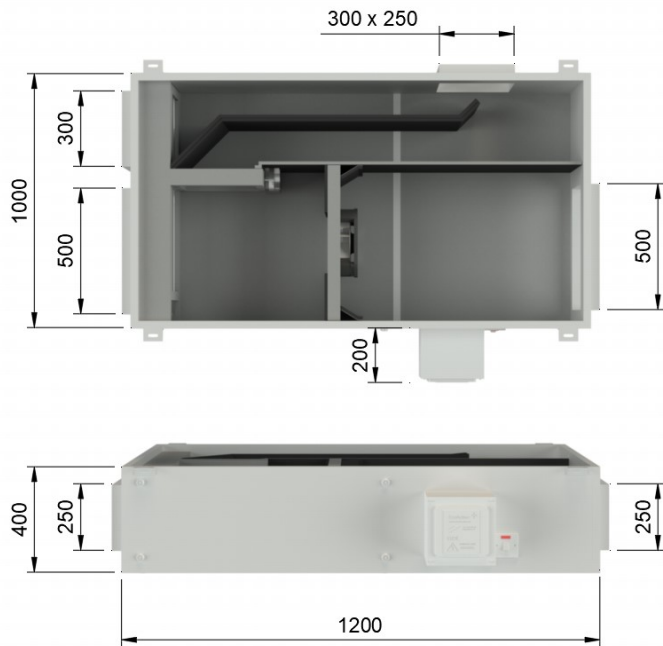
Noise Data Fan [Sound Power dB] Ducted Unit

m ³ /s	63	125	250	500	1k	2k	4k	8k	LwA	Pa	SFP
0.128	46	52	50	47	44	41	38	31	50	50	0.234

Noise Data Casing [Break Out dB] Ducted Unit

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.128	30	36	34	31	28	25	22	15

*Break out noise is taken 1.5m away from unit



HYBRID HEAT RECOVERY UNIT

ECOACTIVE RC300 HYBRID

For ventilation of spaces with occupancies of up to 32 people (based on 8/l/s/p).

Optional heating and cooling coils available.

A single unit can ventilate a classroom, no need for dual units.

Noise Data Fan [Sound Power dB] Exposed Unit

m ³ /s	63	125	250	500	1k	2k	4k	8k	LwA	Pa	SFP
0.256	46	48	51	49	46	43	42	37	52	50	0.117

Noise Data Casing [Break Out dB] Exposed Unit

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.256	30	32	35	33	30	27	26	21

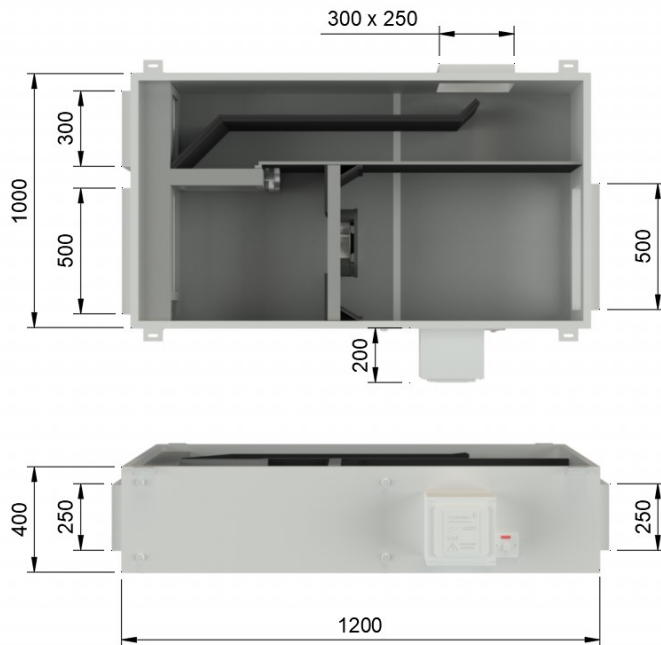
Noise Data Fan [Sound Power dB] Ducted Unit

m ³ /s	63	125	250	500	1k	2k	4k	8k	LwA	Pa	SFP
0.256	47	50	51	52	48	45	42	36	53	50	0.192

Noise Data Casing [Break Out dB] Ducted Unit

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.256	31	34	35	36	32	29	26	20

*Break out noise is taken 1.5m away from unit



HEAT RECOVERY PENTHOUSE TURRET

MIXED MODE VENTILATION

The HRPT provides ventilation into spaces all year round. The unit provides 100% fresh air whilst recovering heat to provide winter ventilation. The unit also provides passive ventilation for summer periods. The unit eliminates the need for space heating, make-up air louvres or openable windows, reducing the overall cost of the ventilation and heating system.

The HRPT comprises of two low energy fans providing a duty of up to 0.3m³/s each and a plate heat exchanger with a minimum efficiency of 80%. The overall unit is ErP 2018 compliant and has the capacity to recover heat of up to 8kW. The integrated dampers give control over the flow of air through each section.

The integral passive section of the unit provides the required summer ventilation with the added benefit of a forced mechanical ventilation system. This allows the system to provide a complete purge of the space when required.



THERE ARE TWO STANDARD UNITS:

HRPT 150L is 1000 x 1000 x 700H nominal (1000mm square shaft dimension), of which half the unit provides the passive ventilation, with the remaining half housing the mechanical fans and the plate heat exchanger. The unit is supplied with a split insulated drop duct and a 970 x 970 3-way supply and extract grille.

HRPT 300L is 1500 x 1500 x 700H nominal (1500mm square shaft dimension), of which half the unit provides the passive ventilation, with the remaining half housing the mechanical fans and the plate heat exchanger. The unit is supplied with a split insulated drop duct and a 1470 x 1470 3-way supply and extract grille.



HEAT RECOVERY PENTHOUSE TURRET

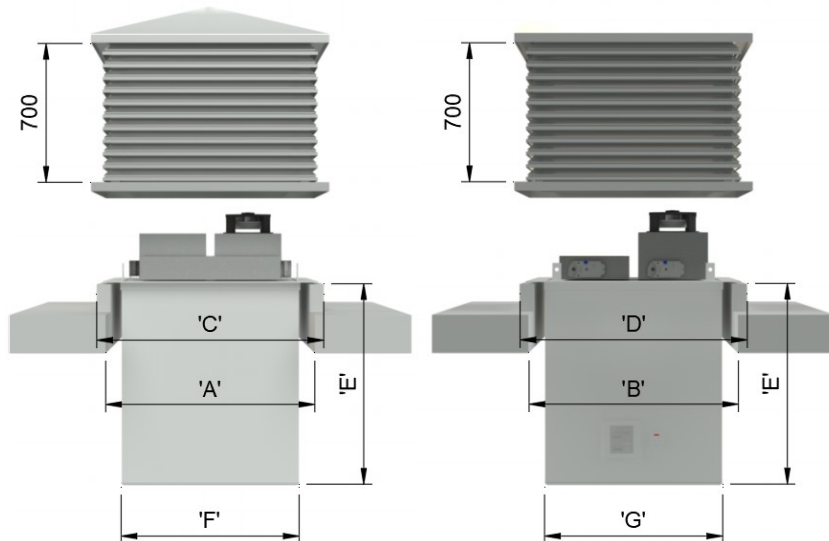
ECOACTIVE HRPT 150L & 300L

For ventilation of spaces with occupancies of up to 16 people with the HRPT150L and 32 people with HRPT300L

Builders work up stand to be designed and constructed by others.
Maximum dead load on up stand: (Based on HRPT300L)

Turret only	140kg*
Drop duct	240kg*
Combined	380kg*

The drop duct housing the heat exchanger, fans and dampers are to be supported with drop rods on uni-strut framing fixed back to primary steel or structure. Additional lugs provided to support drop duct to base of up stand.



HRPT 150L:

A x B:	1000 x 1000mm
C x D:	1200 x 1200mm
E:	TBC
F x G:	970 x 970mm

HRPT 300L:

A x B:	1500 x 1500mm
C x D:	1700 x 1700mm
E:	TBC
F x G:	1470 x 1470mm

Noise Data Fan [Sound Power dB] HRPT150L

m ³ /s	63	125	250	500	1k	2k	4k	8k	LwA	Pa	SFP
0.128	38	43	43	41	37	34	31	25	43	50	0.129

Noise Data Casing [Break Out dB] HRPT150L

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.128	22	27	27	25	21	18	15	9

Noise Data Fan [Sound Power dB] HRPT300L

m ³ /s	63	125	250	500	1k	2k	4k	8k	LwA	Pa	SFP
0.256	46	48	51	49	46	43	42	37	52	50	0.117

Noise Data Casing [Break Out dB] HRPT300L

m ³ /s	63	125	250	500	1k	2k	4k	8k
0.256	30	32	35	33	30	27	26	21

*Break out noise is taken 1.5m away from unit

CONTROLS

SIEMENS CLIMATIX

GDL Provide a Climatix™ controls solution for the Ventilation units with the ability to control reheat and cooling.

The principal controls of the unit is to supply fresh air to a space that is pre-warmed by the extract air from that space, with various modes of operation available depending on the required controls strategy.

There are several standard variants of the controls:

- Type 1 – Heat recovery without reheat or cooling
- Type 2 – Heat recovery with reheat in the supply duct
- Type 3 – Heat recovery with cooling only
- Type 4 – Heat recovery with reheat and cooling

FEATURES: STAND ALONE CONTROLLER | INTERFACE TO BACNET IP OR MODBUS | OVERRIDE BOOST FUNCTION | FAN SPEED ADJUSTMENT | TEMPERATURE CO₂ CONTROL | LPHW & EELCTRIC HEATER CONTROL | DX COOLING & HEATING | NIGHT PURGE | FAULT INDICATION | HANDHELD HMI TABLET



