environmentally friendly-economical-energy efficient

vectaire

ventilation

low energy environmentally friendly economical residential ventilation with EC motors

SAP Q Eligible

February 2016: Issue 7

WHHR Midi

NEW

MVHR - WHHR Midi Plus

- with or without summer bypass
- energy efficient EC motor
- efficient, low energy solution to controlling condensation and pollution
- provides low level continuous ventilation in a kitchen and up to 6 wet rooms
- up to 94% heat exchange efficiency
- variable choice of low (trickle) and boost speed at installation
- for wall, cupboard or loft installation
- universal handing - left or right
- low noise levels and running costs
- complies with Building Regulations Parts L1 2013 and F 2013
- manufactured in UK to ISO 9001
- with electronic control "Plus"

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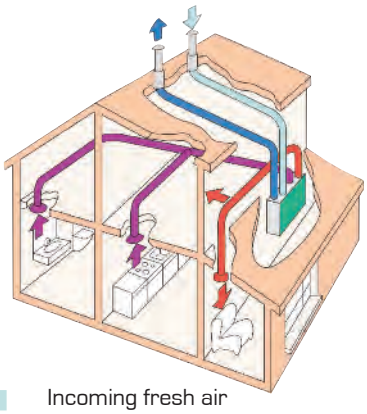
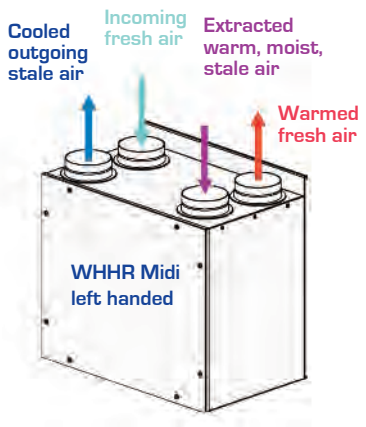
WHHR Midi

GENERAL FEATURES

- Up to 94 litre/sec at 50Pa - max 102 litre/sec capacity
- for areas up to 230m²
- up to 94% of heat recovered
- easy to install and maintain
- universal handing - left or right
- for fitting vertically into lofts, or cupboards - wall fixing bracket supplied
- variable low (trickle) and boost options
- boost speed triggered by a switched live connection from:
  - a light switch (if more than one light switch is used, **each one must be a double pole switch)**
  - DRH240 (dynamic remote humidistat)
  - PIRFF (passive infra red)
  - THM (thermostat)
  - a remote switch/pull cord
- low noise levels
- low running costs
- extra security - no need to open windows
- 2 year warranty

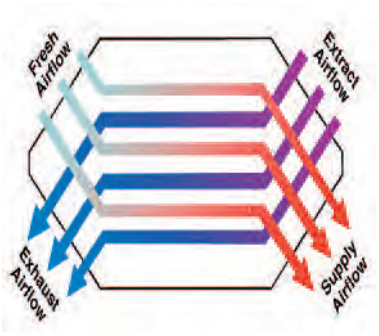


- Incoming fresh air
- Warmed fresh air
- Extracted warm, moist, stale air
- Cooled outgoing stale air
- WHHR-Midi



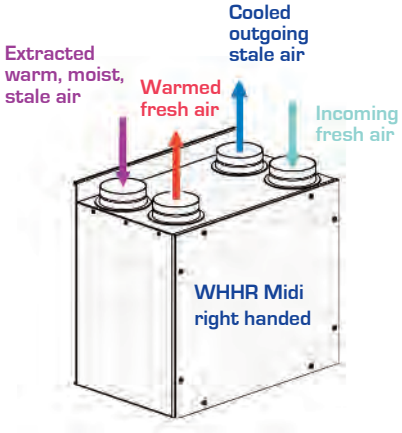
TECHNICAL FEATURES

- compact unit
- casing from steel sheet - epoxy paint finish
- thermo-acoustic lining
- low energy EC brushless motor
- single width, single inlet, direct drive, forward curved impellors
- operates in temperature up to 60ºC
- uses standard, disposable G3 filters
- counter flow heat exchanger
- manufactured in UK to ISO 9001



COMPLIES WITH

- Part L1 2013 of Building Regulations for enhanced energy saving capability
- Part F 2013 of Building Regulations for reliable, efficient ventilation
- EU RoHS Directive Compliant.
- Conforms to requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80
- CE marked
- **SAP Q eligible**
- **EST Best Practice Performance compliant**



CONTROL FEATURES

Standard

> **variable adjustment** - trickle and boost speeds set at installation for both motors independently
> **boost setting** - with integral overrun timer adjustable up to 20 minutes
> **optional delay-on-timer** - boost speed does not operate if switched off within 2 minutes (adjustable from 0-20 mins)
> **integral frost-stat** - proportionally reduces intake motor speed as temperature falls

Factory Set Options

> **change of ductwork handing on humidistat version**
> **purge boost** - for rapid air change
> **BMS connections** - for remote motor shut off
> **integral humidistat** - proportionally increases motor speeds with rising humidity
> **summer bypass** - automatic bypass of heat exchanger

MODELS AVAILABLE:

- WHHR Midi - standard, universal
- WHHR Midi BY - bypass, universal
- WHHR Midi HL - humidistat, left drain
- WHHR Midi HR - humidistat, right drain
- WHHR Midi LBYH - left drain, by-pass, humidistat
- WHHR Midi RBYH - right drain, by-pass, humidistat

Vectaire Ltd can supply all accessories for use with these units, including air filter cassettes, silencers, fire dampers, air valves, ducting, outside grilles and wall cowls. Additionally, Vectaire offers a design service to ensure that the unit installed is the best possible to provide efficient, effective, low energy and low running cost ventilation. Vectaire can also organise installation, commissioning and maintenance of these products

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WHHR Midi

TECHNICAL CHARACTERISTICS										
Model	Airflow l/sec					Power - Watts				
	max boost	max trickle	80%	60%	40%	max boost	max trickle	80%	60%	40%
WHHR Midi Plus	102	84	66	48	36	120	103	51	25	20

RESULTS for SAP CALCULATIONS ENERGY LEVEL PERFORMANCE - using rigid ducting only				RESULTS for Approved Document F	
Exhaust Terminal Configuration	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	EST Best Practice Performance Compliant	Total Exhaust Flow Rate (l/sec)	Total Supply Flow Rate (l/sec)
Kitchen + **1** additional wet room	**0.50**	**94**	**yes**	**15.0**	**15.0**
Kitchen + **2** additional wet rooms	**0.50**	**93**	**yes**	**21.0**	**21.0**
Kitchen + **3** additional wet rooms	**0.55**	**92**	**yes**	**27.0**	**27.0**
Kitchen + **4** additional wet rooms	**0.65**	**91**	**yes**	**33.0**	**33.0**
Kitchen + **5** additional wet rooms	**0.76**	**89**	**yes**	**39.0**	**39.0**
Kitchen + **6** additional wet rooms	**0.88**	**89**	**yes**	**45.0**	**45.0**
Figures from BRE test results at minimum flow rate conditions					

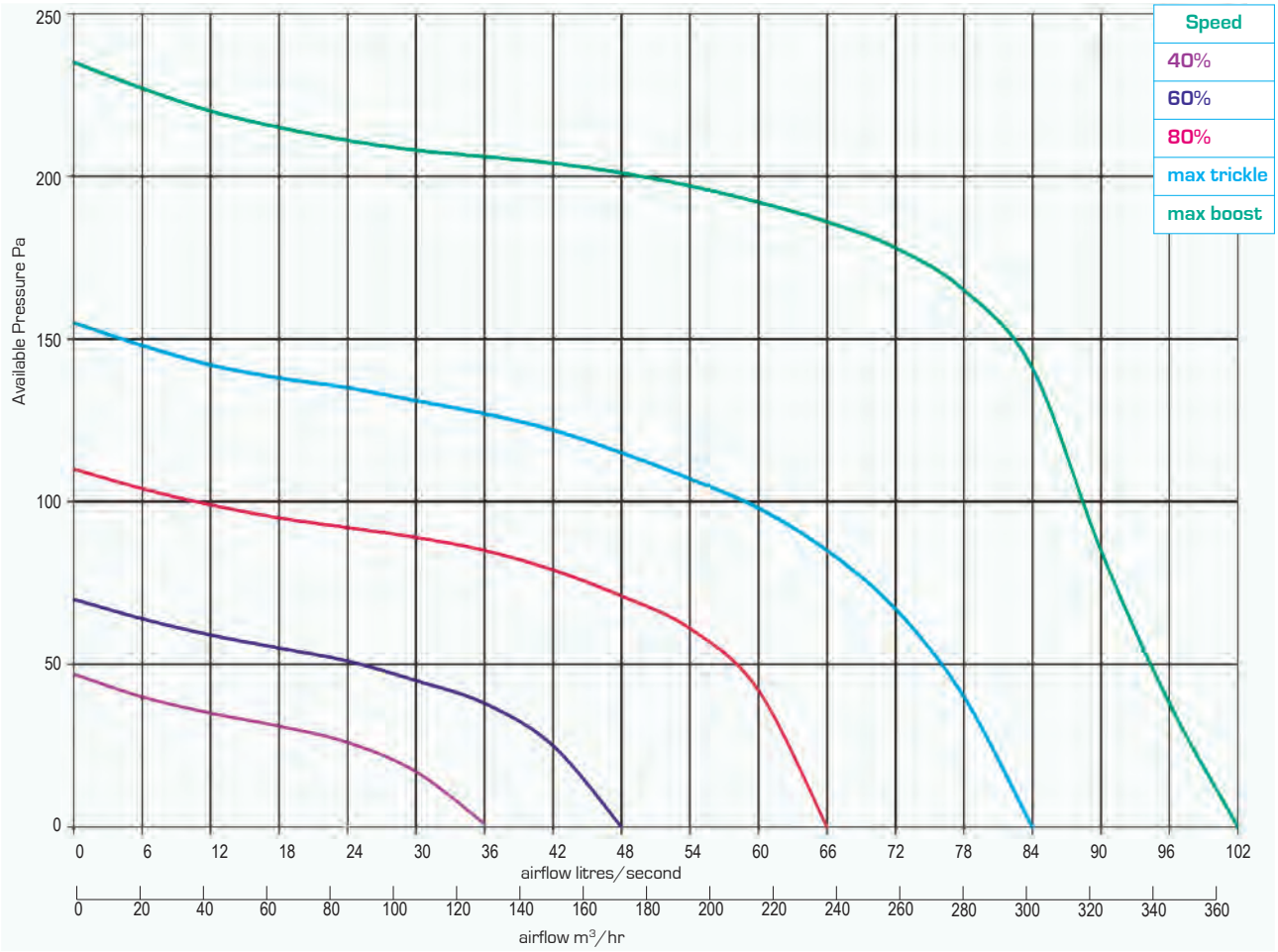
WHHR-Midi Plus		Sound Power Levels, L_w (dB) - Octave Bands Frequency Hz.							Sound Pressure dBA @ 3m
Curve Ref		63	125	250	500	1k	2k	4k	8k	
Max Boost (102 l/sec)	Extract	62	57	53	51	50	44	39	36	31
	Supply	60	57	65	61	62	58	54	51	
	Breakout	56	51	56	49	45	42	37	33	
Max Trickle (84 l/sec)	Extract	59	53	50	48	47	40	35	31	29
	Supply	58	55	61	60	61	53	50	47	
	Breakout	55	54	53	45	43	39	34	30	
80% (66 l/sec)	Extract	54	48	45	43	42	34	29	26	26
	Supply	54	50	55	54	54	47	45	40	
	Breakout	52	57	48	41	40	33	28	25	
60% (48 l/sec)	Extract	46	47	40	37	35	25	20	22	23
	Supply	45	47	49	48	46	37	30	26	
	Breakout	46	54	45	42	37	25	20	22	
40% (36 l/sec)	Extract	44	46	36	33	32	22	17	21	22
	Supply	42	45	46	45	42	34	30	22	
	Breakout	42	52	43	42	35	21	17	21	

TYPICAL SPECIFICATION

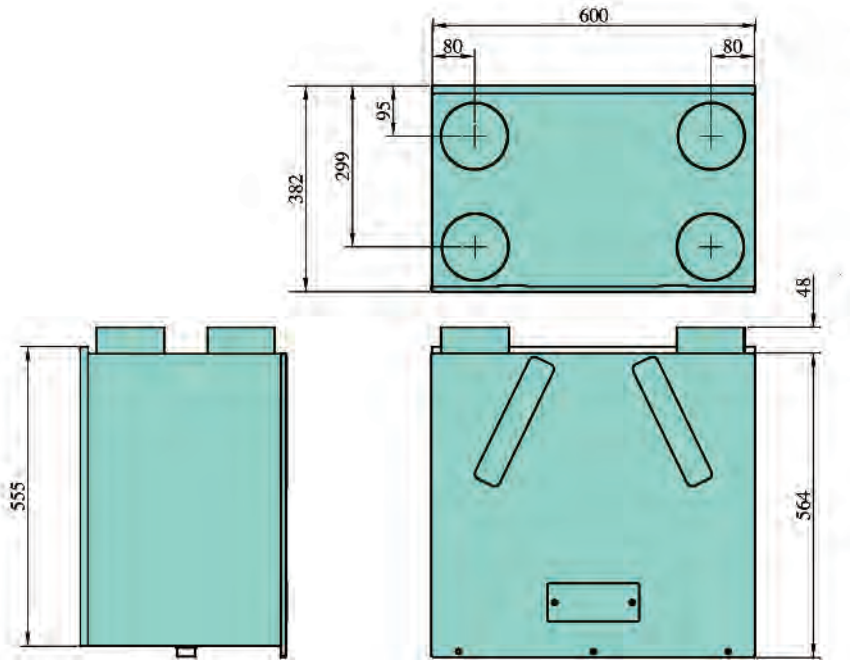
Supply and install a Vectaire WHHR Midi Plus energy efficient MVHR which has been tested and is SAP Q Eligible as manufactured by Vectaire Ltd, Lincoln Road, Cressex Business Park, High Wycombe, Bucks, HP12 3RH. The unit is to give low level, continuous ventilation to a kitchen and up to six other wet rooms and should be for cupboard, loft or false ceiling installation recovering up to 94% of heat from extracted air separating the airflows using a counter flow heat exchanger. The unit should incorporate a low energy EC brushless motor for low noise levels and low energy consumption with an SFP down to 0.50 w/l/s. It should have as standard: independent variable speed adjustment for boost and trickle; boost setting with integral overrun timer; optional delay-on timer and integral frost-stat. It should also have the facility for: change of ductwork handing; purge boost; BMS connections; integral proportional dynamic humidistat; and an automatic summer bypass. The unit should comply with Part L1 2013 and Part F 2013 of Building Regulations, be EU RoHS Directive Compliant, conform to the requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80, be CE marked, be SAP Q eligible and EST Best Practice Performance compliant.

WHHR Midi

PERFORMANCE (curves are for guidance only)



DIMENSIONS - mm



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WHHR Maxi

MVHR - WHHR Maxi

- with or without summer bypass
- energy efficient EC motor
- efficient, low energy solution to controlling condensation and pollution
- provides low level continuous ventilation in a kitchen and up to 7 wet rooms
- up to 92% heat exchange efficiency
- variable choice of low (trickle) and boost speed at installation
- for wall, cupboard or loft installation
- universal handing - left or right
- low noise levels and running costs
- complies with Building Regulations Parts L1 2013 and F 2013
- manufactured in UK to ISO 9001
- with electronic control "Plus"

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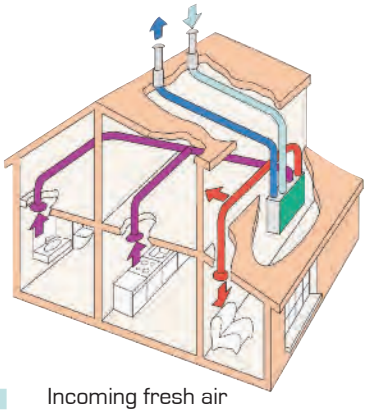
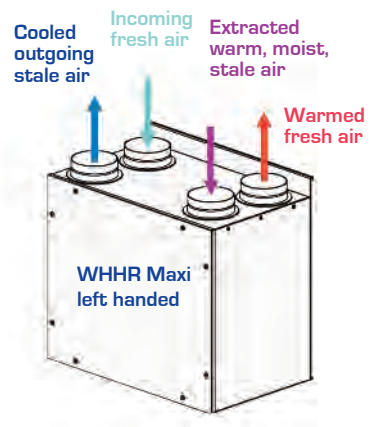
WHHR Maxi

GENERAL FEATURES

- Up to 124 litre/sec at 50Pa - max 130 litre/sec capacity
- for areas up to 230m²
- up to 92% of heat recovered
- easy to install and maintain
- universal handing - left or right
- for fitting vertically into lofts, or cupboards - wall fixing bracket supplied
- variable low (trickle) and boost options
- boost speed triggered by a switched live connection from:
  - a light switch (if more than one light switch is used, **each one must be a double pole switch)**
  - DRH240 (dynamic remote humidistat)
  - PIRFF (passive infra red)
  - THM (thermostat)
  - a remote switch/pull cord
- low noise levels
- low running costs
- extra security - no need to open windows
- 2 year warranty

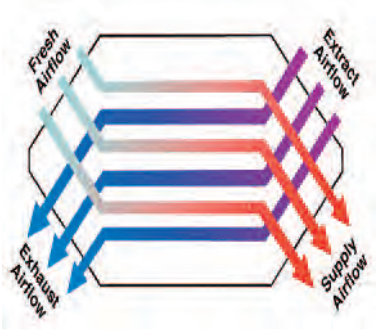


Incoming fresh air
Warmed fresh air
Extracted warm, moist, stale air
Cooled outgoing stale air
WHHR Maxi



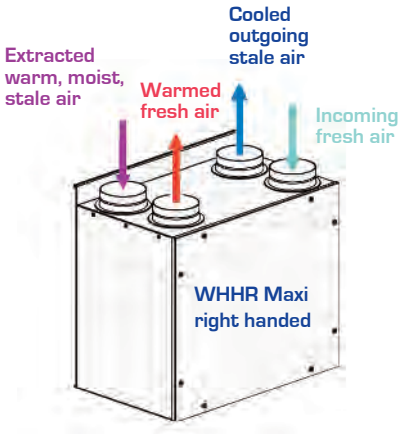
TECHNICAL FEATURES

- casing from steel sheet - epoxy paint finish
- foam construction lining
- EPS internal components provide acoustic and thermal enhancement
- low energy EC brushless motor
- single width, single inlet, direct drive, backward curved impellors
- operates in temperature up to 60ºC
- uses standard, disposable G3 filters
- counter flow heat exchanger
- manufactured in UK to ISO 9001



COMPLIES WITH

- Part L1 2013 of Building Regulations for enhanced energy saving capability
- Part F 2013 of Building Regulations for reliable, efficient ventilation
- EU RoHS Directive Compliant.
- Conforms to requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80
- CE marked
- **SAP Q eligible**



CONTROL FEATURES

Standard

> **variable adjustment** - trickle and boost speeds set at installation for both motors independently
> **boost setting** - with integral overrun timer adjustable up to 20 minutes
> **optional delay-on-timer** - boost speed does not operate if switched off within 2 minutes (adjustable from 0-20 mins)
> **integral frost-stat** - proportionally reduces intake motor speed as temperature falls

Factory Set Options

> **change of ductwork handing on humidi-stat version**
> **purge boost** - for rapid air change
> **BMS connections** - for remote motor shut off
> **integral humidistat** - proportionally increases motor speeds with rising humidity
> **summer bypass** - automatic bypass of heat exchanger

MODELS AVAILABLE:

- WHHR Maxi - standard, universal
- WHHR Maxi BY - bypass, universal
- WHHR Maxi HL - humidistat, left drain
- WHHR Maxi HR - humidistat, right drain
- WHHR Maxi BLH - bypass, left drain, humidistat,
- WHHR Maxi BRH - bypass, right drain humidistat

Vectaire Ltd can supply all accessories for use with these units, including air filter cassettes, silencers, fire dampers, air valves, ducting, outside grilles and wall cowls. Additionally, Vectaire offers a design service to ensure that the unit installed is the best possible to provide efficient, effective, low energy and low running cost ventilation. Vectaire can also organise installation, commissioning and maintenance of these products

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WHHR Maxi

TECHNICAL CHARACTERISTICS										
Model	Airflow l/sec					Power - Watts				
	max boost	max trickle	80%	60%	40%	max boost	max trickle	80%	60%	40%
WHHR Maxi	130	130	110	80	50	134	132	85	45	20

TECHNICAL DETAILS				
Exhaust Terminal Configuration	l/sec	m^3/hr	SFP (W/l/s)	Heat Exchange Efficiency
Kitchen + **1** additional wet room	15.0	54.0	**0.43**	**92**
Kitchen + **2** additional wet rooms	21.0	75.6	**0.40**	**92**
Kitchen + **3** additional wet rooms	27.0	97.2	**0.42**	**92**
Kitchen + **4** additional wet rooms	33.0	118.8	**0.48**	**91**
Kitchen + **5** additional wet rooms	39.0	140.4	**0.55**	**91**
Kitchen + **6** additional wet rooms	45.0	162.0	**0.63**	**90**
Kitchen + **7** additional wet rooms	51.0	183.6	**0.76**	**90**

WHHR-Maxi		Sound Power Levels, L_w (dB) - Octave Bands Frequency Hz.								Sound Pressure dBA @ 3m
Curve Ref		63	125	250	500	1k	2k	4k	8k	
Max Boost (130 l/sec)	Extract	62	56	53	51	50	43	38	34	34
	Supply	61	58	64	63	64	56	53	50	
	Breakout	58	57	56	48	46	42	37	33	
Max Trickle (130 l/sec)	Extract	62	56	53	51	50	43	38	34	34
	Supply	61	58	64	63	64	56	53	50	
	Breakout	58	57	56	48	46	42	37	33	
80% (110 l/sec)	Extract	60	54	51	49	48	40	35	32	32
	Supply	60	56	61	60	60	53	51	46	
	Breakout	58	63	54	47	46	39	34	31	
60% (80 l/sec)	Extract	50	51	44	41	39	29	24	26	27
	Supply	49	51	53	52	50	41	34	30	
	Breakout	50	58	49	46	41	29	24	26	
40% (50 l/sec)	Extract	42	44	34	31	30	20	15	19	20
	Supply	40	43	44	43	40	32	28	20	
	Breakout	40	50	41	40	33	19	15	19	

TYPICAL SPECIFICATION

Supply and install a Vectaire WHHR Maxi energy efficient MVHR which has been tested and is SAP Q Eligible as manufactured by Vectaire Ltd, Lincoln Road, Cressex Business Park, High Wycombe, Bucks, HP12 3RH. The unit is to give low level, continuous ventilation to a kitchen and up to eight other wet rooms and should be for cupboard, loft or false ceiling installation recovering up to 92% of heat from extracted air separating the airflows using a counter flow heat exchanger. The unit should incorporate a low energy EC brushless motor for low noise levels and low energy consumption with an SFP down to 0.40 w/l/s. It should have as standard: independent variable speed adjustment for boost and trickle; boost setting with integral overrun timer; optional delay-on timer and integral frost-stat. It should also have the facility for: change of ductwork handing; purge boost; BMS connections; integral proportional dynamic humidistat; and an automatic summer bypass. The unit should comply with Part L1 2013 and Part F 2013 of Building Regulations, be EU RoHS Directive Compliant, conform to the requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80, be CE marked and SAP Q Eligible,

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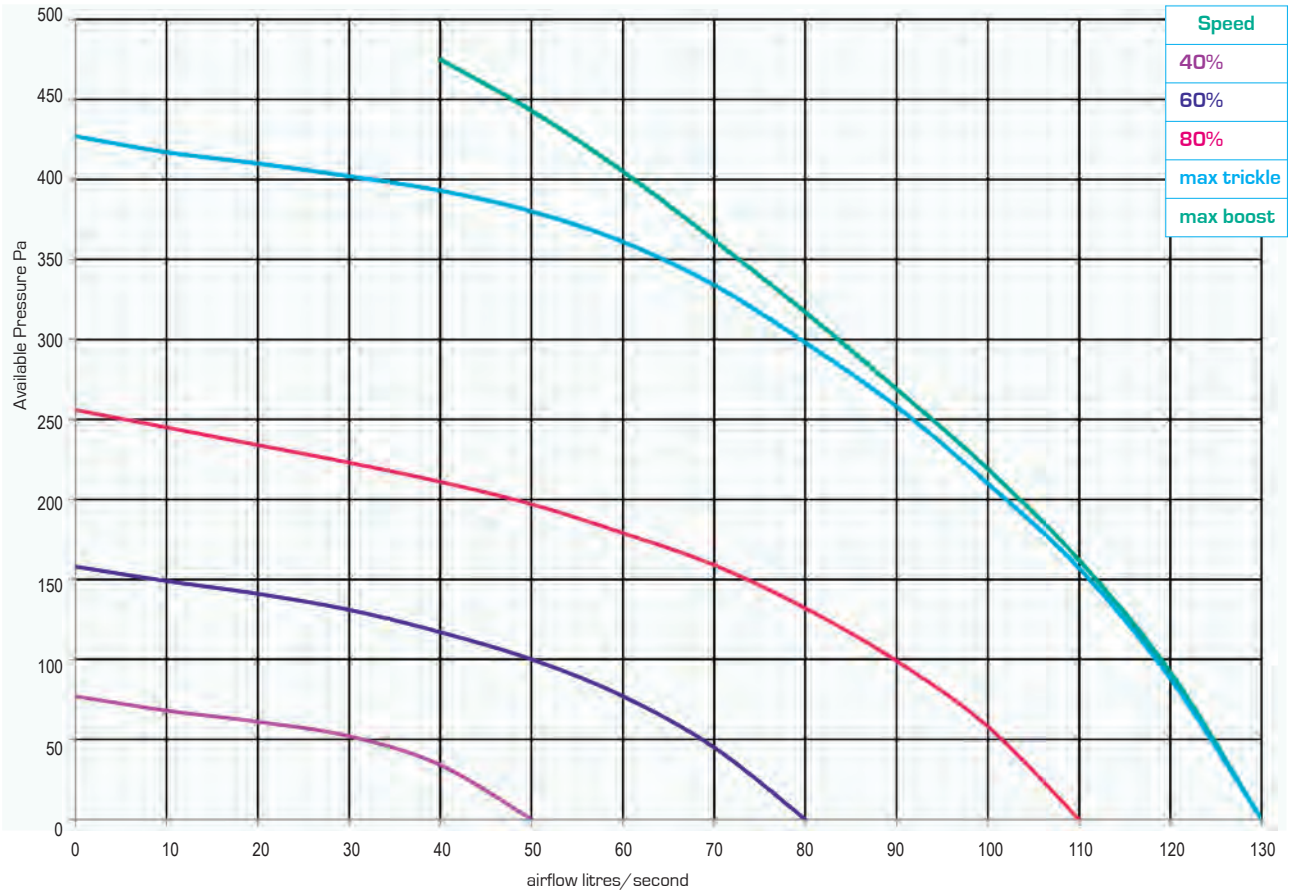
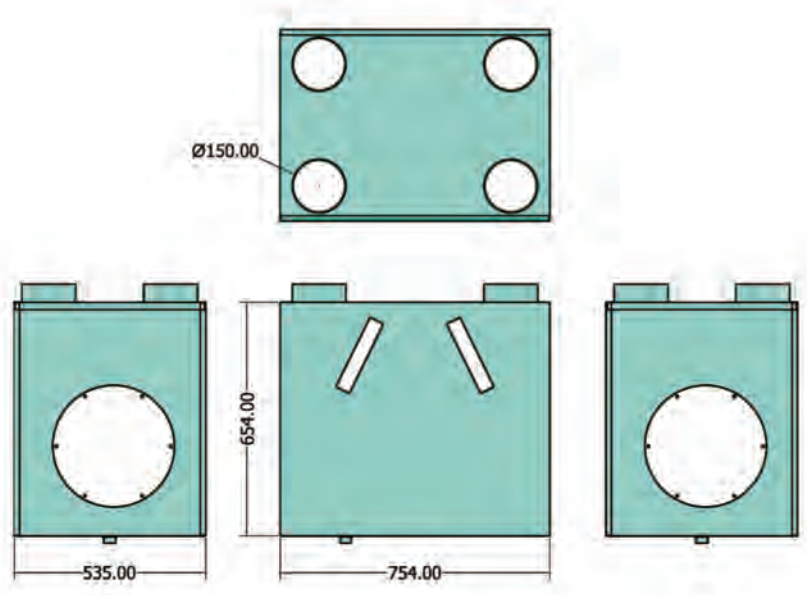
WHHR Maxi

PERFORMANCE (curves are for guidance only)

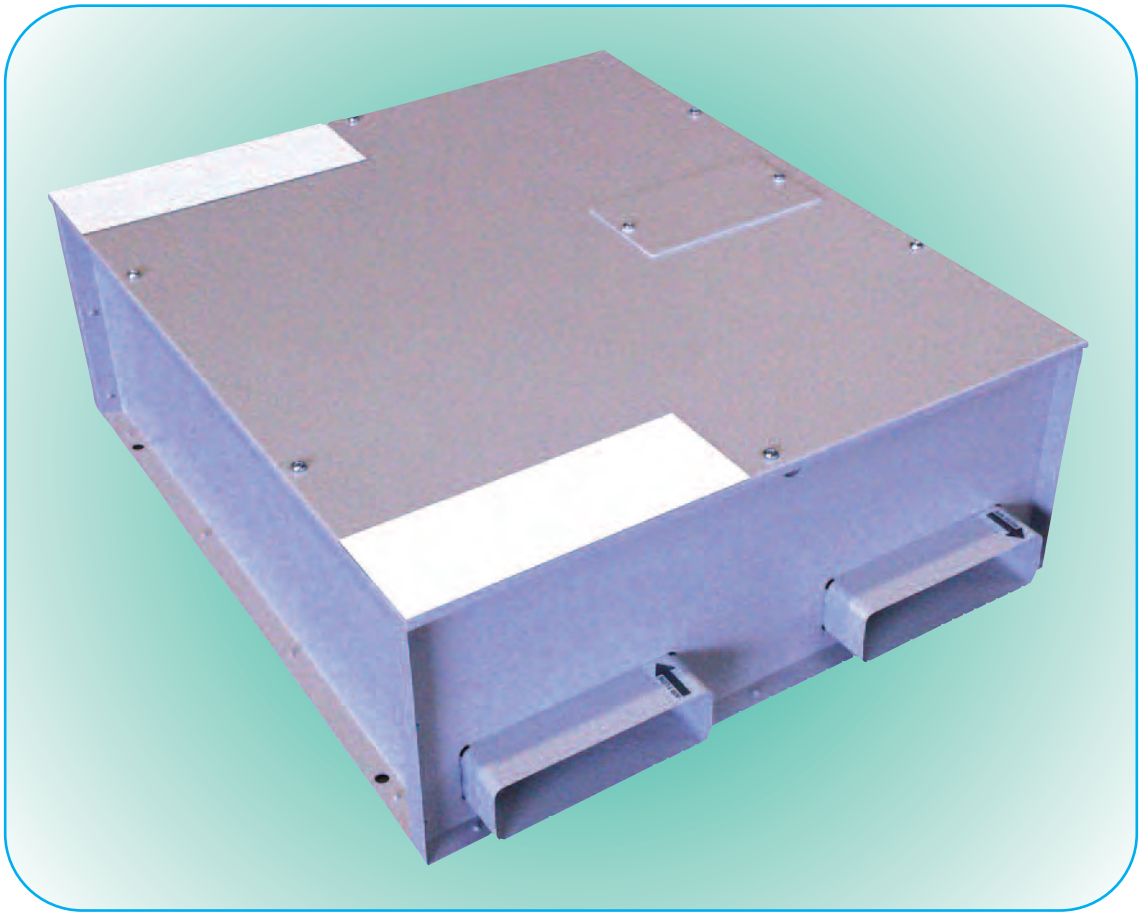


DIMENSIONS - mm



EVO250DC

NEW



EVO250DC

- with summer bypass and frost-stat
- energy efficient EC motor
- efficient, low energy solution to controlling condensation and pollution
- provides low level continuous ventilation in a kitchen and up to 6 wet rooms
- up to 88% heat exchange efficiency
- variable choice of low (trickle) and boost speed at installation
- for ceiling, loft or void installation
- low noise levels and running costs
- complies with Building Regulations Parts L1 2013 and F 2013
- manufactured in UK to ISO 9001
- with electronic control "Plus"

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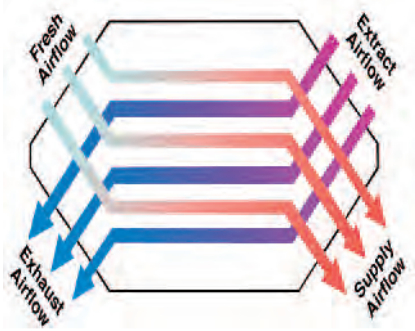
EVO250DC

GENERAL FEATURES

- up to 82 litre/sec at 50 Pa - max 87 litre/sec capacity
- for areas up to 170m²
- up to 88% of heat recovered
- sfp down to 0.70 W/l/s
- easy to install and maintain
- for in-line installation into lofts, voids, false ceilings or cupboards
- variable low (trickle) and boost options
- boost speed triggered by a switched live connection from:
  - a light switch (if more than one light switch is used, **each one must be a double pole switch)**
  - DRH240 (dynamic remote humidistat)
  - PIRFF (passive infra red)
  - THM (thermostat)
  - a remote switch/pull cord
- low noise levels
- low running costs
- extra security - no need to open windows
- 2 year warranty

TECHNICAL FEATURES

- compact low profile unit
- casing in galvanised sheet steel
- thermo-acoustic lining
- low energy EC brushless motor
- single width, single inlet, direct drive, backward curved impellors
- operates in temperature up to 60ºC
- pre-wired for easy electrical connection
- uses standard, disposable G3 filters
- counter flow heat exchanger
- manufactured in UK to ISO 9001



COMPLIES WITH

- Part L1 2013 of Building Regulations for enhanced energy saving capability
- Part F 2013 of Building Regulations for reliable, efficient ventilation
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- Conforms to requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80
- CE marked
- **SAP Q eligible**

CONTROL FEATURES

Standard

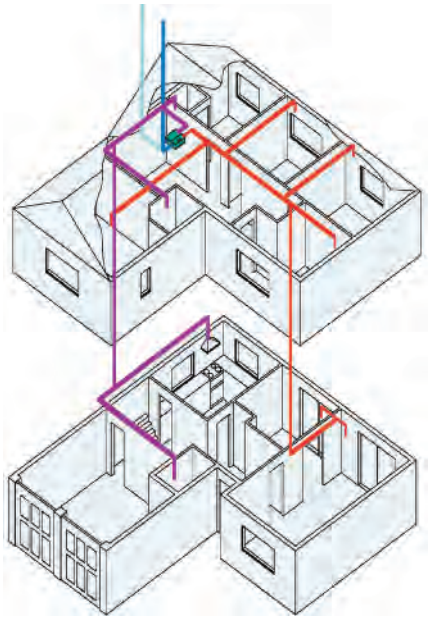
> **variable adjustment** - trickle and boost speeds set at installation for both motors independently
> **boost setting** - with integral overrun timer adjustable up to 20 minutes
> **optional delay-on-timer -** boost speed does not operate if switched off within 2 minutes
> **integral frost-stat -** proportionally reduces intake motor speed as temperature falls
> **summer bypass** - automatic bypass of heat exchanger

Factory Set Options

> **change of ductwork handing on humidistat version**
> **purge boost** - for rapid air change
> **BMS connections** - for remote motor shut off
> **integral humidistat** - proportionally increases motor speeds with rising humidity

MODELS AVAILABLE:

- EVO250DCBABY - bottom access, bypass, universal
- EVO250DC BALBYH - bottom access, left hand, bypass, humidistat
- EVO250DC BARBYH - bottom access, right hand, bypass, humidistat



Incoming fresh air
Warmed fresh air
Extracted warm, moist, stale air
Cooled outgoing stale air
EVO250DC

Vectaire Ltd can supply all accessories for use with these units, including air filter cassettes, silencers, fire dampers, air valves, ducting, outside grilles and wall cowls. Additionally, Vectaire offers a design service to ensure that the unit installed is the best possible to provide efficient, effective, low energy and low running cost ventilation. Vectaire can also organise installation, commissioning and maintenance of these products

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EVO250DC

TECHNICAL CHARACTERISTICS										
Model	Airflow l/sec					Power - Watts				
	max boost	max trickle	80%	60%	40%	max boost	max trickle	80%	60%	40%
EVO250DC	87	68	52	36	21	109	66	46	25	17

RESULTS for SAP CALCULATIONS ENERGY LEVEL PERFORMANCE - using rigid ducting only			RESULTS for Approved Document F	
Exhaust Terminal Configuration	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	Total Exhaust Flow Rate (l/sec)	Total Supply Flow Rate (l/sec)
Kitchen + **1** additional wet room	**0.70**	**88** %	**15.0**	**15.0**
Kitchen + **2** additional wet rooms	**0.72**	**87** %	**21.0**	**21.0**
Kitchen + **3** additional wet rooms	**0.82**	**87** %	**27.0**	**27.0**
Kitchen + **4** additional wet rooms	**0.99**	**86** %	**33.0**	**33.0**
Kitchen + **5** additional wet rooms	**1.01**	**85%**	**39.0**	**39.0**
Kitchen + **6** additional wet rooms	**1.35**	**84** %	**45.0**	**45.0**
Figures from BRE test results at minimum flow rate conditions				

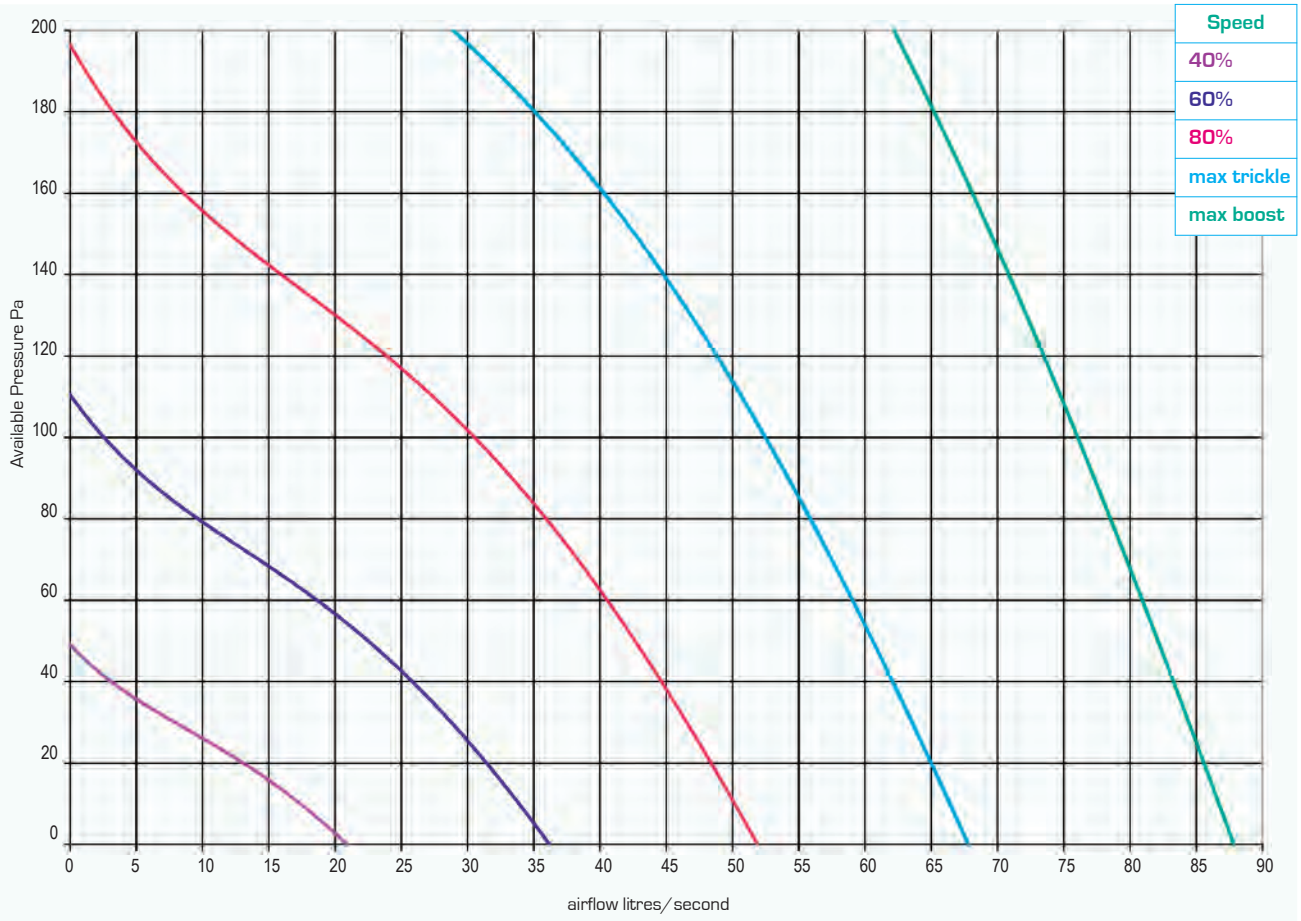
EVO250DC		Sound Power Levels, L_w (dB) - Octave Bands Frequency Hz.								Sound Pressure dBA @ 3m
Curve Ref		63	125	250	500	1k	2k	4k	8k	
Max Boost (87 l/sec)	Extract	60	58	62	66	63	61	61	56	35
	Supply	63	61	65	69	66	64	64	59	
	Breakout	46	39	37	35	26	17	11	4	
Max Trickle (68 l/sec)	Extract	56	55	59	61	59	56	54	49	30
	Supply	59	58	62	64	62	59	57	52	
	Breakout	41	35	33	30	21	13	4	-2	
80% (52 l/sec)	Extract	50	51	55	56	54	51	49	42	25
	Supply	53	54	58	59	57	54	52	45	
	Breakout	36	31	29	24	16	8	-1	-9	
60% (36 l/sec)	Extract	45	47	48	49	47	44	40	34	<20
	Supply	48	50	51	52	10	47	43	37	
	Breakout	30	27	23	17	6	0	-9	-17	
40% (21 l/sec)	Extract	38	41	41	41	38	35	30	24	,<20
	Supply	41	44	44	44	41	38	33	27	
	Breakout	24	22	15	9	0	-9	-19	-27	

TYPICAL SPECIFICATION

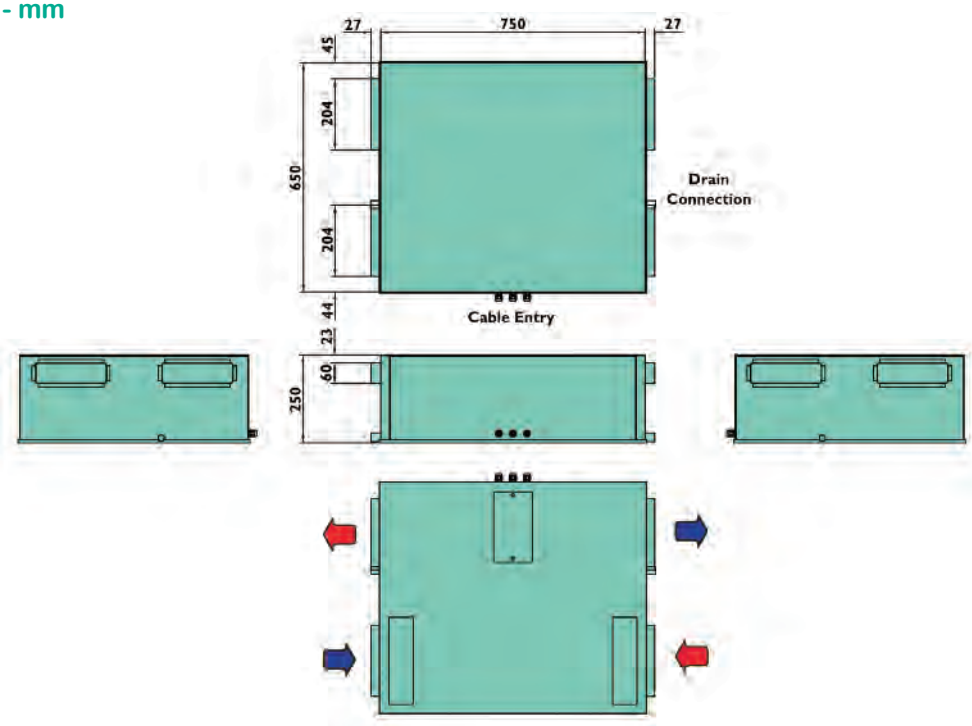
Supply and install a Vectaire EVO250DC BALBYH energy efficient MVHR as manufactured by Vectaire Ltd, Lincoln Road, Cressex Business Park, High Wycombe, Bucks, HP12 3RH. The unit is to give low level, continuous ventilation to a kitchen and six other wet rooms. The unit should be for loft, void, false ceiling or cupboard installation and be no more than 250mm deep. It should recover up to 88% of heat from extracted air, separating the air-flows using a counter flow heat exchanger. The unit should incorporate a low energy EC brushless motor for low noise levels and low energy consumption with an SFP down to 0.70. It should have as standard: independent variable speed adjustment for boost and trickle; boost setting with integral overrun timer; optional delay-on timer and integral frost-stat and summer bypass; and also be fitted with an integral humidistat. It should also have the facility for: change of ductwork handing; purge boost and BMS connections. The unit should comply with Part L1 2013 and Part F 2013 of Building Regulations, be EU RoHS Directive Compliant, conform to the requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80, be CE marked and be SAP Q eligible.

EVO250DC

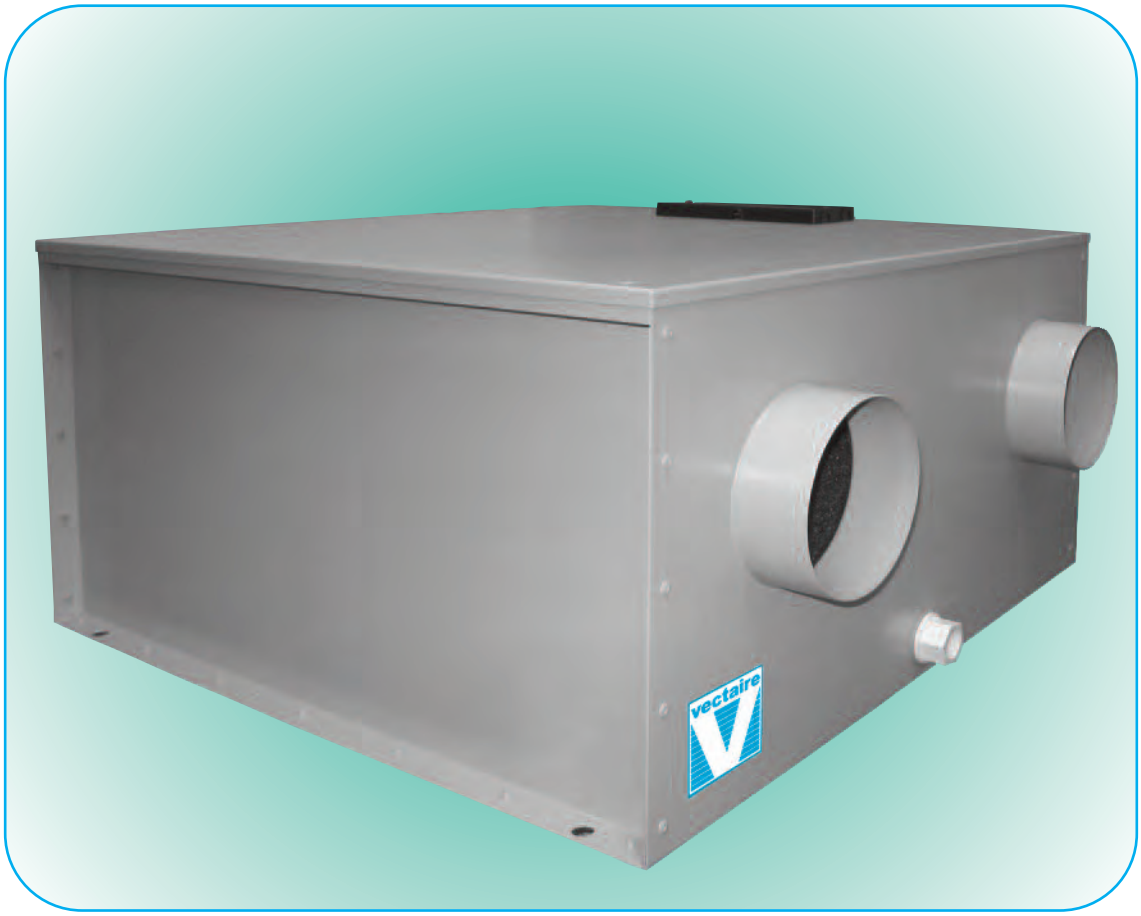
PERFORMANCE (curves are for guidance only)



DIMENSIONS - mm



WHHR100/90DC-B Plus



MVHR - WHHR100/90DC-B Plus

- energy efficient EC motor
- efficient, low energy solution to controlling condensation and pollution
- provides low level continuous ventilation in a kitchen and up to 4 wet rooms
- up to 92% heat exchange efficiency
- variable choice of low (trickle) and boost speed at installation
- for ceiling, loft or void installation
- top or bottom access
- low noise levels and running costs
- compliant with Building Regulations Parts L1 2013 and F 2013
- manufactured in UK to ISO 9001

WHHR100/90DCB-BY - available with electronic control "Plus" including

- with or without summer bypass

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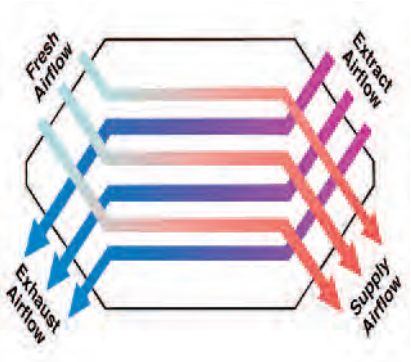
WHHR100/90DC-B Plus

GENERAL FEATURES

- Up to 66 litre/sec at 50Pa - max 83 litre/sec capacity
- for areas up to 170m²
- up to 92% of heat recovered
- easy to install and maintain
- for in-line installation into lofts, voids, false ceilings or cupboards
- variable low (trickle) and boost options
- boost speed triggered by a switched live connection from:
  - a light switch (if more than one light switch is used, **each one must be a double pole switch)**
  - DRH240 (dynamic remote humidistat)
  - PIRFF (passive infra red)
  - THM (thermostat)
  - a remote switch/pull cord
- low noise levels
- low running costs
- extra security - no need to open windows
- 2 year warranty

TECHNICAL FEATURES

- compact low profile unit
- casing from galvanised sheet with epoxy finish
- thermo-acoustic lining
- low energy EC brushless motor
- single width, single inlet, direct drive, forward curved impellors
- operates in temperature up to 60ºC
- pre-wired for easy electrical connection
- uses standard, disposable G3 filters
- counter flow heat exchanger
- model available with **summer bypass** - automatic bypass of heat exchanger in hot weather



COMPLIES WITH

- Part L1 2013 of Building Regulations for enhanced energy saving capability
- Part F 2013 of Building Regulations for reliable, efficient ventilation
- EU RoHS Directive Compliant.
- Conforms to requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80
- CE marked
- **SAP Q eligible**
- **EST Best Practice Performance Compliant**

CONTROL FEATURES - WHHR100/90DC-B Plus

> **variable adjustment** - trickle and boost speeds set at installation
> **boost setting** (via switched live)
> **frost protection** - air temperature switches off intake motor when temperatures fall to near freezing

CONTROL FEATURES PLUS - WHHR100/90DCB-BY (Bypass Models)

Standard

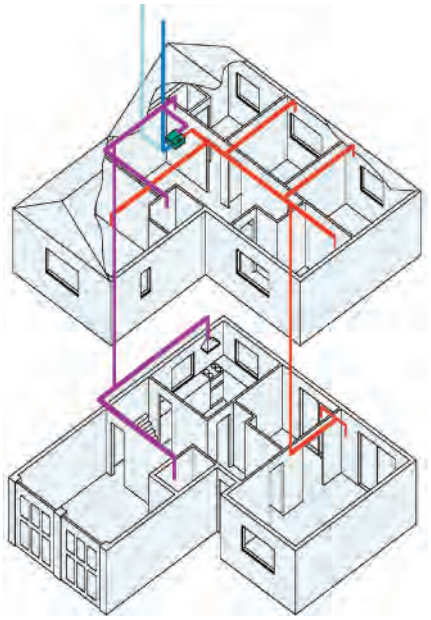
> **variable adjustment** - trickle and boost speeds set at installation for both motors independently
> **boost setting** - with integral overrun timer adjustable up to 20 minutes
> **optional delay-on-timer** - boost speed does not operate if switched off within 2 minutes (adjustable from 0-20 mins)
> **integral frost-stat** - proportionally reduces intake motor speed as temperature falls

Factory Set Options

> **purge boost** - for rapid air change
> **BMS connections** - for remote motor shut off
> **integral humidistat** - proportionally increases motor speeds with rising humidity
> **summer bypass** - automatic bypass of heat exchanger

MODELS AVAILABLE:

- WHHR100/90DC-B - top access
- WHHR100/90DC-B BA - bottom access
- WHHR90DC-B TABY - top access with bypass
- WHHR90DC-B BABY - bottom access with bypass
- WHHR90DC-B TABYH - top access, with bypass and humidistat
- WHHR90DC-B BABYH - bottom access, with bypass and humidistat



- Incoming fresh air
- Warmed fresh air
- Extracted warm, moist, stale air
- Cooled outgoing stale air
- WHHR100/90DC-B Plus

Vectaire Ltd can supply all accessories for use with these units, including air filter cassettes, silencers, fire dampers, air valves, ducting, outside grilles and wall cowls. Additionally, Vectaire offers a design service to ensure that the unit installed is the best possible to provide efficient, effective, low energy and low running cost ventilation. Vectaire can also organise installation, commissioning and maintenance of these products

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WHHR100/90DC-B Plus

TECHNICAL CHARACTERISTICS										
Model	Airflow l/sec					Power - Watts				
	max boost	max trickle	80%	60%	40%	max boost	max trickle	80%	60%	40%
WHHR100/90DC-B Plus	83	68	52	38	24	106	54	33	20	13

RESULTS for SAP CALCULATIONS ENERGY LEVEL PERFORMANCE - using rigid ducting only				RESULTS for Approved Document F	
Exhaust Terminal Configuration	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	EST Best Practice Performance Compliant	Total Exhaust Flow Rate (l/sec)	Total Supply Flow Rate (l/sec)
Kitchen + **1** additional wet room	**0.63**	**92** %	**Yes**	**15.0**	**15.0**
Kitchen + **2** additional wet rooms	**0.72**	**91** %	**Yes**	**21.0**	**21.0**
Kitchen + **3** additional wet rooms	**0.84**	**91** %	**Yes**	**27.0**	**27.0**
Kitchen + **4** additional wet rooms	**0.94**	**89** %	**Yes**	**33.0**	**33.0**
Figures from BRE test results at minimum flow rate conditions					

WHHR100/90DC-B Plus		Sound Power Levels, L_w (dB) - Octave Bands Frequency Hz.								Sound Pressure dBA @ 3m
Curve Ref		63	125	250	500	1k	2k	4k	8k	
Max Boost (83 l/sec)	Extract	61	60	53	52	47	41	37	31	35
	Supply	60	59	58	63	64	59	54	51	
	Breakout	54	53	61	52	49	42	33	25	
Max Trickle (68 l/sec)	Extract	58	55	47	48	41	34	31	26	34
	Supply	57	56	54	61	61	52	48	44	
	Breakout	49	50	54	52	52	36	28	22	
80% (52 l/sec)	Extract	53	51	41	46	37	28	26	23	32
	Supply	52	52	49	58	57	47	42	37	
	Breakout	45	47	50	51	48	32	24	21	
60% (38 l/sec)	Extract	50	48	39	42	34	24	22	22	29
	Supply	49	48	46	54	52	41	37	30	
	Breakout	42	43	47	48	45	30	21	20	
40% (24 l/sec)	Extract	47	44	35	39	31	19	17	21	25
	Supply	46	46	43	51	47	37	31	23	
	Breakout	39	39	45	44	41	28	17	20	

TYPICAL SPECIFICATION

Supply and install a Vectaire WHHR90DC-B-BABY energy efficient MVHR which has been tested and is SAP Q Eligible as manufactured by Vectaire Ltd, Lincoln Road, Cressex Business Park, High Wycombe, Bucks, HP12 3RH. The unit is to give low level, continuous ventilation to a kitchen and up four other wet rooms. The unit should be for loft, void, false ceiling or cupboard, bottom access installation and recover up to 92% of heat from extracted air separating the airflows using a counter flow heat exchanger. The unit should incorporate a low energy EC brushless motor for low noise levels and low energy consumption with an SFP down to 0.63. It should have a variable choice of low (trickle) speed and boost options for optimum setting. It should include a summer bypass function together with an integral humidistat. The unit should be pre-wired for easy electrical connection. The unit should comply with Part L1 2013 and Part F 2013 of Building Regulations, be EU RoHS Directive Compliant, conform to the requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80, be CE marked, be SAP Q eligible and EST Best Practice Performance compliant.

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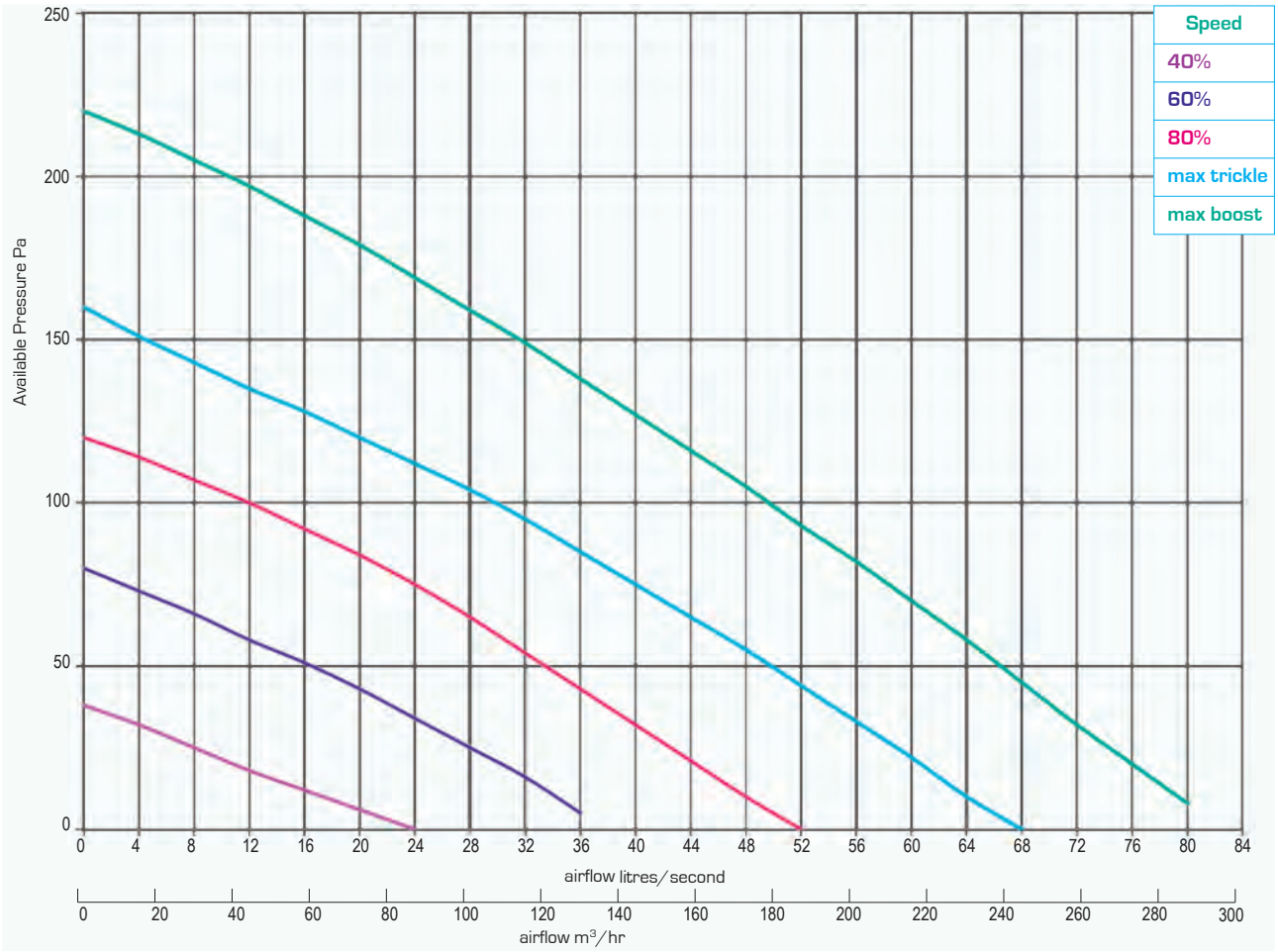
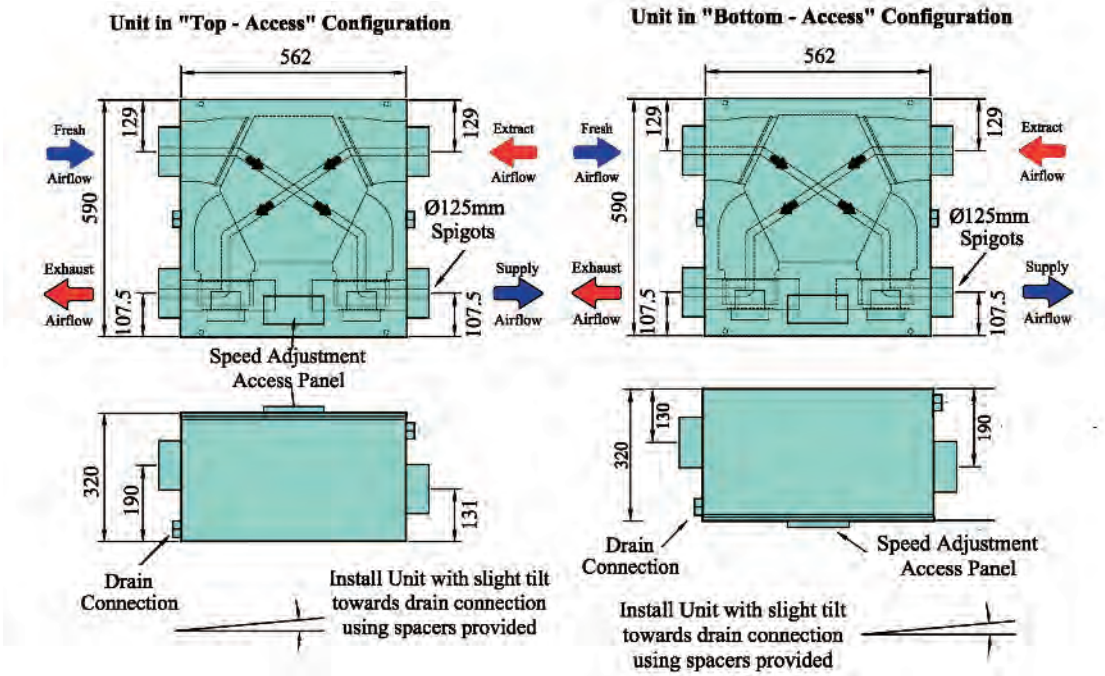
WHHR100/90DC-B Plus

PERFORMANCE (curves are for guidance only)

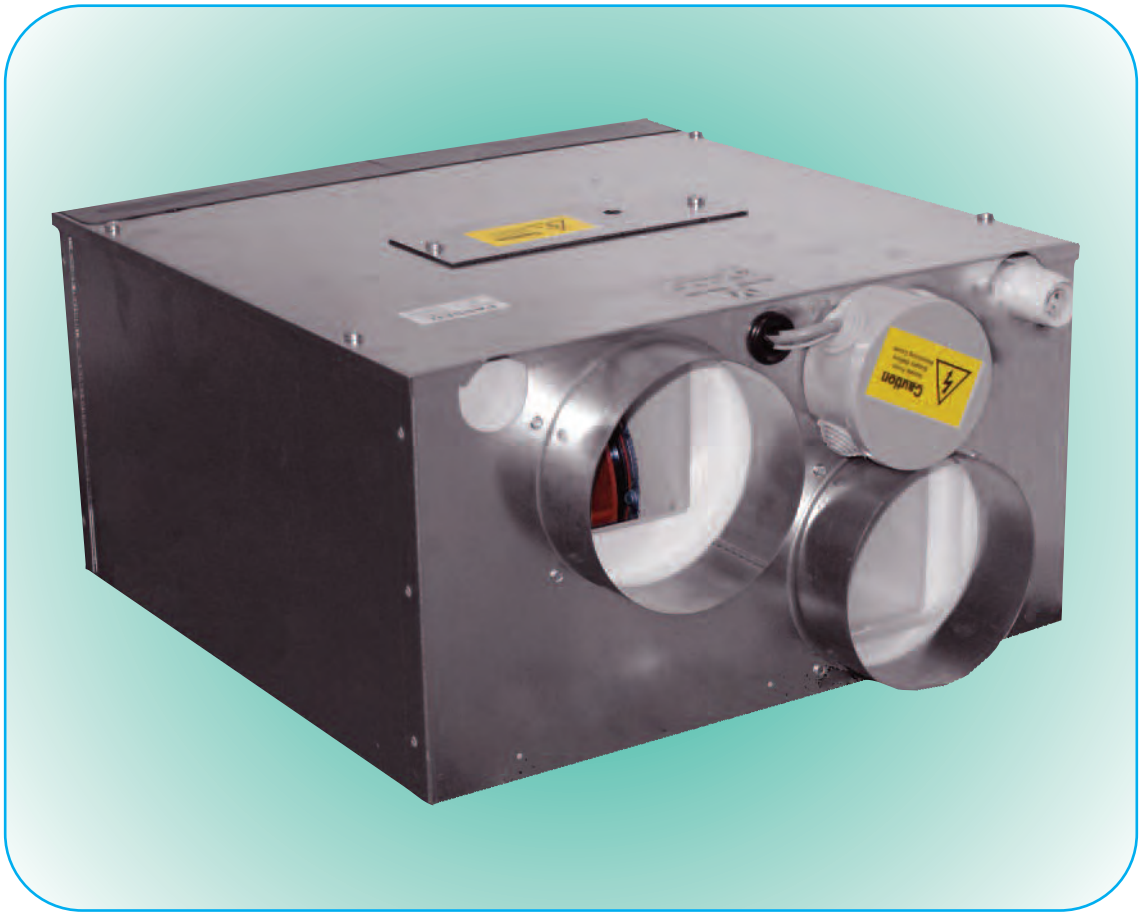


DIMENSIONS - mm (l/h drain connection only)



WHHR Mini DC

NEW



MVHR - WHHR Mini DC

- with or without summer bypass
- energy efficient EC motor
- efficient, low energy solution to controlling condensation and pollution
- provides low level continuous ventilation in a kitchen and 1 other wet room
- up to 83% heat exchange efficiency
- variable choice of low (trickle) and boost speed at installation
- very compact 230 x 400mm square
- for cupboard, loft or ceiling void
- low noise levels and running costs
- compliant with Building Regulations Parts L1 2013 and F 2013
- manufactured in UK to ISO 9001
- with electronic control "Plus"

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WHHR Mini DC

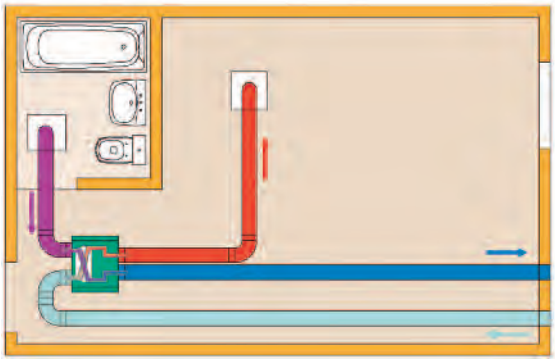
GENERAL FEATURES

- for 1 or 2 bedroom apartments, hotel rooms, student accommodation, extra care facilities etc
- Up to 29.8 litre/sec at 50Pa - max 34 litre/sec capacity
- up to 83% of heat recovered from extracted air
- easy and economical installation and maintenance
- ideal for fitting into voids, false ceilings or cupboards (bottom access only)
- variable low (trickle) and boost options
- boost speed triggered by a switched live connection from:
  - a light switch (if more than one light switch is used, **each one must be a double pole switch)**
  - DRH240 (dynamic remote humidistat)
  - PIRFF (passive infra red)
  - THM (thermostat)
  - a remote switch/pull cord
- low noise levels - below 20dB(A)
- low running costs
- extra security - no need to open windows
- 2 year warranty

MODELS AVAILABLE:

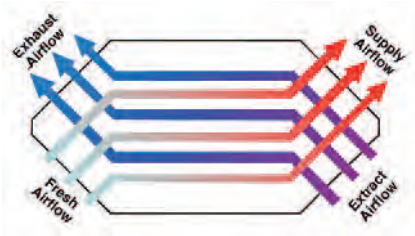
- WHHR Mini L - left drain
- WHHR Mini R - right drain
- WHHR Mini LH - left drain, humidistat
- WHHR Mini RH - right drain, humidistat,
- WHHR Mini LB - left drain, bypass
- WHHR Mini RB - right drain, bypass
- WHHR Mini LBH - left drain, bypass, humidistat,
- WHHR Mini RBH - right drain, by-pass, humidistat

also available with 100mm spigot



TECHNICAL FEATURES

- compact unit
- casing from steel sheet - epoxy paint finish
- thermo-acoustic lining
- low energy EC brushless motor
- single width, single inlet, direct drive, backward curved impellors
- operates in temperature up to 60ºC
- uses standard, disposable G3 filters
- counter flow heat exchanger
- manufactured in UK to ISO 9001



COMPLIES WITH

- Part L1 2013 of Building Regulations for enhanced energy saving capability
- Part F 2013 of Building Regulations for reliable, efficient ventilation
- EU RoHS Directive Compliant.
- Conforms to requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80
- CE marked
- **SAP Q eligible**

- Incoming fresh air
- Warmed fresh air
- Extracted warm, moist, stale air
- Cooled outgoing stale air
- WHHR Mini DC

CONTROL FEATURES

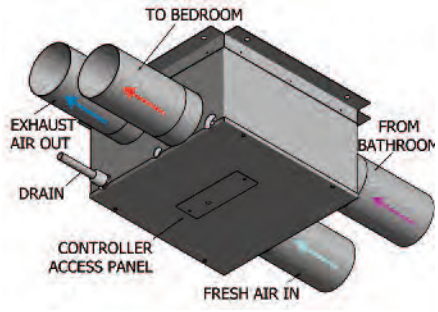
Standard

> **variable adjustment** - trickle and boost speeds set at installation for both motors independently
> **boost setting** - with integral overrun timer adjustable up to 20 minutes
> **optional delay-on-timer** - boost speed does not operate if switched off within 2 minutes (adjustable from 0-20 mins)
> **integral frost-stat** - proportionally reduces intake motor speed as temperature falls
> **water level sensor** - shows if conden-sate exit is blocked and stops unit

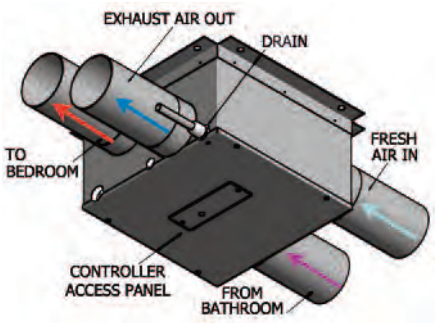
Factory Set Options

> **change of ductwork handing**
> **purge boost** - for rapid air change
> **BMS connections** - for remote motor shut off
> **integral humidistat** - proportionally increases motor speeds with rising humidity
> **summer bypass** - automatic bypass of heat exchanger

WHHR MINI DC OPTION 2 (LEFT HAND DRAIN)



WHHR MINI DC OPTION 1 (RIGHT HAND DRAIN)



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WHHR Mini DC

TECHNICAL CHARACTERISTICS

Model	Airflow l/sec					Power - Watts				
	max boost	max trickle	80%	60%	40%	max boost	max trickle	80%	60%	40%
WHHR Mini DC	34	32	28	18	12	80	68	46	24	15

RESULTS for SAP CALCULATIONS

ENERGY LEVEL PERFORMANCE - using rigid ducting only

Exhaust Terminal Configuration	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	Airflow Rate (l/sec)
Kitchen + **1** additional wet room	**1.11**	**83** %	**15.0**
Kitchen + **2** additional wet rooms	**1.4**	**82** %	**21.0**

Figures from BRE test results at minimum flow rate conditions

WHHR Mini DC		Sound Power Levels, L_w (dB) - Octave Bands Frequency Hz.								Sound Pressure dBA @ 3m
Curve Ref		63	125	250	500	1k	2k	4k	8k	
Max Boost (34 l/sec)	Extract	65	58	61	63	55	46	36	27	37
	Supply	66	64	70	73	67	64	55	45	
	Breakout	73	59	62	58	49	35	32	24	
Max Trickle (32 l/sec)	Extract	64	56	60	62	54	45	35	26	36
	Supply	65	63	69	72	66	63	54	44	
	Breakout	72	58	61	57	48	34	31	23	
80% (28 l/sec)	Extract	54	54	59	54	45	34	24	22	30
	Supply	55	57	65	62	56	51	42	31	
	Breakout	62	53	57	48	39	31	21	21	
60% (18 l/sec)	Extract	46	50	53	45	37	26	20	21	24
	Supply	50	55	58	48	47	42	33	26	
	Breakout	56	51	50	41	31	23	18	20	
40% (12 l/sec)	Extract	39	46	47	39	29	19	15	21	18
	Supply	45	54	51	47	39	34	23	21	
	Breakout	49	49	44	34	23	16	16	20	

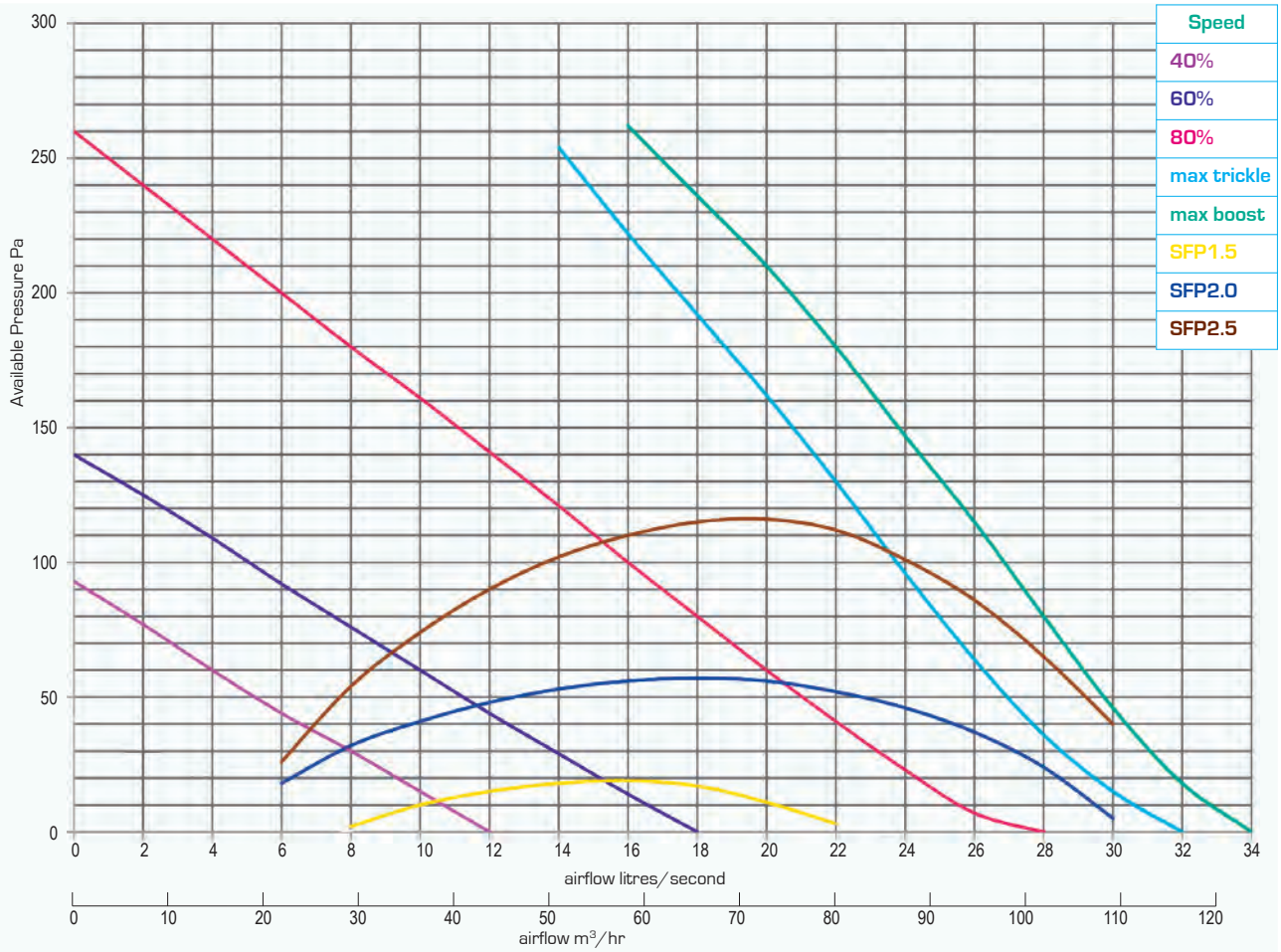
Vectaire Ltd can supply all accessories for use with these units, including air filter cassettes, silencers, fire dampers, air valves, ducting, outside grilles and wall cowls. Additionally, Vectaire offers a design service to ensure that the unit installed is the best possible to provide efficient, effective, low energy and low running cost ventilation. Vectaire can also organise installation, commissioning and maintenance of these products

TYPICAL SPECIFICATION

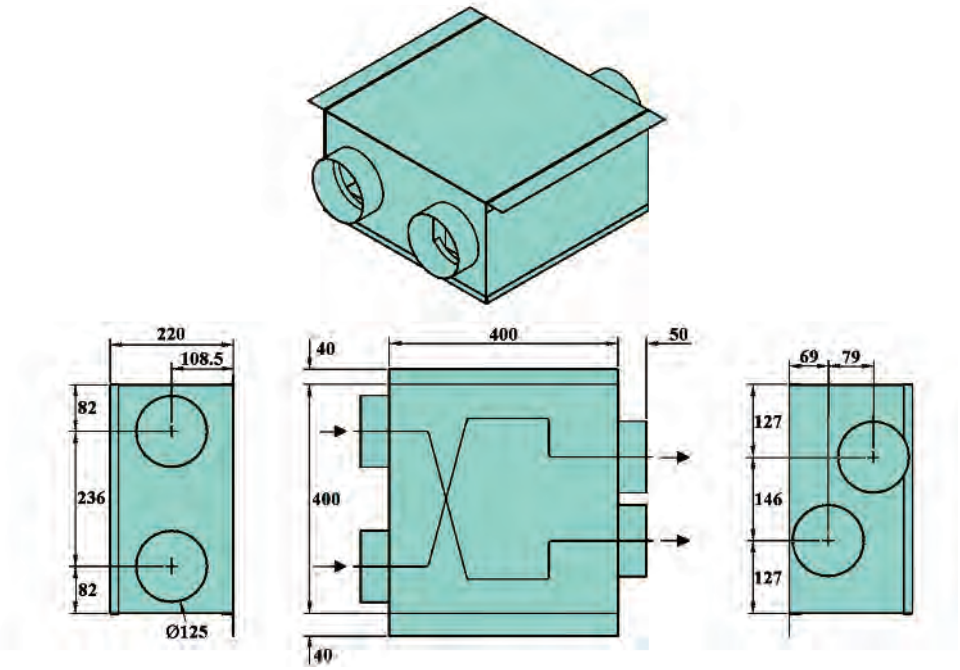
Supply and install a Vectaire WHHR Mini DC energy efficient MVHR as manufactured by Vectaire Ltd, Lincoln Road, Cressex Business Park, High Wycombe, Bucks, HP12 3RH. The unit is to give low level, continuous ventilation to a kitchen and one other wet room. The unit should be for loft or void installation and recover up to 83% of heat from extracted air separating the airflows using a counter flow heat exchanger. The unit should incorporate a low energy EC motor with sealed for life bearings for low noise levels and low energy consumption, and have as standard: variable adjustment; boost setting with integral overrun timer; optional delay-on timer; integral frost-stat; and a water level sensor. It should also have the facility for: change of ductwork handing; purge boost; BMS connections; integral proportional dynamic humidistat; and an automatic summer bypass. The unit should be capable of being fitted to 125mm dia ducting without the need for adaptors, have EPS lining for low noise levels and low heat loss. The unit should comply with Part L1 2013 and Part F 2013 of Building Regulations, be EU RoHS Directive Compliant, conform to the requirements of EC Council directives relating to Electromagnetic Compatibility and Electrical Safety: 2006/95/CE (LVD), 2004/108/CE (EMC), EN 60335-2-80, be CE marked and SAP Q Eligible

WHHR Mini DC

PERFORMANCE (curves are for guidance only)



DIMENSIONS - mm (bottom access only)



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