

Colourfan[®] Supply

HIGH EFFICIENCY SMALL VENTILATION UNITS

Wide range of models
for ceiling void, plantroom
and external locations

Low SFPs to achieve
L2 Building Regulations

Low energy / high
efficiency fans

Variety of control options to suit
unit requirements

All units suitable for
demand ventilation with
VES BlueSense controls package

**Colourfan[®] Supply
DUTIES UP TO
2.5 m³/s**



**Colourfan[®] Supply
DUTIES UP
TO 2.5 m³/s**



Energy efficient, ErP compliant fans, robust case construction, low profile units, suitable for ceiling voids, plantrooms and roofs. Can be configured for top or bottom access.

Also available...

**Colourfan[®]
Supply
Acoustic Units**



The Colourfan Supply Acoustic high efficiency, low noise unit with duties up to 2.8 m³/s, low Specific Fan Power and low energy / high efficiency fans.

**Colourfan[®]
Extract and
Extract Acoustic Units**



**Colourfan[®]
Twin and
Twin Acoustic Units**



Colourfan[®] Supply
part of a complete range of innovative,
flexible products from the HVAC experts

Colourfan[®] Supply

Why choose VES

VES has been supplying products for the HVAC industry for over 40 years, and have the in-depth knowledge and resources to provide solutions to all ventilation related requirements. We are a substantial British manufacturing company with over 250 employees, several factories plus a regional base in the north of England, and sales engineers located throughout the UK.

Complete range of products

The product range encompasses all types of ventilation products, including those required for commercial, industrial, public and domestic buildings. The emphasis is on low energy products and sophisticated controls to meet Building Regulation requirements. The range extends from a small bathroom extract fan up to large bespoke air handling units. There are specialist heat recovery units; high temperature fans for kitchen hood extract; duct, wall, ceiling and roof units; low noise products, silencers and fitted controls.

High quality, flexible solutions

VES operates a quality assurance system to ISO 9001, monitored by the BSI. The air movement products are tested in-house to BS EN ISO 5801:2008, BS 848-1:2007 and submitted for external testing and approval when necessary. VES specialise in bespoke designs for ventilation units. Whatever the issue, be it space, noise or temperature, VES can provide a design solution to meet the requirements of the project.

Superior customer service

From the moment we receive your enquiry, to delivery and beyond; we have the people in place to give excellent customer service. The VES after sales service covers the whole of the UK and is among the best in the industry.

Experience and expertise

VES employs a range of experts in disciplines including: air movement, noise control, air conditioning, controls, electrics and product refurbishment, and we have key staff who have worked at VES for many years.

Manufactured in the UK

VES has over 12000m² of manufacturing and stores space, and has state of the art sheet metalworking equipment, plus a large powder coating plant. VES also has a substantial controls department, and makes components such as dampers and electric heaters in-house. This not only provides employment for local people, but also many suppliers around the UK.

Colourfan[®] Supply

Colourfan is a range of small air handling ventilation units from VES, including Supply, Extract and Twin Extract, designed around a single product platform, with unique and innovative benefits across the range. Installation and maintenance is simplified through quick change plug connectors and plug and play or pre-wired fitted controls.

Colourfan Supply units are the versatile solution for a range of applications. With energy efficient, ErP compliant fans, robust case construction, the low profile units are suitable for ceiling voids, plantrooms and roofs and can be configured for top or bottom access, the perfect complement to Colourfan Extract units.



Colourfan[®] Supply Features and Benefits

Energy Saving

Meet regulations, minimise noise and maximise performance.

Simple Installation and Maintenance

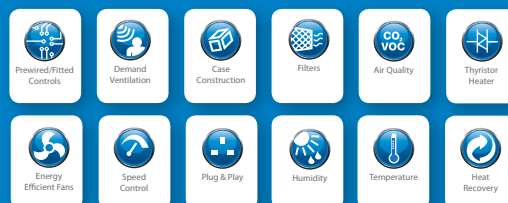
Simple connection and pre-installed features save on site costs and reduce lead times. Carefully designed maintenance features minimise downtime and total cost of ownership.

Versatile Options

Versatile location, handling and access options meet the widest range of project requirements.

Robust Construction

Excellent build quality ensures minimal noise breakout, low SFPs and air tight performance.



Energy Saving

Intelligent controls enhance performance whilst saving energy and money.



Energy Efficient
Energy efficient units with low SFPs to help achieve L2 Building Regulations. Units are fully tested to BS 848-1:2007 (airside performance) and DIN 45635-38 (acoustic performance).



Integrated Controls
BlueSense energy saving packages combine intelligent technologies with energy saving products, services and engineering expertise.



High Performance Fans
Low energy backward curved, single inlet fans for optimised performance.



Complete Ventilation Package
VES offer the expertise, products and services to provide a complete ventilation package including integrated controls and site assistance, providing peace of mind through reliable products and expert knowledge.



Easy Connections
Circular spigot connections are fitted with rubber gasket seals. Rectangular spigot connections are fitted with 30mm MEZ flange, avoiding the need for additional accessories.



Pre-wired Isolator & Controls
The unit can be pre-wired to a fitted external isolator or integral isolator / controls package to reduce onsite wiring requirements.



'Plug & Play' Fans
Fan motor assembly is internally anti-vibration isolated and fitted with a quick change plug connector for easy maintenance.



Filter Maintenance
Dual access panels enable the filters to be replaced, without the need to remove large access panels.



Multi Access
Plantroom units suitable for top and bottom access. External units suitable for top access only. Quick release lid fastenings.



Adjustable Mounting Feet
Weatherproof units size 0-6 are supplied with adjustable feet for uneven surfaces, sizes 7-9 are supplied on channel bases. Plantroom units can be supplied with optional feet.



Versatile Handings
Handings can be left or right hand side to suit site and/or installation requirements.



Heating Options
A variety of modulating LPHW and electric heater options are available to suit the required application.



Excellent Construction
Rigid single skin galvanised sheet steel for sizes 0-6. Aluminium tubular frame and galvanised double skinned panels with mineral wool slab infill for sizes 7-9.



Powdercoat Options
External units are powder coated Signal Grey to RAL7004 as standard, with many other colours available.

BlueSense Energy Saving Package



Colourfan Unit with Integral Controls



Optional Integral Speed Controller



Optional Air Quality Sensor



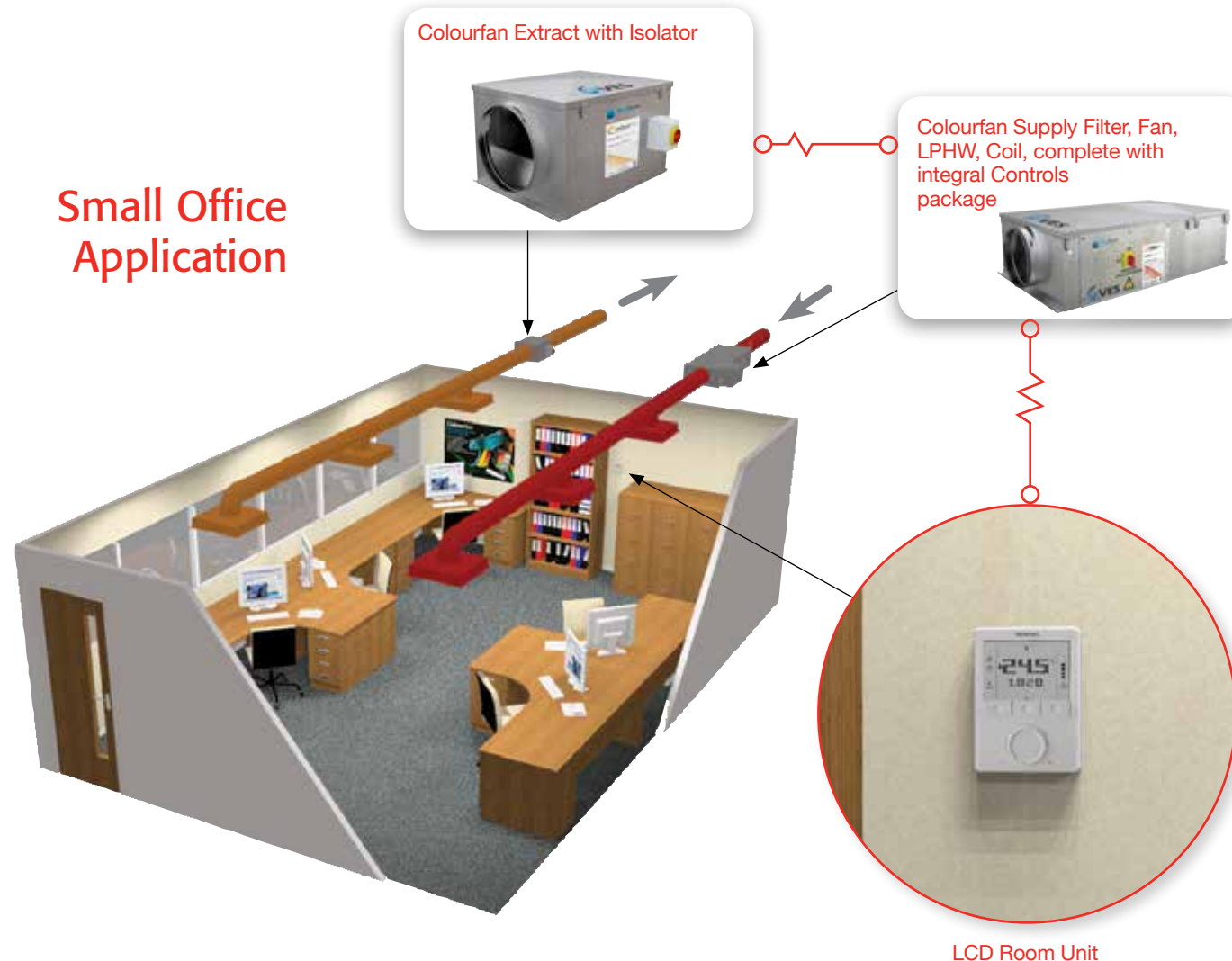
The sign of energy saving products, services and expertise

For more information refer to pages 28-29

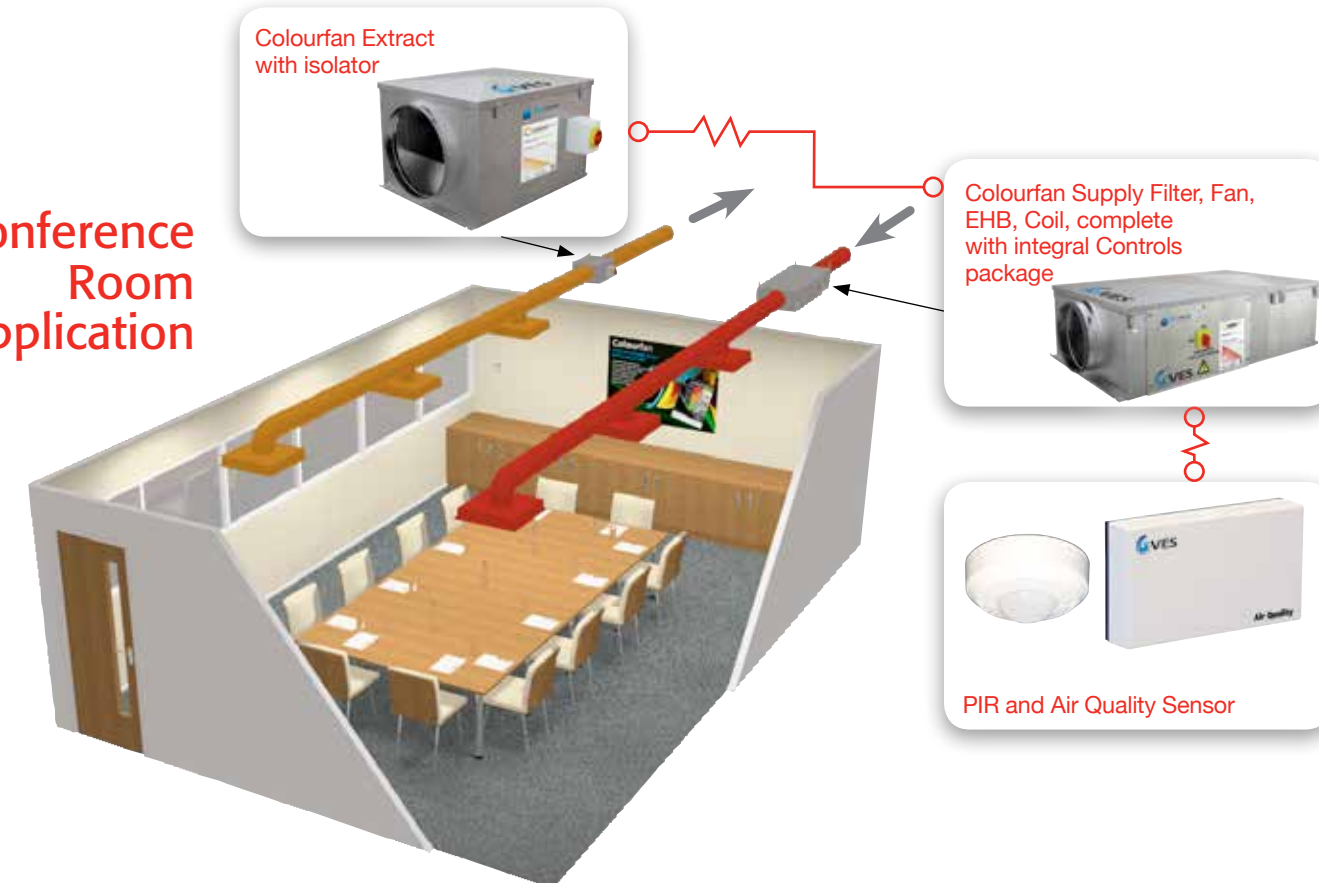
Supply, Extract or Twin Extract Working Together

The Colourfan Supply unit with integrated controls can work seamlessly with any Colourfan Extract or Colourfan Twin Extract unit. This provides fully protected motor and control signals that can be wired directly to the isolator on the Extract or Twin unit, reducing the need for any other control requirements and easing site installation.

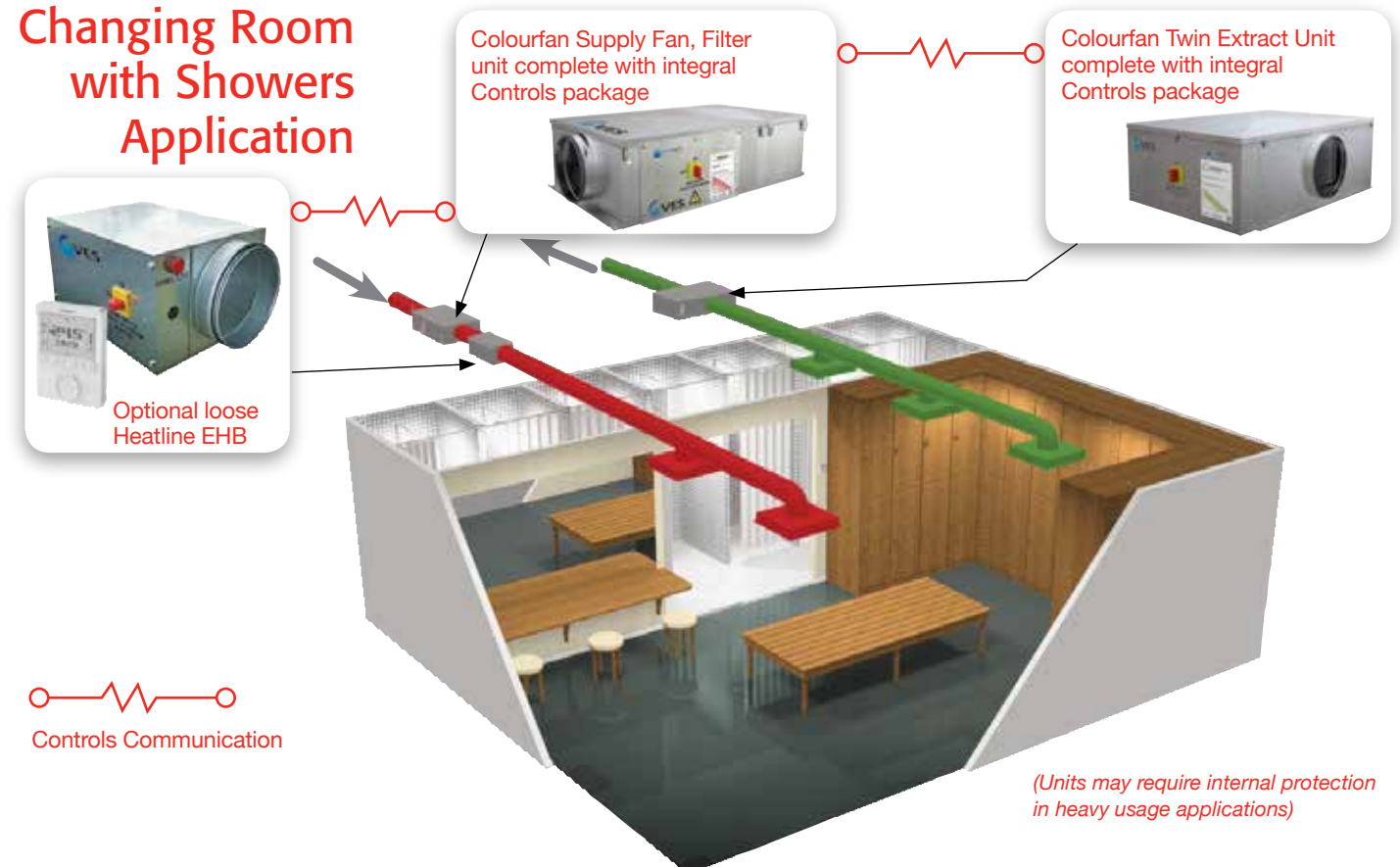
Small Office Application



Conference Room Application



Changing Room with Showers Application



Colourfan BlueSense

All products in the Colourfan range can form part of the BlueSense energy saving commitment. By specifying a BlueSense package you are ensuring your Supply, Extract or Twin unit is optimised with a pre-wired controls package, energy efficient speed controller and air quality sensor, all programmed to work in unison, reducing energy consumption and saving money.

Pre-wired Controls



Colourfan unit with integral controls



Integral Speed Controller



Air Quality Sensor



The sign of energy saving products, services and expertise

For more information refer to page 28-29

Colourfan®
Supply and
Supply
Acoustic
Units



Colourfan®
Extract and
Extract
Acoustic
Units



Colourfan®
Twin and
Twin
Acoustic
Units



Easy Selection

VES Colourfan Supply units are the versatile solution for a wide range of applications.

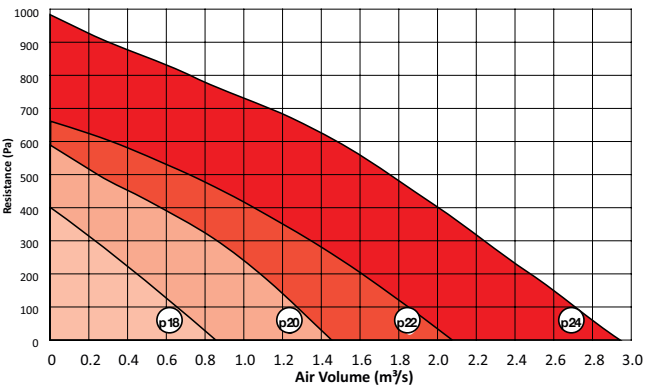
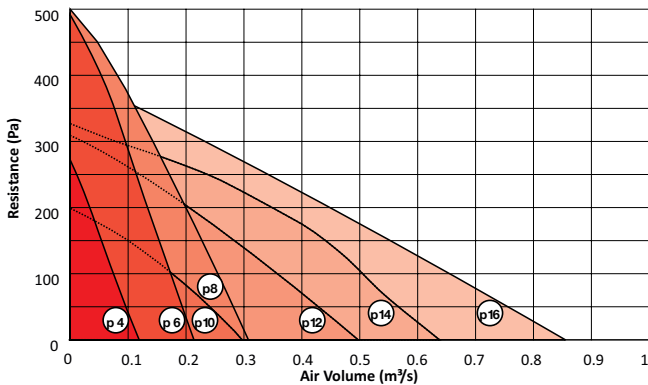
Selecting Colourfan units has been made easy, through our simple step by step process. We've done all of the hard work leaving you to specify and define your unit requirements.



Duties up to 2.5 m³/s



Colourfan® Supply Performance



1 Choose duties up to 2.5 m³/s

Colourfan® Supply
Duties up to 2.5 m³/s

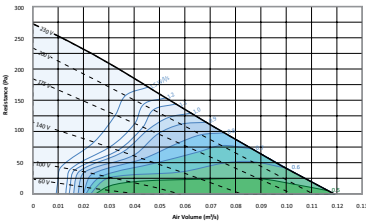
Energy efficient, ErP compliant fans, robust case construction, low profile units, suitable for ceiling voids, plantrooms and roofs. Can be configured for top or bottom access.



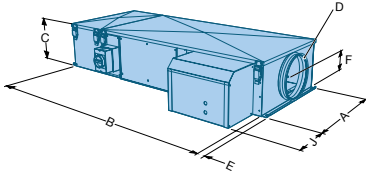
2 Specify your unit

- a Performance
- b Unit Configuration

2a. Performance Curve



2b. Unit Configuration



- c Heating and Controls
- d Noise Data and Silencer Option

2c. Heating and Controls

Unit Type	Technical Data				Heating and Control Options			
	Max. Air Flow (m³/s)	Max. Air Flow (l/s)	Max. Air Flow (cfm)	Max. Air Flow (gpm)	Control Panel	Heating Option	Control Panel	Heating Option
Unit Type	Max. Air Flow (m³/s)	Max. Air Flow (l/s)	Max. Air Flow (cfm)	Max. Air Flow (gpm)	Control Panel	Heating Option	Control Panel	Heating Option
Unit Type	Max. Air Flow (m³/s)	Max. Air Flow (l/s)	Max. Air Flow (cfm)	Max. Air Flow (gpm)	Control Panel	Heating Option	Control Panel	Heating Option

2d. Noise Data and Silencer Option

Unit Type	Sound Spectrum dB re 10 ⁻¹² W/m² Centre Frequency (Hz)				Casing Noise Breakdown			
	63	125	250	500	1k	2k	4k	8k
Unit Type	63	125	250	500	1k	2k	4k	8k
Unit Type	63	125	250	500	1k	2k	4k	8k

3 Add control packages for performance and efficiency Pages 28-30

Include BlueSense integrated controls to take advantage of energy saving demand ventilation, as well as many additional benefits.

Variety of control features:

- Local control or user interface options.
- Demand ventilation.
- Variety of heating options.
- Remote communication (Modbus®, BACnet®).



Energy monitoring is an effective way of highlighting areas for potential savings, whilst providing a key indicator to ongoing energy consumption. Refer to pages 28-29.

4 Specify bespoke options for Colourfan products Page 31



As well as offering a wide range of standard Colourfan units VES is able to build bespoke versions for special applications and requirements.

Units can be adapted for higher specifications e.g. minimising noise breakout or for architectural aesthetics.

Our experience with controls also enables high levels of integration with Building Management Systems or existing systems, as well as matching to niche applications.

Also see Specifications on pages 32-33

Selection Data

Unit Size 0 CLS031-1

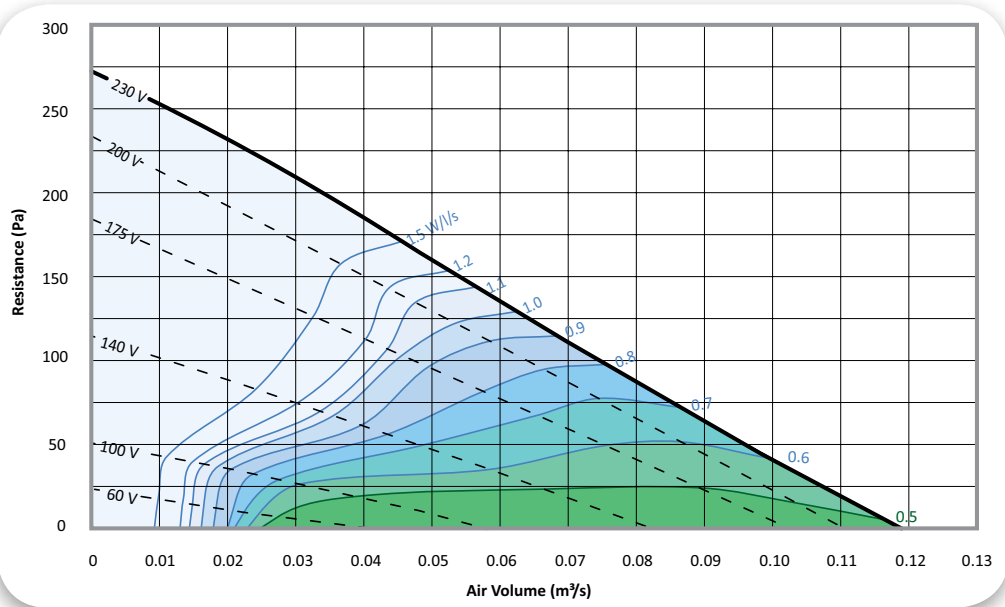
2a Performance

$SFP = \frac{\text{Electrical input power (Watts)}}{\text{Air volume flow rate (litres/second)}}$

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



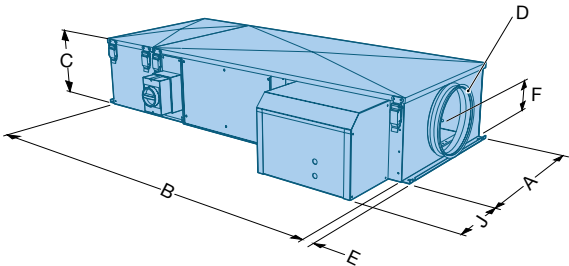
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS031-1	1 Phase	0.06 kW	230 VAC	2500 rpm	0.26 A	Electric Thyristor

2b Configuration

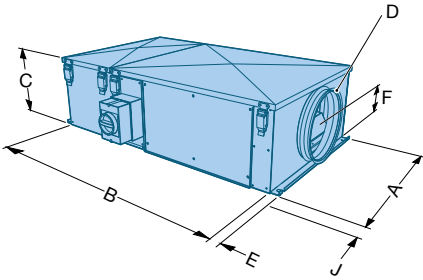
Configuration and Handing

CLS031-1 / P W/ LT RB/ LB RT

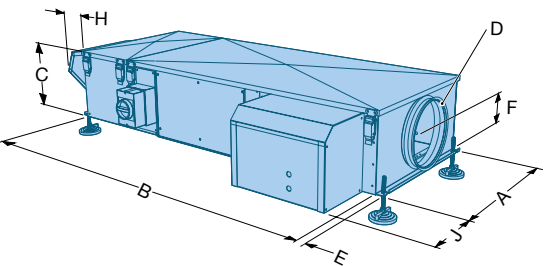
P Plantroom with Heating



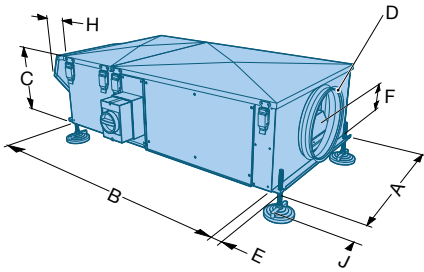
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm								Weight kg	Configuration Options			
	A	B	C	DØ	E	F	H	J		LT	LB	RT	RB
CLS0 Fan / Filter Plantroom Supply	470	800	245	197	25	120		97	25	✓	✓	✓	✓
CLS0 Fan / Filter / Heater Plantroom Supply	470	1200	245	197	25	120		97	35	✓	✓	✓	✓
	A	B	C	DØ	E	F	H	J					
CLS0 Fan / Filter Weatherproof Supply	470	800	245	197	25	120	225	97	25.5	✓		✓	
CLS0 Fan / Filter / Heater Weatherproof Supply	470	1200	245	197	25	120	225	180	35.5	✓		✓	

2c Heating and Controls

Heating CLS031-1 / P - W / AL / G4 / E null
Controls I ISC CP CPSC

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve A Actuator Kit
LPHW Heating	0.025	49.00	1.60	0.04	0.90	15mm	CPA0-1/W/P/*	CLSCWKT000/*
	0.050	38.50	2.60	0.06	2.70			
	0.080	32.50	3.40	0.08	4.30			
	0.100	28.00	4.00	0.09	6.10			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes,							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	1ph - Electric Heater	
				Electric Heater	Control Panel
Electric Thyristor Heating	0.050	45.00	3	EHCS0/3KW/1X1	CPA0-1/6KW-1/P/*
	0.075	61.00	6	EHCS0/6KW/1X1	
	0.085	58.00			
	0.100	45.00			
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
230 VAC	61	61	60	58	57	57	56	50	31 / 37	23 / 28	35 / 39	27 / 31
200 VAC	60	61	57	56	55	55	54	45	28 / 33	20 / 25	34 / 37	26 / 29
175 VAC	61	59	54	54	53	53	52	40	25 / 30	16 / 22	32 / 35	24 / 27
140 VAC	56	57	50	49	48	49	47	30	23 / 26	14 / 17	29 / 31	21 / 23

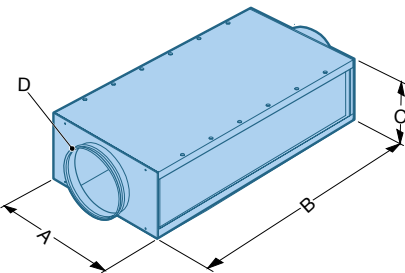
Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss (With Acoustic Lining)	+6	-2	-6	-17	-27	-31	-32	-25
Case Insertion Loss (Without Acoustic Lining)	+7	-1	-1	-11	-19	-23	-23	-19

With Acoustic Lining Without Acoustic Lining

Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA000/1000	-4	-5	-6	-14	-24	-27	-24	-18
Induct Loss								
CLVA000/1000	A	B	C	DØ	Weight kg			
Dimensions mm	450	1000	235	197	15			

Note: The silencer will add a maximum of 7 Pa to the external resistance.

Silencer - CLVA000/1000



Selection Data

Unit Size 1 CLS132-1

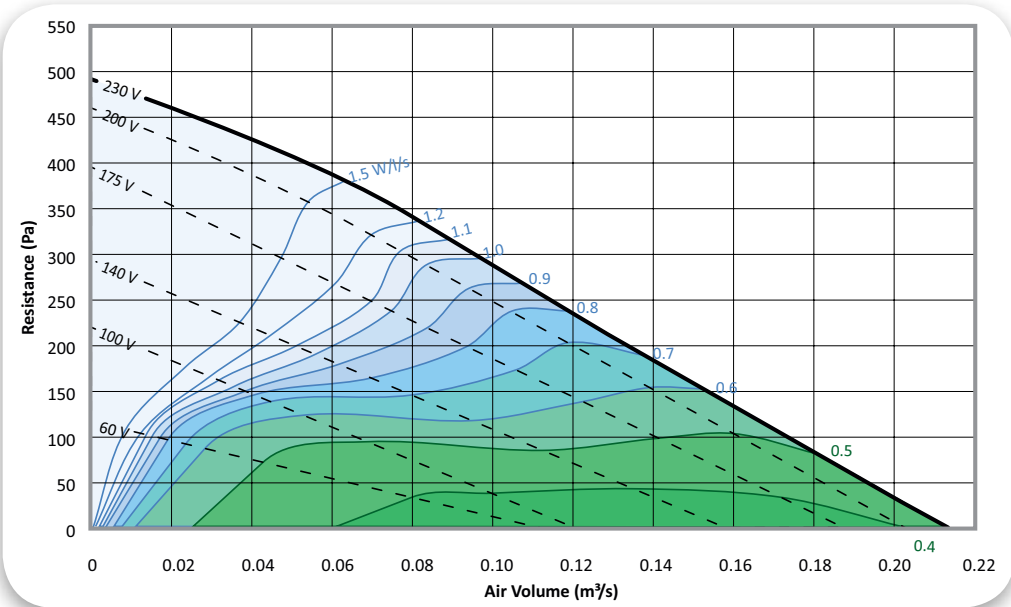
2a Performance

$SFP = \frac{\text{Electrical input power (Watts)}}{\text{Air volume flow rate (litres/second)}}$

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



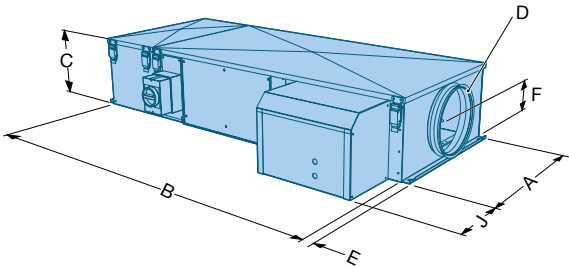
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS132-1	1 Phase	0.1 kW	230 VAC	2560 rpm	0.45 A	Electric Thyristor

2b Configuration

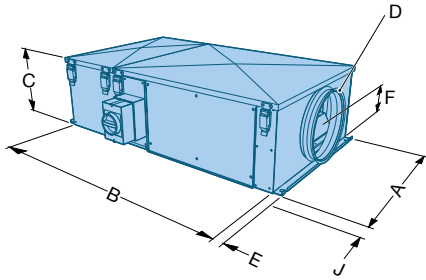
Configuration and Handing

CLS132-1 / P W/ LT RB/ LB RT

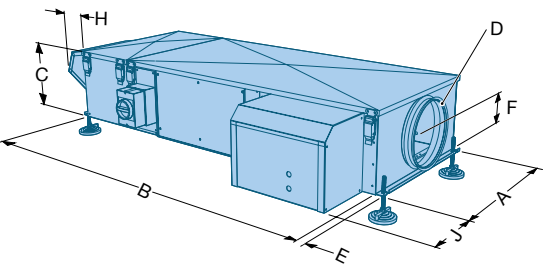
P Plantroom with Heating



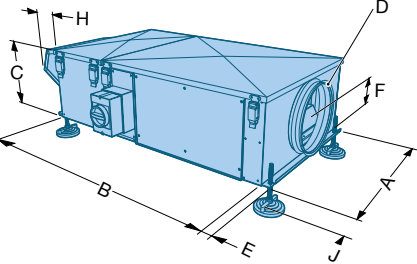
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm								Weight kg	Configuration Options			
	A	B	C	DØ	E	F	H	J		LT	LB	RT	RB
CLS1 Fan / Filter Plantroom Supply	470	830	306	247	25	148		97	30	✓	✓	✓	✓
CLS1 Fan / Filter / Heater Plantroom Supply	470	1230	306	247	25	148		97	40	✓	✓	✓	✓
	A	B	C	DØ	E	F	H	J					
CLS1 Fan / Filter Weatherproof Supply	470	830	306	247	25	148	225	97	30.5	✓		✓	
CLS1 Fan / Filter / Heater Weatherproof Supply	470	1230	306	247	25	148	225	180	40.5	✓		✓	

2c Heating and Controls

Heating CLS132-1 / P - W / AL / G4 / E null
Controls I ISC CP CPSC

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.050	42.50	2.90	0.06	3.70	15mm	CPA3-1-W/P/*	CLSCWKT100/*
	0.100	32.00	4.50	0.10	8.50			
	0.150	26.00	5.60	0.12	13.10			
	0.200	21.50	6.40	0.14	17.10			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes,							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	1ph - Electric Heater	
				Electric Heater	Control Panel
Electric Thyristor Heating	0.050	45.00	3	EHCS1/3KW/1X1	CPA3-1/9KW-1/P/*
	0.100	45.00	6	EHCS1/6KW/1X1	
	0.150	45.00	9	EHCS1/9KW/1X1	
	0.200	32.00			
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
230 VAC	64	62	60	58	57	55	52	48	31 37	23 28	36 40	28 32
200 VAC	73	68	61	59	55	54	51	45	39 40	29 30	42 44	34 36
175 VAC	65	70	64	60	56	53	49	42	38 41	29 32	41 44	33 36
140 VAC	66	73	63	58	53	51	45	35	41 43	32 34	43 45	35 37

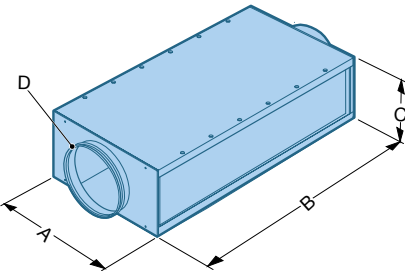
Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss (With Acoustic Lining)	+6	-2	-6	-17	-27	-31	-32	-25
Case Insertion Loss (Without Acoustic Lining)	+7	-1	-1	-11	-19	-23	-23	-19

With Acoustic Lining Without Acoustic Lining

Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA100/1000	-4	-5	-6	-14	-24	-27	-21	-18
Induct Loss								
CLVA100/1000	A	B	C	DØ	Weight kg			
Dimensions mm	450	1000	245	197	16			

Note: The silencer will add a maximum of 23 Pa to the external resistance.

Silencer - CLVA100/1000



Selection Data

Unit Size 2 CLS233-1

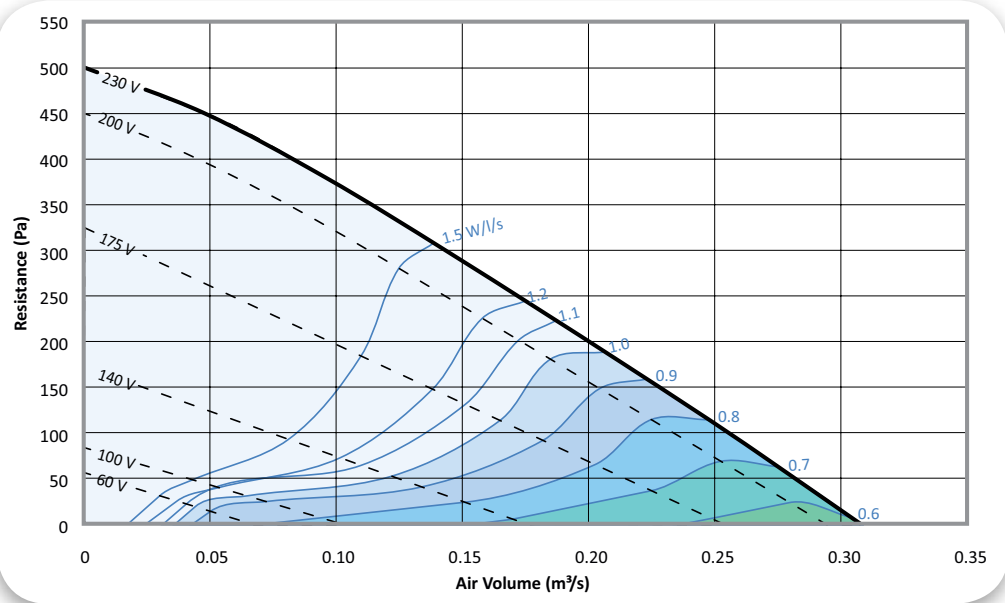
2a Performance

$$SFP = \frac{\text{Electrical input power (Watts)}}{\text{Air volume flow rate (litres/second)}}$$

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



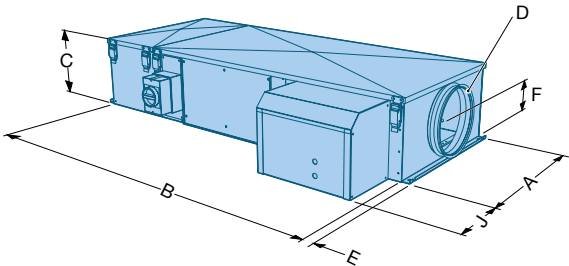
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS233-1	1 Phase	0.24 kW	230 VAC	2730 rpm	1.05 A	Electric Thyristor

2b Configuration

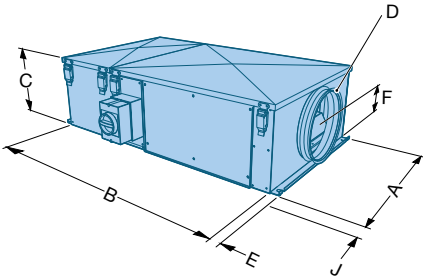
Configuration and Handing

CLS233-1 / **P** **W**/ **LT** **RB**/ **LB** **RT**

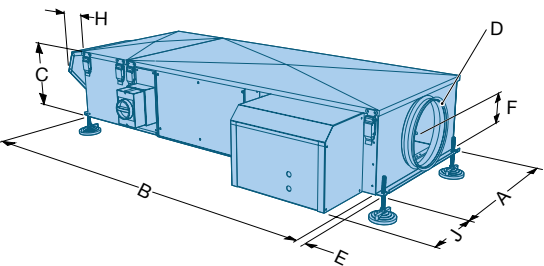
P Plantroom with Heating



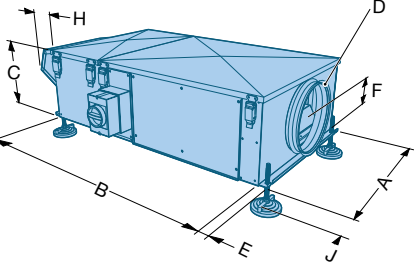
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm								Weight kg	Configuration Options			
	A	B	C	DØ	E	F	H	J		LT	LB	RT	RB
CLS2 Fan / Filter Plantroom Supply	590	935	380	312	25	186		97	35	✓	✓	✓	✓
CLS2 Fan / Filter / Heater Plantroom Supply	590	1335	380	312	25	186		97	55	✓	✓	✓	✓
	A	B	C	DØ	E	F	H	J					
CLS2 Fan / Filter Weatherproof Supply	590	935	380	312	25	186	295	97	35.5	✓		✓	
CLS2 Fan / Filter / Heater Weatherproof Supply	590	1335	380	312	25	186	295	180	55.5	✓		✓	

2c Heating and Controls

Heating
CLS233-1 / P - **W** / AL / G4 / **I** **ISC**
E **CP** **CPSC**
null

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.050	53.00	3.50	0.08	1.50	15mm	CPA4-1/W/P/*	CLSCWKT200/*
	0.100	42.00	5.70	0.13	3.40			
	0.180	34.00	8.20	0.18	7.00			
	0.250	28.00	10.10	0.22	10.10			
	0.300	25.50	11.10	0.25	12.20			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes,							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 15mm BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options			
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	1ph - Electric Heater		3ph - Electric Heater	
				Electric Heater	Control Panel	Electric Heater	Control Panel
Electric Thyristor Heating	0.050	45.00	3	EHCS2/3KW/1X1	CPA4-1/9KW-1/P/*	N/A	CPA4-1/9KW-3/P/*
	0.100	45.00	6	EHCS2/6KW/1X1		EHCS2/6KW/1X3	
	0.175	38.00	9	EHCS2/9KW/1X1		EHCS2/9KW/1X3	
	0.250	25.00					
	0.300	20.00					
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option		* A = Room Unit Control B = BMS Option

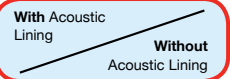
Air off temperature based upon entering air of -5 °C.
Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
230 VAC	66	73	65	64	63	57	56	61	41 / 43	32 / 34	43 / 46	36 / 38
200 VAC	65	74	62	62	61	56	55	55	43 / 44	34 / 35	44 / 46	36 / 38
175 VAC	62	73	59	57	56	50	52	41	41 / 43	32 / 34	42 / 44	34 / 36
140 VAC	68	72	61	56	53	46	42	32	40 / 41	31 / 32	42 / 44	34 / 36

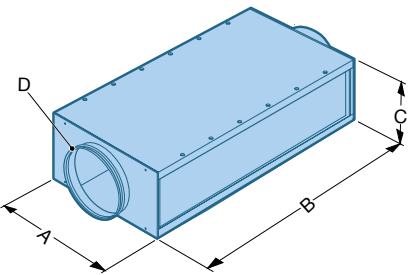
Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss (With Acoustic Lining)	+6	-2	-6	-17	-27	-31	-32	-25
Case Insertion Loss (Without Acoustic Lining)	+7	-1	-1	-11	-19	-23	-23	-19



Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA200/1200	-5	-7	-10	-1	-26	-28	-23	-20
	A	B	C	DØ	Weight kg			
Dimensions mm	550	1200	295	247	27			

Note: The silencer will add a maximum of 16 Pa to the external resistance.

Silencer - CLVA200/1200



Selection Data

Unit Size 3 CLS334-1

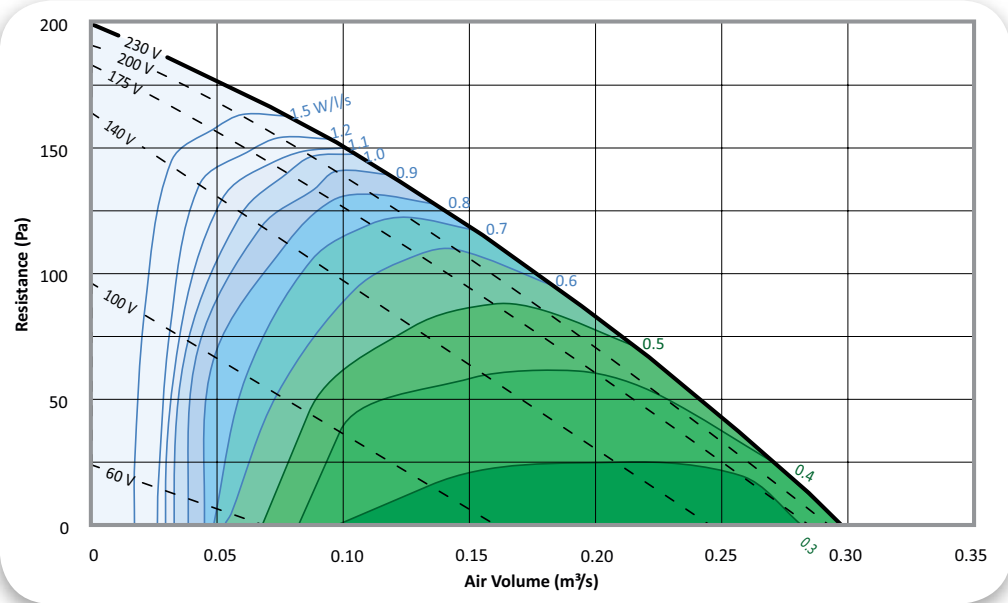
2a Performance

$SFP = \frac{\text{Electrical input power (Watts)}}{\text{Air volume flow rate (litres/second)}}$

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



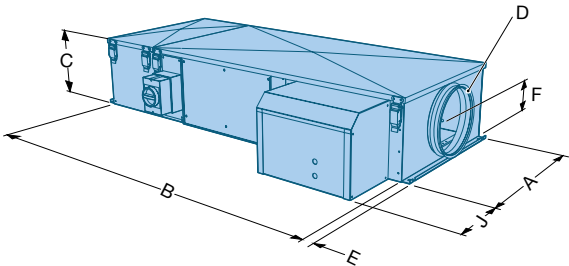
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS334-1	1 Phase	0.11 kW	230 VAC	1360 rpm	0.53 A	Electric Thyristor

2b Configuration

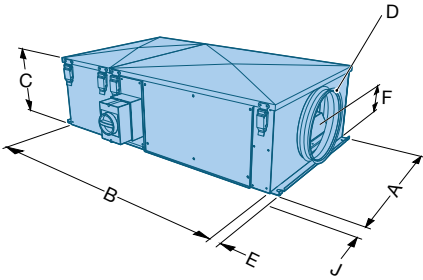
Configuration and Handing

CLS334-1 / P W/ LT RB/ LB RT

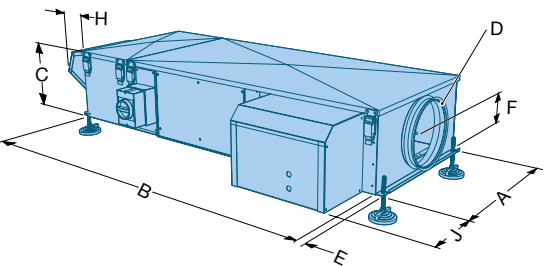
P Plantroom with Heating



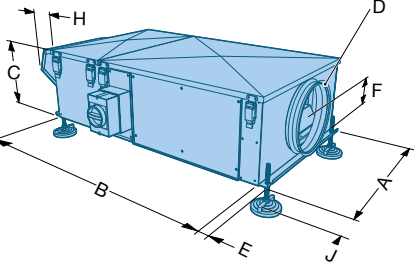
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm								Weight kg	Configuration Options			
	A	B	C	DØ	E	F	H	J		LT	LB	RT	RB
CLS3 Fan / Filter Plantroom Supply	620	1000	405	312	25	198		97	40	✓	✓	✓	✓
CLS3 Fan / Filter / Heater Plantroom Supply	620	1400	405	312	25	198		97	60	✓	✓	✓	✓
	A	B	C	DØ	E	F	H	J					
CLS3 Fan / Filter Weatherproof Supply	620	1000	405	312	25	198	300	97	40.5	✓		✓	
CLS3 Fan / Filter / Heater Weatherproof Supply	620	1400	405	312	25	198	300	180	60.5	✓		✓	

2c Heating and Controls

Heating CLS334-1 / P - W / AL / G4 / E null
Controls I ISC CP CPSC

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.100	46.00	6.20	0.14	4.60	22mm	CPA3-1/W/P/*	CLSCWKT300/*
	0.180	37.00	9.00	0.20	9.10			
	0.250	32.00	11.10	0.25	13.40			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 22mm BSP.							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

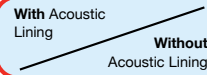
Electric Thyristor Heating	Technical Data			Heating and Control Options			
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	1ph - Electric Heater		3ph - Electric Heater	
				Electric Heater	Control Panel	Electric Heater	Control Panel
	0.100	45.00	6	EHCS3/6KW/1X1	CPA3-1/9KW-1/P/*	EHCS3/6KW/1X3	CPA3-1/9KW-3/P/*
	0.180	38.00	9	EHCS3/9KW/1X1		EHCS3/9KW/1X3	
	0.250	55.00	18	N/A	N/A	EHCS3/18KW/1X3	CPA3-1/18KW-3/P/*
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option		* A = Room Unit Control B = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
230 VAC	62	64	61	58	55	45	55	33	32 38	24 29	37 40	29 32
200 VAC	59	65	60	56	52	47	54	36	32 37	23 28	36 40	28 32
175 VAC	58	67	57	56	50	46	54	33	35 36	25 27	37 39	29 31
140 VAC	58	65	54	60	54	43	53	27	32 33	23 24	35 38	27 30

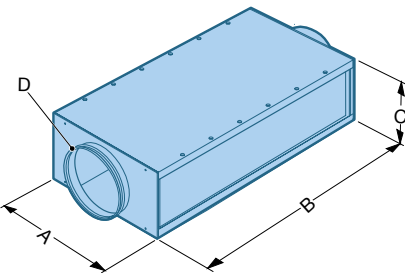
Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss (With Acoustic Lining)	+6	-2	-6	-17	-27	-31	-32	-25
Case Insertion Loss (Without Acoustic Lining)	+7	-1	-1	-11	-19	-23	-23	-19



Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA300/1200	-6	-8	-12	-19	-28	-30	-24	-21
Induct Loss								
CLVA300/1200	A	B	C	DØ	Weight kg			
Dimensions mm	600	1200	395	312	38			

Note: The silencer will add a maximum of 9 Pa to the external resistance.

Silencer - CLVA300/1200



Selection Data

Unit Size 4 CLS435-1

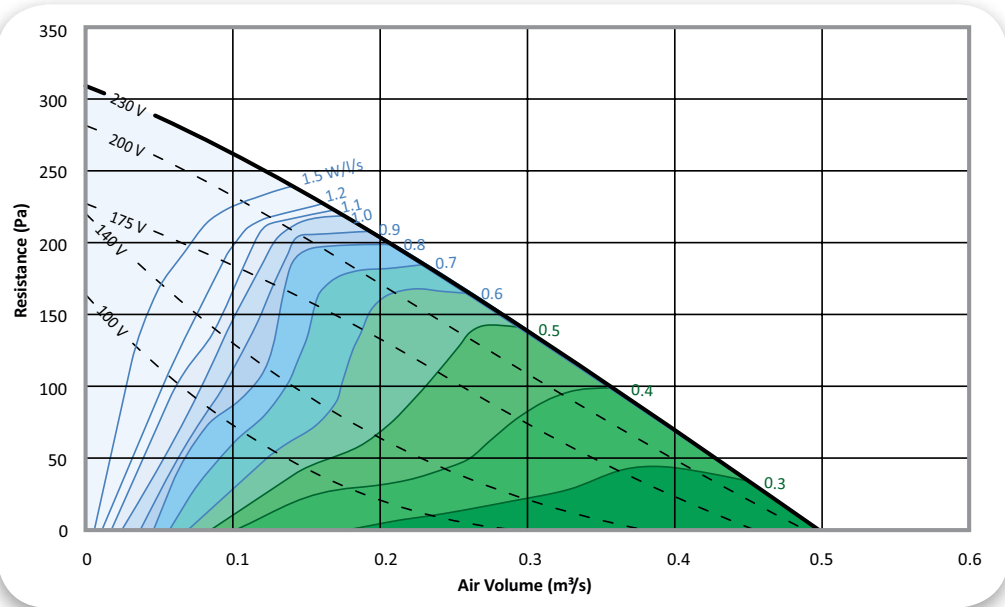
2a Performance

SFP = Electrical input power (Watts) / Air volume flow rate (litres/second)

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



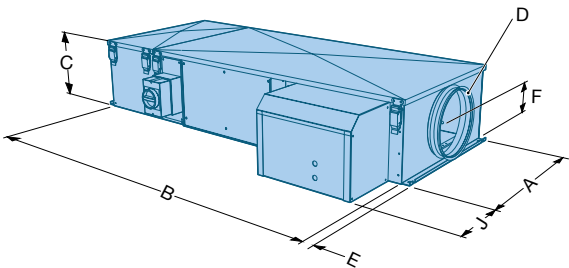
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS435-1	1 Phase	0.15 kW	230 VAC	1310 rpm	0.66 A	Electric Thyristor

2b Configuration

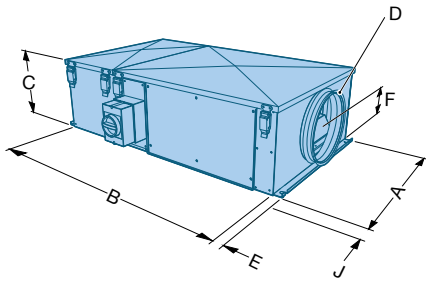
Configuration and Handling

CLS435-1 / P W/ LT RB/ LB RT

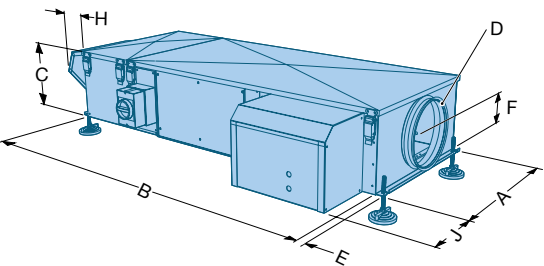
P Plantroom with Heating



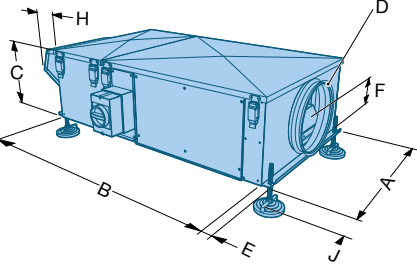
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm								Weight kg	Configuration Options			
	A	B	C	DØ	E	F	H	J		LT	LB	RT	RB
CLS4 Fan / Filter Plantroom Supply	720	1070	506	397	25	248		97	50	✓	✓	✓	✓
CLS4 Fan / Filter / Heater Plantroom Supply	720	1470	506	397	25	248		97	75	✓	✓	✓	✓
Unit Type	A	B	C	DØ	E	F	H	J	Weight kg				
	A	B	C	DØ	E	F	H	J					
CLS4 Fan / Filter Weatherproof Supply	720	1070	506	397	25	248	400	97	51	✓		✓	
CLS4 Fan / Filter / Heater Weatherproof Supply	720	1470	506	397	25	248	400	180	76	✓		✓	

2c Heating and Controls

Heating CLS435-1 / P - W / AL / G4 / E null
Controls I ISC CP CPSC

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.150	45.50	9.20	0.21	11.60	22mm	CPA3-1/W/P/*	CLSCWKT400/*
	0.250	38.00	12.90	0.29	21.90			
	0.350	32.50	15.90	0.35	32.00			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 22mm BSP							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 22mm BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options			
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	1ph - Electric Heater		3ph - Electric Heater	
				Electric Heater	Control Panel	Electric Heater	Control Panel
Electric Thyristor Heating	0.150	45.00	9	EHCS4/9KW/1X1	CPA3-1/9KW-1/P/*	EHCS4/9KW/1X3	CPA3-1/9KW-3/P/*
	0.250	55.00	18	N/A	N/A	EHCS4/18KW/1X3	CPA3-1/18KW-3/P/*
	0.350	38.00	18				
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise.					* A = Room Unit Control B = BMS Option	* A = Room Unit Control B = BMS Option	
kW = m³/s x 1.21 x ΔT °C							

Air off temperature based upon entering air of -5 °C.
Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
230 VAC	59	68	60	58	55	45	50	48	34 36	26 28	37 40	30 33
200 VAC	61	64	58	56	56	44	52	43	30 33	21 26	34 37	27 30
175 VAC	55	66	51	61	54	40	46	26	32 33	24 25	35 37	27 30
140 VAC	55	69	52	55	42	40	39	24	36 37	27 28	37 38	30 31

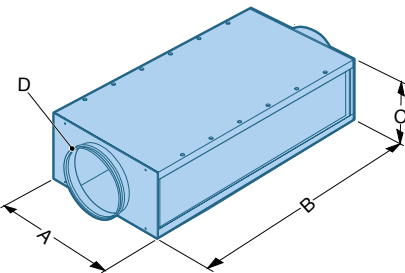
Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss (With Acoustic Lining)	+6	-2	-6	-17	-27	-31	-32	-25
Case Insertion Loss (Without Acoustic Lining)	+7	-1	-1	-11	-19	-23	-23	-19

With Acoustic Lining Without Acoustic Lining

Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA400/1200	-5	-9	-16	-30	-40	-40	-32	-26
CLVA400/1200	A	B	C	DØ	Weight kg			
	Dimensions mm	700	1200	495	397	43		

Note: The silencer will add a maximum of 13 Pa to the external resistance.

Silencer - CLVA400/1200



Selection Data

Unit Size 5 CLS536-1

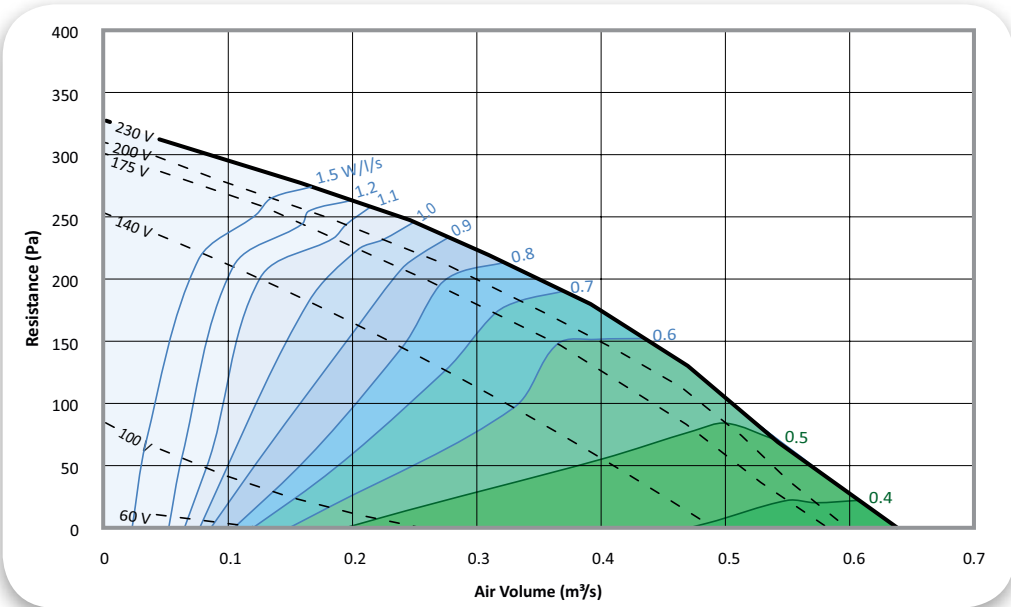
2a Performance

$SFP = \frac{\text{Electrical input power (Watts)}}{\text{Air volume flow rate (litres/second)}}$

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



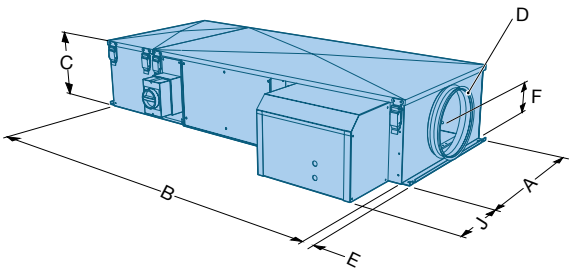
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS536-1	1 Phase	0.27 kW	230 VAC	1390 rpm	1.3 A	Electric Thyristor

2b Configuration

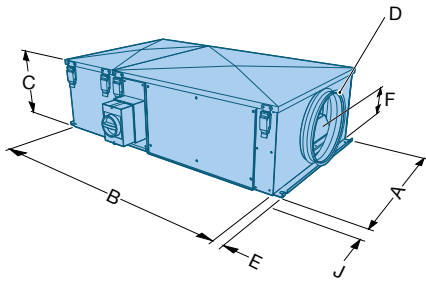
Configuration and Handling

CLS536-1 / P W/ LT RB/ LB RT

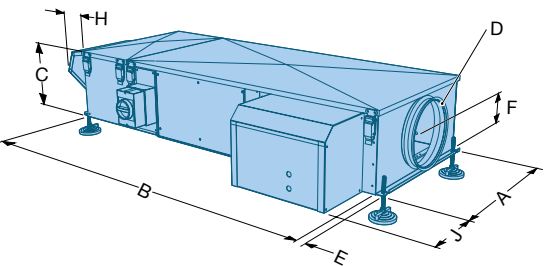
P Plantroom with Heating



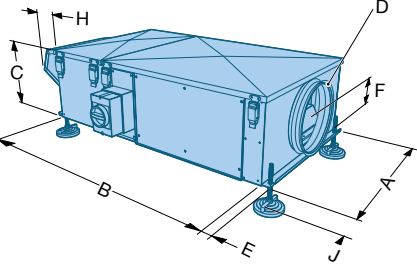
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm								Weight kg	Configuration Options			
	A	B	C	DØ	E	F	H	J		LT	LB	RT	RB
CLS5 Fan / Filter Plantroom Supply	720	1140	556	397	25	273		97	55	✓	✓	✓	✓
CLS5 Fan / Filter / Heater Plantroom Supply	720	1540	556	397	25	273		97	80	✓	✓	✓	✓
	A	B	C	DØ	E	F	H	J					
CLS5 Fan / Filter Weatherproof Supply	720	1140	556	397	25	273	400	97	56.5	✓		✓	
CLS5 Fan / Filter / Heater Weatherproof Supply	720	1540	556	397	25	273	400	180	81.5	✓		✓	

2c Heating and Controls

Heating CLS536-1 / P - W / AL / G4 / E null
Controls I ISC CP CPSC

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.100	54.00	7.10	0.16	3.00	22mm	CPA6-1/W/P/*	CLSCWKT500/*
	0.200	43.00	11.70	0.26	7.90			
	0.350	35.00	16.90	0.38	15.80			
	0.500	29.00	21.70	0.46	23.50			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes,							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 22mm BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options			
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	1ph - Electric Heater		3ph - Electric Heater	
				Electric Heater	Control Panel	Electric Heater	Control Panel
Electric Thyristor Heating	0.100	45.00	6	EHCS5/6KW/1X1	CPA6-1/9KW-1/P/*	EHCS5/6KW/1X3	CPA6-1/6KW-3/P/*
	0.200	32.00	9	EHCS5/9KW/1X1		EHCS5/9KW/1X3	CPA6-1/9KW-3/P/*
	0.350	38.00	18	N/A	N/A	EHCS5/18KW/1X3	CPA6-1/18KW-3/P/*
	0.500	40.00	27			EHCS5/27KW/1X3	CPA6-1/27KW-3/P/*
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m ³ /s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option		* A = Room Unit Control B = BMS Option

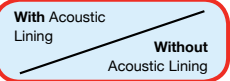
Air off temperature based upon entering air of -5 °C.
Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
230 VAC	65	66	61	59	53	51	53	51	32 36	24 29	37 40	30 33
200 VAC	64	64	59	59	52	50	53	48	30 34	21 27	35 38	28 31
175 VAC	65	64	58	57	50	48	54	42	30 33	21 25	35 38	28 31
140 VAC	58	58	55	51	44	43	49	27	25 30	17 22	30 33	23 26

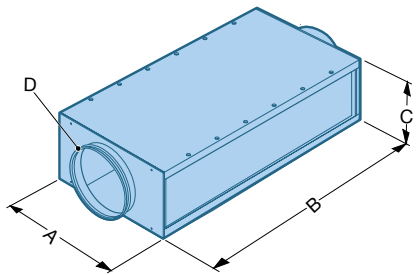
Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss (With Acoustic Lining)	+6	-2	-6	-17	-27	-31	-32	-25
Case Insertion Loss (Without Acoustic Lining)	+7	-1	-1	-11	-19	-23	-23	-19



Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA500/1200	-4	-6	-12	-25	-32	-32	-23	-15
	A	B	C	DØ	Weight kg			
Dimensions mm	700	1200	545	397	44			

Note: The silencer will add a maximum of 14 Pa to the external resistance.

Silencer - CLVA500/1200



Selection Data

Unit Size 6-1 CLS637-1

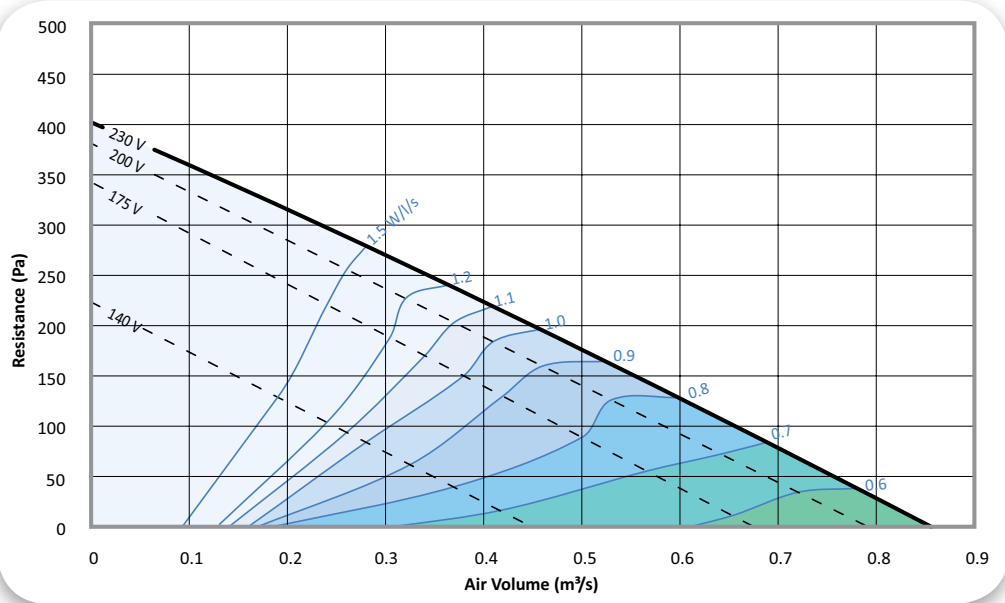
2a Performance

SFP = Electrical input power (Watts) / Air volume flow rate (litres/second)

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



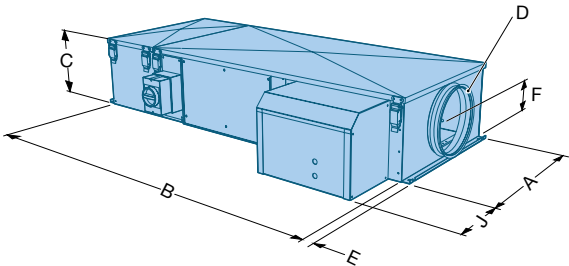
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS637-1	1 Phase	0.50 kW	230 VAC	1370 rpm	2.4 A	Electric Thyristor

2b Configuration

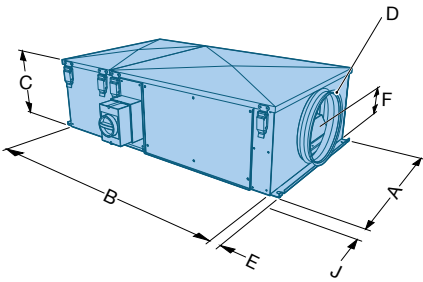
Configuration and Handing

CLS637-1 / P W/ LT RB/ LB RT

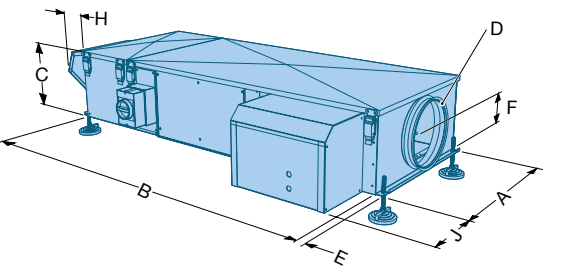
P Plantroom with Heating



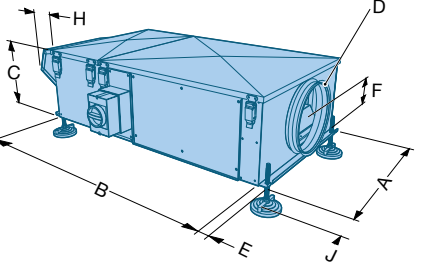
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm								Weight kg	Configuration Options			
	A	B	C	DØ	E	F	H	J		LT	LB	RT	RB
CLS6 Fan / Filter Plantroom Supply	970	1200	580	447	25	286		97	75	✓	✓	✓	✓
CLS6 Fan / Filter / Heater Plantroom Supply	970	1600	580	447	25	286		97	110	✓	✓	✓	✓
	A	B	C	DØ	E	F	H	J					
CLS6 Fan / Filter Weatherproof Supply	970	1200	580	447	25	286	400	97	77	✓			✓
CLS6 Fan / Filter / Heater Weatherproof Supply	970	1600	580	447	25	286	400	180	112	✓			✓

2c Heating and Controls

Heating CLS637-1 / P - W / AL / G4 / E null
Controls I ISC CP CPSC

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.250	46.00	15.50	0.34	8.50	22mm	CPA7-1/W/P/*	CLSCWKT600/*
	0.500	35.50	24.50	0.54	20.10			
	0.750	29.00	30.90	0.69	31.40			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 22mm BSP.							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

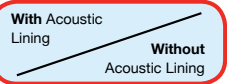
	Technical Data			Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	3ph - Electric Heater	
				Electric Heater	Control Panel
Electric Thyristor Heating	0.200	55.00	18	EHCS6/18KW/1X3	CPA7-1/18KW-3/P/*
	0.500	40.00	27	EHCS6/27KW/1X3	CPA7-1/27KW-3/P/*
	0.750	31.00	32	EHCS6/32KW/1X3	CPA7-1/32KW-3/P/*
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
230 VAC	62	67	67	61	54	51	46	53	37 43	30 35	39 44	33 37
200 VAC	62	66	64	60	53	50	45	51	34 39	26 32	37 41	30 34
175 VAC	60	65	59	57	51	48	44	50	30 34	22 26	35 38	28 31
140 VAC	60	63	55	51	46	45	43	44	28 30	20 22	32 35	25 28

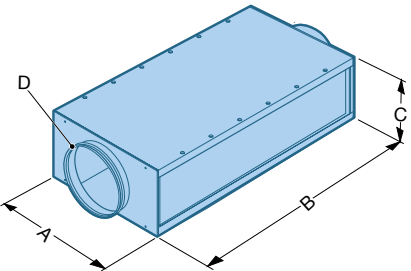
Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss (With Acoustic Lining)	+6	-2	-6	-17	-27	-31	-32	-25
Case Insertion Loss (Without Acoustic Lining)	+7	-1	-1	-11	-19	-23	-23	-19



Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA600/1200	-4	-6	-12	-25	-32	-32	-26	-20
Induct Loss								
CLVA600/1200	A	B	C	DØ	Weight kg			
Dimensions mm	850	1200	570	447	54			

Note: The silencer will add a maximum of 20 Pa to the external resistance.

Silencer - CLVA600/1200



Selection Data

Unit Size 6-3 CLS637-3

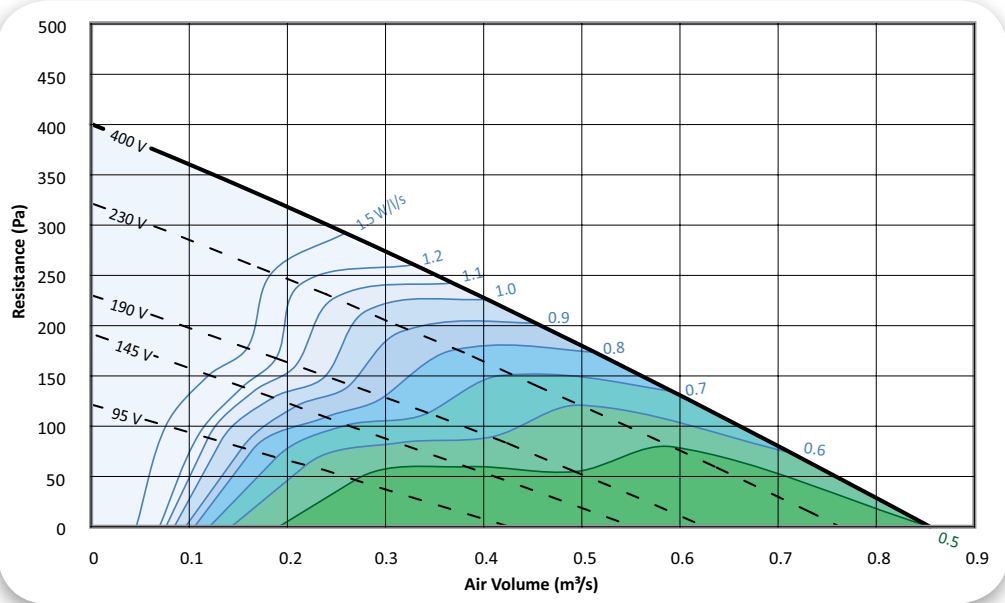
2a Performance

SFP = Electrical input power (Watts) / Air volume flow rate (litres/second)

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



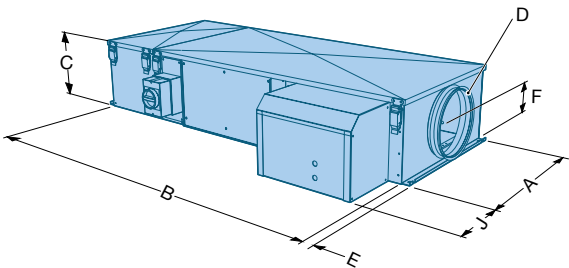
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS637-3	3 Phase	0.44 kW	400 VAC	1340 rpm	0.8 A	Electric Thyristor

2b Configuration

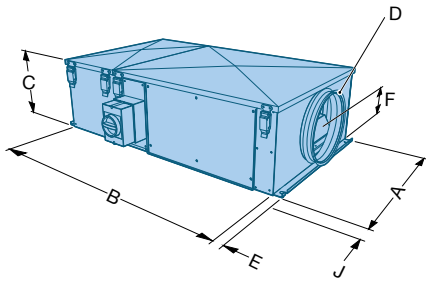
Configuration and Handling

CLS637-3 / P W/ LT RB/ LB RT

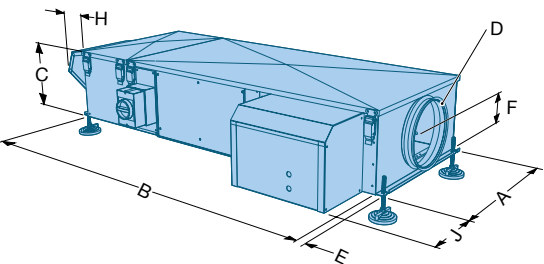
P Plantroom with Heating



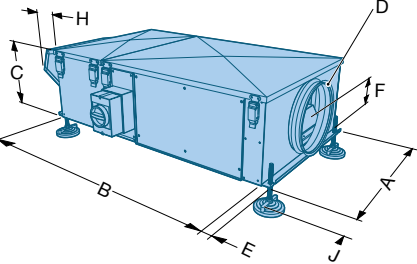
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm								Weight kg	Configuration Options			
	A	B	C	DØ	E	F	H	J		LT	LB	RT	RB
CLS6 Fan / Filter Plantroom Supply	970	1200	580	447	25	286		97	75	✓	✓	✓	✓
CLS6 Fan / Filter / Heater Plantroom Supply	970	1600	580	447	25	286		97	110	✓	✓	✓	✓
	A	B	C	DØ	E	F	H	J					
CLS6 Fan / Filter Weatherproof Supply	970	1200	580	447	25	286	400	97	77	✓			✓
CLS6 Fan / Filter / Heater Weatherproof Supply	970	1600	580	447	25	286	400	180	112	✓			✓

2c Heating and Controls

Heating CLS637-3 / P - W / AL / G4 / E null
Controls I ISC CP CPSC

LPHW Heating	Technical Data						Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
	0.250	46.00	15.50	0.34	8.50	22mm	CPA4-3/W/P/*	CLSCWKT600/*
	0.500	35.50	24.50	0.54	20.10			
	0.750	29.00	30.90	0.69	31.40			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 22mm BSP.							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

Electric Thyristor Heating	Technical Data			Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	3ph - Electric Heater	
				Electric Heater	Control Panel
	0.200	55.00	18	EHCS6/18KW/1X3	CPA4-3/18KW-3/P/*
	0.500	40.00	27	EHCS6/27KW/1X3	CPA4-3/27KW-3/P/*
	0.750	31.00	32	EHCS6/32KW/1X3	CPA4-3/32KW-3/P/*
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
400 VAC	62	68	62	62	56	52	47	52	34 37	26 30	38 41	31 34
230 VAC	63	60	64	60	62	52	49	46	30 35	22 27	35 39	28 32
190 VAC	57	63	57	58	49	47	50	39	28 32	20 24	33 36	26 29
145 VAC	60	53	54	52	44	45	49	28	23 29	16 21	29 32	22 25
95 VAC	54	48	56	43	40	39	38	21	25 31	18 23	27 32	20 25

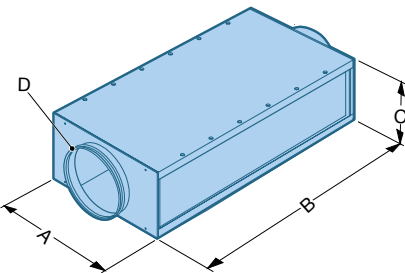
Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss (With Acoustic Lining)	+6	-2	-6	-17	-27	-31	-32	-25
Case Insertion Loss (Without Acoustic Lining)	+7	-1	-1	-11	-19	-23	-23	-19

With Acoustic Lining Without Acoustic Lining

Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA600/1200	-4	-6	-12	-25	-32	-32	-26	-20
	A	B	C	DØ	Weight kg			
Dimensions mm	850	1200	570	447	54			

Note: The silencer will add a maximum of 20 Pa to the external resistance.

Silencer - CLVA600/1200



Selection Data

Unit Size 7 CLS738-3

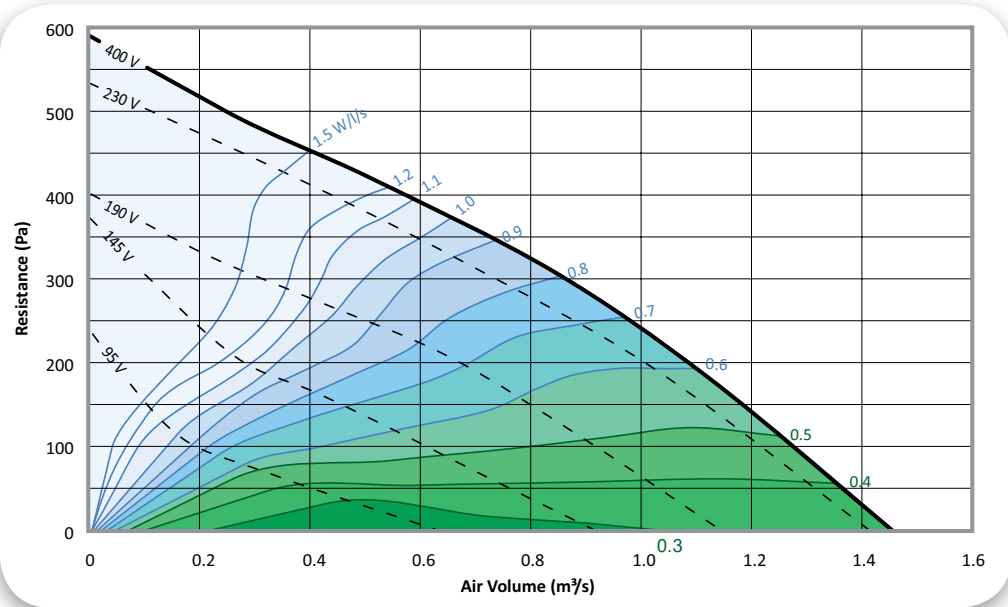
2a Performance

SFP = Electrical input power (Watts) / Air volume flow rate (litres/second)

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



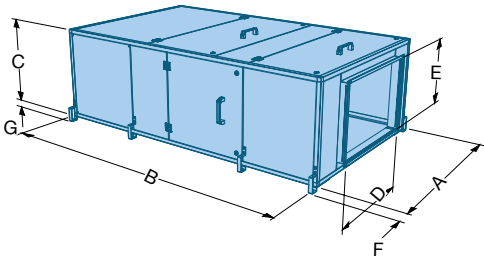
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS738-3	3 Phase	0.77 kW	400 VAC	1350 rpm	1.6 A	Electric Thyristor

2b Configuration

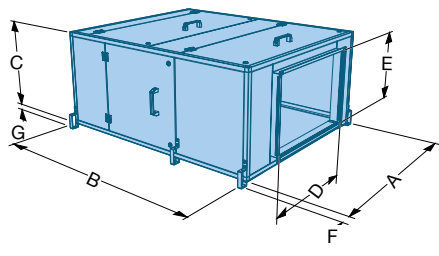
Configuration and Handling

CLS738-3 / P W/ LT RB/ LB RT

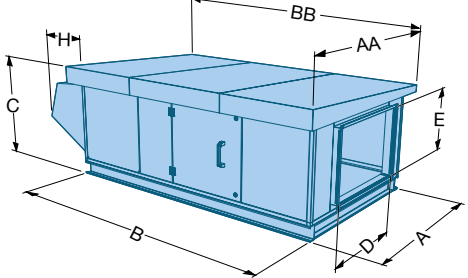
P Plantroom with Heating



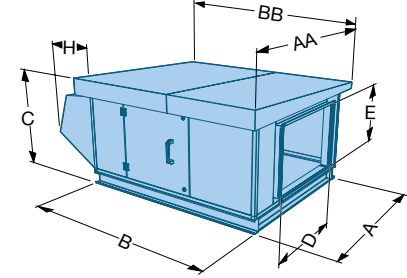
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm										Weight kg	Configuration Options			
	A	AA	B	BB	C	D	E	F	G	H		LT	LB	RT	RB
CLS7 Fan / Filter Plantroom Supply	1210	1470	650	750	500	50	25				140	✓	✓	✓	✓
CLS7 Fan / Filter / Heater Plantroom Supply	1210	2050	650	750	500	50	25				195	✓	✓	✓	✓
	A	AA	B	BB	C	D	E	F	G	H					
CLS7 Fan / Filter Weatherproof Supply	1210	1360	1470	1570	850	750	500			550	200	✓		✓	
CLS7 Fan / Filter / Heater Weatherproof Supply	1210	1360	2050	2150	850	750	500			550	275	✓		✓	

2c Heating and Controls

Heating CLS738-3 / P - W / DS / G4 / E null
Controls I ISC CP CPSC

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.500	35.60	24.57	0.55	3.50	1 ¹ / ₄ "	CPA5-3/W/P/*	CLSCWKT700/*
	0.600	34.40	28.65	0.64	4.40			
	0.700	33.10	32.57	0.73	5.40			
	0.800	32.50	36.34	0.81	6.50			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes,							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	3ph - Electric Heater	
Electric Thyristor Heating	0.400	29.75	18	EHCS7/18KW/1X3	CPA5-3/18KW-3/P/*
	0.500	33.05	24	EHCS7/24KW/1X3	CPA5-3/24KW-3/P/*
	0.600	28.33			
	0.700	33.05	32	EHCS7/32KW/1X3	CPA5-3/32KW-3/P/*
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

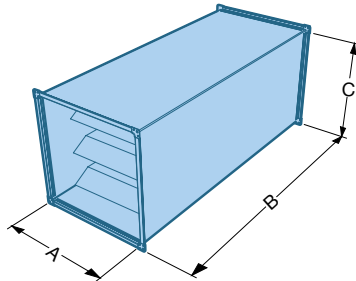
Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
400 VAC	62	68	62	62	46	42	47	52	34	27	37	31
230 VAC	60	64	60	62	52	49	46	49	32	25	35	28
190 VAC	57	63	57	58	49	47	50	39	29	22	32	26
145 VAC	60	53	54	52	44	45	49	28	26	19	29	22
95 VAC	54	48	56	43	40	39	38	21	28	21	29	23

Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss	-1	-4	-3	-18	-27	-26	-24	-20

Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA700/1200	-5	-9	-16	-30	-39	-39	-31	-26
Induct Loss								
CLVA700/1200	A		B		C		Weight kg	
Dimensions mm	750		1200		500		40	

Note: The silencer will add a maximum of 80 Pa to the external resistance.

Silencer - CLVA700/1200



Selection Data

Unit Size 8 CLS839-3

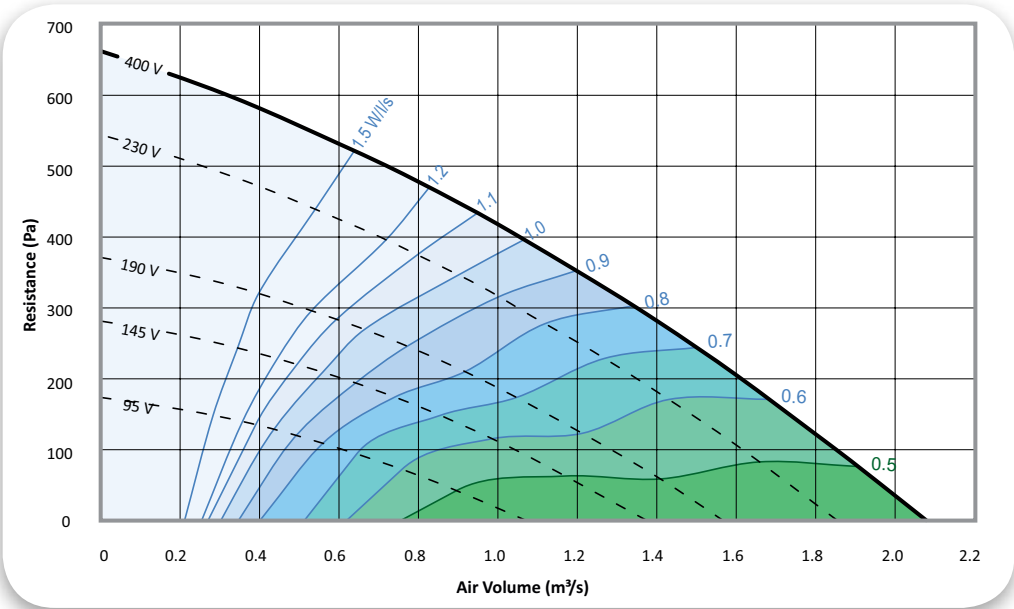
2a Performance

$$SFP = \frac{\text{Electrical input power (Watts)}}{\text{Air volume flow rate (litres/second)}}$$

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



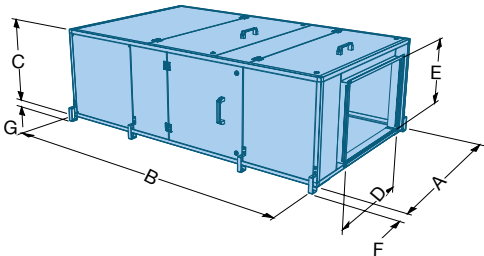
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS839-3	3 Phase	1.2 kW	400 VAC	1330 rpm	2.2 A	Electric Thyristor

2b Configuration

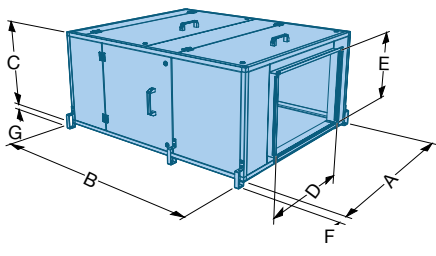
Configuration and Handing

CLS839-3 / **P** **W**/ **LT** **RB**/ **LB** **RT**

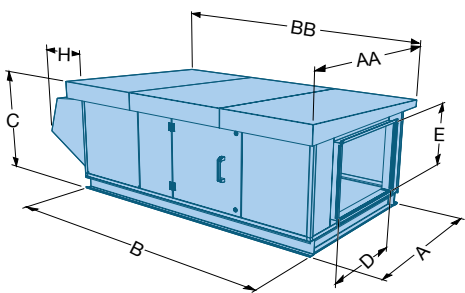
P Plantroom with Heating



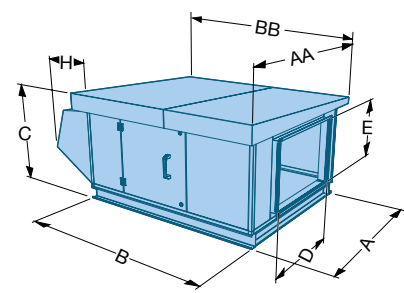
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm										Weight kg	Configuration Options			
	A	AA	B	BB	C	D	E	F	G	H		LT	LB	RT	RB
CLS8 Fan / Filter Plantroom Supply	1260		1525		750	800	600	50	25		165	✓	✓	✓	✓
CLS8 Fan / Filter / Heater Plantroom Supply	1260		2150		750	800	600	50	25		225	✓	✓	✓	✓
	A	AA	B	BB	C	D	E	F	G	H					
CLS8 Fan / Filter Weatherproof Supply	1260	1410	1525	1625	950	800	600			650	230	✓		✓	
CLS8 Fan / Filter / Heater Weatherproof Supply	1260	1410	2150	2250	950	800	600			650	315	✓		✓	

2c Heating and Controls

Heating
CLS839-3 / **P** - **W** / **DS** / **G4** / **I** **ISC**
E **CP** **CPSC**
null

	Technical Data						Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.800	36.10	39.79	0.89	3.00	1 1/2"	CPA7-3/W/P/*	CLSCWKT800/*
	0.900	35.20	43.88	0.98	3.10			
	1.000	34.50	47.84	1.07	3.40			
	1.200	33.10	55.37	1.23	4.20			
	1.400	31.80	62.36	1.39	4.90			
LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 1 1/2" BSP.							* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options	
	Air Volume m ³ /s	Maximum Leaving Air Temp °C	Maximum kW Output	3ph - Electric Heater	
				Electric Heater	Control Panel
Electric Thyristor Heating	0.800	33.05	32	EHCS8/32KW/1X3	CPA7-3/32KW-3/P/*
	0.900	29.38			
	1.000	39.65	48	EHCS8/48KW/1X3	CPA7-3/48KW-3/P/*
	1.200	33.05			
	1.400	28.33			
Air off temperature based upon entering air of -5 °C. Power = Air Volume x Constant x Temperature Rise. kW = m ³ /s x 1.21 x ΔT °C					* A = Room Unit Control B = BMS Option

Air off temperature based upon entering air of -5 °C.
Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

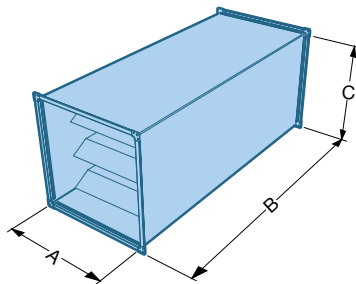
Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
400 VAC	75	77	72	69	73	59	55	58	45	38	47	40
230 VAC	73	75	69	67	61	56	53	55	42	35	44	38
190 VAC	70	72	65	67	57	52	48	51	38	30	41	34
145 VAC	68	66	61	65	53	48	45	40	33	26	37	30
95 VAC	67	59	54	54	49	42	38	31	26	19	30	23

Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss	-1	-4	-3	-18	-27	-26	-24	-20

Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA800/1200	-5	-9	-16	-30	-39	-39	-31	-26
CLVA800/1200	A		B		C		Weight kg	
Dimensions mm	800		1200		600		45	

Note: The silencer will add a maximum of 75 Pa to the external resistance.

Silencer - CLVA800/1200



SIZE 8 - CLS839-3

Selection Data

Unit Size 9 CLS9310-3

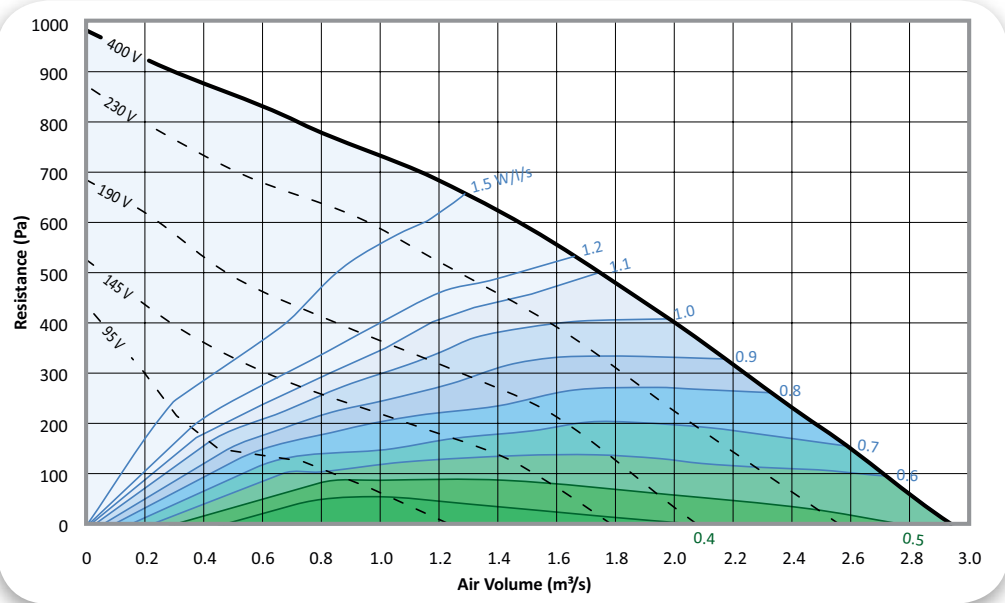
2a Performance

$$SFP = \frac{\text{Electrical input power (Watts)}}{\text{Air volume flow rate (litres/second)}}$$

Notes:
SFP figures quoted at voltages tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007.

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150 Pa.

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3 dB
By octave band: +/- 5 dB



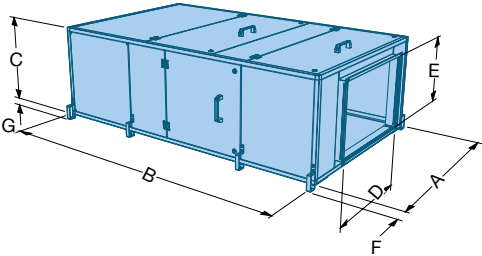
Size	Phase	Motor Size	Voltage	Fan Speed	Motor Full Load Current	Speed Control
CLS9310-3	3 Phase	2.1 kW	400 VAC	1340 rpm	4.2 A	Electric Thyristor

2b Configuration

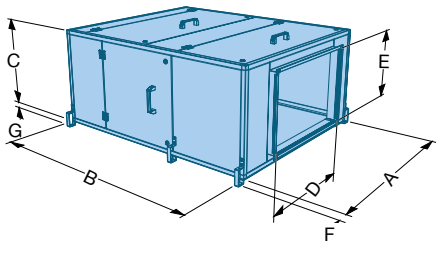
Configuration and Handing

CLS9310-3 / P W/ LT RB/ LB RT

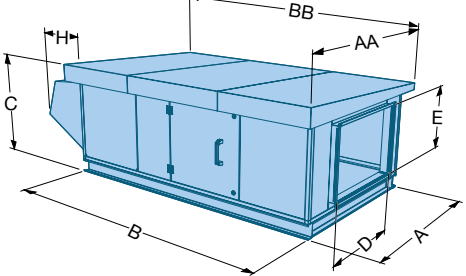
P Plantroom with Heating



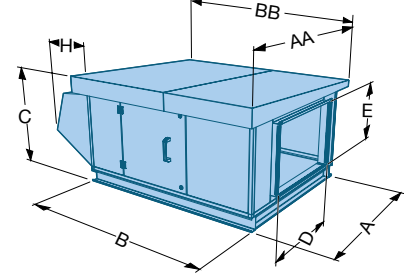
P Plantroom without Heating



W Weatherproof with Heating



W Weatherproof without Heating



Unit Type	Dimensions mm										Weight kg	Configuration Options			
	A	AA	B	BB	C	D	E	F	G	H		LT	LB	RT	RB
CLS9 Fan / Filter Plantroom Supply	1410	1775	850	900	700	50	25				200	✓	✓	✓	✓
CLS9 Fan / Filter / Heater Plantroom Supply	1410	2350	850	900	700	50	25				275	✓	✓	✓	✓
	A	AA	B	BB	C	D	E	F	G	H					
CLS9 Fan / Filter Weatherproof Supply	1410	1560	1775	1875	1050	900	700			750	290	✓		✓	
CLS9 Fan / Filter / Heater Weatherproof Supply	1410	1560	2350	2450	1050	900	700			750	385	✓		✓	

2c Heating and Controls

Heating CLS9310-3 / P - W / DS / G4 / E null
Controls I ISC CP CPSC

Technical Data						Heating and Control Options	
Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/s	Water Pressure kPa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	1.000	36.80	50.60	1.13	3.00	CPA9-3/W/P/*	CLSCWKT900/*
	1.200	35.50	58.91	1.31	3.00		
	1.400	34.40	66.80	1.49	3.50		
	1.600	33.30	74.30	1.65	4.10		
	1.800	32.30	81.38	1.81	4.60		
						* A = Room Unit Control B = BMS Option	* CP = Control Panel Option BMS = BMS Option

LPHW coil, designed for LPHW 82/71 °C, EAT -5 °C, LAT 25 °C, coil construction copper tubes, aluminium fins, coil connections 2" BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

Technical Data			Heating and Control Options	
Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	3ph - Electric Heater	
			Electric Heater	Control Panel
Electric Thyristor Heating	1.000	39.65	EHCS9/48KW/1X3	CPA9-3/48KW-3/P/*
	1.200	33.05		
	1.400	28.33		
	1.600	27.89	EHCS9/54KW/1X3	CPA9-3/54KW-3/P/*
	1.800	33.05	EHCS9/72KW/1X3	CPA9-3/72KW-3/P/*
			* A = Room Unit Control B = BMS Option	

Air off temperature based upon entering air of -5 °C.
Power = Air Volume x Constant x Temperature Rise. kW = m³/s x 1.21 x ΔT °C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data and Silencer Option

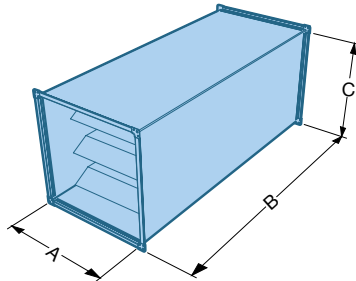
Fan Voltage	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout			
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m	dBA @ 1m	dBA @ 3m
400 VAC	70	80	73	68	63	58	56	62	46	39	48	42
230 VAC	69	75	69	62	59	53	52	57	42	35	44	37
190 VAC	68	67	61	58	54	47	50	43	33	26	37	30
145 VAC	68	67	58	53	48	43	48	32	30	23	36	29
95 VAC	64	61	50	47	43	42	38	27	23	15	30	23

Centre Frequency	63	125	250	500	1k	2k	4k	8k
Case Insertion Loss	-1	-4	-3	-18	-27	-26	-24	-20

Silencer Option	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
CLVA900/1200	-5	-9	-16	-30	-39	-39	-31	-26
CLVA900/1200	A		B		C		Weight kg	
Dimensions mm	900		1200		700		65	

Note: The silencer will add a maximum of 95 Pa to the external resistance.

Silencer - CLVA900/1200



SIZE 9 - CLS9310-3

Controls packages for performance and efficiency



Save energy and costs with BlueSense Controls

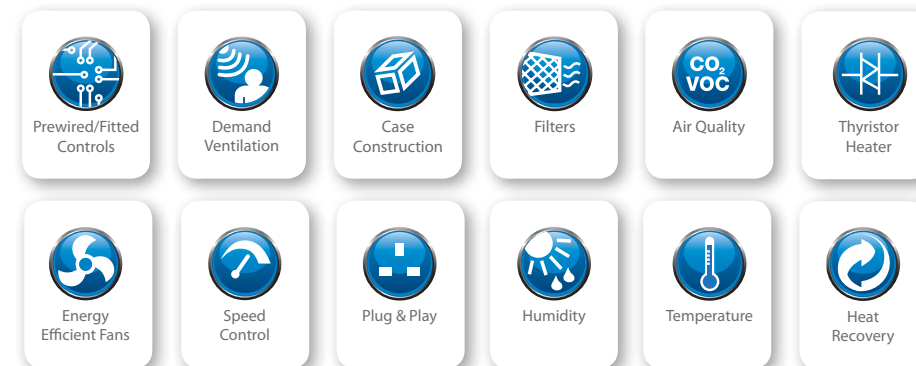
Demand ventilation solutions.

BlueSense philosophy combines intelligent control technologies with energy saving products, services and engineering expertise. BlueSense helps meet energy reduction commitments by optimising the equipment performance, improving energy efficiency, saving money and increasing equipment life expectancy.

BlueSense can be applied to a variety of projects and applications, providing efficient solutions whilst supporting design for best practice and sustainability.

BlueSense Features

- ▶ Inbuilt intelligent controls technology
- ▶ Optimises performance and efficiency
- ▶ Demand ventilation control improves air quality, reducing energy consumption and lowering operating costs
- ▶ Combined CO₂ and VOC sensing technology with energy efficient speed control
- ▶ Extending equipment life expectancy and reducing maintenance
- ▶ Short term payback on capital expenditure
- ▶ Extended warranty



Colourfan BlueSense

All products in the Colourfan range can form part of a BlueSense energy saving package. Specify BlueSense to ensure, Extract or Twin Extract units are optimised with pre-wired controls, energy efficient speed controller and air quality sensor. All of these work in unison, reducing energy consumption and saving money.

A BlueSense Example



Colourfan Unit with Integral Controls



Optional Integral Speed Controller



Optional Air Quality Sensor



The sign of energy saving products, services and expertise

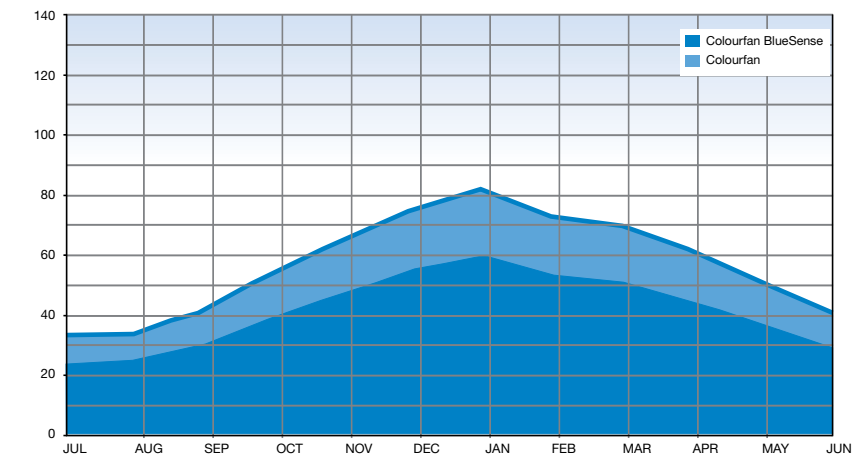
BlueSense Energy Savings

Energy Chart Life Cycle Costs

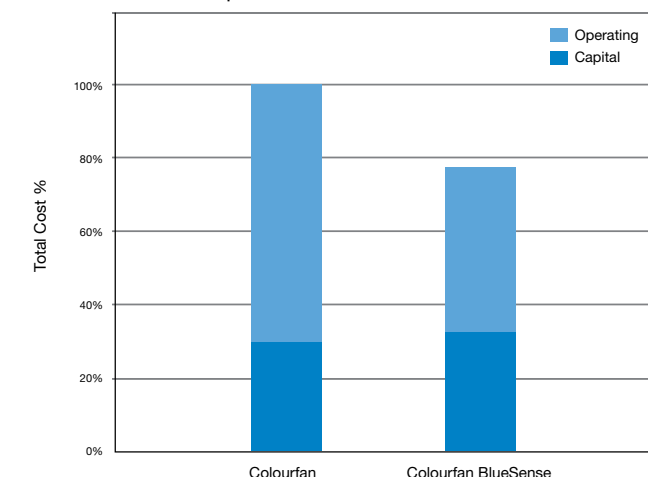


Energy comparisons for the Colourfan range illustrate how they reduce energy demands whilst improving the environment and saving money.

The example below is a typical office building, with an occupancy variation that results in an average 40% reduction in airflow requirement for 40% of the working day. The ventilation system operates from 8am till 6pm Monday to Friday, with a ventilation rate of 0.2 m³/s at 100 Pa.



Comparison of Unit Costs Over 10 Years



The heating requirement has been based upon the UK heating profile for an air temperature setpoint of 18.5 °C; the same heater size has been used for all comparisons.

Conclusion

Combining VES products with BlueSense technology will reduce the impact to the environment, minimise overall life cycle costs and payback period.

VES is experienced at discussing energy requirements with clients, our knowledge and technology can help to identify areas where savings can be made.

VES can provide assistance for both new and existing buildings.

BlueSense Includes an Extended Warranty

- ▶ 3 years with BlueSense packages.
- ▶ 5 years with BlueSense package and Post Installation Commissioning.

Please quote BlueSense with your order or contact our specialist sales team for further information. Call +44 (0)8448 15 60 60 or Email info@ves.co.uk

Colourfan® Supply Controls Introduction



Air Quality Sensor



Speed Controller

VES designs and manufactures all controls systems entirely in-house, this advantage ensures that the most efficient, lowest cost, highest quality packages are available.

The CPA range is specifically designed for ventilation units requiring remote or room unit control, with applications suitable for individual supply and or extract systems.

The control systems are offered fully integrated into the supply ventilation unit, pre-wired and factory commissioned. For remote unit control through a BMS systems or other external source, the control panel will be supplied with terminals for easy customer connections. For stand alone operation the control system is supplied with a versatile, fully configurable LCD room unit with built in temperature sensor for individual control.

Features

- Single or three phase, supply and extract fan control, with matching speed control options
- Single or three phase electric modulating Thyristor with airflow and thermal safety interlocks
- Modulating LPHW control with frost protection
- Optional versatile LCD room unit with built in temperature sensor and adjustable control parameters
- BlueSense energy saving package for demand ventilation control, complete with fully integrated pre-wired control panel, energy efficient speed control and air quality sensor

Selection Matrix

		Room Unit		BMS Unit	
		Electric	Water	Electric	Water
Power supply	230 VAC 50 Hz or 400 VAC 50 Hz	✓	✓	✓	✓
Supply fan	230 VAC 50 Hz or 400 VAC 50 Hz	✓	✓	✓	✓
Extract fan	230 VAC 50 Hz or 400 VAC 50 Hz	✓	✓	✓	✓
Electric modulating Thyristor heating	230 VAC 50 Hz or 400 VAC 50 Hz	✓		✓	
LPHW modulating heating & frost protection			✓		✓
Volt free remote start/stop		✓	✓	✓	✓
24 VDC Fire alarm shutdown		✓	✓	✓	✓
Supply & extract volt free signals		✓	✓	✓	✓
Volt free common run & trip indication		✓	✓	✓	✓
7 Day time clock		✓	✓		
Remote control unit		✓	✓		
External source control (eg BMS)				✓	✓
Built in room air sensor		✓	✓		
Optional duct sensor		✓	✓		
Internal or external locations		✓	✓	✓	✓
BlueSense - Energy Saving Package		✓	✓	✓	✓
Energy efficient speed control		✓	✓	✓	✓
Air quality sensor (CO ₂ & VOC)		✓	✓	✓	✓
Post installation commissioning		✓	✓	✓	✓

Bespoke Solutions

As well as offering a wide range of standard Colourfan units VES are able to build bespoke versions for special applications and requirements.

Units can be adapted for higher specifications to address challenging locations and applications. Our experience with controls also enables high levels of integration with Building Management Systems or existing solutions, as well as matching to niche applications.

With VES you really get the full package without needing to mix and match suppliers.

Bespoke Options:

- EC Fans (Available with our Acoustic range)
- Dual outlet spigots
- Side spigots
- Bottom spigots
- Aesthetic requirements and paint colour finishes
- Saline environment
- Extreme temperatures
- Cooling coils

Specialist Site Services

VES operates a Specialist Site Services division, which is a market leader in the repair and refurbishment of any make or model of air handling equipment. For buildings with faulty and deteriorating ventilation plant, the obvious choice may appear to be replacement. However there are many reasons, not least economic ones, why the repair or refurbish alternatives should also be explored.

Features of Specialist Site Services



In addition to being a First Class ISO Certified Manufacturer, the VES Specialist Site Services Division is the largest on-site solutions provider in the country.

Assistance in all Market Sectors



For all enquires about our services please contact us on +44 (0)8448 15 60 60 or email sssales@ves.co.uk



10% Online Discount

100s of Ventilation Products



Sales Freephone 0800 31 66 000 vesdirect.co.uk

Product Specification

Colourfan[®] Supply Fan Small Ventilation Units

1.1. General

- A. Provide a supply fan unit to meet the performance and configuration as indicated in the schedule and detail drawings. The supply fan unit shall be tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007 and shall be of the Colourfan type as manufactured by VES Andover Ltd a company accredited with BS EN ISO 9001:2008.

1.2 Unit Construction

- A. The unit shall be provided pre-assembled comprising of a rigidly constructed single skinned galvanised sheet steel case, centrifugal backward curved fan with direct drive motor, pleated panel filter and circular spigots.
- B. The unit shall be supplied with a pleated panel filter as standard. Grade as indicated in the schedule and detail drawings.
- C. The unit shall be available with optional fitted electric or hot water heating as indicated in the schedule and detail drawings.
- D. The unit shall be available in plantroom or weatherproof construction as indicated in the schedule and detail drawings.
- E. Weatherproof units shall be fitted with an inlet cowl as standard, finished to match the unit casework.
- F. 1. Sizes 0-6 The unit casework shall incorporate high quality dual layer memory rubber gasket seals on service doors and panels.
2. The unit casework shall incorporate high quality leak resistant neoprene gaskets seals on service doors and panels.
- G. 1. Sizes 0-6 The unit shall be available with optional fitted flame retardant acoustic lining as standard to ensure maximum thermal insulation and reduced noise transmission.
2. Sizes 7-9 The unit shall be provided pre-assembled comprising of a rigidly constructed 25mm tubular aluminium case, double skinned galvanised sheet steel panels.
- H. Access for maintenance shall be via removable panels, allowing access for the cleaning or removal of internal components as indicated in the schedule and detail drawings.
- I. Plantroom units shall be suitable for top or bottom access as indicated in the schedule and detail drawings. Weatherproof units shall be suitable for top access only via a removable weather lid.
- J. Plantroom units shall incorporate mounting brackets compatible with drop-rod systems.
- K. 1. Sizes 0-6 Weatherproof units shall be supplied as standard with mounting feet. Plantroom units shall be available with optional mounting feet as indicated in the schedule.
2. Sizes 7-9 Weatherproof units shall be supplied as standard with supplied as standard on a galvanised sheet steel channel base, the frame shall be 100mm high.
- L. Weatherproof units shall be supplied powdercoated signal grey RAL7004 as standard. Alternative colour according to schedule.

1.3. Fans

- A. The fan impeller shall be of PA6 glass-fibre reinforced, backward curved plastic blade construction with galvanised steel mounting plate.
- B. The fan impeller shall be statically and dynamically balanced to G 2.5 / G 6.3 according to ISO1940 part 1.
- C. The fan impeller shall be mated with an aerodynamic bell inlet eye for high efficiency and low noise generation.

1.4. Motors

- A. The fan shall incorporate an external rotor motor to IP44 environmental protection rating and shall be supplied with thermal protection cut out as standard.
- B. The integrated motor shall be supplied epoxy painted blue to RAL5002.

1.5 Filtration

- A. The filters shall be 98mm pleated filter media as standard, with rigid wax treated cardboard moisture resistant frame.
- B. Filters shall be to BS EN 779 Classification, grade as indicated in the schedule and detail drawings.

1.6. Heating

- A. The unit shall be available with hot water or electric element heating as indicated in the schedule and detail drawings.
- B. The hot water heater battery shall be of copper tube, aluminium fin block construction, with galvanised sheet steel casework. The flow and return pipe connections shall be handed as indicated in the schedule and detail drawings.
- C. The hot water heater battery shall be available with alternative fin coatings by special order, as indicated in the schedule.
- D. The hot water heater battery shall be available with an optional fitted and pre-wired valve and actuator where indicated in the schedule and detail drawings.
- E. The electric heater battery shall be suitable for single or three-phase supply with thyristor control as indicated in the schedule and detail drawings.
- F. The electric heater battery shall consist of an element array sized to suit the power requirement and supply phase as indicated in the schedule and detail drawings. The elements shall consist of a tubular incoloy shroud containing compressed magnesium oxide powder packed around a Nickel Chromium resistance wire. The element array shall be evenly spread across the open area of the duct.
- G. Where multiple elements are required to achieve the required power rating and supply phase as indicated in the schedule, elements shall be terminated with electrical connectors.
- H. The electric heater battery shall be fitted as standard with a 130 °C non-adjustable thermal safety cut out, with manual reset.
- I. All electric heaters shall be 1500 V flash tested, and resistance tested for correct component assembly. Test certificates shall be available on request.

Example Coding
Supply CLS 031-1/W-E/AL/RT/G4/ISC/SP

Colourfan ^{Supply}				Case Construction				Options			Ancillaries Examples			
Product	Unit Size	Fan Size	Fan Phase	Unit Config	Main Heating	Infill	Handing	Main Filter	Control Panel Section	Inlet/Outlet	Colour	Name	Part No.	
CLS	0	3	1	-1	/P	[null]						Control Panel	CPAO-1/6KW-1/P/C	
	1	3	2	-1	/W	-E	-AL	/RB		/C	[null]	Electric Heater Battery	EHCS0/3KW/1X1	
	2	3	3	-1		-W	-DS	/LT	/CP	/SP	/R7004	Valve & Actuator Kit	CLSCWK/TD00	
	3	3	4	-1			/LB		/PSC			Silencer	CLV/A000/1000	
	4	3	5	-1								Feet	NRGX9000	
	5	3	6	-1										
	6	3	7	-1										
	6	3	7	-3										
	7	3	8	-3										
	8	3	9	-3										
9	3	10	-3											

1.7. Operation Environment

A. The unit shall be designed to operate with process air temperatures from -20 °C to 40 °C and humidity of up to 80%.

1.8. Controls

The unit shall be fully compatible with a standard range of controls, options can include pre-wired, factory fitted and tested or loose for wall mounting. Control packages shall include all necessary components to effectively operate the ventilation system as supplied by VES.

A. BlueSense controls combine integrated and pre-wired, factory fitted and tested control package, energy efficient speed controller and air quality sensor or PIR providing effective and efficient control of the fans, heater and other energy consuming components of the ventilation system. The BlueSense package shall have the following features:-

- CPA control panel with integral energy efficient speed controller
- Speed control adjustment to aid commissioning complete with minimum and maximum speed limitations
- Demand ventilation control using air quality sensor calibrated to measure CO₂ and / or VOC
- Programmable, versatile LCD room unit with built in temperature sensor, control optimisation and access lock feature
- Precise closed loop air quality temperature, humidity or pressure control with P, PI commissioning

B. The CPA controls range shall contain the following:-

- Start stop from remote volt free contacts
- 7 day time clock with battery backup
- Precise closed loop temperature control with P, PI commissioning
- Additional input for supply or extract duct temperature control
- Supply and extract fan control

1. Programmable, versatile LCD room unit with built in temperature sensor, control optimisation and access lock feature
2. Interface suitable for remote source e.g BMS, with inputs responding to 0-10 VDC control signal from remote source to control the temperature.

C. If controls are not specified the unit shall come complete pre-wired to an external isolator

D. If speed control is indicated in the schedule the unit shall be supplied with an internally mounted speed controller, pre-wired to an integral control package or external isolator.

1.9. Ancillaries

A. The unit shall be fully compatible with a standard range of spigot mounted silencers. The silencers shall be suitable for duct mounting or direct mounting to the unit as indicated in the schedule.

B. The silencer shall be a rigidly constructed single skinned galvanised sheet steel lining incorporating internal splitters lined with resin bonded mineral wool. Polythene and perforated metal sheet lining shall be available where indicated in the schedule.

C. The silencer casework shall be provided naturally finished in high quality galvanised steel as standard. Internal and External powder coat available as indicated in the schedule. Colour to be in accordance with schedule.

Download specification from www.ves.co.uk/information-centre

Colourfan® Supply Step by Step Guide

1 Choose Duties up to 2.5 m³/s

Colourfan® Supply
Duties up to 2.5 m³/s



2

Specify
your chosen
unit

a

Performance
Curve

b

Unit
Configuration

c

Heating and
Controls

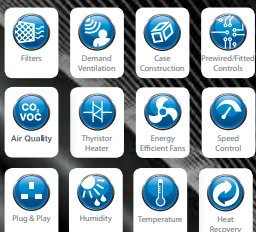
d

Noise Data
and Silencer
Option

3

Add control
packages for
performance
and efficiency
Pages 28-30

BlueSense



4

Specify bespoke
options for
Colourfan®
products
Page 31



Other products and services from the
complete range of VES HVAC solutions:

Air Handling Units

- Supply and extract, combined or separate.
- Heat recovery including crossflow plate heat exchangers, thermal wheel, run-around coils.
- Plantroom or weatherproof, flat or stacked.
- Fitted silencers, fitted inverters and controls.
- Matching DX condensing units.
- Various case constructions including EN 1886 certified units.

Duct Fans

- In-line centrifugal, with forward or backward curved impellers.
- Round fans, axial and mixed flow fans.
- Fitted silencers available all units.
- Manual and automatic speed controllers available.

Twin Fans

- For ceiling void, plantroom, and weatherproof.
- Many models and configurations.
- Fitted auto-changeover system.

Roof Extract Units

- Three ranges for volume and pressure.
- Curb and soaker sheet bases.

Wall and Ceiling Fans

- All types for commercial, industrial and domestic premises.

Kitchen Hood Extract Fans

- Heavy duty high temperature fans for hot greasy air.
- Motors out of airstream.
- Single inlet fans, in-line and vertical jet roof units.

Control Panels

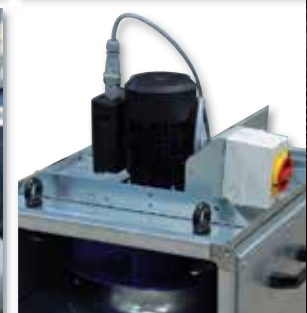
- Off the shelf and built to order panels.
- Air quality sensors and energy savers.
- Intelligent control software.
- A range of remotes including touch screen.

Noise Control

- Matching silencers available for all ventilation products.
- Silencers designed to meet noise criteria.
- Cleanable silencers.
- Weatherproof silencers.

Specialist Site Services

- Plant refurbishment.
- Energy saving upgrades.
- Noise reduction.
- Site surveys.
- Kitchen ventilation.
- AHU flat pack installation.
- Maintenance.
- Spares.



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VES reserves the right to amend product specifications and details without notice

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For details on Colourfan product codes please
turn to the back of this flap.