

Heatline

DUCT MOUNTED HEATER BATTERY WITH INTEGRAL CONTROLS

Integrated controls

Modulating heater control

Optional versatile LCD room unit with built in sensor and timers

Easy installation

Suitable for circular (HLC), square ducts (HLD) and stab-in (HLS) in various sizes

Extensive built-in safety features



VES HEATER BATTERIES

part of a complete range of innovative, flexible products from the HVAC experts

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 200 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 the requirements of the Building Regulations.

The range extends from a small bathroom extract fan up to a mighty central station air handling unit.

There are specialist heat recovery units, high temperature fans for kitchen hood extract; duct, wall, ceiling and roof units; low noise products and silencers; fitted controls.

High quality, flexible solutions

VES operate a quality assurance system to ISO 9001, monitored by the BSI. The air movement products are tested in-house to BS 848 Part 1, and submitted for external testing and approval when necessary.

VES specialise in bespoke designs for ventilation units, and whatever the issue, be it space, noise, temperature etc, 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 employ 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.

Introduction

The VES HEATLINE Duct Mounted Heater Battery brings new versatility to existing and new ventilation installations.

Intelligent control options can synchronise with a BMS or LCD room unit. Coupled with a Thyristor or Valve and Actuator, this is the ideal solution to accurately heat individual spaces. HEATLINE is simple to install, commission and maintain.

- ▶ Electric and LPHW options.
- ▶ Thyristor control for electric heating.
- ▶ Pre-fitted Valve and actuator for modulating output with LPHW.
- ▶ Integrated controls for response to BMS.
- ▶ Optional versatile LCD room unit with built in sensor and timers for independent self control.
- ▶ Easy installation to existing or new ductwork systems.
- ▶ Suitable for circular (HLC) square ducts (HLD) and stab-in (HLS) options in various sizes.
- ▶ Extensive built-in safety features.
- ▶ Single or three phase supply options.
- ▶ Plantroom and weatherproof configurations.





Heatline Features and Benefits

Performance

Maximise efficiency and save on energy.



Energy Efficient

Heating individual rooms avoids the requirement to waste energy heating an entire building.



Sensors

Sensors available for energy efficient demand heating.



LPHW Modulating Heater Control

Fitted four port valve for modulating temperature output to accurately heat individual spaces.



EHB Modulating Heater Control

Single or three phase Thyristor for modulating temperature output to accurately heat individual spaces.

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.



Inbuilt Controls

Fitted and pre wired integral controls with fitted isolator to reduce on site wiring. Can interface with a BMS or LCD room unit.



Cable Gland Entry

Supplied with cable entry gland for simple and efficient site wiring.



LPHW Coil Connection Enclosure

Coil connections, valve and actuator are fully enclosed within case work to help prevent damage during transit and installation.



LPHW Mounting Feet

Mounting feet supplied fitted on LPHW units.



Square Spigot Modules

Square spigot connections with 30mm MEZ flange fitted at both ends to enable easy connection to square ductwork.



Circular Spigot Modules

Circular spigot connections fitted at both ends. Spigots up to Ø560 have a double rubber gasket.

Robust Construction

Excellent build quality ensures an air tight performance.



Plantroom

Plantroom units are supplied natural galvanised finish. Powdercoat finish available.



Weatherproof

Weatherproof units are supplied powder coated to RAL7004. Other alternate powdercoat colours available.

Safety Features

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



Air Flow Safety Switch

Fitted Airflow pressure switch to shut off heater in the event of airflow failure.



Safety Cutout

Fitted thermal cutout safety device on electric unit to shut off heater battery.

Heatline

Electric
Refer to
page 5



Heatline

Stab-in
Refer to
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Heatline

LPHW
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Heatline Application

The Heatline range of units can be used in conjunction with other VES products - extract and supply fans, twin fans and air handlers.

Duct Heater
HLC200/0.5KW/1X1/CP
0.5kW heater required to raise room temperature from 18°C up to 22°C

Typical tempered air from AHU system
18°C

Meeting room
Medium occupancy (4 People)
Medium Usage (3-4 hours per day)
Room size 22.5m³
5 Air changes per hour
Air volume 0.03m³/s

Duct Heater
HLC200/0.5KW/1X1/CP
0.5 kW heater required to raise room temperature from 18°C up to 22°C



LCD Room Unit

Office
Low occupancy (1 Person)
High Usage (7.5 Hours per day)
Room size 22.5m³
8 Air changes per hour
Air volume 0.05m³/s



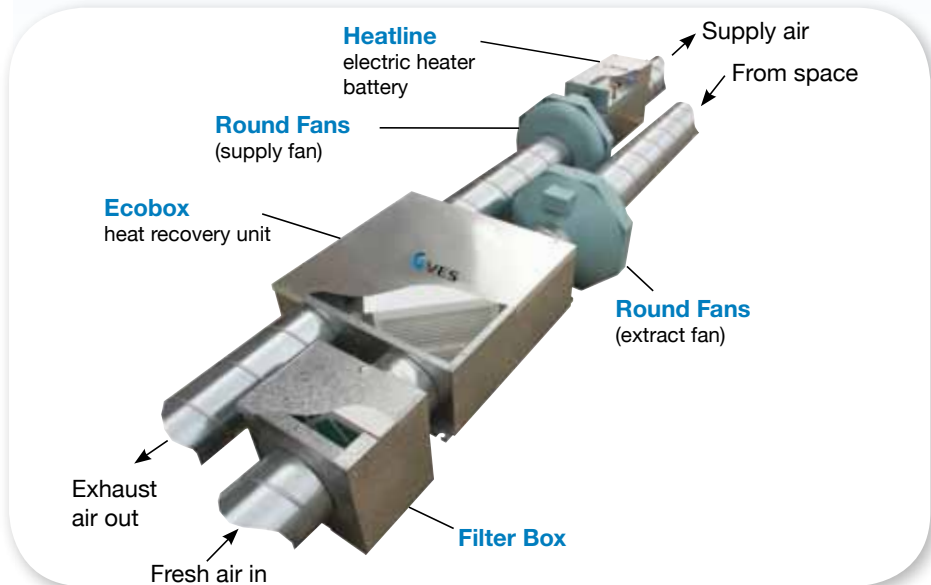
PIR Sensors

Duct Heater
HLC200/1KW/1X1/CP
1 kW heater required to raise room temperature from 18°C up to 22°C

Conference room
High occupancy (8-10 People)
Low Usage (5-10 hours per week)
Room size 70m³
10 Air changes per hour
Air volume 0.19m³/s

Versatile Heat Recovery Solution

This image illustrates a compact ceiling void solution, incorporating Heatline heater batteries.



Heatline Electric Plantroom

PRODUCT & MODEL	DUCT SIZE	CONFIG.	kW	THYRISTOR HEATER	CONTROL OPTION
HLC		/	/	1X1	BMS
HLD		W		1X3	CP
HLS					

Circular or square duct or stab-in electric heater batteries, complete with fitted controls.



HLC Plantroom



HLD Plantroom

Weatherproof



HLC Weatherproof



HLD Weatherproof

Stab-in



HLS

Standard Features

- ▶ Responsive to 0-10 Vdc control signal from remote source, to control temperature.
- ▶ Modulating Thyristor control.
- ▶ Volt free run and trip indication.
- ▶ Fan control up to 4Amps 230 Vac @ 50Hz.
- ▶ Main isolating switch, lockable handle.
- ▶ Independent safety circuitry.
- ▶ Fitted interlock airflow pressure and manual reset thermal cut-out switches.
- ▶ Easy installation to new or existing ductwork system.
- ▶ Bespoke sizes are also available.

LCD Room Unit Features

- ▶ LCD room unit with built in sensor & temperature adjustment.
- ▶ On/Off/Auto control with built in 7 day time clock.
- ▶ Adjustable commissioning and control parameters.

Heatline Circular Ducting (HLC) Heatline Square Ducting (HLD) Heatline Stab-in (HLS)	Duct Size	Config	kW	Thyristor Heater Phases	Control Option
HLC	100 to 600	NULL or /W	/0.5kW to /32kW	/1X1 or/1X3	/BMS or /CP
HLD	100 to 600	NULL or /W	/0.5kW to /32kW	/1X1 or/1X3	/BMS or /CP
HLS	100 to 600	NULL or /W	/0.5kW to /32kW	/1X1 or/1X3	/BMS or /CP

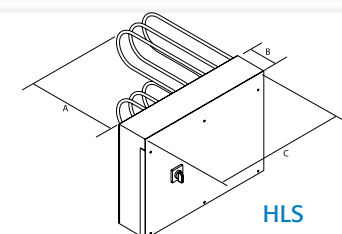
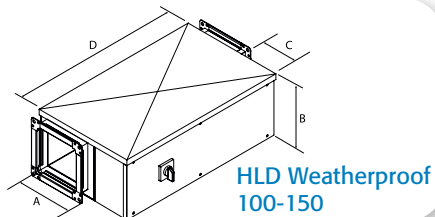
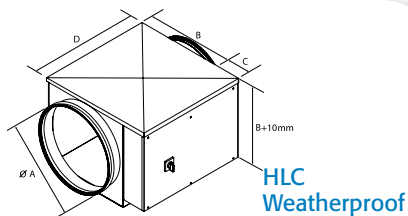
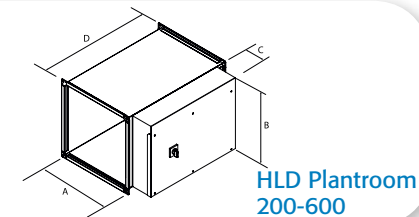
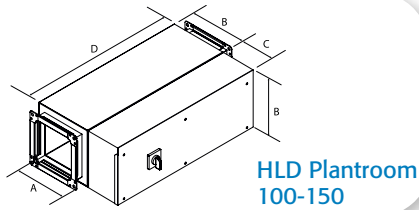
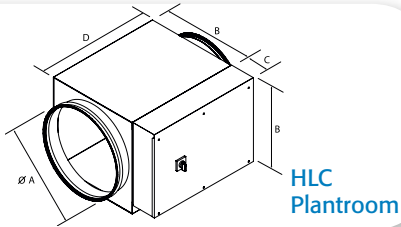
1 Phase

Duct Size	kW Rating	Duct Size	kW Rating
100	0.5kW	250	2kW
	1kW		3kW
	1.5kW		4.5kW
150	2kW	315	6kW
	2.5kW		7.5kW
	3kW		9kW
200	4.5kW	400	12kW
	6kW		15kW
	7.5kW		18kW

3 Phase

Duct Size	kW Rating	Duct Size	kW Rating
150	3kW	450	6kW
	4.5kW		7.5kW
200	6kW	560	9kW
	9kW		12kW
	12kW		15kW
250	15kW	600	18kW
	18kW		21kW
	21kW		24kW
315	24kW	600	27kW
	27kW		32kW
	32kW		-

Electric Dimensions



Plantroom Spigot Dimensions - mm (HLC)

A Duct Dia.	B Height/Width	C Control Box	D Length	Weight kg
97	185	120	550	8
147	203	120	550	9
197	240	120	550	9
247	290	120	550	10
312	355	120	550	12
397	440	120	550	17
447	490	120	550	20
557	600	120	550	27
600	670	120	550	33

Plantroom Mez Small Dimensions - mm (HLD) (30mm MEZ)

A Duct Sq.	B Height/Width	C Control Box	D Length	Weight kg
100	185	120	630	8
150	185	120	630	9

Plantroom Mez Large Dimensions - mm (HLD) (30mm MEZ)

A Duct Sq.	B Height	C Control Box	D Length	Weight kg
200	200	120	630	9
250	250	120	630	10
315	315	120	630	12
400	400	120	630	17
450	450	120	630	20
560	560	120	630	27
600	600	120	630	33

Weatherproof Spigot Dimensions - mm

A Duct Dia.	B Width	C Control Box	D Length	Weight kg
97	195	120	550	10
147	213	120	550	11
197	250	120	550	12
247	300	120	550	13
312	365	120	550	15
397	450	120	550	21
447	500	120	550	25
557	610	120	550	33
600	680	120	550	40

Weatherproof Mez Small Dimensions - mm (30mm MEZ)

A Duct Sq.	B Height	C Control Box	D Length	Weight kg
100	195	120	630	10
150	195	120	630	11

Weatherproof Mez Large Dimensions - mm (30mm MEZ)

A Duct Sq.	B Width	C Control Box	D Length	Weight kg
200	210	120	630	12
250	260	120	630	13
315	325	120	630	15
400	410	120	630	21
450	460	120	630	25
560	570	120	630	33
600	610	120	630	40

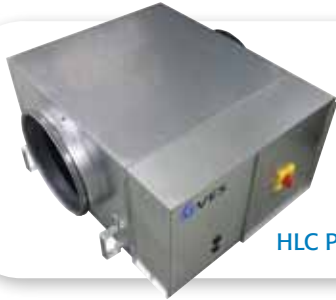
Stab-in Dimensions - mm

A To Suit Duct	B Control Box	C Length	Weight kg
100	120	550	6
150	120	550	6
200	120	550	6
250	120	550	8
315	120	550	9
400	120	550	12
450	120	550	15
560	120	550	19
600	120	550	25

Heatline LPHW Plantroom

PRODUCT & MODEL	DUCT SIZE	CONFIG.	HEATING	CONTROL OPTION
HLC		/	W	BMS
HLD		W		CP

Duct mounted modulating Low Pressure Hot Water (LPHW) heater complete with circular or square connections and fitted controls. Suitable for drop rod mounting and floor fixing.



HLC Plantroom



HLD Plantroom

Weatherproof



HLC Weatherproof



HLD Weatherproof

Standard Features

- ▶ LPHW heater supplied with fitted and pre-wired valve and actuator, fully enclosed and protected.
- ▶ Factory fitted and pre-wired frost protection stat.
- ▶ Modulating LPHW control.
- ▶ Volt free run and trip indication.
- ▶ Fan control up to 4Amps 230 Vac @ 50Hz.
- ▶ Main isolating switch, lockable handle.
- ▶ Independent safety circuitry.
- ▶ Fitted interlock airflow pressure switch.
- ▶ Easy installation to new or existing ductwork system.
- ▶ 0-10 Vdc input signal for BMS control.

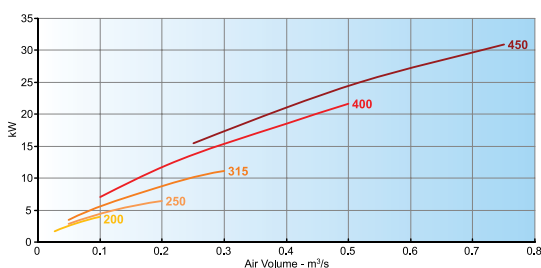
LCD Room Unit Features

- ▶ LCD room unit with built in sensor & temperature adjustment.
- ▶ On/Off/Auto control with built in 7 day time clock.
- ▶ Adjustable commissioning and control parameters.

Heatline Circular Ducting (HLC) Heatline Rectangular Ducting (HLD)	Duct Size	Config	Heating	Control Option
HLC	200 to 450	NULL or /W	/W	/BMS or /CP
HLD	200 to 450	NULL or /W	/W	/BMS or /CP

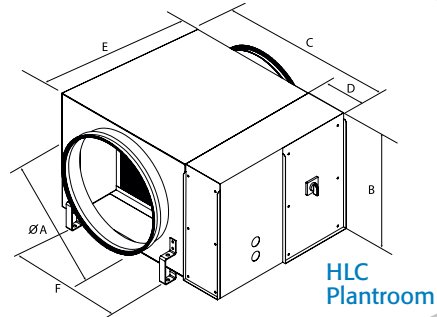
Duct Size	Air Volume m ³ /s	Maximum Air Off Temp. °C	Maximum Output kW	Water Flow Rate l/s	Water Pressure kPa	Air P.D Pa
200	0.025	49	1.6	0.04	0.9	1
	0.05	38.5	2.6	0.06	2.7	3
	0.08	32.5	3.4	0.08	4.3	6
	0.10	28	4	0.09	6.1	9
250	0.05	42.5	2.9	0.06	3.7	2
	0.10	32	4.5	0.10	8.5	5
	0.15	26	5.6	0.12	13.1	10
	0.20	21.5	6.4	0.14	17.1	18
315	0.05	53	3.5	0.08	1.5	2
	0.10	42	5.7	0.13	3.4	3
	0.18	34	8.2	0.18	7	5
	0.25	28	10.1	0.22	10.1	9
400	0.30	25.5	11.1	0.25	12.2	12
	0.10	54	7.1	0.16	3	1
	0.20	43	11.7	0.26	7.9	3
	0.35	35	16.9	0.38	15.8	5
450	0.50	29	21.7	0.46	23.5	9
	0.25	46	15.5	0.34	8.5	3
	0.50	35.5	24.5	0.54	20.1	5
	0.75	29	30.9	0.69	31.4	10

Air Volume against kW rating



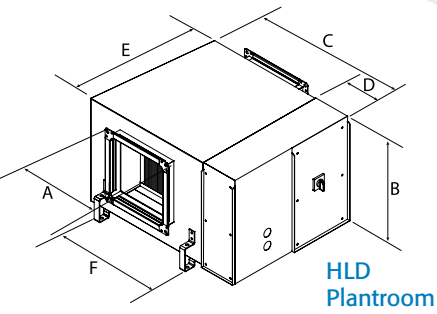
Based on air on temp. -5°C

LPHW Dimensions



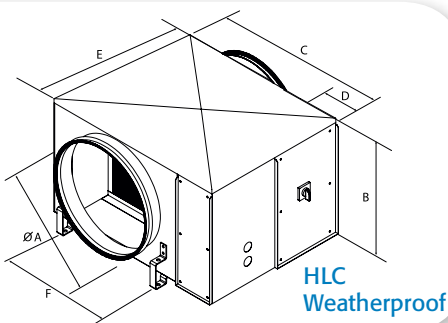
Plantroom Spigot Dimensions - mm (HLC)

A Duct Dia.	B Height	C Width	D Control Box	E Length	F Mounting Centres	Weight kg
197	230	650	180	585	300	17
247	290	650	180	585	350	19
312	365	770	180	585	415	23
397	540	900	180	585	500	32
447	565	1150	180	585	550	40



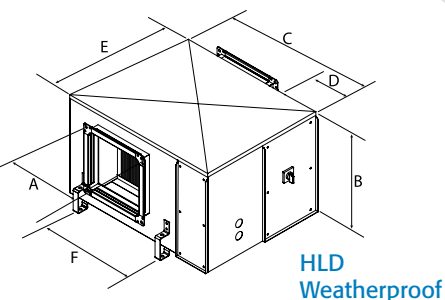
Plantroom Mez Dimensions - mm (HLD) (30mm MEZ)

A Duct Dia.	B Height	C Width	D Control Box	E Length	F Mounting Centres	Weight kg
200	230	650	180	665	300	17
250	290	650	180	665	350	19
315	365	770	180	665	415	23
400	540	900	180	665	500	32
450	565	1150	180	665	550	40



Weatherproof Spigot Dimensions - mm (HLC)

A Duct Dia.	B Height	C Width	D Control Box	E Length	F Mounting Centres	Weight kg
197	240	650	180	585	300	20
247	300	650	180	585	350	22
312	375	770	180	585	415	27
397	550	900	180	585	500	36
447	575	1150	180	585	550	45



Weatherproof Mez Large Dimensions - mm (HLD) (30mm MEZ)

A Duct Dia.	B Height	C Width	D Control Box	E Length	F Mounting Centres	Weight kg
200	240	650	180	665	300	20
250	300	650	180	665	350	22
315	375	770	180	665	415	27
400	550	900	180	665	500	36
450	575	1150	180	665	550	45

Product Specification

Duct Mounted Electric Heater Heatline

1.1 General

- A. Provide a duct mounted electric heater unit to meet the performance and configuration as indicated in the schedule and detail drawings of the Heatline type as manufactured by VES Andover Ltd a company covered by 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, electric element heater battery, and integrated control system.
- B. Square spigots shall be fitted with 30mm mezz flanges as indicated in the schedule and detail drawings.
- C. Circular spigots shall be fitted with rubber gasket seals as indicated in the schedule and detail drawings.
- D. The unit casework shall incorporate high quality leak resistant neoprene gaskets on service doors and panels.
- E. Access for maintenance shall be via a removable controls package & heater element assembly.
- F. Plantroom unit casework & spigots shall be provided in high quality galvanised steel.
- G. Weatherproof units shall be supplied powdercoated signal grey RAL7004 as standard. Alternative colour according to schedule.
- H. Weatherproof units shall be supplied with a weather lid.
- I. The unit shall be designed for duct mounting.

1.3. Heater Battery

- A. The unit shall be fitted with electric element heating as indicated in the schedule and detail drawings.
- B. The electric heater battery shall be suitable for single or three-phase supply with thyristor control as indicated in the schedule and detail drawings.
- C. The electric heater battery shall consist of a number of elements sized to suit the steps and phases as indicated in the schedule and detail drawings. The elements shall consist of a tubular incolloy shroud containing compressed magnesium oxide powder packed around a Nickel Chromium resistance wire. The elements shall be evenly spread across the open area of the duct.
- D. Where multiple elements are required to achieve the steps and phases as indicated in the schedule, elements shall be linked by copper bus bar or terminated with electrical connectors.
- E. The electric heater battery shall be fitted as standard with a 130 °C non-adjustable thermal safety cutout, with manual reset.
- F. All electric heaters shall be 1500V flash tested, and resistance tested for correct component assembly. Test certificates shall be available on request.

1.4. Controls

- A. The unit shall be supplied with a fitted controls package as standard.
- B. The controls package shall include as standard volt-free fan run & trip indication, 1 or 3 phase thyristor heat control, and fan control up to 4A 230V @ 50Hz.
- C. The controls package shall include as standard a lockable door isolator.
- D. The controls package shall include as standard an independent safety circuit, including thermal and airflow pressure safety cut out switches.
- E. The controls package shall be available with an optional LCD room control unit or inputs responding to 0-10Vdc control signal from remote source to control temperature.
- F. The room control unit shall include as standard a built-in room sensor, temperature adjustment, on/off/auto control, time clock setup & fan run-on timer adjustment, fault display, commissioning & control parameters and a tamper proof case design with PIN code access.

Product Specification

Stab-in Electric Heater Heatline

1.1 General

- A. Provide a stab-in electric heater unit to meet the performance and configuration as indicated in the schedule and detail drawings. The stab-in electric heater unit shall be of the Heatline type as manufactured by VES Andover Ltd, a company covered by 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 terminal box, electric element heater battery, and integrated control system.
- B. Access for maintenance shall be via a removable controls package & heater element assembly.
- C. The unit terminal box shall be provided in high quality galvanised steel.
- D. The unit shall be designed for duct installation.

1.3. Heater Battery

- A. The unit shall be fitted with electric element heating as indicated in the schedule and detail drawings.
- B. The electric heater battery shall be suitable for single or three-phase supply with thyristor control as indicated in the schedule and detail drawings.
- C. The electric heater battery shall consist of a number of elements sized to suit the supply phases 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 elements shall be evenly spread across the open area of the duct.
- D. Where multiple elements are required to achieve the phase as indicated in the schedule, elements shall be linked by copper bus bar or terminated with electrical connectors.
- E. The electric heater battery shall be fitted as standard with a 130°C non-adjustable thermal safety cutout, with manual reset.
- F. All electric heaters shall be 1500V flash tested, and resistance tested for correct component assembly. Test certificates shall be available on request.

1.4. Controls

- A. The unit shall be supplied with a fitted controls package as standard.
- B. The controls package shall include as standard volt-free fan run & trip indication, 1 or 3 phase thyristor heat control, and fan control up to 4A 230V @ 50Hz.
- C. The controls package shall include as standard a lockable door isolator.
- D. The controls package shall include as standard an independent safety circuit, including thermal and airflow pressure safety cut out switches.
- E. The controls package shall be available with an optional LCD room control unit or inputs responding to 0-10Vdc control signal from remote source to control temperature.
- F. The room control unit shall include as standard a built-in room sensor, temperature adjustment, on/off/auto control, time clock setup & fan run-on timer adjustment, fault display, commissioning & control parameters and a tamper proof case design with PIN code access.

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

Product Specification

Duct Mounted LPHW Heater Heatline

1.1 General

- A. Provide a duct mounted LPHW heater unit to meet the performance and configuration as indicated in the schedule and detail drawings. The duct mounted LPHW heater unit shall be of the Heatline type as manufactured by VES Andover Ltd, a company covered by 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, LPHW coil, and integrated control system.
- B. The unit shall have square or circular duct spigots as indicated in the schedule and detail drawings.
- C. Square spigots shall be fitted with 30mm mez flanges as indicated in the schedule and detail drawings.
- D. Circular spigots shall be fitted with rubber gasket seals as indicated in the schedule and detail drawings.
- E. The unit casework shall incorporate high quality leak resistant neoprene gaskets on service doors and panels.
- F. Access for maintenance shall be via a removable controls package & coil assembly.
- G. Plantroom unit casework & spigots shall be provided naturally finished in high quality galvanised steel.
- H. Weatherproof units shall be supplied powdercoated signal grey RAL7004 as standard. Alternative colour according to schedule.
- I. The unit shall be designed for duct mounting.

1.3. Heater Battery

- A. The unit shall be fitted with a LPHW coil heater as indicated in the schedule and detail drawings.
- B. The hot water heater battery shall comprise of copper tubes and aluminium fins, with galvanised sheet steel casework. The flow & 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 fitted with a pre-wired valve and actuator.
- E. Hot water heater battery shall be fitted with a pre-wired freeze protection capillary thermostat laced over the coil air off face.

1.4. Controls

- A. The unit shall be supplied with a fitted controls package as standard.
- B. The controls package shall include as standard volt-free fan run & trip indication, valve and actuator heat control, and fan control up to 4A 230V @ 50Hz.
- C. The controls package shall include as standard a lockable door isolator.
- D. The controls package shall include as standard an independent safety circuit, including an airflow pressure safety cut out switch.
- E. The controls package shall be available with an optional LCD room control unit or inputs responding to 0-10Vdc control signal from remote source to control temperature.
- F. The room control unit shall include as standard a built-in room sensor, temperature adjustment, on/off/auto control, time clock setup & fan run-on timer adjustment, fault display, commissioning & control parameters and a tamper proof case design with PIN code access.

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



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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