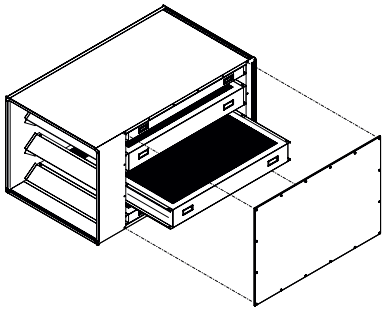
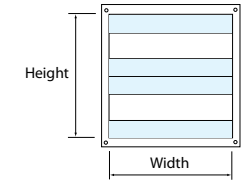
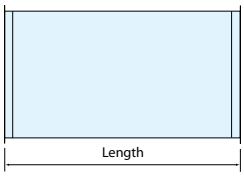
Ancillaries

Silencers







- Designed to fit directly onto the T-Line 120 unit, with the exception of those marked * which will require a duct transition.
- The silencers are available with splitters that are easily removed for cleaning, or in non 1-1 cleanable construction.
- The set back pointed splitter ends to face fan unit.

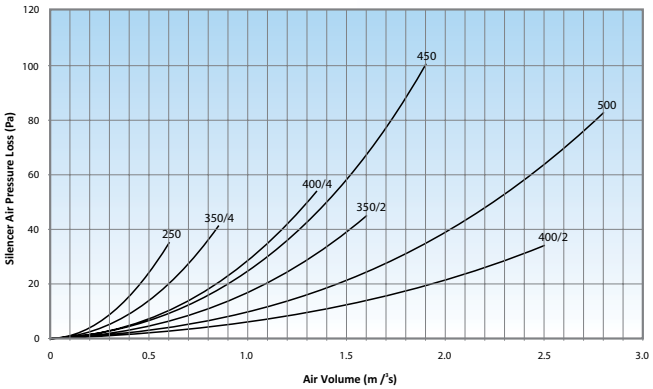
Sound Spectrum dB re 10^{-12}w PWL Centre

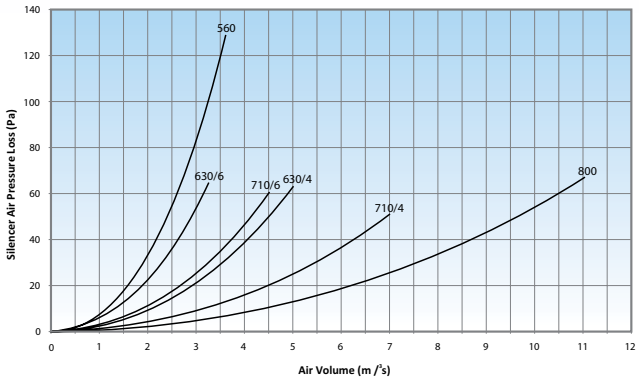
To suit T-Line	Silencer Model	63	125	250	500	1k	2k	4k	8k
250	TLLVA250/1250	4	7	13	24	28	28	17	24
350/2*	TLLVA350/2/1250	4	8	14	27	35	35	26	22
350/4	TLLVA350/4/1250	4	8	14	27	35	35	26	22
400/2*	TLLVA400/2/1500	4	8	17	30	37	37	27	16
400/4	TLLVA400/4/1250	4	8	14	27	35	35	26	22
450	TLLVA450/1500	4	8	17	30	37	37	27	16
500	TLLVA500/1500	4	7	14	24	30	30	17	10
560	TLLVA560/1500	4	9	18	30	40	40	34	24
630/4*	TLLVA630/4/1500	5	10	20	35	42	42	36	32
630/6	TLLVA630/6/1500	4	8	17	30	37	37	27	16
710/4*	TLLVA710/4/1700	5	9	18	30	37	37	27	16
710/6	TLLVA710/6/1500	4	5	17	30	37	37	27	16
800*	TLLVA800/2200	6	10	21	34	40	40	30	18

T-Line part numbers marked * are not suitable for direct silencer fitting.

Silencer Dimensions

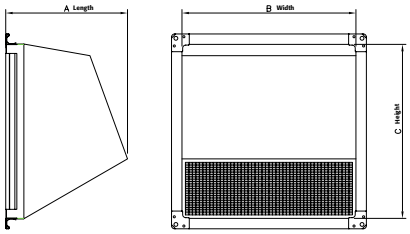
Silencer Model	Dimensions mm			Weight kg
	Width	Height	Length	
TLLVA250/1250	380	380	1250	40
TLLVA350/2/1250	600	600	1250	65
TLLVA350/4/1250	500	500	1250	55
TLLVA400/2/1500	800	800	1500	120
TLLVA400/4/1250	700	600	1250	80
TLLVA450/1500	750	600	1500	105
TLLVA500/1500	800	700	1500	120
TLLVA560/1500	850	750	1500	135
TLLVA630/4/1500	1200	1200	1500	255
TLLVA630/6/1500	900	800	1500	145
TLLVA710/4/1700	1350	1350	1700	285
TLLVA710/6/1500	1100	1000	1500	200
TLLVA800/2200	1500	1500	2200	450





Ancillaries

Horizontal Weather Cowl - CWL



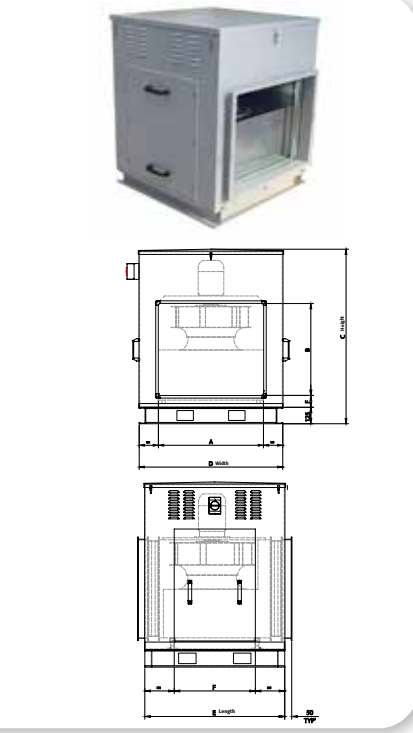
Features & Dimensions

- Suitable for fitting to end of silencers.
- Suitable for fitting to end of units up to 710.
- Supplied with 30mm MEZ frame.
- Powdercoated as standard for external mounting.

Cowl Part No.	Dimensions mm Width	Height	Length	Weight kg
TLLCWL250/H	380	380	300	5
TLLCWL350/2/H*	600	600	350	12
TLLCWL350/4/H	500	500	450	10
TLLCWL400/2/H*	800	800	500	20
TLLCWL400/4/H	700	600	450	14
TLLCWL450/H	750	600	500	16
TLLCWL500/H	800	700	500	19
TLLCWL560/H	850	750	500	20
TLLCWL630/4/H*	1200	1200	600	45
TLLCWL630/6/H	900	800	600	25
TLLCWL710/4/H*	1350	1350	600	50
TLLCWL710/6/H	1100	1000	600	35
TLLCWL800/H*	1500	1500	600	60

Cowl parts marked * are not suitable for fitting direct to the unit.

Acoustic Enclosure



Features & Dimensions

- Internally vibration isolated.
- High quality acoustic liner.
- Suitable for plantroom and external mounting.
- Access doors both sides.

Part Number	Dimensions mm A	B	C (height)	D (width)	E (length)	F	Weight kg
TLLAE250	380	380	970	630	680	91	60
TLLAE350	500	500	1090	750	800	91	100
TLLAE400	700	600	1210	900	900	91	135
TLLAE450	750	600	1285	1223	900	91	170
TLLAE500	800	700	1385	1092	1000	91	215
TLLAE560	850	750	1535	1150	1235	91	255
TLLAE630/4	900	800	1610	1200	1235	111	330
TLLAE630/6	900	800	1610	1200	1235	111	330
TLLAE710/4	1100	1000	1785	1300	1335	111	390
TLLAE710/6	1100	1000	1785	1300	1335	111	390
TLLAE800	1250	1050	1970	1500	1485	111	690

Note: Enclosure weights include the weight of the T-Line unit.

Acoustic Enclosure Insertion Loss Table

	Sound Spectrum dB re 10^{-12} w PWL Centre Frequency Hz 63	125	250	500	1k	2k	4k	8k
TLL250 - TLL450	12	16	28	33	43	47	54	51
TLL500 - TLL800	14	22	32	34	39	45	51	52

Anti Vibration Mounting Kit

Features & Dimensions

- Spring or rubber AV mounts dependent on unit size.
- Double flex flange.
- Separate kits for units with bottom inlet.

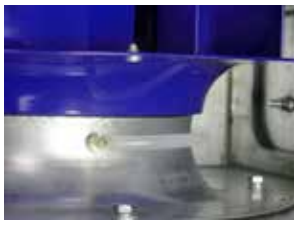
Differential Pressure and Air Volume Control Module

Intelligent control module provides measurement of the differential pressure across the fan or in duct air volume, so that fan commissioning and control is very quick and simple. The module is directly mounted on the air handling unit and factory fitted and tested.

Features

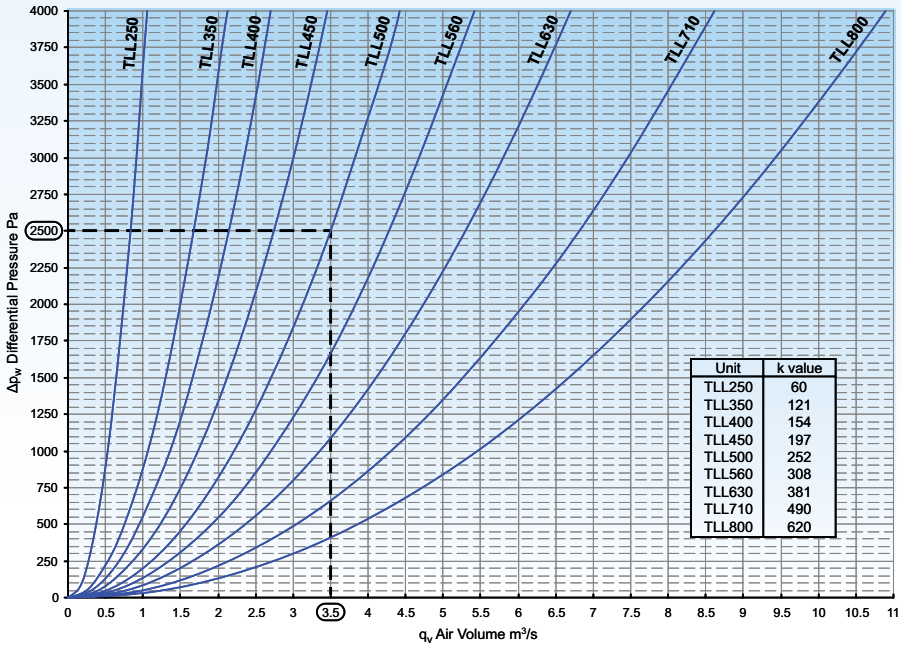
- Calculation of the air volume through input of the inlet ring k factor.
- Adjustable set point and control range to generate 0-10V dc signal for fan speed.
- Configurable control loop parameters with sensor display.
- Three pressure applications 0-200Pa, 0-1000Pa or 0-6000Pa.

Air Volume and Pressure Commissioning



Instant and accurate measuring of the air volume, right at the fan. There will be no need for duct traverse.

- Each unit is fitted with pressure tapping connections on the outside of the case, these are piped inside the unit to provide an accurate differential static pressure (Pdiff) across the fan.
- Air volume may be measured on site using a micro manometer or directly by VES factory fitted intelligent control module.
- There is a k factor for each size of impeller/fan.
- The VES Control Module will automatically calculate the air volume.
  The air volume can also be determined using the following calculation:
  $Qv(m^3/hr) = k \times \sqrt{Pdiff}$



Example:
Fan size 500: k factor = 252
Static pressure differential
measured at fan 2500Pa
$qv = 252 \times \sqrt{2500} = 12600\ m^3/hr$
$\frac{12600}{3600} = 3.5 m^3/s$

Controls packages for performance and efficiency

BlueSense Intelligent Control

T-Line 120 incorporating Bluesense

Save energy and costs with BlueSense Controls

Demand Ventilation Solutions.

BlueSense provides practical answers to the issues you are faced with today. With Controls at its core BlueSense draws on the very best in ventilation technology, products and controls expertise. Together these provide a range of energy saving solutions which will help meet current regulations and environmental commitments.

Use VES BlueSense products to achieve project requirements and save on costs whilst reinforcing your commitments to best practice and sustainability. VES BlueSense offers a unique blend of product features and BlueSense services tailored to a large variety of challenging projects.

Features

- Inbuilt intelligent controls technology.
- Optimises performance and efficiency.
- Demand ventilation control improves air quality, reducing energy consumption and lowers operating costs.
- Combined CO_2 & VOC sensing technology with energy efficient speed control.
- Extending equipment life expectancy and reducing maintenance.
- Short term payback on capital expenditure.

Prewired/Fitted Controls | Demand Ventilation | Case Construction | Filters | Air Quality | Thyristor Heater

Energy Efficient Fans | Speed Control | Plug & Play | Humidity | Temperature | Energy Monitoring

T-Line BlueSense

All products in the T-Line range can form part of the BlueSense energy saving commitment. By specifying a BlueSense package you are ensuring your Extract unit is optimised with an energy efficient speed controller and sensor, all programmed to work in unison, reducing energy consumption and saving money.

T-Line 120 with fitted sensor control and commissioning module for differential pressure or air volume

+

Advanced Multi-Application Inverter

+

Air quality, temperature, humidity and PIR sensors

=

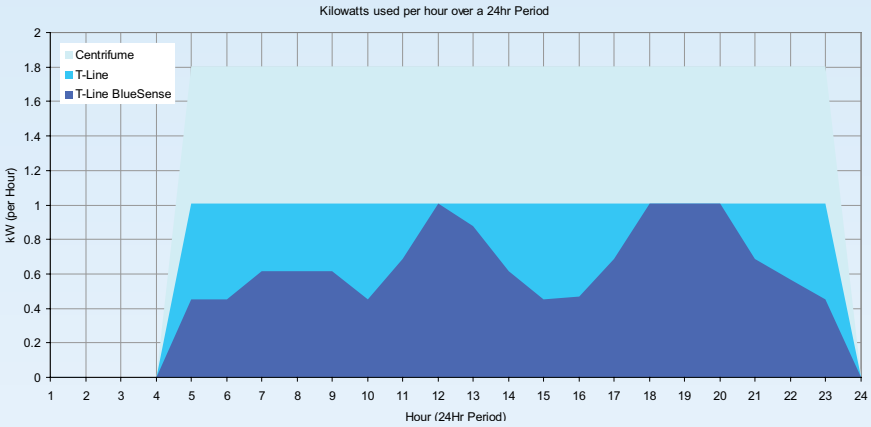
BlueSense Intelligent Control

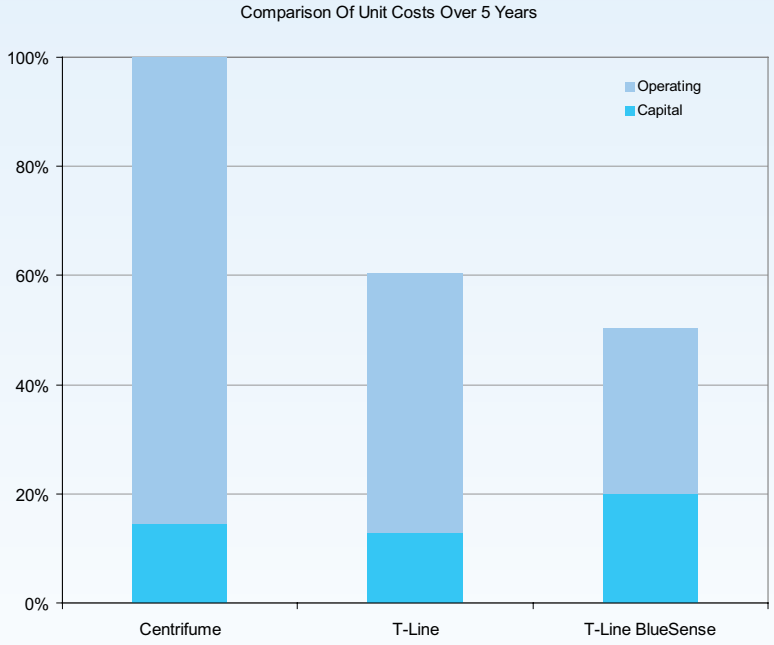
The sign of energy saving products, services and expertise

BlueSense Energy Savings

Energy Chart Life Cycle Costs

The example below is a typical kitchen extract system, where the demand varies in duty over the working day. The ventilation system operates from 4am until 1am,
Monday to Sunday, with a ventilation rate of 1.7m^3/s at 250Pa.





Conclusion

When the T-Line range is combined with BlueSense technology you can help both our environment and minimise your overall life cycle costs and reduce 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 a Post Install visit

Please quote BlueSense with your order or contact our specialist sales team for further information.

BlueSense
Intelligent Control

Energy monitoring is an effective way of highlighting areas for potential savings, whilst providing a key indicator for ongoing energy consumption.

Air Volume Commissioning

3 Phase Speed Control Using Inverters

VES offer a range of speed controllers to suit HVAC applications. The result is a system that is easy to setup, quicker to commissioning with rapid fault diagnostics. The benefits include 0-100% stepless control from a wide range of input signals, inbuilt processor for application programming and tuning coupled with full fan/motor protection and monitoring.

Inverters are genuine energy saving devices, and under the Energy Technology List ECA Scheme, the client can claim back 100% tax relief for inverters in the first year.

See www.eca.gov.uk for details.

Option 1

Inverter with comprehensive range of functions and IP54 enclosure.

- Complete with operational keypad.
- Optional advanced keypad with built-in time clock.
- IP54 protection for indoor or external use.
- Features include BMS control, remote manual controller, temperature, constant pressure, humidity and CO_2/VOC control.
- Main isolating switch with lockable handle.
- Panel live indicator.
- Damper control.
- Volt free run and trip indication.
- Connections for motor thermal cutout safety interlock.

Option 2

Low cost inverter with IP21 enclosure. Suitable for internal location.

- Complete with operational keypad.
- IP21/NEMA1 protection for indoor use.
- Features include on/off control at inverter pad with built-in pot for easy adjustment and BMS control. Remote manual controller available (CFSC1).

Inverters for 1 phase supply

If only a 230V 1 phase supply is available, it is possible to use a single to three phase inverter. This is available for motors up to 1.5kW. A standard three phase motor would be used which will run on a 3 phase 230V supply from the inverter. The full load current and the input current to the inverter are listed below:

Motor kW	0.37	0.55	0.75	1.10	1.50
Inverter output current FLC amps	2.3	3.2	3.9	6.0	7.8
Input current to inverter FLC amps	6.2	7.7	10.0	14.7	19.7

Product Specification

1.1 General

A. Provide a ventilation fan unit to meet the performance and configuration as indicated in the schedule and detail drawings. The unit shall be tested to BS848 and shall be of the T Line 120 high performance fan type as manufactured by VES Andover Ltd a company covered by BS EN ISO 9001:2008.

1.2 Unit construction

A. The casework shall be rigidly constructed from heavy gauge galvanised steel and use a high quality non-leakage gasket on the access doors.

B. Access doors shall be provided for the purpose of maintenance. Suitable access shall be provided adjacent to the unit for maintenance.

C. Weatherproof units shall be supplied with a powder coat finish. Colour to be in accordance with specification.

D. Weatherproof units shall be fitted with motor weather guard to prevent water ingress as manufactured by VES Andover Ltd.

E. The unit shall be supplied be supplied with Lifting eyes for safe handling. Lifting eyes will be manufactured in accordance with DIN 580 and conform to equipment safety standard BS EN60950-1:2006.

F. The ventilation unit shall be supplied with connections to directly fit to a 30mm ductwork system.

1.3 Impeller and Motor

A. The impeller and motor shall be selected to provide a low energy solution and conform to building regulations part L.

B. The impeller shall be a high efficiency centrifugal backward curved design and shall be of a fully welded steel construction.

C. The impeller shall be balanced to DIN ISO 14694.

D. The motor shall be fitted external to the airflow with the options of either IE1 high efficiency or IE2 improved high efficiency class F, IP55 motors in accordance to schedule.

E. The motor shall be manufactured to IEC60034.

F. The ventilation fan unit is suitable for continuous running at 120 °C.

G. The motor shall be fitted with Plug connection for ease of maintenance.

1.4 Ancillaries

A. The ventilation unit and ancillaries shall be of the T Line 120 type as manufactured by VES Andover Ltd.

1.4 Controls

A. The unit shall be supplied as standard pre-wired to an external isolator.

B. BlueSense controls combine pre-wired factory fitted and tested differential pressure and air volume control module, energy efficient advanced application speed controller and temperature, humidity or air quality sensor; providing effective and efficient control of the ventilation system as supplied by VES.

C. If the differential pressure and air volume control module is indicated within the schedule the unit shall be supplied with the module factory fitted and tested.

D. If speed control is indicated in the schedule the unit shall be supplied with a loose speed controller for remote mounting.

E. The unit shall be fully compatible with a standard range of sensor options to effectively operate the ventilation system as supplied by VES. The sensors shall be fully compatible with the V65 speed controller. Sensor options include; High Temperature Duct Sensor, Room/Duct Humidity Sensor, Room/Duct Air Quality Sensor.

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

Product Code Guide

Product Item Numbers						
Product	**Fan Dia.**	**Pole**	**Effciency**	**Phase**	**Wiring**	**Orientation**
TLL	250	/2	1	-1	null	/PL
	350	/4	2	-3	S	/PH
	400	/6			D	/WL
	450					/WH
	500					
	560					
	630					
	710					
	800					

Sample Code
TLL250/21-1/WH

1 = IE1
2 = IE2

S = Star
D = Delta

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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www.vesdirect.co.uk

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