



AMBIRAD

Vision

Radiant Tube Heating Systems



ErP Lot 20
Seasonal Efficiency and
NOx compliant



 **NORTEK**TM
GLOBAL HVAC



Vision



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Radiant Tube Heating Systems

The range of high efficiency Vision radiant tube heaters delivers exceptional performance in terms of efficiency and the potential to reduce energy costs.

VSX models 20% more effective than standard radiant tube heaters, with payback of 6 months achievable when redeeming ECA allowances.

Model Range

There are three vision ranges:

- > The high efficiency VSX range, with recuperative heat exchanger, which is available as a 'U' tube model
- > The VS range, complete with aluminised steel reflectors and endcaps, is available in 'U' tube, single linear and double linear models and can be mounted in linear or U tube herringbone configurations

* Applicable to certain models only

Features & Benefits

Features:

New advanced burner technology

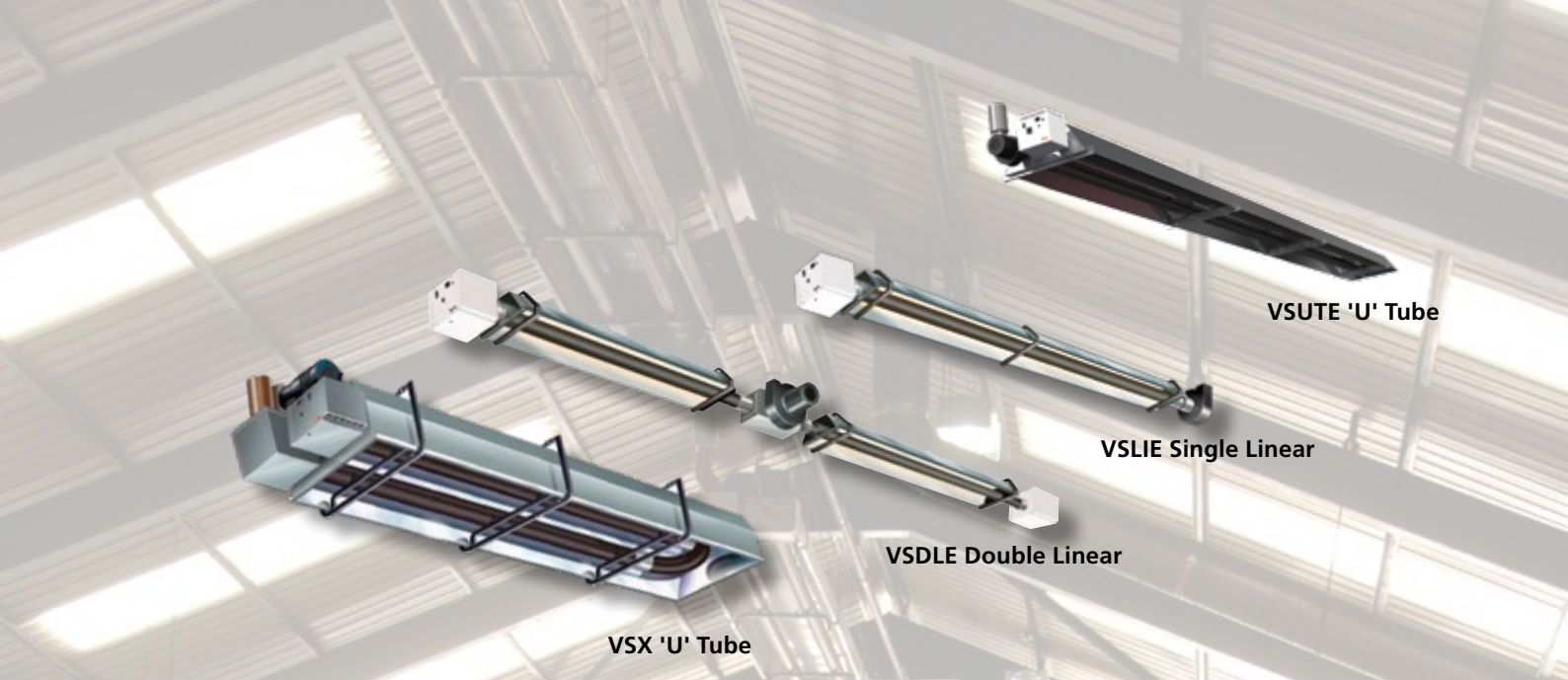
- > Choice of burner ratings from 15 to 50kW
- > NO_x emissions as low as 52ppm on certain models - 40% lower than standard radiant heater
- > Combustion occurs entirely within the firing tube. Not only does this reduce the size and weight of the traditional burner control housing but it also helps to reduce noise levels (as quiet as 47 dB(A) 3m field)

- > New slim-line burner head provides a long evenly distributed flame that dramatically improves temperature distribution along the entire length of the heater, delivering a more even floor coverage
- > The inclusion of a recuperative heat exchanger on VSX models (patent P308150GB), mounted adjacent to the burner housing, significantly increases thermal efficiencies up to 91% and enhances radiant efficiency above 65%.
- > All units CE approved

Benefits:

Easy to install and maintain

- > All units require straightforward annual maintenance



VSX 'U' Tube

VSUTE 'U' Tube

VSLIE Single Linear

VSDLE Double Linear

Optimum economy and fuel savings

- > The elimination of both distribution and standby losses coupled with high operational efficiencies at the point of use enable fuel savings of up to 65% compared with conventional heating systems
- > Excellent radiant performance. More of the available heat generated is distributed to floor level thereby improving efficiency and reducing energy consumption
- > High efficiency VSX20 - VSX50 are included on the Government's Energy Technology List and may be eligible for Enhanced Capital Allowances (ECA)

Additional control at the touch of a button

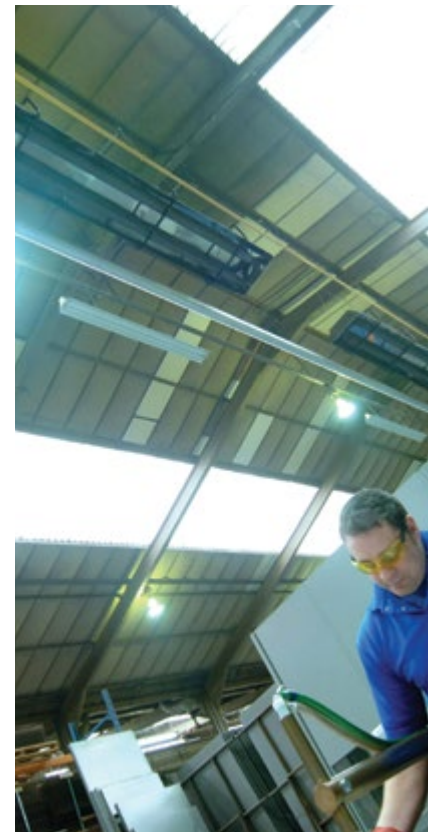
All models are suitable for use with a SmartCom control panel. SmartCom units incorporate a host of features such as self learning optimised start-up to ensure increased comfort and energy savings.



SmartCom³ control panel

Radiant black bulb sensor

(Please refer to separate leaflet 'SmartCom Energy Management Control' for full details)



Herringbone Configuration

Herringbone systems are specifically designed to suit individual building requirements; they can incorporate up to ten 'U' tube or linear heaters on one exhaust manifold. The exhaust manifold may be terminated through the roof or wall

The particular benefits of herringbone systems are:

- > Optimised energy efficiencies
- > All units share a common internal flue thereby raising efficiency within the building
- > Uniform heat distribution within the space being heated
- > Improved aesthetics and minimal risk of water ingress - only one penetration of the building is required to enable the products of combustion to be expelled
- > Universal application - they are ideal for both new build and older premises (in particular where penetration of an asbestos roof is an issue)



Specification

VSX model

Flueing

Units can be installed unflued or individually flued (including concentric flues to minimise building penetrations).

Fresh air intake

Fresh air can be ducted into the heat exchanger from outside the building to provide clean combustion air, required when there are contaminants in the atmosphere

Burner

Burner ratings range between 20 and 50kW in 5kW increments. The new burner head located within the firing tube leg provides a very long flame with even heat distribution. NO_x emissions are very low - as low as 52ppm on certain models.

Heat Exchanger

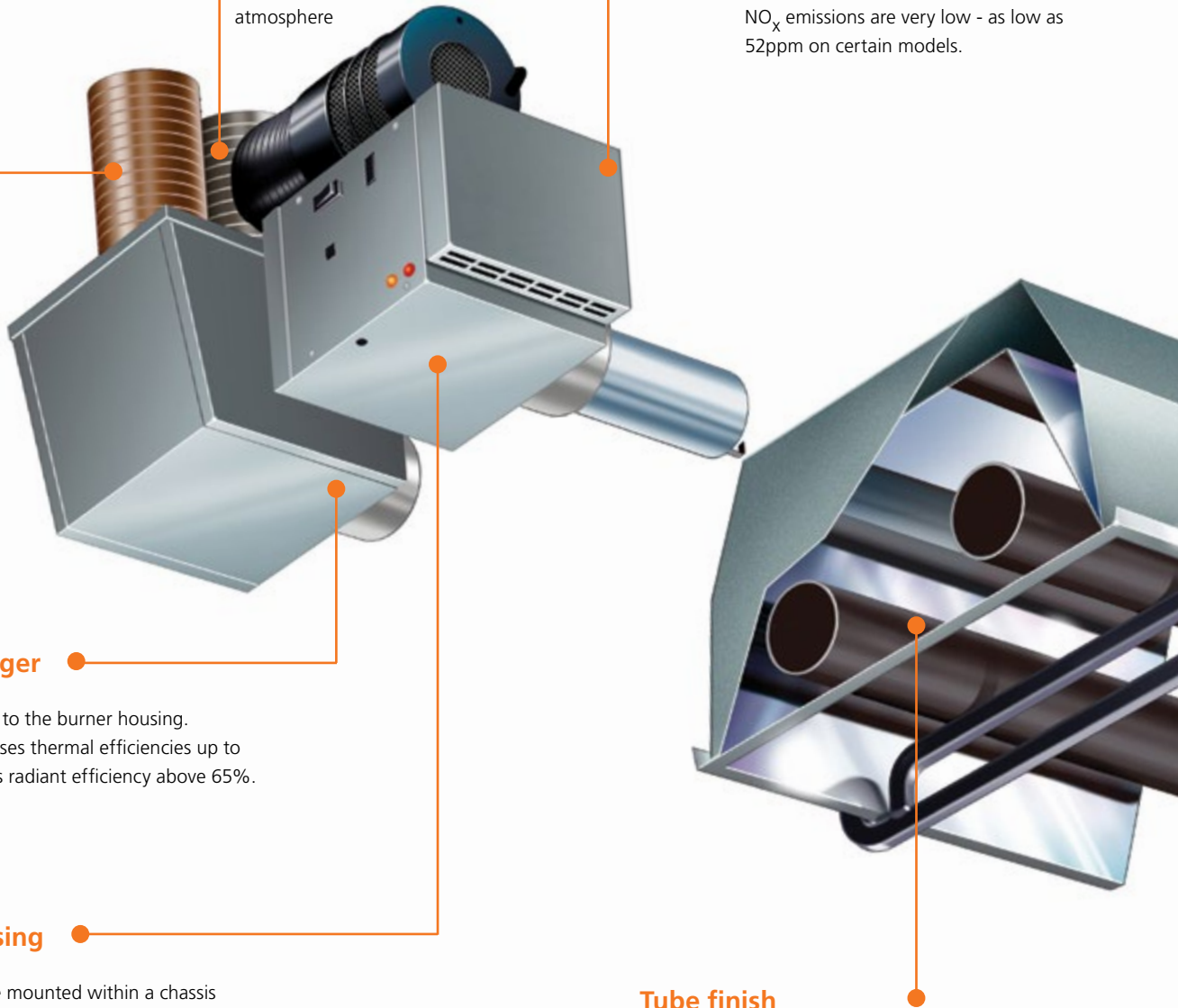
Mounted adjacent to the burner housing. Significantly increases thermal efficiencies up to 91% and enhances radiant efficiency above 65%.

Control housing

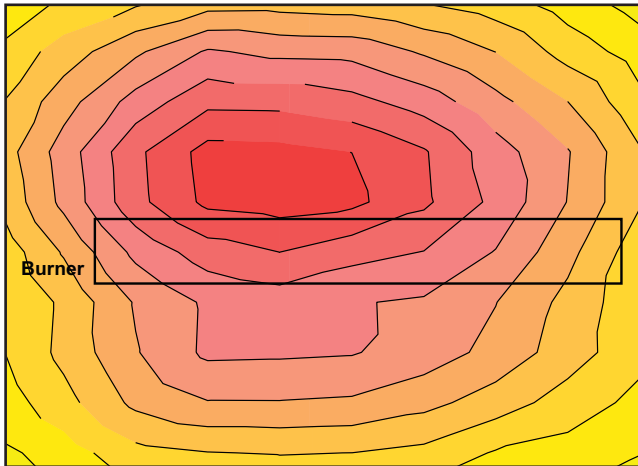
Burner controls are mounted within a chassis that incorporates hinged doors for ease of access for commissioning and maintenance.

Tube finish

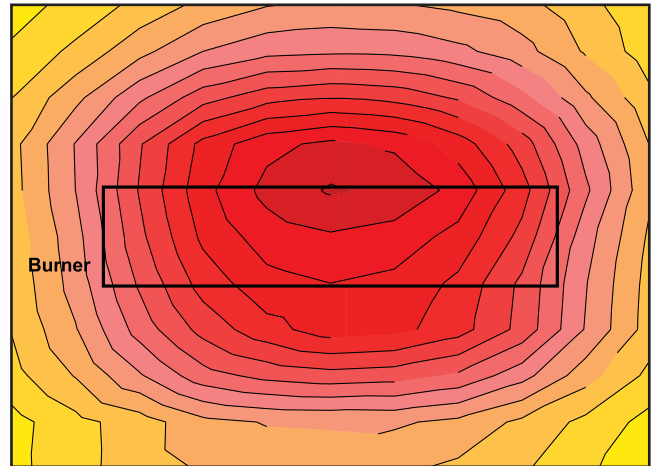
CALCOAT® tubes – a high technology process that applies a tough, dense, highly emissive surface both inside and out that eliminates the need for painting. As a result CALCOAT® ensures a long lasting surface that will not rust or flake, protects welds and maintains the highest of emissivity factors throughout the entire life of the heater.



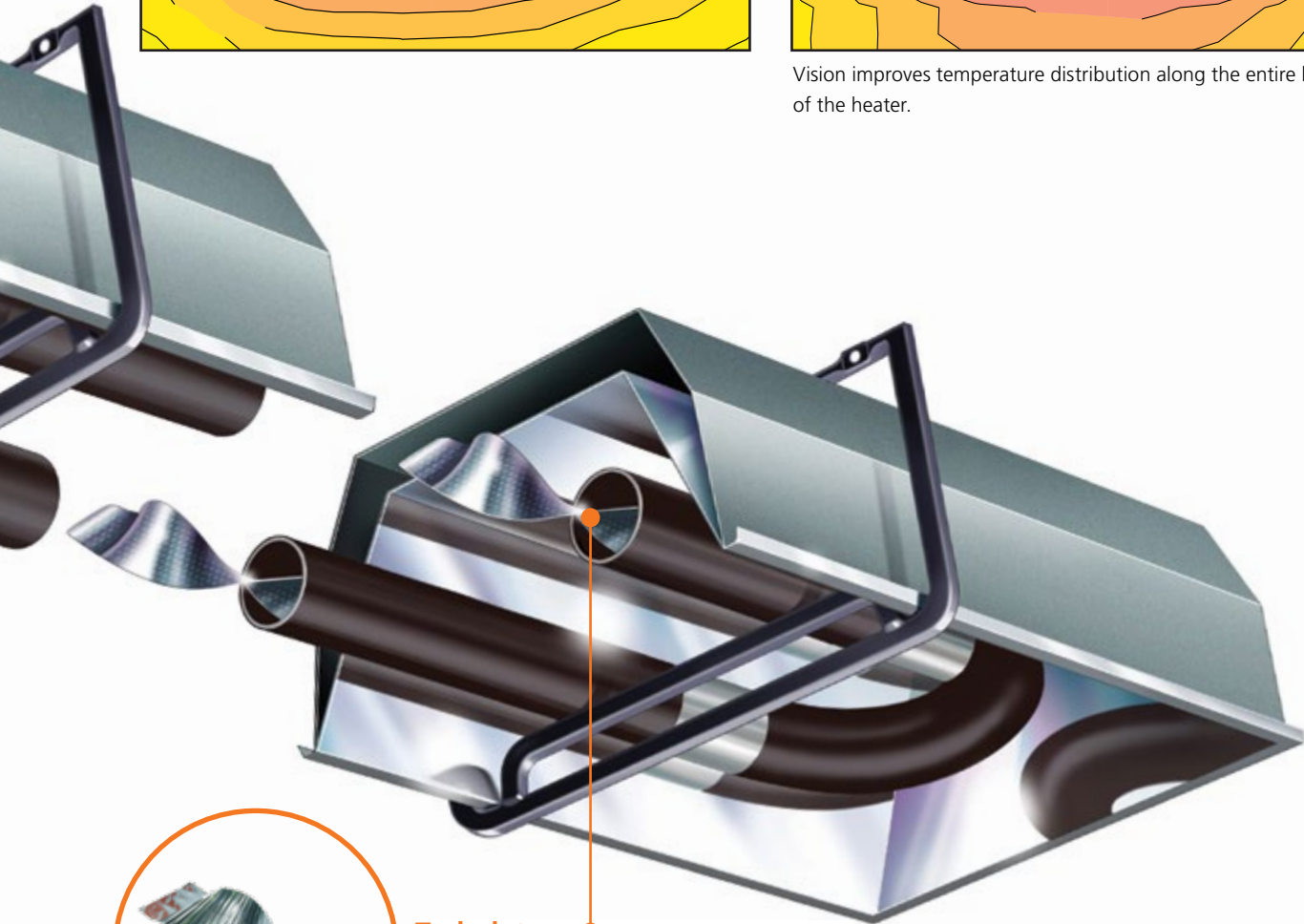
Standard radiant heater



Vision (VSX)



Vision improves temperature distribution along the entire length of the heater.



Turbulators

Stainless steel spiral turbulators optimise tube temperatures by 'scrubbing' the flue gases against the tube surface, maximising heat transfer and increasing radiant efficiency.



Radiant Heating

Working in the same way as the sun, radiant heat warms all solid objects and surfaces in its path through electromagnetic waves. Being mounted overhead, AmbiRad radiant heaters produce infrared heat that is directed downwards to low level by a reflector.

Infrared energy passes inertly through the air, dissipating as heat upon contact with people and surfaces thus creating a comfortable, all-round radiant warmth at lower air temperature. This reduces wasteful heating of empty space and makes substantial energy savings over conventional boiler and air systems.

Universal Application

Radiant heating has traditionally been predominant in industrial and commercial buildings, especially where there are large, high bay areas or where there are a high number of air changes within the environment.

Vision has been developed with these markets in mind and with a view to making radiant heating truly competitive within new smaller industrial and commercial buildings.

Its application is universal including environments with high air change, frequently opened doors, or where there is a need for zonal heating in very large premises.

The highly efficient performance of Vision provides greatly reduced running costs and improved capital payback, setting new industry standards.

Vision Applications

- > Aircraft hangars
- > Automotive workshops and showrooms
- > Factories
- > Retail outlets
- > Sports arenas and halls
- > Warehouses
- > Workshops

Enhanced Capital Allowances

The Government's Enhanced Capital Allowance scheme actively encourages industry and commerce to reduce energy consumption by promoting the use of energy efficient equipment. With radiant efficiencies of above 65% and thermal efficiencies of up to 91% (reducing fossil fuel consumption) a significant number of Vision models are included on the list.



This symbol verifies that the product has been independently assessed and qualifies for the ECA scheme, an upfront tax relief enabling businesses that invest in energy-saving equipment to claim 100% first-year capital allowances against their taxable profits.



Technical Data - All Models	
Gas supply	Connection 1/2 BSP internal thread
Electrical supply	230 volt 1 phase 50Hz
Current rating	1.0 amp max (inductive)
External fuse rating	3 amp external
Ignition	Electronic programme start up with spark ignition
Exhaust flue - twin wall diameter	127 mm (5")

Vision U Tube Models (induced burner) VSUTE - Natural Gas Only

Technical Data									
Model		VS15UTE	VS20UTE	VS25UTE	VS30UTE	VS35UTE	VS40UTE	VS45UTE	VS50UTE
Nominal gross heat input	kW	15.0	19.5	23.5	32.0	36.0	40.0	44.0	48.0
Nominal gas rate per burner	m ³ /h	1.4	1.9	2.3	3.1	3.4	3.8	4.2	4.6
Dimensional & weight data									
Length	mm	4542	5168		7644		8512	9304	
Overall height	mm	253			283				
Overall width	mm	710			805				
Total installed weight	kg	58	64	64	131	131	140	153	153
Recommended mounting height For mounting heights above or below those specified contact technical sales									
Horizontal	m	4 to 5	4.5 to 7	5 to 8	5.5 to 9	6 to 10	6.5 to 11	7 to 12	7.5 to 13
Minimum Clearance Distances To Combustible Surfaces									
Model		VS15UTE	VS20UTE	VS25UTE	VS30UTE	VS35UTE	VS40UTE	VS45UTE	VS50UTE
Above reflector VS models	mm	All models 180							
Above burner & fan assembly flued	mm	All models 500							
Beneath tubes	mm	1500	2000			2100			
To the sides	mm	300	480			800			
Horizontally from fan outlet unflued	mm	All models 1200							
End of the heater to the wall	mm	All models 100							

Vision Recuperative Heat Exchange U Tube Models (forced burner) VSX - Natural Gas Only

Technical Data											
Model		VSX20 UTE2M	VSX25 UT2EM	VSX30 UT2EM	VSX30 UTE3M	VSX35 UTE3M	VSX40 UTE3M	VSX45 UTE3M	VSX45 UTE4M	VSX50 UTE4M	
Nominal gross heat input	kW	20.0	25.0	30.0	30.0	36.0	40.0	44.0	44.0	49.5	
Nominal gas rate per burner	m ³ /h	1.9	2.4	2.9	2.9	3.4	3.8	4.2	4.2	4.7	
Dimensional & weight data											
Length	mm	4047			5927			7692			
Overall height	mm	All models 450									
Overall width	mm	All models 746									
Total installed weight	kg	114			158			205			
Recommended mounting height For mounting heights above or below those specified please contact technical sales											
Horizontal	m	4.5 to 7	5 to 8	5.5 to 9	5.5 to 9	6 to 10	6.5 to 11	7 to 12	7 to 12	7.5 to 13	
MINIMUM CLEARANCE DISTANCES TO COMBUSTIBLE SURFACES											
Above reflector	mm	All models 100									
Above burner & heat exchanger assembly	mm	All models 500									
Beneath tubes	mm	2300				2500					
To the sides	mm	All models 1300									
Horizontally from heat exchanger outlet unflued	mm	All models 1200									
End of the heater to the wall	mm	All models 700									

Vision Linear Models VSLIE - Natural Gas Only

Technical Data										
Model		VS15LIE	VS20LIE	VS25LIE	VS30LIE	VS35LIE	VS40LIE	VS45LIE	VS50LIE	
Nominal gross heat input	kW	15.0	19.5	23.5	32.0	36.0	40.0	44.0	48.0	
Nominal gas rate per burner	m ³ /h	1.4	1.9	2.3	3.1	3.4	3.8	4.2	4.6	
Dimensional & weight data										
Standard length option	Nominal metres	8	10.5	8	10.5	10.5	13.5	13.5	13.5	
Total installed weight (Standard length)	kg	53	72	53	103	103	126	126	126	
Extended length option	Nominal metres	-	-	10.5	13.5	13.5	16	16	16	
Total installed weight (Extended length)	kg	-	-	72	126	126	147	147	147	
Overall height	mm	All models 242								
Overall Width	mm	376				570				
Recommended mounting height For mounting heights above or below those specified contact technical sales										
Horizontal	m	4 to 5	5 to 7	5 to 7	5 to 9	5 to 11	5 to 11	6 to 12	7 to 13	
Minimum Clearance Distance To Combustible Surfaces										
Above reflector VSLIE models	mm	All models 150								
Above burner	mm	All models 500								
Beneath tubes	mm	1500		1700		2100				
To the sides	mm	All models 750								
Horizontally from heater outlet unflued	mm	All models 1200								
End of the heater to the wall	mm	All models 500								

Vision Standard Double Linear Models VSDLE - Natural Gas Only

Technical Data									
Model		VS15DLE	VS20DLE	VS25DLE	VS30DLE	VS35DLE	VS40DLE	VS45DLE	VS50DLE
Total nominal gross heat input both burners	kW	30.0	39.0	47.0	64.0	72.0	80.0	88.0	100.0
Total nominal gas rate both burners	m ³ /h	2.8	3.8	4.6	6.1	6.8	7.6	8.4	9.6
Dimensional & weight data									
Standard length	Nominal metres	16	21	16	21	21	27	27	27
Total installed weight (standard length)	kg	86	98	106	206	206	252	252	252
Extended length	Nominal metres	-	-	21	27	27	32	32	32
Total installed weight (extended length)	kg	-	-	144	252	252	294	294	294

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NORTEK GLOBAL HVAC (UK) LTD
Fens Pool Avenue
Brierley Hill
West Midlands DY5 1QA
United Kingdom

Tel: +44 (0)1384 489 250
Fax: +44 (0)1384 489 707

ambiradsales@nortek.com
www.ambirad.co.uk



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