high efficiency

SEDBUK A rated

icos HE

icos system HE

isar HE

istor HE



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introduction

Welcome to the HE range of boilers from Ideal. Throughout you will find that exceptional reliability has been our overriding goal, and that the needs and expectations of the installer have been uppermost in our considerations.

World class manufacturing

Ideal is one of the most respected names in the heating industry and the only company in its field to have achieved 'World Class Manufacturer' accreditation in the prestigious IBM and London Business School UK manufacturing survey. For over 90 years we have been designing, refining and manufacturing appliances that are not only trusted by the trade, but also relied upon by homeowners the length and breadth of the country.

Our Hull-based factory is part of only 2% of all manufacturing sites in the UK that have been independently judged as meeting the criteria for World Class Manufacturing status, while our superior manufacturing facilities mean that we can achieve 'right first time' quality. In accordance with the company's World Class status, we have adopted a programme of continuous improvement which ensures that we constantly measure and monitor our performance to drive improvement through innovation.

Dedicated to excellence

Everyone at Ideal is committed to delivering incomparable guality. Which is why these products have been created to lead the way in innovative engineering, inspired design and, above all else, exceptional standards of reliability.

Engineered for peace of mind

The components which have been used throughout the appliances are not only manufactured to extremely high technical specifications, they are also common across the range. As a result, the HE range of boilers are dependable, simple to understand and require minimal maintenance and servicing. To ensure this dependability, each of our boilers is also subjected to an extraordinarily stringent regime of product assessment. This includes rigorous application testing, as well as extensive laboratory and field trials. What's more, the versatile design, which includes no compartment ventilation and

twin-pipe fluing, makes siting extremely flexible - meaning minimum hassle at no

SEDBUK rating



energy rating of A on a scale of A-G. For more information see www.sedbuk.com

Glossary of terms

FF = fan-flued boiler

extra cost for the installer.

- TRV = thermostatic radiator valve
- CH = central heating
- DHW = domestic hot water
- PCB = printed circuit board

an appliance for any application

The boilers featured in this brochure cover the majority of applications, namely: system, combi, heat-only and system store. So no matter what system design the appliance will be required to power, there is an Ideal boiler that is perfect for the job.

icos high-efficiency boiler

Thanks to its flexibility of siting, ease of installation and advanced reliability, Ideal's icos HE high-efficiency boiler is a further improvement on previous models. It can be fitted in conjunction with any fully pumped system and is available in four models, icos HE 12, icos HE 15, icos HE 18 and icos HE 24.

icos system high-efficiency boiler

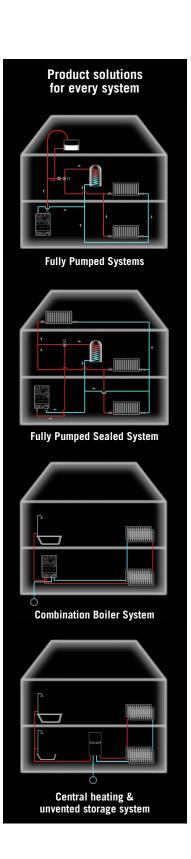
The Ideal icos system HE high-efficiency boiler shares the same benefits as its heatonly counterpart, but has all the necessary components incorporated into the product to enable easy installation to a fully pumped sealed system.

isar high-efficiency combination boiler

The Ideal isar HE high-efficiency system boiler shares the same benefits as its heatonly counterpart but has all the necessary components incorporated into the product to enable easy installation to a fully pumped sealed system. The boiler is ideal for meeting the heating requirements for the majority of houses and is available in three models, isar HE 24, isar HE 30, and isar HE 35.

istor high-efficiency boiler

A complete heating and unvented hot water system in a single unit gives a simple and space saving installation. The Ideal istor HE high-efficiency boiler ensures low running costs in conjunction with a fast recovery cylinder for large quantities of mains pressure hot water. The istor HE is available in two models, the istor HE 260 and the istor HE 325.



product features

Each of Ideal's HE boilers contains only those parts that are necessary to deliver dependability and performance, or that make the product easier to fit, operate or install. As a result, they all offer exceptional levels of reliability and are easily maintained and serviced.

Common components

All our appliances share a wide number of common parts – making them easier to install, service, and maintain. These items include components such as the gas valve, burner, venturi, fan, fluing system and controls.

Simple to fit and service

Because they have so much in common, fewer spares are required to maintain the range of boilers.

All products are 'self-adjusting' (other than the Ideal istor HE). This allows the installer to fit the products without the need to make any alterations. The boilers, being fully modulating, adjust themselves to the required output to meet the heating load.

Unprecedented reliability

We have introduced new test procedures which are comprised of a demanding series of application tests to ensure that the boiler is fault-free. We have never been tougher on ourselves or our products, and you will find that it shows in the new standards of reliability which these products have attained.

building regulation compliance

To comply with Part L of the Building Regulations 2002, and Building Standards (Scotland) Part J, domestic boilers are required to meet minimum SEDBUK ratings of 78%.

SEDBUK - Seasonal Efficiency of Domestic Boilers in the UK

The SEDBUK efficiency of a domestic boiler is an approved method of representing the energy efficiency of a boiler under assumed typical operating conditions.

A boiler's efficiency is calculated using the SEDBUK rating (Seasonal Efficiency of Domestic Boilers in the UK). This rating defines the average annual efficiency of a domestic boiler achieved in typical domestic conditions, making reasonable assumptions about pattern of usage, climate, control and other influences. SEDBUK efficiencies are banded A–G (with A being the highest). The Ideal products isar, icos, icos system and istor are SEDBUK A rating approved with energy ratings over 90%, making this a high-efficiency boiler range that exceeds current Building Regulations, including Part L1.



PRODUCT FEATURES

	icos HE heat-only	icos HE system	isar HE combination	istor HE system store
Remotely mountable user controls (optional kit required)	✓	✓	✓	✓
Alpha-numeric diagnostic display	1	1	\checkmark	1
Kitchen cupboard fit*	1	1	\checkmark	n/a
No compartment ventilation required	1	1	✓	1
Syphon kit available	1	1	✓	✓
Boiler stand-off kit	1	1	1	n/a

* Note: When stand-off brackets are fitted, standard kitchen cupboard fit does not apply.

Note: For heat-only and system boilers, where a mid-position diverter valve is used, a bypass is not necessary as one circuit will always be open. Where the system is designed so that both circuits can be closed simultaneously, then a bypass must be fitted, comprising at least 3 metres of 22mm copper tube, including a lockshield or automatic valve set to achieve a maximum of 11°C T.

Caradon Ideal Ltd hereby declare that the boilers listed below meet the essential requirements for heating plant as described in: Building Regulations - Conservation of fuel and power. Part L1 2002. Building Standards (Scotland) Regulations - Part 'J'.

DETAILS OF COMPLIANCE

Boiler	Range	Certificate No.	Notified body	Reference
istor HE	260/325	ТВА	TBA	ТВА
icos HE	12 - 24kW	E0818	Gastec	0063
icos system HE	24kW	E0818	Gastec	0063
isar HE	24 - 35kW	E0818	Gastec	0063

Band	SEDBUK range
А	Above 90%
В	86% - 90%
С	82% - 86%
D	78% – 82%
E	74% - 78%
F	70% – 74%
G	Below 70%



icos HE and icos system HE

The Ideal high-efficiency heat-only and system boilers

These high-efficiency boilers from Ideal combine a modern, stylish exterior with simple yet highly reliable engineering. This has resulted in appliances that are easily installed and that require minimal servicing and maintenance, while to the homeowner it represents an advanced, dependable product which looks at home in any environment and offers years of trouble-free service, as well as a reduction in gas bills.

Application and usage

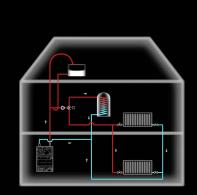
Flexibility of siting, ease of installation and advanced reliability all mean that Ideal's high-efficiency heat-only and system boilers offer further improvements on previous models. Thanks to the 80mm diameter twin-pipe fluing feature, which offers a maximum combined fluing length of up to 46 metres that can be run either horizontally or vertically, the icos HE and icos system HE can now be installed much further away from the outside wall. This means the boilers can be fitted safely and unobtrusively in almost any situation.

The icos HE and icos system HE in operation

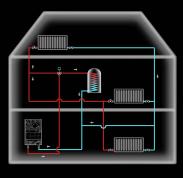
Both products are automatically controlled, fan flued high-efficiency boilers. They modulate their heat output to suit the demands of the heating load, and both incorporate a variable thermostat for CH temperature control, adjustable from 30°C to 82°C.

The use of a pre-mix burner allows control of gas input to the appliance to be directly linked to fan speed. So, as the fan reduces speed to match heating load, the gas valve maintains the correct proportional flow ensuring a high boiler efficiency throughout its output range.

1 year product warranty



Fully Pumped System

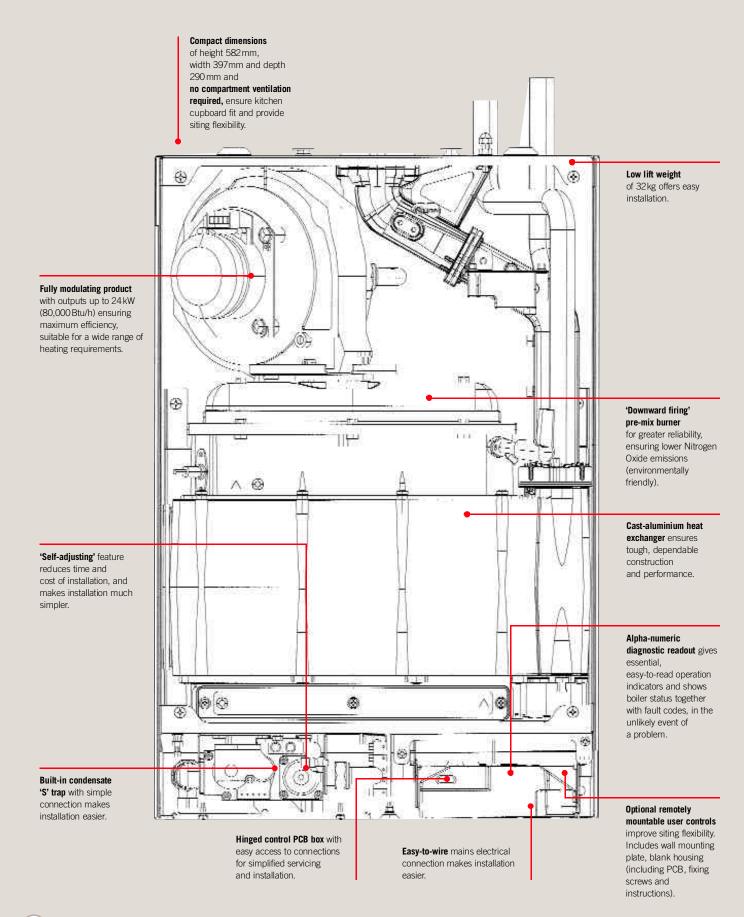


Fully Pumped Sealed System



icos HE

icos HE-technical data



PERFORMANCE I	DATA				
Model		icos HE 12	icos HE 15	icos HE 18	icos HE 24
Output k	kW	8.8 - 12	8.8 - 14.6	8.8 - 18.2	8.8 - 23.4
	Btu/h	30,000 - 41,000	30,000 - 49,800	30,000 - 62,100	30,000 - 80,000
SEDBUK rating		A	A	A	А
NOX Class		5	5	5	5

INSTALLATION DATA

Gas supply connection	inches	Rc ½ (½" BSP fe
CH flow connection	mm	22 compression
CH return connection	mm	22 compression
Condensate drain	mm	21.5
Electrical supply	V/Hz	230 / 50
Power consumption	W	38
Fuse rating	A	3
Water content	litres	1.7
Maximum lift weight	kg	32
Total packed weight	kg	35
Flue terminal diameter	mm	100
S trap depth	mm	52

*For outputs exceeding 18kW (60,000 Btu/h), 28mm primary pipework will be required.

CLEARANCE DATA

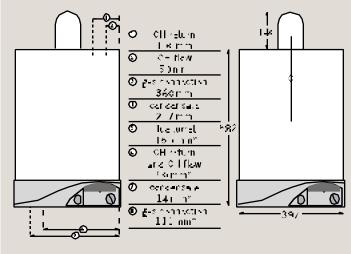
The following	clearances are	e required for	installation, ser	vicing and	replacement
Front of boilor	Sidor	of boiler	Top of	boilor	Bo

Front of boile Sides of boiler lop of boiler 165mm** 450 mm 5mm

† Minimum clearance required at bottom of boiler for servicing is 100 mm, additional clearance will be required for installation, depending upon site conditions. **More clearance required when fitting fluing to the side.

PIPEWORK CONNECTIONS AND PRODUCT DIMENSIONS

Flue pluming is a by-product of efficiency. Please be aware of terminal positions to avoid complaints (see pages 22-29, fluing options).



*Add 32mm with stand off brackets fitted

For full technical details please refer to the Installation and Servicing Instructions provided with the product.

female)

nt of parts. Bottom of boiler 100mm†



The Ideal high-efficiency boiler

Installation tips

Ideal recommend that a minimum heating load of 3,000 Btu/h be controlled using a room thermostat, leaving all other rooms capable of being controlled by TRVs.

The boiler has a cast-aluminium alloy heat exchanger, therefore suitable water treatment should be applied to the system.

These boilers require a permanent live electrical supply.

Siting options



Utility Room

Optional remotely mountable user controls, compact dimensions and a highly flexible fluing system allow the icos to be easily sited.





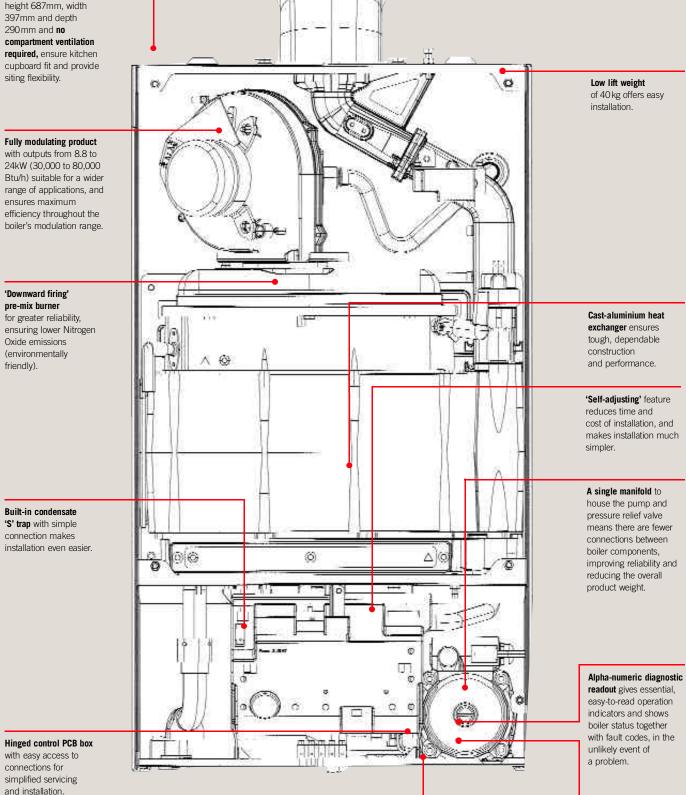
This product has an energy rating of A on a scale of A-G. For more information see www.sedbuk.com

Note: This product is not suitable for external installation. The wall on which the boiler is being mounted must be able to support its total weight. The wall will not require special protection, but if the unit is being fitted in a timber-frame building the guidelines set out in BS 5440: Part 1:1990 should be observed.

icos system HE-technical data

Compact dimensions of height 687mm, width 397mm and depth 290 mm and **no** compartment ventilation required. ensure kitchen cupboard fit and provide siting flexibility.

friendly).



PERFORMANCE DATA

Model		icos system HE 2
Output	kW	8.8 - 23.4
	Btu/h	30,000 - 80,000
SEDBUK rating		А
NOX Class		5

INSTALLATION DATA

Gas supply connection	inches	Rc 1/2 (1/2" BSP fe
CH flow connection	mm	22 compression
CH return connection	mm	22 compression
Expansion vessel volume	litres	8
Pressure relief valve	inches	Rc 1/2 (1/2" BSP fe
Condensate drain	mm	21.5
Power consumption	W	148
Electrical supply	V/Hz	230/50
Fuse rating	A	3
Water content	litres	2
Maximum lift weight	kg	40
Total packed weight	kg	47
Flue terminal diameter	mm	100
S trap depth	mm	52

*For outputs exceeding 18kW (60,000 Btu/h), 28mm primary pipework will be required.

CLEARANCE DATA

Easy-to-wire mains

electrical connection

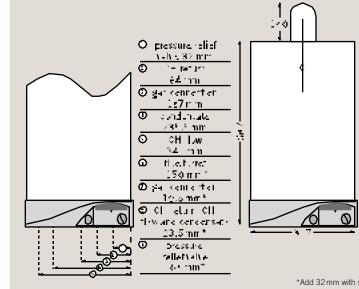
makes installation easier.

The following clearances are required for installation, servicing and replacement of parts.				
Front of boiler Sides of boiler		Top of boiler	Bottom of boiler	
450 mm	5mm	165mm**	100mm†	

† Minimum clearance required at bottom of boiler for servicing is 100 mm, additional clearance will be required for installation, depending upon site conditions. **More clearance required when fitting fluing to the side.

PIPEWORK CONNECTIONS AND PRODUCT DIMENSIONS

Flue pluming is a by-product of efficiency. Please be aware of terminal positions to avoid complaints (see pages 22-29, fluing options).



For full technical details please refer to the Installation and Servicing Instructions provided with the product.

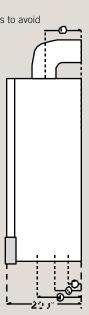
Hinged control PCB box with easy access to connections for simplified servicing

> Optional remotely mountable user controls improve siting flexibility. Includes wall mounting plate, blank housing (including PCB, fixing screws and instructions).

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*Add 32 mm with stand off brackets fitted

The Ideal high-efficiency system boiler

Installation tips

Ideal recommend that a minimum heating load of 3,000 Btu/h be controlled using a room thermostat, leaving all other rooms capable of being controlled by TRVs.

The boiler has a cast-aluminium alloy heat exchanger, therefore suitable water treatment should be applied to the system.

These boilers require a permanent live electrical supply.

Siting options



Loft



Utility Room

Optional remotely mountable user controls, compact dimensions and a highly flexible fluing system allow the icos system to be easily sited.





This product has an energy rating of A on a scale of A-G. For more information see www.sedbuk.com

Note: This product is not suitable for external installation. The wall on which the boiler is being mounted must be able to support its total weight. The wall will not require special protection, but if the unit is being fitted in a timber-frame building the guidelines set out in BS 5440: Part 1:1990 should be observed





The Ideal high-efficiency combination boiler range

Excellent performance, reliability and ease of installation are trademarks of the Ideal combination boiler. With its minimal components and slimline construction the unit can be sited almost anywhere – even in a standard kitchen cupboard, with no additional compartment ventilation required. Other qualities such as a selfadjusting feature for easy set up and an alpha-numeric diagnostic readout giving coded appliance status, make this the most advanced combi boiler Ideal has ever produced. In addition, its excellent performance and efficiency enables the homeowner to save up to a third on gas bills.

Combination boiler system

The typical combination boiler system is illustrated to the right.

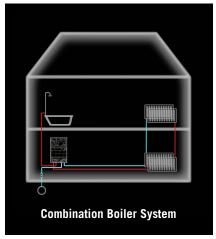
Application and usage

The Ideal high-efficiency combi benefits from being highly versatile and is perfectly suited to homes where space is at a premium. This is enhanced by its twin-pipe fluing that gives excellent siting flexibility. The boiler is capable of meeting the heating requirements for the majority of housing needs.

The isar HE in operation

The isar HE is an automatically controlled, fanned flue high-efficiency boiler. The boiler modulates its heat output to suit the demands of the heating load. It incorporates a variable thermostat for CH temperature control, adjustable from 30°C to 82°C. The use of a pre-mix burner allows control of gas input to the appliance to be directly linked to fan speed. So, as the fan reduces speed to match heating load, the gas valve maintains the correct proportional flow ensuring a high boiler efficiency throughout its output range. The boiler incorporates all the necessary safety features required to fit directly onto a sealed system. The isar HE also provides DHW on demand via a high-efficiency secondary heat exchanger within the boiler casing. The boiler's ability to modulate enables a stable DHW temperature to be obtained, regardless of flow rate.

1 year product warranty.

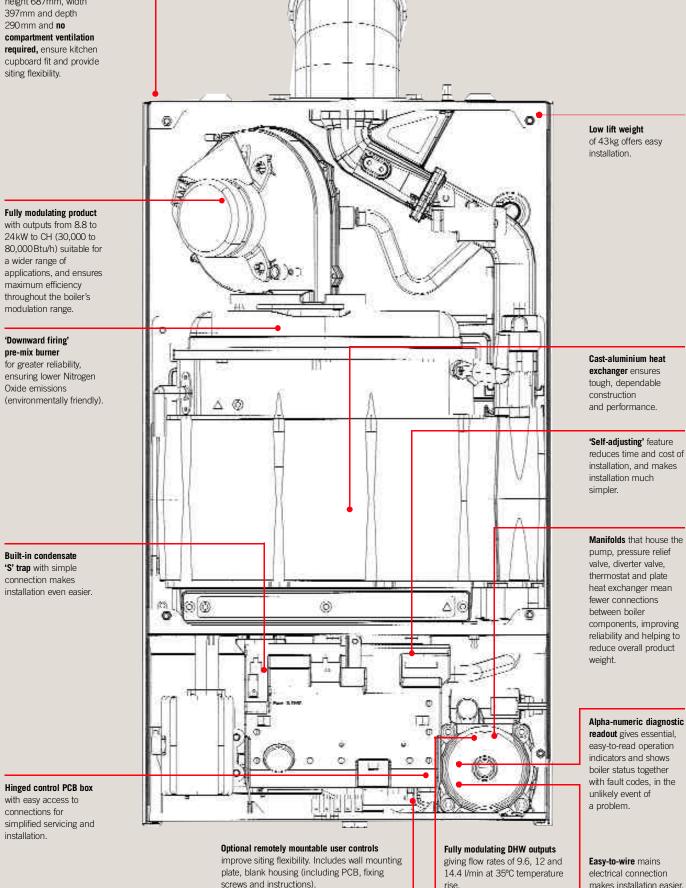




isar HE

isar HE-technical data

Compact dimensions of height 687mm, width 397mm and depth 290 mm and **no** compartment ventilation required, ensure kitchen cupboard fit and provide siting flexibility.



PERFORMANCE DATA

Model			isar HE 24	isar HE 30
Output	DHW	kW	8.8 - 23.4	8.8 - 29.3
		Btu/h	30,000 - 80,000	30,000 - 100,000
	Flow Rate	l/min	9.6	12.0
	СН	kW	8.8 - 23.4	8.8 - 23.4
		Btu/h	30,000 - 80,000	30,000 - 80,000
SEDBUK I	rating		A	A
NOX Clas	- SS		5	5

INSTALLATION DATA

Gas supply connection	inches	Rc 1/2 (1/2" BSP fe
CH flow connection	mm	22 compression
CH return connection	mm	22 compression
Pressure relief valve	inches	Rc 1/2 (1/2" BSP fe
Expansion vessel volume	litres	8
Condensate drain	mm	21.5
Electrical supply	V/Hz	230/50
DHW inlet connection	mm	15 compression
DHW outlet connection	mm	15 compression
Power consumption	W	148
Fuse rating	A	3
Water content	litres	2
Maximum lift weight	kg	43
Total packed weight	kg	50
Flue terminal diameter	mm	100
S trap depth	mm	52

*For outputs exceeding 18kW (60,000 Btu/h), 28mm primary pipework will be required.

CLEARANCE DATA

The following clearanc	es are required for i	nstallation, servicing and rep	blacemer
Front of boiler	Sides of boiler	Top of boiler	B
450mm	5mm	165mm**	1

† Minimum clearance required at bottom of boiler for servicing is 100 mm, additional clearance will be required for installation, depending upon site conditions. ** More clearance required when fitting fluing to the side.

Note: This appliance is not suitable for external installation. The wall on which the boiler is being mounted must be able to support its total weight. The wall will not require special protection, but if the unit is being fitted in a timber-frame building the guidelines set out in BS 5440: Part 1:1990 should be observed.

PIPEWORK CONNECTIONS AND PRODUCT DIMENSIONS

Flue pluming is a by-O pressure r li 1 product of efficiency. 1-1 Please be aware of 3**2**1 h terminal positions to Ø **≺I** 1111 avoid complaints (see é'r n pages 22-29, 0 DHW in fluing options). 1 🕯 "າກ O 260 ¢ .nn \$,i.n 187 10 0 condination 235.5<u>mm</u> $\overline{\mathbf{O}}$ bli₩ . (Stom σ l w 3**4**7 mm $\overline{\mathbf{O}}$ 1lu - ur - t 15 imm* O _s< nn clin, 000 1-1.5 "11" 000 🗿 🤇 E 🖆 Lurn, SH flw⊣nl<nkts.t 13.5 mm+ 0 `-\$\$J′-- li - l v.- lve. 65 mπ*

For full technical details please refer to the Installation and Servicing Instructions provided with the product.

A CONTRACTOR DATES
isar HE 35
8.8 - 35.2
30,000 - 120,000
14.4
8.8 - 23.4
30,000 - 80,000
А
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*Add 32mm with stand off brackets fitted

The Ideal high-efficiency combi boiler

Installation tips

Ideal recommend that a minimum heating load of 3,000 Btu/h be controlled using a room thermostat, leaving all other rooms capable of being controlled by TRVs.

The boiler has a cast-aluminium alloy heat exchanger, therefore suitable water treatment should be applied to the system.

These boilers require a permanent live electrical supply.

A DHW flow restrictor is incorporated within the boiler, automatically controlling the DHW flow. This eliminates the requirement for any installer adjustments.

Siting options





Utility Room

Optional remotely mountable user controls, compact dimensions and a highly flexible fluing system allow the isar to be easily sited.





This product has an energy rating of A on a scale of A-G. For more information see www.sedbuk.com



1stor HE

The Ideal high-efficiency system store range.

istor HE system storage units take the provision of both central heating and plentiful supplies of hot water to a new level. This is achieved by combining a high efficiency boiler and unvented cylinder in one unit with all necessary controls. That also means a dry loft for simplicity and peace of mind.

Naturally they are designed for fast and easy installation, whilst good accessibility minimises service and maintenance. Space is freed up in the property due to their compact design, whilst the householder also benefits by having an appliance capable of giving mains pressure hot water from more than one outlet simultaneously. The choice of two models provides these benefits for larger properties. The many flue options available with the Ideal high-efficiency ranges allow more siting options for this flexible product.

Application and usage

The istor HE offers tremendous flexibility in where it can be sited, freeing kitchen space if installed in the airing cupboard for example. That type of siting is made easier by concentric or a choice of 80 mm and 60 mm diameter twin duct flue systems. More awkward installations can now be handled with the optional condensate drain pump kit. Rapid installation is assisted by thoughtful features such as a pre-piping frame, allowing pipework to be made before fitting the unit. The water controls are all supplied inbuilt requiring no extra space or time. Further ensuring that the istor HE is a truly complete unit, a programmer and immersion heater all come fitted as standard.

The istor HE in operation

The units are automatically controlled with a fanned flue and no cupboard ventilation is required. High-efficiency in operation is always maintained as the boiler modulates to match the load applied.

Central heating

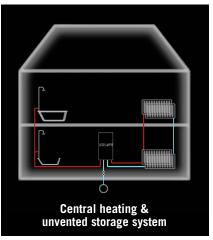
The boiler will fire to meet the heating requirements of the house as a normal system.

Domestic hot water

The cylinder contents (80 or 120) litres are immediately available for use and are blended by the integral thermostatic mixing valve (settings 30-65°C) to suit the householder. The boiler will fire to replenish the cylinder or for a few seconds to maintain temperature.

Even after the full contents have been used, hot water is still available at reduced rate. The cylinder is rapidly replenished as soon as DHW draw stops via the high recovery cylinder coil.

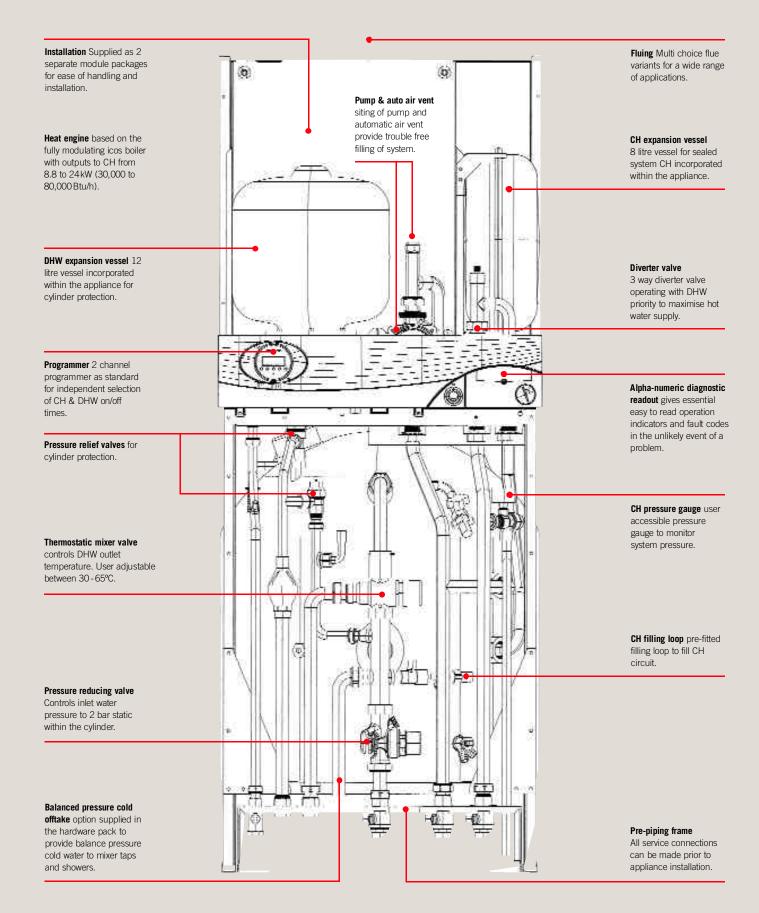








istor HE technical data



RFORM	ANCE DATA			
Model			istor HE 260	istor HE 325
Output	DHW	kW	8.8 - 29.3	8.8 - 29.3
		Btu/h	30,000 - 100,000	30, 000 - 100,000
	Flow Rate	l/min*	35	35
	СН	kW	8.8 - 23.4	8.8 - 23.4
		Btu/h	30,000 - 80,000	30,000 - 80,000
	Recovery times**	mins	9	12
SEDBUK r	ating			A A
NOX Clas	S		5	5

*Practical maximum with suitable mains supply **Recovery times are after 70% draw off, from 15°C

INSTALLATION DATA

Model			istor HE 260
Gas supply connection		inches	Rc 1∕₂
CH flow connection		mm	22*
CH return connection		mm	22*
Pressure relief valve		mm	15
CH Expansion vessel volume		litres	8
Condensate drain		mm	21.5
DHW inlet connection		mm	15
DHW outlet connection		mm	22
DHW delivery temperature		°C	30 - 65
Water content	СН	litres	2
Water content	DHW	litres	80
Electrical supply		V/Hz	230/50
Power consumption		W	148
Fuse rating		A	3
Maximum lift weight	Boiler	kg	55
Maximum lift weight	Cylinder	kg	59
Total packed weight	Boiler	kg	58.5
Total packed weight	Cylinder	kg	66
Flue terminal diameter	Concentric	mm	100
	Twin duct	mm	80 or 60

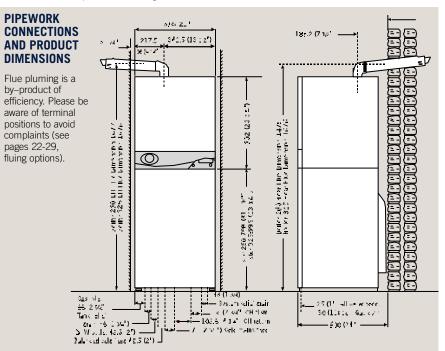
*For outputs exceeding 18kW (60,000 Btu/h), 28mm primary pipework will be required.

CLEARANCE DATA

The following clearances are required	d for installation, servicing and replacement
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Front of boiler	Sides of boiler	Top of bo
450 mm	5mm	165mm*

**More clearance required when fitting flue to the side.



istor HE 325

Rc 1/2
22*
22*
15
8
21.5
15
22
30 - 65
2
120
230/50
148
3
55
65
58.5
73
100
80 or 60

t of parts.
boiler
n**

The Ideal high-efficiency boiler

Installation tips

Ideal recommend that a minimum heating load of 3,000 Btu/h be controlled using a room thermostat, leaving all other rooms capable of being controlled by TRVs.

The boiler has a cast-aluminium alloy heat exchanger, therefore suitable water treatment should be applied to the svstem.

These boilers require a permanent live electrical supply.

Siting options







Utility Room

Compact dimensions and a highly flexible fluing system allow the istor to be easily sited.





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Note: This appliance is not suitable for external installation.

The HE range from Ideal boilers benefits from a wide variety of fluing options, making it possible for the installer to fit each unit safely and unobtrusively in almost any situation. The following information sets out the alternatives that are available and demonstrates the siting flexibility that is an inherent part of all our boilers. The Ideal HE range comes with a choice of concentric or twin-pipe fluing options.

Twin-pipe fluing

Various twin-pipe options are available, in both 80mm and 60mm diameters. to assist in the termination of the flue where the boiler is installed in a location remote to an outside wall. These options allow for separation of the air supply from the pipe that discharges the flue gases.

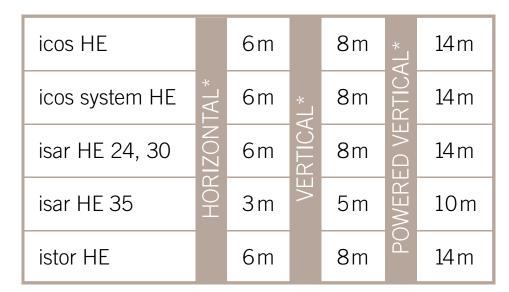
80mm Twin-pipe system

The maximum combined flue length is 46 metres. The following graph (FIG. 1) demonstrates the allowable lengths for the air supply and flue gas pipes. This system can be used for both horizontal and vertical applications.

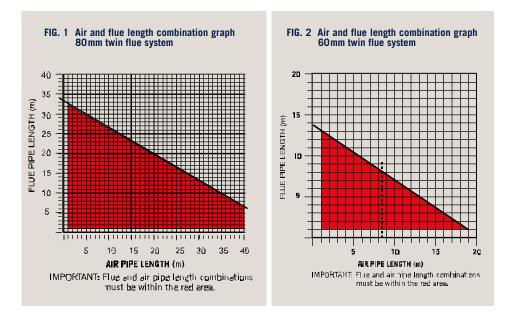
60mm Twin-pipe system

The maximum combined flue length is 20 metres. The following graph (FIG. 2) demonstrates the allowable lengths for the air supply and flue gas pipes. This system can be used for horizontal applications only.

Maximum horizontal flue lengths (concentric 60/100)



*Each 90° elbow used is at the expense of 1000 mm of straight flue run, and each 45° elbow is used at the expense of 600 mm of straight flue run.

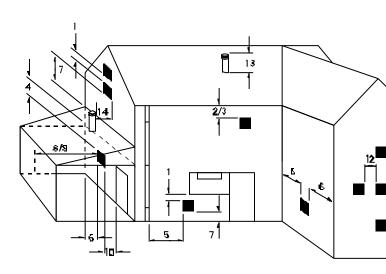


Siting flexibility

There are a substantial number of fluing options available with our boilers, each giving excellent siting flexibility for almost all applications. These options include components such as roof flue and powered vertical flue kits which ensure that the installer encounters minimum restrictions.

Solutions for all applications

The Ideal range of fluing components has been planned to provide the installer with a choice of options which is capable of covering every application.



FLUE COMPONENTS - COMMON ACROSS ICOS HE, ICOS SYSTEM HE, ISAR HE AND ISTOR HE BOILERS

	Part No.		Part No.
B Pack' Standard Flue 100mm diameter	158222	Weather Collar - Universal, 125mm diameter	158520
D Pack' Flue Extension, 1000mm long	155987	Weather Collar - Flat roof, 125mm diameter	158521
Flue Finishing Kit (internal/external wall seals etc.)	155988	Twin-Pipe Flue Connector, 80mm diameter	158398
90° Elbow Kit, 100mm diameter	154187	90° Elbow Kit, 80mm diameter (Twin-Pipe only)	158399
45° Elbow Kit, 100mm diameter (pair)	152256	Horizontal Flue Terminal, 80mm diameter	158400
Vertical Flue Connector	156405	Horizontal Air Terminal, 80mm diameter	158401
Powered Vertical Flue Kit	152255	Loft Terminal Air Grille, 80mm diameter	158403
Vertical Flue Terminal, Twin-Pipe and Powered Vertical, 100mm diameter	152378	Ridge Tile Flue Terminal, 80 mm diameter	158415
Weather Collar - Universal, 100 mm diameter	152258	Twin-Pipe Flue Connector 60mm diameter kit	200092
Weather Collar - Flat Roof, 100mm diameter	152259	Horizontal Flue Terminal 60mm diameter kit	200093
Roof Flue Kit	152254		
45° Elbow Kit (pair), 80mm diameter (Twin-Pipe and Powered Vertical)	152810	Horizontal Air Terminal 60 mm diameter kit	200094
Flue ExtensionPipe (pair), 80 mm diameter (Twin-Pipe and		Extension Pipes 60mm diameter kit (pair)	200095
Powered Vertical), including support brackets)	152260	90° Elbow Kit, 60mm diameter	200096
Horizontal Twin-Pipe Flue Terminal, 125mm diameter	158518	45° Elbow Kit, 60mm diameter (pair)	200097
Vertical Twin-Pipe Roof Flue Terminal, 125mm diameter	158519	Adaptor Twin Flue 60 mm diameter to 60/100	200112

Minimum dimensions of flue terminal positions

KEY TO ILLUSTRATION

	Terminal Position	Fan Models Min. Spacing
1	Directly below an openable window or other opening e.g. air brick	300 mm
2	Below gutters, drain pipes or soil pipes	25mm*
3	Below eaves	25mm*
4	Below balconies or car port roof	25mm*
5	From vertical drain pipes or soil pipes	25mm*
6	From an internal or external corner or to a boundary alongside the terminal	25mm*
7	Above ground, roof or balcony level	300 mm
8	From a surface or a boundary facing a terminal	600 mm
9	From a terminal facing a terminal	1200 mm
10	From an opening in a car port into a dwelling	1200 mm
11	Vertically from a terminal on the same wall	1500 mm
12	Horizontally from a terminal on the same wall	300 mm
	Vertical flues	
13	Above a pitched or flat roof (to base of terminal)	300 mm
14	From adjacent wall to flue	1000mm

Table corresponds to BS5440: Part 1 : 2000 It must always be borne in mind that the HE range flues plume and that special consideration should be given to terminal position, except where marked

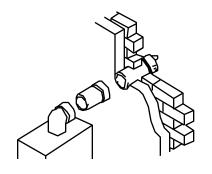
Horizontal concentric - 100mm diameter

Please note that the following fluing options are relevant to all the highefficiency products previously mentioned in this brochure.

Our maximum flue length is 6 metres (horizontal). Deduct 1 metre for each 90° bend and 0.6 metre for each 45° bend.

Note: isar HE 35 maximum length is 3 metres.

HORIZONTAL FLUE



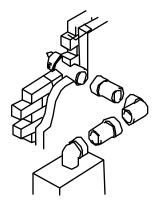
Flue	Part Number	Maximum straight flue length (mm)
Standard Pack B	158222	Right Left - 650 Rear
Standard Pack B + Extension Pack D	158222 155987	Right Left Rear
Standard Pack B + 2 x Extension Pack D	158222 2 x 155987	Right - Left - 2550 Rear -
Standard Pack B + 3 x Extension Pack D (Maximum for isar HE 35)	158222 3 x 155987	Right Left - 3500 Rear
Standard Pack B + 4 x Extension Pack D	158222 4 x 155987	Right Left - 4450 Rear
Standard Pack B + 5 x Extension Pack D	158222 5 x 155987	Right Left - 5400 Rear
Standard Pack B + 6 x Extension Pack D	158222 6 x 155987	Right Left Rear

HORIZONTAL FLUE WITH 2 x 90° ELBOW

Flue	Part Number	Maximum s	traight
Standard Pack + 2 x 90° Elbow	158222 2 x 154187	Right Left Rear	1010
Standard Pack B + Extension Pack D + 2 x 90° Elbow (Maximum for isar HE 35)	158222 155987 2 x 154187	Right Left Rear	1960
Standard Pack B + 2 x Extension Pack D + 2 x 90° Elbow	158222 2 x 155987 2 x 154187	Right Left Rear	2910
Standard Pack B + 3 x Extension Pack B + 2 x 90° Elbow	158222 3 x 155987 2 x 154187	Right] Left] Rear]	3860
Standard Pack B + 4 x Extension Pack D + 2 x 90° Elbow	158222 4 x 155987 2 x 154187	Right _ Left _ Rear _	4000

Note: Lengths are sum of all straight lengths between centre lines/outside wall face Numbers of extension D packs give flexibility of lengths of straight at either side of Where extension D packs are cut to length, flared end connector must be retained.

Note: Lengths are from centre line of boiler outlet to outside wall face. Where extension D packs are cut to length, flared end connector must be retained.



HORIZONTAL FLUE WITH 1 x 90° ELBOW

Flue	Part Number	Maximum straight flue length (mm)
Standard Pack B + 90° Elbow	158222 154187	Right Left - 830 Rear
Standard Pack B	158222	Right
+ Extension Pack D	155987	Left - 1780
+ 90° Elbow	154187	Rear
Standard Pack B + 2 x Extension Pack D + 90° Elbow (Maximum for isar HE 35)	158222 2 x 155987 154187	Right Left - 2730 Rear
Standard Pack B	158222	Right
+ 3 x Extension Pack D	3 x 155987	Left - 3680
+ 90° Elbow	154187	Rear
Standard Pack B	158222	Right
+ 4 x Extension Pack B	4 x 155987	Left - 4630
+ 90° Elbow	154187	Rear
Standard Pack B	158222	Right
+ 5 x Extension Pack B	5 x 155987	Left - 5000
+ 90° Elbow	154187	Rear

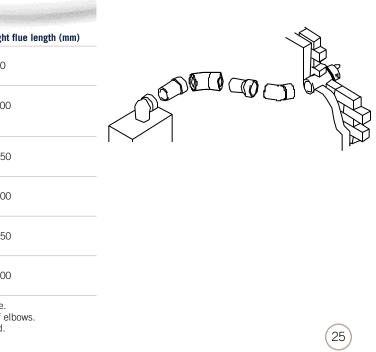
Note: Lengths are sum of all straight lengths between centre lines/outside wall face. Numbers of extension D packs give flexibility of lengths of straight at either side of elbow. Where extension D packs are cut to length, flared end connector must be retained.

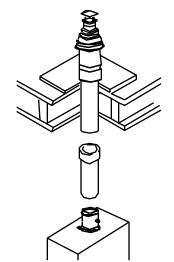
HORIZONTAL FLUE WITH 2 x 45° ELBOW

Flue	Part Number	Maxim	um st	raight
Standard pack B + 2 x 45° Elbow	158222 152256	Right Left Rear		850
Standard pack B + 2 x 45° Elbow + Extension Pack D (Maximum for isar HE 35)	158222 152256 155987	Right Left Rear]	1800
Standard Pack B + 2 x 45° Elbow + 2 x Extension Pack D	158222 152256 2 x 155987	Right Left Rear		2750
Standard Pack B + 2 x 45° Elbow + 3 x Extension Pack D	158222 152256 3 x 155987	Right Left Rear]	3700
Standard Pack B + 2 x 45° Elbow + 4 x Extension Pack D	158222 152256 4 x 155987	Right Left Rear		4650
Standard Pack B + 2 x 45° Elbow + 5 x Extension Pack D	158222 152256 5 x 155987	Right Left Rear]	4800

Note: Lengths are sum of all straight lengths between centre lines/outside wall face. Numbers of extension D packs give flexibility of lengths of straight at either side of elbows. Where extension D packs are cut to length, flared end connector must be retained.

ght flue length (mm)	
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60	Der Obie
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Maximum flue length for all models is 8 metres (except isar HE 35 - 5 metres)

ROOF FLUE SYSTEM

Flue	Part Number	Maximum straight flue length (mm)
Roof Flue Kit + Vertical Connector + Weather Collar	152254 156405 152258/152259*	- 1050
Roof Flue Kit + Vertical Connector + Extension Pack D + Weather Collar	152254 156405 155987 152258/152259*	2000
Roof Flue Kit + Vertical Connector + 7 (maximum) x Extension Pack D + Weather Collar	152254 156405 7 x 155987 152258/152259*	8000

Note *: 152258: universal weather collar (suits any roof pitch). 152259: flat roof weather collar. isar HE 35 maximum is 4 x Extension Pack D + Roof Flue

ROOF FLUE SYSTEM	WITH 2 X 45° ELBOW
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Flue	Part Number	Maximum straight flue length (mm)
Roof Flue Kit	152254	7
+ Vertical Connector	156405	
+ 6 (maximum) x Extension Pack D	6 x 155987	- 6800
+ 2 x 45° Elbow	152256	
+ Weather Collar	152258/152259*	

Note *: 152258: universal weather collar (suits any roof pitch). 152259: flat roof weather collar.

isar HE 35 maximum is 3 x Extension Pack D + Roof Flue

POWERED VERTICAL FLUE SYSTEM

Flue	Part Number	Maximum st	ra
 Powered Vertical Flue Kit + Vertical Connector + Powered Vertical Flue Terminal + Weather Collar + 8 (maximum) x Extension Pack D + 6 (maximum) x Secondary	152255 156405 152378 152258/152259* 8 x 155987	Primary: 80 Secondary:	
Flue Extension Pipe† (pairs)	3 x 152260	-	

Notes*:

Allows the boiler to be sited in a position where no access to an outside wall is available. Permits the concentric flue to run vertically from the top of the boiler and obtain air supply within the roof space, the secondary flue continuing to the external flue terminal.

Maximum primary flue length of up to 8 metres. Up to 8 flue extension kits (pack D) may be required. Maximum secondary flue length up to 6 metres.

Offset applications are permissible though the maximum length is reduced.

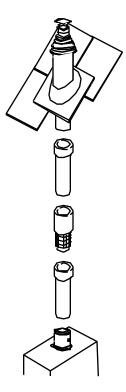
*152258: universal weather collar (suits any roof pitch). 152259: flat roof weather collar.

† Installer to provide pipework for condensate drain on powered vertical flue kit.

Where extension D packs are cut to length, the flared end connector must be retained.

isar HE 35 maximum combined length is 10 metres (Primary 4 metres, Secondary 6 metres).





Twin-pipe 80mm diameter

Our maximum combined flue length is 46 metres. Deduct 5.3 metres for each 90° bend and 3.3 metres for each 45° bend.

Twin–pipe 60mm diameter

Our maximum combined flue length is 20 metres. Deduct 1.25 metres for each 90° bend and 0.8 metres for each 45° bend.

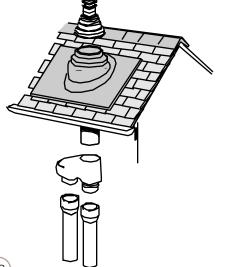
Note: that this system is not suitable for use on the isar HE 35.

HORIZONTAL TWIN FLUING-TO HORIZONTAL TWIN-PIPE FLUE TERMINAL 125 MM DIAMETER

Flue	Part Nı (80 mm)	ımber (60mm)	Maximum straight flue length (mm)	
Twin-Pipe Flue Connector	158398	200092	7	
Flue extension pipe (including support brackets)	152260	200095	Refer to the relevant air and flue length combination graph	
45° Elbow Kit (where required)	152810	200097	(page 22 FIG. 1 or FIG. 2) for maximum straight flue length	
90° Elbow Kit (where required)	158399	200096	and reduce for elbows	
Horizontal Twin-Pipe Flue Terminal 125mm diameter	158518	n/a	accordingly	

HORIZONTAL TWIN FLUING-HORIZONTAL FLUE & AIR TERMINALS IN OPPOSITE DIRECTIONS

Flue	Part Nı (80 mm)	umber (60mm)	Maximum straight flue length (mm)
Twin-Pipe Flue Connector	158398	200092	Т
Flue extension pipe (including support brackets)	152260	200095	Refer to the relevant air and flue length combination graph
45° Elbow Kit (where required)	152810	200097	(page 22 FIG. 1 or FIG. 2) for maximum straight flue length
90° Elbow Kit (where required)	158399	200096	and reduce for elbows
Horizontal Flue Terminal	158400	200093	accordingly
Horizontal Air Terminal	158401	200094	



VERTICAL FLUE ARRANGEMENT-TO VERTICAL TWIN-PIPE FLUE TERMINAL

Flue	Part Number (80mm)	Maximum straight flue length (mm)
Twin-Pipe Flue Connector	158398	7
Flue extension pipe (including support brackets) 45° Elbow Kit (where required) 90° Elbow Kit (where required)	152260 152810 158399	Refer to the relevant air and flue length combination graph (page 22 FIG. 1 or FIG. 2) for maximum straight flue length
Vertical Twin-Pipe Flue Terminal 125mm diagram Weather Collar-125mm diameter	158519 158520/158521	and reduce for elbows accordingly

VERTICAL/HORIZONTAL FLUE ARRANGEMENT-HORIZONTAL AIR TERMINAL & VERTICAL FLUE TERMINAL

Flue	Part Number (80mm)	Maximum stra
Twin-Pipe Flue Connector	158398	7
Flue extension pipe (including support brackets)	152260	Refer to
45° Elbow Kit (where required)	152810	graph (
90° Elbow Kit (where required)	158399	FIG. 2)
Vertical Flue Terminal 100mm diameter	152378	flue len elbows
Weather Collar-100mm diameter	152258/152259	CIDOWS
Horizontal Air Terminal	158401	

VERTICAL FLUE ARRANGEMENT-LOFT TERMINAL & VERTICAL FLUE TERMINAL

Flue	Part Number (80mm)	Maximum stra
Twin-Pipe Connector	158398	٦
Flue extension pipe (including support brackets)	152260	Refer to flue len
45° Elbow Kit (where required)	152810	graph (FIG. 2)
90° Elbow Kit (where required)	158399	straight
Vertical Flue Terminal 100mm diameter	152378	reduce
Weather Collar 100mm diameter	152258/152259	accordi
Loft Terminal Air Grille	158403	_

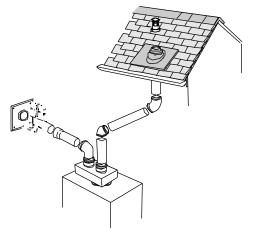
VERTICAL FLUE ARRANGEMENT-LOFT TERMINAL & RIDGE TILE FLUE TERMINAL

Flue	Part Number (80mm)	Maximum stra
Twin-Pipe Flue Connector	158398	1
Flue extension pipe (including support brackets)	152260	Refer to flue len
45° Elbow Kit (where required)	152810	graph (
90° Elbow Kit (where required)	158399	- FIG. 2) straight
Ridge Tile Flue Terminal	158415	reduce
Weather Collar 100mm diameter	152258/152259	accordi
Loft Terminal Air Grille	158403	



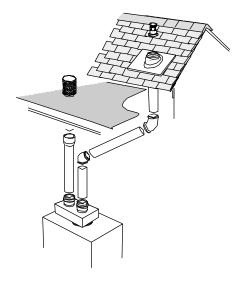
aight flue length (mm)

to the relevant air and ngth combination (page 22 FIG. 1 or for maximum straight ngth and reduce for accordingly



aight flue length (mm)

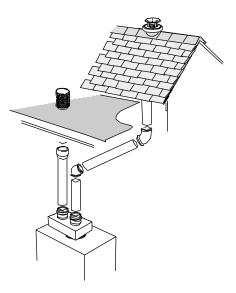
to the relevant air and ngth combination (page 22 FIG. 1 or for maximum flue length and for elbows ingly





aight flue length (mm)

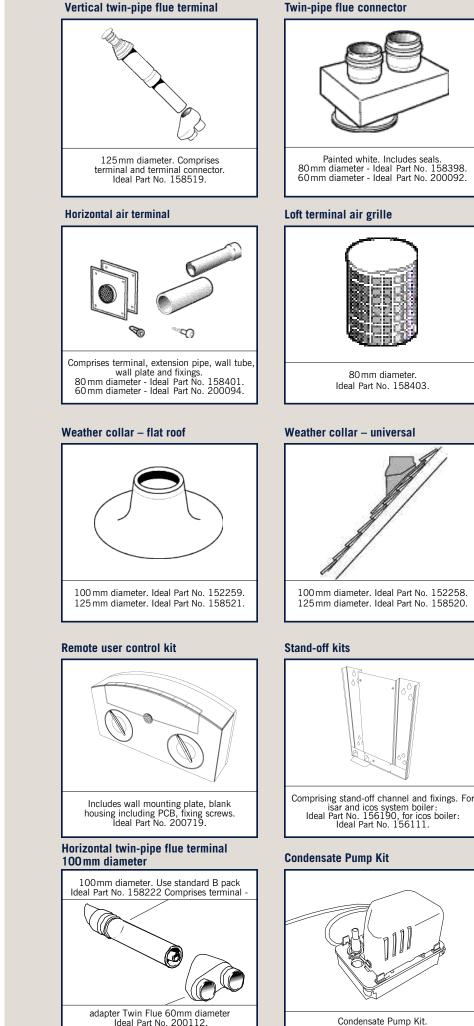
to the relevant air and ngth combination (page 22 FIG. 1 or for maximum it flue length and for elbows lingly



extras and accessories

There are many extras and accessories available for use with all the Ideal appliances. All are competitively priced and readily available.

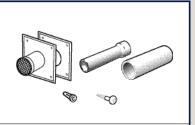




(used on 60 mm dia. twin-pipe system only)

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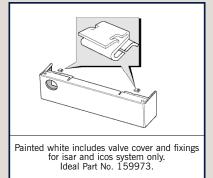
Comprises terminal, extension pipe, wall tube, wall plate and fixings. 80 mm diameter - Ideal Part No. 158400. 60 mm diameter - Ideal Part No. 200093.

Ridge tile flue terminal

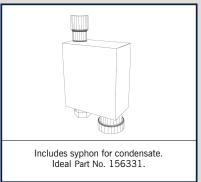


For twin-pipe and powered vertical. Ideal Part No. 158415.

Valve cover kit



S-Pack syphon kit



Condensate Pump Kit. Ideal Part No. 159991.

support

Training

An absolute commitment to customer training places Ideal above its competitors. Acknowledged as industry experts in standard and high-efficiency products, Ideal's training staff offer both theoretical and 'hands-on' instruction in product and system applications to installers and merchants through training schools, colleges and mobile units.

After-sales

Ideal operates its own call centre and national network of engineers. Staff in the call centre are comprehensively trained to ensure that they provide technical solutions to the design, installation, service and maintenance of all Ideal products. Dedicated Technical Helplines, one for installers (01482 498663) and one for householders (01482 498660) ensure that the caller is greeted by a member of staff

specifically trained to meet their needs.

The Customer Service Helplines operate at the following times:

Monday - Friday 8 am - 5 pm Saturday 8 am - 2 pm Sunday 8 am - 12 pm

Service engineers

Ideal engineers only work on Ideal products. This together with ongoing training, a fully equipped van and the latest technological aids, underpin Ideal's first time fix capability.

Spares

Guaranteed spare parts for all appliances are generally available for a minimum of 10 years after cessation of production. Parts can be easily sourced from Ideal's nationwide network of approved stockists.

For information about Ideal spare parts and for a list of stockists please call our Parts Department on 01482 498665. Alternatively you can learn about Ideal products and its Parts listings through the website or the Ideal Parts CD available through the Parts Department.

technical helpline 01482 498663

or alternatively fax us on 01482 498666

parts orderline 01482 498665

literature hotline 0870 8498056

householder helpline 01482 498660

training 01482 498432

or alternatively fax us on 01482 498605

sales orders and enquiries 0870 8498056 or alternatively fax us on 0870 8498058

www.idealboilers.com enquiries@idealboilers.com

notes

Ideal Boilers is a member of the Benchmark Initiative and fully supports the aims of the programme. Benchmark has been introduced to improve standards of installation and commissioning of central heating systems in the UK and to encourage the regular servicing of all central heating systems to ensure safety and efficiency.

BS EN ISO 9001:2000

ldeal Boilers, PO Box 103, National Avenue, Kingston upon Hull HU5 4JN.

Tel: 01482 492251 Fax: 01482 448858 www.idealboilers.com email: enquiries@idealboilers.com



The code of practice for the installation, commissioning & servicing of central heating systems



These products have an energy rating of A on a scale of A-G. for more information see www.sedbuk.com



HE/10k/1203