

NOW
WITH A
7 YEAR
WARRANTY!†



TWIN FLUE TECHNOLOGY DESIGNED TO GO THE DISTANCE

EVERYTHING IS POSSIBLE WITH A KESTON
Product guide



Built in Britain



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† 7 year warranty when installed with a Keston filter and registered within 30 days of installation. 5 year parts & labour warranty as standard. 7 year warranty available until 31/12/18. Terms and conditions apply. Applies to Keston Combi and System boilers only.

TWIN FLUE TECHNOLOGY DESIGNED TO WORK WITHOUT COMPROMISE

THE BENEFITS OF UNIQUE
KESTON FLUE SYSTEMS
MAKE EVERY INSTALLATION
EASIER.

LOW-COST SOLUTIONS

When you choose to work with Keston you can be confident to know that you're partnering with a British manufacturer that's supported by a dedicated national service team, delivering help and advice to you and your customers, 364 days a year.

Our rigorous research & development procedures and manufacturing quality control checks ensures that all of our products are produced to the highest of standards, delivering total comfort and peace of mind.

The Keston Twin Flue system makes every job easier. To give you maximum flue flexibility, you can run the flue vertically or horizontally from an elevation of 1.5°, the flue can be extended up to 27 metres from the boiler allowing for easy and hassle-free installation. The boiler can therefore be sited in the most convenient and practical locations.

THE ULTIMATE SIMPLE FLUE SYSTEM

- Flexible flue positioning avoids plumbing
- Widely available from plumbing and builders merchants
- Flue can be painted when installed internally and externally
- 50mm MuPVC* weld allowing simple cost effective installation



*The only systems approved for this application are: Marley muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe System 2000 muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe Terrain Solvent Weld System (50mm) and Wavin Osma PVC-C Solvent Weld System (50mm). Please use the recommended Solvent Weld Cement for each system. Please see page 6 for more details.



A KESTON FOR ALL OCCASIONS



THE KESTON RANGE INCLUDES BOTH DOMESTIC AND LIGHT COMMERCIAL MODELS EACH OF WHICH COME COMPLETE WITH TWIN FLUE CAPABILITY.

Keston boilers are offered with a warranty of up to 7 years as standard, ensuring the ultimate peace of mind for both you and your customer. The Keston range is made up of combi, heat only and system boilers, offering a solution for all applications.

Every model in the range offers a market leading solution for awkward and problematic installations, thanks to the twin flue capability.

You can also be rest assured that when choosing Keston you will be supported by a national customer service team, offering support 7 days a week.

Keston Combi and System boilers are available with a 7 year warranty when a Keston filter is also installed*

01.

WHERE I DON'T WANT THE BOILER IN SIGHT

Keston's range of combi and system boilers are not only built in the UK, have a 7 year warranty* and are supported by an expert customer service team – they also come complete with a twin flue outlet with capabilities of up to 27** metres which means Keston boilers can be sited almost anywhere in the home.

** For the maximum total equivalent flue lengths please refer to the installation instructions



02.

WHERE THERE IS A LONG DISTANCE FROM BOILER TO OUTLET

The Heat range of Keston products are a reliable and efficient wall hung solution supported by a 5 year parts and labour warranty†. The quality of the products has been developed through meticulous design, careful component selection and proving; to provide straightforward commissioning and servicing together with a compact one height and width for easier siting. As with all Keston products, the Heat range offers twin flue capability, providing you with the ideal product in situations where the boiler is a long distance from the flue outlet.



SO WITH KESTON, YOUR BOILER CAN BE SITUATED ANY ROOM, ANY PLACE, ANYWHERE – NO COMPROMISE.

MANUFACTURED TO THE HIGHEST UK STANDARDS, ANYTHING IS POSSIBLE WITH A KESTON.



Built in Britain
All Keston boilers are built in and designed for the British market



Weather Compensator
All models in the Keston range come complete with weather compensation as standard



Twin Flue Design
Providing the perfect solution for problematic and awkward installations



7 Year Warranty
Providing ultimate reliability, Combi and System boilers are offered with a 7 year warranty when fitted with a Keston filter

† 5 year warranty subject to Terms and Conditions. 5 years parts and labour warranty available subject to being commissioned by Keston Boilers.
* 7 year warranty when installed with a Keston filter and registered within 30 days of installation. 5 year parts & labour warranty as standard. 7 year warranty available until 31/12/18. Terms and conditions apply.

APPROVED FLUE PIPE SYSTEMS

When installing a replacement boiler a new flue system is recommended. However re-using the existing boiler flue installation is acceptable if the installer checks and confirms:

- The flue pipe is the approved Marley/Polypipe/Terrain/Wavin 50mm muPVC solvent weld flue system
- The flue installation is upgraded to the most recent flue standards taking particular care to comply with flues in voids
- A risk assessment is conducted to confirm the effectiveness of the flue
- The existing flue will last the lifetime of the new appliance

DESIGN

Individual air supply and flue outlet pipes are used as standard.

The material approved for this application which MUST be used are:

- Marley muPVC Solvent Weld System (50mm)
- Polypipe System 2000 muPVC solvent weld (50mm)
- Polypipe Terrain 200 muPVC Solvent Weld System (50mm)
- Wavin OSMA PVC-C Solvent Weld System (50mm)

to BS5255 and/or BSEN1566-11 and BSEN1329, are the only systems approved for this application.

The following pipe and fittings are approved:

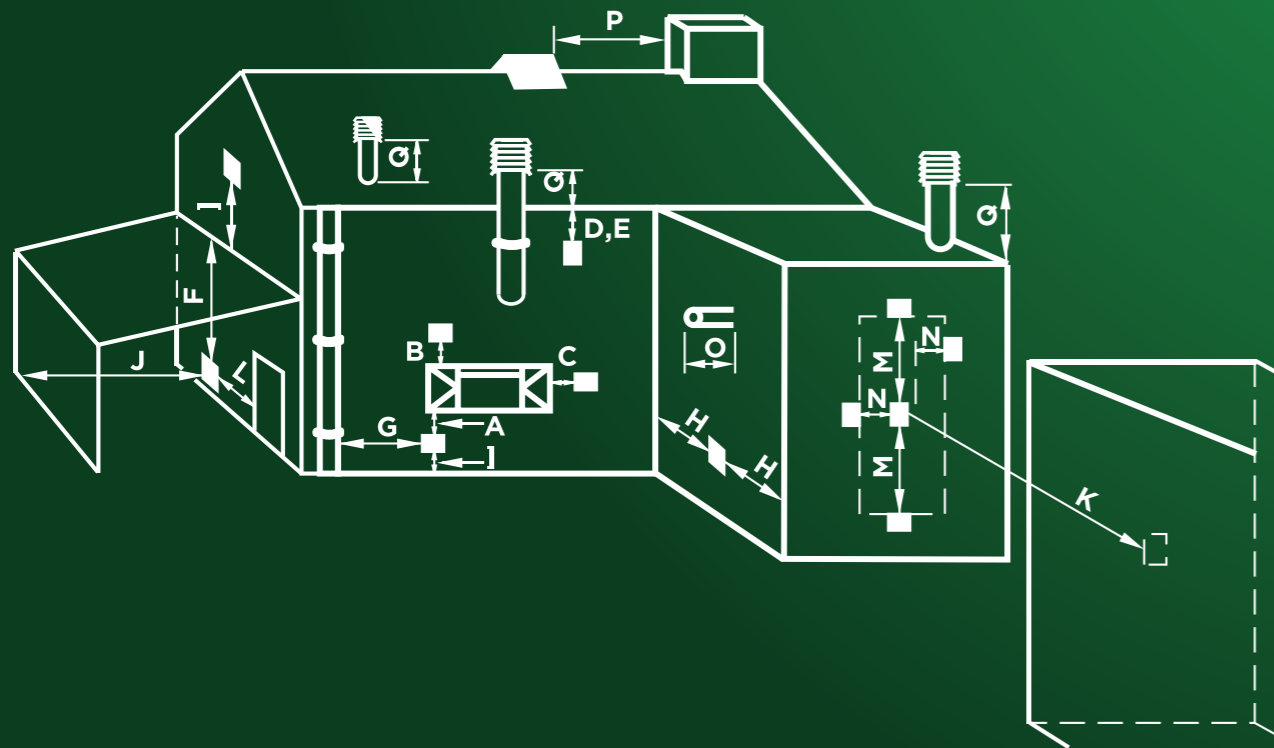
Polypipe System 2000 muPVC Solvent Weld System (50mm)	
Polypipe Code	
MU 301	4m length muPVC wastepipe 5/225
MU 313	50mm x 45 deg muPVC obtuse bend
MU 314	50mm x 92.5 deg muPVC swept bend
MU 310	50mm muPVC straight coupling
MU 316	50mm x 92.5 deg muPVC swept tee

Polypipe Terrain Solvent Weld System (50mm)	
Polypipe Code	
200.2.40	4m length muPVC wastepipe
201.2.135	50mm x 135 deg muPVC bend
200.2.91	50mm x 91 1/4 deg muPVC swept bend
210.2	50mm muPVC straight coupling
204.2.135	50mm muPVC swept tee

Marley muPVC Solvent Weld System (50mm)	
Marley Code	
KP 304	50mm x 4m double spigot pipe
KP32	50mm x 45 deg bend
KSC3	50mm straight coupling
KB3	50mm x 88.5 deg bend
KT3	50mm swept tee

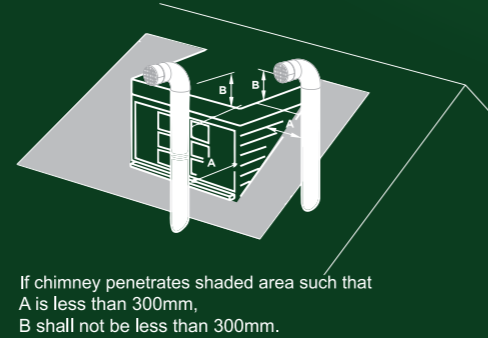
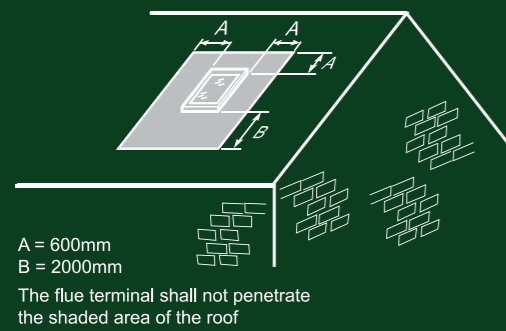
Wavin OSMA PVC-C Solvent Weld System (50mm)	
Wavin Code	
2M073	3M length waste pipe 50mm
2M163	50mm x 45 deg bend
2M161	50mm x 87.5 deg bend
2M104	50mm double socket
2M190	50mm x 8.75 tee

FLUE POSITIONING



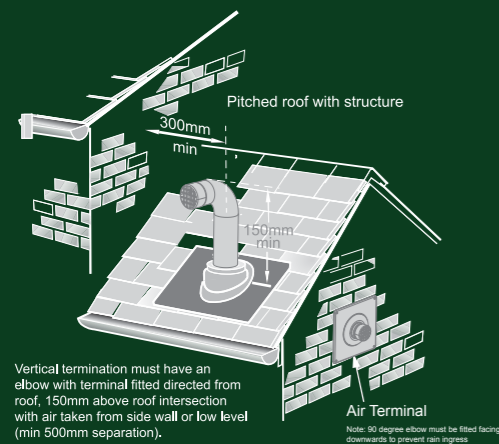
KESTON FLUE TERMINAL POSITIONS - C13 CLASSIFICATION

Twin Flue Positions when Flue & Air Terminal are less than 500mm apart		Flue minimum spacing	Air minimum spacing
A	Below an opening (1)	300mm	50mm
B	Above an opening (1)	300mm	50mm
C	Horizontally to an opening	300mm	50mm
D	Below gutters,soil pipes or drain pipes	75mm	75mm
E	Below eaves	200mm	50mm
F	Below balcony or car port roof	200mm	50mm
G	From a vertical drain pipe or soil pipe	150mm	50mm
H	From an internal or external corner or to a boundary alongside the terminal (2)	200mm	50mm
I	Above ground,roof or balcony level	300mm	100mm
J	From a surface or boundary facing the terminal	600mm	100mm
K	From a terminal facing a terminal	1200mm	1200mm
L	From an opening in the car port into the building	1200mm	100mm
M	Vertically from a terminal on the same wall	1500mm	1500mm
N	Horizontally from a terminal on the same wall	300mm	300mm
O	From the wall on which the terminal is mounted	40mm	40mm
P	From a vertical structure on the roof	N/A	N/A
Q	Above intersection with roof	N/A	N/A
(1)	In addition, for temperature and structural reasons, the terminal should not be nearer than 150 mm (fanned draught) to an opening in the building fabric formed for the purpose of accommodating a built-in element such as a window frame		
(2)	The reference to external corners does not apply to building protrusions not exceeding 450 mm, such as disused chimneys on external walls for: fanned draught appliances		

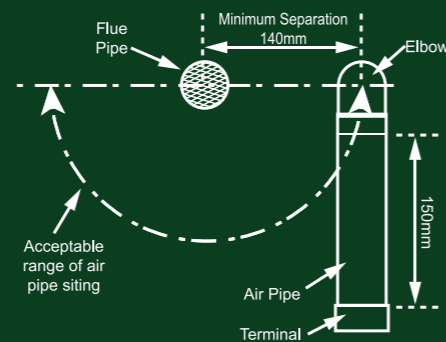


KESTON FLUE TERMINAL POSITIONS - C53 CLASSIFICATION

Twin Flue Positions when Flue & Air Terminal are more than 500mm apart		Flue minimum spacing	Air minimum spacing
A	Below an opening (1)	300mm	50mm
B	Above an opening (1)	300mm	50mm
C	Horizontally to an opening	300mm	50mm
D	Below gutters,soil pipes or drain pipes	75mm	75mm
E	Below eaves	200mm	50mm
F	Below balcony or car port roof	200mm	50mm
G	From a vertical drain pipe or soil pipe	150mm	50mm
H	From an internal or external corner or to a boundary alongside the terminal (2)	200mm	50mm
I	Above ground,roof or balcony level	300mm	100mm
J	From a surface or boundary facing the terminal	600mm	100mm
K	From a terminal facing a terminal	1200mm	1200mm
L	From an opening in the car port into the building	1200mm	100mm
M	Vertically from a terminal on the same wall	1500mm	1500mm
N	Horizontally from a terminal on the same wall	300mm	300mm
O	From the wall on which the terminal is mounted	40mm	40mm
P	From a vertical structure on the roof	300mm	N/A
Q	Above intersection with roof	150mm	N/A
(1)	In addition, for temperature and structural reasons, the terminal should not be nearer than 150 mm (fanned draught) to an opening in the building fabric formed for the purpose of accommodating a built-in element such as a window frame		
(2)	The reference to external corners does not apply to building protrusions not exceeding 450 mm, such as disused chimneys on external walls for: fanned draught appliances		



TERMINAL POSITIONS - C13



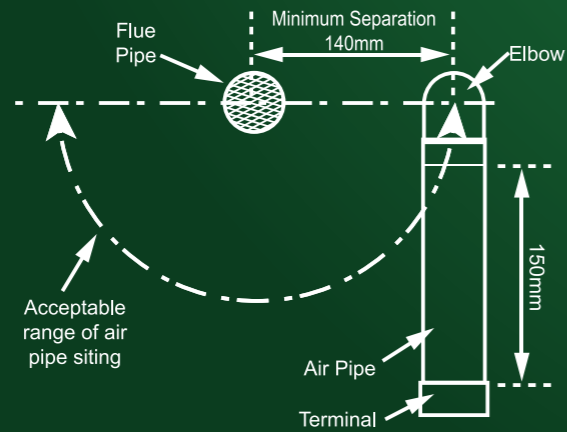
TERMINATION OF THE FLUE AND AIR

The flue and air pipes may terminate independently through any external walls within the same dwelling except on opposing walls, within the maximum lengths shown in the graphs on pages 9, 15, 21 and 27 (alternatively a vertical flue pipe termination is acceptable). The air pipe must have an elbow and 150mm length of pipe directed downwards with a termination grill fitted. C13 only, C53 must have a minimum of a 90 degree elbow and terminal fitted facing downwards to prevent rain ingress.

The air pipe can be situated at the side or beneath the flue pipe to a minimum dimension of 140mm (see diagram below). It must not be sited above the flue pipe. The flue and air pipes must extend by at least 40mm from the wall surface. Condensing boilers emit a visible plume of water vapour from the flue terminal, this is normal. It is the responsibility of the installer to judiciously select a terminal location that does not cause a nuisance. If either the flue or air terminal is below a height of 2m from ground level a terminal guard must be fitted.

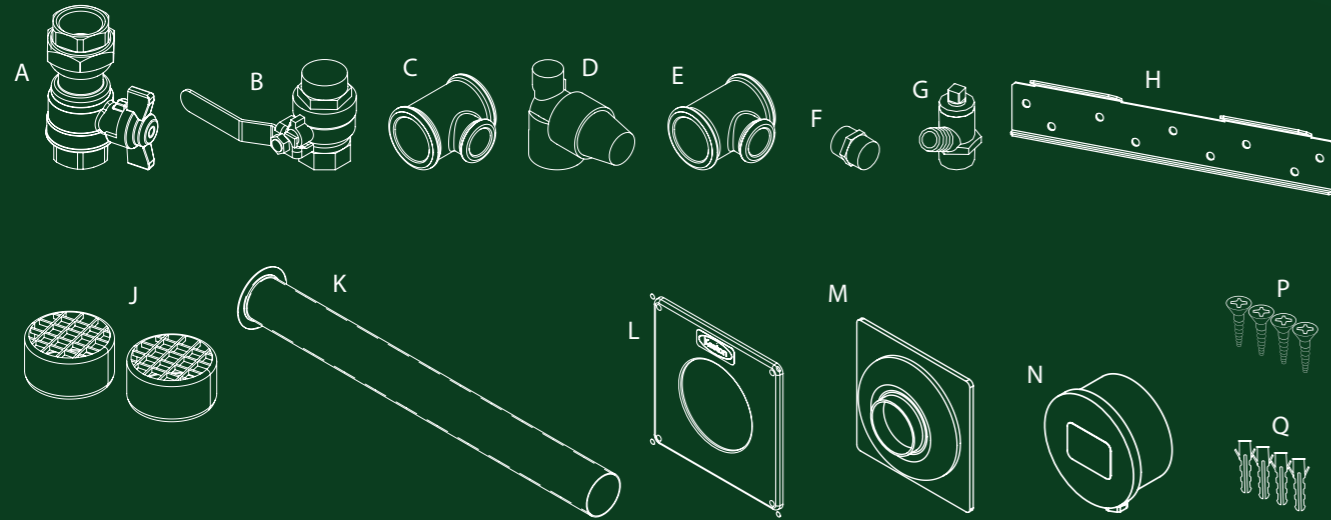
Note. Any vertical termination MUST comply with C53 installation with the air being taken from greater than 500mm away and from a flat wall termination as diagram in "Flue Positioning".

TERMINAL POSITIONS



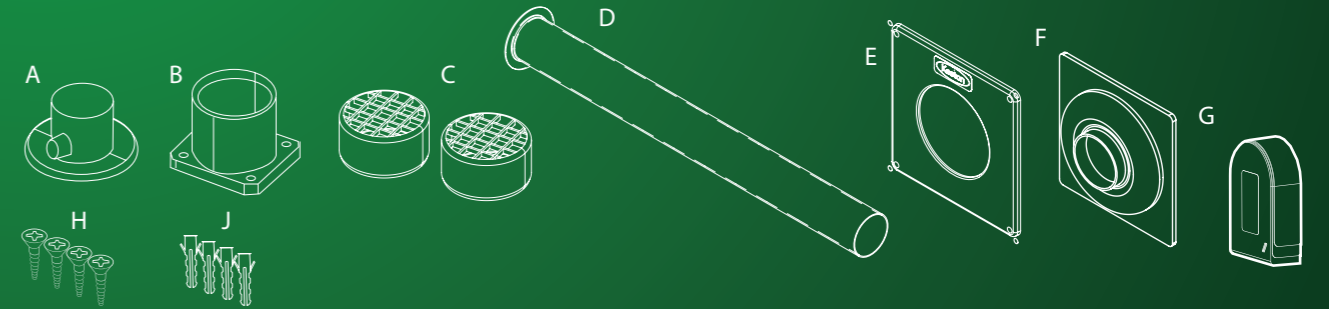
* The dimensions given in the table above may need to be increased to avoid wall staining and nuisance depending on site condition

SUPPLIED WITH KESTON HEAT



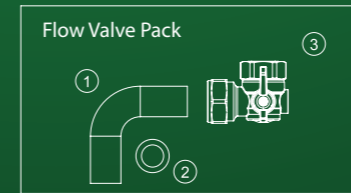
- A. Gas cock
- B. Ball Valve - 2 off
- C. M1 Tee 3/4
- D. Pressure Relief Valve
- E. M1 Tee 1/2
- F. Drain Nipple 3/4
- G. Drain Nipple 1/2
- H. Wall Mounting Plate
- J. Terminals - 2 off
- K. Flue Sleeve
- L. Wall Plate & Screws
- M. Wall Seal
- N. Weather Compensation
- P. Screws - 4 off
- Q. Wall Plugs - 4 off

SUPPLIED WITH KESTON SYSTEM/COMBI

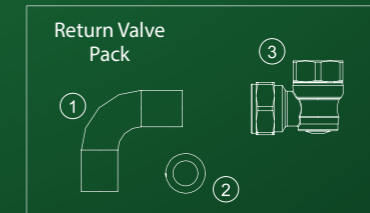


- A. Flue Adapter
- B. Air Spigot
- C. Terminals - 2 off
- D. Flue Sleeve
- E. Wall Plate
- F. Wall Seal
- G. Outside sensor
- H. Screws - 4 off
- J. Wall Plugs - 4 off

KESTON SYSTEM CONNECTION PACK



- Flow Valve Pack
1. Pipe CH Flow
 2. Washer CH
 3. Valve Flow

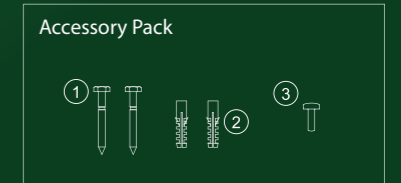


- Return Valve Pack
1. Pipe CH Return
 2. Washer CH
 3. Valve Return

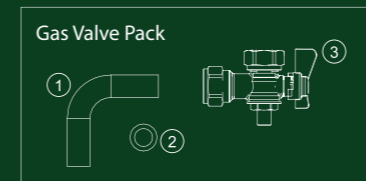


- Gas Valve Pack
1. Pipe - Gas Inlet
 2. Washer - Gas (blue)
 3. Gas Cock

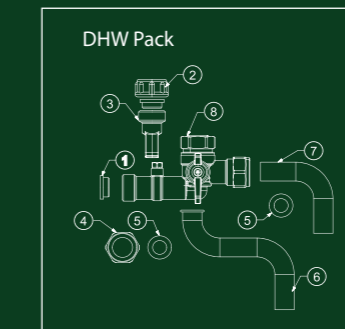
- Accessory Pack
1. Screw (x2)
 2. Wallplug (x2)
 3. Turret Clamp Screw (spare) (x1)



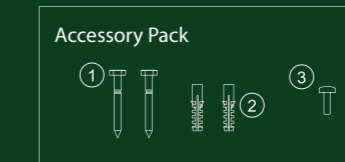
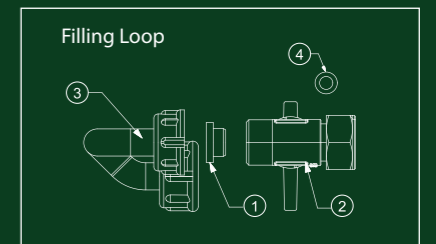
KESTON COMBI CONNECTION PACK



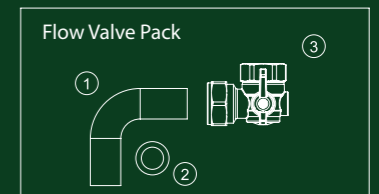
- Gas Valve Pack
1. Pipe - Gas Inlet
 2. Washer - Gas (blue)
 3. Gas Cock



- DHW Pack
1. 3/8" Fibre washer
 2. Valve Filling Loop
 3. Pipe Filling Loop
 4. Washer



- Accessory Pack
1. Screw (x2)
 2. Wallplug (x2)
 3. Turret Clamp Screw



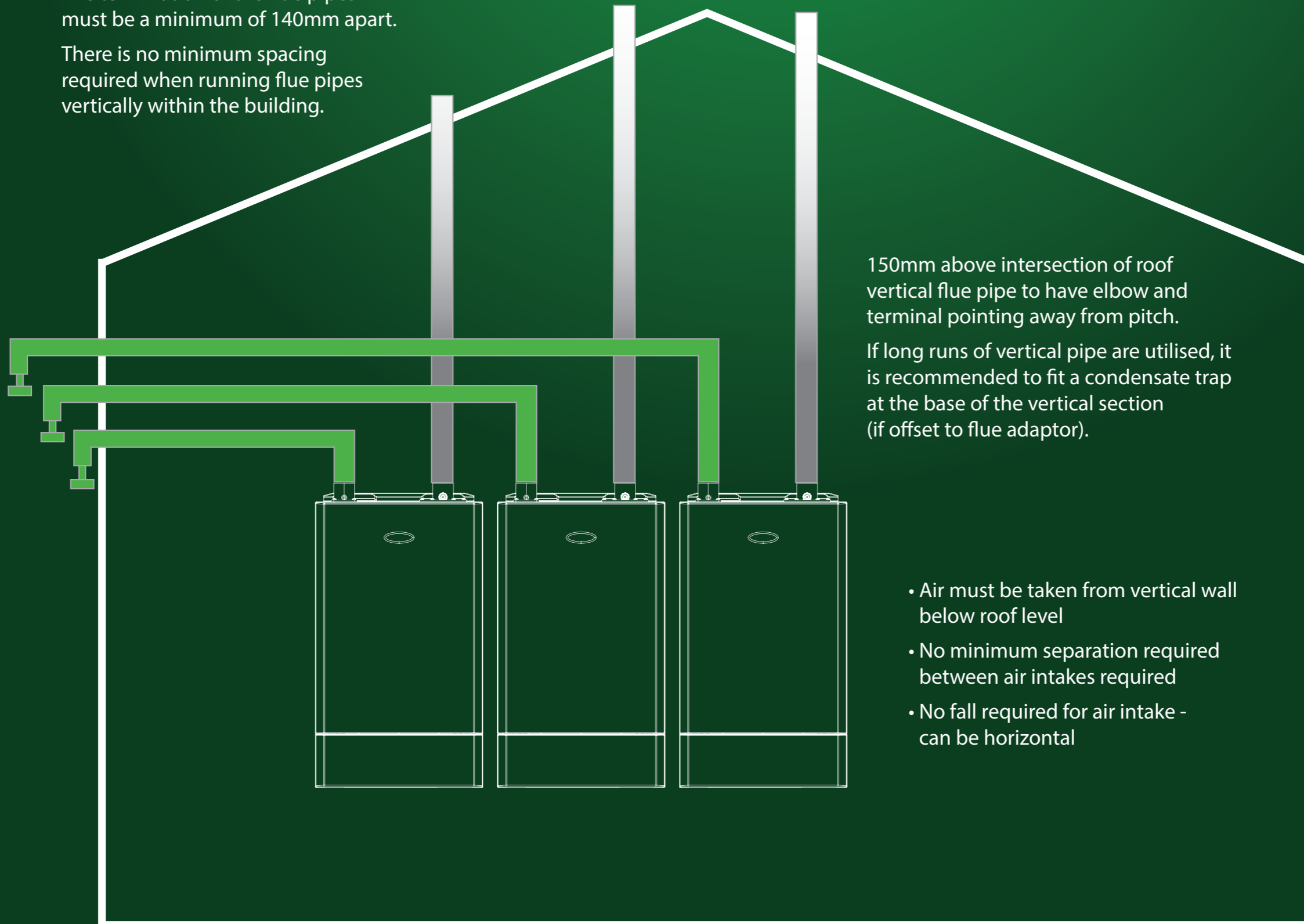
- Flow Valve Pack
1. Pipe CH Flow
 2. Washer CH
 3. Valve Flow

CASCADE INSTALLATION

The termination of the flue pipes must be a minimum of 140mm apart.

There is no minimum spacing required when running flue pipes vertically within the building.

Air inlet must have elbow and pipe with terminal



150mm above intersection of roof vertical flue pipe to have elbow and terminal pointing away from pitch.

If long runs of vertical pipe are utilised, it is recommended to fit a condensate trap at the base of the vertical section (if offset to flue adaptor).

- Air must be taken from vertical wall below roof level
- No minimum separation required between air intakes required
- No fall required for air intake - can be horizontal

SYSTEM S30 30kW OUTPUT SYSTEM BOILER



HIGH SEDBUK EFFICIENCY RATING AND EASY TO INSTALL.

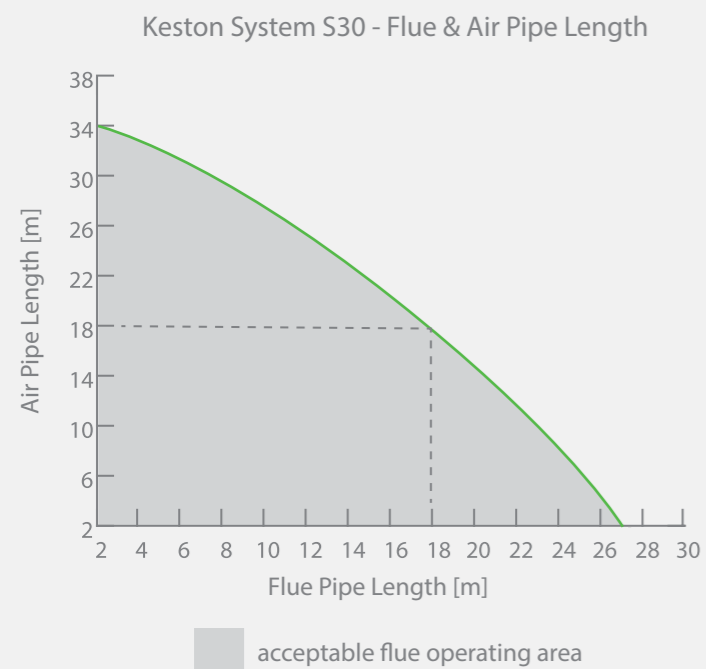
The Keston System range of boilers provides a simple and reliable solution for a wide variety of sealed domestic systems.

Available in 30kW, the Keston System provides a dependable and efficient solution for new and replacement installations. Time saving push & clip flue spigot connections and a wide range of alternative flueing solutions help to ensure the product is installed quickly in virtually any domestic situation.

With a lightweight design, concealed connections at the base and no compartment ventilation required, the Keston System can be conveniently fitted out of sight into a standard kitchen cupboard***.

Complete with a 7 year parts and labour warranty†, the Keston System boiler provides simple heating control, all from a single compact appliance.

***Please check cupboard size prior to installation



Graph indicates maximum flue run 27m with 2m air.
Also, 18m flue with 18m air pipe for parallel twin flue run.

“THE SYSTEM S30 HAS THE CAPABILITY FOR A TWIN FLUE UP TO 27* METRES, PROVIDING A SOLUTION FOR PROBLEMATIC INSTALLATION SITUATIONS”



THE FACTS

- 7 year warranty†
- Easy to see pressure gauge
- Large backlit display with user friendly controls
- Low lift weight
- Low component count maximising reliability
- Compact dimensions
- Twin flue up to 27m*
- 50mm muPVC solvent weld flue allowing simple, cost effective installations**
- Weather compensation supplied as standard
- Inbuilt frost protection
- Fully modulating
- LPG conversion kit available



Built in Britain
All Keston boilers are built in and designed for the British market



Weather Compensator
All models in the Keston range come complete with weather compensation as standard



Twin Flue Design
Providing the perfect solution for problematic and awkward installations



7 Year Warranty
Providing ultimate reliability, Combi and System boilers are offered with a 7 year warranty when fitted with a Keston filter

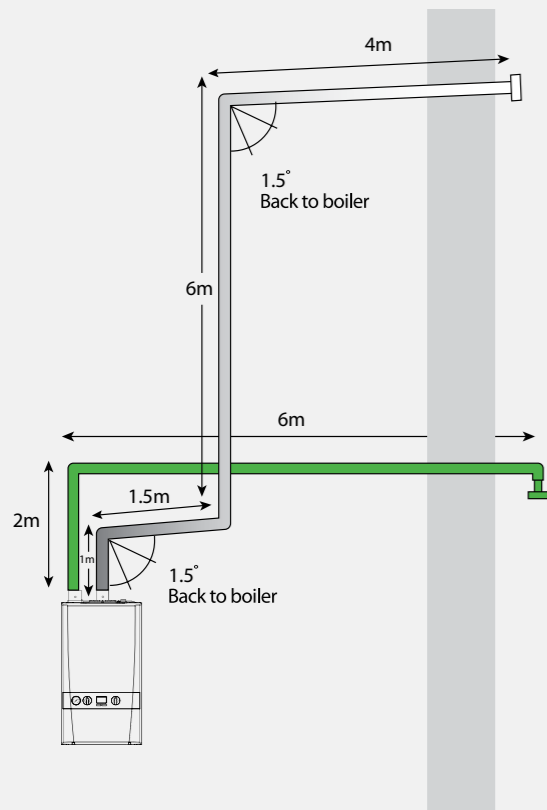
* For the maximum total equivalent flue length please refer to the installation instructions

** The only systems approved for this application are: Marley muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe System 2000 muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe Terrain Solvent Weld System (50mm) and Wavin Osma PVC-C Solvent Weld System (50mm). Please use the recommended Solvent Weld Cement for each system. Please see page 6 for more details.

† 7 year warranty when installed with a Keston filter and registered within 30 days of installation. 5 year parts & labour warranty as standard. 7 year warranty available until 31/12/18. Terms and conditions apply.

FLUE INSTALLATION

EXAMPLE KESTON SYSTEM S30

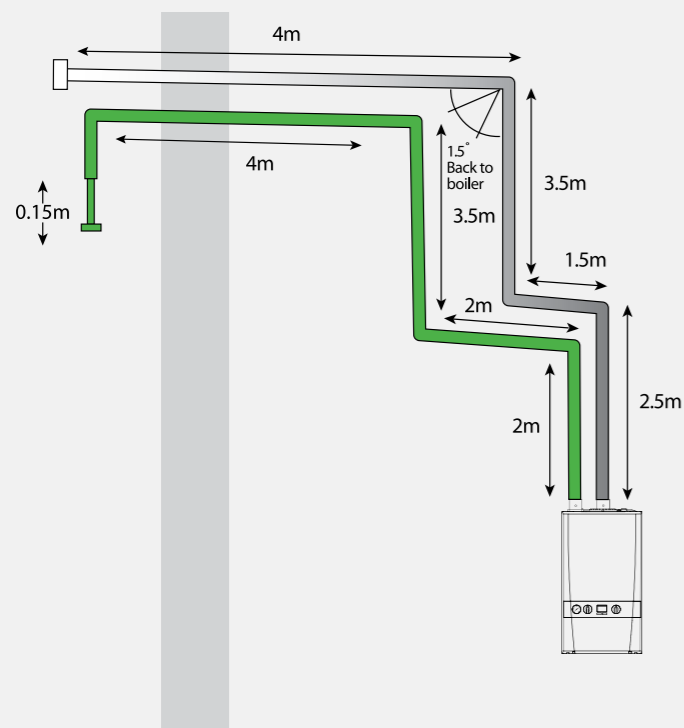


C53 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 4+6+1.5+1 = 12.5m
 Total = 15.5m

Air
 Elbows 2 x 1m = 2m
 Straights 6+2+0.1+1 = 8.1m
 Total = 10.1m



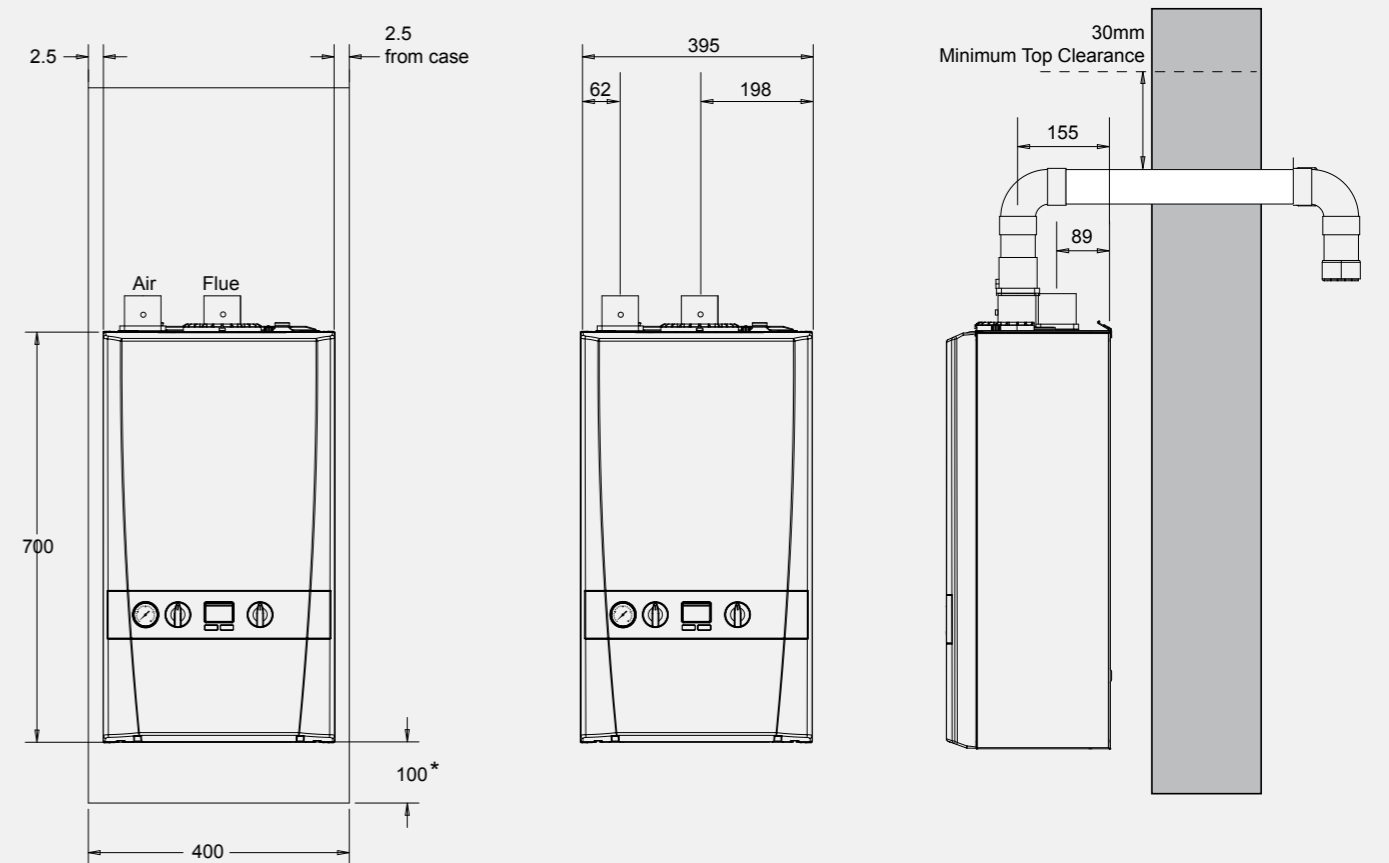
C13 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 4+3.5+1.5+2.5 = 11.5m
 Total = 14.5m

Air
 Elbows 4 x 1m = 4m
 Straights 2+2+3.5+4+0.15 = 11.65m
 Total = 15.65m

DIMENSIONS



*or equivalent length

Keston System S30

Height	700mm
Width	395mm
Depth	278mm

The following minimum clearances must be maintained for operation and servicing.

Front of boiler - 450mm[†]
 Sides of boiler - 2.5mm
 Above boiler - 350mm, with 30mm above the flue
 Below boiler - 100mm[†]

[†]Can be reduced to 5mm for cupboard fit, 450mm required for servicing

SPECIFICATION DATA

Boiler Model		Keston System S30
Size	Height (mm)	700
	Width (mm)	395
	Depth (mm)	278
	Weight (packed) kg	31.6
	Maximum Installation Weight kg	26.2
Performance	CH output (kW) Min/Max @ 70°C	6.1 - 30.3
	CH output (kW) Min/Max @ 40°C	6.4 - 31.0
	DHW output (kW) Max	N/A
	DHW flow rate l/min. 35°C rise	N/A
	SEDBUK (2005) %	91.1
	SEDBUK (2009) %	89.6
	NO _x Classification	CLASS 5
	Adjustable to LPG	Yes, with LPG Conversion Kit
Construction	Heat exchanger material	Cast aluminium - silicon alloy
	Burner type	Downward firing pre-mix
	Fully modulating	Yes
	DHW plate heat exchanger	N/A
	Integrated hydroblock	N/A
Installation	Suitable for sealed systems	Yes
	Suitable for open-vent systems	No
	Filling loop	No
	Pre-wired mains lead	No
	Flow regulator	No
	In-built system bypass	N/A
	In-built condensate trap/siphon	Yes
	In-built boiler frost protection	Yes
	Zero compartment ventilation	Yes
Clearances	Top (mm) (from top of flue)	30
	Side (mm)	2.5
	Bottom (mm)	100*
	Front (mm)	450*
User Interface	User display	Symbols
	User interface	2 dials, 2 buttons
	Diagnostics	Fault diagnostic display
	User adjustable	Manual heating control
	'Eco' setting on CH	Yes
	In-built Programmer	No
Pipes	Pre-piping kit	No
	Stand-off kit	Yes
	Stand-off kit inc. pipes	No
Flues	Max horizontal	27m Flue / 2m air
	Max horizontal (parallel)	18m Flue / 18m air
Connections **	Gas Supply Connection (mm)	15
	CH Flow Connection (mm)	22
	CH Return Connection (mm)	22
	Inlet Connection - DHW	N/A
	Outlet Connection - DHW	N/A
	Condensate Drain (mm)	21.5

* Can be reduced to 5mm for cupboard fit, 450mm required for servicing.
 ** For outputs exceeding 18 kW (60,000 Btu/h), 28mm primary pipework will be required.

PERFORMANCE DATA

	Boiler input "Q"	Nett CV Gross CV	kW kW	CENTRAL HEATING		HOT WATER	
				Min	Max		
Boiler input "Q"				6.1	30.4	N/A	
				6.7	33.7		
Gas Consumption			m ³ /h	0.622	3.135	N/A	
BOILER OUTPUT							
Non condensing (70°C mean water temperature)				kW	6.1	30.3	N/A
Condensing (40°C mean water temperature)				kW	6.4	31.0	N/A
Seasonal efficiency (SEDBUK 2005/2009)		91.1% /89.6%					
SEDBUK (2005 & 2009)		Band A					
NO _x classification		Class 5					

PRODUCT FICHE

	SYMBOL	UNITS	MODEL
			30
Condensing boiler			Yes
Seasonal Space heating efficiency class			A
Rated heat output		kW	30
Seasonal space heating energy efficiency	η _s	%	93*
Annual energy consumption	Q _{HE}	GJ	93.0
Sound power level, indoors	L _{WA}	dB	48

INSTALLATION DATA

		Keston System S30
Gas supply		2H-G20-20mbar
Gas supply connection	mm	15 copper compression
Injector size	mm	4.65
Flow connection central heating	mm	22 copper compression
Return connection central heating	mm	22 copper compression
Keston 50mm flue terminal diameter	mm	50
Average flue temperature – mass flow rate DHW		69°C - 13g/s
Maximum working pressure – sealed systems	bar	2.5
Electrical supply	v	230 v ~ 50 Hz.
Power consumption	W	152
Fuse rating		External : 3A Internal : T4H HRC L250 V
Water content (central heating)	Litre	1.2
Packaged weight	kg	34.1
Installation weight	kg	27.7
Casing height	mm	700
Casing width	mm	395
Casing depth	mm	278

COMBI C30

30kW OUTPUT

COMBINATION BOILER



SEVEN YEAR WARRANTY†

COMPLETE HASSLE-FREE HOME COMFORT FROM A SINGLE COMPACT APPLIANCE.

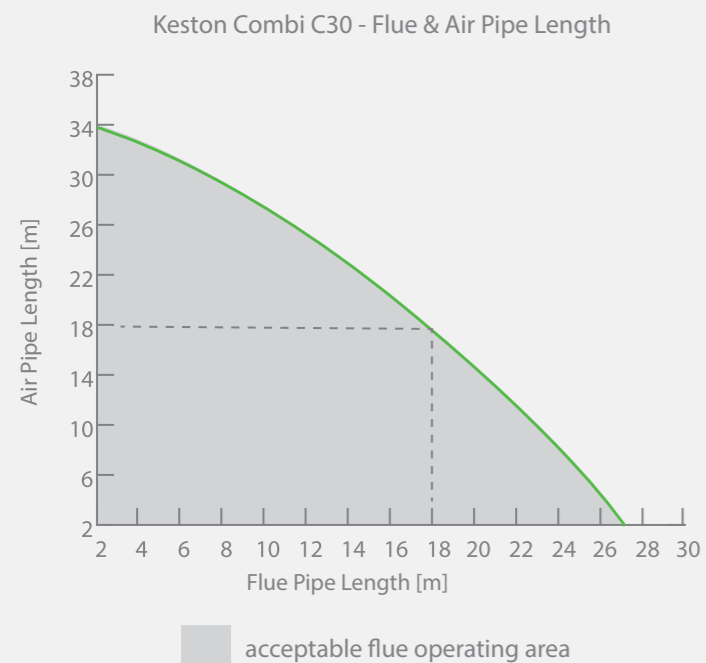
Offering first-class comfort in a compact, wall-hung appliance small enough to fit inside a standard kitchen cupboard***, the Keston Combi C30 enables heating and hot water to be controlled independently, ensuring maximum comfort and efficiency.

The Keston Combi C30 can be sited almost anywhere in the home, without the need for a separate tank. And because it

connects to the unique Keston twin-flue system, the boiler can be situated anywhere up to 27* metres from the flue outlet, helping to provide further flexibility when required.

Fully modulating, and with weather compensation, the Combi C30 provides excellent energy savings, making it the perfect choice for new or replacement installations alike.

***Please check cupboard size prior to installation



Graph indicates maximum flue run 27m with 2m air. Also, 18m flue with 18m air pipe for parallel twin flue run.

“THE COMBI C30 IS THE PERFECT PRODUCT FOR AWKWARD INSTALLATIONS THANKS TO ITS LONG TWIN FLUE LENGTH CAPABILITY”



THE FACTS

- 7 year warranty†
- Easy to see pressure gauge
- Large backlit display with user friendly controls
- Low lift weight
- Low component count maximising reliability
- Compact dimensions
- Twin flue up to 27m*
- 50mm muPVC solvent weld flue allowing simple, cost effective installations**
- Weather compensator supplied as standard
- Pre-fitted filling loop
- Inbuilt frost protection
- Fully modulating
- LPG conversion kit available



Built in Britain
All Keston boilers are built in and designed for the British market



Weather Compensator
All models in the Keston range come complete with weather compensation as standard



Twin Flue Design
Providing the perfect solution for problematic and awkward installations



7 Year Warranty
Providing ultimate reliability, Combi and System boilers are offered with a 7 year warranty when fitted with a Keston filter

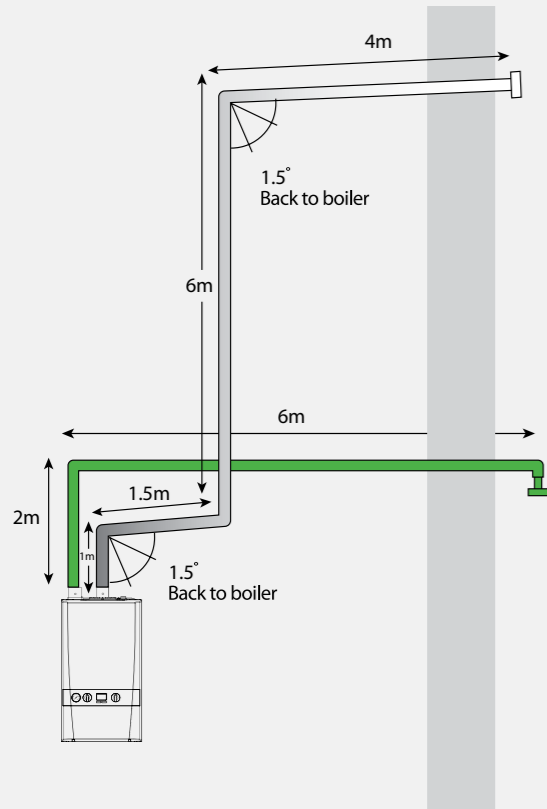
* For the maximum total equivalent flue length please refer to the installation instructions

** The only systems approved for this application are: Marley muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe System 2000 muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe Terrain Solvent Weld System (50mm) and Wavin Osma PVC-C Solvent Weld System (50mm). Please use the recommended Solvent Weld Cement for each system. Please see page 6 for more details.

† 7 year warranty when installed with a Keston filter and registered within 30 days of installation. 5 year parts & labour warranty as standard. 7 year warranty available until 31/12/18. Terms and conditions apply.

FLUE INSTALLATION

EXAMPLE KESTON COMBI C30

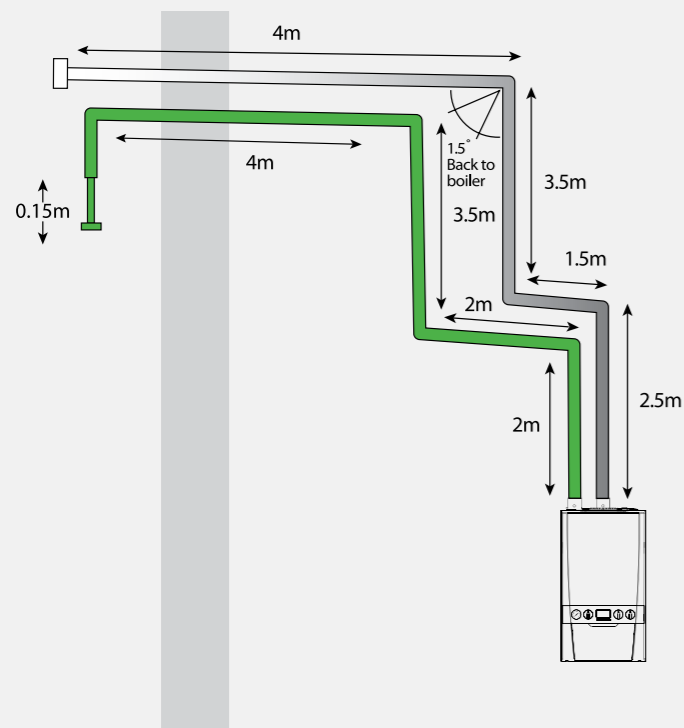


C53 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 4+6+1.5+1 = 12.5m
 Total = 15.5m

Air
 Elbows 2 x 1m = 2m
 Straights 6+2+0.1 = 8.1m
 Total = 10.1m



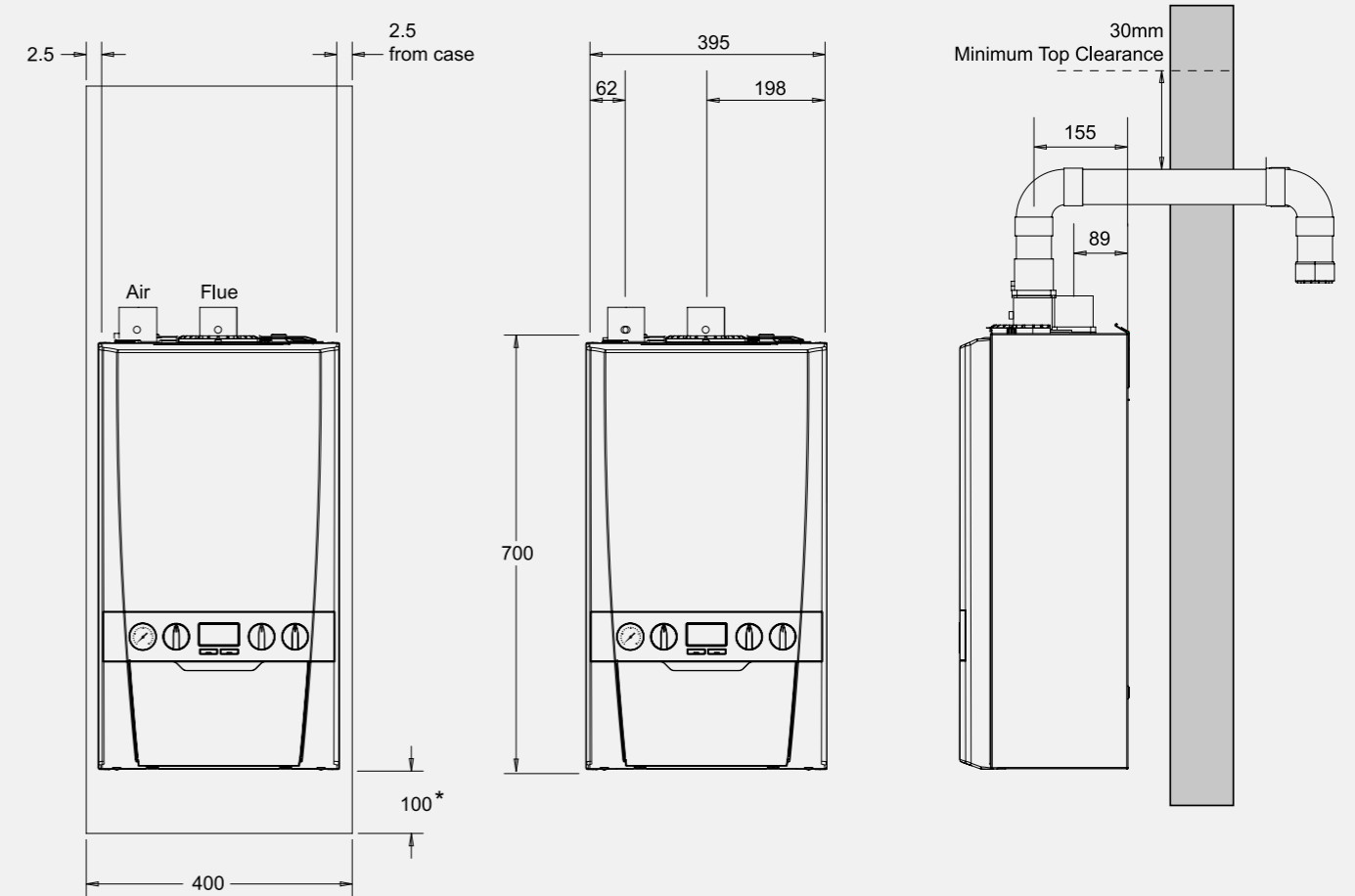
C13 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 2.5+1.5+3.5+4 = 11.5m
 Total = 14.5m

Air
 Elbows 4 x 1m = 4m
 Straights 2+2+3.5+4+0.15 = 11.65m
 Total = 15.65m

DIMENSIONS



Keston Combi C30

Height	700mm
Width	395mm
Depth	278mm

The following minimum clearances must be maintained for operation and servicing.

Front of boiler - 450mm[†]
 Sides of boiler - 2.5mm
 Above boiler - 350mm, with 30mm above the flue
 Below boiler - 100mm[†]

[†]Can be reduced to 5mm for cupboard fit, 450mm required for servicing

SPECIFICATION DATA

Boiler Model	Keston Combi C30	
Size	Height (mm)	700
	Width (mm)	395
	Depth (mm)	278
	Weight (packed) kg	34.4
	Maximum Installation Weight kg	31.4
Performance	CH output (kW) Min/Max @ 70°C	6.1 - 24.2
	CH output (kW) Min/Max @ 40°C	6.4 - 25.6
	DHW output (kW) Max	30.3
	DHW flow rate l/min. 35°C rise	12.4
	SEDBUK (2005) %	91.1
	SEDBUK (2009) %	89.6
	NO _x Classification	Class 5
	Adjustable to LPG	Yes, with LPG Conversion Kit
Construction	Heat exchanger material	Cast aluminium- silicon alloy
	Burner type	Downward firing pre-mix
	Fully modulating	Yes
	DHW plate heat exchanger	Yes
	Integrated hydroblock	Yes
Installation	Suitable for sealed systems	Yes
	Suitable for open-vent systems	No
	Filling loop	Yes
	Pre-wired mains lead	Yes
	Flow regulator	Fixed
	In-built system bypass	Yes
	In-built condensate trap/siphon	Yes
	In-built boiler frost protection	Yes
	Zero compartment ventilation	Yes
	Clearances	Top (mm) (from top of flue)
Side (mm)		2.5
Bottom (mm)		100
Front (mm)		450*
User Interface	User display	Symbols and text
	User interface	3 dials, 2 buttons
	Diagnostics	Plain English text
	User adjustable	Manual heating & hot water controls
	'Eco' setting on CH	Yes
Pipes	Pre-piping kit	No
	Stand-off kit	Yes
	Stand-off kit inc. pipes	No
Flues	Max horizontal	27m Flue / 2m air
	Max horizontal (parallel)	18m Flue / 18m air
Connections *	Gas Supply Connection (mm)	15
	CH Flow Connection (mm)	22
	CH Return Connection (mm)	22
	Inlet Connection - DHW (mm)	15
	Outlet Connection - DHW (mm)	15
	Condensate Drain (mm)	21.5

* Can be reduced to 5mm for cupboard fit, 450mm required for servicing.

PERFORMANCE DATA

	Boiler input "Q"	Nett CV Gross CV	kW kW	CENTRAL HEATING		HOT WATER
				Min 6.1	Max 24.3	30.4
Gas Consumption			m ³ /h	2.512	0.623	3.135
BOILER OUTPUT	Non condensing (70°C mean water temperature)		kW	24.2	6.1	
	Condensing (40°C mean water temperature)		kW	25.6	6.4	
	Maximum DHW output		kW			30.3
	DHW flow rate @35°C rise		l/min			12.4
	DHW specific rate		l/min			14.5
Seasonal efficiency (SEDBUK 2005/2009)		91.1% /89.6%				
SEDBUK (2005/2009)		Band A				
NO _x classification		Class 5				

PRODUCT FICHE

	SYMBOL	UNITS	MODEL	
			30	35
Condensing boiler			Yes	
Seasonal Space heating efficiency class			A	
Rated heat output		kW	24	
Seasonal space heating energy efficiency	η _s	%	94	
Annual energy consumption	Q _{HE}	GJ	74.1	
Sound power level, indoors	L _{WA}	dB	46	44
Water heating energy efficiency class			A	

INSTALLATION DATA

		Keston Combi C30
Gas supply		2H-G20-20mbar
Gas supply connection	mm	15 copper compression
Injector size	mm	4.65
Inlet connection domestic hot water	mm	15 copper compression
Outlet connection domestic hot water	mm	15 copper compression
Flow connection central heating	mm	22 copper compression
Return connection central heating	mm	22 copper compression
Keston flue terminal diameter	mm	50
Average flue temperature – mass flow rate DHW		68°C - 13g/s
Maximum working pressure – sealed systems	bar	2.5
Maximum domestic hot water inlet pressure	bar	10
Minimum domestic hot water inlet pressure for full flow	bar	1.3
Electrical supply	v	230v-50Hz
Power consumption	W	152
Fuse rating		External 3A Internal T4H-HRC-L250v
Water content (central heating)	Litre	1.2
Water content (hot water)	Litre	0.5
Packaged weight	kg	36.2
Installation weight	kg	31.75
Casing height	mm	700
Casing width	mm	395
Casing depth	mm	278

COMBI C35 35kW OUTPUT COMBINATION BOILER



COMPLETE HASSLE-FREE HOME COMFORT FROM A SINGLE COMPACT APPLIANCE.

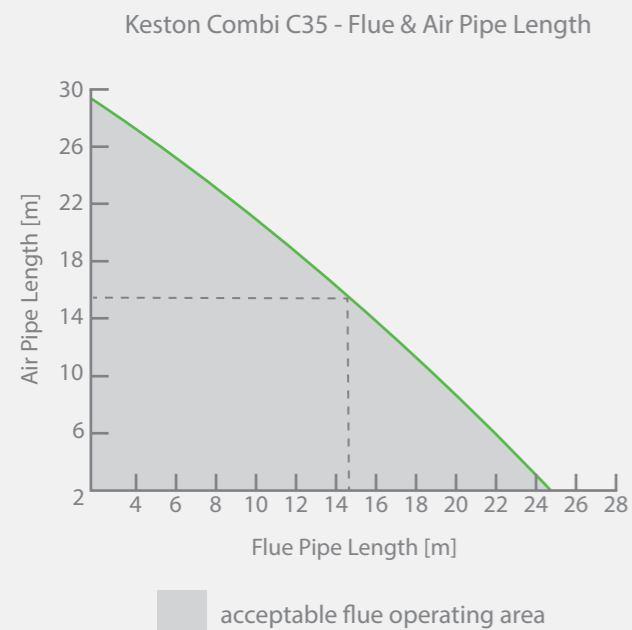
Offering first-class comfort in a compact, wall-hung appliance small enough to fit inside a standard kitchen cupboard^{***}, the Keston Combi C35 enables heating and hot water to be controlled independently, ensuring maximum comfort and efficiency.

The Keston Combi C35 can be sited almost anywhere in the home, without the need for a separate tank. And because it

connects to the unique Keston twin-flue system, the boiler can be situated anywhere up to 25* metres from the flue outlet, helping to provide further flexibility when required.

Fully modulating, and with weather compensation, the Combi C35 provides excellent energy savings, making it the perfect choice for new or replacement installations alike.

^{***}Please check cupboard size prior to installation



Graph indicates maximum flue run 25m with 2m air. Also, 15m flue with 15m air pipe for parallel twin flue run.

“THE COMBI C35 IS THE PERFECT PRODUCT FOR AWKWARD INSTALLATIONS THANKS TO ITS LONG TWIN FLUE LENGTH CAPABILITY”



THE FACTS

- 7 year warranty[†]
- Easy to see pressure gauge
- Large backlit display with user friendly controls
- Low lift weight
- Low component count maximising reliability
- Compact dimensions
- Twin flue up to 25m*
- 50mm muPVC solvent weld flue allowing simple, cost effective installations**
- Weather compensator supplied as standard
- Pre-fitted filling loop
- Inbuilt frost protection
- Fully modulating
- LPG conversion kit available

Built in Britain
All Keston boilers are built in and designed for the British market

Weather Compensator
All models in the Keston range come complete with weather compensation as standard

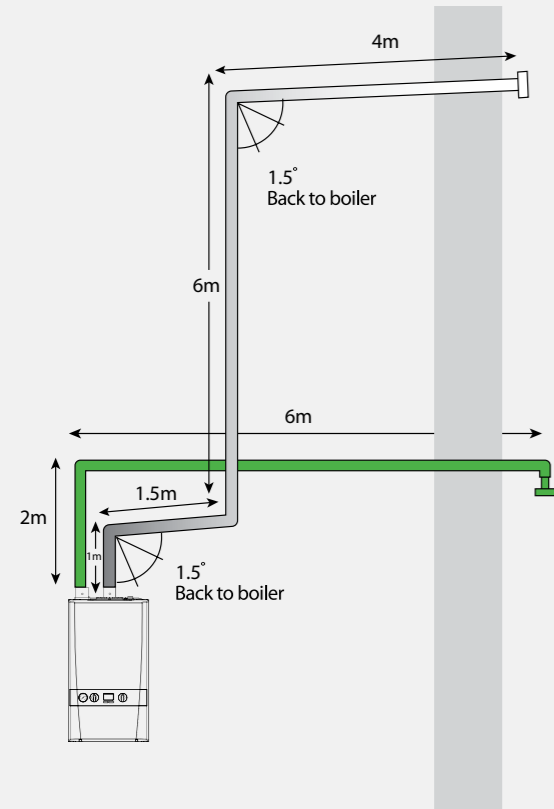
Twin Flue Design
Providing the perfect solution for problematic and awkward installations

7 Year Warranty
Providing ultimate reliability, Combi and System boilers are offered with a 7 year warranty when fitted with a Keston filter

* For the maximum total equivalent flue length please refer to the installation instructions
 ** The only systems approved for this application are: Marley muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe System 2000 muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe Terrain Solvent Weld System (50mm) and Wavin Osma PVC-C Solvent Weld System (50mm). Please use the recommended Solvent Weld Cement for each system. Please see page 6 for more details.
 † 7 year warranty when installed with a Keston filter and registered within 30 days of installation. 5 year parts & labour warranty as standard. 7 year warranty available until 31/12/18. Terms and conditions apply.

FLUE INSTALLATION

EXAMPLE KESTON COMBI C35

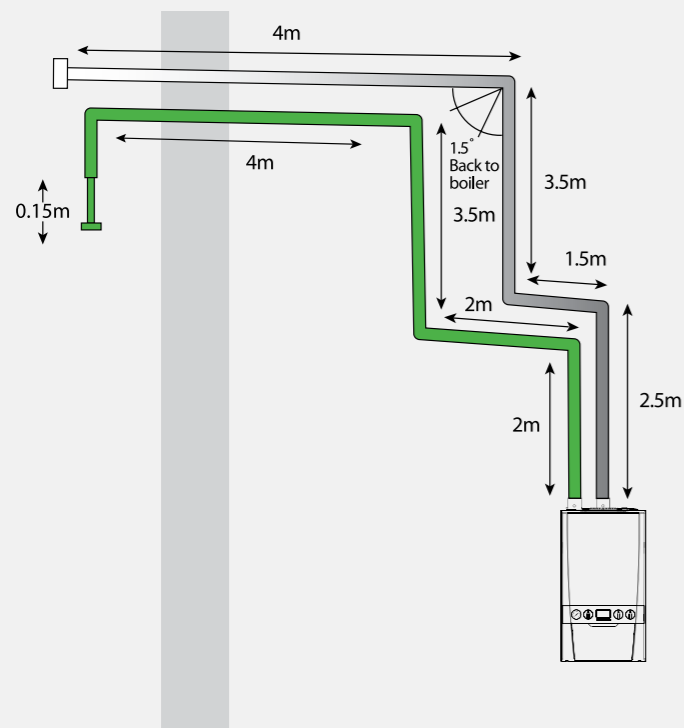


C53 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 4+6+1.5+1 = 12.5m
 Total = 15.5m

Air
 Elbows 2 x 1m = 2m
 Straights 6+2+0.1 = 8.1m
 Total = 10.1m



C13 HORIZONTAL

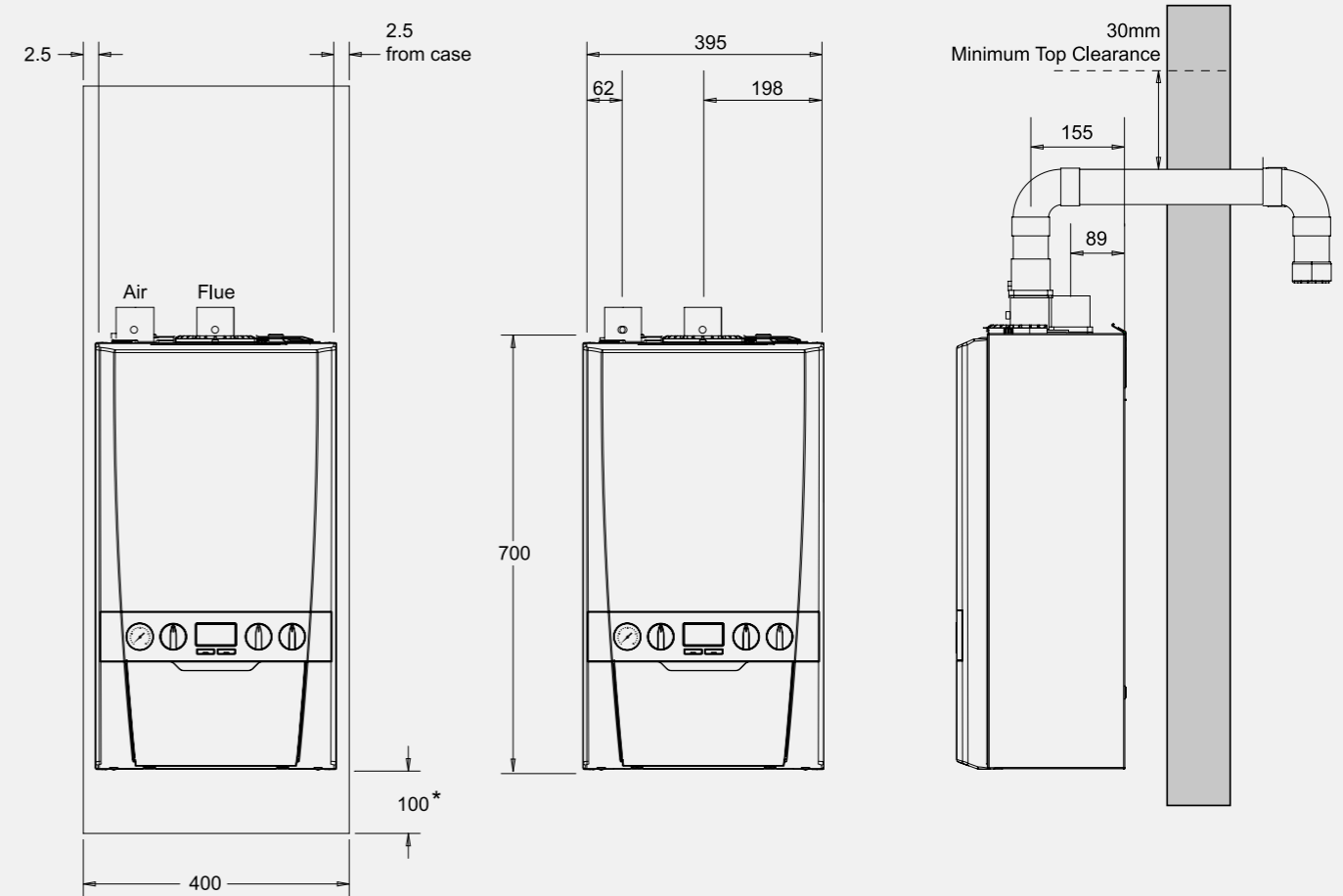
Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 2.5+1.5+3.5+4 = 11.5m
 Total = 14.5m

Air
 Elbows 4 x 1m = 4m
 Straights 2+2+3.5+4+0.15 = 11.65m
 Total = 15.65m

Acceptable flue & pipe length, refer to graph page 26 for more details.

DIMENSIONS



Keston Combi C35

Height	700mm
Width	395mm
Depth	278mm

The following minimum clearances must be maintained for operation and servicing.

Front of boiler - 450mm[†]
 Sides of boiler - 2.5mm
 Above boiler - 350mm, with 30mm above the flue
 Below boiler - 100mm[†]

[†]Can be reduced to 5mm for cupboard fit, 450mm required for servicing

SPECIFICATION DATA

Boiler Model	Keston Combi C35	
Size	Height (mm)	700
	Width (mm)	395
	Depth (mm)	278
	Weight (packed) kg	34.5
	Maximum Installation Weight kg	31.5
Performance	CH output (kW) Min/Max @ 70°C	7.1 - 24.2
	CH output (kW) Min/Max @ 40°C	7.5 - 25.6
	DHW output (kW) Max	35.3
	DHW flow rate l/min. 35°C rise	14.5
	SEDBUK (2005) %	91.1
	SEDBUK (2009) %	89.6
	NO _x Classification	Class 5
	Adjustable to LPG	Yes, with LPG Conversion Kit
Construction	Heat exchanger material	Cast aluminium- silicon alloy
	Burner type	Downward firing pre-mix
	Fully modulating	Yes
	DHW plate heat exchanger	Yes
	Integrated hydroblock	Yes
Installation	Suitable for sealed systems	Yes
	Suitable for open-vent systems	No
	Filling loop	Yes
	Pre-wired mains lead	Yes
	Flow regulator	Fixed
	In-built system bypass	Yes
	In-built condensate trap/siphon	Yes
	In-built boiler frost protection	Yes
	Zero compartment ventilation	Yes
Clearances	Top (mm) (from top of flue)	30
	Side (mm)	2.5
	Bottom (mm)	100
	Front (mm)	450*
User Interface	User display	Symbols and text
	User interface	3 dials, 2 buttons
	Diagnostics	Plain English text
	User adjustable	Manual heating & hot water controls
	'Eco' setting on CH	Yes
Pipes	Pre-piping kit	No
	Stand-off kit	Yes
	Stand-off kit inc. pipes.	No
Flues	Max horizontal	25m Flue / 2m air
	Max horizontal (parallel)	15m Flue / 15m air
Connections *2	Gas Supply Connection (mm)	15
	CH Flow Connection (mm)	22
	CH Return Connection (mm)	22
	Inlet Connection - DHW (mm)	15
	Outlet Connection - DHW (mm)	15
	Condensate Drain (mm)	21.5

* Can be reduced to 5mm for cupboard fit, 450mm required for servicing
 *2 for outputs exceeding 18 kW (60,000 Btu/h), 28mm primary pipework will be required

PERFORMANCE DATA

	Boiler input "Q"	Gross CV	CENTRAL HEATING		HOT WATER
			Min	Max	
Boiler input "Q"	Nett CV	kW	7.1	24.3	35.4
Gas Consumption	Gross CV	kW	7.9	27	39.3
		m ³ /h	2.512	0.623	3.658
BOILER OUTPUT					
Non condensing (70°C mean water temperature)					
Condensing (40°C mean water temperature)					
Maximum DHW output					
DHW flow rate @35°C rise					
DHW specific rate					
Seasonal efficiency (SEDBUK 2005/2009)					
SEDBUK (2005/2009)					
NO _x classification					
		kW	7.1	24.2	
		kW	25.6	7.5	
		kW			35.3
		l/min			14.5
		l/min			16.9
	91.1%/89.6%				
	Band A				
	Class 5				

PRODUCT FICHE

	SYMBOL	UNITS	MODEL	
			30	35
Condensing boiler			Yes	
Seasonal Space heating efficiency class			A	
Rated heat output		kW	24	
Seasonal space heating energy efficiency	η _s	%	94	
Annual energy consumption	Q _{HE}	GJ	74.1	
Sound power level, indoors	L _{WA}	dB	46	44
Water heating energy efficiency class			A	

INSTALLATION DATA

		Keston Combi C35
Gas supply		2H-G20-20mbar
Gas supply connection	mm	15mm copper compression
Injector size	mm	4.9
Inlet connection domestic hot water	mm	15 copper compression
Outlet connection domestic hot water	mm	15 copper compression
Flow connection central heating	mm	22 copper compression
Return connection central heating	mm	22 copper compression
Keston flue terminal diameter	mm	50
Average flue temperature – mass flow rate DHW		73°C - 15g/s
Maximum working pressure – sealed systems	bar	2.5
Maximum domestic hot water inlet pressure	bar	10
Minimum domestic hot water inlet pressure	bar	1.3
Electrical supply	v	230v-50Hz
Power consumption	W	177
Fuse rating		External 3A Internal T4H-HRC-L250v
Water content (central heating)	Litre	1.2
Water content (hot water)	Litre	0.5
Packaged weight	kg	36.2
Installation weight	kg	31.75
Casing height	mm	700
Casing width	mm	395
Casing depth	mm	278

HEAT 45

45kW OUTPUT

HEAT ONLY BOILER



FIVE YEAR WARRANTY+

THE HEAT RANGE OFFERS A NUMBER OF KEY FEATURES THAT ENABLES EASE OF INSTALLATION, MAINTENANCE AND OPERATION.

The Heat range is designed to ensure all installation requirements can be achieved. The lightweight design is supported through quality build and aesthetics that allow for the boiler to be installed either on the wall or into a prefabricated floor mounted frame including back-to-back options.

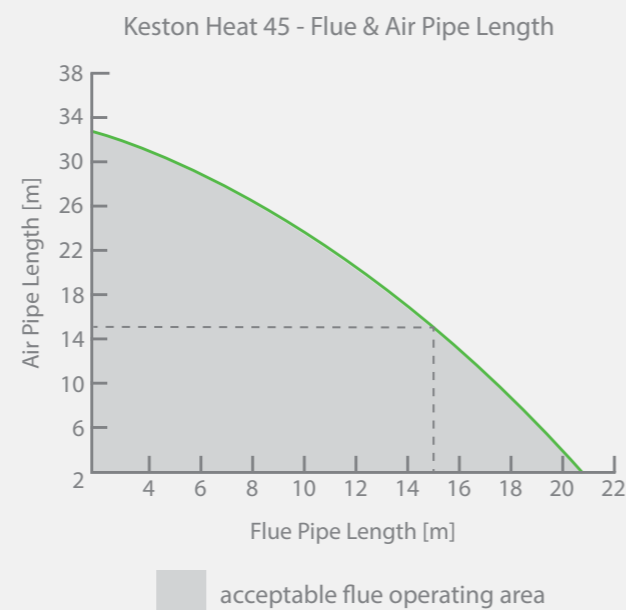
Supported by a 5 year parts and labour warranty†, the Heat is a reliable and efficient wall hung solution. The quality of this product range has been developed through meticulous design, careful component selection and proving; leading to reliability and longevity.

The range provides high efficiencies for low running costs with up to 110% part load and seasonal efficiency (ref Building Regs Part L2) up to 97%. The range also provides low NO_x emissions at Class 5 and at less than 40mg/kWh achieves maximum points under BREEAM schemes.

The Heat boasts easy to read boiler controls featuring large backlit display with five lines of plain English text. The light weight design of the product ensures easier installation for the engineer. The single width and height, irrespective of model, is also easier to site.

With a high specification as standard, including two remote alarm contacts, BMS (0-10v) control and high 5:1 turndown which aids efficiency and minimises running costs through closer load matching the new Heat provides peace of mind and the perfect solution for a wide variety of commercial installations.

The Keston Heat range of boilers are easy to cascade using our frame and header kits, see pages 41-42 for full details.



Graph indicates maximum flue run 21m with 2m air. Also, 15m flue with 15m air pipe for parallel twin flue run.

"THE HEAT 45 HAS THE CAPABILITY FOR A TWIN FLUE UP TO 21M* PROVIDING A SOLUTION FOR PROBLEMATIC INSTALLATION SITUATIONS"

THE FACTS

- Condensing output 45kW
- Inbuilt weather compensator
- Inbuilt pump (low energy modulating)
- Minimum pressure 0.3 bar
- Minimum head 3m
- Twin flue up to 21m*
- 5:1 turndown ratio
- Small installation footprint
- Low NO_x Class 5
- 50mm MuPVC solvent weld flue allowing simple, cost effective installations**
- Commercial control system compatibility as standard
- Twin thermostat
- 5 year warranty†
- British Gas service listed
- Energy Saving Trust Endorsed
- ECA listed



Built in Britain
All Keston boilers are built in and designed for the British market



Weather Compensator
All models in the Keston range come complete with weather compensation as standard



Twin Flue Design
Providing the perfect solution for problematic and awkward installations



Frame and Header Kits
Able to facilitate up to 6 heat only boilers in cascade



5 Year Warranty†
5 year warranty subject to terms and conditions

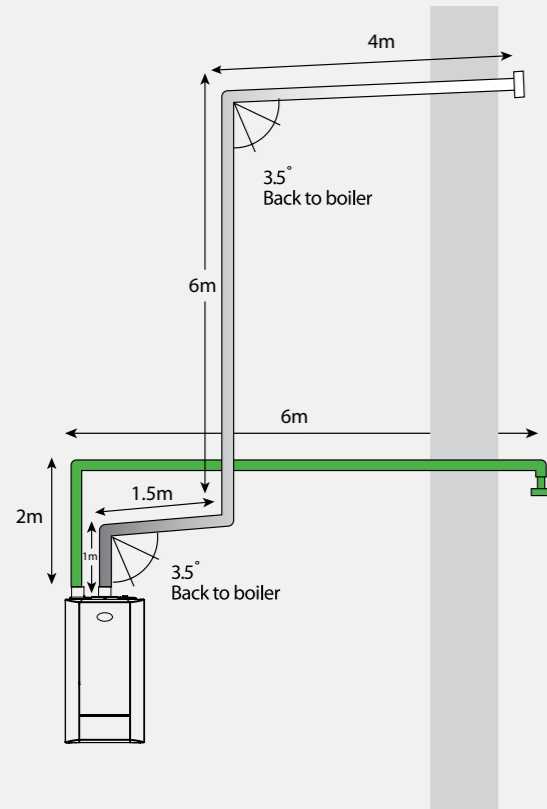


Modulating Pump
Heat only models have a low energy modulating pump which complies with energy efficiency requirements

*For maximum total equivalent flue length please refer to the installation instructions for full details
** The only systems approved for this application are: Marley muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe System 2000 muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe Terrain Solvent Weld System (50mm) and Wavin Osma PVC-C Solvent Weld System (50mm). Please use the recommended Solvent Weld Cement for each system. Please see page 6 for more details.
†5 year warranty subject to Terms and Conditions. 5 years parts and labour warranty available subject to being commissioned by Keston Boilers.

FLUE INSTALLATION

EXAMPLE KESTON HEAT 45

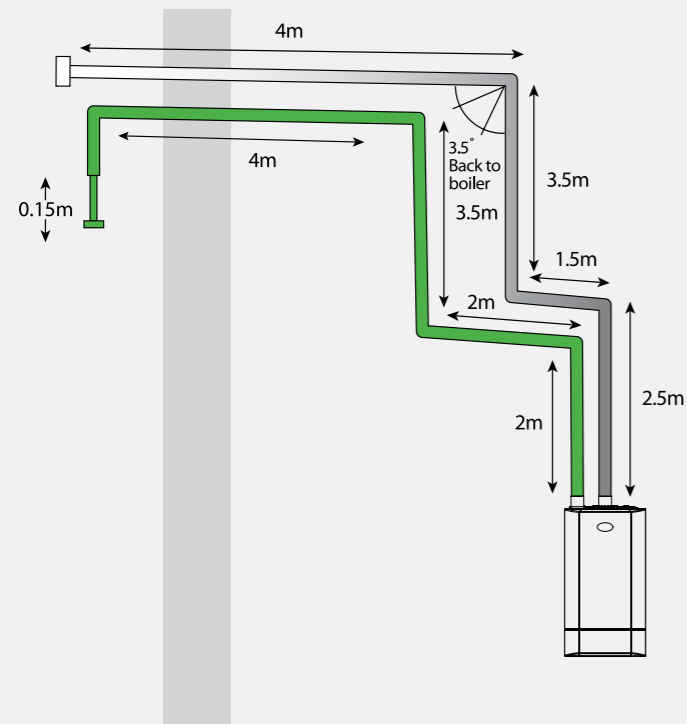


C53 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 4+6+1.5+1 = 12.5m
 Total = 15m

Air
 Elbows 2 x 1m = 2m
 Straights 6+2+0.1m = 8.1m
 Total = 10.1 m



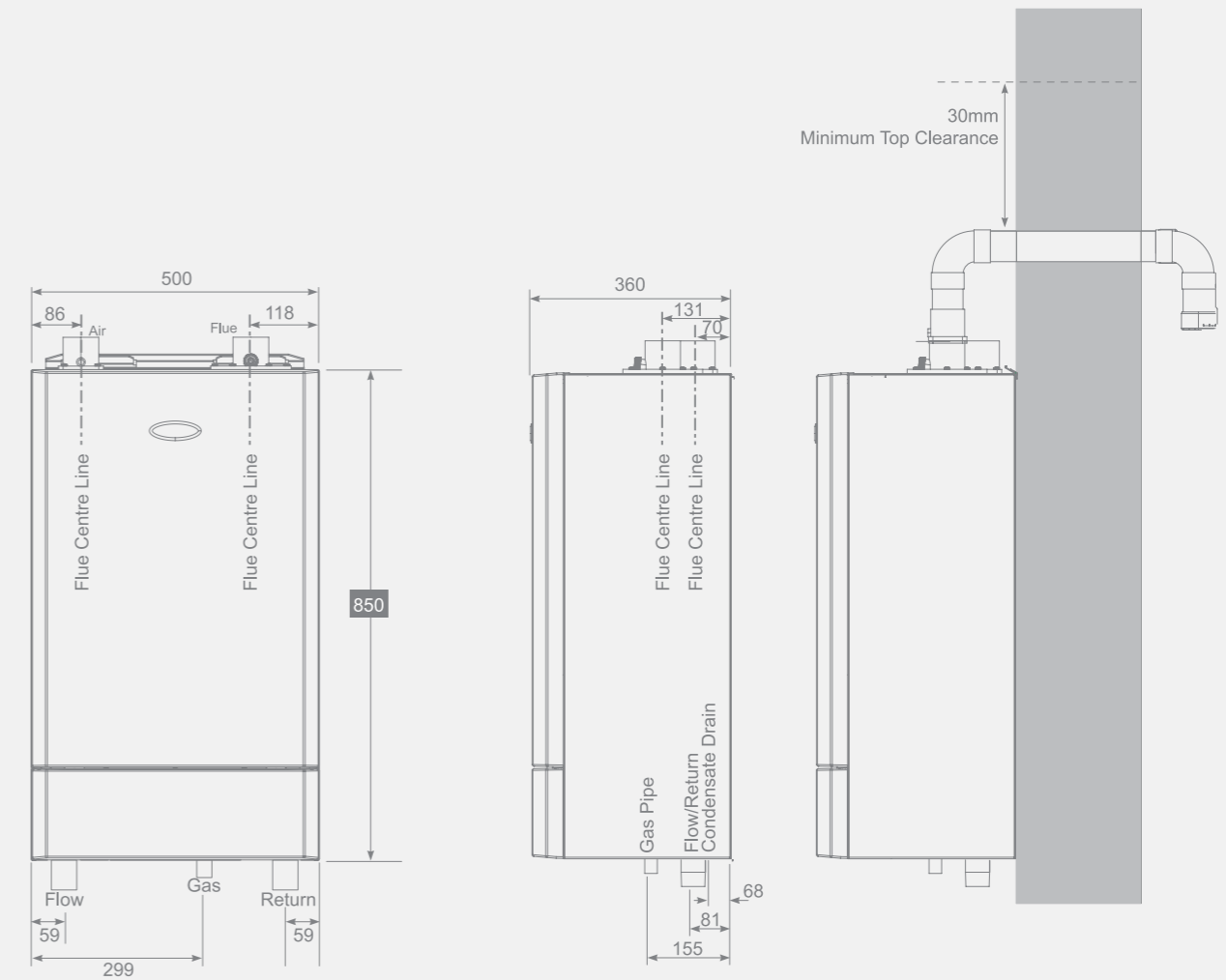
C13 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 2.5+1.5+3.5+4 = 11.5m
 Total = 14.5m

Air
 Elbows 4 x 1m = 4m
 Straights 2+2+3.5+4+0.15 = 11.65m
 Total = 15.65m

DIMENSIONS



Keston Heat 45

Height	850mm
Width	500mm
Depth	360mm

The following minimum clearances must be maintained for operation and servicing.

- Front of boiler - 450mm*
- Sides of boiler - 25mm
- Above boiler - 350mm, with 30mm above the flue
- Below boiler - 300mm
- Clearance between multiple boiler installations - 25mm

Acceptable flue & pipe length, refer to graph page 32 for more details.

*Can be reduced to 5mm for cupboard fit, 450mm required for servicing

SPECIFICATION DATA

Boiler Model		Keston Heat 45
Size	Height (mm)	850
	Width (mm)	500
	Depth (mm)	360
	Dry Weight kg	60.3
Performance	CH output (kW) Min/Max @ 70°C	12 - 42.6
	CH output (kW) Min/Max @ 40°C	12.7 - 45
	DHW output (kW) Max	N/A
	SEDBUK (2009) %	89.2%
	NO _x Classification	Class 5
	(mg/kWh) (ppm DAF)	38.3/21.9
	Adjustable to LPG	No
Construction	Heat exchanger material	Cast aluminium- silicon alloy
	Burner type	Downward firing pre-mix
	Fully modulating	Yes
	DHW plate heat exchanger	N/A
	Integrated hydroblock	N/A
Installation	Suitable for sealed systems	Yes
	Suitable for open-vent systems	Yes
	Filling loop	No
	Pre-wired mains lead	No
	Flow regulator	No
	In-built system bypass	No
	In-built condensate trap/siphon	Yes
	In-built boiler frost protection	Yes
	Zero compartment ventilation	No
Clearances	Top (mm) (from top of flue)	350
	Side (mm)	25
	Bottom (mm)	300*
	Front (mm)	450*
User Interface	User display	Digital (Alpha/numeric)
	User interface	Digital display & manual controls
	Diagnostics	Fault diagnostic display
	User adjustable	Twin Stat
	'Eco' setting on CH	No
	In-built Programmer	No
Pipes	Pre-piping kit	No
	Stand-off kit	No
	Stand-off kit inc. pipes.	No
Flues	Max horizontal	21m Flue / 2m air
	Max horizontal (parallel)	15m Flue / 15m air
Connections *2	Gas Supply Connection (BSP)	3/4
	CH Flow Connection (BSP)	G1¼
	CH Return Connection (BSP)	G1¼
	Inlet Connection - DHW	N/A
	Outer Connection - DHW	N/A
	Condensate Drain (mm)	25

* Can be reduced to 5mm for cupboard fit, 450mm required for servicing.

PERFORMANCE DATA

Boiler Output (non-condensing) Mean 70°C	Max	kW	42.6
		Btu/hr	145400
	Min	kW	12.0
		Btu/hr	40900
Boiler Output (condensing) Mean 40°C	Max	kW	45
		Btu/hr	153500
	Min	kW	12.7
		Btu/hr	43300
Boiler Input Max Rate	Nett	kW	43.2
		Btu/hr	147400
Gross	kW	47.9	
	Btu/hr	163400	
Boiler Input Min Rate	Nett	kW	12.2
		Btu/hr	41600
Gross	kW	13.5	
	Btu/hr	46100	
Gas Rate	Max Rate	m ³ /hr	4.56
		ft ³ /hr	161.2
Flue Gas Flow Rate	Max Rate	m ³ /hr	66.4
		ft ³ /hr	2343
CO ₂ (±0.5%)	Max Rate	%	9.3
	Min Rate	%	8.4
NO _x	Weighted	mg/kWh	38.6
		ppm DAF	21.9
Efficiency	Seasonal	%	96
	SEDBUK 2009	%	89.2

PRODUCT FICHE

	SYMBOL	UNITS	MODEL	
			45	55
Condensing boiler			Yes	
Seasonal Space heating efficiency class			A	
Rated heat output		kW	45	55
Seasonal space heating energy efficiency	η _{SON}	%	93	93
Annual energy consumption	Q _{HE}	GJ	139.4	170.3
Sound power level, indoors	L _{WA}	dB	52	53

INSTALLATION DATA

		Keston Heat 45
Gas supply		2H-G20-20mbar
Gas supply connection	BSP	G¾
Flow connection	BSP	G1¼
Return connection	BSP	G1¼
Maximum working pressure – sealed systems	bar (psi)	4.0 (58)
Maximum Static Head	m	40.7
Electrical supply	v	230V - 50Hz
Fuse rating	A	4.0
Power consumption	W	202
IP Rating		IP20
Nominal Flue Size	mm	Twin 50mm
Condensate Drain	mm	25
Water Content	L	5.0
Dry Weight	kg	60.3
Max Flue length	m	21m flue / 2m air
Max Parallel Flue	m	15m flue / 15m air

HEAT 55

55kW OUTPUT

HEAT ONLY BOILER



FIVE YEAR WARRANTY†

THE HEAT RANGE OFFERS A NUMBER OF KEY FEATURES THAT ENABLES EASE OF INSTALLATION, MAINTENANCE AND OPERATION.

The Heat range is designed to ensure all installation requirements can be achieved. The lightweight design is supported through quality build and aesthetics that allow for the boiler to be installed either on the wall or into a prefabricated floor mounted frame including back-to-back options.

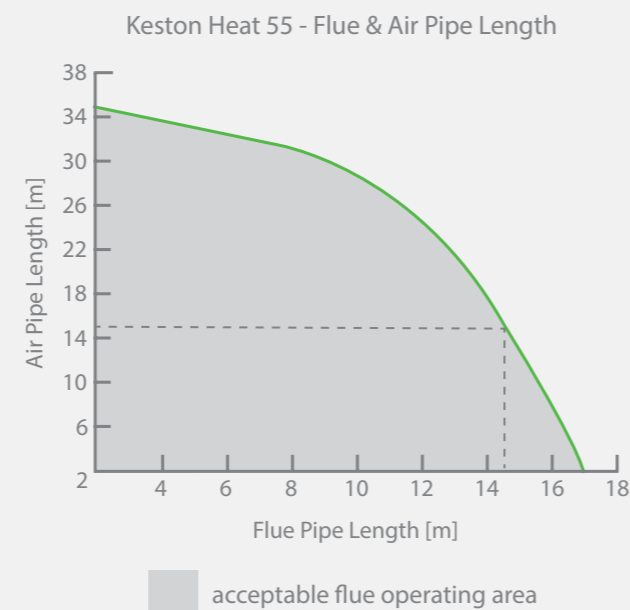
Supported by a 5 year parts and labour warranty†, the Heat is a reliable and efficient wall hung solution. The quality of this product range has been developed through meticulous design, careful component selection and proving; leading to reliability and longevity.

The range provides high efficiencies for low running costs with up to 110% part load and seasonal efficiency (ref Building Regs Part L2) up to 97%. The range also provides low NO_x emissions at Class 5 and at less than 40mg/kWh achieves maximum points under BREEAM schemes.

The Heat boasts easy to read boiler controls featuring large backlit display with five lines of plain English text. The light weight design of the product ensures easier installation for the engineer. The single width and height, irrespective of model, is also easier to site.

With a high specification as standard, including two remote alarm contacts, BMS (0-10v) control and high 5:1 turndown which aids efficiency and minimises running costs through closer load matching the new Heat provides peace of mind and the perfect solution for a wide variety of commercial installations.

The Keston Heat range of boilers are easy to cascade using our frame and header kits, see pages 41-42 for full details.



Graph indicates maximum flue run 17m with 2m air. Also, 14.5m flue with 14.5m air pipe for parallel twin flue run.



“THE HEAT RANGE HAS THE CAPABILITY FOR A TWIN FLUE UP TO 17M* PROVIDING A SOLUTION FOR PROBLEMATIC INSTALLATION SITUATIONS”

THE FACTS

- Condensing output 55kW
- Inbuilt weather compensator
- Inbuilt pump (low energy modulating)
- Minimum pressure 0.3 bar
- Minimum head 3m
- Twin flue up to 17m*
- 5:1 turndown ratio
- Small installation footprint
- Low NO_x Class 5
- 50mm MuPVC solvent weld flue allowing simple, cost effective installations**
- Commercial control system compatibility as standard
- Twin thermostat
- 5 year warranty†
- British Gas service listed
- Energy Saving Trust recommended
- ECA listed



Built in Britain
All Keston boilers are built in and designed for the British market



Weather Compensator
All models in the Keston range come complete with weather compensation as standard



Twin Flue Design
Providing the perfect solution for problematic and awkward installations



Frame and Header Kits
Able to facilitate up to 6 heat only boilers in cascade



5 Year Warranty†
5 year warranty subject to terms and conditions

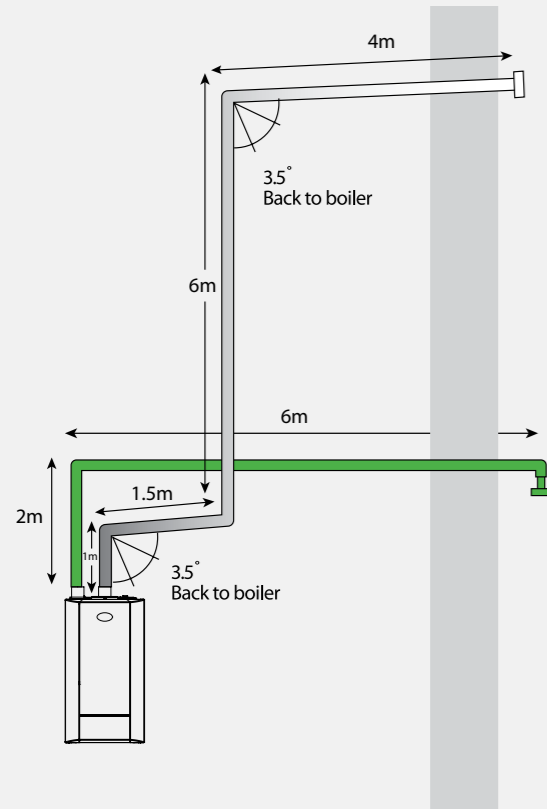


Modulating Pump
Heat only models have a low energy modulating pump which complies with energy efficiency requirements

*For maximum total equivalent flue length please refer to the installation instructions for full details
** The only systems approved for this application are: Marley muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe System 2000 muPVC (PVC-C) Solvent Weld Waste System (50mm), Polypipe Terrain Solvent Weld System (50mm) and Wavin Osma PVC-C Solvent Weld System (50mm). Please use the recommended Solvent Weld Cement for each system. Please see page 6 for more details.
†5 year warranty subject to Terms and Conditions. 5 years parts and labour warranty available subject to being commissioned by Keston Boilers.

FLUE INSTALLATION

EXAMPLE KESTON HEAT 55

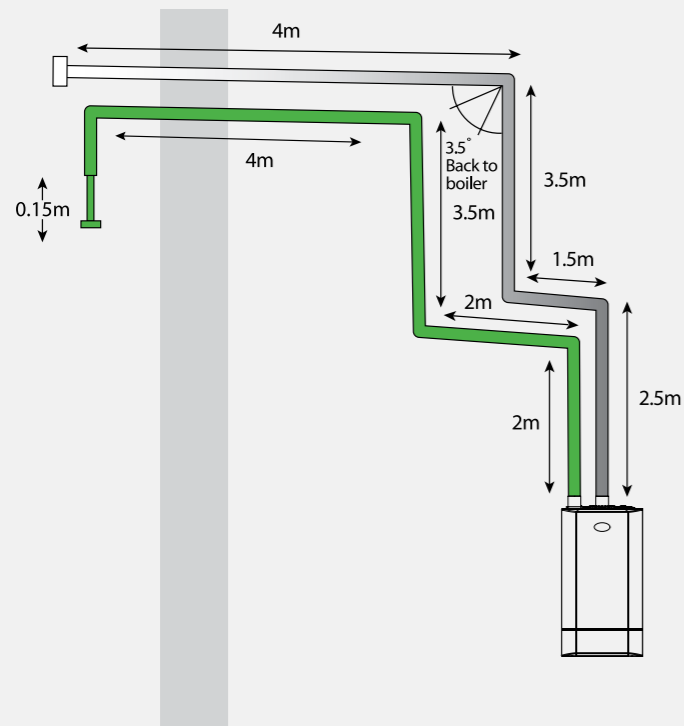


C53 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 4+6+1.5+1 = 12.5m
 Total = 15m

Air
 Elbows 2 x 1m = 2m
 Straights 6+2+0.1 = 8.1m
 Total = 10.1m



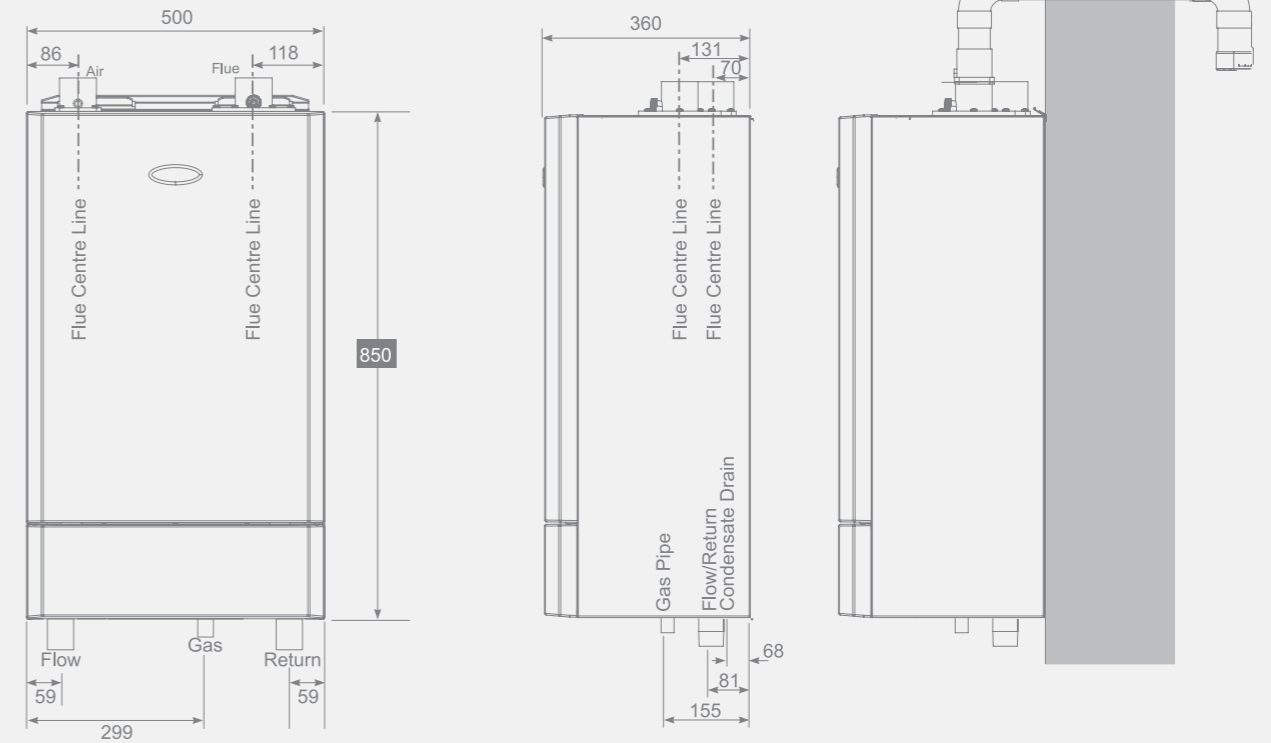
C13 HORIZONTAL

Calculations

Flue
 Elbows 3 x 1m = 3m
 Straights 2.5+1.5+3.5+4 = 11.5m
 Total = 14.5m

Air
 Elbows 4 x 1m = 4m
 Straights 2+2+3.5+4+0.15 = 11.65m
 Total = 15.65m

DIMENSIONS



Keston Heat 55

Height	850mm
Width	500mm
Depth	360mm

The following minimum clearances must be maintained for operation and servicing.

- Front of boiler - 450mm*
- Sides of boiler - 25mm
- Above boiler - 350mm, with 30mm above the flue
- Below boiler - 300mm
- Clearance between multiple boiler installations - 25mm

Acceptable flue & pipe length, refer to graph page 38 for more details.

*Can be reduced to 5mm for cupboard fit, 450mm required for servicing

SPECIFICATION DATA

Boiler Model		Keston Heat 55
Size	Height (mm)	850
	Width (mm)	500
	Depth (mm)	360
	Dry Weight kg	60.3
Performance	CH output (kW) Min/Max @ 70°C	12 - 52.1
	CH output (kW) Min/Max @ 40°C	12.7 - 55
	DHW output (kW) Max	N/A
	DHW flow rate l/min. 35°C rise	N/A
	SEDBUK (2009) %	89.6%
	NO _x Classification	Class 5
	(mg/kWh) (ppm DAF)	38.3/21.7
	Adjustable to LPG	No
Construction	Heat exchanger material	Cast aluminium- silicon alloy
	Burner type	Downward firing pre-mix
	Fully modulating	Yes
	DHW plate heat exchanger	N/A
	Integrated hydroblock	N/A
Installation	Suitable for sealed systems	Yes
	Suitable for open-vent systems	Yes
	Filling loop	No
	Pre-wired mains lead	No
	Flow regulator	No
	In-built system bypass	No
	In-built condensate trap/siphon	Yes
	In-built boiler frost protection	Yes
	Zero compartment ventilation	No
Clearances	Top (mm) (from top of flue)	350
	Side (mm)	25
	Bottom (mm)	300*
	Front (mm)	450*
User Interface	User display	Digital (Alpha/numeric)
	User interface	Digital display & manual controls
	Diagnostics	Fault diagnostic display
	User adjustable	Twin Stat
	'Eco' setting on CH	No
	In-built Programmer	No
Pipes	Pre-piping kit	No
	Stand-off kit	No
	Stand-off kit inc. pipes.	No
Flues	Max horizontal	17m Flue / 2m air
	Max horizontal (parallel)	14.5m Flue / 14.5m air
Connections *2	Gas Supply Connection (BSP)	3/4
	CH Flow Connection (BSP)	G1¼
	CH Return Connection (BSP)	G1¼
	Inlet Connection - DHW	N/A
	Outer Connection - DHW	N/A
	Condensate Drain (mm)	25

* Can be reduced to 5mm for cupboard fit, 450mm required for servicing.

PERFORMANCE DATA

Boiler Output (non-condensing) Mean 70°C	Max	kW	52.1
	Min	Btu/hr kW Btu/hr	177800 12.0 40900
Boiler Output (condensing) Mean 40°C	Max	kW	55
	Min	Btu/hr kW Btu/hr	187700 12.7 43300
Boiler Input Max Rate	Nett	kW	52.7
	Gross	Btu/hr kW Btu/hr	179800 58.5 199600
Boiler Input Min Rate	Nett	kW	12.2
	Gross	Btu/hr kW Btu/hr	41600 13.5 46100
Gas Rate	Max Rate	m³/hr ft³/hr	5.57 196.9
	Flue Gas Flow Rate	Max Rate	m³/hr ft³/hr
CO ₂ (±0.5%)	Max Rate	%	9.5
	Min Rate	%	8.4
NO _x	Weighted	mg/kWh	38.3
		ppm DAF	21.7
Efficiency	Seasonal	%	96.7
	SEDBUK 2009	%	89.6

PRODUCT FICHE

	SYMBOL	UNITS	MODEL	
			45	55
Condensing boiler			Yes	
Seasonal Space heating efficiency class			A	
Rated heat output		kW	45	55
Seasonal space heating energy efficiency	η_{SON}	%	93	93
Annual energy consumption	Q _{HE}	GJ	139.4	170.3
Sound power level, indoors	L _{WA}	dB	52	53

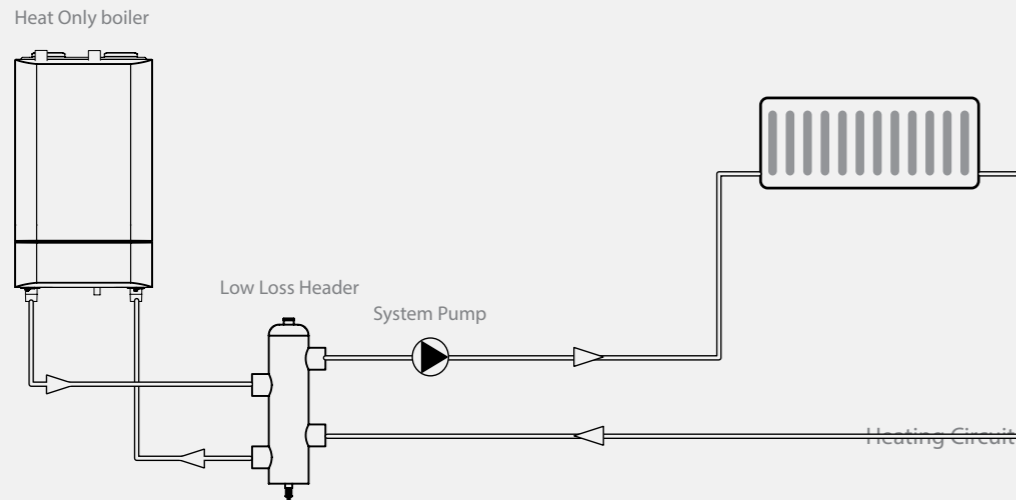
INSTALLATION DATA

		Keston Heat 55
Gas supply		2H-G20-20mbar
Gas supply connection	BSP	G¾
Flow connection	BSP	G1¼
Return connection	BSP	G1¼
Maximum working pressure – sealed systems	bar (psi)	4.0 (58)
Maximum Static Head	m	40.7
Electrical supply	v	230V - 50Hz
Fuse rating	A	4.0
Power consumption	W	262
IP Rating		IP20
Nominal Flue Size	mm	Twin 50mm
Condensate Drain		25
Water Content	L	5.0
Dry Weight	Kg	60.3
Max Flue length	M	17m flue / 2m air
Max Parallel Flue	M	14.5m flue / 14.5m air

INSTALLATION WITH LOW LOSS HEADER

SINGLE KESTON HEAT ONLY BOILER WITH LOW LOSS HEADER

If the system has or requires an additional circulation pump, the Keston Heat Only model must be fitted as shown in the diagram below, with the inclusion of a Low Loss Header.



Multiple heating circuits can be added with the appropriate controls. The installation of a suitably sized dirt separator in the return pipework to the low loss header is recommended, particularly in the case of old systems.

MODULATING SEQUENCER

The modulating sequence controller is designed to control Keston boilers operating in cascade. An OpenTherm interface is used for the exchange of data between the controller and the boilers. The requested load is transmitted to each boiler separately. The setpoint flow temperature is determined from a heating curve, or from the setpoint flow temperature from an OpenTherm room thermostat. The Controller is also capable of being used in combination with

1. Programmable Room Thermostat Kit
2. On/Off room thermostat, in addition to this, the Controller can also actuate a hot water storage circuit or a pump circuit.
3. OpenTherm compatible BMS

The universal design of the system, the consistent menu structure and the simple operation enables the installer to commission the controller quickly.

CUSTOMER FEATURES:

- Date & time
- Daylight saving
- Hours run & pulse counters
- Data logger (48 hrs storage with 5 min interval)
- Fault detection
- Restore factory settings

INSTALLER FEATURES:

- Each module can control up to 5 boilers (20 in total with 4 modules)
- OpenTherm BMS compatible as standard
- Can use OpenTherm to gateway adaptors (Bac Net etc)
- Can support weather compensation with the supplied outside sensor configured
- Additional control with the addition of Plant room sensor/room sensor (modulation taken from central point in building or can be set up as a plant room high temp limit)
- Can support hot water with an addition of tank sensor

MULTIPLE BOILER INSTALLATIONS

SYSTEMS IN CASCADE

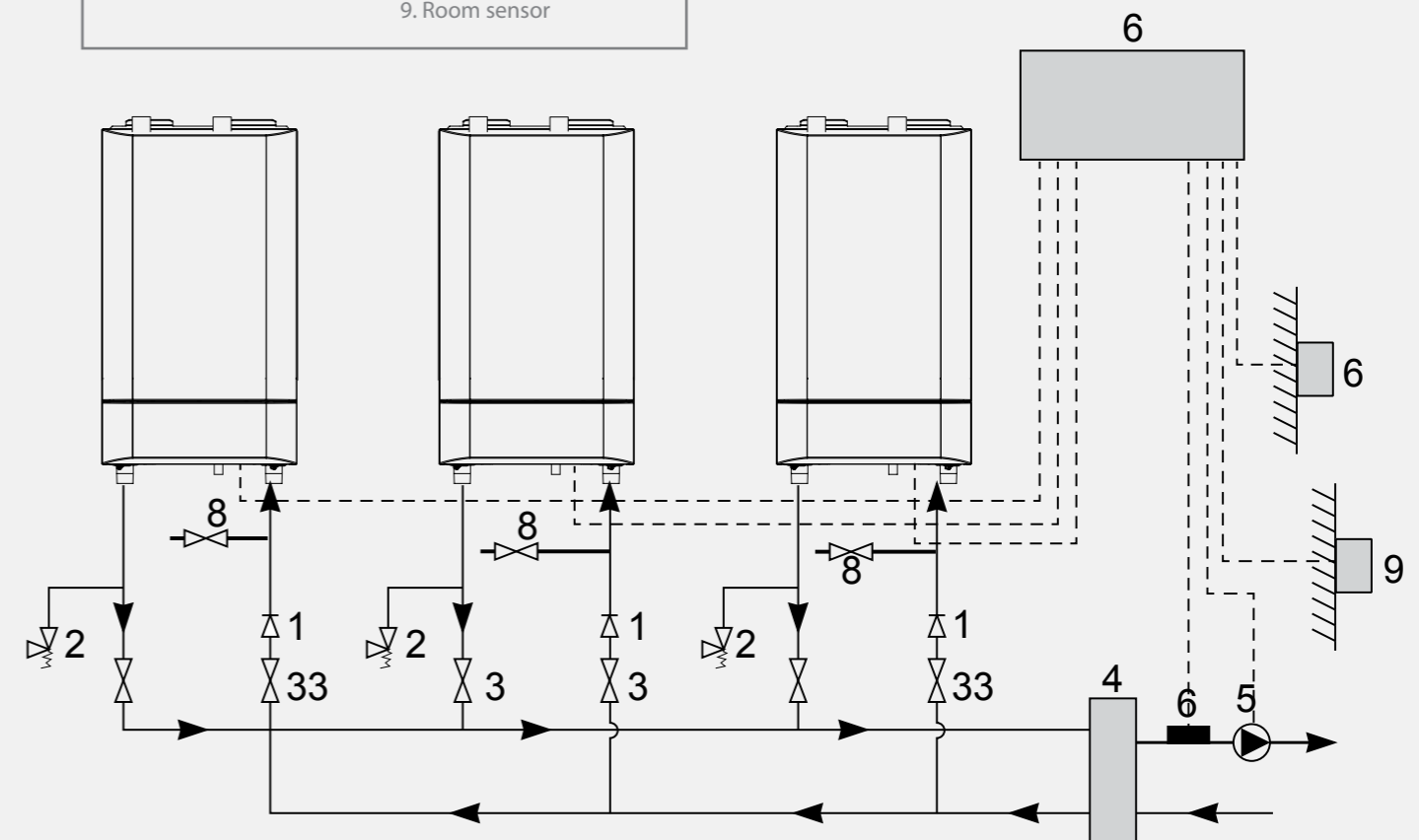
Systems that require a heat load greater than the output of a single boiler capacity can be easily achieved by fitting the required number of units in cascade. The Keston Heat Only range has a turndown rate of 5:1 allowing system requirements to be easily matched.

In installations where the heat load is greater than the boiler capacity an ideal solution is to use multiple boiler arrangements.

The ideal way to control a multiple boiler installation is with our modulating sequencer

See below a typical installation with our modulating sequencer kit. This device is capable of controlling up to 5 boilers. Additional kits are required for greater than this.

Legend	
1. Non-return valve	6. Modulating Sequencer kit complete with outdoor sensor and flow sensor
2. Safety valve	7. Flue gas terminal
3. Service valve	8. Drain cock
4. Mixing header	9. Room sensor
5. System pump	



Keston can also supply a cascade controller for up to 5 boilers, for total system outputs of up to 275kW. The control unit is also capable of controlling the domestic hot water via a separate hot water cylinder. For full details of the Keston QSpa cylinder or QSpa twin coil cylinders ranges please refer to pages 43-46

FRAME & HEADER KITS

THE NEW KESTON HEAT RANGE OF FRAME AND HEADER KITS ARE AVAILABLE, TO FACILITATE UP TO 6 BOILERS IN CASCADE.

The new Keston Heat frame and header kits offer a simple system installation allowing for outputs from 90kW to 330kW

THE FACTS

Small footprint

- 560mm depth for all variants of the Keston Heat frame and header, with boilers in cascade
- Height of all Frame and Header kits is 1945mm

Low lift weight

- Lift weights are as low as possible

Time saving

- The flow and return and the low loss header, in the header kit, are pre insulated which improves efficiency and reduces heat loss, as well as reducing installation time

Controls

- The Frame and Header Kit can be installed with either a Keston Sequencer (up to 5 boilers) offering direct modulation of the system, which reduces running costs
- For installation of 6 boilers, two Keston sequencers are required



FLEXIBILITY OF SITING

Flue system

- The twin flue system allows awkward and difficult to site flue runs up to 21m* (please note each appliance will need a flue and air pipe assembly installed, there is no flue cascade)
- Simple 50mm MuPVC solvent weld flue reduces time cost and labour
- For increased flexibility of siting additional elbows and bends are available for both flue systems
- Per 90 degree bend, Keston Heat boilers only require 1m reduction in equivalent flue length

Gas Pressure Test Point

- Fitted to both ends of the gas header to allow left or right hand installation

*For maximum total equivalent flue length please refer to the installation instructions for full details

SPECIFICATION DATA

INSTALLATION OPTIONS

Output kW	No. of boilers	Boiler options	Footprint (w x d x h (mm))	Header kits required	Optional frame kit*
90	2	2 x 45	1500 x 560 x 1945	355014	2 x 355013
100	2	1 x45 & 1 x55	1500 x 560 x 1945	355014	2 x 355013
110	2	2 x 55	1500 x 560 x 1945	355014	2 x 355013
135	3	3 x 45	2055 x 560 x 1945	355015	3 x 355013
145	3	2 x 45 & 1 x 55	2055 x 560 x 1945	355015	3 x 355013
155	3	1 x 45 & 2 x 55	2055 x 560 x 1945	355015	3 x 355013
165	3	3 x 55	2055 x 560 x 1945	355015	3 x 355013
180	4	4 x 45	2600 x 560 x 1945	355016	4 x 355013
190	4	3 x 45 & 1 x 55	2600 x 560 x 1945	355016	4 x 355013
200	4	2 x 45 & 2 x 55	2600 x 560 x 1945	355016	4 x 355013
210	4	1 x 45 & 3 x 55	2600 x 560 x 1945	355016	4 x 355013
220	4	4 x 55	2600 x 560 x 1945	355016	4 x 355013
225	5	5 x 45	3150 x 560 x 1945	355017	5 x 355013
235	5	4 x 45 & 1 x 55	3150 x 560 x 1945	355017	5 x 355013
245	5	3 x 45 & 2 x 55	3150 x 560 x 1945	355017	5 x 355013
255	5	2 x 45 & 3 x 55	3150 x 560 x 1945	355017	5 x 355013
265	5	1 x 45 & 4 x 55	3150 x 560 x 1945	355017	5 x 355013
275	5	5 x 55	3150 x 560 x 1945	355017	5 x 355013
280	6	5 x 45 & 1 x 55	3150 x 560 x 1945	355018	6 x 355013
290	6	4 x 45 & 2 x 55	3150 x 560 x 1945	355018	6 x 355013
300	6	3 x 45 & 3 x 55	3150 x 560 x 1945	355018	6 x 355013
310	6	2 x 45 & 4 x 55	3150 x 560 x 1945	355018	6 x 355013
320	6	1 x 45 & 5 x 55	3150 x 560 x 1945	355018	6 x 355013
330	6	6 x 55	3700 x 560 x 1945	355018	6 x 355013

* If the boilers are not wall mounted then a frame kit is required

2 - 6 boilers cascade

- 2 - 6 boilers (45kW, 55kW or mixed outputs)
- Low loss header left or right hand
- Gas inlet left or right handed (2" pipe)
- Frames are an optional extra, if unable to wall mount the boilers (1 frame per boiler)

Single frame kit*

- Single frame kit accessory which will facilitate a single boiler or cascade installations, one frame required per boiler
- Low loss header kit accessory DN80 suitable for multiple boiler installations

* If this option is chosen, during installation the headers and gas pipework would be required to be piped.

Pipe work Connections

- All pipe work connections are supplied with either the boiler, header kit or are pre-assembled to the header kit
- Pre-assembled to header; the boiler the flow and return flexible connections, which reduce installation time
- Delivered with header kit; connection pipe assembly, non return valves & pipe work connector
- Supplied with the Keston Heat boiler; all isolation valves, pressure relief valve, drain cock and associated fittings

QSPA CYLINDER

OUTSTANDING VALUE



TWO YEAR PARTS
& LABOUR WARRANTY



TWENTY FIVE YEAR
VESSEL WARRANTY

HASSLE-FREE UNVENTED HOT WATER STORAGE SYSTEMS, THE PERFECT MATCH TO OFFER THE BEST SOLUTION FOR BOILER AND CYLINDER COMBINATIONS.

The Keston QSPA range of stainless steel unvented indirect cylinders are manufactured to the highest standards, with 8 models in the range and 2 years parts and labour warranty you can be sure the qSpa allies the twin demands of excellent product quality and outstanding value.

SUPPLIED WITH QSPA APPLIANCE

- Hot water draw off 22mm compression elbow
- Temperature and pressure relief valve 95°C/6 bar
- Hot water secondary return 22mm (for cylinders 210 litres and above)
- Single high level immersion on all models
- Additional low level immersion heater on all models 250 litres and above
- Immersion heater 1¼" BSP 3kW
- Cold supply 22mm compression
- Dual control/overheat thermostat pocket
- Boiler control sensor pocket (spare)
- Primary flow 22mm compression (28mm tails for 400 litre model only)
- Primary return 22mm compression (28mm tails for 400 litre model only)

KESTON QSPA AVAILABLE MODELS:

90, 120, 150, 180, 210, 250, 300 & 400

COMPONENT KITS SUPPLIED SEPARATELY

- Combination inlet group incorporating pressure reducing valve, strainer, check valve, balance cold take off point, expansion relief valve and expansion vessel connection points
- Potable expansion vessels c/w flexible hose and wall bracket
- Tundish
- Dual control thermostat and combined overheat thermostat
- Two port (22mm) zone valve for primary circuit
- Wiring junction box for primary system

HASSLE-FREE UNVENTED HOT WATER STORAGE SYSTEMS, THE PERFECT MATCH TO OFFER THE BEST SOLUTION FOR BOILER AND CYLINDER COMBINATIONS

THE FACTS

- 2 year parts and labour and 25 year vessel warranty
- Duplex stainless steel construction to offer excellent resistance to corrosion
- Hot water secondary return 22mm (for cylinders 210 litres and above)
- Insulated using the latest HCFC free Envirofoam
- Corrugated heat transfer coil to give 20% faster recovery than plain tube
- Manufactured in accordance with BS EN 12897
- Lightweight for ease of installation



"MANUFACTURED TO THE HIGHEST STANDARDS"

QSPA SOLAR

To compliment our range of solar thermal products, the Keston qSpa Solar range of unvented cylinders is now available. Available in five sizes, all of which come complete with 2 years warranty, the qSpa Solar range is certain to suit your cylinder needs no matter the situation.

SUPPLIED WITH QSPA SOLAR APPLIANCE

- Hot water draw off 22mm compression
- Temperature and pressure relief valve 95°C/6 bar
- Hot water secondary return 22mm (for cylinders 210 litres and above)
- Immersion heater 1¾" BSP 3kW
- Cold supply 22mm compression
- Dual control/overheat thermostat pocket
- Primary flow 22mm compression – (28mm tails for 400 litre model only)
- Primary return 22mm compression – (28mm tails for 400 litre model only)
- Solar coil return to collector 22mm compression
- Solar coil flow from collector 22mm compression
- Solar thermostat pocket

COMPONENT KITS

- Combination inlet group incorporating pressure reducing valve, strainer, check valve, balance cold take off point, expansion relief valve and expansion vessel connection points
- Potable expansion vessels c/w flexible hose and wall bracket
- Tundish
- Dual control thermostat and combined overheat thermostat
- Two port (22mm) zone valve for primary circuit
- Wiring junction box for primary system

KESTON QSPA SOLAR AVAILABLE MODELS:

180, 210, 250, 300 & 400

SPECIFICATION DATA

SPECIFICATION DATA – QSPA

	Unit	qSpa 90	qSpa 120	qSpa 150	qSpa 180	qSpa 210	qSpa 250	qSpa 300	qSpa 400
Capacity	Litres	90	120	150	180	210	250	300	393
Normal Size	mm	732 x 550	920 x 550	1107 x 550	1295 x 550	1483 x 550	1733 x 550	2020 x 550	2040 x 630
Weight (Full)	kg	109	142	176	208	243	288	344	455
Heat-up Time 15-60°C	mins*	21	27	28	33	41	44	48	55
Recover time after 70% draw off (applies to Primary Heat Source Only)	mins**	16	19	19	21	26	30	32	36

SPECIFICATION DATA – QSPA SOLAR

	Unit	qSpa 180	qSpa 210	qSpa 250	qSpa 300	qSpa 400
Capacity	Litres	180	210	250	300	393
Normal Size	mm	1295 x 550	1483 x 550	1733 x 550	2020 x 550	2040 x 630
Weight (Full)	kg	210	245	290	346	459
Heat-up Time 15-60°C	mins*	28	35	38	41	45
Recover time after 70% draw off (applies to Primary Heat Source Only)	mins**	16	16	19	20	24

NB: Figures are for guidance only and are based on BS6700 recommendations.*Heat up from 15 to 60°C with constant 82°C coil flow temperature. **Reheat times after 70% of tank is drawn off and replaced with 15°C water. All units are complete with 30-70°C adjustable thermostat. QSPA twin figures assume both coils used concurrently. 25 year warranty applies to the stainless steel inner cylinder. Remainder of parts have a two year warranty.

KESTON SERVICE AND SUPPORT

SUPPORT

When you choose to work with Keston you can be confident to know that you're partnering with a British manufacturer that's supported by a dedicated national service team, delivering help and advice to you and your customers, 364 days a year.

Our rigorous research and development procedures and manufacturing quality control checks ensures that all of our products are produced to the highest of standards, delivering total comfort and peace of mind.

SERVICE

Our dedicated service team of engineers are fully trained to exacting standards and are Gas Safe Registered, providing one-to-one advice on the road, over the phone or via the net to thousands of customers each year.



"DELIVERING TOTAL COMFORT AND PEACE OF MIND..."

AFTERSALES

Our call centre team based in Hull are comprehensively trained to provide tailored advice to homeowners and the trade:

Installer helpline & Homeowner helpline | 01482 443 005

PARTS

Keston's extensive quality testing procedures ensure that all of our products are manufactured to the highest of quality standards.

In the unlikely event that a spare part is required, you can be rest assured that most parts are readily available to order via your local spares outlet up to 10 years after appliance production has ceased.

Keston spare parts can be obtained from any of Ideal's nationwide network of approved stockists.

For information about any Keston spare parts and for a list of stockists, please call our Spares Department on 01482 443 005 or visit our website www.keston.co.uk

MANUFACTURED TO THE HIGHEST UK STANDARDS, ANYTHING IS POSSIBLE WITH A KESTON.

KESTON AFTER SALES

WHEN YOU CHOOSE A KESTON APPLIANCE, YOU ARE SELECTING A SOLUTION THAT HAS BEEN EXPERTLY PRODUCED TO THE HIGHEST OF STANDARDS.

Supported by a dedicated national service team, delivering help and advice to you and your customers, 364 days a year, all of Keston's products come with their own dedicated warranty. Each product design undergoes a rigorous research and development procedure and manufacturing quality control check to ensure that every product is produced to the highest of standards, helping to deliver total home comfort and peace of mind.

"OUR WARRANTIES BRING YOU PEACE OF MIND"



KESTON TRAINING

Here at Keston, we understand that having the confidence to be able to specify and install a wide range of products is an essential part of your day-to-day job.

With this in mind, we have created a wide range of comprehensive training courses, utilising both classroom and hands-on learning techniques to enable you to become a more efficient, skilled heating engineer.

All of our training courses have been designed to ensure that you get the most out of the time spent off the road and can be easily adapted to suit the desired knowledge level. So, if you're looking to refresh your existing knowledge, or to learn how to install something completely new, Keston has a course for you.

For more information, please contact the training department on 01482 443 005.



LOCATIONS

Centres of Excellence in Leeds and Reading.

These are comprehensive one-day courses, which can be mixed and matched for individual installation and servicing companies. The course uses a simple step-by-step approach with hands on training to ensure all aspects of commissioning, servicing and fault finding can be dealt with quickly and efficiently.

If you are an installer/service engineer you must be Gas Safe Registered to attend a course.

COURSE CONTENT

Each course covers the following:

- Product range overview
- Product specification
- Installation requirements
- Flue and accessory options
- Component review overview
- Component change and repair
- User controls
- Sequence of operation
- Fault finding

The course involves discussion with tutors, demonstrations with practical advice. Lunch and refreshments are provided and a certificate is awarded upon completion.



"WHATEVER YOUR NEEDS, KESTON CAN HELP YOU GAIN THE KNOWLEDGE."

PRODUCT INFORMATION

Code	Description
355061	Keston Combi C30 Boiler Packaged
355062	Keston Combi C35 Boiler Packaged
355063	Keston System S30 Boiler Packaged
355003	Keston Heat 45 Boiler Packaged
355004	Keston Heat 55 Boiler Packaged
System	
355005	Keston Twin Combi/System Stand Off Kit
355006	Keston Air Terminal Finishing Kit
355007	Keston Flue Sleeve Kit
355077	Keston System Filter 22mm
355071	Keston System S30 LPG Conversion Kit
Combi	
355005	Keston Twin Combi/System Stand Off Kit
355067	7 Day plug in Electronic timer
355066	RF Electronic Programmable Stat
355006	Keston Air Terminal Finishing Kit
355007	Keston Flue Sleeve Kit
355077	Keston System Filter 22mm
355069	Keston Combi C30 LPG Conversion Kit
355070	Keston Combi C35 LPG Conversion Kit
Heat Only	
355008	Keston Heat Room Controller
355009	Keston Heat Modulating Sequencer Kit
355010	Keston Heat Tank Sensor Kit
355011	Keston Heat Safety Interlock Kit
355012	Keston Heat Room Sensor Kit
355006	Keston Air Terminal Finishing Kit
355007	Keston Flue Sleeve Kit
Heat Only Frame and Header Kits	
355013	Single Frame Inline Kit
355014	Header Inline DN80 x 2 Kit
355015	Header Inline DN80 x 3 Kit
355016	Header Inline DN100 x 4 Kit
355017	Header Inline DN100 x 5 Kit
355018	Header Inline DN100 x 6 Kit
355019	Header Low Loss DN80 Kit



Manufactured to the highest UK standards,
anything is possible with a Keston.

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Fax 01482 467 133

www.keston.co.uk



In accordance with our policy of constant improvement we reserve the right to alter the design and specification of products without prior notice. Keston business reg : no 03544589

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