
# TWIN FLUE TECHNOLOGY
# DESIGNED TO GO THE DISTANCE

## THE ALL NEW KESTON LINE-UP
Product guide

Built in Britain

Keston

# CONTENTS

# 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 pluming
- Widely available from plumbing and builders merchants
- Flue can be painted when installed internally and externally
- 50mm MuPVC weld allowing simple cost effective installation


# A KESTON FOR ALL OCCASIONS

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

All Keston boilers are offered with a 2 year warranty 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.

# 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 2 year warranty as standard 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 2 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

**2 Year Warranty**
Providing ultimate reliability, all boilers are offered with a 2 year warranty as standard

# TWIN FLUE SYSTEMS


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

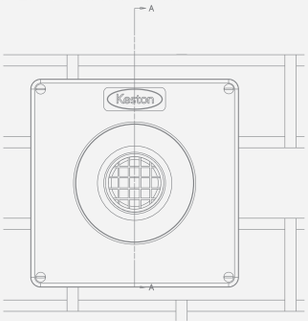
A low cost, small diameter (50mm) MuPVC pipe (Marley and Polypipe 2000 systems only) is the only item required for use with the innovative Keston flue and air intake system. This is readily available from your local merchant at a fraction of the cost of concentric flue.

The Keston flue system makes every job easier. To give you maximum 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.

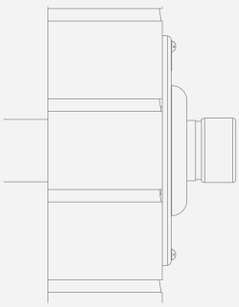
*For flue fall and maximum total equivalent flue lengths please refer to the installation instructions

## THE SPECIFICATIONS

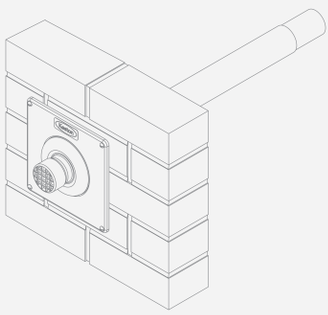
1. External flue trim



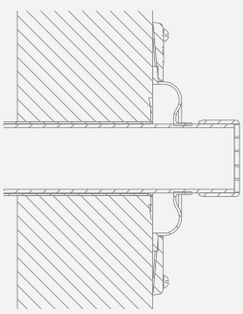

Profile view



2. Wall Sleeve to protect flue



Profile view



External flue trim neatens up appearance and allows for expansion of long flue runs

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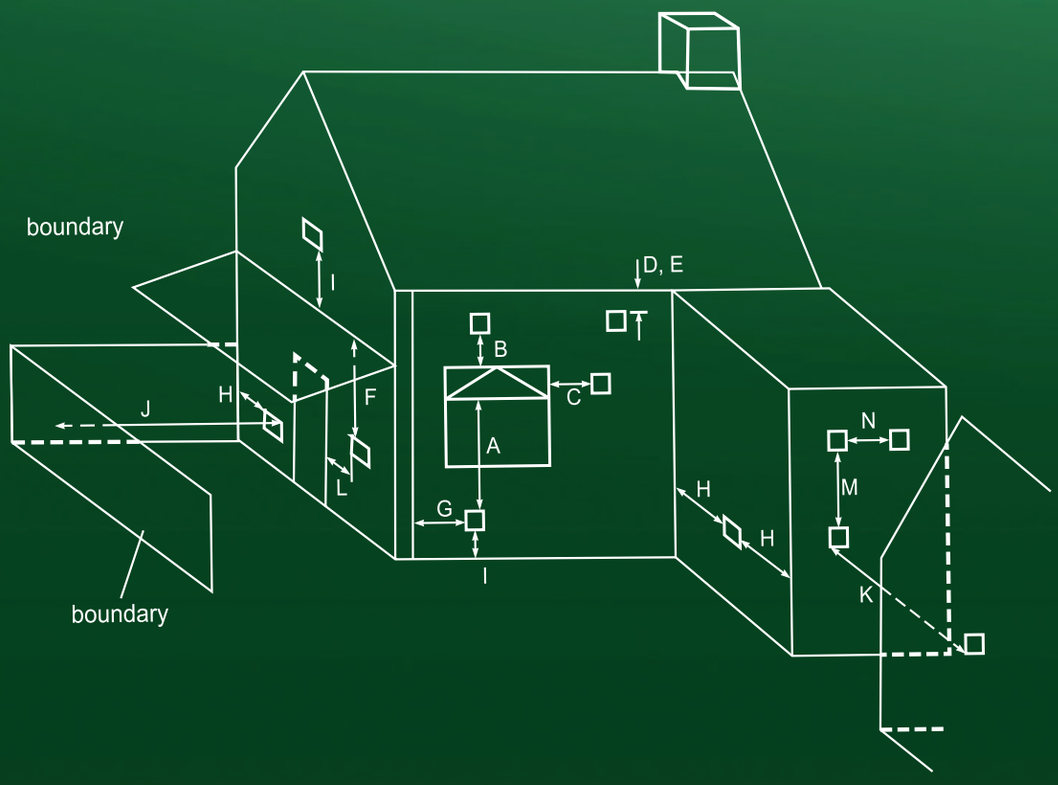


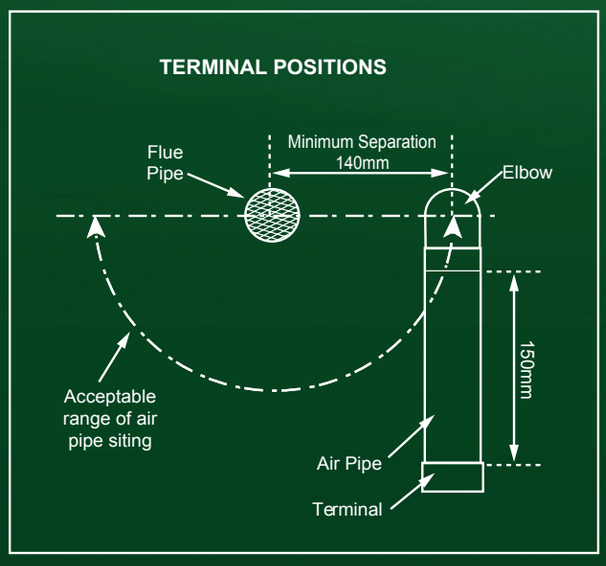

# FLUE TERMINATION POSITION

| | Twin Flue Positions | Flue Min Spacing | Air Min Spacing |
|---|---|---|---|
| A | Below an opening | 300mm | 50mm |
| B | Above an opening | 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 | Above ground or balcony or roof | 150mm | 150mm |
| H | From an internal or external corner or to a boundary alongside the terminal | 300mm | 50mm |
| I | Above ground, roof or balcony level | 300mm | 100mm |
| J | From a surface or a boundary facing the terminal | 600mm | 100mm |
| K | From a terminal facing the terminal | 1,200mm | 1,200mm |
| L | From an opening in the car port into the building | 1,200mm | 100mm |
| M | Vertically from a terminal on the same wall | 1,500mm | 1,500mm |
| N | Horizontally from a terminal on the same wall | 300mm | 300mm |

# TERMINATION OF THE FLUE AND AIR

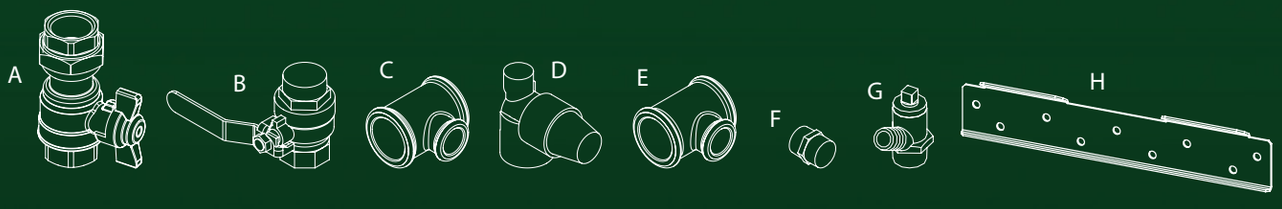
The flue and air pipes may terminate independently through any external walls within the same dwelling except on opposing walls, within the maximum lengths detailed. The air pipe must have an elbow and 150mm length of pipe directed downwards with a termination grill fitted. The air pipe can be situated 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.

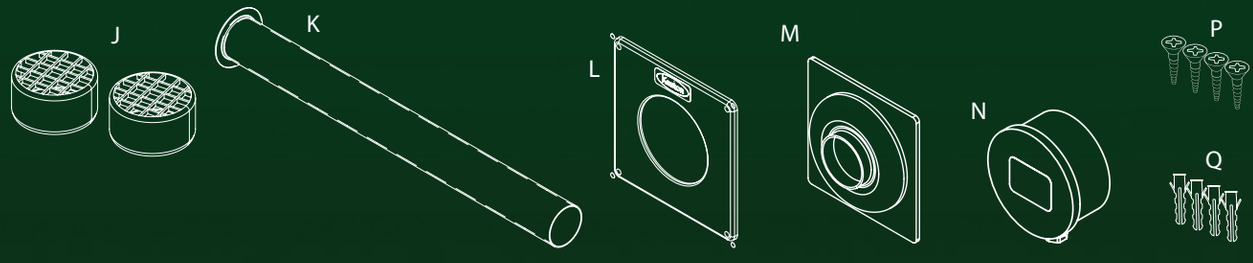
The flue and air pipes must extend by at least 40mm from the wall surface. Condensing boilers emit a visible plume of water vapour from the flue terminal, this is normal. It is the responsibility of the installer to judiciously select a terminal location that does not cause a nuisance. If either the flue or air terminal is below a height of 2m from ground level a terminal guard must be fitted.




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

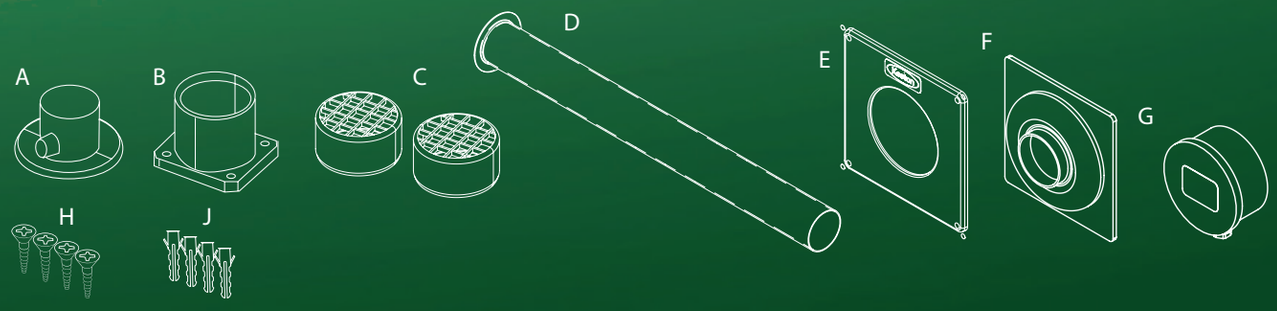
# SUPPLIED WITH KESTON HEAT



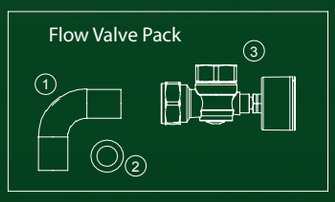

A. Gas cock
B. Ball Valve - 2 off
C. M1 Tee 3/4
D. Pressure Relief Valve
E. M1 Tee 1/2
F. Drain Nipple 3/4
G. Drain Nipple 1/2
H. Wall Mounting Plate
J. Terminals - 2 off
K. Flue Sleeve
L. Wall Plate & Screws
M . Wall Seal
N. Weather Compensation
P. Screws - 4 off
Q. Wall Plugs - 4 off

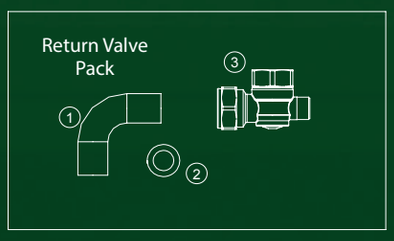
# SUPPLIED WITH KESTON SYSTEM/COMBI

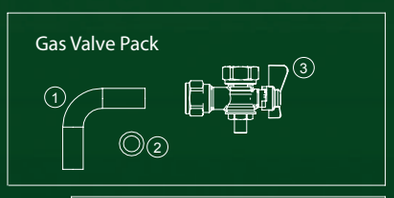


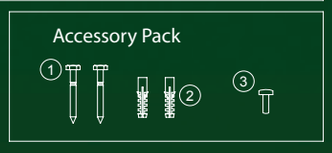

A. Flue Adapter
B. Air Spigot
C. Terminals - 2 off
D. Flue Sleeve
E. Wall Plate
F .Wall Seal
G. Weather Compensation
H. Screws - 4 off
J. Wall Plugs - 4 off

# KESTON SYSTEM CONNECTION PACK



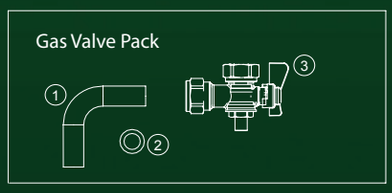

Flow Valve Pack
1. Pipe CH Flow
2. Washer CH
3. Valve Flow (with gauge)

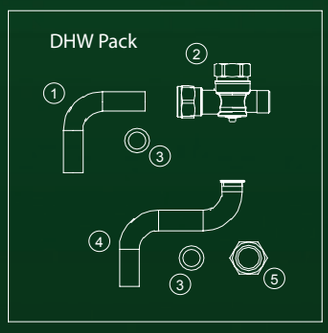
Return Valve Pack
1. Pipe CH Return
2. Washer CH
3. Valve Return

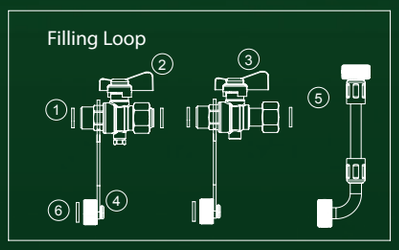
Accessory Pack
1. Screw (x2)
2. Wallplug (x2)
3. Turret Clamp Screw (x1)

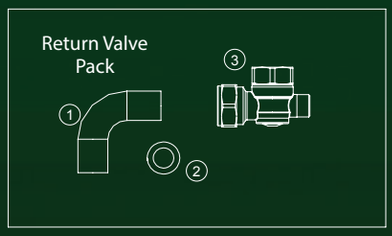
Gas Valve Pack
1. Pipe - Gas Inlet
2. Washer - Gas (blue)
3. Gas Cock

# KESTON COMBI CONNECTION PACK

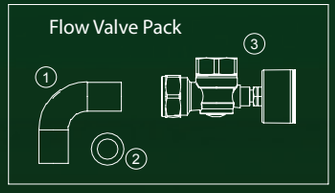







Gas Valve Pack
1. Pipe - Gas Inlet
2. Washer - Gas (blue)
3. Gas Cock

Filling Loop Pack
1. 3/8" Fibre washer (x4)
2. Valve (double check valve) fitting
3. Valve - Filling Loop
4. Plastic Chain (x2)
5. Filling Loop
6. 3/8" Blanking Rubber Washer (x2)

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

DHW Pack
1. Pipe DHW Outlet
2. Valve - Return DHW
3. Washer DHW (x2)
4. Pipe DHW Inlet
5. Nut 1/2"

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

Flow Valve Pack
1. Pipe CH Flow
2. Washer CH
3. Valve Flow (with gauge)

# SYSTEM 30
# 30kW OUTPUT
# SYSTEM BOILER

**TWO YEAR WARRANTY**

## 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.

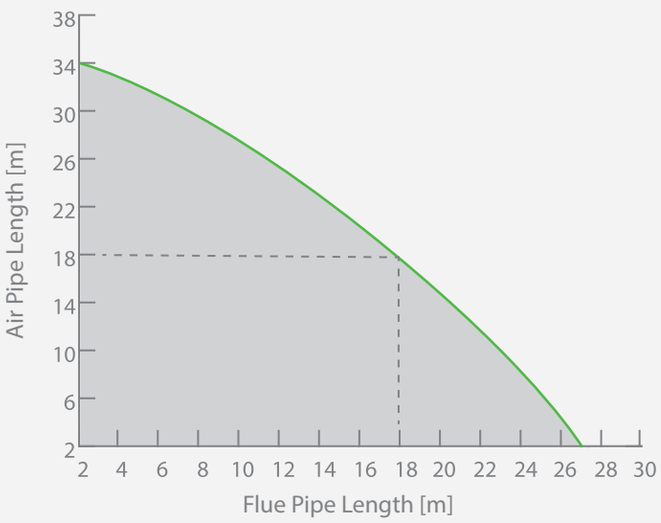
Available in 30kW, the Keston System provides a dependable and efficient solution for new and replacement installations. Time saving push & clip flue spigot connections and a wide range of alternative flueing solutions help to ensure the product is installed quickly in virtually any domestic situation.

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 2 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

Keston System 30 - Flue & Air Pipe Length




acceptable flue operating area

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

"THE SYSTEM 30 HAS THE CAPABILITY FOR A TWIN FLUE UP TO 27* METRES, PROVIDING A SOLUTION FOR PROBLEMATIC INSTALLATION SITUATIONS"


# THE FACTS

- Compact dimensions
- Twin flue up to 27m*
- 50mm MuPVC solvent weld flue allowing simple, cost effective installations
- Inbuilt weather compensator
- Low lift weight
- Inbuilt frost protection
- Fully modulating
- Digital display with simple diagnostics
- 2 year warranty
- British Gas service listed
- Energy Saving Trust recommended

**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

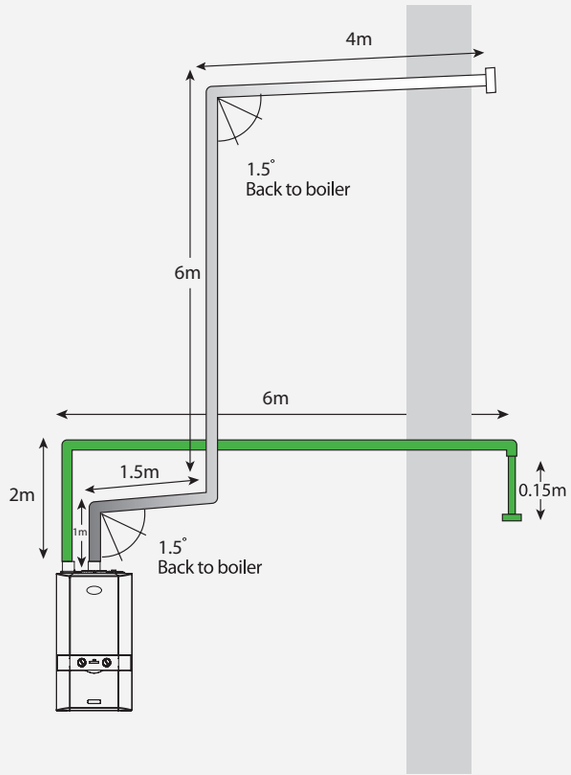
**Twin Flue Design**
Providing the perfect solution for problematic and awkward installations

**2 Year Warranty**
Providing ultimate reliability, all boilers are offered with a 2 year warranty as standard

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

# FLUE INSTALLATION

## EXAMPLE KESTON SYSTEM 30

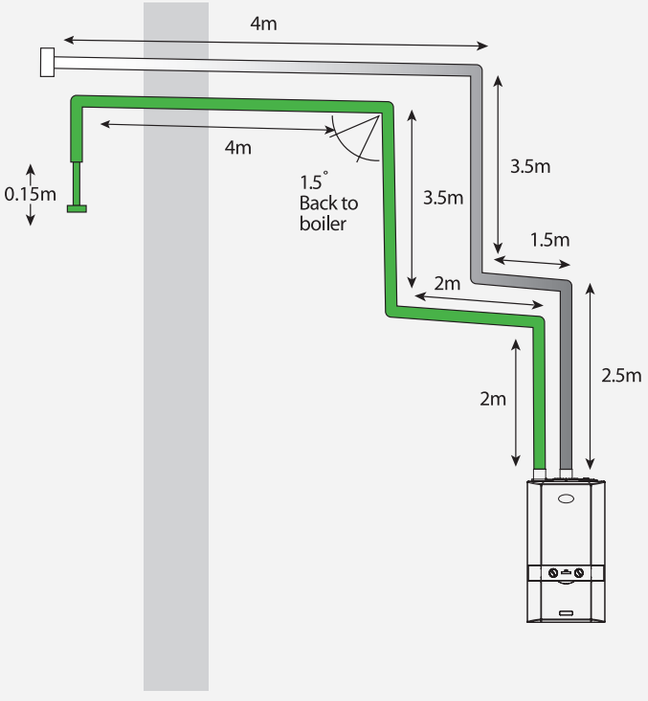



**Calculations**

**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+0.15+1 = 8.15m
Total = 10.15m

**OVERALL AIR/FLUE=25.65**




**Calculations**

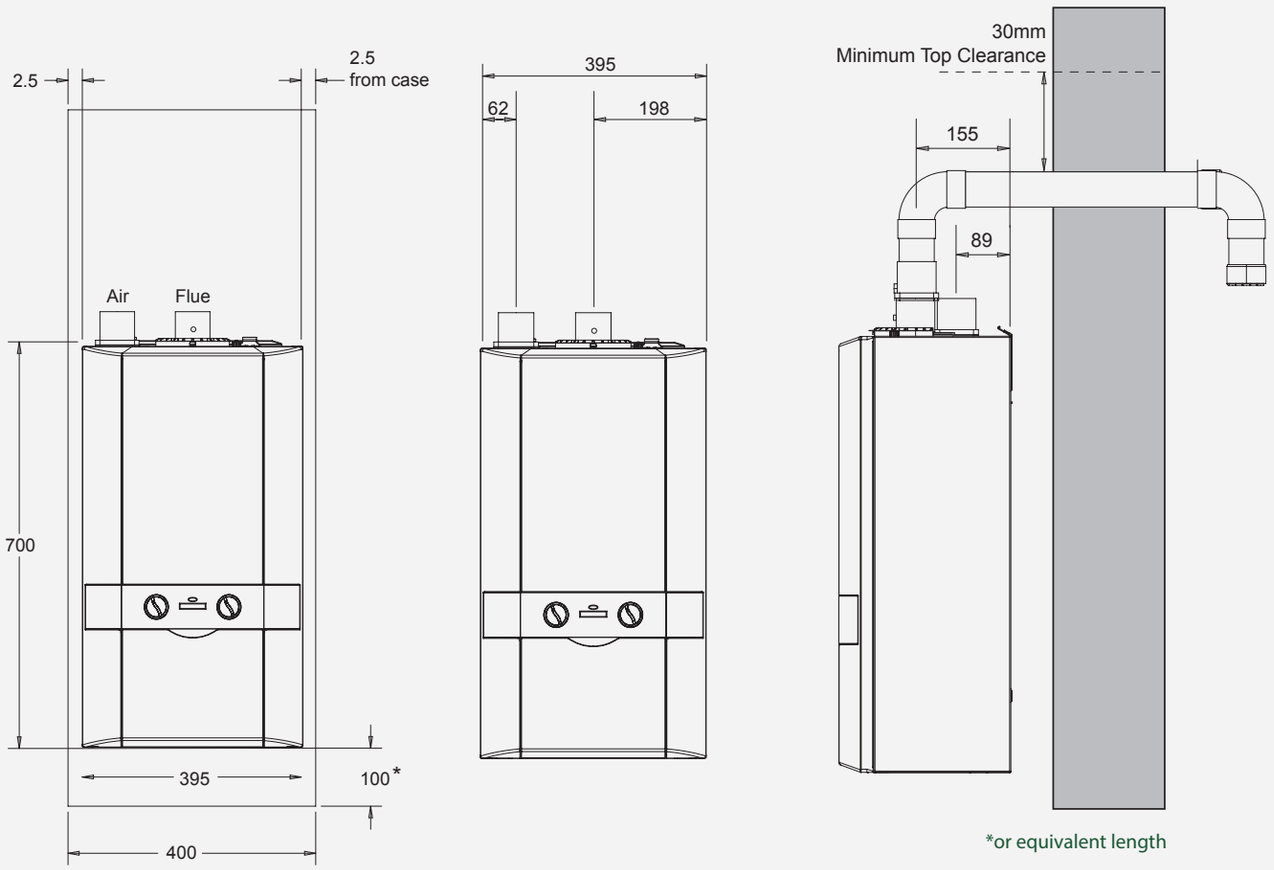
**Flue**
Elbows 3 x 1m = 3m
Straights 4+6+1.5+1 = 12.5m
Total = 15.5m

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

**OVERALL AIR/FLUE=30.15**

Acceptable flue & pipe length, refer to graph page 9 for more details.

# DIMENSIONS




*or equivalent length

| Keston System 30 | |
|---|---|
| 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 30 |
|---|---|---|
| Size | Height (mm) | 700 |
| | Width (mm) | 395 |
| | Depth (mm) | 278 |
| | Weight (packed) kg | 34.5 |
| | Maximum Installation Weight kg | 28.0 |
| 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 | 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 | 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 | Digital (Alpha/numeric) |
| | User interface | Digital display & manual controls |
| | 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 *2 | 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.
*2 for outputs exceeding 18 kW (60,000 Btu/h), 28mm primary pipework will be required.

# PERFORMANCE DATA

| | | | CENTRAL HEATING | | HOT WATER |
|---|---|---|---|---|---|
| | | | Min | Max | |
| Boiler input "Q" | Nett CV<br>Gross CV | kW<br>kW | 6.1<br>6.7 | 30.4<br>33.7 | N/A |
| 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 | 91.1% | | | | |
| SEDBUK | Band A | | | | |
| $NO_x$ classification | Class 5 | | | | |

# INSTALLATION DATA

| | | Keston System |
|---|---|---|
| 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 | 34.5 |
| Installation weight | kg | 28 |
| Casing height | mm | 700 |
| Casing width | mm | 395 |
| Casing depth | mm | 278 |

# COMBI 30
# 30kW OUTPUT
# COMBINATION BOILER

**TWO YEAR WARRANTY**

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

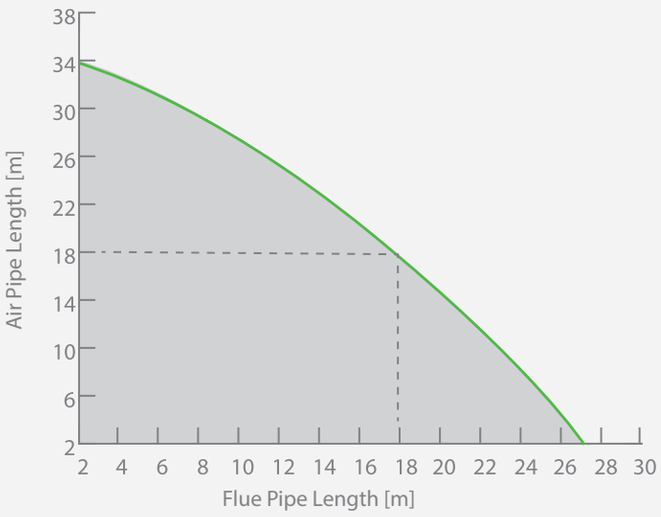
Offering first-class comfort in a compact, wall-hung appliance small enough to fit inside a standard kitchen cupboard†, the Keston Combi 30 enables heating and hot water to be controlled independently, ensuring maximum comfort and efficiency.

The Keston Combi 30 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 30 provides excellent energy savings, making it the perfect choice for new or replacement installations alike.

†Please check cupboard size prior to installation

Keston Combi 30 - Flue & Air Pipe Length




acceptable flue operating area

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

"THE COMBI 30 IS THE PERFECT PRODUCT FOR AWKWARD INSTALLATIONS THANKS TO ITS LONG TWIN FLUE LENGTH CAPABILITY"


# THE FACTS

- Compact dimensions
- Twin flue up to 27m*
- 50mm MuPVC solvent weld flue allowing simple, cost effective installations
- Inbuilt weather compensator
- Low lift weight
- Pre-fitted filling loop
- Inbuilt frost protection
- Fully modulating
- On board diagnostics
- Annual service indicator
- Automatic bypass
- 2 year warranty
- British Gas service listed
- Energy Saving Trust recommended

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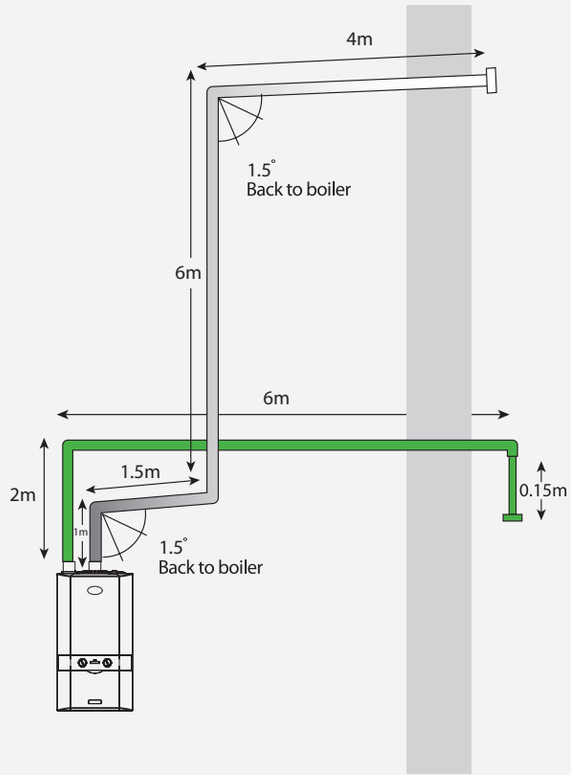
# FLUE INSTALLATION

## EXAMPLE KESTON COMBI 30

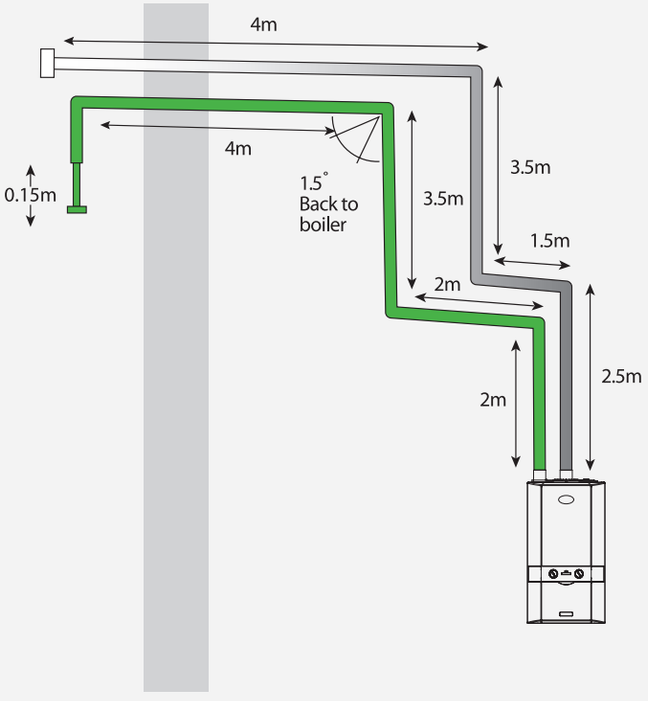



**Calculations**

**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+0.15 = 8.15m
Total = 10.15m

**OVERALL AIR/FLUE=25.65**




**Calculations**

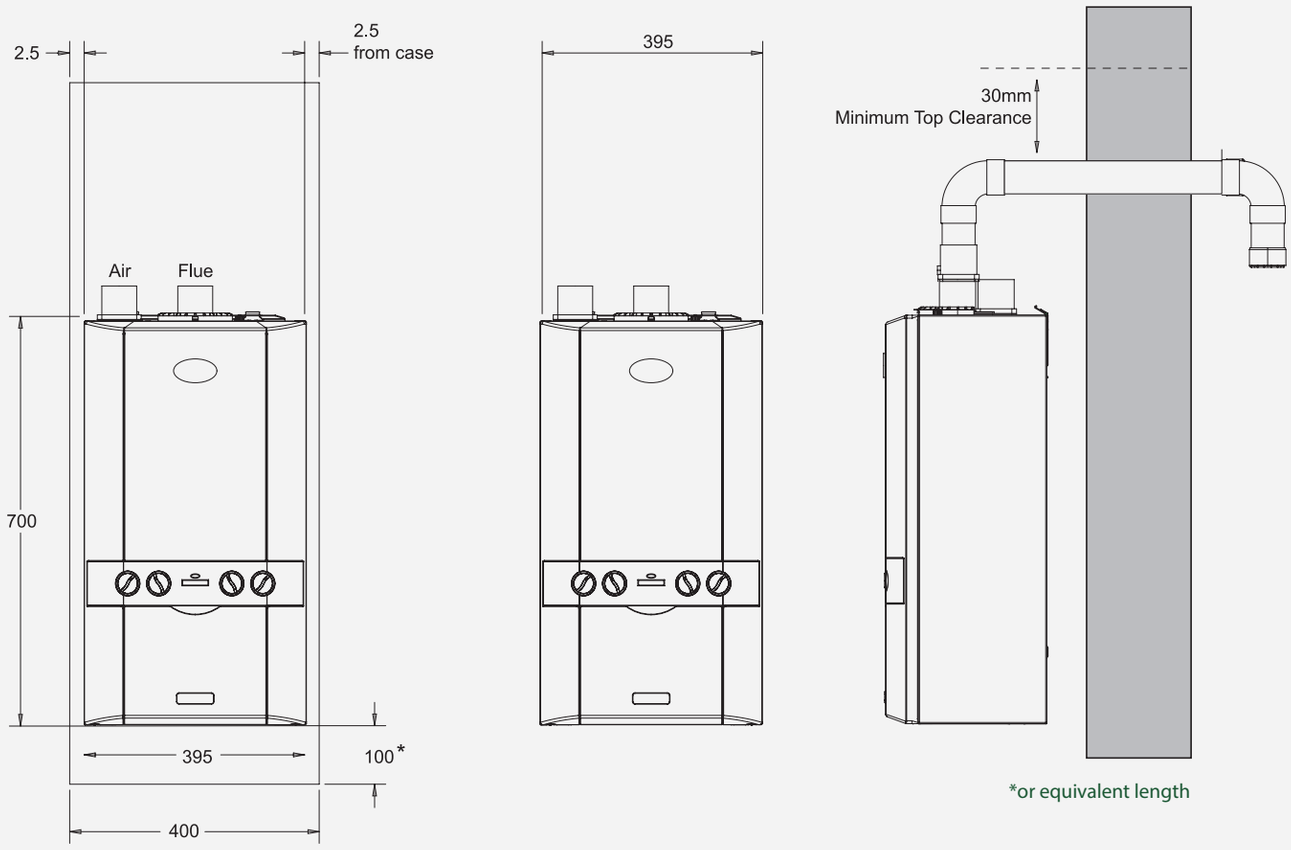
**Flue**
Elbows 3 x 1m = 3m
Straights 2.5+1.5+3.5+4 = 11.5m
Total = 14.5m

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

**OVERALL AIR/FLUE=30.15**

Acceptable flue & pipe length, refer to graph page 15 for more details.

# DIMENSIONS




| Keston Combi 30 | |
|---|---|
| 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 30 |
|---|---|---|
| Size | Height (mm) | 700 |
| | Width (mm) | 395 |
| | Depth (mm) | 278 |
| | Weight (packed) kg | 37.8 |
| | Maximum Installation Weight kg | 32.8 |
| 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) % | 89.0 |
| | $NO_x$ Classification | Class 5 |
| | 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 | 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 | Digital (Alpha/numeric) |
| | User interface | Digital display & manual controls |
| | 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 *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.

# PERFORMANCE DATA

| | | | CENTRAL HEATING | | HOT WATER |
|---|---|---|---|---|---|
| | | | Min | Max | |
| Boiler input "Q" | Nett CV<br>Gross CV | kW<br>kW | 6.1<br>6.7 | 24.3<br>27 | 30.4<br>33.7 |
| 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 | 91.1% | | | | |
| SEDBUK | Band A | | | | |
| $NO_x$ classification | Class 5 | | | | |

# INSTALLATION DATA

| | | Keston Combi 30 |
|---|---|---|
| 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 | 37.8 |
| Installation weight | kg | 32.8 |
| Casing height | mm | 700 |
| Casing width | mm | 395 |
| Casing depth | mm | 278 |

# COMBI 35
# 35kW OUTPUT
# COMBINATION BOILER

**TWO YEAR WARRANTY**

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

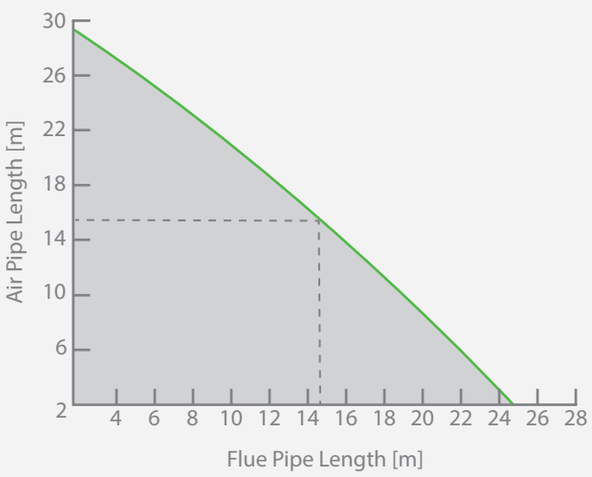
Offering first-class comfort in a compact, wall-hung appliance small enough to fit inside a standard kitchen cupboard†, the Keston Combi 35 enables heating and hot water to be controlled independently, ensuring maximum comfort and efficiency.

The Keston Combi 35 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 35 provides excellent energy savings, making it the perfect choice for new or replacement installations alike.

†Please check cupboard size prior to installation

Keston Combi 35 - Flue & Air Pipe Length




acceptable flue operating area

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

"THE COMBI 35 IS THE PERFECT PRODUCT FOR AWKWARD INSTALLATIONS THANKS TO ITS LONG TWIN FLUE LENGTH CAPABILITY"


# THE FACTS

- Compact dimensions
- Twin flue up to 25m*
- 50mm MuPVC solvent weld flue allowing simple, cost effective installations
- Inbuilt weather compensator
- Low lift weight
- Pre-fitted filling loop
- Inbuilt frost protection
- Fully modulating
- On board diagnostics
- Annual service indicator
- Automatic bypass
- 2 year warranty
- British Gas service listed
- Energy Saving Trust recommended

**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

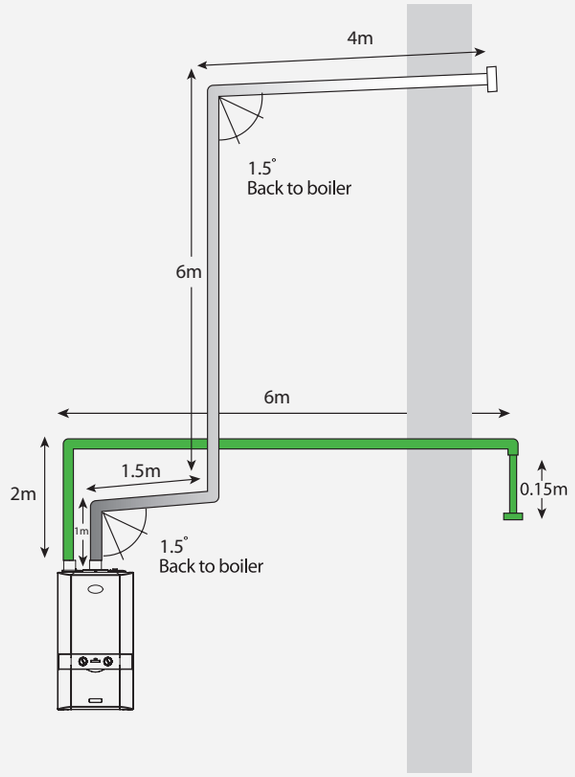
**Twin Flue Design**
Providing the perfect solution for problematic and awkward installations

**2 Year Warranty**
Providing ultimate reliability, all boilers are offered with a 2 year warranty as standard

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

# FLUE INSTALLATION

## EXAMPLE KESTON COMBI 35

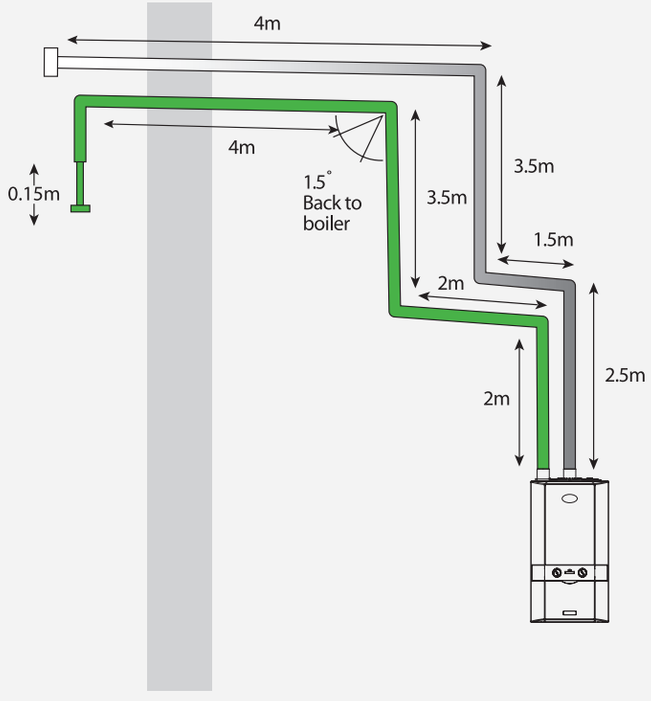



**Calculations**

**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+0.15 = 8.15m
Total = 10.15m

**OVERALL AIR/FLUE=25.65**




**Calculations**

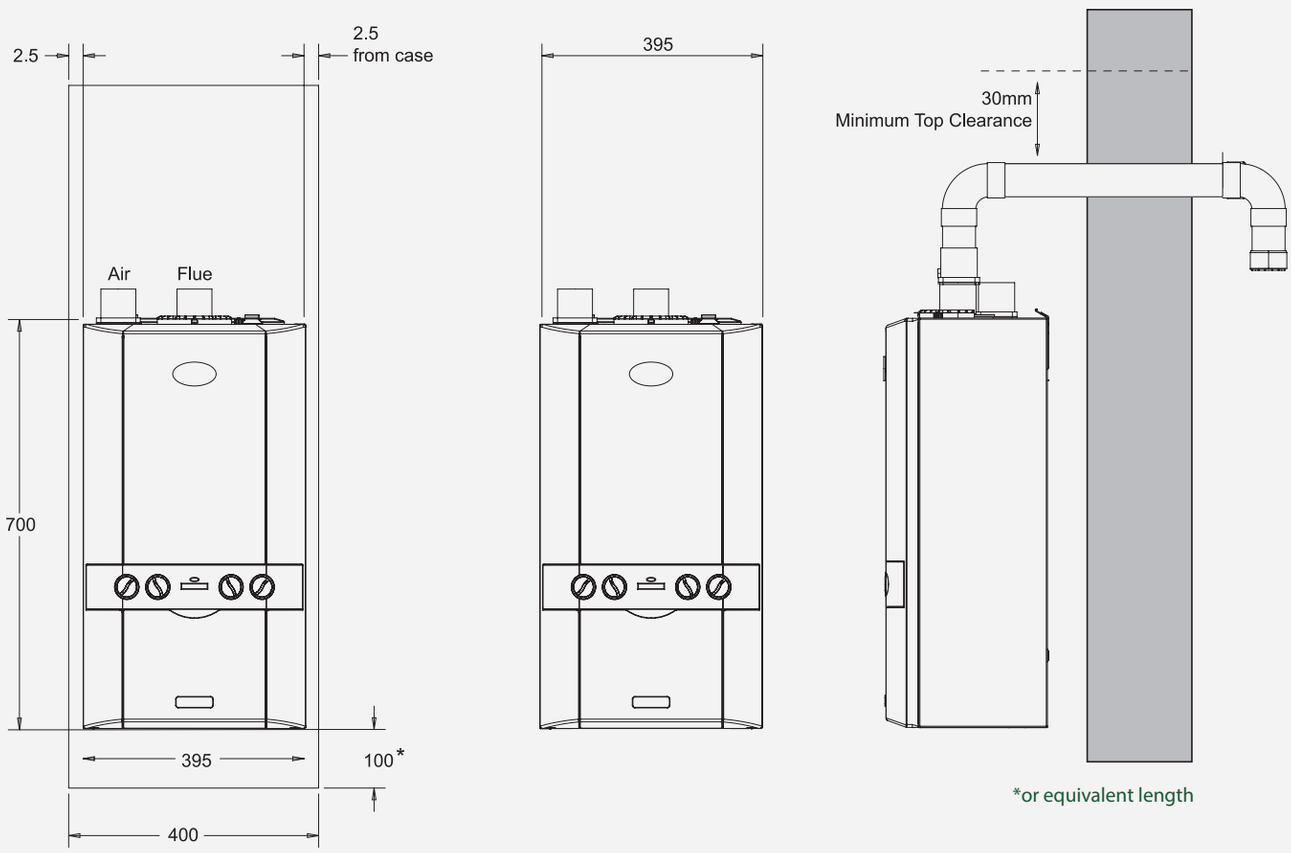
**Flue**
Elbows 3 x 1m = 3m
Straights 2.5+1.5+3.5+4 = 11.5m
Total = 14.5m

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

**OVERALL AIR/FLUE=30.15**

Acceptable flue & pipe length, refer to graph page 21 for more details.

# DIMENSIONS




| Keston Combi 35 | |
|---|---|
| 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 35 |
|---|---|---|
| Size | Height (mm) | 700 |
| | Width (mm) | 395 |
| | Depth (mm) | 278 |
| | Weight (packed) kg | 38 |
| | Maximum Installation Weight kg | 33 |
| 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) % | 91.0 |
| | SEDBUK (2009) % | 88.9 |
| | $NO_x$ Classification | Class 5 |
| | 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 | 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 | Digital (Alpha/numeric) |
| | User interface | Digital display & manual controls |
| | 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 | 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

| | | | CENTRAL HEATING | | HOT WATER |
|---|---|---|---|---|---|
| | | | Min | Max | |
| Boiler input "Q" | Nett CV | kW | 7.1 | 24.3 | 35.4 |
| | Gross CV | kW | 7.9 | 27 | 39.3 |
| Gas Consumption | | $m^3/h$ | 2.512 | 0.623 | 3.658 |
| **BOILER OUTPUT** | | | | | |
| Non condensing (70°C mean water temperature) | | kW | 7.1 | 24.2 | |
| Condensing (40°C mean water temperature) | | kW | 25.6 | 7.5 | |
| Maximum DHW output | | kW | | | 35.3 |
| DHW flow rate @35°C rise | | l/min | | | 14.5 |
| DHW specific rate | | l/min | | | 16.9 |
| Seasonal efficiency | Band A | | | | |
| SEDBUK | 91.1% | | | | |
| $NO_x$ classification | Class 5 | | | | |

# INSTALLATION DATA

| | | Keston Combi 35 |
|---|---|---|
| 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 | 38 |
| Installation weight | kg | 33 |
| Casing height | mm | 700 |
| Casing width | mm | 395 |
| Casing depth | mm | 278 |

# HEAT 45
# 45kW OUTPUT
# HEAT ONLY BOILER

**TWO 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 2 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.

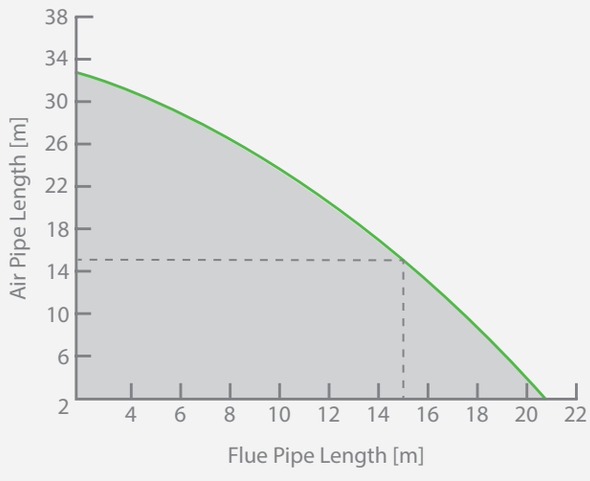
The range provides high efficiencies for low running costs with up to 110% part load and seasonal efficiency (ref Building Regs Part L2) up to 97%. The range also provides low $NO_x$ emissions at Class 5 and at less than 40mg/kWh achieve maximum points under BREEAM schemes.

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.

Keston Heat 45 - Flue & Air Pipe Length




acceptable flue operating area

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


Qualified for **Energy Technology List** www.eca.gov.uk

"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
- 2 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

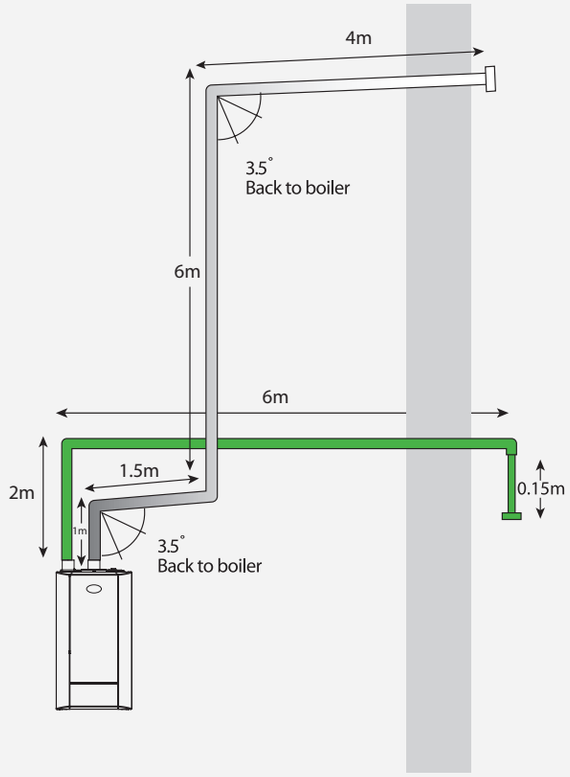
**2 Year Warranty**
Providing ultimate reliability, all boilers are offered with a 2 year warranty as standard

**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

# FLUE INSTALLATION

## EXAMPLE KESTON HEAT 45

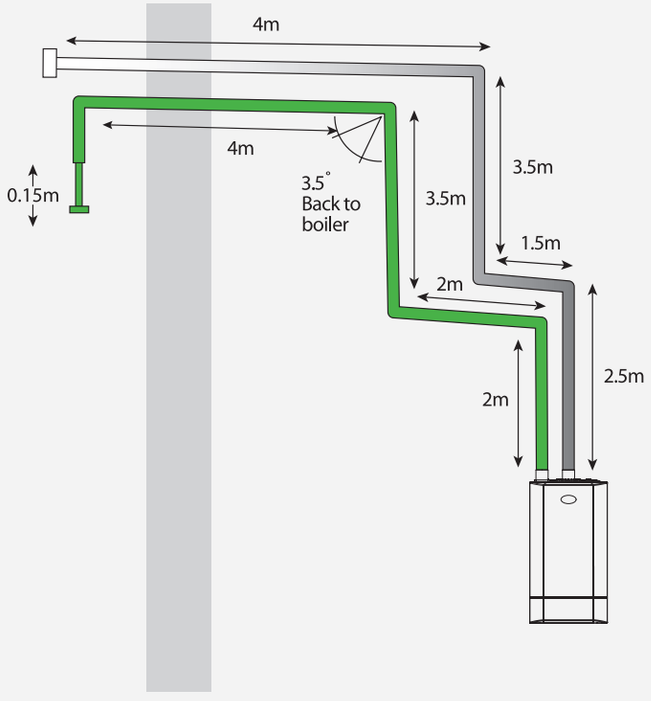



**Calculations**

**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+0.15m = 8.15m
Total = 10.15m

**OVERALL AIR/FLUE=25.65**




**Calculations**

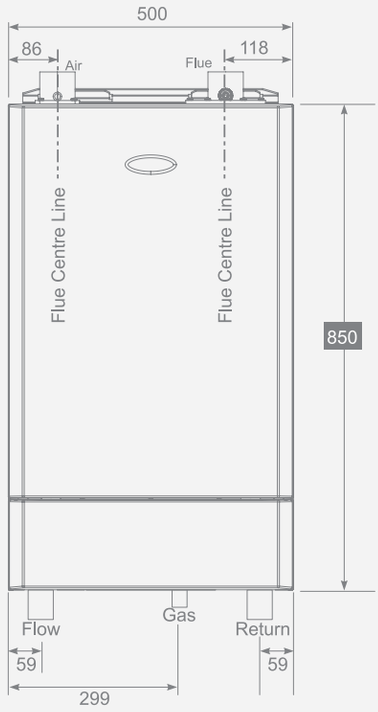
**Flue**
Elbows 3 x 1m = 3m
Straights 2.5+1.5+3.5+4 = 11.5m
Total = 14.5m

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

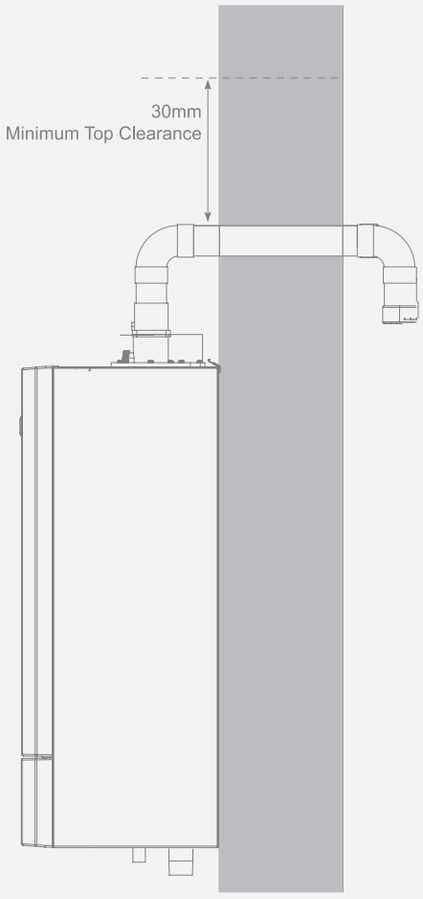
**OVERALL AIR/FLUE=30.15**

Acceptable flue & pipe length, refer to graph page 27 for more details.

# 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

*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 |
| | Weight (packed) kg | 70 |
| | Maximum Installation Weight kg | 49 |
| 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) % | 89.6% |
| | $NO_x$ Classification<br>(mg/kWhr) (ppm DAF) | Class 5<br>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 |

# 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

**TWO 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 2 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.

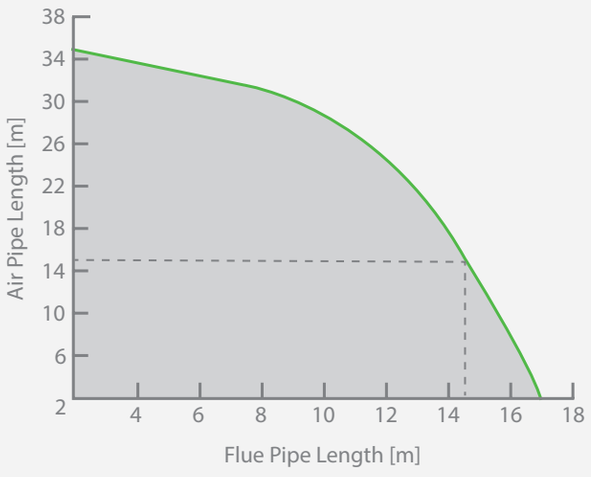
The range provides high efficiencies for low running costs with up to 110% part load and seasonal efficiency (ref Building Regs Part L2) up to 97%. The range also provides low $NO_x$ emissions at Class 5 and at less than 40mg/kWh achieve maximum points under BREEAM schemes.

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 is 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.

Keston Heat 55 - Flue & Air Pipe Length




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
- 2 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

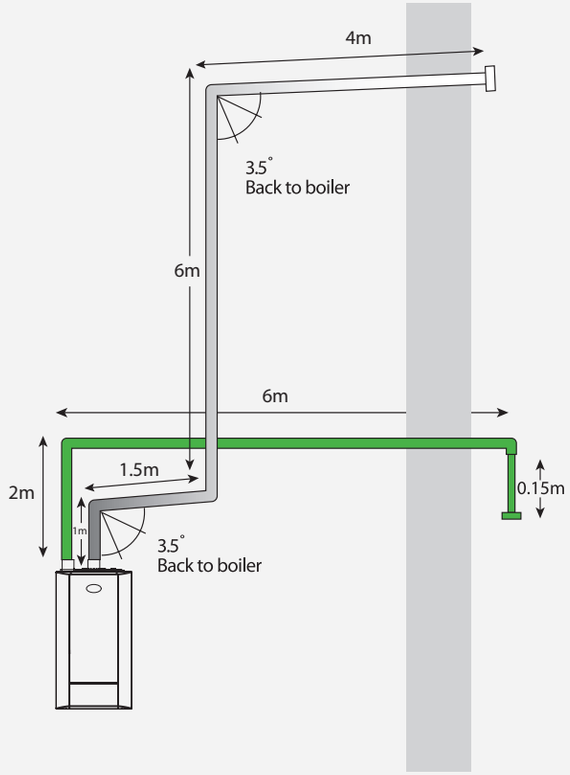
**2 Year Warranty**
Providing ultimate reliability, all boilers are offered with a 2 year warranty as standard

**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

# FLUE INSTALLATION

## EXAMPLE KESTON HEAT 55

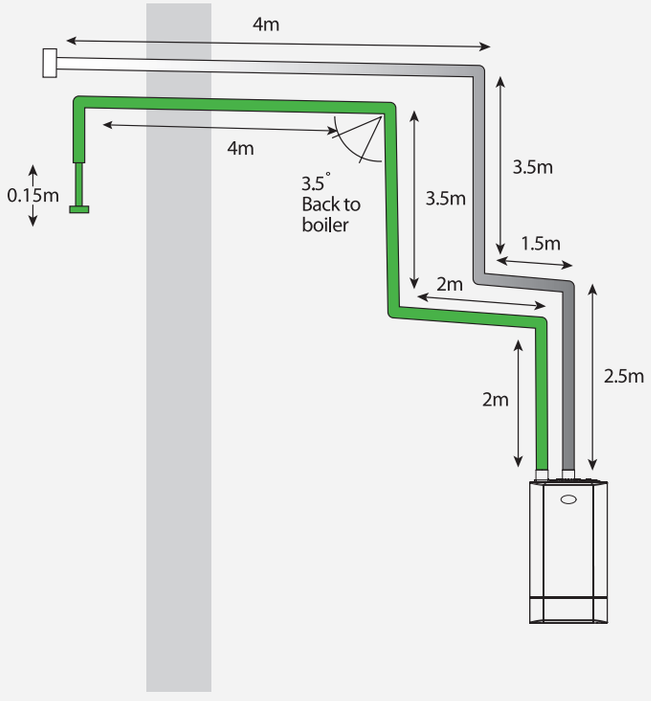



**Calculations**

**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+0.15 = 8.15m
Total = 10.15m

**OVERALL AIR/FLUE=25.65**




**Calculations**

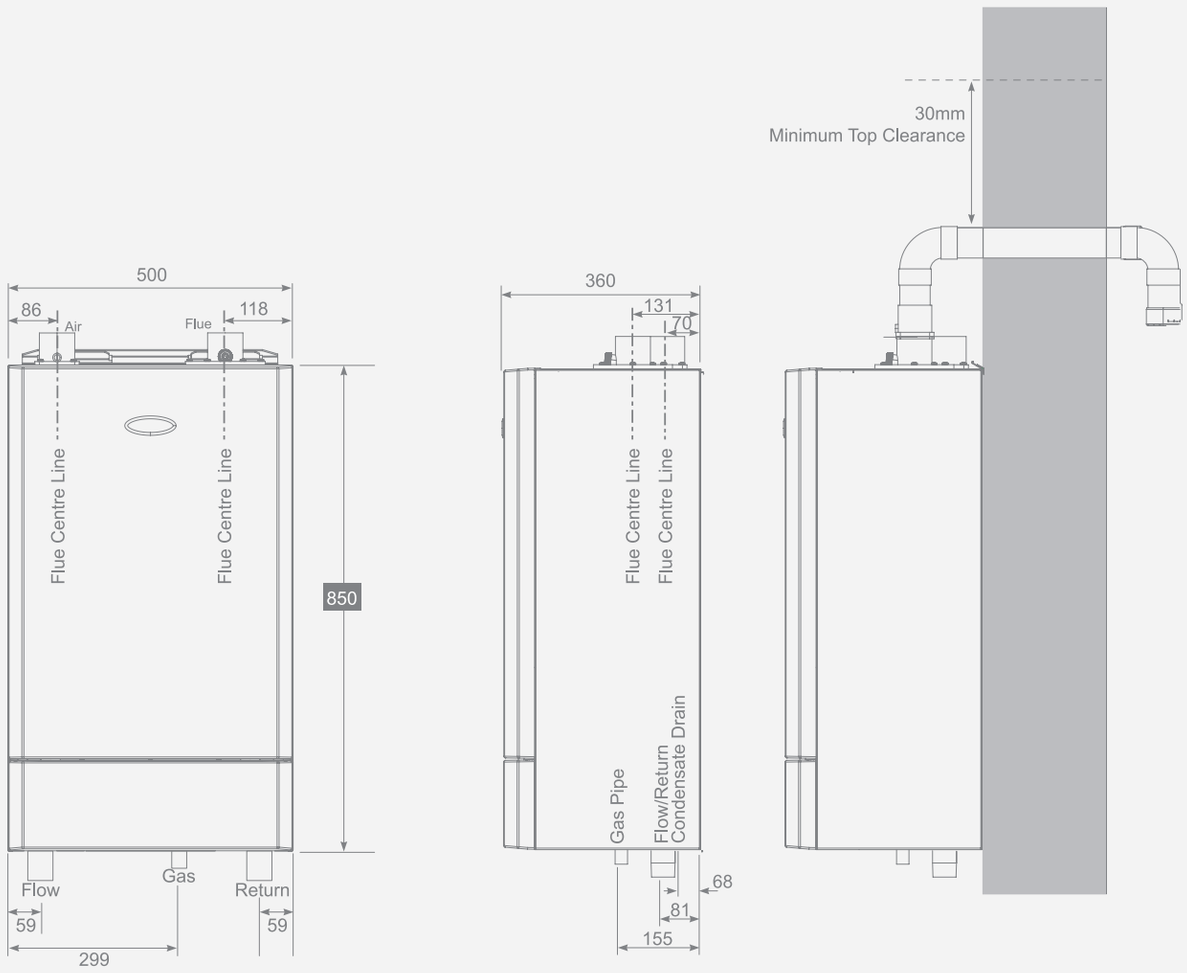
**Flue**
Elbows 3 x 1m = 3m
Straights 2.5+1.5+3.5+4 = 11.5m
Total = 14.5m

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

**OVERALL AIR/FLUE=30.15**

Acceptable flue & pipe length, refer to graph page 33 for more details.

# 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

*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 |
| | Weight (packed) kg | 70 |
| | Maximum Installation Weight kg | 49 |
| 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 (mg/kWhr) (ppm DAF) | Class 5 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 |
| | | Btu/hr | 177800 |
| | Min | kW | 12.0 |
| | | Btu/hr | 40900 |
| Boiler Output (condensing) Mean 40°C | Max | kW | 55 |
| | | Btu/hr | 187700 |
| | Min | kW | 12.7 |
| | | Btu/hr | 43300 |
| Boiler Input Max Rate | Nett | kW | 52.7 |
| | | Btu/hr | 179800 |
| | Gross | kW | 58.5 |
| | | Btu/hr | 199600 |
| Boiler Input Min Rate | Nett | kW | 12.2 |
| | | Btu/hr | 41600 |
| | Gross | kW | 13.5 |
| | | Btu/hr | 46100 |
| Gas Rate | Max Rate | $m^3/hr$ | 5.57 |
| | | $ft^3/hr$ | 196.9 |
| Flue Gas Flow Rate | Max Rate | $m^3/hr$ | 81 |
| | | $ft^3/hr$ | 2861 |
| $CO_2$ (±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 |

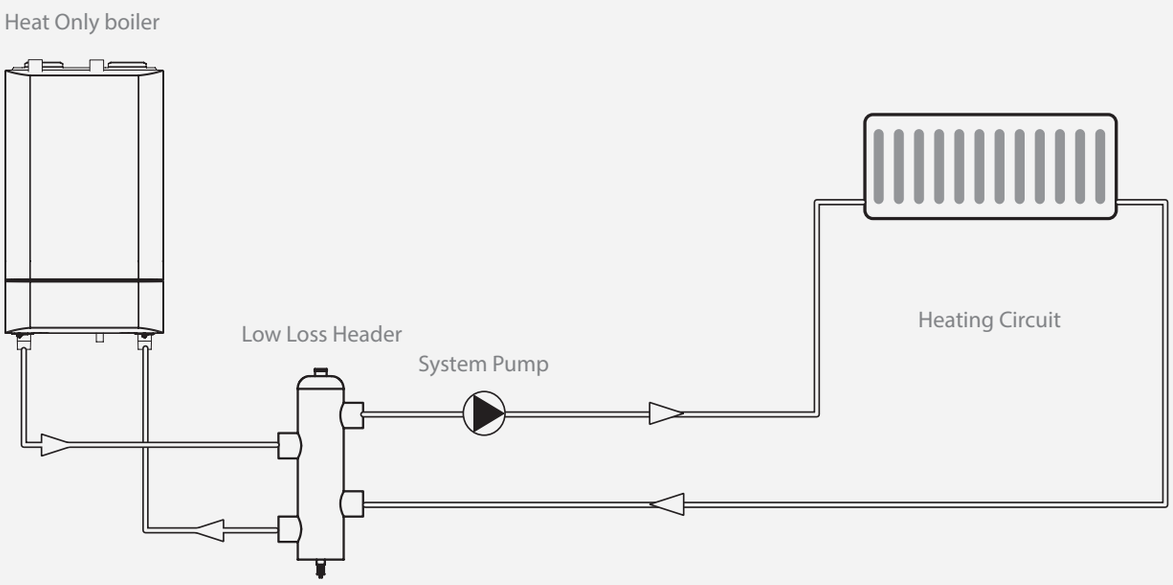
# INSTALLATION DATA

| | | 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.

# MULTIPLE BOILER INSTALLATIONS

## SYSTEMS IN CASCADE

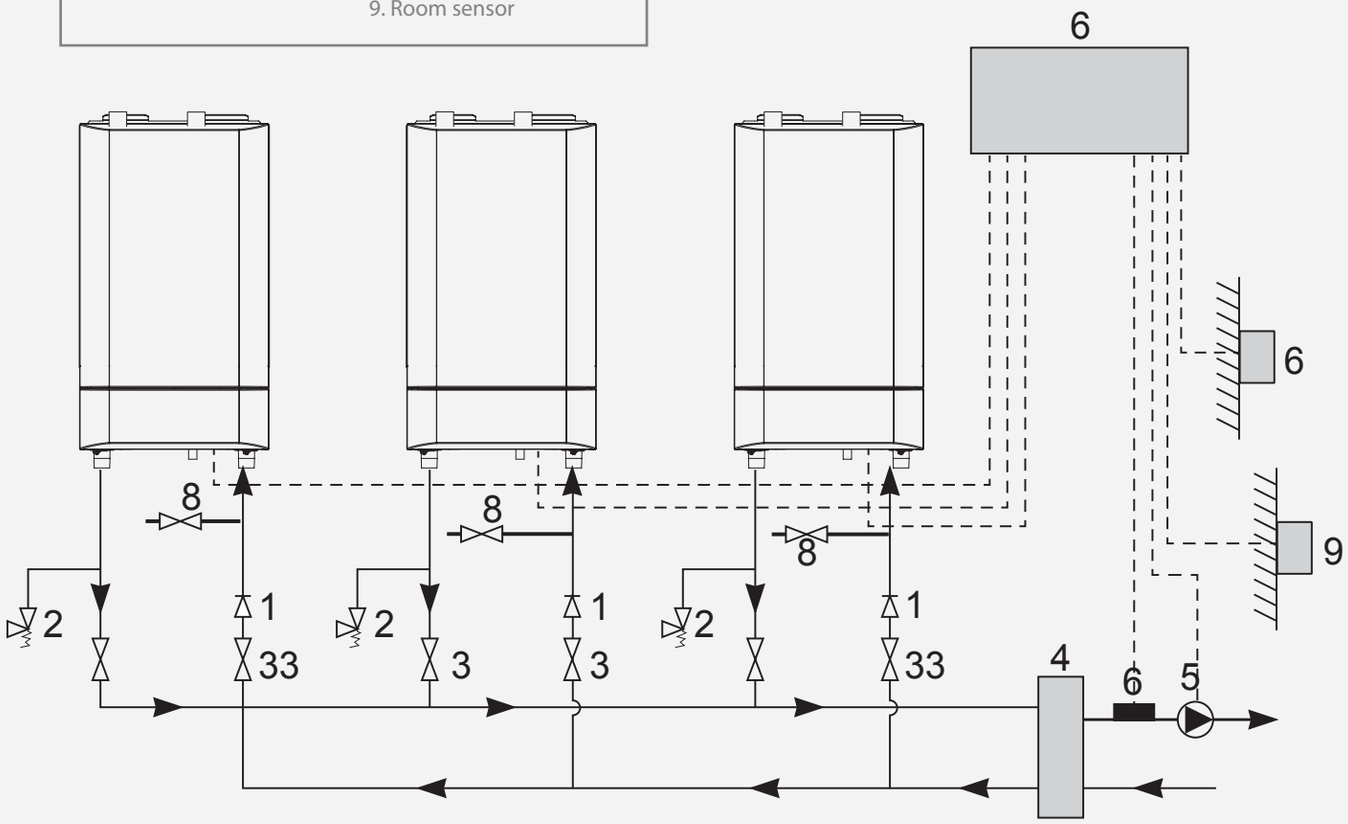
Systems that require a heat load greater than the output of a single boiler capacity can be easily achieved by fitting the required number of units in cascade. The Keston Heat Only range has a turndown rate of 5:1 allowing system requirements to be easily matched.

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




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

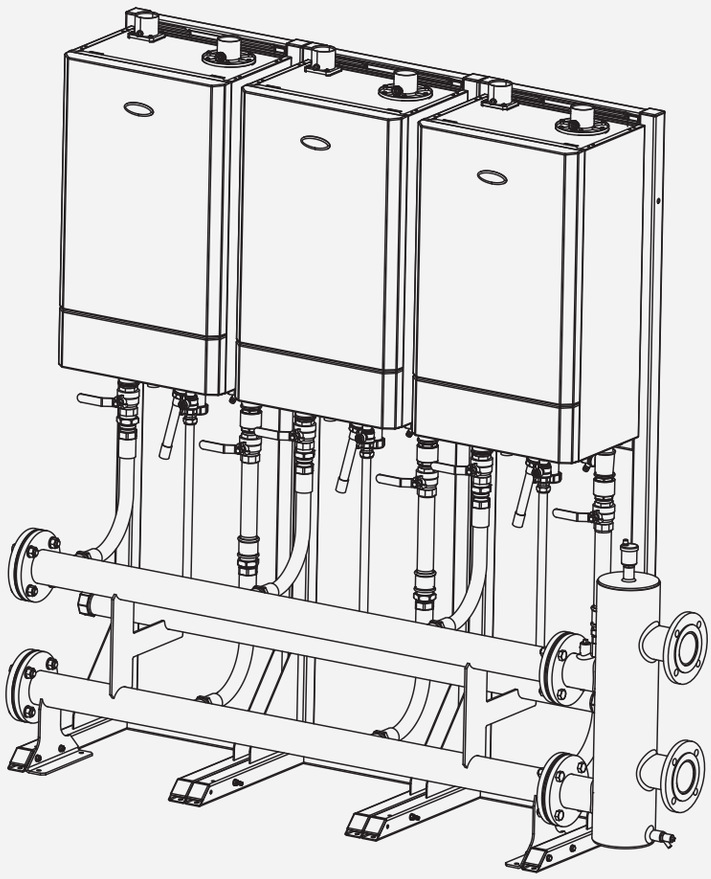
**Flue system**

- 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 | 2 | 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 1¾" 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 | 400 |
| 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 15-60ºC | 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 | 400 |
| 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 15-60ºC | 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 60ºC with constant 82ºC coil flow temperature.
**Reheat times after 70% of tank is drawn off and replaced with 15ºC water. All units are complete with 30-70ºC 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 Heating has a course for you.

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



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

## 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.

# PRODUCT INFORMATION

| Code | Description |
|---|---|
| 355000 | Keston Combi 30 Boiler Packaged |
| 355001 | Keston Combi 35 Boiler Packaged |
| 355002 | Keston System 30 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 |
| | **Combi** |
| 355005 | Keston Twin Combi/System Stand Off Kit |
| 354225 | 7 Day plug in Electronic timer |
| 354226 | RF Electronic Programmable Stat |
| 355006 | Keston Air Terminal Finishing Kit |
| 355007 | Keston Flue Sleeve 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 |

Keston

Manufactured to the highest UK standards,
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Keston Heating
PO Box 103
National Avenue
Kingston Upon Hull
HU5 4JN

Tel 01482 443 005
Fax 01482 467 133

www.keston.co.uk


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