

Product Guide  
**2015**



# Oil-fired and solar thermal

heating and hot water solutions

Includes  
ErP  
ratings

 **WORCESTER**  
Bosch Group

# The complete Worcester Greenstar oil-fired product range

Our market-leading Greenstar oil-fired condensing boilers are part of the Worcester total system solutions package. The Heatslave and Danesmoor boiler series combine both Worcester's renowned quality and reliability, with improved installation ease, innovative servicing features, and enhanced energy efficiency. For many, Worcester is the installer's choice, and with state-of-the-art training facilities as well as award-winning technical support, you can be sure that you will have everything you require to meet your customers' heating and hot water needs.

In this easy-to-use pocket guide, you will find essential information on every Greenstar oil-fired heating and hot water appliance currently available from the Worcester range, as well as information about our Greenskies solar thermal solutions. This includes technical data such as dimensions, outputs, flue options, accessories, product codes and much more – all laid out clearly and concisely, with the aid of diagrams, tables and a comprehensive contents page.



*Energy Saving product  
recommended by the  
Energy Saving Trust.*



*Solar  
compatible*



*Greenstore Cylinder  
compatible*

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## Worcester and you. Making a difference.

As part of the Bosch Group,  
Worcester products are  
designed and manufactured



**BOSCH**  
Invented for life

to provide customers with the highest levels  
of quality and reliability which are synonymous  
with the Bosch name throughout the world.

Worcester is a part of Europe's largest supplier of heating products, and with our UK-based resources, as well as the Bosch Group's global infrastructure, we can offer you the value-added solutions you deserve. Worcester employs a nationwide network of Service Engineers and technically trained Field Sales Managers supported by an experienced technical services team which is able to provide comprehensive support and advice from designing system layouts through to installation.



The reception and main entrance  
at our Worcester headquarters

Worcester is dedicated to providing energy efficient gas- and oil-fired condensing boilers, as well as an extensive range of renewable technologies. All of our products have been developed and introduced with the aim of helping the UK to achieve the Government's efficiency targets.

*“At Worcester we recognise the vital role you play in the specification and installation of energy efficient appliances in homes across the UK. We will continue to invest in our products, people, facilities and added value services to ensure you have all you require in order to deliver only the best solutions to your customers’ requirements.”*

Carl Arntzen,  
Managing Director,  
Bosch Thermotechnology Ltd.

# ErP<sup>easy as</sup> ABC

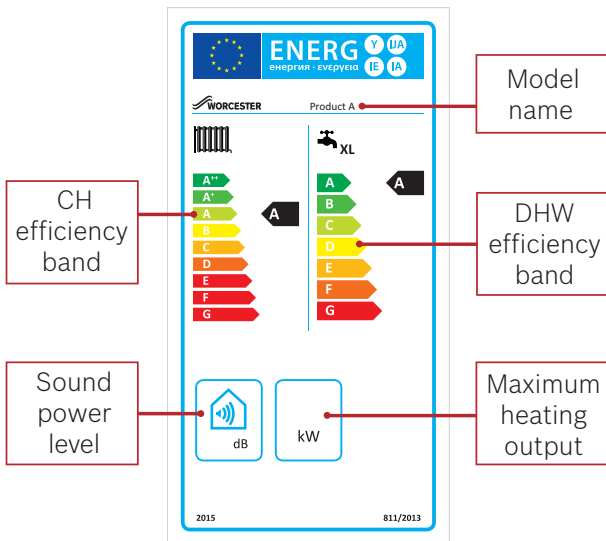
## What is ErP?

The ErP Directive, which is a new regulation set by the European Union, is designed to drive improvements in the efficiency and performance of heating and hot water products. Its purpose is to ensure that end users are aware of the level of energy efficiency inherent within their appliances. As such, the Directive will help improve the overall efficiency of the housing stock, while enabling homeowners to reduce their energy bills. The ErP regulations cover boilers, combination boilers, heat pumps and other heating appliances up to 400kW.



## What is Energy Labelling?

The Energy Labelling involves a label which we are familiar with today on washing machines and televisions at the point of sale. The Energy Labelling regulations introduce Europe-wide energy labelling requirements for boilers, combination boilers, water heaters and other heating products up to 70kW and hot water cylinders under 500 litres.



## How will the labelling scheme work?

The new Energy Labelling Directive will introduce new efficiency classes from A++ to G alongside the existing SEDBUK rating for boilers in the domestic and light commercial sectors.

Most condensing boilers will fall within the A band, which requires them to achieve more than 90% seasonal efficiency, while renewable technologies such as heat pumps will likely be in the A+ or A++ bands (depending on flow temperature).

## **What about systems that contain different products?**

In these circumstances, there is a responsibility to provide a package label when combining a heating appliance with a temperature control and/or solar device, cylinder or a supplementary heating appliance (for example, a two-boiler cascade with a combined total output of under 70kW).

The person who puts that package together will need to produce a package document known as a fiche (data table) and label that provides the combined energy efficiency rating rather than ratings of each individual component.

For example, this could be the merchant's responsibility if they supply a complete package under one part number or the installer if the items are bought individually under separate part numbers.

In either circumstance, Worcester will provide an online tool that makes calculating the overall package efficiency of a Worcester system effortless.

## **What about controls?**

The ErP Directive covers all products that consume energy, such as boilers, heat pumps, solar thermal etc. It also includes controls, which are defined using 'classes'. These run from Class I (a simple on/off room stat) through to Class VIII (multi-sensor room control for use with modulating heating appliances).

Each control class equates to a certain percentage uplift in system efficiency e.g. a class III weather sensor and room thermostat will add 1.5% efficiency to the heating system. Details of the controls class for each Worcester control can be found on pages 30-33.



# ErP easy as ABC with Worcester

The Energy Labelling obligation under the Energy Related Products (ErP) Directive came into force on the 26th September 2015. Worcester has a number of measures in place to support you including:

- ✔ An **online label generator** which creates product and heating system labels
- ✔ ErP will be covered in all **Worcester training courses**
- ✔ **ErP experts** – our technical and customer support teams can answer all your questions.

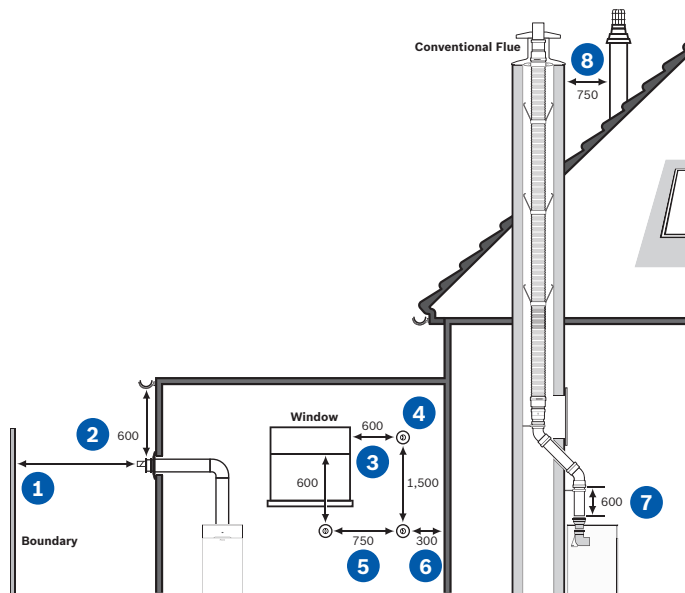
ErP Technical Support: **0330 123 3641**

Email: **[ErP-advice@uk.bosch.com](mailto:ErP-advice@uk.bosch.com)**



# Flue terminal positioning

All measurements in millimetres

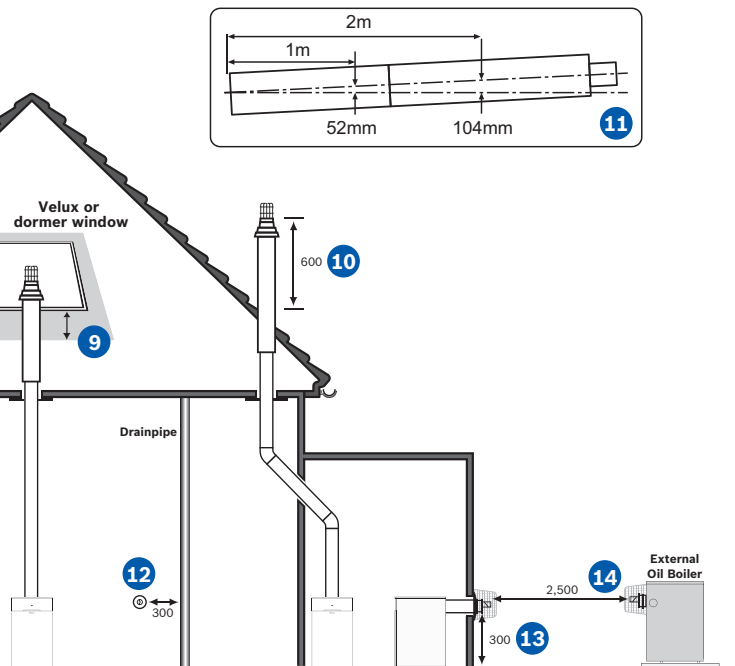


## Note

- All measurements are the minimum clearances required.
- Terminals must be positioned so as to avoid combustion products entering the building. In spite of the dimensions given here, the terminal must not be closer than 300mm to combustible material. In the case of a thatched roof, this dimension should be doubled.
- Terminals must be positioned so that products of combustion do not enter or accumulate around the building.
- Terminals must be at least 1.8 metres from an oil storage tank unless a wall with at least 30 minutes fire resistance, which extends 300mm wider and higher than the tank, is installed.

## Key to illustration

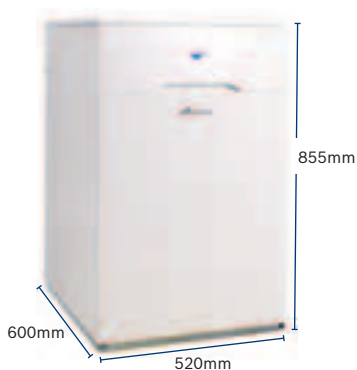
1. 600mm distance to a boundary, unless it will cause a nuisance. BS 5410: Part 1 recommends that care is taken when siting terminals in relation boundaries.
2. 600mm below eaves and balconies; this can be reduced to 75mm, as long as the flue terminal is extended to clear any overhang.



3. 600mm horizontally or vertically to an opening, air brick or opening window.
4. 1,500mm vertically from a terminal on the same wall.
5. 750mm horizontally from a flue on the same wall.
6. 300mm to an internal or external corner.
7. Minimum 600mm straight flue before any bend on a conventional flue.
8. 750mm between a vertical structure and a flue terminal.
9. 1,000mm below a Velux or dormer window, 300mm above or to either side of the Velux or dormer window or any opening on a sloping roof.
10. 600mm above the highest point of an intersection with a roof.
11. Any flue must fall back towards the boiler by 3° or 52mm for every metre of flue so that the condensate drains back to the boiler for disposal.
12. 300mm to any vertical sanitary pipe work or drain pipe.
13. Flue clearance must be at least 300mm above ground or balcony level. Terminal guards must be fitted if the flue is less than 2 metres from the ground or if a person could come into contact with flue terminal.
14. 2,500mm between terminals facing each other.

## Floor standing condensing combi boilers

# Greenstar Heatslave II series



### Clearances

Above: 300mm\*

Left: 5mm

Right: 5mm

Front: 600mm

\*Note: Although clearance above the Heatslave range is stated to be 300mm, a removable worktop may be placed directly above the boiler, allowing 10mm clearance.

Boiler output (kW)	Flow rate* (l/min)	Boiler weight	ErP Seasonal space heating energy efficiency class	ErP Water heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Heatslave II 12/18</b>						
12 to 18	15*	124kg	A / 91%	B	89.4%	<b>7 731 600 047</b>
<b>Greenstar Heatslave II 18/25</b>						
18 to 25	18*	126kg	A / 90%	B	89.2%	<b>7 731 600 048</b>
<b>Greenstar Heatslave II 25/32</b>						
25 to 32	22*	128kg	A / 91%	B	89.0%	<b>7 731 600 049</b>

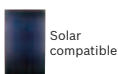
\*Maximum flow rate to produce a 40°C temperature rise over a 90l draw off

\*Restricted DHW flow rate

## Control options

Part no.	Description
<b>Intelligent controls</b>	
7 716 192 065#	FR10 Intelligent Room Thermostat
7 716 192 764#	Outdoor weather sensor
<b>Digital, wireless programmers &amp; room thermostats</b>	
7 733 600 003	Comfort plug-in twin channel programmer
7 733 600 001	Comfort I RF wireless room thermostat and plug-in twin channel programmer
7 733 600 002	Comfort II RF wireless programmable room thermostat and plug-in RF receiver

#For use with third party 230V timer only.



## Flue lengths



Maximum flue lengths				
Diameter	Orientation	12/18	18/25	25/32
125mm	High level horizontal	5,000mm	5,000mm	5,000mm
	Rear exit horizontal	6,000mm	6,000mm	6,000mm
	Side exit horizontal	5,000mm	5,000mm	5,000mm
	Vertical	8,000mm	8,000mm*	8,000mm*
80mm	Plume management	5,000mm	5,000mm	4,000mm

Note: For every 90° flue bend deduct 1,000mm and 500mm for every 45° flue bend.

For every 90° plume kit bend deduct 1,000mm and 500mm for every 45° plume kit bend.

\*Flue damper (7 716 190 101) required when vertical flue length exceeds 6m.

## Horizontal and vertical fluing options

Components	Part no.	Description
<b>125mm diameter</b>		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 103	Vertical flue kit (1,080mm)
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 190 105	Infill plate kit (for high level horizontal flues)
	7 716 190 101	Flue damper
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard

### Conventional flue

	7 716 190 104	Conventional flue 80/100mm and 100/103mm adaptor kit
	7 716 190 065	130mm adaptor

### Plume management

	7 716 190 092	Plume management kit
	7 716 190 093	1,000mm extension
	7 716 190 095	90° bend
	7 716 190 094	45° bend (pair)

### Oilfit flexible flue kit

	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 068*	Telescopic extension
	7 716 190 066*	1,000mm extension kit
	7 716 190 067*	500mm extension kit
	7 716 190 069*	45° bend
	7 716 190 074	Wall cover plate kit

\*Stainless steel

## Floor standing condensing external combi boilers

# Greenstar Heatslave II External series



### Clearances

Above	600mm
Front	600mm
RH/LH flue outlet on opposite side	10mm
RH flue outlet on rear	85mm
LH flue outlet on rear	10mm
Rear = flue outlet on side	150mm
Rear = rear flue outlet	2,500mm

*It is strongly recommended that the flue terminal faces away from walls to reduce the possibility of wetting occurring.*

Boiler output (kW)	Flow rate* (l/min)	Boiler weight	ErP Seasonal space heating energy efficiency class	ErP Water heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Heatslave II External 12/18</b>						
12 to 18	15*	151kg	A / 91%	B	89.4%	<b>7 731 600 050</b>
<b>Greenstar Heatslave II External 18/25</b>						
18 to 25	18*	154kg	A / 90%	B	89.2%	<b>7 731 600 051</b>
<b>Greenstar Heatslave II External 25/32</b>						
25 to 32	22*	158kg	A / 91%	B	89.0%	<b>7 731 600 052</b>

\*Maximum flow rate to produce a 40°C temperature rise over a 90l draw off

\*Restricted DHW flow rate

## Control options

Part no.	Description
<b>Intelligent controls</b>	
7 716 192 065#	FR10 Intelligent Room Thermostat
7 716 192 764#	Outdoor weather sensor
<b>Digital, wireless programmers &amp; room thermostats</b>	
7 733 600 003	Comfort plug-in twin channel programmer
7 733 600 001*	Comfort I RF wireless room thermostat and plug-in twin channel programmer
7 733 600 002*	Comfort II RF wireless programmable room thermostat and plug-in RF receiver

#For use with third party 230V timer only.

\*Use with Comfort Wall Plate Kit 7 733 600 039.



Solar compatible



## Flue lengths







Maximum flue lengths				
External kit	Diameter	12/18	18/25	25/32
Plume management kit	80mm	5,000mm	5,000mm	4,000mm

*Note: For every 90° flue bend deduct 1,000mm and 500mm for every 45° flue bend.*

*For every 90° plume kit bend deduct 1,000mm and 500mm for every 45° plume kit bend.*

## Horizontal and vertical fluing options

**Boiler comes with standard horizontal flue kit.  
A 90° bend is required when fluing to the side.**

Components	Part no.	Description
<b>125mm diameter</b>		
	7 716 190 034	Internal 90° flue bend (used inside boiler when fluing to side)
	7 716 190 050	Stainless steel flue terminal guard
<b>Plume management</b>		
	7 716 190 092	Plume management kit
	7 716 190 093	1,000mm extension
	7 716 190 095	90° bend
	7 716 190 094	45° bend (pair)

## Floor standing condensing system boilers

# Greenstar Danesmoor System series



### Clearances

Above: 10mm  
(annual service)

Above: 300mm  
(maintenance & repair)

Left: 5mm

Right: 5mm

Front: 600mm

*The appliance is suitable for an under-worktop installation providing that the worktop above the boiler (min. 10mm clearance) is removable for maintenance and repair.*

Boiler output (kW)	Boiler weight	ErP Seasonal space heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Danesmoor System 12/18</b>				
12 to 18	111kg	A / 91%	91.1%	<b>7 731 600 062</b>
<b>Greenstar Danesmoor System 18/25</b>				
18 to 25	112kg	A / 90%	90.9%	<b>7 731 600 063</b>
<b>Greenstar Danesmoor System 25/32</b>				
25 to 32	121kg	A / 91%	90.7%	<b>7 731 600 064</b>

### Control options

Part no.	Description
7 716 192 033	Digital plug-in 7 day twin channel programmer





Solar compatible

Greenstore  
Cylinder  
compatible

## Flue lengths



Maximum flue lengths				
Diameter	Orientation	12/18	18/25	25/32
125mm	High level horizontal	5,000mm	5,000mm	5,000mm
	Rear exit horizontal	6,000mm	6,000mm	6,000mm
	Side exit horizontal	5,000mm	5,000mm	5,000mm
	Vertical	8,000mm	8,000mm*	8,000mm*
80mm	Plume management	5,000mm	5,000mm	4,000mm

Note: For every 90° flue bend deduct 1,000mm and 500mm for every 45° flue bend.

For every 90° plume kit bend deduct 1,000mm and 500mm for every 45° plume kit bend.

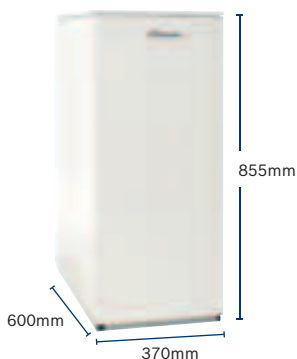
\*Flue damper (7 716 190 101) required when vertical flue length exceeds 6m.

## Horizontal and vertical fluing options

Components	Part no.	Description
<b>125mm diameter</b>		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 103	Vertical flue kit (1,080mm)
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 190 105	Infill plate kit (for high level horizontal flues)
	7 716 190 101	Flue damper
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard
<b>Conventional flue</b>		
	7 716 190 104	Conventional flue 80/100mm and 100/103mm adaptor kit
	7 716 190 065	130mm adaptor
<b>Plume management</b>		
	7 716 190 092	Plume management kit
	7 716 190 093	1,000mm extension
	7 716 190 095	90° bend
	7 716 190 094	45° bend (pair)
<b>Oilfit flexible flue kit</b>		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 068*	Telescopic extension
	7 716 190 066*	1,000mm extension kit
	7 716 190 067*	500mm extension kit
	7 716 190 069*	45° bend
	7 716 190 074	Wall cover plate kit

\*Stainless steel

## Greenstar Danesmoor System Utility series



### Clearances

Above: 10mm  
(annual service)

Above: 300mm  
(maintenance & repair)

Left: 5mm

Right: 5mm

Front: 600mm

*The appliance is suitable for an under-worktop installation providing that the worktop above the boiler (min. 10mm clearance) is removable for maintenance and repair.*

Boiler output (kW)	Boiler weight	ErP Seasonal space heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Danesmoor System Utility 12/18</b>				
12 to 18	111kg	A / 91%	91.1%	<b>7 731 600 065</b>
<b>Greenstar Danesmoor System Utility 18/25</b>				
18 to 25	112kg	A / 90%	90.9%	<b>7 731 600 066</b>
<b>Greenstar Danesmoor System Utility 25/32</b>				
25 to 32	121kg	A / 91%	90.7%	<b>7 731 600 067</b>



Solar compatible

Greenstore  
Cylinder  
compatible

## Flue lengths



Maximum flue lengths				
Diameter	Orientation	12/18	18/25	25/32
125mm	High level horizontal	5,000mm	5,000mm	5,000mm
	Rear exit horizontal	6,000mm	6,000mm	6,000mm
	Side exit horizontal	5,000mm	5,000mm	5,000mm
	Vertical	8,000mm	8,000mm*	8,000mm*
80mm	Plume management	5,000mm	5,000mm	4,000mm

**Note:** For every 90° flue bend deduct 1,000mm and 500mm for every 45° flue bend.

For every 90° plume kit bend deduct 1,000mm and 500mm for every 45° plume kit bend.

\*Flue damper (7 716 190 101) required when vertical flue length exceeds 6m.

## Horizontal and vertical fluing options

Components	Part no.	Description
<b>125mm diameter</b>		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 103	Vertical flue kit (1,080mm)
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 190 105	Infill plate kit (for high level horizontal flues)
	7 716 190 101	Flue damper
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard
<b>Conventional flue</b>		
	7 716 190 104	Conventional flue 80/100mm and 100/103mm adaptor kit
	7 716 190 065	130mm adaptor
<b>Plume management</b>		
	7 716 190 092	Plume management kit
	7 716 190 093	1,000mm extension
	7 716 190 095	90° bend
	7 716 190 094	45° bend (pair)
<b>Oilfit flexible flue kit</b>		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 068*	Telescopic extension
	7 716 190 066*	1,000mm extension kit
	7 716 190 067*	500mm extension kit
	7 716 190 069*	45° bend
	7 716 190 074	Wall cover plate kit

\*Stainless steel

## Floor standing condensing external system boilers

# Greenstar Danesmoor System External series



### Clearances

Flue orientation from front (mm)			
Key	Right	Left	Rear
Left	10	2,500*	85
Right	2,500	10	45
Rear	50**	50**	2,500*
Above	600	600	600
Front	600	600	600

\*From end of flue terminal allow 2,500mm clearance.

\*\*200mm if using a high level terminal exiting through the rear panel.

Boiler output (kW)	Boiler weight	ErP Seasonal space heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Danesmoor System External 12/18</b>				
12 to 18	119kg	A / 91%	91.1%	<b>7 731 600 068</b>
<b>Greenstar Danesmoor System External 18/25</b>				
18 to 25	121kg	A / 90%	90.9%	<b>7 731 600 069</b>
<b>Greenstar Danesmoor System External 25/32</b>				
25 to 32	131kg	A / 91%	90.7%	<b>7 731 600 070</b>



Solar compatible



Greenstore Cylinder compatible



## Flue lengths

Maximum flue lengths				
External kit	Diameter	12/18	18/25	25/32
Plume management kit	80mm	5,000mm	5,000mm	4,000mm

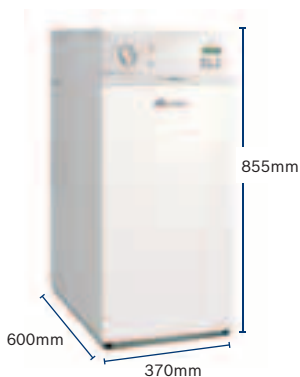
## Horizontal and vertical fluing options

**Boiler comes with standard horizontal flue kit.  
A 90° bend is required when fluing to the side.**

Components	Part no.	Description
<b>125mm diameter</b>		
	7 716 190 034	Internal 90° flue bend (used inside boiler when fluing to side)
	7 716 190 050	Stainless steel flue terminal guard
<b>Plume management</b>		
	7 716 190 092	Plume management kit
	7 716 190 093	1,000mm extension
	7 716 190 095	90° bend
	7 716 190 094	45° bend (pair)

## Floor standing condensing regular boilers

# Greenstar Danesmoor regular series



### Clearances

Above: 10mm  
(annual service)

Above: 300mm  
(maintenance & repair)

Left: 5mm

Right: 5mm

Front: 600mm

*The appliance is suitable for an under-worktop installation providing that the worktop above the boiler (min. 10mm clearance) is removable for maintenance and repair.*

Boiler output (kW)	Boiler weight	ErP Seasonal space heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Danesmoor 12/18</b>				
12 to 18	104kg	A / 91%	91.1%	<b>7 731 600 053</b>
<b>Greenstar Danesmoor 18/25</b>				
18 to 25	108kg	A / 90%	90.9%	<b>7 731 600 054</b>
<b>Greenstar Danesmoor 25/32</b>				
25 to 32	114kg	A / 91%	90.7%	<b>7 731 600 055</b>

### Control options

Part no.	Description
7 716 192 033	Digital plug-in 7 day twin channel programmer



Solar compatible

Greenstore  
Cylinder  
compatible

## Flue lengths



Maximum flue lengths				
Diameter	Orientation	12/18	18/25	25/32
125mm	High level horizontal	5,000mm	5,000mm	5,000mm
	Rear exit horizontal	6,000mm	6,000mm	6,000mm
	Side exit horizontal	5,000mm	5,000mm	5,000mm
	Vertical	8,000mm	8,000mm*	8,000mm*
80mm	Plume management	5,000mm	5,000mm	4,000mm

Note: For every 90° flue bend deduct 1,000mm and 500mm for every 45° flue bend.

For every 90° plume kit bend deduct 1,000mm and 500mm for every 45° plume kit bend.

\*Flue damper (7 716 190 101) required when vertical flue length exceeds 6m.

## Horizontal and vertical fluing options

Components	Part no.	Description
<b>125mm diameter</b>		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 103	Vertical flue kit (1,080mm)
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 190 105	Infill plate kit (for high level horizontal flues)
	7 716 190 101	Flue damper
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard

### Conventional flue

	7 716 190 104	Conventional flue 80/100mm and 100/103mm adaptor kit
	7 716 190 065	130mm adaptor

### Plume management

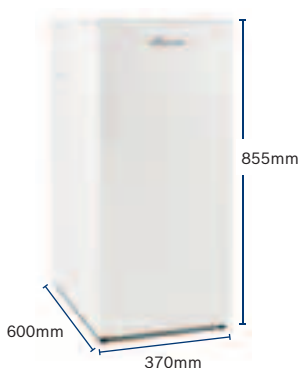
	7 716 190 092	Plume management kit
	7 716 190 093	1,000mm extension
	7 716 190 095	90° bend
	7 716 190 094	45° bend (pair)

### Oilfit flexible flue kit

	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 068*	Telescopic extension
	7 716 190 066*	1,000mm extension kit
	7 716 190 067*	500mm extension kit
	7 716 190 069*	45° bend
	7 716 190 074	Wall cover plate kit

\*Stainless steel

# Greenstar Danesmoor Utility regular series



## Clearances

Above: 10mm  
(annual service)

Above: 300mm  
(maintenance & repair)

Left: 5mm

Right: 5mm

Front: 600mm

*The appliance is suitable for an under-worktop installation providing that the worktop above the boiler (min. 10mm clearance) is removable for maintenance and repair.*

Boiler output (kW)	Boiler weight	ErP Seasonal space heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Danesmoor Utility 12/18</b>				
12 to 18	104kg	A / 91%	91.1%	<b>7 731 600 056</b>
<b>Greenstar Danesmoor Utility 18/25</b>				
18 to 25	108kg	A / 90%	90.9%	<b>7 731 600 057</b>
<b>Greenstar Danesmoor Utility 25/32</b>				
25 to 32	108kg	A / 91%	90.7%	<b>7 731 600 058</b>





Solar compatible

Greenstore  
Cylinder  
compatible

## Flue lengths



Maximum flue lengths				
Diameter	Orientation	12/18	18/25	25/32
125mm	High level horizontal	5,000mm	5,000mm	5,000mm
	Rear exit horizontal	6,000mm	6,000mm	6,000mm
	Side exit horizontal	5,000mm	5,000mm	5,000mm
	Vertical	8,000mm	8,000mm	8,000mm*
80mm	Plume management	5,000mm	5,000mm	4,000mm

Note: For every 90° flue bend deduct 1,000mm and 500mm for every 45° flue bend.

For every 90° plume kit bend deduct 1,000mm and 500mm for every 45° plume kit bend.

\*Flue damper (7 716 190 101) required when vertical flue length exceeds 6m.

## Horizontal and vertical fluing options

Components	Part no.	Description
<b>125mm diameter</b>		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 103	Vertical flue kit (1,080mm)
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 190 105	Infill plate kit (for high level horizontal flues)
	7 716 190 101	Flue damper
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard
<b>Conventional flue</b>		
	7 716 190 104	Conventional flue 80/100mm and 100/103mm adaptor kit
	7 716 190 065	130mm adaptor
<b>Plume management</b>		
	7 716 190 092	Plume management kit
	7 716 190 093	1,000mm extension
	7 716 190 095	90° bend
	7 716 190 094	45° bend (pair)
<b>Oilfit flexible flue kit</b>		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 068*	Telescopic extension
	7 716 190 066*	1,000mm extension kit
	7 716 190 067*	500mm extension kit
	7 716 190 069*	45° bend
	7 716 190 074	Wall cover plate kit

\*Stainless steel

# Greenstar Danesmoor External regular series



## Clearances

Flue orientation from front (mm)			
Key	Right	Left	Rear
Left	10	2,500*	85
Right	2,500	10	45
Rear	50**	50**	2,500*
Above	600	600	600
Front	600	600	600

\*From end of flue terminal allow 2,500mm clearance.

\*\*200mm if using a high level terminal exiting through the rear panel.

Boiler output (kW)	Boiler weight	ErP Seasonal space heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Danesmoor External 12/18</b>				
12 to 18	99kg	A / 91%	91.1%	<b>7 731 600 059</b>
<b>Greenstar Danesmoor External 18/25</b>				
18 to 25	102kg	A / 90%	90.9%	<b>7 731 600 060</b>
<b>Greenstar Danesmoor External 25/32</b>				
25 to 32	106kg	A / 91%	90.7%	<b>7 731 600 061</b>



Solar compatible



Greenstore Cylinder compatible









## Flue lengths

Maximum flue lengths				
External kit	Diameter	12/18	18/25	25/32
Plume management kit	80mm	5,000mm	5,000mm	4,000mm

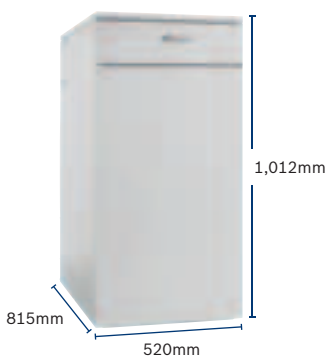
## Horizontal and vertical fluing options

**Boiler comes with standard horizontal flue kit. A 90° bend is required when fluing to the side.**

Components	Part no.	Description
<b>125mm diameter</b>		
	7 716 190 034	Internal 90° flue bend (used inside boiler when fluing to side)
	7 716 190 050	Stainless steel flue terminal guard
<b>Plume management</b>		
	7 716 190 092	Plume management kit
	7 716 190 093	1,000mm extension
	7 716 190 095	90° bend
	7 716 190 094	45° bend (pair)

## Floor standing condensing regular utility boilers

# Greenstar Utility regular series



### Clearances

Above flue: 300mm\*

Left: 10mm

Right: 10mm

Front: 600mm

*\*Note: Although clearance above the Greenstar Utility range is stated to be 300mm, a removable worktop may be placed directly above the boiler, allowing 10mm clearance.*

Boiler output (kW)	Boiler weight	ErP Seasonal space heating energy efficiency class	SEDBUK 2009	Part no.
<b>Greenstar Utility 32/50</b>				
32 to 50	271kg	B / 89%	90.7%	<b>7 731 600 073</b>
<b>Greenstar Utility 50/70</b>				
50 to 70	281kg	B / 89%	90.5%	<b>7 731 600 074</b>



Solar compatible

Greenstore  
Cylinder  
compatible

## Flue lengths



Maximum flue lengths			
Diameter	Orientation	32/50	50/70
150mm	High level horizontal	2,000mm	2,000mm
	Rear exit horizontal	3,000mm	3,000mm
	Side exit horizontal	3,000mm	3,000mm
	Vertical	6,000mm	6,000mm

Note: For every 90° flue bend deduct 1,000mm and 500mm for every 45° flue bend.

## Horizontal and vertical fluing options

Components	Part no.	Description
<b>150mm diameter</b>		
	7 716 190 043	Standard horizontal flue kit (880mm)
	7 716 190 044	Vertical BF kit (1,290mm)
	7 716 190 045	Flue extension (960mm)
	7 716 190 046	90° flue bend
	7 716 190 047	45° flue bend (pair)
	7 716 190 051	Stainless steel flue terminal guard
	7 716 191 101	Flat roof flashing
	7 716 191 100	Pitched roof flashing

### External flues – 150mm diameter

	7 716 190 060	External flue extension
	7 716 190 096	External flue 90° bend
	7 716 190 061	External flue 45° bend (pair)

### Conventional flue

	7 716 190 049	Conventional flue adaptor kit
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### Oilfit flexible flue kit – 130mm diameter

	7 716 190 079	Oilfit flexi flue kit (8m)
	7 716 190 080	Oilfit flexi flue kit (12m)
	7 716 190 081	Oilfit flexi flue kit (15m)
	7 716 190 072*	Telescopic extension
	7 716 190 070*	1,000mm extension kit
	7 716 190 071*	500mm extension kit
	7 716 190 073*	45° bend
	7 716 190 075	Wall cover plate kit

\*Stainless steel

# Controls

## Greenstar Heatslave II controls

### NEW Greenstar Comfort controls



***Greenstar Comfort plug-in twin channel programmer  
(for use with internal and external models)***

**Part no. 7 733 600 003**

- Simple menu navigation
- Heating programme visualisation bar
- 7-day time control for heating and hot water.



***Greenstar Comfort I RF wireless room thermostat  
and plug-in twin channel programmer  
(for use with internal models)***

**Part no. 7 733 600 001**

All the features of **Comfort PLUS...**

- Enhanced load compensation for increased efficiency.
- No wiring required
- Extremely reliable RF signal.



***Greenstar Comfort II RF wireless programmable room thermostat and plug-in RF receiver (for use with internal models)***

**Part no. 7 733 600 002**

All the features of **Comfort & Comfort I PLUS...**

- 6 adjustable heating temperatures per day
- Set programme at the room thermostat
- Remote access to boiler diagnostic codes.



***Comfort Wall Plate Kit***

**Part no. 7 733 600 039**

Allows remote mounting of a Comfort plug-in unit which is then wired to the boiler. Ideal for use with external boilers.

## Intelligent weather and load compensation controls



### **FR10 intelligent room thermostat** **(for use with internal and external models)**

**Part no. 7 716 192 065**

- Load compensation
- Boiler output automatically adjusted to precisely meet the heat demand of the property at maximum efficiency
- Maximises the condensing boiler's operation
- For use with a 230V programmer. Not compatible with Worcester Comfort controls.



### **Outdoor weather sensor** **(for use with internal and external models)**

**Part no. 7 716 192 764**

- Monitors external temperatures to offer weather compensation in combination with the in-built heat curves of the Greenstar Heatslave II. For use with a 230V programmer. Not compatible with Worcester Comfort controls. To be used with a 230V room thermostat.



## Greenstar Danesmoor System (kitchen) and Danesmoor regular (kitchen) controls



### **Digital plug-in 7 day twin channel programmer**

#### **Part no. 7 716 192 033**

- Plugs into the boiler fascia panel and offers 3 separate time periods for both heating and hot water.

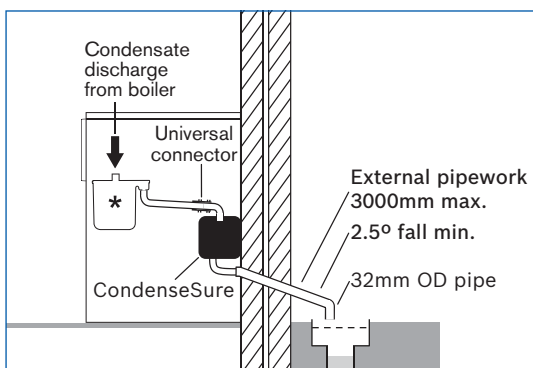
# The Worcester CondenseSure siphon

With climate change and extreme weather variations becoming increasingly common, and very cold winters with temperatures as low as  $-20^{\circ}\text{C}$  being experienced, practices such as externally-run condensate discharge pipework are now being questioned.

The Worcester CondenseSure will protect an externally run condensate discharge pipe from freezing for 48 hours at  $-15^{\circ}\text{C}$  providing the following installation parameters are met:

- The externally run pipe length does not exceed 3 metres
- There is a fall on the discharge pipe of at least 2.5 degrees
- The discharge pipe diameter is not less than 32mm in diameter.

Features	Benefits
No power consumption	No electrical wiring connection or supply needed, meaning zero running costs
No moving parts	No failure of components
Can be installed on new or existing installations	Suitable for any gas- or oil-fired condensing boilers
Can be attached to 22mm heating flow pipework	Uses 'free' energy from the pipe to heat the condensate
Under boiler or remote installation	Flexibility
No electrical connections	No electrician needed
No pipe insulation needed	Cost saving and aesthetically pleasing



A typical installation using the CondenseSure



The Worcester CondenseSure insulating jacket helps to retain the temperature of the condensate.

Part no.	Description
7 716 192 746	Worcester CondenseSure siphon

## Greenstar Low Loss Header

The Greenstar Low Loss Header is a ready-made solution for the connection of two Greenstar system or regular boilers on a sealed heating system with a combined output of up to 70kW.



Part no.	Description
7 716 192 614	Greenstar Low Loss Header

# The Worcester Greenstar System Filter

Modern condensing boilers are precision-engineered and designed to run with a clean water heating system. Over time, dirty system water will damage a boiler and its components, causing failures as well as potentially shortening the life of the system.

## **Damaged boiler and system components**

- Blockages in primary heat exchanger
- Increased wear on pumps
- Blocked valves.

## **Reduced efficiency**

- Energy efficiency loss equivalent to a boiler being reduced from A rated efficiency to D rated\*, resulting in fuel wastage
- Blocked radiators can reduce efficiency and heating comfort.

## **A highly effective solution from the brand you can trust**

The Worcester Greenstar System Filter has been specifically designed to combat the damaging effects of system debris and pollutants, allowing homeowners to protect their boiler or heat pump for a fraction of its cost. The filter is suitable for any 22mm piped heating systems.

At the centre of this innovative design is a highly powerful magnet that removes the magnetic debris (magnetite) that is present in the heating system water. The central location of the magnet ensures that magnetite is collected quickly and retained, maximising the overall protection. Any non-magnetic debris is caught by the twin-action cyclonic trap, a proven technology that offers a capacity to collect up to 200g of contaminants a year.

**The Greenstar System Filter has been extensively tested in simulated systems, proving its effectiveness in removing iron oxide, magnetite, limescale particles, casting sand, welding debris, non-magnetic metal flakes, paint particles and other system pollutants.**



Features	Benefits
Highly effective filter	Safeguards the boiler against damage and protects the efficiency of the system. Saves up to 6% a year on energy bills*
Prevent blockages in radiators	A warmer home and quieter system
High powered internal magnet	Proven technology that can capture up to 200g of magnetite
Twin-action – magnetic and non-magnetic filtration	Instantly effective against a wide range of system debris
No power consumption or moving parts	No electrical wiring connection or supply needed. Zero running costs and no failure of components
Can be installed under the boiler or away from the appliance	Flexibility
One-way valve for adding system chemicals	Removes the need to isolate a section of the system when carrying out servicing and maintenance

### Installation

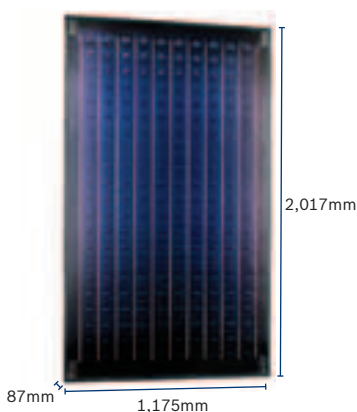
The filter can be installed almost anywhere in a heating system, however to maximise the effectiveness it should be placed before the boiler and after the last radiator.

Part no.	Description
7 716 192 609	Greenstar System Filter

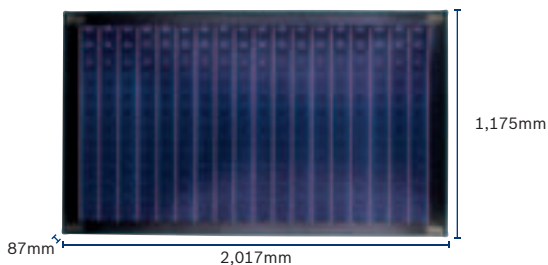
\*Independent research carried out by GASTEC at CRE

# Greenskies Solar-Lifestyle

## Greenskies Solar-Lifestyle Portrait



## Greenskies Solar-Lifestyle Landscape













Gross area (m <sup>2</sup> )	Aperture area (m <sup>2</sup> )	$\eta_0$ (%)	a1 (W/m <sup>2</sup> k)	a2 (W/m <sup>2</sup> k <sup>2</sup> )	Part no.
<b>Greenskies Solar-Lifestyle Portrait</b>					
2.37	2.25	76.6	3.216	0.015	<b>8 718 530 950</b>
<b>Greenskies Solar-Lifestyle Landscape</b>					
2.37	2.25	76.6	3.871	0.012	<b>8 718 530 951</b>

### Control options




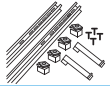



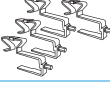


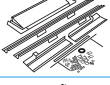
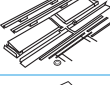

Part no.	Description
7 735 600 075	TDS100-2 standard controller
7 738 111 068	CS200 solar controller
7 738 110 146	MS200 Intelligent solar module

## Main plumb kit accessories – Solar-Lifestyle

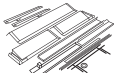
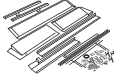



Components	Part no.	Description
	7 735 600 066	AGS10e-2 single line pump station
	7 735 600 065	AGS10-2 twin line pump station
	7 739 300 100	18L expansion vessel
	7 739 300 119	25L expansion vessel
	7 739 300 120	35L expansion vessel
	7 739 300 331	Expansion vessel connection
	7 747 010 472	5L pre-cooling vessel
	7 747 010 473	12L pre-cooling vessel
	8 718 660 880	Solar fluid glycol 'L' 10L
	8 718 660 881	Solar fluid glycol 'L' 20L

## Solar thermal panels

### Main roof kit accessories – Solar-Lifestyle

Components	Part no.	Description
	8 718 531 445	Connection set on-roof Solar-Lifestyle
	8 718 531 447	Connection set flat roof Solar-Lifestyle
	8 718 531 446	Connection set in-roof Solar-Lifestyle
	8 718 531 017	ICD on-roof portrait rail 1st panel
	8 718 531 018	ICD on-roof portrait rail additional panel
	8 718 531 019	ICD on-roof landscape rail 1st panel
	8 718 531 022	ICD on-roof portrait rail additional panel
	8 718 531 023	ICD plain tile roof hook set
	8 718 531 024	ICD slate/crown tile roof hook set
	8 718 531 025	ICD roof mount for corrugated/tin roof set
	8 718 530 980	ICD portrait 1 panel in-roof flashing std tile
	8 718 532 910	ICD portrait 2 panel in-roof flashing std tile
	8 718 530 982	ICD portrait 1 panel extension in-roof flashing std tile




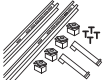
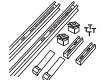
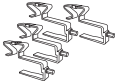


Components	Part no.	Description
	8 718 530 986	ICD landscape 1 panel in-roof flashing std tile
	8 718 530 987	ICD landscape 2 panel in-roof flashing std tile
	8 718 530 988	ICD landscape 1 panel extension in-roof flashing std tile
	7 747 009 880	Additional collector sensor
	7 739 300 432	Air vent set

## Solar thermal panels

### Greenskies solar thermal panel kits




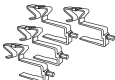


#### Solar-Lifestyle roof kit: 2 x on-roof portrait

Part number: 7 716 150 164

Components	Part no.	Quantity	Description
	8 718 530 950	2	Solar-Lifestyle collector portrait
	8 718 531 017	1	ICD on-roof portrait rail 1st panel
	8 718 531 018	1	ICD on-roof portrait rail additional panel
	8 718 531 023	2	ICD plain tile roof hook set
	8 718 531 445	1	Connection-set on-roof Solar-Lifestyle
	7 747 009 880	1	Collector sensor


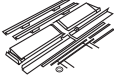


#### Solar-Lifestyle roof kit: 2 x on-roof landscape

Part number: 7 716 150 166

Components	Part no.	Quantity	Description
	8 718 530 951	2	Solar-Lifestyle collector landscape
	8 718 531 019	1	ICD on-roof landscape rail 1st panel
	8 718 531 022	1	ICD on-roof landscape rail additional panel
	8 718 531 023	2	ICD plain tile roof hook set
	8 718 531 445	1	Connection-set on-roof Solar-Lifestyle
	7 747 009 880	1	Collector sensor





## Solar-Lifestyle roof kit: 2 x in-roof portrait

Part number: 7 716 150 165

Components	Part no.	Quantity	Description
	8 718 530 950	2	Solar-Lifestyle collector portrait
	8 718 532 910	1	ICD portrait 2 panel in-roof flashing std tile
	8 718 531 446	1	Connection-set in-roof Solar-Lifestyle
	7 747 009 880	1	Collector sensor

## Solar-Lifestyle roof kit: 2 x in-roof landscape

Part number: 7 716 150 167






Components	Part no.	Quantity	Description
	8 718 530 951	2	Solar-Lifestyle collector landscape
	8 718 530 987	1	ICD landscape 2 panel in-roof flashing std tile
	8 718 531 446	1	Connection-set in-roof Solar-Lifestyle
	7 747 009 880	1	Collector sensor

## Solar thermal panels

### Greenskies solar thermal plumb kits






#### Flat plate plumb kit: standard single

Part number: 7 716 150 174

Components	Part no.	Quantity	Description
	8 718 660 881	1	Solar fluid glycol 'L' 20L
	7 735 600 066	1	AGS10e-2 pump station
	7 735 600 075	1	TDS100-2 controller
	7 739 300 100	1	18L expansion vessel
	7 739 300 331	1	Expansion vessel connection






#### Flat plate plumb kit: standard twin

Part number: 7 716 150 175

Components	Part no.	Quantity	Description
	8 718 660 881	1	Solar fluid glycol 'L' 20L
	7 735 600 065	1	AGS10-2 pump station
	7 735 600 075	1	TDS100-2 controller
	7 739 300 119	1	25L expansion vessel
	7 739 300 331	1	Expansion vessel connection

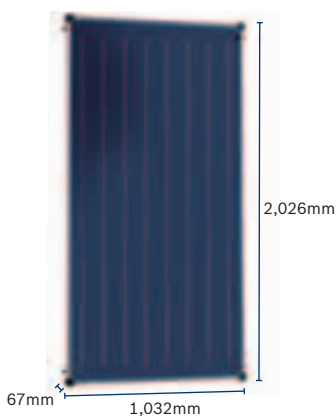
## Flat plate plumb kit: advanced single

Part number: 7 716 150 173

Components	Part no.	Quantity	Description
	8 718 660 881	1	Solar fluid glycol 'L' 20L
	7 735 600 066	1	AGS10e-2 pump station
	7 738 111 068	1	CS200 controller
	7 739 300 100	1	18L expansion vessel
	7 739 300 331	1	Expansion vessel connection

# Greenskies Solar-Lito

## Greenskies Solar-Lito













Gross area (m <sup>2</sup> )	Aperture area (m <sup>2</sup> )	$\eta_0$ (%)	a1 (W/m <sup>2</sup> k)	a2 (W/m <sup>2</sup> k <sup>2</sup> )	Part no.
<b>Greenskies Solar-Lito</b>					
2.09	1.94	76.1	4.083	0.012	<b>8 718 532 279</b>

### Control options











Part no.	Description
7 735 600 075	TDS100-2 standard controller
7 738 111 068	CS200 solar controller
7 738 110 146	MS200 Intelligent solar module

## Main plumb kit accessories – Solar-Lito

Components	Part no.	Description
	7 735 600 066	AGS10e-2 single line pump station
	7 735 600 065	AGS10-2 twin line pump station
	7 739 300 100	18L expansion vessel
	7 739 300 119	25L expansion vessel
	7 739 300 120	35L expansion vessel
	7 739 300 331	Expansion vessel connection
	7 747 010 472	5L pre-cooling vessel
	7 747 010 473	12L pre-cooling vessel
	8 718 660 880	Solar fluid glycol 'L' 10L
	8 718 660 881	Solar fluid glycol 'L' 20L

## Solar thermal panels

### Main roof kit accessories – Solar-Lito






Components	Part no.	Description
	8 718 531 941	Connection set Solar-Lito on roof
	8 718 531 942	Connection set Solar-Lito flat roof
	8 718 531 940	Series connection set Solar-Lito
	7 709 600 087	Solar-Lito rail 1st panel
	7 709 600 088	Solar-Lito rail additional panel
	7 739 300 436	Standard roof hook plain tile
	7 739 300 281	Standard slate/crown tile hook
	7 739 300 439	Standard roof studs corrugated/ tin roof
	7 747 009 880	Additional collector sensor
	7 739 300 432	Air vent set



## Greenskies solar thermal panel kits







### Solar-Lito roof kit: 1 panel

Part number: 7 716 150 168

Components	Part no.	Quantity	Description
	8 718 532 279	1	Solar-Lito collector
	7 709 600 087	1	Solar-Lito rail 1st panel
	7 739 300 436	1	Standard roof hook plain tile
	8 718 531 941	1	Solar-Lito connection set on-roof
	7 747 009 880	1	Collector sensor

### Solar-Lito roof kit: 2 panels

Part number: 7 716 150 169






Components	Part no.	Quantity	Description
	8 718 532 279	2	Solar-Lito collector
	7 709 600 087	1	Solar-Lito rail 1st panel
	7 709 600 088	1	Solar-Lito rail additional panel
	7 739 300 436	2	Standard roof hook plain tile FKA3
	8 718 531 941	1	Solar-Lito connection set on-roof
	7 747 009 880	1	Collector sensor

## Solar thermal panels

### Greenskies solar thermal plumb kits






#### Flat plate plumb kit: standard single

Part number: 7 716 150 174

Components	Part no.	Quantity	Description
	8 718 660 881	1	Solar fluid glycol 'L' 20L
	7 735 600 066	1	AGS10e-2 pump station
	7 735 600 075	1	TDS100-2 controller
	7 739 300 100	1	18L expansion vessel
	7 739 300 331	1	Expansion vessel connection






#### Flat plate plumb kit: standard twin

Part number: 7 716 150 175

Components	Part no.	Quantity	Description
	8 718 660 881	1	Solar fluid glycol 'L' 20L
	7 735 600 065	1	AGS10-2 pump station
	7 735 600 075	1	TDS100-2 controller
	7 739 300 119	1	25L expansion vessel
	7 739 300 331	1	Expansion vessel connection

## Flat plate plumb kit: advanced single

Part number: 7 716 150 173

Components	Part no.	Quantity	Description
	8 718 660 881	1	Solar fluid glycol 'L' 20L
	7 735 600 066	1	AGS10e-2 pump station
	7 738 111 068	1	CS200 controller
	7 739 300 100	1	18L expansion vessel
	7 739 300 331	1	Expansion vessel connection

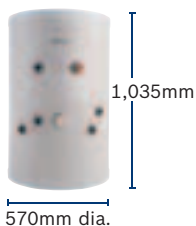
Unvented stainless steel cylinders

## Greenstore unvented cylinder series

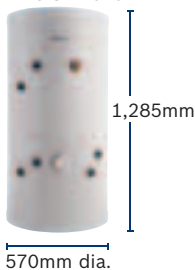
**Greenstore  
SC-90 Cylinder**  
7 716 842 027



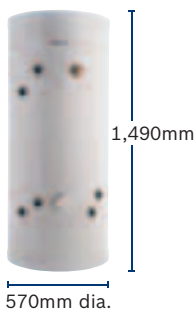
**Greenstore  
SC-120 Cylinder**  
7 716 842 028



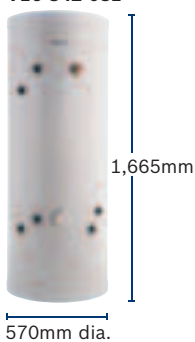
**Greenstore  
SC-150 Cylinder**  
7 716 842 029



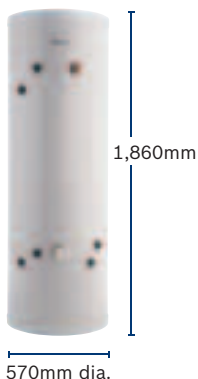
**Greenstore  
SC-180 Cylinder**  
7 716 842 030



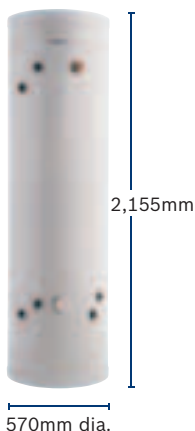
**Greenstore  
SC-210 Cylinder**  
7 716 842 031



**Greenstore  
SC-250 Cylinder**  
7 716 842 032



**Greenstore  
SC-300 Cylinder**  
7 716 842 033



Volume domestic hot water (litres)	Standing heat loss – 24hr (kWh/24hrs)	Weight dry (kg)	ErP energy efficiency class/ Standing heat loss (W)
<b>Greenstore SC-90 Cylinder</b>			
93	1.008	26	B / 42
<b>Greenstore SC-120 Cylinder</b>			
123	1.296	31	C / 54
<b>Greenstore SC-150 Cylinder</b>			
161	1.632	36	C / 68
<b>Greenstore SC-180 Cylinder</b>			
191	1.824	40	C / 76
<b>Greenstore SC-210 Cylinder</b>			
216	1.944	44	C / 81
<b>Greenstore SC-250 Cylinder</b>			
246	2.136	48	C / 89
<b>Greenstore SC-300 Cylinder</b>			
292	2.304	54	C / 96

- Manufactured within the Bosch Group.
- Stainless steel cylinder (providing a 25 year guarantee\*)
- Unvented, providing mains pressure hot water
- For use with Worcester system and regular boilers
- Comprehensive accessory and fittings pack
- WRAS and WRC-NSF approved
- 65mm of factory-fitted insulation producing low stand-by heat loss
- Multiple sensor/thermostat pockets allowing flexible and easy system integration with control solutions.

Unvented stainless steel cylinders

# Greenstore solar compatible unvented cylinder series

**Greenstore TC-150 Cylinder**

7 716 800 542



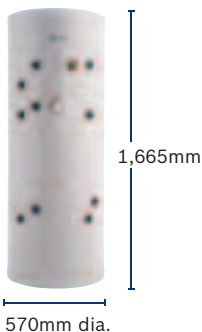
**Greenstore TC-180 Cylinder**

7 716 800 543



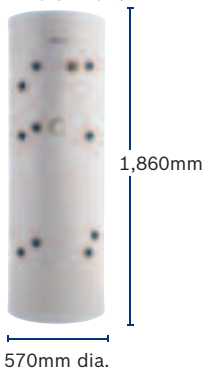
**Greenstore TC-210 Cylinder**

7 716 842 042



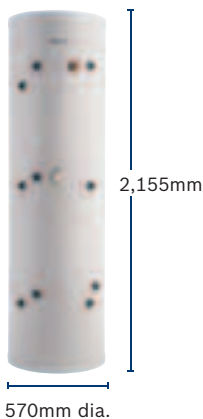
**Greenstore TC-250 Cylinder**

7 716 842 043



**Greenstore TC-300 Cylinder**

7 716 842 044



Volume domestic hot water (litres)	Dedicated solar volume (litres)	Standing heat loss performance (kWh/24hrs)	Weight dry (kg)	ErP energy efficiency class/ Standing heat loss (W)
<b>Greenstore TC-150 Cylinder</b>				
157	65	1.632	41	C / 68
<b>Greenstore TC-180 Cylinder</b>				
187	65	1.824	45	C / 76
<b>Greenstore TC-210 Cylinder</b>				
211	105	1.944	50	C / 81
<b>Greenstore TC-250 Cylinder</b>				
241	115	2.136	54	C / 89
<b>Greenstore TC-300 Cylinder</b>				
287	115	2.304	60	C / 96

- Manufactured within the Bosch Group.
- Stainless steel cylinder (providing a 25 year guarantee\*)
- Unvented, providing mains pressure hot water
- Twin-coil for use with two fossil fuel appliances or one fossil fuel appliance and one solar installation
- Comprehensive accessory and fittings pack
- WRAS and WRC-NSF approved
- 65mm of factory-fitted insulation producing low stand-by heat loss
- Multiple sensor/thermostat pockets allowing flexible and easy system integration with control solutions
- Dedicated solar volume in accordance with MCS scheme.

# Useful contacts



Worcester, Bosch Group  
Tel: 0330 123 9559  
[www.worcester-bosch.co.uk](http://www.worcester-bosch.co.uk)

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Bosch Commercial and Industrial Heating  
Tel: 0330 123 3004  
[www.bosch-industrial.co.uk](http://www.bosch-industrial.co.uk)

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Energy Saving Trust  
Tel: 020 7222 0101  
[www.energysavingtrust.org.uk](http://www.energysavingtrust.org.uk)

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Gas Safe Register  
Tel: 0800 480 5500  
[www.gassaferegister.co.uk](http://www.gassaferegister.co.uk)

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OFTEC  
Tel: 0845 65 85 080  
[www.oftec.org](http://www.oftec.org)

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Institute of Domestic Heating & Environmental Engineers  
Tel: +44 [0] 23 80 66 89 00  
[www.idhee.org.uk](http://www.idhee.org.uk)

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Institute of Plumbing and Heating Engineers  
Tel: 01708 472 791  
[www.ciphe.org.uk](http://www.ciphe.org.uk)

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Association of Plumbing & Heating Contractors  
Tel: 02476 470 626  
[www.competentpersonsscheme.co.uk](http://www.competentpersonsscheme.co.uk)

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Heating & Ventilation Contractors Association  
Tel: 0207 313 4900  
[www.hvca.org.uk](http://www.hvca.org.uk)

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Heating and Hotwater Information Council  
Tel: 01926 430 486  
[www.centralheating.co.uk](http://www.centralheating.co.uk)

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Hot Water Association  
Tel: 01926 513742  
[www.hotwater.org.uk](http://www.hotwater.org.uk)

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Benchmark  
Tel: 0845 600 2200

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Energy and Utilities Alliance  
Tel: 01926 513 777  
[www.eua.org.uk](http://www.eua.org.uk)

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British Standards Institution  
Tel: 0208 996 7070  
[www.bsigroup.co.uk](http://www.bsigroup.co.uk)

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## Other Bosch companies



**BOSCH**  
Invented for life

Bosch Power Tools  
Tel: 01895 834 466  
[www.bosch-pt.co.uk](http://www.bosch-pt.co.uk)

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**BOSCH**  
Invented for life

Robert Bosch Domestic Appliances  
Tel: 01908 328 200  
[www.bosch-home.co.uk](http://www.bosch-home.co.uk)

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**BOSCH**  
Invented for life

Bosch Lawn & Garden  
Tel: 01449 742 000  
[www.bosch-pt.co.uk/gardentools](http://www.bosch-pt.co.uk/gardentools)

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Bosch Car Services  
Tel: 01895 838 815  
[www.boschcarservice.co.uk](http://www.boschcarservice.co.uk)

# Metric & imperial measures

## Imperial to metric units

1 inch	= 25.4 mm	= 2.54 cm
1 foot	= 304.8 mm	= 0.3048 m
1 yard	= 914.4 mm	= 0.9144 m
1 mile	= 1609 m	= 1.609 km
1 square inch	= 645.2 mm <sup>2</sup>	= 6.452 cm <sup>2</sup>
1 square foot	= 929.0 cm <sup>2</sup>	
1 square yard	= 0.8361 m <sup>2</sup>	
1 acre	= 4047 m <sup>2</sup>	= 0.4047 ha
1 cubic inch	= 16387 mm <sup>3</sup>	= 0.016 39 dm <sup>3</sup>
1 cubic foot	= 0.02832 m <sup>3</sup>	= 28.3 dm <sup>3</sup>
1 cubic yard	= 0.764555 m <sup>3</sup>	
1 pint	= 0.5683 litre	= 568.3 ml
1 gallon	= 4.546 litre	= 4.546 kg water
1000 gallons	= 4.546 m <sup>3</sup>	
1 grain	= 0.06480 g	
1 ounce	= 28.35 g	
1 pound	= 453.6 g	= 0.4536 kg
1 ton	= 1016 kg	= 1.016 tonne
0.1 inches water gauge	= 0.25 mbar	
1.0 inch water gauge	= 2.5 mbar	
1 atmosphere	= 1.01325 bar	
1 British thermal unit	= 1055 J	
1 therm	= 105.5 MJ	
1000 Btu/h	= 0.2931 kW	= 1.055 MJ/h
1 horsepower	= 745.7 W	= 2.685 MJ/h
1 Btu/sft <sup>3</sup>	= 0.03796 MJ/m <sup>3</sup> (st)	
1 Btu/sft <sup>3</sup> (dry)	= 0.03723 MJ/m <sup>3</sup> (st)	
1 Btu/lb	= 2326 J/kg	

## Metric to imperial units

1 millimetre	= 0.03937 in		
1 metre	= 39.37 in	= 3.281 ft	= 1.094 yd
1 kilometre	= 0.6214 mile	= 1094 yd	
1 square millimetre	= 0.001550 in <sup>2</sup>		
1 square metre	= 1.196 yd <sup>2</sup>		
1 acre	= 119.6 yd <sup>2</sup>	= 0.0247 hectare	
1 hectare	= 11960 yd <sup>2</sup>	= 2.471 acre	
1 cubic millimetre	= 0.000061 in <sup>3</sup>		
1 cubic decimetre	= 61.02 in <sup>3</sup>	= 0.035 31 ft <sup>3</sup>	
1 cubic metre	= 35.31 ft <sup>3</sup>	= 1.308 yd <sup>3</sup>	= 220.0 gal
1 millilitre	= 0.001760 pint		
1 litre	= 1.760 pint	= 0.2200 gal	= 0.035 ft <sup>3</sup>
1 gram	= 0.03527 oz	= 15.43 grains	
1 kilogram	= 2.205 lb		
1 kilowatt	= 3412 Btu/h		

# Consumer and technical literature

To order any of these items please phone 0330 123 9119 or you can download literature from [www.worcester-bosch.co.uk](http://www.worcester-bosch.co.uk)

<b>Gas</b>	<b>Worcester Part No.</b>
<b>Consumer</b>	
Greenstar Gas-fired Products Brochure	8-716-109-642-0
Handy Hints Promotional Brochure	8-716-104-727-0
<b>Heating professional</b>	
Gas-fired and Solar Thermal Heating Solutions – Product Guide	8-716-116-713-0
Greenstar Gas-fired Combi Range – Technical and Specification Guide	8-716-116-716-0
Greenstar Gas-fired System and Regular Range – Technical and Specification Guide	8-716-116-715-0
Greenstar Floor Standing Range – Technical and Specification Guide	8-716-106-250-0
<b>Commercial</b>	
GB162 Gas-fired Commercial Boiler Range – Technical and Specification Guide	8-716-111-872-0
Greenspring CWi47 Instantaneous Water Heater – Technical and Specification Guide	8-716-116-513-0
Greenstar Heat Interface Unit – Technical and Specification Guide	8-716-116-624-0

<b>Oil</b>	<b>Worcester Part No.</b>
<b>Consumer</b>	
Greenstar Oil-fired Products Brochure	8-716-110-393-0
<b>Heating professional</b>	
Oil-fired and Solar Thermal Heating Solutions – Product Guide	8-716-116-678-0
Greenstar Heatslave II Combi – Technical and Specification Guide	8-716-116-677-0
Greenstar Danesmoor System and Regular – Technical and Specification Guide	8-716-113-356-0

<b>Accessories</b>	<b>Worcester Part No.</b>
Controls – Technical and Specification Guide	8-716-115-653-0
Wave – Technical Sales Brochure	8-716-117-264
Greenstore Unvented Cylinder Series – Technical and Specification Guide	8-716-116-617-0
Greenstar System Filter Brochure	8-716-116-618-0
Flue Gas Heat Recovery Brochure	8-716-117-294

<b>Renewables</b>	<b>Worcester Part No.</b>
<b>Consumer</b>	
Renewables Brochure	8-716-115-755-0
<b>Heating professional</b>	
Greenskies Solar – Technical and Specification Guide	8-716-110-080-0

<b>Training</b>	<b>Worcester Part No.</b>
<b>Heating professional</b>	
Training Brochure	8-716-116-110-0




## The installer's choice for quality training.

Worcester has always been committed to setting the industry standard for expert professional training and this is reflected in the scope, course content, training venues and options available to you.

We offer training on our entire range of domestic and commercial heating technologies as well as industry led courses. All our tuition is handled by expert heating specialists, with tried and tested combinations of classroom theory, practical hands-on experience and first class facilities. Our training is everything you would expect from a market leader.



 Training centres

 College links  
training centres



For full details call **0330 123 0166** or visit our website.

# Free Online Training Academy

Worcester's new Online Training Academy makes it easier than ever before for you to enhance your industry knowledge.

Designed to supplement hands-on training programmes, the academy is aimed at installers who wish to keep up-to-date with the latest product features, installation tips and troubleshooting advice, whenever is convenient.





### **Access to the academy on the move**

With smartphones and tablets now being essential components of an installer's toolkit, the new online hub aims for professional development to be enhanced from the comfort of home, in the office and on the road.

### **Keep up-to-date with Worcester training**

In addition to the range of e-learning programmes on offer, the front page of the Online Academy enables users to view any recent YouTube video from Worcester, as well as news alerts concerning any new training courses.



### **Suitable for small and large companies**

Worcester's Online Training Academy has the following courses available:

- Greenstar CDi Compact
- Greenstar Oil-fired boilers
- Greenstore Unvented Cylinders
- GB162 commercial boilers
- Greenstore LECP ground source heat pumps.

To register for Worcester's new Online Training Academy, visit

**[www.worcesterbosch-academy.co.uk](http://www.worcesterbosch-academy.co.uk)**

# Notes

# Notes

## Useful numbers

### Service Enquiries

Email: [service-enquiries@uk.bosch.com](mailto:service-enquiries@uk.bosch.com)  
or telephone 0330 123 9559

### Sales

Tel: 0330 123 9669

### Spare Parts

Tel: 0330 123 9779

### Technical Helpline (Pre & Post Sales)

Tel: 0330 123 3366

Email: [technical-advice@uk.bosch.com](mailto:technical-advice@uk.bosch.com)

### ErP Technical Helpline

Tel: 0330 123 3641

Email: [ErP-advice@uk.bosch.com](mailto:ErP-advice@uk.bosch.com)

### Training

Tel: 0330 123 0166

### Literature

Email: [brochure-request@uk.bosch.com](mailto:brochure-request@uk.bosch.com) or download instantly from our website or telephone 0330 123 9119.

Calls to and from Bosch Thermotechnology Ltd may be recorded for training and quality assurance purposes.

# worcester-bosch.co.uk



In partnership with



Worcester, Bosch Group,  
Cotswold Way, Warndon,  
Worcester, WR4 9SW



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