



WORCESTER

GREENSTAR CAMRAY 12/18

Product Guide 2010/2011

Oil-fired and solar thermal heating solutions from Worcester, Bosch Group


WORCESTER
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Worcester and you. Making a difference.

Worcester, Bosch Group
Technical Help line

Working together for many years, heating professionals and Worcester have been making a real difference in hundreds of thousands of homes. We are recognised as a market leader in high efficiency, condensing boiler technology and are also committed to providing renewable energy solutions.

As part of the Bosch Group, our products are designed and manufactured to provide the high levels of quality and reliability which are synonymous with the Bosch name throughout the world.

We're a leading British company, employing approximately 1,800 people at our headquarters and manufacturing plants in Worcester and at Clay Cross in Derbyshire, including a nationwide network of over 300 Service Engineers and over 80 technically-trained Field Sales Managers.

As part of Europe's largest supplier of heating products, Worcester, Bosch Group has the resources and support capability to offer you the value-added solutions we feel you deserve.



“At Worcester we recognise the vital role you, our customer, has in the specification and installation of ‘A’ rated, energy efficient appliances. We will continue to invest in our products, people, facilities and added value services such as training, to give you the support you require in providing a total solution for your customers’ comfort.”

Richard Soper,
Managing Director, Bosch Thermotechnology

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Everything you need to know about the complete Worcester oil-fired product range

Worcester can offer the biggest and best oil-fired boiler offering available in the UK, backed by the best training, service and parts organisation in the sector.

In this easy-to-use pocket guide you will find essential information on every oil-fired heating and hot water appliance currently available from the Worcester range, as well as information about our renewable energy solutions. This includes brief details of current legislation applicable to the installation of central heating boilers, 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, tabulated text and a comprehensive contents page.

SEDBUK ratings for oil-fired boilers

Appliance	Efficiency rating %	SEDBUK Band	Compatible features
Greenstar Camray (kitchen) 25/32	94.2	A	 
Greenstar Camray (kitchen) System 25/32	94.2	A	 
Greenstar Camray Utility 25/32	94.2	A	 
Greenstar Camray Utility System 25/32	94.2	A	 
Greenstar Camray External 25/32	94.2	A	 
Greenstar Camray External System 25/32	94.2	A	 
Greenstar Camray 18/25	93.2	A	 
Greenstar Camray (kitchen) System 18/25	93.2	A	 
Greenstar Camray Utility 18/25	93.2	A	 
Greenstar Camray Utility System 18/25	93.2	A	 
Greenstar Camray External 18/25	93.2	A	 
Greenstar Camray External System 18/25	93.2	A	 
Greenstar Camray (kitchen) 12/18	93.1	A	 
Greenstar Camray (kitchen) System 12/18	93.1	A	 
Greenstar Camray Utility 12/18	93.1	A	 
Greenstar Camray Utility System 12/18	93.1	A	 
Greenstar Camray External 12/18	93.1	A	 
Greenstar Camray External System 12/18	93.1	A	 
Greenstar Utility 32/50	93.0	A	 
Greenstar Danesmoor 18/25	92.8	A	 
Greenstar Danesmoor Wall Mounted 18/25	92.8	A	 
Greenstar Danesmoor Wall Mounted 12/18	92.6	A	 
Greenstar Utility 18/25	92.8	A	 
Greenstar Utility 50/70	92.5	A	 
Greenstar Heatslave 25/32	90.3	A	
Greenstar Heatslave External 25/32	90.3	A	
Greenstar Heatslave 12/18	90.2	A	

Appliance	Efficiency rating %	SEDBUK Band	Compatible features
Greenstar Heatslave External 12/18	90.2	A	
Greenstar Heatslave 18/25	90.1	A	
Greenstar Heatslave External 18/25	90.1	A	
Heatslave 15/19	82.8	C	
Heatslave 20/25	82.8	C	
Heatslave 26/32	82.5	C	



Compatible with solar



Energy Saving product recommended by the Energy Saving Trust.

Seasonal efficiency is given as the SEDBUK number. The value is used in the UK Government's Standard Assessment Procedure (SAP) for energy rating of dwellings. The test data from which it has been calculated has been certified by a notified body as indicated.

Flue terminal positioning



General position (refer to next page)

1. The terminal must not cause an obstruction nor the discharge a nuisance. Particular care should be exercised with regards to the plumbing of the flue gases and any increase in noise levels.
2. If a terminal is fitted less than 2 metres above a surface to which people have access, then a guard must be fitted. The terminal guard must be securely fixed to the wall using suitable plugs and corrosion resistant screws. The guard must be symmetrically positioned about the terminal assembly and spaced such that there is a gap of 50mm between the end of the terminal and the guard.
3. In certain weather conditions, a white plume of condensation will be emitted from the flue terminal and siting where this could be a nuisance should be avoided i.e. near security lighting.
4. The air inlet/outlet duct and the terminal of the boiler must not be closer than 25mm to any combustible material. Detailed recommendations on protection of combustible materials are given in BS 5440:1.

The flue system must be installed and terminated in accordance with the recommendations of BS 5440:Part 1.

Plume management

Plume management kits are available for 125mm horizontally terminated flues, for use on external and internal boilers (except Camray External 12/18 boilers).

The standard kit provides a 500mm extension to the flue, with a 90° bend and a plume kit terminal. 1m extensions and bends are also available separately.

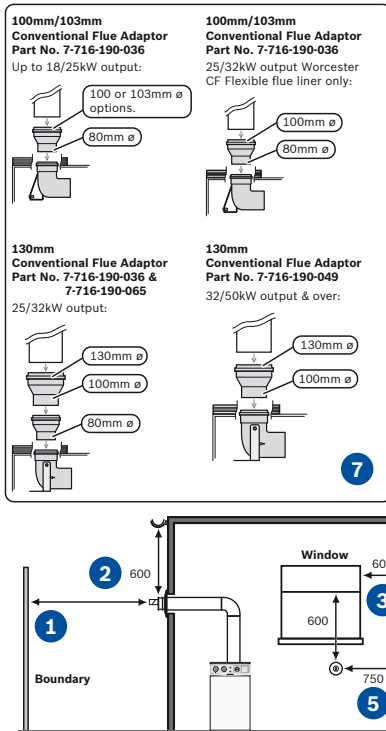
For more information on Worcester's plume management options, including reduced flue terminal clearances, please read the plume kit installation manual.

Plume management parts

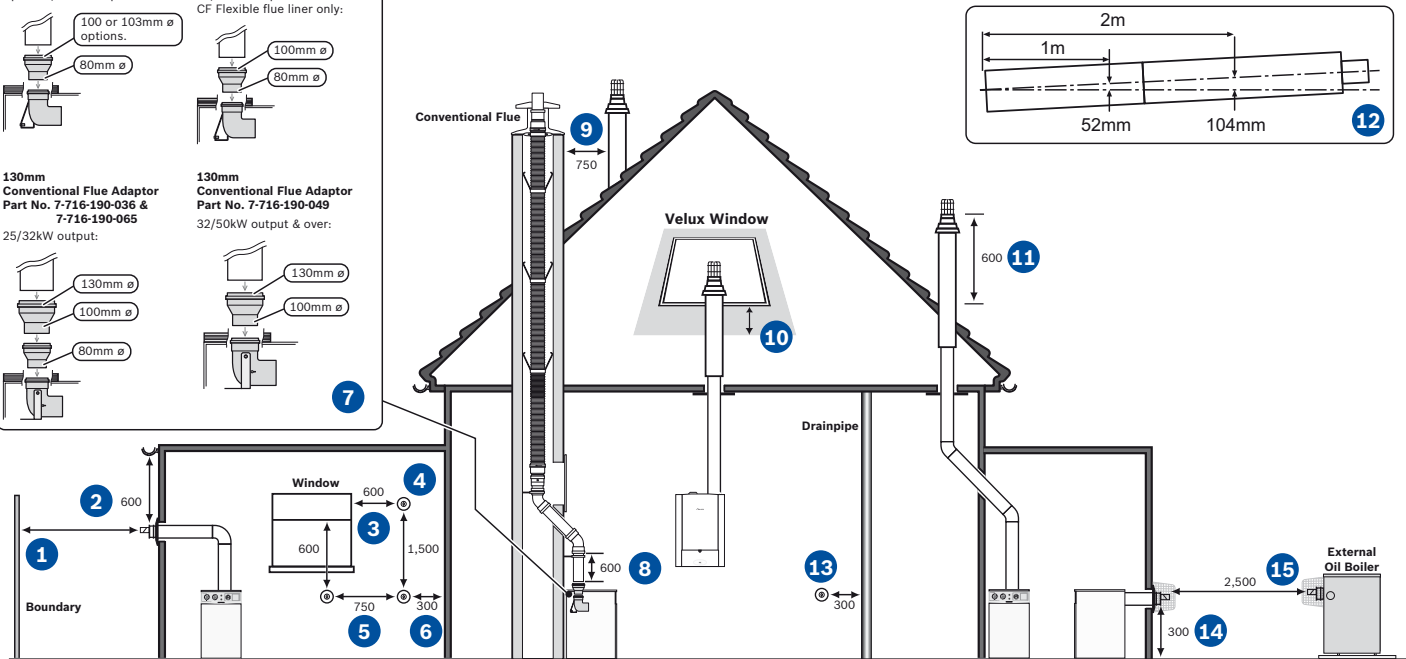


Components	Part no.	Description
	7 716 190 092	Plume management kit (125mm dia.)
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)

All measurements in millimetres



Flue terminal positioning



Key to illustration

- 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.
- 600mm below eaves, balconies, this can be reduced to 75mm, as long as the flue terminal is extended to clear any overhang.
- 600mm horizontally or vertically to an opening, air brick or opening window.
- 1,500mm vertically from a terminal on the same wall.
- 750mm horizontally from a flue on the same wall.
- 300mm to an internal or external corner.
- Details of conventional flue adaptors.
- Minimum 600mm straight flue before any bend on a conventional flue.
- 750mm between a vertical structure and a flue terminal.
- 1,000mm below a Velux window, 300mm above or to either side of the Velux window or any open on a sloping roof.
- 600mm above the highest point of an intersection with a roof.
- 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.

- 300mm to any vertical sanitary pipe work or drain pipe.
- 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.
- 1,200 mm between terminals facing each other.

All measurements are the minimum clearances required. Terminals must be positioned so 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 double this dimension. Terminals must be positioned so to avoid products of combustion accumulating in stagnant pockets around the building or entering the building or entering the building. Terminals must be at least 1.8 metres from an oil storage tank unless a wall with of at least 30 minutes fire resistance and extending 300mm wider and higher than the tank, between the tank and terminal.



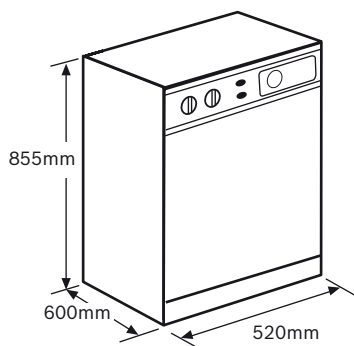
Floor standing condensing combi boilers

Greenstar Heatslave 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)	Flue gas temperature	Oil burner	Part no.
Greenstar Heatslave 12/18				
12 to 18	15*	Below 100°C	Reillo RDB 1*	7 716 100 097
Greenstar Heatslave 18/25				
18 to 25	18**	Below 100°C	Reillo RDB 2.2*	7 716 100 098
Greenstar Heatslave 25/32				
25 to 32	22**	Below 100°C	Riello RDB 2.2*	7 716 100 099

*Suitable for kerosene (28 sec oil) only

Control options

Part no.	Description
7 716 192 033	Twin Channel Digital

Flue lengths



Maximum flue lengths inc. terminal (mm)				
Diameter	Direction	12/18	18/25	25/32
125mm	Horizontal	4,000	6,000	4,000
	Vertical	6,000	12,000	6,000

Horizontal and vertical fluing options



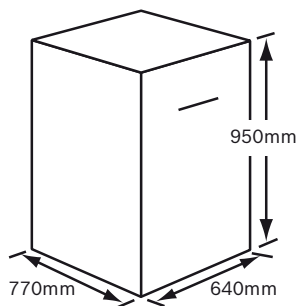
Components	Part no.	Description
125mm diameter		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 032	Vertical BF kit (1,080mm)
	7 716 190 036	Conventional flue adaptor kit
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 074	Wall cover plate kit (100mm dia.)
	7 716 191 090	Flashing - flat roof
	7 716 191 091	Flashing - pitched roof
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)
100mm diameter - Oilfit flexible flue kit		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 078	Oilfit flexi flue kit (15m)
	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

Note: Horizontal left hand fluing within the cabinet height will require the internal expansion vessel to be re-sited externally.



Floor standing condensing external combi boilers

Greenstar Heatslave 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	2500mm

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)	Flue gas temperature	Oil burner	Part no.
Greenstar Heatslave External 12/18				
12 to 18	15*	Below 100°C	Reillo RDB 1*	7 716 100 117
Greenstar Heatslave External 18/25				
18 to 25	18**	Below 100°C	Reillo RDB 2.2*	7 716 100 118
Greenstar Heatslave External 25/32				
25 to 32	22**	Below 100°C	Reillo RDB 2.2*	7 716 100 119

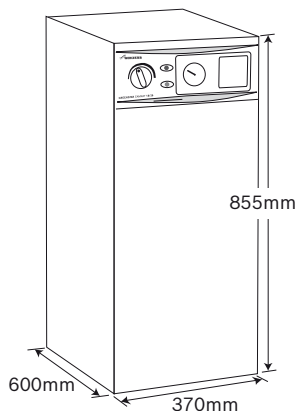
*Suitable for kerosene (28 sec oil) only

Horizontal and vertical fluing options

Components	Part no.	Description
125mm diameter		
	7 716 190 052	Low level horizontal standard flue kit
	7 716 190 057	Horizontal external flue kit
	7 716 190 053	Vertical external flue kit
	7 716 190 054	External flue extension (960mm)
	7 716 190 098	External flue extension (600mm)
	7 716 190 034	90° flue bend
	7 716 190 055	External 90° bend
	7 716 190 056	External 45° bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)

90° flue bend required for LH and RH fluing

Greenstar Camray (kitchen) 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)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Camray (kitchen) System 12/18				
12 to 18	Below 100°C	Riello RDB 1*	100	7 716 100 121
Greenstar Camray (kitchen) System 18/25				
18 to 25	Below 100°C	Riello RDB 2.2*	102	7 716 100 122
Greenstar Camray (kitchen) System 25/32				
25 to 30	Below 100°C	Riello RDB 2.2*	108	7 716 100 123

*Suitable for kerosene (28 sec oil) only

Control options

Part no.	Description
7 716 192 033	Twin Channel Digital

Flue lengths



Maximum flue lengths inc. terminal (mm)				
Diameter	Direction	12/18	18/25	25/32
125mm	Horizontal	4,000	6,000*	4,000
	Vertical	8,000	8,000*	-
150mm	Horizontal	-	-	-
	Vertical	-	10,000*	8,000

*May require flue damper, part no. 7 716 190 101. See flue instructions for full details



Horizontal and vertical fluing options



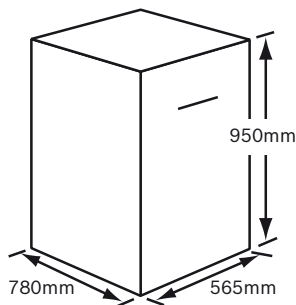
Components	Part no.	Description
125mm diameter		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 032	Vertical BF kit (1,080mm)
	7 716 190 036	Conventional flue adaptor kit
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 074	Wall cover plate kit (100mm dia.)
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)
150mm diameter		
	7 716 190 059*	Vertical RS flue kit (1,080mm)
	7 716 190 065**	Conventional flue adaptor (100/130mm)
	7 716 190 045	1,000mm extension (960mm)
	7 716 190 047	45° flue bend (pair)
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
100mm diameter – Oilfit flexible flue kit		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 078	Oilfit flexi flue kit (15m)
	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 **For Greenstar Camray 25/32 models use CF adaptor kit

7 716 190 036 & CF adaptor (100/130mm) 7 716 190 065

*Greenstar Camray 25/32 internal models only (100x150mm)

Greenstar Camray External System 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)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Camray External System 12/18				
12 to 18	Below 100°C	Riello RDB 1 [†]	133	7 716 100 126
Greenstar Camray External System 18/25				
18 to 25	Below 100°C	Riello RDB 2.2 [†]	134	7 716 100 127
Greenstar Camray External System 25/32				
25 to 30	Below 100°C	Riello RDB 2.2 [†]	152	7 716 100 128

[†]Suitable for kerosene (28 sec oil) only



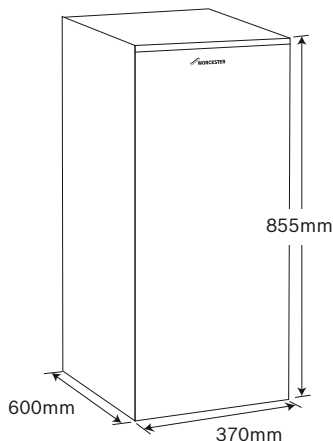
Horizontal and vertical fluing options

Components	Part no.	Description
125mm diameter		
	7 716 190 052	Low level horizontal standard flue kit
	7 716 190 057	Horizontal external flue kit
	7 716 190 053	Vertical external flue kit
	7 716 190 054	External flue extension (960mm)
	7 716 190 098	External flue extension (600mm)
	7 716 190 034	90° flue bend
	7 716 190 055	External 90° bend
	7 716 190 056	External 45° bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092 [†]	Plume management kit
	7 716 190 093 [†]	Plume management 1,000mm extension
	7 716 190 095 [†]	Plume management 90° bend
	7 716 190 094 [†]	Plume management 45° bend (pair)

[†]Unsuitable for Camray External System 12/18

150mm diameter – Camray 25/32 only		
	7 716 190 058	Vertical external flue kit
	7 716 190 060	Balanced flue extension
	7 716 190 061	Balanced flue 45° bend (pair)
	7 716 190 050	Stainless steel flue terminal guard

Greenstar Camray Utility 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)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Camray Utility System 12/18				
12 to 18	Below 100°C	Riello RDB 1*	109	7 716 100 111
Greenstar Camray Utility System 18/25				
18 to 25	Below 100°C	Riello RDB 2.2*	111	7 716 100 112
Greenstar Camray Utility System 25/32				
25 to 30	Below 100°C	Riello RDB 2.2*	118	7 716 100 113

*Suitable for kerosene (28 sec oil) only

Flue lengths



Maximum flue lengths inc. terminal (mm)				
Diameter	Direction	12/18	18/25	25/32
125mm	Horizontal	4,000	6,000*	4,000
	Vertical	8,000	8,000*	-
150mm	Horizontal	-	-	-
	Vertical	-	10,000*	8,000

*May require flue damper, part no. 7 716 190 101. See flue instructions for full details



Horizontal and vertical fluing options



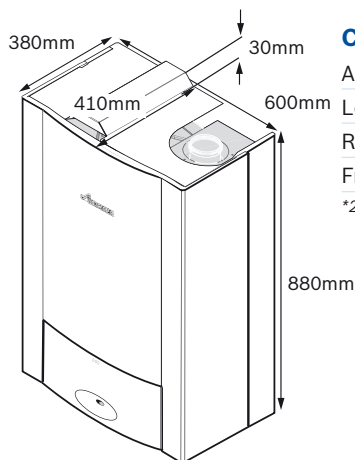
Components	Part no.	Description
125mm diameter		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 032	Vertical BF kit (1,080mm)
	7 716 190 036	Conventional flue adaptor kit
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 074	Wall cover plate kit (100mm dia.)
	7 716 191 090	Flashing - flat roof
	7 716 191 091	Flashing - pitched roof
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)
150mm diameter		
	7 716 190 059*	Vertical RS flue kit (1,080mm)
	7 716 190 065**	Conventional flue adaptor (100/130mm)
	7 716 190 045	1,000mm extension (960mm)
	7 716 190 047	45° flue bend (pair)
	7 716 191 090	Flashing - flat roof
	7 716 191 091	Flashing - pitched roof
100mm diameter - Oilfit flexible flue kit		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 078	Oilfit flexi flue kit (15m)
	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 **For Greenstar Camray 25/32 models use CF adaptor kit 7 716 190 036 & CF adaptor (100/130mm) 7 716 190 065
*Greenstar Camray 25/32 internal models only (100x150mm)



Wall mounted condensing regular boilers

Greenstar Danesmoor wall mounted series



Clearances

- Above: 300mm
 - Left: 10mm
 - Right: 10mm
 - Front: 600mm*
- *20mm to a removable door

Boiler output (kW)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Danesmoor WM 12/18				
12 to 18	Below 100°C	Riello RDB 1 [†]	72	7 716 100 124
Greenstar Danesmoor WM 18/25				
18 to 25	Below 100°C	Riello RDB 2.2 [†]	72	7 716 100 125

[†]Suitable for kerosene (28 sec oil) only

Control options

Part no.	Description
7 716 192 033	Twin Channel Digital

Flue lengths



Maximum flue lengths inc. terminal (mm)			
Diameter	Direction	12/18	18/25
125mm	Horizontal	4,000	4,000
	Vertical	6,000	6,000

Horizontal and vertical fluing options

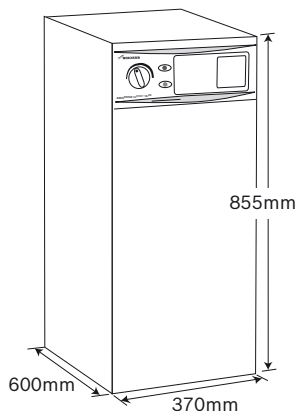


Components	Part no.	Description
125mm diameter		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 032	Vertical BF kit (1,080mm)
	7 716 190 036	Conventional flue adaptor kit
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 074	Wall cover plate kit (100mm dia.)
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)

100mm diameter – Oilfit flexible flue kit		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 078	Oilfit flexi flue kit (15m)
	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 Camray (kitchen) 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)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Camray (kitchen) 12/18				
12 to 18	Below 100°C	Riello RDB 1*	100	7 716 100 105
Greenstar Camray (kitchen) 18/25				
18 to 25	Below 100°C	Riello RDB 2.2*	102	7 716 100 106
Greenstar Camray (kitchen) 25/32				
25 to 30	Below 100°C	Riello RDB 2.2*	108	7 716 100 107

*Suitable for kerosene (28 sec oil) only

Control options

Part no.	Description
7 716 192 033	Twin Channel Digital

Flue lengths



Maximum flue lengths inc. terminal (mm)				
Diameter	Direction	12/18	18/25	25/32
125mm	Horizontal	4,000	6,000*	4,000
	Vertical	8,000	8,000*	-
150mm	Horizontal	-	-	-
	Vertical	-	10,000*	8,000

*May require flue damper, part no. 7 716 190 101. See flue instructions for full details



Horizontal and vertical fluing options



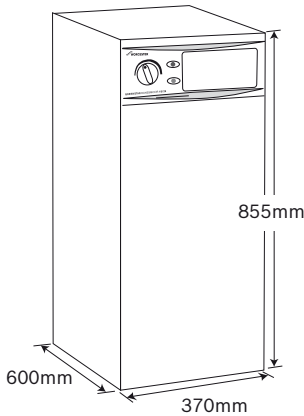
Components	Part no.	Description
125mm diameter		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 032	Vertical BF kit (1,080mm)
	7 716 190 036	Conventional flue adaptor kit
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 074	Wall cover plate kit (100mm dia.)
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)
150mm diameter		
	7 716 190 059*	Vertical RS flue kit (1,080mm)
	7 716 190 065**	Conventional flue adaptor (100/130mm)
	7 716 190 045	1,000mm extension (960mm)
	7 716 190 047	45° flue bend (pair)
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
100mm diameter – Oilfit flexible flue kit		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 078	Oilfit flexi flue kit (15m)
	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 **For Greenstar Camray 25/32 models use CF adaptor kit

7 716 190 036 & CF adaptor (100/130mm) 7 716 190 065

*Greenstar Camray 25/32 internal models only (100x150mm)

Greenstar Danesmoor



Clearances

Above flue: 300mm*

Left: 5mm

Right: 5mm

Front: 600mm

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

Boiler output (kW)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Danesmoor 18/25				
18 to 25	Below 100°C	Reillo RDB 2.2'	119	7 716 100 095

**Suitable for kerosene (28 sec oil) only*

Control options

Part no.	Description
7 716 192 033	Twin Channel Digital

Flue lengths



Maximum flue lengths inc. terminal (mm)		
Diameter	Direction	Danesmoor 18/25
125mm	Horizontal	6,000
	Vertical	12,000



Horizontal and vertical fluing options

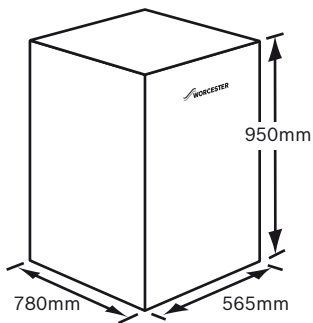


Components	Part no.	Description
125mm diameter		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 032	Vertical BF kit (1,080mm)
	7 716 190 036	Conventional flue adaptor kit
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 074	Wall cover plate kit (100mm dia.)
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)

100mm diameter – Oilfit flexible flue kit		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 078	Oilfit flexi flue kit (15m)
	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 Camray 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)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Camray External 12/18				
12 to 18	Below 100°C	Riello RDB 1†	114	7 716 100 114
Greenstar Camray External 18/25				
18 to 25	Below 100°C	Riello RDB 2.2†	115	7 716 100 115
Greenstar Camray External 25/32				
25 to 30	Below 100°C	Riello RDB 2.2†	122	7 716 100 116

†Suitable for kerosene (28 sec oil) only



Horizontal and vertical fluing options

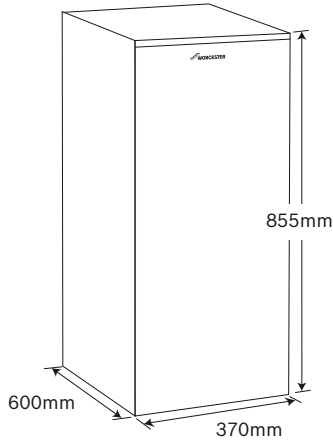
Components	Part no.	Description
125mm diameter		
	7 716 190 052	Low level horizontal standard flue kit
	7 716 190 057	Horizontal external flue kit
	7 716 190 053	Vertical external flue kit
	7 716 190 054	External flue extension (960mm)
	7 716 190 098	External flue extension (600mm)
	7 716 190 034	90° flue bend
	7 716 190 055	External 90° bend
	7 716 190 056	External 45° bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092*	Plume management kit
	7 716 190 093*	Plume management 1,000mm extension
	7 716 190 095*	Plume management 90° bend
	7 716 190 094*	Plume management 45° bend (pair)

*Unsuitable for Camray External 12/18

90° flue bend required for LH and RH fluing

150mm diameter – Camray 25/32 only		
	7 716 190 058	Vertical external flue kit
	7 716 190 060	Balanced flue extension
	7 716 190 061	Balanced flue 45° bend (pair)
	7 716 190 050	Stainless steel flue terminal guard

Greenstar Camray 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)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Camray Utility 12/18				
12 to 18	Below 100°C	Riello RDB 1*	101	7 716 100 108
Greenstar Camray Utility 18/25				
18 to 25	Below 100°C	Riello RDB 2.2*	103	7 716 100 109
Greenstar Camray Utility 25/32				
25 to 30	Below 100°C	Riello RDB 2.2*	110	7 716 100 110

*Suitable for kerosene (28 sec oil) only

Flue lengths



Maximum flue lengths inc. terminal (mm)				
Diameter	Direction	12/18	18/25	25/32
125mm	Horizontal	4,000	6,000*	4,000
	Vertical	8,000	8,000*	-
150mm	Horizontal	-	-	-
	Vertical	-	10,000*	8,000

*May require flue damper, part no. 7 716 190 101. See flue instructions for full details



Horizontal and vertical fluing options



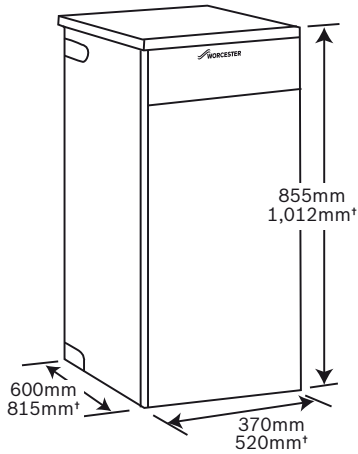
Components	Part no.	Description
125mm diameter		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 032	Vertical BF kit (1,080mm)
	7 716 190 036	Conventional flue adaptor kit
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 074	Wall cover plate kit (100mm dia.)
	7 716 191 090	Flashing - flat roof
	7 716 191 091	Flashing - pitched roof
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)

150mm diameter		
	7 716 190 059*	Vertical RS flue kit (1,080mm)
	7 716 190 065**	Conventional flue adaptor (100/130mm)
	7 716 190 045	1,000mm extension (960mm)
	7 716 190 047	45° flue bend (pair)
	7 716 191 090	Flashing - flat roof
	7 716 191 091	Flashing - pitched roof

100mm diameter - Oilfit flexible flue kit		
	7 716 190 076	Oilfit flexi flue kit (8m)
	7 716 190 077	Oilfit flexi flue kit (12m)
	7 716 190 078	Oilfit flexi flue kit (15m)
	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 **For Greenstar Camray 25/32 models use CF adaptor kit 7 716 190 036 & CF adaptor (100/130mm) 7 716 190 065
*Greenstar Camray 25/32 internal models only (100x150mm)

Greenstar Utility series



Clearances

Above flue:	300mm*
Left:	5mm or 10mm†
Right:	5mm or 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.

†Greenstar Utility 32/50 & 50/70



Boiler output (kW)	Flue gas temperature	Oil burner	Lift weight (kg)	Part no.
Greenstar Utility 18/25				
18 to 25	Below 100°C	Reillo RDB 2.2*	119	7 716 100 101
Greenstar Utility 32/50				
32 to 50	Below 100°C	Reillo RDB 3.2*	270	7 716 100 103
Greenstar Utility 50/70				
50 to 70	Below 100°C	Reillo RDB 4.2*	280	7 716 100 104

*Suitable for kerosene (28 sec oil) only

Flue lengths



Maximum flue lengths inc. terminal (mm)				
Diameter	Direction	18/25	32/50	50/70
125mm	Horizontal	6,000	-	-
	Vertical	12,000	-	-
150mm	Horizontal	-	3,000	3,000
	Vertical	-	6,000	6,000

Horizontal and vertical fluing options

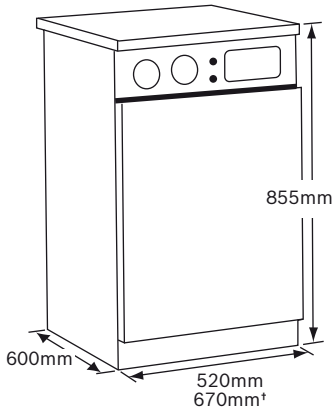

Components	Part no.	Description
125mm diameter		
	7 716 190 064	Standard telescopic flue kit (460 - 670mm)
	7 716 190 062	Short telescopic flue kit (360 - 460mm)
	7 716 190 032	Vertical BF kit (1,080mm)
	7 716 190 036	Conventional flue adaptor kit
	7 716 190 033	1,000mm extension (960mm)
	7 716 190 097	600mm extension
	7 716 190 034	90° flue bend
	7 716 190 035	45° flue bend (pair)
	7 716 191 174	Support bracket kit
	7 716 190 074	Wall cover plate kit (100mm dia.)
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 190 050	Stainless steel flue terminal guard
	7 716 190 092	Plume management kit
	7 716 190 093	Plume management 1,000mm extension
	7 716 190 095	Plume management 90° bend
	7 716 190 094	Plume management 45° bend (pair)
150mm diameter		
	7 716 190 043	Standard horizontal flue kit (880mm)
	7 716 190 044	Vertical BF kit (1,290mm)
	7 716 190 049	Conventional flue adaptor
	7 716 190 045	1,000mm extension (960mm)
	7 716 190 046	90° flue bend
	7 716 190 047	45° flue bend (pair)
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof

100mm diameter – Oilfit flexible flue kit		
	7 716 190 076 7 716 190 077 7 716 190 078	Oilfit flexi flue kit (8m) Oilfit flexi flue kit (12m) Oilfit flexi flue kit (15m)
	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

130mm diameter – Oilfit flexible flue kit		
	7 716 190 079 7 716 190 080 7 716 190 081	Oilfit flexi flue kit (8m) Oilfit flexi flue kit (12m) 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

Floor standing combi boilers – balanced flue

Heatslave Combi series



Clearances

Above flue: 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.*

**Heatslave 26/32 RS*

Boiler output (kW)	Flue gas temperature	Oil burner	Part no.
Heatslave 15/19 RS			
15 to 19	Below 250°C	Bentone Inter B9B*	7 716 100 044
Heatslave 20/25 RS			
20 to 25	Below 250°C	Bentone Inter B11C*	7 716 100 084
Heatslave 26/32 RS			
26 to 32	Below 250°C	Bentone Sterling 40*	7 716 100 066

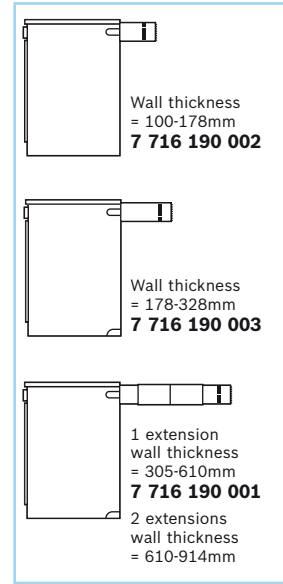
**Suitable for kerosene (28 sec oil) only*

Control options

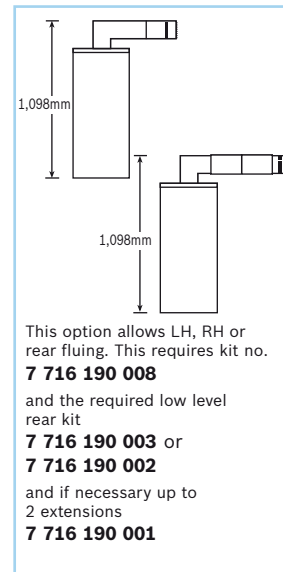
Part no.	Description
7 716 192 007	Grey Twin Channel

Flue options

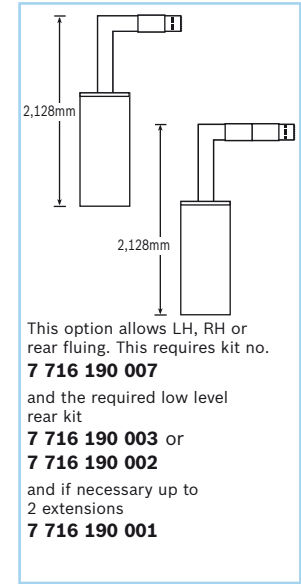
Low level rear (below cabinet)



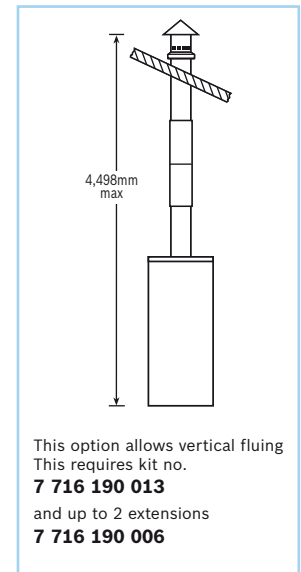
Low level left/right/rear



High level left/right/rear



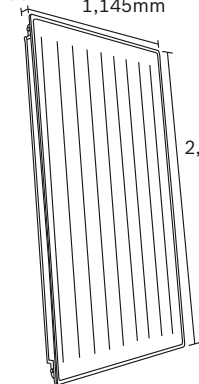
Vertical



Greenskies solar panels

Greenskies FK-1S

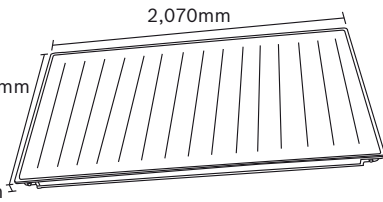
90mm 1,145mm



2,070mm

Greenskies FK-1W

1,145mm



90mm

Orientation	Efficiency (%)		Surface area (m ²)		Part no.
	Absorption	Emission	Gross	Net	
Greenskies FK-1S					
Portrait	95 ± 2	12 ± 2	2.37	2.23	7 747 025 748
Greenskies FK-1W					
Landscape	95 ± 2	12 ± 2	2.37	2.23	7 747 025 749
Greenskies FKT-1S					
Portrait	95 ± 2	5 ± 2	2.37	2.23	7 747 025 750
Greenskies FKT-1W					
Landscape	95 ± 2	5 ± 2	2.37	2.23	7 747 025 751

Control options

Part no.	Description
7 739 300 378	TDS10 Solar Controller
Intelligent controls	
7 716 192 068*	ISM1 Intelligent Solar Module

*Greenstar 30CDi System boiler fitted with optional diverter valve only and FR110 or FW100.

The Greenskies solar water heating system gives even more siting flexibility from portrait or landscape and in-roof or wall mounted options*. The Greenskies range also includes a range of twin coiled cylinders.












For more information refer to Solar Tech & Spec

Part number: 8 716 110 080 or visit

www.worcester-bosch.co.uk

*Wall mounted panels to be landscape only.

Main components & accessories (on roof installation)

Components	Part no.	Description
Main components		
	7 739 300 377	Solar pump station
	7 747 002 438	Connection set FS55 for FKC on roof
	7 739 300 331	Expansion vessel connector
	7 739 300 119	Expansion vessel 25L [†]
	7 739 300 120	Expansion vessel 35L [†]
	7 739 300 058	Solar fluid 10L ^{**}
	7 739 300 057	Solar fluid 25L ^{**}
	7 739 300 432	Air vent set ELT5 for FKC
Accessories		
	7 739 300 436	Roof connection FKA3 for tile/plain tile
	7 739 300 281	Slate/crown tile hook
	7 739 300 282	Additional crown tile hook

**Subject to system design












[†]Subject to system volume

Solar water heating panels

Worcester Greenskies solar panel kits

FKC-1S standard 2 panel portrait kit on roof


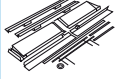







Part number: 7 716 150 000

Components	Part no.	Description
	7 747 025 748 x 2	Solar collector Worcester FKC-1S
	7 739 300 377	Solar pump station
	7 739 300 378	TDS10 solar controller
	7 739 300 441	On roof FKA6 portrait exten 1 coll
	7 739 300 057	Solar fluid 25L
	7 739 300 440	On roof FKA5 portrait basic 1 coll
	7 739 300 331	Expansion vessel connector
	7 747 002 438	Connection set FS55 for FKC on roof
	7 739 300 119	Expansion vessel 25L
	7 739 300 436 x 2	Roof connection FKA3 for tile/plain tile
	7 739 300 432	Air vent set ELT5 for FKC

Worcester Greenskies solar panel kits

FKC-1S standard 2 panel portrait kit in roof

Part number: 7 716 150 001












Components	Part no.	Description
	7 747 025 748 x 2	Solar collector Worcester FKC-1S
	7 739 300 463	Roof integrated FKI5 portrait basic 2 coll tile
	7 739 300 377	Solar pump station
	7 739 300 378	TDS10 solar controller
	7 739 300 057	Solar fluid 25L
	7 739 300 331	Expansion vessel connector
	7 747 002 439	Connection set FS56 for FKC roof integrated
	7 739 300 119	Expansion vessel 25L
	7 739 300 432	Air vent set ELT5 for FKC

Solar water heating panels

Worcester Greenskies solar panel kits

FKC-1W standard 2 panel landscape kit on roof


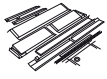







Part number: 7 716 150 002

Components	Part no.	Description
	7 747 025 749 x 2	Solar collector Worcester FKC-1W
	7 739 300 377	Solar pump station
	7 739 300 378	TDS10 solar controller
	7 739 300 443	On roof FKA8 landscape exten 1 coll
	7 739 300 057	Solar fluid 25L
	7 739 300 442	On roof FKA7 landscape basic 1 coll
	7 739 300 331	Expansion vessel connector
	7 747 002 438	Connection set FS55 for FKC on roof
	7 739 300 119	Expansion vessel 25L
	7 739 300 436 x 2	Roof connection FKA3 for tile/plain tile
	7 739 300 432	Air vent set ELT5 for FKC

Worcester Greenskies solar panel kits

FKC-1W standard 2 panel landscape kit in roof

Part number: 7 716 150 003







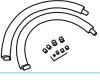



Components	Part no.	Description
	7 747 025 749 x 2	Solar collector Worcester FKC-1W
	7 739 300 488	Roof integrated FKI11 landscape basic 2 coll tile
	7 739 300 377	Solar pump station
	7 739 300 378	TDS10 solar controller
	7 739 300 057	Solar fluid 25L
	7 739 300 331	Expansion vessel connector
	7 747 002 439	Connection set FS56 for FKC roof integrated
	7 739 300 119	Expansion vessel 25L
	7 739 300 432	Air vent set ELT5 for FKC

Solar water heating panels

Worcester Greenskies solar panel kits

FKT-1S high 2 panel portrait kit on roof


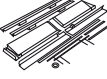




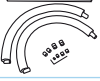


Part number: 7 716 150 004

Components	Part no.	Description
	7 747 025 750 x 2	Solar collector Worcester FKT-1S
	7 739 300 377	Solar pump station
	7 739 300 378	TDS10 solar controller
	7 739 300 441	On roof FKA6 portrait exten 1 coll
	7 739 300 057	Solar fluid 25L
	7 739 300 440	On roof FKA5 portrait basic 1 coll
	7 739 300 331	Expansion vessel connector
	7 747 002 442	Connection set FS59 for FKT on roof integrated
	7 739 300 119	Expansion vessel 25L
	7 739 300 436 x 2	Roof connection FKA3 for tile/plain tile
	7 739 300 433	Air vent set ELT6 for FKT

Worcester Greenskies solar panel kits

FKT-1S high 2 panel portrait kit in roof

Part number: 7 716 150 005












Components	Part no.	Description
	7 747 025 750 x 2	Solar collector Worcester FKT-1S
	7 739 300 463	Roof integrated FKI5 portrait basic 2 coll tile
	7 739 300 377	Solar pump station
	7 739 300 378	TDS10 solar controller
	7 739 300 057	Solar fluid 25L
	7 739 300 331	Expansion vessel connector
	7 747 002 442	Connection set FS59 for FKT on roof integrated
	7 739 300 119	Expansion vessel 25L
	7 739 300 433	Air vent set ELT6 for FKT

Solar water heating panels

Worcester Greenskies solar panel kits

FKT-1W high 2 panel landscape kit on roof










Part number: 7 716 150 006

Components	Part no.	Description
	7 747 025 751 x 2	Solar collector Worcester FKT-1W
	7 739 300 377	Solar pump station
	7 739 300 378	TDS10 solar controller
	7 739 300 443	On roof FKA8 landscape exten 1 coll
	7 739 300 057	Solar fluid 25L
	7 739 300 442	On roof FKA7 landscape basic 1 coll
	7 739 300 331	Expansion vessel connector
	7 747 002 442	Connection set FS59 for FKT on roof integrated
	7 739 300 119	Expansion vessel 25L
	7 739 300 436 x 2	Roof connection FKA3 for tile/plain tile
	7 739 300 433	Air vent set ELT6 for FKT

Worcester Greenskies solar panel kits

FKT-1W high 2 panel landscape kit in roof

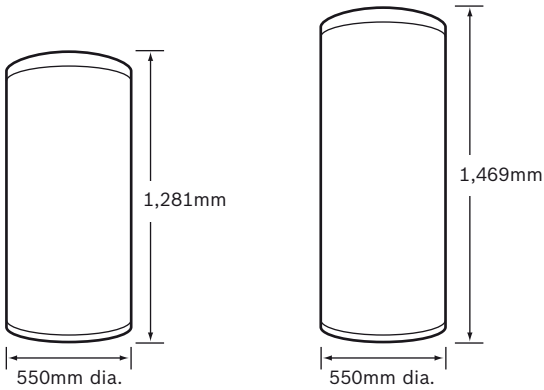
Part number: 7 716 150 007

Components	Part no.	Description
	7 747 025 751 x 2	Solar collector Worcester FKT-1W
	7 739 300 488	Roof integrated FKI11 landscape basic 2 coll tile
	7 739 300 377	Solar pump station
	7 739 300 378	TDS10 solar controller
	7 739 300 057	Solar fluid 25L
	7 739 300 331	Expansion vessel connector
	7 747 002 442	Connection set FS59 for FKT on roof integrated
	7 739 300 119	Expansion vessel 25L
	7 739 300 433	Air vent set ELT6 for FKT

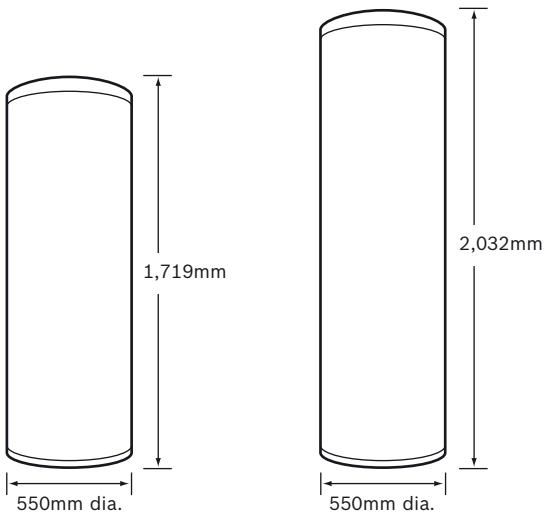
Solar water heating cylinders

Greenskies Cylinder series

Greenskies 180 Cylinder **Greenskies 210 Cylinder**



Greenskies 250 Cylinder **Greenskies 300 Cylinder**



Volume domestic hot water (litres)	Dedicated solar volume (litres)	Weight full (kg)	Part no.
Greenskies 180 Cylinder			
180	55	230	7 716 192 554
Greenskies 210 Cylinder			
210	65	265	7 716 192 555
Greenskies 250 Cylinder			
250	75	310	7 716 192 556
Greenskies 300 Cylinder			
300	100	365	7 716 192 557

- Stainless steel cylinder (providing a 25 year guarantee*)
- Unvented, providing mains pressure hot water
- Twin-coil for use with one fossil fuel appliance in addition to solar
- Comprehensive accessory and fittings pack
- WRAS and WRC-NSF approved
- Ozone depletion rate of zero
- Global warming potential of one



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Useful contacts



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Tel: 020 7222 0101
www.energysavingtrust.org.uk



OFTEC
Tel: 0845 65 85 080
www.oftec.org



Institute of Plumbing and Heating Engineers
Tel: 01708 472 791
www.ciphe.org.uk



Gas Safe Register
Tel: 0800 480 5500
www.gassaferegister.co.uk



Association of Plumbing
& Heating Contractors
Tel: 02476 470 626
www.competentpersonsscheme.co.uk



Heating & Ventilation Contractors Association
Tel: 0207 313 4900
www.hvca.org.uk



Heating and Hotwater Information Council
Tel: 01926 430 486
www.centralheating.co.uk



Benchmark
Tel: 0845 600 2200



Society of British Gas Industries
Tel: 01926 334 357
www.sbgi.org.uk



British Standards Institution
Tel: 0208 996 7070
www.bsigroup.co.uk



Worcester, Bosch Group
Tel: 0844 892 9900
www.worcester-bosch.co.uk



Buderus Commercial
Tel: 0844 892 3004
www.buderus.co.uk

Other Bosch companies



Bosch Power Tools
Tel: 01895 834 466
www.bosch-pt.co.uk



Robert Bosch Domestic Appliances
Tel: 01908 328 200
www.bosch-home.co.uk



Bosch Lawn & Garden
Tel: 01449 742 000
www.bosch-pt.co.uk/gardentools



Blaupunkt
Tel: 01895 838 880
www.blaupunkt.com/uk



Bosch Car Services
Tel: 01895 838 815
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 ²	= 6.452 cm ²
1 square foot	= 929.0 cm ²	
1 square yard	= 0.8361 m ²	
1 acre	= 4047 m ²	= 0.4047 ha
1 cubic inch	= 16387 mm ³	= 0.016 39 dm ³
1 cubic foot	= 0.02832 m ³	= 28.3 dm ³
1 cubic yard	= 0.764555 m ³	
1 pint	= 0.5683 litre	= 568.3 ml
1 gallon	= 4.546 litre	= 4.546 kg water
1000 gallons	= 4.546 m ³	
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 ³	= 0.03796 MJ/m ³ (st)	
1 Btu/sft ³ (dry)	= 0.03723 MJ/m ³ (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 ²		
1 square metre	= 1.196 yd ²		
1 acre	= 119.6 yd ²	= 0.0247 hectare	
1 hectare	= 11960 yd ²	= 2.471 acre	
1 cubic millimetre	= 0.000061 in ³		
1 cubic decimetre	= 61.02 in ³	= 0.035 31 ft ³	
1 cubic metre	= 35.31 ft ³	= 1.308 yd ³	= 220.0 gal
1 millilitre	= 0.001760 pint		
1 litre	= 1.760 pint	= 0.2200 gal	= 0.035 ft ³
1 gram	= 0.03527 oz	= 15.43 grains	
1 kilogram	= 2.205 lb		
1 kilowatt	= 3412 Btu/h		

Consumer and technical literature, CDs and DVDs

To order any of these items please phone 0844 892 9800 or you can download literature from www.worcester-bosch.co.uk

Gas	
	Worcester Part No.
Consumer	
Sales brochure, Greenstar Gas Products	8-716-109-642-0
Promotional brochure, Handy Hints	8-716-104-727-0
Heating professional	
Product guide, Gas-fired and Solar Thermal Heating Solutions	8-716-116-255
Tech & Spec, Greenstar Gas-fired System Range	8-716-115-775
Tech & Spec, Greenstar Gas-fired Regular Range	8-716-115-774
Tech & Spec, Greenstar Gas-fired Combi Range	8-716-115-773
Tech & Spec, Greenstar FS CDi Regular	8-716-115-422-0
Tech & Spec, Greenstar Highflow 440/550CDi	8-716-106-250-0
Tech & Spec, Pack, Greenstar Gas-fired Products	8-716-102-418-0

Oil	
	Worcester Part No.
Consumer	
Sales Brochure, Greenstar Oil-fired Products	8-716-110-393-0
Heating professional	
Product guide, Oil-fired and Solar Thermal Heating Solutions	8-716-116-256
Tech & Spec, Greenstar Danesmoor/Utility	8-716-110-391-0
Tech & Spec, Greenstar Heatslave	8-716-110-392-0
Tech & Spec, Greenstar Camray	8-716-113-356-0
Tech & Spec, Pack, Oil-fired Products	8-716-102-419-0

Controls	
	Worcester Part No.
Worcester controls series	
Technical & Specification Information	8-716-115-653

Renewables	
	Worcester Part No.
Consumer	
Combined Renewables Brochure	8-716-114-405-0
Heating professional	
Tech & Spec, Greenskies Solar	8-716-110-080-0
Tech & Spec, Greenstore Ground Source Heat Pumps	8-716-112-116-0
Tech & Spec, Greensource Air to Water Heat Pumps	8-716-115-319-0
Tech & Spec, Greensource Air to Air Heat Pump	8-716-115-438-0

Training	
	Worcester Part No.
Heating professional	
Training Pack - Information on Courses	8-716-112-218-0
Technical Bulletins	8-716-112-999-0

Other	
	Worcester Part No.
Consumer	
Brochure – Worcester Products & Services (Consumer)	8-716-112-666-0
Heating professional	
Brochure – Worcester Products & Services (Trade)	8-716-112-665-0

Multimedia	
	Worcester Part No.
Consumer	
Consumer DVD – Greenstar, Greenskies, Greenstore	8-716-112-668-0
Heating professional	
Heating Professional CD ROM – Greenstar, Greenskies, Greenstore	8-716-112-667-0
Technical CD ROM	8-716-104-960-0
Spares Catalogue	8-716-106-466-0
Greenstar CDi/i Junior Installation CD-ROM	8-716-112-251-0

Notes

Useful numbers

Enquiries

Email: service.mailbox@uk.bosch.com
or telephone 0844 892 3000

Sales

Tel: 01905 752640 Fax: 01905 456445

Spare Parts

Tel: 01905 752576 Fax: 01905 754620

Technical Helpline (Pre & Post Sales)

Tel: 0844 892 3366 Fax: 01905 752741

Renewables Technical Helpline

Email: renewable.energy@uk.bosch.com
or telephone 0844 892 4010

Training

Tel: 01905 752526 Fax: 01905 752535

Literature

Email: literature@uk.bosch.com or download instantly
from our website or telephone 0844 892 9800

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Calls from mobiles and some other networks may vary. Calls to and from Bosch
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