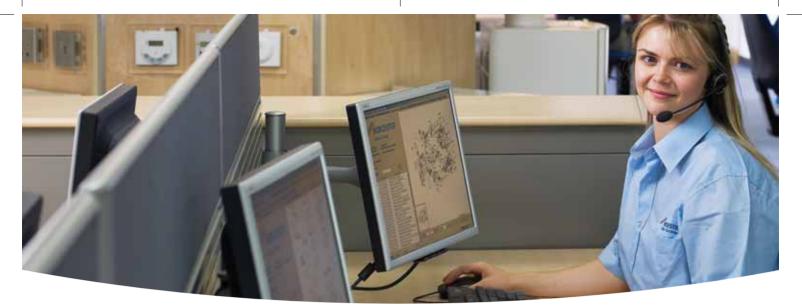
BBT2162 Gas Prod Guide N01\_10 21/12/09 15:42 Page 1







## Worcester and you. Making a difference.

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 technicallytrained Field Sales Managers. Worcester, Bosch Group Technical Help line

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

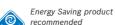
## Contents

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# SEDBUK ratings for gas-fired boilers

Appliance	Efficiency rating % <sup>†</sup>	SEDBUK Band	LPG	Compatible features
Greenstar Highflow 550CDi	90.8	А	•	٢
Greenstar Highflow 440CDi	90.8	А	•	<u></u>
Greenstar FS 30CDi Regular	90.5	А	•	🗱 🙆
Greenstar FS 42CDi Regular	90.3	А	•	<b>X</b>
Greenstar 30CDi Regular	90.3	А	•	<b>X</b>
Greenstar 27CDi Combi	90.2	А	•	٢
Greenstar 40CDi Regular	90.2	А	•	<b>X</b>
Greenstar 24Ri	90.2	А	•	<b>X</b>
Greenstar 24i System	90.1	А	•	<b>X</b>
Greenstar 30CDi Combi	90.1	А	•	٢
Greenstar 37CDi Combi	90.1	А	•	٢
Greenstar 42CDi Combi	90.1	А	•	٢
Greenstar 24i Junior	90.1	А	•	٢
Greenstar 28i Junior	90.1	А	•	٢
Greenstar 25Si	90.1	А	•	٢
Greenstar 30Si	90.1	А	•	
Greenstar 12i System	90.1	А	•	<b>X</b>
Greenstar 15i System	90.1	А	•	<b>X</b>
Greenstar 18i System	90.1	А	•	<b>X</b>
Greenstar 12Ri	90.1	А	•	
Greenstar 15Ri	90.1	А	•	<b>X</b>
Greenstar 18Ri	90.1	А	•	
Greenstar 30CDi System	90.1	А	•	<b>X</b>
28i Junior	78.9	D	•	
24i Junior	78.0	D	•	





with the Energy Savings 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. 'Natural Gas Ratings shown.

## Did you know?

#### Did you know Worcester has a new range of Worcester Greenstar floor standing gas-fired boilers?

- An updated version of the Greenstar Highflow 440

   the Highflow 440CDi which is now compatible with the same range of controls as the wall mounted Greenstar CDi and Condensfit II flue system and plume management kit.
- A new variant has been added to the Greenstar Highflow range – the Highflow 550CDi which has a DHW flow rate of up to 25 litres per minute – for more details see page 18.
- Joining the Greenstar floor standing range are the FS 30CDi and FS 42CDi Regular (heat only) boilers that are ideal for the replacement market – for more details see page 28.

## Did you know the i System is now available in 15 & 18kW variants?

The introduction of two new models sees the completion of the Greenstar i System range. For more details see page 20.

## Did you know Worcester has a new range of intelligent controls including weather compensation?

- The FX range of controls enhances the efficiency of the Greenstar CDi combi, system gas-fired boilers and Greenskies solar panel systems. For more details see page 38.
- ISM1 Intelligent Solar Module enables integration of Greenskies solar installations with an FX control and Greenstar CDi System boiler for optimum efficiency.
- The new FR10 intelligent room thermostat can be used in conjunction with either of Worcester's plug-in time controls, MT10 or DT20, on all Greenstar CDi gas-fired combi and system boilers.
- FX controls are compatible with Greenstar CDi System boilers fitted with the optional integral diverter valve only.

## Did you know installing Worcester Greenstar gas-fired boilers saves you time and money?

- Every Worcester Greenstar gas-fired boiler has a routing channel to allow pipes behind which negates the need for a wall spacing frame, and the time it takes to assemble, saving you time and money.
- A vertical pre-bent piping kit is available for the Greenstar Si, i Junior and i System which saves you up to 30 minutes installation time. The kit includes 4 pre-bent pipes and an earth bonding strip. Part number 7 716 192 570.
- A Condensfit II short flue extension (220mm) is available as an alternative to purchasing a 1m extension which saves you up to £25 plus the time to cut the flue to the correct length.
   Part number 7 716 191 133.
- Every Worcester Greenstar gas-fired boiler is also available in an LPG boiler variant as standard which saves the time used to carry out a conversion and no analyser is required for installation.

#### Did you know Worcester Greenstar condensing gas-fired boilers could reduce your customers' energy bills and reduce their carbon footprint?

- Greenstar CDi combi boilers condense when delivering hot water as well as condensing in central heating mode – more efficient operation – using less gas for the same amount of hot water.
- The Greenstar CDi combi range has a modulating pump which can save up to 30% in running costs compared to a standard efficiency pump.

Please note: This product guide lists basic details of the Worcester gas-fired and renewable product series. More detailed technical information is available in the Technical Specification brochures and Installation, Commissioning and Servicing Instructions for each product type.

It is essential that full technical details are considered before final product specification is made.

Contact www.worcester-bosch.co.uk or call 0844 892 9800 to obtain the full technical publications.

## Flue terminal positioning

#### General position (refer to next page)

- The terminal must not cause an obstruction nor the discharge a nuisance. Particular care should be exercised with regards to the pluming 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.

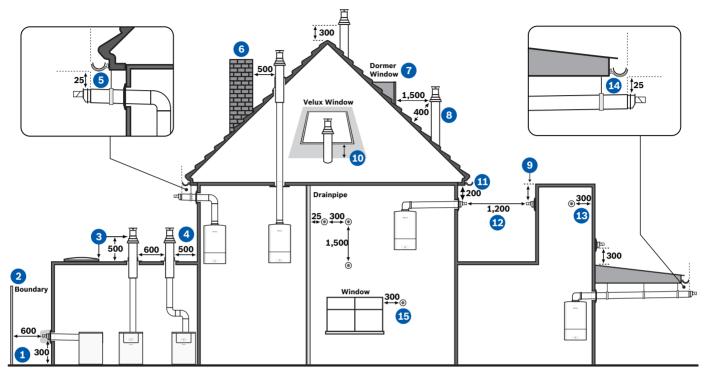
The flue system must be installed and terminated in accordance with the recommendations of BS 5440:Part 1.

#### Plume management

Plume management kits are available for 100mm horizontally terminated flues. Please refer to the installation instructions supplied with the plume management kits.

For more information on Worcester's plume management options, including reduced flue terminal clearances, please read the relevant boiler technical and specification brochure.

## Flue terminal positioning



#### **Key to illustration**

- At least 300mm clearance from the ground. A terminal guard must be fitted if a terminal is less than 2 meters above a surface people have access.
- 600mm clearance to a boundary, unless it will cause a nuisance. BS 5440: Part 1 recommends care is taken when siting terminals in relation to boundaries.
- 3. 600mm clearance from a skylight to a vertical flue.
- 500mm clearance to non-combustible building material, 1,500mm clearance to combustible building material i.e. a thatched roof.
- 5. The 200mm clearance below eaves, gutters and pipes can be reduced to 25mm, provided the flue terminal is extended to clear the overhang.
- 6. 500mm clearance to a vertical structure, 600mm to room sealed flue and 1,500mm to an open flue.
- 7. 1,500mm between a window and a vertical flue.
- 8. 400mm clearance to a pitched roof, 500mm in areas with heavy snow fall.
- 9. A flue must not be 1,000mm from the top of a light well due to the build up of products of combustion.

- 10. 2,000mm clearance below a velux window, 600mm clearance to either side.
- 11. 200mm clearance below eaves, 75mm below gutters and pipes.
- 12. 1,200mm clearance between facing terminals.
- 13. 300mm clearance to an internal or external corner.
- 14. The 200mm clearance below eaves, gutters and pipes can be reduced to 25mm, provided the flue terminal is extended to clear the overhang. Terminating a flue into a carport is not recommended.
- 15. 300mm clearance above, below and either side of a door, window or air vent.

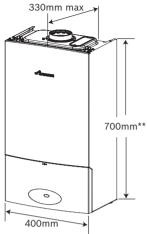
All measurements are the minimum required. Terminals must be positioned to avoid products of combustion entering the building. Terminating a flue into a carport is not recommended. If extending a flue past an eave, the joint between the terminal and the flue must be sealed with a suitable weather proof sealant.

All measurements in millimetres.

10

#### Wall mounted condensing combi boilers

## Greenstar i Junior series



#### Clearances

Above flue:	30mm
Left:	5mm
Right:	5mm
Below:	200mm
Front:	20mm*

\*20mm from a removable cupboard door, 600mm from a fixed surface for servicing. Refer to Tech & Spec for unventilated clearances. \*\*710mm to top of casing front.

Max DHW output (kW)	Flow rate (l/m) ∆T 40°C ∆T 35°C 24i Junior		CH output (kW)	Part no.
Greenstar	241 00110			NO 7 740 400 444
24	8.6	9.8	7.2 to 24	NG 7 716 130 141
				LPG 7 716 130 148
Greenstar 28i Junior				
28	10	11.4	7.2 to 24	NG 7 716 130 142
20	10	11.4	7.2 10 24	LPG 7 716 130 147

#### **Control options**

Part no.	Description	
Mechanical time	rs, digital & wireless programmers & room thermostats	
7 716 192 036*	MT10 Mechanical Timer	
7 716 192 038	DT20 Twin Channel Digital Programmer	
7 716 192 037*	MT10RF Mechanical RF Thermostat	
7 716 192 052	DT10RF Digistat	
7 716 192 054	DT20RF Digital RF Thermostat with Twin Channel Programmer	

#### Accessories

Components	Part no.	Description	
	7 716 192 570	Vertical pre-piping assembly	



#### **SEDBUK Band A**

#### *Condensfit* **II**<sup>™</sup>

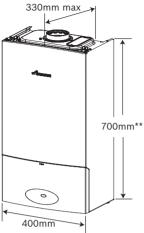
Maximum flue lengths inc. terminal (mm)			
Diameter	Direction	24i Junior	28i Junior
100mm	Horizontal	4,600	4,600
TOOUUU	Vertical	6,400	6,400
105	Horizontal	13,000	13,000
125mm	Vertical	15,000	15,000

#### Horizontal and vertical fluing options

Components Part no.		Description	
100mm diameter			
7 716 191 082		Standard telescopic flue & terminal (350 - 570mm)	
Ê	7 719 002 430	Vertical 1,090mm BF kit (inc. adaptor)	
<b></b> p	7 716 191 083	Extension flue kit (960mm)	
	7 716 191 133	Short flue extension (220mm)	
	7 716 191 084	90° flue bend	
	7 716 191 085	45° flue bend	
	7 719 002 432	High level horizontal flue adaptor	
ГО	7 716 191 092	Support bracket kit	
工	7 716 191 090	Flashing – flat roof	
<u> </u>	7 716 191 091	Flashing – pitched roof	
	7 716 191 086	Plume management kit (60mm dia.)	
125mm diame	eter		
	7 719 003 702	Standard flue & terminal (1,200mm)	
Ê	7 719 002 431	Vertical 1,365mm BF kit (inc. adaptor)	
	7 719 003 666	Extension flue kit (960mm)	
	7 719 003 664	90° flue bend	
	7 719 003 665	45° flue bend	
	7 719 002 433	High level horizontal flue adaptor	
<u>Д</u>	7 716 191 090	Flashing – flat roof	
<u>A</u>	7 716 191 091	Flashing – pitched roof	

#### Wall mounted condensing combi boilers

## **Greenstar Si series**



#### Clearances

Above flue:	30mm
Left:	5mm
Right:	5mm
Below:	200mm
Front:	20mm*

\*20mm from a removable cupboard door, 600mm from a fixed surface for servicing. Refer to Tech & Spec for unventilated clearances. \*\*710mm to top of casing front.

Max DHW output (kW)	Flow rate (I/m) ∆T 40°C │ ∆T 35°C		CH output (kW)	Part no.	
Greenstar	25Si				
25	8.9	10.2	7.2 to 24	NG 7 716 130 139	
				LPG 7 716 130 146	
Greenstar	Greenstar 30Si				
30	10.7	12.3	7.2 to 24	NG 7 716 130 140	
30	10.7	12.5	1.2 10 24	LPG 7 716 130 145	

#### **Control options**

Part no.	Description	
Mechanical time	rs, digital & wireless programmers & room thermostats	
7 716 192 036†	MT10 Mechanical Timer	
7 716 192 038	DT20 Twin Channel Digital Programmer	
7 716 192 037†	MT10RF Mechanical RF Thermostat	
7 716 192 052	DT10RF Digistat	
7 716 192 053	DT10RF Optimiser	
7 716 192 054	DT20RF Digital RF Thermostat with Twin Channel Programmer	

#### Accessories

Components Part no.		Description	
	7 716 192 570	Vertical pre-piping assembly	



#### **SEDBUK Band A**

#### *{condensfit* **II**™

Maximum flue lengths inc. terminal (mm)			
Diameter	Direction	25Si	30Si
100mm	Horizontal	4,600	4,600
TOOUUU	Vertical	6,400	6,400
105	Horizontal	13,000	13,000
125mm	Vertical	15,000	15,000

#### Horizontal and vertical fluing options

Components	Part no.	Description	
100mm diame	eter		
	7 716 191 082	Standard telescopic flue & terminal (350 - 570mm)	
Ê	7 719 002 430	Vertical 1,090mm BF kit (inc. adaptor)	
<b></b> p	7 716 191 083	Extension flue kit (960mm)	
	7 716 191 133	Short flue extension (220mm)	
	7 716 191 084	90° flue bend	
	7 716 191 085	45° flue bend	
	7 719 002 432	High level horizontal flue adaptor	
Γð	7 716 191 092	Support bracket kit	
工	7 716 191 090	Flashing – flat roof	
<u>a</u>	7 716 191 091	Flashing – pitched roof	
	7 716 191 086	Plume management kit (60mm dia.)	
125mm diameter			
	7 719 003 702	Standard flue & terminal (1,200mm)	
Ê	7 719 002 431	Vertical 1,365mm BF kit (inc. adaptor)	
	7 719 003 666	Extension flue kit (960mm)	
	7 719 003 664	90° flue bend	
	7 719 003 665	45° flue bend	
	7 719 002 433	High level horizontal flue adaptor	
<u>Д</u>	7 716 191 090	Flashing – flat roof	
<u>A</u>	7 716 191 091	Flashing – pitched roof	

#### Wall mounted condensing combi boilers

## **Greenstar CDi series**



#### Clearances

Above flue:	30mm
_eft:	5mm
Right:	5mm
Below:	200mm
Front:	20mm*

\*20mm from a removable cupboard door, 600mm from a fixed surface for servicing. Same clearances for ventilated & unventilated compartments. \*\*760mm to top of casing front.

Max DHW output (kW)	Flow rate (I/m) ∆T 40°C │ ∆T 35°C		CH output (kW)	Part no.
Greenstar	27CDi			
27	9.7	11.1	7.7 to 26.2	NG 7 713 331 021 LPG 7 713 331 022
Greenstar	30CDi			
30	11.5	13.1	7.7 to 30	NG 7 713 331 023 LPG 7 713 331 024
Greenstar 37CDi				
37	13.3	15.2	9.4 to 30	NG 7 713 331 017 LPG 7 713 331 018
Greenstar 42CDi				
42	15.1	17.2	9.4 to 30	NG 7 713 331 019 LPG 7 713 331 020

#### **Control options**

Part no.	Description			
Intelligent contro	Intelligent controls			
7 716 192 065	FR10 Intelligent Room Thermostat#			
7 716 192 066	FR110 Programmable Room Thermostat			
7 716 192 067	FW100 Weather Compensation Controller			
7 719 002 505†	RT10 Room Thermostat			
7 719 002 506	TD200 Text Display			
Mechanical timers, digital & wireless programmers & room thermostats				
7 716 192 036**	MT10 Mechanical Timer			
7 716 192 038	DT20 Twin Channel Digital Programmer			
7 716 192 037**	MT10RF Mechanical RF Thermostat			
7 716 192 052	DT10RF Digistat			
7 716 192 053	DT10RF Optimiser			
7 716 192 054	DT20RF Digital RF Thermostat with Twin Channel Programmer			

#For use with MT10 and DT20 only. \*Must be used with TD200. \*\*These controls will not provide hot water pre-heat time control.



#### Flue lengths

## SEDBUK Band A

#### *{condensfit* **II**™

Maximum flue lengths inc. terminal (mm)					
Diameter Direction 27CDi 30CDi 37CDi 42CDi					
100mm	Horizontal	10,000	7,000	6,500	6,000
TOOUUU	Vertical	11,500	8,000	8,000	7,500
105	Horizontal	23,000	16,000	16,000	12,000
125mm	Vertical	23,000	16,000	16,000	16,000

#### Horizontal and vertical fluing options

Components	Part no.	Description
100mm diam	eter	
	7 716 191 082	Standard telescopic flue & terminal (350 - 570mm)
Ê	7 719 002 430	Vertical 1,090mm BF kit (inc. adaptor)
[ <b></b> ]	7 716 191 083	Extension flue kit (960mm)
	7 716 191 133	Short flue extension (220mm)
	7 716 191 084	90° flue bend
	7 716 191 085	45° flue bend
	7 719 002 432	High level horizontal flue adaptor
ГО	7 716 191 092	Support bracket kit
工	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 191 086	Plume management kit (60mm dia.)

Note: 60/100mm - for every 90° bend deduct 1.5 metres and 0.75 metres for every 45° bend.

125mm diameter			
	7 719 003 702	Standard flue & terminal (1,200mm)	
Ê	7 719 002 431	Vertical 1,365mm BF kit (inc. adaptor)	
[ <b></b> ]	7 719 003 666	Extension flue kit (960mm)	
	7 719 003 664	90° flue bend	
	7 719 003 665	45° flue bend	
	7 719 002 433	High level horizontal flue adaptor	
工	7 716 191 090	Flashing – flat roof	
A	7 716 191 091	Flashing – pitched roof	

Note: 80/125mm - for every 90° bend deduct 2 metres and 1 metre for every 45° bend. See page 30 for plume management components & accessories

**Flue lengths** 

#### **SEDBUK Band A**

#### 

Maximum flue lengths inc. terminal (mm)				
Diameter	r Direction Highflow 440CDi Highflow 550CDi			
100	Horizontal	4,000	4,000	
100mm	Vertical	6,400	6,400	
105	Horizontal	13,000	13,000	
125mm	Vertical	15,000	15,000	

#### Horizontal and vertical fluing options

Components	Part no.	Description
100mm diam	eter	
	7 716 191 155	Standard telescopic flue kit (530mm)
Ê	7 716 191 156	Vertical 1,140mm BF kit (inc. adaptor)
	7 716 191 083	Extension flue kit (960mm)
	7 716 191 133	Short flue extension (220mm)
	7 716 191 084	90° flue bend
	7 716 191 085	45° flue bend
	7 716 191 164	Vertical flue adaptor
Гð	7 716 191 092	Support bracket kit
<u> </u>	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 191 086	Plume management kit (60mm dia.)

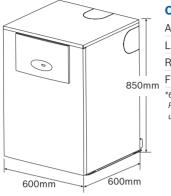
Note: 60/100mm - for every 90° bend deduct 1.5 metres and 0.75 metres for every 45° bend.

125mm diameter			
	7 716 191 157	Standard horizontal flue kit (965mm)	
Ê	7 716 191 158	Vertical 1,365mm BF kit (inc. adaptor)	
	7 719 003 666	Extension flue kit (960mm)	
	7 719 003 664	90° flue bend	
	7 719 003 665	45° flue bend	
	7 716 191 165	Vertical flue adaptor	
<u> </u>	7 716 191 090	Flashing – flat roof	
<u>A</u>	7 716 191 091	Flashing – pitched roof	

Note: 80/125mm - for every 90° bend deduct 2 metres and 1 metre for every 45° bend. See page 30 for plume management components & accessories

Floor standing condensing combi boilers

## Greenstar Highflow CDi series



Clearances		
15mm		
5mm		

 
 Right:
 5mm

 Front:
 25mm\*

 \*600mm required for servicing. Refer to Tech & Spec for unventilated clearances.

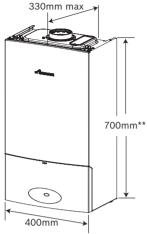
Max DHW output (kW)	Flow rate (I/m) ∆T 35°C	CH output (kW)	Part no.
Greenstar	Highflow 440CDi		
29.5	20	20 7.4 to 29.2	NG 7 715 330 041
29.5	20 7.4 to 29.2		LPG 7 715 330 053
Greenstar Highflow 550CDi			
41.1	25	9.7 to 30.6	NG 7 715 330 040
41.1	20	3.1 10 30.0	LPG 7 715 330 052

#### **Control options**

Part no.	Description
Intelligent contro	bls
7 716 192 065	FR10 Intelligent Room Thermostat#
7 716 192 066	FR110 Programmable Room Thermostat
7 716 192 067	FW100 Weather Compensation Controller
7 719 002 505†	RT10 Room Thermostat
7 719 002 506	TD200 Text Display
Mechanical timer	rs, digital & wireless programmers & room thermostats
7 716 192 036**	MT10 Mechanical Timer
7 716 192 038	DT20 Twin Channel Digital Programmer
7 716 192 037**	MT10RF Mechanical RF Thermostat
7 716 192 052	DT10RF Digistat
7 716 192 053	DT10RF Optimiser
7 716 192 054	DT20RF Digital RF Thermostat with Twin Channel Programmer

#### Wall mounted condensing system boilers

## Greenstar i System series



#### Clearances

Above flue:	30mm
_eft:	5mm
Right:	5mm
Below:	200mm
Front:	20mm*

\*20mm from a removable cupboard door, 600mm from a fixed surface for servicing. Refer to Tech & Spec for unventilated clearances. \*\*710mm to top of casing front.

CH output (kW)	Part no.	
Greenstar 12i System		
4 to 12	NG 7 716 130 143	
4 10 12	LPG 7 716 130 150	
Greenstar 15i System NEW		
5 to 15	NG 7 716 130 168	
5 (0 15	LPG 7 716 130 169	
Greenstar 18i System 😡		
6 to 18	NG 7 716 130 170	
0 10 10	LPG 7 716 130 171	
Greenstar 24i System		
7.2 to 24	NG 7 716 130 144	
1.2 t0 24	LPG 7 716 130 149	
Custom beilers using the entired diverter value bit must use a Warnester plug in		

System boilers using the optional diverter valve kit must use a Worcester plug-in controller and are incompatible with Y or S plan systems.

#### **Control options**

Part no.	Description	
Digital & wireless	programmers & room thermostats	
7 716 192 038	DT20 Twin Channel Digital Programmer	
7 716 192 052	DT10RF Digistat	
7 716 192 054	DT20RF Digital RF Thermostat with Twin Channel Programmer	
7 716 192 566	Optional Diverter Valve Kit – 12kW	
7 716 192 567	Optional Diverter Valve Kit – 15kW	
7 716 192 568	Optional Diverter Valve Kit – 18kW	
7 716 192 409	Optional Diverter Valve Kit – 24kW	

#### Accessories

Components	Part no.	Description
	7 716 192 570	Vertical pre-piping assembly



**Flue lengths** 

#### **SEDBUK Band A**

#### *{condensfit* **II**™

Maximum flue lengths inc. terminal (mm)					
Diameter	Direction	12i System	15i System	18i System	24i System
100mm	Horizontal	4,600	4,600	4,600	4,600
100mm	Vertical	6,400	6,400	6,400	6,400
105	Horizontal	13,000	13,000	13,000	13,000
125mm	Vertical	15,000	15,000	15,000	15,000

#### Horizontal and vertical fluing options

Components	Part no.	Description			
100mm diam	100mm diameter				
	7 716 191 082	Standard telescopic flue & terminal (350 - 570mm)			
Ê	7 719 002 430	Vertical 1,090mm BF kit (inc. adaptor)			
[ <b></b> ;	7 716 191 083	Extension flue kit (960mm)			
	7 716 191 133	Short flue extension (220mm)			
	7 716 191 084	90° flue bend			
${\color{black} \blacksquare}$	7 716 191 085	45° flue bend			
	7 719 002 432	High level horizontal flue adaptor			
ГО	7 716 191 092	Support bracket kit			
<u> </u>	7 716 191 090	Flashing – flat roof			
	7 716 191 091	Flashing – pitched roof			
	7 716 191 086	Plume management kit (60mm dia.)			

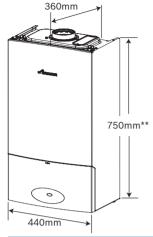
#### 125mm diameter

	7 719 003 702	Standard flue & terminal (1,200mm)
Ê	7 719 002 431	Vertical 1,365mm BF kit (inc. adaptor)
	7 719 003 666	Extension flue kit (960mm)
	7 719 003 664	90° flue bend
	7 719 003 665	45° flue bend
	7 719 002 433	High level horizontal flue adaptor
<u> </u>	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof

Note: For every 90° bend deduct 2 metres and 1 metre for every 45° bend. See page 30 for plume management components & accessories 21

#### Wall mounted condensing system boiler

## Greenstar 30CDi System



#### Clearances

Above flue:	30mm
_eft:	5mm
Right:	5mm
Below:	200mm
Front:	20mm*

\*20mm from a removable cupboard door, 600mm from a fixed surface for servicing. Same clearances for ventilated & unventilated compartments. \*\*760mm to top of casing front.

CH output (kW)	Part no.
Greenstar 30CDi System	
7.7 to 30	NG 7 712 331 893
1.1 10 50	LPG 7 712 331 888

System boilers using the optional diverter valve kit must use a Worcester plug-in controller and are incompatible with Y or S plan systems.

#### **Control options**

Part no.	Description	
Intelligent contro	ls	
7 716 192 065	FR10 Intelligent Room Thermostat#	
7 716 192 066	FR110 Programmable Room Thermostat	
7 716 192 067	FW100 Weather Compensation Controller	
7 716 192 068	ISM1 Intelligent Solar Module	
7 719 002 824	Intelligent System Package	
Digital & wireless	programmers & room thermostats	
7 716 192 038	DT20 Twin Channel Digital Programmer	
7 716 192 052	DT10RF Digistat	
7 716 192 053	DT10RF Optimiser	
7 716 192 054	DT20RF Digital RF Thermostat with Twin Channel Programmer	
7 719 002 746	Optional Diverter Valve Kit	



**Flue lengths** 

#### **SEDBUK Band A**

#### *{condensfit* **II**<sup>™</sup>

Maximum flue lengths inc. terminal (mm)		
Diameter	Direction	30CDi System
100mm	Horizontal	7,900
TOOUUU	Vertical	9,400
105	Horizontal	18,500
125mm	Vertical	18,500

#### Horizontal and vertical fluing options

Components	Part no.	Description
100mm diam	eter	
	7 716 191 082	Standard telescopic flue & terminal (350 - 570mm)
Ê	7 719 002 430	Vertical 1,090mm BF kit (inc. adaptor)
[ <b></b> ;	7 716 191 083	Extension flue kit (960mm)
	7 716 191 133	Short flue extension (220mm)
	7 716 191 084	90° flue bend
${\color{black} \blacksquare}$	7 716 191 085	45° flue bend
	7 719 002 432	High level horizontal flue adaptor
Γð	7 716 191 092	Support bracket kit
<u> </u>	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 191 086	Plume management kit (60mm dia.)

Note: 60/100mm - for every 90° bend deduct 1.5 metres and 0.75 metres for every 45° bend.

125mm diameter			
	7 719 003 702	Standard flue & terminal (1,200mm)	
Ê	7 719 002 431	Vertical 1,365mm BF kit (inc. adaptor)	
[ <b></b> ;	7 719 003 666	Extension flue kit (960mm)	
	7 719 003 664	90° flue bend	
	7 719 003 665	45° flue bend	
	7 719 002 433	High level horizontal flue adaptor	
<u>Д</u>	7 716 191 090	Flashing – flat roof	
<u> </u>	7 716 191 091	Flashing – pitched roof	

Note: 80/125mm - for every 90° bend deduct 2 metres and 1 metre for every 45° bend. 23 See page 30 for plume management components & accessories

#### Wall mounted condensing regular boilers

## Greenstar Ri series



oroaranoo			
Above flue:	30mm		
_eft:	5mm		
Right:	5mm		
Below:	200mm		
Front:	20mm*		
20mm from a removable cupboard			

oor, 600mm from a fixed surface for servicing. Refer to Tech & Spec for unventilated clearances. \*\*600mm to top of casing front.

CH output (kW)	Part no.
Greenstar 12Ri	
4 += 10	NG 7 716 130 137
4 to 12	LPG 7 716 130 151
Greenstar 15Ri	
5 to 15	NG 7 716 130 153
5 10 15	LPG 7 716 130 154
Greenstar 18Ri	
6 to 18	NG 7 716 130 155
0 10 10	LPG 7 716 130 156
Greenstar 24Ri	
8 to 24	NG 7 716 130 138
0 10 24	LPG 7 716 130 152

#### **Control options**

No Worcester controls are available for regular boilers. External controls must be used.



#### SEDBUK Band A

#### **Flue lengths**

#### *Condensfit* **II**<sup>™</sup>

Maximum flue lengths inc. terminal (mm)					
Diameter	Direction	12Ri	15Ri	18Ri	24Ri
100mm	Horizontal	4,600	4,600	4,600	4,600
10011111	Vertical	6,400	6,400	6,400	6,400
105	Horizontal	13,000	13,000	13,000	13,000
125mm	Vertical	15,000	15,000	15,000	15,000

#### Horizontal and vertical fluing options

Components	Part no.	Description
100mm diam	eter	
	7 716 191 082	Standard telescopic flue & terminal (350 - 570mm)
Ê	7 719 002 430	Vertical 1,090mm BF kit (inc. adaptor)
[ <b></b> ]	7 716 191 083	Extension flue kit (960mm)
	7 716 191 133	Short flue extension (220mm)
	7 716 191 084	90° flue bend
${\color{black} \blacksquare}$	7 716 191 085	45° flue bend
	7 719 002 432	High level horizontal flue adaptor
ГО	7 716 191 092	Support bracket kit
<u> </u>	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 191 086	Plume management kit (60mm dia.)

#### 125mm diameter 7 719 003 702 Standard flue & terminal (1,200mm) F 7 719 002 431 Vertical 1,365mm BF kit (inc. adaptor) 7 719 003 666 Extension flue kit (960mm) 90° flue bend $\bigcap$ 7 719 003 664 7 719 003 665 45° flue bend 7 719 002 433 High level horizontal flue adaptor <u>\_</u>\_\_ 7 716 191 090 Flashing – flat roof $\square$ 7 716 191 091 Flashing - pitched roof

Note: For every 90° bend deduct 2 metres and 1 metre for every 45° bend. 25 See page 30 for plume management components & accessories

Wall mounted condensing regular boilers

**Flue lengths** 

#### **SEDBUK Band A**

#### *{condensfit* **II**™

		1	
Maximum flue lengths inc. terminal (mm)			
Direction	30CDi Regular	40CDi Regular	
Horizontal	7,900	6,000	
Vertical	9,400	7,500	
Horizontal	18,500	12,500	
Vertical	18,500	16,000	
	Direction Horizontal Vertical Horizontal	Direction30CDi RegularHorizontal7,900Vertical9,400Horizontal18,500	

#### Horizontal and vertical fluing options

Components	Part no.	Description
100mm diam	eter	
	7 716 191 082	Standard telescopic flue & terminal (350 - 570mm)
Ê	7 719 002 430	Vertical 1,090mm BF kit (inc. adaptor)
[ <b></b> ]	7 716 191 083	Extension flue kit (960mm)
	7 716 191 133	Short flue extension (220mm)
	7 716 191 084	90° flue bend
	7 716 191 085	45° flue bend
	7 719 002 432	High level horizontal flue adaptor
ГО	7 716 191 092	Support bracket kit
<u> </u>	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof
	7 716 191 086	Plume management kit (60mm dia.)

## Note: 60/100mm - for every 90° bend deduct 1.5 metres and 0.75 metres for every 45° bend.

125mm diameter			
	7 719 003 702	Standard flue & terminal (1,200mm)	
Ê	7 719 002 431	Vertical 1,365mm BF kit (inc. adaptor)	
[ <b></b> ;	7 719 003 666	Extension flue kit (960mm)	
	7 719 003 664	90° flue bend	
	7 719 003 665	45° flue bend	
	7 719 002 433	High level horizontal flue adaptor	
<u> </u>	7 716 191 090	Flashing – flat roof	
<u>A</u>	7 716 191 091	Flashing – pitched roof	

Note: 80/125mm - for every 90° bend deduct 2 metres and 1 metre for every 45° bend. See page 30 for plume management components & accessories

360mm	
~	750mm**
© 440mm	

## Greenstar CDi Regular series

Above	flue:	30mm
Left:		5mm
Right:		5mm

Clearances

#### Below: 200mm Front: 20mm\*

\*20mm from a removable cupboard door, 600mm from a fixed surface for servicing. Same clearances for ventilated & unventilated compartments. \*\*760mm to top of casing front.

CH output (kW)	Part no.
Greenstar 30CDi Regular	
7.7 to 30	NG 7 712 331 895
7.7 10 30	LPG 7 712 331 891
Greenstar 40CDi Regular	
9.4 to 40.8	NG 7 712 231 636
5.4 10 40.0	LPG 7 712 331 890

#### **Control options**

No Worcester controls are available for regular boilers. External controls must be used.

**Flue lengths** 

#### **SEDBUK Band A**

#### 

Maximum flue lengths inc. terminal (mm)							
Diameter	Direction FS 30CDi Regular FS 42CDi Regular						
100	Horizontal	4,000	4,000				
100mm	Vertical	6,400	6,400				
105	Horizontal	13,000	13,000				
125mm	Vertical	15,000	15,000				

#### Horizontal and vertical fluing options

Components	Part no.	Description				
100mm diameter						
	7 716 191 155	Standard telescopic flue kit (530mm)				
Ê	7 716 191 156	Vertical 1,140mm BF kit (inc. adaptor)				
<b></b> ;	7 716 191 083	Extension flue kit (960mm)				
	7 716 191 133	Short flue extension (220mm)				
	7 716 191 084	90° flue bend				
	7 716 191 085	45° flue bend				
	7 716 191 164	Vertical flue adaptor				
ГО	7 716 191 092	Support bracket kit				
<u> </u>	7 716 191 090	Flashing – flat roof				
<u> </u>	7 716 191 091	Flashing – pitched roof				
	7 716 191 086	Plume management kit (60mm dia.)				

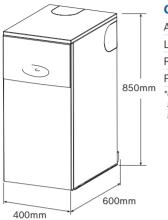
Note:  $60/100 \rm mm$  - for every  $90^{\rm o}$  bend deduct 1.5 metres and 0.75 metres for every  $45^{\rm o}$  bend.

125mm diam	eter	
	7 716 191 157	Standard horizontal flue kit (965mm)
Ê	7 716 191 158	Vertical 1,365mm BF kit (inc. adaptor)
	7 719 003 666	Extension flue kit (960mm)
	7 719 003 664	90° flue bend
${\color{black} \bigtriangledown}$	7 719 003 665	45° flue bend
	7 716 191 165	Vertical flue adaptor
<u>Д</u>	7 716 191 090	Flashing – flat roof
A	7 716 191 091	Flashing – pitched roof
	7 716 191 159	Flexible flue system

Note: 80/125mm - for every 90° bend deduct 2 metres and 1 metre for every 45° bend. See page 30 for plume management components & accessories

#### Floor standing condensing regular boilers

## Greenstar FS CDi Regular series



#### Clearances

 Above:
 15mm

 Left:
 5mm

 Right:
 5mm

 Front:
 25mm\*

 \*600mm to a removable door for servicing. Refer to Tech & Spec for unventilated clearances.

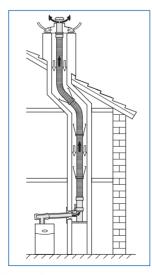
CH output (kW)	Part no.		
Greenstar FS 30CDi Regular			
7.7 to 30	NG 7 715 430 442		
1:1 to 50	LPG 7 715 430 450		
Greenstar FS 42CDi Regular			
9.6 to 40.8	NG 7 715 430 441		
9.0 10 40.8	LPG 7 715 430 451		

#### **Control options**

No Worcester controls are available for regular boilers. External controls must be used.

## Flexible flue system compatibility

Compatible with 80mm flexible flue system for fluing through an existing brick chimney.



#### Plume management

## Condensfit II plume management system

#### **Part numbers**

#### 60mm dia. plume management kit

Comprises:

- 1 x terminal bend
- 1 x extension 500mm

1 x outlet assembly

- 1 x clamp pack
- 7 716 191 086

#### Accessories

*Gondensfit* **Ⅱ**<sup>™</sup>

		7
Components	Part no.	Description
60mm diamet	ter	
	7 716 191 086	Plume management kit (60mm dia.)
	7 716 191 087	Extension (1,000mm) kit
P	7 716 191 088	90º Bend
	7 716 191 089	45º Bend (pair)

For more information refer to the relevant boiler Tech & Spec

Flexible flue system



## Flexible flue system –

for Greenstar FS CDi Regular models only

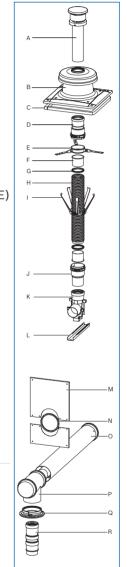
#### Part numbers

#### 80mm flexible flue system (12m length – can be cut down to suit)

Comprises:

- 1 x flue terminal (A)
- 1 x chimney cowl (B)
- 1 x self-adhesive
- weather seal (C)
- 1 x terminal adaptor (D)
- 1 x support bracket assembly (E)
- 2 x liner (F)
- 2 x seal (G)
- 1 x flexible liner (H)
- 4 x centralising spacers (I)
- 1 x support bend adaptor (J)
- 1 x support bend (K)
- 1 x bend support (L)
- 2 x flue inspection plates (M)
- 1 x seal for flue inspection plates (N)
- 1 x 125mm flue extension (O)
- 1 x tee piece (P)
- 1 x 125mm flue connector (Q)
- 1 x 80/80mm flue adaptor (R)
- 7 716 191 159

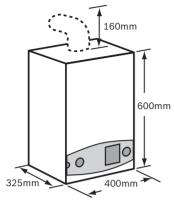
For more information refer to Greenstar FS CDi Regular Tech & Spec Part number: 8 716 115 422



#### **SEDBUK Band D**

#### Wall mounted combi boilers

## Worcester i Junior RSF series



Clearanc	es	
Above flue	: 30mm	
Left:	10mm	
Right:	10mm	
Below:	200mm	
Front:	25mm*	
*25mm from a door, 600mm	removable cu from a fixed :	

for servicing. Refer to Tech & Spec for unventilated clearances. **100mm flue diameter not supplied** with boiler, supplied in standard flue kit.

Max DHW output (kW)	Flow rate (I/m) ∆T 40°C │ ∆T 35°C		CH output (kW)	Part no.			
Worcester							
23.5	8.4	9.5	3.5 to 23.5	NG 7 716 130 133			
20.0	0.4 0.0			0.0	0.0 to 20.0	LPG 7 716 130 134	
Worcester	Worcester 28i Junior RSF						
27.5	10 11.4		8.0 to 27.5	NG 7 716 130 135			
21.5	10	11.4	0.0 10 27.3	LPG 7 716 192 290 <sup>+</sup>			

#### **Control options**

Part no.	Description				
Mechanical timers, digital & wireless programmers & room thermostat					
7 716 192 027	Single Channel Mechanical				
7 716 192 028	Single Channel Digital				
7 716 192 050	Digistat				
7 716 192 035	Mechanical RF Stat				

#### Flue lengths

fimplefit

Maximum flue lengths inc. terminal (mm)						
Diameter	Direction	24i Junior RSF	28i Junior RSF			
100	Horizontal	3,000	3,000			
100mm	Vertical	4,100	4,100			

#### Horizontal and vertical fluing options

Components	Part no.	Description
100mm diam	eter	
	7 716 191 068	Standard telescopic flue & terminal (200 - 500mm)
Ê	7 716 191 079	Vertical 1,100mm BF kit
	7 716 191 006	Flue extension (750mm)
	7 716 191 013	90° flue bend
	7 716 191 014	45° flue bend
	7 716 191 016	High level horizontal flue adaptor

## **Optional plug-in controls**

There are a number of comprehensive, easy-to-use controls for Greenstar gas-fired boilers. All fascia mounted controls have a simple plug-in connection to the boiler circuit board.

#### **Mechanical timers**

#### MT10 mechanical timer



The simplest Worcester control device – an easy-to-use analogue clock for setting heating time periods. It plugs into the boiler fascia via a preprepared plug and socket.

#### MT10RF mechanical RF thermostat



Has an analogue display for setting comfort and economy time periods and temperature. The receiver

plugs into the boiler and is activated remotely by the RF (radio frequency) controller, which requires no wiring. So installation is clean and simple – no disturbance to floorboards or carpets. Nor is there any need for a separate room thermostat.

## Digital and wireless programmers and room thermostats

## DT20RF digital RF thermostat with twin channel programmer



As with the DT20, this features convenient automatic set-up and is very simple to operate. The timer plugs into the

boiler and offers up to 3 different time periods a day, with the room thermostat (no separate thermostat required) providing the temperature control. This device also has all the no-wiring benefits of the MT10RF. Twin-channel function: when used with a Greenstar condensing system boiler, the second channel gives you 3 time periods for hot water. If used with a Greenstar condensing combi boiler, it times the pre-heat function.

#### DT20 twin channel digital programmer



Plugs into the boiler fascia panel and sets automatically to current time, date and day, and adjusts automatically as appropriate in line with British summer time. There are

3 separate time periods for both heating and hot water. Use either the built in pre-set programmes, or choose your own settings.



#### DT10RF digistat



A 24-hour programmable room thermostat (which means your time settings remain the same for every day), with the ability to

set different temperatures for up to 6 different time periods. No separate room thermostat is required and all the major benefits of no wiring apply. This also helps you to comply with Buildings Regulations Best Practice, as programmable room thermostats can make even further savings over more traditional room thermostats and timers.

#### DT10RF optimiser



A sophisticated energysaving device with the same features as the DT10RF digistat, also featuring optimum start,

calculates when it needs to fire the boiler to precisely achieve the required temperature at the required time each day. You can set different temperatures for up to 6 different time periods for each day of the week individually. As an RF (radio frequency) device it has the additional benefits of no wiring required. Nor is a separate thermostat necessary.

#### TD200 text display



The TD200 is an advanced plug-in 7-day programmer which features automatic summer-time/winter-time changeover, and full easy-to-use text

display (backlight for low light conditions) which provides more information than standard digital controls. You can set 3 on-off periods per day and the programmer's effectiveness is further enhanced by the RT10 room thermostat which gives optimum room temperature control. The digital display shows both the current and your desired (set) temperature. An advance button allows you to move on to the TD200's next heating switch point. An optional wall-mounting socket is available, enabling the TD200 to be positioned away from the boiler if required.

#### RT10 room thermostat



A hard wired optimising room temperature controller with digital display for use with the TD200 (above). The display shows current

and desired temperature and an advance button allows the user to move to the next heating switch point on the TD200.

#### TD200 wall mounting socket



A Worcester branded wall mounting socket which allows the TD200 to be hard wired away from the boiler.

#### **Intelligent controls**

(compatible with Greenstar CDi Combi and System models only)\*

#### FR10 intelligent room thermostat



The FR10 is an intelligent room thermostat that enables load compensation and will offer around 11% energy savings compared to standard on/off controls. The

FR10's load compensation feature means that, rather than just switching the boiler on and off, it will adjust the flow temperature of the central heating water in line with set heating temperature requirements. The smaller the difference between the actual temperature and the set-point temperature, the lower the flow temperature from the boiler.

#### FR110 programmable room thermostat



The FR110 is an intelligent programmable room thermostat that enables load compensation for heating and time control of hot water systems. It works in much the

same way as the FR10 but with the added benefit of built-in programming so there is no need for a separate programmer. The controller provides the choice of six weekly heating programmes, with six switching points per day. It also offers a weekly hot water programme with six switching points per day. The six switching points can be used to switch preheat on where the hot water will be delivered to the tap quickly, and energy saving economy mode where the preheat function is turned off.

#### FW100 weather compensation controller



The FW100 is a weather compensation controller that enables the boiler to anticipate changes in heating demand in relation

to external temperatures. It comprises a programmable indoor unit to control the boiler and an external sensor located on a north facing wall. The indoor unit can be mounted on the fascia of the boiler using its simple plug-in connection, or wall-mounted remotely. The FW100 combines the functions of room thermostat and programmer and incorporates factory-set heat curves for use with radiators, underfloor heating and fan convectors, making commissioning very straightforward. The units also include a manual override for the user to boost or reduce heating if and when required.

#### ISM1 intelligent solar module



The ISM1 is a specially designed interface that integrates a solar heating system with a solarcompatible weather or load

compensation unit such as the FW100 or FR110.

As such, it enables the hot water system to take heat from the solar panels whenever direct or even diffused sunlight is available and then bring the boiler back on when there is not enough sunlight available. In this way, the user gets maximum benefit from solar heating while ensuring that hot water is always available.

## Greenstar controls matrix

				Gas-fired boilers			
					COMBI		
Control		in the second se	-00 -00 -00	ġ	History	1 Sust	(Č),
Mechanical timers	Part no.						
MT10 mechanical timer	7 716 192 036	•	•	•	•		
MT10RF mechanical thermostat	7 716 192 037	•	•	•	•		
and room thermostats DT20 twin channel digital timer	7 716 192 038	•	•	•	•	•	•
Digital and wireless programmer and room thermostats	S						
DT20RF digital RF thermostat with twin channel programmer	7 716 192 054	•	•	•	•	•	•
DT10RF digistat	7 716 192 052	•	•	•	•	•	•
DT10RF optimiser	7 716 192 053		•	•	•		•
TD200 text display	7 719 002 506			•	•		
RT10 room thermostat	7 719 002 505			•	•		
Intelligent system package	7 719 002 824						•
New intelligent programmers							
FR10 intelligent room thermostat	7 716 192 065			•	•		•
FR110 programmable room thermostat	7 716 192 066			•	•		•
FW100 weather compensation controller	7 716 192 067			•	•		•
ISM1 intelligent solar module	7 716 192 068						•

## Greenskies solar panels

#### **Greenskies FKC-1S**



Orientation	Efficier Absorption		Surface area (m³) Gross   Net		Part no.		
Greenskies FKC-1S							
Portrait	95 ± 2	12 ± 2	2.37	2.23	7 747 025 748		
Greenskie	Greenskies FKC-1W						
Landscape	95 ± 2	12 ± 2	2.37	2.23	7 747 025 749		
Greenskie	s 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

## Main components & accessories

(on roof installation)

Components	Part no.	Description	
Main compon	ents		
	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 <sup>+</sup>	
	7 739 300 120	Expansion vessel 35L <sup>+</sup>	
	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

<sup>†</sup>Subject to system volume

#### **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
Arease and	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
BBas II ddddd dddd e	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
Areas and	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

#### **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
Anna an	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
Area =	7 739 300 378	TDS10 solar controller
	7 739 300 057	Solar fluid 25L
	7 739 300 331	Expansion vessel connector
BBaa DD dd dd de dd dd e	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

#### **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
<u>o</u> ô	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
and a state of the	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
Anna an	7 739 300 378	TDS10 solar controller
	7 739 300 057	Solar fluid 25L
	7 739 300 331	Expansion vessel connector
a see	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

#### **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
Anna an	7 739 300 378	TDS10 solar controller
10]]	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
eeeee	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

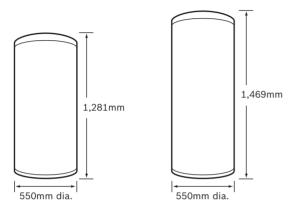
#### **Worcester Greenskies solar panel kits** FKT-1W high 2 panel landscape kit in roof Part number: 7 716 150 007

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
Anna an	7 739 300 378	TDS10 solar controller
	7 739 300 057	Solar fluid 25L
	7 739 300 331	Expansion vessel connector
and a state	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

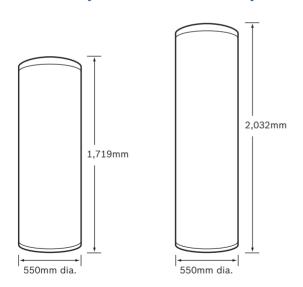
#### Solar water heating cylinders

## **Greenskies Cylinder series**

#### Greenskies 180 Cylinder Greenskies 210 Cylinder



#### Greenskies 250 Cylinder Greenskies 300 Cylinder



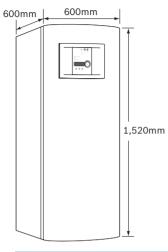
## Building Regulation

Volume domestic hot water (litres)	Dedicated solar volume (litres)	Weight full (kg)	Part no.
Greenskies 18	0 Cylinder		
180	55	230	7 716 192 554
Greenskies 21	.0 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

#### Ground source heat pumps

## **Greenstore System series**



Clearances		
Above:	300mm*	
Left:	50mm	
Right:	50mm	
Front:	600mm	
Behind:	100mm	
*Where expansion vessel is not installed directly above appliance.		

Outpu 0/35ºC¹	Output kW 0/35°C <sup>1</sup>   0/50°C <sup>1</sup>		P** 0/50ºC¹	Part no.		
Greenstor	e 6 System					
5.7	5.4	3.8	2.8	7 716 180 009		
Greenstor						
7.2	6.8	3.9	2.9	7 716 180 010		
Greenstore 9 System						
9.1	8.5	4.1	3.0	7 716 180 011		
Greenstore 11 System						
10.9	10.1	4.6	3.2	7 716 180 012		

Note:  $0/35^{\circ}$ C is used to designate in a situation where the collector side of the system generates a temperature of 0°C and the flow temperature from the heat pump is 35°C.

1 According to BS EN 14511

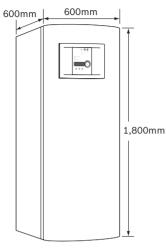
\*\*Coefficient of Performance

#### Accessories

Components	Part no.	Description
	7 716 192 418	100 litre buffer storage tank
	7 716 192 638	120 litre buffer storage tank
	7 716 180 017	Greenstore 180 Cylinder (solar compatible)
	7 716 180 018	Greenstore 280 Cylinder Greenstore 280 Cylinder Galaxies (solar compatible)
	7 716 192 419	Compact collector
	7 716 192 420	Filling pump unit
0 0 0 0 0 0 0 0	7 716 192 421	Filling pump hose kit
	7 716 192 422	Air compressor
() () () () () () () () () () () () () (	7 716 181 103	Compressor connection kit

#### Ground source heat pumps

## **Greenstore Combination series**



Clearances					
Above:	300mm*				
Left:	100mm				
Right:	100mm				
Front:	800mm				
Behind:	100mm				
*Where expansi	ion vessel is not				

installed directly above appliance.

Cylinder capacity (litres)		ut kW   0/50°C1	Co 0/35°C <sup>1</sup>	P** 0/50°C <sup>1</sup>	Part no.	
Greenstore 6	Combin	nation				
185	5.7	5.4	3.8	2.8	7 716 180 013	
Greenstore 7	Combin	nation				
185	7.2	6.8	3.9	2.9	7 716 180 014	
Greenstore 9 Combination						
185	9.1	8.5	4.1	3.0	7 716 180 015	
Greenstore 11 Combination						
185	10.9	10.1	4.6	3.2	7 716 180 016	

Note:  $0/35^{\circ}$ C is used to designate in a situation where the collector side of the system generates a temperature of 0°C and the flow temperature from the heat pump is 35°C.

1 According to BS EN 14511 \*\*Coefficient of Performance

Each unit is supplied with a G3 approved unvented kit, which includes a filling loop, 19 litre expansion vessel and hose, inlet control set and 15mm x 22mm tundish.

Compliant with Building Regulation **G3** 

#### Accessories

Components	Part no.	Description
	7 716 192 418	100 litre buffer storage tank
	7 716 192 638	120 litre buffer storage tank
	7 716 192 419	Compact collector
	7 716 192 420	Filling pump unit
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 716 192 421	Filling pump hose kit
	7 716 192 422	Air compressor
@ <b>@</b> # <b>#~</b> ~	7 716 181 103	Compressor connection kit

Ground source heat pump cylinders

## **Greenstore Cylinder series**

(for use with all Greenstore System heat pumps)

300mm 50mm 50mm

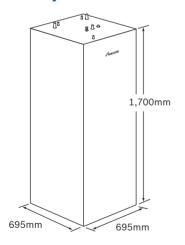
600mm

Greenstore 180 Cylinder			<b>Clearar</b> Above:	nces 30
-00-			Left:	50
	T		Right:	50
Autom			Front:	60
		1,520mm		

600mm

Greenstore 280 Cylinder

650mm





Volume domestic hot water (litres)	Volume primary (litres)	Dry weight (kg)	Part no.
Greenstore 180	Oylinder		
180	105	97	7 716 180 017
Greenstore 280	Cylinder		
280	180	136	7 716 180 018

Each unit is supplied with a G3 approved unvented kit, which includes an expansion vessel and hose (19 litre expansion vessel for Greenstore 180 Cylinder and 24 litre expansion vessel for Greenstore 180 Cylinder), inlet control set and 15mm x 22mm tundish and high limit stat.

The Greenstore Cylinder series also has a solar coil fitted to enable connection of Greenskies solar panels.

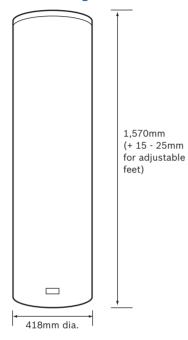
- Ozone depletion rate of zero
- Global warming potential of zero

#### Storage tanks

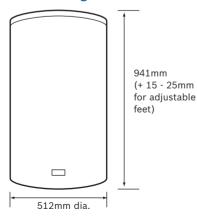
## Buffer storage tank series

(for use with all Greenstore & Greensource heat pumps)

#### 100 litre buffer storage tank



#### 120 litre buffer storage tank



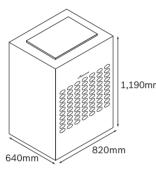
Volume (litres)	Volume (litres) Weight empty (kg)		Part no.
100 litre buffer storage tank			
100 47		145 <b>7 716 192</b>	
120 litre buffe	er storage tank		
120	60	180	7 716 192 638

#### Air source heat pumps



## Greensource air to water heat pump series and Greensource hot water distribution unit

#### Greensource air to water heat pump outdoor unit



#### Clearances

	Above:	1,500mm		
	Left:	500mm		
	Right:	500mm		
m*	Front:	1,000mm		
	From pump to wall: 300mm			
	*Without feet, additionally on the adjustment min. 20	, 0		

on the adjustment min. 20mm – max. 30mm.

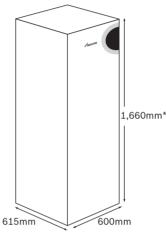
Emitted/supplied output at +7/35°C (kW)	-7/35ºC	Co 2/35ºC		7/45ºC	Kit part no.
Greensource 6kW Heat Pump & Greensource Hot Water Distribution Unit					
5.5/1.5	2.4	3.2	3.7	2.9	7 716 150 008
Greensource 7kW Heat Pump & Greensource Hot Water Distribution Unit					
7.1/2.1	2.3	3.0	3.4	2.8	7 716 150 009
Greensource 9.5kW Heat Pump & Greensource Hot Water Distribution Unit					
8.8/2.3	2.5	3.3	3.8	3.0	7 716 150 010

\*\*Output data according to EN 14511 European Standards.

Each unit is supplied with a G3 approved unvented kit, which includes a filling loop, blending valve, a 19 litre expansion vessel and hose, inlet control set, 15mm x 22mm tundish and waste coupler.

- Ozone depletion rate of zero
- Global warming potential of zero

#### Greensource hot water distribution indoor unit



Clearances					
Above:	200mm				
Left:	25mm				
Right:	25mm				
Front:	600mm				
Rear:	25mm				

 \* Without feet, additionally depending on the adjustment min. 20mm – max. 30mm.

Output of electric heater (kW)	Volume domestic hot water (litres)	CH volume (litres)	Kit part no.			
Greensource Hot Water Distribution Unit						
4.5	151	55	Supplied with outdoor unit			

#### Accessories

Components	Part no.	Description	
	7 716 192 418	100 litre buffer storage tank	
	7 716 192 638	120 litre buffer storage tank	

#### Air source heat pumps

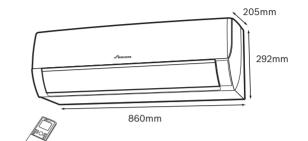
## Greensource air to air heat pump

#### Greensource air to air heat pump outdoor unit



Airflow (m³/min)		ound level bling (dB(A))	ref	System rigerant 10A (kg)	Rotary hermetically sealed compresse	or	
Green	sou	irce air to	air	r heat p	ump outdoor	unit	
20.2		17		0.00	Digitally		
30.2	30.2 47		0.99		controlled		Kit part no.
Min/ma		Min/max emitted coo		Airflow cooling	Sound level – low fan speed		7 716 150 011
output (k		effect (kW		(m <sup>3</sup> /min)		CoP*1	
Greensource air to air heat pump indoor unit							
0.9/6.0	0	0.9/4.0		6.9-10.6	28	4.5	

Greensource air to air heat pump indoor unit



#### **Clearances**

Above:	50mm
Left:	50mm
Right:	50mm
Below:	70mm
Front:	50mm

\*Coefficient of Performance 1 According to EN 14511

- Operated by a simple remote control
- Both heating and cooling functions

Note: It is a legal requirement for the connection of the refrigerant circuit to be carried out by a suitably qualified refrigeration engineer.

# The very best training programmes from Worcester



Worcester has always placed great emphasis on technical support and training for installers and service engineers. Today this need is greater than ever. The differences between a combi, regular and system boiler are substantial, and the technology of each continues to advance at a rapid pace.

With the increase of renewables technologies in the UK, the need for training has never been greater.

To ensure the highest levels of competence and expertise in the installation of all Worcester products, the company runs intensive training courses for installers, commissioning engineers and operatives involved with servicing and fault finding.

#### **Courses available**

Our training facilities offer a number of courses suitable for the installer and commissioning engineers, and a more in-depth course for the servicing and fault finding engineers.

#### **Training Centres throughout the UK**

Worcester's network of regional training venues is strategically located across the country and includes our state-of-the-art Academy at the Company Headquarters in Worcester. This facility has recently been upgraded to include a heat pump training lab, showcasing our range of ground and air source heat pumps.

Further academies are located at West Thurrock in Essex, Bradford, Clay Cross in Derbyshire and Bangor in Northern Ireland, all offering our full suite of courses. Please phone 01905 752526 for more information about a course near you. Each course is run by specialist trainers and is superbly equipped to deliver a combination of classroom theory and practical hands-on experience that's second to none.

#### **College-linked Learning**

As well as offering training at our own centres, Worcester has established close partnerships with many colleges around the UK, equipping them with our latest products. Call us on 01905 752526 to find out when we will be running the course of your choice at a college in your area.

#### **Mobile training**

To complement our training venues across the country, we can also bring training to you.

We have mobile vehicles fully equipped with operational Greenstar gas-fired boilers, dry stripdown models and even a Greensource Air to Air Heat Pump, ensuring that quality training in a comfortable environment can be achieved on your doorstep!

If it's oil training you require, our 7.5 tonne mobile oil vehicle is available throughout the country for hands-on product training and OFTEC assessments.

#### **Distance Learning/Web Based Learning**

Worcester has produced a selection of Distance Learning CD ROMs/DVDs which are packed with information. Call 01905 752556 for your copies, or visit www.worcester-bosch.co.uk for information on Web Based Learning.

#### Get on course for a more profitable future now. Call now for more information 01905 752526



## Worcester training courses

#### One stop shop training

We are here to provide you with training and assistance for all areas of your business, not just product training. IT Skills and Sales & Marketing are just 2 of the courses we now offer to help your business grow. Call us on 01905 752526 to order a full training course portfolio.

Worcester training courses				
Greenstar CDi	gas-fired condensing combi boilers			
Models covered	Greenstar 27/30/37/42CDi			
Duration	1 day			
Greenstar i Ju	nior & Si gas-fired condensing combi boilers			
Models covered	Greenstar 24/28i Junior Greenstar 25/30Si			
Duration	1 day			
Greenstar Highflow CDi & FS CDi regular floor standing gas-fired condensing combi and regular boilers				
Models covered	Greenstar Highflow 440/550CDi Greenstar FS 30/42CDi Regular			
Duration	1 day			
Greenstar syst	em & regular gas-fired condensing boilers			
Models covered	Greenstar 12/15/18/24Ri Greenstar 30/40CDi Regular Greenstar FS 30/42CDi Regular Greenstar 30CDi System Greenstar 12/15/18/24i System			
Duration	1 day			
Greenstar cont	trols			
Models covered	MT10/MT10RF/DT20RF/DT20/DT10RF/TD200/ RT10/FR10/FR110/FW100/ISM1			
Duration	1 day			
Greenstar Danesmoor, Heatslave & Camray high efficiency condensing oil-fired boilers – pre-OFTEC training				
Models covered	Greenstar Danesmoor series Greenstar Heatslave series Greenstar Camray series			
Duration	1 day			
Greenskies solar system				
Covering	Installation, Commissioning and Servicing			

Greenstore g	round source heat pumps
Covering	Installation, Commissioning and System Design
Duration	2 days
Greensource	heat pumps – air to water
Covering	Installation, Commissioning and System Design
Duration	2 days
Greensource	heat pumps – air to air
Covering	Installation, Commissioning and System Design
Duration	1 day
OFTEC ASSE	SSMENT
OFTEC 101	
Covering	Domestic/Light Commercial Pressure Jet Commissioning and Servicing
Duration	3 day course
OFTEC 105e	
Covering	Domestic/Light Commercial Pressure Jet Boiler Installation
Duration	1 day assessment
OFTEC 101 &	105e
Covering	Domestic/Light Commercial Pressure Jet Installation, Commissioning and Servicing
Duration	3 day course
OFTEC 600a	
Covering	Oil Tank Installation and Associated Controls
Duration	1 day assessment course
OFTEC 101/10	5e/600e
Covering	Domestic/Light Commercial Pressure Jet Boiler Installation, Commissioning, Servicing and Oil Tank Installation and Associated Controls
Duration	4 days
Mobile OFTEC	
	red throughout the country on the mobile training as in all our centres.
Unvented cy	linder course
Covering	All G3 Regulations for the Installation, Servicing and Commissioning of Unvented Cylinders. This course is certified by Logic Certification.
Duration	1 day
Chemical wa	ter treatment
Covering	Water treatment of domestic heating systems in accordance with BS 7593: 2006
Duration	1 day
	attend OFTEC courses you must have a minimum of

NB: Please note to attend OFTEC courses you must have a minimum of 12 months' experience installing/servicing oil boilers. For inexperienced candidates, our Greenstar Danesmoor, Heatslave and Camray course offers pre-OFTEC training.

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n partnership with	Energy Savings Trust Tel: 020 7222 0101 www.energysavingtrust.org.uk	grundfos X	Grundfos Pumps Tel: 01525 850 000 www.grundfos.co.uk
OFTEC	OFTEC Tel: 0845 65 85 080 www.oftec.org		British Standards Institution Tel: 0208 996 7070 www.bsigroup.co.uk
(phe Intertie	Institute of Plumbing and Heating Engineers Tel: 01708 472 791 www.ciphe.org.uk	Bosch Group	Worcester, Bosch Group Reception Tel: 0844 892 9900 www.worcester-bosch.co.uk
	Gas Safe Register Tel: 0800 480 5500 www.gassaferegister.co.uk	Buderus	Buderus Commercial Tel: 0844 892 3004 www.buderus.co.uk
CORCI	CORGI (N. Ireland only) Tel: 01256 372 200 www.trustcorgi.com	Other	Bosch companies
	Association of Plumbing & Heating Contractors Tel: 02476 470 626 www.competentpersonsscheme.co.uk	BOSCH Invented for life	Bosch Power Tools Tel: 01895 834 466 www.bosch-pt.co.uk
HVCA	Heating & Ventilation Contractors Association Tel: 0207 313 4900 www.hvca.org.uk	BOSCH Invented for life	Robert Bosch Domestic Appliances Tel: 01908 328 200 www.bosch-home.co.uk
HHIC Reating & Hotwater Industry Council	Heating and Hotwater Information Council Tel: 01926 430 486 www.centralheating.co.uk	BOSCH Invented for life	Bosch Lawn & Garden Tel: 01449 742 000 www.bosch-pt.co.uk/gardentools
Denchmark The mark of quality for domestic heating	Benchmark Tel: 0845 600 2200	BLAUPUNKT Bosch Telecom	Blaupunkt Tel: 01895 838 880 www.blaupunkt.com/uk
3BGI 2 %	Society of British Gas Industries Tel: 01926 334 357 www.sbgi.org.uk	BOSCH Service	Bosch Car Services Tel: 01895 838 815 www.boschcarservice.co.uk
SENTINEL	Sentinel Tel: 0151 420 9595 www.sentinel-solutions.net		

# 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/sft³ (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 millimetr	e = 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 hect	are
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 pin	t	
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, CDs and DVDs

To order any of these items please phone 01905 752556 or you can download them 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 & Renewable Products	8-716-145-138-0			
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 & Renewable Products	8-716-111-685-0			
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 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 Source Heat Pumps	8-716-115-319-0			
Tech & Spec, Greensource Air to Air Source 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

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#### Useful numbers

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

Calls to the listed 0844 numbers are charged at up to 3 pence per minute from BT land lines. Calls from mobiles and some other networks may vary. Calls to and from Bosch Thermotechnology Ltd may be recorded for training and quality assurance purposes.





Worcester, Bosch Group, Cotswold Way, Warndon, Worcester, WR4 9SW Tel: 0844 982 9900 Fax: 01905 754619

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