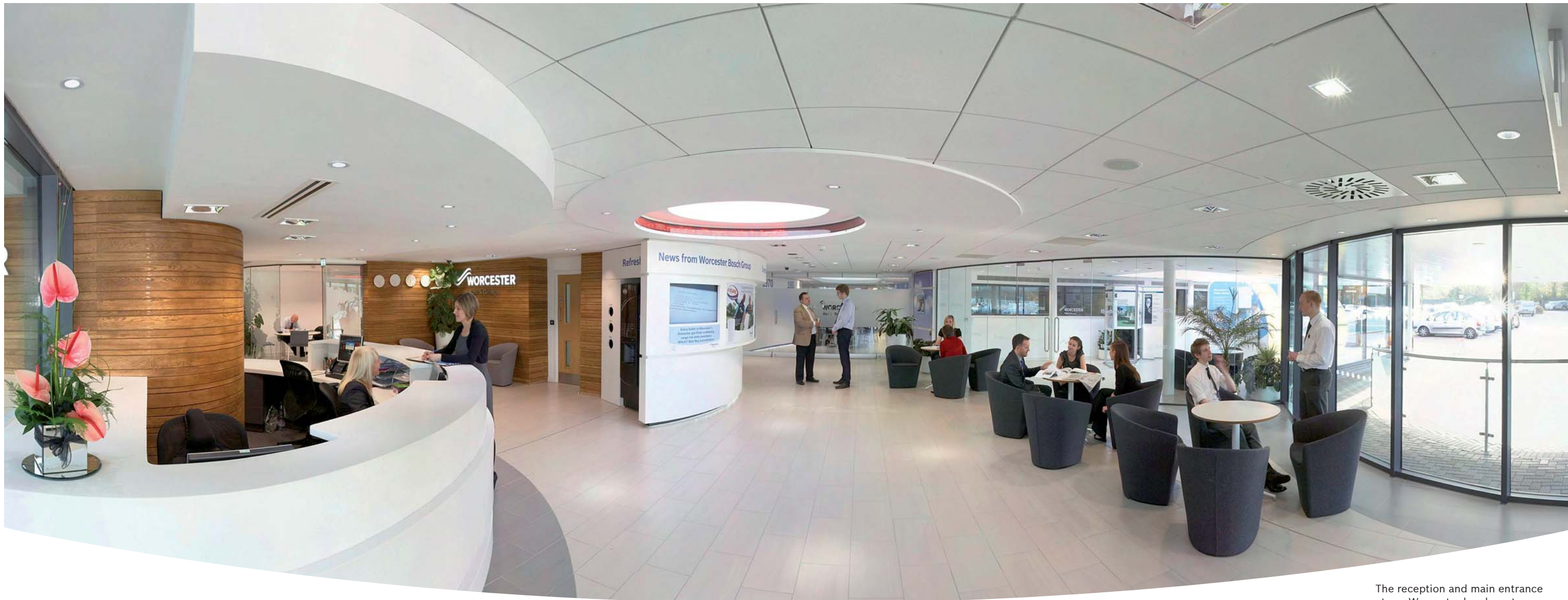




Worcester Greenstar HDU wall mounted heat distribution unit

Domestic hot water and space heating for properties that are serviced from district heating or centralised boiler plants.



The reception and main entrance at our Worcester headquarters

Worcester and you, making a difference

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

As part of Europe's largest supplier of heating products, Worcester, Bosch Group has the UK-based resources and support capability to offer you the value-added solutions you deserve. Worcester employs a nationwide network of Service Engineers and technically trained Field Sales Managers

supported by an experienced technical services team which is able to provide comprehensive support and advice from system layout through to installation.

Worcester is dedicated to providing high performance, energy efficient heating and hot water systems for a wide range of installations, including large domestic properties and commercial applications such as offices, schools, sports centres and hotels.

"At Worcester, we remain keen to embrace new market opportunities and with an increasing number of you now looking to source all of your district & centralised plant heating requirements from a single supplier, we are pleased to announce the addition of the Greenstar HDU to our range. In doing so, we will continue to deliver on our core values of reliability, quality, efficiency."

Carl Arntzen,
Managing Director,
Bosch Thermotechnology UK Ltd.

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The features of the Greenstar HDU



Introducing the Greenstar HDU

The Worcester Greenstar HDU is part of a market leading range of innovative energy-saving heating and hot water solutions from Bosch Thermotechnology Ltd.

The Greenstar Heat Distribution Unit (HDU) provides domestic hot water and space heating to properties that are serviced from district heating or centralised boiler plants, and is fully compatible with the Buderus, Bosch Group commercial range of heating products as featured on pages 18 and 19.

The HDU comprises of two heat exchangers, one for providing instant domestic hot water at a regulated temperature and the second for space heating within the property.

The HDU is indirect so the primary heating circuit is hydraulically separated from the property space heating by a plate heat exchanger. The unit operates only when DHW or space heating is required ensuring energy efficient operation.

The Greenstar HDU also comes complete with a first fix rail which allows for the system to be pre-plumbed before the unit is installed. The unit is available in two versions, with or without a heat meter.

Features	Benefits
Hydraulic system separation with two heat exchangers	DHW & CH on demand
Continuous primary heating flow	Permanent supply when domestic hot water is required
Priority domestic hot water valve	Prioritizes the temperature at the DHW heat exchanger for maximum DHW comfort
Thermostatic temperature control	Prevents the risk of scalding at the hot tap
Pressure temperature control valve	Allows the DHW heat exchanger to operate on demand only saving energy
Controlled water temperature in the heat exchanger	Reduces the risk of lime formation
Low return temperature in the primary circuit	Maximises efficiency in the system saving energy
Modulating space heating pump	Low energy consumption and simple installation
Minimal installation space required	Easy to install
First fix rail*	Flexible installation options
24.6kg unit lift weight (without cover and first fix rail)	One man lift weight
In-line compression fittings	Easy to install
Concealed Allen screw secures casing	Deters tampering and helps prevent end user contact with heated components
Supplied with or without heat meter	Suits specific requirement
Combined 230V power supply and heating enable	Simple installation and flexible choice of controls
Compatible with Buderus, Bosch Group commercial range of heating products	District and centralised plant heating requirements from a single supplier

Greenstar HDU space heating and DHW function

In the stand-by mode with no demand for space heating the summer bypass valve controls the bypass flow in the primary circuit. Thus heating water from the primary circuit is immediately available at the heat exchanger ensuring instant supply of DHW.

If a hot water tap is opened the pressure temperature control valve senses the difference in pressure and opens, allowing the primary heating water to flow through the heat exchanger. At the same time, a hot water priority valve closes the primary feed to the secondary heat exchanger, thus ensuring maximum temperature is available at the domestic heat exchanger. The cold water flows through the DHW heat exchanger and is heated up instantly.

The temperature of the domestic hot water is controlled by a thermostat**. Using a sensor, this thermostat controls the temperature of the domestic hot water that exits the heat exchanger by regulating the primary flow through the DHW heat exchanger via the priority valve.

**Preset to 50 °C. Please be aware that the actual outlet temperature on the HDU is subject to some fluctuation.

Pressure temperature control valve

- The diaphragm reacts to changes in pressure when a hot tap is opened.
- When the valve detects a tap opening it allows water into the DHW heat exchanger.
- This enables water to be heated up only on demand saving energy
- The valve has a priority circuit which isolates the primary flow to the space heating and maximises all the heat to the DHW heat exchanger.
- The valve has a thermostatic element which will isolate the feed into the heat exchanger if the set temperature of the hot water is exceeded.

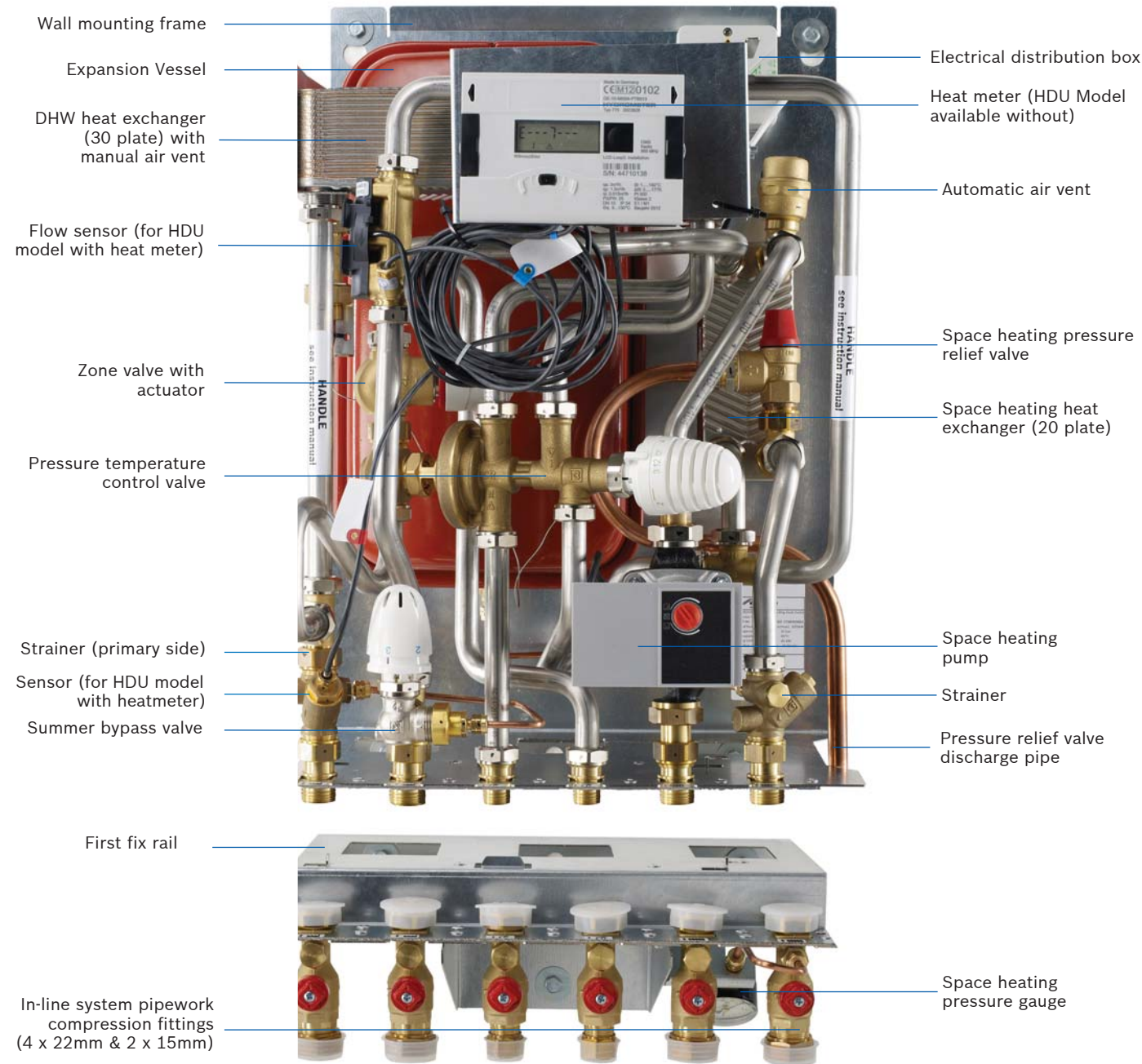
*The first fix rail can be removed from the end of the carton via a perforated flap so that it can be fitted without having to remove the rest of the appliance from the packaging. This reduces the risk of damage to the rest of the appliance whilst the system is being commissioned. The remainder of the appliance remains in the packaging and can be stored safely until needed.



Inside story

The Greenstar HDU has been designed to provide engineers with ease of installation and access to all components. The unit is supplied with a separate pre-mounting rail, transported in its own compartment within the unit packaging, which allows for pre-plumbing on site while leaving the unit un-packed and ready for installation when required.

Greenstar HDU (also available without heat meter)



Technical data

	Greenstar HDU
Height (unit with mantle fitted)	744mm
H x W x D with wall mounting rail	741.5x440x361mm
Packaged unit weight	40kg
Total unit weight (HDU unit, cover, first fix rail)	37kg
HDU unit lift weight	24.6kg
Total unit weight installed (wet)	47kg
Maximum output to domestic hot water	52kW
Maximum output to central heating	15kW
Maximum flow temperature secondary heating	70°
Maximum flow temperature DHW	52°
District heating flow and return connections	22mm (compression)
Secondary heating flow and return connections	22mm (compression)
Cold feed and DHW connections	15mm (compression)
Pressure release valve connection	15mm
Maximum working pressure district heating side	10bar
Pressure release valve setting secondary heating side	3bar
Maximum working pressure domestic hot water side	10bar
Primary flow rate at 81/22	0.16 l/s
Primary pressure drop at 81/22	25 kPa
DHW output (50°C) at 81/22	39kW
DHW flow rate (50°C) at 81/22	14.5 l/min
Primary flow rate at 65/22	0.17 l/s
Primary pressure drop at 65/22	25 kPa
DHW output (43.5°C) at 65/22	32kW
DHW flow rate (43.5°C) at 65/22	14.5 l/min
Primary flow rate at 55/22	0.17 l/s
Primary pressure drop at 55/22	25 kPa
DHW output (41°C) at 55/22	24kW
Electrical power supply voltage	230 AC...V
Frequency	50 Hz
Max. power consumption	40W (pump)
Appliance protection rating	IP X4D/54/65
pH value, approx.	7-9
Expansion vessel	10 l
Expansion vessel charge	1 (±20%)bar

System description & layout

System description

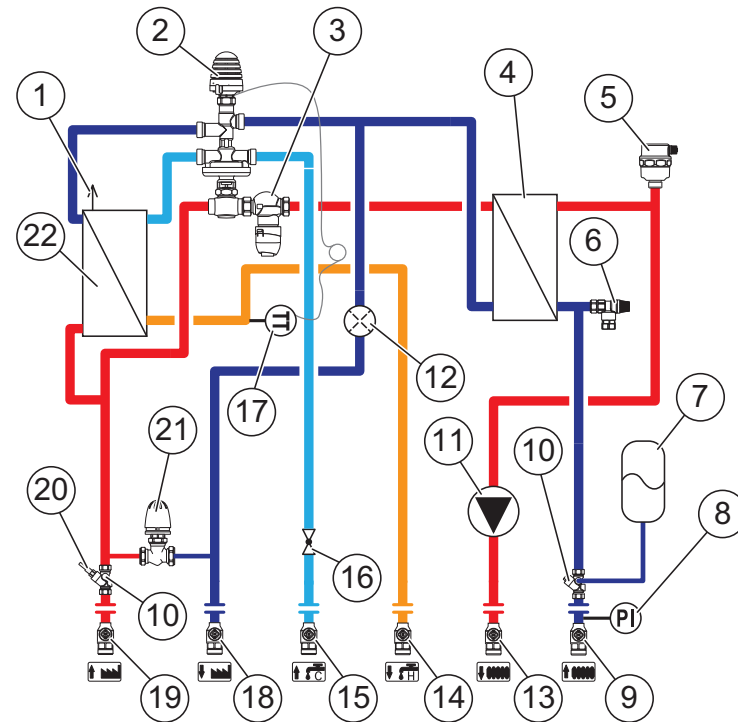
The system comprises of a DHW heat exchanger [22] and a space heating heat exchanger [4]. A pressure temperature control valve [2] controls the operation and temperature of the DHW system and a zone valve [3] controls the operation of the space heating from a temperature controller wired into the HDU.

In stand-by mode the heating primary water is kept at operating temperature via the summer bypass valve [21]. When a hot tap is opened, the pressure temperature control valve [2] responds to the difference in pressure and opens the cold water inlet to the DHW heat exchanger allowing hot water to flow through to the tap.

The priority valve in the pressure temperature control valve [2] ensures that maximum output is used for providing DHW by isolating the space heating when a hot tap is open. The temperature of the DHW is controlled by the thermostatic head which closes down the pressure temperature control valve [2] if the set temperature is exceeded.

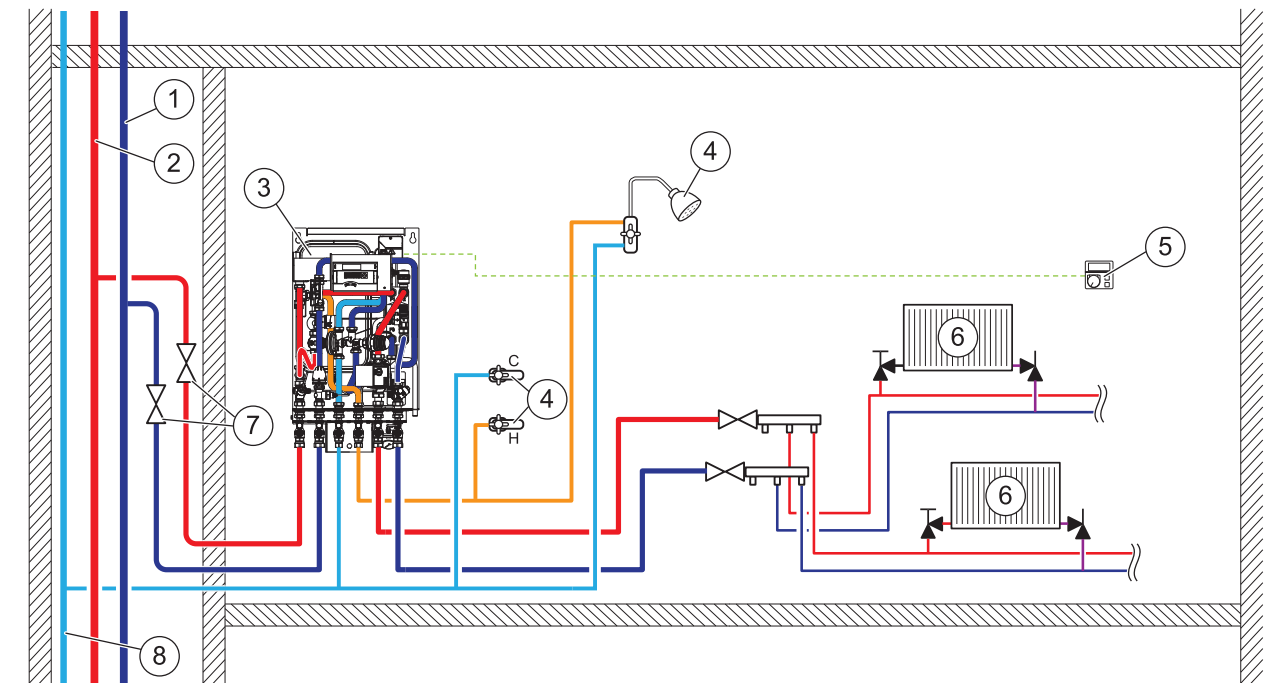
When the zone valve actuator opens [3], the primary heating water flows in to the secondary heat exchanger [4] and is pumped round the heating system by an integrated circulation pump [11] installed in the heating flow, to ensure constant circulation in the space heating circuit.

An expansion vessel [7] is fitted in the space heating circuit to stabilize the pressure in the system and a pressure relief safety valve [6] to discharge any excess pressure.



Key	
1	Manual air vent
2	Pressure temperature control valve
3	Zone valve with actuator
4	Space heating heat exchanger (20 plate)
5	Auto air vent
6	Space heating PRV
7	Expansion vessel
8	Pressure gauge
9	Space heating return
10	Line strainer
11	Space heating pump
12	Flow sensor from heat meter (where supplied with heat meter)
13	Space heating flow
14	DHW outlet
15	Cold mains inlet
16	Flow limiter 18 l/min
17	DHW temperature sensor (pressure temperature control valve)
18	District heating return
19	District heating flow
20	Sensor (where supplied with heat meter)
21	Summer bypass valve
22	DHW heat exchanger

Greenstar HDU layout example (less than 150m², single channel time and room temperature control)



Key	
1	District heating return
2	District heating flow
3	Heat distribution unit
4	Domestic outlets
5	Space heating time/temperature controller
6	Space heating (example radiators)
7	District heating isolation valves
8	Mains cold water supply

NOTE: High differential pressures could affect the performance of some components in the HDU, if it is likely that primary differential pressures could rise above 55kPa differential pressure control valves should be installed in the primary circuits to protect the HDU's.

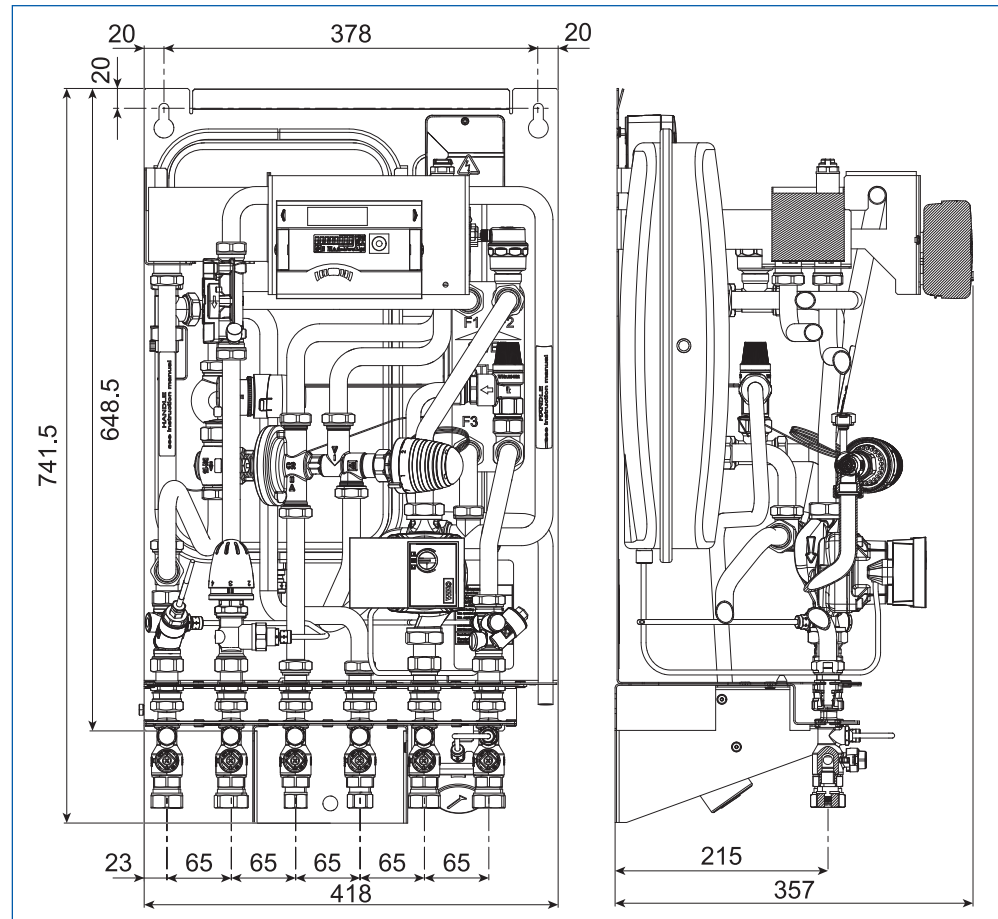
Heat meter (where supplied)



Heat meter	
Nominal flow rate	1.5m ³ /h
Maximum flow rate	3m ³ /h
Temperature range	5 - 130°C
Radio frequency band	868 or 434 MHz
Display Indication	8 digit LCD
Remote interface	via M-Bus

Installing the Greenstar HDU

Dimensions (without cover)

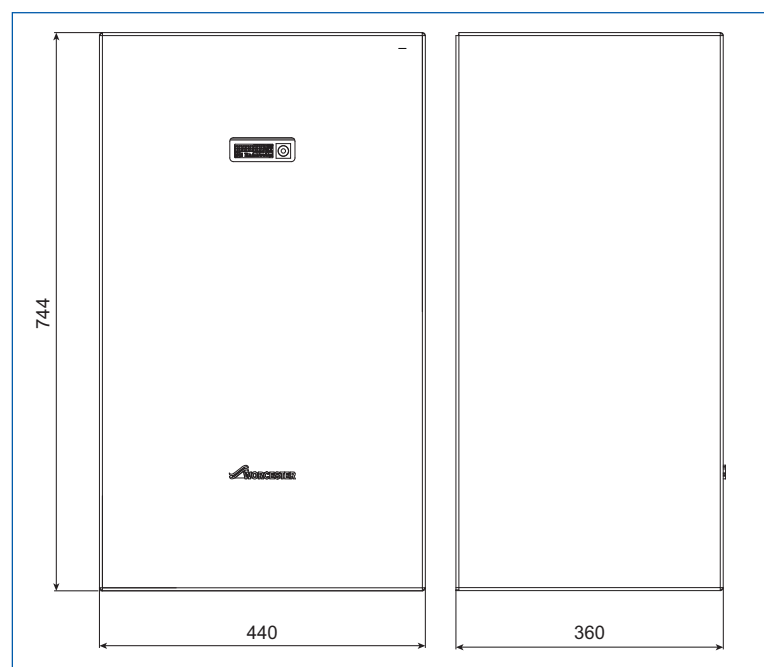


Clearances

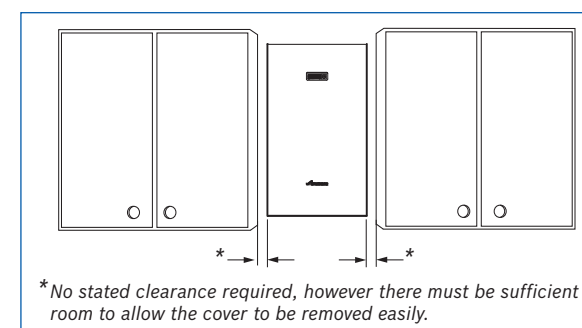
The minimum clearances shown below should be allowed for installation and servicing.

Installation & service clearances	
In front	550mm
Below	200mm
Right side	0mm*
Left side	0mm*
Above	40mm

Dimensions (with cover)



Siting option



The Greenstar HDU can be sited between or within kitchen cabinets of standard height, 762mm (30 inches) and of 457mm (18 inches) depth. At all times the correct clearances should be observed.

In such circumstances, all pipe work must be protected or boxed in to avoid possible contact with hot surfaces.

Siting of appliance

The appliance is only suitable for installing internally within a property at a suitable location. The unit is designed to be sited on any fixed, rigid surface of at least the same size as the appliance and capable of supporting its weight. The unit dimensions and secured cover** allows for mounting between wall units in the kitchen area offering multiple siting options. No wall surface protection is required against heat transfer.

The appliance must not be installed in locations where the ambient temperature is expected to drop below 0 degrees.

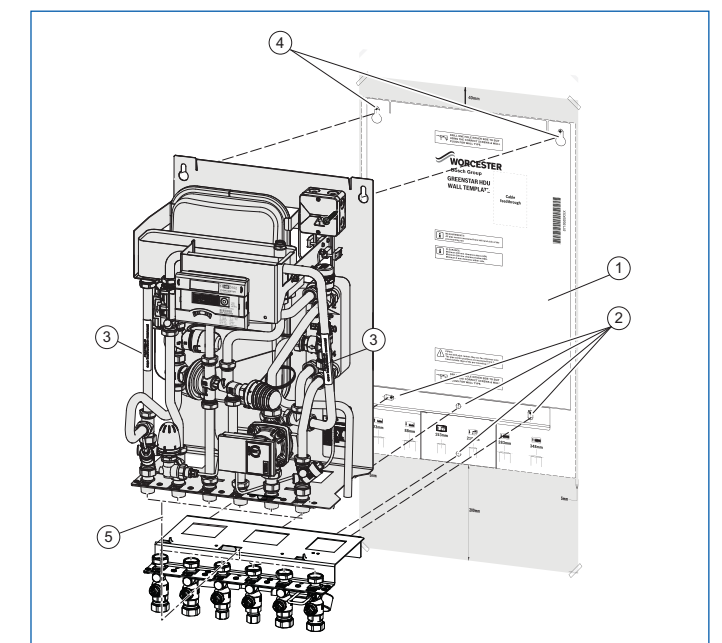
Installation

The Greenstar HDU is supplied with a wall template to accurately mark the drilling holes for mounting the first fix rail and main unit.

The first fix rail is supplied with isolating valves which allow for pre-plumbing and commissioning of the system prior to connection of the main unit, via integrated compression fittings, for fast and easy installation.

**An Allen bolt secures the cover to the unit and is situated at the back on the left hand side.

HDU wall mounting diagram



[1] wall mounting template, [2] 4 x first fix rail fixing points, [3] unit lifting points, [4] 2 x unit fixing points, [5] first fix rail service connections to unit.

System filling and make-up

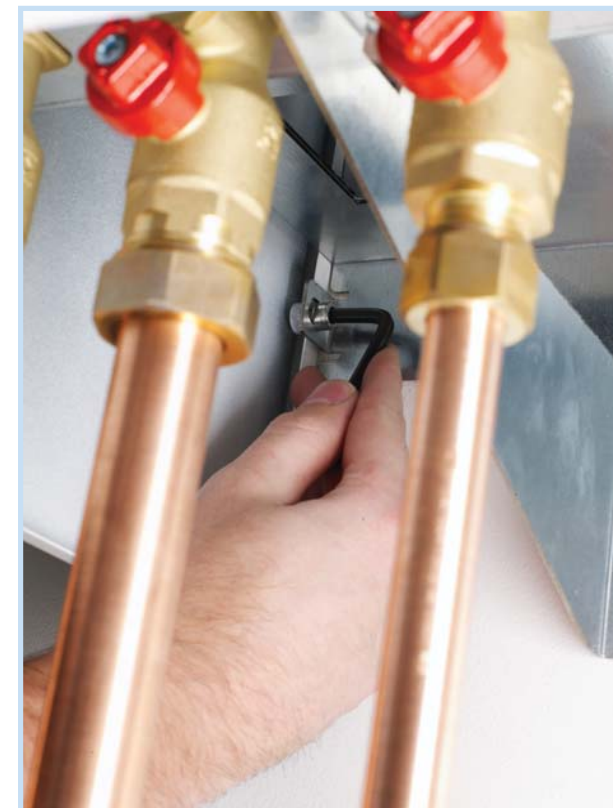
To comply with the Water Authority requirements, the system should be filled via a temporary hose connection to the mains cold water supply, with a double check valve assembly and test point fitted to the mains water side of a temporary circuit. Refer to water regulations if the HDU is used in a commercial environment.

Valves and joints

It is very important that all valves and joints are able to sustain a working pressure of up to 3bar (45psi). Particular care should be exercised when fitting radiator valves and only those of high quality to BS 2767:10 should be used. All other valves and fittings should comply with BS 1010. Loss of water pressure from a sealed system will require continuous recharging with fresh water and consequential introduction of air. Air is highly corrosive and will considerably reduce life expectancy of radiators, pumps etc.

Plastic pipework

The use of plastic pipework is acceptable. However, some plastics are permeable to oxygen and must be avoided. Only pipework with a polymeric barrier should be used. Please note that the first 600mm of pipework connected to the HDU must be of copper or steel.





The unit, when required, easily connects to the system via integrated compression fittings to the first fix rail which allows for flexible system installation options.

Electrical

Power Supply

A 3amp fused three pin plug and unswitched shuttered socket outlet (both complying with BS 1362) or preferably a double pole isolator with a contact separation of 3mm in all poles supplying the appliance should be used.

Power supply connection

Connect the supply Live (L) to the L1 terminal, the Neutral (N) to the neutral terminal, the Earth (E) to the earth terminal and the Switch Live (SL) to terminal number 1.

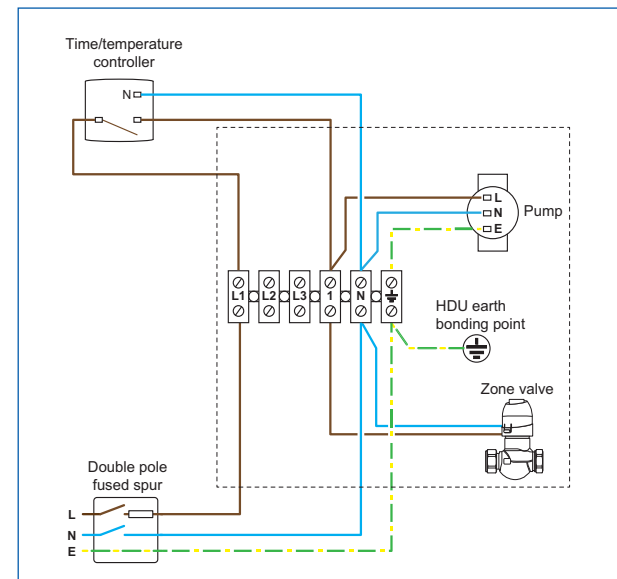
Pump cable

The unit is delivered with the pump cable disconnected inside the terminal box to prevent dry running of the pump, and should only be connected when the space heating system is filled with water.

Pump cable connection

Pump Live wire (brown) to terminal 1, pump Neutral (blue) to the N (neutral) terminal and pump Earth (green/ yellow) to earth terminal.

Electrical connections



Time/temperature controller connection

Connect Live (L) to the L1 terminal, Neutral (N) to neutral terminal and Switch Live (SL) to terminal 1.

Warranty information

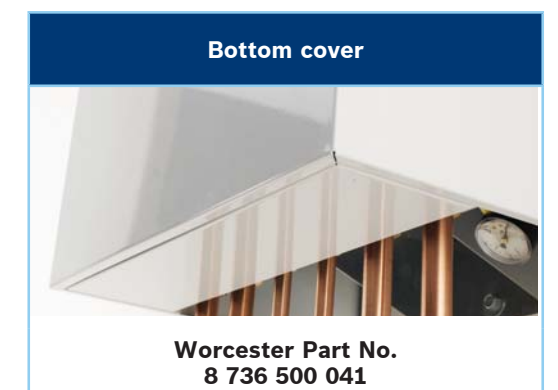
Worcester Greenstar HDU range appliances are offered with a full 2 year guarantee*. Ongoing service and maintenance contracts can be arranged through the Worcester Customer Service Department.

*Subject to conditions.

HDU models



Accessory



The total training experience

Worcester expertise that will build your skills

Worcester has always placed great emphasis on technical support and training for installers and service engineers. Advances in heating technology, including the increasing use of renewables, make the need for training greater than ever.

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 more in-depth courses for the servicing and fault finding engineers.

Training centres throughout the UK

To enable us to meet the growing demand for training we have invested in additional facilities at the award-winning training academy at our Worcester headquarters. In addition to the original academy there is now a new 400m² unit, 25% of which is devoted to an open-plan domestic training area with life-size single-storey brick buildings. These feature working Greenskies solar thermal systems which enable installers to get up onto the roof of the building to get more realistic training. There are bays full of all Greenstar gas-fired appliances, so installers can really get to grips with the importance of system design. The additional space also contains dedicated training areas for our renewable and future products. The training centre also runs certified domestic and commercial ACS training and assessment.

Further academies are located at West Thurrock in Essex, Wakefield and Clay Cross in Derbyshire, 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 strip-down 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 0844 892 9800 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. Call us on **01905 752526** to order a full training course brochure or to book yourself onto a training course, alternatively, you can visit www.worcester-bosch.co.uk/training.

Boiler training courses	
Greenstar CDi gas-fired condensing combi boilers	
Models covered Whole Greenstar CDi range	Duration: 1 day
Greenstar i Junior & Si gas-fired condensing combi boilers	
Models covered Greenstar 24/28i Junior and 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 and Greenstar FS 30/42CDi Regular	Duration: 1 day
Greenstar system & regular gas-fired condensing boilers	
Models covered Greenstar 12/15/18/24Ri, Greenstar 30/40CDi Regular, Greenstar FS 30/42CDi Regular, Greenstar 30CDi System and Greenstar 12/15/18/24i System	Duration: 1 day
Greenstar Danesmoor, Heatslave & Camray high efficiency condensing oil-fired boilers – pre-OFTTEC training	
Models covered Greenstar Danesmoor series, Greenstar Heatslave series and Greenstar Camray series	Duration: 1 day
Greenstar controls	
Models covered MT10, MT10RF, DT20RF, DT20, DT10RF, TD200, RT10, FR10, FR110, FW100 and ISM1	Duration: 1 day
GB162 gas-fired condensing boilers	
Models covered GB162 65kW	Duration: 1 day
GB162 gas-fired condensing boilers – cascade	
Models covered GB162 65/80/100kW – cascading up to 800kW	Duration: 1 day
Greenspring CWi47 – gas-fired condensing instantaneous water heater	
Models covered CWi47	Duration: 1 day
Renewable training courses	
Greenskies solar hot water system	
Covering Installation, commissioning and servicing	Duration: 2 days
Greenskies advanced solar	
Covering Worcester solar control range and pump stations	Duration: 1 day
Greenstore ground 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
Greenfloor heating	
Covering Installation, commissioning and servicing	Duration: 1 day



Industry focused training courses		
BPEC warm water underfloor heating installation		
Covering	Basic principles & advantages of underfloor heating, floor systems and finishes, operation, installation, testing and post installation activities	Duration: 2 days
BPEC ventilation		
Covering	Installation, commissioning, inspection and testing	Duration: 2 days
Hot water systems & safety		
Covering	All G3 Regulations for the installation, servicing and commissioning of unvented cylinders. This course is certified by Logic Certification.	Duration: 1 day
Chemical water treatment		
Covering	Water treatment of domestic heating systems in accordance with BS 7593: 2006	Duration: 1 day
Construction skills F-Gas training/assessment certification		
Covering	Qualifies for Construction Skills Certification & Registration (valid for 5 years) and Voluntary ACRIB Registration	Duration: 4 days

Heating design course		
IDHEE domestic heating design course		
Covering	To allow installers, specifiers and heating engineers to design and specify heating systems correctly	Duration: 9 weeks*

*Distance learning and 4 x classroom based sessions are spread evenly across 9 weeks with a three week break between each session. There is a final written assessment following the final session.

Domestic ACS training and assessment		
Reassessment CCN1 + 4 appliances + CPA1		
Covering	Re-assessment for candidates whose CCN1 qualification expires in less than 12 months	Duration: 4 days

Commercial ACS training and assessment		
CODNCO1		
Covering	Changeover qualification from domestic to commercial, including CIGA1, ICPN1, TPCP1A	Duration: 4 days

OFTEC training and assessment		
OFTEC 101		
Covering	Domestic/light commercial pressure jet commissioning and servicing	Duration: 3 days
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 days
OFTEC 600a		
Covering	Oil tank installation and associated controls	Duration: 1 day assessment
OFTEC 101/105e/600e		
Covering	Domestic/light commercial pressure jet boiler installation, commissioning, servicing and oil tank installation and associated controls	Duration: 4 days
Mobile OFTEC		
All above covered throughout the country on the mobile training vehicle as well as in all our centres		

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. For experienced oil technicians training is not a pre-requisite for OFTEC assessment.

A complete after-sales service

As part of the worldwide Bosch Group, Worcester strives to maintain the highest possible standards of after-sales care.

In addition to the no-nonsense parts and labour guarantee applicable to all Worcester products, you and your customers have the assurance that every Worcester product is manufactured to both the appropriate British and European standards.

Worcester Contact Centre

Should you require support, our fully trained Contact Centre staff, based at our head office in Worcester, are ready to take your calls. Whatever your query our contact centre operators along with our nationwide team of engineers are ready to help you.

Tel: 0844 892 9900

Opening times

Monday – Friday: 7.00am – 8.00pm

Saturday: 8.00am – 5.00pm

Sunday: 9.00am – 12 noon

Bank Holidays: 8.00am – 4.30pm



All the technical advice you need

Spares

Genuine replacement parts for all supported Worcester products are readily available from stock, or on a next day delivery basis. Visit our website at www.worcester-bosch.co.uk/spares to find your local stockist.

Customer Technical Support

The Worcester Technical Helpline is a dedicated phone line – committed to providing a comprehensive service to complement the brand name and quality of our products. Our experienced team of technical experts provides answers to queries of a technical nature across the entire Worcester range.

Worcester also has a pre-sales department, which provides assistance in selecting a heating system to suit a particular application, along with full guidance on installation. For more information please contact the Technical Helpline or alternatively visit our website where literature can be downloaded at www.worcester-bosch.co.uk. For Buderus/Bosch Group industrial/commercial visit www.bosch-thermotechnology.co.uk

Technical

Tel: 0844 693 3028

Fax: 01905 752 741

technical.enquiries@uk.bosch.com

Opening times

Monday – Friday: 7.00am – 8.00pm

Saturday: 8.30am – 4.00pm


Bank Holidays: 8.00am – 4.30pm



Buderus, Bosch Group

Commercial/industrial range

With an extensive product range of energy efficient cast iron boilers, stainless steel boilers, the latest aluminium condensing boilers and an extensive renewable range, we can provide, along with the Greenstar HDU, the complete heating and hot water solution. For more information please call **0844 892 3004** or visit **www.bosch-thermotechnology.co.uk**

Range Overview	Outputs	Description
Condensing Pre-mix Aluminium 	90 - 280kW	GB312 A compact floor standing, condensing gas boiler, the GB312 is suitable for room sealed or open flue systems and is fitted with a cast aluminium heat exchanger.
	180 - 560kW	GB312 Cascades Available as a two boiler cascade where higher outputs are required.
	320 - 620kW	GB402 A floor standing, condensing gas boiler, the GB402 is fitted with a cast aluminium heat exchanger and thermally insulated boiler body.
	640 - 1,240kW	GB402 Cascades Can be used as a multiple boiler cascade where higher outputs are required.
Condensing Stainless Steel 	50 - 115kW 145 - 640kW 790 - 1,200kW	SB315 SB615 SB745 High-performance gas condensing boilers with precision engineered condensing heat exchangers made of high-quality stainless steel and with compact dimensions for easy installation.
Steel with Stainless or Galvanised Steel Secondary Heat Exchanger 	650 - 19,200kW	UNIMAT UT-M and UT-L with ECO6/7 A versatile multi-fuel boiler for larger industrial applications with internal/external stainless steel or galvanised steel condensing heat exchanger.
	500 - 17,500kW	UNIMAT UT-M LN and UT-L LN with ECO6/7 Special "Low NOx" variant of the UNIMAT UT-M and UT-L specified with larger combustion chamber for reduced emissions.
High Efficiency Steel 	650 - 19,200kW	UNIMAT UT-M and UT-L Powerful multi-fuel steel boilers for industrial and high demand usage.
	500 - 17,500kW	UNIMAT UT-M LN and UT-L LN Special "Low NOx" variant of the UNIMAT UT-M and UT-L specified with larger combustion chamber for reduced emissions.

Range Overview	Outputs	Description
High Efficiency Cast Iron 	68 - 83kW 86 - 230kW 201 - 510kW 511 - 1,200kW	G215 GE315 GE515 GE615 The GE range is particularly well suited for replacement boilers, or where access to the boiler room is restricted. They offer high efficiency and allow very simple, cost-effective hydraulic system design.
Condensing wall hung 	65 - 100kW	GB162 The GB162 is a stylish and remarkably compact condensing gas boiler. Up to 110% efficiency, quiet and easy to install and maintain.
	Up to 800kW	GB162 Cascades Boilers can be installed in an innovative in-line or back-to-back cascade system of up to 8 boilers, with just 4 boilers back-to-back giving a 400kW output in just 1m ² .
Combined Heat and Power 	40-80kW _{th} 25-50kW _{el}	CE 50 NA Bosch high efficiency CHP modules are compact power units which use a clever combination of a gas powered reciprocating engine and generator, optimised hydraulics and an intelligent control system to provide a more efficient way to generate heat and electricity compared to conventional methods.
	54.5-109kW _{th} 35-70kW _{el}	CE 70 NA
	106-212kW _{th} 70-140kW _{el}	CE 140 NA
	187-374kW _{th} 120-240kW _{el}	CE 240 NA
Gas Absorption Heat Pump 	38.3kW	GWPL 38 The GWPL 38 is a low carbon solution for the delivery of highly efficient, renewable heating for commercial, industrial and residential applications.
	76.6 - 205.5kW	GWPL Cascade System For higher heat demands, the GWPL 38 can be supplied in a factory-assembled rig-mounted multi heat pump cascade of up to 205.5kW, and larger cascade systems are available if required.
Solar 		SKR6 and SKR12 Evacuated tube portrait collectors.
		SKS 4.0 and SKN (Lifestyle) Flat plate collectors offering both portrait and landscape orientation.
Biomass 		Biomass Heating Bosch has formed an alliance with leading biomass specialist Eenergy to deliver low carbon heating solutions to the commercial sector.

Useful numbers

Sales

Tel: 01905 752640
Fax: 01905 456445

Spare Parts

Tel: 01905 752576
Fax: 01905 754620

Technical Helpline (Pre & Post Sales)

Tel: 0844 693 3028
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

Customer Service

Engineer Appointments

Email: commercial.enquiry@uk.bosch.com
or telephone 0844 892 3004

Enquiries

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

Guarantee Registration

To register your Worcester guarantee,
please visit our website or
telephone 0844 892 2552

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.

www.worcester-bosch.co.uk



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