



320120273P

ENERGY STATEMENT

For

**Residential Development of 37 New
Dwellings at Barrow Brook Grange Phase 2,
Clitheroe**

Prepared by:

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1st June 2012

POLICIES GUIDANCE AND REASON

This report outlines how Rowland Homes Limited propose to address the issue of energy reduction detailed in the Planning Permission from Ribble Borough Council on the site on land at Barrow Brook Grange Phase 2, Planning Permission Ref. 3/2011/0307. The policy G1 of the Ribble Valley Districtwide Plan has been referred to in the writing of this document. The approach used will be a combination of fabric improvement, improved building services, improved service controls and renewable Solar Thermal technology.

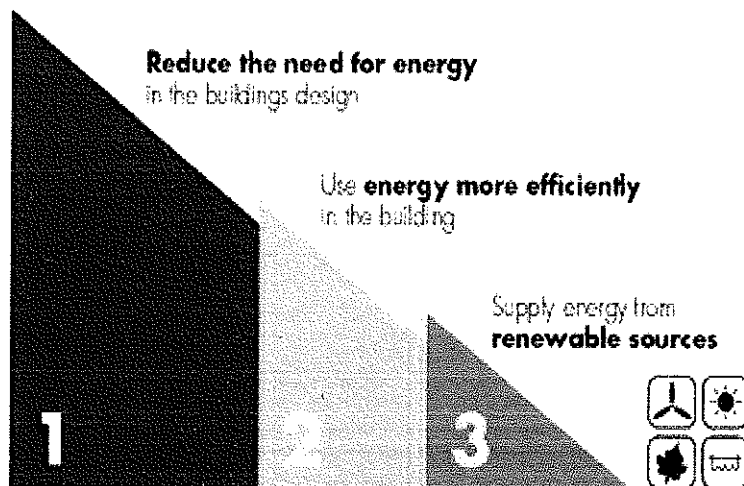
ACHIEVING CARBON REDUCTION

The site comprises 37 detached and terraced two storey dwellings. Rowland Homes is dedicated to providing fresh design ideas and methods for improving the energy efficiency of the dwellings they construct. The suggested construction and design specification for this scheme will deliver homes that are inherently energy efficient and cost efficient during occupation.

Additionally, 37% of the dwellings at the site will be specified with Renewable Solar Thermal water heating schemes to further reduce energy demand. This approach will reduce energy demand and enhance the efficiency of the dwellings, which, in turn, will ensure efficiency of operation throughout their lifetime and occupation.

In order to reduce the carbon footprint it is crucial that an uncomplicated energy hierarchy is employed, whether it be for a new or an existing building.

To reduce a **building's carbon footprint**,
it is important that a **simple energy hierarchy** is used.



The energy hierarchy demonstrates that the design of a building and the associated services should help to reduce the need for energy, and as such has the most significant effect on a building's carbon footprint.

Rowland Homes will construct these homes with fabric and design specifications which go far beyond the requirements of the current Building Regulations and that will also reduce energy demand and associated carbon dioxide (CO₂) emissions significantly.

In relation to the air permeability performance standard, Rowland Homes dwellings habitually perform significantly beyond the requirements of the current Building Regulations. Accredited Construction Details, along with best practice guidance on site, will be used to reduce cold bridging and air leakage losses; a design Air Permeability Rate of 6.00 m³/(h.m²) at 50 Pascals has been used to give a significant improvement over the minimum requirement of the current Building Regulations of 10.00 m³/(h.m²) at 50 Pa.

Furthermore, the buildings and associated services should be operated, controlled and maintained to ensure energy is utilised most efficiently; the design criteria specifies controls to enable efficient running of the dwelling and specifies 100% low energy lighting throughout.

Given the statement above, the primary approach Rowland Homes will adopt in the construction of these dwellings will be to significantly improve the thermal envelope beyond the building regulations limiting fabric parameters, see table below.

	Rowland Homes U-Value	(App. Doc. L1A, 2010 Edition, Worst Case U- Value)
Ceilings	0.13 W/m ² K	(0.16 to 0.18 W/m ² K)
External Walls	0.24 W/m ² K	(0.30 W/m ² K)
Ground Floors	0.13 W/m ² K (although relative to area)	(0.25 W/m ² K)
Windows	1.2 W/m ² K	(2.00 W/m ² K)
Doors	1.2 W/m ² K	(1.8 W/m ² K)

In summary, this development goes beyond what is required to comply with the 2010 Edition of Approved Document L1A of the Building Regulations, which already give a 25% improvement over the former 2006 Edition. It has a much improved fabric performance with low U-Values to drive down energy demand, Renewable Solar Thermal to 37% of the dwellings, energy saving measures, such as 100% low energy lighting, time & temperature space heating zone controls, and boilers that are one of the most efficient in the market. To complete the design the construction benefits from low thermal bridging and a very low air permeability.

BAXI

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SOLARFLO™

Solar thermal domestic hot water system



Innovators in heating technology

For over 150 years, Baxi has led the way with new and pioneering heating solutions. We are proud that we still manufacture boilers in the UK, close to the site where Richard Baxendale first established the business, in Preston, Lancashire.

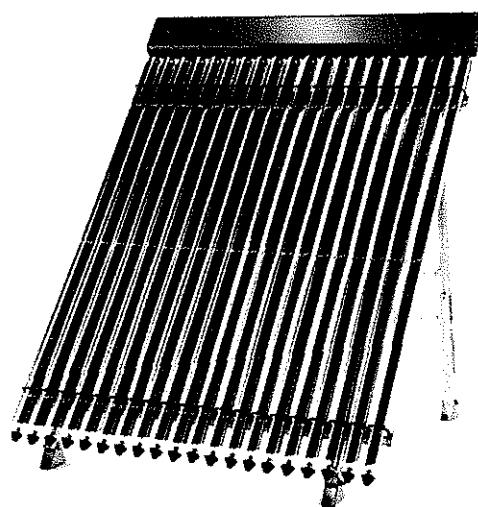
Today, our dedication to innovation is greater than ever as we develop new ways to heat homes. We are committed to delivering sustainable heating and hot water solutions that minimise energy usage, cut carbon emissions and deliver maximum value for you and your customers.

Above all, we want to be at the heart of the home, bring warmth to people's lives and protect the planet for future generations.

All our products are backed by heateam, our award-winning dedicated UK service centre and a national network of 270 Gas Safe registered engineers who are on hand to offer expert help and advice.

Here are just some of the many heating solutions we offer that can be tailored to suit your needs.

- High efficiency boilers
- Solar energy
- Ground source heat pumps
- Micro-CHP technology
- Biomass solutions
- Vented and unvented cylinders
- Plus gas heat recovery systems





Everywhere we look we are being urged to consider energy efficient options for our homes. As customers become more 'green' and governments encourage the use of renewable energy sources solar energy is becoming more popular and the demand for it is increasing.

Solar energy in the UK

The Sun has been heating our bodies and drying our clothes for thousands of years but here in the UK we have not been using its potential to provide us with hot water. This begs the question would solar power work here? The fact is solar power is greater than most people imagine with enough energy hitting the earth in one minute to meet our demands for a whole year – if only we could harness it properly. The technology in a Baxi Solarflo™ system can utilise enough solar power to effectively heat 90% of a family's hot water in the summer and an average of around 55% of it annually making the investment into solar hot water systems worthwhile.

Why use Solar?

Savings for customers mean opportunities for installers

Real savings can be made over the medium to long term when homeowners switch to renewable energy sources. As the world's supply of gas diminishes we must use this resource more efficiently and find other ways of meeting our hot water requirements. A Baxi Solarflo™ system gives customers a sustainable energy source which is free and natural so it's becoming an attractive addition for customers and developers with an eye on the future. Thanks to the superb design and the training we offer Baxi Solarflo™ systems are also easy for installers to fit.



AXI How does it work?

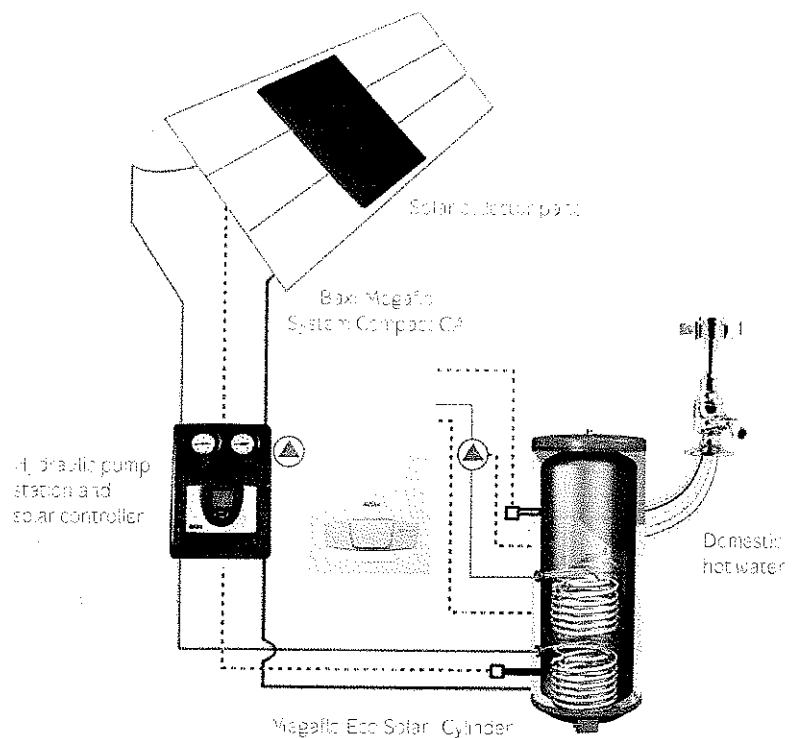
Solar thermal water heating devices make use of free energy from the most abundant source we have – the Sun

Flat plate collector panels or evacuated tubes either fitted onto existing roofs or built into the roof structure of new build properties absorb energy from the Sun and heat water in a specially designed water storage cylinder such as the Megaflo Eco Solar[®] or the Megalife Solar[®] from Heatrae Sadia

In the summer this system can supply up to 90% of a home's hot water and even on dull days some hot water can be produced. Over the year a well designed solar package provides approximately 55% of the annual domestic hot water demand and can substantially reduce carbon emissions

How Baxi Solarfloor works

The collector panels work by transferring heat into a fluid that is circulated to a solar coil in the base of the hot water storage cylinder. Here the heat is transferred into the stored domestic hot water. The cooled fluid is then circulated back to the solar collectors to be re-heated and the cycle is repeated.



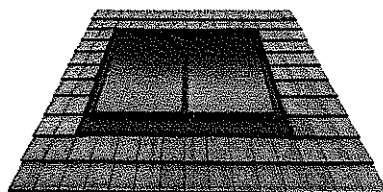


Baxi Solarflo™ key features & benefits:

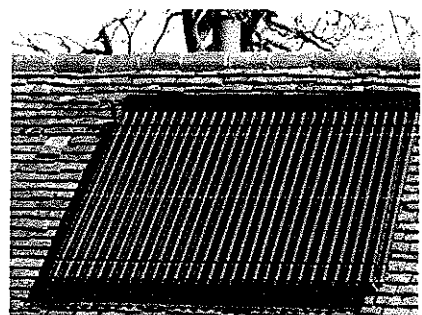
- On-roof in-roof and flat roof portrait or landscape solar collector panel packages available (1, 2 or 3 panels) to enable installation to most roof styles
 - Evacuated tube packages also available (20 or 30 tubes)
 - Provides approximately 55% of a home's annual domestic hot water needs
 - The package consists of solar collector panel(s), a hydraulic pump station, controller and all the components required for safe operation
 - Compatible with Heatrae Sadia's Megaflo Eco solar range of cylinders
 - Control of boiler hot water schedule to maximise solar efficiency
 - Compatible with majority of existing UK heating systems
 - 150mm lead skirt on in-roof flashing to aid fitting to any tile profile
 - Quick fit brackets supplied for on-roof kit to aid speedy installation
 - Tool free hydraulic fittings to aid speedy installation and less time spent on the roof
 - 3.2mm tempered low Iron glass cover to aid absorption of solar irradiation in cloudy conditions to improve efficiency
 - 10 year warranty*
 - SAF compliant** and MCS certified
- *10 year warranty on solar collector panels only
**SAF (Safety Approved Framework) certified



ON-ROOF



IN-ROOF



EVACUATED TUBES

BAXI Types of Solarflo™ collectors

Introducing a complete range of panel options to meet individual needs, tastes and requirements. Baxi solar panels are high quality. They carry the Solar Keymark certification are MCS certified and are suitable for a range of different installations including on-roof, in-roof or flat roof applications with portrait or landscape collector options to effectively and efficiently harness natural energy from the Sun.

On-roof Solar Flat Plate Collector

This collector is mounted above the slate/tile roof and is ideal for homeowners who wish to install solar thermal domestic hot water to an existing building without having to disturb too much of the roof structure.

An A-frame option is also available for flat roof applications.



Features

- Flat plate aluminium frame collector
- MCS certified collector range
- Solar Keymark certified
- 10 year warranty*
- Portrait or landscape options
- Tool-free collector hydraulic connections
- Gross collector area 2.01m²
- Absorber efficiency 95%
- Lift weight of 34.3kg
- Ultrasonic welded so is suitable for high temperatures
- Flat fix roof bracket

Performance 2.0m²

Aperture Area		
Area		1.89m ²
Zero loss co-efficient	n0	0.794
Heat loss co-efficient	a1	4.31W/m ² °K
Heat loss co-efficient	a2	0.012W/m ² °K

Technical Data

Height	1753mm
Width	1147mm
Depth	87mm
Weight	34.3kg
Maximum pressure	10bar
Shut down temperature	213°C

In-roof Solar Flat Plate Collector

The in-roof flat plate collectors are installed within the roof structure and are the perfect choice for all new build developments and homeowners who are having major roof refurbishments completed. Collectors are available in 2 sizes: 2.0 and 2.5m².



Features

- Aluminium frame collector
- MCS certified collector range
- Solar Keymark certified
- 10 year warranty*
- Portrait or landscape options
- Tool-free collector hydraulic connections
- Portrait gross collector area 2.0 or 2.5m²
- Landscape gross collector area 2.0m²
- Absorber efficiency 95%
- Lift weight of 34.3kg (2.0m²) or 47kg (2.5m²)
- Ultrasonic welded so is suitable for high temperatures

Performance 2.5m²

Aperture Area		
Area		2.51m ²
Zero loss co-efficient	n0	0.814
Heat loss co-efficient	a1	5.659W/m ² °K
Heat loss co-efficient	a2	0.005W/m ² °K

Technical Data

Height	2187mm
Width	1147mm
Depth	87mm
Weight	47kg
Maximum pressure	10bar
Shut down temperature	198.1°C

*10 year warranty on the solar collector

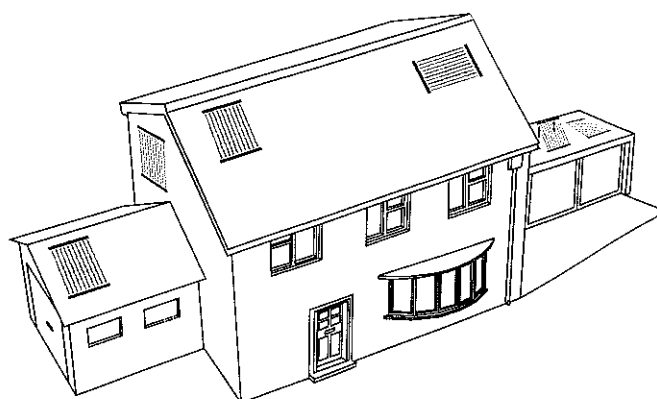
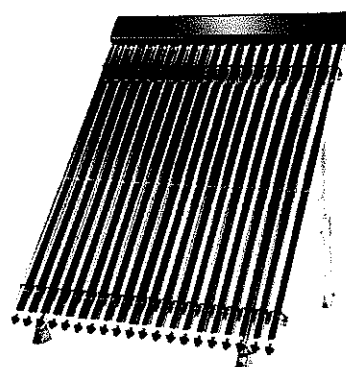


On-roof Evacuated Tube Collector

The Baxi evacuated tubes package is ideal for installation on new build developments and existing buildings. The collector is for on-roof application with the manifold and tubes sitting on top of the roof tiles/slate. The system is adaptable with both horizontal and vertical installations making it suitable for flat roof and facade applications. An A-frame option is also available for flat roof applications.

Features

- Cross absorber area 2m² & 5m²
- On roof 20 or 30 tube sets
- Solar Keymark certified - MCS scheme acceptable
- 10 year warranty
- Copper absorber - resistant to thermal shocks
- Sectional collectors - reduced lift weight
- Tool-free collector connection
- Combined tile, thin tile and slate roof mounting brackets sets as standard



Technical Data

No of Tubes	10**	20	30
Height	1396mm	1396mm	1396mm
Width	1000mm	1415mm	2121mm
Depth	71mm	71mm	71mm
Weight	251g	251g	311g
Maximum pressure	8bar	8bar	8bar
Storage temperature	286°C	286°C	286°C

Performance

1 tube	Aperture Area
Area	1.03m ²
Zero loss co-efficient	n0 0.781
Heat loss co-efficient	a1 1.441W/m ² K
Heat loss co-efficient	a2 0.0062W/m ² K

Performance

20 tube	Aperture Area
Area	2.15m ²
Zero loss co-efficient	n0 0.773
Heat loss co-efficient	a1 1.431W/m ² K
Heat loss co-efficient	a2 0.0059W/m ² K

Performance

30 tube	Aperture Area
Area	3.25m ²
Zero loss co-efficient	n0 0.779
Heat loss co-efficient	a1 1.07W/m ² K
Heat loss co-efficient	a2 0.0135W/m ² K

BAXI Package components

Baxi provides complete solar packages which enable the installer to easily fit the whole system. Additional solar accessories can be easily obtained to support Baxi solar packages (refer to the accessories section on page 14 for further details). All the components are covered by a 2 year parts and labour warranty, subject to registration and an annual service.

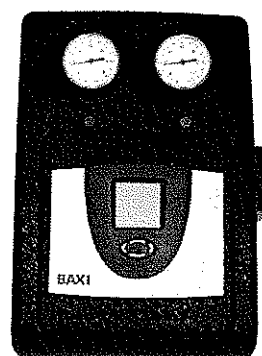
To complete the system, add a Heatrae Sadia solar cylinder (refer to pages 15 and 16 for further details).

Solar Hydraulic Pump Station

The pump station is compact and incorporates all hydraulic functions in a neat package to ensure thermal safety.

Features

- Solar pump
- Service isolation valve fitted as standard
- Large, easy to read temperature gauges fitted as standard
- Optional relay to control immersion heater back up
- Fully insulated
- Fill and drain points
- Air separator
- Auxiliary heating re-heat sensor



Technical Data

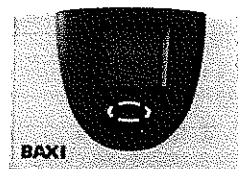
Height	375mm
Width	230mm
Depth	190mm
Max continuous working temperature	170°C
Max short term starting temperature	120°C
Pressure relief valve setting	6 Bar
Check valve operating pressure	20mbar

Solar Controller

The solar controller has a pictorial display making it easy to operate. It can control up to two collector fields (e.g. East/West array).

Features

- Simple menu driven programming
- Adjustable temperature differential regulation
- Battery back-up stores set values
- Fitted into pump station as standard to simplify installation
- Can be easily removed and remotely fitted elsewhere in the home
- Supplied with temperature sensors for solar control, solar gain and auxiliary reheat
- Large clear multi-function LCD display
- Ability to control auxiliary heat source
- Advanced control functions
- System status and fault finding
- Can control up to two collector fields (e.g. East/West array)
- Can control up to two solar cylinders
- Can display solar gain



Technical Data

Height	154mm
Width	175mm
Depth	56mm
Fault display functions	Yes
Auxiliary heat control	Yes
Solar gain measurement	Yes



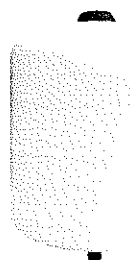
Primary System Fluid

- 20 litres supplied as standard with each package (pre-mixed water glycol solution protects to -21°C)
- Fernox S1 Solar
- Fluid is supplied with both flat plate and evacuated tube variants



Solar Expansion Vessel

- 24 litre expansion vessel
- Special high temperature membrane
- Mounting bracket and flexible hose with self-sealing shut off valve



Evacuated tube mounting brackets shown above

Mounting Brackets/A-frame (for on-roof application)

To ensure ease of installation we provide the mounting brackets which have been specifically developed for all types of roofing situations and an A-frame option for flat roofs



Flashing Kit (for all in-roof applications)

A bespoke flashing kit for either slate or tile roofs giving a neat finish to the installation and ensuring the roof remains watertight



1m Flexible Pipe Kit

Whether your installation is on-roof or in-roof this pipe kit provides easy connection from the collector panels into the roof space

BAXI What system to use?

For solar hot water systems the number of solar panels required is generally dependant on the size of the solar hot water cylinder and the size of the cylinder depends on the size of the house number of bathrooms and people living in the property

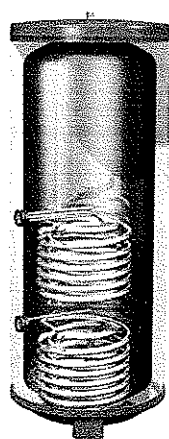
For guidance on the size of Baxi Solarflo™ package you need simply take a look at the tables shown

CUSTOMER CURRENTLY HAS A GAS BOILER (Indirect application)

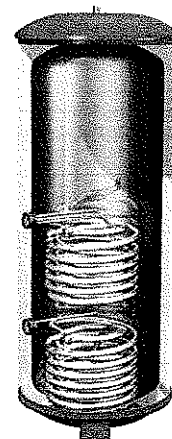
House	Max occupancy	On-roof panels	In-roof panels	Tube	Cylinder volume (l)	Volume characteristics						
						Dedicated solar (l)*	On-roof l / m²	In-roof l / m²	Tube l / m²	Max property size (m²)	Auxiliary volume	Cylinder heat loss (kWh/24h)
1 bed 1 bath or 1 shower	2	1	1	20	80	10	26	31	35	30	120	1.58
2 bed 1 bath or 1 shower	4	1	1	20	110	20	29	33	42	33	120	1.62
3 bed 1 bath or 1 shower	6	2	1	20	140	30	33	37	45	35	140	1.65
3 bed 1 bath and 1 ensuite shower		1	2	1	140	100	24	29	30	100	10	1.60
4 bed 1 bath or 1 shower	8	2	1	20	200	110	31	37	44	37	150	2.12
4 bed 2 bath or 1 bath and 1 shower	8/10	1	1	30	210	140	33	38	42	39	150	2.10
4/5 bed 2 bath or 1 bath and 1 shower	8	2	2	30	270	170	35	41	45	42	150	2.15

* On Solarflo Eco Solar indirect system with 1000W solar collector

On Solarflo Eco Solar indirect system with 1000W solar collector and 2000W solar collector (see Part 1)



Megaflo Eco Solar® Unvented
Cylinder (indirect)



Megaflo Solar® Cylinder
(indirect)

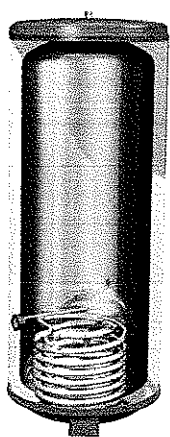


CUSTOMER CURRENTLY HAS AN IMMERSION HEATER (Direct application)

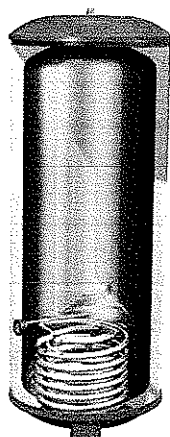
House	Max occupancy	On-roof panels	In-roof panels	Tube	Cylinder volume (l)	Volume characteristics						
						Dedicated solar (l)*	On-roof l / m ²	In-roof l / m ²	Tube l / m ²	Max property size (m ²)	Auxiliary volume	Cylinder heat loss (kWh/24h)
1 bed 1 shower	1		1		170	70	38	31	70	60	100	1.38
1 bed 1 bath 1 shower	2	1	1	20	313	70	38	31	35	60	140	1.62
2 bed 1 bath 1 shower	3	2	1	20	213	70	38	31	30	60	110	1.52
2 bed 1 bath 1 shower	4	3	1	20	187	70	37	30	27	60	70	1.35
3 bed 1 bath 1 shower	5	3	2	1	70	60	30	32	40	60	100	1.51
3 bed 2 bath 1 shower	6	4	2	10	320	70	38	31	35	60	100	2.18
4 bed 2 bath 1 shower		5	3	30	300	100	40	30	35	100	100	2.18

* 124 kWh/m² on flat with 20% efficiency - property with 100% efficiency

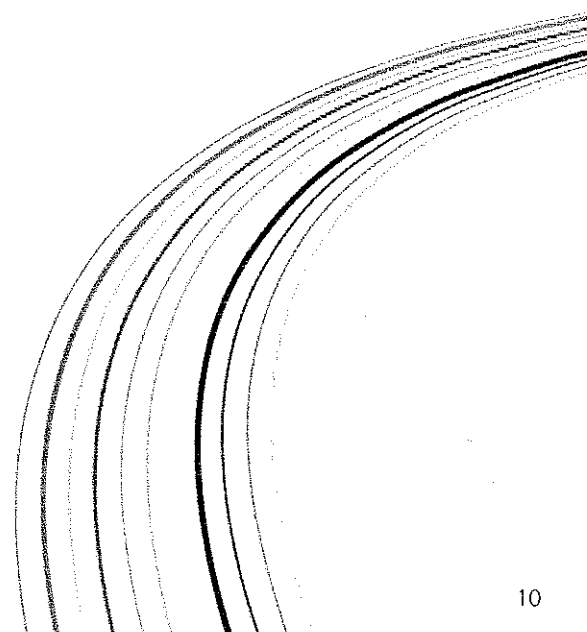
* Dedicated solar volume - 2002/2012 all the figures are 15% less than 2008 Solar Engineering Ltd. Ltd.



Megaflo Eco Solar®
Unvented Cylinder (direct)



Megaflo Solar® Cylinder
(direct)



On-roof

Baxi Slate & Tile On-roof System

Includes

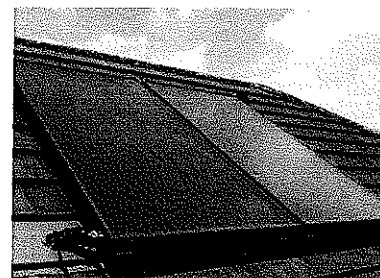
- 1, 2 or 3 panels
- Solar controller
- Mounting rail and brackets
- Portrait or landscape options
- Solar fluid

Codes portrait

1 panel	720670401
2 panel	720670601
3 panel	720670801

Codes landscape

1 panel	720671701
2 panel	720671901
3 panel	720672101



Baxi Flat Roof A-frame System

Includes

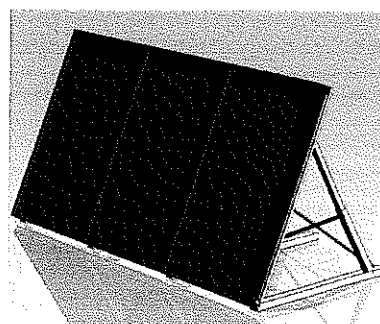
- 1, 2 or 3 panels
- Solar controller
- A-frame
- Portrait or landscape options
- Solar fluid

Codes portrait

1 panel	720675301
2 panel	720675501
3 panel	720675701

Codes landscape

1 panel	720676501
2 panel	720676701
3 panel	720676901



In-roof

Baxi Slate In-roof System

Includes

- 1, 2 or 3 panels 2.0m² or 1 or 2 panels 2.5m²
- Solar controller
- Mounting rail and brackets
- Solar fluid
- Portrait or landscape options
- Slate flashing kit

Codes portrait 2.0m

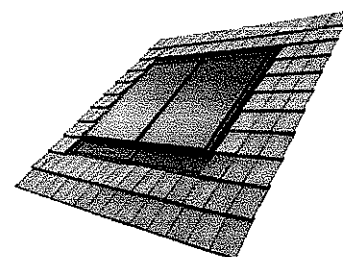
1 panel	720762301
2 panel	720762501
3 panel	720762701

Codes landscape 2.0m²

1 panel	720764101
2 panel	720764301
3 panel	720764501

Codes portrait 2.5m²

1 panel	720763801
2 panel	720764001



Baxi Tile In-roof System

Includes

- 1, 2 or 3 panels 2.0m² or 1 or 2 panels 2.5m²
- Solar controller
- Mounting rail and brackets
- Solar fluid
- Portrait or landscape options
- Tile flashing kit

Codes portrait 2.0m²

1 panel	720672901
2 panel	720673101
3 panel	720673301

Codes landscape 2.0m²

1 panel	720674101
2 panel	720674301
3 panel	720674501

Codes portrait 2.5m²

1 panel	720673501
2 panel	720673701



Evacuated tube

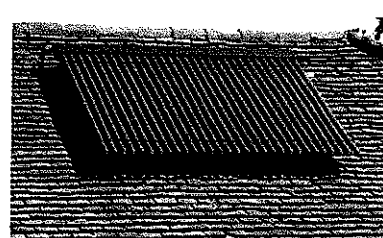
Baxi Evacuated Tubes for Slate or Tile Pitched Roof

Includes

- 20 or 30 tubes
- Solar controller
- Mounting rail and brackets
- Solar fluid
- 30m flexible stainless steel pipe kit
- Hydraulic Pump Station
- Expansion vessel
- Manifold

Codes

20 tube*	5130214
30 tube	5130215



*Baxi's 20 tube units are available in two lengths of 2.0m and 2.4m. The 20 tube units are made to order and are supported by a manifold and collector in a frame, allowing the collector absorption angle to be varied up to 60° to 14°.

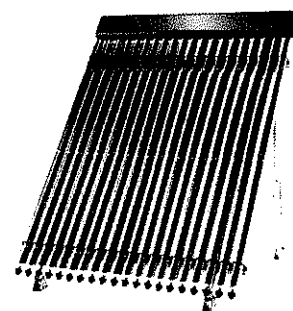
Baxi Evacuated Tubes for Flat Roof

Includes

- 20 or 30 tubes
- Solar controller
- In frame
- Solar fluid
- 30m flexible stainless steel pipe kit
- Hydraulic Pump Station
- Manifold

Codes

20 tube	5130216
30 tube	5130217



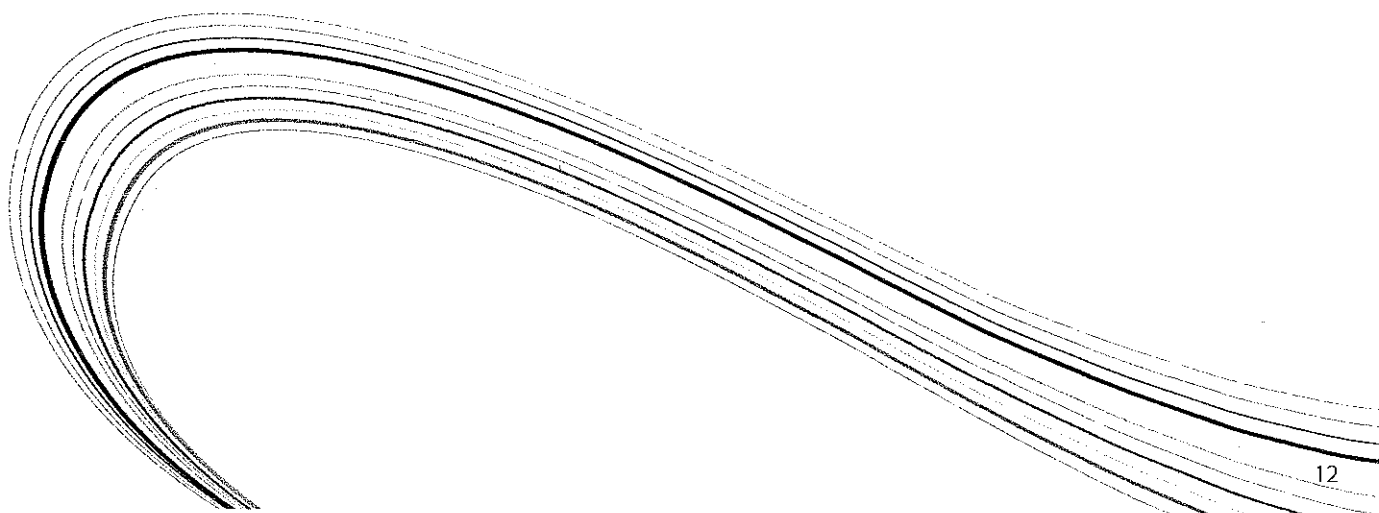
Baxi Evacuated Tubes for Building Façade

Includes

- 20 or 30 tubes
- Solar Controller
- Mounting rail and brackets
- Solar fluid
- 30m flexible stainless steel pipe kit
- Hydraulic Pump Station
- Expansion vessel
- Manifold

Codes

20 tube	5130212
30 tube	5130213



BAXI East/West array kits

The East West array package is perfect for roof orientations which are not south facing. The kit enables collectors to be fitted on either side of the roof structure with one panel facing east and one facing west.

East West array kits enable solar gain around the building throughout the day.

The solar controller supplied with the main hydraulic pump station (see Installation Guide on www.baxi.co.uk) already has the facility built in to control an East West array.

A Baxi Solarflo™ 2 panel in-roof flat plate package, 2 panel on-roof flat plate package or Baxi evacuated tubes (20 or 30 tube kits) can be transformed into an East West arrangement by adding the appropriate kit from below.

Multifit Solar™ – 1 panel in-roof portrait 2.5m² East West tile	720835801
Multifit Solar™ – 1 panel in-roof portrait 2.5m² East West slate	720888401
Multifit Solar™ – 1 panel in-roof landscape 2.0m² East West slate	720888201
Multifit Solar™ – 1 panel in-roof portrait 2.0m² East West slate	720888601
Multifit Solar™ – 1 panel in-roof landscape 2.0m² East West array	720835601
Multifit Solar™ – 1 panel in-roof portrait 2.0m² East West array	720835401
Multifit Solar™ – 1 panel on-roof landscape 2.0m² East West array	720835201
Multifit Solar™ – 1 panel on-roof portrait 2.0m² East West array	720835001
Multifit Solar™ – Evacuated tube East West array kit	5129980

For more information on Baxi Solarflo contact 0800 200 100 or visit www.baxi.co.uk. All prices shown are approximate and subject to change without notice.

Multifit Solar™ – In-roof 2.5m² collectors

- 1m flexible pipe kit
- 15m solar sensor wire
- 1 panel slate/tile flashing kit
- Hydraulic pump station
- Solar panel sensor
- 2 x 22mm Tee compression fittings

Multifit Solar™ – In-roof tile 2.0m² collectors

- 1m flexible pipe kit
- 15m solar sensor wire
- 1 panel tile flashing kit
- Hydraulic pump station
- Solar panel sensor
- 2 x 22mm Tee compression fittings

Multifit Solar™ – In-roof slate 2.0m² collectors

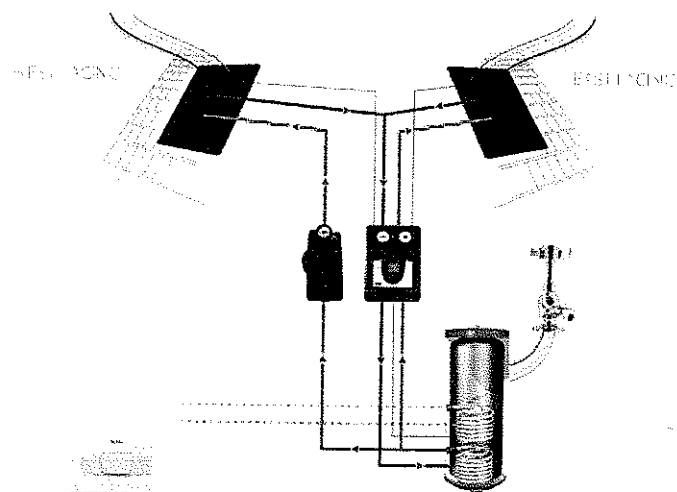
- 1m flexible pipe kit
- 15m solar sensor wire
- 1 panel slate flashing kit
- Hydraulic pump station
- Solar panel sensor
- 2 x 22mm Tee compression fittings

Multifit Solar™ – On-roof 2.0m² collectors

- 1m flexible pipe kit
- 15m solar sensor wire
- 1 panel slate and tile roof mounting kit
- Hydraulic pump station
- Solar panel sensor
- 2 x 22mm Tee compression fittings

Multifit Solar™ – Evacuated tube kit (5129980)

- 10 tubes
- 2m flexible pipe kit
- 15m solar sensor wire
- Slate and tile roof mounting kit
- Hydraulic pump station
- Solar panel sensor
- 2 x 22mm Tee compression fittings





Fittings

Multifit Solar™ – 6 x 22mm Pipe Compression fittings - MALE	High temperature compression fittings	5122762
Multifit Solar™ – 6 x 22mm Pipe Compression fittings - FEMALE	High temperature compression fittings	5122763
Multifit Solar™ – 2 x 22mm Pipe Compression fittings - TEE	High temperature compression fittings	5122764
Multifit Solar™ – 30m Flexible Stainless Steel Pipe Kit	To enable simpler pipework / reduce joints	5122258

Solar Fluid

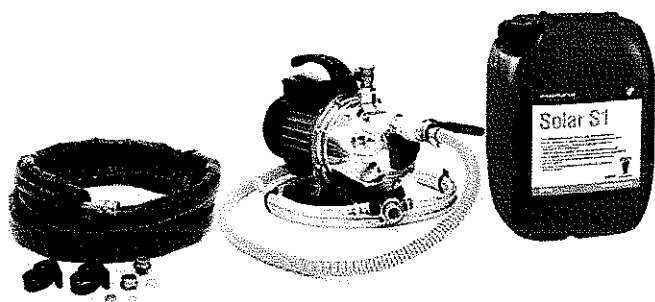
Fernox S1 Solar Fluid	Can be used to fill either panel or tube collectors	5119549
Multifit Solar™ – Electric Fluid Filling Pump	Fill and pressurise system with the provided solar fluid	5130234
Multifit Solar™ – Hand Fluid Filling Pump	Fill and pressurise system with the provided solar fluid	5122761

Accessories

Multifit Solar™ – 13m Solar Sensor Wire	Collector sensor wire 13m extension	5122257
Relay – Direct heating	Relay required to enable immersion heater control	5122765
Multifit Solar™ – Refractometer / Antifreeze Test Kit	Enables checking of viscosity of glycol in system	5119759
Multifit Solar™ – Thermostatic Blending valve for cylinder boiler	High temperature valve to deliver a regulated water supply	5120218/51
Multifit Solar™ – Mechanical flow meter	Provides accurate measurement of solar gain in kWh	5145100/4
Multifit Solar™ – Solar safety valve discharge device	Provides a safe vessel for the collection of any fluid discharge	5130218/51

Evacuated Tube Accessory

Additional 10 evacuated tube collector for slate tile	Only for use with the 20 tube slate tile pitched roof kit 5130214
20 tube slate tile pitched roof kit code: 5130214	



BAXI Cylinder specifications

Megaflo Eco Solar and Megalife Solar storage cylinders from Heatrae Sadia are perfect for use with the Baxi Solarflo® packages

Megaflo Eco Solar unvented and Megalife Solar vented cylinders have a specifically designed solar heating coil at the base of the cylinder to ensure maximum heat input and efficiency from the solar energy - unlike some other twin coil cylinders which simply use heating coils designed for traditional boiler heated cylinders

Direct versions are available with a dedicated solar coil and electric immersion heater (auxiliary heat input) in capacities of 170, 210, 260 and 300 litres. Indirect versions are available with a dedicated solar coil and a secondary coil for gas, oil or electric boiler (auxiliary heat input) in capacities of 190, 210, 250 and 300 litres

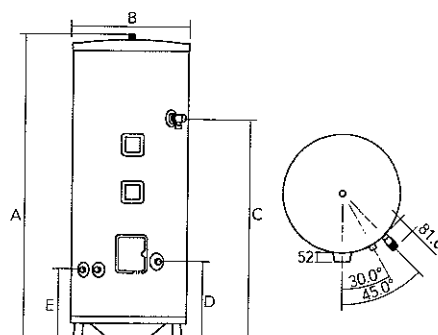
Megaflo Eco Solar and Megalife Solar cylinders provide a dedicated solar column as required in the Domestic Heating Compliance Guide of Part L of the Building Regulations 2006 (SAP compliant)

Megaflo Eco Solar® Unvented Cylinder

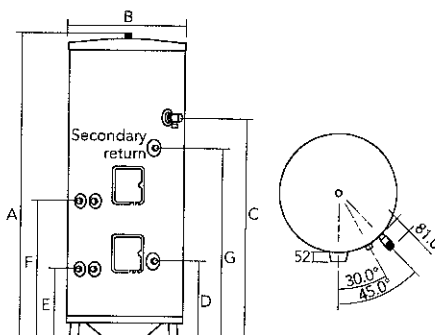
Megaflo Eco Solar cylinders are unvented utilising mains water supply that can provide a superior domestic hot water flow rate.

- Megaflo Eco Solar cylinder based on market leading Megaflo HD cylinder
- Direct or indirect auxiliary heating
- SAP compliant
- Mains pressure unvented domestic hot water up to 7.2l/min
- Large 1.1m solar coil to maximise solar gain
- Designed for compatibility with Baxi Solarflo® thermal system
- Duplex stainless steel cylinder for long life
- Secondary return boss in cylinder to maximise solar efficiency (indirect units only)
- No anode required
- Built-in feet for easy floor standing
- External expansion vessel
- Quick reheat times
- Low heat loss with 50mm thick insulation
- Auxiliary 3kw back-up immersion heater
- Easy installation with all connections within 45° radius
- KIVA approved
- 25 year transferable inner-container warranty*
- 2 year transferable warranty on controls, immersion heater and all other parts**

Direct - a solar cylinder that has a solar coil only



Indirect - a solar cylinder that has a heating coil and a solar coil (i.e. twin coil)



Dimensions

Model	Dimensions (mm)						
	A	B	C	D	E	F	G
Megaflo Eco 170 L	1410	470	165	112	370	81	100
Megaflo Eco 210 L	1502	530	173	112	370	83	100
Megaflo Eco 260 L	1630	600	180	112	370	83	100
Megaflo Eco 300 L	1760	650	189	112	370	83	100
Megaflo Eco 190 L	1270	530	155	112	370	-	-
Megaflo Eco 210 L	1362	570	160	112	370	-	-
Megaflo Eco 250 L	1490	630	167	112	370	-	-
Megaflo Eco 300 L	1620	680	176	112	370	-	-



Megalife Solar® Cylinder

Megalife Solar cylinders are vented, utilising a water supply that is open to atmosphere and is ideal if a header tank is retained.

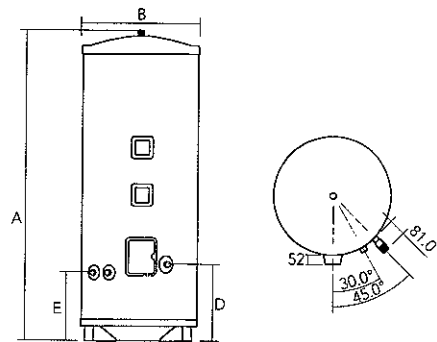
Megalife Solar cylinders are ideal for upgrading traditional vented hot water systems to solar.

- Cistern fed (vented cylinder)
- Direct or indirect auxiliary heating
- SAP compliant*
- Large 1.1m² solar coil to maximise solar gain
- Designed for compatibility with Baxi Solarflow[®] thermal system
- Duplex stainless steel cylinder for long life
- Secondary return loss in cylinder to maximise solar efficiency (indirect units only)
- No anode required
- Built-in feet for easy floor standing
- Quick reheat times
- Low heat loss with 50mm thick insulation
- Auxiliary 3kw back-up immersion heater
- Easy installation with all connections within 45° radius
- Kitemark approved
- 3 year transferable warranty (cylinder & immersion heater)
- 5 year transferable warranty on complete immersion heater and labour parts

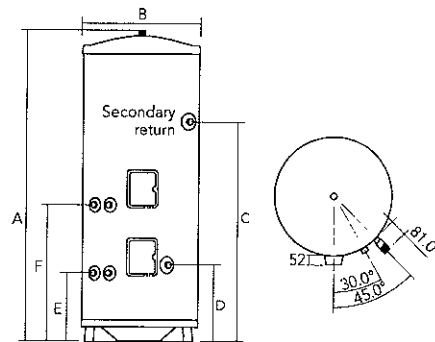
*SAP 10 compliant (cylinder only)
*SAP 12 compliant (cylinder & immersion heater)

For further details on the range of cylinders available from Heatras Sadia please call 01603 420 220 or email specialist@heatrasadia.com

Direct - a solar cylinder that has a solar coil only



Indirect - a solar cylinder that has a heating coil and a solar coil (i.e. twin coil)



Dimensions

Model	Dimensions (mm)					
	A	B	C	D	E	F
MSB-1100	1110	452	1180	110	510	510
MSB-1200	1200	452	1180	110	510	510
MSB-1300	1300	452	1180	110	510	510
MSB-1400	1400	452	1180	110	510	510
MSB-1500	1500	452	1180	110	510	510
MSB-1600	1600	452	1180	110	510	510
MSB-1700	1700	452	1180	110	510	510
MSB-1800	1800	452	1180	110	510	510
MSB-1900	1900	452	1180	110	510	510
MSB-2000	2000	452	1180	110	510	510

Training to the highest standards

Baxi offers a range of solar training courses for installers to help keep you informed of the latest industry developments and provide you with the relevant product knowledge and skills to ensure best practice

To enable national coverage we have three training centres based in Dartford, Warrington and Warwick. Our training centres are fully equipped with lecture facilities, hands-on bays and spacious workshops for effective learning.

Solar Appreciation Course – Duration: 1 day Cost: £50 – Dartford, Warrington and Warwick

What is covered?

In response to the Government's CO₂ reduction targets and their effect on building regulations, this course aims to give installers, heating engineers and maintenance engineers an appreciation of all aspects of the installation and commissioning of Baxi solar thermal water heating systems plus an overview of ground source heat pumps.

- Solar systems
- Why solar?
- Types of solar system
- Types of solar collector
- Baxi solar packages
- Installation of solar systems
- Commissioning
- Operation

Solar Thermal Domestic Hot Water Course (BPEC Certification) – Duration: 2 days

Cost: £325 – Dartford, Warrington and Warwick

What is covered?

The course and assessment will cover the most common domestic solar hot water systems installed in the UK. Successful candidates will receive BPEC Certification.

The following systems are covered:

- Fully filled sealed systems
- Drain back systems
- Flat plate collectors
- Evacuated tube collectors
- Direct flow evacuated tube collectors

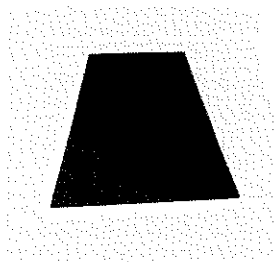
Candidates must hold:

A G3 Unvented Hot Water Systems certificate and a recognised qualification in a conventional fuel (Gas Safe, Oftec, Hetas) or an NVQ 2 or equivalent plumbing qualification.

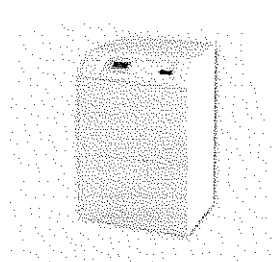
For further details on training courses, please visit www.bdrthermetraining.co.uk or call 0845 600 7402



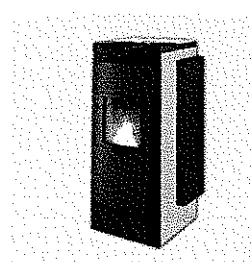
From Solar heating to microgeneration heating technology,



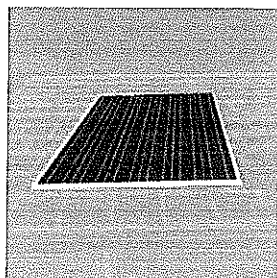
Baxi Solarflo™



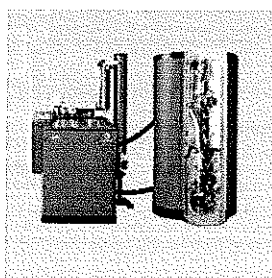
Baxi Geoflo™



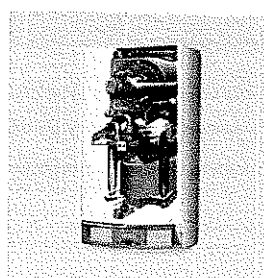
Baxi Bioflo™



Baxi Solargen



Baxi D CHS mini-CHP



Baxi Ecogen™

Baxi is fast becoming one of the UK's leaders in the arena of renewable energy. In addition to Baxi Solarflo™ Baxi has one of the largest ranges of renewable products available including Biomass, Micro-CHP, Ground source heat pumps and Solar PV. Don't forget our extensive range of GA boilers, with their impressive energy efficient ratings, you'll find a model to suit all situations.



Contact us

For all enquiries please call

0844 871 1525

Email: info@baxi.co.uk

Visit: www.baxi.co.uk

Open Monday - Friday 8am - 6pm

Saturdays & Bank Holidays 8.30am - 2pm

we are closed on Christmas Day & New Year's Day

To book a training course please call 0845 600 7407

Open Monday - Thursday 8.30am - 5pm

Friday 8.30am - 4.30pm

or visit www.bdrthermeatraining.co.uk

Please note calls may be monitored or recorded

PART OF BDR THERMEA

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www.baxi.co.uk



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