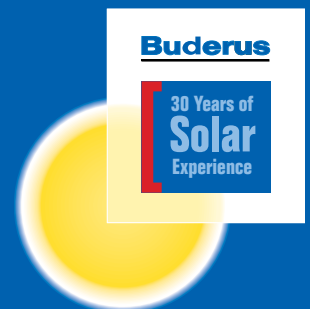




**NEW!**  
Evacuated  
tube  
collectors



**Large-scale solar thermal for  
commercial heating and hot water**



# The complete solar solution

Capturing and utilising solar energy to provide effective sustainable water and space heating for large-scale commercial installations is now a reality with Buderus' versatile solar thermal systems. Our range of flat panel and evacuated tube collectors, accessories and controls will not only preserve valuable fuel and help reduce heating costs, but will also help protect our environment for future generations.



Buderus has been designing and manufacturing solar thermal systems for over 30 years. The first solar panels were produced by Buderus in 1979. It is possible to see these early panels still in operation in Germany.

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## Why choose Buderus?

Buderus is part of Bosch Thermotechnology Ltd. (the heating division of the Robert Bosch Group) and has been at the forefront of the European heating industry ever since the brand was first established in Germany over 275 years ago. With a long standing reputation for engineering high quality heating appliances, the Buderus brand is now present in over 50 countries worldwide.

Our experience in developing a wide range of heating products for international markets and a variety of applications has enabled us to build a comprehensive level of technical expertise and a highly skilled service support network that ensures our world-class products, and your investment, deliver reliable and efficient heating year after year.

### A fully compatible solar system

Buderus already has over 30 years of experience developing and manufacturing their own collectors, accessories and controls for the European market.

This means that our solar products are fully compatible with our extensive range of commercial boilers and control systems. Together these products will deliver a highly efficient and precisely managed energy solution for practically any size of installation from industrial sized projects, office blocks and schools, to sports centres, hotels and hospitals. For those wishing to take advantage of renewable technology immediately it is also possible to integrate Buderus solar into an existing 3rd party heating system.

### In depth solar report

Following a complete site survey from one of our Technical Managers, Buderus is able to generate performance examples for any system using specialised software.

This detailed solar report can measure the energy gained if solar thermal was installed at the property, as well as expected cost savings in relation to annual heat demands.

### Tax relief with the Carbon Trust

All Buderus solar panels are listed on the Carbon Trust's Energy Technology list and are therefore part of the ECA (Enhanced Capital Allowance) scheme. This scheme enables businesses to claim up to 100% of the first year capital allowance on investments in energy saving technology. For more details visit [www.eca.gov.uk](http://www.eca.gov.uk).

"Whatever the size of your heating project Buderus can provide the product, the service support and the technical know-how."



### Typical applications

#### Property heating

- Apartment buildings
- Hotels
- Retirement and nursing homes

#### Public heating

- College buildings and schools
- Indoor and outdoor swimming pools
- Offices

#### Industrial heating

- Supermarkets and shops



Authorised User No. 00571

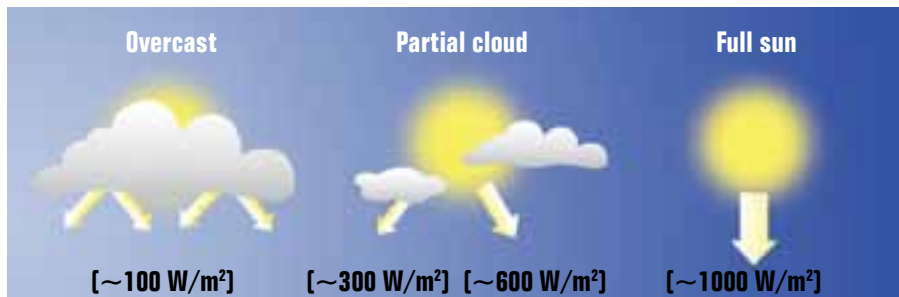
#### Solar keymark number:

SKR6/SKR12	011-7S1502 R
SKS 4.0s	011-7S052 F
SKS 4.0w	011-7S052 F
SKN (Lifestyle)-s	011-7S1587 F
SKN (Lifestyle)-w	011-7S1719 F

# Solar technology explained

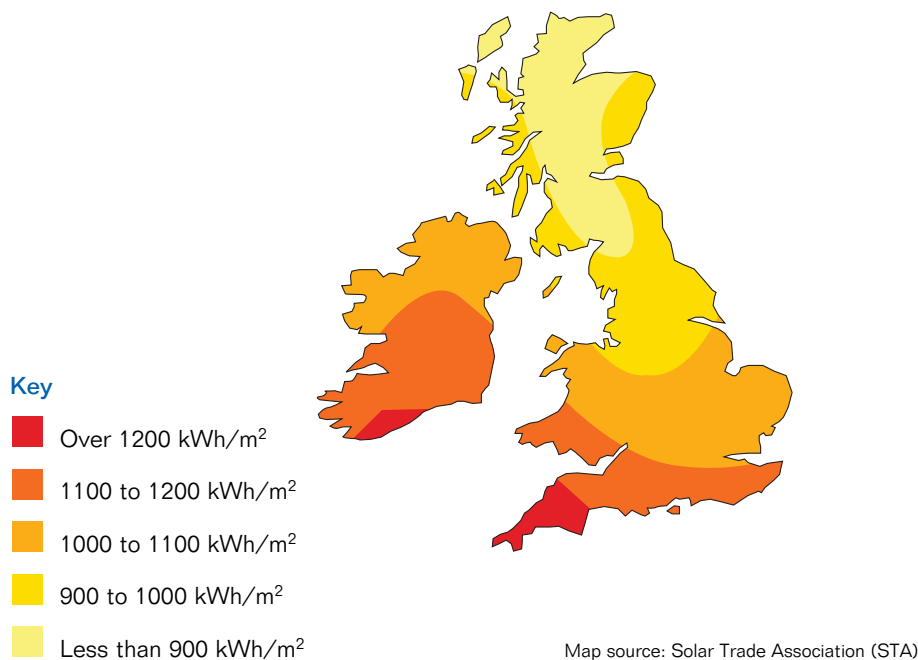
It is a common misconception that prolonged periods of exposure to direct sunlight or continual high temperatures are essential for installing solar. Buderus has developed highly sensitive collector technology that absorbs indirect solar radiation emitted in conditions of diffused sunlight and even cloudy conditions.

## Approximate W/m<sup>2</sup> that are available in different weather conditions

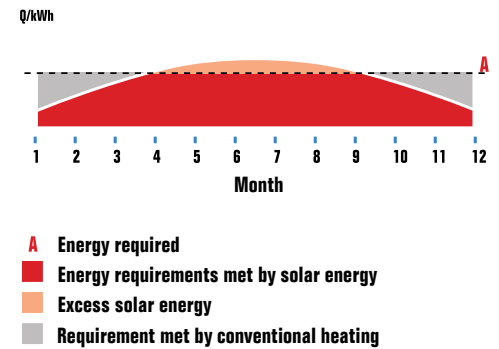


Although the summer months generally provide the highest levels of direct radiation, levels of indirect radiation in the UK, as shown in the map below, mean that Buderus solar technology can make efficient contributions to hot water.

## UK solar irradiation annual total kWh/m<sup>2</sup>



## Energy demand for DHW heating



The diagram above shows the energy provided by a solar collector system in relation to the annual energy demand for DHW heating.

Almost 100% of the energy demanded for DHW heating between the months of April and September can be supplied by a solar heating system. However, a conventional heating system is still required to cover DHW requirements independently of solar, to ensure hot water is always available.

## Why solar? Why now?

Solar is one of the fastest growing 'renewable' technologies, and when you compare the amount of solar energy available during the year, with the remaining fossil fuel reserves that the earth has to offer, it is easy to see why the uptake of solar thermal systems has been so rapid.

Following the initial investment solar is effectively a continuous source of free energy that can be put to use to provide hot water and space heating. With the right controls your boiler would only come into use when there is not enough solar energy available to meet the heat demand. With ever rising energy prices, and government incentives driving the renewables sector, adopting solar provides the opportunity for immediate returns on investment, and demonstrates a strong commitment to environmental responsibility.

Installing solar is also a great way to reduce your carbon footprint. A collector area of just 6m<sup>2</sup> prevents the release of up to 1000kg of CO<sub>2</sub> each year.

## How does solar thermal work?

The solar collector captures and retains the solar energy, creating a micro green house effect. The radiation is concentrated into the absorber, resulting in temperatures above 100°C, far in excess of the surrounding air temperature. By passing a solar fluid through the hot absorber, the free heat energy is soaked up and can be stored ready for use in a solar storage cylinder.

## Flat plate or evacuated tube – making the best choice

There are a number of factors which need to be taken into consideration before deciding which type of collector is best suited to each installation.

## Comparing the systems

Evacuated glass tube is a more effective insulator than the insulating material used to cover a flat plate collector. Therefore, evacuated tube collectors are more efficient, particularly in cold conditions when there is a high thermal gradient between the solar collector and the outside air. This advantage over flat plate collectors is reduced in warmer conditions where the temperature differential between the system and outside air is less.

The higher efficiency of evacuated tube collectors means they are able to extract more heat under lower light conditions so they are more likely to maintain their efficiency where there is considerable variation in the available solar energy.

However, while evacuated tube collectors are technically more efficient, their structure results in a lower absorption area per square metre of panel than with flat plate collectors. This is a key consideration when the space available for panels is limited.

When installed under ideal UK conditions, both systems are likely to deliver a similar performance. However, in the winter months evacuated tube systems will be more efficient due to their insulation against colder outside air temperatures.



## Features and benefits of solar at a glance

- Free renewable energy
- Minimum additional space requirements
- Less reliance on utility companies
- Straightforward modular installation
- Lower carbon footprint
- Less work for your boiler
- Visible demonstration of environmental responsibility.



# Quality workmanship

## Quality, performance and life-long reliability

Buderus solar panels utilise advanced light absorption technology to capture radiation from the sun and convert it into energy that can be used to provide up to 60%\* of your hot water needs, or to backup your space heating and swimming pool.

Collectors are continually exposed to the elements and so are designed to withstand the harshest weather conditions. Specially coated toughened safety glass and a robust, corrosion-resistant fibreglass framework ensures a lightweight collector with high mechanical stability. Three types of collector are available from Buderus, the SKR range of evacuated tube collectors and the SKS 4.0 and SKN (Lifestyle) ranges of flat panel collectors. All provide superior strength, longevity and excellent all-year round efficiency.

## Multiple siting possibilities

Collectors can be combined in a variety of configurations to suit the largest of installations, either fitted on the roof, in-roof (flat plate only), or mounted on specially angled frames where flat roof or wall-mounting options are required. SKS 4.0 and SKN (Lifestyle) collectors are available in either landscape or portrait orientation to maximise available roof space.

The optimum direction for positioning solar panels is south facing, at a pitch of between 20-60 degrees above the existing roof. Consideration needs to be given to the position of overhanging trees, areas of shade, chimney stacks and the general size and shape of the roof. Buderus can assist with this by undertaking site visits to provide advice and recommendations to support the installation requirements of each project.

Buderus can provide the necessary pumps, controls and accessories to allow up to 50 panels\*\* to be installed in a single field. It is possible to connect multiple fields using additional pump groups. The overall size of the system will depend on whether the system is only providing hot water, hot water and space heating support or supplying heat to a swimming pool.



On-roof installation



Fascia installation



Flat roof installation

\*Subject to system design \*\*Flat plates only

# Buderus evacuated tube collectors: an intelligent idea with so many benefits

## SKR6 and SKR12 collectors

Evacuated tube solar water heating systems work on a similar principle to the vacuum flask by using the excellent thermal insulation properties of a vacuum to help generate heat. Buderus evacuated tube solar collectors combine an innovative design with high quality materials to provide environmentally-friendly and reliable low-cost hot water. They produce no CO<sub>2</sub> emissions once fitted, helping to reduce the carbon footprint of a property.

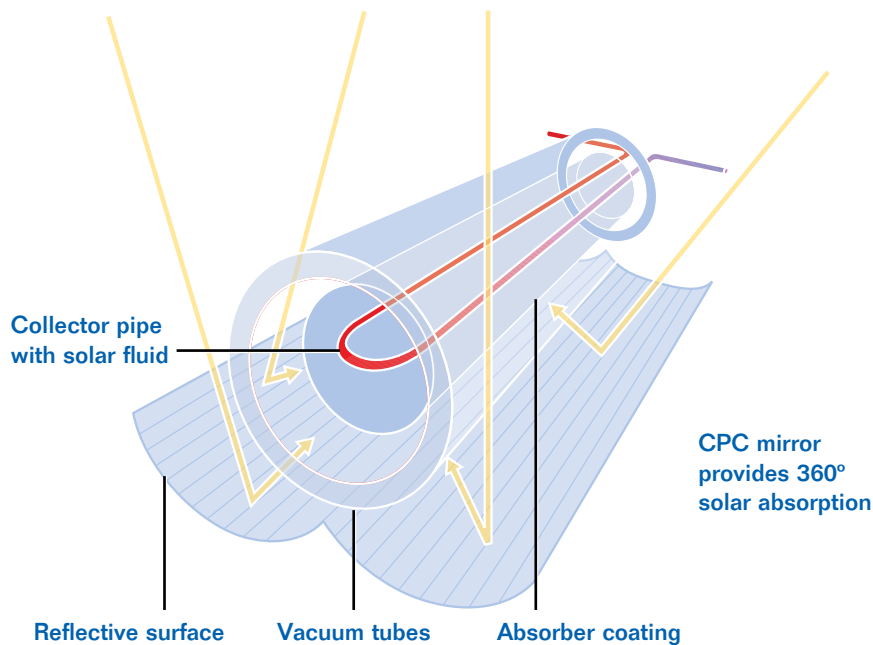


## The benefits of Buderus evacuated tube collectors at a glance

- Excellent efficiency
- Self-contained, attractive design
- 360° absorption due to CPC mirror
- Robust double glass vacuum tubes
- Simple to install roof fixing kit
- Easy connection to one side only, saving time and pipework
- Optimum packages available to suit all installation requirements.

In optimum conditions they can produce up to 60%\* of a property's hot water, but they are even effective on days with little sun. The outstanding thermal insulation provided by the tubes also guarantees high performance even when the weather is cooler. Depending on the water heating requirement, the fully pre-assembled 6 and 12 tube panels can be flexibly combined to satisfy roof areas of all sizes. The attractive panel design is suitable for all architectural styles, whether the installation calls for a pitched roof, flat roof or façade application.

\*Subject to system design



### Brilliant technology

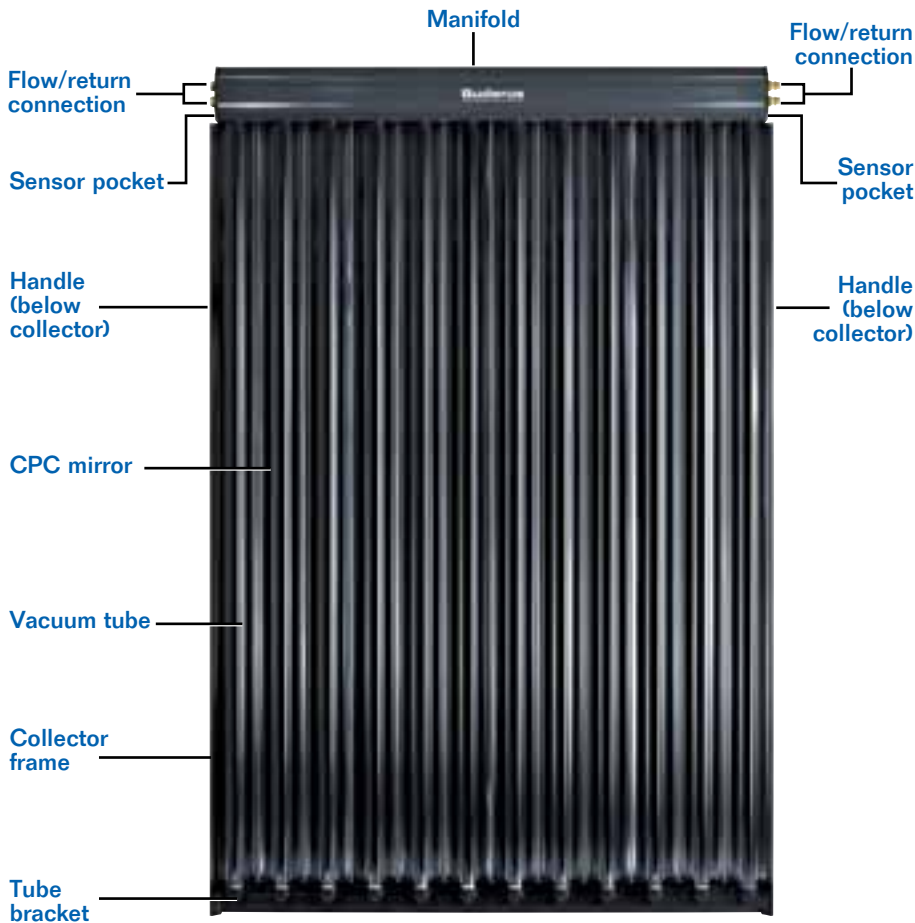
Buderus evacuated tube collectors work on the vacuum flask principle: two glass tubes are interleaved, sealed at the ends and the air removed to create a vacuum. Specially shaped CPC mirrors behind the tubes capture the solar radiation and reflect it onto the absorber medium on the outer surface of the inner tube. The vacuum's thermal insulation properties ensure that the collectors retain their performance on the coldest of winter days when there is little solar radiation. A U-shaped, glycol-filled stainless steel flow and return pipe runs through each inner tube and is connected to the manifold pipe at the top of the panel. As the glycol heats up it is pumped to the dedicated solar coil in the twin coil hot water cylinder or thermal store where it heats the water. As the glycol cools it is pumped back to the collector panels where the process begins again.

### Easy to install

The special design features offered by Buderus evacuated tube collectors make them quick and easy to install. Collectors are supplied complete with 6 or 12 vacuum tubes which have been pre-assembled. For added convenience the collector panel can be attached to the flow and return connection pipes on one side only, providing an installation which is quicker, neater and requiring less pipe work where installations of large arrays are necessary. Buderus provides a large range of accessories, allowing the installation of evacuated tube collectors on both pitched and flat roofs, as well as against façades.



# Innovative design for higher efficiency



The manifold connection can be on either the left or right hand side of the panel to make the installation quicker and more aesthetically pleasing.

Evacuated tube collectors				SKR6	SKR12
Type of installation				portrait	portrait
Collector area		m <sup>2</sup>		1.44	2.86
Aperture area		m <sup>2</sup>		1.28	2.57
Absorber contents		l		1.19	2.36
Dimensions		(h/w/d)	mm	2008/700/90	2080/1390/90
Weight			kg	24	44
Efficiency		$\eta_0$	%	64.4	
Effective heat transfer coefficient	a1	W/(m <sup>2</sup> · K)		0.749	
	a2	W/(m <sup>2</sup> · K <sup>2</sup> )		0.005	
Stagnation temperature			°C	301	
Maximum operating pressure [test pressure]			bar	10	
Solar keymark granted				011-7S1502 R	
Thermal performance	1,000 W/m <sup>2</sup>	$\Delta T = 0K$		824	1,655
	1,000 W/m <sup>2</sup>	$\Delta T = 30K$		790	1,586
	1,000 W/m <sup>2</sup>	$\Delta T = 50K$		760	1,527

# Robust design, reliable performance

## SKS 4.0 collectors

SKS 4.0 collectors use high specification Buderus solar technology to maximise the amount of heat captured from the sun, and ensure optimum energy yields. A dual meander copper absorber optimises an even heat transfer across the collector, and an inert gas layer prevents contamination from entering the collector. Highly translucent solar safety glass and a tough fibreglass framework, makes the SKS collector chemical, weather, UV and corrosion resistant.



## Features and benefits of SKS 4.0 collectors at a glance

- High performance flat-plate collector
- Hermetically sealed with inert gas layer between glass and absorber
- Rapid response from first ray of sunlight
- Absorber coating permanently protected against dust, moisture and airborne pollutants
- Vacuum applied highly selective coating
- No misting on the inside surface of the glass
- Ultrasonically welded dual meander technology
- Easy stainless steel collector connection without the need for tools
- Panels can be installed either on a flat roof, within the roof or positioned on top of the roof tiles
- Available in portrait or landscape orientations.

High performance flat-plate collector				SKS4.0-s	SKS4.0-w
Type of installation				portrait	landscape
Collector area		m <sup>2</sup>		2.37	
Aperture area		m <sup>2</sup>		2.1	
Absorber contents		l		1.43	1.76
Selectivity	Level of absorption		%	95 ± 2	
	Level of emissions		%	5 ± 2	
Dimensions		[h/w/d]	mm	2070/1145/90	1145/2070/90
Weight			kg	46	47
Efficiency		η <sub>0</sub>	%	85.1	
Effective heat transfer coefficient	a1		W/(m <sup>2</sup> · K)	4.0360	
	a2		W/(m <sup>2</sup> · K <sup>2</sup> )	0.0108	
Stagnation temperature			°C	204	
Maximum operating pressure (test pressure)			bar	10	
Maximum operating temperature			°C	120	
Solar keymark granted				011-7S052 F	
Thermal performance	1,000 W/m <sup>2</sup>		ΔT=0K	1,779	1,779
	1,000 W/m <sup>2</sup>		ΔT=30K	1,550	1,550
	1,000 W/m <sup>2</sup>		ΔT=50K	1,300	1,300



SKS 4.0 collectors in-roof installation

## SKN (Lifestyle) collectors

SKN (Lifestyle) collectors offer both quality and value for investors wishing to upgrade their heating system with renewable technology. The robust fibreglass collector offers outstanding durability and a superb price/performance ratio. Excellent compatibility with existing heating equipment and straightforward rooftop installation saves time and money, and ensures a hassle-free energy saving solution.

### Features and benefits of SKN (Lifestyle) collectors at a glance

- Favourable price performance ratio
- Energy saving manufacturing with recyclable materials
- Harp absorber technology
- Flexible hose connection without the need for tools
- State of the art mounting and connection feature
- 50mm thick mineral wool insulation
- Light weight of 40kg
- Powerful one-piece stamped absorber with wrinkle-free surface
- Panels can be installed either on a flat roof, within the roof or positioned on top of the roof tiles
- Available in portrait or landscape orientations.



Flat-plate collector			SKN (Lifestyle)-s	SKN (Lifestyle)-w
Type of installation			portrait	landscape
Collector area	m <sup>2</sup>		2.37	
Aperture area	m <sup>2</sup>		2.25	
Absorber contents	l		0.86	1.25
Selectivity	Level of absorption	%	95 ± 2	
	Level of emissions	%	5 ± 2	
Dimensions	[h/w/d]	mm	2070/1145/90	1145/2070/90
Weight	kg		41	42
Efficiency	η <sub>0</sub>	%	77	
Effective heat transfer coefficient	a1	W/(m <sup>2</sup> · K)	3,6810	
	a2	W/(m <sup>2</sup> · K <sup>2</sup> )	0,0173	
Stagnation temperature	°C		188	
Maximum operating pressure (test pressure)	bar		6	
Maximum operating temperature	°C		120	
Solar keymark granted			011-7S1587 F	011-7S1719 F
Thermal performance	1,000 W/m <sup>2</sup>	ΔT=0K	1,725	1,735
	1,000 W/m <sup>2</sup>	ΔT=30K	1,478	1,450
	1,000 W/m <sup>2</sup>	ΔT=50K	1,279	1,233



### SKN (Lifestyle) collectors flat roof installation kit

# Invest in future-proof innovation

If you're considering making an investment in solar technology you need the assurance and confidence that comes from dealing with an experienced supplier. For over 30 years the research, development and quality teams at Buderus have worked together to create solar products that deliver high quality and dependable performance over a long period of time. This means sourcing the best components, utilising the latest technology and adopting strict quality procedures.

## Component guide

1. Fibreglass framework
2. Toughened solar safety glass
3. Inert noble gas (SKS only)
4. Hermetically sealed (SKS only)
5. Comprehensive insulation
6. Dual meander technology (SKS only)
7. Rapid connection system
8. Absorber.



SKS 4.0 vertical collector



SKN (Lifestyle) vertical collector

### 1. Fibreglass framework

A robust, lightweight fibreglass framework is found on all Buderus solar collectors. Fibreglass makes the collector easier to handle during installation being up to 30% lighter than aluminium and can easily accommodate any dimensional changes caused by heat expansion and contraction.

### 8. Absorber

A special vacuum applied PVD coating converts up to 97% of the absorbed radiation into heat and also helps to minimise heat loss. This high level of absorbency allows the maximum amount of solar energy to be captured and increases overall efficiency.

### 7. Rapid connection system

Buderus has developed a quick-fit socket connection system to ensure collectors can be quickly and easily linked together without the need for tools. A bellowed joint accommodates the slightest expansion.

## 2. Toughened solar safety glass

Toughened 3.2mm self-cleaning safety glass minimises accidental installation damage. A highly controlled manufacturing process ensures a flawless finish and provides translucence of up to 91% (15% more than normal window glass) allowing a huge amount of light to be captured.

### SKS COLLECTOR SHOWN

## 3. Inert noble gas

The space between the glass and absorber is filled with argon, an inert noble gas. A similar concept is used in both double and triple glazing panes and this limits thermal losses from the absorber. The non-reactive gas also acts as a barrier, preventing corrosion of the absorber (only available with SKS 4.0 collectors).

## 4. Hermetically sealed

The SKS collectors have airtight sealed edges. This creates space filled with argon to prevent water vapour from entering the collector. Consequently energy is not wasted by burning off condensation first thing in the morning. In addition, contaminated air (e.g. urban pollution) cannot settle on either the absorber or the underside of the glass, which means efficiency is maintained throughout the lifetime of the collector (only available with SKS 4.0 collectors).

## 6. Dual meander technology

Two continuous meandering copper pipes circulate the solar fluid through the collector, optimising heat transfer even when flow rates are low. When multiple collectors are connected in series, a dual meander helps to provide an even temperature distribution across the field, eliminating the risk of hot spots. With lower parallel connection pressure the power requirements for additional solar pumps are reduced (only available with SKS 4.0 collectors).

## 5. Comprehensive insulation

To further reduce heat loss from the absorber, collectors are lined with 55mm thick mineral wool and backed with 0.6mm zinc aluminium coated steel.



# Comprehensive energy management

With the Buderus range of solar controls, pump groups and accessories your heating system can operate at maximum efficiency all year round. Servicing, maintenance, system diagnostics, heat distribution and temperature settings can be quickly and easily managed from a single controls platform that communicates with all components in your Buderus heating system.



All Buderus solar controls (SC20, SC40, SM10 and the FM443 solar module) have the following functionality to maximise efficiency and performance as standard;

## Pump modulation

A fully modulating pump will automatically adjust its speed to maintain a constant temperature differential between the collector and the solar storage cylinder. For example, the pump speed would be reduced on a cloudy day to enable the circulating solar fluid to absorb the required amount of energy.

## Double match-flow

A sensor located in the DHW cylinder or Buderus PR thermal storage unit (see pg. 17), detects the rate of hot water and energy used, giving our controls the option to modulate the rate at which heat is stored from the solar collectors. This function is particularly useful if there are periods of very high demand for DHW. In this situation the control would switch to high flow mode in order to maximise solar gain and to keep the temperature of the cylinder above the level at which the boiler would normally come into operation. This improves solar efficiency and reduces boiler start-ups.



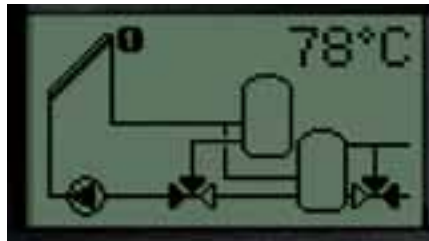


Our SC controllers are a user friendly range of independent solar controls that provide comprehensive solar functionality – the perfect solution to complement any third party conventional or standalone boiler control system.



#### SC20 Controller

The SC20 provides control for systems with one solar storage cylinder. Collector and cylinder temperatures, pump speed and run hours can all be displayed in real-time, using the simple “push & turn” menu and animated LCD screen. The unit can be wall mounted or integrated into the KS station.



Screenshot from SC40  
Solar DHW and Backup space heating

#### SC40 Controller

The SC40 range can control up to 27 individual hydraulic systems, central heating and even swimming pools. Different areas of the system can be visualised and monitored on the animated graphic display, allowing simple calculation of daily heat outputs. The SC40 is also capable of controlling two collector fields with separate pumps mounted in different directions e.g. east/west splits.



#### KS Solar Pump Station

The Buderus KS range of solar pump stations provide circulation of the heated solar fluid from the collector panels to the water storage cylinder, and thus optimise the flow rate of each panel. With 4 different pump group sizes available we can cater for all solar system sizes. For example, single installations of up to 50 collectors per field, with up to 10 collectors per row can be achieved when using a KS0150.

The KS solar pump station supports hot water requirements and is integrated with SC solar controls.

## Heating system integration

Combining a Buderus heating system with Buderus solar panels can provide significant efficiency and performance benefits and is the best way to ensure that your panels and boiler work in harmony, rather than separately.



Buderus 4000 series boiler controls can be fitted with the intelligent FM443 solar module (as shown above) to allow optimum solar and heating functionality. With this fully integrated energy management system, the Buderus boiler recognises the solar output and delays the boiler firing for as long as possible by continuously monitoring changes in heat demand. This not only minimises the wear and tear on the heating system, by reducing burner start ups by up to 24%, but can also provide an additional 10% of energy savings.

Consistency between the operating systems will allow the solar and boiler circuits to continually communicate, working together or independently, in order to maximise energy savings and reduce wear and tear. Investing in products from the same source will also simplify the specification process and increase system design options.



## Thermal storage and filling pump

Buderus has three stratified, highly efficient thermal stores in its PR range: 500 litres, 750 litres and 1000 litres. These can be used individually or joined together for very large systems. All are available with 80mm thermal insulation as standard to keep the heat where it should be. 120mm thick insulation is also available resulting in extremely low standby losses.



### PR500 - PR1000

The vertical feed tube within the thermal storage unit contains many outlets. Heated water entering the unit rises up the special tube until it is surrounded by water of an equal buoyancy and then flows through the nearest outlet into the body of stored water. 80mm or 120mm insulation prevents heat transfer from the stored water to external surroundings, so the stored water remains hot. Naturally stratifying the thermal storage saves energy and optimises running costs. The PR buffer storage needs to be installed with an external heat exchanger to separate the anti-freeze from the water circuit and is for primary water only.



### Solar filling pump

This portable unit is simply attached to the solar pumping station. Not only does it fill the solar circuit with the solar fluid, it can also be used to cleanse the pipework and thoroughly flush out any debris prior to commissioning. For smaller installations, the air separator in the pump station prevents the need for any automatic air vents in the collector field.

"Specifying Buderus is easy. Products are energy efficient and have that solid, high quality feel that immediately gives you confidence."



## Commercial solar training

The emergence of new technologies will inevitably create new challenges for engineers and specifiers of commercial heating systems. Buderus's state of the art commercial heating centres are fully equipped with working models of the very latest high output heating appliances, solar systems and controls to ensure the necessary skills and experience can be developed and applied.

### Realistic training facilities

The new 400m<sup>2</sup> training facilities at our Worcester headquarters includes life-size single-storey brick buildings which enable engineers to undertake realistic solar training.



### Develop your solar skills with us

Our 3rd party accredited commercial solar training courses cover all aspects of solar heating including installation, system design, controls, maintenance and commissioning for our SKN/SKS flat panel and SKR6/SKR12 evacuated tube collectors. Buderus training centres also include an indoor pitched roof and working solar systems to enable participants to get to grips with the practical and theoretical issues related to large-scale commercial solar work.

Buderus commercial solar courses are available in Worcester, Thurrock and Bradford. To book your place call our dedicated training hotline on **(01905) 752526** or visit the training section on **[www.buderus.co.uk](http://www.buderus.co.uk)**

### Solar Thermal Hot Water Systems

#### Duration

2 days

- Theory and practical assessments included
- Generic types of solar systems
- Components on a solar system
- Installation, commissioning and servicing

### Solar Product Course

#### Duration

1 day

- The Buderus Solar Package (Collectors, accessories and controls)
- Installation of panels
- System design
- Buderus solar components
- Commissioning
- Servicing
- Basic fault finding



# Solar parts and accessories

## Evacuated tubes

	SKR6	SKR12
COLLECTORS AND CONNECTION HOSES		
SKR6.1R CPC	8 718 530 548	—
SKR12.1R CPC	—	8 718 530 549
Connection Set On-roof SKR6/12.1R	8 718 530 574	
Connection Set Flat-roof SKR6/12.1R	8 718 530 575	
Connection Cover	8 718 530 871	
MOUNTING SYSTEMS		
On-roof Set 2 VT6	8 718 530 848	—
On-roof Set 3 VT6	8 718 530 850	—
On-roof Set VT6/12	8 718 530 851	
Roof Connection Tile, 4 pcs VT	8 718 530 856	
Roof Connection Corrugated Roof, 4 pcs VT	8 718 530 857	
Roof Connection Shingles, 4 pcs VT	8 718 530 858	
Roof Connection Tile, 6 pcs VT	8 718 530 907	
Roof Connection Corrugated Roof, 6 pcs VT	8 718 530 908	
Roof Connection Shingles, 6 pcs VT	8 718 530 909	
Roof Connection Flat Roof 45° VT	8 718 530 852	
Roof Connection Flat Roof 30°/Façade 60° VT	8 718 530 853	
SUPPORTING ACCESSORIES		
Solar Fluid LS 10L	8 718 660 946	
Solar Fluid LS 20L	8 718 660 947	
Shut-off Valve VT	8 718 530 911	

# Solar parts and accessories

## Flat plates

	SKS 4.0 Portrait	SKS 4.0 Landscape	SKN (Lifestyle) Portrait	SKN (Lifestyle) Landscape
<b>COLLECTORS AND CONNECTION HOSES</b>				
Collector	8 299 936 0	8 299 936 4	8 713 530 950	8 718 530 951
Flat roof connection set	7 747 019 682		8 718 531 448	
In-roof hose connection set	7 747 019 683		8 718 531 450	
On-roof hose connection set	7 747 019 683		8 718 531 449	
Series hose connection for multiple rows	7 747 019 684		7 747 019 681	
22mm connection adaptors	7 747 020 104		–	
Air vent kit	8 307 721 0		8 307 720 0	
<b>MOUNTING SYSTEMS</b>				
On-roof rail 1st panel	7 739 300 440	7 739 300 442	8 718 531 017	8 718 531 019
On-roof rail additional panel	7 739 300 441	7 739 300 443	8 718 531 018	8 718 531 022
Auxiliary rail 1st panel	7 739 300 444	7 739 300 446	8 718 531 026	–
Auxiliary rail extension set	7 739 300 445	7 739 300 447	8 718 531 027	–
Plain tile roof hook set	7 739 300 436		8 718 531 023	
Slate/crown roof hook set	7 739 300 281		8 718 531 024	
Fixed auxiliary roof brackets, crown tile	7 739 300 282		–	–
Roof studs, corrugated/tin roof	7 739 300 439		8 718 531 025	
Flat roof support 1st panel	7 739 300 454	7 739 300 456	8 718 531 031	8 718 531 033
Flat roof support additional panel	7 739 300 455	7 739 300 457	8 718 531 032	8 718 531 034
Loading tray set	7 739 300 458	–	8 718 531 035	
Flat roof auxiliary rail 1 panel	7 739 300 459	7 739 300 460	8 718 531 036	8 718 531 037
1 panel in-roof flashing	7 739 300 461	7 739 300 486	8 718 530 980	8 718 530 986
2 panel in-roof flashing	7 739 300 463	7 739 300 488	8 718 530 981	8 718 530 987
1 panel in-roof flashing 2nd row	7 739 300 462	7 739 300 487	–	–
1 panel extension in-roof flashing	7 739 300 464	7 739 300 489	8 718 530 982	8 718 530 988
2 panel in-roof flashing 2nd row	7 739 300 465	7 739 300 490	–	–
1 panel extension in-roof flashing 2nd row	7 739 300 466	7 739 300 491	–	–
Snow load profile plain tile	–	–	8 718 531 028	–
Snow load profile slate/shingle	–	–	8 718 531 029	–
Snow load profile corrugated/tin	–	–	8 718 531 030	–
<b>SUPPORTING ACCESSORIES</b>				
Solar fluid 10L	8 718 660 880		8 718 660 880	
Solar fluid 20L	8 718 660 881		8 718 660 881	



## Evacuated tubes and flat plates

	SKR6, SKR12, SKS 4.0 and SKN (Lifestyle)
<b>SUPPORTING ACCESSORIES</b>	
SC20 Stand alone controller	7 747 019 692
SC40 Stand alone controller	7 747 019 694
SM10 module	3000 8448
FM443 module	7 747 300 910
KS0105 standard pump station	7 747 019 688
KS0110 standard pump station	7 747 019 689
KS0120 standard pump station	7 747 019 690
KS0150 standard pump station	7 747 019 691
KS0105 standard pump station & SC20	7 747 019 687
KS0105E pump station for second field	7 747 019 685
KS0110E pump station for second field	7 747 019 686
Electric filling pump	8 718 530 473
Basic frost protection tester	8 301 340 0
Expansion vessel 18L, 6bar white	7 747 202 342
Expansion vessel 25L, 6bar white	7 747 202 343
Expansion vessel 35L, 6bar white	7 747 202 344
Expansion vessel 35L, 6bar blue	7 747 202 341
Expansion vessel 50L, 6bar blue	8 043 206 6
Expansion vessel 80L, 6bar blue	8 043 206 8
Expansion vessel 100L, 6bar blue	8 065 708 0
Expansion vessel 140L, 6bar blue	8 065 708 2
Expansion vessel 200L, 6bar blue	8 065 708 4
Expansion vessel 250L, 6bar blue	8 065 708 6
Expansion vessel 300L, 6bar blue	8 065 708 8
Expansion vessel 400L, 6bar blue	8 065 709 0
Expansion vessel 500L, 6bar blue	8 065 709 2
Expansion vessel connection set (AAS)	6 300 389 1
5L pre-cooling vessel	7 747 010 472
12L pre-cooling vessel	7 747 010 473
Blue cover for KS01XX	7 747 009 492
Service kit	8 300 199 0

## Thermal storage cylinders (direct)

SUPPORTING ACCESSORIES	80mm insulation	120mm insulation
PR500	7 747 304 156	7 747 304 159
PR750	7 747 304 157	7 747 304 160
PR1000	7 747 304 158	7 747 304 161
Thermal store bypass kit (HZG)	7 747 019 713	

## Range overview

With an extensive product range of energy efficient cast iron boilers, stainless steel boilers, the latest aluminium condensing boilers and an extensive renewable range, Buderus can provide the complete heating and hot water solution.

For more information please call **0844 892 3004** or visit **[www.buderus.co.uk](http://www.buderus.co.uk)**

Range Overview			Introduction
CONDENSING TECHNOLOGY			
	CONDENSING PRE-MIX ALUMINIUM	90 - 280kW	<b>GB312</b> A compact floor standing, condensing gas boiler the Buderus GB312 is suitable for room sealed or open flue systems and is fitted with a cast aluminium heat exchanger.
		180 - 560kW	<b>GB312 Cascades</b> Available as a two boiler cascade where higher outputs are required.
		320 - 620kW	<b>GB402</b> A floor standing, condensing gas boiler the Buderus GB402 is fitted with a cast aluminium heat exchanger and thermally insulated boiler body.
		640 - 1,240kW	<b>GB402 Cascades</b> Can be used as a multiple boiler cascade where higher outputs are required.
	CONDENSING STAINLESS STEEL	50 - 115kW 145 - 640kW 800 - 1,200kW	<b>SB315</b> <b>SB615</b> <b>SB745</b> High-performance gas condensing boilers with precision engineered condensing heat exchangers made of high-quality stainless steel and with compact dimensions for easy installation.
	CONDENSING STEEL WITH INTEGRAL CONDENSING HEAT EXCHANGER	1,000 - 19,200kW  500 - 17,500kW	<b>SB825L</b> A versatile gas condensing boiler for larger industrial applications with internal condensing heat exchanger.
			<b>SB825L LN</b> Special "Low NOx" variant of the SB825 L specified with larger combustion chamber for reduced emissions.
	HIGH EFFICIENCY STEEL	1,000 - 19,200kW  500 - 17,500kW	<b>S825L</b> Powerful steel boilers for industrial and high demand usage.
			<b>S825L LN</b> Special "Low NOx" variant of the S825 L specified with larger combustion chamber for reduced emissions.

## Range Overview

### 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



45 - 100kW

GB162

The GB162 is a stylish and remarkably compact condensing gas boiler. Up to 110% efficiency, quiet and easy to install and maintain.

90 - 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<sup>2</sup>.

### 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.

### COMBINED HEAT AND POWER

34 - 374kW



EN20  
EN50  
EN70  
EN140  
EN240

Combined heat and power (CHP) offers a more efficient way of generating heat and electrical power compared to conventional methods.

### BIOMASS



#### Biomass Heating

Buderus has formed an alliance with leading biomass specialist Econergy to deliver low carbon heating solutions to the commercial sector.

To contact us, request a quotation or book a site visit with one of our technical consultants call 0844 892 3004 or email: [commercial.enquiry@uk.bosch.com](mailto:commercial.enquiry@uk.bosch.com)



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In the UK, Buderus is a brand name of Bosch Thermotechnology Ltd.

Buderus' policy is one of continuous research and development and this may necessitate alterations to this specification from time to time. Therefore before preparing for the installation of the appliance it is important that the instructions issued with the unit are carefully read and adhered to. The statutory rights of the customer are not affected. Photographs shown are used for illustrative purpose only. All information is correct at time of going to press. Buderus reserves the right to alter any information where necessary. E&OE.

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