

# Megaflo Solar

Solar thermal hot water







# Solar cylinders

Solar energy is an increasingly attractive option for people who are concerned about the environmental impact of the heated water in their home. It's free, carbon-neutral and is available throughout the year.

The Megaflo Solar unvented water heater is an efficient alternative to conventional water heating systems. Developed to our exacting performance and reliability standards, the technology we've developed for the Megaflo Solar has reached the stage where up to 60% of your home's annual hot water requirement can now be provided by solar energy.\* With the price of fossil fuels certain to increase over time, the potential for significant long-term savings is clear to see.

The Megaflo Solar uses a special solar coil in the base of the cylinder that's designed to ensure maximum heat input and efficiency. The cylinder itself benefits from sophisticated Duplex stainless steel cylinder construction for maximum strength and corrosion resistance. We specify high-performance polyurethane foam between the inner vessel and outer casing for the best possible heat insulation. And to prove our attention to even the smallest detail, we provide an insulated case for the exposed temperature and pressure relief valve to further improve the heat insulation.

We've also designed the Megaflo Solar to work without sacrificial anodes. This key innovation does away with the inconvenience and cost of regular visits from heating engineers for their replacement.

Such is our confidence in this new solar water heating technology, every new Megaflo Solar comes with a 25 year transferable parts and labour cylinder guarantee, with on-site service support.



\*This is an average figure for the year, with savings varying depending on the type of solar system used, its location and your patterns of usage.



# Solar cylinders

## Flexible options

Megaflo Solar is a mains-fed Duplex stainless steel solar thermal unvented cylinder designed to deliver higher flow rates to all outlets when compared to cistern-fed systems giving faster filling baths and more powerful showers.

Megalife Solar is a cistern-fed Duplex stainless steel solar thermal vented cylinder designed as a simple upgrade for systems which currently have a traditional copper cylinder.

Both Megaflo Solar and Megalife Solar have been designed to provide a balance between the dedicated solar heated capacity and the immersion heater or boiler heated capacity. This ensures that the benefit is gained from solar energy and that there will be sufficient hot water on days where there is little solar gain, such as during winter months. This enables consumers’ everyday hot water needs to be met efficiently and gives specifiers the correct choice of products when specifying for Building Regulations\* via SAP.\*\*

\*Part L (England & Wales), Section 6 (Scotland) and Part F (Northern Ireland).  
\*\*Standard Assessment Procedure for Energy Rating of Dwellings.

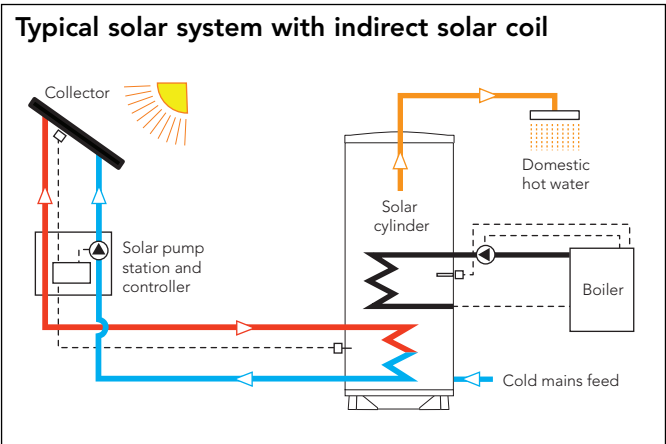
## Features

- 1 Duplex stainless steel cylinder for long life.  
190, 210, 250 and 300 litre capacities (indirect).  
170, 210, 260 and 300 litre capacities (direct).
- 2 Choice of direct or indirect auxiliary heat input.
- 3 Specially designed solar coil for maximum solar efficiency.
- 4 Safety and hot water controls.
  - Remote expansion vessel.<sup>‡</sup>
  - High flow rates for improved hot water delivery.<sup>‡</sup>
  - Compatible with a wide range of UK solar systems.
  - Lower running costs and reduced energy bills.
  - Environmentally friendly – reduced carbon emissions.
  - Equally suited for new build or refurbishment projects.
  - Fully indemnified design service.
  - 25 year on-site parts and labour cylinder guarantee.



## How do Megaflo Solar and Megalife Solar work?

The solar cylinder is used in conjunction with solar panels (not supplied) which convert energy collected from the sun’s rays to heat a water / glycol liquid in its pipe work. This liquid is circulated through a specially designed solar coil in the base of the cylinder where the liquid transfers its heat to the water stored before being pumped back to the solar panel to be re-heated. The design of this coil allows maximum solar gain to be achieved ensuring that the solar system is being used to its full potential.



## How much of your water heating energy needs can be provided by solar?

During the summer months as much as 100% of the energy used by Megaflo Solar or Megalife Solar could be solar.\* In winter, despite the lower intensity of the sun’s rays and fewer daylight hours as much as 30% could be solar.\* On average throughout the year up to 60% of a dwelling’s hot water requirement can be provided by solar power.\* The balance is provided by traditional means; either indirect (via a gas, oil or electric boiler heating a second coil within the cylinder) or direct (via electric immersion heaters in the cylinder).

\*Savings vary depending on type of solar system used, location and usage patterns.

## Which unit to use

The choice of capacity for traditional cylinders is based on the hot water requirements of the dwelling. With solar cylinders the usable hot water will vary due to a number of factors such as siting of solar panels, time of year and weather conditions. For this reason, when choosing a solar cylinder you should ensure that sufficient usable hot water will be available during winter months where solar gain is at its lowest.

For example a non-solar dwelling of three inhabitants with a bath and a shower would normally require a 145 litre indirect cylinder.

A portion of the cylinder capacity must be dedicated to solar only, therefore the same dwelling with a solar system would require a 250 litre indirect solar cylinder which would provide 145 litres of hot water during periods where there is little or no solar gain. For guidance please refer to the table below. Some applications may require larger water quantities or higher recovery rates, therefore it is important to calculate the hot water requirement before selecting the cylinder capacity.

## Which unit to use

### Indirect cylinder

No. of beds	No. of baths / showers	Max. occupancy	On-roof panels	In-roof panels	Tube	Cylinder volume (litre)	Dedicated solar (litre)	On-roof (l/m <sup>2</sup> )	In-roof (l/m <sup>2</sup> )	Tube (l/m <sup>2</sup> )	Max. property size (m <sup>2</sup> )	Auxiliary volume (litres)
1	1	2	1	1	20	190	70	38	31	35	60	120
2	1	2	1	1	20	210	90	49	39	45	95	120
3	1	3	2	1	20	250	105	29	46	53	123	145
3	2	4	2	2	20	250	105	29	23	53	123	145
4	1	4 or 5	2	2	30	300	125	34	27	42	164	175
4	2	4 or 5	3	2	30	300	125	23	27	42	164	175
4 or 5	2	5	3	2	30	300	125	23	27	42	164	175

### Direct cylinder

No. of beds	No. of baths / showers	Max. occupancy	On-roof panels	In-roof panels	Tube	Cylinder volume (litre)	Dedicated solar (litre)	On-roof (l/m <sup>2</sup> )	In-roof (l/m <sup>2</sup> )	Tube (l/m <sup>2</sup> )	Max. property size (m <sup>2</sup> )	Auxiliary volume (litres)
1	1	1	1	1	10	170	70	38	31	70	60	100
1	2	2	1	1	20	210	70	38	31	35	60	140
2	2	3	2	1	20	210	70	19	31	35	60	140
2	2	4	2	2	20	260	90	24	20	45	60	170
3	2	4	2	2	20	260	90	24	20	45	95	170
3	3	4	3	2	30	300	100	18	22	33	95	200
4	3	5	3	2	30	300	100	18	22	33	113	200

On roof absorber area – 1.84; in roof absorber area – 2.28; tube absorber area – 1.00.  
All cylinders are SAP compliant provided the maximum property size is not exceeded.

<sup>‡</sup> Megaflo Solar unvented only.

Full specifications

Specification

**Capacities**  
190, 210, 250 and 300 litre – indirect.  
170, 210, 260 and 300 litre – direct.

**Immersion heater ratings**  
1x 3kW @ 240V – indirect models and 170 litre direct.  
2x 3kW @ 240V – direct models above 170 litre.

**Outer casing**  
White plastic coated corrosion proofed steel.

**Thermal insulation**  
CFC/HCFC-free (ODP zero) flame-retardant expanded polyurethane (50mm thick).  
GWP 3.1 (Global Warming Potential).

**Water container**  
Duplex stainless steel.

**Pressure testing**  
To 15 bar.

**Heat unit**  
Long-life Superloy 825 alloy sheathed element(s), incorporated into an easily removable heater plate, should replacement be necessary. Rated 3kW @ 240V.

**Primary coil**  
(For auxiliary boiler heating) 22mm diameter stainless steel. Coil-in-coil design for improved performance.

**Solar coil**  
25mm diameter stainless steel. Coil-in-coil design and large surface area for improved performance.

**Thermostat**  
Direct models: Element thermostat adjustable from 10°C to 70°C.

Indirect models: Factory fitted cylinder thermostat adjustable to 70°C.

Solar: Factory fitted control pocket suitable for insertion of solar controller temperature probe.

**Factory fitted safety features – Megaflo Solar**  
Direct models: Manually re-settable cut-out on heating element operates at 85°C.

Indirect models: High limit thermal cut-out operates at 85°C. Wired in series with two-port motorised valve (supplied) to provide primary over temperature protection when using the auxiliary (boiler) coil.

All models: Temperature and pressure relief valve, factory set to operate at 10 bar and 90°C. Factory fitted thermal cut-out for integration into a solar circuit.

**Safety features – Megalife Solar**  
Thermostats with manually resettable thermal cut-out. Factory fitted thermal cut-out for integration into a solar circuit.

**Anode**  
Not required.

**Approvals**  
WRAS listed. CE marked. Manufactured in the UK in a BS EN ISO 9001:2000 registered factory.

Installation

**Plumbing – Megaflo Solar**  
Must be installed by a competent installer in accordance with Local Regulations. England and Wales – Building Regulations G3. Scotland – Technical Standards P3. N. Ireland – Building Regulations P5.

Inlet / outlet: ¾" BSP male parallel and 22mm compression fittings supplied.

Indirect primary coil: ¾" BSP male parallel and 22mm compression fittings supplied. ½" T&P relief valve: 15mm compression outlet supplied.

Solar coil: ¾" BSP male parallel and 22mm compression fittings supplied.

Cold water control 22mm HiFlo cold water valve assembly comprising 3 bar pressure reducer, ¼ turn isolating ball valve, line strainer, non-return valve and expansion valve (8 bar).

Cold water control valve (3 bar) is supplied for use with mains pressure of 20 bar to 1.5 bar, at the lower pressure, performance will be reduced accordingly. Normal working pressure is 3 bar.

**Plumbing – Megalife Solar**  
Inlet/outlet: ¾" BSP male parallel and 22mm compression fittings supplied.

Indirect primary coil: ¾" BSP male parallel and 22mm compression fittings supplied. Solar coil: ¾" BSP male parallel and 22mm compression fittings supplied.

Secondary circulation ½" BSP female connection provided (circulating pump not supplied). Secondary circulation is not recommended for units using off peak electric elements for auxiliary heating.

**Fixing**  
Built-in feet for floor-standing.

**Water expansion – Megaflo Solar**  
Via remote 25 litre expansion vessel (supplied).

**Flow rates – Megaflo Solar**  
Up to 72 litres per minute (depending on adequate supply conditions). Minimum water supply requirements 20 litres per minute flow and 1.5 bar pressure (at lesser values, the unit will operate but outlet flow rates may be unacceptable, especially with multiple draw-offs). Please contact our Specification Advice Team to discuss specific site conditions if the above minimum requirement cannot be met.

**Secondary circulation – Megaflo Solar**  
½" BSP female connection provided (circulating pump not supplied). Secondary circulation is not recommended for units using off peak electric elements for auxiliary heating.

**Compatible boilers – Megaflo Solar**  
Gas, electric or oil fired – sealed system or open vent type, fitted with integral control thermostat and thermal cut-out.

**Tundish – Megaflo Solar**  
15mm inlet and 22mm compression outlet.

**Electrical**  
Each immersion heater must be permanently connected to the electrical supply through a double-pole linked switch with a minimum breaking capacity of 13A. The indirect thermal controls should be wired into a suitable indirect control system to ensure optimum control of the Megaflo Solar and auxiliary boiler. The solar coil must be connected to a fully pumped solar primary system that should be controlled by a suitable solar controller and hydraulic set. The solar controller cylinder temperature sensor must be inserted in the pocket supplied on the heater. The solar thermal cut-out (factory fitted) should be wired in series with the solar controls (not supplied).

All electrical work must conform to current IEE wiring regulations. Heatrae Sadia's Specification Advice Team is available to discuss requirements for specific projects, applications and product selection on Tel: 01603 420220.

Guarantee

The solar Duplex stainless steel vessels carry a 25 year transferable on-site parts and labour guarantee against faulty manufacture or materials provided that:

- It has been correctly installed as per the instructions contained in the instruction manual and all relevant Codes of Practice and Regulations in force at the time of installation.
- It has not been modified in any way, other than by Heatrae Sadia Heating.
- The damage is not due to scaling or frost.
- It has only been used for the storage of potable water.
- It has not been tampered with or been subjected to misuse or neglect.
- It has been installed in the UK.
- Within 60 days of installation the user completes and returns the certificate supplied along with the proof of purchase to register the product.

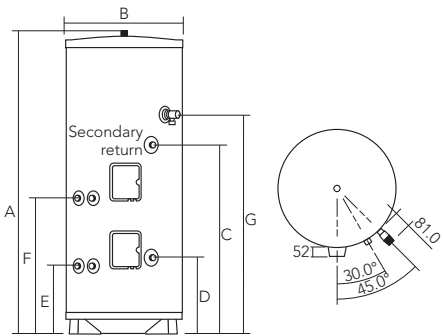
The Megaflo expansion vessel and cold water controls have a five year parts and labour guarantee from date of purchase. All other components have a two year parts and labour guarantee. Evidence of purchase and date of supply must be submitted. The unit is not guaranteed against damage due to scaling or frost. The guarantee is transferable. This guarantee does not affect your statutory rights.



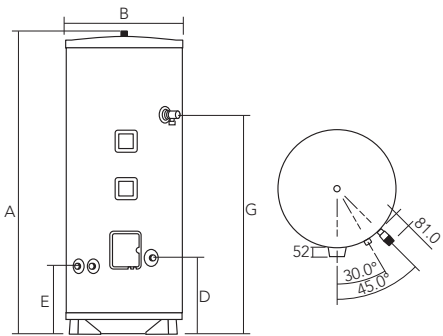
Dimensions and ordering

Dimensions – Megaflo Solar

Megaflo Solar indirect



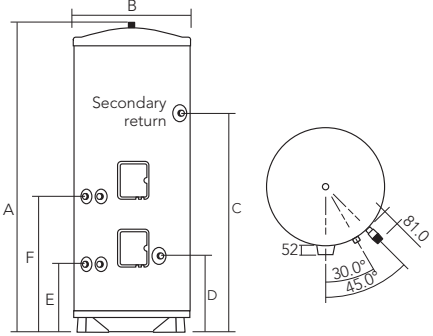
Megaflo Solar direct



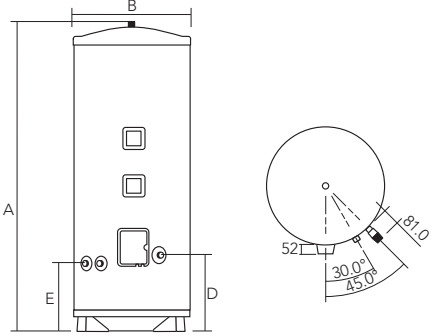
Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
Megaflo 190 indirect	1401	552	1017	412	370	732	1137
Megaflo 210 indirect	1502	552	1054	412	370	892	1181
Megaflo 250 indirect	1760	552	1256	412	370	1140	1376
Megaflo 300 indirect	2067	552	1571	412	370	1438	1692
Megaflo 170 direct	1245	552	-	412	370	-	925
Megaflo 210 direct	1502	552	-	412	370	-	1181
Megaflo 260 direct	1795	552	-	412	370	-	1411
Megaflo 300 direct	2067	552	-	412	370	-	1692

Dimensions – Megalife Solar

Megalife Solar indirect




Megalife Solar direct



Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
Megalife 190 indirect	1401	552	1137	412	370	732
Megalife 210 indirect	1502	552	1181	412	370	892
Megalife 250 indirect	1760	552	1376	412	370	1140
Megalife 300 indirect	2067	552	1692	412	370	1438
Megalife 170 direct	1245	552	-	412	370	-
Megalife 210 direct	1502	552	-	412	370	-
Megalife 260 direct	1795	552	-	412	370	-
Megalife 300 direct	2067	552	-	412	370	-

Ordering guide

Model	Capacity	Auxiliary element @240V	Direct auxiliary heat-up (mins)			Auxiliary coil rating	Auxiliary coil surface area	Indirect auxiliary heat-up	Solar coil surface area	Heat loss per day	Weight		Product code
			Lower (3kW)	Upper & lower (6kW)	Upper boost (3kW)						empty (kg)	full (kg)	
Megaflo Solar													
Megaflo 190 indirect	190	1x 3kW	-	-	60	18	0.61	21	1.1	1.56	45.5	235.5	95:050:411
Megaflo 210 indirect	210	1x 3kW	-	-	60	18	0.68	21	1.1	1.62	47.5	257.5	95:050:413
Megaflo 250 indirect	250	1x 3kW	-	-	60	18.7	0.73	24.5	1.1	1.89	56.5	306.5	95:050:415
Megaflo 300 indirect	300	1x 3kW	-	-	60	24.5	0.79	22.5	1.1	2.13	66.5	366.5	95:050:417
Megaflo 170 direct	170	1x 3kW	126	-	-	-	-	-	1.1	1.38	37.8	207.8	95:050:427
Megaflo 210 direct	210	2x 3kW	150	75	60	-	-	-	1.1	1.62	42.5	252.5	95:050:412
Megaflo 260 direct	260	2x 3kW	178	89	60	-	-	-	1.1	1.92	47.3	307.3	95:050:428
Megaflo 300 direct	300	2x 3kW	220	110	60	-	-	-	1.1	2.13	61.5	361.5	95:050:416
Megalife Solar													
Megalife 190 indirect	190	1x 3kW	-	-	60	18	0.61	21	1.1	1.56	45.5	235.5	95:030:724
Megalife 210 indirect	210	1x 3kW	-	-	60	18	0.68	21	1.1	1.62	47.5	257.5	95:030:725
Megalife 250 indirect	250	1x 3kW	-	-	60	18.7	0.73	24.5	1.1	1.89	56.5	306.5	95:030:726
Megalife 300 indirect	300	1x 3kW	-	-	60	24.5	0.79	22.5	1.1	2.13	66.5	366.5	95:030:727
Megalife 170 direct	170	1x 3kW	126	-	-	-	-	-	1.1	1.38	37.8	207.8	95:030:728
Megalife 210 direct	210	2x 3kW	150	75	60	-	-	-	1.1	1.62	42.5	252.5	95:030:721
Megalife 260 direct	260	2x 3kW	178	89	60	-	-	-	1.1	1.92	47.3	307.3	95:030:729
Megalife 300 direct	300	2x 3kW	220	110	60	-	-	-	1.1	2.13	61.5	361.5	95:030:723



**Baxi Solarflo**

The Heatrae Sadia Megaflo Solar and Megalife Solar cylinders are ideal companions for the Baxi Solarflo system.

- On-roof, in-roof and flat roof solar collector packages available.
- Evacuated tube packages now also available.
- Reduces CO<sub>2</sub> emissions and domestic fuel bills.
- National technical support and after-sales service from a single source.

# Contact

## Specification

T: 01603 420220 F: 01603 420229

E: [specifier@heatraesadia.com](mailto:specifier@heatraesadia.com)

## After Sales Service

T: 0844 871 1535 F: 0844 871 1528

E: [heatraesadiaservice@heateam.co.uk](mailto:heatraesadiaservice@heateam.co.uk)

**Web** [www.heatraesadia.com](http://www.heatraesadia.com)

## National service network

Heatrae Sadia products are inherently reliable and are designed to meet the demanding needs of all users.

A nationwide network of experienced engineers is available to provide fast and efficient on-site service support.

In addition, spare parts for the complete range of products are readily available through a wide variety of stockists.

Heatrae Sadia Heating Hurricane Way Norwich Norfolk NR6 6EA

Heatrae Sadia Heating may introduce modifications to their products from time to time. Consequently, the details given in this brochure are subject to alteration without notice.

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### Baxi Solarflo

Contact 0844 871 1525 for literature and further information.



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