Product catalogue

The Energy To Meet Your Needs

Innovation has a name.

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Introduction

About A.O. Smith

Sustainability and innovation have been key words throughout the 120 year history of A.O. Smith. As the inventor of a patented glass coating process, A.O. Smith knows like no other how to maximise the lifetime and quality of glass lined-steel water heating appliances. Today, A.O. Smith supplies products in many different areas and applications. Through constant innovation, at production level and application level, A.O. Smith maintains its leading position in the market. This applies both to the choice of materials and components used in the manufacturing process, as well as to the efficiency of the finished products.

''Innovation has a name'': For more than 60 years, A.O. Smith Water Products Company has been a leading global manufacturer and supplier of water heating equipment. Our products have a number of exceptional features.

By applying an enamel layer only once the water heaters are fully assembled, an even and constant protective layer is created, the PermaGlas Ultra Coat, which ensures the unique durability and corrosion resistance of our appliances. This specialised coating process is an A.O. Smith trademark.

For fifteen years now, the use of condensing high-efficiency technology has been standard in A.O. Smith's production process. This is why our appliances deliver a high level of hot water comfort in an energy-efficient manner.

Simple but intelligent control systems make sure that our appliances do their job efficiently and effectively. The result is unparalleled ease of use and comfort.

By carrying out the research and functions entirely in-house, A.O. Smith can tailor its offering to both the domestic and professional water heating market within Europe.

By applying know-how, experience and passion, A.O. Smith does everything possible to fulfil your needs as a customer. This vision is expressed in our corporate slogan: The Energy To Meet Your Needs!

A.O. SMITH LABORATORY

Products are developed and tested in compliance with applicable European regulations in A.O. Smith's certified laboratory.

BMS INTERFACE

The BMS interface will help you to extract different types of data from the appliance: SGE, SGS or BFC Cyclone. These data can be converted to your Building Management System software, which will allow you to monitor your hot water installation.

The BMS interface converts the information from the system to a ModBus protocol, one of the most used protocols in Building Management. The BMS interface can monitor almost 50 parameters; temperature in the appliance, burning hours, etc.

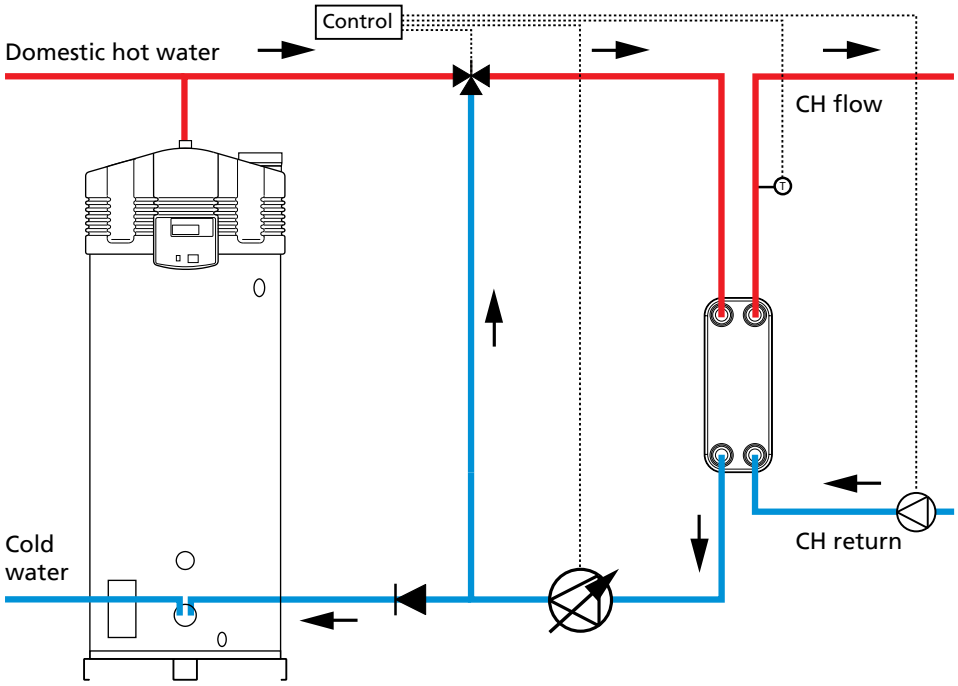
If you already have an SGE, SGS or BFC and you would like to add the BMS interface to your installation, please contact A.O. Smith to check whether the BMS interface can be installed to your installation.

DUAL SERVICE

Theta dual service means using the available hot water from one of our water heaters for both domestic hot water (DHW) and heating. Dual service can be used in combination with a BFC Cyclone, SGE or SGS system. This is a perfect system for locations where a lot of domestic hot water and a little bit of heating is requested.

The Theta dual service system for heating consists of a plate heat exchanger with a primary DHW pump, a three-way mixing valve, a temperature sensor with clip, the control and the required connection materials. The intelligent control uses the available hot water very efficiently to meet the heating demand from one system without compromising comfort levels.

The central heating set point can be programmed at 70°C, for example, for a normal radiator circuit for 70/50°C. Or it can be programmed at 40°C for an under floor heating circuit for 40/30°C. The master will control the DHW pump and three way mixing valve to reach the programmed set point. By reducing the speed of the DHW pump with a maximum of 50% and using the three way mixing valve to mix the return water with the water from the water heater, a stable heating supply temperature will be reached.
By modulating the DHW pump and controlling the three way mixing valve, the heating capacity can be reduced to a minimum, completely adapted to the actual heating demand. Moreover the mixing with the colder return water contributes to the total efficiency of the water heater.



Systems

System capabilities

A.O. Smith offers a wide range of products, which on their own or in certain configurations, will lead to the perfect solution for your hot water requirements. The A.O. Smith product range is constantly innovating. Throughout the year our Engineers are working on product developments, new appliances or useful additions to existing products.

Integration in Building Management

A number of appliances in our gas-fired product range make use of voltage-free contacts for fault indication to the Building Management System. In order to further enhance our range, we recently introduced the BMS interface. This BMS interface can be combined with the latest generation of BFC Cyclone, SGE and SGS. It converts the information from the installation to a ModBus protocol. This interface can monitor over 50 parameters; temperatures in the appliance, burning hours, operating hours, etc.

Low temperature heating

An excellent example of A.O. Smith product development is combining hot water with heating. These systems utilise the available domestic hot water energy for central and/or underfloor heating. This system is suitable for situations whereby the hot water demand is greater than the need for heating.

This system combines a condensing high efficiency gas and/or solar water heater with a plate heat exchanger. The heat from the water heater is transferred through the plate heat exchanger to the central heating or underfloor heating. The installation is controlled through an intelligent control system, designed and supplied by A.O. Smith.

Partner and total supplier

Each building requires the most suitable hot water solution. Our product range offers solutions for a wide range of applications. Expert advice from A.O. Smith will help you choose the right installation for your needs. As a total supplier, A.O. Smith provides all the necessary components for each custom-built solution.

FEATURES

- Module to combine central heating with a high efficiency water heater
- Used in combination with a condensing gas-fired water heater BFC Cyclone or solar water heaters SGE or SGS
- Tailored modules for BFC, SGE and SGS
- For applications with a relatively small heating demand compared to the hot water demand
- Delivered as complete package: plate heat exchanger, DHW pump, three-way mixing valve, control, temperature sensor incl. clip
- The maximum distance between the appliance and the plate heat exchanger can be 5 meters (in a system with a pipe diamter of Ø 22mm)
- Initial investment, service- and maintenance costs are considerably lower than a stand-alone boiler
- Option:
  - Remote Display for SGE and SGS which shows temperatures and solar contribution
  - BMS interface for monitoring through your Building Management System

THETA MODULE FOR BFC

- Plate heat exchanger – single separation (a double separated plate heat exchanger can be delivered upon request)
- Control with communication cable
- Primary DHW pump
- Temperature sensor with cable incl. clip
- Three-way mixing valve including cables
- Instruction manual

BFC MODULES

Art. No.	Control	kW CH capacity	△T CH system
TM 20 06	M	20	06
TM 20 10	M	20	10
TM 20 20	M	20	20
TM 30 06	M	30	06
TM 30 10	M	30	10
TM 30 20	M	30	20
TM 40 06	M	40	06
TM 40 10	M	40	10
TM 40 20	M	40	20

THETA MODULE FOR SGE & SGS

- Plate heat exchanger – single separation (a double separated plate heat exchanger can be delivered upon request)
- Primary DHW pump
- Temperature sensor with cable incl. clip
- Three-way mixing valve including cables
- Instruction manual

SGE/SGS MODULES

Art. No.	kW CH capacity	△T CH system
T 20 06	20	06
T 20 10	20	10
T 20 20	20	20
T 30 06	30	06
T 30 10	30	10
T 30 20	30	20
T 40 06	40	06
T 40 10	40	10
T 40 20	40	20

For installations that require more than 40kW heating capacity, please contact A.O. Smith

Combining hot water and heating

How dual service works

Dual service is A.O. Smith's new and completely unique way of utilising our high efficiency direct gas fired water heater to provide heating and hot water to a building with maximum contribution from the sun and HE water heater. In one tank, and with one control system, the water heater will control the energy input from solar and the energy output to heating while still providing the domestic hot water.

Dual service is especially suited to installations with a large hot water demand and a relatively low central heating demand. Buildings insulated to high levels in order to satisfy Part L will benefit from dual service. As the hot water demand is a larger portion of the total energy requirement it is logical to use the water heater to provide the heating – as traditionally a boiler was also used to provide hot water.

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By reducing the speed of the DHW pump with a maximum of 50% and using the three way mixing valve to mix the return water with the water from the water heater, a stable heating supply temperature will be reached.

By modulating the DHW pump and controlling the three way mixing valve, the heating capacity can be reduced to a minimum, completely adapted to the actual heating demand. Moreover the mixing with the colder return water contributes to the total efficiency of the water heater.

Thanks to the intelligent Dual service control the DHW set point can be set independently from the heating set point.

SPORTS FACILITIES

At the majority of sporting installations there is a large demand for hot water for the showers and wash basins, and a relatively small demand for heating. In these applications the buffered energy in the BFC, SGE or SGS can be used to heat the shower and toilet building. Combined with a SGE or SGS the installation becomes even more environmentally friendly.

CAMP SITE

Theta dual service can be used on camp sites for warming the sanitary water heating the shower and toilet building. In this case there is a large demand for hot water and a smaller demand for heating. The combination with a condensing gas-fired water heater BFC Cyclone makes the installation compact and simple, in which low temperature heating, such as under floor heating, is the most ideal solution. Combined with a solar water heater SGE or SGS, this installation becomes even more environmentally friendly because solar energy can be used for both hot water and heating.

Dual service

Benefits

Benefits for the installer

The application of dual service on a BFC Cyclone, SGE or SGS means both the domestic hot water and the heating demand can be fulfilled with one installation. The installation only needs one flue outlet, one water connection and one gas connection. Moreover, the entire installation is controlled by one intelligent controller. Service and maintenance are very easy for the installer; just one installation for both hot water and heating.

A.O. Smith is an advocate of total system solutions.
The renewable elements are delivered as an integrated system for optimum system efficiency. By delivery and commissioning by A.O. Smith, the optimum functionality and efficiency of the system are guaranteed. Simplicity, ease of use and a one-stop shop for your entire installation; these are the strengths of A.O. Smith.

Benefits for the user

By using Theta dual service combined with a condensing BFC Cyclone or solar water heater SGE or SGS, it is very easy to use the available hot water for heating adjacent spaces. This makes this system very compact whilst maintaining comfort levels. And this solution saves the capital investment of buying a separate boiler.

The installer can buy the entire installation from one supplier and it is controlled by one intelligent controller. The installation can perfectly be configured according to the individuals' demands and needs.

The Remote Display (option for SGE and SGS) shows actual solar contribution and temperatures in your solar system.

REMOTE DISPLAY

- Shows several key temperatures, solar contribution in Joules, pump status
- Always install in combination with a QT sensor
- Applicable on SGE and SGS

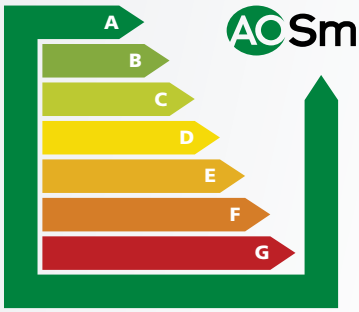
BMS INTERFACE

- Programmed for ModBus protocol

QUALITY

Kiwa is an international quality authority, permanently searching for ways to improve processes, products, employees and organisations. Kiwa Gas Technology delivers the following services for gas quality, distribution and application: consultancy, engineering, training, product development and building of components, appliances and systems. Sustainable energy is the key word. Their expertise has allowed Kiwa to certify the following appliances of the A.O. Smith product range: TWI, BFC, SGE and SGS.

(Source: kiwa.nl)

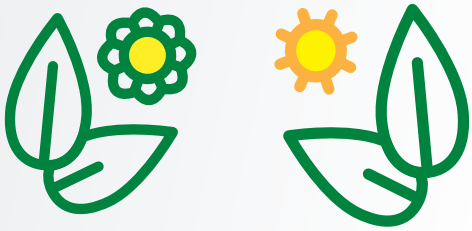


ECO DESIGN

Eco Design is a European guideline, related to the ErP Directive and Labeling Directive.
This guideline assesses environmental impacts associated with a product throughout its entire life.

Energy labeling derived from these directives is being introduced for several energy-using products. Examples are; refrigerators, washing machines, residential housing, etc.
This will also apply to hot water systems and action has now been taken to create clear energy labeling. Current developments point towards an introduction of these labels in the short term.

With our products, we strive to achieve the highest possible certification in the market. Consistent with the latest calculations it would appear that A.O. Smith products already qualify to carry these labels.



A.O. SMITH APPLIANCES

These icons were developed to identify the A.O. Smith solar systems and condensing appliances as energy-efficient products.

Systems

Energy-efficient performance

Products must be durable and energy-efficient; guidelines for energy consumption in buildings are becoming increasingly stringent. A.O. Smith has developed a number of products that fit within these standards and are often even ahead of them.

Efficiency

The efficiency of a water heating appliance is expressed in percentages. The percentage indicates how much energy is transferred to the water in the tank compared to how much is consumed. In the United Kingdom this percentage is usually expressed in gross value. The percentage can never be higher than 100%. In this case: the closer to a 100%, the more efficient the appliance.

Product labelling

Eco Design is a European guideline for an environmentally friendly design of products. For this process the entire life span of a product must be considered. Combined with the ErP Directive and the Labelling Directive, energy labelling for water heaters is being created. Based on the current developments the introduction of labelling will take place in the short term.

Looking at the current example of calculations used to specify the label, A.O. Smith condensing products obtain high scores. It is safe to say that our products are ready for the future.

Solar systems and condensing appliances

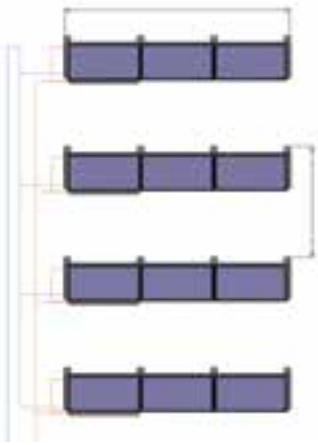
A.O. Smith produces very energy-efficient products; SGE, SGS, TWI and BFC. These 4 products vary in efficiency, ranging from 95% to 98% (gross). Without doubt, A.O. Smith's solar systems and condensing products can be called energy efficient.

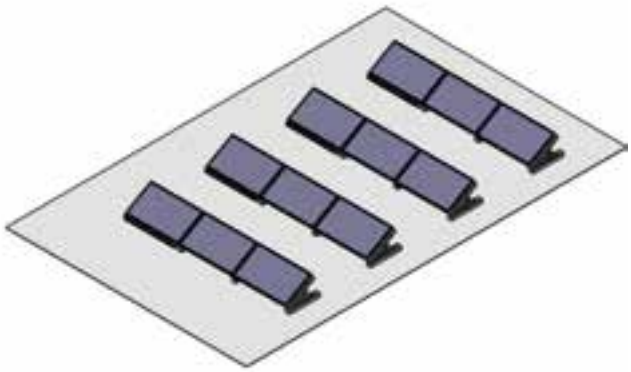
HR CONDENSING WATER HEATERS		
Appliance	**EPC**	**Eficiency (gross)**
TWI 35-130	0,907	95%
TWI 45-190	0,907	95%
BFC 28	0,965	96%
BFC 30	0,966	98%
BFC 50	0,966	96%
BFC 60	0,966	95%
BFC 80	0,961	97%
BFC 100	0,961	95%
BFC 120	0,961	95%

HR CONDENSING SOLAR WATER HEATERS		
Appliance	**EPC**	**Eficiency (gross)**
SGE 40	0,940	96%
SGE 60	0,940	95%
SGS 28	0,965	96%
SGS 30	0,966	98%
SGS 50	0,966	96%
SGS 60	0,966	95%
SGS 80	0,961	97%
SGS 100	0,961	95%
SGS 120	0,961	95%

POSITIONING

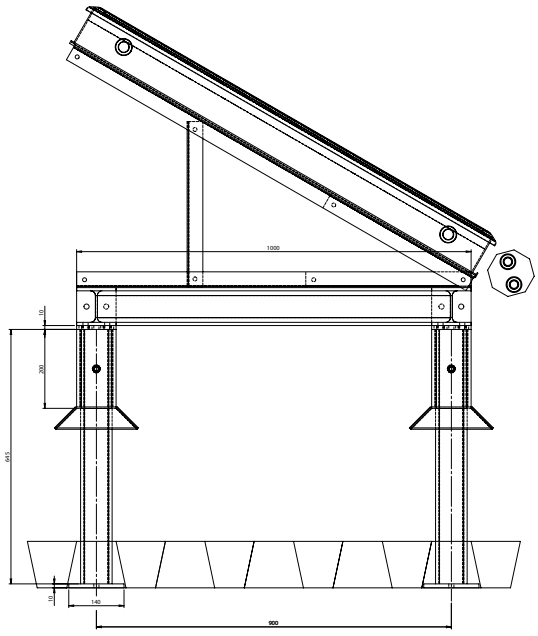
In order to provide you with the best solution, we can submit drawings for the positioning of the collectors on your roof or wall. Our collectors are fitted in the best possible way, which means we carefully consider the best angle for the collectors on the roof; the best fit for the relevant building and the best angle for solar radiation.





INSTALLATION

In addition to selecting and creating the best possible installation to meet your needs, we can also provide you with detailed drawings and principle schemes of the application of the installation.



Collector sets

Custom Solutions

A.O. Smith has an extensive range of collector sets. Yet we remain acutely aware of each unique situation that arises when placing a solar system and collectors.

Optimising

Our goal is to optimise the benefits of each solar system for our users. This means we design the installation to best meet the hot water requirements and charactaristics of the building.

Advice

We arrange our products into an optimum configuration. Our Sales Engineers can help you achieve this. Also, we can provide you with (building) drawings or help you with special applications.

Drawings

We can provide drawings for the positioning of the collectors on the roof, or provide you with a principle scheme of the application of the installation. We can even help you create the best possible frame construction for the collectors on the roof.

Transport

Depending on the location and surroundings of the location, a special transport may be required. For example, you may need a crane for correctly positioning the installation in or on the property. A.O. Smith can arrange the necessary transport for you.

A.O. Smith is your partner in creating the optimum solar installation for every application.

TRANSPORT

A crane with trailer collects a water heater at A.O. Smith to hoist it up to the correct position on location.

High efficiency systems

Meet our reNEWables

For many years we have considered it our obligation to contribute significantly to a better environment. Directives and guidelines on efficiency and emissions have been issued by the European Union. With our appliances and systems we strive to exceed these guidelines.

Energy labels

The Eco-design directive is a perfect example. Clear energy-labelling of our products makes it immediately apparent to you as a customer which product and its related energy consumption best matches your particular needs.

A.O. Smith products comply with the highest achievable label and many even exceed this level. Our product range is ready for future when stricter requirements and standards are passed.

ReNEWables

The most important step that we took to contribute to a sustainable environment is the development of our renewables. These are system solutions that employ sustainable forms of energy in combination with condensing HE technology. Our renewables perform with considerably higher system efficiency than comparable installations in the market. Even in terms of comfort, our renewables are uncompromising. As a total supplier, A.O. Smith provides all the necessary components for each custom-built solution.

Good for the environment and your pocket

When you opt for one of our innovative renewable system solutions, you do more than simply contribute to a sustainable, healthy living environment; you also bring about a considerable saving in the running costs of your water heating system.

With the renewables, A.O. Smith demonstrates once again that innovation is her second nature.

RENEWABLES

A.O. Smith offers solutions for solar installations for virtually every application.

Meet our reNEWables

Solar thermal energy

We're proud to present our renewables as 'extremely green'. This qualification is appropriate for our renewables: they use solar energy in combination with an intelligent control system that runs the installation very energy-efficiently. The entire installation is controlled by the condensing solar water heater - including the A.O. Smith solar water heating system. By combining condensing high-efficiency technology and solar thermal energy, integrated into a single system solution, the gas consumption of the installation is minimised.

Maximum efficiency

The control technology in this A.O. Smith system solution enables it to modulate the solar pump back to as little as **15%** of the nominal speed, so that even with very minor solar input, the solar contribution is always maximised.

Long lifetime

Thanks to the use of a patented drain back system mounted directly below the solar collector, stagnation temperatures of the heat exchange medium are prevented. This results in a maximum lifetime for the entire installation. In addition, the solar pump is protected from excessive temperatures.

Gas/solar water heaters

Amongst our renewables, the real showpieces are the **SGE** and **SGS**, both high efficiency gas/solar water heaters. In the SGE, the solar heat exchanger is directly integrated into the condensing water heating appliance. This makes the SGE ideally suited for medium sized commercial applications in which space is restricted. In contrast, the large storage capacity possibilities of the SGS make it especially suitable as a custom solution for larger commercial and industrial applications.

A powerful installation

When combined with a storage tank (up to 2800 litres), you have a powerful installation. Moreover, with a fully-automatic intelligent control system, the energy efficiency is maximised. With the SGS, the extra solar contribution can rise to as high as **40%** in comparison with standard solar systems. We achieve these extremely high contributions by treating the available solar energy in an intelligent way.

Total solution

A.O. Smith prefers to deploy total system solutions. For optimum system efficiency, A.O. Smith renewables are therefore delivered and installed as an integrated system. By having the delivery and commissioning carried out by A.O. Smith, your installation will be guaranteed to work perfectly and at maximum efficiency, as all parts of the installation will be perfectly matched. Simplicity, convenience and just one party to contact for your entire system: that's the strength of A.O. Smith.

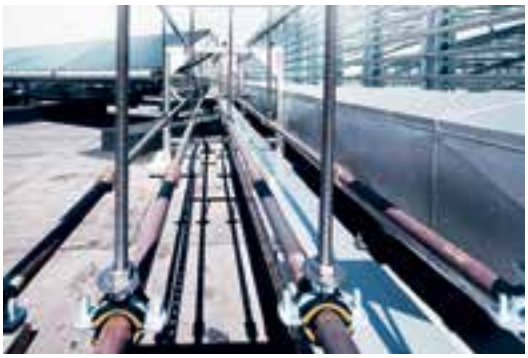
DRAIN BACK SYSTEM

A.O. Smith supplies a complete package of solar components, one of which is an ingenious drain back system. This drain back system boosts the lifetime of the system by preventing stagnation temperatures from arising in the installation. Ideal for schools and colleges, and commercial buildings that are closed during weekends.

The drain back system empties the collector(s) when the pump stops. This prevents overheating of the solar fluid and thus aging of the fluid. It also prevents aging of the collector. The drain back system is applicable on all mounting options.

INTELLIGENT CONTROLLER

The intelligent A.O. Smith computer-controlled operating system ensures maximum efficiency and maximum solar contribution. In addition, this system is particularly user-friendly: all essential information can be programmed and viewed via a single display unit.



INSTALLATION POSSIBILITIES

A.O. Smith solar systems are available for use as “built on roof”, “built into roof”, on frames for flat roofs or wall mounting. Delivery as a complete package makes installation of the system extremely simple.

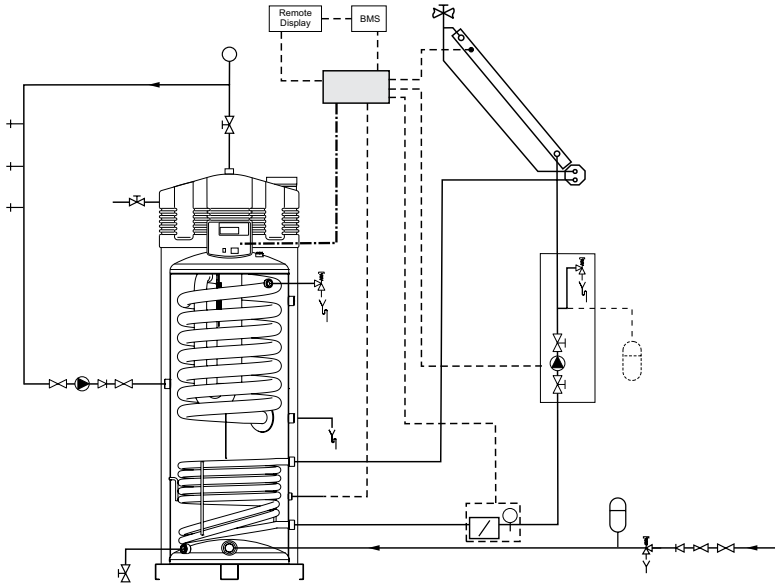
Heat transfer via plate heat exchangers is an additional option. Our Technical Support employees will be pleased to tell you more.

OPTIMUM SOLAR CONTRIBUTION

The SGE is a compact installation with integrated solar heat exchanger. Apart from its excellent suitable size for restricted spaces, the SGE is also a very efficient appliance. The collectors are connected to the lower heat exchanger and the heat is transferred from the collectors to the water. The upper heat exchanger afterheats, if necessary, to the setpoint.

The SGS is installed in combination with an ITE storage tank with integrated heat exchanger. The collectors are connected to the heat exchanger in the ITE and the available heat is transferred to the tank. If the temperature of the water in the SGS differs more than 5 degrees from the water in the ITE, the heat transfer from the ITE to the SGS starts up. If necessary, the SGS heats the water to the required setpoint. (Example: SGS = 50°C, ITE = 55°C)

In both installations the solar contribution is fully utilised. If a higher draw-off temperature is required than can be provided by solar contribution, only then additional gas heating is needed. This functionality delivers the optimum use of solar energy and a minimum use of gas.



SGE

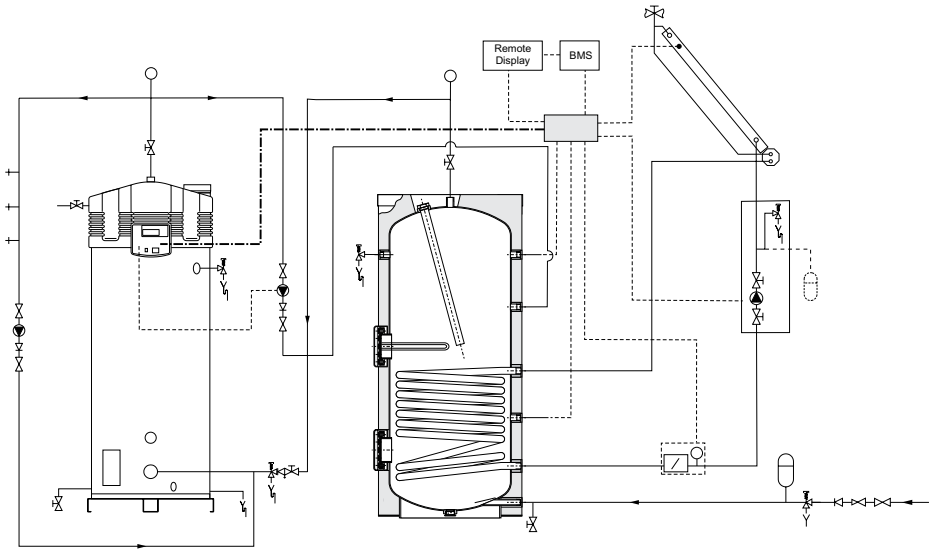
The solar hot water system solution in a compact format, suitable for connecting up to 15 collectors. The condensing technology used in the 40 kW and 60 kW water heaters guarantees high user comfort and maximum solar contribution (one controller for the complete installation). The SGE can be installed in vented and unvented systems.

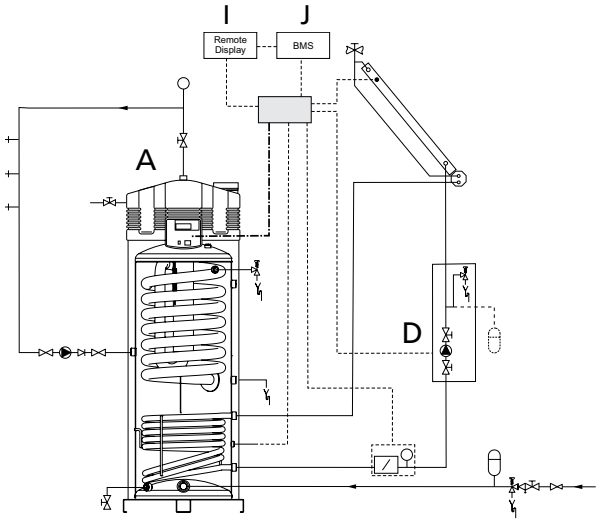
SGS+ITE

The solar heating system solution for larger applications for solar installations, suitable for connecting up to 15 collectors. Comfort and maximum solar contribution are guaranteed by adding condensing support from 28 kW to 120 kW in combination with storage tanks from 300 to 3000 litres.

The SGS can be installed in vented and unvented systems.

For installations with more than 15 collectors, A.O. Smith offers custom solutions. Please contact us for more information.





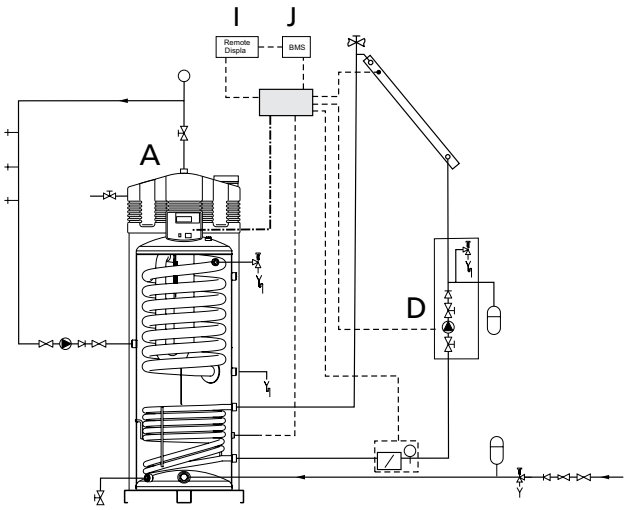
Also applicable as vented installation

SGE SOLAR SYSTEM WITH DRAIN BACK

- SGE HE condensing gas solar water heater with integrated heat exchanger
- SGE available in 42 and 60 kW version with a capacity of 370 litre
- Compact installation
- Combined with the correct pump station several numbers of collectors possible
- Drain back system prevents the installation from reaching stagnation temperatures

* If you use a large pump station, always install an expansion vessel.

	A	B	C	D	E	F	I	J	L
SGE WITH DRAIN BACK	✓			✓		✓	✓	✓	✓



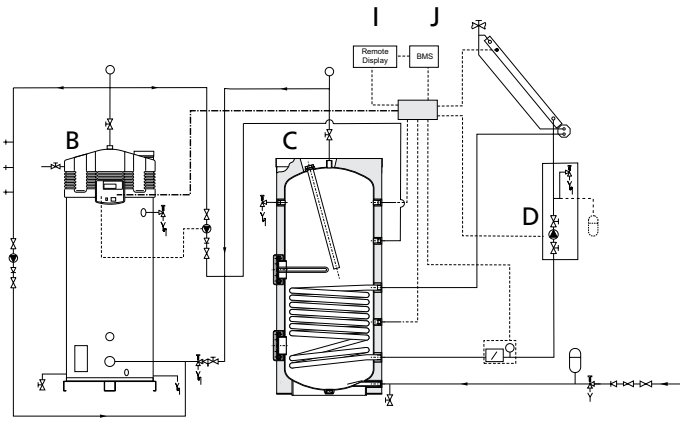
Also applicable as vented installation

SGE SOLAR SYSTEM WITHOUT DRAIN BACK

- SGE HE condensing gas solar water heater with integrated heat exchanger
- SGE available in 42 and 60 kW version with a capacity of 370 litre
- Compact installation
- Combined with the correct pump station several numbers of collectors possible
- Always use an expansion vessel in an installation without drain back system

	A	B	C	D	E	F	I	J	L
SGE WITHOUT DRAIN BACK	✓			✓	✓	✓	✓	✓	✓

System components (A to L) can be found on the following pages.



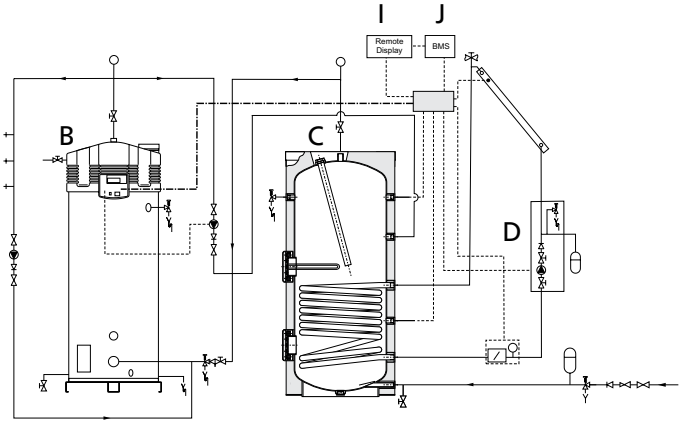
Also applicable as vented installation

SGS + ITE SOLAR SYSTEM WITH DRAIN BACK

- SGS HE condensing gas solar water heater combined with an ITE with integrated heat exchanger
- SGS is available from 28 to 120 kW versions and with capacities from 217 to 480 litre
- Always used in combination wiith an ITE indirect tank available in capacities from 300 to 1000 litre (or large IT tanks up to 3000 litres)
- Combined with the correct pump station several numbers of collectors possible
- Drain back system prevents the installation from reaching stagnation temperatures
- Up to 40% extra solar contribution possible, compared to standard systems

* If you use a large pump station, always install an expansion vessel.

	A	B	C	D	E	F	I	J	L
SGS+ITE WITH DRAIN BACK		✓	✓	✓		✓	✓	✓	✓



Also applicable as vented installation

SGS + ITE SOLAR SYSTEM WITHOUT DRAIN BACK

- SGS HE condensing gas solar water heater combined with an ITE with integrated heat exchanger
- SGS is available from 28 to 120 kW versions and with capacities from 217 to 480 litre
- Always used in combination with an ITE indirect tank available in capacities from 300 to 1000 litre (or large IT tanks up to 3000 litres)
- Combined with the correct pump station several numbers of collectors possible
- Always use an expansion vessel in an installation without drain back system
- Up to 40% extra solar contribution possible, compared to standard systems

	A	B	C	D	E	F	I	J	L
SGS+ITE WITHOUT DRAIN BACK		✓	✓	✓	✓	✓	✓	✓	✓

System components (A to L) can be found on the following pages.

A SGE
Fully ducted condensing HE gas-solar water heater

Nominal output	**42.8 – 60.4 kW**
Flue options	**B23, C13, C33, C43, C53, C63**

- Fully ducted condensing high efficiency gas-solar water heater with integrated solar heat exchanger
- Maximum solar contribution through fully integrated intelligent solar controller, comfort guaranteed
- Automatic gas/air premix burning system including burner modulation
- Delivered with low-maintenance powered anodes
- Efficiency 96% (gross)
- NOx emission ≤ 30 ppm (dry – air free) – NOx class 5
- Whisper quiet operation (<45 dB(A) at 2m distance from wall duct)
- One control and display unit for the complete installation
- Easy fault diagnosis and computer controlled digital week timer
- Programmable for legionella purge cycle
- Very small footprint because of integrated solar heat exchanger
- Varying water temperature setting from 40°C to 80°C with use of week timer
- BMS interface available as accessory

Technical specifications		**40**	**60**
Nominal input*	kW	44.0	63.3
Nominal output	kW	42.8	60.4
Gas consumption**	m3/h	4.2	6.0
Empty weight	kg	245	245
Draw-off capacity* **			
Capacity	l	370	370
Max. temperature setting	°C	80	80
30 min. ΔT 44°C	l	470	630
60 min. ΔT 44°C	l	890	1300
90 min. ΔT 44°C	l	1400	1900
120 min. ΔT 44°C	l	1800	2400
Continuous ΔT 44°C	l/h	840	1200
Heating-up time ΔT 44°C	min.	15	10
30 min. ΔT 50°C	l	400	530
60 min. ΔT 50°C	l	760	1100
90 min. ΔT 50°C	l	1200	1600
120 min. ΔT 50°C	l	1500	2100
Continuous ΔT 50°C	l/h	740	1100
Heating-up time ΔT 50°C	min.	17	12
30 min. ΔT 55°C	l	340	470
60 min. ΔT 55°C	l	680	940
90 min. ΔT 55°C	l	1100	1500
120 min. ΔT 55°C	l	1400	1900
Continuous ΔT 55°C	l/h	670	950
Heating-up time ΔT 55°C	min.	18	13
Dimensions			
Height	mm	2055	2055
Depth	mm	925	925
Width	mm	850	850
Height of cold water connection	mm	185	185
Height of hot water connection	mm	2055	2055
Height of gas connection	mm	1960	1960
Diameter of flue connection	mm	100/150	100/150
Cleaning opening	mm	95 x 70	95 x 70

* Gas data based on gross value, G20-20mbar
** Gas consumption at 15°C and 1013.25 mbar
*** Draw-off capacities are based on Tset 65°C and Tcold 10°C

B SGS
Condensing HE gas-solar water heater

Nominal output	**31.0 – 121.8 kW**
Flue options	**B23, C13, C33, C43, C53, C63**

- Fully ducted condensing high efficiency gas-solar water heater
- Maximum solar contribution through fully integrated intelligent solar controller, comfort guaranteed
- Automatic gas/air premix burning system including burner modulation
- Delivered with low-maintenance powered anodes
- Efficiency 97% (gross)
- NOx emission ≤ 30 ppm (dry – air free) – NOx class 5
- Whisper quiet operation (<45 dB(A) at 2m distance from wall duct)
- One control and display unit for the complete installation
- Extra solar contribution possible up to 40% compared to standard solar systems
- Easy fault diagnosis and computer controlled digital week timer
- Programmable for legionella purge cycle
- Suitable in combination with ITE indirect water heaters up to 1024 litres
- For larger applications A.O. Smith developed the IT storage tanks up to 3000 litres
- Varying water temperature setting from 40°C to 80°C with use of week timer
- BMS interface available as accessory

Technical specifications		**28**	**30**	**50**	**60**	**80**	**100**	**120**
Nominal input*	kW	32.2	33.3	52.2	63.3	86.6	105.5	128.8
Nominal output	kW	31.0	32.7	50.3	60.4	84.2	100.7	121.8
Gas consumption**	m3/h	3.1	3.2	5.0	6.0	8.3	10.1	12.3
Empty weight	kg	202	239	239	239	480	480	480
Draw-off capacity* **								
Capacity	l	217	368	368	368	480	480	480
Max. temperature setting	°C	80	80	80	80	80	80	80
30 min. ΔT 44°C	l	370	440	630	730	940	1100	1300
60 min. ΔT 44°C	l	670	760	1200	1400	1800	2100	2500
90 min. ΔT 44°C	l	980	1100	1700	2000	2600	3100	3700
120 min. ΔT 44°C	l	1300	1400	2100	2500	3500	4100	4900
Continuous ΔT 44°C	l/h	610	640	990	1200	1700	2000	2400
Heating-up time ΔT 44°C	min.	21	35	22	19	17	15	12
30 min. ΔT 50°C	l	310	350	520	610	780	910	1100
60 min. ΔT 50°C	l	570	640	950	1200	1600	1800	2200
90 min. ΔT 50°C	l	840	920	1400	1700	2300	2700	3200
120 min. ΔT 50°C	l	1200	1200	1900	2200	3000	3600	4300
Continuous ΔT 50°C	l/h	540	570	870	1100	1500	1800	2100
Heating-up time ΔT 50°C	min.	24	39	26	21	20	17	14
30 min. ΔT 55°C	l	260	290	440	530	670	790	950
60 min. ΔT 55°C	l	500	550	840	1000	1400	1600	1900
90 min. ΔT 55°C	l	750	800	1300	1500	2000	2400	2900
120 min. ΔT 55°C	l	990	1100	1700	2000	2700	3200	3800
Continuous ΔT 55°C	l/h	490	520	790	950	1400	1600	2000
Heating-up time ΔT 55°C	min.	27	43	28	23	22	18	15
Dimensions								
Height	mm	1485	2005	2005	2005	2060	2060	2060
Depth	mm	925	925	925	925	1000	1000	1000
Width	mm	850	850	850	850	900	900	900
Height of cold water connection	mm	265	255	255	255	225	225	225
Height of hot water connection	mm	1485	2005	2005	2005	2060	2060	2060
Height of gas connection	mm	1380	1910	1910	1910	1855	1855	1855
Diameter of flue connection	mm	100/150	100/150	100/150	100/150	130/200	130/200	130/200
Cleaning opening	mm	95 x 70	95 x 70	95 x 70	95 x 70	95 x 70	95 x 70	95 x 70

* Gas data based on gross value, G20-20mbar
** Gas consumption at 15°C and 1013.25 mbar
*** Draw-off capacities are based on Tset 65°C and Tcold 10°C

C ITE
Indirect water heater

Nominal output	**52 – 87 kW**
Flue options	**-**

- Nominal output: 52 - 87 kW
- Capacity 389 - 1024 litres
- Single-wall spiral heat exchanger
- ITE standard fitted with PermaGlas Ultra Coat enamel
- Insulated access cover for comprehensive waterside maintenance
- Replaceable magnesium anode

Technical specifications		**400**	**500**	**600**	**750**	**1000**
Output coil	kW	52	68	72	80	87
Surface area coil	m²	1.64	2.13	2.39	2.66	2.89
Water capacity coil	l	9.9	12.8	20.3	22.3	24.6
Flow rate coil (80-60°C)	l/h	2236	2924	3096	3440	3741
Pressure drop solar coil	mbar	78	166	37	50	61
Max. working pressure tank	kPa(bar)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)
Max. working pressure coil	kPa(bar)	1600(16)	1600(16)	1600(16)	1600(16)	1600(16)
Max. operating temperature tank	°C	95	95	95	95	95
Max. operating temperature coil	°C	110	110	110	110	110
Standby loss	kWh/24h	1.6	1.88	1.85	2.03	2.19
Anodes	-	1	1	1	1	1
Empty weight	kg	131	179	229	257	341
Draw-off capacity						
Capacity	l	389	478	652	734	1024
30 min. ΔT=44°C	l	952	1206	1463	1638	2068
60 min. ΔT=44°C	l	1461	1871	2167	2420	2919
90 min. ΔT=44°C	l	1969	2536	2870	3201	3769
120 min. ΔT=44°C	l	2477	3200	3574	3983	4619
Continuous ΔT=44°C	l/h	1016	1329	1407	1546	1700
Heating-up time ΔT=44°C	min.	23	22	28	28	36
30 min. ΔT=50°C	l	838	1062	1288	1441	1820
60 min. ΔT=50°C	l	1285	1646	1907	2129	2568
90 min. ΔT=50°C	l	1733	2231	2526	2817	3317
120 min. ΔT=50°C	l	2180	2816	3145	3505	4065
Continuous ΔT=50°C	l/h	894	1170	1238	1376	1496
Heating-up time ΔT=50°C	min.	26	25	32	32	41
30 min. ΔT=55°C	l	762	965	1170	1310	1655
60 min. ΔT=55°C	l	1169	1497	1733	1936	2335
90 min. ΔT=55°C	l	1575	2028	2296	2561	3015
120 min. ΔT=55°C	l	1982	2560	2859	3187	3695
Continuous ΔT=55°C	l/h	813	1063	1126	1251	1360
Heating-up time ΔT=55°C	min.	29	27	35	35	45
Dimensions						
Height (including lid)	mm	1705	2040	1835	2030	2000
Diameter (insulated)	mm	720	720	910	910	1060
Height of cold water connection	mm	70	70	85	85	85
Height of hot water connection	mm	1652	1990	1797	1992	1962

Draw-off capacities are based on Tset = 80°C and Tcold = 10°C
For larger applications A.O. Smith developed the IT. For more information, please refer to the direct chapter of this catalogue.

D

LARGE PUMP STATION WITH DRAIN BACK

- Always install with an expansion vessel

Art. No	0309977	0309981	0309985	0309989	0309993

D

LARGE PUMP STATION WITHOUT DRAIN BACK

- Always install with an expansion vessel

Art. No	0309978	0309982	0309986	0309990	0309994

D

PUMP STATION

- Pump station module with integrated pump
- Suitable for installations up to 15 solar collectors
- Integrated flow meter and overpressure protection

Art. No	0310191	0310192	0310189	0310190
Collectors	1-7	8-15	1-7	8-15
Drain back	yes	yes	no	no

E

EXPANSION VESSEL

- Expansion vessel suitable for high temperatures, specifically for solar systems
- Capacity of 25 to 80 litres, depending on the number of solar collectors used

* The expansion vessel is based on the number of collectors.
For more information please contact the Technical Support Group.

Art. No	0308875	0308876	0308877	0308878
Litre	25	35	50	80
Collectors	1-4	5-6	7-11	12-15

F

GLYCOL

- Corrosion inhibiting and anti-frost agent Tyfocor L©
- Suitable for use in systems with and without drain back system
- Packaging of 10 litres, in 40% mixed solution

Art. No	0308803
Litre	10

I

REMOTE DISPLAY

Art. No	0309999(S)

J

BMS INTERFACE

- Programmed for ModBus protocol

Art. No	0310013(S)

L

REDUCING NIPPLES

Description	ITE 400	ITE 500	ITE 600	ITE 750	ITE 1000
Reducing Nipple Set 2" BSp F x R 1" M	0309754(S)		-	-	-
Reducing Nipple Set 2" BSp F x R 1 1/2" M	0309755(S)		-	-	-
Reducing Nipple Set 2 1/2" BSp F x R 1" BSp F	-	-	0309756(S)		
Reducing Nipple Set 2 1/2" BSp F x R 1" BSp F	-	-	0309757(S)		
Reducing Nipple Set 2 1/2" BSp F x R 1 1/2" BSp F	-	-	0309758(S)		

DRAW-OFF PUMP

- Without valves and check valve

Art. No	0305515(S)

INSULATION MATERIAL

- Bird proof, suitable for outside use

Art. No	0309933(S)	0309934(S)
Dimensions	Ø 22mm x 2m	Ø 28mm x 2m

QT SENSOR

- Measures the solar contribution and displays this information on the screen of the control unit.

Art. No	0309285(S)

FILLING PUMP

- To simplify filling the system with Glycol

Art. No	0308814

GLYCOL FOR SGE — AMOUNT (LITRES)

- These quantities are based on the contents of the appliance excluding piping
- These quantities are averages. For the exact quantities please contact our Technical Support Group

	SGE 40	SGE 60
1-2 Collectors	50	50
3-5 Collectors	60	60
6-11 Collectors	70	70
12-15 Collectors	80	80

GLYCOL FOR SGS — AMOUNT (LITRES)

- These quantities are based on the contents of the appliance excluding piping
- These quantities are averages. For the exact quantities please contact our Technical Support Group

	ITE 400	ITE 500	ITE 600	ITE 750	ITE 1000
1-2 Collectors	50	50	60	70	80
3-5 Collectors	60	60	70	70	80
6-11 Collectors	70	70	80	80	90
12-15 Collectors	80	80	90	90	100

DRAIN BACK SYSTEM

A.O. Smith supplies a complete package of solar components, one of which is an ingenious drain back system. This drain back system boosts the lifetime of the system by preventing stagnation temperatures from arising in the installation. Ideal for schools and colleges, and commercial buildings that are closed during weekends.

CONTROL

The control unit has a modulating pump control. And it gives the possibility to measure the solar contribution and display this information.

SMART DISPLAY

The temperature in the collector, the temperature of the stored water and the solar contribution can be read on the display which is available as an accessory.

Solar thermal energy

Indirect solar water heating

These solar water heating systems consist of an indirect tank which is connected to a boiler (electric, gas or oil) or water heater. The optimum installation can be constructed by using different accessories. The ITE as well as the ITS can be part of a solar water heating system. Both can be installed with or without a drain back system.

Heat exchanger

The ITE and ITS heat exchangers provide the heat exchange of the collected solar heat to the hot water volume. The ITS has two heat exchangers, allowing the connected boiler or water heater to deliver its heat to the ITS. This leads to a maximum comfort.

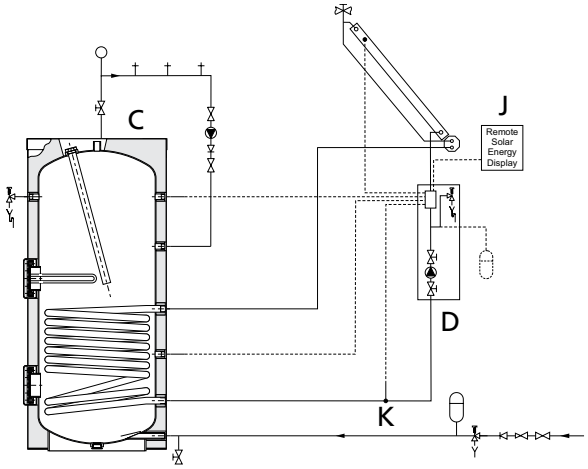
Controller

The pump station module controls of the indirect solar water heating system are done by the pump station module. This is a standard control. The pump is activated as a result of the temperature in the collector and the storage vessel. All essential information can be viewed on the control display.

Composing systems

Selecting a pump station is determined by the number of collectors and the length of piping. A.O. Smith offers regular and extra large pump stations. Depending on the system, the pump stations are delivered with or without check valves depending on whether the system has drain back.

To help you select the perfect indirect solar installation –either with or without drain back system - you will find a summary on the next pages. The drain back system enhances the lifetime of the system by preventing stagnation temperatures from arising in the installation.
The installation drawings show a table with the required components. Each component corresponds to a letter which is explained on the following pages. Accessories – without referral - are explained as well.



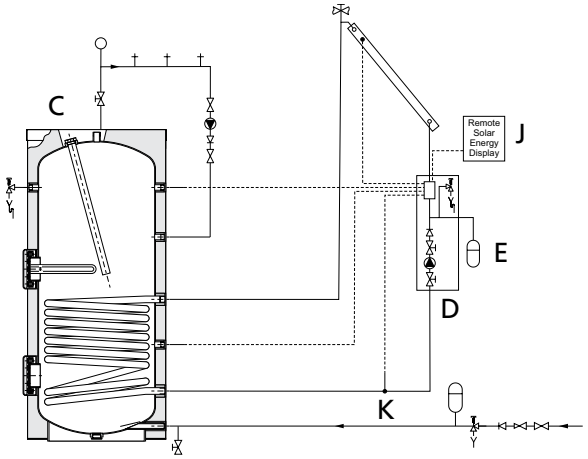
Also applicable as vented installation

ITE INDIRECT SOLAR SYSTEM WITH DRAIN BACK

- Solar system connected to existing central heating system or boiler
- ITE indirect tank with 1 heat exchanger available in capacities from 389 to 1024 litre (or IT tank up to 3000 litres)
- Combined with the correct pump station several numbers of collectors possible
- Drain back system prevents stagnation temperatures in the installation

* If you use a large pump station, always install an expansion vessel.

	A	B	C	D	E	F	I	J	K	L
ITE WITH DRAIN BACK			✓	✓		✓		✓	✓	✓



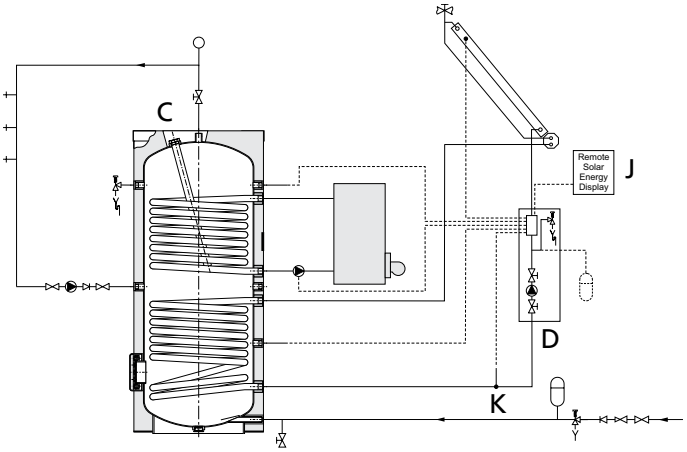
Also applicable as vented installation

ITE INDIRECT SOLAR SYSTEM WITHOUT DRAIN BACK

- Solar system connected to existing central heating system or boiler
- ITE indirect tank with 1 heat exchanger available in capacities from 389 to 1024 litre (or IT tank up to 3000 litres)
- Combined with the correct pump station several numbers of collectors possible
- Always use an expansion vessel in an installation without drain back system

	A	B	C	D	E	F	I	J	K	L
ITE WITHOUT DRAIN BACK			✓	✓	✓	✓		✓	✓	✓

System components (A to L) can be found on the following pages.



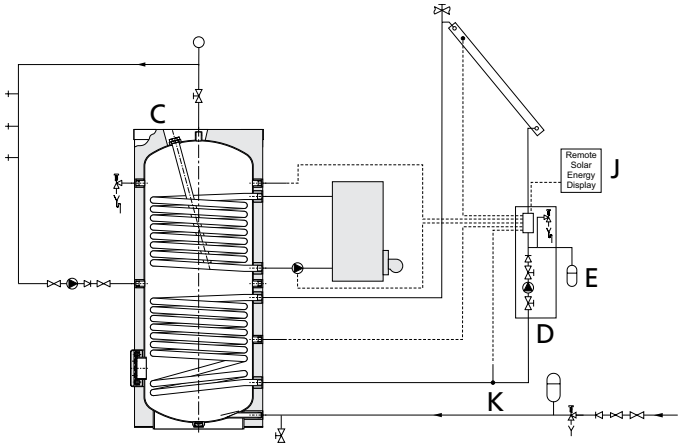
Also applicable as vented installation

ITS INDIRECT SOLAR SYSTEM WITH DRAIN BACK

- Solar system connected to existing central heating system or boiler
- ITS indirect tank with 2 heat exchangers available in capacities from 289 to 1007 litre
- Combined with the correct pump station several numbers of collectors possible
- Drain back system prevents stagnation temperatures in the installation
- In an ITS installation both the collector and boiler or water heater transfer their heat into one tank. This leads to a more comfortable installation compared to the ITE installation

* If you use a large pump station, always install an expansion vessel.

	A	B	C	D	E	F	I	J	K	L
ITS WITH DRAIN BACK			✓	✓		✓		✓	✓	✓



Also applicable as vented installation

ITS INDIRECT SOLAR SYSTEM WITHOUT DRAIN BACK

- Solar system connected to existing central heating system or boiler
- ITS indirect tank with 2 heat exchangers available in capacities from 289 to 1007 litre
- Combined with the correct pump station several numbers of collectors possible
- Always use an expansion vessel in an installation without drain back system
- In an ITS installation both the collector and boiler or water heater transfer their heat into one tank. This leads to a more comfortable installation compared to the ITE installation

	A	B	C	D	E	F	I	J	K	L
ITS WITHOUT DRAIN BACK			✓	✓	✓	✓		✓	✓	✓

System components (A to L) can be found on the following pages.

C ITE
Indirect water heater

Nominal output	**52 – 87 kW**
Flue options	**-**

- Nominal output: 52 - 87 kW
- Capacity 389 - 1024 litres
- Single-wall spiral heat exchanger
- ITE standard fitted with PermaGlas Ultra Coat enamel
- Insulated access cover for comprehensive waterside maintenance
- Replaceable magnesium anode

Technical specifications		**400**	**500**	**600**	**750**	**1000**
Output coil	kW	52	68	72	80	87
Surface area coil	m²	1.64	2.13	2.39	2.66	2.89
Water capacity coil	l	9.9	12.8	20.3	22.3	24.6
Flow rate coil (80-60°C)	l/h	2236	2924	3096	3440	3741
Pressure drop solar coil	mbar	78	166	37	50	61
Max. working pressure tank	kPa(bar)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)
Max. working pressure coil	kPa(bar)	1600(16)	1600(16)	1600(16)	1600(16)	1600(16)
Max. operating temperature tank	°C	95	95	95	95	95
Max. operating temperature coil	°C	110	110	110	110	110
Standby loss	kWh/24h	1.6	1.88	1.85	2.03	2.19
Anodes	-	1	1	1	1	1
Empty weight	kg	131	179	229	257	341
Draw-off capacity						
Capacity	l	389	478	652	734	1024
30 min. ΔT=44°C	l	952	1206	1463	1638	2068
60 min. ΔT=44°C	l	1461	1871	2167	2420	2919
90 min. ΔT=44°C	l	1969	2536	2870	3201	3769
120 min. ΔT=44°C	l	2477	3200	3574	3983	4619
Continuous ΔT=44°C	l/h	1016	1329	1407	1546	1700
Heating-up time ΔT=44°C	min.	23	22	28	28	36
30 min. ΔT=50°C	l	838	1062	1288	1441	1820
60 min. ΔT=50°C	l	1285	1646	1907	2129	2568
90 min. ΔT=50°C	l	1733	2231	2526	2817	3317
120 min. ΔT=50°C	l	2180	2816	3145	3505	4065
Continuous ΔT=50°C	l/h	894	1170	1238	1376	1496
Heating-up time ΔT=50°C	min.	26	25	32	32	41
30 min. ΔT=55°C	l	762	965	1170	1310	1655
60 min. ΔT=55°C	l	1169	1497	1733	1936	2335
90 min. ΔT=55°C	l	1575	2028	2296	2561	3015
120 min. ΔT=55°C	l	1982	2560	2859	3187	3695
Continuous ΔT=55°C	l/h	813	1063	1126	1251	1360
Heating-up time ΔT=55°C	min.	29	27	35	35	45
Dimensions						
Height (including lid)	mm	1705	2040	1835	2030	2000
Diameter (insulated)	mm	720	720	910	910	1060
Height of cold water connection	mm	70	70	85	85	85
Height of hot water connection	mm	1652	1990	1797	1992	1962

Draw-off capacities are based on Tset = 80°C and Tcold = 10°C
For larger applications A.O. Smith developed the IT. For more information, please refer to the direct chapter of this catalogue.

C ITS
Indirect water heater for a wide range of applications

Nominal output	**46 - 87 kW (bottom coil) / 27 - 58 kW (top coil plant)**
Flue options	**-**

- Capacity: 289 - 1007 litres
- Single-wall spiral heat exchangers
- PermaGlas Ultra Coat second-generation glass coating technology prevents corrosion
- ITS 300: Three adjustable legs facilitate easy installation
- ITS 400-1000: Insulated ring base for easy installation
- Insulated clean out door for comprehensive waterside maintenance
- Replaceable magnesium anode
- Removable insulation jacket for convenient servicing
- Options:
  - Flexible anode for installation in confined areas
  - Temperature and pressure valve with stainless-steel spring set to 95°C and a maximum water pressure of 7 bar
  - Analogue temperature gauge (0-120°C)
  - Power anodes
  - Single and three phase electric elements

Technical specifications			**300**	**400**	**500**	**600**	**750**	**1000**
Capacity coil	kW	collector	46	52	68	72	80	87
Surface coil	m²	collector	1.45	1.64	2.13	2.39	2.66	2.89
Capacity coil	l	collector	9.5	9.9	12.8	20.3	22.6	24.6
Flow rate coil (80-60°C)	l/h	collector	1978	2236	2924	3096	3440	3741
Pressure drop coil	mbar	collector	44	78	166	37	50	61
Output coil	kW	boiler	27	37	42	40	56	58
Surface coil	m²	boiler	0.85	1.15	1.31	1.33	1.86	1.93
Capacity coil	l	boiler	5.7	6.9	7.9	11.3	15.8	16.4
Flow rate coil (80-60°C)	l/h	boiler	1161	1591	1806	1720	2408	2494
Pressure drop coil	mbar	boiler	12	30	43	7	18	20
Max. working pressure tank	kPa(bar)		1000(10)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)
Max. working pressure coil	kPa(bar)		1600(16)	1600(16)	1600(16)	1600(16)	1600(16)	1600(16)
Max. operating temperature tank	°C		95	95	95	95	95	95
Max. operating temperature coil	°C		110	110	110	110	110	110
Standby loss	kWh/24h		1.32	1.60	1.88	1.85	2.03	2.19
Anodes	-		1	1	1	1	1	1
Empty weight	kg		133	145	196	246	262	340
Draw-off capacity								
Capacity	l		289	382	470	641	718	1007
30 min. ΔT=44°C	l		1010	1269	1566	1801	2110	2557
60 min. ΔT=44°C	l		1723	2139	2641	2895	3439	3974
90 min. ΔT=44°C	l		2437	3009	3716	3990	4768	5391
120 min. ΔT=44°C	l		3150	3878	4791	5085	6097	6808
Continuous ΔT=44°C	l/h		1427	1740	2150	2189	2658	2834
Heating-up time ΔT=44°C	min.		12	13	13	18	16	21
30 min. ΔT=50°C	l		889	1117	1378	1585	1857	2250
60 min. ΔT=50°C	l		1517	1882	2324	2548	3026	3497
90 min. ΔT=50°C	l		2144	2648	3270	3511	4196	4744
120 min. ΔT=50°C	l		2772	3413	4216	4474	5366	5991
Continuous ΔT=50°C	l/h		1256	1531	1892	1926	2339	2494
Heating-up time ΔT=50°C	min.		14	15	15	20	18	24
30 min. ΔT=55°C	l		808	1015	1253	1441	1688	2046
60 min. ΔT=55°C	l		1379	1711	2113	2316	2751	3179
90 min. ΔT=55°C	l		1949	2407	2973	3192	3815	4313
120 min. ΔT=55°C	l		2520	3103	3833	4068	4878	5447
Continuous ΔT=55°C	l/h		1141	1392	1720	1751	2127	2267
Heating-up time ΔT=55°C	min.		15	16	16	22	20	27
Dimensions								
Height (including lid)	mm		1370	1705	2040	1835	2030	2000
Diameter	mm		720	720	720	910	910	1060
Height of cold water connection	mm		75	70	70	85	85	95
Height of hot water connection	mm		1310	1652	1990	1797	1992	1962
Height of cleaning opening	mm		325	330	330	420	420	440

Draw-off capacities are based on Tset = 80°C and Tcold = 10°C. Draw-off capacities of the ITS are based on both coils.

D

LARGE PUMP STATION WITH DRAIN BACK

- Always install with an expansion vessel
- Control included

Art. No	0309975	0309979	0309983	0309987	0309991

D

LARGE PUMP STATION WITHOUT DRAIN BACKSYSTEEM

- Always install with an expansion vessel
- Control included

Art. No	0309976	0309980	0309984	0309988	0309992

D

PUMP STATION

- Pump station module with integrated pump
- Suitable for installations up to 15 solar collectors
- Integrated flow meter and overpressure protection

Art. No	0310195	0310196	0310193	0310194
Collectors	1-7	8-15	1-7	8-15
Drain back	yes	yes	no	no

E

EXPANSION VESSEL

- Expansion vessel suitable for high temperatures, specifically for solar systems
- Capacity of 25 to 80 litres, depending on the number of solar collectors used

* The expansion vessel is based on the number of collectors.
For more information please contact the Technical Support Group.

Art. No	0308875	0308876	0308877	0308878
Litre	25	35	50	80
Collectors	1-4	5-6	7-11	12-15

F

GLYCOL

- Corrosion inhibiting and anti-frost agent Tyfocor L©
- Suitable for use in systems with and without drain back system
- Packaging of 10 litres, in 40% mixed solution

Art. No	0308803
Litre	10

J

SMART DISPLAY

- Displays the temperature in the collector and storage vessel
- Displays, if combined with an output sensor, the solar contribution

Art. No	0309701(S)

K

OUTPUT SENSOR

- Measures the temperature in the system incl. piping and visualizes the solar contribution through the smart display

Art. No	0309691(S)	0309701(S)

L


REDUCING NIPPLES

Description	ITS 300	ITE/ITS 400	ITE/ITS 500	ITE/ITS 600	ITE/ITS 750	ITE/ITS 1000
Reducing Nipple Set 2" BSp F x R 1" M	-	**0309754(S)**		-	-	-
Reducing Nipple Set 2" BSp F x R 1 1/2" M	-	**0309755(S)**		-	-	-
Reducing Nipple Set 2 1/2" BSp F x R 1" BSp F	-	-	-	**0309756(S)**		
Reducing Nipple Set 2 1/2" BSp F x R 1" BSp F	-	-	-	**0309757(S)**		
Reducing Nipple Set 2 1/2" BSp F x R 1 1/2" BSp F	-	-	-	**0309758(S)**		

FILLING PUMP

- To simplify filling the system with Glycol

Art. No	0308814

INSULATION MATERIAL

- Bird proof, suitable for outside use

Art. No	0309933(S)	0309934(S)
Dimensions	Ø 22mm x 2m	Ø 28mm x 2m

GLYCOL FOR ITE — AMOUNT (LITRES)

- These quantities are based on the contents of the appliance excluding piping
- These quantities are averages. For the exact quantities please contact our Technical Support Group

	ITE 400	ITE 500	ITE 600	ITE 750	ITE 1000
1-2 Collectors	50	50	60	70	80
3-5 Collectors	60	60	70	70	80
6-11 Collectors	70	70	80	80	90
12-15 Collectors	80	80	90	90	100

GLYCOL FOR ITS — AMOUNT (LITRES)

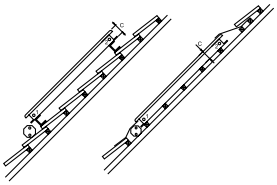
- These quantities are based on the contents of the appliance excluding piping
- These quantities are averages. For the exact quantities please contact our Technical Support Group

	ITS 300	ITS 400	ITS 500	ITS 600	ITS 750	ITS 1000
1-2 Collectors	40	50	50	60	70	80
3-5 Collectors	50	60	60	70	70	80
6-11 Collectors	60	70	70	80	80	90
12-15 Collectors	70	80	80	90	90	100

COLLECTOR + DRAIN BACK

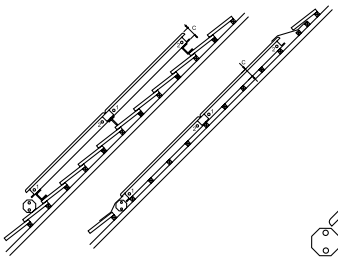
- Patented drain back system available as an accessory to prevent stagnation temperatures
- Approved by EN12975-2-2006 and Solar Keymark certified
- Temperature resistant up to 200°C
- Installation options: roof built on, roof built in, flat roof consoles mounting and wall consoles mounting
- Simple installation system for multiple panels
- The SPBO, SPBI and SPFR are available in horizontal or vertical
- Complete installation is delivered in 1 package including the assembly materials
- 10 years warranty

Collectors **with** drain back



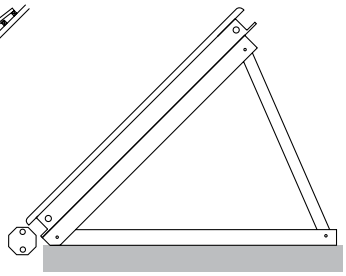
1 row **SPBO**

1 row **SPBI**

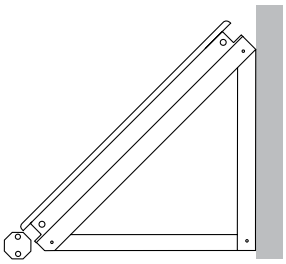


2 rows **SPBO**

2 rows **SPBI**

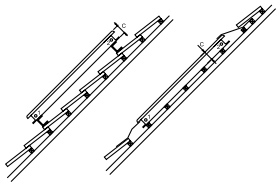


SPFR



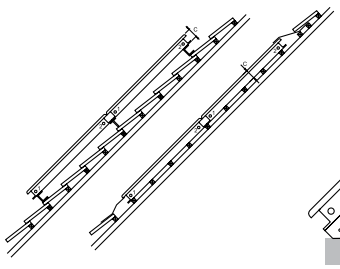
SPWL

Collectors **without** drain back



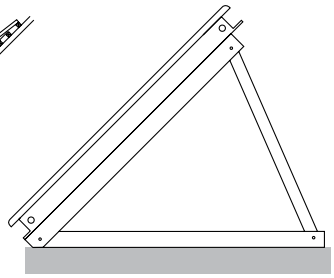
1 row **SPBO**

1 row **SPBI**

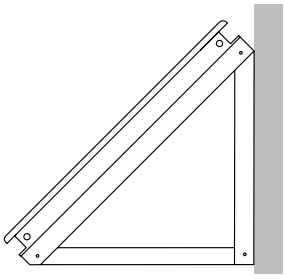


2 rows **SPBO**

2 rows **SPBI**



SPFR



SPWL

SPECIFICATIONS

Collector type	Width	Height	Thickness	Weight	Capacity of liquid
Vertical collector	116.7 cm	206.7 cm	11 cm	44 kg	2.2 L
Horizontal collector	206.7 cm	116.7 cm	11 cm	44 kg	2.2 L

Thermal solar energy
Collectors

Sustainability, efficiency and environmental-friendliness are the main focus of A.O. Smith's renewable product range, and especially our solar collectors. The hub of an A.O. Smith solar collector is a full-plate copper absorber with an eco-friendly vacuum coating. The guaranteed quality of the coating ensures an exceptionally long life of the collector, together with a glass seal, set in the frame to prevent the ingress of moisture and dirt into these high-performance collectors. Aluminium casing makes the solar collectors suitable for use in any environment.

Drain back system

To increase the life of the collectors and to prevent extremely high temperatures, an optional drain back module is available. By mounting the drain back module directly below the collectors, the required pump capacity is reduced and thus the power consumption of the fully modulating solar pump is reduced to an absolute minimum.

Mounting options

Our collectors are available in 4 variants: roof built-in, roof built-on, flat roof construction and wall mounting frames. The flat roof frame sets and the wall mounting frame sets are based on the angle of positioning. Depending on the roof and the relevant mounting technique, the flat roof frames are available with or without concrete blocks. All sets can be supplied with a drain back system.

A.O. Smith delivers the perfect solution for every location. A.O. Smith solar collectors are supplied in sets that include all necessary tools and parts. Our solar collectors meet the highest standards and are Solar Keymark certified, in full compliance with all major incentive and Tax credit schemes such as the Renewable Heat Incentive.

Custom solutions

A.O. Smith has an extensive range of collector sets. Yet we are also aware of each unique situation that arises when placing a solar system and collectors. Our goal is to optimise the benefits to the user from the solar system. This means we try to create an installation which meets all hot water requirements and at the same time is the best suited choice for the building.

In practice we try to arrange the best possible configuration for our products. Our Sales Engineers can help you create an optimal installation. Also, we can provide you with building special applications.

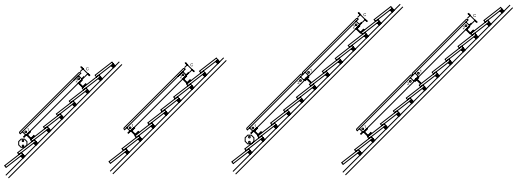
We can provide drawings for the positioning of the collectors on the roof, or provide you with a principle scheme of the application of the installation. We can even help you create the best possible frame construction for the collectors on the roof. A.O. Smith is your partner in creating the optimum solar installation for every application.

ROOF BUILT ON SETS

Roof built on sets are called SPBO. These sets are used for pitched roofs and are mounted on the tiles. The collector is placed in position by using tile clips.

There are several installation options. The number of collectors; when sets are placed in a single row there is a maximum of 15 collectors, for a double row this is 14. Standard all collectors are equipped with copper absorber plate and meander. The AC sets include an absorber plate of aluminum and copper meander. All sets can be equipped with a drain back system, DB. Finally, there is the option of placing the collectors horizontally or vertically.

Selecting a collector set depends on the situation of the roof or walls and the necessary hot water capacity. We can help you create the best possible solution. Please contact our Sales Engineers; sales@aosmith.co.uk or call 0870 267 6484.



ROOF BUILT ON COLLECTORS

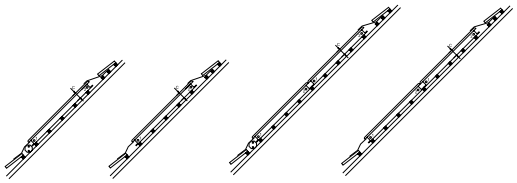
Type	Number of collectors	Number of rows	copper/copper	aluminum/copper	With drain back	Horizontal	Vertical
SPBO	1	1	standard	AC	DB	H	V
SPBO	2	1	standard	AC	DB	H	V
SPBO	3	1	standard	AC	DB	H	V
SPBO	4	1	standard	AC	DB	H	V
SPBO	5	1	standard	AC	DB	H	V
SPBO	6	1	standard	AC	DB	H	V
SPBO	7	1	standard	AC	DB	H	V
SPBO	8	1	standard	AC	DB	H	V
SPBO	9	1	standard	AC	DB	H	V
SPBO	10	1	standard	AC	DB	H	V
SPBO	11	1	standard	AC	DB	H	V
SPBO	12	1	standard	AC	DB	H	V
SPBO	13	1	standard	AC	DB	H	V
SPBO	14	1	standard	AC	DB	H	V
SPBO	15	1	standard	AC	DB	H	V
SPBO	4	2	standard	AC	DB	H	V
SPBO	6	2	standard	AC	DB	H	V
SPBO	8	2	standard	AC	DB	H	V
SPBO	10	2	standard	AC	DB	H	V
SPBO	12	2	standard	AC	DB	H	V
SPBO	14	2	standard	AC	DB	H	V

ROOF BUILT IN SETS

Roof built in sets are called SPBI. These sets are used for pitched roofs and are mounted in between the tiles.

There are several installation options. The number of collectors; when sets are placed in a single row there is a maximum of 15 collectors, for a double row this is 14. Standard all collectors are equipped with copper absorber plate and meander. The AC sets include an absorber plate of aluminum and copper meander. All sets can be equipped with a drain back system, DB. Finally, there is the option of placing the collectors horizontally or vertically.

Selecting a collector set depends on the situation of the roof or walls and the necessary hot water capacity. We can help you to create the best possible solution. Please contact our Sales Engineers; sales@aosmith.co.uk or call 0870 267 6484.



ROOF BUILT IN COLLECTORS

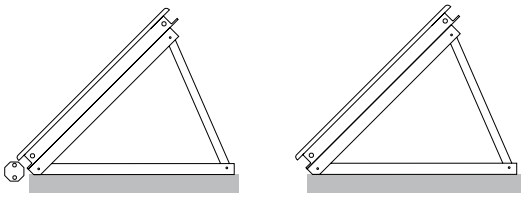
Type	Number of collectors	Number of rows	copper/copper	aluminum/copper	With drain back	Horizontal	Vertical
SPBI	1	1	standard	AC	DB	H	V
SPBI	2	1	standard	AC	DB	H	V
SPBI	3	1	standard	AC	DB	H	V
SPBI	4	1	standard	AC	DB	H	V
SPBI	5	1	standard	AC	DB	H	V
SPBI	6	1	standard	AC	DB	H	V
SPBI	7	1	standard	AC	DB	H	V
SPBI	8	1	standard	AC	DB	H	V
SPBI	9	1	standard	AC	DB	H	V
SPBI	10	1	standard	AC	DB	H	V
SPBI	11	1	standard	AC	DB	H	V
SPBI	12	1	standard	AC	DB	H	V
SPBI	13	1	standard	AC	DB	H	V
SPBI	14	1	standard	AC	DB	H	V
SPBI	15	1	standard	AC	DB	H	V
SPBI	4	2	standard	AC	DB	H	V
SPBI	6	2	standard	AC	DB	H	V
SPBI	8	2	standard	AC	DB	H	V
SPBI	10	2	standard	AC	DB	H	V
SPBI	12	2	standard	AC	DB	H	V
SPBI	14	2	standard	AC	DB	H	V

FLAT ROOF FRAME SETS

Flat roof frame sets are called SPFR. These sets are used for flat roofs and mounted using a frame.

There are several options for selecting a set. The number of sets may vary; the maximum per set is 15. There are two options for the angle of the frame: 20˚/30˚ or 45˚/60˚. Both options indicate the range for placing the frame set. Standard all collectors are equipped with copper absorber plate and meander. The AC sets include an absorber plate of aluminum and copper meander. All sets can be equipped with a drain back system, DB. There is the option of placing the collectors horizontally or vertically. Finally, depending on the roof, the set is available with or without concrete blocks.

Selecting a collector set depends on the situation of the roof or walls and the necessary hot water capacity. We can help you to create the best possible solution. Please contact our Sales Engineers; sales@aosmith.co.uk or call 0870 267 6484.



FLAT ROOF FRAME COLLECTORS

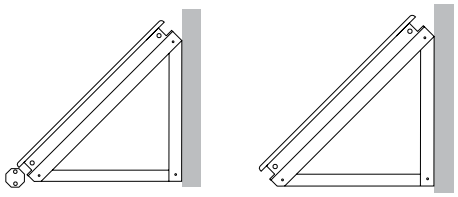
Type	Number of collectors	Angle	copper/copper	aluminum/copper	With drain back	Horizontal	Vertical	With concrete blocks
SPFR	1	20/30	standard	AC	DB	H	V	B
SPFR	2	20/30	standard	AC	DB	H	V	B
SPFR	3	20/30	standard	AC	DB	H	V	B
SPFR	4	20/30	standard	AC	DB	H	V	B
SPFR	5	20/30	standard	AC	DB	H	V	B
SPFR	6	20/30	standard	AC	DB	H	V	B
SPFR	7	20/30	standard	AC	DB	H	V	B
SPFR	8	20/30	standard	AC	DB	H	V	B
SPFR	9	20/30	standard	AC	DB	H	V	B
SPFR	10	20/30	standard	AC	DB	H	V	B
SPFR	11	20/30	standard	AC	DB	H	V	B
SPFR	12	20/30	standard	AC	DB	H	V	B
SPFR	13	20/30	standard	AC	DB	H	V	B
SPFR	14	20/30	standard	AC	DB	H	V	B
SPFR	15	20/30	standard	AC	DB	H	V	B
SPFR	1	45/60	standard	AC	DB	H	V	B
SPFR	2	45/60	standard	AC	DB	H	V	B
SPFR	3	45/60	standard	AC	DB	H	V	B
SPFR	4	45/60	standard	AC	DB	H	V	B
SPFR	5	45/60	standard	AC	DB	H	V	B
SPFR	6	45/60	standard	AC	DB	H	V	B
SPFR	7	45/60	standard	AC	DB	H	V	B
SPFR	8	45/60	standard	AC	DB	H	V	B
SPFR	9	45/60	standard	AC	DB	H	V	B
SPFR	10	45/60	standard	AC	DB	H	V	B
SPFR	11	45/60	standard	AC	DB	H	V	B
SPFR	12	45/60	standard	AC	DB	H	V	B
SPFR	13	45/60	standard	AC	DB	H	V	B
SPFR	14	45/60	standard	AC	DB	H	V	B
SPFR	15	45/60	standard	AC	DB	H	V	B

WALL HUNG CONSTRUCTION SETS

Wall hung construction sets are called SPWL. These sets are used for installing collectors on the outside wall of a building. The sets are mounted using a frame.

There are several options for selecting a set. The number of sets may vary; the maximum per set is 15. There are three options for the angle of the frame: 45˚, 60˚ or 70˚. Standard all collectors are equipped with copper absorber plate and meander. The AC sets include an absorber plate of aluminum and copper meander. All sets can be equipped with a drain back system, DB. These collectors can only be placed horizontally.

Selecting a collector set depends on the situation of the roof or walls and the necessary hot water capacity. We can help you to create the best possible solution. Please contact our Sales Engineers; sales@aosmith.co.uk or call 0870 267 6484.



WALL HUNG CONSTRUCTION COLLECTORS

Type	Number of collectors	Angle	copper/copper	aluminum/copper	With drain back	Horizontal
SPWL	1	45	standard	AC	DB	H
SPWL	2	45	standard	AC	DB	H
SPWL	3	45	standard	AC	DB	H
SPWL	4	45	standard	AC	DB	H
SPWL	5	45	standard	AC	DB	H
SPWL	6	45	standard	AC	DB	H
SPWL	7	45	standard	AC	DB	H
SPWL	8	45	standard	AC	DB	H
SPWL	9	45	standard	AC	DB	H
SPWL	10	45	standard	AC	DB	H
SPWL	11	45	standard	AC	DB	H
SPWL	12	45	standard	AC	DB	H
SPWL	13	45	standard	AC	DB	H
SPWL	14	45	standard	AC	DB	H
SPWL	15	45	standard	AC	DB	H
SPWL	1	60	standard	AC	DB	H
SPWL	2	60	standard	AC	DB	H
SPWL	3	60	standard	AC	DB	H
SPWL	4	60	standard	AC	DB	H
SPWL	5	60	standard	AC	DB	H
SPWL	6	60	standard	AC	DB	H
SPWL	7	60	standard	AC	DB	H
SPWL	8	60	standard	AC	DB	H
SPWL	9	60	standard	AC	DB	H
SPWL	10	60	standard	AC	DB	H
SPWL	11	60	standard	AC	DB	H
SPWL	12	60	standard	AC	DB	H
SPWL	13	60	standard	AC	DB	H
SPWL	14	60	standard	AC	DB	H
SPWL	15	60	standard	AC	DB	H
SPWL	1	70	standard	AC	DB	H
SPWL	2	70	standard	AC	DB	H
SPWL	3	70	standard	AC	DB	H
SPWL	4	70	standard	AC	DB	H
SPWL	5	70	standard	AC	DB	H
SPWL	6	70	standard	AC	DB	H
SPWL	7	70	standard	AC	DB	H
SPWL	8	70	standard	AC	DB	H
SPWL	9	70	standard	AC	DB	H
SPWL	10	70	standard	AC	DB	H
SPWL	11	70	standard	AC	DB	H
SPWL	12	70	standard	AC	DB	H
SPWL	13	70	standard	AC	DB	H
SPWL	14	70	standard	AC	DB	H
SPWL	15	70	standard	AC	DB	H

Meet our reNEWables

Air to water heat pump

In the quest for alternative energy sources and maximum efficiency, A.O. Smith has developed an air to water heat pump. This is a water heater that uses the residual heat present in the ambient air to heat the water in the storage tank. This might be the residual heat inside the boiler room, or ventilation air drawn from outside a building.

Compact, easy installation

The heat pumps feature a highly compact format and easy installation, ideal for residential and small commercial applications.

Safety

Thanks to the unique design with the heat exchanger on the outside of the tank, the heat is transferred from the heat transfer fluid circuit to the sanitary water in the tank via a double wall heat exchanger. This means there is not even the slightest risk heat transfer fluid will enter the water. This way, maximum efficiency is combined with maximum safety.

Efficiency and simplicity

The simple but robust technology used in the heat pump design makes it a strong candidate for a major role in the water heating market of the future. The pump draws existing (residual) heat from ambient air and transfers this to the water in the tank. By means of this process, sanitary hot water can be produced to a temperature of up to 55°C.

Industrial applications

The heat pumps in our current range are mostly suitable for residential or small commercial applications.

A.O. Smith is exploring the possibilities for industrial and large commercial applications. Our engineers are working on a system that combines a heat pump and an indirect vessel, creating an installation that can be configured according to the required draw-off capacity.
This heat pump can produce large amounts of energy-efficient hot water, and will be available by the end of the year.

HEAT PUMP

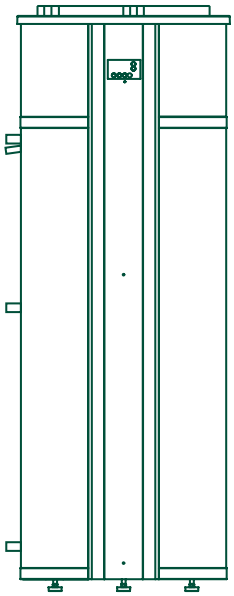
All components of the heat pump are mounted on top, making the appliance easily accessible. A double separation between the heat transfer circuit and the sanitary water in the tank completely excludes any possibility of heat transfer fluid leakage.

OPEN VENTED OPTION: AH 290

The open vented option of the AH 290 is characterised by a very simple arrangement in which the supplied air is drawn directly from the boiler room. Discharged air is likewise returned to the boiler room. The COP of the AH 290 is 3.2.

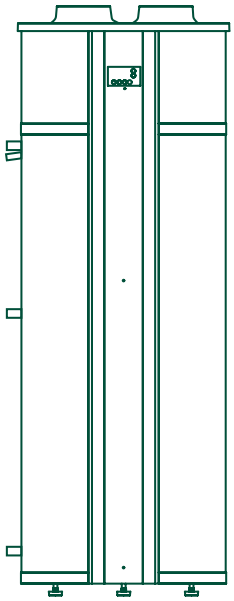
DUCTED OPTION: AHD 290

The ducted option of the AHD 290 is characterised by an arrangement in which the air supply is drawn from outside the boiler room. The discharged air is likewise returned outside the boiler room. The AHD is equipped standard with a defrost function so that the appliance can continue working effectively even at low temperatures. The COP of the AHD 290 is 3.5.



AH

The open vented option of the AH draws heat from the air in the direct surroundings. Discharged air is returned to the boiler room.



AHD

The ducted option of the AHD draws heat from air from outside the boiler room. The discharged air is also returned outside the boiler room.

CONTROL PANEL

The heat pumps have a very user-friendly and complete control panel for control of the entire appliance.

AH
Air to water heat pump, open vented

Nominal output	**1,98 kW**

- AH 290 basic version with air intake and air outlet indoors
- Storage capacity 285 litres
- Very high COP of 3.2
- Suitable for air temperatures between 0°C - 35°C
- Plug and play installation
- Easy and user-friendly control
- Water temperature with the heat pump up to 55°C
- Additional electric element of 1.5 kW standard
- Water temperature with additional electric element up to 65°C
- Ultra quiet operation

Technical specifications		
Electrical power consumption	W	628
Nominal output	kW	1.96
COP	-	3.2
Empty weight	kg	105
Draw-off capacity		
Capacity	l	285
Max. control temperature	°C	55
Heat pump only T_{set} = 55°C / T_{cold} = 10°C		
30 min. ΔT=28°C	l	394
60 min. ΔT=28°C	l	424
90 min. ΔT=28°C	l	454
120 min. ΔT=28°C	l	484
Continuous ΔT=28°C	l/h	60
Heating-up time ΔT=28°C	min.	284
Heat pump only T_{set} = 55°C / T_{cold} = 10°C		
30 min. ΔT=45°C	l	245
60 min. ΔT=45°C	l	264
90 min. ΔT=45°C	l	282
120 min. ΔT=45°C	l	301
Continuous ΔT=45°C	l/h	37
Heating-up time ΔT=45°C	min.	457
Heat pump and electrical element T_{set} = 65°C / T_{cold} = 10°C		
30 min. ΔT=55°C	l	252
60 min. ΔT=55°C	l	279
90 min. ΔT=55°C	l	306
120 min. ΔT=55°C	l	333
Continuous ΔT=55°C	l/h	54
Heating-up time ΔT=55°C	min.	391
Dimensions		
Height	mm	1815
Diameter	mm	Ø 660
Height of cold water connection	mm	110
Height of hot water connection	mm	1410

Based on a voltage of 230V

AHD
Air to water heat pump, ducted

Nominal output	**1,52 kW**

- AHD 290 with air intake and air outlet from outside the building and defrost function
- Storage capacity 285 litres
- Very high COP of 3.5
- Suitable for air temperatures between -8°C - 35°C
- Plug and play installation
- Easy and user-friendly control
- Water temperature with the heat pump up to 55°C
- Additional electric element of 1.5 kW standard
- Water temperature with additional electric element up to 65°C
- Quiet operation

Technical specifications		
Electrical power consumption	W	628
Nominal output	kW	1.52
COP	-	3.5
Empty weight	kg	105
Draw-off capacity		
Capacity	l	285
Max. control temperature	°C	55
Heat pump only T_{set} = 55°C / T_{cold} = 10°C		
30 min. ΔT=28°C	l	394
60 min. ΔT=28°C	l	424
90 min. ΔT=28°C	l	454
120 min. ΔT=28°C	l	484
Continuous ΔT=28°C	l/h	60
Heating-up time ΔT=28°C	min.	284
Heat pump only T_{set} = 55°C / T_{cold} = 10°C		
30 min. ΔT=45°C	l	245
60 min. ΔT=45°C	l	264
90 min. ΔT=45°C	l	282
120 min. ΔT=45°C	l	301
Continuous ΔT=45°C	l/h	37
Heating-up time ΔT=45°C	min.	457
Heat pump and electrical element T_{set} = 65°C / T_{cold} = 10°C		
30 min. ΔT=55°C	l	252
60 min. ΔT=55°C	l	279
90 min. ΔT=55°C	l	306
120 min. ΔT=55°C	l	333
Continuous ΔT=55°C	l/h	54
Heating-up time ΔT=55°C	min.	391
Dimensions		
Height	mm	1840
Diameter	mm	Ø 660
Height of cold water connection	mm	110
Height of hot water connection	mm	1410
Diameter air supply/air outlet	mm	160

Based on a voltage of 230V

From atmospheric to HE

Gas-fired

Optimum comfort in combination with energy efficiency is of essential importance when selecting your water heating system. Both for domestic use and large commercial applications, A.O. Smith offers a wide range of gas-fired water heating solutions, from atmospheric applications to condensing high-efficiency systems. Development and production of our appliances have made them suitable for any market segment, for Europe and beyond.

Control and ease of use

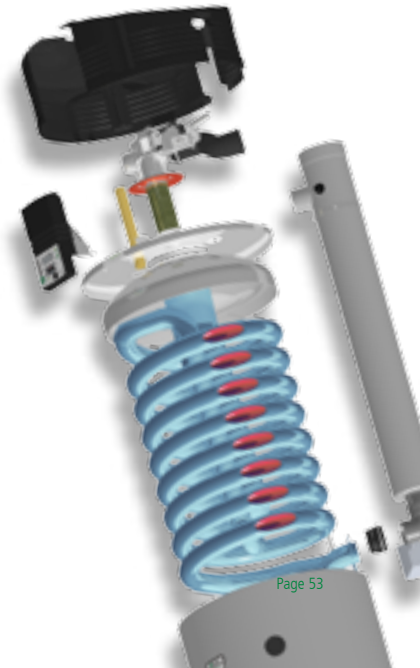
Maximum comfort and high efficiency are fundamental to A.O. Smith. Our gas appliances are known for their exceptional ease of use. Appliance controls are available in all shapes and sizes, from simple on / off controls to highly-advanced fully-automatic systems. Thanks to the comprehensive programming capabilities, safety from legionnaire's disease is guaranteed.

An advanced control panel clearly displays all relevant data. The same panel is used to easily enter and change all settings, to suit the requirements of the user.

Maintenance and service is made easy for engineers as all parts that may need attention are located in easily accessible places. On installations with an advanced controller, errors are reported directly on the display, making localisation and troubleshooting easy. The appliance history is also clearly visible on the appliance.

Long lifetime

The core of a water heater is the hot water tank, where the heat transfer takes place. All A.O. Smith products are made of extremely strong quality steel, and finished with the unique PermaGlas Ultra Coat glass lining. The use of such tough materials guarantees a maximum lifetime for your water heater.



BFC HEAT EXCHANGER

The unique design of the BFC heat exchanger ensures optimum condensing performance at almost all flow rates.

TWI FAN-BURNER

The gas/air mixture ratio is controlled to perfection by the compact TWI fan burner design. This raises the appliance's efficiency considerably.

APPLIANCE NOMINAL CAPACITY

It is essential that the nominal capacity is matched with the water heating needs of the user. The various products from A.O. Smith are so well-matched with one another that expansion of your installation is easily feasible, even in the future. Our Technical Support employees will be pleased to tell you more.

ENERGY SAVINGS

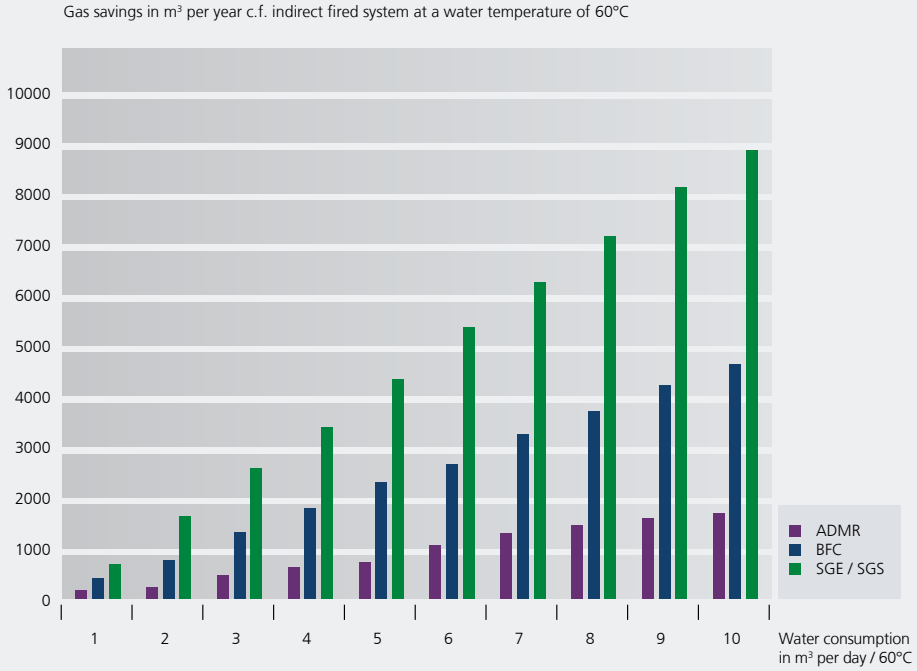
When designing sanitary hot water installations, it is essential to achieve maximum energy savings. Indirect fired systems require high primary temperatures (as high as 90°C). The heat is then transferred to the sanitary water via a heat exchanger. These systems are characterised by a considerably higher gas consumption than the direct fired A.O. Smith systems.

In A.O. Smith direct fired systems the heat is transferred directly through the bottom of the water tank of the water heater or via an integrated heat exchanger.

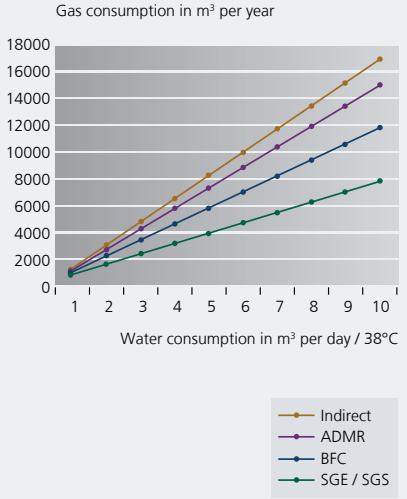
The graph below shows that gas savings can be as much as 50%. Thanks to the unique design of our heat exchangers and intelligent control modules, maximum efficiency is accomplished with minimum energy consumption.

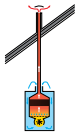
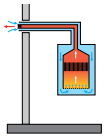
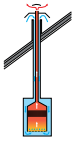
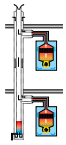
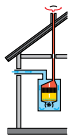
A.O. Smith systems already fulfill the strictest requirements in the area of upcoming ErP Ecodesign regulations, and will be found in the categories with the highest possible energy labelling.

GAS SAVINGS DIRECT VERSUS INDIRECT FIRED SYSTEMS



GAS CONSUMPTION IN M³ PER YEAR AT A WATER TEMPERATURE OF 38°C



	B23  AIR SUPPLY FROM BOILER ROOM WITH ROOF DUCT	C11 - C13  HORIZONTAL FLUE DISCHARGE SYSTEM WITH WALL DUCT	C31 - C33  VERTICAL FLUE DISCHARGE SYSTEM WITH WALL DUCT	C43  CONNECTION TO COMMON FLUE DISCHARGE SYSTEM	C53  AIR SUPPLY VIA WALL DUCT FLUE DISCHARGE VIA ROOF DUCT
BFM 30/50/80		C13 concentric	C33 concentric		
BFM 100/120		C13 parallel with concentric terminal	C33 parallel		
BFC*	B23 single	C13 parallel/concentric	C33 parallel/concentric	C43 parallel/concentric	C53 parallel
TWI*	B23 single	C13 parallel/concentric	C33 parallel/concentric	C43 parallel/concentric	C53 parallel
SGE*	B23 single	C13 parallel/concentric	C33 parallel/concentric	C43 parallel/concentric	C53 parallel
SGS*	B23 single	C13 parallel/concentric	C33 parallel/concentric	C43 parallel/concentric	C53 parallel

For specific information per appliance please see the chapter on flue gas discharge materials.
* BFC, TWI, SGE and SGS water heaters are also approved for installations for which flue option parts are not supplied (C63). Note: horizontal pipes must be installed with a pitch of 5 mm per metre back to the water heater.

AIR SUPPLY AND FLUE OPTIONS

All atmospheric boilers (ADM, ADMP, ADMR, BTI, EQ, EQH) must be installed in accordance with locally applicable guidelines and ventilation regulations (categories B11BS). The COF must be installed in accordance with B23. The installation manual provides more information about the installation and electrical connections.

The flue gas discharge material in the picture is for a fully ducted installation.

Twister
Fully ducted condensing high-efficiency water heater (95% gross)

Nominal output	**36.0 - 47.7 kW**
Flue options	**B23, C13, C33, C43, C53, C63**

- Stainless steel tank: no anodes simplify maintenance
- Premix Low-NOx burner is environmentally friendly
- Whisper quiet operation because of specially designed blower and burner
- Plug-and-Play technology; connect air inlet, exhaust outlet, water, electricity, and gas, set the temperature and the system functions properly
- Easy to install because of the relatively low weight of the appliance (70/82 kg)
- Suitable for natural gas and propane
- Very suitable for agricultural applications

Technical specifications		**35-130**	**45-190**
Nominal input*	kW	37.8	50.0
Nominal output	kW	36.0	47.7
Gas consumption**	m^3/h	3.6	4.8
Empty weight	kg	70	82
Draw-off capacity			
Capacity	l	129	189
Max. control temperature	°C	85	85
30 min. ΔT=44°C	l	450	670
60 min. ΔT=44°C	l	800	1200
90 min. ΔT=44°C	l	1200	1600
120 min. ΔT=44°C	l	1500	2100
Continuous ΔT=44°C	l/h	710	940
Heating-up time ΔT=44°C	min.	11	12
30 min. ΔT=50°C	l	380	580
60 min. ΔT=50°C	l	690	990
90 min. ΔT=50°C	l	1000	1400
120 min. ΔT=50°C	l	1400	1900
Continuous ΔT=50°C	l/h	620	830
Heating-up time ΔT=50°C	min.	12	14
30 min. ΔT=55°C	l	340	520
60 min. ΔT=55°C	l	620	890
90 min. ΔT=55°C	l	900	1300
120 min. ΔT=55°C	l	1200	1700
Continuous ΔT=55°C	l/h	570	750
Heating-up time ΔT=55°C	min.	14	15
Dimensions			
Height	mm	1270	1655
Depth	mm	730	730
Width	mm	560	560
Height of cold water connection	mm	400	400
Height of hot water connection	mm	1270	1655
Height of gas connection	mm	160	160
Diameter of flue connection	mm	80/125	80/125

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

BFC Cyclone

Fully ducted condensing high-efficiency water heater 97% (gross)

Nominal output	**31,0 - 121,8 kW**
Flue options	**B23, C13, C33, C43, C53, C63**

- Fully ducted condensing high-efficiency water heater 97% (gross)
- Automatic gas/air premix burning system including burner modulation
- Delivered with low-maintenance powered anodes
- Efficiency 97% (gross)
- NOx emission ≤ 30 ppm (dry – air free) – NOx class 5
- Whisper quiet operation (<45 dB(A) at 2m distance from wall duct)
- Varying water temperature setting from 40°C to 80°C with use of week timer
- Flexible flue options (maximum length 100m) allows installations to be placed almost anywhere
- Easy fault diagnosis and computer controlled digital week timer
- Programmable for legionella purge cycle
- Voltage-free contact for general fault indication to BMS
- BMS interface available as accessory

BFC 80-120

- Delivered on steel base for convenient transport and installation

Technical specifications		**28**	**30**	**50**	**60**	**80**	**100**	**120**
Nominal input*	kW	32.2	33.3	52.2	63.3	86.6	105.5	128.8
Nominal output	kW	31.0	32.7	50.3	60.4	84.2	100.7	121.8
Gas consumption**	m^3/h	3.1	3.2	5.0	6.0	8.3	10.1	12.3
Empty weight	kg	177	214	214	214	480	480	480
Draw-off capacity								
Capacity	l	217	368	368	368	480	480	480
Max. control temperature	°C	80	80	80	80	80	80	80
30 min. ΔT=44°C	l	430	550	730	840	1100	1300	1500
60 min. ΔT=44°C	l	730	870	1300	1500	1900	2300	2600
90 min. ΔT=44°C	l	1100	1200	1800	2100	2800	3200	3800
120 min. ΔT=44°C	l	1400	1500	2300	2700	3600	4200	5000
Continuous ΔT=44°C	l/h	610	640	990	1200	1700	2000	2400
Heating-up time ΔT=44°C	min.	21	35	22	19	17	15	12
30 min. ΔT=50°C	l	360	450	620	720	910	1100	1300
60 min. ΔT=50°C	l	630	730	1100	1300	1700	2000	2300
90 min. ΔT=50°C	l	900	1100	1500	1800	2400	2800	3400
120 min. ΔT=50°C	l	1200	1300	2000	2300	3100	3700	4400
Continuous ΔT=50°C	l/h	540	570	870	1100	1500	1800	2100
Heating-up time ΔT=50°C	min.	24	39	26	21	20	17	14
30 min. ΔT=55°C	l	320	390	540	630	800	920	1100
60 min. ΔT=55°C	l	560	650	940	1100	1500	1700	2100
90 min. ΔT=55°C	l	800	900	1400	1600	2200	2500	3000
120 min. ΔT=55°C	l	1100	1200	1800	2100	2800	3300	4000
Continuous ΔT=55°C	l/h	490	520	790	950	1400	1600	2000
Heating-up time ΔT=55°C	min.	27	43	28	23	22	18	15
Dimensions								
Height	mm	1390	1910	1910	1910	2060	2060	2060
Depth	mm	705	705	705	705	1000	1000	1000
Width	mm	705	705	705	705	900	900	900
Height of cold water connection	mm	170	160	160	160	225	225	225
Height of hot water connection	mm	1390	1910	1910	1910	2060	2060	2060
Height of gas connection	mm	1285	1815	1815	1815	1855	1855	1855
Diameter of flue connection	mm	100/150	100/150	100/150	100/150	130/200	130/200	130/200
Cleaning opening	mm	95 x 70	95 x 70	95 x 70	95 x 70	95 x 70	95 x 70	95 x 70

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

BFM

Wide range of forced draught room-sealed water heaters for installation in almost any location

Nominal output	**26,4 - 102,4 kW**
Flue options	**C13, C33**

- Efficiency (81% gross)
- Removable control column for convenient servicing
- Control, high limit and energy cut-off thermostat triple protection ensures safe operation
- Frost-protection thermostat
- Stainless-steel burner for natural or propane
- Two access covers for comprehensive waterside tank maintenance
- Voltage-free contact for general fault indication to BMS
- Delivered with conversion kit for propane
- Steel pallet base for convenient transport and installation
- Optional ancillaries: powered anodes to reduce maintenance requirements

Technical specifications		**30**	**50**	**80**	**100**	**120**
Nominal input*	kW	32.2	52.2	83.3	113.3	127.7
Nominal output	kW	26.4	42.3	67.5	90.8	102.4
Gas consumption**	m³/h	3.1	5.0	7.9	10.8	12.2
Empty weight	kg	230	245	295	320	320
Draw-off capacity						
Capacity	l	309	298	253	253	253
Max. control temperature	°C	73	73	73	73	73
30 min. ΔT=44°C	l	586	713	883	1088	1190
60 min. ΔT=44°C	l	844	1127	1543	1975	2190
90 min. ΔT=44°C	l	1102	1540	2203	2863	3191
120 min. ΔT=44°C	l	1360	1954	2862	3750	4191
Continuous ΔT=44°C	l/h	516	827	1319	1774	2000
Heating-up time ΔT=44°C	min.	36	22	12	9	8
30 min. ΔT=50°C	l	516	628	777	958	1047
60 min. ΔT=50°C	l	743	992	1358	1738	1927
90 min. ΔT=50°C	l	970	1355	1938	2519	2808
120 min. ΔT=50°C	l	1197	1719	2519	3300	3688
Continuous ΔT=50°C	l/h	454	728	1161	1561	1760
Heating-up time ΔT=50°C	min.	41	25	13	10	9
30 min. ΔT=55°C	l	469	571	707	871	952
60 min. ΔT=55°C	l	675	901	1235	1580	1752
90 min. ΔT=55°C	l	881	1232	1762	2290	2552
120 min. ΔT=55°C	l	1088	1563	2290	3000	3353
Continuous ΔT=55°C	l/h	413	661	1055	1419	1600
Heating-up time ΔT=55°C	min.	45	27	14	11	9
Dimensions						
Height	mm	2000	2000	2020	2020	2020
Depth	mm	1000	1000	1000	1000	1000
Width	mm	755	755	755	755	755
Height of cold water connection	mm	600	600	590	590	590
Height of hot water connection	mm	1640	1640	1655	1655	1655
Height of gas connection	mm	600	600	600	600	760
Diameter of flue connection	mm	80/125	100/150	130/200	2x130	2x130
Cleaning opening	mm	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

ADM

An extensive range of atmospheric water heaters to suit most larger hot water systems

Nominal output	**32.3 - 109.8 kW**
Flue options	**B11BS**

- Efficient, automatic hot surface igniter
- Removable control column for convenient servicing
- Frost protection thermostat
- Stainless steel burner for natural or propane
- Delivered with conversion kit for propane
- Two access covers for comprehensive waterside tank maintenance

Technical specifications		**40**	**50**	**60**	**80**	**90**	**115**	**135**
Nominal input*	kW	42.2	56.5	66.4	82.5	98.3	126.6	143.4
Nominal output	kW	32.2	42.8	50.2	64.2	74.3	95.8	109.8
Gas consumption**	m^3/h	4.0	5.4	6.3	7.9	9.4	12.1	13.7
Empty weight	kg	195	221	209	238	244	270	329
Draw-off capacity								
Capacity	l	309	357	298	335	278	253	252
Max. control temperature	°C	73	73	73	73	73	73	73
30 min. ΔT=44°C	l	638	785	783	933	972	1132	1254
60 min. ΔT=44°C	l	954	1203	1274	1543	1699	2068	2327
90 min. ΔT=44°C	l	1269	1621	1765	2153	2425	3004	3399
120 min. ΔT=44°C	l	1585	2039	2256	2763	3152	3940	4472
Continuous ΔT=44°C	l/h	631	836	982	1220	1453	1872	2145
Heating-up time ΔT=44°C	min.	29	26	18	16	11	8	7
30 min. ΔT=50°C	l	561	691	689	821	856	996	1104
60 min. ΔT=50°C	l	839	1058	1121	1358	1495	1820	2047
90 min. ΔT=50°C	l	1117	1426	1553	1894	2134	2643	2991
120 min. ΔT=50°C	l	1395	1794	1985	2431	2774	3467	3935
Continuous ΔT=50°C	l/h	556	735	864	1073	1279	1647	1888
Heating-up time ΔT=50°C	min.	33	29	21	19	13	9	8
30 min. ΔT=55°C	l	510	628	627	746	778	906	1003
60 min. ΔT=55°C	l	763	962	1019	1234	1359	1654	1861
90 min. ΔT=55°C	l	1015	1297	1412	1722	1940	2403	2719
120 min. ΔT=55°C	l	1268	1631	1805	2210	2521	3152	3577
Continuous ΔT=55°C	l/h	505	669	785	976	1162	1497	1716
Heating-up time ΔT=55°C	min.	37	32	23	21	14	10	9
Dimensions								
Height	mm	1900	2100	1900	2100	2000	2085	2085
Depth	mm	800	800	800	800	800	800	800
Width	mm	1100	1100	1100	1100	1105	1105	1105
Height of cold water connection	mm	565	565	565	565	575	650	650
Height of hot water connection	mm	1605	1810	1605	1810	1640	1715	1715
Height of gas connection	mm	400	400	400	400	400	400	205
Diameter of flue connection	mm	150	150	180	180	225	225	225
Cleaning opening	mm	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

ADMP

An extensive range of atmospheric water heaters to suit most larger hot water systems

Nominal output	**32.3 - 95,8 kW**
Flue options	**B11BS**

- Permanent pilot ignition
- Removable control column for convenient servicing
- Frost protection thermostat
- Stainless steel burner for natural or propane
- Delivered with conversion kit for propane
- Two access covers for comprehensive waterside tank maintenance

Technical specifications		**40**	**50**	**60**	**80**	**90**	**115**
Nominal input*	kW	42.2	56.5	66.4	82.5	98.3	126.6
Nominal output	kW	32.2	42.8	50.2	64.2	74.3	95.8
Gas consumption**	m³/h	4.0	5.4	6.3	7.9	9.4	12.1
Empty weight	kg	195	221	209	238	244	270
Draw-off capacity							
Capacity	l	309	357	298	335	278	253
Max. control temperature	°C	73	73	73	73	73	73
30 min. ΔT=44°C	l	638	785	783	933	972	1132
60 min. ΔT=44°C	l	954	1203	1274	1543	1699	2068
90 min. ΔT=44°C	l	1269	1621	1765	2153	2425	3004
120 min. ΔT=44°C	l	1585	2039	2256	2763	3152	3940
Continuous ΔT=44°C	l/h	631	836	982	1220	1453	1872
Heating-up time ΔT=44°C	min.	29	26	18	16	11	8
30 min. ΔT=50°C	l	561	691	689	821	856	996
60 min. ΔT=50°C	l	839	1058	1121	1358	1495	1820
90 min. ΔT=50°C	l	1117	1426	1553	1894	2134	2643
120 min. ΔT=50°C	l	1395	1794	1985	2431	2774	3467
Continuous ΔT=50°C	l/h	556	735	864	1073	1279	1647
Heating-up time ΔT=50°C	min.	33	29	21	19	13	9
30 min. ΔT=55°C	l	510	628	627	746	778	906
60 min. ΔT=55°C	l	763	962	1019	1234	1359	1654
90 min. ΔT=55°C	l	1015	1297	1412	1722	1940	2403
120 min. ΔT=55°C	l	1268	1631	1805	2210	2521	3152
Continuous ΔT=55°C	l/h	505	669	785	976	1162	1497
Heating-up time ΔT=55°C	min.	37	32	23	21	14	10
Dimensions							
Height	mm	1900	2100	1900	2100	2000	2085
Depth	mm	800	800	800	800	800	800
Width	mm	1100	1100	1100	1100	1105	1105
Height of cold water connection	mm	565	565	565	565	575	650
Height of hot water connection	mm	1605	1810	1605	1810	1640	1715
Height of gas connection	mm	400	400	400	400	400	400
Diameter of flue connection	mm	150	150	180	180	225	225
Cleaning opening	mm	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

ADMR

An extensive range of atmospheric water heaters to suit most larger hot water systems

Nominal output	**32.3 - 109.8 kW**
Flue options	**B11BS**

- Flue damper to minimise stand by losses
- ThermoControl for easy and flexible control / fault diagnosis
- Legionella purge cycle - options
- Removable control column for convenient servicing
- Voltage-free contact for general fault indication to Building Management System
- Control, high limit and energy cut-off thermostats provide triple protection and ensure safe operation
- Delivered with conversion kit for propane
- Optional ancillaries: powered anodes to reduce maintenance requirements

Technical specifications		**40**	**50**	**60**	**80**	**90**	**115**	**135**
Nominal input*	kW	42.2	56.5	66.4	82.5	98.3	126.6	143.4
Nominal output	kW	32.3	42.8	50.2	64.2	74.3	95.8	109.8
Gas consumption**	m³/h	4.0	5.4	6.3	7.9	9.4	12.1	13.7
Empty weight	kg	195	221	209	238	244	270	329
Draw-off capacity								
Capacity	l	309	357	298	335	278	253	252
Max. control temperature	°C	80	80	80	80	80	80	80
30 min. ΔT=44°C	l	677	830	821	975	1008	1164	1286
60 min. ΔT=44°C	l	993	1248	1312	1585	1734	2109	2359
90 min. ΔT=44°C	l	1309	1666	1803	2195	2461	3036	3431
120 min. ΔT=44°C	l	1624	2084	2294	2805	3187	3972	4504
Continuous ΔT=44°C	l/h	631	836	982	1220	1453	1872	2145
Heating-up time ΔT=44°C	min.	29	26	18	16	11	8	7
30 min. ΔT=50°C	l	596	731	723	858	887	1025	1132
60 min. ΔT=50°C	l	874	1098	1155	1395	1526	1848	2076
90 min. ΔT=50°C	l	1152	1466	1587	1932	2165	2672	3019
120 min. ΔT=50°C	l	1429	1834	2019	2469	2805	3495	3963
Continuous ΔT=50°C	l/h	556	735	864	1073	1279	1647	1888
Heating-up time ΔT=50°C	min.	33	29	21	19	13	9	8
30 min. ΔT=55°C	l	542	664	657	780	806	931	1029
60 min. ΔT=55°C	l	794	999	1050	1268	1387	1680	1887
90 min. ΔT=55°C	l	1047	1333	1442	1756	1969	2429	2745
120 min. ΔT=55°C	l	1299	1667	1835	2244	2550	3177	3603
Continuous ΔT=55°C	l/h	505	669	785	976	1162	1497	1716
Heating-up time ΔT=55°C	min.	37	32	23	21	14	10	9
Dimensions								
Height	mm	1900	2100	1900	2100	2000	2085	2085
Depth	mm	800	800	800	800	800	800	800
Width	mm	1100	1100	1100	1100	1105	1105	1105
Height of cold water connection	mm	565	565	565	565	575	650	650
Height of hot water connection	mm	1605	1810	1605	1810	1640	1715	1715
Height of gas connection	mm	400	400	400	400	400	400	205
Diameter of flue connection	mm	150	150	180	180	225	225	225
Cleaning opening	mm	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100	Ø 100

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

BTI
Atmospheric water heater, primarily intended for small/medium commercial applications

Nominal output	**12.7 - 20.4 kW**
Flue options	**B11BS**

- Control, high limit and energy cut-off thermostats to ensure safe operation
- Safety sensor to prevent flue spillage
- Stainless-steel burner for natural or propane
- Waterway access cover for comprehensive waterside tank maintenance
- Replaceable magnesium anode
- Delivered with conversion kit for propane
- Maximum control temperature: 80°C

Technical specifications		**65**	**85**	**100**
Nominal input*	kW	18.1	25.1	26.7
Nominal output	kW	12.7	19.2	20.4
Gas consumption**	m³/h	1.7	2.4	2.5
Empty weight	kg	93	122	149
Draw-off capacity				
Capacity	l	178	265	355
Max. control temperature	°C	80	80	80
30 min. ΔT=44°C	l	310	464	575
60 min. ΔT=44°C	l	433	652	774
90 min. ΔT=44°C	l	557	840	974
120 min. ΔT=44°C	l	681	1027	1173
Continuous ΔT=44°C	l/h	247	375	399
Heating-up time ΔT=44°C	min.	43	42	53
30 min. ΔT=50°C	l	272	408	506
60 min. ΔT=50°C	l	381	574	681
90 min. ΔT=50°C	l	490	739	857
120 min. ΔT=50°C	l	599	904	1032
Continuous ΔT=50°C	l/h	218	330	351
Heating-up time ΔT=50°C	min.	49	48	61
30 min. ΔT=55°C	l	248	371	460
60 min. ΔT=55°C	l	347	521	619
90 min. ΔT=55°C	l	446	672	779
120 min. ΔT=55°C	l	545	822	938
Continuous ΔT=55°C	l/h	198	300	319
Heating-up time ΔT=55°C	min.	54	53	67
Dimensions				
Height	mm	1680	1585	1780
Depth	mm	610	735	765
Width	mm	520	645	675
Height of cold water connection	mm	1540	1505	1685
Height of hot water connection	mm	1540	1505	1685
Height of gas connection	mm	365	375	375
Diameter of flue connection	mm	Ø 100	Ø 130	Ø 130
Cleaning opening	mm	95 x 70	95 x 70	95 x 70

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

COF

Wide range of water heaters designed for use with pressure jet oil and gas burners

Nominal output	**50,4 - 147,0 kW**
Flue options	**B23**

- The delivered burners meet the combustion specifications for the installation
- Universal burner mounting plate
- Simple and easy accessible controls
- Waterway access cover for comprehensive waterside tank maintenance
- Replaceable magnesium anodes
- Voltage-free contact for general fault indication for Building Management System

Technical specifications		**199**	**245**	**315**	**385**	**455**	**700**
Nominal input*	kW	66.6	83.8	99.9	127.7	149.9	194.3
Nominal output	kW	50.4	63.0	75.6	96.6	113.4	147.0
Gas consumption**	m^3/h	6.3	7.9	9.5	12.2	14.3	18.5
Empty weight	kg	230	230	240	265	265	305
Draw-off capacity							
Capacity	l	322	322	318	282	282	259
Max. control temperature	°C	80	80	80	80	80	80
30 min. ΔT=44°C	l	853	964	1070	1209	1356	1623
60 min. ΔT=44°C	l	1346	1580	1808	2153	2465	3059
90 min. ΔT=44°C	l	1838	2195	2547	3097	3573	4496
120 min. ΔT=44°C	l	2331	2811	3286	4041	4681	5932
Continuous ΔT=44°C	l/h	985	1231	1478	1888	2216	2873
Heating-up time ΔT=44°C	min.	20	16	13	9	8	5
30 min. ΔT=50°C	l	751	848	941	1064	1194	1428
60 min. ΔT=50°C	l	1184	1390	1591	1894	2169	2692
90 min. ΔT=50°C	l	1618	1932	2242	2725	3144	3956
120 min. ΔT=50°C	l	2051	2474	2892	3556	4119	5221
Continuous ΔT=50°C	l/h	867	1084	1300	1662	1951	2528
Heating-up time ΔT=50°C	min.	22	18	15	10	9	6
30 min. ΔT=55°C	l	682	771	856	967	1085	1298
60 min. ΔT=55°C	l	1077	1264	1447	1722	1972	2447
90 min. ΔT=55°C	l	1471	1756	2038	2477	2858	3597
120 min. ΔT=55°C	l	1865	2249	2629	3233	3745	4746
Continuous ΔT=55°C	l/h	788	985	1182	1510	1773	2299
Heating-up time ΔT=55°C	min.	25	20	16	11	10	7
Dimensions							
Height	mm	1900	1900	1900	1900	1900	1990
Depth	mm	725	725	725	725	725	725
Width	mm	705	705	705	705	705	705
Height of cold water connection	mm	685	685	685	640	640	765
Diameter of flue connection	mm	150	200	200	200	200	250
Cleaning opening	mm	95 x 55	95 x 55	95 x 55	95 x 55	95 x 55	95 x 55

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

EQ/EQH
Atmospheric water heater with thermal flue spillage protection and piezo ignition

Nominal output	**7,4 - 20,4 kW**
Flue options	**B11BS**

- Low noise level, suitable for installation in most locations, ring base construction
- Safety thermostat
- Safety sensor to prevent flue spillage
- Replaceable magnesium sacrificial anode
- Suitable for natural or propane

EQ 115/155/EQH 200
- Ring base for easy installation and lower heat losses

EQ 280/380
- Access covers for waterside tank maintenance

Technical specifications		**EQ 115**	**EQ 155**	**EQH 200**	**EQ 280**	**EQ 380**
Nominal input*	kW	9.3	11.3	18.3	25.1	26.7
Nominal output	kW	7.4	9.0	14.0	19.2	20.4
Gas consumption**	m³/h	0.9	1.1	1.7	2.4	2.5
Empty weight	kg	47	52	75	117	144
Draw-off capacity						
Capacity	l	109	144	181	265	355
Max. control temperature	°C	71	71	71	71	71
30 min. ΔT=44°C	l	171	219	299	426	524
60 min. ΔT=44°C	l	243	306	435	614	723
90 min. ΔT=44°C	l	315	394	572	802	923
120 min. ΔT=44°C	l	388	482	709	989	1122
Continuous ΔT=44°C	l/h	144	175	273	375	399
Heating-up time ΔT=44°C	min.	45	49	40	42	53
30 min. ΔT=50°C	l	150	192	263	375	461
60 min. ΔT=50°C	l	214	270	383	540	637
90 min. ΔT=50°C	l	277	347	504	705	812
120 min. ΔT=50°C	l	341	424	624	871	987
Continuous ΔT=50°C	l/h	127	154	241	330	351
Heating-up time ΔT=50°C	min.	51	56	45	48	61
30 min. ΔT=55°C	l	137	175	239	341	419
60 min. ΔT=55°C	l	194	245	348	491	579
90 min. ΔT=55°C	l	252	315	458	641	738
120 min. ΔT=55°C	l	310	385	567	791	898
Continuous ΔT=55°C	l/h	116	140	219	300	319
Heating-up time ΔT=55°C	min.	57	62	50	53	67
Dimensions						
Height	mm	1280	1370	1670	1585	1780
Depth	mm	545	595	605	735	765
Width	mm	465	515	515	645	675
Height of cold water connection	mm	1180	1270	1590	1505	1685
Height of hot water connection	mm	1180	1270	1590	1505	1685
Height of gas connection	mm	325	325	380	375	375
Diameter of flue connection	mm	80	80	100	130	130

* Gas data based on gross value, G20-20mbar ** Gas consumption at 15°C and 1013.25 mbar
Draw-off capacities are based on the maximum control temperature and 10°C cold water

High power rating
Electric

For those places where natural gas is unavailable, or where ease of installation is a conscious choice, A.O. Smith offers a range of electric water heaters. Our electric water heater line-up features highly compact dimensions with a tank capacity ranging from 115 to 450 litres and a high power rating. These characteristics make them suitable for residential as well as commercial and industrial applications.

Voltages

A.O. Smith offers straightforward 'plug and play' electric water heaters (single phase 230 Volts), ideal for residential and small-scale industrial applications. There is also a whole spectrum of electric water heaters that run on 3 phase mains power at 415 Volts. The available power rating of this second group of water heaters is considerably greater, which makes these appliances most suitable for fulfilling a larger hot water demand.

Control

Electric water heaters from A.O. Smith are fitted with sturdy, replaceable incoloy heating elements. They are equipped with a control thermostat and a safety thermostat with reset button.

Reliability

As you would expect from A.O. Smith, a long lifetime and ease of use are paramount in our electric water heaters. Simple, straightforward installation makes these water heaters suitable for installation virtually anywhere. For this reason, an electric water heater can be the ideal solution. Like all other types of water heaters from A.O. Smith, the electric water heaters all have CE approval.

DRE

Easily accessible connection panels sized to simplify installation are a key feature of A.O. Smith's DRE appliances. Each electric element is equipped with a control thermostat and a safety thermostat with a reset button.

DRY FIRE PROTECTION

Dry fire protection is a standard feature of all DRE appliances, ensuring that the elements are protected when the water level falls below the set minimum.

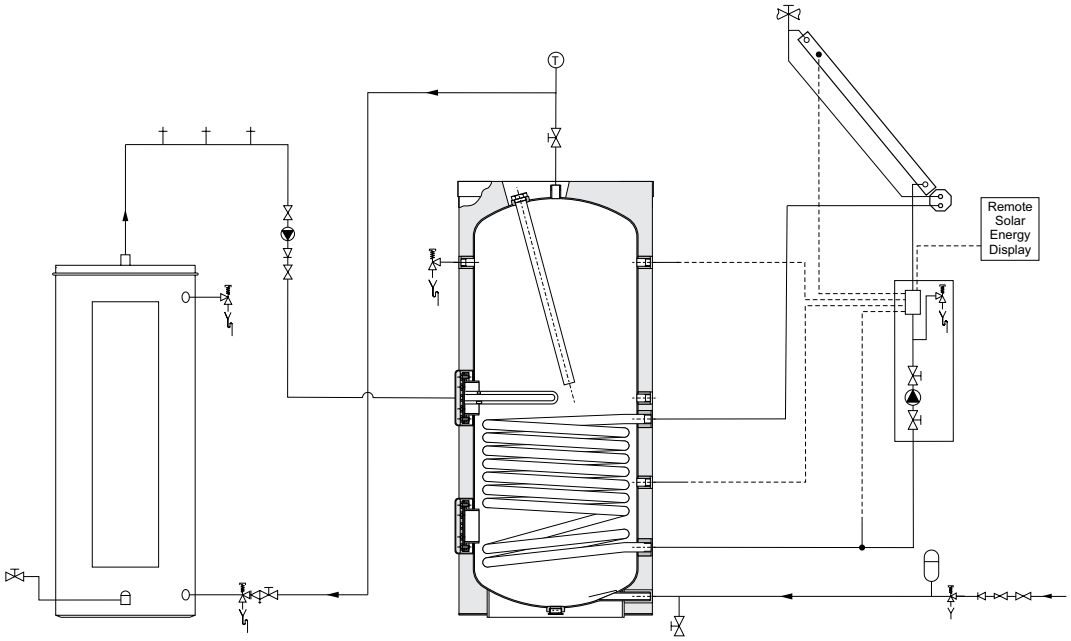
APPLICATIONS

There are various reasons for choosing an electric water heater; easy installation or lack of natural gas. Using an electric water heater in a configuration with solar energy or storage tanks, to meet the hot water requirements, is also a possible solution.

Below you can see how a DRE combined with an ITE can be used to configure a solar system. The DRE is available in a range of 200 to 450 litres, from 8.4 to 50.4 kW electrical power consumption.

Larger installations are available in combination with an ITE (IT) storage tank with integrated heat exchanger, available from 300 to 3,000 litres. Considering our product range, various configurations are possible.

This system heats cold water by transferring solar energy in the ITE. The warmest water is transferred from the ITE to the bottom of the DRE, so it only needs to be boosted to the required temperature. In this case the DRE is used as an after heater.



EES

Vertical electric water heater for residential or small commercial applications

Nominal output	**3.0 kW**
Flue options	**-**

- Capacity: 115 - 450 litres
- Two replaceable Incoloy-sheathed elements
- Each element is provided with an independent control thermostat (adjustable: 43 - 77°C)
- Secondary protection is provided by a high-limit thermostat with manual re-set button
- Safety float switch
- Automatic switch regulates the elements to transfer a maximum of 3 kW
- PermaGlas Ultra Coat second-generation glass coating technology to prevent corrosion
- Replaceable magnesium anode

Technical specifications		**30**	**40**	**52**	**66**	**80**	**120**
Electrical power consumption	kW	3.0	3.0	3.0	3.0	3.0	3.0
Amperage	A	11-13	11-13	11-13	11-13	11-13	11-13
Number of electrical elements	-	2	2	2	2	2	2
Supply voltage		240(-15%/+10%)/50Hz (+/-1Hz)					
Draw-off capacity							
Capacity	l	115	155	190	250	300	450
Max. control temperature	°C	77	77	77	77	77	77
30 min. ΔT=44°C	l	149	192	229	293	346	506
60 min. ΔT=44°C	l	178	221	258	322	375	535
90 min. ΔT=44°C	l	208	250	288	352	405	565
120 min. ΔT=44°C	l	237	280	317	381	434	594
Continuous ΔT=44°C	l/h	59	59	59	59	59	59
Heating-up time ΔT=44°C	min.	118	159	194	256	307	460
30 min. ΔT=50°C	l	131	169	201	258	305	445
60 min. ΔT=50°C	l	157	194	227	284	330	471
90 min. ΔT=50°C	l	183	220	253	309	356	479
120 min. ΔT=50°C	l	208	246	279	335	382	523
Continuous ΔT=50°C	l/h	52	52	52	52	52	52
Heating-up time ΔT=50°C	min.	134	180	221	291	349	523
30 min. ΔT=55°C	l	119	153	183	234	277	405
60 min. ΔT=55°C	l	143	177	207	258	300	428
90 min. ΔT=55°C	l	166	200	200	230	324	452
120 min. ΔT=55°C	l	190	224	253	305	347	475
Continuous ΔT=55°C	l/h	47	47	47	47	47	47
Heating-up time ΔT=55°C	min.	147	198	243	320	384	576
Dimensions							
Height	mm	930	1110	1370	1530	1540	1620
Diameter	mm	520	520	520	560	610	710
Height of water connection	mm	930	1110	1370	1530	1540	1620

Draw-off capacities are based on the maximum control temperature and 10°C cold water

DRE
Three phase electric water heater primarily for commercial applications

Nominal output	**9.0 - 54.0 kW**
Flue options	**-**

- Capacity: 200 - 450 litres
- 3 to 9 Incoloy-sheathed elements with a maximum rating of 54 kW
- Each element is independently controlled via its own control thermostat (adjustable: 49 - 82°C) and a manually resettable high-limit thermostat
- Cascade control of the elements for more steady and responsive heating
- All elements and thermostats are fuse-protected
- PermaGlas Ultra Coat second-generation glass coating technology helps to prevent corrosion
- Replaceable magnesium anode
- Safety float switch

Technical specifications		**52-9**	**52-18**	**52-36**	**80-9**	**80-18**	**80-36**	**80-54**	**120-9**	**120-18**	**120-36**	**120-54**
Electrical power consumption	kW	9.0	18.0	36.0	9.0	18.0	36.0	54.0	9.0	18.0	36.0	54.0
Amperage	A	11-13	23-25	46-50	11-13	23-25	46-50	69-75	11-13	23-25	46-50	69-75
Number of electrical elements	-	3	3	6	3	3	6	9	3	3	6	9
Supply voltage		415V(-15%/+10%)/50-60Hz										
Draw-off capacity												
Capacity	l	200	200	200	300	300	300	300	450	450	450	450
Max. control temperature	°C	82	82	82	82	82	82	82	82	82	82	82
30 min. ΔT=44°C	l	341	420	578	472	551	709	868	668	747	906	1064
60 min. ΔT=44°C	l	429	596	930	560	727	1061	1395	756	923	1258	1592
90 min. ΔT=44°C	l	517	772	1282	648	903	1413	1923	844	1099	1609	2120
120 min. ΔT=44°C	l	605	948	1634	736	1079	1765	2451	932	1275	1961	2647
Continuous ΔT=44°C	l/h	176	352	704	176	352	704	1055	176	352	704	1055
Heating-up time ΔT=44°C	min.	68	34	17	102	51	26	17	153	77	38	26
30 min. ΔT=50°C	l	300	370	509	415	485	624	764	588	658	797	936
60 min. ΔT=50°C	l	377	525	819	493	640	934	1228	665	813	1107	1401
90 min. ΔT=50°C	l	455	679	1128	570	795	1243	1692	743	967	1416	1865
120 min. ΔT=50°C	l	532	834	1438	647	949	1553	2157	820	1122	1726	2330
Continuous ΔT=50°C	l/h	155	310	619	155	310	619	929	155	310	619	929
Heating-up time ΔT=50°C	min.	78	39	19	116	58	29	19	174	87	44	29
30 min. ΔT=55°C	l	273	336	463	378	441	567	694	535	598	725	851
60 min. ΔT=55°C	l	343	477	744	448	582	849	1116	605	739	1006	1273
90 min. ΔT=55°C	l	414	618	1026	518	722	1130	1539	675	879	1287	1696
120 min. ΔT=55°C	l	484	758	1307	589	863	1412	1961	746	1020	1569	2118
Continuous ΔT=55°C	l/h	141	281	563	141	281	563	844	141	281	563	844
Heating-up time ΔT=55°C	min.	85	43	21	128	64	32	21	192	96	48	32
Dimensions												
Height	mm	1460	1460	1460	1580	1580	1580	1580	1600	1600	1600	1600
Depth	mm	690	690	690	790	790	790	790	910	910	910	910
Width	mm	560	560	560	640	640	640	640	750	750	750	750
Height of cold water connection	mm	125	125	125	125	125	125	125	125	125	125	125
Height of hot water connection	mm	1460	1460	1460	1580	1580	1580	1580	1600	1600	1600	1600

Draw-off capacities are based on the maximum control temperature and 10°C cold water

Storage tanks and plate heat exchangers

Indirect

In addition to water heaters, A.O. Smith manufactures storage tanks, either with or without integral heat exchangers, in the range of 289-2800 litres. Tanks without a heat exchanger are called 'ST' tanks, those with one coil are 'IT' tanks and those with twin coils are called 'ITS'.

With or without exchanger (ST, IT, ITE)

Tanks designated ST are storage vessels without internal heat exchanger used to enlarge the system capacity. IT tanks have a single, high capacity coil fitted to accept energy from another heat source such as a boiler. ITE tanks are indirect tanks specifically designed for solar thermal preheat systems.

Dual coil tanks (ITS)

A.O. Smith has a range of dual coil tanks with capacities from 289-1007 litres. Typically, the upper coil would connect to a boiler plant while the lower coil would connect to a heat recovery or solar system.

Inspection

The ST, IT, ITE and ITS ranges are all equipped with clean-out doors as standard to facilitate maintenance. This enables the water-side maintenance to be carried out easily and efficiently. The storage tanks are particularly suitable for use in a system arrangement: in combination with solar water heaters and gas-fired appliances from A.O. Smith.

Plate heat exchangers (PHE)

A.O. Smith supplies a range of plate heat exchangers with double separation, making them suitable for high output, potable hot water applications. Plate exchangers of type PHE are available in capacities of 50 – 275 kW. Insulation covers are also available to minimise heat losses.

HEAT EXCHANGERS

Our heat exchangers ensure optimal heat transfer and maximum energy-efficiency from the installation. Depending on the intended use, storage tanks are available with either one or two internally mounted heat exchangers.

PLATE HEAT EXCHANGERS

Single and double-separated soldered copper plate heat exchangers in a power range from 50 - 275 kW are available for applications in combination with ST storage tanks. Matching insulation jackets are obtainable for the entire range of plate heat exchangers.

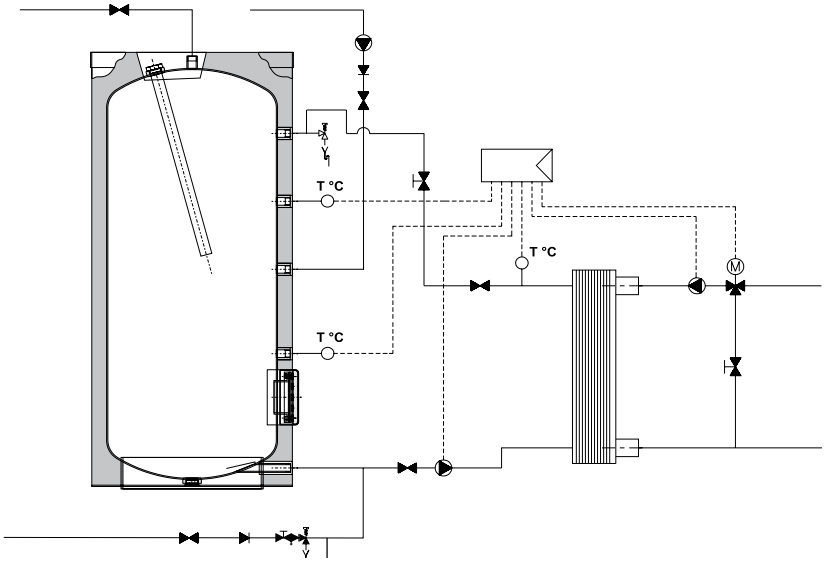
On special request, custom tanks are available with a larger capacity (up to 30.000 litres).

APPLICATIONS

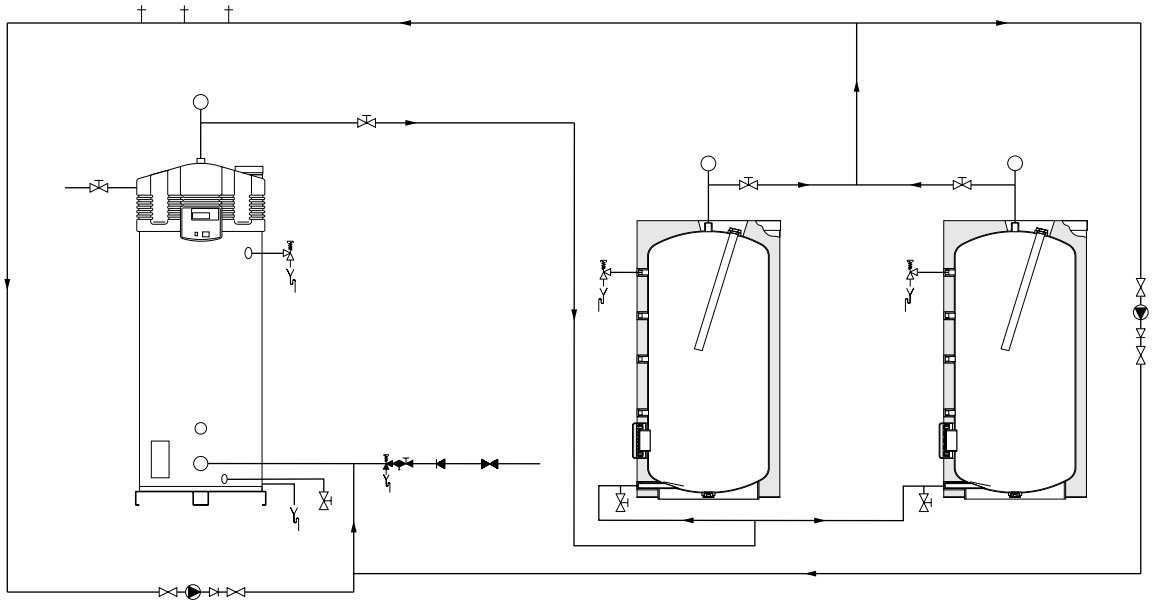
The product range of indirect appliances consists of a storage tank, a storage tank with 1 heat exchanger, a storage tank with 2 heat exchangers and a plate heat exchanger. All our products are available in various output ranges and capacities. This makes each one suited to several configurations and installations.

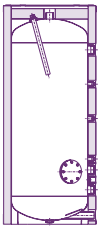
As shown in the chapter Thermal solar energy, the ITE and ITS are well-suited for use in combination with gas/solar water heaters. In the case of an existing installation, the ITE and the ITS can also be used to add solar energy to the installation.

To convert a CH system into a system that provides heat & hot water, a plate heat exchanger combined with a ST storage tank can be helpful. Connected to the CH installation, the PHE and ST can contribute to the hot water requirements.
This allows for an optimal use of the CH capacity and with a simple adjustment, all water heating needs can be fulfilled.



Gas-fired appliances can also be combined with storage tanks. With these tanks, hot water can be buffered and stored for an expected peak. With one or more ST's the selected water heater can be installed to match the draw-off demand.





ST
Storage tank

Nominal output	**-**
Flue options	**-**

- Capacity: 208 - 2820 litres
- PermaGlas Ultra Coat second-generation glass coating technology prevents corrosion
- Insulated clean out doors for comprehensive waterside maintenance
- Replaceable magnesium anode
- ST 300: Three adjustable legs facilitate easy installation
- ST 400-1000: Insulated ring base
- Suitable or vented and unvented installations
- Options:
  - Flexible magnesium anode for installation in confined areas
  - Analogue temperature gauge (0-120°C)
  - Power anodes
  - Single and three phase electric elements

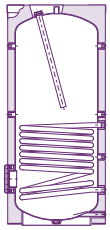
Technical specifications		**300**	**400**	**500**	**600**	**750**	**1000**	**1500**	**2000**	**2500**	**3000**
Max. working pressure tank	kPa(bar)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)	800(8)	800(8)	800(8)	800(8)
Max. operating temperature tank	°C	95	95	95	95	95	95	95	95	95	95
Standby loss	kWh/24h	1.32	1.60	1.88	1.85	2.03	2.19	7.20	8.50	9.60	11.00
Anodes	-	1	1	1	1	1	1	3	3	3	3
Empty weight	kg	93	99	131	179	201	262	325	350	485	520
Draw-off capacity											
Capacity	l	308	405	499	678	763	1055	1550	1880	2500	2820
Dimensions											
Height (including lid)	mm	1370	1705	2040	1835	2030	2000	1930	2118	2000	2128
Diameter (including insulation)	mm	720	720	720	910	910	1060	1200	1200	1500	1500
Height of cold water connection	mm	75	70	70	85	85	95	135	135	183	183
Height of hot water connection	mm	1310	1650	1990	1797	1992	1962	1930	2118	2000	2128
Height of cleaning opening	mm	330	410	410	493	493	530	450	450	530	530

PHE
Copper soldered plate heat exchanger

Nominal output	**50 - 275 kW**
Flue options	**-**

- Optimum security thanks to double separation-construction
- Nominal output of 50 - 275 kW
- Maximum working pressure of 25 bar
- Maximum working temperature heat exchangers: 120°C
- Very easy installation
- Maintenance friendly because there are no gaskets
- Available with additional insulation kit
- Different capacities available upon request

Technical specifications		**50**	**75**	**100**	**150**	**175**	**225**	**250**	**275**
Power	kW	50	75	100	150	175	225	250	275
Number of plates	-	20	24	30	40	50	60	70	80
Primary temperature	°C	80/60	80/60	80/60	80/60	80/60	80/60	80/60	80/60
Secundary temperature	°C	10/60	10/60	10/60	10/60	10/60	10/60	10/60	10/60
Primary flow	m^3/h	2.15	3.23	4.31	6.46	7.53	9.69	10.77	11.85
Secundary flow	m^3/h	0.86	1.29	1.72	2.58	3.01	3.87	4.31	4.74
Primary pressure drop	kpa	22.7	33.7	37.3	46.6	41.3	48.6	46.2	45.2
Secundary pressure drop	kpa	3.3	5.2	5.9	7.6	6.9	8.2	7.8	7.6
Max. permitted pressure drop	kpa	50	50	50	50	50	50	50	50
Max. working pressure heat exchangers	bar	25	25	25	25	25	25	25	25
Min. working temp. heat exchangers	°C	0	0	0	0	0	0	0	0
Max. working temp. heat exchangers	°C	120	120	120	120	120	120	120	120
Material plate	-	AISI 316 L	AISI 316 L	AISI 316 L	AISI 316 L	AISI 316 L	AISI 316 L	AISI 316 L	AISI 316 L
Soldering material	-	copper	copper	copper	copper	copper	copper	copper	copper
Empty weight	kg	5.0	5.7	6.7	8.4	10.1	11.8	13.5	15.2
Max. chlorine concentration (at 80°C)	mg/kg	50	50	50	50	50	50	50	50
Primary capacity	ltr/channel	0.59	0.72	0.91	1.24	1.56	1.89	2.21	2.54
Secundary capacity	ltr/channel	0.65	0.78	0.98	1.30	1.63	1.95	2.28	2.60
Accessoires									
Insulation package (art. no.)		0307623(S)	0307623(S)	0307625(S)	0307625(S)	0307627(S)	0307627(S)	0307629(S)	0307629(S)
Dimensions									
Height	mm	337	337	337	337	337	337	337	337
Width	mm	127	127	127	127	127	127	127	127
Depth	mm	61	71	85	109	133	157	181	205



IT

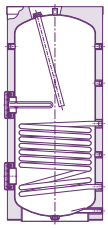
Indirect water heater for a wide range of applications.

Nominal output	**46 – 156 kW**
Flue options	**-**

- Capacity: 296 - 2800 litres
- Single-wall spiral heat exchanger
- PermaGlas Ultra Coat second-generation glass coating technology prevents corrosion
- IT 300: Three adjustable legs facilitate easy installation
- IT/ITE 400-1000: Insulated ring base
- Insulated clean out door for comprehensive waterside maintenance
- Replaceable magnesium anode
- Removable control column for convenient servicing
- Suitable or vented and unvented installations
- Options:
  - Flexible anode for installation in confined areas
  - Analogue temperature gauge (0-120°C)
  - Power anodes
  - Single and three phase electric elements

Technical specifications		**300**	**400**	**500**	**600**	**750**	**1000**	**1500**	**2000**	**2500**	**3000**
Capacity coil	kW	46	78	100	104	112	145	147	147	156	156
Surface coil	m^2	1.47	2.45	3.11	3.45	3.72	4.82	5.20	5.20	6.00	6.00
Capacity coil	l	8.9	14.8	18.8	29.3	31.6	40.9	40.0	40.0	45.0	45.0
Flow rate coil (80-60°C)	l/h	1978	3354	4300	4472	4816	6235	6485	6485	6871	6871
Pressure drop coil	mbar	56	244	489	104	128	259	830	830	695	695
Max. working pressure tank	kPa(bar)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)	800(8)	800(8)	800(8)	800(8)
Max. working pressure coil	kPa(bar)	1600(16)	1600(16)	1600(16)	1600(16)	1600(16)	1600(16)	600(6)	600(6)	600(6)	600(6)
Max. operating temperature tank	°C	95	95	95	95	95	95	85	85	85	85
Max. operating temperature coil	°C	110	110	110	110	110	110	90	90	90	90
Standby loss	kWh/24h	1.32	1.60	1.88	1.85	2.03	2.19	7.20	8.50	9.60	11.00
Anodes	-	1	1	1	1	1	1	3	3	3	3
Empty weight	kg	117	139	180	241	254	336	398	426	576	600
Draw-off capacity*											
Capacity	l	296	385	473	643	725	1007	1550	1800	2550	2800
30 min. ΔT=44°C	l	781	1176	1482	1733	1908	2557	3151	3470	4494	4813
60 min. ΔT=44°C	l	1231	1938	2459	2749	3002	3974	4461	4779	5882	6200
90 min. ΔT=44°C	l	1680	2701	3436	3766	4097	5391	5770	6089	7270	7588
120 min. ΔT=44°C	l	2130	3463	4413	4782	5192	6808	7080	7398	8658	8976
Continuous ΔT=44°C	l/h	899	1525	1955	2033	2189	2834	2619	2619	2775	2775
Heating-up time ΔT=44°C	min.	20	15	15	19	20	21	36	41	55	61
30 min. ΔT=50°C	l	688	1035	1304	1525	1679	2250	2773	3053	3955	4235
60 min. ΔT=50°C	l	1083	1556	2164	2420	2642	3497	3926	4206	5176	5456
90 min. ΔT=50°C	l	1479	2377	3024	3314	3605	4744	5078	5358	6398	6678
120 min. ΔT=50°C	l	1874	3047	3884	4208	4569	5991	6230	6510	7619	7899
Continuous ΔT=50°C	l/h	791	1342	1720	1789	1926	2494	2305	2305	2442	2442
Heating-up time ΔT=50°C	min.	22	17	16	22	23	24	40	47	63	69
30 min. ΔT=55°C	l	625	741	1185	1386	1526	2046	2521	2776	3596	3850
60 min. ΔT=55°C	l	985	1551	1967	2200	2402	3179	3569	3823	4706	4960
90 min. ΔT=55°C	l	1344	2160	2749	3013	3278	4313	4616	4871	5816	6070
120 min. ΔT=55°C	l	1704	2770	3531	3826	4153	5447	5664	5919	6926	7181
Continuous ΔT=55°C	l/h	719	1220	1564	1626	1751	2267	2095	2095	2220	2220
Heating-up time ΔT=55°C	min.	25	19	18	24	25	27	44	52	69	76
Dimensions											
Height (including lid)	mm	1370	1705	2040	1835	2030	2000	1930	2118	1989	2118
Diameter (including insulation)	mm	720	720	720	910	910	1060	1200	1200	1500	1500
Height of cold water connection	mm	75	70	70	85	85	95	135	135	183	183
Height of hot water connection	mm	1310	1650	1990	1795	1990	1960	1930	2118	1989	2118
Height of cleaning opening	mm	325	330	330	415	415	445	425	425	510	510

*Draw-off capacities are based on Tset = 80°C and Tcold = 10°C



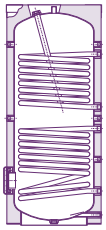
ITE
Indirect water heater

Nominal output	**52 – 87 kW**
Flue options	**-**

- Nominal output: 52 - 87 kW
- Capacity 389 - 1024 litres
- Single-wall spiral heat exchanger
- ITE standard fitted with PermaGlas Ultra Coat enamel
- Insulated access cover for comprehensive waterside maintenance
- Replaceable magnesium anode

Technical specifications		**400**	**500**	**600**	**750**	**1000**
Output coil	kW	52	68	72	80	87
Surface area coil	m²	1.64	2.13	2.39	2.66	2.89
Water capacity coil	l	9.9	12.8	20.3	22.3	24.6
Flow rate coil (80-60°C)	l/h	2236	2924	3096	3440	3741
Pressure drop solar coil	mbar	78	166	37	50	61
Max. working pressure tank	kPa(bar)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)
Max. working pressure coil	kPa(bar)	1600(16)	1600(16)	1600(16)	1600(16)	1600(16)
Max. operating temperature tank	°C	95	95	95	95	95
Max. operating temperature coil	°C	110	110	110	110	110
Standby loss	kWh/24h	1.6	1.88	1.85	2.03	2.19
Anodes	-	1	1	1	1	1
Empty weight	kg	131	179	229	257	341
Draw-off capacity						
Capacity	l	389	478	652	734	1024
30 min. ΔT=44°C	l	952	1206	1463	1638	2068
60 min. ΔT=44°C	l	1461	1871	2167	2420	2919
90 min. ΔT=44°C	l	1969	2536	2870	3201	3769
120 min. ΔT=44°C	l	2477	3200	3574	3983	4619
Continuous ΔT=44°C	l/h	1016	1329	1407	1546	1700
Heating-up time ΔT=44°C	min.	23	22	28	28	36
30 min. ΔT=50°C	l	838	1062	1288	1441	1820
60 min. ΔT=50°C	l	1285	1646	1907	2129	2568
90 min. ΔT=50°C	l	1733	2231	2526	2817	3317
120 min. ΔT=50°C	l	2180	2816	3145	3505	4065
Continuous ΔT=50°C	l/h	894	1170	1238	1376	1496
Heating-up time ΔT=50°C	min.	26	25	32	32	41
30 min. ΔT=55°C	l	762	965	1170	1310	1655
60 min. ΔT=55°C	l	1169	1497	1733	1936	2335
90 min. ΔT=55°C	l	1575	2028	2296	2561	3015
120 min. ΔT=55°C	l	1982	2560	2859	3187	3695
Continuous ΔT=55°C	l/h	813	1063	1126	1251	1360
Heating-up time ΔT=55°C	min.	29	27	35	35	45
Dimensions						
Height (including lid)	mm	1705	2040	1835	2030	2000
Diameter (including insulation)	mm	720	720	910	910	1060
Height of cold water connection	mm	70	70	85	85	85
Height of hot water connection	mm	1652	1990	1797	1992	1962

Draw-off capacities are based on Tset = 80°C and Tcold = 10°C
For larger applications A.O. Smith developed the IT. For more information, please refer to the direct chapter of this catalogue.



ITS
Dual coil indirect water heater for a wide range of applications

Nominal output	**46 - 87 kW (bottom coil) / 27 - 58 kW (top coil)**
Flue options	**-**

- Capacity: 289 - 1007 litres
- Single-wall spiral heat exchangers
- PermaGlas Ultra Coat second-generation glass coating technology prevents corrosion
- ITS 300: Three adjustable legs facilitate easy installation
- ITS 400-1000: Insulated ring base for easy installation
- Insulated clean out door for comprehensive waterside maintenance
- Replaceable magnesium anode
- Removable control column for convenient servicing
- Suitable or vented and unvented installations
- Options:
  - Flexible anode for installation in confined areas
  - Analogue temperature gauge (0-120°C)
  - Power anodes
  - Single and three phase electric elements

Technical specifications			**300**	**400**	**500**	**600**	**750**	**1000**
Capacity coil	kW	collector	46	52	68	72	80	87
Surface coil	m^2	collector	1.45	1.64	2.13	2.39	2.66	2.89
Capacity coil	l	collector	9.5	9.9	12.8	20.3	22.6	24.6
Flow rate coil (80-60°C)	l/h	collector	1978	2236	2924	3096	3440	3741
Pressure drop coil	mbar	collector	44	78	166	37	50	61
Output coil	kW	CH	27	37	42	40	56	58
Surface coil	m^2	CH	0.85	1.15	1.31	1.33	1.86	1.93
Capacity coil	l	CH	5.7	6.9	7.9	11.3	15.8	16.4
Flow rate coil (80-60°C)	l/h	CH	1161	1591	1806	1720	2408	2494
Pressure drop coil	mbar	CH	12	30	43	7	18	20
Max. working pressure tank	kPa(bar)		1000(10)	1000(10)	1000(10)	1000(10)	1000(10)	1000(10)
Max. working pressure coil	kPa(bar)		1600(16)	1600(16)	1600(16)	1600(16)	1600(16)	1600(16)
Max. operating temperature tank	°C		95	95	95	95	95	95
Max. operating temperature coil	°C		110	110	110	110	110	110
Standby loss	kWh/24h		1.32	1.60	1.88	1.85	2.03	2.19
Anodes	-		1	1	1	1	1	1
Empty weight	kg		133	145	196	246	262	340
Draw-off capacity								
Capacity	l		289	382	470	641	718	1007
30 min. ΔT=44°C	l		1010	1269	1566	1801	2110	2557
60 min. ΔT=44°C	l		1723	2139	2641	2895	3439	3974
90 min. ΔT=44°C	l		2437	3009	3716	3990	4768	5391
120 min. ΔT=44°C	l		3150	3878	4791	5085	6097	6808
Continuous ΔT=44°C	l/h		1427	1740	2150	2189	2658	2834
Heating-up time ΔT=44°C	min.		12	13	13	18	16	21
30 min. ΔT=50°C	l		889	1117	1378	1585	1857	2250
60 min. ΔT=50°C	l		1517	1882	2324	2548	3026	3497
90 min. ΔT=50°C	l		2144	2648	3270	3511	4196	4744
120 min. ΔT=50°C	l		2772	3413	4216	4474	5366	5991
Continuous ΔT=50°C	l/h		1256	1531	1892	1926	2339	2494
Heating-up time ΔT=50°C	min.		14	15	15	20	18	24
30 min. ΔT=55°C	l		808	1015	1253	1441	1688	2046
60 min. ΔT=55°C	l		1379	1711	2113	2316	2751	3179
90 min. ΔT=55°C	l		1949	2407	2973	3192	3815	4313
120 min. ΔT=55°C	l		2520	3103	3833	4068	4878	5447
Continuous ΔT=55°C	l/h		1141	1392	1720	1751	2127	2267
Heating-up time ΔT=55°C	min.		15	16	16	22	20	27
Dimensions								
Height (including lid)	mm		1370	1705	2040	1835	2030	2000
Diameter (including insulation)	mm		720	720	720	910	910	1060
Height of cold water connection	mm		75	70	70	85	85	95
Height of hot water connection	mm		1310	1652	1990	1797	1992	1962
Height of cleaning opening	mm		325	330	330	420	420	440

 Draw-off capacities are based on Tset = 80°C and Tcold = 10°C. Draw-off capacities of the ITS are based on both coils.

ROOF FLUE TERMINAL - PARALLEL (AL)

Description	SGE 40	SGE 60
Ø 100	0305040	0305040

ROOF FLUE TERMINAL - CONCENTRIC (AL)

Description	SGE 40	SGE 60
Ø 100 / 150	0304423	0304423

❍ Incl. flange and concentric tube (1m)

FLANGE - CONC. ROOF TERMINAL (AL)

Description		SGE 40	SGE 60
Terminal	Flange		
Ø 100 / 150	Ø 170	0302509	0302509

FLANGE - PAR. ROOF TERMINAL (AL)

Description		SGE 40	SGE 60
Terminal	Flange		
Ø 100	Ø 120	0307173	0307173

ROOF TILE FOR CONC. ROOF TERMINAL (AL)

Description		SGE 40	SGE 60
Ø 100 / 150	Angle 25°-45°	0306017	0306017

WALL FLUE TERMINAL - CONCENTRIC (AL)

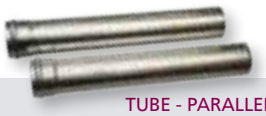
Description	SGE 40	SGE 60
Ø 100 / 150	0302504	0302504

❍ Incl. concentric tube (0.5m), bend (90°) and wall flanges

TUBE - CONCENTRIC (AL)

Description		SGE 40	SGE 60
Ø 100 / 150	L = 500 mm	0302499*	0302499*
Ø 100 / 150	L = 1000 mm	0302500**	0302500**
Ø 100 / 150	L = 1500 mm	0302501**	0302501**

*To cut **Fixed



TUBE - PARALLEL (AL)

Description		SGE 40	SGE 60
Ø 100	L = 500 mm	0307160	0307160
Ø 100	L = 1000 mm	0307161	0307161

❍ Set of 2 pieces

BEND - CONCENTRIC (AL)

Description		SGE 40	SGE 60
Ø 100 / 150	Angle 90°	0302502	0302502
Ø 100 / 150	Angle 45°	0302503	0302503

BEND - PARALLEL (AL)

Description		SGE 40	SGE 60
Ø 100	Angle 45°	0310197	0310197

❍ Set of 2 pieces

BEND - PARALLEL (AL)

Description		SGE 40	SGE 60
Ø 100	Angle 87/90°	0307164	0307164

❍ Set of 2 pieces

T-TUBE - CONCENTRIC (AL)

Description	SGE 40	SGE 60
Ø 100 / 150	0305244	0305244

ADAPTER - CONC. TO CONC. (AL)

Description		SGE 40	SGE 60
from	to		
Ø 100 / 150	Ø 130 / 200	0306188	0306188

ADAPTER - PAR. TO CONC. (AL)

Description		SGE 40	SGE 60
from	to		
2 x Ø 100	1 x Ø 150	0307142	0307142

ADAPTER - PAR. TO PAR. (AL)

Description		SGE 40	SGE 60
from	to		
Ø 100	Ø 130	0307168	0307168

ADAPTER - CONC. TO PAR. (AL)

Description		SGE 40	SGE 60
from	to		
Ø 100 / 150	2 x Ø 100	0304204	0304204

AIR INLET BASKET (AL)

Description	SGE 40	SGE 60
Ø 100 / 150	0304872	0304872

MEASUREMENT UNIT - CONCENTRIC (AL)

Description	SGE 40	SGE 60
Ø 100 / 150	0303854	0303854

CLAMPING STRIP - Y-TUBE WITH TUBE (AL)

Description	SGE 40	SGE 60
Ø 154	0304199	0304199

CLAMPING STRIP - TUBE WITH TUBE (AL)

Description	SGE 40	SGE 60
Ø 150	0302506	0302506

ROOF FLUE TERMINAL - CONCENTRIC (AL)

Description	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100 / 150	0304423	0304423	0304423	0304423	-	-	-
Ø 130 / 200	-	-	-	-	0306855	0306855	0306855

- Incl. flange and concentric tube (1m)

ROOF FLUE TERMINAL - PARALLEL (AL)

Description	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100	0305040	0305040	0305040	0305040	-	-	-
Ø 130	-	-	-	-	0307175	0307175	0307175

FLANGE - PAR. ROOF TERMINAL (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Terminal	Flange							
Ø 100	Ø 120	0307173	0307173	0307173	0307173	-	-	-

ROOF TILE FOR CONC. ROOF TERMINAL (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100 / 150	Angle 25°-45°	0306017	0306017	0306017	0306017	-	-	-

WALL FLUE TERMINAL - CONCENTRIC (AL)

Description	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100 / 150	0302504	0302504	0302504	0302504	-	-	-
Ø 130 / 200	-	-	-	-	0302326	0302326	0302326

- Incl. concentric tube (0.5m), bend (90°) and wall flanges

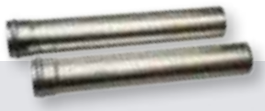
FLANGE - CONC. ROOF TERMINAL (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Terminal	Flange							
Ø 100/150	Ø 170	0302509	0302509	0302509	0302509	-	-	-
Ø 130/200	Ø 210	-	-	-	-	0302328	0302328	0302328

TUBE - CONCENTRIC (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100 / 150	L = 500 mm	0302499*	0302499*	0302499*	0302499*	-	-	-
Ø 100 / 150	L = 1000 mm	0302500**	0302500**	0302500**	0302500**	-	-	-
Ø 100 / 150	L = 1500 mm	0302501**	0302501**	0302501**	0302501**	-	-	-
Ø 130 / 200	L = 500 mm	-	-	-	-	0302301*	0302301*	0302301*
Ø 130 / 200	L = 1000 mm	-	-	-	-	0302302**	0302302**	0302302**
Ø 130 / 200	L = 1500 mm	-	-	-	-	0302303**	0302303**	0302303**

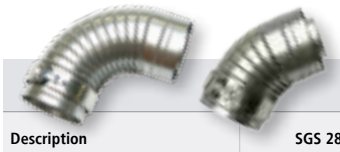
*To cut **Fixed



TUBE - PARALLEL (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100	L = 500 mm	0307160	0307160	0307160	0307160	-	-	-
Ø 100	L = 1000 mm	0307161	0307161	0307161	0307161	-	-	-
Ø 130	L = 500 mm	-	-	-	-	0306804	0306804	0306804
Ø 130	L = 1000 mm	-	-	-	-	0306802	0306802	0306802

- Set of 2 pieces



BEND - CONCENTRIC (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100 / 150	Angle 90°	0302502	0302502	0302502	0302502	-	-	-
Ø 100 / 150	Angle 45°	0302503	0302503	0302503	0302503	-	-	-
Ø 130 / 200	Angle 90°	-	-	-	-	0302300	0302300	0302300
Ø 130 / 200	Angle 45°	-	-	-	-	0302324	0302324	0302324

BEND - PARALLEL (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100	Angle 45°	0310197	0310197	0310197	0310197	-	-	-
Ø 100	Angle 87/90°	0307164	0307164	0307164	0307164	-	-	-
Ø 130	Angle 87/90°	-	-	-	-	0306805	0306805	0306805
Ø 130	Angle 45°	-	-	-	-	0308026	0308026	0308026

Set of 2 pieces

T-TUBE - CONCENTRIC (AL)

Description	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100 / 150	0305244	0305244	0305244	0305244	-	-	-
Ø 130 / 200	-	-	-	-	0307488	0307488	0307488

AIR INLET BASKET (AL)

Description	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100 / 150	0304872	0304872	0304872	0304872	-	-	-
Ø 130 / 200	-	-	-	-	0307176	0307176	0307176

ADAPTER - CONC. TO PAR. (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
from	to							
Ø 100 / 150	2 x Ø 100	0304204	0304204	0304204	0304204	-	-	-
Ø 130 / 200	2 x Ø 130	-	-	-	-	0309605	0309605	0309605

ADAPTER - CONC. TO CONC. (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
from	to							
Ø 100 / 150	Ø 130 / 200	0306188	0306188	0306188	0306188	0306188	0306188	0306188

ADAPTER - PAR. TO CONC. (PP)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
from	to							
2 x Ø 100	1 x Ø 150	0307142	0307142	0307142	0307142	-	-	-

ADAPTER - PAR. TO PAR. (AL)

Description		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
from	to							
Ø 100	Ø 130	0307168	0307168	0307168	0307168	-	-	-
Ø 130	Ø 150	-	-	-	-	0307170	0307170	0307170

MEASUREMENT UNIT - CONCENTRIC (AL)

Description	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 100 / 150	0303854	0303854	0303854	0303854	-	-	-
Ø 130 / 200	-	-	-	-	0303855	0303855	0303855

CLAMPING STRIP - Y-TUBE WITH TUBE (AL)

Description	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 154	0304199	0304199	0304199	0304199	0304199	0304199	0304199

CLAMPING STRIP - TUBE WITH TUBE (AL)

Description	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Ø 150	0302506	0302506	0302506	0302506	-	-	-
Ø 200	-	-	-	-	0302305	0302305	0302305

ROOF FLUE TERMINAL - CONCENTRIC (AL)

Description	TWI 35-130	TWI 45-190
Ø 80 / 125	0305042	0305042

○ Incl. flange and concentric tube (1m)

ROOF FLUE TERMINAL - PARALLEL (AL)

Description	TWI 35-130	TWI 45-190
Ø 80	0305041	0305041

○ Incl. mounting bracket and adapter

FLANGE - CONC. ROOF TERMINAL (AL)

Description		TWI 35-130	TWI 45-190
Terminal	Flange		
Ø 80/125	Ø 140	0302520	0302520

FLANGE - PAR. ROOF TERMINAL (AL)

Description		TWI 35-130	TWI 45-190
Terminal	Flange		
Ø 80	Ø 110	0307172	0307172

ROOF TILE FOR CONC. ROOF TERMINAL (AL)

Description		TWI 35-130	TWI 45-190
Ø 80 / 125	Angle 25°-45°	0303506	0303506

WALL FLUE TERMINAL - CONCENTRIC (AL)

Description	TWI 35-130	TWI 45-190
Ø 80 / 125	0302515	0302515

○ Incl. concentric tube (0.5m), bend (90°) and wall flanges

TUBE - CONCENTRIC (AL)

Description		TWI 35-130	TWI 45-190
Ø 80 / 125	L = 500 mm	0302510*	0302510*
Ø 80 / 125	L = 1000 mm	0302511**	0302511**
Ø 80 / 125	L = 1500 mm	0302512**	0302512**

*To cut **Fixed

TUBE - PARALLEL (AL)

Description		TWI 35-130	TWI 45-190
Ø 80	L = 500 mm	0307179	0307179
Ø 80	L = 1000 mm	0307180	0307180
Ø 80	L = 1500 mm	0307181	0307181

○ Set of 2 pieces

BEND - CONCENTRIC (AL)

Description		TWI 35-130	TWI 45-190
Ø 80 / 125	Angle 90°	0302513	0302513
Ø 80 / 125	Angle 45°	0302514	0302514

BEND - PARALLEL (AL)

Description		TWI 35-130	TWI 45-190
Ø 80	Angle 87 / 90°	0307183	0307183
Ø 80	Angle 45°	0307182	0307182

○ Set of 2 pieces

T-TUBE - CONCENTRIC (AL)

Description	TWI 35-130	TWI 45-190
Ø 80 / 125	0307487	0307487

ADAPTER - CONC. TO PAR. (AL)

Description		TWI 35-130	TWI 45-190
from	to		
Ø 80 / 125	2 x Ø 80	0305029	0305029

ADAPTER - CONC. TO CONC. (AL)

Description		TWI 35-130	TWI 45-190
from	to		
Ø 80 / 100	Ø 100 / 150	0305009	0305009

ADAPTER - PAR. TO CONC. (PP)

Description		TWI 35-130	TWI 45-190
from	to		
2 x Ø 80	1 x Ø 125	0307177	0307177

ADAPTER - PAR. TO PAR. (AL)

Description		TWI 35-130	TWI 45-190
from	to		
Ø 80	Ø 100	0307166	0307166

AIR INLET BASKET (AL)

Description	TWI 35-130	TWI 45-190
Ø 80 / 100	0305030	0305030

CLAMPING STRIP - TUBE WITH TUBE (AL)

Description	TWI 35-130	TWI 45-190
Ø 125	0302517	0302517

MEASUREMENT UNIT - CONCENTRIC (AL)

Description	TWI 35-130	TWI 45-190
Ø 80 / 125	0303853	0303853

ROOF FLUE TERMINAL - CONCENTRIC (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100 / 150	0304423	0304423	0304423	0304423	-	-	-
Ø 130 / 200	-	-	-	-	0306855	0306855	0306855

❍ Incl. flange and concentric tube (1m)

ROOF FLUE TERMINAL - PARALLEL (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100	0305040	0305040	0305040	0305040	-	-	-
Ø 130	-	-	-	-	0307175	0307175	0307175

FLANGE - PAR. ROOF TERMINAL (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Terminal	Flange	-	-	-	-	-	-	-
Ø 100	Ø 120	0307173	0307173	0307173	0307173	-	-	-

ROOF TILE FOR CONC. ROOF TERMINAL (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Terminal	Angle							
Ø 100 / 150	25°-45°	0306017	0306017	0306017	0306017	-	-	-

WALL FLUE TERMINAL - CONCENTRIC (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100 / 150	0302504	0302504	0302504	0302504	-	-	-
Ø 130 / 200	-	-	-	-	0302326	0302326	0302326

❍ Incl. concentric tube (0.5m), bend (90°) and wall flanges

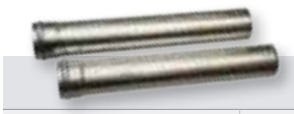
CLAMPING STRIP - TUBE WITH TUBE (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 150	0302506	0302506	0302506	0302506	-	-	-
Ø 200	-	-	-	-	0302305	0302305	0302305

TUBE - CONCENTRIC (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100 / 150	L = 500 mm	0302499*	0302499*	0302499*	0302499*	-	-	-
Ø 100 / 150	L = 1000 mm	0302500**	0302500**	0302500**	0302500**	-	-	-
Ø 100 / 150	L = 1500 mm	0302501**	0302501**	0302501**	0302501**	-	-	-
Ø 130 / 200	L = 500 mm	-	-	-	-	0302301*	0302301*	0302301*
Ø 130 / 200	L = 1000 mm	-	-	-	-	0302302**	0302302**	0302302**
Ø 130 / 200	L = 1500 mm	-	-	-	-	0302303**	0302303**	0302303**

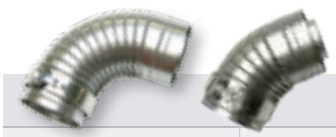
*To cut **Fixed



TUBE - PARALLEL (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100	L = 500 mm	0307160	0307160	0307160	0307160	-	-	-
Ø 100	L = 1000 mm	0307161	0307161	0307161	0307161	-	-	-
Ø 130	L = 500 mm	-	-	-	-	0306804	0306804	0306804
Ø 130	L = 1000 mm	-	-	-	-	0306802	0306802	0306802

❍ Set of 2 pieces



BEND - CONCENTRIC (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100 / 150	0302502	0302502	0302502	0302502	-	-	-
Ø 100 / 150	0302503	0302503	0302503	0302503	-	-	-
Ø 130 / 200	-	-	-	-	0302300	0302300	0302300
Ø 130 / 200	-	-	-	-	0302324	0302324	0302324

BFC

BEND - PARALLEL (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100	Angle 45°	0310197	0310197	0310197	0310197	-	-	-
Ø 100	Angle 87/90°	0307164	0307164	0307164	0307164	-	-	-
Ø 130	Angle 87/90°	-	-	-	-	0306805	0306805	0306805
Ø 130	Angle 45°	-	-	-	-	0308026	0308026	0308026

Set of 2 pieces

T-TUBE - CONCENTRIC (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100 / 150	0305244	0305244	0305244	0305244	-	-	-
Ø 130 / 200	-	-	-	-	0307488	0307488	0307488

AIR INLET BASKET (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100 / 150	0304872	0304872	0304872	0304872	-	-	-
Ø 130 / 200	-	-	-	-	0307176	0307176	0307176

ADAPTER - CONC. TO PAR. (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
from	to							
Ø 100 / 150	2 x Ø 100	0304204	0304204	0304204	0304204	-	-	-
Ø 130 / 200	2 x Ø 130	-	-	-	-	0309605	0309605	0309605

ADAPTER - CONC. TO CONC. (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
from	to							
Ø 100 / 150	Ø 80 / 125	0309660	-	-	-	-	-	-
Ø 100 / 150	Ø 130 / 200	0306188	0306188	0306188	0306188	0306188	0306188	0306188

ADAPTER - PAR. TO CONC. (PP)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
from	to							
2 x Ø 100	1 x Ø 150	0307142	0307142	0307142	0307142	-	-	-

ADAPTER - PAR. TO PAR. (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
from	to	-	-	-	-	-	-	-
Ø 100	Ø 130	0307168	0307168	0307168	0307168	-	-	-
Ø 130	Ø 150	-	-	-	-	0307170	0307170	0307170

CLAMPING STRIP - Y-TUBE WITH TUBE (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 154	0304199	0304199	0304199	0304199	0304199	0304199	0304199

CLAMPING STRIP - TUBE WITH TUBE (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 150	0302506	0302506	0302506	0302506	-	-	-
Ø 200	-	-	-	-	0302305	0302305	0302305

FLANGE - CONC. ROOF TERMINAL (AL)

Description		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Terminal	Flange							
Ø 100/150	Ø 170	0302509	0302509	0302509	0302509	-	-	-
Ø 130/200	Ø 210	-	-	-	-	0302328	0302328	0302328

MEASUREMENT UNIT - CONCENTRIC (AL)

Description	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Ø 100 / 150	0303854	0303854	0303854	0303854	-	-	-
Ø 130 / 200	-	-	-	-	0303855	0303855	0303855

ROOF FLUE TERMINAL - CONCENTRIC (AL)

Description	BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Ø 80 / 125	0302518	-	-	-	-
Ø 100 / 150	-	0302507	-	-	-
Ø 130 / 200	-	-	0302327	0306773*	0306773*

❍ Incl. flange and concentric tube (1m)
* 0306773 contains: a concentric terminal, 2 x 1m parallel extensions, parallel to concentric adapter

ROOF TILE FOR CONC. ROOF TERMINAL (AL)

Description		BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Ø 80 / 125	Angle 25°-45°	0303506	-	-	-	-
Ø 100 / 150	Angle 25°-45°	-	0306017	-	-	-

TUBE - CONCENTRIC (AL)

Description		BFM 30	BFM 50	BFM 80
Ø 80 / 125	L = 500 mm	0302510*	-	-
Ø 80 / 125	L = 1000 mm	0302511**	-	-
Ø 80 / 125	L = 1500 mm	0302512**	-	-
Ø 100 / 150	L = 500 mm	-	0302499*	-
Ø 100 / 150	L = 1000 mm	-	0302500**	-
Ø 100 / 150	L = 1500 mm	-	0302501**	-
Ø 130 / 200	L = 500 mm	-	-	0302301*
Ø 130 / 200	L = 1000 mm	-	-	0302302**
Ø 130 / 200	L = 1500 mm	-	-	0302303**

*To cut **Fixed

BEND - CONCENTRIC (AL)

Description		BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Ø 80 / 125	Angle = 90°	0302513	-	-	-	-
Ø 80 / 125	Angle = 45°	0302514	-	-	-	-
Ø 100 / 150	Angle = 90°	-	0302502	0302502	-	-
Ø 100 / 150	Angle = 45°	-	0302503	0302503	-	-

T-TUBE - CONCENTRIC (AL)

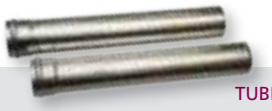
Description	BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Ø 80 / 125	0307487	-	-	-	-
Ø 100 / 150	-	0305244	-	-	-
Ø 130 / 200	-	-	0307488	-	-

CLAMPING STRIP - TUBE WITH TUBE (AL)

Description	BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Ø 125	0302517	-	-	-	-
Ø 150	-	0302506	-	-	-
Ø 200	-	-	0302305	0302305	0302305

FLANGE - CONC. ROOF TERMINAL (AL)

Description		BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Terminal	Flange					
Ø 80 / 125	Ø 140	0302520	-	-	-	-
Ø 100 / 150	Ø 170	-	0302509	-	-	-
Ø 130 / 200	Ø 210	-	-	0302328	0302328	0302328



TUBE - PARALLEL (AL)

Description		BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Ø 130	L = 500 mm	-	-	-	0306804	0306804
Ø 130	L = 1000 mm	-	-	-	0306802	0306802

❍ Set of 2 pieces

WALL FLUE TERMINAL - CONCENTRIC (AL)

Description	BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Ø 80 / 125	0302515	-	-	-	-
Ø 100 / 150	-	0302504	-	-	-
Ø 130 / 200	-	-	0302326	0306774	0306774

❍ Incl. concentric tube (0.5m), bend (90°) and wall flanges

BEND - PARALLEL (AL)

Description		BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
Ø 130	Angle 87/90°	-	-	-	0306805	0306805
Ø 130	Angle 45°	-	-	-	0308026	0308026

❍ Set of 2 pieces

ADAPTER - CONC. TO PAR. (AL)

Description		BFM 30	BFM 50	BFM 80	BFM 100	BFM 120
from	to					
Ø 130 / 200	1 x Ø 225	-	-	-	0306801	0306801

MEASUREMENT UNIT - CONCENTRIC (AL)

Description	BFM 30	BFM 50	BFM 80
Ø 80 / 125	0303853	-	-
Ø 100 / 150	-	0303854	-
Ø 130 / 200	-	-	0303855

SLUSH COAT

PermaGlas Ultra Coat ensures total coverage of all steel parts in the appliances. Developed and patented by A.O. Smith, this enamel is extremely reliable and corrosion resistant. Natural materials such as glass and minerals are used to create the protective layer.

Customer support

Quality

A.O. Smith is driven in its quest to make the highest quality products and provide high levels of customer satisfaction. This is expressed in our wide range of system solutions, varying from small residential to large industrial applications, as well as the technical support service that we offer.

Consultancy from concept to order

One popular option is to obtain support from your local Sales Engineer or, alternatively, our Applications Engineering department. This support is available starting from the planning and design stages, when important decisions need to be made. We're also available to discuss your installation and service requirements, when the need arises.

Development and production processes

Quality is a major factor in the development and production of our appliances. A.O. Smith is a trendsetter in the field of advanced water heating products and technologies. A good example developed entirely in-house, is our patented PermaGlas Ultra Coat enamelling: a glass protective layer on the interior surface of the steel tank, ensuring maximum corrosion resistance and a long lifetime of the appliance.

Certification

The processes by which our appliances are manufactured are compliant with quality standards such as ISO 9001 : 2000. As a global manufacturer local standards and directives are also applied. CE certification is obviously standard for the entire European market. Supplementary certificates required for eligibility for local and regional subsidy programmes are applicable in The Netherlands, France, Belgium and Great Britain.
In addition, our products conform to the European RoHS, WEEE and PED directives.

3D DESIGN

The Development department at A.O. Smith designs custom products with the aid of advanced 3D design software.

TECHNICAL SUPPORT

The general telephone number of the UK office is 0870 267 6484.
Our Technical Support group can be contacted directly (for sizing, commissioning, service and maintenance) via:

Telephone	0870 267 6484
Fax	0870 267 6485
E-mail	sales@aosmith.co.uk

Outside office hours you can leave a message. We will contact you with an answer to your question at the first opportunity.

Customer support

When a manufacturer of vital high-end appliances claims to maximise the user's comfort, it must be able to support and guarantee that its products run impeccably. Customer satisfaction throughout the entire lifetime of the products is the A.O. Smith promise. A.O. Smith offers a comprehensive range of services (sizing, commissioning, service and maintenance) to validate that promise.

Sizing

Customer satisfaction starts in the design phase of your installation: sound, expert advice from A.O. Smith at this point will help you choose the right installation for your needs. The A.O. Smith 'Sizing' program offers guidance in this process. Our Sizing program can be found on the A.O. Smith website.

Commissioning

A.O. Smith believes that good service does not end with the delivery of an installation, but remains available throughout the entire operational life of your water heating system. It starts, for example, with the commissioning of your system. A.O. Smith can play a major role by inspecting the entire installation. In addition, we can program the controls to suit the application and your own specific needs. At the same time this allows us to ensure energy use is optimised.

Service

Of course there is also the service that you would expect from a manufacturer of high quality products. This includes trouble-shooting and having technical support available on site.

Maintenance

On request, A.O. Smith can also provide both preventative and annual maintenance for your installation. Keeping vital parts in good working order is not only essential for a consistent supply of hot water; it also ensures the appliance's efficiency.

PRODUCT INFORMATION

Detailed product information is available on request via:

Telephone 0870 267 6484
Fax 0870 267 6485
E-mail sales@aosmith.co.uk
Website www.aosmith.co.uk

A.O. SMITH SERVICE DEPARTMENT

For several years, A.O. Smith has managed a well-equipped service department that operates throughout the country. Our service staff are all trained and continuously retrained on the latest products and developments. This enables them to solve problems, commission your appliance or system or offer to provide all maintenance and service of your installation. Also, the service department can assist you in commissioning your solar system.

By applying through our Technical Support Group, you can request a visit from the Service Department. Together with you they will schedule a visit.

For more information on pricing or to make an appointment, please contact our Technical Support Group on 0870 267 6484.

EFFECTIVELY DESCALING WITH DSCALE

Why use A.O. Smith Dscale?

Regular maintenance of water heaters is very important. In all our appliances, except for the BFC, SGE and SGS, the burner is located at the bottom. Limescale deposited at the bottom, is heated and reheated over and over again and over time it becomes harder to remove. Limescale affects a good conductivity of heat to the water. Periodic cleaning and descaling extends the life of your appliance, improves the heating process and saves energy. Dscale helps to remove limescale effectively, easily and safely.

How does the product work?

A.O. Smith Dscale is a powerful descaling solution which changes colour during the process. It is a concentrated liquid that, depending on the amount of deposited limescale, needs to be diluted with water. Dscale stops the removed limescale from re-attaching to the interior; and disappears from the water heater during the rinsing procedure. It can be easily flushed down the sewage system. Please read the instruction manual before use.

What is the product made of?

A.O. Smith Dscale is a safe, concentrated descale liquid based on natural, biodegradable acids such as lactic acid and citric acid. The product complies with the most recent environmental directives and can be easily flushed down the sewage system. Please read the instruction manual before use.

Maintenance recommendation for water heaters

Waterside maintenance of a water heater involves: descaling, replacement of anodes and replacement of gaskets. For optimal functioning of your water heater we recommend that you implement a maintenance plan 3 months after installation. The maintenance plan is adjusted to the water quality, the application and the temperature settings of the water heater. In a BFC, SGE and SGS, (in which the burner is located in the top of the appliance), limescale does not attach to the interior as the water is not heated in that area.

For all our appliances, we advise as part of the annual maintenance, to descale with Dscale.

A.O. Smith Dscale is red, but the colour changes into yellow/orange when it comes into contact with limescale. Dscale dissolves the limescale in the water heater so it can be easily flushed away.

	DSCALE
Art. No	**0307566**
Capacity	Box of 6 bottles (1 litre each)

CAPACITY APPLIANCE (LITRE)	AMOUNT OF REQUIRED LIQUIDS (LITRE)
80 - 155	6 (3 litre Dscale)
160 - 200	8 (4 litre Dscale)
200 - 300	12 (6 litre Dscale)
> 300	20 (10 litre Dscale)

Customer satisfaction and support

Optimum functionality

To optimise the functionality of your installation we recommend professional commissioning and regular maintenance. This is provided by A.O. Smith. Descaling your water heater will enhance the functionality and life of your installation. A.O. Smith has developed Dscale, a powerful descaler based on natural biodegradable acids.

Commissioning

To ensure the correct and safe functioning of your appliance/ installation, A.O. Smith can commission your installation. The following operations are carried out:

- Waterside connections are checked
- Gas connections are checked
- Flue gas discharge system is checked
- Electrical connections are checked
- Settings of the appliance are checked
- If applicable, the controls of the appliance are programmed
- First start
- Functionality check

During the commissioning of solar systems, the following operations are also carried out:

- Collector connections and mountings are checked
- Filling of the solar system

Water side maintenance

To optimise the life and enjoyment of your appliance, A.O. Smith advises an annual gas and water side maintenance check. During this service several operations are carried out.

Water side maintenance:

- Appliance is drained
- Appliance is descaled
- Anode(s) checked and if necessary replaced
- Any loose gaskets replaced

The gas side maintenance:

- Gas settings checked
- Ignition checked
- Flame supervision checked
- Flue gas discharge security checked

In a solar system:

- Entire installation checked

Please contact A.O. Smith for detailed information or to make an appointment, please call 0870 267 6484 or send an email to sales@aosmith.co.uk

NOTES

CONTACT INFORMATION

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E-mail sales@aosmith.co.uk
Website www.aosmith.co.uk

"A.O. Smith Water Heaters" is a trading name of Adveco Ltd.
Reg. No. 1027628

CUSTOMER SERVICE / SALES

A.O. Smith Water Heaters
Telephone 0870 267 6484

Within A.O. Smith we highly value personal contact.
To this end an extensive team of expert staff is available at all times.

DISCLAIMER

Veldhoven, October 2013

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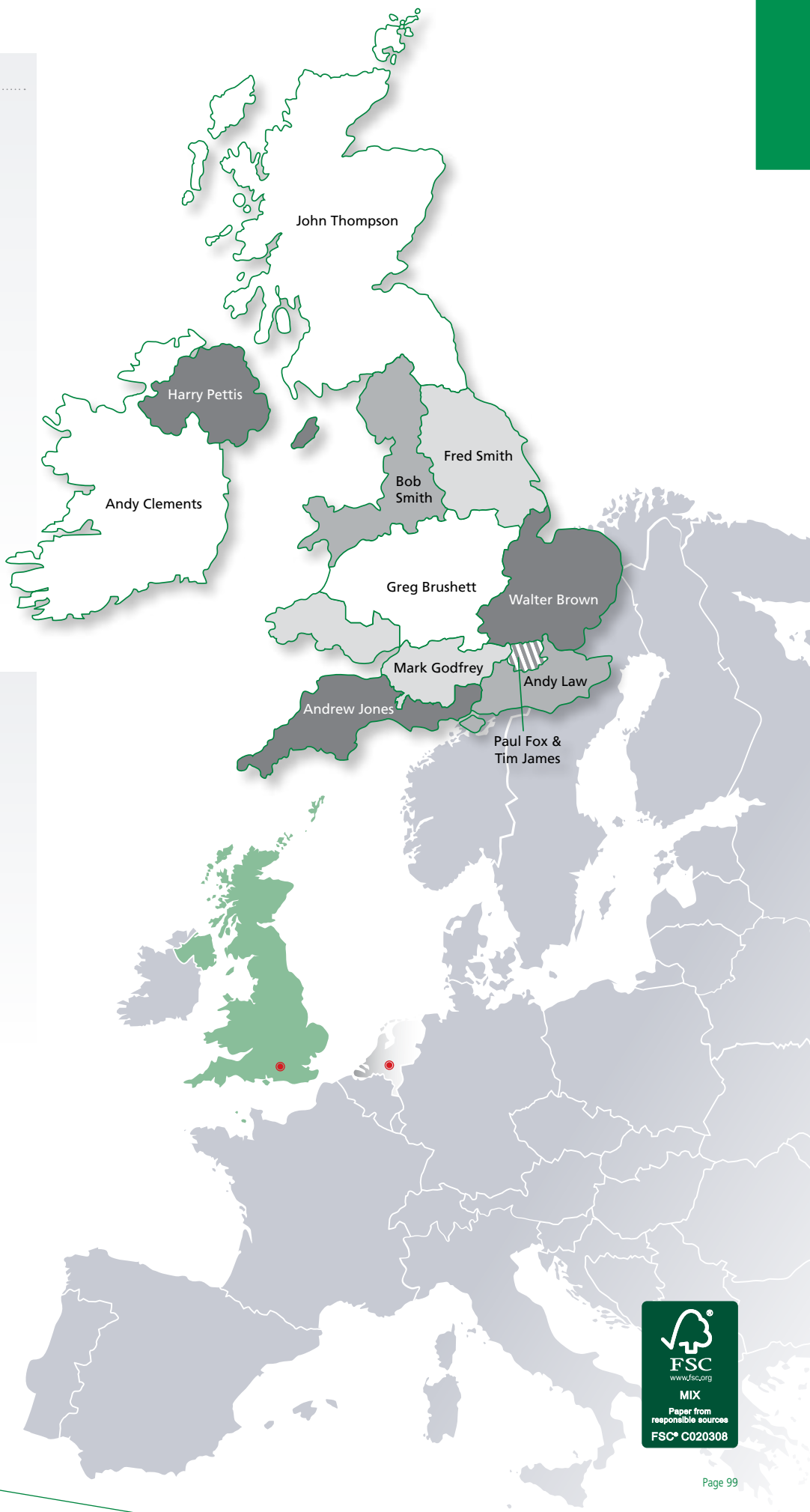

Data subject to change UK/0813/PC/06

A.O. Smith Water Heaters

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