Alpha
HEATING INNOVATION

Low carbon heating and hot water solutions

Low Carbon

SolarSmart
GasSaver
FlowSmart
Light commercial boilers
District heating unit

A change for the better

We all know the serious knock-on effects of relying on fossil fuels to provide heat and hot water in our homes.

Oil and gas supplies around the world are rapidly dwindling. As consumers, we have all been affected by supply problems and price increases.

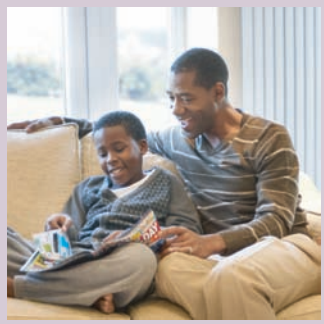
With the individual nations of the world continuing to develop – demanding more and more energy – these problems are in danger of being further compounded.

Add to that the impact continued use of fossil fuels may have on the environment and worldwide climate.

Thankfully, we are changing the way we do things. Homes are becoming increasingly energy efficient, relying more and more on sustainable energy sources and less and less on fossil fuels.

As Building Regulations continue to tighten, however, our biggest challenges arguably lay ahead.

Contents



We're here to help
0844 871 8764

Helping you meet the challenge

We understand what a huge challenge you face to design homes that meet the requirements of today's building regulations, standards and guidelines.

When it comes to heating and hot water appliances, there are plenty of low carbon options open to you. But matters such as budget and practicality of installation can often prevent them being implemented.

That's where Alpha Heating Innovation can help.

Products like GasSaver, FlowSmart and SolarSmart, will enable you to maximise domestic heating and hot water system performance to achieve significantly improved energy efficiency and carbon emissions levels.

By utilising familiar heating technology, they often prevent the need to radically re-think traditional heating system design, helping you to control building costs and project timings in the process.

The growing call to make homes more sustainable means you are under pressure to meet increasingly stringent energy efficiency and carbon emissions targets. Our aim at Alpha Heating Innovation is to take some of that pressure away.

Alpha manufactures a range of low carbon heating and hot water appliances that provide cost-effective and genuinely practical solutions that can be easily incorporated into a wide range of new-build and refurbishment housing projects.

About Alpha

Alpha Heating Innovation is part of Italy's Immergas Group which, having produced over 4 million boilers alone, is recognised as one of Europe's leading heating appliance manufacturers.

Covering 50,000 square metres, the Immergas headquarters houses some of the most advanced manufacturing, research and development facilities to be found anywhere in the world. This enables the Alpha brand to remain at the cutting-edge where product innovation is concerned.

Supported by ISO9001 accredited quality management and an insistence on using only the best quality components, this allows us to set the highest possible manufacturing standards.

Our products consequently enjoy a reputation for long-term reliability and performance that is second to none.

SolarSmart

Uses even less energy than a conventional solar thermal system

WRAS approved SolarSmart comprises a roof-mounted flat panel collector, hot water cylinder, drainback unit and unvented kit.

Unlike conventional solar thermal systems which work alongside a system boiler, SolarSmart maintains a store of water heated solely by energy collected from the solar panel.

SolarSmart's unique Solar Valve enables operation with a combination boiler, which is used as back-up only when the cylinder is depleted and there is a demand for hot water.

up to
10 YEAR GUARANTEE
on collector
and cylinder

Features overview

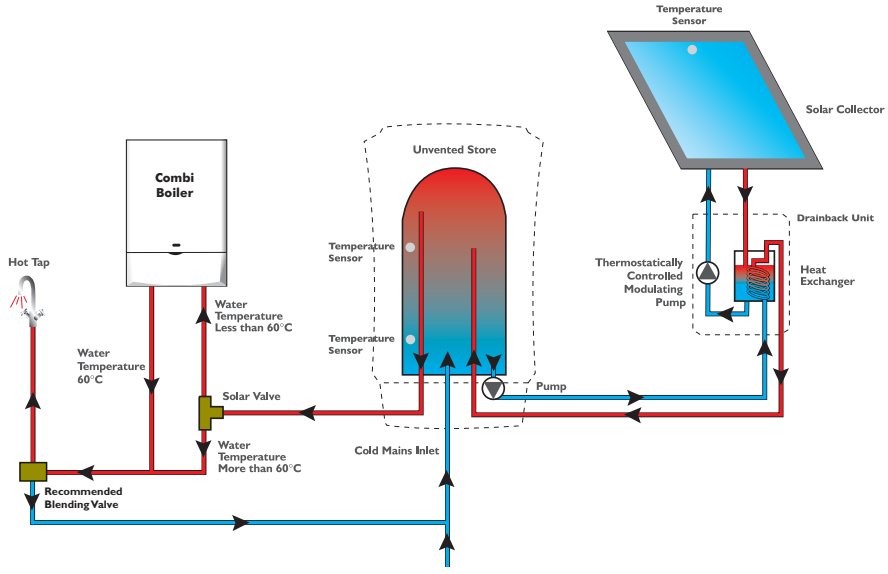
- Unique combi-based solar thermal solution
- Compact 90 litre cylinder or high capacity 150 litre cylinder
- Landscape or portrait flat panel collector
- Choice of 'in-roof' and 'on-roof' fixing kits
- Multi-panel set-up available
- Easy plug-in controls
- Fully WRAS approved system
- 10 year guarantee on collector and cylinder

How SolarSmart works

1 The stored volume of hot water is only heated using energy collected from the solar panel – so there is never any gas used in maintaining the cylinder temperature.

2 If the boiler does fire, then the water being fed to it will usually be pre-heated, so it will only need to operate at part load, using less gas.

3 Because the system works with a combination boiler, hot water isn't stored unnecessarily, but is always available, on demand, even if the cylinder is depleted.



Options

- Compact G3 compliant 90L cylinder/ 5L drainback unit or high capacity 150L cylinder/10L drainback unit
- Landscape or portrait flat panel collector
- Fixing kits for mounting collector flush with, or on top of roof tiles
- A-Frame kit for mounting collector on flat roofs
- Multi-panel set-up available
- Remote display unit monitors system status when cylinder is installed out of sight

SolarSmart options

SolarSmart 90

5L drainback unit

90L cylinder

Solar valve

SolarSmart 150

10L drainback unit

Solar valve

150L cylinder

GasSaver

Increases boiler efficiency by recovering and recycling wasted heat

Positioned neatly above any of our CD boilers, this compact unit extracts heat from waste gases normally expelled via the flue, using it to pre-heat cold mains water prior to entering the boiler. This has the added effect of reducing nuisance pluming.

Maintenance-free and silent in operation, GasSaver operates without the need for any controls, settings or electricity.

3 YEAR GUARANTEE

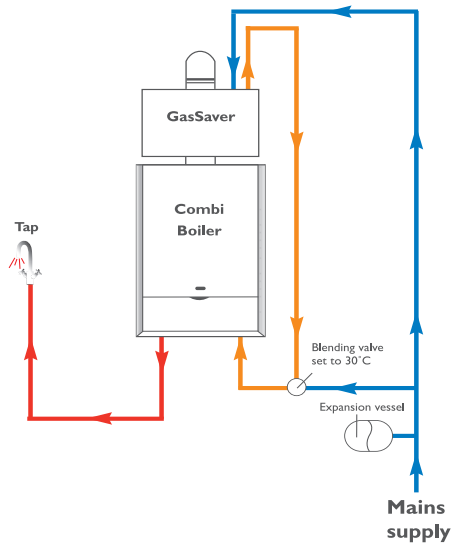
TECHNOLOGY BY Zenex

Features overview

- Uses 35% less gas*
- Saves 37% domestic hot water
- Saves half a ton of carbon
- Energy Saving Trust recommended
- SAP Appendix Q recognised
- 3 year payback period
- 3 year 'no quibble' guarantee

How GasSaver works

1. First it stores the condensate normally expelled into the atmosphere through the boiler flue
2. Then, heat from this condensate is recycled to preheat water coming into the boiler from the cold mains supply
3. This significantly reduces the amount of gas required to heat the water by the boiler
4. The amount of energy needed for the boiler to meet household demands is therefore reduced bringing lower energy bills and greater carbon savings

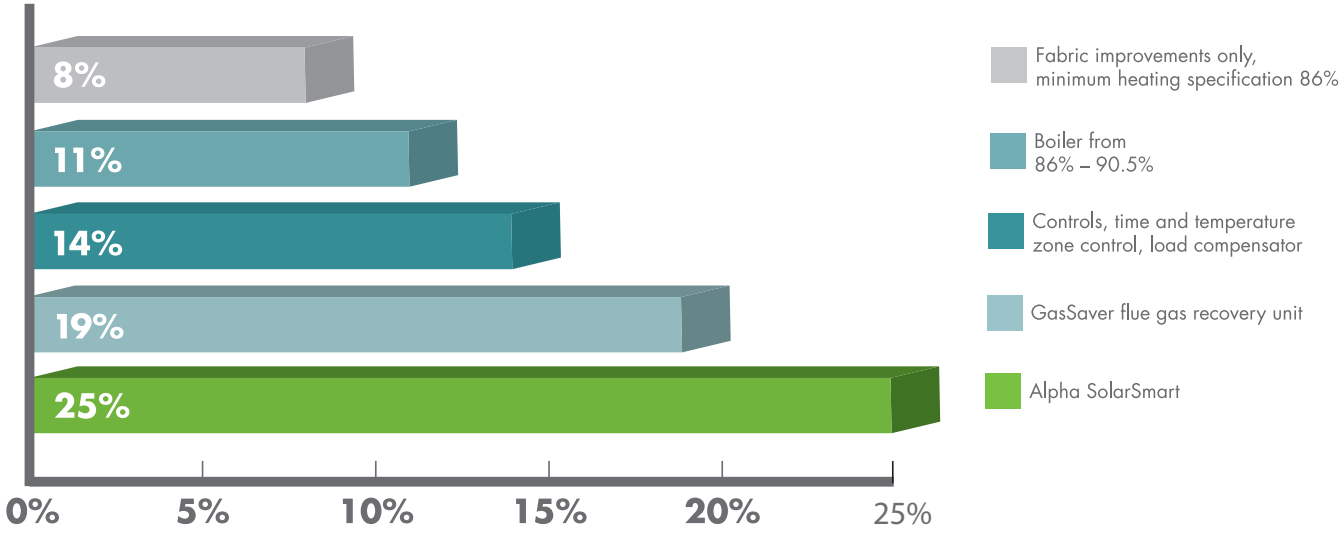


Technical Data

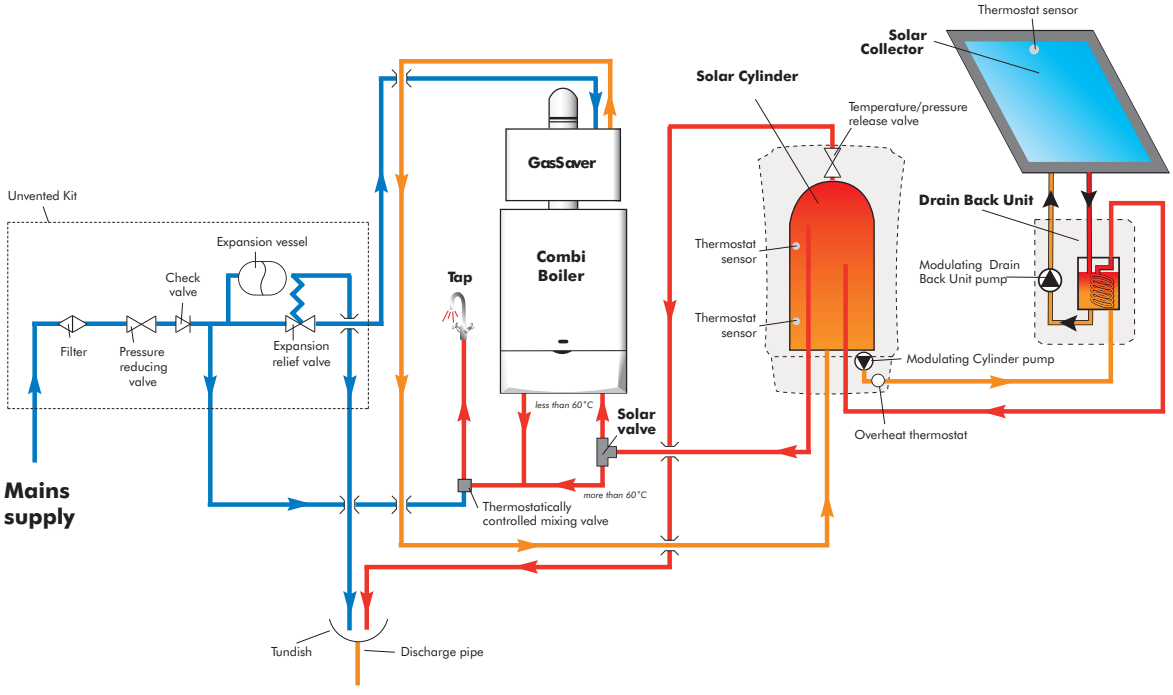
GasSaver dimensions

Height:	Width:	Maximum Depth:	Maximum Working Presure	Water Store:	Water Inlet:	Water Outlet:	Flue/ Connections:
278mm	400mm	285mm	5 BAR	5.5 Litres	15mm	15mm	Boiler Specific

25% reduction in CO_2 emissions



SolarSmart 90 with GasSaver

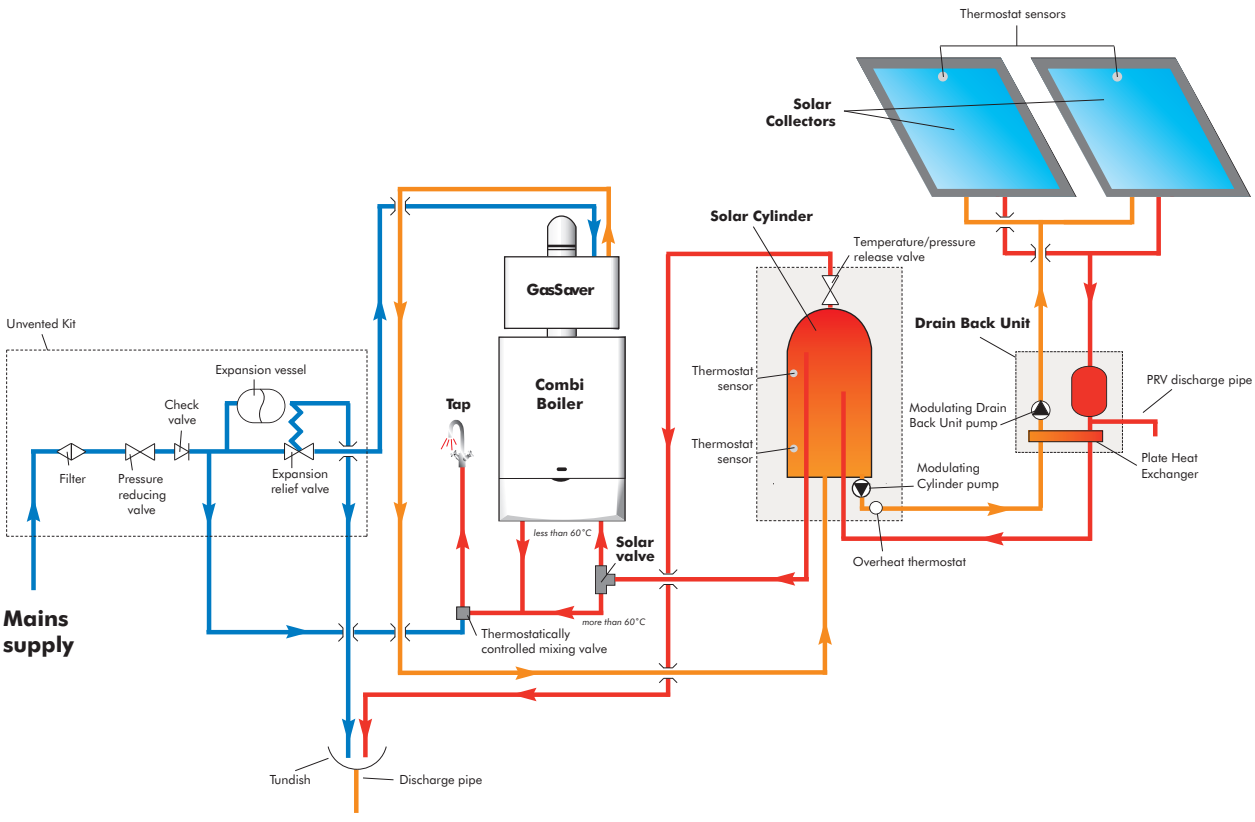


SAP Appendix Q example

This graph demonstrates how Alpha Heating Innovation can help you easily and affordably achieve a 25% reduction in CO_2 emissions.

By achieving this, the unique SolarSmart and GasSaver solution makes a significant impact on sustainability.

SolarSmart 150 with GasSaver




Alpha
Alpha

FlowSmart

Compact and energy efficient alternative to a system boiler set-up

Flowsmart is a complete system solution designed to overcome issues associated with the flow rate of combination boilers.

Featuring a CD35C combi boiler, GasSaver flue heat recovery unit and thermal store, FlowSmart delivers 18 litres of hot water per minute, at 50-60°C, for at least 30 minutes. By comparison, a typical system boiler set-up delivers 18 litres per minute, at 50-65°C, for approximately only 9 minutes, then dropping to just 40°C.

The GasSaver unit and thermal store – which draws heat from the primary system – are used to pre-heat cold mains water prior to entering the boiler. This reduces the boiler's workload, enabling it to deliver a much larger volume of hot water in the process.

All components can be sited together in a space smaller than the average airing cupboard.

3 YEAR GUARANTEE

TECHNOLOGY BY ZenerX

Features overview

- 3 year guarantee
- Exceptional energy efficiency
- Ideal for households with above average hot water demands
- Delivers hot water for long periods
- High flow rate unaffected by demand
- 25 or 50 litre thermal store
- Space efficient
- Low voltage PV immersion kit available

How it works

1. When there is a demand for DHW, mains cold water flows into the GasSaver where its temperature is raised using heat reclaimed from boiler flue gases.
2. This pre-heated water then passes through a copper coil heat exchanger in the thermal store, where it is heated further by surrounding hot water from the primary system.
3. The water then passes through a blending valve, where it is controlled to 30°C. Because this mains water is pre-heated before entering the boiler, the boiler's workload is significantly reduced.
4. This enables the boiler to satisfy heavy DHW demands for long periods, without any detrimental effect to flow rate. FlowSmart is Building Regulations approved.

FlowSmart PV

Increase energy savings

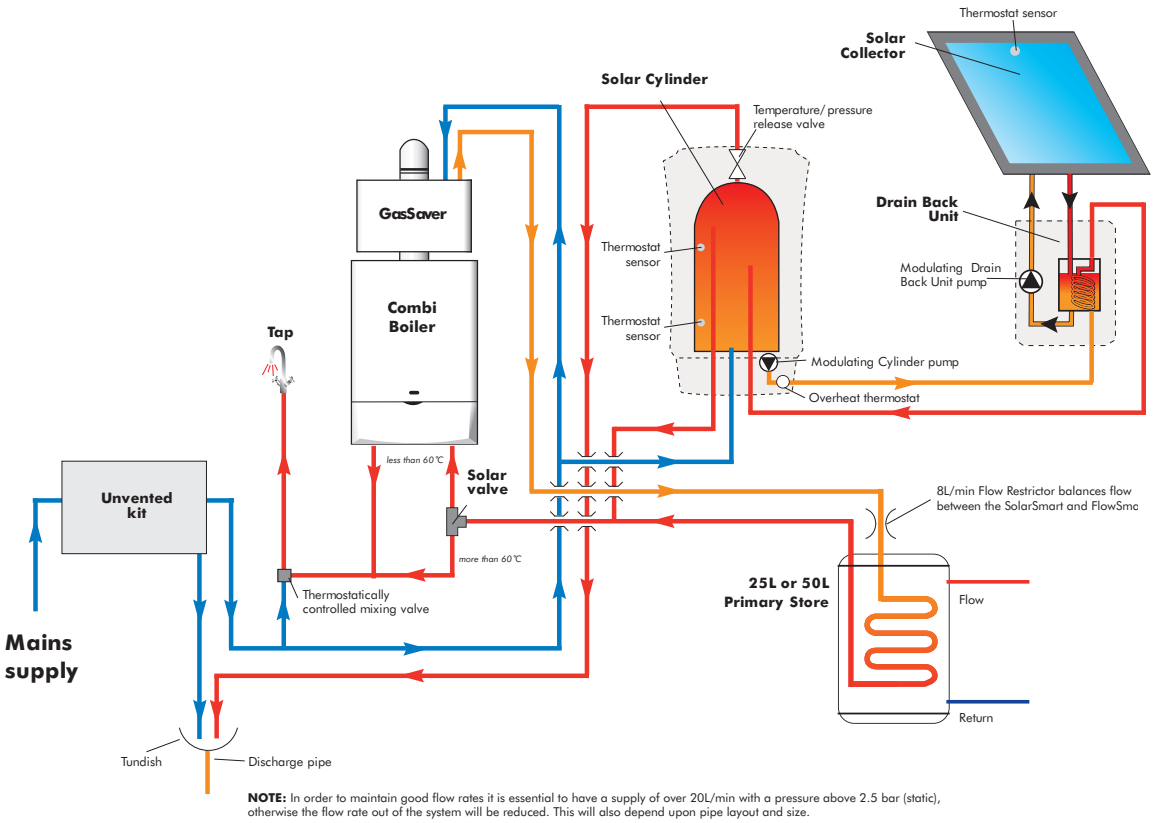
The Alpha FlowSmart low voltage PV (photovoltaic) immersion heater is an additional renewable energy source that can be added to an Alpha FlowSmart system to further increase energy savings and reduce CO_2 emissions.

The immersion heater consists of two 12V heater units encased in a 15mm copper sleeve and has been designed specifically to be used in conjunction with a maximum of two 12V/80W photovoltaic solar panels and the Alpha FlowSmart 25 or 50 thermal store.

Options

- 25 or 50 litre thermal store depending on expected DHW demand
- Can operate with photovoltaic solar panels using low voltage 'plug-in' immersion heater
- Combined wall-hung version available June 2011

FlowSmart with SolarSmart



NOTE: In order to maintain good flow rates it is essential to have a supply of over 20L/min with a pressure above 2.5 bar (static), otherwise the flow rate out of the system will be reduced. This will also depend upon pipe layout and size.

High output system boilers

These fan-assisted condensing system boilers provide heating only for sealed central heating systems and open systems in conjunction with a barrier heat exchanger.

Available in four different outputs ranging from 50kW to 115kW, all models are SEDBUK Band 'A' rated, can be wall mounted and come with a 3 year guarantee.

They can be supplied for use with Natural or Propane Gas (LPG) and are capable of being installed as a single unit or in simple modular formations for even bigger outputs.

3 YEAR GUARANTEE

CD50S, CD70S, CD90S and CD115S boilers are supplied with a type B23 flue configuration (open chamber and forced draught). To allow for flexible siting, the configuration can be changed to type 'C' (room sealed) by using a special flue adaptor kit.

Features overview

- 3 year guarantee
- Suitable for single unit or cascade installations
- High grade stainless steel heat exchanger
- Fully modulating low NOx burner
- Pre-wired 2m flying mains lead
- Open or concentric push fit flue systems
- Built-in plume management
- Easy access for servicing
- Built-in self diagnostics
- LPG versions available

B23 flue system

80mm CD single pipe flue
80mm CD horizontal terminal flue kit
80mm CD vertical terminal flue kit
80mm CD 1m flue extension
80mm CD flue bend 90°
80mm CD flue bend 45°
80mm flue support brackets pack 5
80mm flue sealing plates

Concentric flue system

80mm CD concentric flue
80/125mm CD concentric horizontal terminal flue kit + adaptor
80/125mm CD concentric vertical terminal flue kit + adaptor
125mm flue sealing collar (white)
80/125mm CD concentric 1m flue extension
80/125mm CD concentric flue bend 90°
80/125mm CD concentric flue bend 45°
125mm flue support brackets pack 5
125mm flue sealing collar (black)

Maximum flue lengths

	Single pipe flue	Concentric pipe flue
Maximum vertical length	30m	18m
Maximum horizontal length	30m	14m
90° bend is equivalent to	2.1m	1.9m
45° bend is equivalent to	1.3m	1.4m
Vertical terminal is equivalent to	3m	3.4m

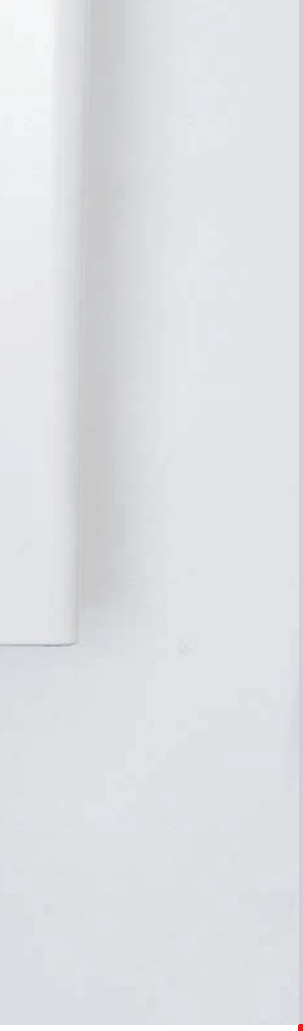
Model	CH output (kW)	output (Btu/h)	Flow rate (l/min)	Dimensions (mm)	Weight (kg)
CD50S	53.8	183,700	N/A	950x600x525	63
CD70S	72.8	248,600	N/A	950x600x525	68
CD90S	97.8	333,700	N/A	950x600x525	98
CD115S	120.5	411,200	N/A	950x600x525	106

Eco-X district heating

With Eco-X, Alpha gives building management authorities an innovative, high performance hot water and central heating supply unit that utilises heat generated by communual boilers.

Eco-X offers outstanding energy efficiency, individual control, flexible siting and high levels of safety – at a fraction of the cost of individual boilers. Moreover, it provides a limitless, instantaneous supply of hot water, all thanks to refined heat exchanger technology.

Eco-X offers dramatic energy savings over conventional copper cylinders whilst keeping scale and bacteria out. In addition, its life cycle compares with that of a storage cylinder, yet it's much easier and cheaper to replace.



Options

Alpha Eco-X DHW

- provides instantaneous hot water indirectly from a community heating circuit via a plate heat exchanger

Alpha Eco-X LPCH

- is used in conjunction with the DHW unit and provides central heating to the dwelling indirectly from the community heating circuit via a plate heat exchanger

Alpha Eco-X HPCH

- is used in conjunction with the DHW unit and provides central heating to the dwelling directly from the community heating circuit

How it works

In the UK, a community heating system typically comprises a large, centralised boiler with stored hot water in individual dwellings, and central heating either via radiators in individual dwellings (at 8 bar high pressure) or warm air systems.

Alpha has developed three Eco-X units in response to local authority demand for hot water and heating in individual dwellings in conjunction with a community heating system.

"The three components make enough of a difference to get the necessary 25% saving requirements, without going 'over the top' in terms of the building fabric".

Stuart Searle, SAP Assessor

Case study 1

FlowSmart and SolarSmart have been used to bring Code for Sustainable Homes Level 3 standards to 12 housing association properties in Rochester, Kent.

The 12 properties, including two bungalows, are spread across three different sites and cater specifically for one disabled occupier each.

All the dwellings come with conventional radiator heating, one bathroom and a cloakroom, while the bungalows also contain additional shower facilities for carers.

With CO_2 emissions and fuel bills firmly in mind, it was decided to specify both SolarSmart and FlowSmart for each of these dwellings.

As SAP Assessor Stuart Searle explains: "The three components make enough of a difference to get the necessary 25% saving requirements, without going 'over the top' in terms of the building fabric".

"Alpha's market leading product innovation has helped to achieve an outstanding reduction in carbon emissions".

Steve Lyons, Site Supervisor

Case study 2

Alpha has supplied a mix of products for a residential project in Inverurie, near Aberdeen, in order to help achieve the 30% reduction in carbon emissions required to meet the recently updated Scottish Building Regulations.

SolarSmart has been specified in some of the properties, coupled with a CD50 storage combination boiler with GasSaver. Larger properties, which are likely to have greater hot water demands, are using FlowSmart.

Steve Lyons, Site Supervisor, commented: "Alpha's market leading product innovation has helped to achieve an outstanding reduction in carbon emissions.

"The units work extremely well together and help to bring an efficient means by which hot water and heating services can be supplied to households regardless of their varying levels of requirements."

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