



Leading the way in
**Sustainable
Home Heating**

An rogha is fearr

Solar Thermal Systems



COMPREHENSIVE WARRANTIES ON ALL PARTS



Environment



Innovation



Technology

Free Home Heating Consultation – Call or Email Today

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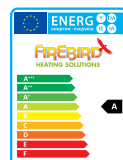
About Us

Firebird Heating Solutions are market leading manufacturers of heating products with a proven track record built on the global supply of heating systems. Established in Ireland in 1980, the Firebird name has become synonymous with performance, quality and innovative design.

Firebird are 100% Irish and are proud to be based in the hearth of the Múscraí Gaeltacht.

At the forefront of technology, Firebird are committed to providing cost-effective, energy efficient heating solutions that not only meet, but easily exceed today's stringent legislative requirements. Historically an oil fired boiler manufacturer, the addition of renewable heating options, which include air source heat pumps, stoves and solar thermal systems, enable Firebird to offer a total heating solutions package.

Firebird is ISO-9001 accredited and our products have attained some of the following accreditations:



Solar Thermal Systems

Firebird's range of solar thermal systems is arguably the most extensive on the market and offers customers a wide choice of collectors, system configurations and accessories. Designed and manufactured to Firebird's exacting standards, our solar systems are second to none in terms of performance, durability and efficiency. All our solar systems have been placed through rigorous testing to ensure the highest standards have been achieved.



TZ58-1800 Heat Pipe | Solar Collector

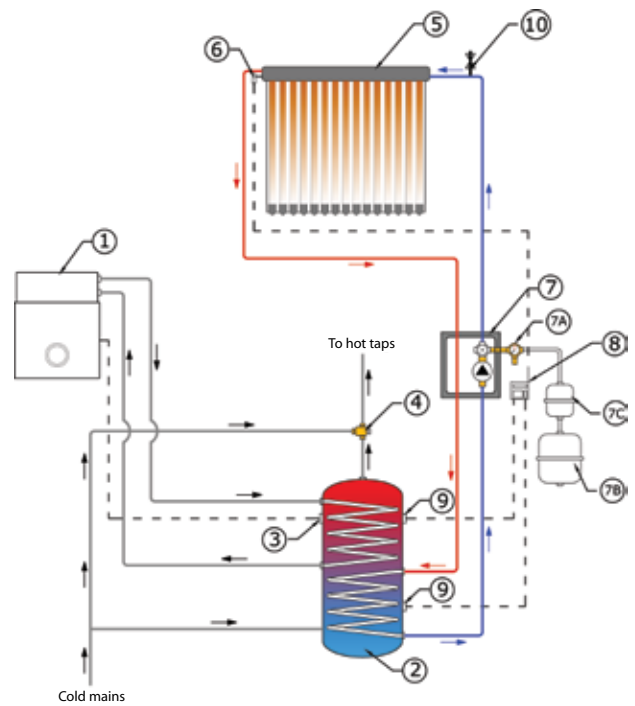


CVSKC-10 Vacuum Tube | Solar Collector

Solar thermal systems can deliver up to 70% of the hot water requirements for an average household in Ireland. Installation of solar energy on a larger scale, ie. commercial, can make a great contribution to commercial energy costs. By using solar energy to heat hot water, you will be helping to reduce our dependence on fossil fuels, while improving the energy efficiency and potentially the value of your home.

A typical domestic solar hot water system can save in excess of a tonne of CO² per annum. In particular, solar energy scores positively with the new BER - Building Efficiency Rating scheme.

- 1 Firebird Condensing Boiler
- 2 Unvented Cylinder
- 3 Temp. Sensor (after heating)
- 4 Mixing Valve
- 5 Solar Collector
- 6 Collector Temp. Sensor
- 7 Pump Station
- 7A Pressure Relief Valve
- 7B Expansion Vessel
- 7C Intermediate Vessel (if needed)
- 8 Controller
- 9 DHW Tank sensor
- 10 Air Vent



No. of Persons	No. of collectors	Tank Size (L)
2-4	2-4 2 x CVSKC-10 Vacuum Tube collectors 30 - 40 TZ58-1800 heat pipes	200
4-6	3 x CVSKC-10 Vacuum Tube collectors 40 - 60 TZ58-1800 heat pipes	300

Solar Collectors

Firebird offer two collector types to ensure that customers can choose the right collector to suit their installation requirements and budget.

TZ58-1800 Heat Pipe Solar Collector

The TZ58-1800 Heat Pipe Solar Collectors offer an optimum performance to price ratio.

The tubes are highly efficient due to a round shaped absorber design so that they capture the solar energy throughout the day.



Other features:

High build quality - aluminium manifold design, nickel plated condenser head, boro silicate glass.

Manifold can be installed initially and the tubes add edlater during commis sioning (avoiding the lifting of heavy items onto the roof).

Reinforced mounting kit manufactured to Firebird's specification.

Sales Codes:

SOL820VTS - 20 Tube Set

SOL830VTS - 30 Tube Set

CVSKC-10 Vacuum Tube Collector

The CVSKC-10 Vacuum Tube Collector is a U-pipe direct flow evacuated tube, often referred to as a 'Sydney' tube. They are amongst the most efficient solar collector designs due to the CPC reflector



aluminium plate placed behind the tubes. It reflects solar radiation back onto the absorber. The CVSKC-10 collector offers optimum performance in terms of the installation footprint. Ten tubes have an incredible aperture area of 1.6m and with a height of only 1.64m, will fit on most restricted roof spaces.

Other features:

Delivered assembled to cut down installation time.

Co-axial glass tubes with excellent vacuum ~5 Pascals.

Transfer manifold insulated with mineral wool insulation.

Light weight construction for ease of handling.

Sales Code:

SOL150VTC

Solar Specifications

Technical Specification		TZ58-1800 Heat Pipe		CVSKC-10 Vacuum Tube
		20 tube set	30 tube set	
Outer dimensions:	Height [mm]	2020	2020	1645
	Width [mm]	1825	2655	1115
	Depth [mm]	155	155	107
Tube dimensions	Diameter [mm]	58	58	37
	Length [mm]	1800	1800	1550
Weight	[kg]	78	115	31
Gross collector area	[m ²]	3.507	5.005	1.83
Aperture area	[m ²]	1.867	2.791	1.59
Max operating pressure	[bar]	6	6	10
Stagnation temperature	[°C]	200	200	286
Angle of inclination permitted		15° to 75°	15° to 75°	15° to 75°
Performance data *				
Zero-loss collector efficiency	0	73.4%	73.4%	60.5%
Collector heat loss coefficient, a1	[W/m ² K]	1.529	1.529	0.850
Collector performance ratio, a2	[W/m ² K ²]	0.0166	0.0166	0.010
Absorption		> 94 %	> 94 %	> 96%
Emission		< 7%	< 7%	< 6%
Annual energy yield	[kWh/m ²]	> 525	> 525	> 529

*All based on aperture area.

Fixing Options

Pitched Roof

All Firebird solar collectors can be installed on a normal slate or tiled roof using our weather-proof aluminium mounting frame kits. Mounting kits are constructed from robust materials and come with easy to follow instructions. Mounting kits for CVSKC-10 Vacuum Tube collectors are available for double and single collector configurations. Mounting kits for TZ58-1800 Heat Pipe Solar collectors are supplied for sets of 20 and 30 tubes.

Sales Code	Description	
SOL151VMT	On-roof Mounting Kit	- 2 CVSKC-10 Vacuum Tube collectors
SOL153VMT	On-roof Mounting Kit	- 1 extra CVSKC-10 Vacuum Tube Collector
SOL822KIT	On-roof Mounting Kit	- 20 TZ58-1800 Heat Pipe Solar Collector
SOL832KIT	On-roof Mounting Kit	- 30 TZ58-1800 Heat Pipe Solar Collector



Flat Roof Installation

If solar collectors have to be installed on a flat roof or surface, then a flat roof mounting kit is required. Flat roof kits are available for all collectors and come with mounting frame, coach bolts, rubber seals and installation instructions. Available in double and single collector configurations.

Sales Code	Description	
SOL152VMT	Flat Roof Kit	- 2 CVSKC-10 Vacuum Tube collectors
SOL154VMT	Flat Roof Kit	- 1 extra CVSKC-10 Vacuum Tube Collector
SOL174FRK	Flat Roof Kit	- 20 TZ58-1800 Heat Pipe Solar Collector
SOL172FRK	Flat Roof Kit	- 30 TZ58-1800 Heat Pipe Solar Collector



Solar Controllers & Pump Stations



Controller

The Firebird solar controller ensures the efficient operation of the solar system, managing the efficient transfer of the solar energy from the collectors to the water storage tank. The controller is easy to use and displays key system data at the touch of a button, i.e.:

- Collector temperature.
- Upper and lower tank temperatures.
- Activation of solar circulating pump.
- Hours of operation.
- Alternative arrangement layouts.
- Pump speed efficiency.
- Emergency safety shut off.
- Additional anti-freeze functions.
- Easy to use holiday function.
- Anti-legionella control.

In addition the controller has a second available relay that facilitates features such as:

- Back-up heat source available for central heating or immersion connection.
- Timer set up for back up heat source heating.
- Surplus energy usage.



Pump Station

The Firebird solar pump station houses the key plumbing components for a solar system including solar circulating pump, non return gravitational valves, flow rate regulator, pressure relief valve, connection for expansion vessel as well as filling points.

Sales Code	Description
SOL405CTR	Deltasol SLL Controller
SOL545PMP	Twin Line HE Pump Station



East / West Controller & Pump Station

For East / West installations, you will require the Deltasol SLL controller and two twin line HP pump stations.

Sales Code	Description
SOL405CTR	Deltasol SLL Controller
SOL545PMP	Twin Line HE Pump Station x 2

Parts

Expansion Vessels

An expansion vessel is necessary to absorb the expansion of the solar fluid when high temperatures are reached in the solar collector. Currently available sizes are 24 and 35 litres.



Sales Code	Description
SOL502EXP	24 litre Expansion Vessel
SOL503EXP	35 litre Expansion Vessel

ACCESSORY KIT - EXPANSION VESSEL

Expansion vessel accessory kit includes check valve, wall bracket and 1 flexi hose.



Sales Code	Description
SOL521PPK	Expansion Vessel Accessory Kit

Stainless Steel Insulated Twin Pipe

Flexible pre-insulated twin pipe with UV protection sheath for linking collectors to solar tank. Saves considerable installation time and money. (Fittings Included).



Sales Code	Description
SOL010TWP	Insulated Twin Pipe DIN16 - 10m
SOL015TWP	Insulated Twin Pipe DIN16 - 15m
SOL025TWP	Insulated Twin Pipe DIN16 - 25m

Flexi pipes, 1m

High grade 1m stainless steel flexi pipes which can be connected to the flow and return side of the collector array. This saves the installer having to make complicated pipe bends through the roof of the house. Fittings can be included to connect the pipe to the different solar collector types.

Sales Code	Description
SOL402FPP	1m Flexi Pipe
SOL075ELB & SOL075TAP	Fittings for CVSKC-10 Vacuum Tube and TZ58-1800 Heat Pipe Solar collectors



Solar Anti-freeze

The heat transfer fluid used in a solar circuit is normally a mixture of water and a polypropylene glycol anti-freeze. The glycol anti-freeze also contains an additive to protect against corrosion and evaporates at higher temperatures than water to allow higher system temperatures. Firebird recommends a 40% glycol to 60% water mix to ensure frost protection to circa -25°C.



Sales Code	Description
SOL507VFL	Tyfocon LS Anti-freeze for Tube System

Anti-scald Mixing Valve

Anti-scald (mixing) valve must be fitted close to the hot water outlet of the solar tank so that delivery to the taps does not exceed 48°C.

Sales Code	Description
SOL504MIX	Anti-scald Mixing Valve



Air vent & Isolating Valve

An automatic air vent should be fitted at the highest point in the solar circuit system in order to remove air from the system during commissioning. An isolating valve should be fitted before the air vent and isolated once the system has been commissioned.



Sales Code	Description
SOL530ASV	Air Vent & Isolating Valve

Pipe flashing

The pipe flashings provide a tidy solution for passing solar flow and return pipes through the house roof.

Sales Code	Description
SOL509TRF	Pipe flashing - tiled roof
SOL510SRF	Pipe flashing - slate roof



Other Parts

Sales Code	Description
SOL514FPC	Weather-proof Cover for CPK7210-N Flat Plate Collector
SOL515VTC	Weather-proof Cover for CVSKC-10 Vacuum Tube Collector
SOL000FPS	Solar Filling & Flushing Pump
SOL527RFR	Refractometer
SOL528CFL	Solar Cleaning Fluid, 500ml
SOL000BOV	Blow-off Storage Vessel
SOL010TSV	TSV Lightning Protection (for controller)
SOL526RLY	Auxiliary Relay HR230 (for controller)
SOL000SPP	Solar Paste Kit



Customer Service

We, the Firebird team, offer you, our customer, top quality service. We monitor the level of service provided on a regular basis to ensure our customers' requirements are always met.



Technical Support

Our Technical team will provide you with a comprehensive technical support package which is designed to make the specification and installation process as simple as possible. Please contact the Firebird Technical team on **026 45253** or **service@firebird.ie**.



Quality

At Firebird, we produce our appliances to the highest standards and put them through rigorous testing procedures by external standards agencies. We design each product to meet specific requirements and we manufacture using premium quality materials to precise standards and tolerances.



Warranty

We offer a 5 year warranty on Firebird Boilers, Heat Pumps, Solar Panels, Stoves and Range Cookers. Full warranty details can be viewed on our website at **www.firebird.ie**.



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