CoolSky

Installation
Commissioning Form

CoolSky Ltd

42 Milecross Road, Newtownards BT23 4SR
Tel: +44 (0)28 9182 9470
Email: info@cool-sky.co.uk

Company Registration No. NI072166
VAT No. GB 108838970

Thank you for Installing an Apricus Solar Thermal collector from CoolSky.
This document contains important information on your Solar System.
Keep it in a safe place for future reference.

A	**INSTALLER CONTACT DETAILS**		
	1	Name:	
	2	Address:	
	3	Post Code:	
	4	Tel:	
	5	Email:	

B	**INSTALLATION ADDRESS**		
	1	Name :	
	2	Address :	
	3	Post Code:	
	4	Tel:	
	5	Email:	

C	APRICUS COLLECTORS INSTALLED		
	APSE-10	**APSE-20**	**APSE-30**
Efficiency (η_0) [%]	65.6	65.6	68.7
Heat Loss (a_1) [W/m^{2}K]	2.063	2.063	1.505
Heat Loss (a2) [W/m^{2}K^2]	0.006	0.006	0.011
Aperture Area [m^2]	0.94	1.88	2.83
EN12975 Test Report No.	07COL553	07COL553	09COL805
TICK COLLECTOR MODEL INSTALLED ✓			
ENTER Number of Collectors Installed			
ENTER Total Aperture Area Installed [m^2]			
Annual Energy Output Estimate [kWh/a]	SAP2005 : _____ kWh/a TSOL : _____ kWh/a		

ENTER Serial Numbers of Installed	
Collector [1]	
Collector [2]	
Collector [3]	
Collector [4]	
Collector [5]	
Collector [6]	
Collector [7]	
Collector [8]	
Collector [9]	
Collector [10]	

D	TYPE OF SYSTEM INSTALLATION	
1	**Application**	Residential ◯ Commercial ◯
2	**Use**	**Tick all that apply** Hot Water ◯ Space Heating ◯ Cooling ◯ Industrial Process ◯ Other : ◯ Specify : _____

E	SYSTEM SETTINGS AT COMMISSIONING	
1	**System Static Height**	Distance from Solar Loop Pump to top of Collector : _____ m
2	**Expansion Vessel Pre-Set Pressure**	Pre-Set Pressure of Expansion Vessel before install : _____ bar **(typ. 1.0 bar + (0.1 x Static Height[m])**
3	**Cold-Fill Pressure**	Commissioning Cold-Fill Pressure of the Solar Loop : _____ bar **(typ. 1.3 bar + (0.1 x Static Height[m])**
4	**Flow-Rate**	Flow Rate through Solar Loop : _____ l/min **(typ. 1 l/min for every 10 tubes [max 15l/min])**

F	TYPE OF PIPE USED FOR SOLAR LOOP	
1	**Material**	Copper ◯ Stainless Steel ◯ Other ◯ Specify : _____
2	**Nominal Pipe Diameter**	15 mm ◯ DN16 ◯ 22 mm ◯ DN20 ◯ 35 mm ◯ DN20 ◯ Other : ◯ Specify : _____
3	**Insulation of Pipework**	Type of Insulation Used : _____ Nominal Thickness : _____ mm UV Protective Sheath : YES / NO

G	CYLINDER INSTALLED (COMPLETE BOXES BELOW)		
	1	**Manufacturer Name**	
	2	**Cylinder Model(s) & Serial Number(s)**	
	3	**Total Volume [Litres]**	
	4	**Dedicated Solar Volume [Litres]**	
	5	**Solar Heat Exchanger Coil Surface Area [m^2]**	Coil Surface Area : _____ [m^2] Max. Working Pressure : _____[bar]
	6	**Any Auxiliary Exchanger Coils**	Coil 1 Surface Area : _____ [m^2] Max. Pressure: _____ [bar] Coil 2 Surface Area : _____ [m^2] Max. Pressure: _____ [bar] Coil 3 Surface Area : _____ [m^2] Max. Pressure: _____ [bar] **For Other Coils Enter Details Below :**

H	SAFETY DEVICES FITTED / PROCEDURES	
1	**Details of Anti-Scald Devices Fitted to System**	Provide details of Temperature Limiting Devices included in the system : Note : it is an MCS requirement that the draw off temperature will not exceed 60°C from the solar system (the solar controller is not considered to absolutely guarantee this requirement), therefore, TMV's must be used in conjunction with systems to ensure draw-off temperatures do not exceed 60°C.
2	**Anti-Legionella Control**	Note : it is an MCS requirement that the installer provides the end-user with a warning of the bacterial growth risks within the hot water cylinder and how this should be controlled. The installer is also required to undertake a risk analysis and design the system and control features to address the risk level presented.

I	Frost and Limescale Protection Devices	
1	**Frost Protection**	Brand & Grade of Fluid Used (Tick) : Tyfocor LS ◯ Sentinel R100 ◯ Fernox S1 ◯ Other : ◯ Specify : _____ Frost Protection Temp. : _____ °C **Note** : ONLY Solar Anti-Freeze Fluids that are designed for use with Evacuated Tube Collectors should be used. Please refer to Installation Manual for details on maintaining the Solar Thermal Fluid.
2	**Limescale Protection (if fitted)**	In hard water areas additional protection for the cylinder / heat exchanger may be required. Enter Details of additional limescale protection here, and any user actions required to maintain operation

J	OTHER RELEVANT INFORMATION

SIGNATURES

The installer of the Solar Thermal System described in this document hereby declares that the installed system meets the requirements of :
The MCS Microgeneration Installation Standard - MIS3001

Installer Signature : _____ Date : _____

Customer Signature : _____ Date : _____

A copy of this document should be left with the end-user and one copy retained by the installer in order to comply with MCS requirements.

The details contained herein should also be registered in the Product Registration Area of www.apricus.com or alternatively a copy of this document forwarded to CoolSky Ltd. so that an installation record can be made that will greatly help with any warranty or servicing of the system in the future.

IMPORTANT SAFETY INFORMATION

INTRODUCTION
The information contained herein is for guidance only with regard to the safe use and operation of domestic hot water and heating systems. The installer / user should reference the applicable National Standards in force that take precedence over any guidance contained in this document.

BACTERIA IN WATER SYSTEMS
Legionella bacteria are always present in man-made water systems, however, it is only in high numbers that the bacteria can cause illness. As the resulting Legionnaires' Disease can be fatal, there has been a considerable amount of research to define the characteristics of the bacteria.

Whilst legionella is typically associated with larger heating systems, such as hotels, hospitals, factories or air conditioning cooling towers etc. it can also be present in smaller domestic and residential systems.

Research shows that the bacteria are encouraged to colonise and thrive in conditions where the water temperature is between 20°C and 45°C, where the water is stagnant, an accumulation of debris exists, or scale and corrosion are present.

Scientific research shows that the legionella bacteria in the cylinder is killed in a matter of seconds at 70°C, and that 90% of the bacteria is killed after 2 minutes at 60°C, or after 2 hours at 50°C.

BACTERIA IN SOLAR SYSTEMS
Solar irradiation during the winter periods in the UK and Ireland may only contribute to approximately 10-20% of the hot-water demand by pre-heating the incoming cold water feed, by way of example, to temperatures of 20°C to 30°C. This lower energy contribution from the solar collector can still reduce fossil fuel consumption during the winter periods. However, the risk of lower temperature water, between 20°C and 45°C, being held in the cylinder for a period of time is increased, as is the associated risk of legionella bacteria growing.

Therefore, there is the requirement to incorporate a means to prevent bacterial growth (legionella) at all foreseeable flow rates before DHW distribution. One way of achieving this requirement (as detailed in MCS MIS3001 Standard 4.3.4) is through the use of a secondary means of heating the water to at least 60°C.

The relatively low volume of cylinder storage in small systems combined with typically high throughputs reduces the risk of bacterial proliferation. However, where a high risk of bacterial proliferation exists or the end-users are in a high risk category or the installation is a large system (e.g. hospital, nursing home, hotel, factory etc.) the solar store should be designed to be regularly sterilised. This sterilisation should be accurately controlled by time and temperature, and ideally occur at the end of the day to maximise solar contribution.

RISK ASSESSMENT

The competent installer should be capable of assessing the risks associated with the installation of the heating and hot water system in order to identify potential areas of risk, and to then implement the necessary actions to avoid or control the identified risks.

The installer should undertake a FULL risk assessment of the whole system (i.e. heating and hot water). If the installer does not feel they have the appropriate skills to undertake a risk assessment then assistance from a professional consultant should be sought.

If the installation is not intended for a domestic house and is intended for a commercial or industrial use (e.g. hospital, nursing home, factory, hotel, guest house, leisure centre etc.) then contact CoolSky Technical Support Office for guidance and advice on correct design solutions

REFERENCE DOCUMENTS

The installer should make himself familiar with the requirements of the following applicable documents and any other local or national regulations and guidelines in relation to legionella in hot water systems :

Issuing Body	Document
Health & Safety Executive (UK)	Code of Practice and Guidance L8
Health Service Executive (Ireland)	National Guidelines for the Control of Legionellosis in Ireland, 2009
Microgeneration Certification Scheme (MCS)	MIS3001 Standard – Requirements for Contractors Undertaking the Supply, Design, Installation, Set to Work Commissioning and Handover of Solar Heating Microgeneration Systems (Version 2.0)
Energy Saving Trust (EST)	CE131 : Solar Water Heating Systems – Guidance for Professionals, Conventional Indirect Models

IF IN DOUBT SEEK ASSISTANCE FROM A PROFESSIONAL CONSULTANT

WARRANTY POLICY

COOLSKY LTD.
Standard Limited Warranty Terms & Conditions

GENERAL
CoolSky Ltd. warrants the Solar Collectors and Accessories (the "Products") supplied to be free from defects in workmanship under normal usage for the applicable Warranty Period from the effective date. This Limited Warranty extends to the End-User of the product at the original installation location, and is not transferable. In the event of a defect, malfunction or other failure of the Products occurring within the applicable Warranty Period which is not caused by any misuse or damage to the Product while in the possession of the End-User, CooSky Ltd. will remedy the failure or defect within a reasonable amount of time. The remedy will consist of repair or replacement of the Products, or refund of the purchase price, in the sole discretion of CoolSky Ltd. However, CoolSky Ltd will not elect to refund the purchase price unless it is unable to provide a replacement, and repair is not commercially practical and cannot be made within a reasonable timeframe. After a reasonable number of attempts by CoolSky Ltd. to remedy any defects or malfunction, the End-User will be entitled to either a refund or replacement of the product or its component parts. The remedies stated herein are the sole remedies for defects within the applicable warranty period.

LIMIT OF LIABILITY
EXCEPT FOR THE EXPRESS LIMITED WARRANTY PROVIDED FOR HEREIN COOLSKY HEREBY DISCLAIMS AND EXCLUDES ANY AND ALL OTHER WRITTEN OR ORAL EXPRESS WARRANTIES OR REPRESENTATIONS. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE MUST ARISE UNDER LAW TO APPLY, AND IS HEREBY LIMITED IN DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES PROVIDED HEREIN UNLESS OTHERWISE BARRED BY ANY APPLICABLE STATUTE OF LIMITATION. COOLSKY DISCLAIMS ANY RESPONSIBILITY FOR SPECIAL, INDIRECT, SECONDARY, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING FROM OWNERSHIP OR USE OF THESE PRODUCTS, INCLUDING PERSONAL INJURY, INCONVENIENCE, LOSS OF USE OR LOSS OF INCOME. NO AGENT OR REPRESENTATIVE OF COOLSKY HAS ANY AUTHORITY TO EXTEND OR MODIFY THIS WARRANTY UNLESS SUCH EXTENSION OR MODIFICATION IS MADE IN WRITING BY A CORPORATE OFFICER. WHERE ANY DISCLAIMERS AND LIMITATIONS CONFLICT WITH APPLICABLE LAW, THE APPLICABLE LAW SHALL PREVAIL.

WARRANTY PERIOD
The Warranty Periods for Products supplied by CoolSky Ltd. is limited to the benefit of any such warranty that is provided to CoolSky Ltd. by the manufacturer of the Products. Where, the Manufacturer Warranty differs from that stated herein, the Manufacturer warranty takes precedence.

Component	Warranty Period	Effective Date
Solar Collector : Copper Heat Transfer Header	15 Years	Installation Date*
Solar Collector : Mounting Frame	15 Years	Installation Date*
Solar Collector : Evacuated Tubes and Heat Pipes	10 Years	Installation Date*
Heat Dissipater Unit	10 Years	Installation Date*
Solar Controller Unit	2 Years	Date of Manufacture
Pipes, Valves, Fittings	1 Year	Date of Purchase

* installation date as recorded on the installation commissioning form, purchase invoice date, or, if neither are available, the date of manufacture plus sixty (60) days.

WARRANTY EXCLUSIONS

This warranty shall be void and shall have no effect if:

a. The design or structure of the Products are attempted to be modified or altered in any way, including by not limited to attaching non-CoolSky approved appliances or equipment;
b. The Products are not installed or repaired in accordance with applicable local codes;
c. The Products are not installed by qualified, suitably licensed persons;
d. The installer had not received Product installation training by CoolSky Ltd. or an authorised partner:
e. The installation was not completed in line with the guidelines of the then current CoolSky installation manual;
f. System is exposed to excessive system pressure;
g. Solar collector is exposed to flow rates in excess of 15Lpm;
h. Any system component is damaged due to freezing;
i. Any system component leaks due to corrosion;
j. Non-approved heat transfer liquids are used;
k. Damage to the collector header is caused due to heat buckling;
l. Failure is due to wind, hail, storms or other acts of God;
m. Failure or loss of efficiency is due to lime-scale formation;
n. Failure is due to lightning damage, electrical power interruption or dirty power supply;
o. Electrical devices are installed in an environment that exceeds their specified operating range;
p. Temperature sensors fail due to water ingress, electrical shorting, or electrical interference;
q. Failure of the circulation pump due to running the system dry;
r. Product serial tag or other identification is defaced or removed;
s. Product is relocated from its original point of installation;
t. Collector is not commissioned and / or is left to stagnate for a period exceeding 14 consecutive days;
u. Any operation exceeds the documented design limits of the system components.

HOW TO OBTAIN WARRANTY CLAIM SUPPORT

End User Obligations

In order to obtain performance of any obligation under this warranty, the End-User must:

1. Firstly determine if the Product is within the applicable Warranty Periods. This can be determined by :
   a. Referring to the installation commissioning form, or
   b. The original purchase invoice, or
   c. The serial number and manufacturing date will need to be read off the Product serial tag.

   NOTE : Some Products may be installed in a location that is not accessible to the End-User and so the information may only be obtained by a qualified service technician.

2. Contact the Installer :
   a. Contact the company who installed the original Product, or, if unknown or unable to be contacted,
   b. Contact CoolSky Ltd. directly :

CoolSky Ltd.
42 Milecross Road
Newtownards
BT23 4SR
Northern Ireland, U.K.

Email : info@cool-sky.co.uk
Tel : +44 (0)28 9182 9470

The following information may be required to determine if the Product issue is eligible for coverage under the terms of this Limited Warranty :

a. Information related to the manner in which the Products were installed
b. The history of operation
c. Any repairs that may have been made
d. Evidence that the Products were installed by a qualified, licensed contractor.
e. Evidence that the Products were installed in accordance with the applicable Products Installation Manuals and any special written design or installation guidelines by CoolSky for this project.
f. Evidence that the Products were installed in accordance with all applicable local and national building, plumbing and electrical regulations.

CoolSky Ltd., 42 Milecross Road, Newtownards, BT23 4SR, Northern Ireland, U.K.

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