

HSV THERMAL STORE

Installation, Commissioning, Maintenance and User Instructions



Models:

HSV601	HSV602
HSV801	HSV802
HSV1001	HSV1002
HSV1501	HSV1502
HSV2001	HSV2002



READ AND UNDERSTAND THE INSTRUCTIONS

Read and fully understand all instructions before attempting to operate maintain or install the unit.



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1.0 INTRODUCTION

- The HSV is a thermal store for use with Renewable energy to provide a store of energy plus pre-heated domestic hot water via an internal stainless steel coil.
- All installations must conform to the relevant Building Regulations. Health & Safety requirements must also be taken into account when installing any equipment. Failure to comply with the above may lead to prosecution.
- If the equipment is to be connected to an unvented (pressurised) system, care must be taken to ensure all extra safety requirements are satisfied should a high or low-pressure condition occur in the system.

1.1 Ancillary Options

- | | |
|--|-----------|
| • UN-VENTED SYSTEM KIT-FOR STANDALONE APPLICATIONS | WH17 |
| • EXPANSION KIT HSV601/602 | VEK1 |
| • EXPANSION KIT HSV801/802 | VEK2 |
| • EXPANSION KIT HSV1001/1002 | VEK3 |
| • EXPANSION KIT HSV1501/1502 | VEK4 |
| • EXPANSION KIT HSV2001/2002 | VEK5 |
| • DUAL AQUASTAT | LM900117A |

2.0 SAFETY GUIDELINES

Carefully read all the instructions before commencing installation.

Keep these instructions near the water heater for quick reference.

A competent person must install this equipment. All installations must conform to the relevant Building Regulations. Health & Safety requirements must also be taken into account when installing any equipment. Failure to comply with the above may lead to prosecution

Commissioning, maintenance and repair must be done by a skilled installer/engineer, according to all applicable standards and regulations.

2.1 General description of safety symbols used



BANNED

A black symbol inside a red circle with a red diagonal indicates an action that should not be performed



WARNING

A black symbol added to a yellow triangle with black edges indicates danger



ACTION REQUIRED

A white symbol inserted in a blue circle indicates an action that must be taken to avoid risk



This symbol shows essential information which is not safety related

2.2 General



Lochinvar Limited is not liable for any damage caused by inaccurately following these mounting instructions. Only original parts may be used when carrying out any repair or service work.



This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.



READ AND UNDERSTAND THE INSTRUCTIONS



Read and fully understand all instructions before attempting to operate maintain or install the unit.

3.0 TECHNICAL DATA

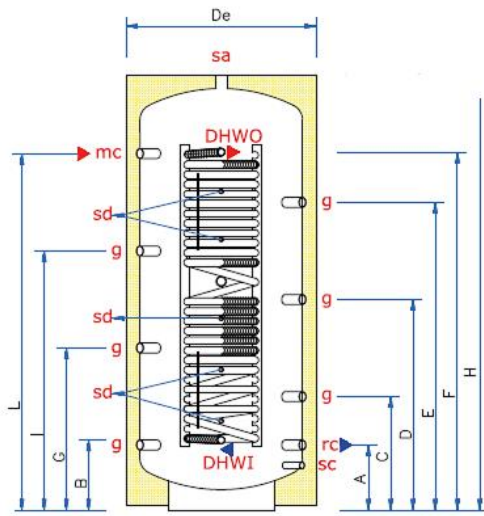
Description	Unit	HSV601	HSV801	HSV1001	HSV1501	HSV2001
Storage Capacity	litres	600	800	1000	1500	2000
Empty Weight	kg	205	210	238	330	378
Floor Load (weight unit + storage capacity)	kg	805	1010	1238	1830	2378
Maximum Working Pressure Tank	bar	3	3	3	3	3
Maximum Working Pressure DHW Coil	°C	6	6	6	6	6
Maximum Working Pressure Solar Coil	°C	n/a	n/a	n/a	n/a	n/a
Maximum Temperature Tank	°C	95	95	95	95	95
DHW Coil size	m ²	5.65	5.65	6.95	6.95	8.00
Stand-by Loss	W	103	117	131	155	186
Stand-by Loss	kWh/ltr/day	2.46	2.80	3.14	3.72	4.46
Insulation Thickness	mm	100	100	100	100	100
Insulation Material	-	Flexible Polyurethane with PVC outer jacket				
Fire Class	-	b1	b1	b1	b1	b1

Technical data version 1 with stainless steel domestic hot water coil only

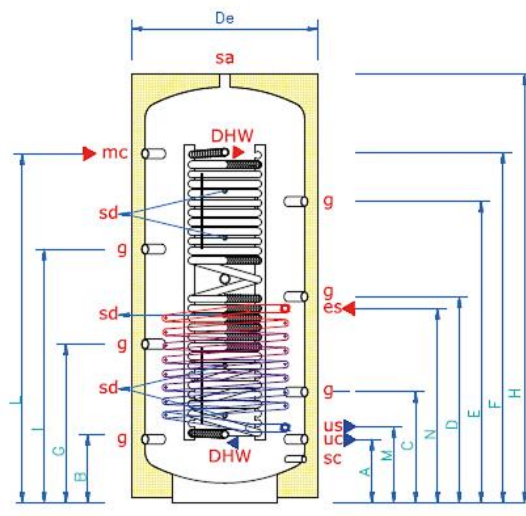
Description	Unit	HSV602	HSV802	HSV1002	HSV1502	HSV2002
Storage Capacity	litres	600	800	1000	1500	2000
Empty Weight	kg	205	210	238	330	378
Floor Load (weight unit + storage capacity)	kg	805	1010	1238	1830	2378
Maximum Working Pressure Tank	bar	3	3	3	3	3
Maximum Working Pressure DHW Coil	°C	6	6	6	6	6
Maximum Working Pressure Solar Coil	°C	16	16	16	16	16
Maximum Temperature Tank	°C	95	95	95	95	95
DHW Coil size	m ²	5.65	5.65	6.95	6.95	8.00
Solar coil size	m ²	1.40	1.80	1.80	3.00	4.50
Maximum No of solar collectors	-	4.00	5.00	6.00	8.00	12.00
Stand-by Loss	W	103	117	131	155	186
Stand-by Loss	kWh/ltr/day	2.46	2.80	3.14	3.72	4.46
Insulation Thickness	mm	100	100	100	100	100
Insulation Material	-	Flexible Polyurethane with PVC outer jacket				
Fire Class	-	b1	b1	b1	b1	b1

Technical data version 2 with stainless steel domestic hot water coil and solar coil

4.0 DIMENSIONS AND CONNECTION SIZES



4.1.1 VERSION 1 DHW COIL ONLY



4.1.2 VERSION 2 DHW COIL AND SOLAR COIL

Item	Description	Unit	HSV601/602	HSV801/802	HSV1001/1002	HSV1501/1502	HSV2001/2002
A	Height of DHW Coil cold inlet connection	mm	290	250	250	380	380
A	Height of Tank body connection	mm	930	900	1100	1325	1205
B	Height of Tank body connection	mm	1145	1115	1380	1640	1475
C	Height of Tank body connection	mm	1570	1550	1950	2260	2030
D	Height of Tank body connection	mm	290	250	250	380	380
E	Height of Tank body connection	mm	505	455	530	705	655
F	Height of DHW Coil hot outlet connection	mm	1575	1555	1950	2260	2030
G	Height of Tank body connection	mm	715	685	815	1015	925
H	Total Height (with insulation)	mm	1900	1880	2270	2665	2500
I	Height of Tank body connection	mm	285	270	270	400	380
K	Height of Tank body connection	mm	1355	1335	1665	1950	1750
L	Height of AAV Connection	mm	1900	1880	2270	2665	2500
M	Height of solar return connection#	mm	360	330	330	460	450
N	Height of solar flow connection#	mm	760	750	750	1260	1250
De	Diameter of Water Heater (with insulation)	mm	850	990	1050	1200	1300

on version 2 only

Item	Description	Unit	HSV601/602	HSV801/802	HSV1001/1002	HSV1501/1502	HSV2001/2002
sa	Connection T&P-valve	BSP	1"	1"	1"	1"	1"
g	Connection Tank body	BSP	1"	1"	1"	1"	1"
mc	Connection ASHP flow	BSP	1½"	1½"	1½"	1½"	1½"
rc	Connection ASHP return	BSP	1½"	1½"	1½"	1½"	1½"
DHWO	Connection Hot Water Outlet	BSP	1¼"	1¼"	1¼"	1¼"	1¼"
DHWI	Connection Cold Water Inlet	BSP	1¼"	1¼"	1¼"	1¼"	1¼"
es	Connection Solar flow#	BSP	1"	1"	1"	1"	1"
us	Connection solar return#	BSP	1"	1"	1"	1"	1"
sc	Connection Drain	BSP	1"	1"	1"	1"	1"
sd	Connection sensor point	BSP	½"	½"	½"	½"	½"

on version 2 only

5.0 GENERAL REQUIREMENTS

The Lochinvar HSV thermal store has been designed to operate trouble free for many years. These instructions should be followed closely to obtain the maximum usage and efficiency of the equipment. **PLEASE** read the instructions fully before installing or using the appliance. These instructions should be read in conjunction with the appropriate Solar Thermal or Heat pump installation manual.

5.1 Related Documents

The installation should follow the relevant guidance offered in the following documents. It is not practical to list all relevant information, but emphasis is placed on the following documents, as failure to comply with the guidance given will almost certainly result in an unsatisfactory installation:

BS 6700: 1997	Design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages
BS 7074: 1989 Parts 1 and 2	Application, selection and installation of expansion vessels and ancillary equipment for sealed water systems. Code of practice for domestic heating and hot water supply
BS 7671: 2008	Requirements for electrical installations, I.E.E. wiring regulations seventeenth edition
CP 342: Part 2 1974	Code of practice for centralised hot water supply-buildings other than dwellings

6.0 WATER QUALITY

6.1 Vessel

On systems where the HSV is working with Solar Thermal only, the storage vessel is isolated from all other services and acts as an energy store heating and then cooling the water (as domestic hot water is used) within the vessel. The water within this vessel must be treated with a suitable inhibitor and Biocide. Contact a water treatment specialist for further guidance. On systems where the HSV is working with Heat Pumps, CHP, Gas condensing boilers or any other direct heat source then the HSV should be treated as per the rest of the system. See main heat source ICM for further guidance.

6.2 Stainless Steel Domestic Hot Water Coil

Water supply quality may adversely affect the efficiency and performance of water heaters and hot water systems. The situation can intensify where higher temperatures or demands exist.

Water hardness should not exceed 205ppm CaCO₃ and TDS (Total Dissolved Solids) of untreated water should not exceed 350ppm. If these values are exceeded, contact a water treatment specialist for guidance.

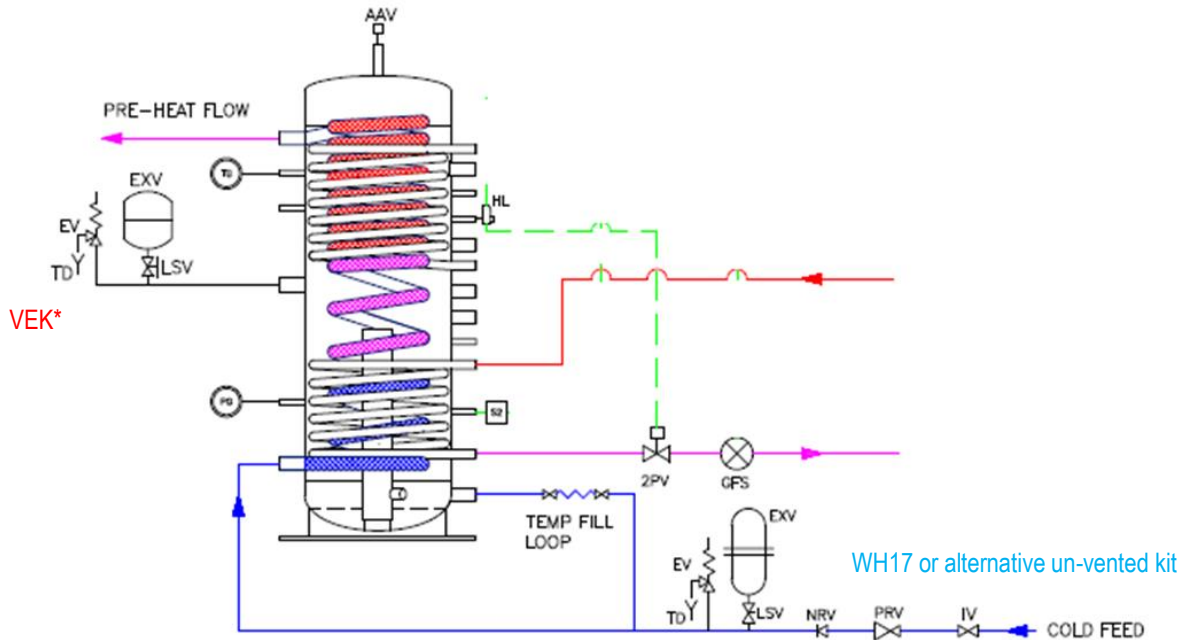
7.0 WATER CONNECTIONS

7.1 General

1. Circulating pipework should be insulated; cisterns, expansion vessels and pipework situated in areas exposed to freezing conditions should also be insulated.
2. Drain valves must be located in accessible positions that will permit draining of the entire system.
3. Individual valves should be fitted to each unit to enable isolation from the system.



If the HSV Thermal store can be heated to temperatures above 60°C a suitable tempering valve should be fitted on the Domestic hot water outlet to prevent scalding risks at the outlets.



7.1.1 HSV SHOWING DHW CONNECTIONS AND SAFETY DEVICES REQUIRED



On systems where the HSV thermal store is not connected to a heating circuit or does not incorporate an automatic top up, the T&P valve shown at VEK must not be fitted. An additional high limit safety device must be fitted instead to prevent the water from reaching above 94C.

7.2 Storage Vessel

The HSV storage vessel is often a standalone system but regardless must always be protected with a 3 bar safety valve



The safety valve shown on drawing 6.1.1 (VEK) must be rated no higher than 3 bar. There must be no isolating valves between the HSV and this safety valve.

The connections used will depend upon the system the HSV is fitted to; you must consult the relevant drawing and /or ICM instructions for the Solar thermal or Heat pump also being installed.

A suitable expansion vessel must always be fitted to the HSV thermal store; a suitable sized vessel can be supplied as part of the (VEK) Expansion kit available from Lochinvar Ltd.



All safety equipment as shown in drawing 6.1.1 must be fitted to the HSV. Failure to install any of the safety equipment shown will render the HSV Warranty void

7.3 Domestic Hot Water Un-Vented System



It is the law that all unvented hot water systems be installed by an approved installer.

If the Lochinvar HSV is to be used in an unvented arrangement, the system should follow the guidance given in **BS6700** and must comply with **The Building Regulations: Part G3 in England and Wales, P5 in Northern Ireland and P3 in Scotland**. A kit of components that have been suitably sized for the unvented or boosted operation of the appliance is available from Lochinvar Limited. For further information, contact Lochinvar Limited.

7.3.1 TEMPERATURE AND PRESSURE RELIEF VALVE

A temperature and pressure relief valve is provided in the unvented water system kit. This valve has a lift pressure of 7 bar and a lift temperature of 90°C. The valve must be fitted to the Domestic hot water pipework after the HSV thermal store.



There must be no isolating valves between the T&P valve and HSV Stainless Domestic hot water coil

7.3.2 RELIEF VALVE DISCHARGE PIPEWORK

It is important that any discharge water does not collect in the discharge pipe-work and can run freely to the tundish. The tundish should be mounted in a vertical and visible position located in the same space as the unvented hot water storage system and be fitted as close as possible and within 600mm of the safety device e.g. the temperature relief valve.

The discharge pipe from the tundish should terminate in a safe place where there is no risk to persons in the vicinity of the discharge, be of metal or other material that has been demonstrated to be capable of safely withstanding temperatures of the water discharged and is clearly and permanently marked to identify the product and performance standard, and:

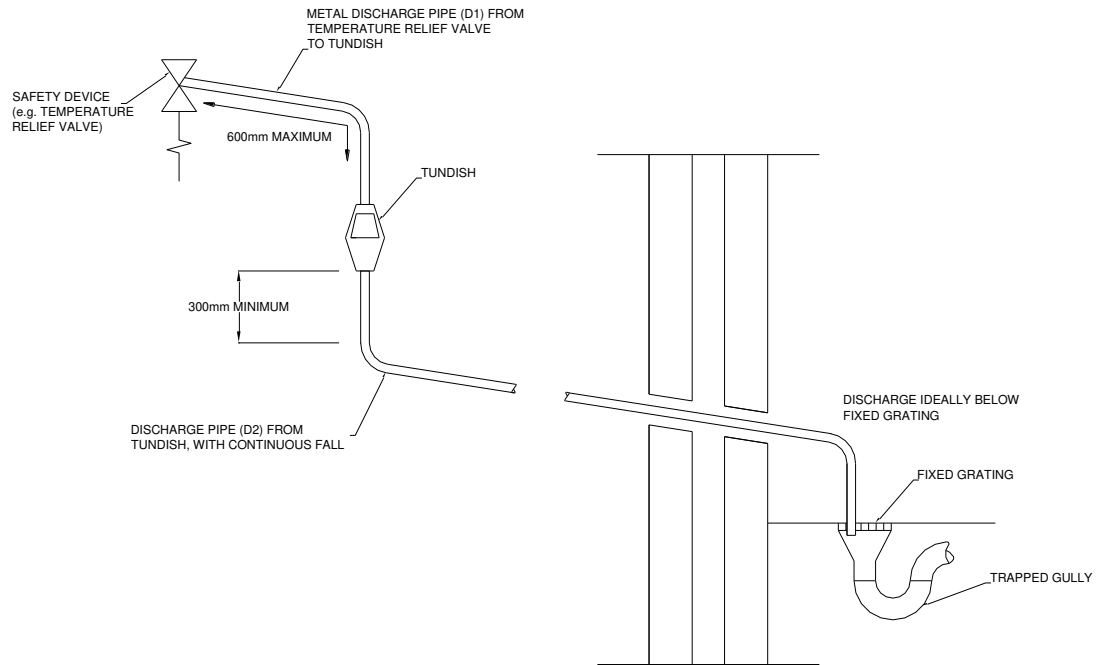
- a) Be at least one pipe size larger than the nominal outlet size of the safety device unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long i.e. discharge pipes between 9m and 18m equivalent resistance length should be at least two sizes larger than the nominal outlet size of the safety device, between 18 and 27m at least 3 sizes larger, and so on. Bends must be taken into account in calculating the flow resistance.

An alternative approach for sizing discharge pipes would be to follow BS6700 Specification for design installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.

- b) Have a vertical section of pipe at least 300mm long, below the tundish before any elbows or bends in the pipework.
- c) Be installed with a continuous fall of at least 1 in 200.
- d) Have discharges visible at both the tundish and the final point of discharge but where this is not possible or is practically difficult there should be clear visibility at one or other of these locations.

Examples of acceptable discharge arrangements are:

- I. Ideally below the fixed grating and above the water seal in a trapped gulley.
- II. Downward discharges at a low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that where children play or otherwise come into contact with discharges, a wire cage or similar guard is positioned to prevent contact whilst maintaining visibility.
- III. Discharges at a high level; e.g. into a metal hopper and metal down pipe with the end of the discharge pipe clearly visible (tundish visible or not) or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastic guttering systems that would collect such discharges (tundish visible).
- IV. Where a single pipe serves a number of discharges, such as in blocks of flats, the number served should be limited to not more than 6 systems so that any installation can be traced reasonably easily. The single common discharge pipe should be at least one pipe size larger than the largest individual discharge pipe to be connected. If unvented hot water storage systems are installed where discharges from safety devices may not be apparent i.e. in dwellings occupied by blind, infirm or disabled people, consideration should be given to the installation of an electronically operated device to warn when discharge takes place.



7.3.3 RELIEF VALVE DISCHARGE PIPEWORK

8.0 COMMISSIONING AND TESTING

8.1 Electrical Installation

Any ancillary item that requires an electrical supply should be installed and commissioned as per instructions.

8.2 Water Connection

For design, see **Section 5: Water connections**



The system should be thoroughly flushed out with cold water without any circulating pumps in position. Ensure all the valves are open.

If a building return pump is to be fitted, it should be fitted before the system is filled and air locks cleared. Check the system for leaks and repair as necessary. If the system is configured in an unvented arrangement, check the expansion vessel cushion pressure.

8.3 Primary Heat Source

The primary heat source operating in conjunction with the HSV Thermal store should be installed and commissioned in accordance with the relevant ICM Instructions provided.

8.4 Identification

Once the system has been commissioned and is operational it is important that a suitable identification label is attached referring end users to the ICM instructions and also identifying the fact the HSV is a thermal store and not an Indirect Domestic Hot Water storage vessel. This will avoid any confusion going forwards and stop false Legionella scares during routine maintenance.

8.5 Commissioning Check List



Failure to follow and complete the commissioning procedure and checklist will invalidate all warranties. See page [15](#) for checklist

9.0 WARRANTY

Models	Warranty Period		Maximum working temperature/pressure
HSV601/602, HSV801/802, HSV1001/1002 HSV1501/1502, HSV2001/2002	Vessel	2 years	Maximum working temperature/Pressure within the DHW and Solar coils: 95°C /6Bar
	Other Components	1 year	Maximum working temperature/Pressure within the Vessel: 95°C/3Bar

General Warranty

Our warranty is to provide a replacement component in exchange for the return of the defective component and is subject to an audit upon receipt of the faulty component. Replacement components must be paid for in full prior to dispatch unless we agree otherwise. The warranty does not include any labour costs or carriage of the returned component. If (after verification and at the sole discretion of Lochinvar Limited) a component or part of the **HSV Thermal store** supplied by Lochinvar Limited proves, within 24 months from the date of delivery of the original appliance to be defective or fails to function correctly due to manufacturing and/or material defects, then Lochinvar Limited shall repair or replace this component or part.

Conditions for installation and use

The warranty set out above will apply solely under the following conditions:

- The warranty is subject to the HSV Thermal store being installed, and maintained in accordance with the relevant Installation Commissioning and Maintenance Instructions and does not cover failures due to deliberate misuse, malicious damage, neglect, unauthorised alterations or repairs, accidental damage or third party damage.
- The HSV Thermal store remains installed at the original site of installation.
- Working temperature must be no greater than 95°C, and MWP pressures must not exceed the figures given in the table above.

Exclusions

The warranty set out above will not apply in the event of damage to the HSV Thermal store caused by an external factor such as:

- Damage occurring during transport, lifting or installation.
- Misuse, neglect (including frost damage), modification, incorrect and/or unauthorised use of the HSV Thermal store and any attempt to repair leaks;
- Contaminants or other substances having been allowed to enter the HSV Thermal store
- Unfiltered, recirculated water flowing through the HSV Thermal store
- Any fault arising due to inadequate water quality or insufficient cleansing of the heating system is not covered by the warranty.

Scope of the warranty

The obligations of Lochinvar Limited by virtue of the warranty provided do not extend beyond delivery free of charge from the warehouse of the parts or components of the HSV Thermal store to be replaced; transport (including crane hire), labour, installation and other costs associated with the replacement shall not be borne by Lochinvar Limited.

10.0 DECLARATION OF PERFORMANCE

EEC-Declaration of Conformity

Supplier: Lochinvar Limited
7 Lombard Way
The MXL Centre
Banbury, United Kingdom

Hereby declares that the following products:

Product Description: Storage Vessel
Product Models: HSV Range

Have been manufactured, inspected and pressure tested in accordance with the requirement of the:
European Pressure Equipment Directive (PED) 97/23/EC,
Article 3, Paragraph 3 of DL 25, Feb.2000, n 93

Conditions of use:

1. The installation instructions have been followed
2. Fluids being passed through the heat exchanger are non-hazardous in the group 2 category
3. The maximum working pressures and temperatures as noted on the equipment data plate are not exceeded.

11.0 MAINTENANCE

11.1 General

Regular servicing is required, to ensure trouble free operation. Even if a maintenance schedule is determined to be less than annually, it is important that all controls and safety features be checked for correct operation on an annual basis.



Failure to follow and complete the maintenance procedure and checklist will invalidate all warranties.
See page [14](#)

11.2 1.1 Maintenance Schedule

It is good practice to service the HSV every 12 months. Lochinvar Limited recommend that this is the maximum service interval, however in hard water areas; it may be necessary to reduce this time period to ensure correct operation of the storage vessel and associated equipment.

HAS THE PRIMARY HEAT SOURCE CONNECTED TO THE HSV BEEN SERVICED	<input type="text"/>
WHAT IS THE MAXIMUM WORKING PRESSURE OF THE PRIMARY HEAT SOURCE(s)	<input type="text"/>
CHECK T&P VALVE (IF FITTED) TO THE BODY OF THE HSV	<input type="text"/>
CHECK ANY AUTOMATIC TOP UP EITHER DIRECTLY OR VIA THE HEATING CIRCUIT IS OPERATIONAL	<input type="text"/>
CHECK EXPANSION VESSEL FITTED TO BODY OF HSV	<input type="text"/>
CHECK CONDITION OF HSV FOR SIGNS OF LEAKING	<input type="text"/>
CHECK CONDITION OF HSV INSULATION FOR DAMAGE	<input type="text"/>
IS THERE ANY SIGNS OF SCALING	<input type="text"/>
CHECK WATER TREATMENT IS STILL OPERATIONAL	<input type="text"/>
CHECK OPERATION OF THERMOSTAT AND ANY ALLIED VALVES	<input type="text"/>
CHECK OPERATION OF HIGH LIMIT AND ANY ALLIED VALVES	<input type="text"/>
CHECK UNVENTED SYSTEM KIT INCLUDING ANY EXPANSION VESSELS	<input type="text"/>

11.3 Other Checks

11.3.1 RELIEF VALVE

At least once a year, the temperature and pressure relief valve and safety valve should be checked to ensure that they are in operating condition. To check each valve, lift the lever or turn the screw cap at the end of the valve several times. The valve should operate freely and seat properly.

If water does not flow, remove and inspect for obstructions or corrosion. Replace with a new valve of the recommended size as necessary.

11.4 Maintenance Record

The maintenance record found on page [15](#)

11.5 Draining the HSV

The following procedure must be observed to prevent damage to the HSV and ancillary items connected to it.

1. Ensure any heat source connected to the HSV is either turned off or disconnected from the HSV if safe to do so. (check the ICM of the heat source before any further action is taken)
2. Turn off the water if applicable.
3. Connect a hose to the system drain valve.
4. Locate hose's discharge in an area where hot water will not cause any damage or injury.
5. Open a nearby hot water outlet to vent the system.
6. Open the drain valve.
7. If the vessel is being drained for an extended shutdown, it is suggested the drain valve be left open during this period.

11.6 Re-Filling the System

1. Close the drain valve.
2. Open a hot water fixture to allow air to escape.
3. Open the cold water supply to water heater and allow the vessel to fill.
4. Check automatic air valve on top of the HSV is operating correctly
5. Check for water leakage.

12.0 USER INSTRUCTIONS

Your HSV Thermal store has been designed to give many years of trouble free service. Where applicable, it may be fitted with an electric immersion heater which heats the water to 60°C for use as a back-up should the primary heat source fail for any reason. Note that the hot water supply will be limited whilst using the immersion heaters.

The flow temperature of the hot water can be set to your requirements on the immersion heater (ideally 60°C maximum). Higher temperatures can cause tripping of the high limit thermostat and introduce more energy loss from the cylinder.

When a hot tap is turned on there may be a short surge of water, this is quite normal with unvented systems and does not mean there is a fault.

When you first fill a basin the water may sometimes appear milky. This is due to very tiny air bubbles in the water which will clear very quickly.



Warning: If cold/warm water exits from the temperature and pressure relief valve (TPV) or from the pressure relief valve (PRV) call your installer. If very hot water exits from either valve, switch off the heat source immediately and isolate the electricity supply to the cylinder and separate heat source.



The solar system is configured to heat the water to its maximum economic temperature which may vary with ambient temperature and weather conditions. The immersion may be programmed to operate during fixed periods of the day or night.



If the hot water runs cool it may be necessary to manually switch on the immersion to heat the water – please see the relevant instructions for your alternative energy device.

13.0 ERP DATA TABLE

Information	Symbol	Unit	Value				
Trade mark	-	-	Lochinvar Limited				
Model Identifier	-	-	HSV601	HSV801	HSV1001	HSV1501	HSV2001
Energy efficiency class	-	-	C	C	C	C	C
Standing loss	-	W	102.5	116.7	130.8	155	185.8
Storage volume	-	litres	600	800	1000	1500	2000

Information	Symbol	Unit	Value				
Trade mark	-	-	Lochinvar Limited				
Model Identifier	-	-	HSV602	HSV802	HSV1002	HSV1502	HSV2002
Energy efficiency class	-	-	C	C	C	C	C
Standing loss	-	W	102.5	116.7	130.8	155	185.8
Storage volume	-	litres	600	800	1000	1500	2000

14.0 COMMISSIONING CHECKLIST

WHAT PRIMARY HEAT SOURCE IS CONNECTED TO THE HSV

SOLAR THERMAL

AIR SOURCE HEAT PUMP

GAS CONDENSING BOILERS

OTHER-PLEASE SPECIFY

WHAT IS THE MAXIMUM FLOW/RETURN TEMPERATURE OF THE PRIMARY HEAT SOURCE(s)

FLOW

RETURN

WHAT IS THE MAXIMUM WORKING PRESSURE OF THE PRIMARY HEAT SOURCE(s)

--

HAS A T&P VALVE BEEN FITTED TO THE BODY OF THE HSV

--

IF YES IS THE HSV CONNECTED TO AN AUTOMATIC TOP UP EITHER DIRECTLY OR VIA THE HEATING CIRCUIT

--

IS THE HSV CONNECTED TO A DHW SYSTEM

IS THIS VENTED OR UN-VENTED

IS THE INSTALLATION IN A HARD WATER AREA (ABOVE 205PPM)

IF YES HAS SUITABLE WATER TREATMENT BEEN USED

WHAT IS THE MAKE AND MODEL OF THIS WATER TREATMENT

WHAT TEMPERATURE HAS THE HSV THERMOSTAT BEEN SET AT

WHAT TEMPERATURE IS THE HIGH LIMIT SET AT

HAS A SUITABLE UNVENTED SYSTEM KIT BEEN FITTED

WHAT IS THE MAXIMUM PRESSURE OF THE DHW SYSTEM

15.0 MAINTENANCE CHECKLIST

SERVICE 1 <u> </u> Date
Engineer name
Company name
Comments
Signature

SERVICE 2 <u> </u> Date
Engineer name
Company name
Comments
Signature

SERVICE 3 <u> </u> Date
Engineer name
Company name
Comments
Signature

SERVICE 4 <u> </u> Date
Engineer name
Company name
Comments
Signature

NOTES

[illegible]



IMPORTANT INFORMATION

These instructions must be read and understood before installing, commissioning, operating or maintaining the equipment.

