MAREY®
HEATER CORP.

ELECTRIC HEATER
INSTRUCTION MANUAL

SANTON MODEL

Keep this manual with you after your unit has been installed, you may need it for further technical information.

DESDE 1955 SINCE

MAREY®
HEATER CORP.

Congratulations!

You've just purchased a new Santon tankless water heater and will soon begin to enjoy the benefits of “going tankless.”

Take the time to thoroughly read and understand this safety and installation manual in its entirety before you attempt to install your new Santon tankless waterheater,asitcontainsimportantsafetytipsandinstructions.

Please carefully read all instructions and warnings. Should you have any questions, please visit **www.marey.com** for installation videos and FAQ.

Please keep this manual for future reference.

INDEX

WARNING

If your water heater requires a reset, be sure to TURN OFF THE BREAKER prior to resetting the unit. Resetting your unit without turning off the breaker can result in personal injury and damage to your water heater.

WARNING! There is water contained in the coils of your water heater at all times. If your water heater is exposed to freezing temperatures, the water in the coils could freeze, causing a break in the heat exchanger of the unit, or the supply and return lines. This kind of damage will result in water running freely into the space where the water heater is located, which can cause flooding. DO NOT install this water heater where it may be subjected to a freeze. If your water heater is in an area where freezing is a possibility, you must turn off the water to the heater and drain it of any water by disconnecting the water lines. Leave the water lines disconnected until you intend to use the water heater.

INTRODUCTION

Thank you for purchasing a Marey Power Pack. The Power Pack unvented pressure system water heater is manufactured to the highest standards and has been designed to meet all the latest relevant safety specifications.

This Power Pack water heater must be installed, commissioned and maintained by a competent person. Please read and understand these instructions prior to installing your Power Pack unvented pressure system water heater. Particular attention should be paid to the section headed SAFETY.

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 the 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.

PACK CONTENTS

Heater
Fixing screws and plugs
Installation and User Instructions

TECHNICAL SPECIFICATIONS

Materials: Back plate, cover - ABS
Element(s) - Copper sheathed rod type.

Standards and Approvals: Complies with the requirement of UL.
Complies with European Community Directives (CE).

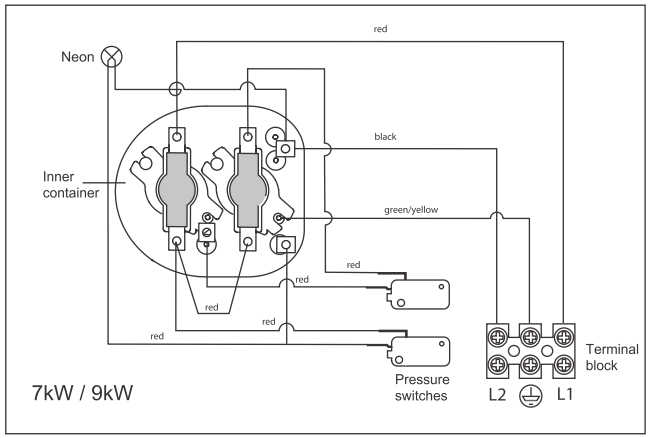

Fig. 01

TECHNICAL SPECIFICATIONS	SANTON
Voltage	220V or 240V
Power	9kW
Amperage	37.5A
Wire Size	8 AWG
Activation Flow Rate	0.66 GPM
Maximmum Flow Rate	3 GPM
Frequency	50Hz - 60Hz
Width xHeight x Depth	7.8" x 6.1" x 3.5"
Weight	5 lbs

*** Install the heater as close as possible to the point of use**

TEMP. INCREASE PER GPM		
	SANTON	TEMP. INCREASE
GPM	1.0	56º
	1.25	44º
	1.5	39º
	2.0	27º
	2.5	23º
	3.0	18º

Temperature increases listed are based on use of the water heater under optimal conditions with an incoming water temperature of 48ºF. Variable factors such as incorrect or imperfect installation or warmer incoming water temperature may yield different results.

AVERAGE COLD WATER TEMPERATURE SUMMER 80°F WINTER 70°F. OUTLET TEMPERATURE EQUALS INLET TEMPERATURE PLUS TEMPERATURE RISE. TEMPERATURE RISES ARE BASED ON kW LOADING AT 240 VOLTS ARE SHOWN ABOVE. TEMPERATURE RISES IN EXCESS OF 110°F ARE NOT RECOMMENDED.

Low Voltage Example

A reduction in input voltage will result in a reduction in temperature. Model 94805005 connected to a 220 volt supply with a flow rate of 0.75 GPM will result in a 53°F temperature rise instead of a 63°F temperature rise. To increase temperature, reduce water flow rate.

INTERNAL COMPONENTS

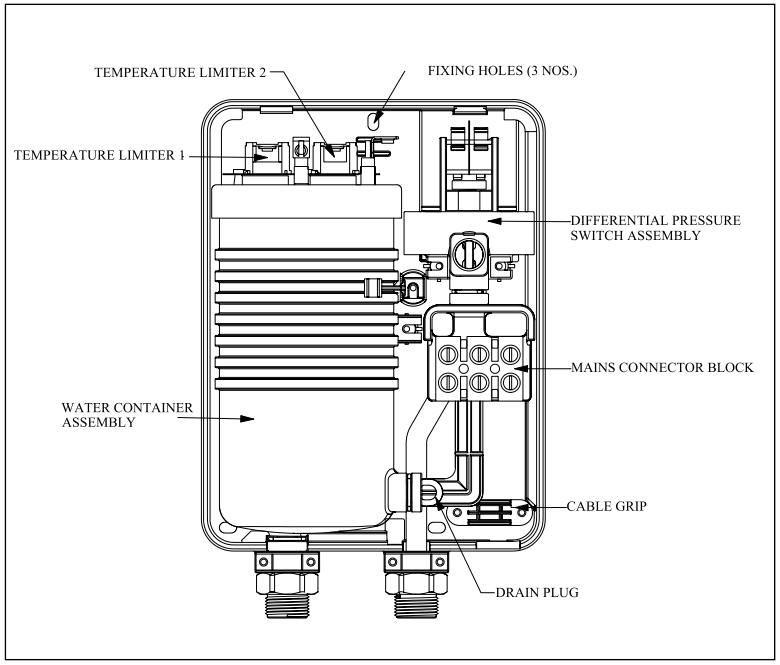

Fig. 02

SAFETY

Important Information

2.1. Products designed by Santon are to British and European and UL Standards. These appliances are safe and without risk, provided they are installed, used and maintained in good working order in accordance with our instructions and recommendations.

2.2. Please read and understand these instructions before starting work and retain them for later use.

2.3. DO NOT operate the appliance if it is frozen, or suspected of being frozen. See fault finding table.

2.4. These heaters are of the closed outlet type (unvented pressure system) and are suitable for connection to normal cold water mains supplies up to a maximum of 0.5MPa (5bar).

2.5. DO NOT operate the appliance if:
1. Water ceases to flow during use.
2. Water has entered inside the unit because of an incorrectly fitted cover.
3. If the appliance is damaged.

2.6. ISOLATE the electrical and water supplies before removing the cover.

2.7. ISOLATE the electrical and water supplies BEFORE proceeding with installation or servicing.

SITE REQUIREMENTS

Water Requirements

3.1. The heater must be connected via the pressure relief valve to a cold supply having a minimum pressure of 0.1Mpa (1bar) and a maximum of 0.5Mpa (5bar). Both inlet and outlet connections are suitable for 5/8" diameter copper pipe. Outlet pipe from unit may reduce to 10mm diameter to improve performance.

3.2. The tee piece and expansion relief valve must be situated where shown and the relief valve discharge port plumbed via an air break (tundish) to a safe, visible place where there is no risk to persons.

3.3. The discharge pipe must fall continuously from the valve outlets and be unobstructed.

3.4. The provision of a service stop valve in the cold supply pipe will assist in the event of any subsequent servicing or maintenance. No non return valve or restriction to be fitted within the mains supply to the heater.

3.5. To obtain optimum performance a flow restrictor isolating ball valve must be fitted where shown (see figure 3). This provides the user with the means to govern the flow (and therefore temperature which is dependent upon flow) at the outlet (see 5.3 SETTING FLOW RATE).

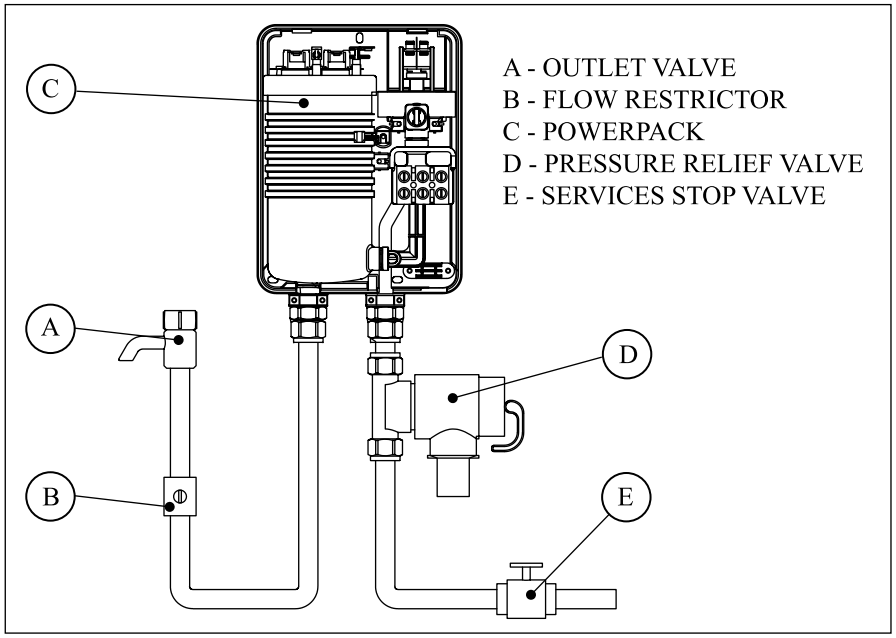

Fig. 03

This unit does not require an Pressure Relief Valve by UL standard, it is recomended that you check with the local codes to find out whether this is required. If one is required please refer to Figure 3.

Electrical Requirements

3.6. This appliance must be earthed.

3.7. The installation must comply with national/local code of practices and Electricity Supply Authorities requirements. All rules and requirements must be strictly followed to safeguard against the hazards affecting life and property during and after installation of this product and during subsequent servicing and maintenance.

3.8. The Power Pack heater must only be connected to a 230/240V ac supply.

3.9. Before making any electrical connections within the installation, make sure that no terminal is live. If in doubt, SWITCH OFF the whole installation at the consumer unit or switch fuse (where fitted).

3.10. The Power Pack heater must be connected to its own independent electrical circuit.

3.11. It is a requirement that the branch circuit protection should be 40A for 7kw Power Pack and 50A for the 9kw Power Pack.

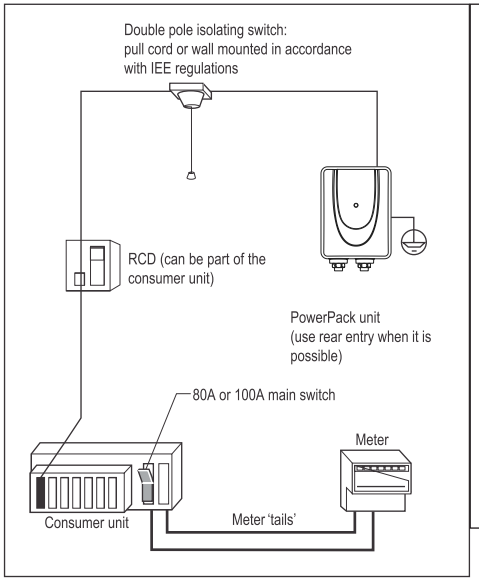

Fig. 04

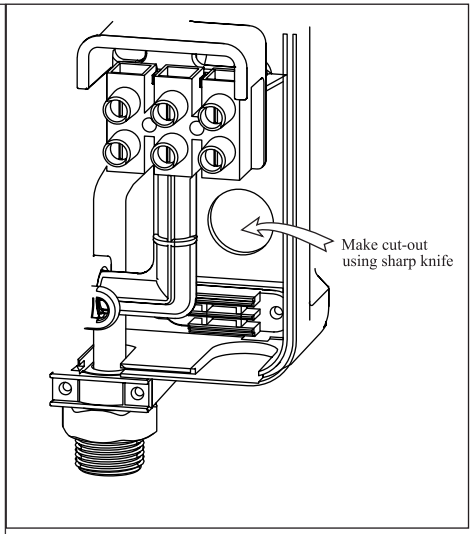

Fig. 05

CONNECTING TO SERVICES

Preparation

4.1. Remove the fixing screw which holds the front cover onto the back plate of the Power Pack heater. Carefully remove the cover.

4.2. The unit must be mounted on a flat surface, which covers the full width and length of the back plate. It is important that the wall surface is flat otherwise difficulty may be encountered when fitting the cover.

4.3. DO NOT fit the Power Pack to the wall and tile up to the case. It must be fitted on to a finished flat and even wall surface. This allows removal for servicing.

Cable Entry

4.4. Cable entry can be from the rear (preferred see Figure 5) or from the bottom. When opting for bottom entry make cut-out to suit cable before fitting back plate to the wall.

4.5. Fix the Power Pack heater loosely to the wall. The wall plugs provided are suitable for most brick walls (use a 0.26 inch diameter masonry drill), but if your wall is plasterboard or soft building block, you should use special wall plugs and an appropriate drill, obtainable from most hardware stores.

Plumbing

4.6. The Power Pack should be fitted as close as possible to the point to be supplied, ideally within 4/5 feet as the length of the outlet pipe affects the initial temperature from the outlet. If used to supply a shower, the Power Pack must be installed outside the shower cubicle or shower room.

4.7. Decide where to connect to the water mains for your feed to the Power Pack. Ensure that the pipe you have selected is not a gas pipe or a hot water pipe or from a cold water storage tank.

4.8. Cut the necessary pipe work to length, assemble and offer up to the installation before making any soldered joints. Ensure that the pipe is the correct length, as shortening it can be difficult once joints have been made.

4.9. An isolating stop valve MUST be incorporated to the main water supply to comply with Water Regulations.

4.10. Assemble the installation before making any soldered joints to ensure that the pipe is the correct length. DO NOT use jointing compounds on any pipe fittings for the installation.

4.11. Remove the unit before soldering the connections.

4.12. It is essential to flush the pipe in order to clear debris, particles of solder and swarf.

4.13. Turn the water off after flushing using the isolating stop valve.

4.14. Connect the cold water supply pipe to the inlet of the Power Pack, this is a 1/2" BSP connection.

4.15. Fit top and bottom screws and secure the back plate to the wall ensuring that it is level.

4.16. Connect all other components as per Figure 3.

4.17. Turn the isolating stop valve on slowly and check for leaks in all pipe work, rectify as necessary.

4.18. Turn off the isolating stop valve.

4.19. Place the cover onto the back plate.

4.20. Secure the cover to back plate using screws provided.

COMMISSIONED

5.1. Once installed, the heater will operate automatically when the outlet valve is opened. The valve must be opened fully to obtain the set flow/temperature. Reduced flow at the outlet will result in hotter water being delivered.

5.2. On closing the outlet valve the heating element will automatically shut down provided this tap has been fully turned off by the user.

Setting Flow Rate

5.3. It is important to note when setting the flow rate/temperature that 118°F is the point at which the average person cannot hold his or her hand under a stream of water. Under most circumstances water temperature need not be higher than this and it is recommended that this temperature is not exceeded.

5.5. These heaters will supply only one outlet at any time and must be controlled by a single outlet valve. DO NOT USE WITH MIXER VALVES.

MULTIPLE INSTALLATIONS

6.1. When larger volumes of water are required than can be provided by one heater, multiple installation can be made by connecting a number of heaters in PARALLEL of the cold feed manifold (See Figure 6). This is the ONLY method that is recommended. DO NOT plumb these heaters in series.

6.2. To set the heaters in this arrangement use the appropriate procedure as described previously. Each heater in parallel must be set individually.

6.3. In this application restrictors capable of closing flow completely should be used so that as each heater is set in turn, the other heaters in the installation may be isolated.

NOTE - In this application it is advisable especially where low flow rates exist to plumb the cold manifold in 7/8" pipe with 5/8"pipe spurs to each heater.*Not

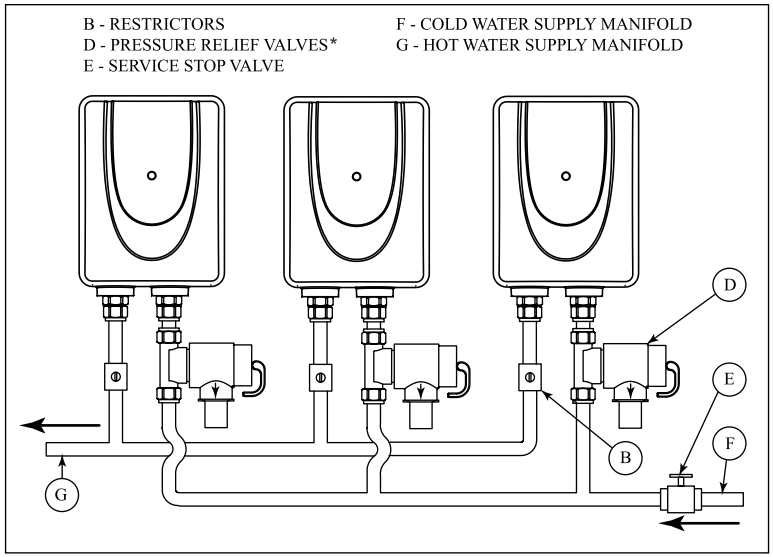

Fig. 06

*Not included.

This unit does not require an Pressure Relief Valve by UL standard, it is recomended that you check with the local codes to find out whether this is required. If one is required please refer to Figure 6.

FAULT FINDING

YOUR MAREY POWER PACK SHOULD GIVE TROUBLE FREE OPERATION, HOWEVER SHOULD A FAULT OCCUR THE TABLE BELOW SHOULD ALLOW MOST FAULTS TO BE IDENTIFIED. FAULT FINDING SHOULD ONLY BE CARRIED OUT BY A COMPETENT PERSON.

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. Water too hot.	**A.** Water flow too low.	Increase the flow by turning the water control.
2. Water too cold.	**A.** Electrical power to the power pack heater is off.	Ensure that the electronics to the power pack is switched on the neon is lit.
	B. Water flow too high.	Reduce the flow by turning the water control.
	C. Element fault.	Check for open circuit.
3. Temperature varies while showering, cycling hot/cold.	**A.** Pressure switch is operating, normally making a click as it does so.	Water pressure/flow issue.
	B. Input pressure is below 1.0 bar (14.5 psi) flow is not stable.	Ensure that your stop cock and servicing valve are opened fully.
4. Power on indicator not lit. Isolating switch ON but its neon not lit.	**A.** Cartridge fuse or miniture circuit breaker (mcb) has operated in your fuse box (or consumer unit) or switch fuse.	Switch off shower and isolating switch. Renew fuse, reset the mcb. If they operate a second time, contact a qualified electrician.
	B. Residual current device (rcd) or (earth leakage circuit breaker) has operated.	Follow the same procedure as above. If this has happened with a split load consumer unit on initial installation, check that the neutral core of the power pak feed cable is connected to the protected neutral bar of the unit.
5. Water emerges from pressure relief valve.	**A.** PRV has operated.	**1.** Switch off immediately at isolating switch. **2.** Turn water off at the servicing valve (if fitted) or stop valve. **3.** Contact Marey Customer Service.

SPARE PARTS

The following comprehensive list of spare parts is available for your Marey Power Pack. Please refer to the rating label on the side of your heater before ordering to ensure the correct spare part is obtained.

DO NO REPLACE WITH PARTS NOT RECOMMENDED BY SANTON, AS THIS WILL INVALIDATE YOUR GUARANTEE AND MAY RENDER THE INSTALLATION DANGEROUS.

Description Code No.

1.Heat Exchanger Assembly 9.0kW..... 95 606 966
2. Temperature limiter 1..... 95 612 035
3. Temperature limiter 2 ..... 95 612 036
4. Pressure Differential Switch Assembly..... 95 613 004
5. Power Pack Cover..... 95 614 107
6. Neon Assembly..... 95 615 058
7. Inlet Boss Assembly..... 95 607 106
8. Outlet Boss Assembly..... 95 607 109

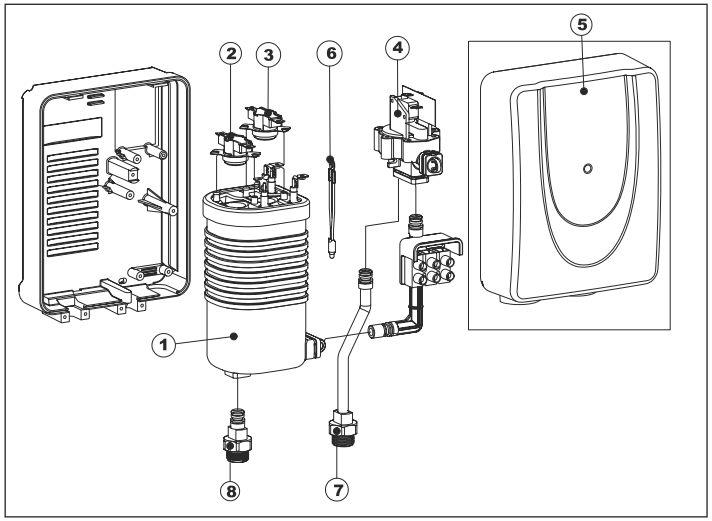

Fig. 07

CUSTOMER SERVICE

At Marey, we pride ourselves on the excellence of our customer service and support team.

Please feel free to contact us if you have any questions about our products, warranty service, or if you need assistance installing a unit. We also strive for continuous improvement, so we welcome your comments, feedback and s uggestions.

1-855-MAREY-55
customerservice@marey.com

OTHER PRODUCTS

Please visit our website to get to know more about other Marey products.


GAS PORTABLE


POWER PAK


SANTON


AQUAMATIC


MINI MAREY


POWER GAS

ISO 9001
BSMI

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