Rointe

SYGMA

5 years Guarantee
2 years Electric and electronic components

INSTRUCTION MANUAL
DIGITAL ELECTRONIC WATER HEATER

Information, operation & installation

OPTIMIZER® energy plus

INFRARED CONTROL

ISO 9001 BUREAU VERITAS Certification

RoHS

CE

EAC

SYGMA

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1. Introduction

This product is a high quality, unvented domestic hot water cylinder with an enamelled steel tank. The product is suitable for domestic hot water systems where the cold mains water supply has a maximum supply pressure of 0.9 MPa. Reduced performance is available at lower pressures, but the product is not suitable for pressures lower than 0.15 MPa and a flow rate of 20 litres per minute. The neccessary safety equipment to comply with all national legislation is available for purchase from Rointe.

IMPORTANT - Please read this Instruction Manual carefully to ensure correct operation. It is important that this manual is left with the product after installation.

2. Component check list

The product comes with the following components. Please check through the components supplied and ensure that all parts are present:

- Product with sheathed heating elements, digital thermostat, TFT screen and manual reset thermal cut-out.
- T/P valve 0.7 MPa 90ºC and electrolytic fittings.
- Installation and user manual.

Please **contact our Technical Service department on 0203 321 5929** to find out how to acquire the safety fittings.

3. General requirements

3.1. Building regulations

The domestic hot water cylinder MUST be installed by a competent person in accordance with section G3 of the current Building Regulations.

3.2. Important

It is important that the installer reads and understands these instructions and unpacks and familiarises themselves with the equipment before commencing the installation. Failure to observe these installation instructions could invalidate the guarantee.

3.3. Water supply

The water supply to the cylinder should be potable water direct from a public mains water supply with any water treatment equipment functioning correctly.

For optimum performance the unit should be fed via a 15 mm or 22 mm diameter supply pipe direct from the mains water entry point to the property and supplies a maximum pressure of 0.9 MPa. The unit can operate with a minimum supply pressure of 0.15 MPa and a flow rate of at least 20 litres per minute, but flow from the outlets will be low if several outlets are used simultaneously. The cylinder control equipment is factory set to limit the system operating pressure to 0.3 MPa. The maximum supply pressure into the pressure-reducing valve is 0.9 MPa.

3.4. Taps and fittings

All taps and fittings incorporated in the unvented system should have a rated operating pressure of 0.7 MPa or above.

3.5. Location

The unit is designed to be vertically wall mounted, indoors, in a frost-free environment. When choosing a suitable location for the cylinder, consideration should be given to the routing of the discharge pipe to a convenient point and also the availability of an adequate power supply for connecting the sheathed heating elements.

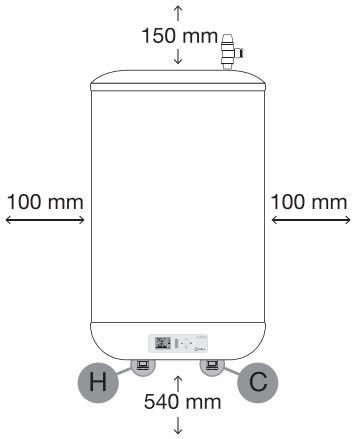
The wall onto which the cylinder is mounted should be of good sound masonry construction capable of holding the weight of the cylinder when full of water (see section 16. for weights.)

The position of the cylinder should provide easy access for servicing the controls and replacing the sheathed heating element should the need arise.

Pipe runs should be made as short as possible and lagged to prevent heat loss.

To allow for servicing and repairs, the product must be mounted at least 540 mm above any surface or object, so that access can be gained to electric connectors and the heating elements may be removed (see Figure 1).

Figure 1 - Mounting:



The unit should be mounted close to an external wall so that the discharge pipe D2 (see Figure 2 - Pt. 6) can be routed to a safe visible place.

The tundish should be mounted in a visible location so that it may easily be inspected.

The distance between holes for the wall mounting depends on the model, see the following table for reference:

MODEL	Horizontal width between holes (mm)	Height between upper and lower holes (mm)
SWI050DHW2	350	340
SWI075DHW2	350	573
SWI100DHW2	350	768
SWI150DHW2	350	595
SWI200DHW2	350	685

3.6. Storage and handling

If the cylinder is not being installed immediately, it should remain in its original box with all pipe end protective caps in situ to prevent damage. We recommend that the cylinder be transported to its installation position with the outer box in place.

4. Plumbing installation

4.1. Connections

All pipework connections to the cylinder MUST be made in accordance with Figure 1 (page 5) and Figure 2 (page 7). A drain cock (not supplied) should be fitted in the position shown in Figure 2 (page 7) to facilitate draining of the cylinder.

4.2. Electrical fittings

The electrical fittings (Figure 2, page 7) must be fitted to the product. If not, the guarantee will be null and void. Check the T/P Relief Valve (Figure 2, page 7) to ensure it is connected with the electrical fittings. If not, please contact us by telephoning 0203 321 5929.

4.3. Cold water supply

For best results, the cylinder should be fed by an uninterrupted supply pipe into the pressure reducing valve (PRV) (Figure 2, page 7) with a maximum supply pressure of 0.9 MPa. The cylinder should not be used on any system with a supply pressure below 0.15 MPa and a flow rate of less than 20 litres per minute.

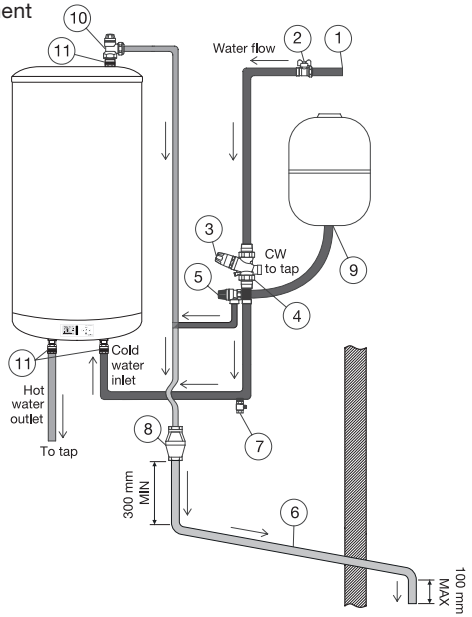
4.4. Temperature and pressure relief valve

The temperature and pressure relief valve (T/P Valve) is supplied (Figure 2, page 7). Once the T/P valve is fitted it should not be removed from the cylinder or tampered with in any way. The valve is pre calibrated to lift at 0.7 MPa or 90°C and any attempt to adjust it will render the guarantee null and void and could affect the safety performance of the unit.

The outlet of the T/P valve should be routed in 15 mm copper piping in a downward direction alongside the product to the tundish in a frost-free environment. The outlet of the expansion relief valve must be T'd into this pipe before the tundish so that any water exiting either valve can be seen draining through the tundish – see Figure 2 (page 7) and Figure 3 (page 9).

Figure 2 - SYGMA cylinder connection arrangement

NO.	DESCRIPTION
1	Mains cold water supply
2	Stop Cock (not included)
3	Pressure reducing valve*
4	Check valve*
5	Expansion relief valve*
6	Discharge pipe (22 mm)
7	Drain Cock (not included)
8	Tundish*
9	Expansion vessel*
10	T/P relief valve (included)
11	Electrical fittings (included)
*** Available in optional installation kit**	



4.5. Pressure reducing valve

The pressure reducing valve (Figure 2, page 7) should be installed in the cold water supply to the water heating unit with the arrow pointing in the direction of water flow as shown in Figure 2 (page 7). This can be connected to a maximum supply pressure of 0.9 MPa.

4.6. Expansion relief valve

This must be installed between the pressure reducing valve and the water heating unit in accordance with Figure 2 (page 7). No other valve should be fitted between this valve and the cylinder. The expansion relief valve contains a non return valve.

4.7. Expansion vessel

A suitable expansion vessel (Figure 2, page 7) with a pre-charge pressure of 0.15 or 0.3 MPa is available in an optional kit for fitting to all water heating units in the range. The expansion vessel MUST be fitted to the safety group. The expansion vessel MUST be positioned with the entry point at the bottom – see Figure 2 above.

IMPORTANT: Regular checks must be carried out to ensure that the expansion vessel is correctly pressurised to 0.15 or 0.3 MPa at all times. – see Figure 2 (page 7).

4.8. Tundish

The tundish (Figure 2, page 7) must not be positioned above or in close proximity to any electrical current carrying devices or wiring. The installation should conform with the requirements of section 4.9 below.

4.9. Discharge arrangement

The tundish (Figure 2, page 7) must be installed in a position so that it is clearly visible by the user. In addition, the discharge pipe (Figure 2, page 7) 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 and:

A) Be at least one pipe size larger than the normal outlet size of the safety device unless its total equipment 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 then the normal outlet size of the safety device, between 18m and 27m at least three sizes larger and so on. Bends must be taken into account in calculating the flow resistance. Refer to Figure 3 (page 9), Table 1 (page 9) and Calculated Example 1 (page 10).

B) Have a vertical section of pipe at least 300 mm long below the tundish before any elbows or bends in the pipework.

C) Be installed with a continuous fall.

D) Have discharges visible at both tundish and the final point of discharge, but where this is not possible or practically difficult, examples of acceptable discharge arrangements are:

- Ideally below a fixed grating and above the water seal in a trapped gully.
- 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.
- Discharge at 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 3 m from any plastic guttering system that would collect such discharges (tundish visible).

- 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 six systems so that any installation discharging 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, or disabled people), consideration should be given to the installation of an electrically operated device to warn when discharge takes place.
-

WARNING - The discharge will consist of scalding water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges.

Figure 3 - Typical discharge pipe arrangement

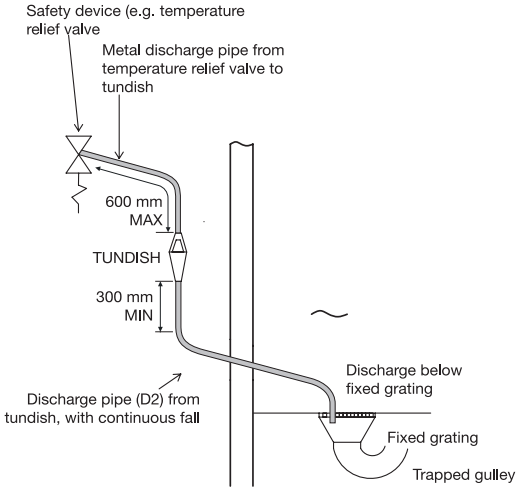


Table 1 - Sizing of copper discharge pipe “D2” for common temperature relief valve outlet sizes

Valve outlet size (diameter, inches)	Minimum size of discharge pipe D1 (mm)	Min. size of discharge pipe D2 (mm)	Max. resistance allowed, expressed as length of straight pipe - no elbows / bends (m)	Resistance created by each elbow or bend (m)
G 1/2	15	22 28 35	up to 9 up to 18 up to 27	0.8 1.0 1.4
G 3/4	22	28 35 42	up to 9 up to 18 up to 27	1.0 1.4 1.7
G1	28	35 42 54	up to 9 up to 18 up to 27	1.4 1.7 2.3

Calculated Example 1

The example below is for a 1/2” diameter temperature relief valve with a discharge pipe (D2) having 4 22mm elbows and a length of 7m from the tundish to the point of discharge.

The maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a 1/2” diameter temperature relief valve is 9.0m.

Subtract the resistance for 4 x no 22mm elbows at 0.8m each = 3.2m.

Therefore, the maximum permitted length equates to: 5.8m.

5.8m is less than the actual length of 7m, therefore, calculate the next largest size.

Maximum resistance allowed for a straight length of 28mm pipe (D2) from a 1/2” diameter temperature relief valve equates to: 18m.

Subtract the resistance for 4 No 28mm elbows at 1.0 each = 4m.

Therefore the maximum permitted length equates to: 14m.

As the actual length is 7m, a 28mm diameter copper pipe will be satisfactory.

5. Electrical installation

WARNING - This equipment and pipework must be earthed. All electrical wiring must be carried out by a competent person and in accordance with the current I.E.E. Wiring Regulations.

5.1. The sheathed heating elements

Two parallel 1.2kW 230v 50Hz sheathed heating elements are pre fitted to the cylinder at the factory. They are wired in accordance with the instructions given in Figure 4.

5.2. Wiring diagram

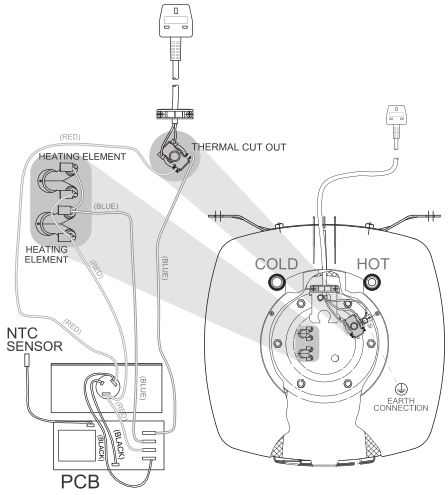
The power supply to the product must be via a double pole isolator switch or controller, having contact separation of at least 3 mm, to comply with BS 6141 and must be fully earthed. In case of an electric problem, check that the wiring follows Figure 4:

A) The earth wire is connected to the terminal on the cylinder marked with the earth symbol.

B) The live wire is connected to the high temperature cut-out terminal.

C) The neutral wire is connected to the high temperature cut-out terminal.

Figure 4 - Wiring diagram



WARNING - Do not switch on the elecricity supply until instructed to do so in the commissioning procedure and once the product is full of water.

6. Filling and commissioning

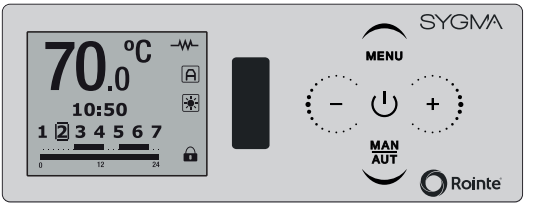
- Check that the expansion vessel charge pressure is 0.15 or 0.3 MPa.
- Check that all water and electric connections are correctly configured.
- Open the main stopcock and fill the unit. Open successive hot taps starting with the tap furthest from the product. Leave each tap open for a few moments to allow all air and debris from the system to exit. Close all of the taps.
- Turn off the mains water supply to the cylinder and drain the system through the drain cock.
- Refill the cylinder with hot taps open and close when water flows freely.
- Manually lift (by rotating the knob) both the expansion relief and the temperature and pressure relief valves for a short period to remove trapped air from behind the valve seating and to check the correct function of the discharge arrangement.
- Check all joints for leaks and rectify as necessary.
- With the product full of water, switch on the electricity supply. Check that the cylinder heats the water and the thermostat operates. Turn on the hot taps to check that warm water is delivered.
- Check that while the unit is heating up, no water exits from either the expansion relief valve or the temperature and pressure relief valve. If water does exit through the valves check the expansion vessel pressure and installation.
- Increase the temperature to maximum and allow the unit to heat and the temperature to stabilise. Check that no water discharges from the valves. Turn on the hot taps to drain the product of hot water. Set the thermostat to the required temperature and allow the product to reheat ready for use.

7. Product information and operation

7.1. Control panel

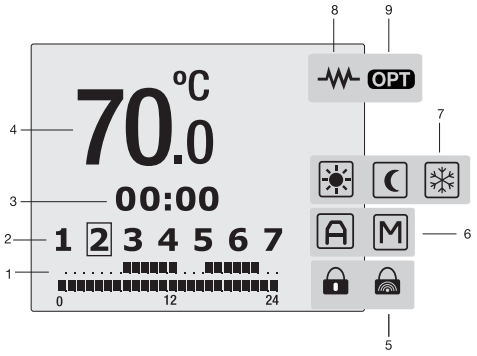
7.1.1. Keypad

ICON	DESCRIPTION
⏻	On / Off button Accept / Confirm button
−	Decrease temperature button Move left button
+	Increase temperature button Move right button
MENU	Menu button Move upwards button
MAN AUT	MANUAL / AUTOMATIC button Move downwards button



7.1.2. Display panel

NO.	DESCRIPTION
1	Programming
2	Days of the week
3	Time of day
4	Temperature selected
5	Control panel locked through keypad
6	MANUAL / AUTOMATIC function indicator
7	COMFORT / ECO / ANTI-FROST mode indicator
8	Heating element on indicator
9	Optimizer Energy Plus technology indicator



7.1.3. Symbol information

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
OPT	Optimizer Energy Plus active		ANTI-FROST mode active
	Heating element active		AUTOMATIC function active
	COMFORT mode active		MANUAL function active
	ECO mode active		Control panel locked through keypad

7.2. Switching on and off (stand-by)

To switch the product on, please press the ⏻ button once. After 5 seconds the temperature, time and days of the week will be show on the display panel. To switch the product off, please press the ⏻ button again once. The product will go into stand-by mode with the word ‘STAND-BY’ displayed on the display panel.

7.3. Adjust the day and time

To adjust the day and time, please ensure you are in MANUAL function (see section 1.8.) Then press and hold the MAN/AUT button on the keypad for 3 seconds. Use the buttons − and + to set the hour, then press MAN/AUT to confirm. Then use the − and + buttons to set the minutes and press MAN/AUT to confirm. Finally, use the − and + buttons to set the day (1 = Monday, 2 = Tuesday etc.) and confirm by pressing the MAN/AUT button. You will then return to the main display panel.

7.4. Adjust the temperature

To change the temperature, please press the − or the + button. To decrease the temperature press the − button and to increase the temperature press the + button. When the room temperature is lower than the set temperature on the display panel, the product will come on with the ⏦ symbol appearing in the top right of the display panel.

7.5. Lock the control panel

To lock the keypad manually, please hold and press the − button AND the + button TOGETHER for 3 seconds. The 🔒 symbol will appear on the display panel and the keys will not respond. To unlock the keypad manually, please hold and press the − button AND the + button TOGETHER for 3 seconds.

7.6. Adjust the Display Panel brightness

To change the brightness of the display panel you must be in MANUAL function (see section 7.7). Press and hold the MENU button for 3 seconds. Then with the buttons MENU and MAN/AUT you can switch between the two options for the display panel brightness. With the buttons − and + you can increase or decrease the brightness as you wish. The cursor indicates the intensity of the light. Once you have set the required brightness do not touch any buttons on the keypad for 10 seconds and you will return to the main display.

7.7. MANUAL/AUTOMATIC functions

To change or choose the MANUAL or AUTOMATIC function, press the MAN/AUT button on the keypad. You can change from AUTOMATIC to MANUAL and vice versa by pressing the MAN/AUT button again. On the display panel, the symbol [A] will appear for the AUTOMATIC function and the symbol [M] for the MANUAL function.

MANUAL	AUTOMATIC
This function allows you to change the product between the COMFORT, ECO and ANTI-FROST modes and to change the temperature.	This function will activate the programming that has previously been set in the product.

7.7.1 MANUAL function

This function enables you to choose between the COMFORT, ECO and ANTI-FROST modes of your product. Here you can adjust the temperature of these modes.

☀ COMFORT	☾ ECO	❄ ANTI-FROST
From 55ºC to 73ºC	From 40ºC to 54.5ºC	8ºC

To adjust the temperature when in MANUAL function see section 7.4. The icons for COMFORT, ECO and ANTI-FROST will appear when the temperature is changed to the ranges above.

7.7.2 AUTOMATIC function

To program the AUTOMATIC function, see section 7.7. to put the product into AUTOMATIC function. Then press and hold the MENU button for 3 seconds to begin programming.

- STEP 1 - Select COMFORT mode temperature

☀ COMFORT mode will be programmed first. Select the COMFORT mode temperature between 55ºC and 73ºC using the − and + buttons. The ☀ icon and the temperature will flash. Press the MENU button to confirm.

- STEP 2 - Select ECO mode temperature

☾ ECO mode will be programmed next. Select the ECO mode temperature between 40ºC and 54.5ºC. The ☾ icon and the temperature will flash. Press the MENU button to confirm.

- STEP 3 - Select the Days

The days of the week will start flashing on the display panel and show as DAY 1, DAY 2, DAY 3 etc. Use the − and + buttons to move forwards or backwards through the days. Press ⏻ to select the day or days that you wish to include in your AUTOMATIC program. The day will stop flashing once selected. Repeat for all the days you wish to program with the same settings and once all days are selected press the MENU button to move onto setting the hour.

- STEP 4 - Select the Hours

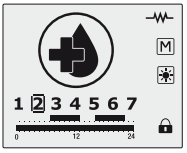
Once step 3 has been completed, 0h appears on the display panel. 0h is equal to the time, midnight. Use the − or + buttons to select the hour you wish to change. Use the ⏻ button to change the mode (COMFORT, ECO or ANTI-FROST) for the hour you wish to modify for all the days selected in step 3. The corresponding icon for that mode will appear at the top of the screen.
To finish the programming press MENU or leave for 30 seconds without pressing any buttons. To change the programming go back to step 1 and proceed as described before.

*If you wish to have individual days with different programming within your program you will need to modify each day separately, starting from the Main Menu again for each day/days. Follow Steps 1 to 4 above to program multiple differing days/hours/temperatures.

8. Advanced functionality

8.1 Anti-legionella function

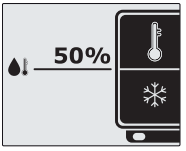
Your product incorporates an anti-legionella function where the product is automatically set to over 60ºC for at least one hour once a week. When this mode is active, you will see the display panel on the right:



8.2. Water Heating Progress

This function allows you to see the progress of the water heating process towards the user established target temperature. The display will show the % of water contained in the product that is at the user defined target.

When the water in the tank is not yet at the user-defined target temperature indicated on the display, a percentage value is displayed. This represents the heating progress towards the target temperature. If the % is below 100%, the display will show a ❄ symbol to represent the water that is still to be heated. Here is an example at 50% of the water heating target:



9. Optimizer Energy Plus Technology

Optimizer Energy Plus is a technology developed by Rointe that bases its operation on thousands of micropulses being sent to the product to keep a stable temperature with a consumption as low as possible. When the ⊣W⊢ icon on the display panel is replaced with the OPT icon on the display panel, then the Optimizer Energy Plus technology has been activated and is working.

10. Guidance

- 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.
- If water is seen dripping through the tundish at any time switch off the electricity supply immediately and call the installer or the Rointe Technical Service department on 0203 321 5929.

11. Servicing and maintenance

- Servicing and maintenance must only be carried out by a competent unvented hot water product installer or by Rointe authorised personnel, at least once per year.
- Before any work whatsoever is carried out on the installation, it MUST first be isolated from the mains electricity supply.
- Only use spare parts authorised by Rointe. The use of other parts will invalidate the warranty.
- Drain the cylinder – When draining the cylinder, always switch off the product. Turn off the water supply at the stopcock (see Figure 2 on page 7). Connect a hosepipe to the drain cock (see Figure 2 on page 7) and route it to a convenient gully. Open the drain cock and all hot taps that are served by the cylinder. The cylinder may take several minutes to empty completely.
- The magnesium anode must be checked at least once a year, and must be replaced if worn or defective.
- Remove the cartridge from the pressure reducing valve. Check the strainer and if necessary remove any debris from in front of it. Replace the cartridge.
- Check the charge pressure in the expansion vessel and top up as necessary. The charge pressure should be 0.15 or 0.3 MPa.
- Close the drain cock, disconnect the hose, refit the heating element and close all hot water taps before reopening the stopcock. Allow the cylinder time to fill whilst checking for any leaks. Release any air from the system by opening each hot water tap individually, starting with the one furthest from the cylinder.
- Manually lift the expansion relief and temperature and pressure relief valve one at a time, every 12 months (more frequently in hard water areas) to prevent debris from building up behind the valve seat. Whilst carrying out this operation, check that the discharge to waste is unobstructed. Check that each valve seals correctly when released. As the valves are pre-calibrated, they require no further maintenance.
- Finally, when the product is full of water switch on the mains electricity supply to the product. As the system heats up, check again for any leaks and rectify as necessary.
- In the event of the manual reset cut-out operating, isolate the product from the mains supply, investigate and identify the cause of the operation of this cut-out, rectify the fault before manually resetting the cut-out via the reset button on the cut-out. Finally switch the mains electricity supply back on.

12. Safety precautions

The product can be used by children aged from 8 years and above and by persons with reduced physical sensory or mental capabilities or lack of experience and knowledge, if they are supervised or have been given instruction concerning use of the product in a safe way and understand the hazards involved. The product is not a toy, children should not play with the product. Cleaning and user maintenance should not be carried out by

children without supervision. Children must be supervised at all times to ensure that they do not interfere with the product.

WARNING - In order to avoid overheating, do not cover the product. Do not insert any kind of object in the air vents. Never use with wet hands. Do not place any containers with water, such as glasses or vases etc. on or near the product. Do not use insecticides, paints or aerosols on or near the product. Do not sit on the product or place anything in front of it.

13. Troubleshooting

WARNING - Disconnect electric supply before removing any electrical equipment cover.

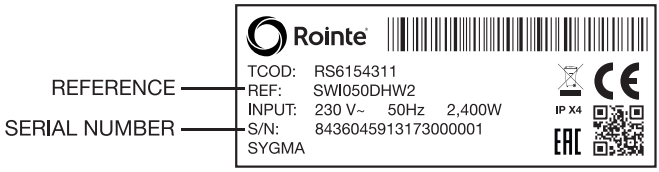
FAULT	POSSIBLE CAUSE	REMEDY
No hot water	1. Mains supply off. 2. Strainer in pressure reducing valve blocked. 3. Pressure reducing valve incorrectly fitted.	1. Open stopcock. 2. Turn water supply off, remove strainer and clean. 3. Re-fit correctly.
Water from hot taps is cold	1. Programmer if fitted is not switched on. 2. High limit thermostat has tripped.	1. Switch on the programmer. 2. Check and re-set.
Intermittent water discharge through tundish on warm-up	1. Expansion vessel has lost its charge pressure.	1. Turn off stopcock, open a hot water tap, check vessel charge pressure and recharge
Continuous water discharge	1. Pressure reducing valve not working. 2. Expansion relief valve not seating correctly. 3. Temperature and pressure relief valve not seating correctly.	1. Check pressure from pressure reducing valve if greater than 0.3 MPa replace cartridge. 2. Manually lift the valve once or twice to clear any debris from the seat otherwise replace valve.

14. Rointe Product Guarantee

In this section, we hereby describe the guarantee conditions, which the buyer acquires, on buying this product from ROINTE. These conditions comply with all the rights construed in the national legislation in force, as well as any additional rights and guarantees, which are offered by ROINTE.

Any incident that you might detect in your ROINTE product can be sorted by the product seller or quickly by the manufacturer. Please contact ROINTE by **telephoning 0203 321 5929** for Technical Support. Alternatively, you can **email ROINTE at support@rointe.co.uk**, through which we will instruct you on how to solve the incident.

You will need to state the product reference (located on the label indicating product features), serial number, proof of purchase and the type of incident at hand when contacting us so that we can check the guarantee. In addition, please attach a copy of the product invoice.



14.1. ROINTE guarantees that there are no material defects of design or manufacture at the time of original acquisition and guarantees the cylinder for a period of 60 months and any electronic and electrical components for 24 months, provided that they have not been modified in any way.

14.2. If during the guarantee period, the product does not work correctly under normal use, and any design, material or manufacturing defect is found, ROINTE will repair or substitute the product as it may see fit, in accordance with the terms and conditions as follows:

14.2.1. The guarantee is only applicable if the original guarantee is issued by the seller and when the said guarantee is filled in correctly including product reference, series number (marked on the product's label indicating technical features), purchase date and the seller's stamp, and either registered on our website at www.rointe.co.uk or returned completed to ROINTE within 90 days of installation. ROINTE reserves the right to reject the guarantee service when this information has been removed or modified after the original product purchase.

14.2.2. The guarantee is only applicable if the product has been installed by a competent person in accordance with this installation manual and all current regulations and codes of practice at the time of installation.

14.2.3. The guarantee is only applicable to those cases that concern material, design and manufacturing defects, and under no circumstances covers damage to the product for the following reasons:

14.2.3.1 Damage caused by negligence and/or misuse of the product, i.e. used for other purposes that are not construed as its normal use or for not respecting the instructions of use and maintenance given by ROINTE as well as incorrect installation or use of the product that may not comply with the current technical standards of safety.

14.2.3.2. Corrosion of any part of the product caused by direct exposure to salt water. When the product is installed no more than 200m from the coast the guarantee for damages caused by corrosion the period will be reduced by 50%.

14.2.3.3. Any unauthorised modification of the product or repairs of the product carried out by third parties or unauthorised technicians or opening of the product by third parties or unauthorised people.

14.2.3.4. Any accidents that are deemed outside the control of ROINTE, such as (but not limited to): lightning, fires, floods, natural disasters, public disorder, atmospheric or geologic phenomena etc.

14.2.3.5. Faults that result from an incorrect installation. Guidance can be found within the recommendations for installation, by Rointe and in the installation manual. If in doubt, please contact ROINTE.

14.2.3.6. Aesthetic wear and tear produced by use, the cleaning of lime scale accumulation, revision and substitution of the magnesium anode as well as other operations of maintenance of the product. Such repairs will be charged to the user.

14.2.4. Any repairs or substitutions that are included in this guarantee do not allow any additions or new periods of guarantee.

14.2.5. Any repairs or substitutions covered under this guarantee must be parts that are functionally equivalent. The defective parts or parts removed or replaced shall become the property of ROINTE.

14.2.6. The product must be installed in a way that allows access for our technicians should they need to gain access to the product for repair or maintenance. The user/client is responsible for any costs or organisation required to provide access to the products for their repair and/or substitution.

14.2.7. The product has been installed indoors, in a frost free environment and has solely been used for the purpose of heating potable water that complies with current (at time of installation) regulations and standards and is not fed with water from a private source.

14.2.8. The product has not been subjected to excessive pressure or electrolytic actions from dissimilar materials or attack from salt deposits.

14.3. The Technical Service department of ROINTE will advise you if you need to purchase any parts not covered under the guarantee or out of guarantee.

14.4. This guarantee will be null and void if the product: has been manipulated, modified and/or repaired in any way and/or by unauthorised persons. This guarantee will also be void if the product is not correctly installed.

14.5. This guarantee is not transferable and does not include claims due to frost or limescale damage.

14.6. Proof of purchase will be required to ROINTE for any claim.

14.7. This guarantee does not affect your statutory rights.

14.8. This guarantee does not affect the buyer's legal rights stipulated in the current national legislation, nor affects those rights against the distributor or installer that could come forth in compliance with the purchase contract.

14.9. In the absence of a national legal legislation applicable, this guarantee shall prevail and may be construed as the buyer's only protection. ROINTE, its offices, distributors and installers may not be held responsible for any accidental damage that emerges due to infringement of any rules implicitly related to this product.

For help about the product or guarantee, please **contact ROINTE by telephoning 0203 321 5929** for Technical Support or by **email at support@rointe.co.uk.**

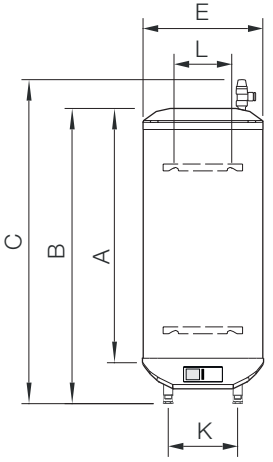
15. European Directive (WEEE) 2012/19/UE

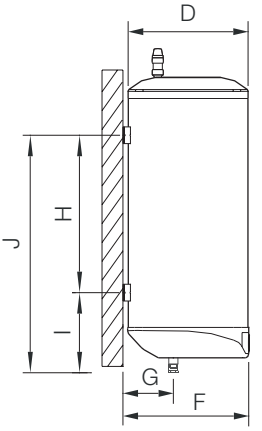
Under the European Directive 2012/19/UE on Waste Electrical and Electronic Equipment (WEEE), the product cannot be disposed in the usual council bins and containers. They must be separated to optimize the recovery and recycling of all of the components and materials and reducing the impact to human health and the environment. The symbol of the container crossed out over a horizontal line is marked on all of ROINTE products to remind the consumer of the obligation to separate them on disposal. The consumer should contact the local authority or original point of sale to learn more about the correct disposal of this product.

NOTES:

16. Dimensions & Technical Characteristics

MODEL		SWI050DHW2	SW1075DHW2	SWI100DHW2	SWI150DHW2	SWI200DHW2
Volume (litres)		50	75	100	150	200
Dimensions (mm)	A	640	860	1,100	900	1,070
	B	680	900	1,150	960	1,120
	C	780	1,000	1,250	1,060	1,220
	D	404	404	404	580	580
	E	404	404	404	580	580
	F	420	420	420	620	620
	G	120	120	120	178	178
	H	340	573	768	595	685
	I	130	142	192	250	250
	J	470	715	960	845	935
	K	160	160	160	235	235
	L	350	350	350	350	350
Empty weight (kg)		18	25	32	44	56
Full weight (kg)		68	100	132	194	256
Nominal Power (W)		2,400	2,400	2,400	2,400	2,400
Heating elements		2 x 1,200 W	2 x 1,200 W	2 x 1,200 W	2 x 1,200 W	2 x 1,200 W
Voltage (V)		230 ~V	230 ~V	230 ~V	230 ~V	230 ~V
Current (A)		10.4	10.4	10.4	10.4	10.4
Thermal loss (kWh/24h)		1.1	1.2	1.4	1.9	2.3
Protection Grade		IPX4	IPX4	IPX4	IPX4	IPX4
Position		Vertical	Vertical	Vertical	Vertical	Vertical
Water conn. (“)		1/2”	1/2”	1/2”	3/4”	3/4”
Hot/cold draw off conn. (mm)		15	15	15	22	22
Max. water supply press. (MPa)		0.9	0.9	0.9	0.9	0.9
System op. press. (preset) (MPa)		0.6	0.6	0.6	0.6	0.6
Exp. vessel charge press. (MPa)		0.15	0.15	0.3	0.3	0.3
Exp. relief valve set press. (MPa)		0.6	0.6	0.6	0.6	0.6
Lift pressure (MPa)		0.7	0.7	0.7	0.7	0.7
Lift temp. (^{0}C)		90	90	90	90	90
Finish		White RAL 9016				
EAN CODES		8436045913173	8436045913180	8436045913197	8436045913203	8436045913210





A - Height
B - Height with connections
C - Total height with T/P valve
D - Width
E - Depth
F - Installed Depth
G - Depth from connection to wall
H - Vertical distance between fixing holes
I - Vertical distance lower fixing holes & connections
J - Vertical distance upper fixing holes & connections
K - Distance between connections
L - Horizontal distance between fixing holes

INSTALLATION KIT (OPTIONAL)					
MODEL	SWI050DHW2	SWI075DHW2	SWI100DHW2	SWI150DHW2	SWI200DHW2
0.3 MPa pressure reducing valve	✓	✓	✓	✓	✓
0.6 MPa expansion relief valve	✓	✓	✓	✓	✓
Expansion vessel (litres)	8	8	12	12	18
Tundish (15 - 22mm)	✓	✓	✓	✓	✓
Isolation Valve	✓	✓	✓	✓	✓

PERFORMANCE					
MODEL	SWI050DHW2	SWI075DHW2	SWI100DHW2	SWI150DHW2	SWI200DHW2
Heat time 15°C - 65°C (min)	73	110	117	175	235
Reheat time for 70% contents (min)	51	77	82	123	165

17. Commissioning & Service Record

CUSTOMER DETAILS
NAME:
ADDRESS:
TEL No.

INSTALLER DETAILS	
COMPANY NAME:	DATE:
ADDRESS:	
TEL No.	
INSTALLER NAME:	REGISTRATION No.

COMMISSIONING ENGINEER (IF DIFFERENT)	
COMPANY NAME:	DATE:
ADDRESS:	
TEL No.	
INSTALLER NAME:	REGISTRATION No.

CYLINDER DETAILS	
MODEL:	
CAPACITY (litres):	SERIAL No.

SERVICE RECORD DETAILS

Before completing the appropriate Service Interval Record below, please ensure you have carried out the service as described in the manufacturer's instructions and in compliance with all relevant codes of practice.

It is recommended that your hot water system is serviced regularly and that your service engineer completes the appropriate Service Interval Record below.

SERVICE 1 DATE		**SERVICE 2 DATE**	
SERVICE ENGINEER		**SERVICE ENGINEER**	
TEL NO.		**TEL NO.**	
REGISTRATION NO.		**REGISTRATION NO.**	
SIGNATURE		**SIGNATURE**	

SERVICE 3 DATE		**SERVICE 4 DATE**	
SERVICE ENGINEER		**SERVICE ENGINEER**	
TEL NO.		**TEL NO.**	
REGISTRATION NO.		**REGISTRATION NO.**	
SIGNATURE		**SIGNATURE**	

SERVICE 5 DATE		**SERVICE 6 DATE**	
SERVICE ENGINEER		**SERVICE ENGINEER**	
TEL NO.		**TEL NO.**	
REGISTRATION NO.		**REGISTRATION NO.**	
SIGNATURE		**SIGNATURE**	

SERVICE 7 DATE		**SERVICE 8 DATE**	
SERVICE ENGINEER		**SERVICE ENGINEER**	
TEL NO.		**TEL NO.**	
REGISTRATION NO.		**REGISTRATION NO.**	
SIGNATURE		**SIGNATURE**	

NOTES:

Cut along the dotted line

CERTIFICATE OF GUARANTEE

Rointe

In the event of any defect being detected in the product within the period of guarantee, you must fill in the below Certificate of Guarantee and send it to us stamped together with a copy of the sales invoice via email to **support@rointe.co.uk** or to the following postal address: INDUSTRIAS ROYAL TERMIC, S.L., C/E, Parcela 43, 30140 Santomera (Murcia, Spain).

CERTIFICATE OF GUARANTEE		
REFERENCE:	Nº SERIES:	PURCHASE DATE:
USER:		
HOME ADDRESS:		
TOWN:		POSTCODE:
COUNTY:		COUNTRY:
TELEPHONE:		EMAIL:
SELLER'S STAMP:		

NB: This certificate of Guarantee MUST be completed in full in order to obtain guarantee rights. The purchase date and seller's stamp are compulsory. Please attach a copy of your sales invoices. In addition, for new constructions include the Certificate of First Occupation.

NOTES:

NOTES:

Thank you for choosing Rointe. We hope you enjoy your product.

If you require further assistance or information, please contact our Technical Service Department by telephoning **0203 321 5929** or email **support@rointe.co.uk**.

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