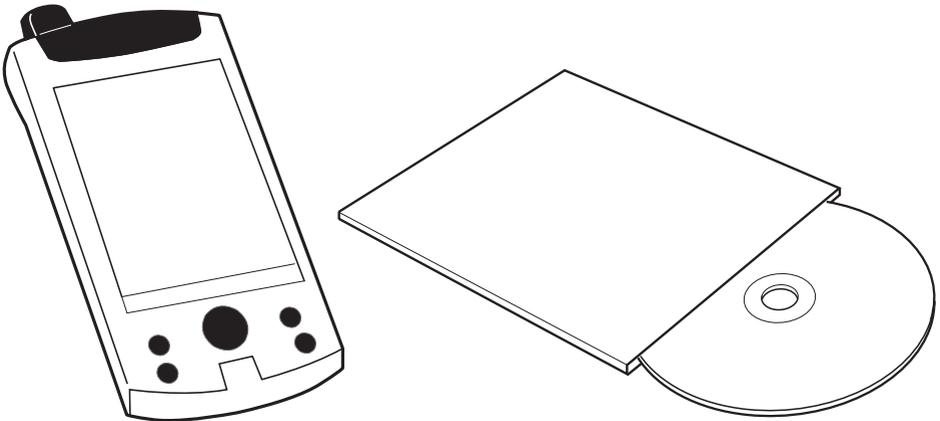




## Rada Sense Programmer Software (Aus)



## PRODUCT MANUAL

### IMPORTANT

**Installer:** This Manual is the property of the customer and must be retained with the product for maintenance and operational purposes.

# CONTENTS

<b>DESCRIPTION</b> .....	<b>3</b>
System Requirements.....	3
<b>INSTALLATION</b> .....	<b>3</b>
<b>PASSWORD ADMINISTRATION</b> .....	<b>4</b>
Setting up Users and Passwords for a New Installation.....	4
<b>ENTRY LEVEL</b> .....	<b>6</b>
Login.....	6
Read Valve Data .....	7
Main Menu (Single / Outlet).....	8
Setting Outlet Temperatures.....	9
Setting Flow Times.....	9
Storing Setup to the Valve.....	10
Checking Setup is Stored.....	11
Thermal Disinfection (Arming).....	12
Thermal Disinfection (Triggering).....	13
Thermal Disinfection (Checking for Completion).....	14
Thermal Disinfection (Saving Log) .....	15
Thermal Disinfection (Failed Disinfection).....	15
<b>ENGINEERING LEVEL</b> .....	<b>16</b>
Login and Read Valve Data.....	16
Main Menu .....	18
Setting Duty Flush: Step 1, Valve Setup .....	19
Setting Duty Flush: Step 2, Outlet Setup.....	19
Setting Disinfection: Step 1, Valve Setup .....	20
Setting Disinfection: Step 2, Outlet Setup .....	20
Engineering Menu .....	21
Valve Information (Engineering Level Only).....	22
Commissioning Data (Engineering Level Only).....	23
Service Data (Engineering Level Only) .....	24
Disinfection Configuration (Engineering Level Only).....	25
Valve Usage Data (Engineering Level Only).....	26
<b>FAULT FINDING</b> .....	<b>27</b>
Self Diagnosed Errors Table.....	28
<b>VALVE CALIBRATION</b> .....	<b>29</b>
<b>ERROR MESSAGES</b> .....	<b>30</b>
<b>NOTES</b> .....	<b>31</b>
<b>CUSTOMER CARE</b> .....	<b>32</b>

## DESCRIPTION

The CD contains software that is designed to run on a Pocket PC PDA.

The software communicates with the mixing valve and allows the user to:

### Access Levels

**Password Administration:** Add new users and change passwords.

**Entry Level:** Set outlet temperatures, flow times and carry out thermal disinfection.

**Engineering Level:** Enable duty flush and disinfection, view valve information, set commissioning and service data.

### System Requirements

The installation CD is designed to run on Microsoft Windows 98/NT/2000/XP operating systems. The programmer software is designed to run on Microsoft Pocket PC 2002 and Microsoft Mobile Windows for Pocket PC 2003 and Microsoft Windows Mobile 5.0.

## INSTALLATION

Please make sure that you have installed Microsoft ActiveSync on to your PC (supplied with your PDA). With your PDA connected to your computer follow the instructions below.

Insert the CD-ROM. The CD should start automatically. If the CD does not start automatically then please use the support instructions on the CD wallet.

Select the install programmer software button from the menu and follow the installation menus. If you are prompted to install "Microsoft.Net Compact Framework", choose "Yes".

The software will automatically download to your PDA. To check if the installation was successful, go to the start menu on the PDA and look for the control panel icon called "Rada Sense T3".

If you cannot find the link in the start menu go into Programs and double click on the Rada Sense icon.

You are now ready to set up passwords and add new users, please go to the next section.

If you wish to install the software on more than one PDA, when you have completed the first installation attach each PDA to your PC and open Microsoft ActiveSync. Select Tools, Add/Remove Programmes, select Kohler Mira Ltd Rada Sense T3 by ticking the box, then click OK.

If you experience any difficulty with the installation or operation of your new Digital Mixing Valve, please refer to "**Fault Diagnosis**" before contacting  
Thorntwaite Technologies Pty Ltd.  
Our telephone and fax numbers can be found on the back cover of this guide.

# PASSWORD ADMINISTRATION

## Setting up Users and Passwords for a New Installation

A new software installation will have no User IDs and default Passwords.

To gain access to the programmer functions at least one User ID must be entered. It is recommended to change the Passwords from the default values.

The screenshot shows the 'Programmer' screen with the title 'Rada Sense Programmer' and the 'Sense rada' logo. Below the logo, it says 'Please enter User ID and Password'. There are two input fields: 'ID' (empty) and 'Password' (containing '\*\*\*\*\*'). An 'Enter' button is located below the fields. At the bottom of the screen is a virtual keyboard with a keyboard icon in the bottom right corner.

Leave the ID box blank and enter 99999 in Password box.

① Click on "Enter".

Click here to make the keyboard appear.

## Adding a New User

**Note!** Each user must have a unique ID.

① Enter Name (maximum of 15 characters) and ID (a 4 digit number).

List of valid users and IDs.

The screenshot shows the 'Password Admin.' screen with the title 'Admin' and the 'Sense rada' logo. Below the logo, it says 'Password Admin.'. There are two input fields: 'Name' (empty) and 'ID' (containing '4444'). Below the fields is a list of users and IDs:

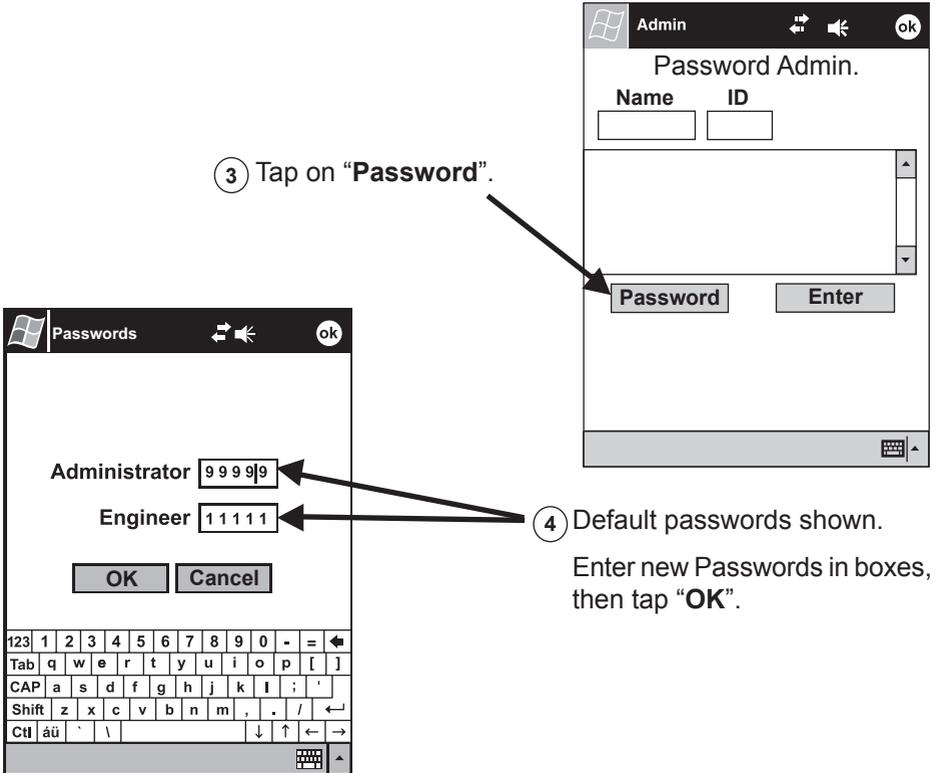
Name	ID
J.Smith	5555
C.Moon	3333

Below the list are two buttons: 'Password' and 'Enter'. At the bottom of the screen is a virtual keyboard with a keyboard icon in the bottom right corner.

② Tap "Enter".

## Adding a Password

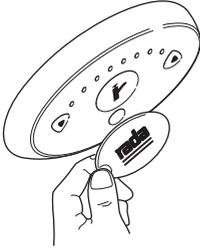
**Note!** Password contains up to 5 alphanumeric characters.



# ENTRY LEVEL

## Login and Read Valve Data

### Disable User Interface



Disable the Control Panel with the magnetic key (Control panel is disabled when it is not illuminated).

## Login

### Login Screen

① Enter ID but leave Password box blank.

Programmer

Rada Sense Programmer *Sense rada*

Please enter User ID and Password

ID  Password

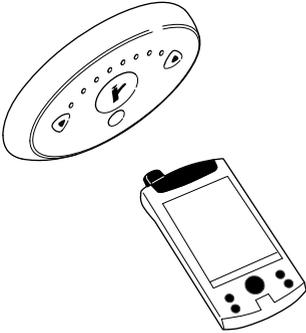
Enter

123	1	2	3	4	5	6	7	8	9	0	-	=	←
Tab	q	w	e	r	t	y	u	i	o	p	[	]	
CAP	a	s	d	f	g	h	j	k	l	;	'		
Shift	z	x	c	v	b	n	m	,	.	/	←	→	
Ctl	áü	`	\					↓	↑	←	→		

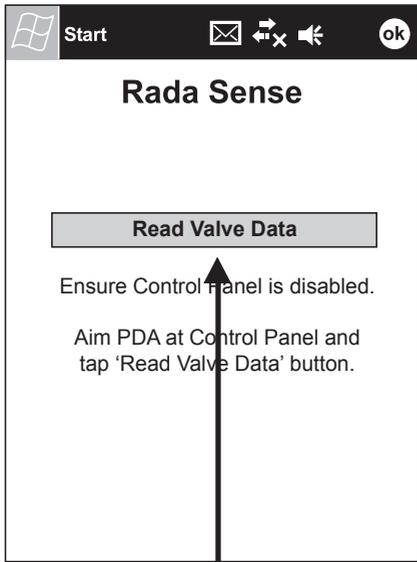
② Tap on "Enter".

Click here to make the keyboard appear.

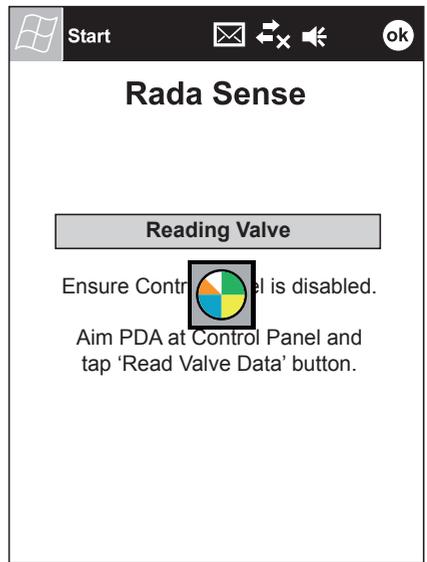
## Read Valve Data



Aim the Programmer at the Control Panel.



2



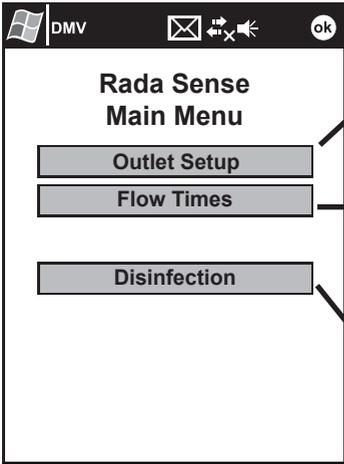
1 Tap here to read current valve data.

**Note!** If an error occurs, refer to “**Error Messages**”.

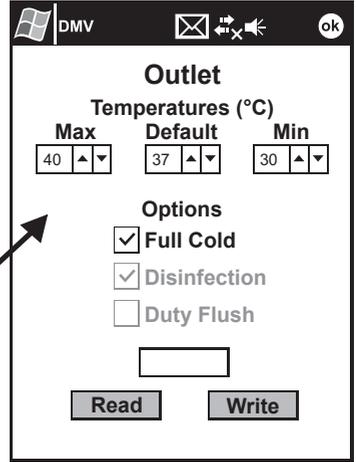
**Read Valve Data** is successful when the main menu is displayed.

# Main Menu (Single / Outlet)

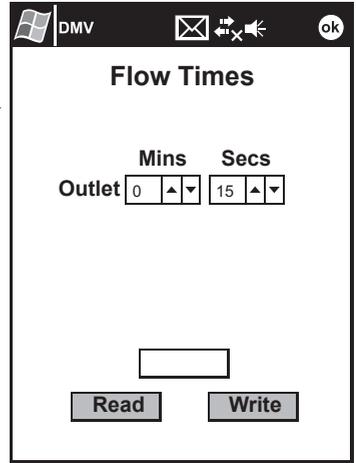
Tap on one of these options.



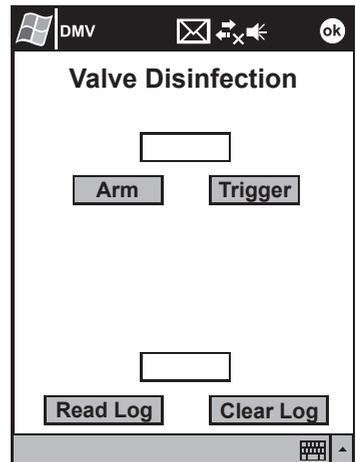
The 'Rada Sense Main Menu' screen features a black header with a Windows logo, 'DMV', and navigation icons. The main content area contains three grey buttons: 'Outlet Setup', 'Flow Times', and 'Disinfection'. An arrow points from the 'Outlet Setup' button to the 'Outlet' screen.



The 'Outlet' screen displays 'Temperatures (°C)' with three spinners for 'Max' (40), 'Default' (37), and 'Min' (30). Below are three checkboxes: 'Full Cold' (checked), 'Disinfection' (checked), and 'Duty Flush' (unchecked). A text input field is present, followed by 'Read' and 'Write' buttons. An arrow points from the 'Disinfection' button in the main menu to this screen.



The 'Flow Times' screen shows 'Mins' and 'Secs' spinners for 'Outlet' (0 and 15). It includes a text input field and 'Read' and 'Write' buttons. An arrow points from the 'Flow Times' button in the main menu to this screen.



The 'Valve Disinfection' screen features a text input field, 'Arm' and 'Trigger' buttons, another text input field, and 'Read Log' and 'Clear Log' buttons. An arrow points from the 'Disinfection' button in the main menu to this screen.

## Setting Outlet Temperatures

Enter the temperature range available to user (30°-50°)

**Note!** Default = Switch on temperature

If checked  the user can select full cold.

**Note!** Factory preset to allow the user to access full cold from the outlet.

Refer to **“Engineering Menu”**.

Warning menu if **“Write”** is not tapped

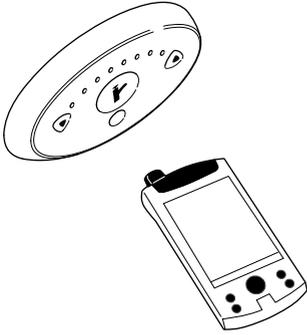
**Note!** Changes will not be stored in valve until **“Write”** is tapped (refer to **“Storing Setup to the Valve”**).

## Setting Flow Times

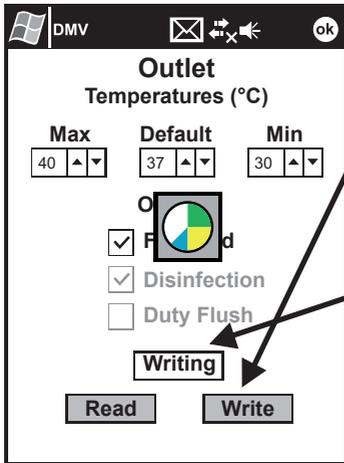
Enter the flow time before automatic switch off (5 secs - 59 minutes, 59 seconds).

**Note!** Changes will not be stored in valve until **“Write”** is tapped (refer to **“Storing Setup to the Valve”**).

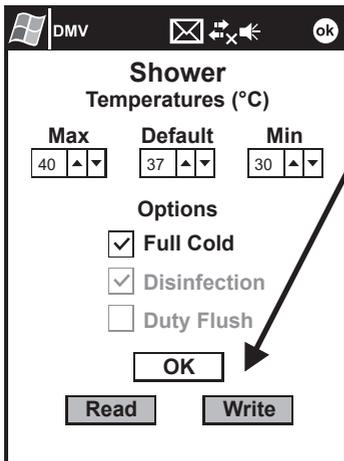
## Storing Setup to the Valve



Aim the Programmer at the Control Panel and tap **“Write”**.



Writing the changes to the valve.

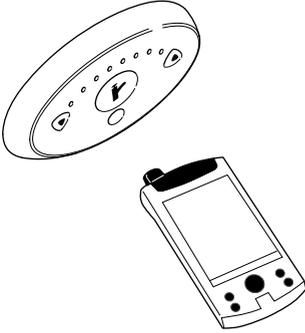


“OK” means the setup changes have been stored.

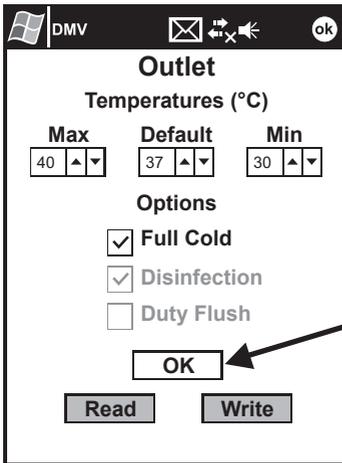
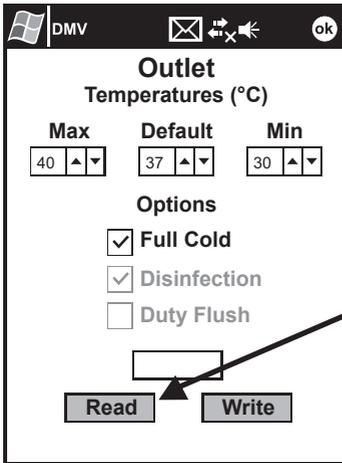
If “OK” is NOT displayed or an error is displayed then the changes have not been stored.

**Caution!** The outlet temperature must be re-checked after a new temperature has been programmed, refer to ‘**Checking Setup is Stored**’.

# Checking Setup is Stored



Aim the Programmer at the Control Panel and tap “Read”.



“OK” means the setup has been read from valve.

Check setup is correct.

## Thermal Disinfection Disable User Interface

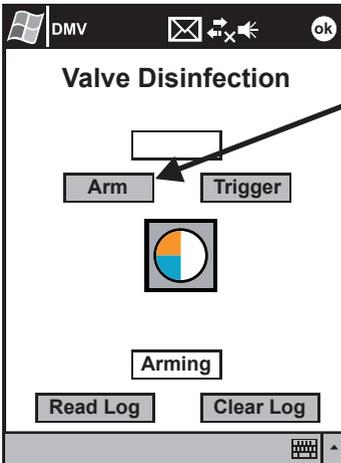


Disable the Control Panel with the magnetic key.

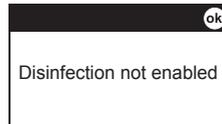
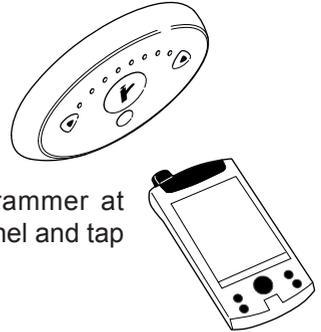
**Note!** The disinfection programme is factory set for a minimum of 5 minutes at 60 °C. If you need to change this configuration, refer to '**ENGINEERING LEVEL**'.

**WARNING!** The water flow during disinfection will be very hot and may scald on contact. The valve must be supervised throughout the disinfection process and no-one should approach the outlet within 3 metres.

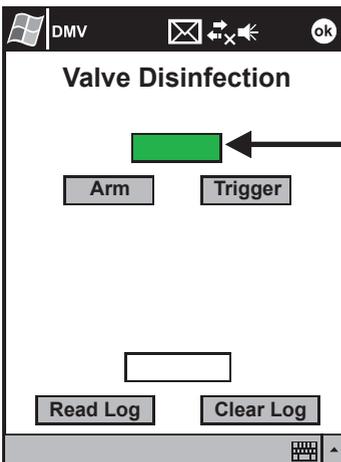
## Thermal Disinfection (Arming)



Aim the Programmer at the Control Panel and tap "Arm".



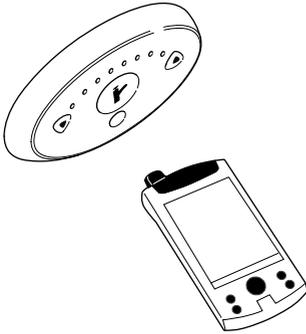
Check that "Disinfection" is checked. Refer to "Setting Disinfection: Step 2, Outlet Setup".



If "Disinfection not enabled" is displayed, refer to "ENGINEERING LEVEL", section "Setting Disinfection: Step 1, Valve Setup".

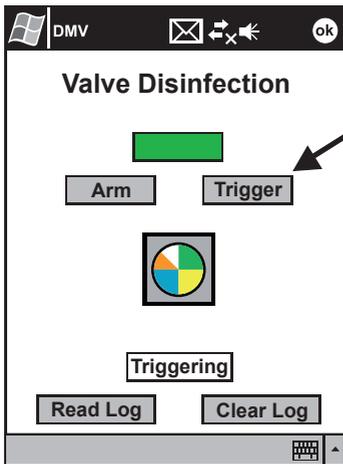
Disinfection is Armed when the box turns green.

## Thermal Disinfection (Triggering)

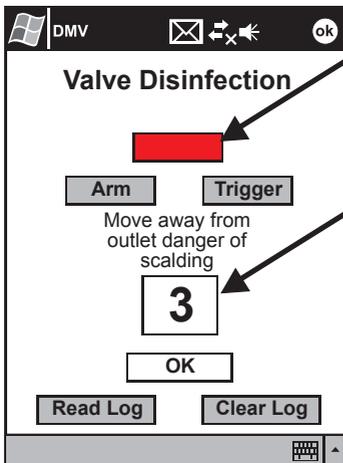


Aim the Programmer at the Control Panel and tap “**Trigger**”.

This must be done within 30 seconds of Arming or the valve must be Armed again.



Triggering the disinfection.



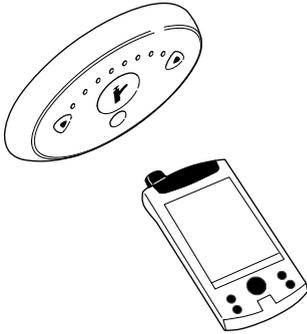
Disinfection is triggered when box turns red.

Waterflow starts when countdown reaches 0.

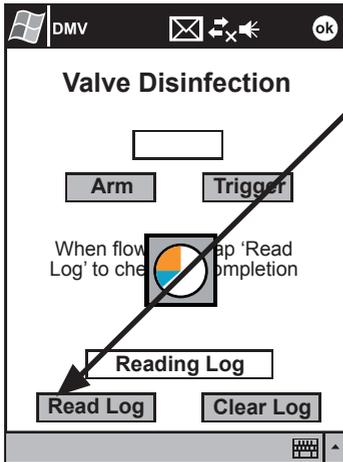
**Note!** The Control Panel is enabled during disinfection, if any sensor is activated then the disinfection cycle is aborted.

**WARNING!** For continued protection against legionella, thermal disinfection must be carried out on a regular basis. Please consult your national guidelines for details.

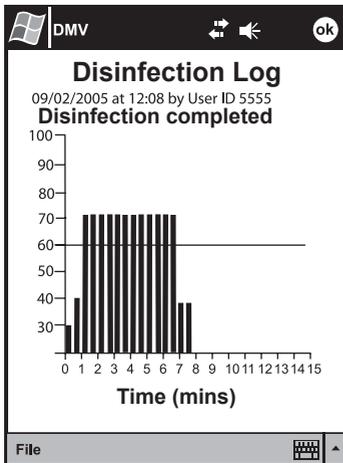
## Thermal Disinfection (Checking for Completion)



Aim the Programmer at the Control Panel and tap “Read Log”.

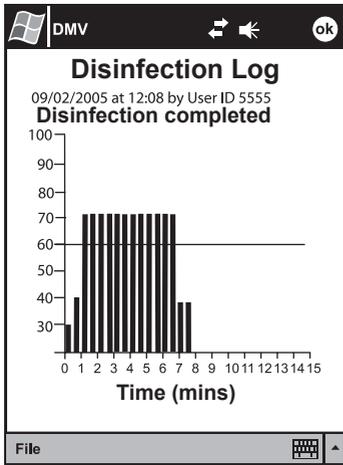


Reading the disinfection log.



“Disinfection Completed” indicates temperature held for correct time.

## Thermal Disinfection (Saving Log)



Tap "File" to save log to file.

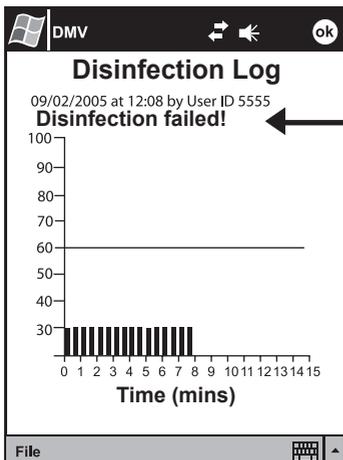
Log file format (Use Pocket Word to view).

Serial No. : 12345  
Location: Ward 1 Room 3  
09/02/2005 at 12:08 by User ID 5555  
**Disinfection Completed**

Time(s)	Temp.(C)
0	30
30	40
60	70
90	70
120	70
150	70
180	70
210	70
240	70
270	70
300	70
330	70

New Edit View Tools

## Thermal Disinfection (Failed Disinfection)



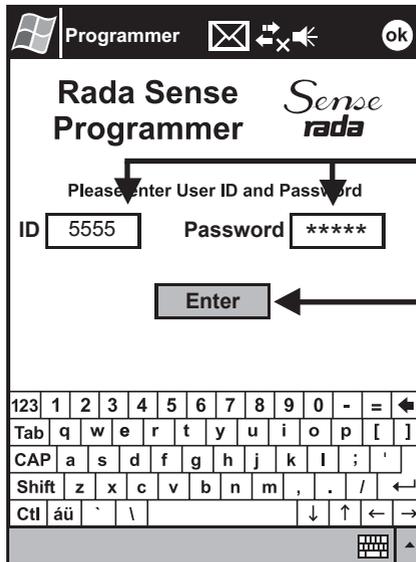
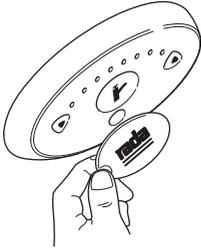
"Disinfection failed!" Indicates temperature not held for long enough.

Check water supply and disinfect once it has been corrected.

# ENGINEERING LEVEL

## Login and Read Valve Data

### Disable User Interface



Programmer

Rada Sense Programmer *Sense rada*

Please enter User ID and Password

ID 5555 Password \*\*\*\*\*

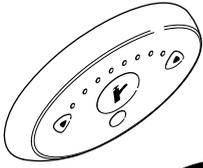
Enter

123	1	2	3	4	5	6	7	8	9	0	-	=	←
Tab	q	w	e	r	t	y	u	i	o	p	[	]	
CAP	a	s	d	f	g	h	j	k	l	;	'		
Shift	z	x	c	v	b	n	m	,	.	/	←	↵	
Ctl	á	ü	`	\					↓	↑	←	→	

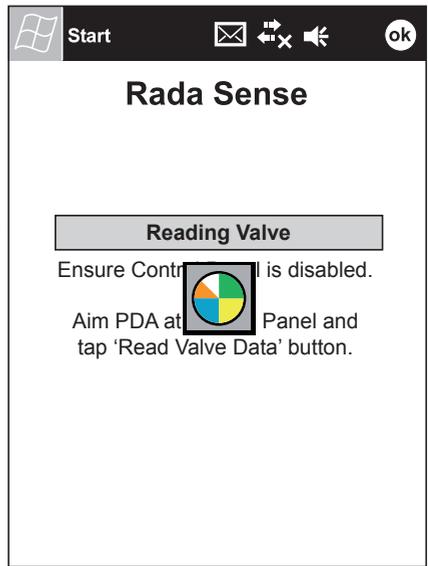
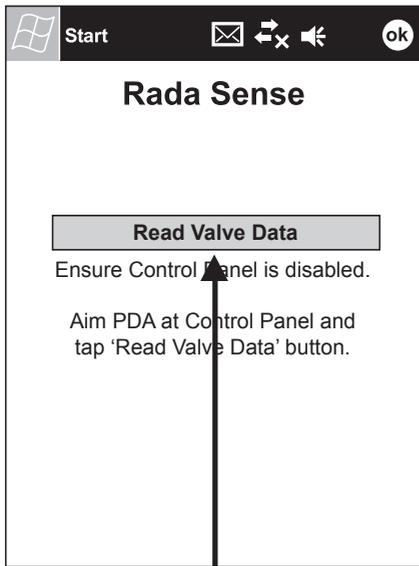
① Enter User ID and Engineer Password.

② Tap on "Enter".

## Read Valve Data



Aim the Programmer at the Control Panel.



① Tap here to read current valve data.

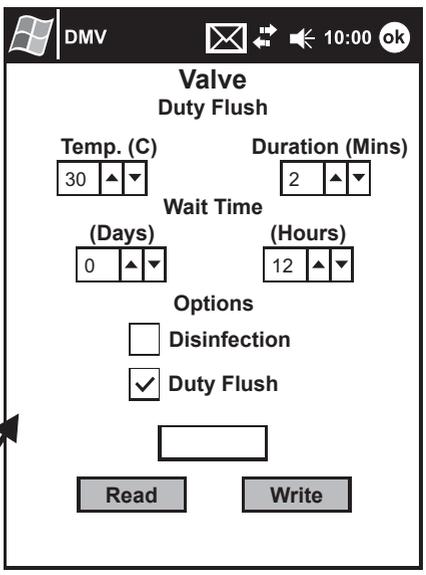
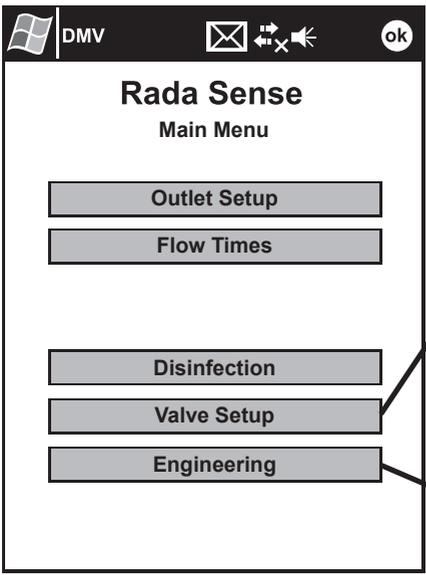
**Note!** If an error occurs, refer to “**Error Messages**”

**Read Valve Data** is successful when the main menu is displayed.

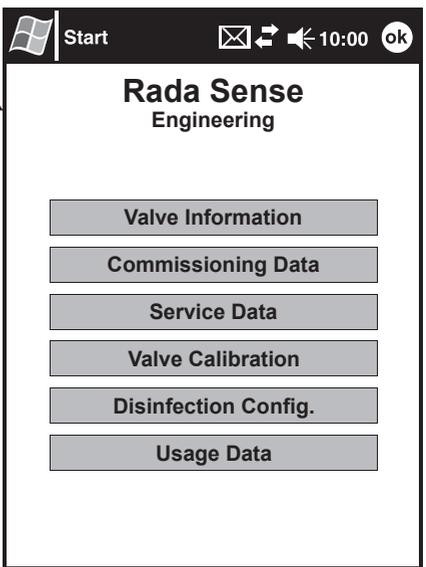
# Main Menu

## Additional Engineering options

Tap on one of these Options.



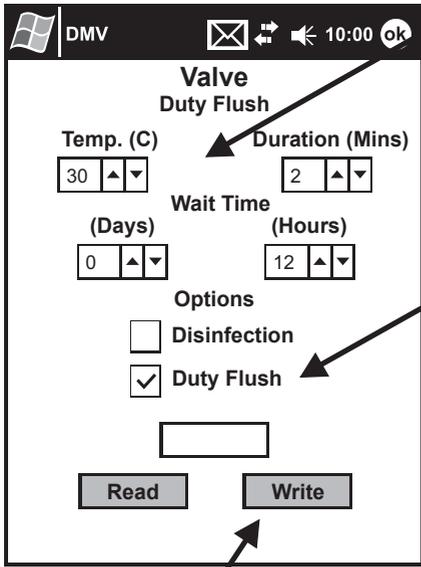
Refer to “Setting Duty Flush: Step 1, Valve Setup”.



Refer to “Engineering Menu”.

## Setting Duty Flush: Step 1, Valve Setup

Enter temperature, duration and wait time.



Temp. (C) 30 ▲▼

Duration (Mins) 2 ▲▼

Wait Time (Days) 0 ▲▼ (Hours) 12 ▲▼

Options

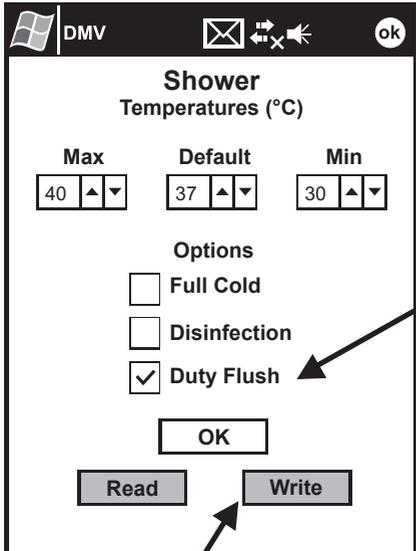
- Disinfection
- Duty Flush

Read Write

**Note!** Changes will not be stored in valve until “**Write**” is tapped (refer to “**Storing Setup to Valve**”).

## Setting Duty Flush: Step 2, Outlet Setup

Check  this box to enable duty flush.



Shower Temperatures (°C)

Max 40 ▲▼ Default 37 ▲▼ Min 30 ▲▼

Options

- Full Cold
- Disinfection
- Duty Flush

OK

Read Write

Check  this box to enable duty flush.

**Warning** ok

'Duty Flush' in Valve Setup must be checked to enable this function

Check that “**Duty Flush**” is checked (refer to **Step 1**).

**Note!** Changes will not be stored in valve until “**Write**” is tapped (refer to “**Storing Setup to Valve**”).

## Setting Disinfection: Step 1, Valve Setup

Valve  
Duty Flush

Temp. (C) 36 ▲▼ Duration (Mins) 1 ▲▼

(Days) 7 ▲▼ Wait Time (Hours) 0 ▲▼

Options

Disinfection

Duty Flush

Read Write

Check  this box to enable disinfection.

**Note!** Changes will not be stored in valve until “Write” is tapped (refer to “Storing Setup to Valve”).

## Setting Disinfection: Step 2, Outlet Setup

Outlet  
Temperatures (°C)

Max 40 ▲▼ Default 37 ▲▼ Min 30 ▲▼

Options

Full Cold

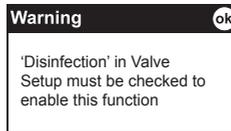
Disinfection

Duty Flush

OK

Read Write

Check  this box to select this outlet for disinfection.



Check that “Disinfection” is checked (refer to Step 1).

**Note!** Changes will not be stored in valve until “Write” is tapped (refer to “Storing Setup to Valve”).

# Engineering Menu

Tap on one of these Options.

**Rada Sense Engineering**

- Valve Information
- Commissioning Data
- Service Data
- Valve Calibration
- Disinfection Config.
- Valve Usage Data

**Valve Information**

Serial No.

Manufacture Date and Time

Firmware Type

Firmware Version

Interface Version

**Commissioning Data**

Commissioned on 23/09/2004 at 12:13

Location

**Set Commission Data**

**Service Data**

Valve is OK

Last Serviced By 1123 on 23/09/2004 at 12:13

**Set Service Date**

**Valve Calibration**

Calibration No.

**Read** **Write**

**Valve Usage Data**

**Activations**

Count	Total Minutes
<input type="text" value="1"/>	<input type="text" value="0"/>

Days  Hours  Hours since Disinfection

Hours since last used

Stepper Motor Pulses

**Disinfection Configuration**

Min. Temp. (°C)

Min. Time (mins)

Max. Warmup (mins)

Max. Duration (mins)

Type **Energy Saving**

Upper Temp. (°C)

**Read** **Write**

## Valve Information (Engineering Level Only)

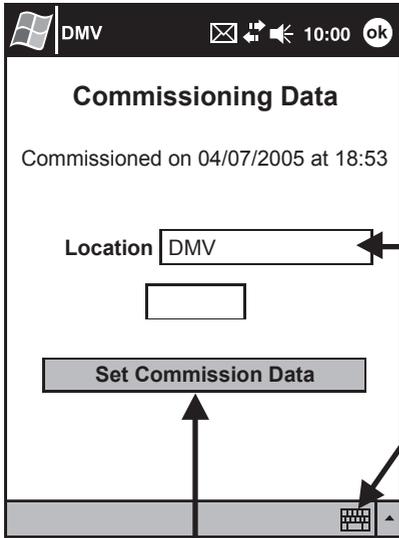
The screenshot shows a software interface titled "Valve Information" within a window labeled "DMV". The interface includes a status bar at the top with a Windows logo, a signal strength icon, a speaker icon, the time "10:00", and an "ok" button. The main content area contains the following fields:

- Serial No.**: Input box containing "0". An arrow points from the text "Unique number setup in factory." to this box.
- Manufacture Date and Time**: An empty input box.
- Firmware Type**: Input box containing "5".
- Firmware Version**: Input box containing "3".
- Interface Version**: Input box containing "100".

Two arrows point from the text "These numbers state exactly which version of firmware is in the valve." to the Firmware Type and Firmware Version input boxes. Another arrow points from the text "These numbers state exactly which version of Interface Software is in the control panel." to the Interface Version input box.

**Note!** Not shown on older versions of Interface Software.

## Commissioning Data (Engineering Level Only)

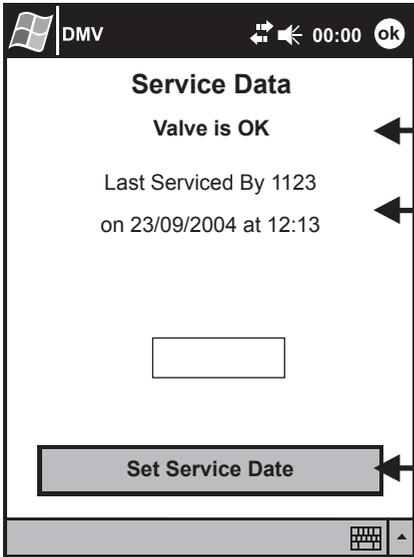


Location text can be set here.  
Tap here to display the keyboard.

Tap here to set the Commissioned Date in the valve to the current date and to store the location text.

**Note!** If the valve has a location text set, then it will be displayed in the titlebar (as shown, “**DMV**” next to the start menu).

## Service Data (Engineering Level Only)



← "Valve is OK" means that no errors have been detected by the valve.

← User ID and Date of last service.

← Tap here to set the Serviced Date in the valve to the current date.

## Disinfection Configuration (Engineering Level Only)

The screenshot shows the 'Disinfection Configuration' screen. At the top, there is a status bar with 'DMV', signal strength, a mute icon, a speaker icon, and a timer set to '00:00' with an 'ok' button. The main area contains the following fields: 'Min. Temp. (°C)' with a value of 60, 'Min. Time (mins)' with a value of 5, 'Max. Warmup (mins)' with a value of 2, and 'Max. Duration (mins)' with a value of 27. Below these is a 'Type' dropdown menu currently set to 'Standard'. At the bottom, there are 'Read' and 'Write' buttons.

Enter minimum temperature required to disinfect.

Enter minimum disinfection duration.

If disinfection temperature is not reached within this period, then disinfection will be cancelled (if unsure, leave as default).

If disinfection is not completed within this period, then disinfection will be cancelled (if unsure, leave as default).

Refer to legionella prevention guidelines as required by relevant state authorities.

### UK HSE Guidelines for Disinfection:

“Thermal disinfection can be carried out by raising the temperature of the whole of the contents of the calorifier then circulating this water throughout the system for at least an hour. To be effective, the temperature at the calorifier should be high enough to ensure that the temperatures at the taps and appliances do not fall below 60 °C. Each tap and appliance should be run sequentially for at least five minutes at the full temperature, and this should be measured. For effective thermal disinfection the water system needs to be well insulated”.

The screenshot shows the 'Disinfection Configuration' screen. At the top, there is a status bar with 'DMV', signal strength, a mute icon, a speaker icon, and a timer set to '00:00' with an 'ok' button. The main area contains the following fields: 'Min. Temp. (°C)' with a value of 60, 'Min. Time (mins)' with a value of 5, 'Max. Warmup (mins)' with a value of 2, and 'Max. Duration (mins)' with a value of 27. Below these is a 'Type' dropdown menu currently set to 'Energy Saving'. Underneath the 'Type' dropdown is an 'Upper Temp. (°C)' field with a value of 80. At the bottom, there are 'Read' and 'Write' buttons.

If “**Type (Energy Saving)**” is selected, then the valve will reduce the required period for disinfection proportionally as the temperature increases up to the limit specified in “**Upper Temp. (°C)**”.

**Warning!** Time reduction is not permitted by some National/Local Regulations. If in doubt, select “**Standard**” settings.

## Valve Usage Data (Engineering Level Only)

DMV 00:00 ok

### Valve Usage Data

Activations

Count: 1      Total Minutes: 0

Days: 0      Hours: 0      Since Disinfection

Days: 0      Hours: 0      Since last used

Stepper Motor Pulses: 0

These are counted from when the valve is first switched 'ON'.

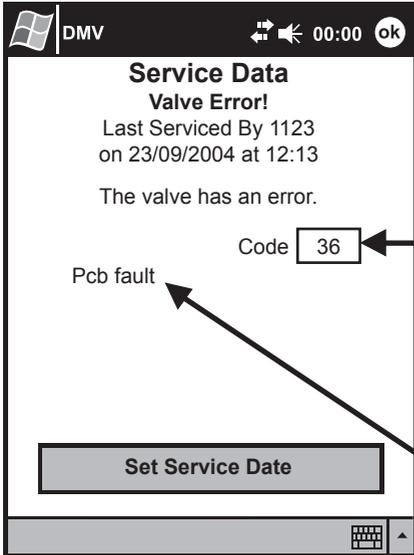
Either time since the valve was last used or since the last duty flush.

This indicates how much work the motor has done. This information is required by the service engineer or agent for diagnostic use.

# FAULT FINDING

## Self Diagnosed Errors

If the valve has detected an error, the “**Service Data**” screen will be automatically displayed as soon as “**Read Valve Data**” has completed.



Unique code number of error shown here (refer to “**Self Diagnosed Errors Table**”).

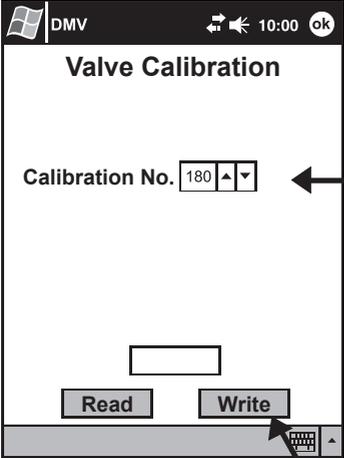
Text shows faulty component.

## Self Diagnosed Errors Table

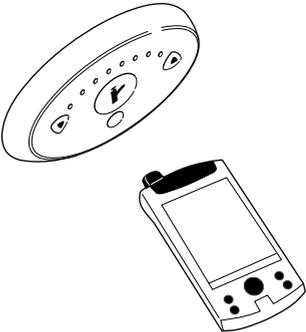
Code	Error Text	Cause / Rectification
3	Over temperature - T1	Outlet temperature is too high or thermistor fault a. The inlet/outlet fittings may be blocked: check the inlet/outlet strainers. b. Cold water supply failure: reinstate supply. c. Safety circuit may require resetting: enable the control panel with magnetic key to reset. d. If the symptom has not been rectified, contact your Local Service Engineer or Agent.
7	Over temperature - T2	
4	Temperature sensor fault	Thermistor fault a. Contact your Local Service Engineer or Agent.
60	Stepper motor stuck	The stepper motor is stuck, the motor belt is broken or the assembly is jammed. a. Contact your Local Service Engineer or Agent.
70	Stepper motor position error	The mixer assembly is jammed or very stiff. a. Contact your Local Service Engineer or Agent.
Any other	PCB fault	A fault has occurred on the Control PCB. a. Memory may require resetting: switch the power supply to the electronic mixing valve, OFF then ON. b. If the symptom has not been rectified, contact your Local Service Engineer or Agent.

# VALVE CALIBRATION

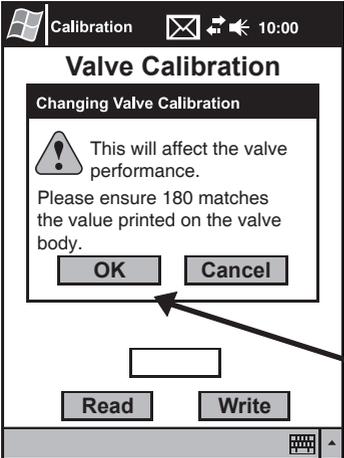
**Caution!** The valve **must** be calibrated, if the mixing valve assembly or the control pcb are replaced. The calibration number is required and this will be found on the mixing valve body.



Enter calibration number.

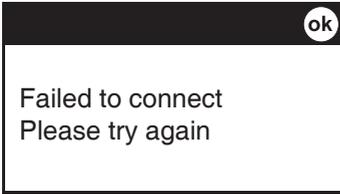


Aim the Programmer at the Control Panel and tap "Write".

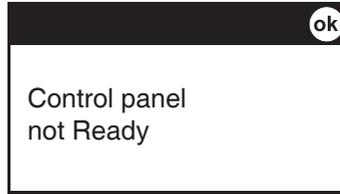


The calibration number will not be stored until "OK" is tapped.

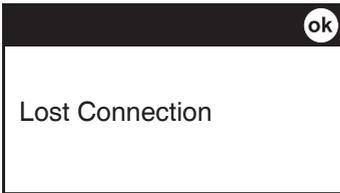
# ERROR MESSAGES



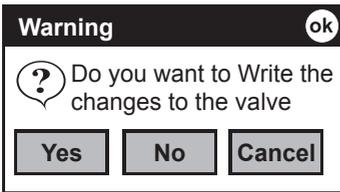
Or



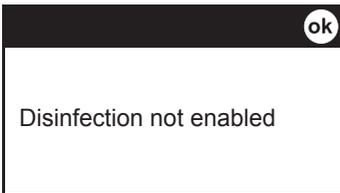
Control Panel not disabled or Programmer not aimed at Programming window.



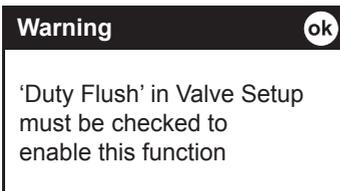
Lost connection during communication.



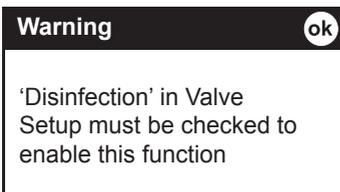
Check that "**Write**" is tapped.  
Refer to "**Setting Outlet Temperatures**".



Check that "**Disinfection**" is checked.  
Refer to "**Setting Disinfection: Step 2, Outlet Setup**".



Check that "**Duty Flush**" is checked.  
Refer to "**Setting Duty Flush: Step 1, Valve Setup**".



Check that "**Disinfection**" is checked.  
Refer to "**Setting Disinfection: Step 1, Valve Setup**".

# NOTES

# CUSTOMER CARE

## Guarantee

Kohler Mira Ltd. guarantee this product against any defects in materials or workmanship for a period of five years from the date of purchase.

To be covered by this guarantee, service work must only be undertaken by Kohler Mira Ltd. or approved agents.

## Not covered by this guarantee

Defects or damage arising from incorrect installation, improper use or failure to maintain in accordance with the instructions in the product manual, including the build-up of limescale.

Defects or damage if the product is taken apart, repaired or modified by a person not authorised by Kohler Mira Ltd. or approved agents.

## After Sales Service - how we can help you

We have a network of fully trained staff ready to provide assistance, should you experience any difficulty operating your Rada equipment.

## Spare Parts

All functional parts of Rada products are kept for up to ten years from the date of final manufacture.

If during that period, our stock of a particular part is exhausted we will, as an alternative, provide an equivalent new product or part at a price equating to the cost of repair to the old, bearing in mind the age of the product.

## Customer Care Policy

If within a short time of installation the product does not function correctly, first check with the operation and maintenance advice provided in this Manual to see if the difficulty can be overcome.

Failing this, contact your installer to make sure that the product has been installed and commissioned in full accord with our detailed installation instructions.

If this does not resolve the difficulty, please ring your nearest Rada contact who will give every assistance and, if appropriate, arrange for the local Service Engineer or Agent to call on a mutually agreeable date.

---

## Contact:

### Thornthwaite Technologies Pty Ltd

79 Victoria Avenue, Chatswood,  
NSW 2067

### AUSTRALIA

Tel: 02 9417 4466

Fax: 02 9417 5231

[www.thornthwaite.com.au/radasense](http://www.thornthwaite.com.au/radasense)

e-mail: [radasense@thornthwaite.com.au](mailto:radasense@thornthwaite.com.au)

---

## Rada Controls

Cromwell Road,  
Cheltenham, England,  
GL52 5EP, UK.

Tel.: + 44 (0)1242 221221

Fax.: + 44 (0)1242 221925

Rada is a registered trade mark of  
Kohler Mira Limited.

The company reserves the right to alter  
product specifications without notice.

[www.radacontrols.com](http://www.radacontrols.com)



FM 14646

