OM MANUAL

MediaPRO
CUSTOM MEDIA FILTRATION

SINGLE 36” CARBON FILTER & NHWB OPTION

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

Freecall 1800 656 771
southlandfiltration.com.au

southland FILTRATION

CONTENTS

Click a section to navigate directly to the corresponding page in the manual

V 1.0 Published January 2024

southland FILTRATION

Freecall 1800 656 771

southlandfiltration.com.au

INSTALLATION RECORD

S-36-CF with optional No Hard Water Bypass (NHWB)

Please complete the following as a record for Warranty & Service purposes.

FILTER MODEL: _____

SERIAL NO.: _____

PURCHASED FROM: _____

PURCHASE DATE: _____

DATE INSTALLED: _____

INSTALLED BY: _____

COMPANY: _____

CONTACT: _____

This product is to be installed by suitably qualified personnel only. Please review this manual thoroughly before installing your sediment filter. For correct installation, follow the recommended steps and guidelines. If at any stage of installation you are unsure of how to proceed, please call our technical team on AU 1800 656 771 or NZ 0800 721 447 for further information.

ABOUT

Please familiarise yourself with the components of your Carbon Filter.

COMPONENTS OF THE CARBON FILTER

Control Valve

Clack Automatic 5 Cycle. This controls the cycles of the filter operation. Safe 15-volt DC power is supplied by a wall-mounted transformer (supplied). The valve is time-clock controlled. It can be set to backwash anywhere from 1 – 28 days (7 days is a standard setting). This in turn automatically initiates the backwashing of the filter media based on setting selected.

Underbed Gravel

Graded and washed gravel is the support media for the carbon. The underbed gravel helps to distribute an even water flow through the media bed to and from the distributor system during service/backwash

Pressure Vessel (Media Tank)

Wave-Cyber pressure vessels have a one-piece HDPE liner with a FRP filament winding outer shell.

The pressure vessel houses the filter media and the distributor system.

Carbon Media

The coconut-based granular carbon media is used for the removal of a wide range of organic pollutants. These impurities include organic colour, taste and odour.

It is also very effective in the removal of chlorine, chlorine taste and odour.

How does your Carbon Filter work?

ORGANICS

Natural organic matter (NOM) is a complex mixture of organic compounds. The majority are derived from decaying plant and/or animal matter that is found in all groundwater and surface waters. Although NOM has no direct impact on health, it can affect the colour and taste of the water.

It can also affect the efficacy of drinking water treatment processes and consequently the safety of drinking.

Other organic contaminants come from organic chemicals. These contaminants are human-made chemical compounds that have been made for a variety of products, such as pesticides, petroleum, dry-cleaning solvents and degreasing agents. This group of chemicals includes volatile organic chemicals (VOCs). These substances contain carbon and evaporate or 'gas-off' at room temperature, and synthetic organic chemicals (SOCs).

VOCs and SOCs do not occur naturally in drinking water. When products are improperly stored or disposed of, or when a spill occurs, they can contaminate groundwater and drinking water supplies. Spraying chemicals and pesticides can result in the contamination of ground and rainwater tank supply. VOCs and SOCs are considered a health risk if consumed over a period of time.

Chlorine is classed as an organic chemical compound.

FUNCTION OF A CARBON WATER FILTER

The carbon media is used to adsorb organic contaminants as the water is passed through and over the media. When sized correctly, the filter efficiently removes and retains the organic and chlorine contaminants.The filter is also considered mechanical filtration as it will remove limited amounts of larger particles in the water supply. The backwashing of larger particles to drain also helps to prevent fouling of the media. Due to the retention of the organic contaminants on the carbon, the carbon media has a limited life depending on the amount of contaminant removed, and will eventually need replacing

WHAT CONTROLS THE BACKWASH?

The carbon filter has an automatic 'time clock' control valve. This controls the service, backwash and rinse cycles. Once the controller is programed and set it will automatically initiate the backwash and cycles (e.g. day and time of backwash, length of cycle times required).

WHAT ARE THE STAGES OF THE BACKWASH CYCLE?

1st Stage - Service Position

In this position the raw water is passed down through the media for the removal of the contaminants supplying treated water for usage.

Note: The filter is in the service position prior to commencing the backwash cycle.

2nd Stage - Backwash Position

The water flow is reversed to lift and wash the carbon bed clean of entrapped sediment and particulate matter to waste.

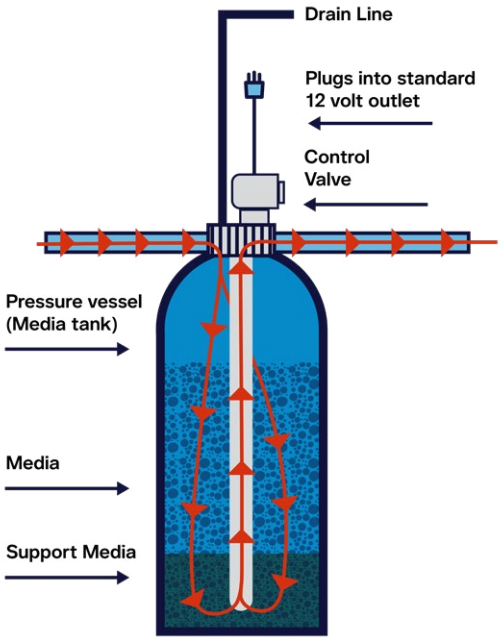
3th Stage - Fast Rinse Position

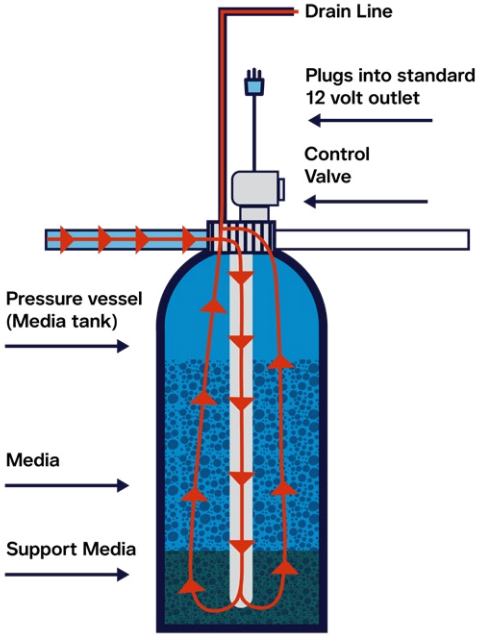
The water flow is passed down through the media to settle the media bed and flush any residual particles left in the media and control valve to waste before returning to service.

The backwash cycle is now complete.

Note: This controller has the ability to repeat the backwash and rinse cycles for a more efficient backwash of the media.

All functions are fully automatic once the control valve has been programmed and set.





General Specifications

Minimum operating pressure	**240 kPa (35psi)**
Maximum operating pressure	**700 kPa (100psi)**
Maximum & maximum operating temperature	**5°C to 43°C**
Inlet & outlet connections	**50mm BSPF**
Valve drain fitting	**50mm BSPF**
Mains power requirement	**240 Volt, 10 amp**
Control valve power	**15 Volt DC supplied by wall mount transformer**
Transformer output current	**500mA**

MODEL	CONTINOUS SERVICE FLOW RATE	PEAK SERVICE FLOW RATE	BACKWASH FLOW RATE
S-36-CF	134 lpm	269 lpm	269 lpm
S-36-CF & NHWB	134 lpm	269 lpm	269 lpm

INSTALLATION & OPERATING WARNINGS

CAUTION!

The carbon filter is NOT designed to remove microbiologically unsafe contaminants from the water supply. If the water is for potable and/or food process use it should be disinfected prior to use.

IMPORTANT! FAILURE TO COMPLY COULD VOID WARRANTY

1. All plumbing must conform to Australian Standards guidelines and Local Council regulations.
2. For filters subjected to permanent hydrostatic pressure an integral non-testable backflow prevention device should be fitted in the inlet valve. This should be in accordance with AS3500.1 and comply with AS 2845.1 Clauses 3.6.3, 3.6.4, 7.3.1 and 7.3.3.
3. For filters subject to hydrostatic pressure greater than 700 kPa a suitable pressure control device should be fitted in the supply line.
4. Where the hot water system is a mains-pressure storage type, a cold water relief valve of suitable rating should be fitted (if not already installed), The valve should be positioned between the non-return valve and the cold water inlet of the hot water system.
5. For installations subject to excessive or prolonged water hammer, a water hammer arrestor should be fitted.
6. Waste connections should comply with minimum air gap requirements as per AS3500.1,Table 4.5.

IMPORTANT! FOR TANK FILLING OR OPEN-DISCHARGE APPLICATIONS ONLY

The automatic control valve must have a positive back-pressure during the regeneration or backwash cycle to ensure effective operation and to prevent untreated water going to service. If using the softener/filter to fill a storage tank (or any other open-discharge application) a 'No Hard Water Bypass Valve' must be used.

(**Note**: Softener/Filter Models with 'NHWB' suffix include bypass option).

Fig. A No Hard Water Bypass valve(NHWB)

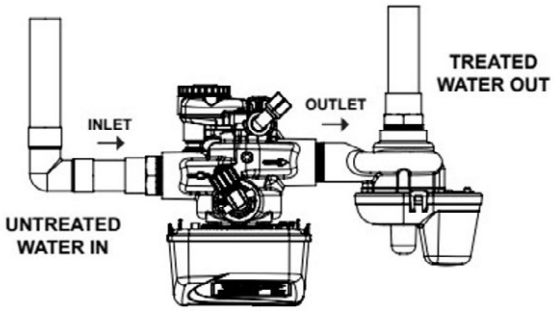


Fig. B Typical NHWB Plumbing

If there is any step or parts you are not sure of during installation please do not hesitate to contact Southland Filtration for clarification to avoid incorrect installation.

INSTALLATION & OPERATING CHECKLIST

Step One: Locate the Filter

1. It is advisable to locate the filter in a protected environment. If the unit is to be installed outside, or in the open, a protective shelter or shed is recommended.
2. The distance between the filter and a drain or waste outlet should be as short as possible.
3. Hot water can severely damage the filter. If installing near a hot water service ensure a minimum of 2 metres of piping between the outlet of the filter and inlet of the heater to help avoid heat transfer. Ensure a non-return valve on the inlet of the hot water system is present and functional.
4. Do NOT install filter where it or its connections (including drain and overflow lines) will be subjected to ambient temperatures under 1°C or over 49°C.
5. Do NOT install filter near chemicals or chemical fumes.
6. The filter will require a standard 3-pin 240-volt 10-amp grounded power outlet.
7. If the filter is to be installed outside or where the sunlight hits the POD (LCD display) it is recommended to cover, move or mount the POD out of the direct sunlight to protect the LCD display and electronics. (Refer Fig. C)
8. An approved inlet isolation valve (not supplied) is recommended to be installed on the inlet line.

Fig. C Waterproof cover

Step Two: Filter Assembly and Media Loading

1. Position the filter media tank (pressure vessel) in the selected location allowing room for servicing.
2. Place the distributor tube and basket assembly in the media tank (if not already installed). Ensure it is positioned in the recess in bottom of media tank. The top of the riser pipe (distributor tube) should be approximately 5mm above the top of the flange adaptor.
3. Cover or plug the top of the riser pipe (distributor tube) with a cap or plastic bag (not supplied) to stop the media entering the riser pipe (distributor tube).
4. Fill the media tank (pressure vessel) approximately 1/3rd with water to prevent damage to the hub & lateral (distributor assembly) in the bottom of the tank when pouring in the gravel.

Fig. D

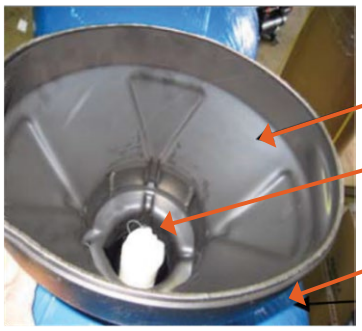


Fig. E Use a suitable funnel for pouring the media into the tank

5. Refer to Table 1 below for the amount of media required for your model. Check you have the correct quantities before commencing. While holding the distributor tube central to the neck of the media tank and applying light downward pressure to stop the tube from moving, pour in the underbed gravel first, followed by the carbon media.

   Sequence is Underbed Garvel #5, Underbed Garvel #6, then the Carbon Media

Table 1

MODEL	UNDERBED GRAVEL #5	UNDERBED GRAVEL #6	CARBON
S-36-GF	160kg	80kg	260kg
S-36-GF & NHWB	160kg	80kg	260kg

6. Remove the cap/plug from the riser tube and clean the media from the media tank flange and the top of the distributor tube

   NOTE: To prevent any accidents and/or injury, clean up any spilt media on the ground around the media tank – this can get very slippery!

7. Fill the media tank with water to approximately 150 mm from the top.

8. Lightly smear silicon grease to the outside of the top of the distributor tube to approximately 50mm down from the top of the tube.

9. Place the automatic control valve over the riser pipe (distributor tube) and exerting slight downward pressure, push the Valve onto the riser pipe (distributor tube) until the valve bottoms against the top of the flange adaptor

10. Position the control valve to face the correct direction for plumbing connection.

11. Secure the valve by fitting the valve clamp and tightening the bolts (Refer Fig. F)

Fig. F

Step Three: Water Line Connection

FOR FILTER MODELS: S-36-CF & S-36-CF-NHWB

1. Inlet and outlet pipework should be 50mm minimum. Isolation valves (not supplied) should be installed in the incoming and outgoing lines (NOT the Drain line). A full bypass line with isolation valves (not supplied) is recommended to ensure ongoing water supply during servicing and maintenance. (Refer Fig. G/H for valve connections).

2. Plumb the incoming untreated water (Raw Feed) line to the inlet of the valve (Fig. G/H) on the left-hand side. Flow direction arrows are on the valve connections to show the correct flow.

3. For filters without the NHWB plumb the treated water (service) line to the outlet of the valve (Fig. E) on the right-hand side. Flow direction arrows are on the valve connections to show the correct flow.

4. For filters with the NHWB plumb the treated water (service) line to the outlet of the NHWB (Fig. H) on the right-hand side. Flow direction arrows are on the valve connections to show the correct flow. The NHWB (Fig. I) may already be fitted, if not fit as per (Fig. H).

5. For filters with the NHWB plumb the treated water (service) line to the outlet of the NHWB (Fig. F) on the right hand side. Flow direction arrows are on the valve connections to show the correct flow. The NHWB may already be fitted, if not fit as per (Fig. F).

Step Four: Drive and Overflow Line Connection

1. If ideally located, the filter will be above, and not more than 6 metres from the drain. The drain line must be a minimum pipe size of 50mm PVC pipe. It is recommended to have a piece of clear PVC pipe (approximately 500mm) incorporated in the drain line to observe the clarity of the wastewater going to drain. (Fig. G/K)

2. Connect the drain line to the outlet of the DLFC (Fig. J) which is fitted in the drain outlet (Fig. G)

   NOTE: DO NOT plumb the drain line direct into a drain, sewer or tap. Always allow an air gap between the drain and the wastewater (see Fig.K) to prevent the possibility of a vacuum in the pressure vessel or sewage being back-siphoned into the pressure vessel.

Fig. G Control Valve

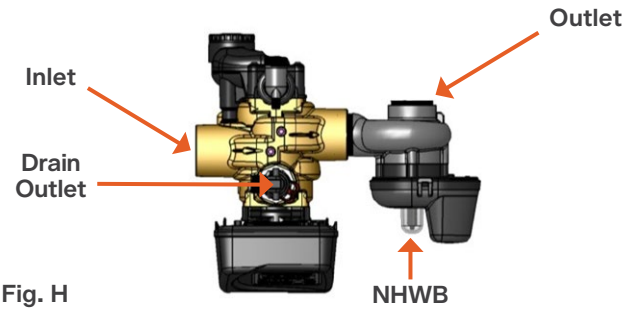


Fig. H

Fig. I NHWB (No Hard Water Bypass)

Fig. J DLFC (Drain Line Flow Control)

3. If the filter is located where the drain lines must be elevated, you may elevate the lines up to 2 metres providing the run does not exceed 5 metres and the water pressure at the softener is not less than 280kPa. You can elevate an additional 610mm for each additional 70kPa pressure.
4. Where the drain line is elevated but empties into a drain below the level of the control valve, form a 180mm loop at the far end of the line so that the bottom of the loop is level with the valve drain line connection. This will provide an adequate siphon trap.
5. Where a drain empties into an overhead sewer line, a sink-type trap must be used.

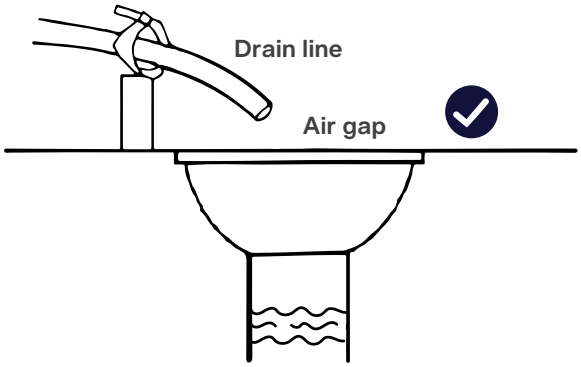
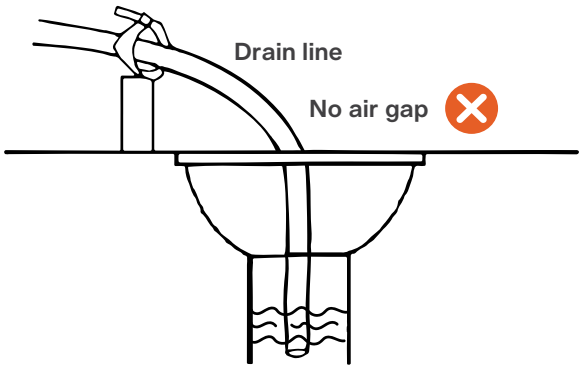
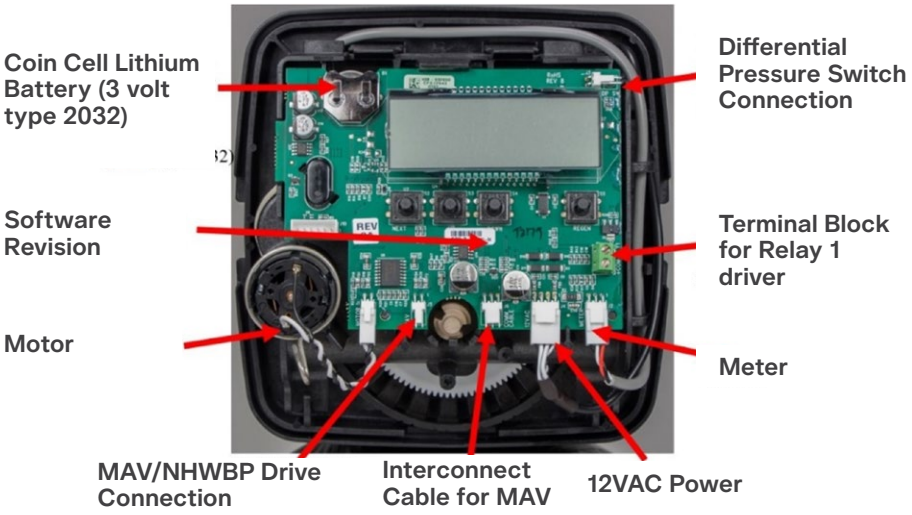


Fig. K



Control Board Connections

Fig. L



System Start-up

The final steps before putting the filter into service:

- Set the actual time of day into the control valve.
- Backwash the filter.

Step Five: Setting Time of Day

1. Close the inlet isolation valve.
2. Plug in the transformer and turn ON the power point. The control vale will automatically drive to the service position. If a NHWB is fitted then it will synch with the valve and drive to service.
3. Scroll through the display by pressing the NEXT button until time of day screen is displayed (Refer Fig. M)
4. Press and hold the SET CLOCK button until the Hour flashes
5. Using the UP or DOWN buttons press the ‘Hour’ then press ‘NEXT’. Repeat the same to change the ‘Minutes’ (Refer Fig. M)
6. Press NEXT to set and return to Time of Day Display
7. Time of day should only need to be set after power outages lasting more than 8 hours, if the battery has been depleted and a power outage occurs, or when daylight savings time begins or ends. If a power outage lasting more than 8 hours occurs, the time of day will flash on and off which indicates the time of day should be reset. If a power outage lasts less than 8 hours and the time of day flashes on and off, the time of day should be reset and the battery (Refer Fig. L) replaced.

Fig M.

Step Six: Initial Start Up

1. Make sure the inlet isolation valve is closed.
2. If a bypass system is installed, close the bypass valve and the outlet valve.
3. Press and hold the REGEN button (Fig. N) for three seconds until the drive motor starts.
4. When the drive stops the valve will be in the backwash position, next turn the power OFF.
5. Open the inlet water supply valve very slowly allowing water to fill the media tank in order to expel air. CAUTION: If water flows too rapidly, there could be a loss of media to the drain. (Ideally once the water is running to drain shut the inlet valve and let the media soak overnight.)
6. When the water is flowing steadily to drain without the presence of air, fully open the inlet valve and turn the power back ON to let the controller finish the backwash cycle.
7. When the backwash cycle is finished the valve will forward to and start the fast rinse cycle.
8. When the fast rinse cycle is finished the valve will forward to and start the 2nd backwash cycle. (This will ensure that all the carbon dust and fines are flushed out of the system.)
9. When the 2nd backwash cycle is finished the valve will forward to and start the 2nd fast rinse cycle.
10. When the 2nd fast rinse cycle is finished the valve will forward to the Service position.
11. Put the bypass valve into the service position and/or open the outlet isolation valve.
12. The Filter is now in service and ready to supply Filtered (treated) water(

Immediate Backwash Feature

Note: An immediate backwash can be initiated at any time by pressing and holding the REGEN button for 3 seconds (Refer Fig. N)

A backwash can be set to be imitated at the pre-programmed time by pressing the REGEN button once and letting go. (Refer Fig. N)

Fig. N

INSTALLATION IS NOW COMPLETE

Owner Operator Screen Displays

User Displays

General Operation

When the system is operating, one of five displays may be shown. Pressing NEXT will alternate between the displays shown below.

User 1

Typical user display. Shows volume remaining to regeneration. This screen will not be viewed if the control is set for time-clock operation.

User 2

Displays number of days to next regeneration. Only viewed if Step 11S or Step 5F is set to OFF.

User 3

Displays flow rate L/min. If a meter is not used this display will be shown but 0 will be displayed. If 1.0 Γ is selected in Step 2CS an "A" in front of the flow rate indicates that the tank with the control valve on it is in service. If "b" is displayed the tank with the in/out head is in service.

Note: "A" and/or "B" will only be displayed on Twin -Alternating or Multiple systems.

User 4

Displays total volume in cubic meters since last reset. If a meter is not used this display will be shown but 0 will be displayed.
PRESS ▼ FOR 3 SECONDS TO RESET TO 0.

User 5

Shows current time.

MAINTENACE

FAQs and Troubleshooting

TC control valves do not have meters so shaded areas are not applicable for TC control valves

PROBLEM	POSSIBLE CAUSE	SOLUTION
1. Timer does not display time of day.	a. Power Adapter unplugged	a. Connect power
	b. No electric power at outlet	b. Repair outlet or use working outlet
	c. Defective Power Adapter	c. Replace Power Adapter
	d. Defective PC board	d. Replace PC board
2. Timer does not display correct time of day	a. Switched outlet	a. Use uninterrupted outlet
	b. Power outage	b. Reset time of day. If battery is present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
	c. Defective PC board.	c. Replace PC board
3. Display does not indicate water is flowing. Refer to user instructions for how the display indicates water is flowing.	a. Bypass valve in bypass position	a. Put bypass valve in service position
	b. Meter connection disconnected	b. Connect meter to PC board
	c. Restricted/stalled meter turbine	c. Remove meter and check for rotation or foreign material
	d. Defective meter	d. Replace meter
	e. Defective PC board	e. Replace PC board
	f. Meter not installed	f. Install meter
	g. PC board incorrectly programmed	g. Refer to programming instructions
4. Control valve regenerates at wrong time of day	a. Power outages	a. Reset time of day. If battery is present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
	b. Time of day not set correctly	b. Reset to correct time of day
	c. Time of regeneration incorrect	c. Reset regeneration time
	d. Control valve set at “on 0” (immediate regeneration)	d. Check control valve set-up procedure regeneration time option
	e. Control valve set at NORMAL + on 0 (delay + immediate regeneration)	e. Check control valve set-up procedure regeneration time option

PROBLEM	POSSIBLE CAUSE	SOLUTION
5. Control valve stalled in regeneration	a. Motor not operating	a. Replace motor
	b. No electric power at outlet	b. Repair outlet or use working outlet
	c. Defective Power Adapter	c. Replace Power Adapter
	d. Defective PC board	d. Replace PC board
	e. Broken drive gear or drive cap assembly	e. Replace drive gear or cap assembly
	f. Broken piston retainer	f. Replace drive cap assembly
	g. Broken main or regenerant piston	g. Replace main or regenerant piston
6. Control valve does not regenerate automatically when the correct button(s) is depressed and held. For TC valves the buttons are UP and DOWN. For all other valves the button is REGEN.	a. Power Adapter unplugged	a. Connect Power Adapter
	b. No electric power at outlet	b. Repair outlet or use working outlet
	c. Broken drive gear or drive cap assembly	c. Replace drive gear or drive cap assembly
	d. Defective PC board	d. Replace PC board
7. Control valve does not regenerate automatically but does when the correct button(s) is depressed and held. For TC valves the buttons are UP and DOWN. For all other valves the button is REGEN.	a. Bypass valve in bypass position	a. Put bypass valve in normal opera- tion position
	b. Meter connection disconnected	b. Connect meter to PC board
	c. Restricted/stalled meter turbine	c. Remove meter and check for rotation or foreign matter
	d. Defective meter	d. Replace meter
	e. Defective PC board	e. Replace PC board
	f. Set-up error	f. Check control valve set-up procedure
8. Time of day flashes 'On and Off'	a. Power outage	a. Reset time of day. If battery is present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.

PROBLEM	POSSIBLE CAUSE	SOLUTION
9. Error Codes 101, 1001 or E1 – Unable to recognise start of regeneration 102, 1002 or E2 – Unexpected stall 103, 1003 or E3 – Motor ran to long, timed out trying to reach next cycle position 104, 1004 or E3 – Motor ran to long, timed out trying to reach home position If other error codes display contact the factory	a. Control valve has just been serviced	a. Unplug power source jack from the printed circuit board (black wire) and plug back in or press button sequence to reset valves: TC valves (three buttons) press and hold SET and DOWN buttons for 3 seconds. (Cover button may have other names like “SET HOUR “, “CLOCK” or “SET CLOCK” but the circuit board is labeled with SET.) All other valves press and hold NEXT and REGEN buttons for 3 seconds.
	b. Foreign matter is lodged in control valve	b. Check piston and spacer stack assembly for foreign matter
	c. High drive forces on piston	c. Replace piston(s) and spacer stack assembly
	d. Control valve piston not in home position	d. Unplug power source jack from the printed circuit board (black wire) and plug back in or press button sequence to reset valves: TC valves (three buttons) press and hold SET and DOWN buttons for 3 seconds. (Cover button may have other names like “SET HOUR “, “CLOCK” or “SET CLOCK” but the circuit board is labeled with SET.) All other valves press and hold NEXT and REGEN buttons for 3 seconds.
	e. Motor not inserted fully to engage pinion, motor wires broken or disconnected, motor failure	e. Check motor and wiring. Replace motor if necessary
	f. Drive gear label dirty or damaged, missing or broken gear	f. Replace or clean drive gear
	g. Drive bracket incorrectly aligned to back plate	g. Reseat drive bracket properly
	h. PC board is damaged or defective	h. Replace PC board
	i. PC board incorrectly aligned to drive bracket	i. Ensure PC board is correctly snapped on to drive bracket

PROBLEM	POSSIBLE CAUSE	SOLUTION
10. Error Codes for MAV and NHWB 106 or 1006 – MAV/NHWB unable to nd proper park position, mo- tor ran too long. 107 or 1007 – MAV/NHWB motor ran too short (stalled) while looking for proper park position If other error codes display contact the factory	a. Foreign matter is lodged in MAV/ NHWB	a. Check MAV/NHWB piston and spacer stack assembly for foreign matter
	b. High drive forces on MAV/ NHWB piston	b. Replace MAV/NHWB piston and spacer stack assembly
	c. MAV/NHWB motor not inserted fully to engage pinion, motor wires broken or disconnected, motor failure	c. Check MAV/NHWB motor and wiring. Check interconnect wir ing to both PC boards. Replace motor or wiring if necessary.
	d. MAV/NHWB drive gear damaged, missing or broken gear	d. Replace MAV/NHWB drive cap.
	e. MAV/NHWB main gear cover assembly incorrectly aligned to drive assembly.	e. Reseat MAV/NHWB main gear cover assembly properly
	f. PC board is damaged or defective	f. Replace PC board

Talk to an expert

AU 1800 656 771
NZ 0800 721 477

southland FILTRATION

New South Wales
Unit 2, 5-7 Whyalla Place, Prestons, 2170.
Ph: 02 9098 1667

Victoria
17 Business Park Drive, Ravenhall, 3023.
Ph: 03 9009 5213

Queensland
Unit 6, 13-25 Dunhill Crescent, Morningside, 4170.
Ph: 07 3624 9900

Tasmania
Level 1, 100 Sunderland Street, Derwent Park, 7009.
Ph: 03 6272 1477