



**Aqualife
Products®**

**EXCELLENCE IN WATER TREATMENT
& LOW COST MAINTENANCE SYSTEMS**



WaterMark

COMMERCIAL FOOD & BEVERAGE WATER SYSTEM

900 Series

AquaCombi & AquaCafé Reverse Osmosis
Water Treatment Systems



Installation Instructions User Manual

Thank you very much for selecting AQUALIFE.

In order to bring the best use of your system, please read the user's manual carefully before installation and follow the regulations.

IMPORTANT

This is a scientific instrument.

**The installation of this equipment must comply with AS/NZS 3500.1
The Australian plumbing installation code.**

Please ensure that only Aqualife® approved replacement components are used. Inferior pre-filtration, polishing filters and membranes may result in reduced water quality and reduced production performance.

Please note that components designed for home water treatment reverse osmosis system are NOT suitable for use in this system.

Contents

Attention	4
Introduction	5
Specification	5
What is Reverse Osmosis?	6
Component Identification	7
Cartridge Filters	8
Commercial Food & Beverage Operation	9
WP5007 900 Series Plumbing Diagram	10
Wiring Diagram	11
Parts Identification	12
Installation Diagram	13
Change Filters	14
Change Membrane	15
Commissioning Instructions	16
FAQ	17
Troubleshooting Guide	18
Maintenance Checklist	19
Memo	20
Notes	21

Attention

The AquaCafé & AquaCombi water treatment systems have been specifically engineered to supply feed water to commercial kitchen equipment.

Drinking water solutions are also available from Aqualife Products (Australia) Pty Ltd.

IMPORTANT

For the correct operation and maintenance of this product, it is essential to observe the manufacturer's instructions.

The system has been engineered to operate within a controlled environment.

Where high water pressure risks exist above 860 Kpa (125 psi) the supplied 500 Kpa pressure limiting valve **MUST** be installed to avoid nullifying the warranty.

Australian Plumbing Industry regulations also require the installation of a dual check valve and this is an integral part of the supplied 500Kpa pressure limiting valve.

The manufacturers recommend a Tray Safe measuring 450mm x 450mm x 50mm be installed under the RO P5 and plumbed to drain.

The system will not operate from gravity fed rainwater tanks.

The Aqualife 900 RO P5 series is designed to operate on municipal water supplies. Water feed supply from other sources should be referred to Aqualife.

Water quality can vary within very large metropolitan water supplies. Where doubt exists a complete chemical analysis should be obtained.

Automatic Flushing Membrane System

Incorporating the best Reverse Osmosis (RO) technology the built-in automatic flushing system of the 900 RO P5 brings you premium water to your Espresso or Combi oven at your fingertips! This special Aqualife RO function can extend the service life of the membrane. It also automatically provides the ability to wash away carbon fines when changing filters.

Aqua Combi 900 RO P5 is capable of removing 99% of total dissolved solids, and all organic compounds. A total dissolved solid (TDS) test meter can be used to monitor performance.

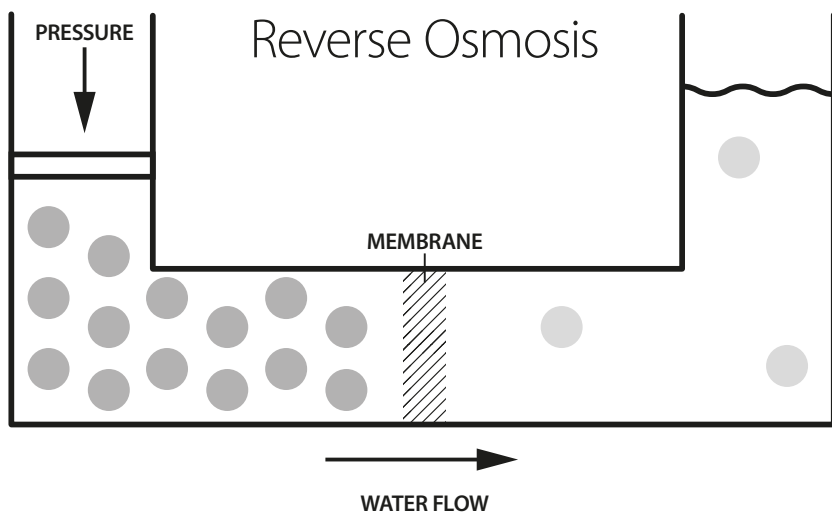
Specification

PRODUCTION	900LPD maximum
POWER	240V AC (50/60Hz) 24V DC 2.5A Transformer
SAFETY APPROVAL	TUV (EN60950) CE Mark The system has been designed to comply with Australian electrical standards
SPECIAL TECHNICAL DESIGNS	Patent No. 068018.Flush Membrane
READY FOR INSTALLATION	100% factory tested and sterilized Leak tested and supplied fully assembled
OPERATING PRESSURE	20-80 psi
OPERATING WATER TEMPERATURE	5° - 27°C Note - Do not allow the system to freeze and do not use water above 45°C
WATER STORAGE	20L NSF tank Note - 40L and 80L tanks optional
FEATURES	Automatic shut-off valve Flow restrictor Stainless steel check valve Long reach attractive faucet suitable for the application if specified Feed water connector and delivery valve Drain saddle clamp 1/4" tubing for system connection TDS meter (optional)
DIMENSIONS	System W 47cm x D 23cm x H 54cm (Allowing for filter change) Tank L 30cm x W 30cm x H 40cm
WEIGHT	System 15kg

What is Reverse Osmosis?

Reverse Osmosis was originally designed to make sea water drinkable for the US Navy.

Reverse osmosis is the reversal of the natural flow of osmosis. In a water purification system, the goal is not to dilute the salt solution, but to separate the pure water from the dissolved salts and other contaminants. When the natural osmotic flow is reversed, water from the salt solution is forced to pass through the membrane in the opposite direction by application of pressure, thus the term REVERSE OSMOSIS. Through this process, we are able to produce pure water by screening out the salts and other contaminants.





European Ceramic Faucet
(if specified)



20L Water Storage Unit



Filter Housing Wrench



Combination Water Connection



Tundish



Membrane









Tank Ball Shut-off Valve



1/4" Tubing for System Connection
Plumbers responsibility

Cartridge Filters

CARTRIDGE FILTER	DESCRIPTION	SERVICE LIFE
STAGE 1 P/N WC 1012 	PRETREATMENT <p>This cartridge commences the treatment process by removing suspended solids such as dirt and rust. The other important function is to reduce the chlorine and organic content of the feed water.</p>	6 Months 1
STAGE 2 P/N WC 1025KF 	PRETREATMENT <p>The purpose of this high performance carbon filter is to further remove free chlorine and organic content of the water. It completes the 2 stage pre-treatment of the feed water supply.</p>	6 Months 2
STAGE 3 P/N WC 1016D 	RO TFC MEMBRANE <p>This specifically engineered high volume production capacity with high rejection TFC membrane is manufactured in the USA.</p> <p>The membrane removes approximately 99.99% of all dissolved minerals and salts present in the feed water supply. Production and performance will be influenced by the chemical analysis of the water supply.</p>	Approx 2 years
STAGE 4 P/N WC1011M 	REMINERALISING FILTER <p>This cartridge is included to remineralise the R.O. water to adjust the conductivity, reduce corrosion and adjust pH.</p>	6 Months
ALTERNATE STAGE 4 WC1011AA 	PH AND TDS ADJUSTMENT <p>The cartridge contains a carefully balanced magnesium & hydroxide ions. The chemistry assists in adjusting pH levels & TDS to achieve improved body for coffee flavour & alkalinity for health.</p>	
STAGE 5 P/N WC 1005L 	ORGANIC POLISHING CARTRIDGE <p>This final process is designed to remove most organic residues that may impact on the taste of coffee and/or tea.</p>	6 Month 5

When the RO system is installed a 1/2" brass tee is cut into the water supply line and a 1/2" to 1/4" 500kPA Pressure Limiting Valve and a 1/4" stop tap fitted.

The 1/4" plastic hose is connected and leads to the inlet on the front of the 1st Housing which has a plastic tee with the other side of the tee going to a low pressure switch.

The hose from the elbow at the rear of this housing runs to a solenoid which connects to the elbow at the rear of the 2nd housing. The elbow at the front of this 2nd housing connects to the inlet of the pump.

The outlet of the pump is attached to the inlet of the membrane housing (the end with the cap).

Water passes through the membrane to 2 outlets in the housing.

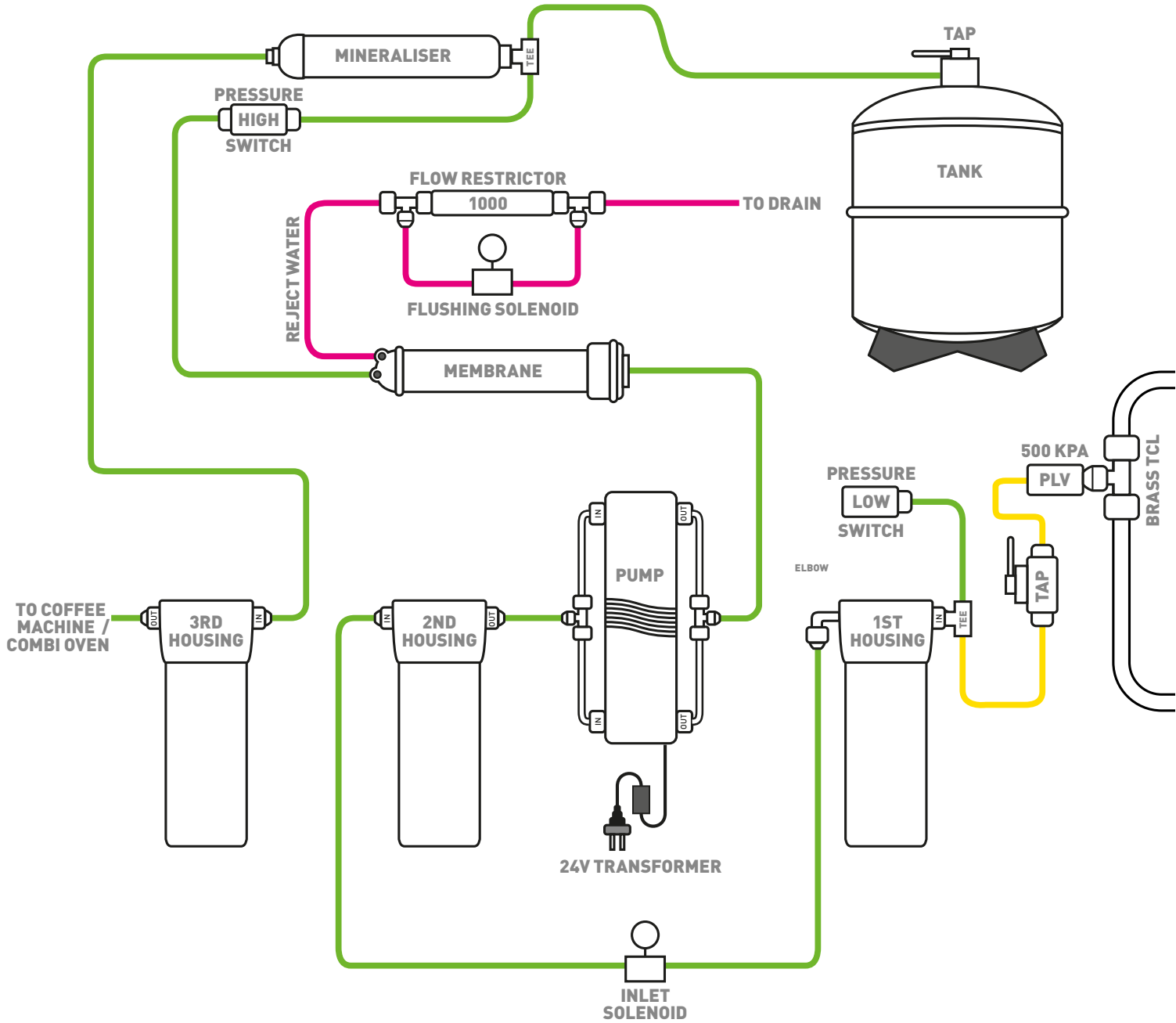
1. One leads to a tee and through a High Pressure Switch to the inlet of the Mineralizer and the other side of the tee goes to the tank.
2. The other outlet is the reject water to the drain via a 1000 Flow Restrictor.

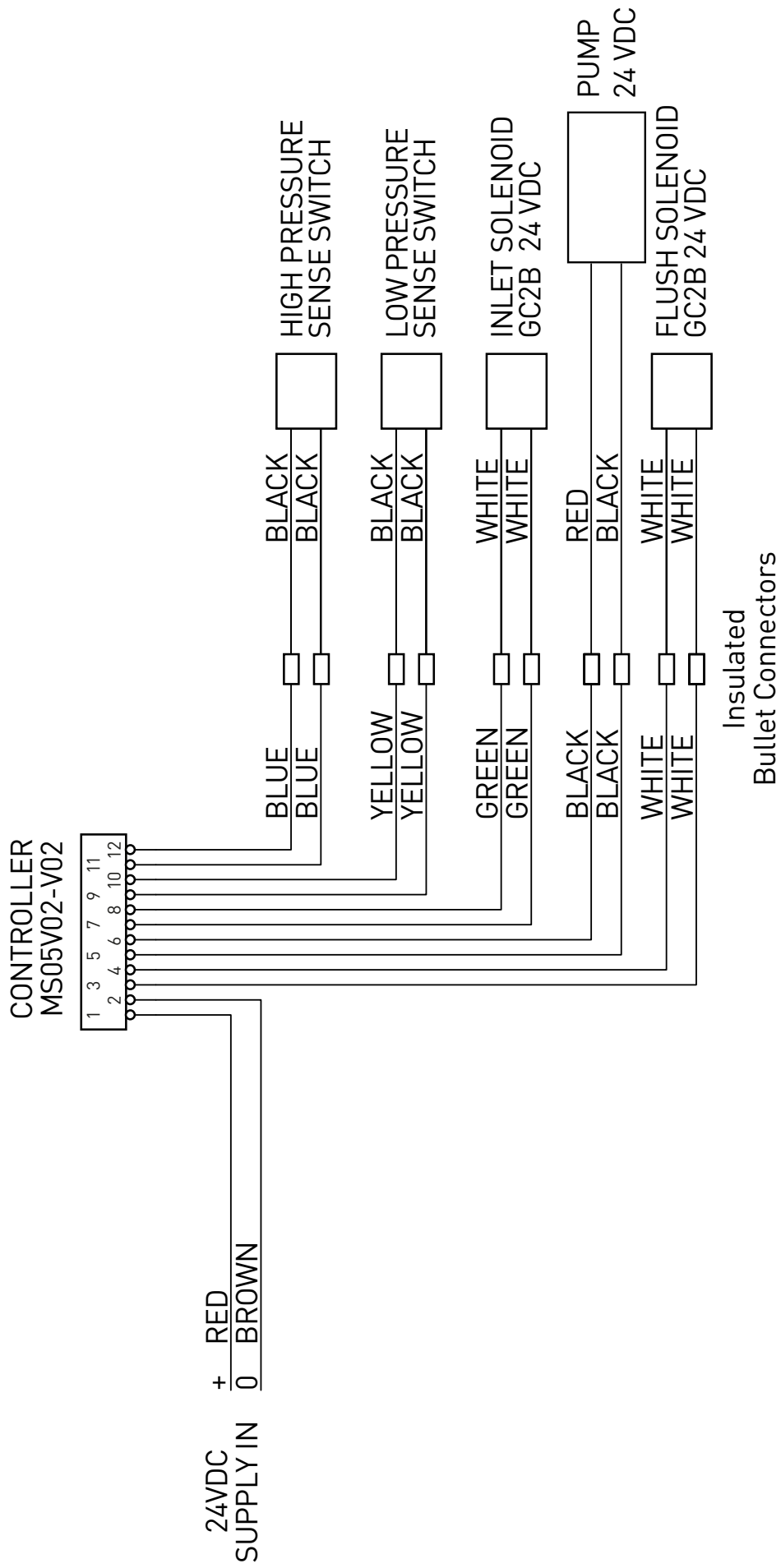
The Flush Solenoid allows a diversion around this Flow Restrictor when the system is in flush mode.

The Product Water passes through the mineralizer to the inlet at the front of the 3rd housing. From the elbow at the rear of this housing, Product Water goes to the Equipment.

When the tank is full, the system automatically shuts down until Product Water is required and first flushes to the drain thus clearing the membrane of fouling material.

WP5007 900 Series Plumbing Diagram





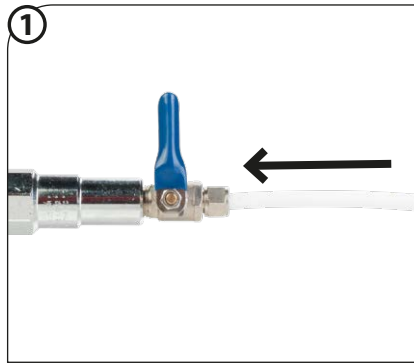
Parts Identification

- ① 1st Pre-Filter Housing
- ② 2nd Pre-Filter Housing
- ⑤ 5th Final Polishing Filter
- ⑥ RO Membrane Pump
- ⑦ Inlet Feed Water
- ⑨ Auto Flush Panel
- ⑫ To Equipment/Faucet



- ③ RO Membrane Housing
- ④ Remineralisation Filter
- ⑥ RO Membrane Pump
- ⑧ High Pressure Switch
- ⑨ Auto Flush Panel
- ⑩ To Tank
- ⑪ To Drain





Input Water

Connect combination water connection to water source pipe and tube to ⑦



Install Water Tank

Hand tighten plastic shut-off valve to tank.
Connect shut off valve tube to ⑩



Install European Ceramic Faucet

(If specified)

Connect the Faucet tube to ⑫



Assemble RO Membrane

Remove the membrane housing cap and insert the membrane.

Install the new membrane by carefully pushing the spigot end into the socket at the far end of the housing until completely in.



Membrane must be installed before operating the system to get the desired water quality.

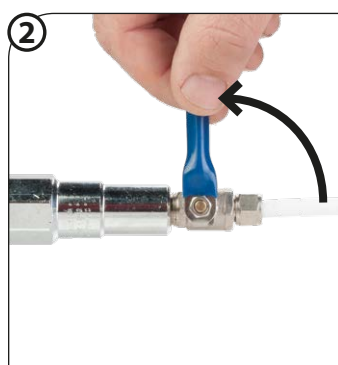
Change Filters



Use the housing wrench



Open housing with wrench clockwise



Turn off water source



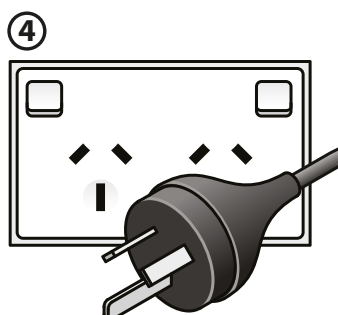
Put the replacement filters in the correct sequence as previously described



Turn off tank water

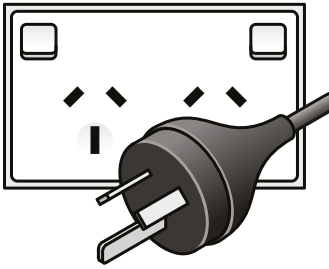


Drain out 5L of water to purify replacement filters



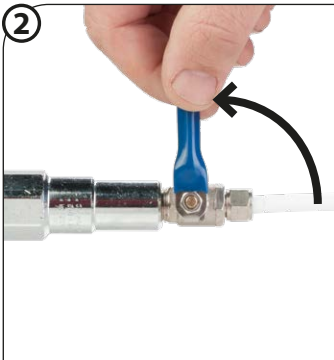
Unplug electricity

①



Unplug electricity

②



Turn off water

③



Turn off water

④



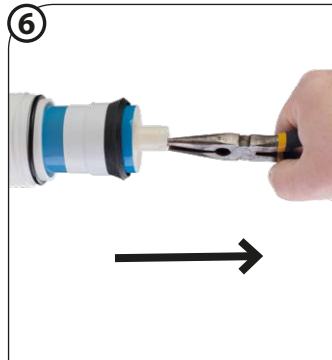
Loosen the Jaco fitting anticlockwise on the membrane housing

⑤



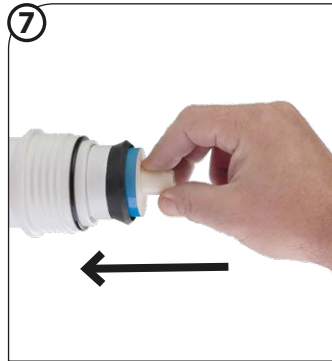
Remove the membrane housing cap anticlockwise

⑥



Remove the membrane with pincer pliers

⑦



Install the new membrane by carefully pushing the spigot end into the socket at the far end of the housing until completely in

Commissioning Instructions

1. With everything connected, slowly turn on the water and check for leaks.
2. Make sure the storage tank shut-off valve is "off".
3. Within a few minutes (up to 5) the water will start to run.
4. Let the water run for at least 15 minutes.
5. After initial flushing, open the shut-off valve on the tank.
6. Tank will now fill with water (usually about 1 hour).
7. Change filters regularly (every 6 months) and have the membrane checked annually.

CAUTION

- **Do not use hot water over 45°C**
- **Do not allow the system to freeze**
- **Switch off electricity and water source if away for more than 5 days, and drain the tank.**

What is the guarantee on the Aqualife 900 RO P5 system?

The 900 RO P5 system (excluding filters) is guaranteed for 1 year for material and workmanship. All defective parts will be replaced free within the first year under natural breakdown. The membrane has one year pro-rata guarantee.

What factors affect the quantity and quality of the water production?

There are four major variables to consider:

- Pressure: the greater the water pressure, the better the water quantity and quality produced. Water pressure of 60psi is ideal.
- Temperature: 23°C is the ideal water temperature for R.O. 5°C water will cause the production of R.O. water to fall to half that at 23°C. The maximum recommended water temperature is 27°C.
- Total Dissolved Solids (TDS) - the higher the amount of dissolved contaminants in the water, the lower the quantity of water produced. A high level of Total Dissolved Solids can be overcome with additional water pressure at the expense of membrane life.
- Membrane - Different membranes have different characteristics. Some produce more water than others; some have better contaminant rejection capabilities; some have greater resistance to chemical abrasion. For a longer life system include a carefully selected low production, high rejection membrane. The Thin Film Composite (TFC) membrane combines the best of these characteristics and is considered the finest membrane in the world.

Can the 900 system be connected to a faucet?

Yes. On the provision of available production capacity and storage tank facilities you can make other connections.

Aqualife Reverse Osmosis Troubleshooting Guide

POSSIBLE CAUSE	SOLUTION
Not enough water from the Faucet / Holding Tank	
Drain tray leak pad is wet, source light is flashing and system is shut down.	Check for leaks and rectify. Replace the wet leak pad ensuring you remove the plastic covering with a new pad and push the lever down
Feed water valve is closed or clogged with source light flashing	Open or unclog feed water valve
Insufficient feed water pressure or flow	Check feed water valve for restrictions in feed plumbing
Filters are clogged	Replace Filters. Install a prefilter if the filter set or membrane is clogged before the expected service life
Dirty or Fouled Membrane elements	Replace Membrane
Membrane installed incorrectly	Refer Aqualife operation & maintenance manuals for correct membrane installation
Useful life of membrane element expired	Install new membrane
Air pressure in holding tank is incorrect	Empty water from holding tank. Air pressure in valve stem should be between 6-8 psi
Air Bladder in Holding tank is ruptured	Pressure can be increased using bike pump or air compressor. If the tank is more than 5 years old, replace the tank
Holding tank valve is closed	Replace Holding Tank
No water to drain. Drain flow restrictor is clogged	Open valve
Check valve on RO membrane housing outlet is clogged	Replace drain flow restrictor
Inlet Solenoid valve not opening	Replace check valve on the membrane housing outlet
Pump not operating properly	Replace Solenoid valve
Product Water is high in Total Dissolved Solids (TDS)	Check power connection. Replace pump
Clogged filter set & Membrane	Replace Filters & Membrane. Install a prefilter if the filter set or membrane is clogged before the expected service life
RO Membrane is not correctly sealed in housing	Check that RO membrane is correctly installed
Check product water TDS from membrane	If membrane reading is above 10% of incoming water TDS, replace membrane
No water to drain. Drain flow restrictor is clogged	Replace drain flow restrictor
Incoming feed water TDS has increased	An increase in feed water TDS will also give an increase in Product Water TDS
Filters installed in incorrect order	Make sure filters are in correct order
Source light is flashing & Machine not running	Check for closed feed ball valve with blue handle. Open the valve if it is closed.
	Check for leaks and rectify. Replace the drain tray wet leak pads with a new leak pad after removing the plastic wrap and push the drain tray lever down
	Low Pressure Switch wire connectors may have come out. Insert the 2 black wire connectors into low pressure switch properly. If system still does not start, replace the faulty low pressure switch or Auto Flush controller.
System running continuously, tank is full & system not cutting off	High pressure switch wire connectors may have come out. Insert the 2 black wire connectors into high pressure switch properly. If system is still not cutting off, replace the high pressure switch or Auto Flush controller
System starting on / off continually	Faulty Auto flush controller. Replace the Auto flush controller box.
System making an abnormal sound	Faulty Auto Flush controller or Pump. Replace the Faulty Auto Flush controller or pump

Maintenance Checklist

DATE	FILTERS	1ST STAGE	2ND STAGE	3RD STAGE	4TH STAGE	5TH STAGE	OTHER ITEMS

Memo

Type of product AQUACAFÉ RO P5 / AQUACOMBI

Date of Purchase

Name

Address

Telephone

Feed Water Quality	TDS
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Membrane / Tank Quality	TDS
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Quality Outlet	TDS
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