

LIMITATIONS, DESCRIPTION AND MAINTENANCE OF THIS SYSTEM

MODEL AQUAMAXX 3 RO-(GPD)

LIMITATION – OUTPUT OF PURE WATER. THE THIN FLIM COMPOSITE MEMBRANE IN THIS SYSTEM IS RATED BY GALLONS PER DAY OF PRODUCTION IT CAN ACHIEVE. THIS RATING WAS DETERMINED AT A WATER INLET PSI OF 65, A WATER TEMPERATURE OF 77 DEGREES FAHRENHEIT AND A WATER TDS LEVEL OF 500 MG/L NaCl SOLUTION. IF INLET PRESSURE IS BELOW 65, THERE IS A PROPORTIONATE DECREASE IN PURE WATER PRODUCTION. IF THE WATER IS BELOW 77 DEGREES FAHRENHEIT, PRODUCTION WILL BE LESS, IF MORE THAN 500 TDS IS PRESENT IN THE SOURCE WATER, PRODUCTION MAY BE SLIGHTLY AFFECTED. SYSTEM OUTPUT WILL INCREASE AFTER CARTRIDGES AND MEMBRANE BECOME SATURATED (WITHIN ONE WEEK).

DESCRIPTION OF SYSTEM FUNCTIONS

LOOKING AT THE SYSTEM FROM THE FRONT – FROM RIGHT TO LEFT

- 1). A **HOSE BIB ADAPTER** IS SUPPLIED TO ATTACH THE SOURCE WATER THROUGH A YELLOW TUBE TO THE CENTRAL SYSTEM.
- 2). THE **FIRST CANISTER** CONTAINS A **5-MICRON CARBON BLOCK** CARTRIDGE. THE PURPOSE OF THIS CARTRIDGE IS TO **REMOVE SEDIMENT** FROM THE SOURCE WATER. THE FACT THAT IT IS A CARBON BLOCK MEANS THAT THE CARTRIDGE WILL ALSO DO A **SECONDARY** FUNCTION OF **REMOVING CHLORINE** FROM THE SOURCE WATER. (P/N IWF CTO 85-5).
- 3). THE **SECOND CANISTER** CONTAINS A **1-MICRON CARBON BLOCK** CARTRIDGE. THE **PURPOSE** OF THIS CARTRIDGE IS TO **REMOVE CHLORINE**. THE FACT THAT THE CARTRIDGE IS RATED AT 1-MICRON MEANS THAT IT WILL ALSO CONTINUE A **SECONDARY** FUNCTION OF **REMOVING ADDITIONAL SEDIMENT** FROM THE SOURCE WATER. (P/N IWF CTO 85-1).
- 4.) **MEMBRANE HOUSING.** THE WATER GOES THROUGH THE AUTOMATIC SHUTOFF, THEN INTO THE MEMBRANE HOUSING. THE PRE-FILTERED SOURCE WATER IS NOW CLEAN AND CHLORINE FREE AND ENTERS THE HORIZONALLY MOUNTED MEMBRANE HOUSING. A PRESSURE GAUGE READS THE PSI EXERTED ON THE **THIN FLIM COMPOSITE** MEMBRANE (PORE SIZE NO LARGER THAN .001 MICRON).

5.) THE PROCESS OF **REVERSE OSMOSIS** USES THE WATER PRESSURE TO **SEPARATE PURE WATER MOLECULES** BY DRIVING THEM THROUGH THE MEMBRANE AND SEPERATES OUT **TOTAL DISSOLVED SOLIDS** (TDS). VIRUSES, BACTERIA, PESTICIDES, HERBICIDES, CYSTS. FLUORIDES, ARSENIC, CALCIUM, HEAVY METALS, ECT. WHICH ARE REJECTED BY THE MEMBRANE.

6.) THE PURE PRODUCT WATER EXITS THE MEMBRANE HOUSING VIA A **CHECK VALUE** THROUGH A BLUE TUBE, INTO THE AUTO SHUT OFF. THE PURE PRODUCT WATER THEN CONTINUES EITHER TO A RESERVOIR OR A TANK AS DESIGNED BY OTHERS.

7.) THE **TDS REJECTED WATER** EXITS THE MEMBRANE HOUSING VIA A RED TUBE THROUGH A **FLOW RESTRICTOR BALL VALVE** DESIGNED TO FACILATATE MEMBRANE FLUSHING WHEN NESCESSARY. THE RED TUBE IS TO BE PUT INTO A WASTE DRAIN SERVICING THE LOCATION PREMISES.

MAINTENANCE OF THE SYSTEM

1.) THE **PRESSURE GAUGE** LOCATED ON THE FRONT OF THE BRACKET WILL NORMALLY REGISTER IN THE 40 PSI RANGE IF THE WATER SOURCE INLET PRESSURE OF THE SYSTEM IS IN THE 60 PSI RANGE. (PSI MEANS POUNDS PER SQUARE INCH) THE 40 PSI RANGE READING IS CAUSED BY **TWO FACTORS**. **ONE** IS THE INLET PRESSURE LOSS DUR TO PUSHING SOURCE WATER THROUGH THE TWO PREFILTER CARTRIDGES IN CANISTERS #1 & #2. **TWO** IS THE RESULT OF BACK PRESSURE CREATED IN THE SYSTEM DRAIN LINE BY THE PRESENCE OF WATER FLOW RESTRICTOR. (THE PRESSURE READING ON THE GAUGE IS THE NORMAL PRESSURE FOR THE SYSTEM IN THIS LOCATION. **MAKE NOTE OF IT**.)

2.) IF **PRESSURE** REGISTERED BY THE GAUGE DROPS, THIS DROP INDICATES THAT THE **5-MICRON CARBON BLOCK CARTRIDGE IN CANISTER #1** IS BEGINNING TO CLOG WITH SEDIMENT AND SHOULD BE CHANGED VERY SOON. CLOGGING IS NOT A LONG TERM PROCESS ONCE IT STARTS.

3.) **CARTRIDGES IN CANISTERS #1 & #2** SHOULD BE **CHANGED AFTER 1500 GALLONS OF PURE WATER** HAS BEEN PRODUCED. **KEEP A LOG ON APPROXMIATE WATER PRODUCED** BECAUSE CHLORINE REMOVAL IS VERY IMPORTANT TO THE LIFE OF THE MEMBRANE AND TIMELY

REPLACEMENT OF THE CARBON BLOCK PREFILTER CARTRIDGES PROTECTS THE MEMBRANE.

4.) IF THE CARTRIDGE IN CANISTER #1 HAS BEEN CHANGED DUE TO CLOGGING, IT WILL BE NECESSARY TO CHANGE IT ALONG WITH THE CARTRIDGE IN CANISTER #2 AT THE 1500 GALLON PURE WATER MARK. THE CARTRIDGES IN CANISTER #1 WILL PROBABLY ALWAYS BE CHANGED OUT TIMELY DUE TO SEDIMENT EXHAUSTION.

5.) SHOULD THE **PRESSURE GAUGE RISE** ABOVE NORMAL, THAT READING INDICATES A NEED TO FLUSH THE MEMBRANE. OVER TIME, PRECIPITATED MATTER FROM THE WATER IN THE MEMBRANE HOUSING COLLECTS ON THE SURFACE OF THE MEMBRANE AND INHIBITS THE PASSAGE OF PURE WATER THROUGH THE MEMBRANE. THIS FACTOR INCREASES THE AMOUNT OF WATER ATTEMPTING TO EXIT DOWN THE DRAIN AND INCREASES THE BACK PRESSURE CREATED BY THE SYSTEM FLOW RESTRICTOR. THUS, THE RISE OF PRESSURE REGISTERED ON THE GAUGE.

6.) THIS SYSTEM IS FITTED WITH A **COMBINED FLOW RESTRICTOR/BALL VALVE** LOCATED ON THE **DRAIN LINE** THAT EXITS THE MEMBRANE HOUSING. THE **FRBV** IS A WHITE PLASTIC DEVICE WITH A **RED HANDLE**. THE FLOW IS BEING RESTRICTED WHEN THE RED HANDLE IS POSITIONED ACROSS THE DRAIN LINE. TO **FLUSH MEMBRANE, TURN RED HANDLE ¼ TURN** SO IT IS POSITIONED IN LINE WITH THE DRAIN LINE.

7.) **FLUSHING THE MEMBRANE**. IT IS A GOOD IDEA TO FLUSH THE MEMBRANE WHENEVER ANY OR ALL PREFILTER CARTRIDGES ARE CHANGED IN CANISTERS #1 & #2. HOWEVER, SHOULD THE PRESSURE GAUGE RISE FROM ITS NORMAL READING, THIS IS AN INDEPENDENT SIGNAL THAT THE MEMBRANE NEEDS FLUSHING **NOW!**

8.) TURN RED HANDLE IN LINE WITH DRAIN LINE. TURN ON SYSTEM SO IT BEGINS NEW WATER PRODUCTION AND LEAVE THE RED HANDLE IN FLUSH POSITION FOR 10 MINUTES. PUT RED HANDLE BACK INTO FLOW RESTRICTION POSITION AFTER 10 MINUTES. THE PRESSURE GAUGE SHOULD HAVE RETURNED TO NEAR NORMAL.

9.) **CHANGING A CARTRIDGE**. THE SYSTEM COMES WITH A SPANNER WRENCH. IT LOOKS LIKE A SMALL TENNIS RACKET WITH NO STRINGS. IT FITS AROUND THE BOTTOM PART OF THE CARTRIDGE CANISTER AND SLIDES UP THE SIDES OF THE CANISTER SUMP UNTIL IT CAN SLIDE UP NO FURTHER. TURN OFF WATER TO THE SYSTEM. WHEN FACING THE SYSTEM, TURN

WRENCH RIGHT TO LEFT (COUNTER CLOCKWISE TO LOSSEN AND REMOVE THS SUMP). REMOVE CARTRIDGE FROM THE CANISTER SUMP. RINSE OUT SUMP WITH WATER. THE NEW CARTRIDGE HAS A RUBBER WASHER ON EACH END. SPREAD A LITTLE VASELINE OVER THE SURFACE OF EACH WASHER TOP. INSERT THE CARTRIDGE IN EITHER DIRECTION. THERE IS NO WRONG WAY. SPREAD VASELINE OVER THE SURFACE OF THE O-RING AND REPLACE IT ON THE HEAD OF THE SUMP. SCREW CANISTER SUMP BACK ONTO CANISTER HEAD. WITH SPANNER WRENCH, TURN LEFT TO RIGHT TIGHTEN. TURN WATER ON AND CHECK FOR LEAKS.

10.)REPLACE THE MEMBRANE. EVERY YEAR OR MORE OFTEN, CHECK THE WATER WXITING THE BLUE TUBE AND READ ITS TDS CONTENT. IF TDS EXCEEDS 40 PPM, THE MEMBRANE SHOULD BE REPLACED. TURN OFF SYSTEM. REMOVE YELLOW TUBE FROM THE ACETAL QUICK CONNECT IN THE CENTER OF THE MEMBRANE HOUSING CAP. UNSCREW MEMEBRANE HOUSING CAP. BE CAREFUL NOT TO LOSE THE O-RING. WITH PLIERS, GRIP THE PLASTIC ROUND END OF THE MEMEBRANE. PULL HARD TO BREAK SEAL. TAKE NEW MEMBRANE AND SPREAD VASELINE ON THE TWO O-RINGS LOCATED ON END SHAFT. ALSO , PUT VASELINE ON EMEMBRANE HOUSING CAP O-RING. PUSH NEW MEMBRANE INTO HOUSING (TWO O-RING RUBE FIRST) WITH THE PALM OF YOUR HAND. YOU WILL FEEL THE TWO O-RINGS HIT THE POST CAVITY. SCREW ON CAP O-RING AND REATTACH YELLOW TUBE WITH A HARD PUSH INTO THE ACETAL QUICK CONNECT RING (COLLET).

11.) SANITIZING THE SYSTEM. (A GOOD TIME IS WHEN MEMBRANE MUST BE CHANGED) TURN OFF WATER SOURCE. REMOVE ALL CARTRIDGES AND MEMBRANES. POUR 2 OUNCES OF CHLORINE BLEACH INTO CANISTER #1. TIGHTEN ALL EMPTY CANISTERS & HOUSINGS AS IF THE CONTAINED CARTRIDGES AND MEMBRANES. TURN OFF WATER SOURCE. **MAKE SURE END OF BLUE TUBE IS NOT IN A RESERVOIR OR TANK. PUT END OF BLUE TUBE IN A DRAIN.** FIL THE SYSTEM UNTIL WATER RUNS OUT OF ORANGE & BLUE TUBES. SHUT OFF WTAER. WAIT ½ HOUR. NOW, FLUSH OUT THE SYSTEM BY LETTING THE WATER RUN FOR 15 MINUTES. REATTACH BLUE TUBE TO TANK OR RESERVOIR. REPLACE THE MEMBRANE AND CARTRIDGES. SEAL ALL CANISTERS AND HOUSING. TURN ON SYSTEM AND CHECK FOR LEAKS.

LIMITED WARRANTY

ENTIRE SYSTEM HAS A LIMITED WARRANTY FOR TWO YEARS. INCLUDES BOTH MATERIAL AND WORKMANSHIP. THE QUICK CONNECT FITTINGS HAVE A LIFETIME LIMITED WARRANTY. (REPLACEABLES SUCH AS CARTRIDGES, ELEMENTS, & MEMBRANES ARE NOT COVERED UNDER

MATERIALS AND WORKMANSHIP).