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AQUALTRA USF-AR-1000

AQUALTRA USF-AR-1000 Tankless Reverse Osmosis System User Manual

Model: USF-AR-1000

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your AQUALTRA USF-AR-1000 Tankless Reverse Osmosis System. Please read this manual thoroughly before installation and use to ensure proper function and safety.

Key Features:

- **10-Stage Filtration:** Effectively reduces TDS, PFOA, PFOS, Chlorine, Lead, and other contaminants.
- **0.0001 µm RO Membrane with Alkaline Mineralization:** Filters particles larger than 0.0001 µm and enriches water with beneficial minerals such as Ca^{2+}, Mg^{2+}, Na^{+}, and K^{+}.
- **1000 GPD Flow Rate:** Provides fast, on-demand purified water.
- **3:1 Pure to Drain Ratio:** Efficient water usage, minimizing waste.
- **Tankless Design:** Saves under-sink space.
- **Smart LED Faucet:** Displays TDS level, water quality, and filter life.
- **Certified Quality:** CSA certified against NSF/ANSI 372 Standard for lead-free compliance. Tested by SGS for contaminant reduction.

2. Safety Information

- This reverse osmosis system requires an under-sink electrical outlet for operation.
- The system is designed for municipal tap water only and must be used with cold water sources.
- Do not use this system for well water filtration unless the well water source has been pre-filtered.
- If your water pressure exceeds 0.4 MPa (approximately 58 PSI), use the included pressure reducing valve.
- During the initial flushing process, the dispensed water is not suitable for consumption.
- Ensure all connections are secure to prevent leaks.

3. Product Overview

Package Contents:

- RO Under-sink Water Filtration System (Main Unit)
- ACB-ALKA Filter
- CFC-RO Filter
- Smart Digital RO Faucet
- Quick Connect Fitting Tool
- White 3/8" PE Tubing
- Faucet Adapter
- Feed Water Adapter
- 3/8"-1/2" Converter Set
- White 1/4" PE Tubing
- Drain Saddle
- Pressure Regulator
- Lock Clip & Teflon Tape
- Power Adapter
- User Manual



Figure 3.1: Detailed view of all components included in the AQUALTRA USF-AR-1000 system package.

System Dimensions:

The main unit measures approximately 16.7 inches (L) x 5.9 inches (W) x 13.5 inches (H), designed for compact under-sink installation.



Figure 3.2: The compact tankless design of the AQUALTRA USF-AR-1000 system, illustrating its dimensions and fit under a standard kitchen sink.

10-Stage Deep Purification:

The system utilizes a comprehensive 10-stage filtration process to ensure high-quality purified water.

1. Non-woven fabric
2. Carbon Fiber
3. Non-woven fabric
4. Carbon Fiber
5. Non-woven fabric
6. Carbon Fiber
7. Non-woven fabric
8. PP Cotton
9. RO membrane (0.0001 µm)
10. Alkaline carbon

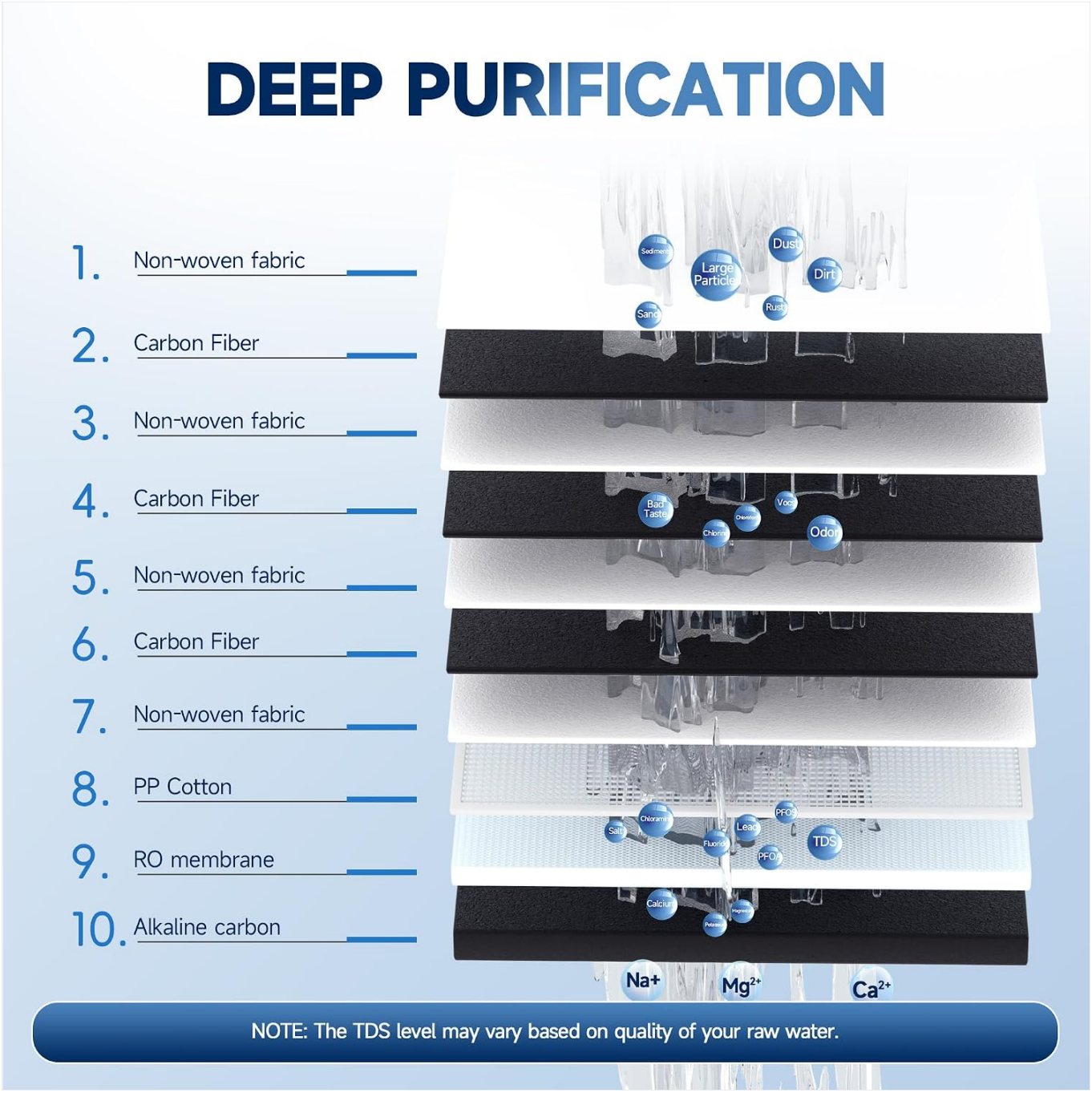

Figure 3.3: Illustration of the 10-stage deep purification process, detailing each filtration layer.

This multi-stage process effectively removes various contaminants and then re-mineralizes the water with beneficial minerals like Ca^{2+}, Mg^{2+}, Na^{+}, and K^{+}, which can enhance taste and support physical well-being.

4. Setup and Installation

The AQUALTRA USF-AR-1000 system is designed for straightforward installation, typically taking 30-60 minutes. A step-by-step video guide is available to assist with the process.

Installation Steps Overview:

1. **Prepare the Faucet Hole:** If a hole for the smart faucet is not already present, drill a 1-inch (25mm) hole in your countertop. **Note:** The manual may incorrectly state 1/2 inch; a 1-inch hole is required for proper faucet fit.
2. **Install the Smart Faucet:** Secure the smart LED faucet to the countertop using the provided hardware. Connect the faucet power cord and the 1/4" pure water tubing.
3. **Connect to Cold Water Supply:** Turn off the main water supply. Install the feed water adapter to your cold water

line. Connect the 3/8" input water tube from the adapter to the main RO unit's inlet.

4. **Install Drain Saddle:** Drill a 1/4" (6mm) hole in the drain pipe above the P-trap. Attach the drain saddle and connect the 1/4" waste water tube from the RO unit's drain outlet to the saddle.
5. **Connect Tubing to RO Unit:** Connect the 3/8" input water tube, 1/4" pure water tube (from faucet), and 1/4" waste water tube (to drain) to their respective clearly marked ports on the back of the RO unit. Ensure all quick-connect fittings are secure.
6. **Install Filters:** Insert the ACB-ALKA and CFC-RO filters into their designated slots on the main unit. Twist them into place until secure.
7. **Power Connection:** Plug the power adapter into the RO unit and then into a grounded under-sink electrical outlet.
8. **Initial Flush:** Turn on the main water supply. Open the smart faucet and allow water to run for 30 minutes to flush the system and condition the filters. The water dispensed during this period is not potable.



Figure 4.1: Sample installation diagram illustrating the connections for the AQUALTRA USF-AR-1000 system.

Connecting to Refrigerator/Ice Maker:

To connect the RO system to a refrigerator or ice maker, a quick-connect distributor (not included) is required. The system is designed to detect a pressure drop in the line and automatically activate to supply water to these appliances.

Installation Video:

For a visual guide, please refer to the official installation video:

▶ **Watch video online**
RO System Tankless Installation Instruction NEW

Video 4.1: Official installation instructions for the AQUALTRA Tankless RO System. This video demonstrates the step-by-step process for setting up your new water filtration system.

5. Operating Instructions

Smart LED Faucet:

The smart LED faucet provides real-time information about your water quality and system status.

- **TDS Level Display:** Shows the Total Dissolved Solids (TDS) level of the purified water.
- **Water Quality Indicator:** Provides an at-a-glance indication of water quality.
- **Filter Life Indicator:** Displays the remaining life of the CFC-RO and ACB-ALKA filters, indicating when

replacement is needed.

- **Flush Indicator:** Illuminates during system flushing cycles.

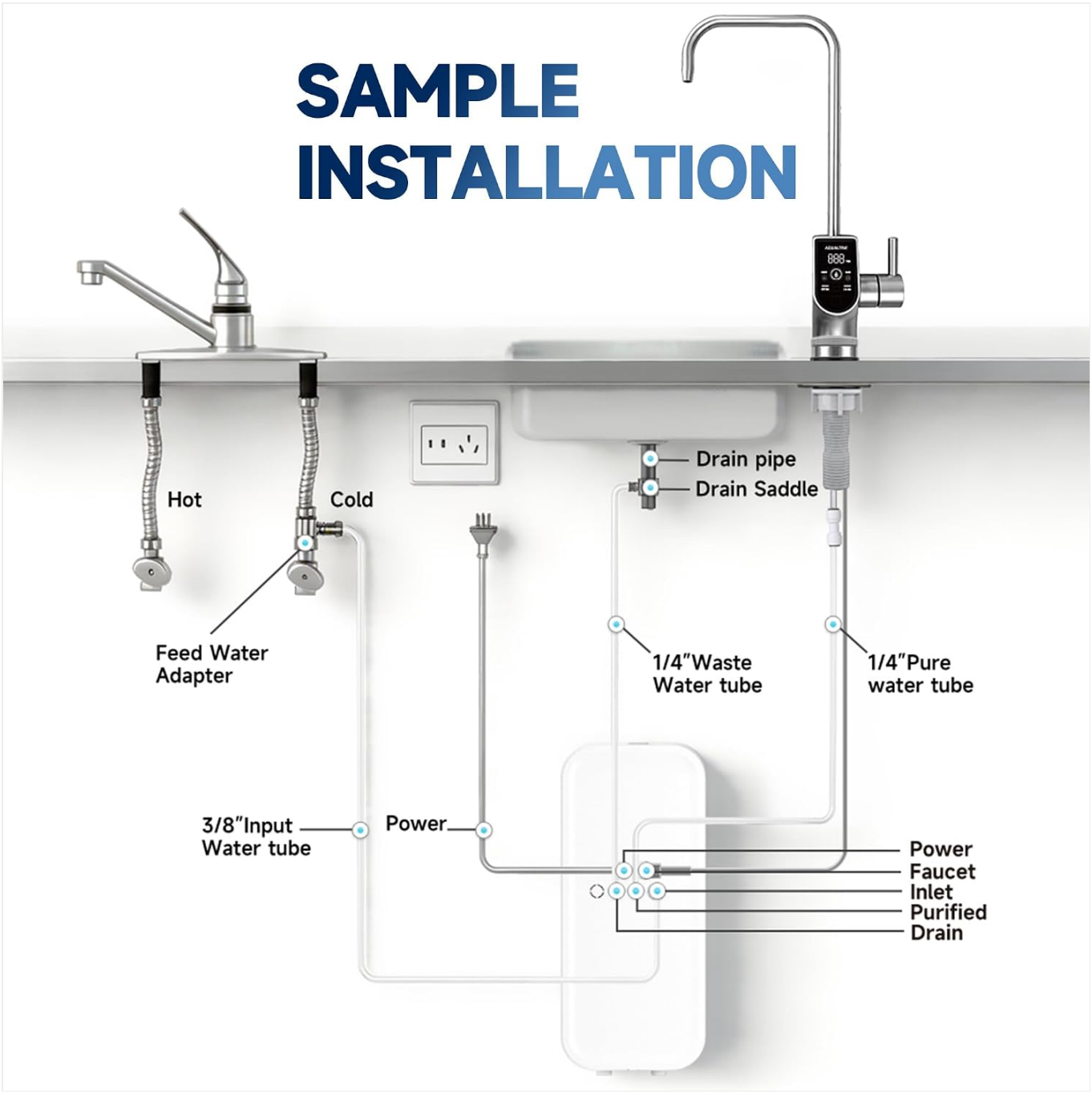

Figure 5.1: The smart LED faucet display, showing TDS readings and filter status indicators.

Water Dispensing:

To dispense purified water, simply operate the smart faucet. The system provides a stable and fast water flow of up to 1000 GPD (Gallons Per Day), allowing for quick filling of glasses or containers.



Figure 5.2: The smart faucet delivering stable and fast purified water.

Water Efficiency:

The AQUALTRA USF-AR-1000 system boasts an efficient 3:1 pure to drain ratio, meaning for every 3 gallons of purified water produced, only 1 gallon is sent to the drain. This significantly reduces water waste compared to traditional RO systems.



Figure 5.3: Visual representation of the system's 3:1 pure to drain water efficiency.

6. Maintenance

Filter Replacement:

Regular filter replacement is crucial for maintaining optimal water quality and system performance. The smart faucet and main unit provide filter life indicators.

- **CFC-RO Filter:** Replace every 24-36 months (up to 3000 gallons).
- **ACB-ALKA Filter:** Replace every 24 months (up to 2600 gallons).

Actual filter lifespan may vary based on local water quality and usage.



Figure 6.1: Filter types and their recommended replacement intervals.

Easy Filter Replacement Procedure:

Replacing filters is a quick process, typically taking only 3 seconds per filter.

1. Turn off the water supply to the RO system.
2. Twist the old filter counter-clockwise to remove it. The system features automatic water shutoff to prevent leaks during replacement.
3. Insert the new filter and twist clockwise until it clicks into place.
4. Turn on the water supply.
5. Reset the filter life indicator.

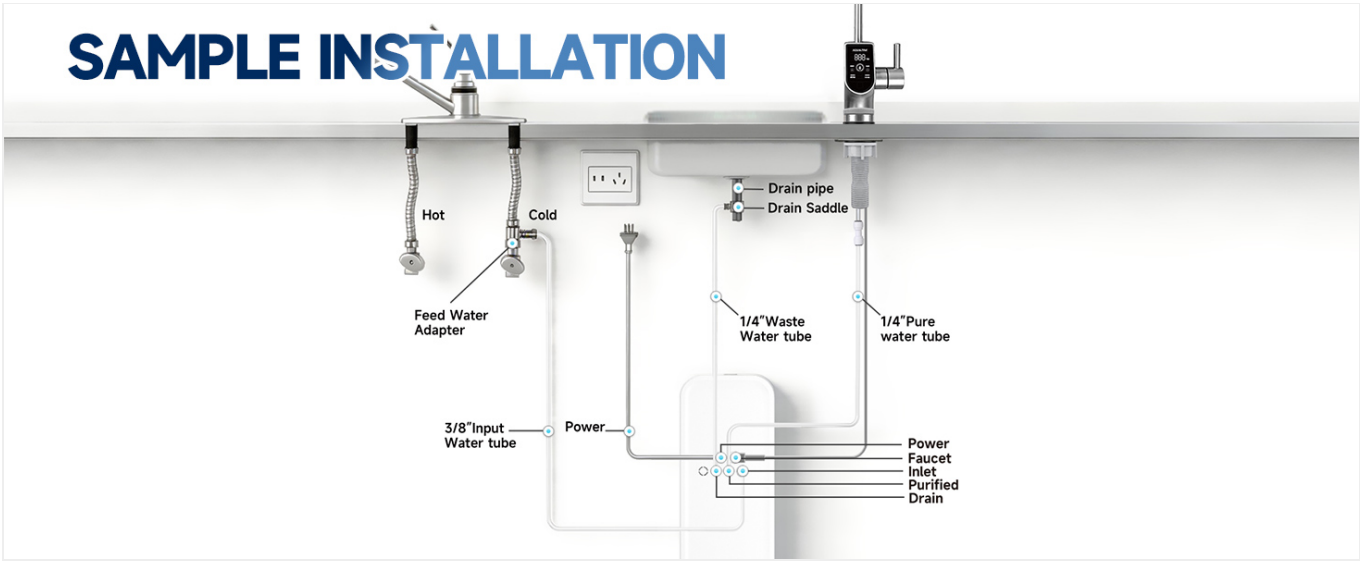

Figure 6.2: Quick and easy filter replacement process.

Resetting the Filter Life Indicator:

1. Hold the "RESET" button for 5 seconds until you hear a beep.
2. Press the "SELECT" button to choose the corresponding filter until its filter life indicator flashes.
3. Hold the "RESET" button until the filter life indicator is permanently white.
4. Repeat these steps if another filter cartridge also requires resetting.

After resetting, flush the system until the indicator turns solid white and any alarm sounds cease.

7. Troubleshooting

This section addresses common issues you might encounter with your AQUALTRA USF-AR-1000 system.

Problem	Possible Cause	Solution
Low water flow from faucet	Clogged filters, low incoming water pressure, kinked tubing.	Check filter life indicators and replace if necessary. Ensure water supply valve is fully open. Inspect tubing for kinks or blockages.
System is noisy during operation	Normal operation sound of the pump, air in the system.	Some operational noise from the pump is normal for tankless RO systems. Ensure the unit is placed on a stable surface. If noise is excessive, check for loose components or air in the lines (flush the system).
Water tastes unusual after filter replacement	Insufficient initial flushing.	Ensure the system is flushed for the recommended 30 minutes after filter replacement to remove carbon dust and condition new filters.
Leakage from connections	Loose fittings, improperly cut tubing, missing O-rings.	Turn off water supply. Inspect all quick-connect fittings and ensure tubing ends are cut straight and fully inserted. Check for damaged O-rings or seals. Apply Teflon tape to threaded connections if necessary.
Smart Faucet display not working	Power issue, loose connection.	Check the faucet's power cord connection to the RO unit and ensure the main unit is powered.

8. Specifications

Feature	Detail
Brand	AQUALTRA
Model Name	USF-AR-1000
Product Dimensions (L x W x H)	16.7" x 5.9" x 13.5"
Material	Plastic
Capacity	1000 gallons per day (GPD)
Purification Method	Reverse Osmosis (10-Stage with Alkaline Mineralization)
Installation Type	Under Sink
Power Source	Electricity (requires under-sink outlet)
Water Temperature Range	40 °F - 100 °F
TDS Reduction	>97.08%
CFC-RO Filter Life Cycle	24-36 months (up to 3000 gallons)

Feature	Detail
ACB-ALKA Filter Life Cycle	24 months (up to 2600 gallons)
Certifications	CSA against NSF/ANSI 372 Standard, SGS Tested

9. Warranty and Support

Customer Support:

AQUALTRA values your shopping experience. If you encounter any problems with your RO alkaline water filter system, please contact our customer service team. We are committed to resolving issues within 24 hours.
For support, please visit the AQUALTRA Store on Amazon or refer to the contact information provided with your product packaging.

Warranty Information:

Specific warranty details are typically included with your product documentation. Please refer to the warranty card or contact AQUALTRA customer service for comprehensive warranty terms and conditions.
EU Spare Part Availability Duration: 2 years.

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