

OWNERS GUIDE

Aquasential[™] Whole Home PFAS Filter

Models from 2024



CAT# 01045704 Rev A DCO# 240238 09/30/24 © 2024 Culligan International Company

Analytical Laboratory Services

Water Testing Made Easy.

Culligan's Analytical Laboratory provides its customers with quality water analysis using EPA approved methods. Our Analytical Laboratory is certified by the State of Illinois EPA, to be compliant with the National Environmental Laboratory Accreditation Conference (NELAC) standards. In addition to Illinois chemical certification, our Analytical Laboratory is certified to perform coliform and E. coli testing.

We strive to provide our customers with the testing they need at the lowest possible cost with the quickest turn-around time.

STANDARD WATER TESTING For sizing systems and general chemical water characteristics. WELL WATER TESTING • Basic • Realtor • Drilling Surveilance • Expanded • Gold SPECIAL WATER TESTING • Hemodialysis • Scale • Resin • Organic • Microbiology • Membrane

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E-mail: Water.Analysis@culligan.com



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About This Manual

This manual:

- · Familiarizes the operator with the equipment
- · Lists specifications and guidelines
- · Shows filter system layout and components
- · Provides basic programming information
- Gives water testing and troubleshooting information

Read this Manual First

Before you operate the Culligan unit, read this manual to become familiar with the device and its capabilities.

Installation or maintenance done on this system by an untrained service person can cause major damage to equipment or property damage. Not adhering to the recommended service/maintenance can cause damage to equipment or property damage.

Safety Instructions and Safety Definitions

Throughout this manual there are paragraphs set off by special headings.

Note

NOTE! "Note!" is used to emphasize installation, operation or maintenance information which is important, but does not present any hazard.

Caution



CAUTION!

WARNING!

"Caution" is used when failure to follow directions could result in damage to equipment or property.

Warning



"Warning" is used to indicate a hazard which could cause injury or death if ignored.

The **CAUTION** and **WARNING** paragraphs are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution, and careful attention are conditions which cannot be built into the equipment. These **MUST** be supplied by the personnel installing, operating, or maintaining the system.

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Culligan International Company

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Attention Culligan Customer:

We encourage Culligan users to learn about Culligan products, but we believe that product knowledge is best obtained by consulting with your Culligan dealer. Untrained individuals who use this Owners Guide assume the risk of any resulting property damage or personal injury.



WARNING!

Electrical shock hazard! Prior to servicing equipment, disconnect power supply to prevent electrical shock. **WARNING!**

If incorrectly installed, operated, or maintained, this product can cause severe injury. Those who install, operate, or maintain this product should be trained in its proper use, warned of its dangers, and should read the entire manual before attempting to install, operate, or maintain this product. Failure to comply with any warning or caution that results in any damage will void the warranty.

WARNING!

This device complies with Part 15 of the FCC rules subject to the two following conditions: 1) This device may not cause harmful interference, and 2) This device must accept all interference received, including interference that may cause undesired operation.

WARNING!

This equipment complies with Part 15 of the FCC rules. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

WARNING!

The plug must be plugged into an appropriate outlet that is installed and grounded in accordance with all local codes and ordinances.

WARNING!

Do not modify the plug provided with the appliance; if it will not fit the outlet, have a proper outlet installed by a qualified technician.

WARNING!

For Indoor use only with Culligan P/N 01040206 power supply. For Outdoor use only with Culligan P/N 01040208 power supply. UL listed Class 2 Direct 24VDC plug-in power unit only.

WARNING!

Use only Outdoor Power supplies for Outdoor installations. DO NOT use Indoor Power Supplies for Outdoor system installations.



CAUTION!

This product is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction. Children should be instructed not to play with this appliance.

CAUTION!

If the power cord from the power supply to the unit looks or becomes damaged, the cord and power supply should be replaced in order to avoid a hazard.

CAUTION!

This system is to be supplied with cold water only.

Safety Precautions



CAUTION!

Do not install the product in the vicinity of a heat source that exceeds the systems maximum temperature rating of 120 F.

- Do not plug or unplug the power adapter with wet hands to avoid the risk of electric shock. Do not pull the power cord forcibly when plugging in or unplugging the unit.
- Do not install the product in a place exposed to hazardous chemicals, or a place where it may fall, be bumped, damaged, etc.
- · Do not install indoor rated systems outdoors, for outdoor installation use only outdoor rated systems.
- Clean the product with water. Do not spray the product directly. Do not use steel wool, abrasive detergents or corrosive liquids to clean the product.
- Any malfunction caused by improper use will not be covered by the warranty.
- NOTE! This system is not intended for use with water that is microbiologically unsafe or of unknown quality without adequate disinfection either before or after the system.

Check with your public works department for applicable local plumbing and sanitation codes. Follow local codes if they differ from the standards used in this manual. To ensure proper and efficient operation of this Culligan product to your full satisfaction, carefully follow the instructions in this manual.

Thank You!

Welcome To Your New World of Better Living with Culligan Water.

Congratulations on selecting the Culligan™ Aquasential™ Whole Home PFAS Filter System. With Culligan's many years of knowledge and experience in water treatment, you can be confident that the model you selected has been designed and engineered to provide years of service with a minimum of care and attention.

The Culligan Aquasential Whole Home PFAS Filter System is designed to meet the needs of applications for high quality water. This manual contains important information about the unit, including information needed for operating and maintenance procedures. A troubleshooting section provides a guide for quick and accurate problem solving.

This manual is based on information available at the time it was finalized, approved, and published. Continuing design refinement could cause changes that may not be included in this publication.

Your local independently operated Culligan dealer employs trained service and maintenance personnel who are experienced in the installation, function and repair of Culligan equipment. If you need assistance with your Culligan system we encourage you to contact your local dealer.

Aquasential Whole Home PFAS Water Filter Fiberglass Indoor, Aquasential Whole Home PFAS Water Filter Fiberglass Outdoor, Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, Aquasential Whole Home PFAS Water Filter Quadra-Hull Outdoor, Aquasential Whole Home PFAS Water Filter Guadra-Hull Outdoor, Aquasential Whole Home PFAS Water Filter Guadra-Hull Indoor, French, and Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, French are tested and certified by WQA to NSF/ANSI/CAN 372, CSA B483.1, and NSF/ANSI 53 for Total PFAS¹ reduction as verified and substantiated by test data. See <u>"Performance Data Sheet" on page 19</u> for specific claims. ¹ Including: PFBS; PFDA; PFDA; PFDA; PFOA; PFOA; PFOS



WiFi/BLE Module Model: ESP32-WROOM-32E used in Aquasential Smart Flow Monitor.

Contains FCC ID: 2AC7Z-ESP32WROOM32E and IC: 21098-ESPWROOM32E

This device complies with part 15 of the FCC Rules subject to the following two conditions: (1) This device may not cause harmful interference (2) This device must accept all interference received including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil nedoit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This device complies with Health Canada's Safety Code. The installer of this device should ensure that RF radiation is not emitted in excess of the Health Canada's requirement.

Cet appareil est conforme avec Santé Canada Code de sécurité 6. Le programme d'installation de cet appareil doit s'assurer que les rayonnements RF n'est pas émis au-delà de l'exigence de Santé Canada.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler l'autorité de l'utilisateur à utiliser cet équipement.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This device complies with Innovation, Science and Economic Development Canada's licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produirede brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Innovation, Science and Economic Development Canada ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Innovation, Sciences et Développement économique Canada.

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Not adhering to the recommended service/maintenance can cause damage to equipment or property damage.

Specifications

System Operating and Regulatory Specifications

In order to meet regulatory conditions, some operational parameters must be followed. They include:

- An operating water pressure between 22 and 125 psi (1.5–8.62 Bar). Culligan recommends following the IAPMO Uniform Plumbing code section 806.2 by installing a Pressure Regulating Valve if the water pressure is greater than 80 psi. Operating on pressures above the UPC for extended periods of time can increase the service frequency and failure of replacement parts. On a private water system, make sure the minimum pressure (when the pump starts) is greater than 20 psi (140 kPa).
- 2. Operating temperature between 33° and 120°F or 0.5°–49°C.
- 3. Clear (non-turbid) water supplies (Less than 5 NTU).
- 4. Using non-Culligan branded media or media from other sources or different amounts voids WQA certification.
- 5. To maintain WQA certification and continued PFAS reduction performance, use only Culligan supplied filter medias specified in this manual.

Culligan Aquasential Whole Home PFAS Filter Systems				
	Indoor	Indoor	Outdoor	Outdoor
	Fiberglass	Quadra-Hull™	Fiberglass	Quadra-Hull™
Smart Flow Monitor	Indoor	Indoor	Outdoor	Outdoor
Tank Closure	In/Out Head	In/Out Head	In/Out Head	In/Out Head
Tank Size - Tank #1	10" x 54"	10" x 54"	10" x 54"	10" x 54"
Tank #1 - Media	Calgon F600 GAC	Calgon F600 GAC	Calgon F600 GAC	Calgon F600 GAC
Tank #1 - Media Volume	2.0 cu.ft.	2.0 cu.ft.	2.0 cu.ft.	2.0 cu.ft.
Tank #1 - Underbedding	Cullsan, 20 lb	Cullsan, 20 lb	Cullsan, 20 lb	Cullsan, 20 lb
Tank #1 - Overall Height	59"	59"	59"	59"
Tank Size - Tank #2	10" x 54"	10" x 54"	10" x 54"	10" x 54"
Tank #2 - Media	Cullex PFAS Anion	Cullex PFAS Anion	Cullex PFAS Anion	Cullex PFAS Anion
Tank #2 - Media Volume	1.5 cu.ft.	1.5 cu.ft.	1.5 cu.ft.	1.5 cu.ft.
Tank #2 - Underbedding	Cullsan, 20 lb	Cullsan, 20 lb	Cullsan, 20 lb	Cullsan, 20 lb
Tank #2 - Overall Height	60"	60"	60"	60"
Rated Service Flow @ Pressure Drop	7.5 gpm @ 7.5 psi			
Operating Pressure	20-120 psi	20-120 psi	20-120 psi	20-120 psi
Operating Pressure - Canada	20-90 psi	20-90 psi	20-90 psi	20-90 psi
Operating Temperature	33 - 120 F			
Electrical Requirements	24 VDC, 1W	24 VDC, 1W	24 VDC, 1W	24 VDC, 1W
Electrical Power Consumption	0.5W / 1.0W	0.5W / 1.0W	0.5W / 1.0W	0.5W / 1.0W
pH Range	6.0 to 8.5	6.0 to 8.5	6.0 to 8.5	6.0 to 8.5
Iron	<0.30 mg/l	<0.30 mg/l	<0.30 mg/l	<0.30 mg/l
Manganese	<0.05 mg/l	<0.05 mg/l	<0.05 mg/l	<0.05 mg/l
Hardness	< 10 gpg	< 10 gpg	< 10 gpg	< 10 gpg
Hydrogen Sulfide	None	None	None	None
TOC - Total Organic Carbon	< 2.0 mg/l	< 2.0 mg/l	< 2.0 mg/l	< 2.0 mg/l
Turbidity	5 NTU	5 NTU	5 NTU	5 NTU
Sulfate	200 mg/l	200 mg/l	200 mg/l	200 mg/l
Chloride	100 mg/l	100 mg/l	100 mg/l	100 mg/l
* Total PFAS	0.00216 mg/L ± 20%			

Table 1. System Specifications.

* Including: PFBS; PFDA; PFHpA; PFHxS; PFNA; PFOA; PFOS. See the "Performance Data Sheet" on page 19 for details.

Overview & Application

System Overview

The Culligan Whole House PFAS Filter system with Smart Flow Monitor provides reliable reduction of many PFAS chemicals. The system design utilizes the unique properties of granular activated carbon (GAC) combined with PFAS-specific anion exchange resin in individual filter tanks to maximize PFAS reduction and treated water capacity for whole-home filtration.

The Culligan Aquasential Smart Flow Monitor accurately records treated water volume and alerts end-users when media replacement may be required. The Smart Flow Monitor provides visual and audible alerts at the system and optional alerts through the Culligan Connect app and Remote Equipment Gateway. Your local Culligan dealer can provide PFAS water testing, remote system monitoring, and filter media replacement when required.

Aquasential PFAS Filter Application Guidelines

Proper application has a direct influence on the performance and service life expectancy of this water filter system. It is important to understand how the Culligan PFAS filter functions, to know its capabilities and limitations for a successful application, and to understand pretreatment requirements. Follow the recommendations and guidelines in this manual to maximize system efficiency and performance.

Water Quality

Verify that raw water characteristics and flow rate are within the limits as outlined in the specifications and in the following Application section.



CAUTION!

Do not use where the water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit.

Pressure

Although the system is designed and tested to operate at a maximum pressure of 125 psi (860 kPa), it is not expected that the system should be exposed to such pressure for extended operation. Culligan recommends following the IAPMO Uniform Plumbing code section 806.2 by installing a Pressure Regulating Valve if the water pressure is greater than 80 psi. Operating on pressures above the UPC for extended periods of time can increase the service frequency and failure of replacement parts. On a private water system, make sure the minimum pressure (when the pump starts) is greater than 20 psi (140 kPa).



CAUTION!

The use of a pressure reducing valve may limit the flow of water in the household.

Temperature

Do not install the unit where it might freeze, or next to a heat source that will result in exceeding the maximum operating temperature. If installing in an outdoor location, you must take the steps necessary to assure the filter, installation plumbing, etc. are as well protected from the elements (sunlight, rain, wind, heat, cold), contamination, vandalism, etc. as when installed indoors.

Application and Pre-Treatment Requirements

Sediment Pre-Filter

For all Aquasential Whole Home PFAS Filter systems, Culligan recommends the installation of a cartridge type sediment pre-filter with a minimum 50-micron rating immediately prior to the system to prevent sediment and particulates from entering and accumulating in the filter media. If the water supply to be treated has a significant amount of sediment and particulates in the water an automatic backwashing filter system should be installed. Failure to follow this guideline could result in loss of water pressure and the need to prematurely replace filter media. It is recommended to consult with Culligan International for application assistance if needed.



WARNING!

Outside faucets and irrigation systems

A substantial amount of water can be used for outdoor purposes and lawn irrigation compared to the daily volume required for domestic use inside a home. Water lines supplying water for outside uses should be bypassed from the PFAS Filter system to extend the media life unless treated water is required.

Water Quality

The quality of the feed water to the Aquasential PFAS Filter system can have a significant impact on PFAS reduction and the media life. Refer to the specifications section in this Owners Guide for recommended guidelines.

Municipal Water Supplies

Municipal water suppliers are required by the US EPA to provide annual Consumer Confidence Reports (CCR) that summarizes the water quality they provide. These reports can be found on the water supplier's website and are a good source for basic water quality information. If a municipal water source supplies chlorinated water, the Aquasential PFAS system will reduce the chlorine level*

NOTE! *The Aquasential PFAS System is not certified for chlorine reduction.

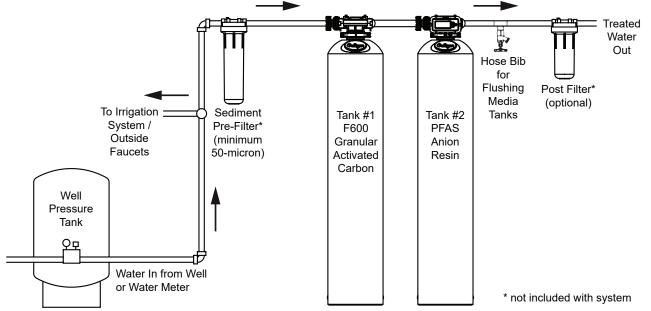
Well Water Supplies

The water quality of every well is different even in the same geographical area. A full water analysis is recommended for well water applications to ensure the water quality meets specifications.

Problem Water Applications

For well water sources that have water quality issues related to odor, discolored water, or visual evidence of microbiological growth, the problems should be corrected prior to installing the Culligan Aquasential PFAS Filter system.

Aquasential PFAS Filter Treatment Sequence



Display Functions and Programming

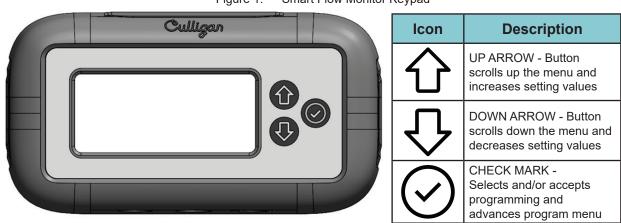
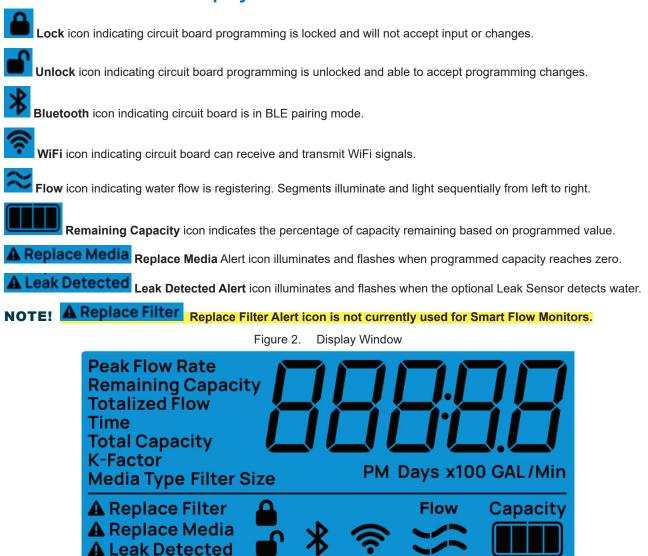


Figure 1. Smart Flow Monitor Keypad

Programming by Keypad on Enclosure

Time of day programming and advancing the display screen to the next or previous function is accomplished by using the Check, Up, Down buttons on the display.

Smart Flow Monitor Display Icons



Programming

Time of Day

When power is connected to the Smart Flow Monitor for the first time the Time parameter will show in the display with read out 12:00 PM. To set or change the Time of Day, long press the check button and Time will flash.

- The first setting is the hours format using the Up or Down button select 12H or 24H then press check to save selection.
- The next setting is minutes, when flashing use or Up or Down arrows to program minutes then press check to save selection.
- The next setting is hours, when flashing use Up or Down arrows to select hours. For PM hour selection the PM icon will
 illuminate. AM hours are selected when the PM icon is not visible. Press check to store program setting and the Down arrow
 to advance to the next setting.

Display - System Information

Media Type

The Smart Flow Monitor Media Type function shows the Media Type used in the filter system for future reference. The Aquasential PFAS Filter will display "PFAS".

Filter Type

The Smart Flow Monitor **Filter Type** function shows the Media Tank Size used in the filter system for future reference. The Aquasential PFAS Filter will display "10 - 54" to indicate 10" x 54" tank size.

Firmware Indication

The Smart Flow Monitor firmware indication feature is indicated by an "F" in the display followed by the numeric identification of the firmware currently installed on the circuit board.

Example: Firmware version 1.00 would be displayed as F 100

NOTE! The decimal point in the firmware version will not show in the Smart Flow Monitor display.

Peak Flow Rate

The Smart Flow Monitor **Peak Flow Rate** feature indicates the highest flow rate in gallons per minute or liters per minute of sustained flow for a ten-minute period. Once a Peak Flow Rate is recorded and stored the value will remain until a higher flow rate occurs, at which time the flow rate will be updated. After a 30-day period the Peak Flow Rate will be recalculated based on the next highest flow rate sustained for 10 minutes. The purpose of this feature is to identify unexpectedly high continuous flow rate conditions that could affect filter media life and performance.

NOTE! A <u>Peak Flow Rate</u> value will not appear in the display until there has been a continuous flow of water recognized by the Flow Meter for a 10-minute period.

Flow Rate

The Smart Flow Monitor **Flow Rate** feature indicates the current flow rate in gallons per minute or liters per minute. Once water flow stops, the display will show 0.0 GAL/Min or 0.0 L/Min. The purpose of this feature is to monitor water usage and record total flow of water through the system. The Flow Indicator icon segments will also appear when water flow is detected.

Totalized Flow

The Smart Flow Monitor records and displays the total flow of water through the system. **Total Flow** indicates volume of water treated by the system since the last reset. Total Flow is used for Media Life calculations to determine capacity remaining compared to the programmed value.

Total Capacity in Gallons/Liters

Total Capacity in Gallons/Liters is the volume of water that will be treated before the Replace Media alert is activated. The Aquasential PFAS Filter system has a rated capacity of 158,000 gallons or 598,095 liters

Total Capacity - Days

Total Capacity - Days is a programmable setting of the Smart Flow Monitor.

K-Factor (only visible in programming mode)

The K-Factor is a 4-digit programmable input required based on the flow meter pulses from a Hall Effect flow meter.

Smart Flow Monitor - Alerts

For an explanation and management of the Alert Icon notifications for 'Media Life" and "Leak Detected" shown on the Smart Flow Monitor display, see <u>"Alert Messages" on page 17</u>.

Appendix A - Culligan Connect App

Culligan Connect

Culligan Connect Smart Device Operating System Requirements

iPhone/iPad - iOS 14 or newer

Android Devices — Android 9 Pie or newer (preferably Android 11)

Culligan Connect App Installation

Apple iPhone iOS / iPadOS Operating System - Search the App Store for "Culligan Connect"

Android Operating System - Search the Google Play Store for "Culligan Connect"

Wi-Fi / Bluetooth Requirements

- The Culligan Connect App requires Wi-Fi connectivity to function properly.
- Smart Products require 2.4 GHz Wi-Fi frequency. 5 GHz networks will not work with the system.

Getting Paired with the Connect App (End Consumer)

On Your Apple or Android Smart Device

- Go to Settings \rightarrow Wi-Fi Networks and verify device is connected to the proper Wi-Fi network

NOTE! The device does not detect anything faster than 2.4 GHz networks. If a network is not detected with the supplied SSID, it could be because the network is not 2.4 GHz.

- If there are connected Wi-Fi networks in the list that are 5 GHz, select "Forget" for all connections except the 2.4 GHz network with which you want to connect.
- · If the registration process fails, try turning off Cellular Data in your smart device's settings.
- Download the Culligan Connect app from Apple's App Store Apple or Android's Google Play Store.
- · If this is your first time using Culligan Connect, use the Create an Account feature.
- · Complete the next steps on the Smart Flow Monitor before coming back to the app.

Culligan Connect Pairing Advice:

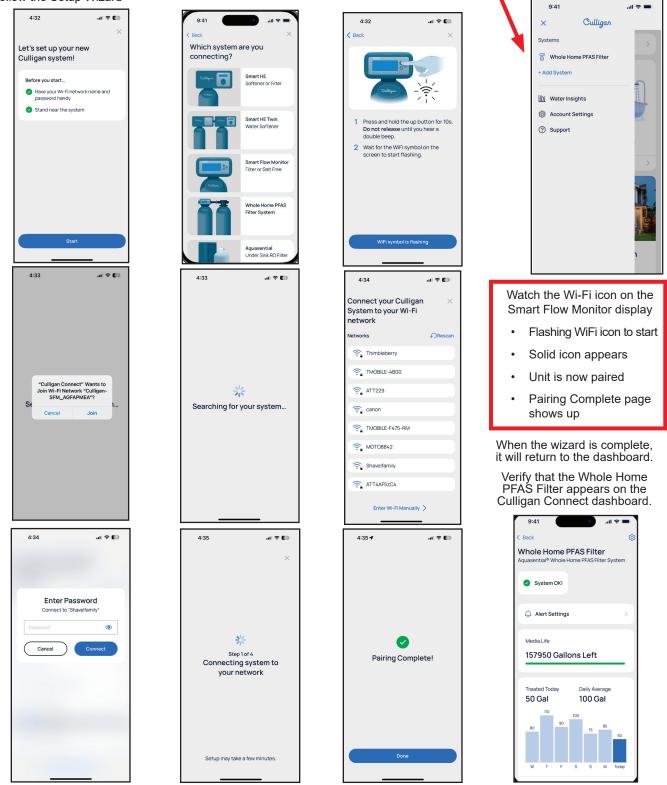
- Be sure you are logged into the Culligan Connect App with the desired user account for pairing.
- On the Smart Flow Monitor, press and hold the "UP" arrow for 10 seconds until an audible double-beep is heard and the WiFi icon is blinking to indicate pairing mode.
- Smart device using the Connect app must be on same 2.4 GHz network as the device being paired.
- Some routers may try to force a 5 GHz connection and will cause pairing errors. Please check router settings to confirm the Wi-Fi frequency (2.4 vs 5 GHz). Creating a separate dedicated 2.4 GHz Guest Network can be used to pair system.
- Check the Wi-Fi signal strength. Acceptable signal strength should be an RSSi value between -30 to -65. (Good Apps to use to check Wi-Fi signal strength are Airport Utility for IOS and Wi-Fi Analyzer for Android)

Apple Pairing

In the Culligan Connect app, select "Add System."

This is located in the menu in the upper left of the screen, or use "Add System" located on the main dashboard.

Follow the Setup Wizard

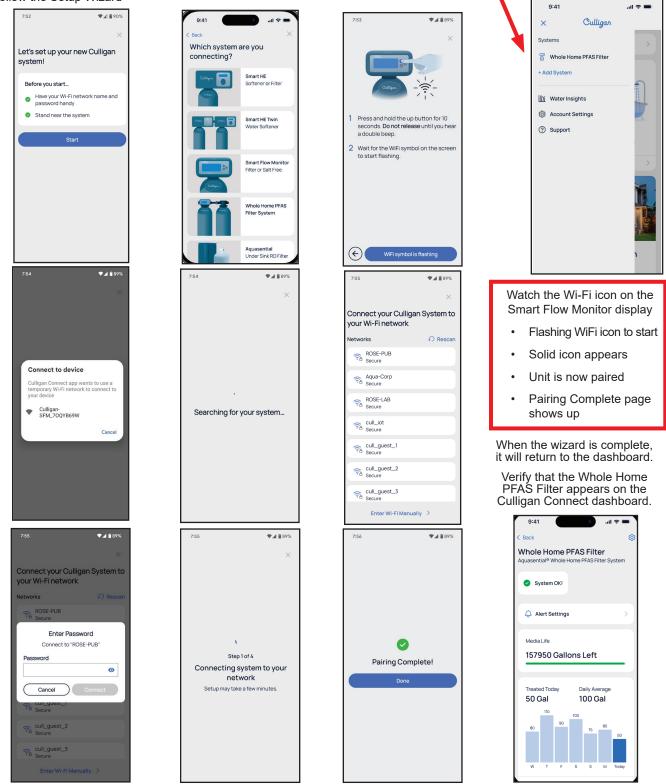


Android Pairing

In the Culligan Connect app, select "Add System."

This is located in the menu in the upper left of the screen, or use "Add System" located on the main dashboard.

Follow the Setup Wizard



When & How to Bypass Your System

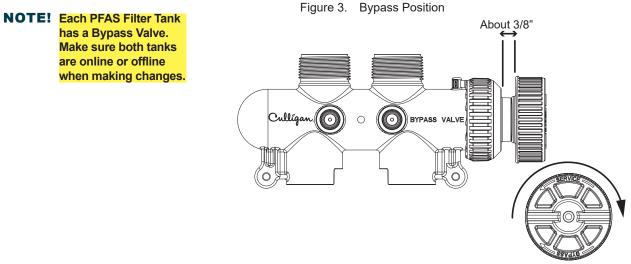
When and How to Bypass Your PFAS Water Filter

Normally, all water except outside lines passes through the water filter. There are times when the water filter should be bypassed, using the Cul-Flo-Valv[®] Bypass, or a three-way bypass valve. You should bypass:

- 1. If lines to outside faucets do not bypass the water filter, and you do not want to waste filtered water on lawn irrigation or other outdoor uses.
- 2. If you are going away on vacation.
- 3. If a leak from the system is detected.

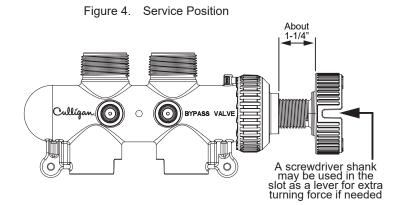
Bypass Valve

In the back of Culligan water filter is a Cul-Flo-Valv® Bypass valve. To bypass the unit, turn the blue knob clockwise. To return to filtered water service, turn the blue knob counter-clockwise.



Bypassed

To BYPASS, turn the blue knob clockwise (see directional arrow on end of knob) until the knob stops as shown in <u>Figure 1</u>. DO NOT OVERTIGHTEN!



Filtered Water

To return to SERVICE, turn the blue knob counter-clockwise (see directional arrow on end of knob) until the knob stops as shown in Figure 2. DO NOT OVERTIGHTEN!

Things to Check Before You Call For Service

If you unexpectedly experience a change in the quality of your water, make these simple checks before calling your Culligan dealer. One of the following conditions may be the reason for the change.

Bypass Valves

Check to see if they are in the proper position. Cul-Flo-Valv® Bypass, if used, should be in the "Service Position" (handle stem screwed out) position. If hand valves are used, see that inlet and outlet valve are opened and that the bypass valve is closed.

No Water

If you aren't getting any water flow at all, make sure your water supply is working. Open a tap ahead of the filter (outside tap) to see if you have any water pressure. If you have water pressure, check the bypass valve. If it is in the Service position, put it into the bypass position and call your Culligan dealer for service.

If You Have A Cartridge Filter Installed

If your system has a cartridge type filter installed prior to the Aquasential PFAS Filter System make sure the cartridge is not clogged as this can result in low water pressure. Replace the filter cartridge with a new one and check to see if water pressure returns.

Troubleshooting Guide

Problem or Symptom Cause		Solution
1 Deer water quality	Check to make sure system is not on bypass	If system is on bypass, return to service position.
1. Poor water quality	Media may need replacement	Call your local Culligan dealer for water testing to determine if media needs replacement.
	No water pressure to house	Verify there is water pressure prior to the Aquasential Whole Home PFAS Filter by running water from a tap prior to the system or by bypassing both tanks in the system to check for the return of water flow to the house.
2. Low water pressure	Cartridge pre-filter is clogged	Change the cartridge filter. (if pre-filter was installed)
	Media bed may be fouled	Call your local Culligan dealer to determine if media bed needs replacement.

Alert Messages

The following alert messages may display on the Smart Flow Monitor controller screen and in the Culligan Connect App.

Alert Name	Reason for Alert	Smart Flow Monitor Display	Culligan Connect App
Leak Detected	Optional accessory leak sensor detected a leak	Leak Detected alert icon illuminates and flashes and alarm beeping is active. To clear error: 1) Dry off the sensor 2) Single key press any display button	The error is displayed on the main page with the recommendation to contact the dealer. *Dealer will be notified on the Remote Equipment Gateway if opted into receiving Daily Digest email.
Replace Media	Programmed remaining capacity reaches zero (days or volume or both)	Replace Media icon illuminates and flashes and alarm beeping is active. Mute error: Single press any button to silence beeping for 7 days, visual alerts remain. Media Life alert must be reset by your Culligan dealer. Contact your local dealer for assistance.	The error is displayed on the main page with the recommendation to contact the dealer. The error appears 3 times: when remaining capacity is less than 20%, 10% and critical at 0%. *Dealer will have similar notifications on the Remote Equipment Gateway if opted in to receive Daily Digest email.

Care and Cleaning of Your Water System

These simple precautions, if followed, will help assure continued trouble-free service and keep your Culligan Water system looking like new for years.

- Use only mild soap and warm water when cleaning the exterior of the conditioner. Never use harsh, abrasive cleaning compounds or those which contain acid, such as vinegar, bleach and similar products.
- Important: Protect your water system from freezing temperatures.



If your unit should freeze, do not attempt to disassemble it. Call your Culligan Dealer.

- **Important:** Culligan water systems are sold for use with potable water, only. If at any time the water becomes contaminated, such as during a "boil water" situation, the operation of the water system should be discontinued until it is verified that the water is again potable. To do this, turn the knob on the bypass valve to the bypass position for both tanks. Then, call your Culligan dealer to have your system sanitized before it is placed back into service.
- Should service, adjustment, or trouble-shooting information be needed which is not covered in this Owners Guide, call your Culligan Dealer.

If you have further questions, please call your local independently operated Culligan dealer. Your Culligan dealer will be glad to be of assistance to you.

PFAS Water Testing

Periodic PFAS water testing may be desirable under the following conditons:

- To check the PFAS levels of the source water supply
- To verify PFAS reduction performance of a PFAS filter system
- · To determine or verify that PFAS filter media is in need of replacement

The Culligan low-cost PFAS test kit can identify 55 different PFAS compounds. Contact your local Culligan Dealer for details.



Figure 5. Culligan Low-Cost PFAS Test Kit

Performance Data Sheet

Culligan Aquasential Whole Home PFAS Water Filter

Culligan knows the more informed you are about your water treatment systems, the more confident you will be about its performance. It's because of this and more than seventy years of commitment to customer satisfaction that Culligan is providing this Performance Data Sheet to its customers.

NOTE! Read this Performance Data Sheet and compare the capabilities of this unit with your actual water treatment needs. It is recommended that before purchasing a water treatment unit, you have your water supply tested to determine your actual water treatment needs.

Manufacturer: Culligan International Company 9399 W. Higgins Rd., Suite 1100 Rosemont, IL 60018 USA (847) 430-2800 www.culligan.com

Product: Culligan Aquasential Whole Home PFAS Water Filter

Models: Aquasential Whole Home PFAS Water Filter Fiberglass Indoor, Aquasential Whole Home PFAS Water Filter Fiberglass Outdoor, Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, Aquasential Whole Home PFAS Water Filter Quadra-Hull Outdoor, Aquasential Whole Home PFAS Water Filter Fiberglass Indoor, French, and Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, French

Testing Conditions & Results:

Capacity: 158,000 gallons Service Flow Rate: 7.5 gpm @ 7.5 psi

Operating Conditions:

Operating Temp. Range: 33 - 120°F (1 - 49°C) Electrical Characteristics: 24 VDC, 1 Watt Water Press. Range: Water Press. Range (Canada): 20 - 120 psi (138 - 862 kPa) 20 - 90 psi (138 - 621 kPa)

NSF/ANSI Standard 53

Substance Reduction

Testing was performed under standard laboratory conditions, actual performance may vary This system has been tested according to NSF/ANSI 53 for reduction of the substances listed below. The concentration of the indicated substance in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI 53.

Name of	Influent Challenge	Influent Challenge	Maximum Permissible Product Water	Maximum Permissible Product Water	Flow Rate = 7.5 gpm
Substance	Concentration mg/L / ppm	Concentration ng/L / ppt	Concentration mg/L / ppm	Concentration ng/L / ppt	Average Reduction
Total PFAS ¹	0.00216 mg/L ± 20%	2160 ng/L ± 20%	0.00002 mg/L	20	> 99.9%
PFOA	0.0005	500	0.00002 mg/L	20	> 99.9%
PFOS	0.001	1000	0.00002 mg/L	20	> 99.8%
PFHxS	0.0003	300	0.00002 mg/L	20	> 99.9%
PFHpA	0.00004	40	0.00002 mg/L	20	> 99.9%
PFNA	0.00005	50	0.000006 mg/L	6	> 99.9%
♦ PFBS	0.00026	260	N/A	N/A	> 99.9%
◊ PFDA	0.00001	10	N/A	N/A	> 99.9%

◊ PFBS and PFDA do not have maximum permissible concentration levels per the NSF/ANSI 53 standard. PFBS is lower than the EPA Hazard Index and PFDA does not have an EPA maximum contaminant level. PFBS and PFDA were included in the Total PFAS testing and were found to be at non-detect levels.

The Culligan Aquasential Whole Home PFAS Water Filter Fiberglass Indoor, Aquasential Whole Home PFAS Water Filter Fiberglass Outdoor, Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, Aquasential Whole Home PFAS Water Filter Quadra-Hull Outdoor, Aquasential Whole Home PFAS Water Filter Fiberglass Indoor, French, and Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, French, and Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, French, and Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, French, and Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, French, and Aquasential Whole Home PFAS Water Filter Quadra-Hull Indoor, French are tested and certified by WQA to NSF/ANSI/CAN 372, CSA B483.1, and NSF/ANSI 53 for Total PFAS¹ reduction as verified and substantiated by test data.



¹ Including: PFBS; PFDA; PFHpA; PFHxS; PFNA; PFOA; PFOS



CAUTION!

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after installing the system.

Buyer Signature

Seller Signature

_ Date ___

Date

Records & Data

Important Information about your Culligan Water System

Please fill in the information below for future reference. If you have any questions regarding your Culligan water system, please contact the dealer that installed your system for assistance.

Addition information may also be found by visiting: www.culligan.com

System and Dealer Identification

System Name	_Model Name:
In & Out Head Serial #:	_Tank Dimensions (W" x H"):
Date of Installation:	_Tank Serial #
Culligan Dealer:	_City/Town:
Dealer Phone #	_State:

Recommended Service

Recommended Owner Service Interval for Cartridge Filter (if applicable):

3 month: ______ 6 month: ______ 9 month: ______ 12 month: ______

Recommended Dealer Service:

_____ Test Water

_____ Evaluate Condition of Filter Media

_____ Replace Filter Media as Necessary

Water Analysis

Hardness	grains/gallon	Total Dissolved Solids - TDS	mg/l
pH level (acidity)	S.U.	Alkalinity	grains/gallon
Chloride	mg/l	Manganese	mg/l
Sodium	mg/l	Hydrogen Sulfide (H ₂ S)	mg/l
Iron	mg/l	Chlorine	mg/l
Other		Other	
Total PFAS	ng/L or part	ts per trillion (pt)	

NOTE! mg/l (milligrams per liter) and ppm (parts per million) are equivalent units of measurement and 1 grain = 17.1 mg/l

Culligan Limited Warranty

Culligan Water Treatment System

You have just purchased one of the finest water filters made. As an expression of our confidence in Culligan International Company products, your water filter is warranted to the original end-user, when installed in accordance with Culligan specifications, against defects in material and workmanship from the date of original installation, as follows:

For a period of ONE YEAR	The Entire Filter and the Smart Flow Monitor
For a period of FIVE YEARS	In/Out Head
For a period of TEN YEARS	Fiberglass tank
For the LIFETIME of the original	The Quadra-Hull [®] tank
consumer purchaser	

If a part described above is found defective within the specified period, you should notify your independently operated Culligan dealer and arrange a time during normal business hours for the dealer to inspect the water treatment unit on your premises. Any part found defective within the terms of this warranty will be repaired or replaced by the dealer. You pay only freight from our factory and local dealer charges.

We are not responsible for damage caused by accident, fire, flood, freezing, Act of God, misuse, misapplication, neglect, oxidizing agents (such as chlorine, ozone, chloramines and other related components), alteration, installation or operation contrary to our written instructions, or by the use of accessories or components which do not meet Culligan specifications, is not covered by this warranty. Refer to the specifications section in the Installation and Operating manual for application parameters.

Our product performance specifications are furnished with each water filter unit. To the extent permitted by law, culligan disclaims all implied warranties, including without limitation warranties of merchantability and fitness for particular purpose; to the extent required by law, any such implied warranties are limited in duration to the one-year period specified above for the entire filter. As a manufacturer, we do not know the characteristics of your water supply or the purpose for which you are purchasing a water filter. The quality of water supplies may vary seasonally or over a period of time, and your water usage rate may vary as well. Water characteristics can also differ considerably if your water filter is moved to a new location. For these reasons, we assume no liability for the determination of the proper equipment necessary to meet your requirements, and we do not authorize others to assume such obligations for us. Further, we assume no liability and extend no warranties, express or implied, for the use of this product with a non-potable water source. Our obligations under this warranty are limited to the repair or replacement of the failed parts of the water filter, and we assume no liability whatsoever for direct, incidental, consequential, special, general, or other damages.

Some states do not allow the exclusion of implied warranties or limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Similarly, some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Consult your telephone directory for your local independently operated Culligan dealer, or write Culligan International Company for warranty and service information.

Culligan International Company 9399 West Higgins Road, Suite 1100, Rosemont, IL 60018 USA (847) 430-2800 www.culligan.com