Aqua-Cleer

EVO

THECNICAL SHEET

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The Culligan **Aqua-Cleer EVO** is a reverse osmosis device offering the most complete solution for high quality refined water. R.O. osmosis membranes retain most of the salts present in the water, eliminating unwanted substances. Pretreatment by cartridge ensures clarity and the absence of unpleasant tastes and odors. It is designed to be installed under the kitchen sink. The system has a bypass for mixing water to the service with filtered and dechlorinated water, through which it is possible to regulate the residual salinity of the water product. The system has a one-way faucet for drawing refined water. A multilingual electronic controller controls system operation and management of: filter alarms, anti-flooding, liter-counter. The system is arranged for installation of pre- or post-treatment optional accessory kits, such as:

- Culligan 5 micron filter for the removal of turbidity
- Culligan AS3 filter, specific for the removal of arsenic
- Ultrafiltration Culligan Pure, a filter consisting of special membranes (MediSulfone® UF Polysulfone) that prevent the passage of all substances with molecular weight greater than 15K Dalton. Bacteria, viruses and endotoxins are retained by two mechanisms: one based on the size of the pores and one due to the adsorption capacity of the membrane.
- External Anti-flooding Kit

The **Aqua-Cleer EVO** Culligan is tested and CE certified.

Equipment for the treatment of potable water, conforming with the requirements of Min. Decree 25/2012, coming within the limits of the table:

Influent Water Characteristic:	
Pressure	1.0 – 6.0 bar
Temperature	1-38 °C
TDS	<1000
pH	6,5 – 9,5
Chlorine(1)	0-1 ppm
Chloramine	0-3 ppm
Torbidity	0-5 NTU
Hardness (2)	0 – 17 °f
Iron	0-0,2 ppm
Bacterial quality	potable

The system must be installed on the cold water piping and the reject water pipe must be connected to the drain via a trap complying with the current regulations. Installation must be carried out by qualified personnel, in compliance with Min. Decree 37/08 and the best state of the art.

(1) The osmosis membranes used in the system can be damaged by chlorine. Therefore the system includes an activated carbon filter that protects them, eliminating the chlorine. The chlorine in the water to be treated must not exceed 1 ppm.

(2) The installation of a water softener is recommended for water of hardness greater than 17°f. Feeding the system with water of hardness greater than 17°f will significantly reduce the service life of the osmosis membrane.

NOTE: *The recommended operating values are 1.0 – 6 bar. If this value is exceeded, the installation of a pressure reducer is advisable. Turbidity values greater than 0.5 NTU significantly limit the duration of the Carbon Block filter; in this case it is advisable to install a pretreatment kit to eliminate the excess turbidity.*

SAFETY WARNINGS

- **Equipment for the treatment of potable water, conforming with the requirements of Min. Decree 25/2012.**
- Refer to the technical manual supplied with the system for all information and instructions.
- **The water softener must be installed by qualified personnel, in compliance with Min. Decree 37/08, the best state of the art and in conformity with the instructions given in the technical manual.**
- Any handling, installation, maintenance and repair work on the systems must be carried out by qualified personnel in compliance with Min. Decree 37/08, the best state of the art and in conformity with the instructions given in the technical manual.
- The place where the systems, auxiliary material and consumables are located must comply with the storage, use and safety requirements of the current regulations.
- The water produced by every unit must only be used for its specifically intended purpose. Culligan declines any liability for the consequences of improper use of the water produced by its equipment.
- Any operation fault in the systems must be promptly reported to the Culligan Service Center. Culligan declines any liability for the consequences of prolonged use of a faulty system.
- When necessary, the choice, dosing and handling of chemicals must be done by professionally qualified personnel, complying with the instructions given by Culligan and in the Technical Safety sheets.
- Waste or consumable materials from the water treatment systems must be disposed of in accordance with the current regulations.
- Do not place the device on top of other electrical appliances.
- Position the device away from heat sources.
- In case of an anomaly (water leaks, etc.), disconnect the power supply and close the water inlet shutoff.
- Culligan also declines any liability in the following specific cases:
  - improper use of the device;
  - use contrary to the specific national regulations (power and water supplies, installation and maintenance);
  - installation without following the instructions supplied in this manual;
  - power and water supply faults (electrical discharges – voltage rushes – water supply overpressure – low water pressure);
  - unsuitable ambient operating temperature;
  - inadequate maintenance;
  - unauthorized work or modifications;
  - use of non-original replacement parts or not specific for the model;
  - total or partial non-compliance with the instructions;

For anything not specified, the operator must rely on common sense when using the device.

WARRANTY

The system is guaranteed for a period of two years, according to that given on the Culligan warranty claim/certificate. Refer to this certificate for the part regarding the terms and that giving the limits. The warranty is invalidated if the system and/or its components are tampered with or in case of damage caused by power supply over voltages. The warranty is invalidated in case of conditions or uses not envisaged for normal use of the system.

MAINTENANCE

To keep the **Aqua-Cleer EVO** in good working order it is necessary to change the filters (Carbon Block and ultrafiltration cartridge) and sanitize the system periodically.

As a rule this should be done once a year.

Another service may also be necessary depending on the operating conditions. For example, raw water with a lot of sediment, chlorine, turbidity or hardness may require a more frequent service, changing the filters every 6 months. This procedure will be monitored by the electronic controller; the information will be shown on the display.

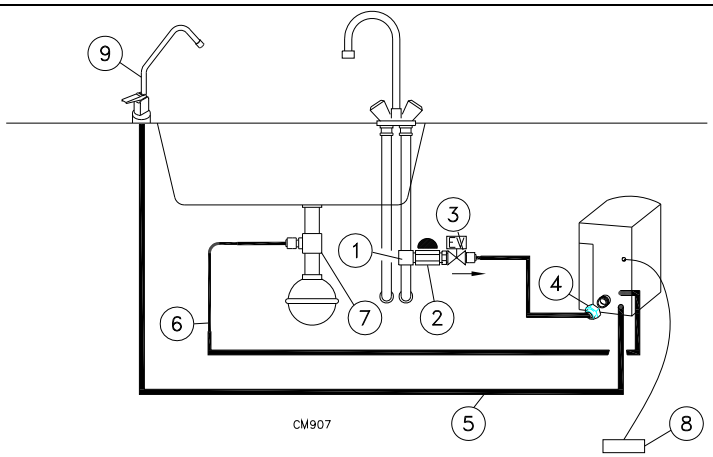
***ATTENTION**: In case of no of water in the supply system, when the faucet is opened only the water stored in the tank (approx. 1 liter) will be delivered. Once this reserve is finished, the flow to the product stops, whereas the pump will still run. The lack of water does not damage this type of pressurizing pump. Turn off the power supply to the system and reactivate it only when there is water in the supply pipe again.*

***Note:** Turbidity values greater than 0.5 NTU significantly limit the duration of the Carbon Block filter; in this case it is advisable to install a pretreatment kit to eliminate the excess turbidity. Every two years is advisable to replace the pipes and if necessary also the JG quick release fittings.*

INSTALLATION

The water softener must be installed by qualified personnel, in compliance with Min. Decree 37/08, the best state of the art and in conformity with the instructions given in the technical manual.

Installation diagram



Key

1) Power socket (not supplied)
2) Feed faucet (not supplied)
3) N.C. solenoid valve (Optional, included with external Anti-flooding kit)
4) Aqua-Cleer EVO inlet – feed connection
5) Product water connection
6) Drain connection
7) Bracket with fitting for drain connection
8) External Anti-flooding probe (optional, supplied with external Anti-flooding kit)
9) Dispensing faucet

PERFORMANCE SPECIFICATIONS CARTRIDGES FILTERS

Cartridge Carbon Block

The Carbon Block pre-filter as been tested according to NSF/ANSI 42 for the reduction of the substances listed below.

SUBSTANCE	***Influent Challenge Concentration***	***Reduction Requirements %***	***Minimum Reduction %***	***Average Reduction %***
Aesthetic Chlorine*	2.0 mg/L + 10%	>50%	97.6%	97.3%

*Max Capacity 18900 Liters

Cartridge AS3 (optional)

The Cartridge AS3 as been tested according to NSF/ANSI 53 for the reduction of the substances listed below.

SUBSTANCE	***Influent Challenge Concentration mg/L***	***Max Permissible Product Water Concentration mg/L***	***Average Reduction %***
STANDARD 53			
Trivalent Arsenic pH 6.5	0.050 + 10%	0.010	94.9
Trivalent Arsenic pH 8.5	0.050 + 10%	0.010	98.0
Pentavalent Arsenic	0.050 + 10%	0.010	97.4

Flow Rate = 0.13 Lt/min
Capacity= 3786 Lt

The maximum feed concentration given in the table is reduced to a concentration less than or equal to that given for drinking water as specified in NSF / ANSI 53.

PERFORMANCE

	STANDARD SYSTEM	SYSTEM WITH CULLIGAN PURE
Max Service Flow	6,8 L/min.	4,5 L/min.
Rated Service Flow	1,55 L/min.	1,42 L/min.
Drain flow rate	2,25 Lt/min.	2,25 Lt/min.
Produced Water in 1 minute	2,45 L	2,1 L
Tank capacity	1 L	1 L
Pressure Tank	0,9 bar	0,9 bar
Tamk filling time	56 seconds	56 seconds
Output time of firs liter	11 seconds	22 seconds
Water temperature	20 °C	20 °C
Water salinity	1200 µS/Cm	1200 µS/Cm

SPECIFICATIONS

System Flow Sequence : Activated Carbon Filter, Booster Pump, Reverse Osmosis Membrane, Storage Tank, Faucet.

Activated Carbon Filter : Carbon Block Culligan

Reverse Orsmosis Membrane : R.O. (Polyamide/Polypropylene)

Production Rate [1] : 568 L/day (each module)

Ratio of Product to Flush Flow[2] : %RR = 41% (in standard system)

Faucet : Faucet Crome

Storage capacity : Nominal capacity 2 L [3]

Culligan Pure cartridge : Ultrafilatration - MediSulfone® UF Polysulfone
Cut-off 15000 Daltons
Bacteria removal >10^{10} (Pseudomonas)
Endotoxin removal > 10^{5} EU/ml
Reduce viral >10^{8} (PhiX-174)
Flow rate at 3 bar - 5 L/min.

Booster pump : Booster Pump 220V/50Hz
Materials : Housings: Nylon
Valve: EPDM
Diaphragm: Santoprene

Minimum size compartement : W 485 mm - D 550 mm - H 550 mm
Aqua-Cleer EVO dimensions : W 285 mm - D 350 mm - H 450 mm
Net weight : Kg 10
Shipping weight : Kg 12

Faucet : base diameter mm 32 – H max mm 210

(1) Rating Test at: Pressure Pump 3,5 bar - Temperature 25°C – RR 15%.- Range pH 6,5-7,0 -.NaCl 200 mg/l, Salt Rejection 97,5%, with new membrane after 30 minutes of operation.
(2) May vary with pressure and TDS
(3) Storage Tank with 1 bar precharge

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