



EVERPURE®



# CONSERV® 75E

HIGH EFFICIENCY REVERSE OSMOSIS SYSTEM

PROTECT AND ENHANCE **ESPRESSO EQUIPMENT**  
WITH TRUE CORROSION PROTECTION AND SCALE  
INHIBITION IN ONE COMPACT SYSTEM

SUPERIOR ESPRESSO DEMANDS SUPERIOR INGREDIENTS. TOP BARISTAS KNOW THAT ESPRESSO IS 85-96 PERCENT WATER, SO PROPER INGREDIENT WATER QUALITY IS AS IMPORTANT AS THE BEANS AND THE GRIND. AND IT DOESN'T JUST AFFECT TASTE; POOR QUALITY WATER CAN CAUSE CORROSION AND SCALE BUILDUP, IRREPARABLY DAMAGING ESPRESSO EQUIPMENT.



## EVERPURE® CONSERV® 75E RO SYSTEM FOR ESPRESSO EQUIPMENT



Traditional reverse osmosis provides high quality ingredient water, but typically these systems are oversized for espresso equipment, and many do not offer tailored blending for precise water recipes.

The Pentair Everpure Conserv 75E High Efficiency Reverse Osmosis System is a solution that brings the benefits of RO water to espresso applications while addressing these concerns head on.

With a small physical footprint ideal for low-volume water-using equipment like espresso machines, the Conserv's proprietary high efficiency RO technology reduces the water sent to waste, which is a common objection to conventional RO systems in espresso applications. The Everpure Conserv 75E System provides a 50 percent water savings compared to conventional RO<sup>†</sup>. Designed specifically for espresso applications, the Conserv 75E System features a blending valve to tailor mineral content for optimal taste and equipment protection against scale and corrosion. This unique system is also ideal for combination applications, such as espresso plus an ice maker, or espresso plus a hot water boiler.

**SMALL**  
FOOTPRINT

**50%**  
WATER SAVINGS<sup>†</sup>

**BETTER**  
TASTE

**SCALE AND  
CORROSION**  
PROTECTION

## KNOW WHAT'S IN YOUR WATER

Knowing what is in your water is as important as knowing what is in your espresso. In addition to H<sub>2</sub>O, water may contain minerals, chemical compounds and/or contaminants which can alter taste and damage equipment.

The most potentially harmful contaminants are small particles, iron, hardness minerals, chlorine and chloramine disinfectant, chloride, sulfate and nitrates.

**EFFECTS OF CHLORINE:** Chlorine gas may be produced through the thermal composition of chlorine or chloramines disinfection methods used in municipal water treatment. In the moist and hot environment of espresso equipment, hydrochloric acid can be formed, which creates conditions for

corrosion development. The Everpure Conserv 75E RO System's pretreatment carbon filter removes chlorine from the water, helping to reduce the threat of corrosion development on equipment.

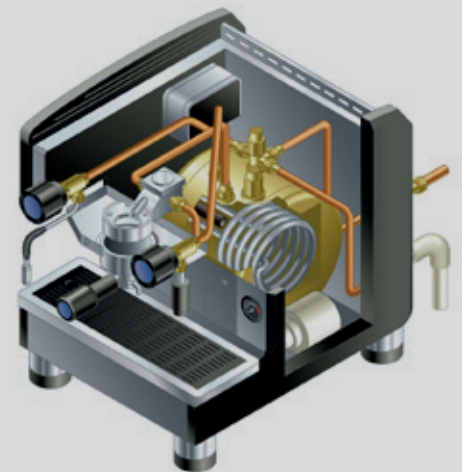
**EFFECTS OF TOTAL DISSOLVED SOLIDS (TDS):** Water supplies may contain varying levels of dissolved rocks and salts such as calcium, magnesium, bicarbonates, sulfates, chlorides and nitrates, as well as trace metals such as lead and aluminum. The TDS

content of source water supplies can vary widely, but the national U.S. average is estimated at about 300 milligrams per each liter of water. That would translate about 1,140 milligrams per U.S. Gallon. High levels of TDS cause scale formation on espresso equipment – the heat acts as a catalyst, causing mineral compounds to cling to dirt and fall out of solution as scale which then can adhere to the surfaces of the equipment. The proprietary high efficiency RO membrane built in to the Conserv 75E System removes TDS from the water, significantly inhibiting scale formation. Additionally, the RO membrane reduces salt minerals that can cause corrosion.

## ESPRESSO EQUIPMENT WATER SPECIFICATIONS

Most espresso equipment manufacturers outline specific water quality requirements which end-users must meet to ensure warranty compliance. The warranty is usually for a one-year period and is at risk of being voided if the end-user's water quality does not meet the recommended specification. Below is an example of ideal water specifications for espresso applications, as recommended by Pentair. Developed with these in mind, the Conserv 75E System can deliver a range of water qualities to fit virtually any espresso equipment manufacturer's requirements.

ATTRIBUTE	SPECIFICATION
Turbidity	Must not exceed 0.5 NTUs
Taste and Odor	Free from off-tastes and odor
Total Chlorine	<0.05 ppm
Iron	Not more than 0.25 ppm
Total Alkalinity	Not more than 100 ppm
Total Hardness	17-85 ppm
Total Dissolved Solids	70-200 ppm
pH	6.80-7.40
Sodium	At or near 10 mg/L



## ESPRESSO'S THREE TOP WATER-RELATED PROBLEMS:



When it comes to espresso, ingredients are critical to achieving the best tasting product. Improper tasting water and an imbalance of minerals can alter flavor and aroma. Superior-tasting drinks encourage repeat business, and returning visitors lead to increased sales and profits. Installing a Conserv 75E System insures a delicious espresso every time regardless of the contaminants in the water feeding the application.



Corrosion is a chemical process in which metals are eaten away, causing components to rust and disintegrate, eventually causing costly equipment to fail. Corrosion rates will vary widely depending upon a number of water quality-related factors, such as acidity (low pH), dissolved corrosive salts, municipal disinfection used, and operating temperature. Metal corrosion is permanent and progressive. When rust breaks through the protective layer of the metal, it cannot be fully cleaned, removed or restored to its original condition. This can result in expensive repair visits and ultimately shortens the life of expensive equipment.



Mineral or lime scale is formed when water contains a combination of hard minerals (calcium and magnesium), carbonates and sulfates at neutral or higher pH. Scale can produce stress fractures and pinholes in the boiler, as well as cause drive probes and floats to stick, resulting in under- or over-filling of the water reservoir. Scale can be removed with acid cleaning, but this process is harsh to all metal surfaces, and can reduce the equipment's operating life.

In addition to the time and cost of service calls, scale removal can lead to equipment downtime, negatively impacting sales.

### EFFECTS OF METAL CORROSION AND MINERAL SCALE FORMATION ON ESPRESSO EQUIPMENT

RUST AND DISINTEGRATING COMPONENTS

INCREASED ENERGY USAGE AND COSTS

STRESS FRACTURES AND PINHOLES IN THE BOILER

REDUCED EQUIPMENT LIFE

MALFUNCTIONING OF PROBES AND FLOATS

INCREASED MAINTENANCE COSTS

## A SOLUTION TO THESE PROBLEMS... PENTAIR EVERPURE CONSERV 75E HIGH EFFICIENCY REVERSE OSMOSIS SYSTEM



TRUE CORROSION PROTECTION.  
EFFECTIVE SCALE INHIBITION.  
REDUCED WATER WASTE.

The Conserv 75E System,  
with a combination of technologies,  
creates the right balance of minerals  
to improve taste of water while  
effectively inhibiting scale and  
corrosion in espresso equipment.

Taste is refined through the removal of contaminants like chlorine by the carbon pre- and post treatment cartridges in conjunction with the RO membrane. The RO membrane reduces scale by decreasing the TDS and hardness in the water going into the espresso equipment. This same TDS reduction from the RO membrane, along with the addition of minerals from the calcite feeder, also helps prevent corrosion in the espresso equipment. The final piece of the Conserv 75E System is its unique blending feature, which allows for a custom water recipe through the tailored blending of RO water and filtered water.

The combination of true corrosion and scale inhibition coupled with the ability to customize mineral content differentiates the Conserv 75E System from conventional RO systems. Coupled with less water waste than conventional RO, this system is extremely versatile in addressing water quality issues in espresso applications. This simple and reliable solution helps end-users meet manufacturers' target water specifications, helps reduce premature and/or unexpected warranty claims, and increases equipment life. It also increases customer satisfaction by creating consistently optimal espresso.



## SYSTEM FEATURES

- Pentair GRO-75EN High Efficiency RO Membrane Cartridge provides scale and lead reduction
- Everpure 4FC5-S Cartridge contains a five (5) micron Fibredyne™ II carbon block to remove small particles and chlorine, as well as inhibit scale
- Everpure 4CB5 Post Treatment Filter Cartridge to remove any off tastes from the RO tank and/or plumbing lines
- Everpure 4CC Post Treatment Calcite Feeder for corrosion reduction
- Blend valve to balance mineral content in water
- Onboard storage tank holds up to two gallons (7.5 litres) of product water
- Additional accessory tank port for even greater storage capacity when more product water is needed to service peak demand periods
- Proprietary Fibredyne™ II filtration media effectively inhibits the growth of bacteria on the filter media that can decrease product life
- NSF/ANSI Standard 58 certified to reduce cysts such as *Cryptosporidium* and *Giardia* by mechanical means
- 24 VAC power block runs the pump more efficiently and is safer to interact with when not contained within the system

## SYSTEM MAINTENANCE

- Cartridge replacement is recommended every one (1) year
- Sanitary cartridge replacement is simple, quick, and clean; internal filter parts are never exposed to handling or contamination
- Replacement cartridge kits are available making cartridge change out even easier – one part number to order and one part number to keep on hand. (Everpure Conserv 75E Cartridge Kit EV9977-25)

## SYSTEM BENEFITS

- Up to 50% water savings over conventional RO systems
- Tailored blending of incoming water for customizable mineral content for espresso and coffee beverages
- Equipment performance and life improvement by removing contaminants that cause scale buildup and corrosion
- Compact design allows for wall mount, countertop or undercounter installation
- Reduces risk of premature warranty claims
- Less frequent deliming of equipment results in reduced maintenance and service costs
- Protects against taste- and odor-causing contaminants while removing dirt, particulates and dissolved minerals
- Adaptable for ice applications via prefilter inlet
- NSF Standard 58, UL, and CE Certified

## SYSTEM APPLICATIONS

- Espresso machines
- Espresso machines in combination with low volume ice makers
- Espresso machines in combination with low volume drip coffee brewers
- Espresso machines in combination with hot water boilers
- Foodservice equipment using less than three (3) gallons of RO blended water per hour
- Coffee brewers, when used with an appropriate-size accessory tank



# CONVENTIONAL REVERSE OSMOSIS VS. CONSERV'S HIGH EFFICIENCY REVERSE OSMOSIS: WHAT'S THE DIFFERENCE?

**HOW DOES REVERSE OSMOSIS TREAT WATER?** Reverse osmosis (RO) membranes separate water molecules from dissolved minerals, salts and trace metals by forcing the water through a semi-permeable membrane. The semi-permeable membrane contains tiny pores (10,000 times smaller than one micron) to effectively reduce or remove the contaminants. This degree of filtration cannot be achieved with a carbon filter alone. A typical reverse osmosis filtration system includes a carbon prefilter, RO membrane and a storage tank. Some reverse osmosis systems include a carbon post filter for even greater taste improvement.

## EFFICIENCY COMPARISON

In a high efficiency reverse osmosis system, water sent to drain is significantly less compared to a conventional RO system. This means water savings, sewage savings, energy savings and sustainability.



### CONSERV GRO MEMBRANE

Sends 3x less water to drain than a conventional RO membrane  
50% of water goes to drain and 50% goes to product water; i.e. a ratio of 1:1 water to drain and water to product

### CONVENTIONAL RO MEMBRANE

Sends 3x more water to drain than Conserv's high efficiency GRO membrane  
80% of water goes to drain and 20% of water goes to product





# EVERPURE CONSERV 75E HIGH EFFICIENCY RO SYSTEM

## DESCRIPTION

## PART NUMBER

Conserv 75E High Efficiency Reverse Osmosis (RO) System*	EV997701
4FC5-S Pretreatment Carbon Filter Cartridge	
GR0-75EN RO Membrane Cartridge	
4CC Post Treatment Calcite Feeder	
4CB5 Post Filtration Cartridge	
Everpure Conserv 75E Cartridge Kit	EV997725

*\*The Conserv 75E System includes all four individual cartridges listed above. For simple ordering of replacement cartridges, use Cartridge Kit part number EV997725 to order all relevant cartridges with one number.*

## SPECIFICATIONS

Daily production rate:	50.51 gpd (191.20 lpd)
Service flow rate:	0.5 gpm @ 50-85 psi (1.9L @ 3.4-5.8 bar)
Pressure requirements:	40-85 psi (2.7 – 5.8 bar), non-shock
Overall dimensions:	475 mm x 431 mm x 260 mm
Certifications:	NSF 58, UL, CE

EPA Est. No. 002623-IL-002  
EPA Est. No. 082989-CHN-001

For further information concerning FIFRA registration, see product specification sheets.



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