

# 3M™ Water Filtration Products

SPEC# \_\_\_\_\_

QUANTITY \_\_\_\_\_

application: **COFFEE/ESPRESSO/STEAMERS**

model:

## TFS450 Reverse Osmosis System



The 3M™ Water Filtration Products TFS450 Reverse Osmosis Water Filtration System helps produce consistent Recipe Quality Water™ for hot beverages and steamers while maintaining efficient equipment operations in water conditions with high total dissolved solids (TDS) and/or hardness. The unique design allows for filtered water to be blended with RO water for adjustment of beverage quality and production volumes to about 600 gal/day.

The TFS450 offerings include three modules for maximum flexibility. The central Membrane Module is supported by an alternative Pumping Module to boost inlet water pressure when required and a choice of two product water storage tanks.

On-line TDS monitoring and pressure gauges are included. An installation kit is available.

### PRODUCT BENEFITS

- Precision lockable, metering valve provides Recipe Quality Water™ with adjustable Total Dissolved Solids (TDS)<sup>1</sup> for coffee and espresso brewing.
- Reduced equipment maintenance and replacement costs from reduced minerals that cause lime scale.
- Daily production from 300 gallons/day (1,136 liters/day) with no blending to about 600 gallons/day (2,271 liters/day) with blending.<sup>2</sup>
- Conversion of inlet water to product water (water utilization efficiency) is at least 50%; higher with blending.<sup>2</sup>
- Lower product-water recovery times with the included permeate pump.
- A hydraulic (non-electrical) bypass valve maintains the water flow in high demand situations.
- All product water (including blending and bypass) is pre- and post-filtered with NSF listed carbon and sediment filters, if desired, for cyst reduction and great taste.
- Optional Pumping Module runs on voltages from 100 - 240 and 50 or 60 Hz for ease of installation.
- System includes built-in pressure gauges and an in-line product-water TDS meter for monitoring.

### PRODUCT SPECIFICATIONS

Model Number	Part Number	Reduction Claims	Capacity <sup>2</sup>	Application
TFS450 Membrane	5623901 <sup>3</sup>	Approx. 90% TDS Reduction <sup>4</sup>	300 gallons (1,136 liters) per day	Coffee, Espresso, Steamers
Pumping Module	6229601	–	1.67 gpm @ 80 psi (6.32 lpm @ 552 kPa)	Pressurized Water Supply
Installation Kit	50-91301	–	–	Installation Kit

Softening is recommended when inlet feed water hardness is over 10 grains (171 ppm) and/or when inlet total dissolved solids are > 1,400 ppm.

<sup>1</sup> From 10% to about 50% of inlet-water TDS

<sup>2</sup> Capacity/Conversion is at 77°F (25°C) to atmosphere without blending. With blending the system production rate is approximately doubled and the maximum outlet water Total Dissolved Solids (TDS) is about 50% of inlet water TDS. Minimum 70 psi (482.6 kPa) feedwater pressure required

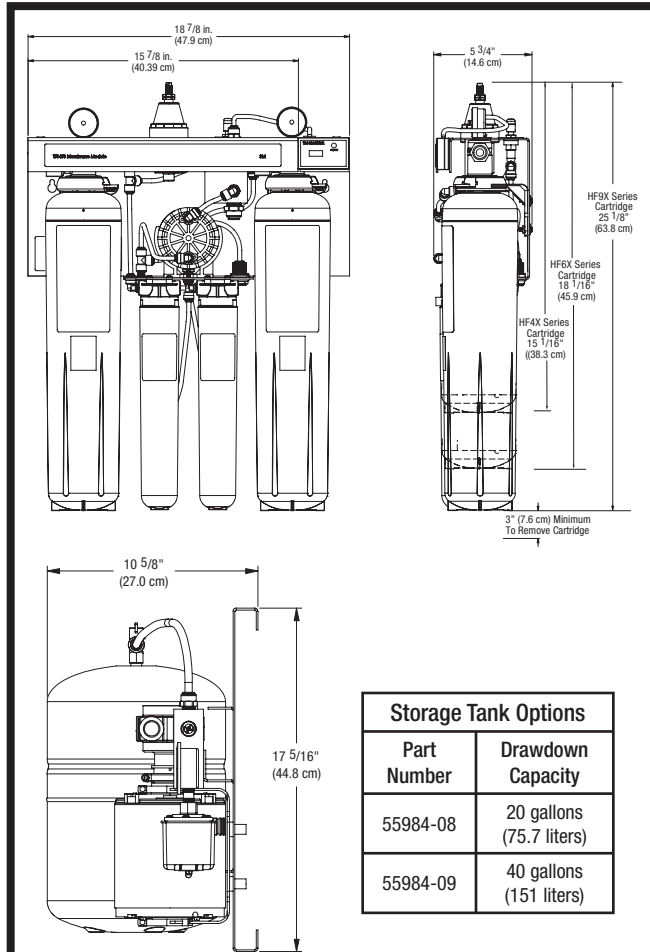
<sup>3</sup> Also available without pre-filter and post-filter as part number 5623902

<sup>4</sup> Without blending



# TFS450 Reverse Osmosis System 3M™ Water Filtration Products

SPEC# \_\_\_\_\_  
 QUANTITY \_\_\_\_\_  
 MODEL NUMBER \_\_\_\_\_  
 PART NUMBER \_\_\_\_\_



Storage Tank Options	
Part Number	Drawdown Capacity
55984-08	20 gallons (75.7 liters)
55984-09	40 gallons (151 liters)

**⚠ WARNING: To reduce the risk associated with the ingestion of contaminants:**

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

CUNO Incorporated recommends regularly scheduled maintenance and replacement of the filter cartridge(s) in order for the product to perform as advertised/sold. CUNO shall not be liable for system failures due to improper maintenance.

## LIMITED WARRANTY

Seller warrants its equipment against defects in workmanship and material (excluding disposable filter cartridge(s)) for a period of 2 years from date of shipment from the factory under normal use and service and otherwise when such equipment is used in accordance with instructions furnished by Seller and for purposes disclosed in writing at the time of purchase, if any. The disposable filter cartridge is warranted from defects in material and workmanship for a period of one (1) year from the date of purchase. Any unauthorized alteration or modification of the equipment by Buyer will void this warranty. Seller's liability under this warranty shall be limited to the replacement or repair, F.O.B. point of manufacture, of any defective equipment or part which, having been returned to the factory, transportation charges prepaid, has been inspected and determined by the Seller to be defective. THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR USE, OR ANY OTHER MATTER. Under no circumstances shall Seller be liable to Buyer or any third party for any loss of profits or other direct or indirect costs, expenses, losses or consequential damages arising out of or as a result of any defects in or failure of its products or any part or parts thereof or arising out of or as a result of parts or components incorporated in Seller's equipment but not supplied by the Seller.

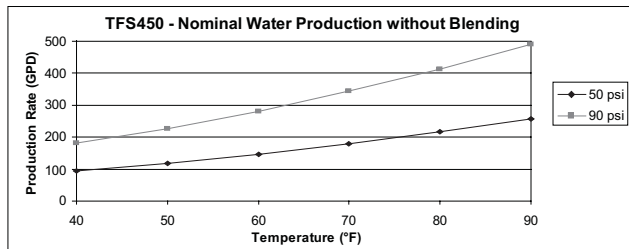
## PHYSICAL SPECIFICATIONS

- System materials are NSF and/or FDA CFR-21 compliant.
- System is mountable with a powder-coated rust-resistant bracket design.
- Pumping Module connections are 3/8" NPT (female) inlet and 1/2" NPT (female) outlet.
- Membrane Module inlet/outlet connections are 1/2" NPT (female).
- Maximum inlet water pressure of 100 psi (689 kPa) and inlet water temperature of 100°F (37.8°C).

## IMPORTANT: INSTALLATION TIPS

These installation tips are for informational purposes only and are not intended to be used as actual installation instructions. **CAUTION: To reduce the risk associated with property damage due to water leakage:**

- Read and follow** Use Instructions before installation and use of this system.
- Installation and use **MUST** comply with all state and local plumbing codes.
- Protect from freezing**, remove filter cartridge when temperatures are expected to drop below 40°F (4.4°C).
- Do not install on hot water supply lines.** The maximum operating water temperature of this filter system is 100°F (37.8°C).
- Do not install** if water pressure exceeds 100 psi (689 kPa). If your water pressure exceeds 80 psi (552 kPa), you must install a pressure limiting valve. Contact a plumbing professional if you are uncertain how to check your water pressure.
- Do not install** where water hammer conditions may occur. If water hammer conditions exist you must install a water hammer arrester. Contact a plumbing professional if you are uncertain how to check for this condition.
- The disposable filter pre and post cartridges **MUST** be replaced every 12 months, at the rated capacity or if a noticeable reduction in flow rate occurs.



## Replacement Cartridges and Cartpaks

Part Number	Function	Description	Qty. Req'd
56248-01	All Filters	Pre & Final and 2 RO Cartridges	1
56248-02	RO Cartpak	2 RO Filters	1
56135-07	Pre-Filter	HF95	1
56135-03	Final (Post) Filter	HF90	1
56250-01	RO Filter	RO Membrane	2

