

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)¹ 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 up to 600 gallons/day (2,271 liters/day) with blending.²
- Conversion of inlet water to product water (water utilization efficiency) is at least 50%; higher with blending.²
- 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.
- 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 ²	Application
TFS450 Membrane	5623901 ³	Approx. 90% TDS Reduction ⁴	300 gallons (1,136 liters) per day	Coffee, Espresso, Steamers
Pumping Module	6233901	–	–	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.

¹ From 10% to about 50% of inlet-water TDS

² Capacity/Conversion is at 77°F (25°C) and 70 psi feedwater pressure 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. Performance may vary depending on water temperature and pressure.

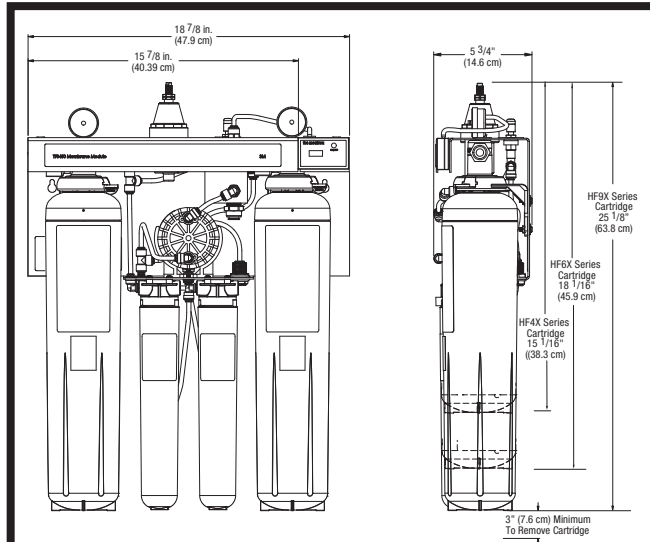
³ Also available without pre-filter and post-filter as part number 5623902

⁴ Without blending



TFS450 Reverse Osmosis System 3M™ Water Filtration Products

SPEC# _____
 QUANTITY _____
 MODEL NUMBER _____
 PART NUMBER _____



TFS450 Tank Sizing

Expected Water Usage over 2 Hour Peak Demand Period (Gallons)	Recommended Tank Size (Gallon Tank)
< 3	Not Recommended
3 - 5	2
5 - 10	5
10 - 20	10
20 - 40	20
40 - 60	40
> 60	Consult Factory

NOTE: It is not recommended to use the TFS450 RO system in applications that require less than 30 gallons per day.

⚠ 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.

3M Purification Inc. recommends regularly scheduled maintenance and replacement of the filter cartridge in order for the product to perform as advertised/sold. 3M Purification Inc. shall not be liable for system failures due to improper maintenance.

LIMITED WARRANTY

3M Purification Inc. warrants this Product will be free from defects in material and manufacture for five (5) years from the date of purchase: The filter cartridge or filter membrane is warranted to be free from defects in material and manufacture for one (1) year. This warranty does not cover failures resulting from abuse, misuse, alteration or damage not caused by 3M Purification Inc. or failure to follow installation and use instructions. No warranty is given as to the service life of any filter cartridge or membrane as it will vary with local water conditions and water consumption. **3M PURIFICATION INC. MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOMER OR USAGE OF TRADE.** If the Product fails to satisfy this Limited Warranty during the warranty period, 3M Purification Inc. will replace the Product or refund your Product purchase price. This warranty does not cover labor. **The remedy stated in this paragraph is Customer's sole remedy and 3M Purification Inc.'s exclusive obligation.** For additional information, see the entire Limited Warranty located in the product Installation and Operating Instruction Manual.

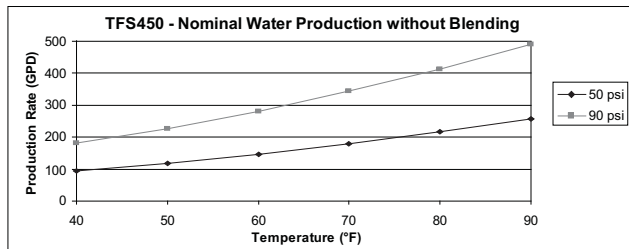
PHYSICAL SPECIFICATIONS

- 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) and include 1/2" NPT bushings.
- 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



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 REV 1010

3M Science.
Applied to Life.™

3M™ Foodservice Water Filtration
Products | Reverse Osmosis Systems

Filtration fact:
It's easy to solve
hard water issues.

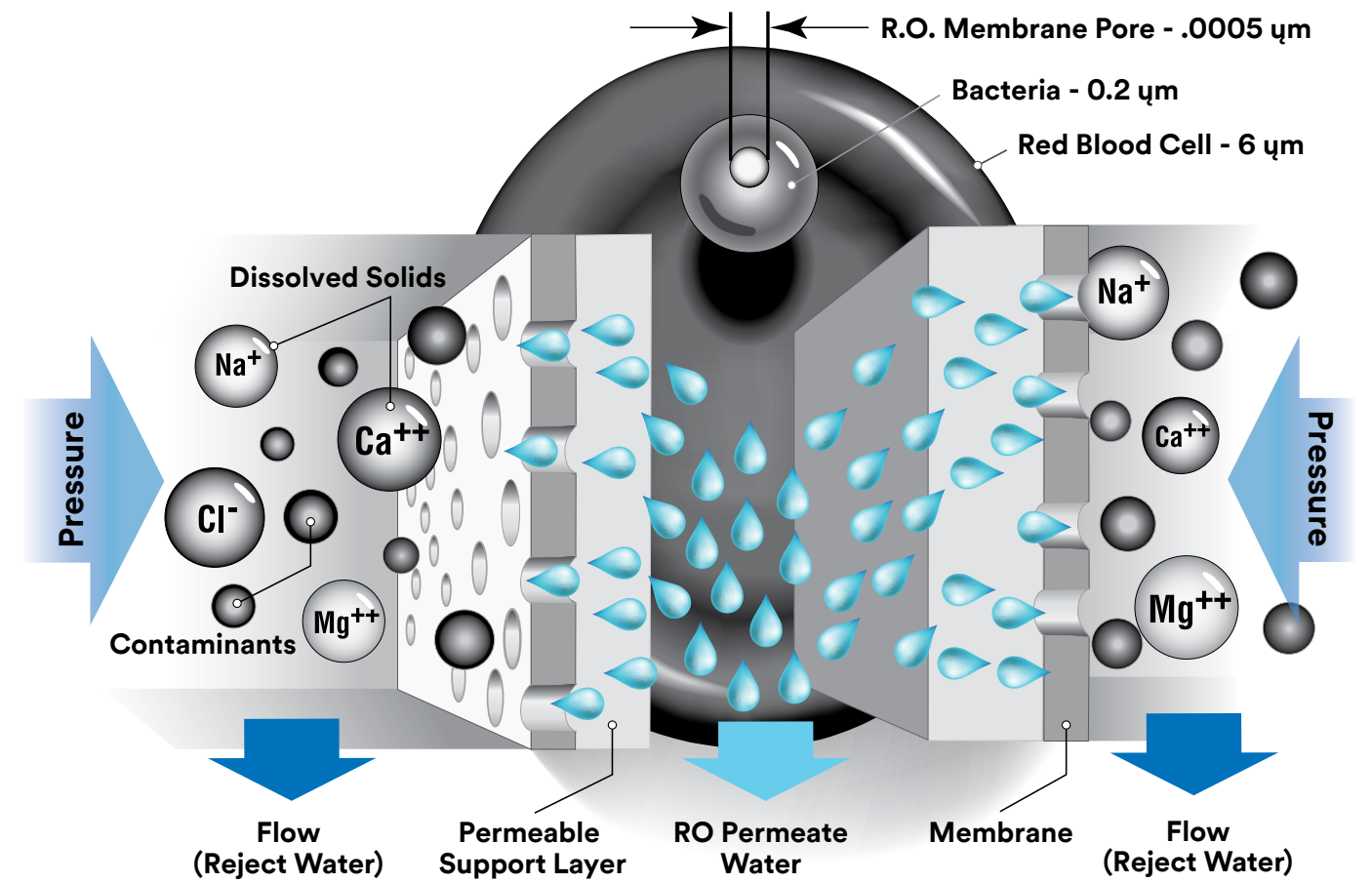


Is hard water giving you a hard time?

Unfiltered hard water can leave impurities behind that can lead to equipment failure and loss of business.

In the competitive foodservice industry, you know how important product consistency is for growing your business. Unscheduled maintenance calls or service interruptions can jeopardize customer satisfaction and your bottom line. Have confidence in your water with a reverse osmosis system from 3M.

How a Reverse Osmosis membrane works for your water.



The Challenge:

When water is cooled, heated or converted to steam, it leaves impurities behind. These impurities cling to the surfaces they come in contact with and can cause problems over time.

The Solution:

3M™ Water Filtration Reverse Osmosis Systems are designed to reduce hardness minerals, particulates and chlorine taste and odor that can cause equipment to require service, decreasing profitability.



Hard water is found in more than **85%** of the U.S.





Reverse Osmosis Systems

Model/Part	Capacity	Type	Reduction Claims
TFS450 RO System includes cartridges 5623901	300 gpd** (1135.6 lpd) without Blending	Line pressure RO system	Particulate, chlorine taste and odor, TDS

(Shipping Dimensions) 7" x 30" x 20" (17.8 cm. x 76.2 cm. x 50.8 cm.)
See page 7 for storage tank options.

TFS450 Replacement Cartridge(s)

Model/Part	Capacity	Type	Reduction Claims
TFS450 Cartpak includes prefilter, post filter, (2) RO cartridges 5624801	NA	SQC style	Particulate, chlorine taste and odor, TDS
TFS450 Cartpak includes (2) RO cartridges 5624803	NA	SQC style	TDS
TFS450 Install Kit 50-91301	NA	Installation Kit	NA

(Connections: inlet) 3/8" FNPT; outlet 1/2" FNPT
(Product Dimensions) 17-15/16" H x 22" W x 10-5/8" D (45.6 x 55.9 x 27.0 cm)

Reverse Osmosis Systems for Steamers



Model/Part	Capacity	Type	Reduction Claims
SGLP-RO with Permeate Pump 5612304	75 gpd* (283.9 lpd)	Line pressure RO system Use RO membrane with p/n 5598729	Particulate, chlorine taste and odor, TDS

(Connections) 1/4" tube inlet/outlet.
(Product Dimensions) 17-3/4" H x 12-1/4" W x 9-3/8" D (45 cm. x 31.31 cm. x 23.8 cm.)

Model/Part	Capacity	Type	Reduction Claims
FSTM-075 without Permeate Pump 5612306	75 gpd* (283.9 lpd)	Line pressure RO system Use RO membrane with p/n 5598728	Particulate, chlorine taste and odor, TDS

(Connections) 1/4" tube inlet/outlet.
(Product Dimensions) 15-7/8" H x 12-1/4" W x 9-3/8" D (45 cm. x 31.1 cm. x 23.8 cm.)

SGLP/FSTM Replacement Cartridge(s) and RO Membranes

Model/Part	Capacity	Type	Reduction Claims
ScaleGard™ Pre 5570613	NA	SQC style	Particulate, chlorine taste and odor
ScaleGard™ RO (RO Membrane) 5598728	75 gpd* (283.9 lpd)	SQC style. Use RO membrane with p/n 5612306	TDS
ScaleGard™ RO (RO Membrane) 5598729	75 gpd* (283.9 lpd)	SQC Style for SGLP-RO. Use RO membrane with p/n 5612304	TDS
M cartridge 5598725	150 gpd* (568 lpd)	RO Membrane for STM/TSR Systems	TDS

Connections: 1/2" FNPT; outlet 1/2" FNPT Product Dimensions: Contact Factory
6239301 (ScaleGard HP reverse osmosis system (110V) without prefilter and RO cartridges) Contact Factory for pricing.
6239302 (ScaleGard HP reverse osmosis system (220V) without prefilter and RO cartridges) Contact Factory for pricing.



ScaleGard™ HP Reverse Osmosis System

Model/Part	Capacity	Type	Reduction Claims
ScaleGard™ HP Reverse Osmosis System w/ cartridge and RO membrane 5629101	930-1040 gpd* (2839 -3551 lpd) w/o blending*	(110-120VAC) w/ Prefilter and RO cartridges-USA plug	HF90-CL-RO cartridge: Bacteria ¹ , particulate, chloramines, CTO, cyst ² HFRO500 cartridge: TDS

ScaleGard™ HP Replacement Membranes

HF90-CL-RO 5613529	NA	Prefilter for ScaleGard™ HP System	Bacteria ¹ , cyst ² , particulate, chloramines, chlorine taste and odor
HFRO 500* 5626903	NA	RO Cartridge for ScaleGard™ HP System	NA

ScaleGard™ HP Installation Kit

ScaleGard™ HP Install Kit 6841441	NA	Installation Kit	NA
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ScaleGard™ Pre-Expansion Manifolds

SGHP Pre-EXP 6235205	NA	Pre-Expansion Manifold	NA
SGHP RO-EXP 6232705	NA	RO-Expansion Manifold	NA

SGLP-CL Reverse Osmosis Systems for Combi Ovens and Steamers



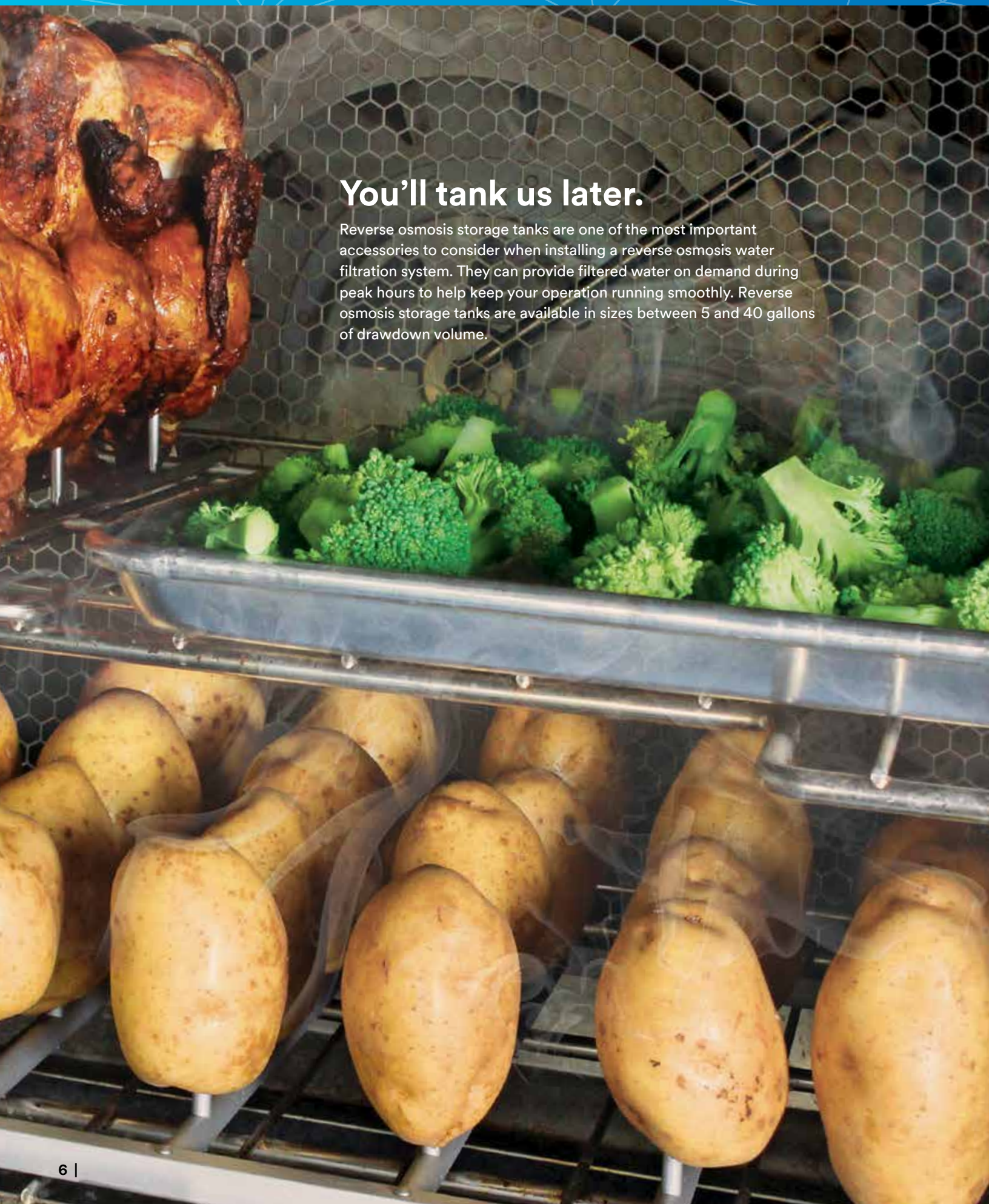
SGLP100-CL 5636201	100 gpd* (378.5 lpd)	Combi Oven and Boilerless steamer RO System - Single Oven (Cleaning bypass sold separately)	Particulate, chlorine taste and odor, chloramines and TDS
SGLP100-CL-BP 5636204	100 gpd* (378.5 lpd)	Combi Oven and Boilerless steamer RO System - Single Oven Includes Cleaning Bypass	Particulate, chlorine taste and odor, chloramines and TDS
SGLP200-CL 5636202	200 gpd* (757 lpd)	Combi Oven and Boilerless steamer RO System - Two High Ovens (Cleaning bypass sold separately)	Particulate, chlorine taste and odor, chloramines and TDS
SGLP200-CL-BP 5636203	200 gpd* (757 lpd)	Combi Oven and Boilerless steamer RO System - Two High Ovens Includes Cleaning Bypass	Particulate, chlorine taste and odor, chloramines and TDS

SGLP-CL Accessories, Replacement Prefilter and RO Membrane(s)

Cleaning Bypass Assy 50-94201	NA	Used for single water inlet ovens and steamers	NA
HF65-CL 5628902	7,000 gals. (26,498 lit.)	Replacement prefilter cartridge	5 micron; Particulate, chloramines, chlorine taste and odor
CFS M (RO Membrane) 5625004	100 gpd* (378.5 lpd)	SQC style replacement RO membrane	TDS

¹ As tested and verified with e.Coli ATCC (11229) by manufacturer's laboratory
² Based on the use of Cryptosporidium parvum oocysts






Maximum 18-month change-out recommended. Periodical evaluation of membrane recommended for optimum quality and flow.
*RO production rates listed are at a water pressure and temperature of 60 psi and 77°F producing water at atmosphere.
**RO production rates listed are at a water pressure and temperature of 70 psi and 77°F producing water at atmosphere.
Actual RO production rates may vary depending on water-temperature, incoming water quality and other factors.



You'll tank us later.

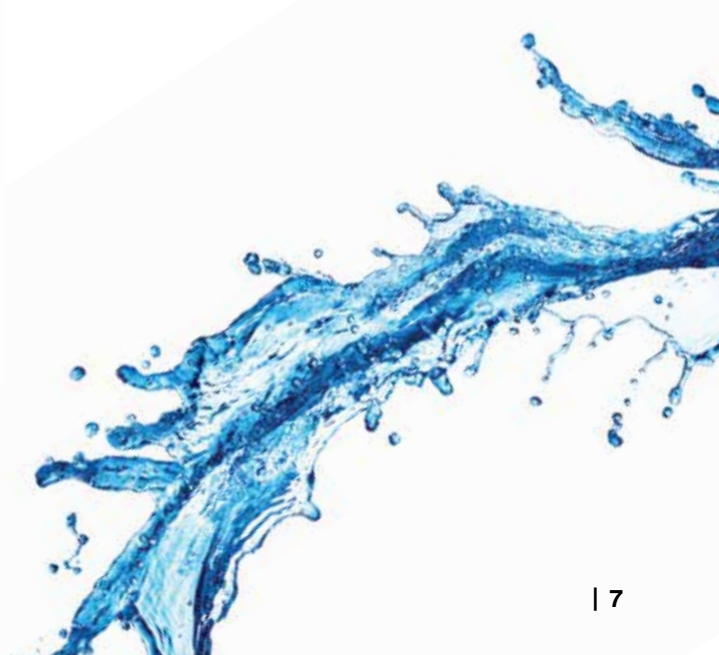
Reverse osmosis storage tanks are one of the most important accessories to consider when installing a reverse osmosis water filtration system. They can provide filtered water on demand during peak hours to help keep your operation running smoothly. Reverse osmosis storage tanks are available in sizes between 5 and 40 gallons of drawdown volume.

Reverse Osmosis Storage Tanks

Model/Part	Dimensions	Ship Wt.
 2.5 gallon RO Storage Tank w/ 90° 1/4" JG Ball Valve 5598405	17" H x 11" W x 17" L (43.2 cm. x 27.9 cm. x 43.2 cm.)	Contact Factory
 5 gallon drawdown Tank for STM/TFS RO Systems. Comes with connection kit 5598406	16-1/2" H x 15" D (41.9 cm. x 38.1 cm.)	20 lbs. (9.1 kg.)
 10 gal. drawdown Tank w/ connection kit 5598407	32-1/2" H x 16" D (81.9 cm. x 40.6 cm.)	23 lbs. (10.4 kg.)
 20 gal. Pneumatic Tank w/ 1" Ball Valve Assy. 5591202	56-3/4" H x 16" D (144.1 cm. x 40.6 cm.)	42 lbs. (19.1 kg.)
 40 gal. drawdown Tank w/ 1-1/4" Ball Valve Assy. 5591203	55-1/2" H x 24-1/4" D (141.0 cm. x 61.6 cm.)	87 lbs. (39.5 kg.)



Storage tanks feature
1/4" to 1-1/4"
NPT female connections that
make installation easy.



Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

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Clear things up at 3MFoodService.com

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Regulatory Data Sheet

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Document Group:	40-9913-1	Version Number:	1.00
Issue Date:	12/15/21	Supersedes Date:	Initial Issue

3M™ ScaleGard™ TFC Reverse Osmosis Membrane Filter Cartridge 5598725

Product Identification Numbers

5598725, 70-0203-2269-2
7100049411

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1-888-3M HELPS (1-888-364-3577)

RDSs are available at www.3M.com

Regulations and Industry Standards

California Proposition 65

To the best of the manufacturer's knowledge, this product is in compliance with Proposition 65, and reasonably anticipated use of this product will not result in exposure to any Proposition 65 chemicals that would require a Proposition 65 warning.

TSCA 8(a) Nanomaterial Reporting

This product does not contain nanoparticles subject to reporting under TSCA Section 8(a). Under the "Chemical Substances When Manufactured or Processed as Nanoscale Materials: TSCA Reporting and Recordkeeping Requirements" rule, a reportable nanoparticle is defined as having at least one dimension in the size range of 1 – 100 nm and is manufactured or processed to exhibit unique and novel properties because of its size.

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