

# PeakFlow®C System Installation Instructions

## PeakFlow®C Installation Instructions

### NOTICE

- To ensure maximum installation and functionality, please read this manual carefully BEFORE installing the equipment.
- Please follow the instruction to avoid potential property damage or equipment damage that may result in personal injury. Installation must comply with state or municipal plumbing codes and regulations.
- The Peakflow system effectively prevents scale in tankless water heaters and pipes but is not recommended for use with tank-type water heaters or storage systems.
- Keep this manual after installation. This manual contains important information on parts and maintenance.
- In commercial application, facility personnel are strongly encouraged to read the Warnings, Operation and Maintenance sections of the manual.

### Important Application Limitations

The PeakFlow C system is intended solely for scale prevention in tankless water heater applications.

△ **DO NOT** use this system under the following conditions:

- With storage-type or tank-type water heaters
- In recirculated or closed-loop plumbing systems
- In commercial point-of-entry (POE) installations where flow exceeds 12 gallons per minute (gpm) continuous or 16 gpm peak
- Where a water main larger than 1.25 inches is reduced at the inlet
- In any system involving polyphosphate dosing, excessive chlorine (greater than 2 ppm), oil, hydrogen sulfide, or other incompatible contaminants

### Product Purpose Clarification

The PeakFlow C system is a scale prevention device, not a water softener. It does not remove hardness minerals such as calcium or magnesium, nor does it deliver the same water quality benefits as ion exchange systems. PeakFlow C is intended solely to prevent scale accumulation on tankless water heater heat exchangers and internal plumbing surfaces. It does not reduce water hardness, eliminate spotting, or improve soap efficiency.



Navien PeakFlow C  
(GPWC510001AC001)  
is certified by IAPMO R&T to  
NSF/ANSI/CAN 61 Standard

### Model #GPWC510001AC001

Replacement Media Part #: GWFC510GD001

### System Specifications

- Maximum Pressure: 90psi / 6.2 bar
- Maximum Temperature: 100°F / 38°C
- Minimum Temperature: 40°F / 5°C
- Service Flow Rate: Up to 16 gpm (60.5 lpm)
- Continuous Flow Rate: Up to 12 gpm (45.5 lpm)
- Inlet/Outlet Connections: 1" NPT
- Capacity: Media does not have a grain removal capacity. However, other contaminants present in the water will gradually degrade the effectiveness of this media (see Operation and Maintenance below).

### Introduction

The PeakFlow C System prevents scale buildup on the inner pipe surface, heat exchanger or instant water heater. When installing, operating the PeakFlow, or when replacing the media, be sure to refer to the manual.

# PeakFlow®C System Installation Instructions

## Feed Water Chemistry Requirements

- pH: 6.5 to 8.5
- Hardness (maximum): 75 grains (1282 ppm CaCO<sub>3</sub>)
- Water Pressure: 15 psi to 90 psi (1.03 bar to 6.2 bar)
- Temperature: 40°F to 100°F (5°C to 38°C)
- Chlorine (maximum): 2 ppm
- Iron ( maximum): 0.3 mg/l
- Manganese (maximum): 0.05 mg/l
- Copper: 1.3 ppm\*
- Polyphosphate, oil & hydrogen sulfide (H<sub>2</sub>S): Must be removed before PeakFlow C.  
  - △Do not install in systems containing polyphosphate, oil, hydrogen sulfide, or other incompatible pretreatment chemicals.
- Silica (maximum): 20 ppm
- Flow Rate (Continuous): 12 gpm
- Flow Rate (Peak): 16 gpm
- △Do not install this system in recirculating or closed-loop water systems
- This product is not approved for POE anti-scale protection in high-demand commercial settings without verified flow compatibility
- This system is not a water softener. It is designed only for scale prevention and will not reduce water hardness or provide soft water characteristics.

**NOTE:** PeakFlow C and media will not reduce silica scaling. While silica tends to have a less significant effect on scale formation than other minerals, it can act as a binder that makes water spots and scale residue outside the plumbing system difficult to remove.

## WARNING

- Water MUST flow in OPPOSITE direction of molded arrows on the head for proper performance.
- Do not install in systems containing polyphosphate, oil, hydrogen sulfide, or other incompatible pretreatment chemicals
- Not to be used with microbiologically unsafe quality water.
- Avoid direct sunlight. The filter housing will be damaged by high temperatures.
- Be careful not to freeze the System. When the temperature drops below 32 °F, shut off the water supply to the housing and drain the housing.
- Do not install the system where it can be exposed to strong chemicals or bumped into equipment, carts, mops, or other items that could cause damage.
- If there is a water hammer, install a water hammer arrestor in front of the PeakFlow C System.

# PeakFlow®C System Installation Instructions

## Pre-Installation Verification Checklist

The installer must confirm all of the following conditions prior to installation:

1. The system is being installed on a tankless water heater (not a storage- or tank-type heater)
2. The plumbing system is open-loop, not recirculated or closed
3. The expected flow rate is within 12 gpm continuous and 16 gpm peak
4. The application is residential or light-commercial
5. There is no pipe size reduction from a main line larger than 1.25" before the system inlet. Connected piping must be sized to flow rates that do not exceed the specified range
6. The system is not exposed to polyphosphate or other incompatible water conditions
7. The installer and end-user understand that this product is a scale prevention system, not a softener, and does not provide soft water

If any of the above conditions are not met, do not proceed with installation. Contact Navien Technical Support (1-800-519-8794) for further evaluation.

**NOTE:** Please check the system package for any damaged or missing parts before proceeding with the installation.

## Installation

1. Inspect the water line for the use of polyphosphate or other scale inhibitors and remove if any.

**Note:** The PeakFlow C System cannot be used with other scale inhibitors.

2. Locate and turn off the water shut-off valve before installing the PeakFlow C System.
3. Secure the PeakFlow C system. Must be installed in vertical, upright, and level position on the floor.
4. Install the PeakFlow C system with water flowing in the OPPOSITE direction of molded arrows (if there are no INLET/OUTLET indicator bands) on the head for proper performance.
5. When connecting the water supply line to the housing, use 2-3 Teflon® tape wraps.

**Note:** Do not use liquid pipe compounds to connect fittings. Do not overtighten the housing entry and exit fitting connections.

6. Choose tubing of the appropriate size for the equipment being supplied and connect it to the PeakFlow C according to the INLET/OUTLET indicator bands. See page bypass illustration on page 4 for reference.

**IMPORTANT:** If there are no INLET/OUTLET indicator bands clearly marked on the bypass valves- water **MUST** flow in the OPPOSITE direction of the molded arrows printed on the head of the unit and bypass valves for proper installation and performance.

## Purging the Air

1. **Put the system in bypass mode:** turn the bypass valve to the bypass position to stop water from flowing through the tank.
2. **Open the INLET valve slowly:** with the system still in bypass, slowly open the bypass inlet valve. This starts filling the tank with water. Leave the bypass OUTLET valve closed for now and open the closes fixture to the PeakFlow product.
3. **Release air:** partially open the bypass OUTLET valve slowly to let air escape. You may hear hissing or sputtering- this is normal. Let it run until water flows smoothly with no air.
4. **Fully open the bypass OUTLET valve:** Once the water is steady, fully open the outlet valve. The tank is now filled and without air.
5. **Return to operation:** fully open the bypass valves back to operational mode so water flows through the system normally.

### Caution:

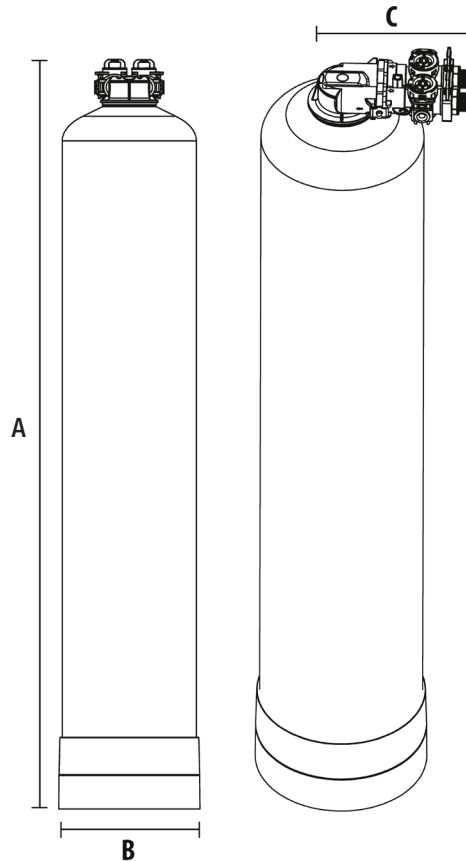
- Go slow to avoid disturbing the media inside the tank.
- If there's a filter or air release valve connected, make sure it's also vented.

# PeakFlow®C System Installation Instructions

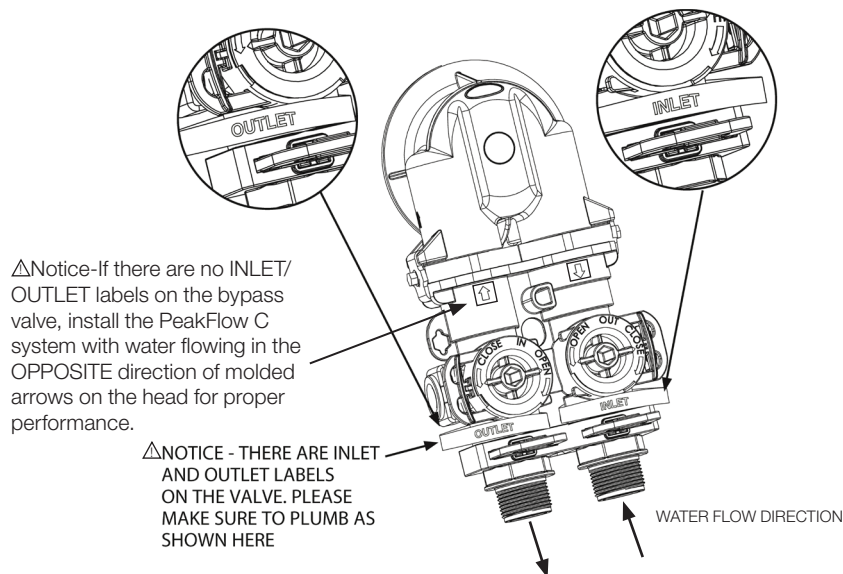
## Installation Drawings & Dimensions

Model		
PeakFlow C		
Dimensions		
	in.	mm
A	54	1372
B	10	254
C	12	305
D	2	51

Due to variations and tolerances, please allow clearance above the filter for making connections.



## Top View of IN/OUT Head & Bypass Valve



# PeakFlow®C System Installation Instructions

## System Use Limitations

The PeakFlow C system must be installed and operated only under its published design parameters.

It is not intended for use with storage-type water heaters, recirculating loops, or flow rates that exceed its rated capacity. Use in closed-loop systems or pressurized loops may lead to premature media degradation, reduced treatment effectiveness, or permanent damage and is not supported.

## Operation and Maintenance

- The PeakFlow C System is completely automatic with the correct water pressure.
- Replace the filter media every 5 years (60 months).
- Use PeakFlow C System media only.
- The use of any other replacement media will void the warranties and may compromise equipment protection, water quality, and equipment life.
- PeakFlow C media should be changed every 60 months. The frequency of media replacement will depend on volume of system usage and water quality (refer to the **System Use Limitations** section above or **Application Limitations Summary** on page 7).
- This product does not function as a water softener and will not remove calcium, magnesium, or other hardness minerals from the water.

## Media Replacement Procedure

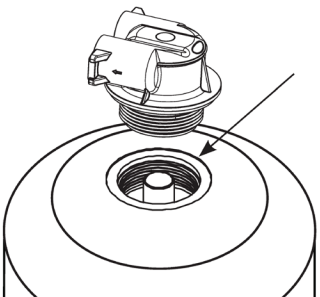
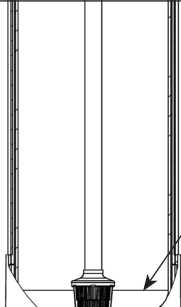
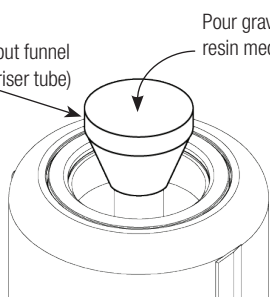
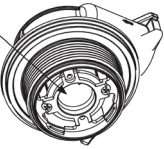
1. Turn OFF all of the equipment connected to the PeakFlow C System before shutting off the water supply.
2. Shut OFF the water supply at the front end of the system by putting the unit into bypass mode.
3. Remove the clips between the bypass valve and INLET/OUTLET tank head.
4. Separate bypass valve and INLET/OUTLET tank head.
5. Unscrew the head from the fiberglass tank. Then remove the distributor tube.
6. Remove the filter media and gravel by tipping the tank upside down into a large drum or pail.

# PeakFlow®C System Installation Instructions

## Media Bed Loading Procedure

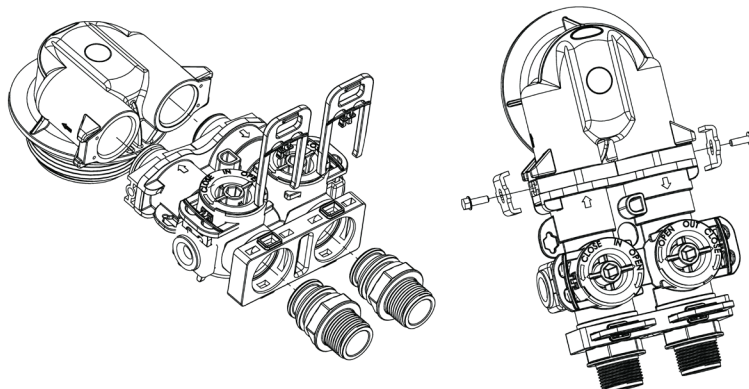
1. Place the distributor tube back down the center of the tank. Plug top of the distributor tube with a rag, cork, or tape to prevent media from entering.
2. Pour the bag of coarse gravel into the tank.
3. Then pour the bag of resin media into the tank.

**Note:** it is important that the distributor tube is not moved or pulled during this process, as it is not possible to put it down the bottom of the tank once gravel and media are in the tank.

	 <p>The riser (distributor) tube remains inside the tank seated in the depression at the bottom</p>	 <p>FUNNEL (Do not put funnel into the riser tube)</p> <p>Pour gravel, then resin media.</p>
<p>Remove the adaptor from the mineral tank.</p> 	<p>Temporarily plug the open end of the rise tube. The rise (distributor) tube remain inside the tank, seated in the depression at the bottom.</p>	<p>Fill the gravel (support bed) first. The media will not always spill down inside the tank and may need to be swept inside. The use of a funnel may make the filling of the tank easier and neater.</p>

## Parts

Description	Quantity
DISTRIBUTION CONE ,TOP,1",NARROW,	1 EA
RESIN MEDIA	4.5 L
GRAVEL,FINE,1/8X1/16	0.12 CF
TANK (10 inch D x 53 inch H)	1 EA
NEOPRENE JACKER COVER (PF-C)	1 EA
DISTRIBUTOR TUBE ,1x54"	1 EA
QC ADAPTER ELBOW 3/4"NPT	2 EA
O-RING HTO/BAF CROSSOVER	2 EA
TUBE 22.4 X 3.55	1 EA
TANK ADAPTOR (VER. IV)	1 EA
BYPASS,65,85,85HE,75,C/W	1 EA
1 x 1 1/4" NPT BUSHING	2 EA



# PeakFlow®C System Installation Instructions

## Limited Warranty

Navien, Inc. warrants the PeakFlow C Scale Prevention System as follows:

Navien warrants that the system is free of defects in material and workmanship for one year from the date of installation if the System is correctly installed according to the manual.

## Conditions

1. The PeakFlow C Scale Prevention System works only when the incoming water complies with EPA regulations. Grease, copper, phosphate, silica, chlorine, and copper levels of the incoming water should meet the EPA drinking water standard.
2. The concentration of chlorine in incoming water should not exceed 2.0 ppm. If the water supply exceeds 2.0 ppm of chlorine, a pretreatment system must be used to reduce chlorine levels under 2.0 ppm.
3. Abuse of the product, improper installation, or damage caused by the installer or user's mistake shall void this warranty.
4. The equipment must comply with local piping regulations and be installed and operated in a water supply system that complies with EPA drinking water standards.
5. The equipment is restricted to use at the water pressure and temperature that does not exceed the specifications suggested by Navien, Inc.
6. Use of the PeakFlow C system in recirculated, closed-loop, or pressurized loop environments will void this warranty.
7. Applications that exceed the stated flow rate limitations, involve pipe diameter reductions without flow control, or include incompatible water chemistry (e.g., polyphosphate, chlorine >2 ppm, oil, hydrogen sulfide) are not covered.
8. Installation on storage-type or tank-type water heaters is not supported and voids all warranties regardless of flow conditions.
9. The PeakFlow C system is not warranted to provide any water softening benefits.
10. Information including the model number, serial number, and installation date must be provided for all claims related to the device warranty.
11. Either Navien, Inc. or an authorized Navien representation shall inspect any allegedly defective parts. Navien, Inc. shall adjust the coverage.
12. Navien, Inc. reserves the right to change or replace parts or equipment with materials of the same quality or value.

## Application Limitations Summary

The PeakFlow C system must be used only under the following conditions. Use outside these limits may result in reduced performance, field failure, or loss of warranty coverage.

### **NOT APPROVED** for use in:

- Storage-type or tank-type water heaters
- Closed-loop or recirculating plumbing systems
- POE systems exceeding 12 gpm continuous or 16 gpm peak
- Installations with pipe reductions from the main line greater than 1.25" at the system inlet
- Systems with polyphosphate dosing, chlorine >2 ppm, oil, hydrogen sulfide (H<sub>2</sub>S), or other incompatible conditions
- Applications expecting water softening or hardness removal

### **APPROVED** for use in:

- Tankless water heater protection
- Residential or light-commercial applications
- Single-pass plumbing systems within flow, pressure, and temperature limits
- Systems installed per this manual and applicable plumbing codes
- Scale prevention only, not water softening

# PeakFlow®C System Installation Instructions

## How do I get service?

- 0-30 days after purchase: Any accessory furnished by Navien Inc., installed and determined to be defective for up to 30 days must be returned to the wholesaler where purchased. Wholesaler shall handle the return through Sales Orders at [orders@navien.com](mailto:orders@navien.com). A sales return authorization (SRA), purchase order copy, and proper documentation will be required in order to receive a refund. Only approved credit will be issued.
- 31-365 days after purchase: Accessories installed for 31 days up to one year will require a Returned Goods Authorization (RGA) obtained by Navien's technical support team at 800-519-8794, option 2. An RGA number will be issued for shipping a replacement part or wholesaler pick up. Proof of purchase may be required based on product part value.

## Limitations

Our obligation under this warranty is limited to providing a replacement or repairing at our option regarding the media cartridge. Parts that have been proven to be defective within the warranty period specified above will have replacement parts will be delivered to the owner of the PeakFlow scale prevention system. Labor costs are not included in the warranty.

Our warranty must satisfy the conditions under which the consumer provides media replacement within two years. Media is limited to products provided by Navien, Inc. This warranty does not include media damage due to chlorine or other oxidizing agents, contamination caused by local water quality conditions, or other conditions when used outside the limits indicated in the specifications and specifications.

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THE REMEDIES DESCRIBED IN THIS WARRANTY ARE THE ONLY AND EXCLUSIVE REMEDIES FOR VIOLATION OF THE WARRANTY. NAVIEN, INC. IS NOT RESPONSIBLE FOR INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, FREIGHT, HANDLING, LOSS OF PROFITS, EXPENSES, OR THE COST OF REPAIRING OR REPLACING OTHER PROPERTY THAT IS DAMAGED IF THIS PRODUCT DOES NOT WORK CORRECTLY, OTHER COSTS RESULTING FROM LABOR CHARGES, DELAYS, VANDALISM, NEGLIGENCE, FOULING CAUSED BY FOREIGN MATERIAL, DAMAGE FROM ADVERSE WATER CONDITIONS, CHEMICALS, OR ANY OTHER CIRCUMSTANCES OVER WHICH NAVIEN, INC. HAS NO CONTROL. THIS WARRANTY SHALL BE INVALIDATED BY ANY ABUSE, MISUSE, MISAPPLICATION, OR IMPROPER INSTALLATION OF THE PRODUCT.

This warranty gives you specific legal rights, and each state has different rights. To determine your rights, you must refer to your applicable state laws. All implied warranties are limited to the specified warranty period of the express warranties provided herein.

Some states do not allow restrictions on implied warranties or the exclusion or limitation of ancillary warranties or consequential damages. Those restrictions in this warranty may not apply to you.

### CALIFORNIA PROPOSITION 65 WARNING

**WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm  
(California law requires this warning to be given to customers in the State of California.)

Navien, Inc., 20 Goodyear, Irvine, CA 92618 800-519-8794 [navieninc.com](http://navieninc.com)

Navien Canada, Inc., 555 Hanlan Rd., Unit 7 Vaughan, ON L4L 4R8 800-519-8794 [navieninc.ca](http://navieninc.ca)