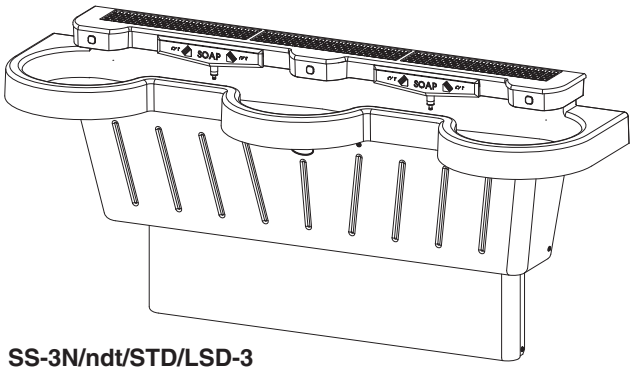
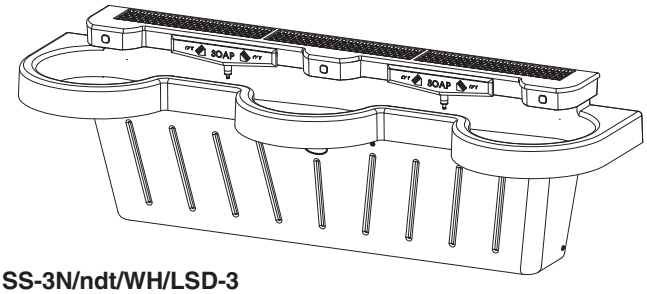


SS-3N/ndt/STD/LSD-3



SS-3N/ndt/WH/LSD-3

Installation

SS-3N/ndt/STD
SS-3N/ndt/WH

ADA COMPLIANT

Express® Lavatory System SS-Series

Express Lavatory Systems are ADA and TAS compliant

U.S. Pat. Nos. 5,611,093, D447,224
Other Patents Pending

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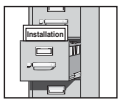
215-1575 Rev. E; ECN 08-807

Bradley

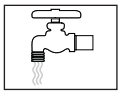
P.O. Box 309, Menomonee Falls, WI 53052-0309
Phone: 1-800-BRADLEY Fax: 262-253-4161
www.bradleycorp.com

⚠ IMPORTANT! ⚠

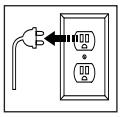


Read this entire installation manual to ensure proper installation. When finished with the installation, file this manual with the owner or maintenance department. Compliance and conformity to local codes and ordinances is the responsibility of the installer.

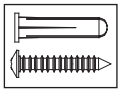
Separate parts from packaging and make sure all parts are accounted for before discarding any packaging material. If any parts are missing, do not begin installation until you obtain the missing parts.



Make sure that all water supply lines have been flushed and then completely turned off before beginning installation. Debris in supply lines can cause valves to malfunction.



Turn OFF electrical power to the electrical outlets, then unplug all electrical units prior to installation. Electrical power MUST remain off until unit and optional water heater have been plumbed. After installation is complete, turn on the water supply first, then turn on the electrical power.

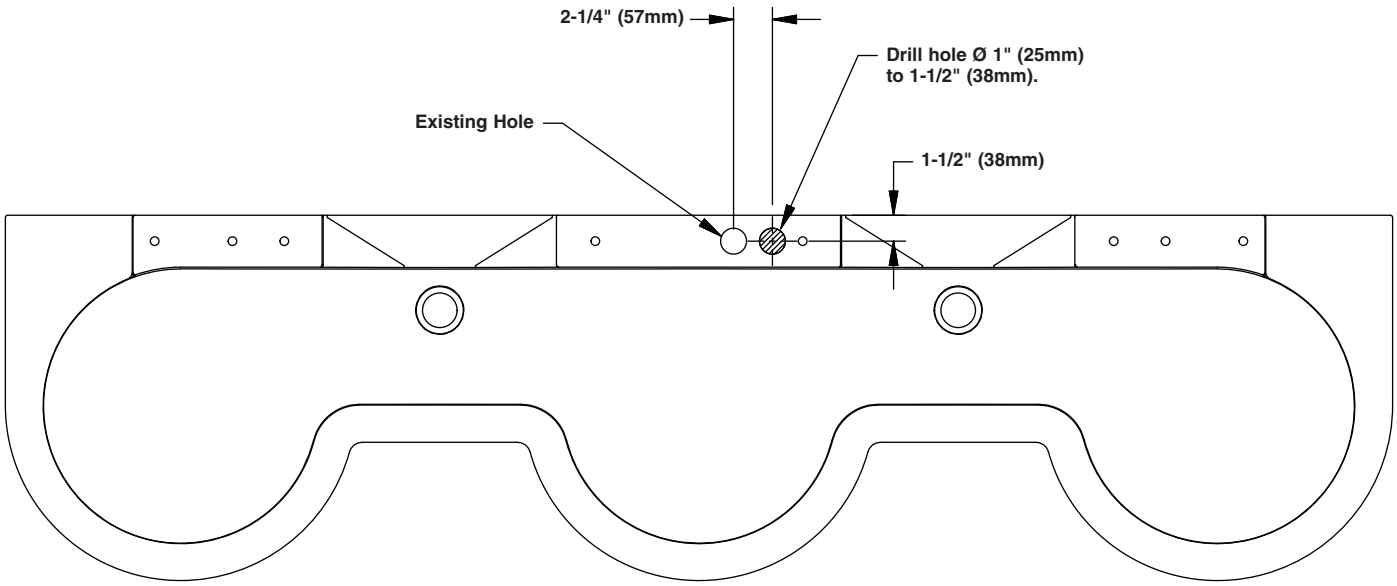


Hardware supplied by installer must be appropriate for wall construction. Wall anchors must have a minimum pull-out rating of 1,000 lbs. Follow appropriate dimensions for standard or juvenile height based on configuration and required rim height. Overtightening fasteners can damage the Terreon® material. Use caution when tightening bowl and sprayhead fasteners.

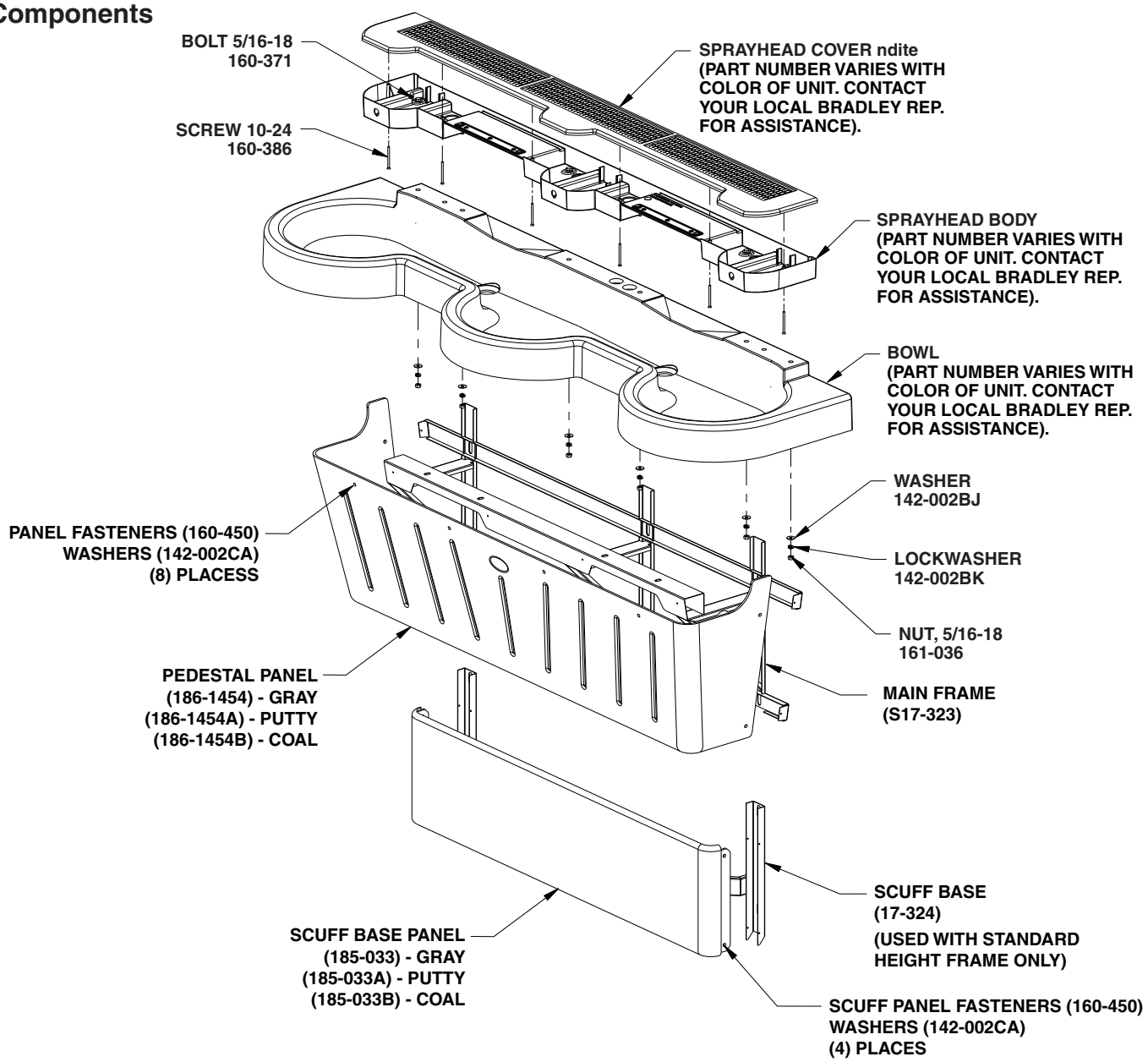
Product warranties may be found in the "Products" section on our Web site at www.bradleycorp.com.

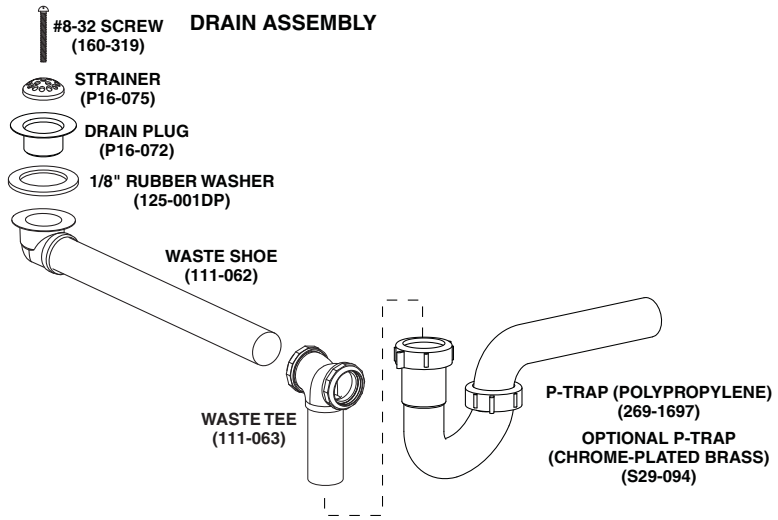
Special Note for Sprayhead/Bowl retrofit

to retrofit new SS-3N sprayhead onto existing SS-3 bowl



Components





BOWL MOUNTING HARDWARE

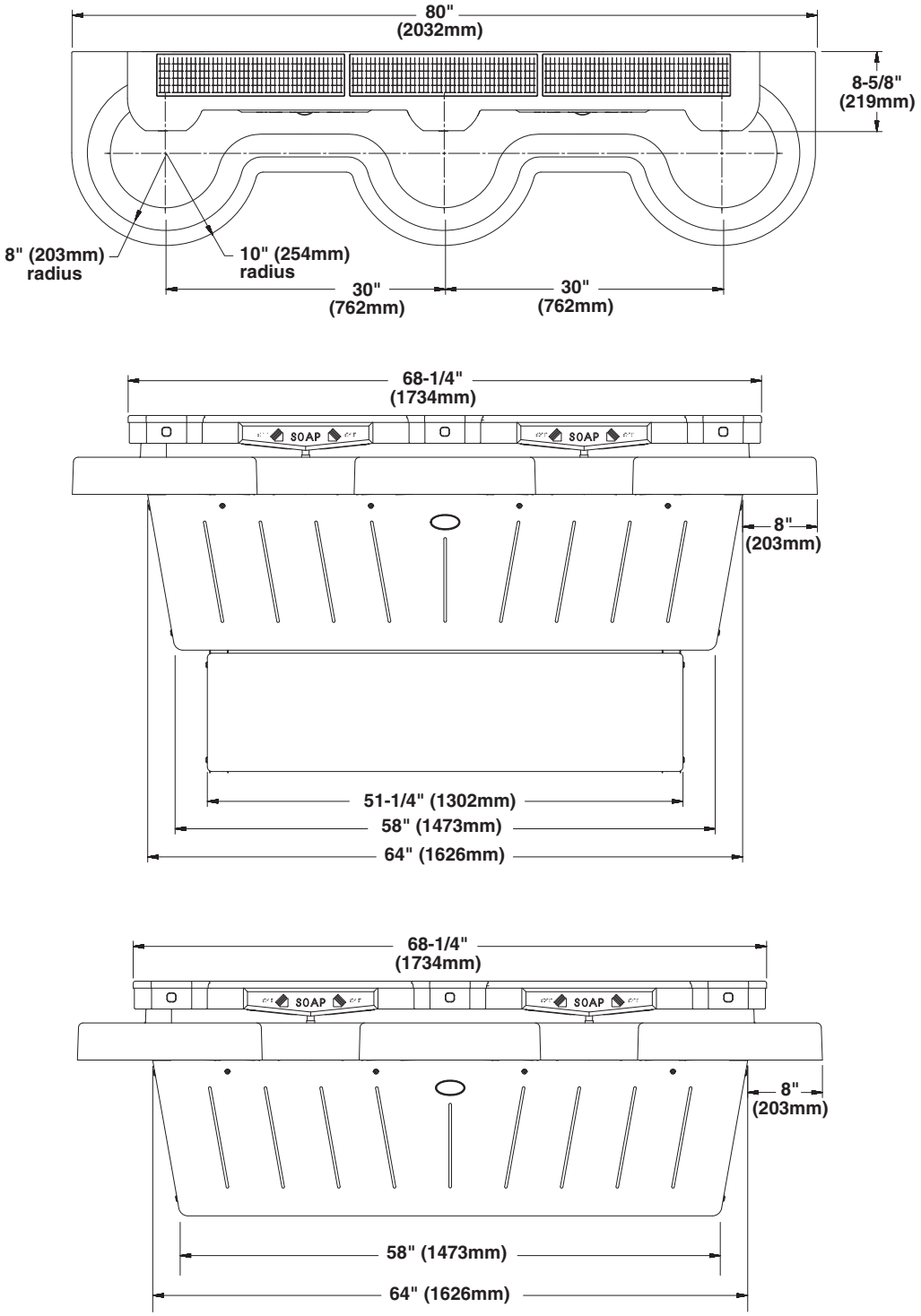
1/4"-20 x 1/2" PAN HEAD SCREW (qty. 4) (160-389)

1/4"-20 WASHER (qty. 4) (142-002DB)

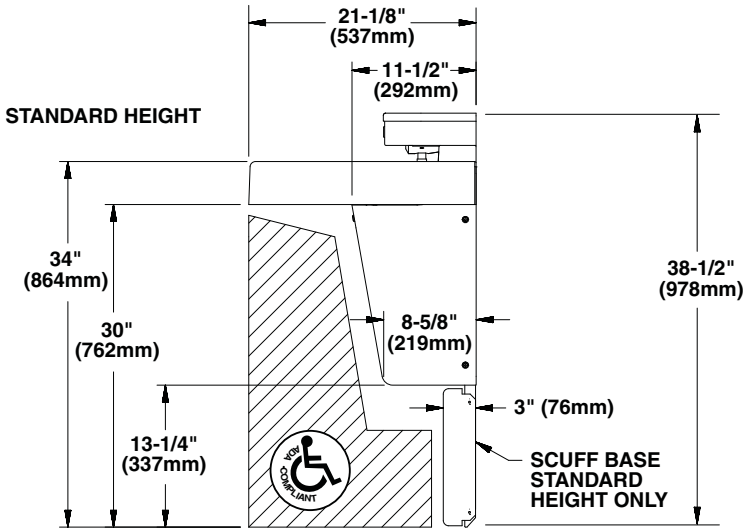
Supplies Required:

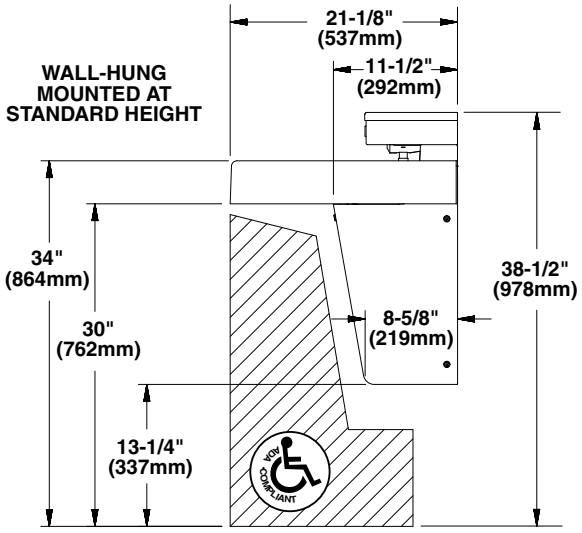
- (8) 3/8" wall anchors, bolts and 1" min. O.D. washers to mount main frame and bowl to wall (minimum pull-out rating of 1,000 lbs.)
- STD. HEIGHT ONLY: (2) 3/8" wall anchors, bolts and 1" min. O.D. washers to mount scuff base to wall
- 1/2" NPT hot/cold or tempered supply piping and 1-1/2" NPT drain piping
- (2) 1/2" NPT street elbows

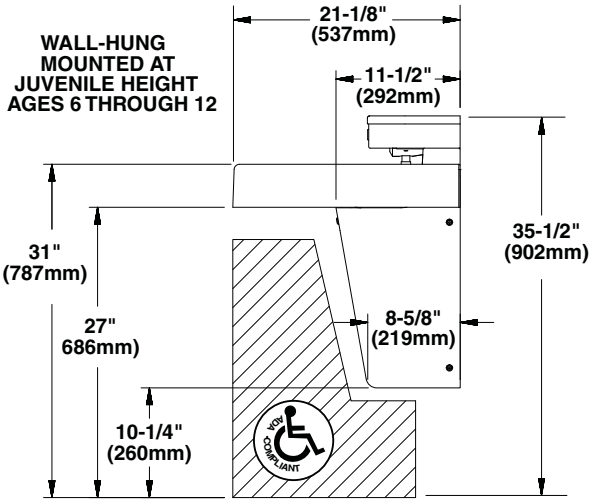
Dimensions - Front and Top Views

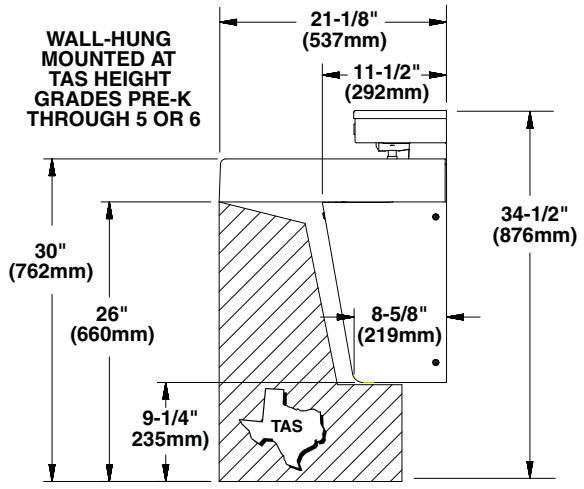


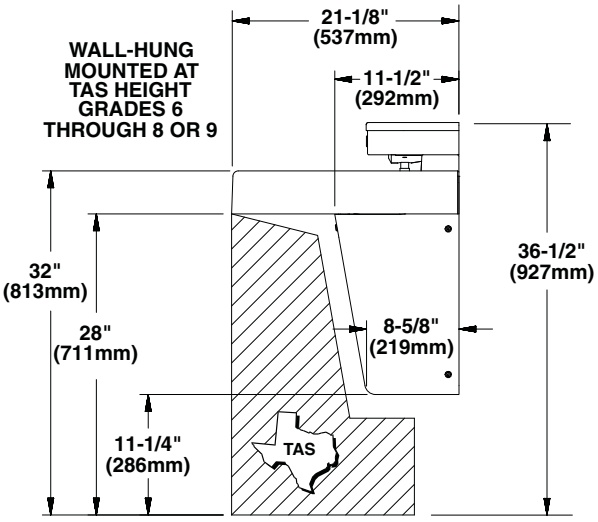
Dimensions - Side Views





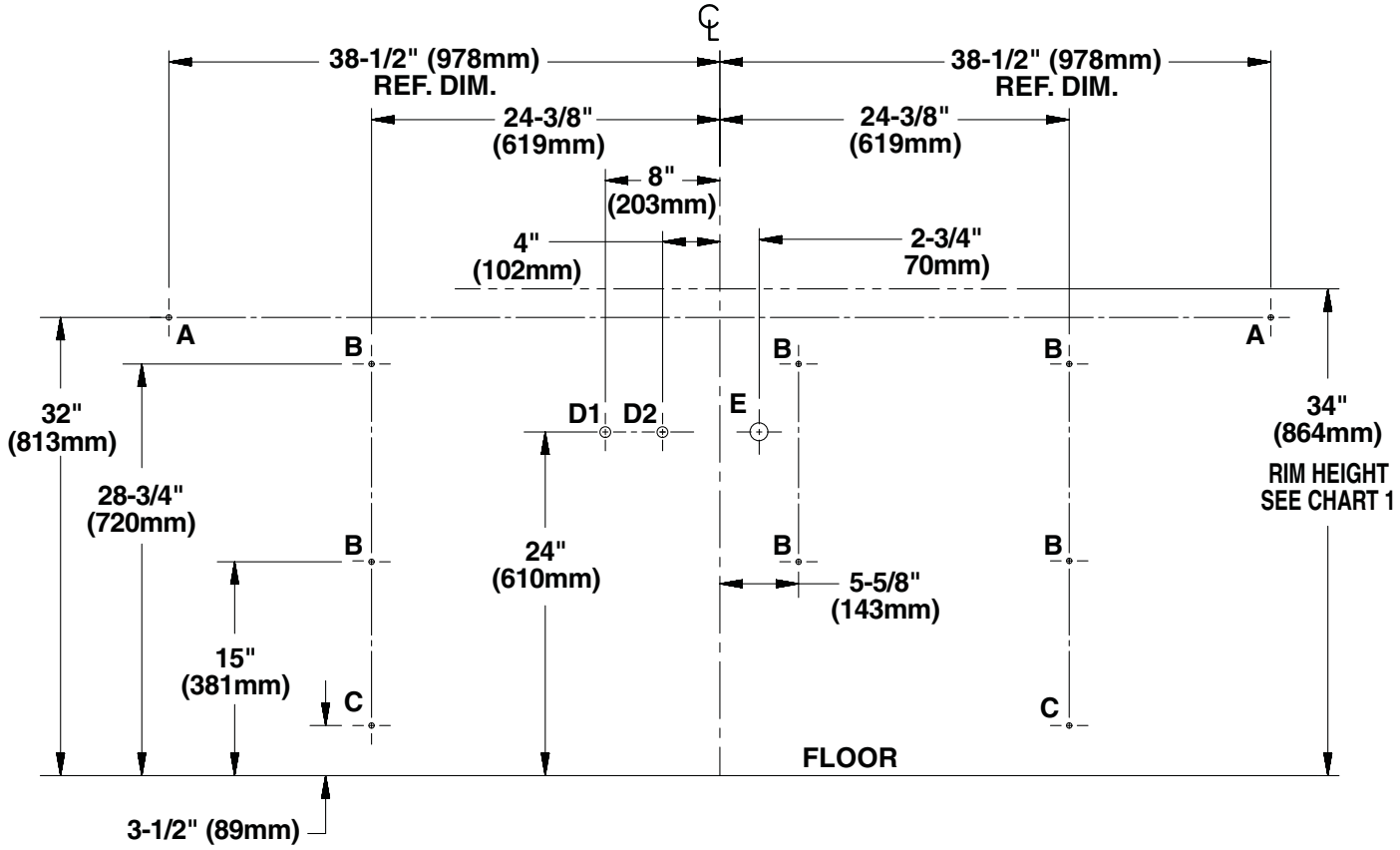






1 Rough-Ins

MOUNTING FOR STANDARD AND WALL HUNG HEIGHTS ARE SHOWN

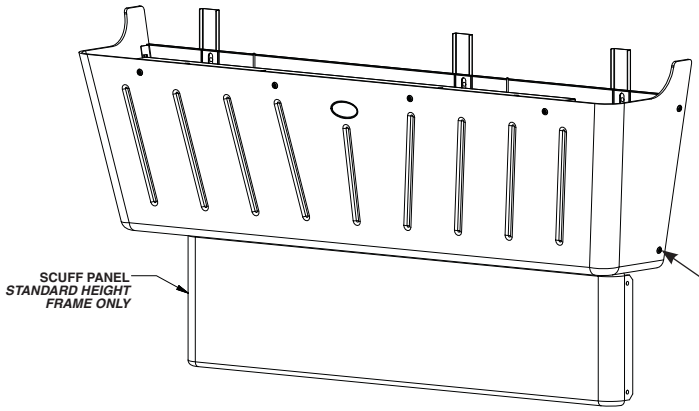


CODE	DESCRIPTION	QTY.
A	3/8 Wall Anchors with a minimum pull-out force of 1,000 lbs. for Bowl	2
B	3/8 Wall Anchors with a minimum pull-out force of 1,000 lbs. for Mainframe	6
C	3/8 Wall Anchors for Base Frame, Standard Frame option only, minimum pull-out force not required	2
D1	1/2 NPT Hot Supply, stub-out 2 from wall	1
D2	1/2 NPT Cold or Tempered Supply, stub-out 2 from wall	1
E	1-1/2 NPT Drain, stub-out 2 from wall	2
F	On the bowl back, measure the distance between the 3/4 bowl mounting holes. Divide this measurement in half. Measure and mark this dimension on the wall to the left and the right of the centerline. Install two 3/8 wall anchors with a minimum pull-out rating of 1,000 lbs (supplied by installer) at locations marked.	2

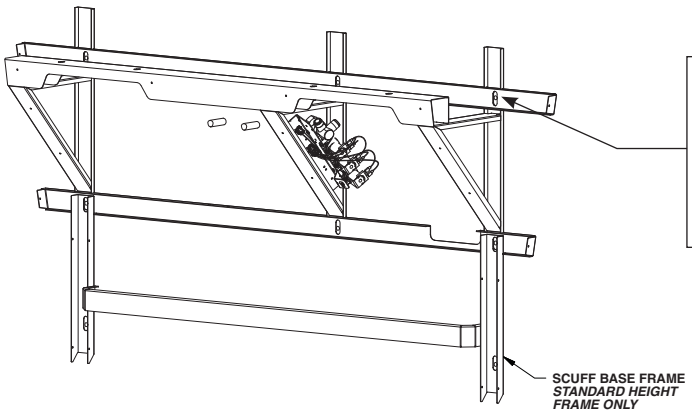
RIM HEIGHT	VERTICAL HEIGHT ADJUSTMENTS FOR CODES A–E, H, C and W	FIXTURE STYLE
34	None	Standard Height
34	None	Wall-Hung
32	Subtract 2	TAS, Grades 6 through 8 or 9
31	Subtract 3	Juvenile Height
30	Subtract 4	TAS, Pre-K through Grades 5 or 6

2 Mount Frame to Wall

Anchoring the frame to a wall that is not flat may cause the frame to bend, making it difficult to reinstall the access panels. If necessary, use shims to compensate for wall distortion.



A Using a T20 torx key, remove the fasteners securing the access panel to the main frame, and remove the panel.



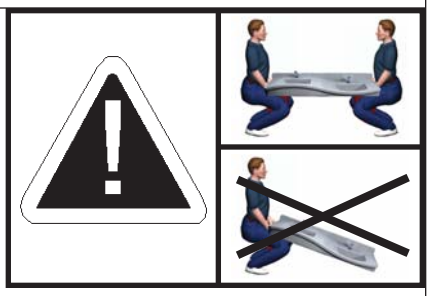
B Once you have positioned the frame such that it is level and flat against the wall or shimmed, mount the frame to the wall at six places using 3/8" bolts and 1" min. O.D. washers.

NOTE: When mounting the standard height frame, mount the scuff base to the wall at the same time using two additional 3/8" bolts and washers.

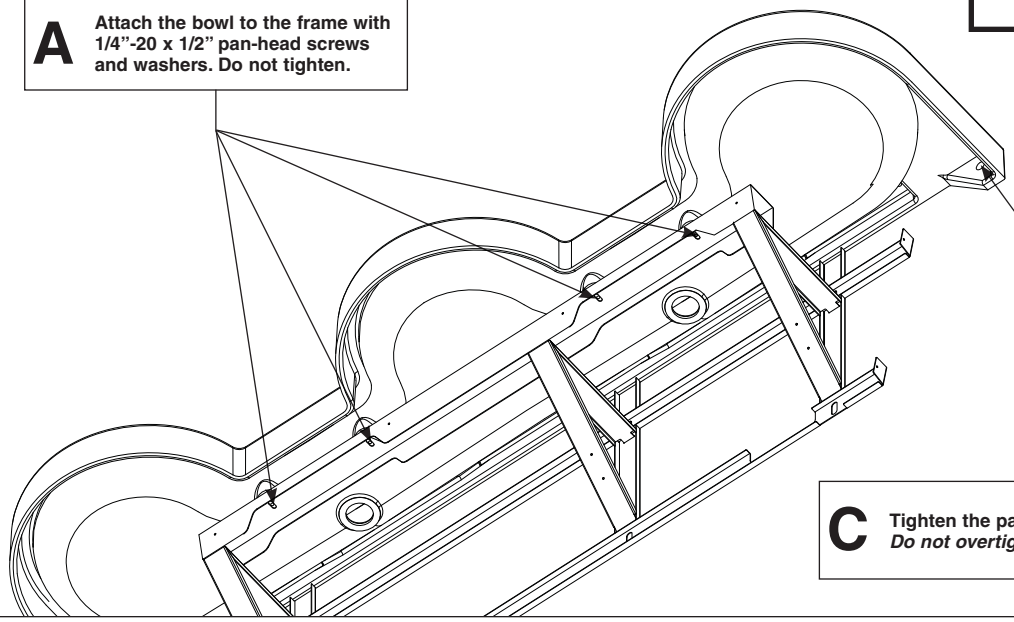
3 Install Bowl

The sprayhead body has slotted holes for adjusting the fit-up with the bowl and wall.

For clarity, the scuff base frame and drain are not shown. Turn the tailpiece down to its proper position before installing the bowl.



A Attach the bowl to the frame with 1/4"-20 x 1/2" pan-head screws and washers. Do not tighten.

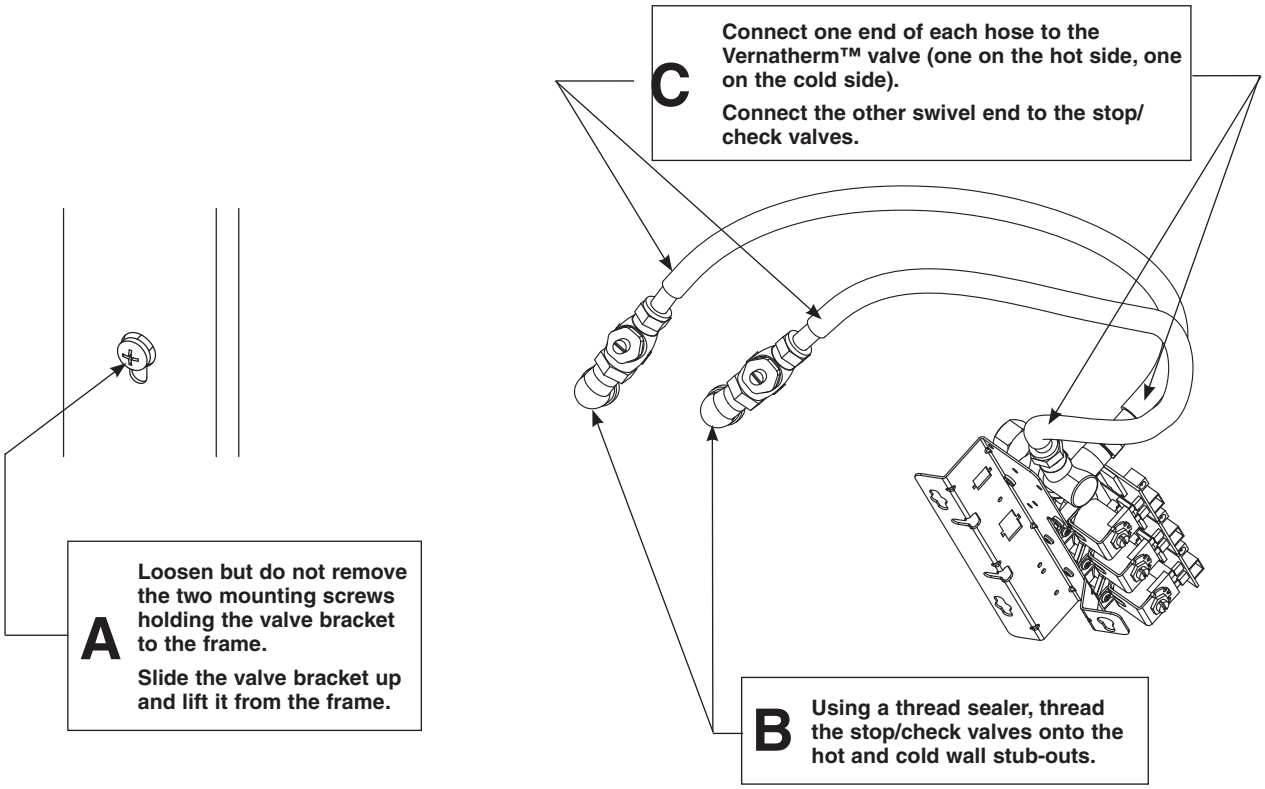


B Secure the bowl to the wall anchors with 3/8" bolts and 1" min. O.D. washers, two places. *Do not overtighten.*

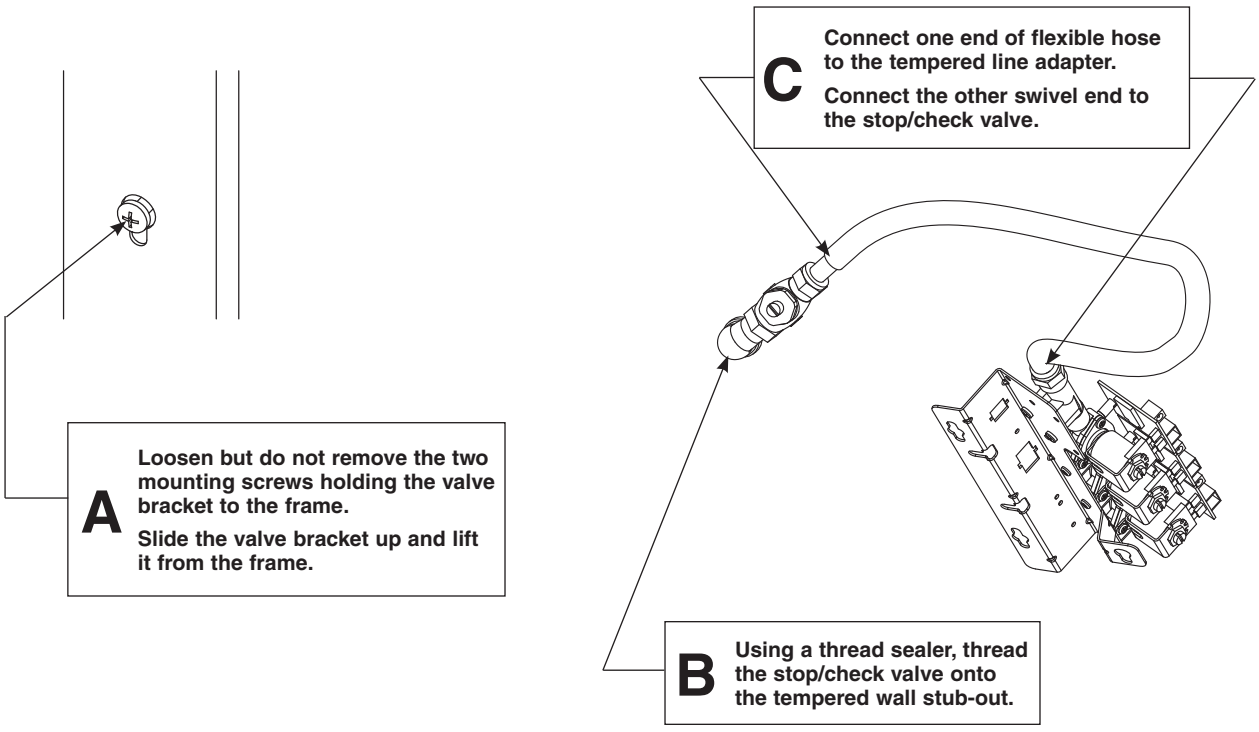
C Tighten the pan-head screws *Do not overtighten.*

4a Connect the Supply — Hot and Cold Supply

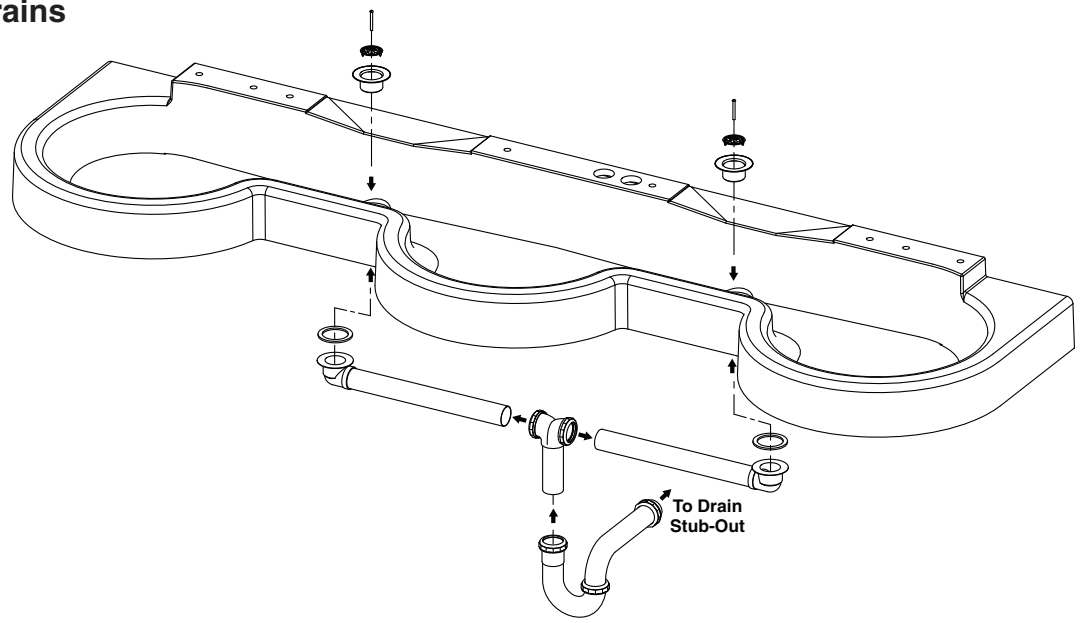
The letter "H" on the Vernatherm™ Mixing Valve indicates hot water supply inlet.



4b Connect the Supply — Single Tempered Supply

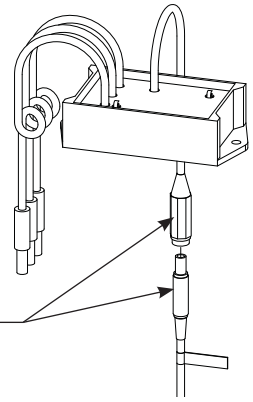


5 Install the Drains



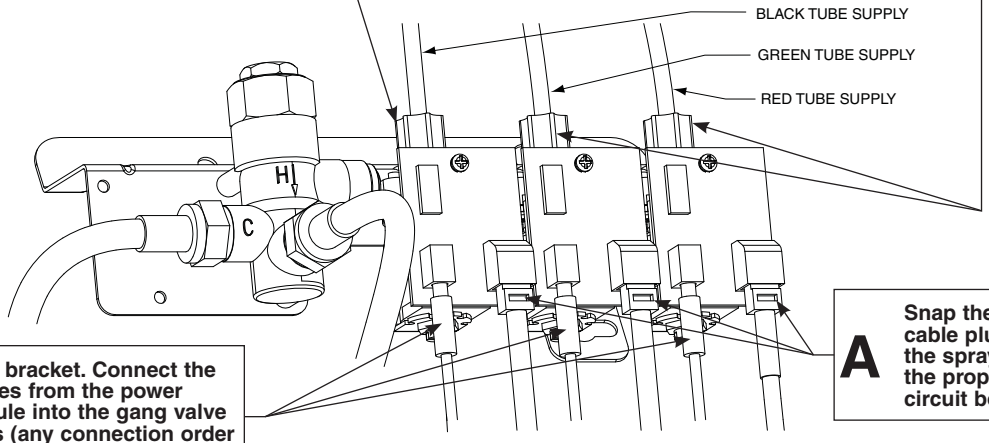
6 Connect Electrical and Sprayhead Supplies

WARNING: The SS-3N/NDT Express® must be connected to the ndite power management module. Connection to 110 VAC can cause personal injury and will result in damage to the electronics.



B Connect the solar cell plug from the solar cover to the power-in cable on the power management module.

C
Loosen the compression nuts.
Push the sprayhead supply tubes firmly into the tube connectors until they are fully seated.
Tighten the compression nuts by hand.



D Reinstall the valve bracket. Connect the power supply cables from the power management module into the gang valve circuit board plugs (any connection order will work properly).

A Snap the sensor cable plugs from the sprayhead into the proper valve's circuit board.

E Turn on the water supply and check for leaks. After 60 minutes at 700 LUX, the system should be ready to operate. Pass your hand in front of each station's sensor until all the air is purged from the lines and water is flowing smoothly. Reinstall the access panel.

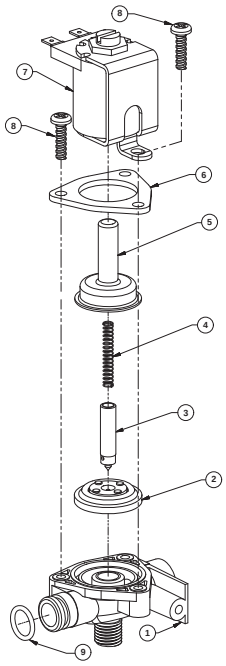
Troubleshooting – ndt Components

ndite technology requires a minimum of 400 LUX to operate. Before proceeding make sure all of the lights in the room are operating and that there are no obstructions blocking the light hitting the surface of the sprayhead. If available, use a light meter to measure the amount of light on the surface of the Lavatory System sprayhead. Also check for severe vandalism or other physical damage to the sprayhead.

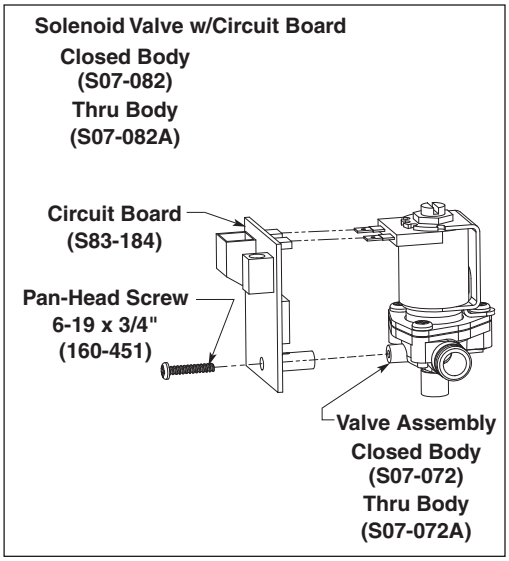
Leave the lights in the room on for aproximately four hours to fully charge the system before operating. If there is inadequate lighting in the location where the unit is installed, add additional lighting or convert the system to battery power. Contact Bradley and order Battery Pack Kit S45-2083 (one per station).

Problem	*Cause*	*Solution*
Water will not shut off.	Water pressure is too low.	Test for proper water pressure. The Express Lavatory Systems operating specifications require a water pressure of between 20- 80 PSI at the connection to the fixture. If the pressure is above 80 PSI the valve may not operate. When verifying water pressure always use a reliable pressure gauge at the connection to the fixture.
	Faulty solenoid valve.	Test station; replace solenoid valve if required. 1. Disconnect the plug from the power management module to the circuit board of the problem valve. Remove the three #8 Phillips-head screws that hold the solenoid valve assembly together. Be careful not to lose the armature or spring. 2. Remove the diaphragm. Remove any particles that are trapped between the diaphragm and the valve seat. Rinse off the diaphragm and inspect for damage. Make sure the center orifice and both small side orifices are open. 3. Reassemble in reverse order, being careful not to over tighten the Phillips-head screws or the plastic valve body may crack. Tighten until the armature plate makes contact with the plastic body. 4. Reconnect the power plug. Turn on water supply to the unit.
Water in multiple stations will not activate.	Inadequate lighting.	Test for adequate lighting. ndite technology requires a minimum of 400 LUX to operate. Before proceeding make sure all of the lights in the room are operating and that there are no obstructions blocking the light hitting the surface of the sprayhead. If available, use a light meter to measure the amount of light on the surface of the Lavatory System sprayhead. Also check for severe vandalism or other physical damage to the sprayhead. If there is inadequate lighting available in the location where the unit is installed, add additional lighting. If additional lighting is unavailable, the system may be converted to battery power. Contact Bradley and order Battery Pack Kit S45-2083 (one per station).
	Improper water pressure.	Test for proper water pressure. The Express Lavatory Systems operating specifications require a water pressure of between 20- 80 PSI at the connection to the fixture. If the pressure is above 80 PSI the valve may not operate. When verifying water pressure always use a reliable pressure gauge at the connection to the fixture. If water pressure is high but not above 80 PSI the following may be raising the pressure: circulation system , booster pumps orundersized or no expansion tank. If any of this equipment is raising the pressure above the specified pressure levels it will be characterized by the system working for a short time after the supply connections are made and then stopping.
	No power to the sensor board.	Check for power to the sensor board. 1. Remove the front cover from the fixture. 2. Wave your hand in front of the sensor window, one station at a time, while looking at the sensor boards below the fixture. A light should flash on the sensor board when each station is activated. 3. If no light flashes, test the output from the photovoltaic cells with a multimeter (available from most home improvement stores and professional supply distributors).
	Improper output from voltaic cells.	Test output from photovoltaic cells. 1. Test the output from the photovoltaic cells with a multimeter (available from most home improvement stores and professional supply distributors). NOTE: The electrical system on ndite powered Lavatory Systems is low voltage and low amperage. 2. With the room lighting on, unplug the cord running from the photovoltaic cells to the power management module. Touch the red multimeter probe to the red side of the plug and the black multimeter probe to the black side of the plug. With the Multimeter in the DC Volts setting, it should have a reading of 6 volts or more. If the reading is under 6 volts, doublecheck the room lighting levels. If the reading is over 6 volts and the system will not operate, replace the ndite power management module.
Water in one station will not activate.	Faulty sensor eyes.	Test sensor eyes and replace, if necessary. Disconnect the sensor cable from the circuit board of the problem valve. Disconnect the sensor cable from the circuit board of an adjacent working valve. Connect the sensor cable from the adjacent working valve to the problem valve. Activate the problem station's sensor. The station should turn on. If it turns on and cycles normally, replace the eyes in the problem station.
	Problem with control boards.	Test the control boards and replace the battery, if necessary. Disconnect the plug from the power supply to the circuit board of the problem valve. Disconnect the plug from the power supply to the circuit board of a working adjacent valve. Connect the power plug from the adjacent working valve to the problem valve. Wait for ten seconds. Activate the problem station's sensor ten times. The station should turn on. If it turns on, and cycles normally, replace the batteries in the problem station.

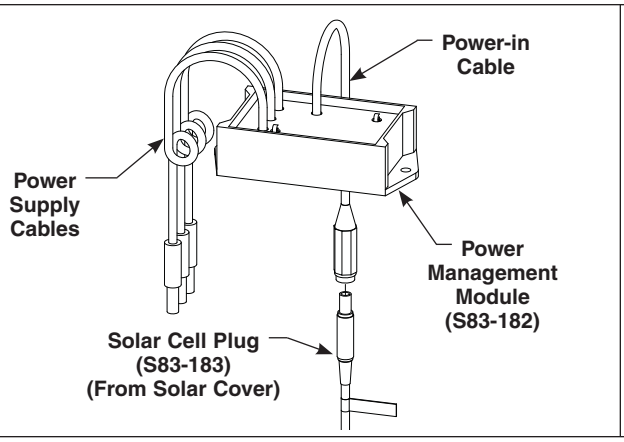
Solenoid Valve: Part nos. S07-072 (closed body) & S07-072A (thru body)

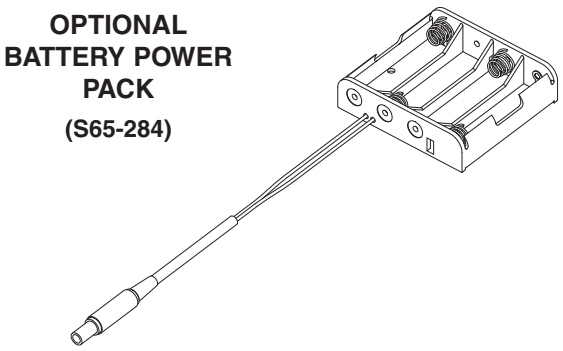


Turn off water supplies to the unit before troubleshooting.



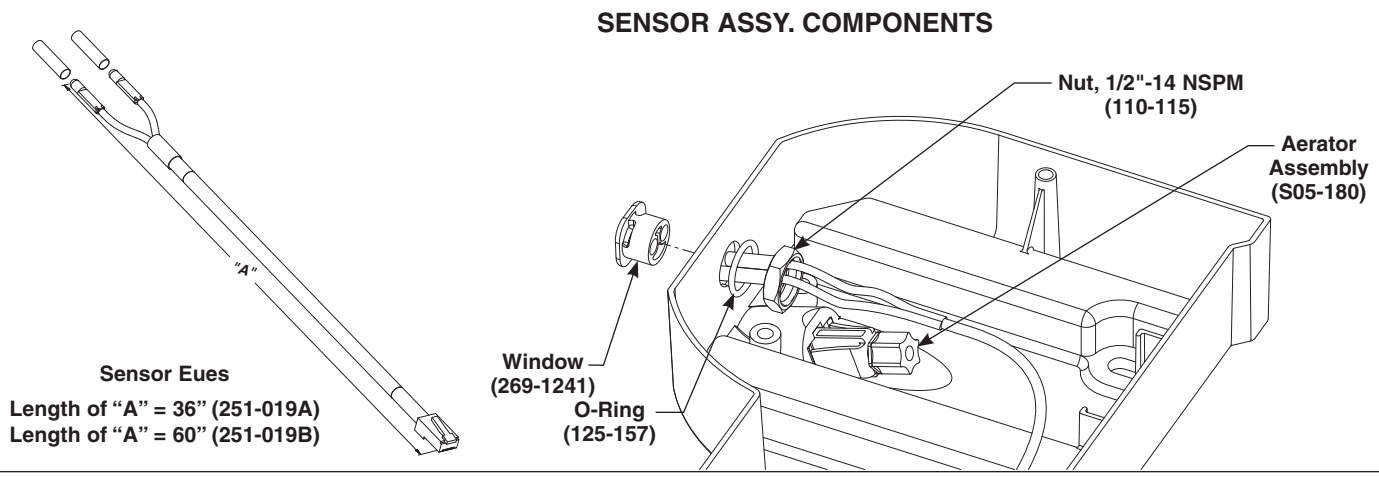
Item	Qty.	Part No.	Description
1	1	118-307	Valve Body, 1/4" Closed
1	1	118-307A	Valve Body, 1/4" Thru
2	1	269-983	Diaphram
3	1	192-017	Armature
4	1	135-093	Spring
5	1	269-1729	Armature Housing
6	1	269-1730	Clamp, Armature Housing
7	1	269-1731	Coil, Solenoid Valve
8	3	160-447	Screw, #8 x 5/8
9	1	125-165	O-Ring, #2-013





Sensor assembly and solenoid valve access

- **To access sensors:** Remove the Phillips-head screws located in the bottom of the sprayhead body and lift the Terreon cover/shelf off.
- **To reinstall sprayhead cover/shelf:** Position the cover/shelf on the sprayhead body and secure it to the sprayhead body using the screws provided.

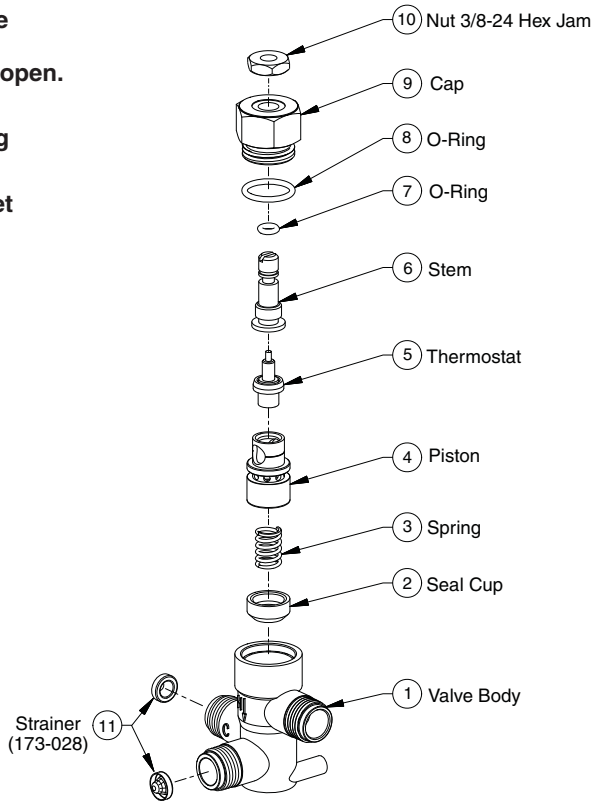


Troubleshooting – Vernatherm™ Thermostatic Mixing Valve: Part no. S01-524

Before attempting to troubleshoot the valve or disassemble the components, check for the following conditions:

- **If stop/check valves are used, make sure that they are fully open.**
- **Make sure that the hot and cold inlet pipes are connected properly, and that there are no cross-connections or leaking stop/check valves.**
- **Make sure water heater output is at least 20° F above the set temperature.**

Close shut-off valves prior to disassembly and reopen the valves after inspection and repair is complete.

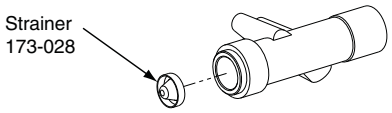


Repair Kit S65-259

Item	Qty.	Description
5	1	Thermostat
7	1	O-Ring
8	1	O-Ring

Tempered Line Adapter Option: Part no. S39-685

(replaces S01-524 if tempered line is used)



Problem	*Cause*	*Solution*
External leaks in the system.	*O-rings have been damaged.*	Replace O-rings. Contact your Bradley representative to order Repair Kit no. S65-259.
Improper water temperature or temperature fluctuation.	*Thermostat is slowly failing or not working at all.*	Check the thermostat for proper operation: 1. At room temperature (80° F or less) remove the cap and thermostat. 2. Place the thermostat into a container with 115° F water. The pushrod should pop out of the thermostat approximately 1/10". If pushrod does not pop out, replace the thermostat. Contact your Bradley representative to order Repair Kit no. S65-259.
	Valve temperature is not properly set	Adjust the temperature using a blade screwdriver: Turn the adjustment stem counterclockwise to increase the temperature or clockwise to decrease the temperature.
Limited water flow.	*Dirt and debris have built up in the valve or strainer.*	1. Ensure hot and cold supplies are connected to the mixing valve and that they have sufficient water flow. 2. Remove and clean the strainer. If it needs to be replaced, Contact your Bradley representative to order Bradley part no. 173-028. 3. Check the piston for smooth movement: A. Remove the valve's cap and thermostat. B. Push down on the piston; if the piston does not move freely, clean it as outlined below: • Remove the thermostat. Lift the piston out with a needle-nose pliers and remove the spring. • Any brass and stainless steel cleaner may be used. If a suitable cleaner is insufficient to remove debris, use a 400-grit sandpaper to polish and hone the piston and valve body). • Snap the spring into the piston (it will detent); reassemble into the valve body. Retest the piston. C. If, after a thorough cleaning, the piston does not move freely, the piston must be replaced. Contact your Bradley representative to order Repair Kit no. S65-259.

Stop/Check Valve Troubleshooting

Problem	*Cause*	*Solution*
Water dribbles or does not flow from the sprayhead.	Stop/Check Valves may not be functioning properly.	1. Close the stops and inspect the valves that supply water to the lavatory system. 2. Inspect the stop/check valves to see that they have been properly installed. 3. Remove the flexible hoses from the stop/check valves and inspect the strainers. Clean strainers, if necessary.
Sprayhead delivers ONLY hot OR cold water.	Stop/Check Valves may not be functioning properly.	1. Close the stops and inspect the valves that supply water to the lavatory system. 2. Inspect the stop/check valves to see that they have been properly installed. 3. Remove the flexible hoses from the stop/check valves and inspect the strainers. Clean strainers, if necessary. 4. Inspect the thermostatic mixing valve for proper installation and connection to hot and cold supplies.

Cleaning and Maintenance for Terreon®

Material Description: Terreon® is an NAHB Certified densified solid surface material composed of polyester resin and is resistant to chemicals, stains, burns and impact. Surface damage can be easily repaired with everyday cleansers or fine grit abrasives.

Routine Cleaning: Clean daily or as often as conditions require using a standard commercial or household cleaner such as Formula 409® or Windex®.

Stubborn Stains: Remove tough stains with Ajax®, Comet®, or Soft-Scrub® and a green Scotch-Brite® pad or lightly sand in a circular motion with 240 grit wet/dry sandpaper. The finish can be renewed with a maroon Scotch-Brite® pad.

Special Situations for Material

Scratches: Remove scratches with a green Scotch-Brite® pad. The finish can then be renewed with a maroon Scotch-Brite® pad, followed by a white Scotch-Brite® pad or 30-micron sandpaper.

Hard Water Deposits: Remove hard water deposits with a mild solution of vinegar and water. Always rinse the unit thoroughly after cleaning.

Restoring the surface: Use Hope's® Solid Surface cleaner and polish to refresh and protect the Terreon® Solid Surface material. Bradley recommends additional care and maintenance for the darker colored Terreon®, for complete instructions on this additional maintenance refer to Bradley technical document #1505.

Do not use strong acid or alkaline chemicals and cleansers to clean Terreon®. If these chemicals come in contact with the surface, wipe them off immediately and rinse with soapy water. Avoid contact with harsh chemicals such as paint remover, bleach, acetone, etc. Avoid contact with hot pans and objects.

Repair Kits: Terreon® repair kits are available. Contact your Bradley representative or distributor for part numbers and pricing Repair kits are made to order and have a shelf life of 30 days.

Terreon® is a unique, cast solid surface material. Aggregate flow and distribution as well as shades of color can vary from product to product creating natural characteristics.

Brand Names: Use of brand names is intended only to indicate a type of cleaner. This does not constitute an endorsement, nor does the omission of any brand name cleaner imply inadequacy. Many products named are regional in distribution, and can be found in local supermarkets, department and hardware stores, or through your cleaning service. It is emphasized that all products should be used in strict accordance with package instructions.

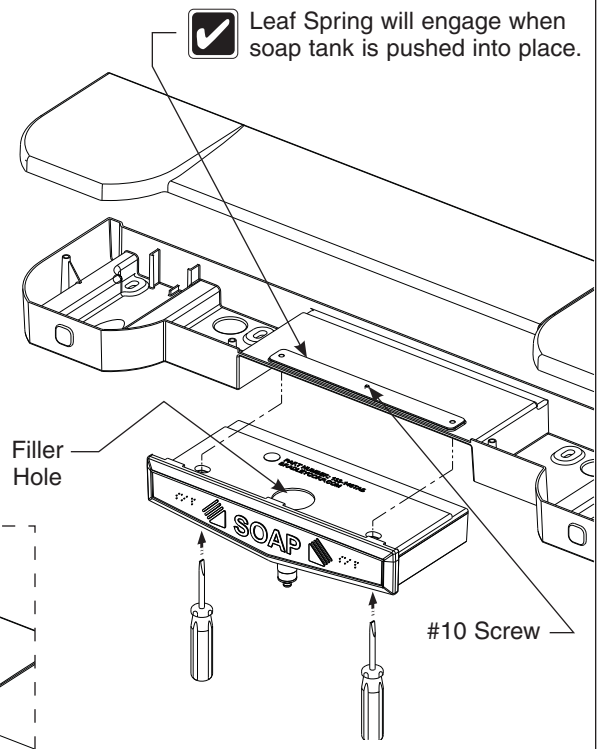
Fill Soap Dispenser

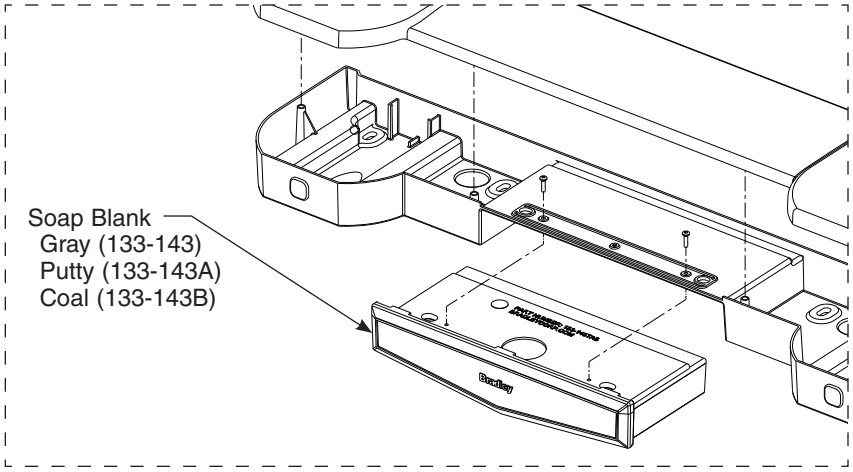
The soap valve will dispense vegetable/coconut oil liquid soaps, synthetic detergents, viscous lotion soaps, and antiseptic solutions. A 10-15% concentration is recommended for vegetable or coconut oil liquid soaps. Before filling, rinse out each soap tank with hot water to remove packing dust. Shake water out thoroughly and allow to dry. DO NOT OVERFILL!

Soap Tank Kits

S65-291 (Gray) includes:	S65-291A (Putty) includes:	S65-291B (Coal) includes:
Gray Tank w/Valve (S11-220)	Putty Tank w/Valve (S11-220A)	Coal Tank w/Valve (S11-220B)
Leaf Spring (S39-350)	Leaf Spring (S39-350)	Leaf Spring (S39-350)
Screw (160-385)	Screw (160-385)	Screw (160-385)

Soap Valve Repair Kit (S65-258) (includes Nut, Spring, Washer and Plunger)





Clean Soap Dispenser

Do not use abrasive cleansers to clean the soap tank. Abrasive cleaners can damage the surface.

Regular cleaning of the soap dispenser is recommended to ensure optimum performance and maximum service life. Cleaning the soap dispenser monthly to remove soap residue, dirt, and other accumulations should become a regular part of your washroom cleaning routine and general maintenance program.

Clean exterior: Use warm water and soap to clean the exterior of the soap dispenser. Dry with a soft cloth.

Clean interior: Inspect the interior of the tank for residue or coagulation of soap. If necessary, clean the tank according to the following procedure:

1. Pour out any remaining soap in the tank.
2. Full the tank half-full of hot water and shake the tank to dislodge the soap residue.
3. Empty the water from the container and repeat steps 1 and 2 until the soap container is clean.

If rinsing alone does not remove the soap residue, place a small chain (24 inches long) into the tank with hot water and shake the container until the chain dislodges the residue. Then remove the chain and rinse out the tank.

Clean internal components: Pump hot water through the soap dispenser until a clean flow of water comes out of the valve.

To change soap, pour out all of the soap from the dispenser. Rinse the dispenser with hot water several times until all residue is removed. Pump the valve until clean water appears. Rinse the dispenser with ethyl alcohol; air dry before refilling.