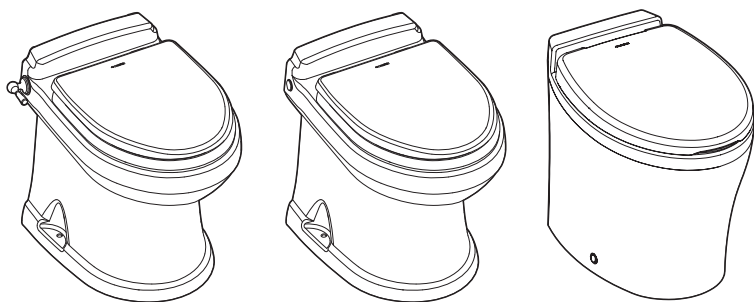


DOMETIC SANITATION TOILETS



9300/9400/9500

EN

9000 Series
Installation Manual

NORTH AMERICAN ADDRESS INFORMATION

U.S.A. & CANADA

Service Office
Dometic Corporation
13128 St. Rte. 226
Big Prairie, OH 44611

**Service Center & Dealer
Locations**

Refer to “8 Customer service” on
page 18

REVISION B | Form No. 600346748 6/18 | ©2018 Dometic Corporation

Read these instructions carefully. These instructions MUST stay with this product.

CONTENTS

1	Explanation of symbols and safety instructions.	3
2	General information.	4
3	Intended use	4
4	Specifications.	5
5	Prepare for installation	7
6	Installation	12
7	Disposal	15
8	Customer service	15

1 EXPLANATION OF SYMBOLS AND SAFETY INSTRUCTIONS

This manual has safety information and instructions to help you eliminate or reduce the risk of accidents and injuries.

1.1 Recognize safety information



This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

1.2 Understand signal words

A signal word will identify safety messages and property damage messages, and will indicate the degree or level of hazard seriousness.

⚠ WARNING indicates a hazardous situation that, if **not** avoided, could result in death or serious injury.

⚠ CAUTION indicates a hazardous situation that, if **not** avoided, could result in minor or moderate injury.

NOTICE is used to address practices **not** related to physical injury.



indicates additional information that is **not** related to physical injury.

1.3 Supplemental directives



Read and follow all safety information and instructions to avoid possible injury or death. Read and understand these instructions before installation of this product. Incorrect installation of this product can lead to serious injury. The installation must comply with all applicable local or national codes, including the latest edition of the following standards:

U.S.A.

- ANSI/NFPA70, National Electrical Code (NEC)
- ABYC guidelines for marine installations

1.4 General safety messages

⚠ WARNING Failure to obey the following warnings could result in death, serious injury, or property damage:

- This product must be installed and serviced by a qualified service technician.
- Do **not** modify this product in any way. Modification can be extremely hazardous.
- SHOCK OR FIRE HAZARD: Always use recommend fuse, circuit breaker, and wire size. Failure to do so can result in a fire that can cause the loss of property and life.
- FLOOD HAZARD:
 - Seacocks must be installed in all piping connected to through-the-hull fittings. Seacocks must be easily accessible to all users of the toilet, or secondary valves should be fitted in hose runs where they are easily accessible.
 - If the toilet is connected to any through-the-hull fittings: always close seacocks when toilet is not in use (even if the boat is unattended for a brief period).

- Valves must be full-bore valves of marine sanitation quality. Do **not** use screw-to-close gate valves.
- Flexible hoses must be of marine sanitation quality and must be secured to any fittings with two stainless steel, worm-drive, hose-band clamps at each connection. Check connections frequently for integrity.
- Use properly positioned, ventilated loops when the potential exists for the toilet rim to fall below the waterline during any heel, load, or trim condition, or when the toilet is connected to any through-the-hull fittings. The ventilated loops must be installed in the intake (if connected to raw water) and/or the discharge piping.
- Ensure that all electrical power to the toilet is turned off and that seacocks are in the closed or off position before installing the toilet or performing any maintenance.
- If the toilet uses fresh water for flushing and is connected directly or indirectly to a shoreside municipal water system at any time: shoreside water connections must be disconnected if the boat is unattended (even if boat is unattended for a brief period).
- If the toilet is connected to any through-the-hull fittings: all flexible hoses must be of marine sanitation quality and must be secured to any fittings (such as those at seacock, vented loop, or toilet) with two stainless steel worm-drive hose band clamps at each connection. Connections must be checked frequently for integrity.
- If the toilet uses raw water for flushing at any time, a raw-water pump controlled by an automatically operating demand switch must **not** be installed. If the onboard water valve or any plumbing connections were to leak, the automatically operated pump would start and could flood the boat.

NOTICE RISK OF PROPERTY DAMAGE: Failure to obey the following notices may cause damage to the toilet or toilet system.

- Only flush water, bodily wastes, and rapid-dissolving toilet tissue.
- Do **not** overfill the holding tank, or serious damage can occur to the sanitation system. Overfilling the holding tank can rupture the holding tank or release tank contents into the bilge.
- This toilet system is **not** intended for raw water flush toilet systems and is **not** designed to flush with seawater. Only use a fresh water supply.

2 GENERAL INFORMATION

Included Parts

RushFlush toilet	High-flow electric water valve
Check valve	Maintenance valve
Flush switch and status panel (9400 and 9500 only)	

Optional Parts*

System status panel (9300 only)

*Available as accessory (not included)

3 INTENDED USE

The 9000 Series RushFlush toilets are designed and intended for use inside the boat for which it is supplied. RushFlush toilets are not intended for use with a raw water or seawater flush system. Use the instructions to ensure correct operation of the toilet. Dometic accepts no liability for damage in the following cases:

- Faulty assembly or connection.
- Damage to the product resulting from mechanical influences and excess voltage.
- Alterations to the product without expressed permission from Dometic Corporation.
- Use for purposes other than those described in the operating manual.

Dometic Corporation reserves the right to modify appearances and specifications without notice.

4 SPECIFICATIONS

4.1 Materials

Component	9300, 9400, 9500
Toilet	vitreous ceramic
Control module housing	ABS plastic
Discharge outlet	high-tech polymer
Discharge flange	ABS plastic
Panel frame	ABS plastic
Panel	polycarbonate resin
Flush handle	plated brass*

*applicable models

4.2 Minimum system requirements

Electrical

Power draw	1.2 A @ 12 VDC/0.6 A @ 24 VDC
Circuit breaker/ fuse recommended size	2 A @ 12 VDC/1 A @ 24 VDC

Water Supply

Upper rim	1/2" NPT inlet, water valve
Lower bowl jet	1" NPT inlet, water valve
Flow rate	15 gpm (57 lpm) @ 30–50 PSI (207–345 kPa)

Discharge

Inside diameter (ID)	1.5" (38 mm) pipe or 1.875" (47 mm) hose
Horizontal run	gravity drain*

Required Components

Water pump**	15 gpm (57 lpm)
Potable water pressure tank**	150 PSI (1034 kPa) working pressure rating
Electric flush switch	Dometic model

*Horizontal discharge plumbing must drop a minimum of 1/8" (3 mm) per foot (30.5 cm) of horizontal run.

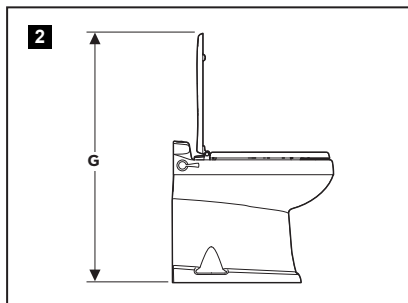
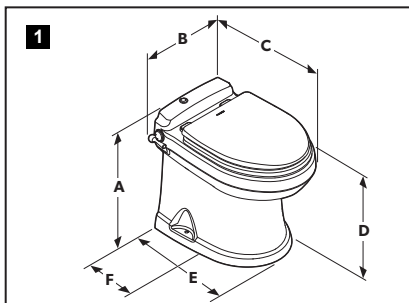
** Purchased separately. Water pump may be part of vessel's potable water system.



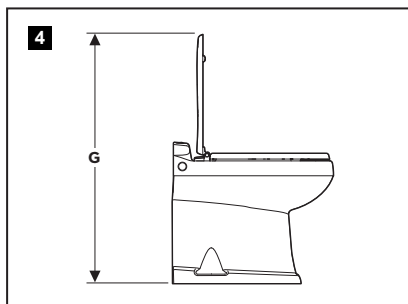
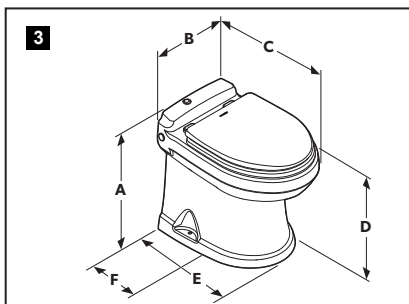
Specifications are subject to change without notice.

4.3 Dimensions

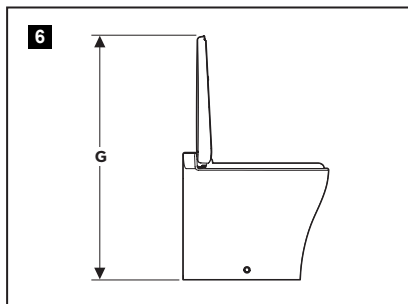
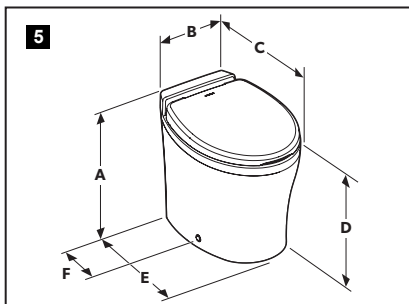
9300 Series



9400 Series

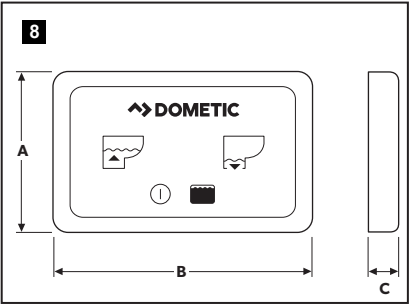
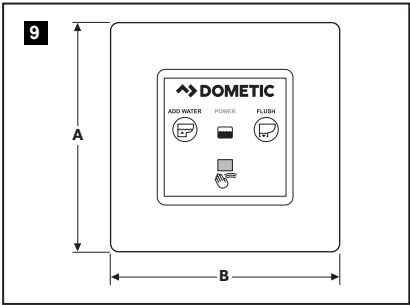
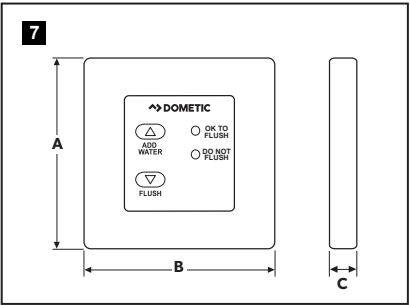


9500 Series



Reference	9300 Series	9400 Series	9500 Series
A	19"	19"	19"
B	16.5"*	14"	14.75"
C	21.5"	21.5"	22"
D	17.5"	17.5"	17.5"
E	17"	17"	17.5"
F	10.5"	10.5"	10.5"
G	33.5"	33.5"	37"

*Width measurement includes flush handle



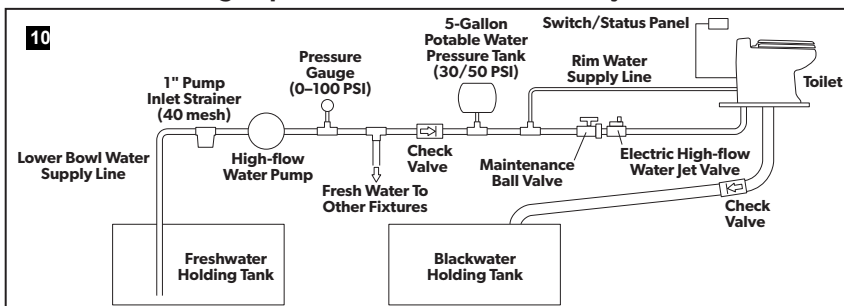
Reference	Flush Switch (DFS) (Figure 7)	Touchpad (DFT) (Figure 8)	Touch Panel (DFSHW) (Figure 9)
A	3.25"	2"	3"
B	3.25"	3.25"	3.44"
C	4"	0.4375"	—

5 PREPARE FOR INSTALLATION

⚠ WARNING Failure to obey the following warnings could result in property damage, serious injury, or death:

- **FLOOD HAZARD.** For toilets that use raw-water systems: Do **not** install a raw-water pump controlled by an automatic demand switch.
- **SHOCK OR FIRE HAZARD.** Always use recommend fuse, circuit breaker, and wire size. Failure to do so can result in a fire that can cause the loss of property and life.

5.1 Understanding requirements for the fresh-water system



General guidelines

- Follow all applicable local and national regulations, codes, and standards
- All water supply system plumbing should be 1" ID with a recommended 100 PSI minimum working pressure rating
- Water inlet strainer: 1" ID, 40 mesh
- Pressure gauge: 0 – 100 PSI

Water pump guidelines

- Grundfos MQ3-35 or equivalent is recommended
- 1" NPT connections
- Internal pressure switch: 50 PSI cut-out, 30 PSI cut-in
- MQ3 Pump draw: 8 A @ 110 V, 4 A @ 220 V (pumps vary by manufacturer)
- 15 gpm required (MQ3 pump rated at 22 GPM max flow with no restrictions)
- Choose a pump with adequate suction lift capability for pump installation parameters (MQ3 pump has 25' of suction lift capability, but varies depending on horizontal run)

Potable water pressure (accumulator) tank guidelines

- Amtrol Well-X-Trol WX-105-PS or equivalent is recommended
- 3/4" NPT, or larger connections
- 5 gallon total volume, 1.8 gallon drawdown @ 30/50 PSI
- Air pressure charge: 2-4 PSI below pump cut-in pressure
- Recommended to use one five-gallon accumulator tank for up to six heads

Pressure relief valve guidelines



Installation of a pressure relief valve is recommended by the accumulator tank manufacturer in order to protect the fresh water system in case of pressure switch malfunction.

- Install near accumulator tank and pump
- Set to open at excessive water system pressures

Electric rim wash valve guidelines (inside toilet)

- 1/2" NPT connection
- 1/2" plumbing to the toilet. If using a single water supply line, this 1/2" branch must intersect with the main 1" distribution line prior to the electric high-flow water valve.

Electric high-flow water jet valve guidelines

- Electric high-flow water jet valve and maintenance ball valve supplied with every toilet
- 1" NPT connections
- Place water jet valve closest to toilet and the maintenance ball valve farthest from the toilet
 - Refer to direction arrow on top of the water jet valve inlet port
- In-line strainer factory-installed in the water jet valve inlet
 - Cone shape protrudes out against the direction of water flow, away from the center of the valve, and is pointed towards the maintenance ball valve
- Water jet valve has a small white manual override lever located by the solenoid:
 - Place in vertical position for correct electrical operation
 - Place in horizontal position to manually test the water system

Discharge plumbing guidelines

- Keep all lines as short and straight as possible
- Minimum downhill slope required: 1/8" per foot
- 1-1/2" ID pipe or 1-7/8" ID hoses required
 - For 1-1/2" pipe:
 - Requires drain, waste, and vent (DWV) pipe fittings with sweeping changes of direction
 - Do not use schedule 40 or 80 fittings with tight turns
 - Install unions, as necessary, for service
 - For 1-7/8" hose, eliminate hose sags and low spots

Check valve guidelines

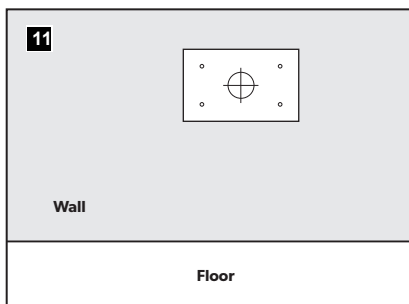
- Flapper style supplied with every toilet
- Spring check: 1"
- Install valve:
 - Close to the toilet
 - On the discharge side of the toilet plumbing
 - Before the waste line joins with any common discharge line
 - When open, the flapper "hinge" must be at the highest possible location
 - So the flapper opens in-line with the direction of the water flow
- When gluing the valve in place, do not allow excess glue to contact the flapper
- When flushing overboard through the seacock:
 - Loop inside the toilet must be above the waterline
 - Seacock must be 1-1/2" full-flow and located no lower than 12" below the water line



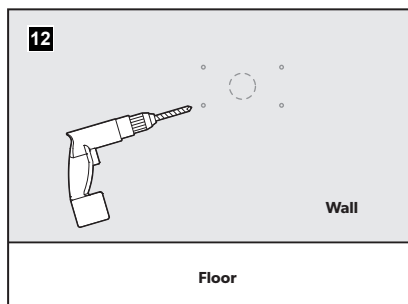
5.2 Planning the electrical connections (Models 9400 and 9500)



Plan the switch/status panel location, if applicable, so that the wiring cable and connections are installed in locations that always remain dry. Use the length of the provided wiring cable to help space the electrical connections at the proper distance from the toilet.



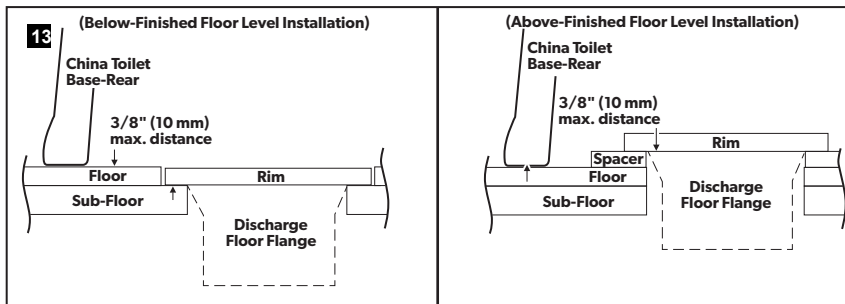
- Place the wall switch template in the desired location.
- Mark the location of the fastener and access holes.



- Remove the template from the wall.
- Drill a 1" diameter hole in the center and fasten the panel bracket to the wall.

5.3 Identifying centerline and access hole locations

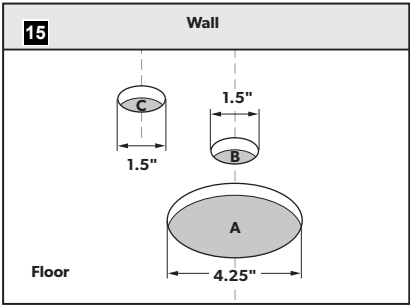
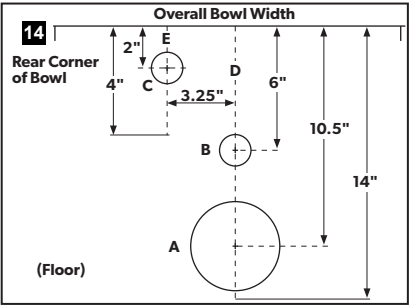
Through-the-floor method



- For through-the-floor connections, use the below-floor installation method, when possible.

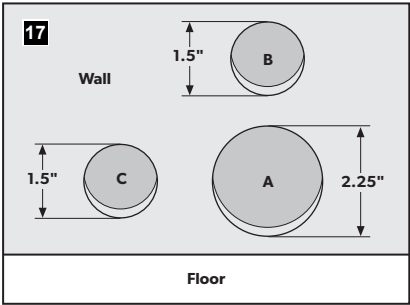
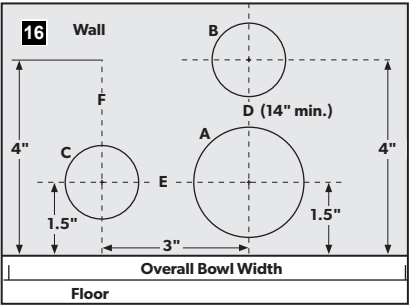


The discharge floor flange should be installed directly on the finished floor. However, if the bottom of the floor flange and the bottom of the toilet must be at different heights, make sure the bottom of the discharge floor flange rim is within 3/8" (10 mm) of the bottom of the toilet, regardless of the installation method.



Reference	Name
A	Discharge flange access hole
B	Upper rim water supply line and electrical wire access hole
C	Lower bowl water supply line access hole
D	Primary centerline
E	Secondary centerline

Through-the-wall method



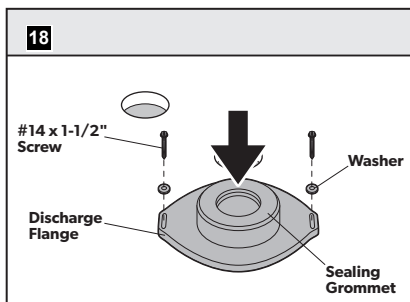
Reference	Name
A	Discharge outlet access hole
B	Upper rim water supply line and electrical wire access hole
C	Lower bowl water supply line access hole
D	Primary centerline
E	Horizontal primary centerline
F	Secondary centerline

Marking the locations (applicable to both methods)

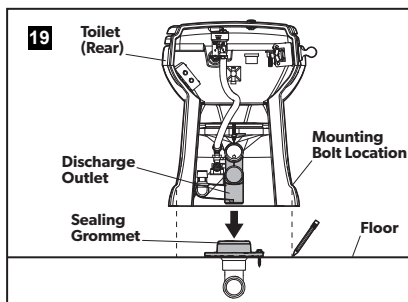
- Position the bowl in the designated toilet location.
- Confirm that adequate clearance exists for the seat and lid to open freely and (for 9300 series only) the flush handle to operate easily on the left side of the toilet.
- Mark the rear corners of the bowl and set the bowl aside.
- Measure the distance between the two rear corner marks and divide the measurement in half to identify the primary centerline location.
- Draw the primary centerline a minimum of 14" long.
 - If using the through-the-wall method, also mark the horizontal primary centerline.
- Mark the center of the discharge flange access hole.
- Mark the center of the upper rim water supply line and electrical wires access hole.
- Draw the secondary centerline a minimum of 4" long.
- Mark the center of the lower bowl water supply line access hole.
- Drill the discharge flange access hole.
- Drill the upper rim water supply line and electrical wires access hole.
- Drill the lower bowl water supply line access hole.

6 INSTALLATION

6.1 Installing the toilet with through-the-floor connections

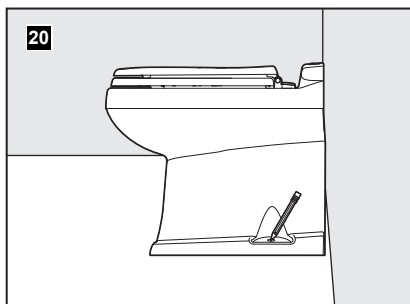


- Turn the electrical power OFF.
- Align the discharge flange with slots facing front-to-back, then insert the discharge flange into the discharge flange access hole.
- Loosely secure the discharge flange using the #14 x 1-1/2" screws and washers (provided).
- Place the sealing grommet into the top of the discharge flange and lubricate the inside of the grommet hole using dish soap.

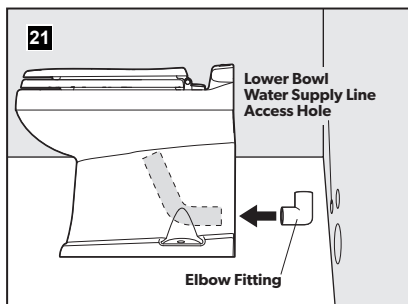


- Carefully lower the toilet, keeping it level, until the toilet discharge outlet slides into the sealing grommet and the toilet base rests flat on the floor.
- Slide the toilet front-to-back (no more than 1/2" each direction) until the toilet bowl is straight and in the desired location.
- Mark the mounting bolt locations using the holes as a guide.
- Carefully raise the toilet and set aside.
- Tighten the discharge flange screws.
- Drill 3/16" pilot holes for the mounting bolts.
- Proceed to "6.3 Finalizing the installation" on page 15.

6.2 Installing the toilet with through-the-wall connections

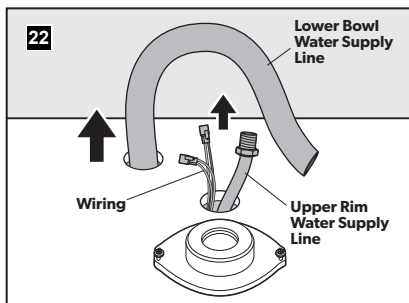


- Place the toilet in the desired location.
- Mark the mounting bolt locations using the holes as a guide.
- Carefully move the toilet aside and drill 3/16" pilot holes for the mounting bolts.



- Install an elbow fitting (not provided) for the lower bowl water supply line.
- Proceed to "6.3 Finalizing the installation" on page 15.

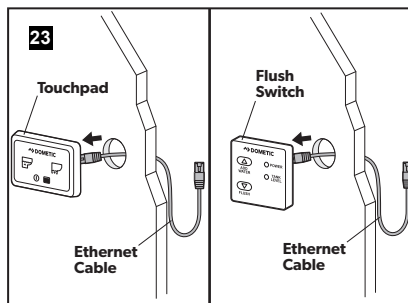
6.3 Finalizing the installation



- Route a 1/2" ID upper rim water supply line through the access hole. Use a 1/2" NPT connection (not provided).
- Route a 1" ID lower bowl water supply line through the access hole. Leave approximately 3' of extra line attached in order to make a flexible loop.
- Route #18 gauge stranded copper wire from the DC power source (positive and ground) through a fuse or circuit breaker. Leave at least 18" of wire for the toilet connection.
- Route wiring to the toilet location.

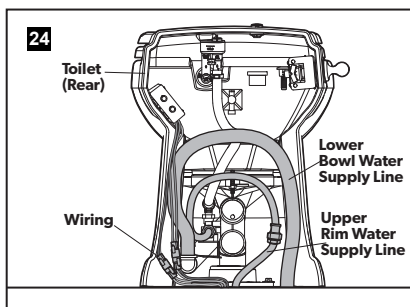


Route all other optional wiring according to the wiring diagrams.

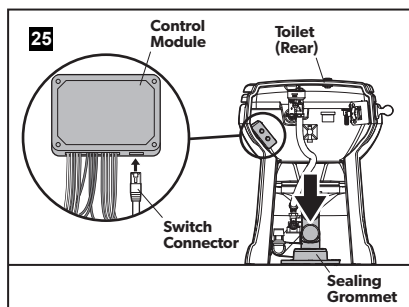


Flush switch (9400/9500)/system status panel (optional 9300) installation

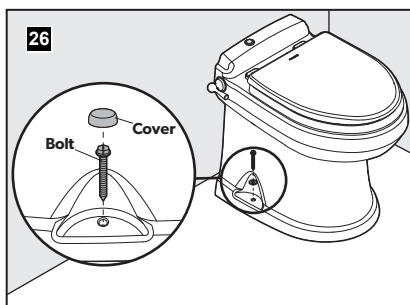
- Route the touchpad or flush switch Ethernet cables from the Ethernet connection on the toilet control module through the access hole in the wall.
- Plug the Ethernet cable into the touchpad or flush-switch panel.
- Snap the touchpad or flush-switch panel onto the panel bracket.



- Connect the discharge plumbing from the holding tank to the discharge flange or waste outlet. See section “5.1 Understanding requirements for the fresh-water system” on page 9.
- Position the toilet near the discharge flange.
- Connect the upper rim water supply line to the water valve.
- Route the wiring for the control module through the wiring access hole and up through the toilet plumbing lines.
- Connect the lower bowl water supply line to the toilet, looping the line as shown.
 - For through-the-wall installations, loop through the elbow fitting down to the inlet at the toilet base.



- Remove the control module from the inside and back of the toilet.
- Attach the panel cable to the toilet control module (RJ45 connector).
- Reattach the control module to the back of the toilet.
- Set the toilet back in place by inserting the discharge outlet into the sealing grommet.



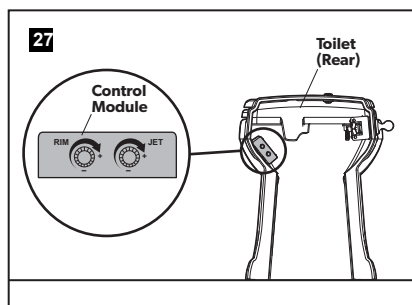
Do not slide the toilet over the discharge flange. Carefully align and place over the adapter to prevent possible damage.

- Adjust the toilet so the toilet mounting bolt holes are aligned with the pilot holes and the discharge adapter is aligned with the sealing grommet in the floor flange. Press straight down to secure.
- “Test the toilet for leaks” before proceeding.
- Secure the toilet to the floor, using #14 x 2-1/2” lag bolts. Push the decorative covers onto the bolt heads.

Test the toilet for leaks

- Turn on the water supply and electrical power to the toilet.
- Lift the flush handle, or push “add water” button for several seconds.
- Flush the toilet multiple times to observe operation. To adjust flush duration, see section “6.4 Adjusting the water consumption settings” on page 17.
- Wait one hour and check for leaks on the floor and at the rear of the toilet.

6.4 Adjusting the water consumption settings



- Locate the water control module at the inside and rear of the toilet.
- Turn the rim and/or lower water jet control knobs to adjust the flow time for each area.
 - Increase flow: turn the dial clockwise.
 - Decrease flow: turn the dial counter-clockwise.

7 DISPOSAL



Place the packaging material in the appropriate recycling waste bins, whenever possible. Consult a local recycling center or specialize dealer for details about how to dispose of the product in accordance with all applicable national and local regulations.

8 CUSTOMER SERVICE

For the Authorized Service Center near you, call between 8:00 a.m. and 5:00 p.m. (ET), Monday through Friday, or contact the nearest Parts Distributor.

Telephone: 1 800-321-9886 U.S.A. and Canada

330-439-5550 International

Fax: 330-496-3097 U.S.A. and Canada

330-439-5567 International

Website: www.dometic.com