# BOSCH

# **Installation Instructions**

for SHU (9900, 6800, 5300, 4300, 4000, 3300, 3030) and SHI (6800, 4300) and SHV (4800, 4300)



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IMPORTANT: Before you begin read these instructions completely and carefully. INSTALLER: Please leave this manual with owner for future reference. OWNER: Save these installation instructions for local electrical inspector's use and for future reference.

# Introduction

Please read these installation instructions completely and carefully. They will save you time and effort and help to ensure optimum dishwasher performance. Be sure to observe all listed warnings and cautions.

These installation instructions are intended for use by qualified installers. In addition to these instructions the dishwasher shall be installed:

- In the United States, in accordance with the National Electric Code/State and Municipal codes and/or local codes.
- In Canada, in accordance with the Canadian Electric Code C22.1 latest edition/Provincial and Municipal codes and/or local codes.

These shall be carefully followed at all times.

If the dishwasher is a new installation most of the work must be done before the dishwasher is moved into place. If the dishwasher is replacing another dishwasher the connections for the dishwasher being replaced must be checked for compatibility with the new dishwasher and replaced as necessary.

#### **Tools Needed for Installation**

Refer to Figure 1:

- A. Tape Measure
- B. Flat blade screwdriver
- C. Phillips screwdriver
- D. Torx screwdriver, #20
- E. Electric Drill
- F. Hole saw or 1" hole cutter
- G. Hammer
- H. Level
- I. Open end wrench
- J. Adjustable wrench, 2 reqd.
- K. Pipe wrench, 2 reqd.
- L. Wire Cutter
- M. Wire stripper

### Materials You Will Need

- Minimum 3/8" O.D. copper tubing of sufficient length for your installation.
- Shut-off valve and fittings for hot water supply line.
- 90° elbow with 3/8" N.P.T. external threads on one end and sized to fit your water supply line on the other end.
- Teflon tape or other pipe sealant.
- 3 twist-on wire connectors for 16 AWG wire.
- UL listed conduit connector or strain relief.

Additional materials may be required to comply with local codes.





#### **Accessory Parts Supplied**

Check to make sure that the accessory parts supplied for your model, see Figure 2, are all there. If any parts are missing contact your dealer immediately.

Refer to Figure 2:

- O. Cover Plugs (2)
- P. Screws (2), for terminal box cover/toe panel
- R. Mounting brackets (2)
- S. Wood screws (2)
- T. Drain hose clamps (2) with rubber connection hose (1)
- U. Screws, M6 x 26 (2)
- V. Mounting brackets (4) and screws (8)
- W. Template sheet with instruction pictograms.
- X. Screws, M4 x 42 (2) (SHV models only)
- Y. Handle Installation Kit with Instructions (SHU 9900 models only)





## **Technical Data**





#### Dimensions

A	height	33-7/8" - 35" (860 - 890 mm)	
В	width	23-9/16" (598 mm)	
С	depth	22-7/16 (570 mm)	

#### **Electrical Rating**

Volts	Hertz	Amperes	Watts
120	60	12	1,450 (max)

#### **Choosing the Location**

Most of the installation work is done before the dishwasher is moved into place. Select a location as close to the sink as possible for ready access to water and drain lines.

Any built-in dishwasher must be fully enclosed on the top, both sides and back. Therefore the cabinet space below your counter is probably the best location.

For proper operation and appearance of the dishwasher, the cabinet opening should be square and have dimensions as shown in Figure 4.



Figure 4.

If the dishwasher is to be installed in a corner, make sure there is adequate clearance to open the door. See Figure 5.





#### **CAUTION:**

To protect against possible rupture of the fill valve, water lines leading to the dishwasher, as well as water lines in the dishwasher MUST be protected against freezing. If the valve or water line freezes, flooding may occur. Such ruptures are not covered by the warranty.

#### **Preparing the Location**

Openings for electrical, water and drain lines must be installed in the marked area as shown in Figures 6 and 7 to avoid interference with the dishwasher frame or other components.





Access holes must be rounded and smooth. Holes must not be larger than  $1\frac{1}{2}$ " diameter.

#### **Hot Water Supply**

- The hot water line to the dishwasher must provide between 5 - 120 psi (0.3 - 8.27 bars) water pressure.
- The hot water heater should be set to deliver 140°F (60°C) water temperature to the dishwasher.
- A 3/8" minimum O.D. copper tubing inlet line is recommended.
- All solder connections must be made before water line is connected to the dishwasher's inlet water valve. Do not solder within 6 inches (152.4 mm) of the dishwasher's inlet water valve.

After determining where the water supply line will enter the dishwasher, drill a 1" (25.4 mm) diameter access hole and run the line to the approximate fill valve location, as shown in Figure 7. It is recommended that a shut-off valve (not supplied) be installed in the hot water supply line in a readily accessible location.

#### Drain Hose

The dishwasher comes with a seven (7) foot drain hose. An access hole must be made to allow the drain hose to be run to the drain connection location.



Figure 7.

**Electrical Supply** 



The electrical supply must be 120 volt, 60 Hz, 12 ampere, properly grounded, positioned as shown in Figure 7, and should be installed by a qualified electrician. No other appliances or outlets should be on this circuit.

Cut a 1" (25.4 mm) diameter hole in the cabinet for the electrical wiring to pass through. If this hole is cut in a wood cabinet, the hole should be sanded until smooth. If the hole is cut in a metal cabinet, the edge of the hole must be covered by a grommet. Run flexible, as codes permit, cable from junction through hole in cabinet. Cable should extend 30" from back wall.

#### **Inspecting the Dishwasher**

After unpacking the dishwasher and prior to installation thoroughly inspect the dishwasher for possible freight or cosmetic damage. Report any damage immediately. Cosmetic damage must be reported within 5 days of installation.

#### Placing the Dishwasher

The profile strips on the sides of the dishwasher allow the dishwasher to fit into a cabinet opening with a width of 23-5/8" (600 mm) to 24" (610 mm). Before sliding the dishwasher into the cabinet opening:

 Determine how the mounting brackets will be placed. The brackets may be placed so as to fasten to the underside of the counter top, in Figure 8, or, the brackets may be bent and set to fasten to the side of the cabinet opening as, Figure 9. The dishwasher should be mounted to the side of the cabinet if there is a granite, marble or other hard natural surface counter top that could be damaged by drilling. Once decided, set the mounting brackets before sliding the dishwasher into place, see Figure 10.



Figure 8.

- 2. Straighten the hot water supply line and the electrical cable so that it can be easily pulled through the channel under the dishwasher. See Figure 10.
- 3. Guide the drain hose carefully as the dishwasher is slid into the cabinet opening so that there are no kinks in the hose once the dishwasher is in place.
- 4. All necessary final leveling and alignment adjustments can be made after sliding the dishwasher into the cabinet opening. It is however recommended that the adjustments be made before sliding the dishwasher into opening and then any final fine adjustments made after the dishwasher is in place.



#### Figure 9.

Once slid into place make final leveling adjustments as shown in Figure 11. Then to maintain the dishwasher position and alignment, drive 2 wood screws through the holes in the mounting flanges that had been placed at each of the front corners, as shown in Figures 8 and 9.

Once the dishwasher has been leveled and secured in place proceed to the connection of the drain hose, hot water supply line and electrical connections as described in the following sections. Be sure to follow your national and local codes at all times.

#### **IMPORTANT**

If you wish to change the front panel of the dishwasher this must be done before sliding the dishwasher into place. See section in this manual titled **Accessory Panel Installation**, SHU Models.

\*Note: Additional accessory door panels can not be used with SHU 9900 models.

English









The rear leveling leg is adjusted by turning the center screw at the front of the dishwasher. The front leveling legs are adjusted by rotating the front leveling legs. See figure 11, above.

If additional height is needed: Shims may be added under the leveler feet.

#### **Drain Hose**

Use the hose clamp and rubber connection hose, item "T" from accessory parts (see figure 2) to connect the drain hose to the sink, disposer or air gap.



Figure 12.

The access hole for the drain hose should be 1.25" (32 mm) diameter.



Figure 13.

Typical drain connections are shown in figures 12, 13 and 14. Figure 12 shows typical connection. Figures 13 and 14 show possible connections when an air gap is required.

#### IMPORTANT

If no air gap is used and the drain line is run into a sink or disposer, the drain line must be elevated to a point higher than the highest water level of the sink to prevent back siphoning into the dishwasher.

**NOTE:** If connection to an air gap is required by local code, air gap kits are available from local plumbing sources. Install the air gap according to the manufacturer's instructions.



Figure 14.

#### CAUTION

Failure to provide the proper drain connection height, 20" (508mm) above floor level with high loop or air gap, will result in improper draining of the dishwasher. Improper draining may cause damage to the dishwasher.

#### Connecting the Hot Water Supply Line

The hot water supply line should be flushed to clear any foreign material BEFORE connecting the dishwasher. Make sure there are no sharp bends or kinks which might restrict water flow.





Apply Teflon tape or other pipe sealant to  $90^{\circ}$  elbow fitting and connect directly to water inlet valve. Attach other end of fitting to your water supply line.

When connecting threaded pipe use pipe thread compound or Teflon tape to seal the connection. Turn on the water supply to check for leaks after making connections.

If using a solder joint instead of a compression fitting be sure to make all solder connections before connecting the water line to the dishwasher. Do not solder within 6 inches (152.4 mm) of the dishwasher's inlet valve. Temperatures required for soldering will damage the valve.

#### **Connecting the Electrical Supply**

The electrical supply must be 120 volt, 60 Hz, 12 ampere, properly grounded. Connect with copper wire only.

# WARNING

### ELECTRICAL SHOCK HAZARD

- DISCONNECT ELECTRICAL POWER AT THE CIRCUIT BREAKER BOX OR FUSE BOX BEFORE INSTALLING THE DISHWASHER.
- ELECTRICALLY GROUND DISHWASHER.
- USE COPPER CONDUCTORS ONLY. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.

#### **Grounding Instructions**

This appliance must be connected to a grounded metal permanent wiring system; or an equipment grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the dishwasher. The dishwasher must be properly grounded before operating. Make sure that the dishwasher is connected to a suitable ground in compliance with the NATIONAL ELECTRICAL CODE, in the United States, or the CANADIAN ELECTRIC CODE C22.1-latest edition, in Canada as well as any provincial/state or municipal or local codes that apply.



Figure 16.

After completing wiring and testing, be sure that wires are pressed back into the terminal box and then securely fasten the terminal box cover/toe panel in place using screws from accessory package. See Figures 2 and 17.



Figure 17.

#### Panel Installation, SHI Models

If you have an SHI model, an integrated model, you will have additional mounting hardware and a folded template sheet with installation instructions comprised of pictograms.

In North America the black, white and stainless steel models of the integrated series (SHI series), have a control panel that is 5-5/16" (135 mm) tall. The black and white models come with a standard extension piece, dimension "A" in figure 18 and table 1, below. The stainless steel model comes with two extension pieces, referred to as the standard and long extension piece in **Table 1:** the standard piece is used for drawer heights up to 6" (152mm); the long extension piece is used for drawer heights greater than 6" (152mm) but 6-7/16" (164mm) or less. These stainless steel extension pieces are not installed in the control panel. Rather the stainless steel models ship the two extension pieces loose and must be inserted as shown in pictogram 5 on the template sheet.

The purpose of the extension piece is to allow the increase of the control panel height to try to match the horizontal drawer line of the cabinets. If your drawers are taller than the "C" dimension shown on **Table 1** it is recommended that the extension either be slid in as far as it will go, or removed and the door made to fit directly below the control panel.



Figure 18.

	Extension "A" max./min.		"В"	"C"
Model	Standard	Long		maxJiiiii
SHI	13/16" / 0"		5-5/16''	6-1/8" / 5-5/16"
6802	(21 / 0 mm)		(135mm)	(156 / 135 mm)
SHI	13/16" / 0"		5-5/16"	6-1/8" / 5-5/16"
6806	(21 / 0 mm)		(135mm)	(156 / 135 mm)
SHI	13/16" / 0"		5-5/16"	6-1/8" / 5-5/16"
4302	(21 / 0 mm)		(135mm)	(156 / 135 mm)
SHI	13/16" / 0"		5-5/16"	6-1/8" / 5-5/16"
4306	(21 / 0 mm)		(135mm)	(156 / 135 mm)
SHI	11/16"/5/16"	1-1/8"/11/16"	5-5/16"	6-7/16" / 5-5/8"
6805	(18 / 8 mm)	(29 / 18 mm)	(135mm)	(164 / 143 mm)

#### Table 1.

After deciding if the extension pieces will be used or not refer to the pictograms printed on the template for proper method of mounting your custom door.

Refer to Figure 19 and Table 2 for guidelines on custom door panel selection.

Note: Do NOT Drill Completely through your custom door panel.

#### **Panel Installation, SHV Models**

If you have an SHV model, a fully integrated model, you will have additional mounting hardware and a folded template sheet with installation instructions comprised of pictograms.

Refer to the folded template sheet for information on how to mount the panel. Please note that one side of the template shows how to mount a one piece panel and the other side of the template shows how to mount a two piece panel. Be sure of what type installation you want before proceeding with the installation.

Refer to Figure 19 and Table 2 for guidelines on custom door panel selections.





Model	D	* E	F
SHV	NA	27-3/16" - 30-5/16" (690 - 770 mm)	23-3/16" - 23-3/8" (589 - 594 mm)
SHI	20-11/16" - 25" (526 - 635 mm)	27-3/16" - 30-5/16" (690 - 770 mm)	23-3/16" - 23-3/8" (589 - 594 mm)

#### Table 2.

#### **Accessory Panel Installation, SHU Models**

If you have an SHU model (other than the SHU 9900 models) and have ordered an accessory panel kit it must be installed prior to sliding the dishwasher into place. Dimensions of panel size that may be used is shown in Figure 20.

<sup>\*</sup>Note: Do not exceed 30 5/16 (770mm) for the overall front panel length.







#### **Door Tension Adjustment**

After installation of the dishwasher open and close the door several times. The door should open and close easily with very little force required to lift the door when fully open. If the door closes too quickly, or if the door falls open, the spring tension should be adjusted. To adjust the spring tension obtain the screw in Figure 21 out of the parts bag. Insert the screw as shown in Figure 21 and adjust spring tension as shown.



Figure 21.

#### SHU 9900 Handle Assembly

The SHU 9900 model has a handle that needs to be assembled onto the door panel. Reference installation kit and instructions provided with the handle.

#### Final check list

CHECK ELECTRICAL REQUIREMENTS. BE SURE YOU HAVE CORRECT ELECTRICAL SUPPLY AND RECOMMENDED GROUNDING METHOD.

Turn on the hot water shut-off valve and electrical supply. Water temperature should be 140°F (60°C).

Operate the dishwasher through one cycle and check for plumbing leaks.

If the dishwasher does not operate refer to the SELF-HELP and the SERVICE and REPAIR sections in the Use and Care Manual.

# LEAVE INSTALLATION INSTRUCTIONS AND USE & CARE MANUAL WITH OWNER.



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