

# DUCT ADAPTER KIT INSTALLATION MANUAL



## HPWHA-08A (UL)

### Compatible products:

S33-HPWH50 | .3597870  
S33-HPWH80 | .3597873

### 1. Duct Adapter A

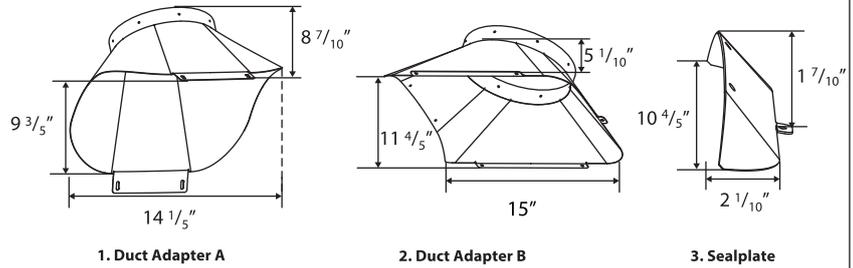
(US3-RSJ-15/190RDVN3-L3.3-2)

### Duct Adapter B

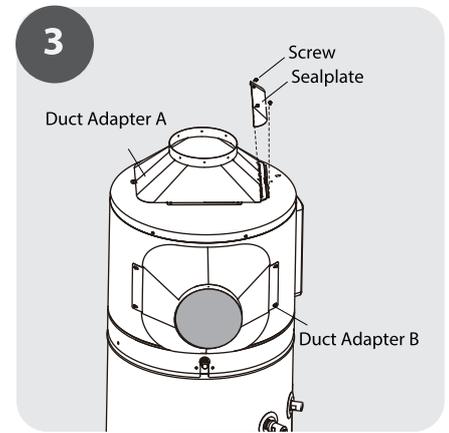
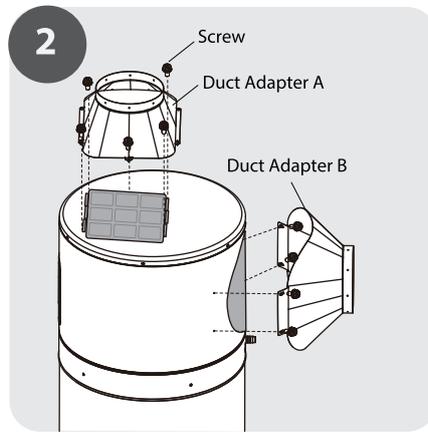
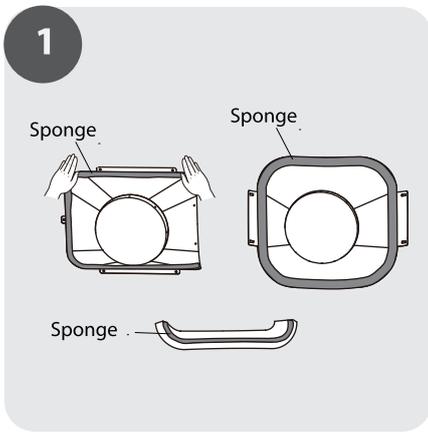
(US3-RSJ-15/190RDVN3-L3.3-3)

### 3. Sealplate

(US3-RSJ-15/190RDVN3-L3.3-4)



## HORIZONTAL DUCT ADAPTER INSTALLATION

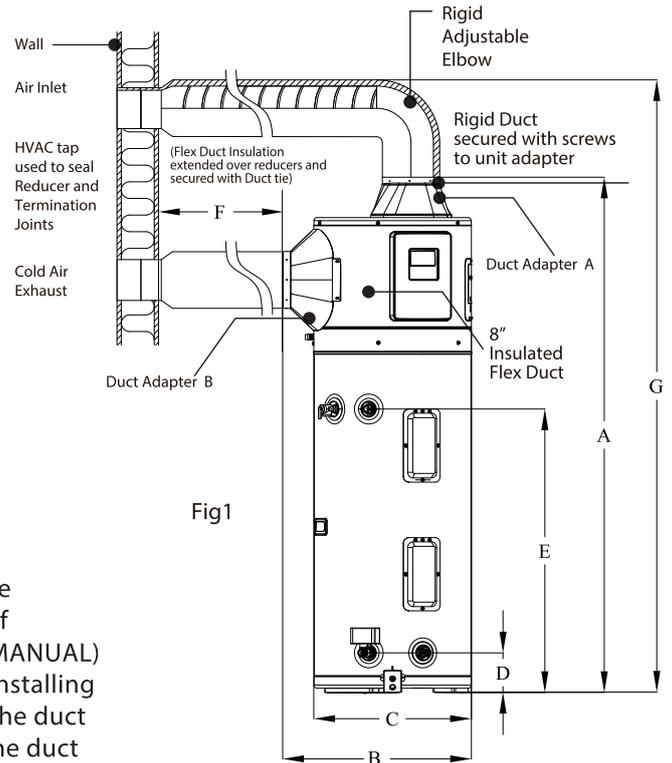


1. Apply the foam tape along the edges...

2. Secure the duct adapter Cover to the tank, then tighten the screws.

3. Secure the sealplate Cover to the edge of duct adapter.

| Model Number                 | S33-HPWH50   .3597870 | S33-HPWH80   .3597873 |
|------------------------------|-----------------------|-----------------------|
| NOMINAL GALLON CAPACITY      | 50/45                 | 80/74                 |
| DIMENSIONS (SHOWN IN INCHES) |                       |                       |
| A                            | 71 7/8                | 79 6/8                |
| B                            | 26 7/8                | 30 6/8                |
| C                            | 21 6/8                | 25 5/8                |
| D                            | 5 4/8                 | 5 4/8                 |
| E                            | 39 4/8                | 46 4/8                |
| F                            | ≥59 1/8               | ≥59 1/8               |
| G                            | 89 5/8                | 97 4/8                |



### NOTICE

Must be installed by professionals. It is recommended to adjust the engineering channel 40 (Detail operation please look at the part of "OPERATING INSTRUCTIONS -> Setting Menu" in the USE & CARE MANUAL) after installing the air duct to achieve better performance. When installing the ducting, obstacles need to be kept at a certain distance from the duct adapter; the headroom required for installation. Objects around the duct need to be more than 1 inch away from the duct.

Duct Adapter Kit

## DUCTING REQUIREMENTS

Before designing the duct system, always check with local building and HVAC codes. Read these instructions carefully for ducting unit to outdoors or other spaces. Any ducting configurations that do not comply with these instructions are not supported.

This water heater **MUST** be ducted separately from other appliances. Only use ducting approved for HVAC applications. ENSURE ducting is adequately supported and that terminations are used.

HVAC approved indoor registers are required.

To minimize transmission of vibration or noise, rigid ducting must be isolated from floor joists or other structural members. Utilize a short section (12 in. or larger) of flexible duct between the water heater and rigid ducting as an isolation method. Every foot of flexible ducting counts as three feet of rigid ducting. Ducting must be insulated per HVAC codes (to prevent condensation).

Cold air **MUST** exhaust is sufficiently away from structures to prevent condensation on surfaces. Lowering resistance to airflow and regular filter maintenance will maximize heater performance. Providing unit with warm moist air is also beneficial to the performance of the water heater.

Considerations when planning the duct system:

- Use direct route for running the ducting. For best airflow, reduce elbows/bends used in layout as much as possible.
- Utilize largest duct size for project that is allowable for install.

- Utilize largest termination possible for ductwork. The length of duct is the length on the inlet plus the length on the outlet. You may use any combination of duct lengths to reach max. duct length in Table 1.

Table 1 - Maximum Duct Length

| Duct Type / Diameter | 8"   | 7"   | 6"  | 5"  |
|----------------------|------|------|-----|-----|
| Rigid                | 357' | 168' | 68' | 18' |
| Flexible             | 131' | 68'  | 26' | --  |

### NOTICE

All ducting accessories and installation need to follow local electrical installation and building code. When the installation is completed, the equivalent pressure load needs to be less than 45 Pa or the airflow at the outlet of the water heater needs to be no less than 150 m<sup>3</sup>/h. If the static pressure is higher than 45 Pa or the airflow at the outlet is less than 150m<sup>3</sup>/h, the efficiency will reduce more than 20%.

When the unit is running in a high humidity environment, it is recommended to "wrap the duct" at the air outlet duct to reduce the generation of condensation water.

## DUCT SYSTEM CONFIGURATION

Use 8 in. diameter ducting for inlet and outlet ducting connections on the water heater.

Note that 5 inch, 6 inch, 7 inch diameter ducting are supported. Total feet of ducting allowed is in Table 1.

## ACCESSORY INSTALLATION REQUIREMENTS (NOT INCLUDED)

### Elbows/Bends

An elbow is defined as a rigid duct with a flex bends greater than 45°.

If a bend is needed that has a tighter radius than its diameter, then a rigid elbow must be used.

### Terminations/Registers

Smaller diameter terminations and registers with more than a 2 ft. connection should not be used. The angle of the duct adapter needs to be main-tained at an inclined angle to avoid backflow.

### NOTICE

These accessories will increase the load static pressure throughout the piping system and will reduce airflow.

### Damper

An approved damper should be installed no further than 10 ft. of rigid ducting total (two elbows equivalent) from the unit if ducting to the outside while using an exhaust duct only (no intake duct). This action will prevent outside air from entering the living space.