



Power-Pipe[®] Selection and Installation Guide For New Home Construction

If you have any additional questions, please don't hesitate to contact
RenewABILITY Energy Inc. at 1-877-606-5559

A) Background

The Power-Pipe[®] Drain Water Heat Recovery Unit

RenewABILITY Energy's patent-pending Power-Pipe[®] is a heat exchanger that is comprised of standard quality plumbing components: Type "L" copper fresh water coils wrapped very tightly around an inner copper drainpipe (Type "DWV"). As fresh water flows up the multiple fresh water coils, warm to hot drain water flows down the inside wall of the drainpipe as a falling film. This counter-flow design maximizes the amount of energy that can be recovered from the drain water while minimizing pressure loss. The Power-Pipe[®] is a passive energy saving device. It has no moving parts and will require no maintenance. The high quality construction provides a life of 40 years or more. Its self-cleaning operation assures maintenance-free operation.

Power-Pipe[®] Compatibility

The Power-Pipe[®] is compatible with all water heating systems (e.g., natural gas, electrical, oil, propane, heat pump, solar, tank, on-demand, etc) as well as all drainage and freshwater plumbing materials.

B) Power-Pipe[®] Selection Guide

Diameter

The drainpipe and Power-Pipe[®] nominal sizes must be the same. Typical residential drainpipes are either 2" or 3" in diameter. The Power-Pipe[®] is currently available in 2", 3", 4" and 6" diameters.

Length

The vertical length required is the Power-Pipe[®] length plus 5-1/4" for the drain connectors. For example, a 60" Power-Pipe[®] requires a 65-1/4" continuous section of drainpipe for proper installation and connection. The Power-Pipe[®] is also available in shorter and longer lengths. It is not recommended to install a Power-Pipe[®] shorter than 30", although they are available upon request.

C) Installation Instructions

Please read these instructions before installing any Power-Pipe[®] unit.

Please Note:

- Only qualified persons should perform Power-Pipe[®] installation.
- A Power-Pipe[®] must be installed in a VERTICAL orientation.
- A Power-Pipe[®] must be the same nominal size as the drainpipe to which it is connecting.
- The Power-Pipe[®] is not sold with freshwater fittings, which are the responsibility of the installer as determined by on-site conditions. The Standard Package includes 2 drain connectors: a Fernco sleeve connector for the bottom and a ProFlex connector for the top.
- It is usually best to install at the lowest level in the drain that is possible.

When laying out drainage in the home, if possible connect drainage from all bathrooms together to one vertical pipe. For simplicity, the drainage from 2-piece washrooms may be connected but is not required.

Installation Instructions:

1. Ensure that the drainpipe is vertical (plumb).
2. Measure and mark 4" up from the bottom of the section of drainpipe. This will be the BOTTOM CUT.
3. Starting from the BOTTOM CUT, measure up and mark the length of the Power-Pipe[®]. This will be the TOP CUT.
4. At the BOTTOM CUT and TOP CUT markings cut and remove the drainpipe section.
5. De-burr drainpipe openings.
6. Wet inside of supplied Fernco™ sleeve coupling and slide over the bottom section of drainpipe.
7. Remove the ProFlex™ steel band. Wet the inside of the ProFlex™ and slide the large side of the coupling over the TOP CUT and onto the drainpipe.
8. Loosen the band and put it back onto the ProFlex™ coupling.
9. Push the Power-Pipe[®] up into the ProFlex™ coupling and then tighten both bands.
10. Move the (bottom) Fernco™ sleeve up onto the bottom of the Power-Pipe[®] and then tighten clamps on both connectors.
11. For best performance and easy installation plumb all the freshwater to the home through the Power-Pipe[®]. This allows for "equal flow" when the shower(s) is running and highest performance.
12. Connect the INCOMING cold water to the BOTTOM Power-Pipe[®] coil header.
13. Connect the OUTGOING cold water supply to the TOP Power-Pipe[®] coil header. **NOTE: if 12 and 13 are not done performance will be substantially lower because the two flow streams will not be counter-flow.
14. Check and tighten all connections.
15. Electrical Bonding to Ground: If the home is plumbed in copper AND if the Power-Pipe[®] is plumbed with PEX (plastic pipe) then install a bonding wire to electrically bridge the copper pipe across the PEX-copper connection points. Some jurisdictions require the bonding wire to be a minimum of #6AWG. Consult with the electrical code or equivalent in your area.

Insulation:

- Insulate pipes and supply lines as desired to minimize heat loss and to eliminate condensation.

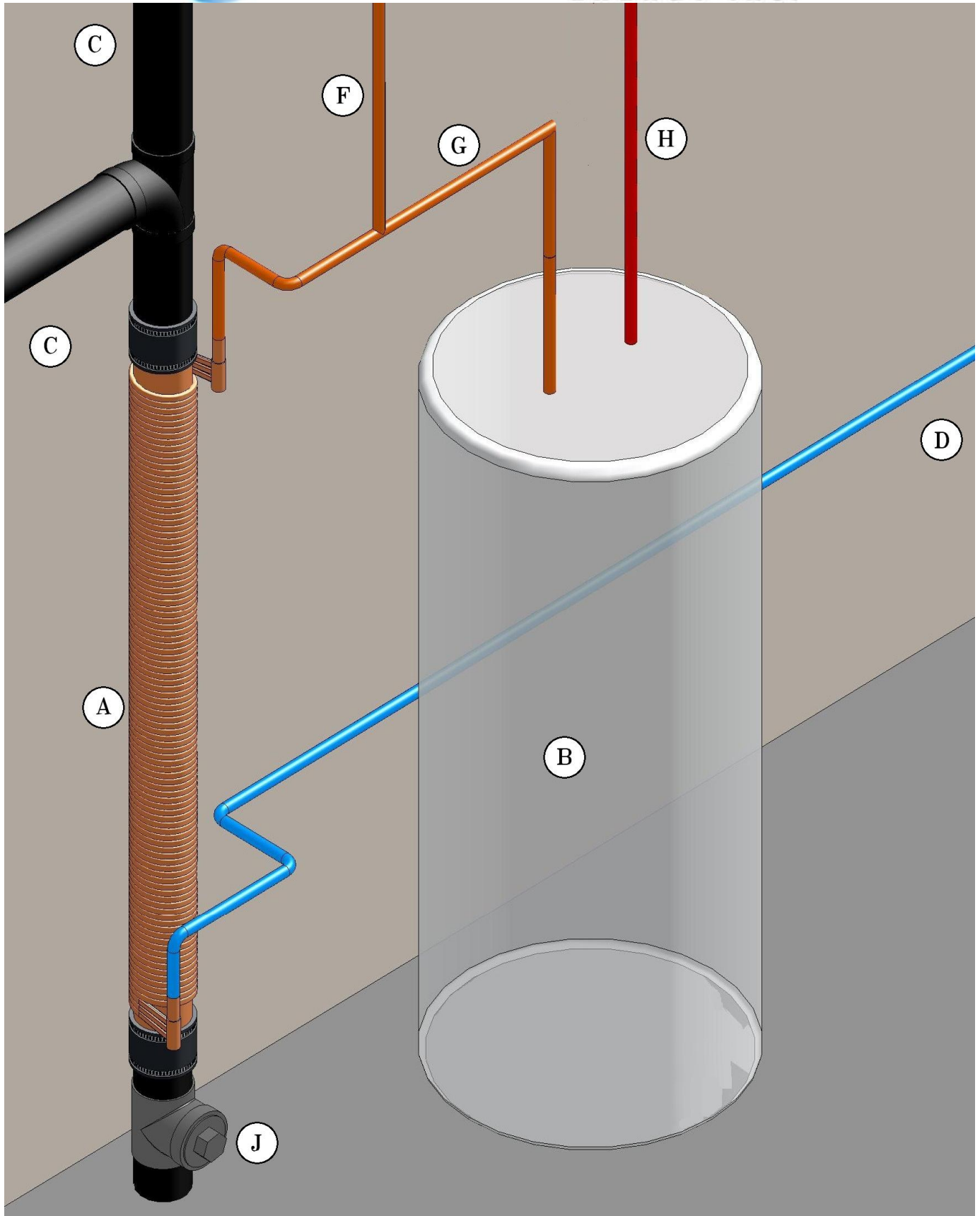


Figure 1: Plumbing Configuration

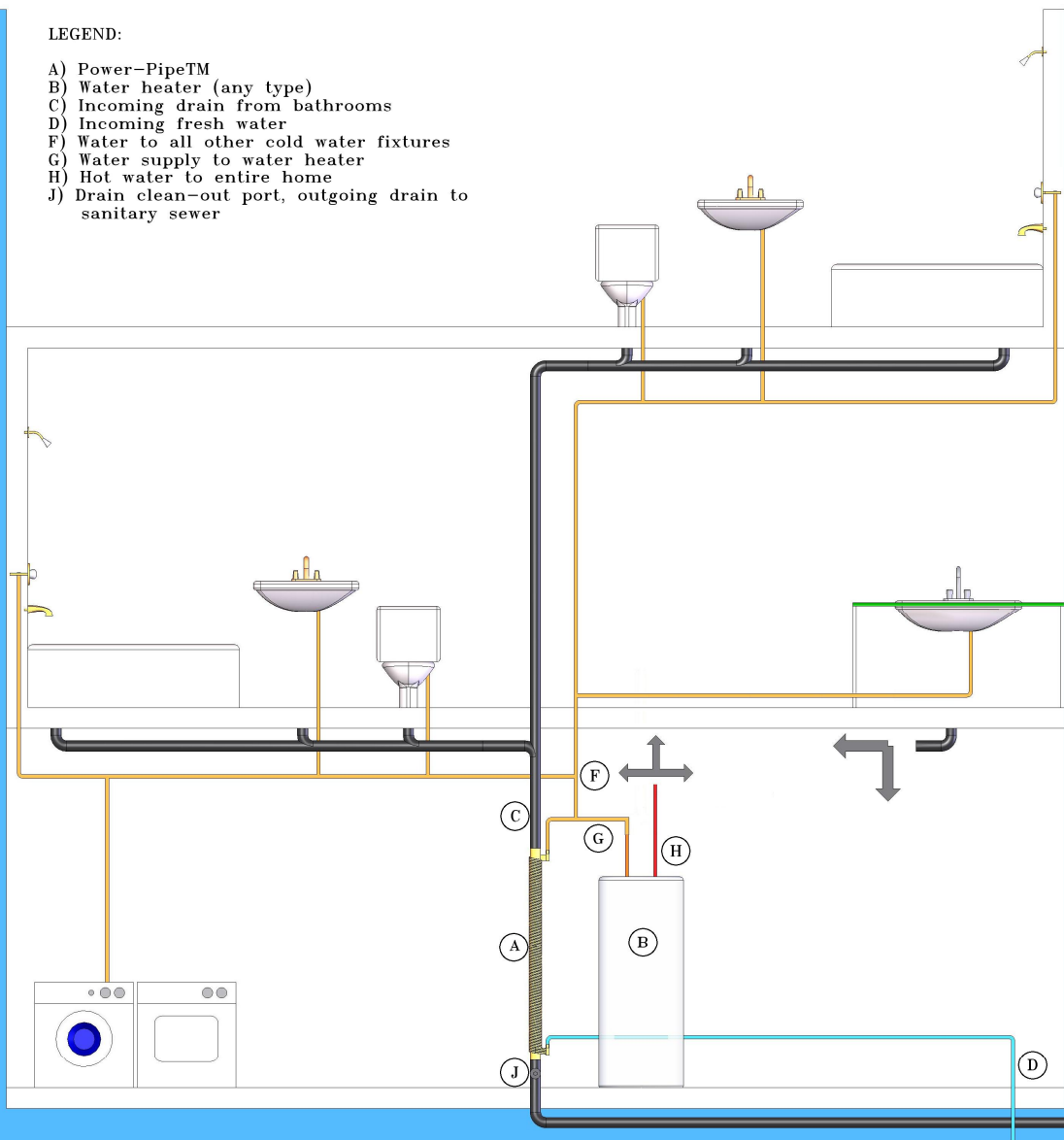


Figure 2: Preferred Plumbing Layout for a Power-Pipe® Drain Water Heat Recovery Unit