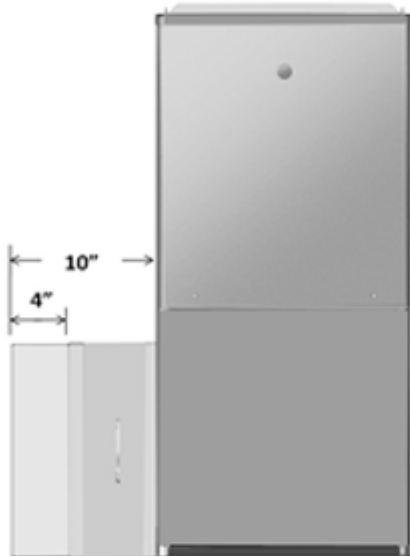


freewatt®

freewatt Ready Furnace - Model WAX

OVERVIEW

The **freewatt** Ready Furnace package allows a homeowner to convert their existing forced air heating system to a new high efficiency system now, and provides the ability to upgrade their new high efficiency heating system to a **freewatt** Micro-CHP system at a later date. The **freewatt** Furnace replaces the existing furnace and uses the same ductwork system to deliver the heat to the home. No other furnace is designed to allow this capability.



EQUIPMENT

The **freewatt** Ready Furnace package consists of a 95% efficient two-stage variable speed **freewatt** Furnace, **freewatt** air filter cabinet (w/ air filter) and communicating thermostat. The **freewatt** Ready Furnace package does not include the HONDA MCHP engine/generator module and therefore requires no additional grid interconnection activities at this time. The project only requires a replacement of the existing furnace as outlined below along with a 4" transition spacer between the air filter cabinet and the vertical run of the return duct-work. The **freewatt** Ready Furnace may then be upgraded later to include cogeneration capability by installing a **freewatt** ready completion kit.

PREPARATION

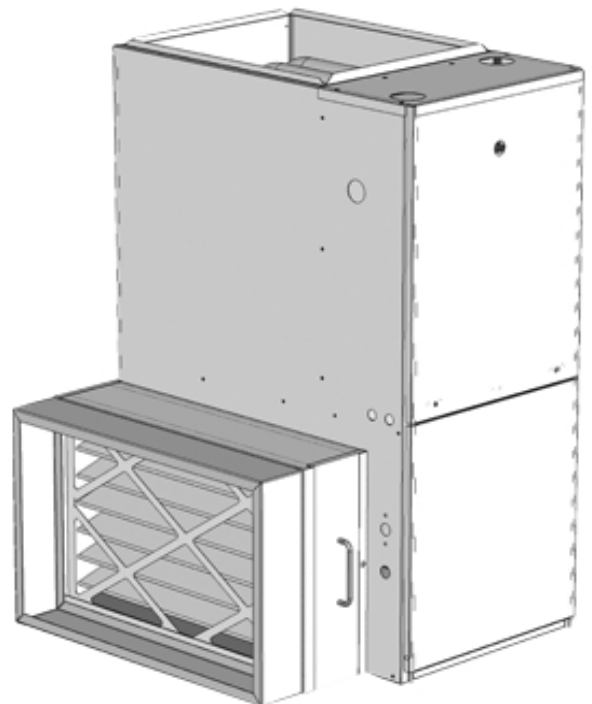
The furnace will be installed per the installation instructions supplied with the unit and embodies many of the same installation requirements of a typical high efficiency appliance. The major installation items include the combustion vent and air intake piping & terminations, gas piping, condensate removal, and proper installation of the air filter cabinet with the 4" transition ductwork spacer. The furnace must be installed on 4" blocks.

INSTALLATION

The drawing to the right shows the preferred configuration of the furnace and air filter cabinet. The future **freewatt** System will need to be upright flow with the return duct on the right or left. The 120 VAC dedicated power cable should be routed into the bottom furnace compartment on the opposite side of the return duct. The communicating thermostat should be connected to the furnace using the 10 conductor cable (Honeywell Genesis: Model No. 22 AWG 10/C STR CM-CL2 (or equal)).

COMMISSIONING

The two-stage furnace requires two major commissioning procedures: air temperature rise and manifold gas pressure at the two firing rates.



SUPPLEMENTAL INSTRUCTIONS

Follow the Installation Instructions found in the furnace IOM and ensure that the following items are performed:

Plumbing & Gas Checklist

Check Item	Description	Checked?
Blocks	Place 4" blocks under furnace/air filter enclosure.	
Air Filter Cabinet	Install directly on return side of furnace.	
Gas Piping	Size piping for furnace and HONDA MCHP (18.5 MBH) firing rate to accommodate future installation of HONDA MCHP. ½" NPT female tap for the HONDA MCHP gas line should be plugged & ready for future upgrade. Route gas piping on opposite side from return ductwork and air filter enclosure.	
Furnace Vent Pipe	Install PVC vent pipe through furnace top, or if necessary, on opposite side from return ductwork and air filter enclosure.	
Commissioning	Perform gas pressure & temperature rise tests at both low and high fire.	
4" Transition Spacer	Install a 4" transition spacer between the air filter cabinet and the return ductwork to accommodate the future HI module.	

Electrical Checklist

Check Item	Description	Checked?
Future HI Module/Service Loops	The air filter enclosure will be removed in the future and the HI module installed. Remember to leave 4 ft. service loops in the electrical cabling.	
Service Loops	The thermostat cables should have 2- 4 ft. service loops in order to facilitate the future installation of the system controller.	
HAI Communicating Thermostat	The HAI communicating thermostat should be connected to the furnace control board with a 10 conductor cable and service loop of at least 4 ft. This thermostat is a single stage thermostat and therefore requires the furnace control jumper (P5) to be in the 10 minute position.	