

# Operating Instructions for Biomass Attachment

## Startup

Turn the yellow disconnect switch to the “ON” position. On the front of the panel, flip the toggle switch to “ENABLE” and the other one to “COLD START”. Fill the hopper by running the fill auger. When the shavings start coming into the firebox, turn the knob back to #3. Light the fire using some scrap cardboard or paper. Once a fire has been established, turn the knob back up to the #10.

## Monitoring

Once the fire is going, the red numbers on the controller will begin to climb. These numbers are the water temperature in the boiler. Once the red number gets to forty degrees from the green one the “COLD START” toggle switch should be flipped to “RUN”. The controller will now take over and maintain the fire for you.

## Operation

The controller has a built in safety so if the water temperature gets too high, it will shut down. An aquastat designed to make on temperature rise must be installed to dump the excess heat before the controller goes into complete shut down which occurs at 10 degrees above the setpoint. If the fire would go out for some reason, the controller will shut down the feeding system so the firebox doesn't get filled up with shavings. This happens 50 degrees below the set point on the controller. The circulators must be set to shut off at a temperature below the shut down temperature. If they shut off when the water temperature is above that setting, the low limit safety may not work. In the event this occurs, relight the fire and follow the startup instructions.

The control panel has a knob on it labeled “Percent speed limiter”. This is a way for the operator to provide a high speed limit to the burn rate. Many find that setting the knob to between #5 thru #7 makes for a very satisfactory burn rate. The operator is free to adjust this according to his specific needs. It is usually not necessary to run the burner at full speed with the exception of startup functions. Because one size burner system is used in various size boilers, the actual setting will be dependent upon each individual system requirements. Once the control has been set to satisfaction, it will take care of itself through all the varying temperatures.

The boiler can be used throughout the summer for heating domestic hot water. We recommend this wherever possible to prolong the life of the boiler. Because of the modulating firing rate, the controller automatically compensates for the severely reduced heat load. It may be necessary to scrape the ashes off the perforated grate periodically. Because of the low burn rate, the ashes don't always get pushed off.

A secondary air blower is provided for secondary air when burning woodchips or rubber chips. It may not be necessary for kiln dried shavings. When burning firewood or coal, this blower must be switched on.