The idea behind this pyrolyzer is to mimic the migratory pyrolytic front in a TLUD stove, a thin layer of heated fuel with a small amount of primary air to burn just enough wood gas to keep the biomass hot and keep the pyrolysis going. Most of the wood gas is efficiently burned in the burners. This eliminates the need for external heating to heat the biomass.

The vibration table can operate continuously either rapidly or slowly and also intermittently as needed for full pyrolyzing.

One reason for using a vibration table is that it has no machinery in the heated zone like would be the case with a conveyer or screw feed, and the biomass is fully exposed to the heat.

Vibration table moves fuel/charcoal and tumbles fuel pieces so all sides are exposed to the heat

Roller flattens the fuel and feeds it onto the vibration table

Fuel hopper can take a variety of sizes and shapes of biomass

Hot gasses to boiler, making steam to generate electricity

Primary air holes allow enough air in to burn a small amount of wood gas to keep pyrolysis going.

Vibration cylinder and spring support

Flex point allows only table to vibrate

Charcoal exit device which keeps air from entering the pyrolizer

Charcoal

Bluff body burners