ALTERNATIVE FUEL SOLUTIONS

HURST
BOILER & WELDING CO., INC

BIOMASS
Steam & Hot Water Boilers
Direct-Fired “STAG” Burner
Cogeneration Plant

HURST PERFORMANCE SERIES BOILERS
**Flat Grate Stoker** with manual ash removal

Simpistic in design, the “push fuel to ash” concept delivers consistent, clean even burns with minimal ash management. This unit offers mechanical replacement of fuel with just one moving part within the furnace. This manual ash removal unit is offered in various configurations to utilize a wide selection of solid fuels.

**HYBRID SERIES**

*Available in Steam or Hot Water, Multi-Pass Dry Back Design. 100 to 1800 BHP, 15 to 450 PSI steam.*

- **TWIN 1200 BHP**
  “Super Heated” 450 psi
  Erected in Dominican Republic.

- **TWIN ASH COLLECTORS**
  Primary and Secondary Modular Units being lifted into place.

- **1500 BHP**
  Hybrid Design leaving the Hurst factory for Pulp Mill/Northern Wisconsin

- **INSTALLATIONS WORLD-WIDE**
- **COMPLETE SYSTEMS**
- **HUNDREDS OF BIOMASS FUELS**
- **LOW-COST INSTALLATIONS**
- **OVER 40 YEARS OF COMBUSTION DESIGN**
- **HURST FACTORY REPLACEMENT PARTS**
Under Feed Stoker with manual ash removal

For low-ash content fuels, the under feed design is hard to beat for even burns and performance. A long time workhorse from the stable of Hurst combustion stokers, the under feed design is unsurpassed when handling the dirtiest of coal and biomass fuels.
Traveling Grate Stoker with automated ash removal

An innovative, self-cleaning stoker design for biomass and coal fuel applications. This combination of stoker and “hybrid boiler” delivers performance, efficiency and reliability.
ALTERNATIVE FUEL SOLUTIONS

Forestry Related: Trimmings, Mills Waste, Bark, Saw Dust, Chips
Reciprocating Grate Combustion System

SOLID FUEL BURNER RG
DIRECT FIRE “STAG” UNIT

Application

1. Rotary Dryer
2. Hurst Solid Fuel Burner Furnace
3. Reciprocating Fire Grates
4. Under Fire Air Fan
5. Reciprocating Drive
6. Over Fire Fan/Dampers
7. Air Blend Box
8. Fire Door
9. Ash Clean Out Door
10. Material Feed
11. Fuel Metering Bin
12. Ash Removal Conveyor
13. Refractory Arch
14. Reciprocating Floor/Fuel Storage
15. Hydraulic Driven System
16. Vibrating Conveyor / Classifier
17. Fuel Transfer Conveyor A
18. Fuel Transfer Conveyor B
19. Over Sized Fuel Material for Chipping line

Fuel Room

CAT # W-26
BY-PASS VENT
HURST
BOILER
HURST
BOILER

Reciprocating Grate Combustion System

Dry Kiln

Application

1. Dry Kiln
2. Hurst Green Burner Furnace
3. Reciprocating Fire Grates
4. Under Fire Air Fan
5. Reciprocating Drive
6. Over Fire Fan/Dampers
7. Air Blend Box
8. Fire Door
9. Ash Clean Out Door
10. Circulating Air System
11. Fuel Metering Bin
12. Ash Removal Conveyor
13. Heat Exchanger for Fuel Storage
14. Mechanical Drive System
15. Vibrating Classifier / Classifier
16. Fuel Transfer Conveyor B
17. Over Sized Fuel Material for Chipping line

CAT # W-23
RECIRCULATING FEED DUCT
CIRCULATING FAN
BY-PASS VENT
RECIRCULATING RETURN DUCT
DAMPER
HURST
BOILER
HURST
BOILER

Reciprocating Grate Combustion System

Dry Kiln

Application

Direct Fire Burner
with automated ash removal

Hurst “STAG” units are used when heated air is needed instead of steam or hot water. Hurst manufactures units to service Oil Heaters, Rotary Dryers, Lumber Kilns, Brick Kilns, and for the firing and co-firing of boilers. To complete your STAG unit, Hurst offers available components such as Ash Systems (wet or dry), Material Handling Equipment, Custom Blend Refractories, Combustion Air Systems, and the Hurst “Biomaster” Combustion Monitoring System.

Dry Kiln Application

Southern Pine Saw Mill

DRY KILN APPLICATION

“SAW MILL CONVERTS WASTE-TO ENERGY”
Lumber Curing Fuel Costs Reduced

Dry Kiln Application

Air Temperature Designs Range

from 200°F to 2000°F
Reciprocating Grate Stoker
with automated ash removal
This unit offers the very best of solid-fuel combustion, allowing mechanical replacement of fuel with the least amount of moving parts. This efficient multi-fuel design is offered in various configurations to utilize a wide selection of solid fuels. All Hurst factory stokers are cast from the highest quality steel alloys and mounted on a robust undercarriage system.

800 BHP
Paper/Cardboard Fired

1500 BHP
1500 BHP, 250 PSI design being erected in Wisconsin. This assembly is shipped in 3 large modular pieces for a cost saving installation.

1500 BHP
Shipped to South America

TWIN 1200 BHP
450 PSI Super Heated

TWIN 1200 BHP
Saw Mill in Arkansas
SOLID FUEL SOLUTIONS

HYBRID SERIES
Available in Steam or Hot Water, Multi-Pass Dry Back Design. 100 to 3000 BHP, 15 to 900 PSI Steam with Super Heater.

S100 SERIES
Available in Steam or Hot Water, Fire Box Design. 100 to 800 BHP, Low Pressure Steam with Hot Water Options.

N65 SERIES
Available in Steam or Hot Water, FireBox Design. 100 to 1,500 BHP, 15 to 450 PSI Steam.

MULTI-PASS HYBRID DESIGN
100 to 3000 BHP. Pressures to 900 PSI steam. (with super heater)
# The HURTST BIOMASSter Control System

The Hurst Biomass Control System is one of the most advanced systems available for biomass combustion in today’s market. The expertise gained through years of biomass installations, combined with our commitment to continuous quality improvements has created a control system unsurpassed in the biomass industry. The control system is fully automated and provides the ultimate in flexibility to meet the requirements of the varying types of biomass fuels. The complete control system is developed and manufactured in-house by our control system department. Through the use of the latest PLC, VFD, HMI technologies and instrumentation, we provide a comprehensive user-friendly system. Each system is designed not only to control the boiler but also to provide information as to address diagnostic and emission concerns. Each panel is manufactured and listed to UL 508A standards in our facility.

## Fuel Reclaimer Systems, Screening and Conveying Units

<table>
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<tr>
<th>Reciprocating System</th>
<th>Full Screen Unit</th>
<th>Conveyer Systems</th>
<th>Silo Systems</th>
<th>Silo Loading Systems &amp; Fuel Receiving Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy, robust systems built from boiler quality materials by boiler makers. Designed from the “walking floor” concept, handling of solid fuel materials has never been so simple. With Hurst’s superior design, construction and final quality control, this system is built for boiler duty dependability and 24/7 operation.</td>
<td>We offer a complete line of fuel screens: vibrating type along with disk-screen type.</td>
<td>No matter which fuel system you have, solid fuel has to be mechanically conveyed. We offer screw auger systems, drag chain and belt conveyer units, all built to the same integrity; built boiler duty tough for 24/7 operation.</td>
<td>Concrete or steel bolt-up designs for fuel unloading systems: bottom screw type and flail type.</td>
<td>Hurst offers complete designed systems for loading and stations for fuel receiving built for your capacity and requirements.</td>
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# Integrated Control Systems

COMPATIBLE WITH ALL SOLID FUEL COMBUSTION SYSTEMS

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<tr>
<th>TOTAL SYSTEMS MONITORING w/ Extra Large Touch-Screen Interface</th>
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- Maximizes Boiler Room Efficiency
- Increases Productivity
- Reduces Operating Costs
Deaerators have long been used in power plants and water-tube type boilers, primarily to remove the dissolved oxygen and other non-condensable gases while also pre-heating the feed water. An additional advantage is the capturing of more “flash loss” from higher temperature condensate returns. These same advantages are important today for all boilers due to higher capital investments. This can be used to heat the feed water and lower operating costs. The protection of all the steel within the entire system easily justifies the cost of the “OXY-MISER”.

**OXY-MISER SERIES** “Deaerator” Feed Water Systems

Hurst is a major supplier of boiler parts and controls that are commonly found on most boiler systems. We stock parts and supplies for gas, oil, coal or solid fuel systems. No matter the maker, Hurst can fill all your parts needs.

**Feed Water Pumps**
**Boiler Controls**
**Gaskets / Seals**
**Piping and Valves**
**Boiler Tubes**
**Fuel Augers**
**Replacement Chains**

**Forced Draft Burners**
**Refractory (Hurst Brand)**
**Fire Bricks / Hangers**
**Fire Grates**
**Stoker Assemblies / Parts**
**Gear Reduction Drives**
**Sight Glass / Float Valves**

**For More Information**

Hurst Boiler continually strives to provide the most comprehensive information and technical product data available via our web site at [www.hurstboiler.com](http://www.hurstboiler.com)

Always visit [www.hurstboiler.com](http://www.hurstboiler.com) for the latest product data, distributor, technical information and literature, as well as, links on news, events, and specials.

Please visit our site frequently, and be sure to use our CAD drawings or contact us on any of your boiler engineering questions or concerns.

It is always our pleasure to serve you with all of your boiler needs.

Thank you for considering, Hurst Boiler & Welding Company Inc.