



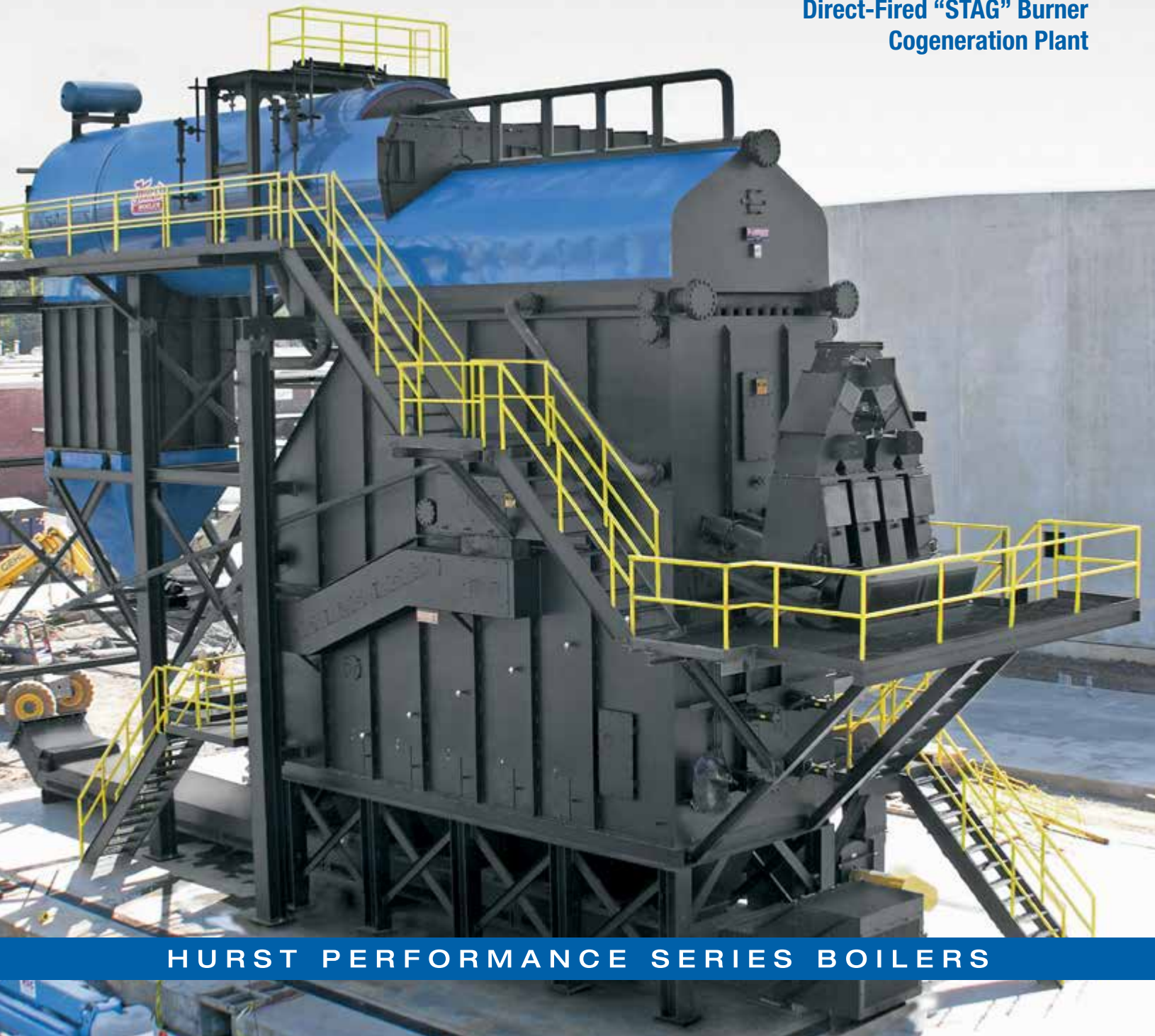
ALTERNATIVE FUEL SOLUTIONS

# HURST

BOILER & WELDING CO., INC

## BIOMASS

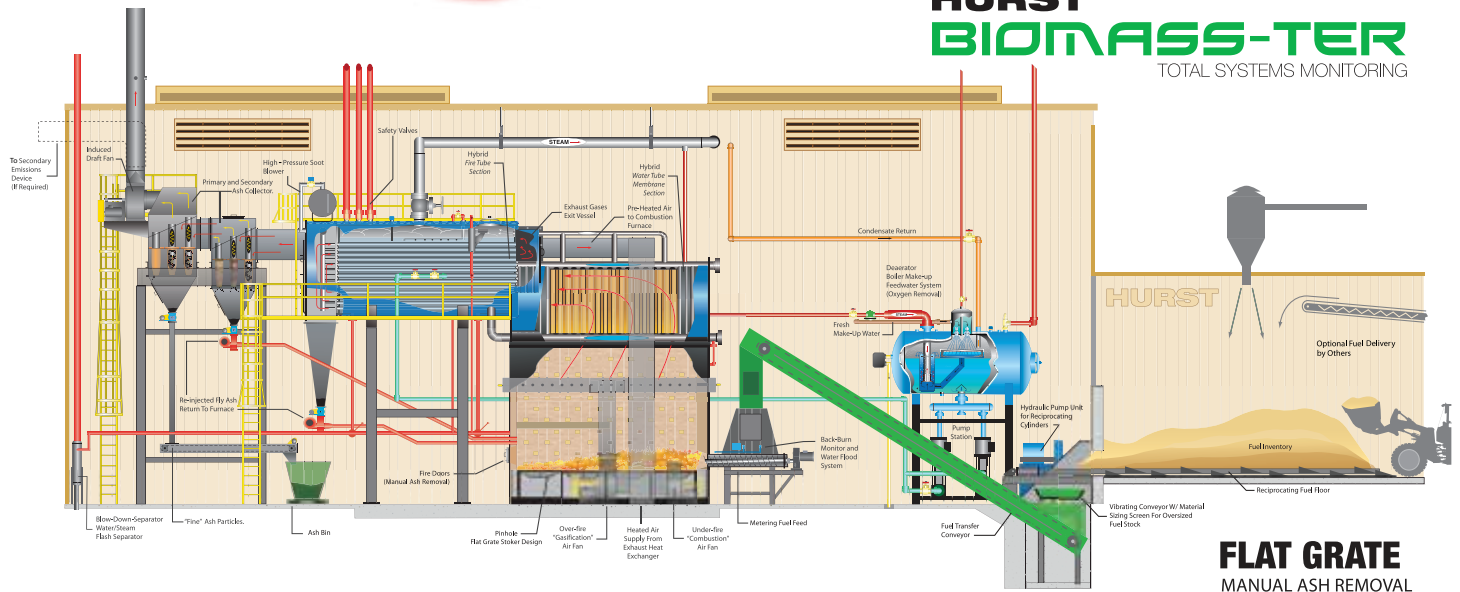
**Steam & Hot Water Boilers  
Direct-Fired "STAG" Burner  
Cogeneration Plant**



HURST PERFORMANCE SERIES BOILERS

# flat grate STOKER

**HURST**  
**BIOMASS-TER**  
TOTAL SYSTEMS MONITORING



## Flat Grate Stoker with manual ash removal

Simplistic 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
- LOW-COST INSTALLATIONS
- COMPLETE SYSTEMS
- OVER 40 YEARS OF COMBUSTION DESIGN
- HUNDREDS OF BIOMASS FUELS
- HURST FACTORY REPLACEMENT PARTS





400 BHP  
FireBox Design,  
Correctional Facility,  
Central Mississippi



TRIPLE 600 BHP  
Pine Saw Mill,  
Steam coil dry kilns  
heat application



TWIN 600 BHP  
Hardwood veneer plant,  
Steam vats and coil  
dryer heat application.



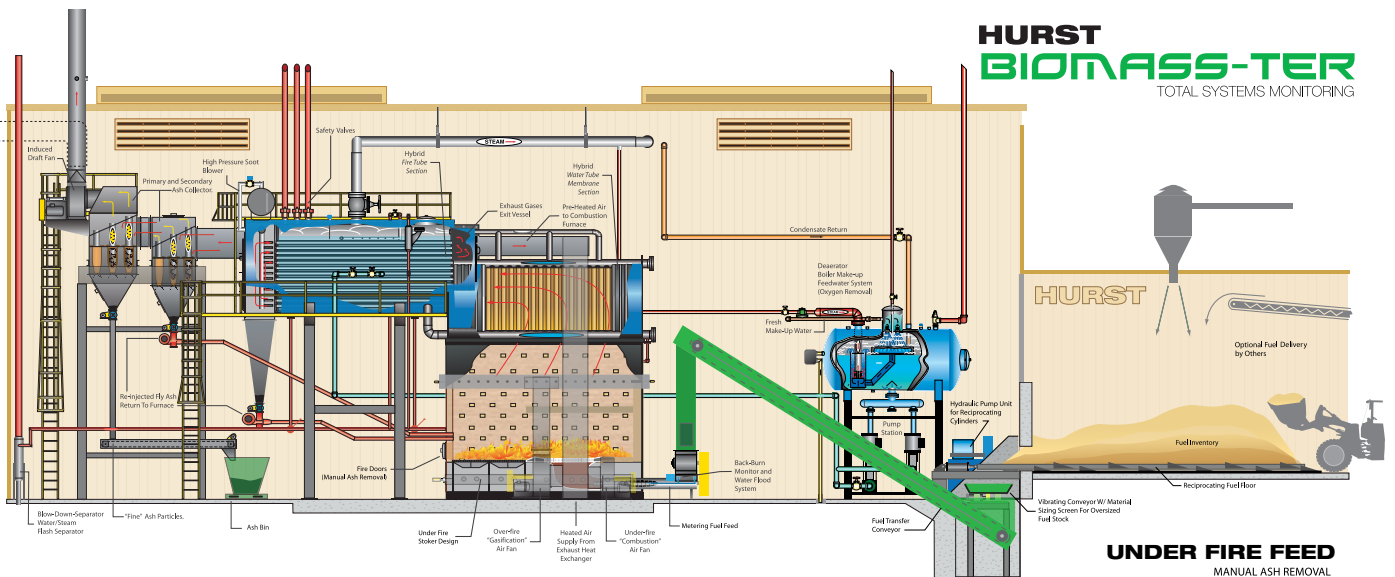
## under-fire STOKER



CHIPPED WASTE, BARK, SAW DUST  
Forestry and furniture related industries,  
wood waste products and residues.

### 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



1200 BHP  
Traveling Grate Stoker



1200 BHP  
Twin Hybrid



N65 600 BHP  
Green House Heating Application (Canada)



Triple 600 BHP  
w/ Silo Fuel Storage



Innovative Self-Cooling and Cleaning Design



Automated Ash Removal  
Wet System

## Traveling Grate Stoker with automated ash removal

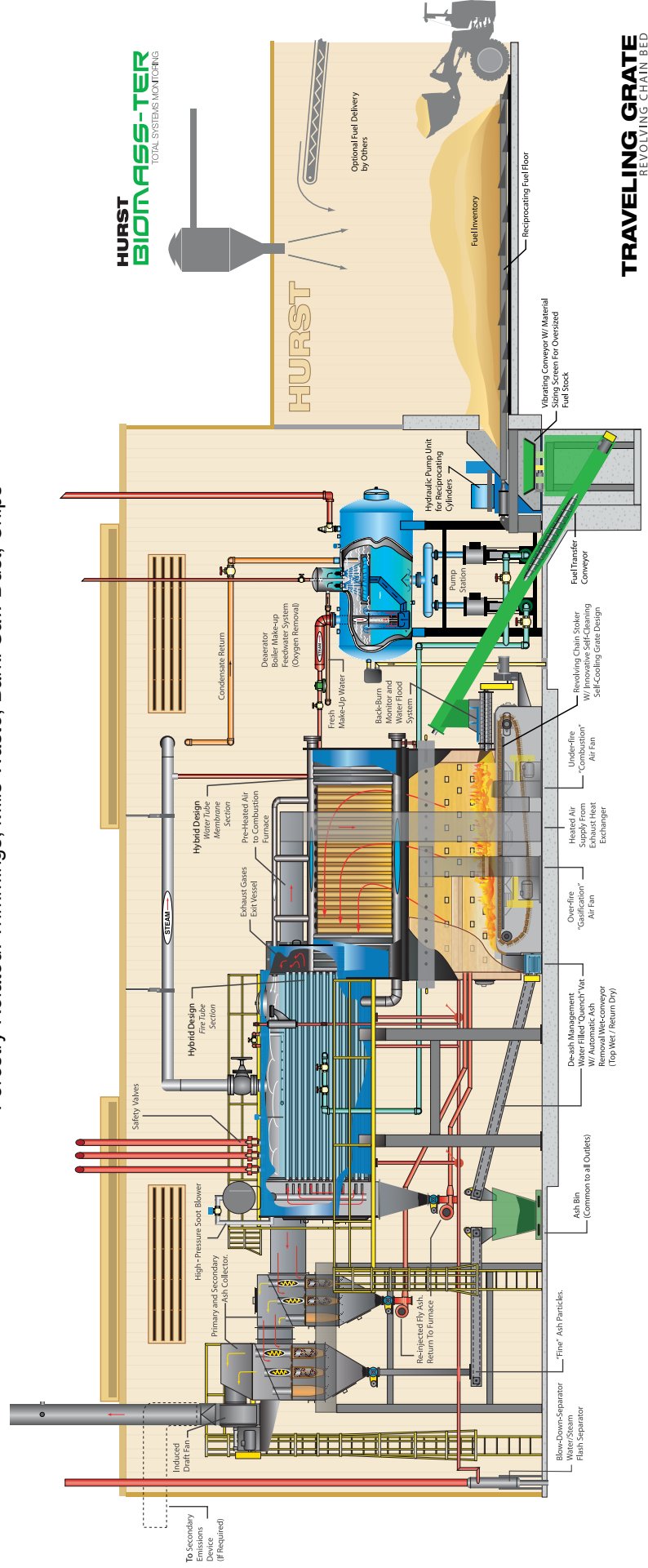
An innovative, self-cleaning stoker design for biomass and coal fuel applications. This combination of stoker and “hybrid boiler” delivers performance, efficiency and reliability.



# ALTERNATIVE FUEL SOLUTIONS



Forestry Related: Trimmings, Mills Waste, Bark, Saw Dust, Chips



**HURST**  
**BIOMASS-TER**  
TOTAL SYSTEMS MONITORING

**TRAVELING GRATE**  
REVOLVING CHAIN BED

AUTOMATIC ASH REMOVAL

# HURST “stag” units (stand alone gasifier)



DRY KILN APPLICATION  
Southern Pine Saw Mill



DRY KILN APPLICATION



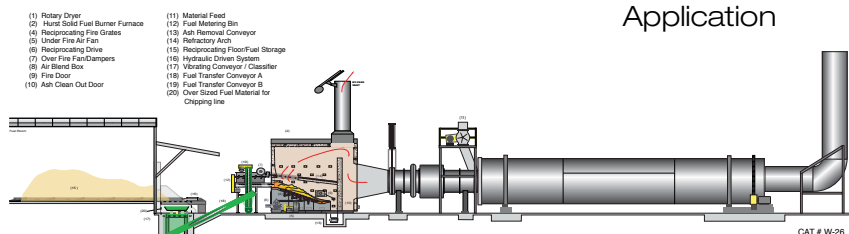
“SAW MILL CONVERTS WASTE- TO ENERGY”  
Lumber Curing Fuel Costs Reduced

## DIRECT FIRE “STAG” UNIT

Reciprocating Grate  
Combustion System

Automated Fuel Feed and Ash Removal

Rotary Dryer  
Application

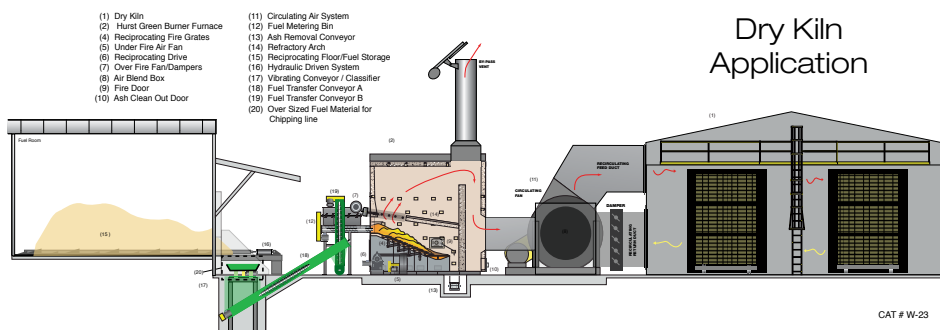


**SOLID FUEL BURNER RG**  
Reciprocating Grate System Modular Packaged

## DIRECT FIRE “STAG” UNIT

Reciprocating Grate  
Combustion System

Dry Kiln  
Application



**GREEN BURNER RG**  
Reciprocating Grate System Modular Packaged

## 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.

Air Temperature  
Designs Range

from 200°F  
to 2000°F



# reciprocating grate STOKER



## 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



VIEW OF STEP GRATES



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.



TWIN 1200 BHP  
450 PSI Super Heated



1500 BHP  
Shipped to  
South America

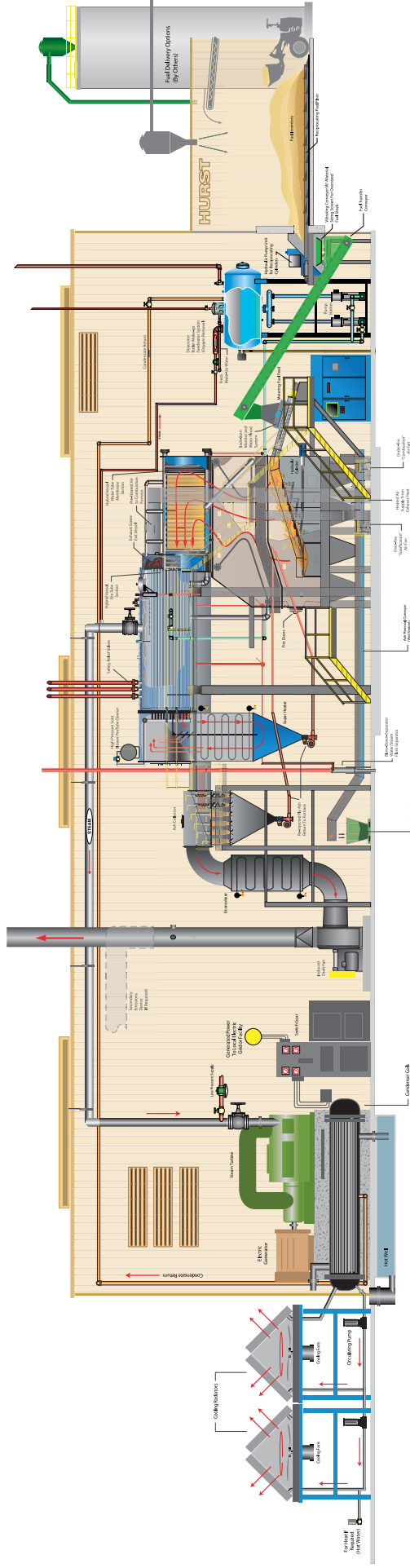


TWIN 1200 BHP  
Saw Mill in Arkansas

# cogeneration STEAM / ELECTRICITY

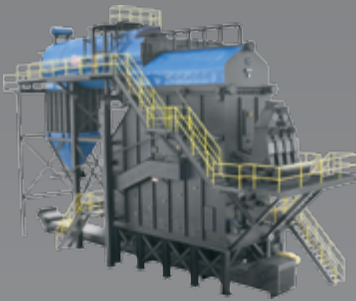
Part Water-Tube  
Part Fire-Tube

**ALL HURST**





# 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.



Paper / Cardboard



## S100 SERIES

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



Nut Shells / Grain Husks

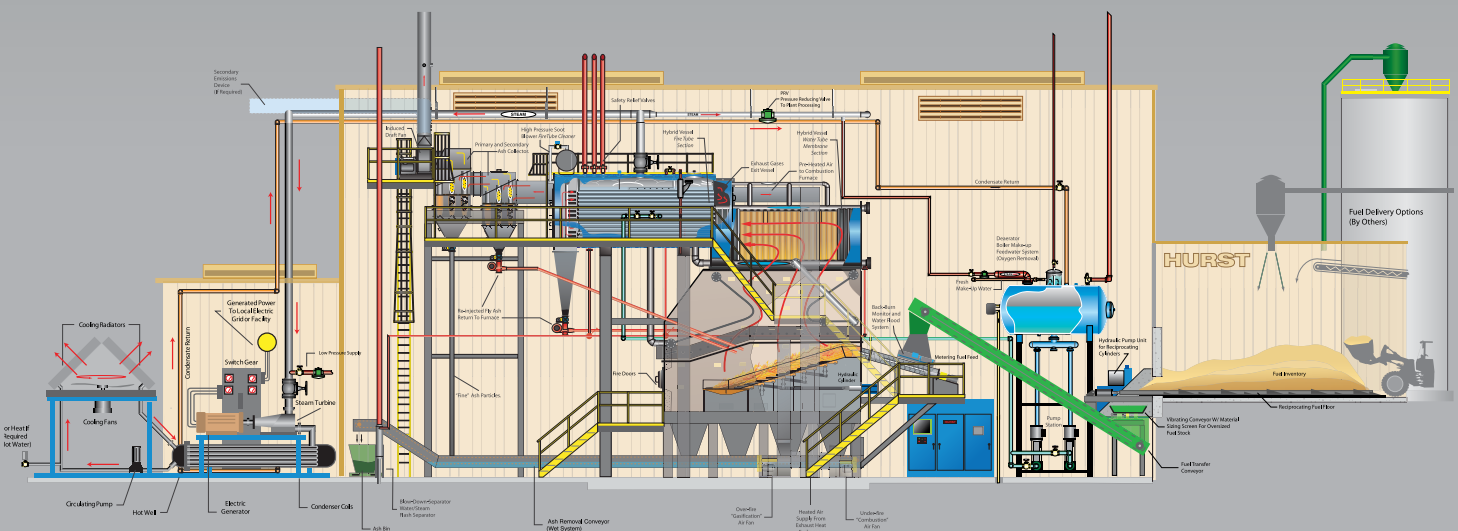


## N65 SERIES

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



Agricultural / Forestry Biomass



## MULTI-PASS HYBRID DESIGN

100 to 3000 BHP. Pressures to 900 PSI steam. (with super heater)

## integrated control SYSTEMS



COMPATIBLE WITH ALL SOLID FUEL  
COMBUSTION SYSTEMS

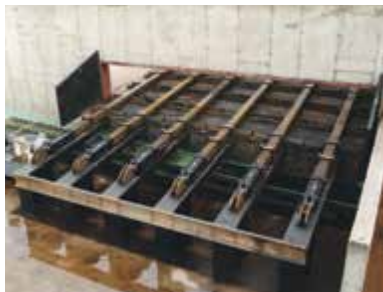


TOTAL SYSTEMS MONITORING  
w/ Extra Large Touch-Screen Interface

- MAXIMIZES BOILER ROOM EFFICIENCY
- INCREASES PRODUCTIVITY
- REDUCES OPERATING COSTS

The HURST BIOMASSTER 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



## HURST OFFERS A COMPLETE RANGE OF RECLAIMER DESIGNS

*From Its Fuel Handling Equipment Division*

### Reciprocating System

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.

### Floor

### Full Screen Unit

We offer a complete line of fuel screens: vibrating type along with disk-screen type.

### Conveyer Systems

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.

### Silo Systems

Concrete or steel bolt-up designs for fuel unloading systems: bottom screw type and flail type.

### Silo Loading Systems & Fuel Receiving Stations

Hurst offers complete designed systems for loading and stations for fuel receiving built for your capacity and requirements.



## ALTERNATIVE FUEL "POWER BURNER" BOILERS



### OXY-MISER SERIES "Deaerator" Feed Water Systems

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".

**CALL**

Parts Sales Dept. 1 877 774-8778  
24/7 After Hours Parts 229 221-3338

## GENUINE HURST REPLACEMENT PARTS

### BOILER PARTS IN STOCK

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



[hurstboiler.com](http://hurstboiler.com)

**HURST BOILER**  
& Welding Co., Inc.

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### 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.*

HBC-09500  
10/2014