



**WILLIAMS & DAVIS BOILERS**

*Established 1921*

# *Series 3000D*

*3-Pass Dry-Back Scotch Marine Boiler*



**SIZES 15HP THROUGH 1500HP  
GAS, OIL OR COMBINATION BURNER  
FIRETUBE HOT WATER & PRESSURE STEAM BOILERS**



### 3000D Standard Features



*(Shown w/ Powerflame Nova Plus Burner)*

- Engineered and Built in Accordance With the Latest ASME Boiler Codes.
- McDonnell Miller Combination Pump Controller and Primary Low Water Cutoff.
- Completely Wired and Piped for Service Connections.
- Fully Modulating Burner Operation.
- Premium 2" Thick High-Density Insulation.
- "Off-the-Shelf" Industry Standard Parts Used Where Possible for Serviceability.
- Probe Type Auxiliary Low Water Cutoff.
- Epoxy Painted 20ga. Galvanized Steel Jacket.
- Solid State Honeywell Combination Pressure Control, Automatic Operating Control, and High Limit Manual Reset Control.
- Exceeds Industry Standards for Heating Surface Area for Exceptional Efficiency.
- Pressure Tested to 1.5X Operating Pressure. (225psi for 150psi Vessels)
- Flanged Exhaust Stack – Includes Additional Flange for Installation.
- Furnace Diameters and Combustion Area Volume Optimized For Lox NOx Operation.

#### Standard Available Options

- Customizable Controls and Connections
- Additional Hand Holes and Manway Access
- Davited Front and Rear Doors.
- Burner Make and Model
- O2 Trim System
- "Linkage-less" Modulation

The Williams & Davis 3000D fortifies our everlasting reputation for building the most rugged and serviceable scotch marine boiler in the industry. The 3000D further offers a high efficiency design built to maintain a balance between lower pressure drop and high gas velocities to transfer as much heat energy as possible to the process water instead of exhausting it through the stack or radiating heat into the boiler room. Through stringent and methodical building practices perfected over almost 90 years in the industry,

Williams & Davis guarantees each of our boilers will meet, and typically exceed, every ASME standard. All units are operationally tested and shipped as an integrated package when practical, ready for quick connection to utilities. As such, we demonstrate our confidence in our boilers by offering the industry's best pressure vessel warranty of 10 years (25 year available) with an approved water testing and treatment program.



*(Shown w/ Powerflame Nova Plus Burner)*

*Stainless Steel Jacket Available>>*

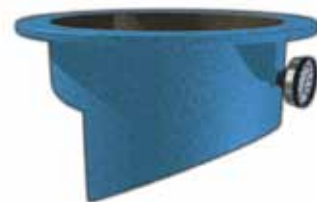
- *3Pass Dry-back*
- *Low Radiant Heat Losses*
- *High Gas Velocities*
- *High Efficiency*
- *Space Saving Design*





## Flanged Exhaust Stack

All 3000D boilers are equipped with a vertical flanged exhaust stack and are supplied with a matching installation flange. Flanges ease vent positioning during installation and provide more reliable exhaust seals during operation.



## Burner

Burners are available to operate with natural gas, a variety of fuel oils, or a combination of gas and oil. NOx output levels may be specified as low as sub 7 PPM when burning natural gas and 70 PPM for burning #2 fuel oil when the fuel-bound nitrogen is at 0.02% or less. Control cabinet is typically mounted to the front of the burner. Side mounting or remote boiler room mounting is available upon request.



## Safety Relief Valves

Wide hex on valve nozzle provides wrenching service clearance for easy installation and maintenance. Dual control rings offer easy adjustability for precise opening with minimum pre-open or simmer and exact blow-down control.



## Tubes & Turbulators

All fire tubes are industry standard 2.5" outside diameter and 0.109" typ. wall thickness. The fire tubes are inserted with uniquely-shaped corrosion resistant alloy steel Turbulators designed to break up laminar flow and maximize heat transfer.



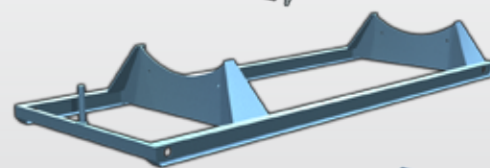
## Pressure Controller

Standard Honeywell P7810 Pressuretrol provides solid state automatic operating control, automatic limit protection, manual reset limit protection, and 4-20ma modulating firing rate control for pressure systems up to 300 psi. Other pressure and temperature controllers are available upon request.



## Structural Skid

The 3000D's rugged structural steel skid provides stability during transport and installation. Wide beam flanges distribute weight evenly across the boiler room floor during flooded operation.

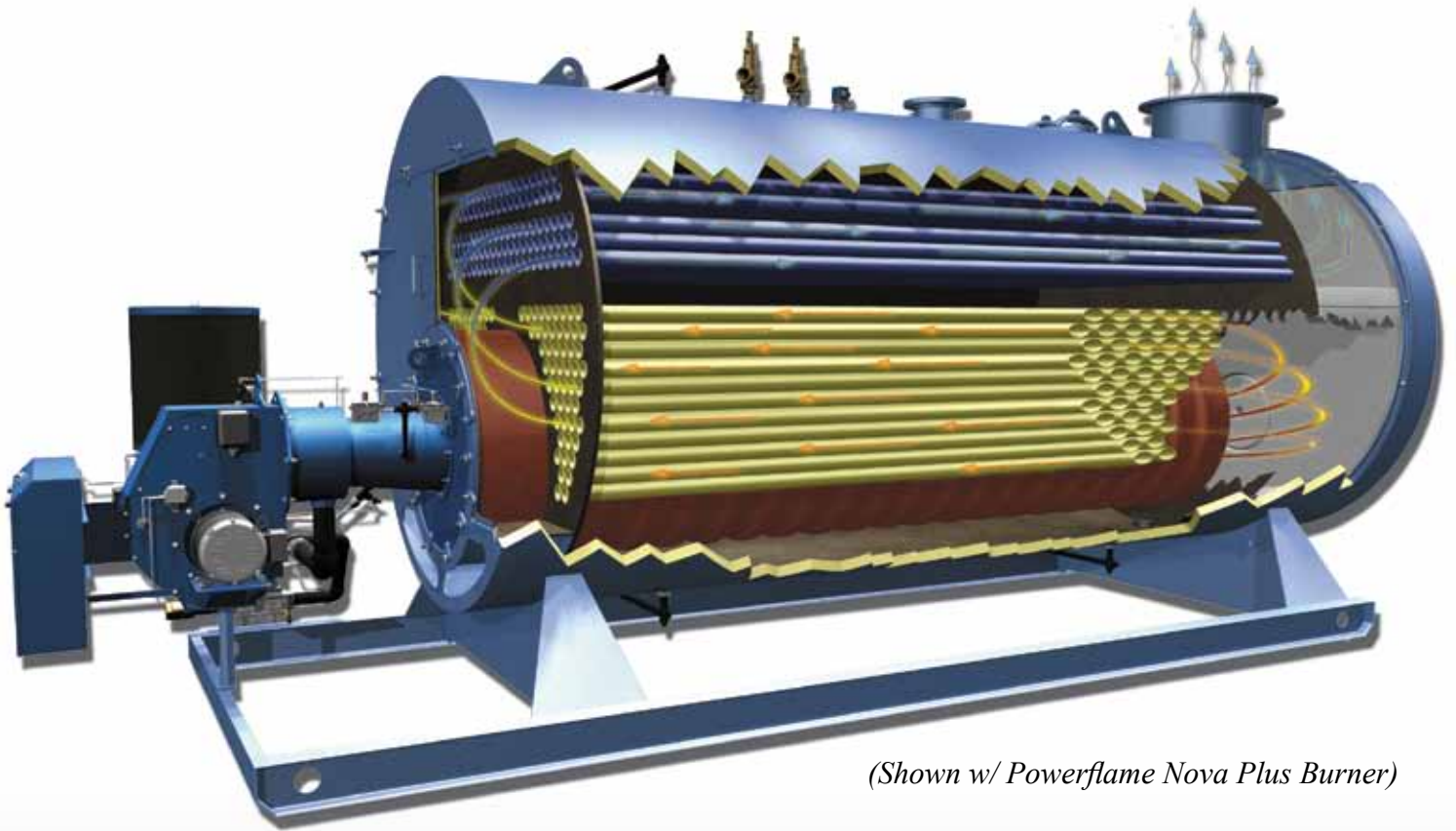


## Low Water Controls

McDonnell Miller 157S float level system provides reliable feedwater pump control and primary low-level shut down. Probe type sensor and Warrick relay are used for reliable secondary shutdown and to provide code-required manual reset.







*(Shown w/ Powerflame Nova Plus Burner)*



## **3000D Heating Passes**



**First Pass** - The burner fires at the entrance of the furnace, transferring up to 70% of the available heat energy into the water.

**Second Pass** - Hot flue gas travels from the refractory-backed turnaround chamber through the central tubes to the boilers heavily-insulated front turnaround chamber.

**Third Pass** - The flue gas is directed outward into the outermost tubes by the front turnaround chamber. The flue gas then travels the entire length of the pressure-vessel in its third pass, exiting the system through the rear-mounted exhaust stack.

## *Wide Range of Applications*

*Asphalt Cement*



*Bottling Companies*



*Clothing*



*Feed Mills*



*Hospitals*



*Hotels*



*Laundry*



*Lumber Mill*



*Meat Processing*



*Nat. Gas Refineries*



*Oil Drilling*



*Pharmaceutical*



*Polystyrene Foam*



*Power Generation*



*Research*



*Schools*





*Additional Product Offering*

*Series 3000C*

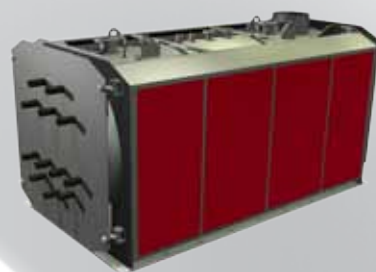
NEW



Fully Condensing Hydronic Boilers

*Series 1000B*

NEW



Heat Recovery Systems

*Series 1000E*



Electric Boilers

*Series 2000V*



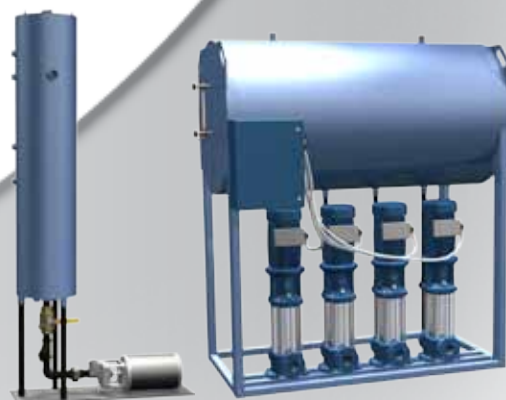
Vertical Tube and Tubeless Boilers

*Blow-Down Sep.*



Blow-down Separators

*Feed-water*



Vertical or Horizontal Feed-water Systems



Your Authorized Williams & Davis Representative

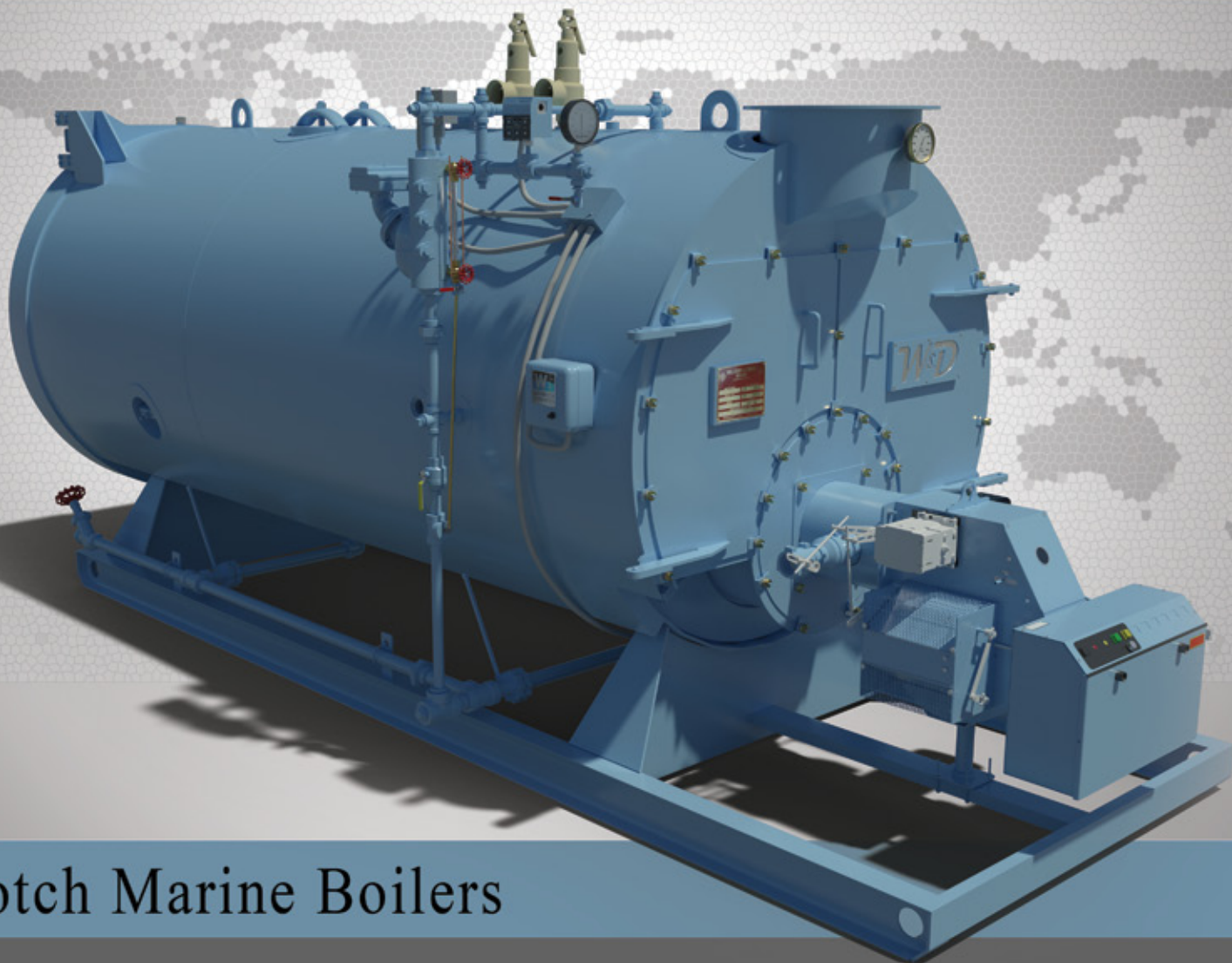
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## Scotch Marine Boilers

*SIZES 15HP THROUGH 1500HP  
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FIRETUBE HOT WATER & PRESSURE STEAM BOILERS*

*2-pass dry-back  
2000D Series*



# 2000D Series

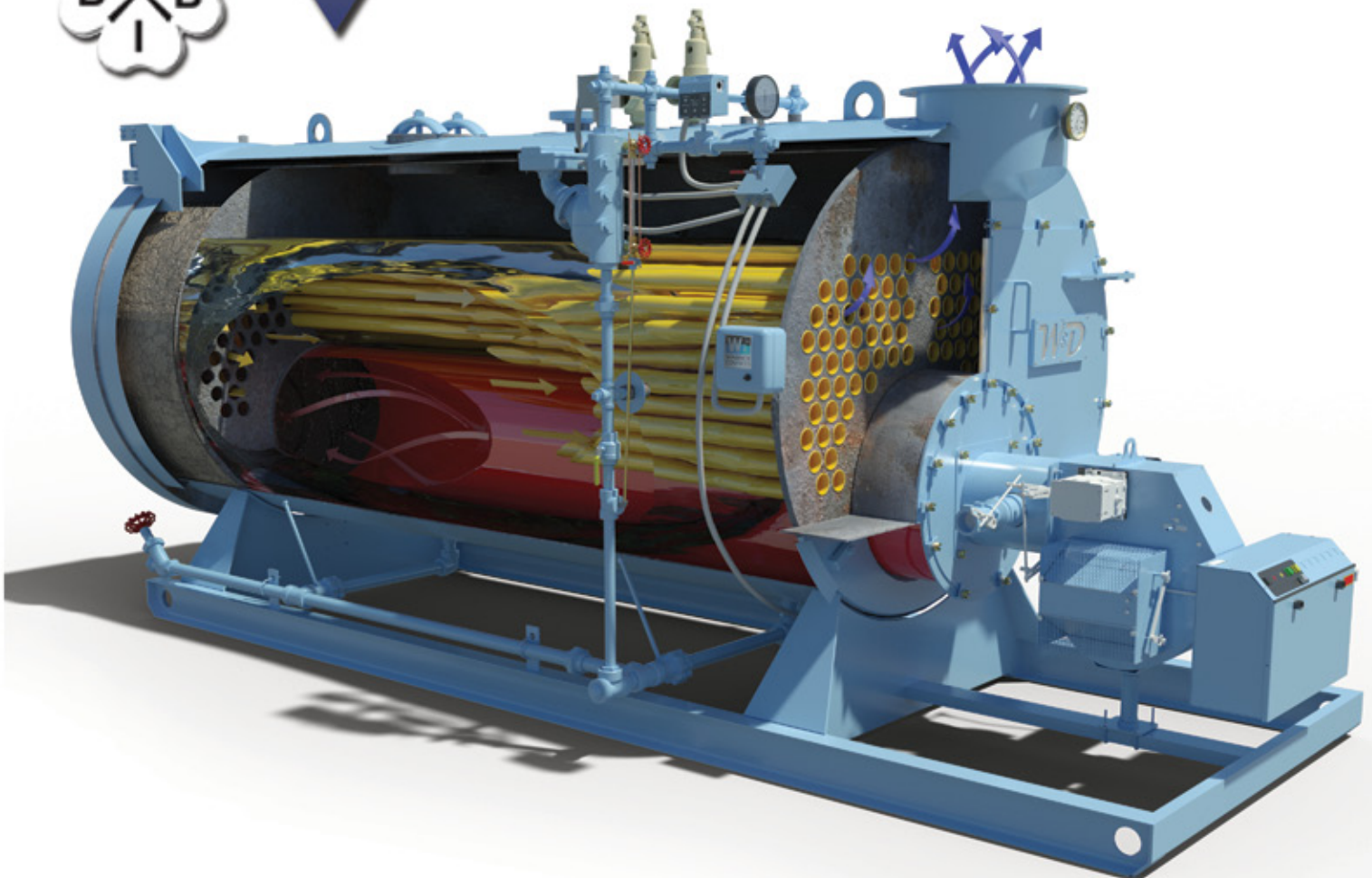
## Scotch Marine Boiler

### 2000D Heating Passes

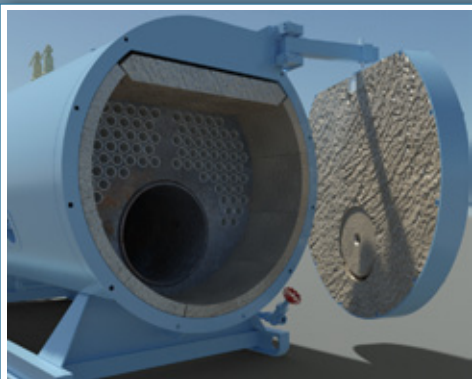


**First Pass** - The burner fires at the entrance of the furnace, transferring up to 70% of the available heat energy into the water.

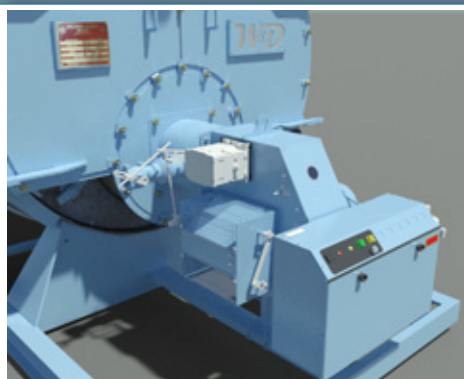
**Second Pass** - From the refractory-backed turnaround chamber, flue gas is directed vertically into the submerged tubes, travels across the length of the pressure vessel, and exits the system through the exhaust stack.







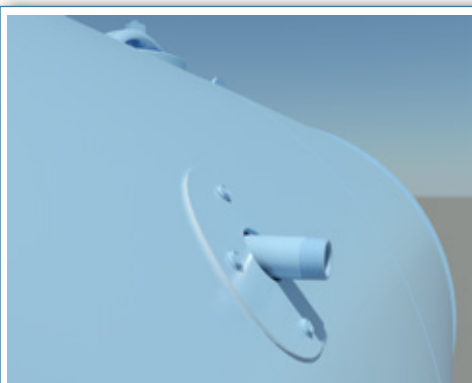
Single rear tubesheet allowing full access to all tubes using one door.



2000D burners are available from sub 100 - 9ppm low NOx emissions.



The 2-pass design maintains gas velocities for effective heat transfer



Conductively surface connections are equipped on all series 2000D.



Large furnace provides for complete combustion, and maximum heat transfer.



Rear fireside access is available through the 18" plug and a back door.

Williams & Davis Series 2000D are ideally suited for both hot water, and high/low pressure process steam. In a range of sizes from 630,000 to 63,000,000 BTUH input, the Series 2000D are ideal for many commercial, institutional and industrial applications. These include healthcare facilities; schools; apartments; churches; office buildings; correctional facilities; airports; sewage treatment plants; golf, tennis and fitness clubs. Hospitals, dairies, restaurants, laundries, dry cleaners, food processing, tire recapping and metal plating are just a few of the many

applications. All Williams & Davis Boilers are built in accordance with the requirements of the ASME Boiler and Pressure Vessel Code. We guarantee each of our boilers will meet, and typically exceed, every ASME standard. All units are operationally tested and shipped as an integrated package when practical, ready for quick connection to utilities. As such, we demonstrate our confidence in our boilers by offering the industry's best available 10 year pressure vessel warranty (with an approved water testing and treatment program).

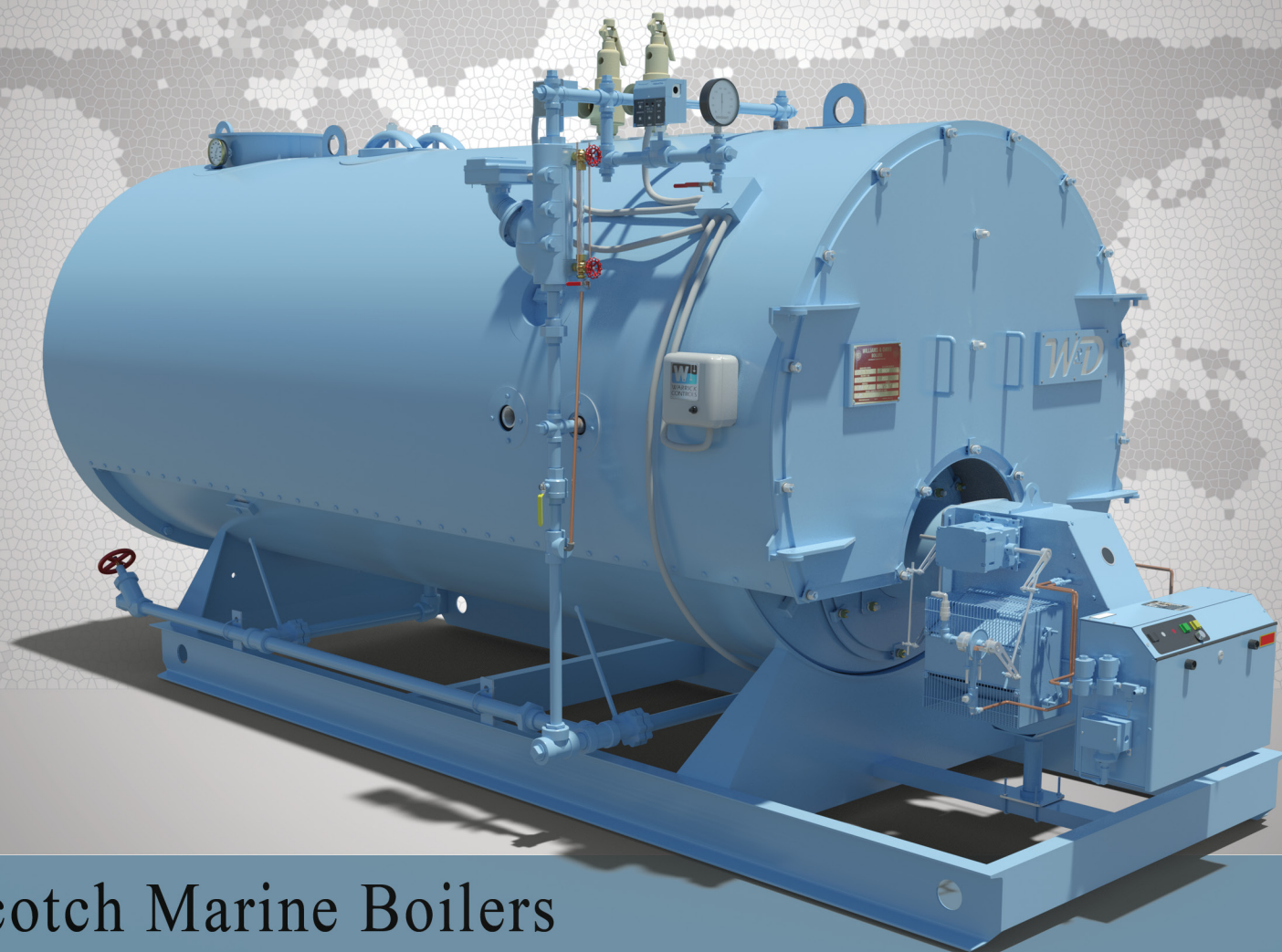




## Head Office

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[info@wdboiler.com](mailto:info@wdboiler.com)

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# 3000D Series

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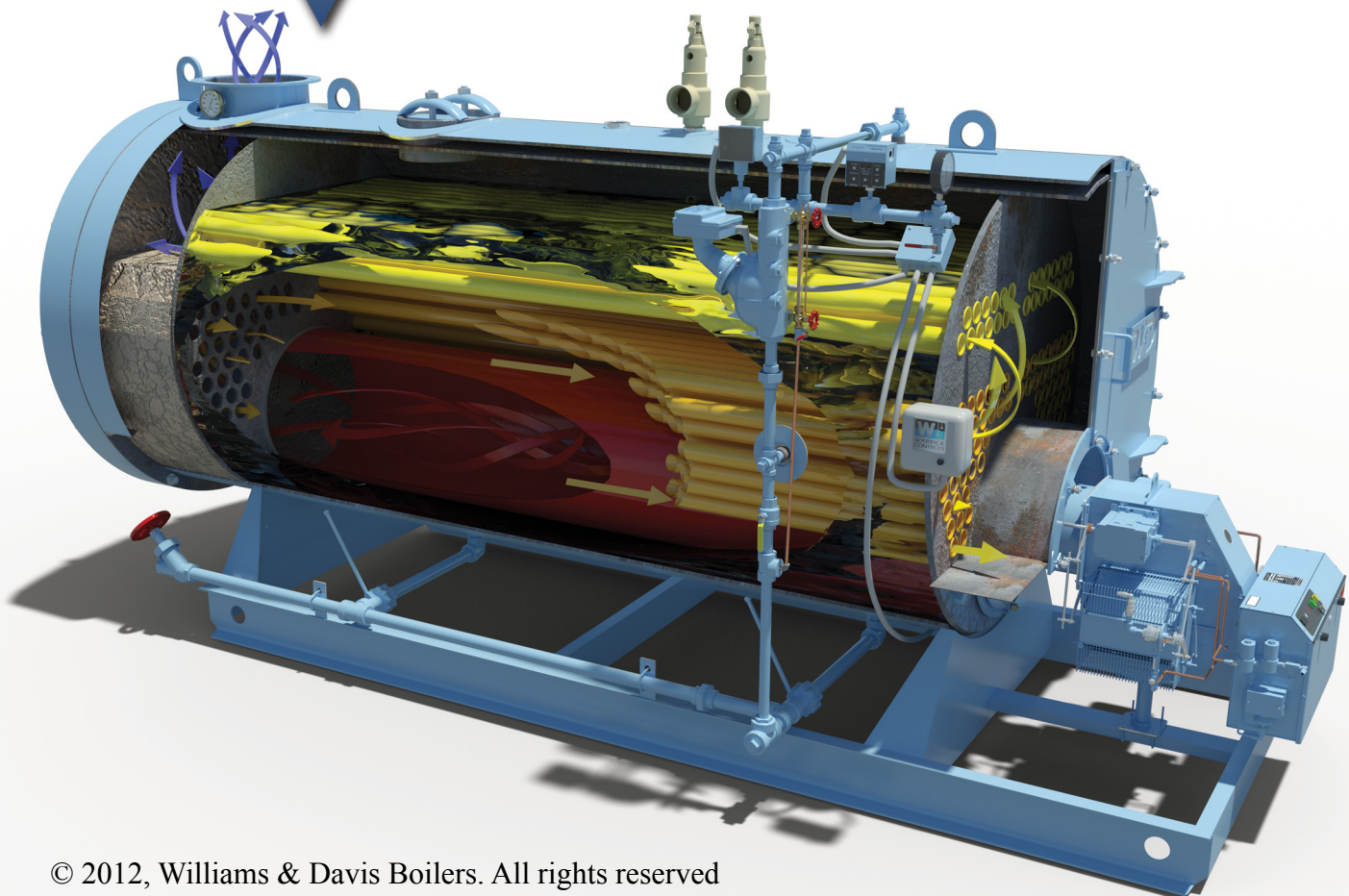
### 3000D Heating Passes



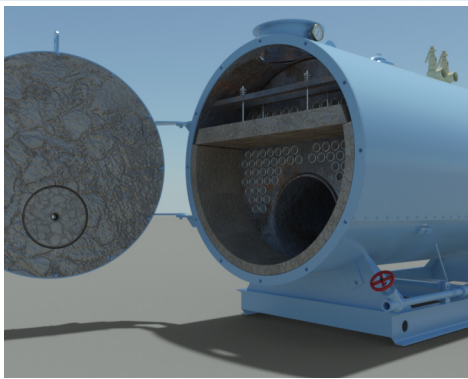
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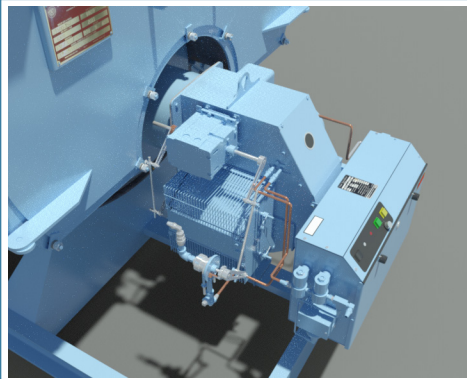
**Third Pass** - The flue gas is directed upward into the uppermost tubes by the front turnaround chamber. The flue gas then travels the entire length of the pressure-vessel in its third pass, exiting the system through the rear-mounted exhaust stack.



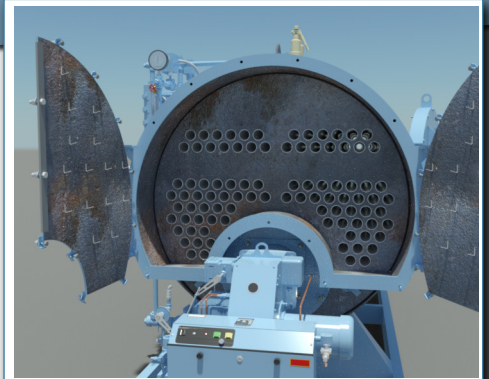




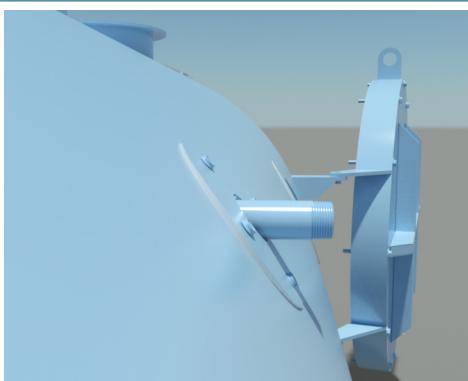
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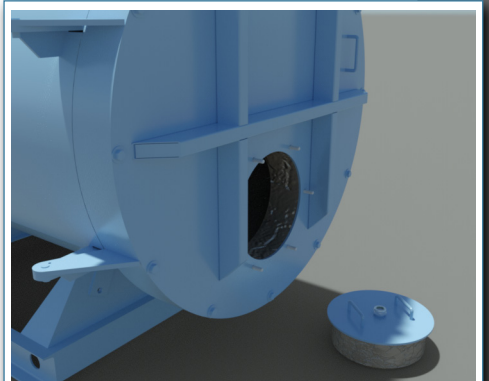
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