



## ***ASK YOURSELF***

A Boiler emergency could cost you more than just time and money. In order to avoid a potentially hazardous situation for both your employees and equipment, accurate and engaging training on all aspects of industrial boiler function is an absolute must. But, is standardized classroom training really the best education for your boiler operation personnel?



For more information  
800-228-8861

Easy to Register Online at  
[www.wareboileruniversity.com](http://www.wareboileruniversity.com)





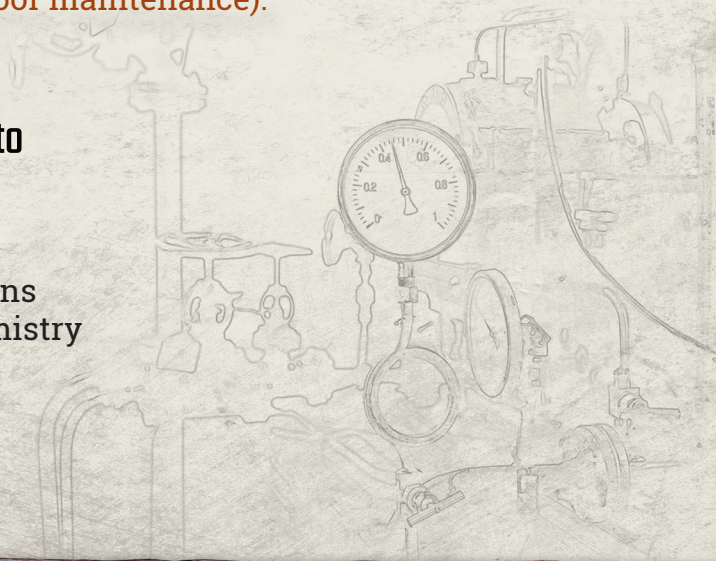
# LEARN WHAT YOU DON'T KNOW

## ***CATASTROPHES CAUSED BY HUMAN ERROR***

Boiler and Pressure Vessel incidents, which can have devastating consequences, are usually the result of human error (improper installation, improper repair, low-water condition, operator error or poor maintenance).

**WARE Boiler University's classes are designed to provide in-depth training on the following:**

- Safety
- Efficiency operations
- Maintenance
- Refractory inspections
- Boiler codes
- Troubleshooting controls
- Cost reduction
- Boiler inspections
- Feedwater chemistry
- Applications
- Terminology
- And more



## **WHO SHOULD ATTEND ?**

Anyone interested in getting a great start to understanding boiler room operations!

Boiler Operators  
Maintenance Employees  
Service Technicians  
Plant Managers

Plant Engineers  
Production Employees  
Contractors

## ***LEARN FROM BOILER INDUSTRY PROFESSIONALS . . .***

WARE Boiler University instructors are not just Professional Educators - they are highly seasoned veterans who have experienced many years working in the boiler industry.





# CLASS DESCRIPTION

## ACCREDITED CONTINUING ADULT EDUCATION

WARE Boiler University is an accredited continuing adult education class through Western Kentucky University. All participants earn 2.4 continuing education units.

### 101 CLASS \$1,200.00

Is a ***two-day introduction to the boiler room***, covering all of the important aspects from water treatment, and boiler operations, to condensate systems. This seminar style, media-rich class offers a great first look at boilers for beginners, and a great review for experienced operators.

#### Experienced instructors will present:

- ✓ Water Softeners
- ✓ Boiler System Water Chemistry
- ✓ Boiler Feedwater Systems
- ✓ Boilers Types and Overview
- ✓ Burners and Components
- ✓ Combustion
- ✓ Boiler Operations
- ✓ Boiler Maintenance, Inspections
- ✓ Energy Saving Options
- ✓ Steam System Fundamentals, Traps

### 201 CLASS \$1,800.00

Is a ***three-day program building on the 101 foundation***, but adding the full experience of our Louisville Boiler Lab, providing hands-on opportunities on many subjects with our four fully operational lab boilers. Beginners will get the full perspective of an operating system, and even seasoned operators and contractors will gain valuable insight from displays, such as our fully glass piped steam and condensate system demonstrator.

### 202 CLASS \$400.00

Boiler 202 is a ***four-hour presentation on Daily Boiler Operations, walking through the daily responsibilities and duties of boiler operation***. This will cover daily and other recommended preventative maintenance tasks including blowdowns. A daily log sheet will be discussed and completed.

- ✓ Water Softener Testing
- ✓ Chemical test logging
- ✓ Feedwater and DA checks
- ✓ Daily Boiler Checks
- ✓ Boiler Blowdown
- ✓ Auto/Manual Operations
- ✓ Boiler Startup/Shutdown





# CLASS DESCRIPTION

For more details on classes listed below, visit [www.wareboileruniversity.com](http://www.wareboileruniversity.com).

## 203 CLASS \$400.00

Boiler 203 is a four-hour presentation on **steam system basic**, explaining the design and maintenance of the steam and condensate system from the boiler room to the process and back.

- ✓ Steam Piping
- ✓ Drip Legs
- ✓ Traps
- ✓ Process Recommendations
- ✓ Condensate Receivers
- ✓ Surge Tanks
- ✓ Flash Steam Recovery

## 204 CLASS \$400.00

Boiler 204 is a four-hour presentation on **boiler safeties, limits, and testing**. This will include gas train and valve leak testing, slow-drain water level limit testing, and other important boiler limit checks.

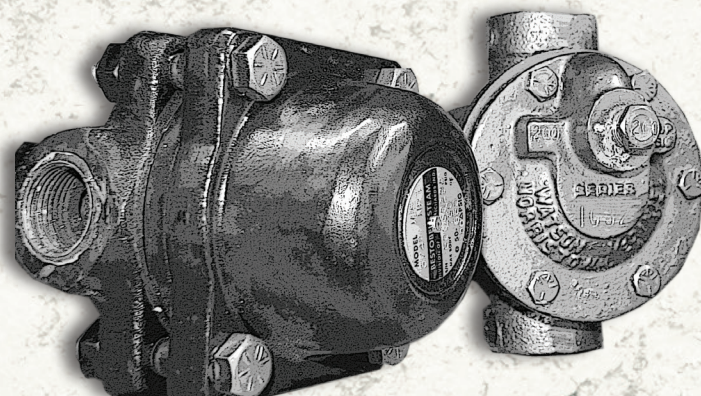
- ✓ Boiler Limit Identification
- ✓ Basic Limit Settings
- ✓ Basic Limit Testing
- ✓ Gas Valve Leak Testing
- ✓ Gas Line Bubble Testing
- ✓ LWCO Blowdowns
- ✓ Slow Drain Low Water Testing

## 205 CLASS \$400.00

Boiler 205 is a four-hour comprehensive look at **energy efficiency options** in the boiler house and facility. We will discuss how different recovery system may apply based on various site opportunities.

- ✓ Steam Trap Maintenance
- ✓ Steam Piping Insulation
- ✓ Feedwater Economizers
- ✓ Boiler Combustion Efficiency
- ✓ Fire and Waterside Cleaning
- ✓ Condensate Return Systems
- ✓ Minimize Boiler Blowdown
- ✓ Boiler Blowdown Heat Recovery
- ✓ Vapor Recompression
- ✓ Flash Steam Recovery
- ✓ Vent Condenser
- ✓ Absorption Chillers
- ✓ Benchmarking Steam Generation Costs
- ✓ Minimize Short Cycling
- ✓ Removable Insulation on Valve and Fittings
- ✓ Deaerators Versus Vented Receivers
- ✓ Cover Heated, Open Vessels
- ✓ Back Pressure Turbines Versus PRVs
- ✓ Steam Turbines for Rotation Equipment
- ✓ High Pressure Boiler Turbine/Generators
- ✓ Automatic Blowdown Control Systems
- ✓ Energy Efficient Burners
- ✓ Turbulators and XID Boiler Tubes
- ✓ Condensing Economizers

**TO SEE CLASS SCHEDULES AND  
LOCATIONS NEAR YOU, VISIT  
[WWW.WAREBOILERUNIVERSITY.COM](http://WWW.WAREBOILERUNIVERSITY.COM)**





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## 301

**CLASS**  
**\$2,500.00**

Boiler 301 is a three-day ***hands-on firetube and deaerator open/close***. Experience opening, preparing, and closing boiler room equipment in the inspection process.

- ✓ Introduction
- ✓ Drain and LOTO
- ✓ Open Boiler
- ✓ Open DA
- ✓ Material List for Inspection
- ✓ Tube and Vessel Inspection, Relief Valves
- ✓ Burner Inspection/ Air Inlet, Pilot, Etc
- ✓ Refractory Inspection, Patching
- ✓ Sight Glass Replacement
- ✓ Waterside Close
- ✓ Hydrostatic Test
- ✓ Fireside Close
- ✓ Warming, Test Limits and Safeties
- ✓ Verify Combustion

## 302

**CLASS**  
**\$2,500.00**

Boiler 302 is a three-day course starting with ***introduction to combustion principles and including hands-on tuning opportunities***. This will cover gas trains including regulator, linkage setup and parallel position tuning experience.

- ✓ Introduction
- ✓ Gas Trains
- ✓ Regulators
- ✓ Linkage Setup
- ✓ Parallel Positioning Setup

## 303

**CLASS**  
**\$2,500.00**

Boiler 303 is a three-day in-depth analysis and ***hands-on opportunity to explore, wire, and troubleshoot flame safeguards*** and other combustion components in the boiler room.

- ✓ Introduction
- ✓ Principles of Combustion
- ✓ Gas Trains
- ✓ Regulators
- ✓ Linkage Setup
- ✓ Parallel Positioning Setup

## 304

**CLASS**  
**\$2,500.00**

Boiler 304 is a three-day ***in-depth discussion of types of level controls, indicators***. We will discuss benefits and drawbacks of a variety of system with a focus on improving indication, performance, and safety.

- ✓ Feed Systems
- ✓ Probe Controls
- ✓ Float Controls
- ✓ Differential Pressure
- ✓ Loop Controls
- ✓ Level Indicators
  - Round Glass
  - Flat glass
  - Flags
- ✓ Additional Methods

## CUSTOMIZED CLASSES

When you **customize WARE Boiler University**, WARE brings the very best boiler industry educational experience to your facility. Students will be trained on your plant's equipment; our professionals will provide hands-on expert instruction using the very same boilers your personnel will be operating every day. If you would like additional information about customizing your Boiler University training classes, call 800-228-8861.



Boiler University is a subsidiary of WARE



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4200 Produce Road  
Louisville, KY 40218  
800-228-8861 • 502-968-2211

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**Boiler Training**  
**be safe. be smart. be efficient.**