
# OUT WITH THE OLD AND IN WITH THE NEW

**Coal-to-natural gas conversions**

Spring cleaning – you dread doing it, but you feel so much better when it's done. Spring cleaning might look a little different at industrial facilities across the county, this year and in years to come. Not only will they have to knock out the cobwebs, but there's a chance they might have to convert their coal fired facility to a natural gas fired facility.

There are two main factors on why a facility would convert from coal to natural gas.

### 1) It is more economically favorable to burn natural gas

As natural gas reserves become easier to access through means of modern technology, opportunities are created that can alter entire industries. Due to the increase in supply of natural gas, the price has dropped, making it economically viable for plants to undergo coal-to-natural gas conversions. Though natural gas won't solve the world's energy problems, it is a step in the right direction for cleaner and more sustainable energy.

### 2) It could be mandated by legislation

The last several years have been uncertain times for coal fired facilities. Legislators have proposed a wide variety of government mandated regulations around emissions requirements. Those facilities have one of two options:

- Retrofit their existing coal fired boilers to meet the new emissions standards.

**OR**

- Convert the facility to natural gas. **Fives North American** is a leading provider of specialty low NOx burners that can help facilitate upcoming plant conversions.

The more affordable option for plants is to complete the natural gas conversion due to its favorable economic situation and future. As emissions regulations continue to tighten, you will see an increasing number of coal fired facilities convert to natural gas. For more information about how these regulations might affect your facility, call Ware today.


# Ware Cares – Safety Through Boiler Lockout Tagout

Boilers contain a massive amount of potential energy when in operation. If dealt with improperly, the results can be catastrophic. Whether we are supplying rental equipment or selling new equipment, we genuinely care about the safety of our clients and our employees.

When the time comes to shut down your boiler, critical steps must be taken to ensure the safety of all involved parties. OSHA section 1910.147 outlines the considerations that should be taken when preforming lockout tagout (LOTO). Here are some of the key aspects as it relates to OSHA's guidelines for LOTO.

**Communication is key to any healthy relationship**
Make sure you do not have "A failure to communicate." An employer must communicate and train equipment operators on:

- Recognition of hazardous energy sources
- The magnitude of available energy in the workplace
- Energy control procedure
- Recognition and understanding of all applicable tags

**Keep it Orderly – Equipment Shutdown**

- The equipment shall be turned off or shut down using the procedures established for the equipment An orderly shutdown must be utilized to avoid any additional or increased hazards to employees.
- Isolate equipment from all energy sources
- Affix all lock out tag out devices to all energy isolating devices so they cannot be engaged

**A typical boiler Shutdow and LOTO will follow these basic steps:**

1. Turn off boiler at the control panel
2. Turn off control power on control panel.
3. Turn off power at main breaker panel then lock the control pannel
4. Shut off main gas valve and lock
5. Close pilot light valve
6. After boiler has stopped generating steam, close main header valve and lock
7. Lock blow down line in closed position
8. Switch feed water pump off to boiler
9. Close feed water valve
10. Open atmospheric valve on main steam header valve

Any questions? For more information about boiler safety call WARE today!

*Continued on Page 7*

# WARE new and used List

## All equipment listed is for sale or lease and subject to availability

| Unit | HP/PPH | Year | Manf. | Fuel | Type | PSI | Ctrl. |
|---|---|---|---|---|---|---|---|
| 779 | 82,500 | 2013 | Victory Energy Limpsfield | G/#2 | Steam | 350 | IRI |
| 767 | 75,000 | 2011 | Victory Energy | G/#2 | Steam/SH | 750/750 | IRI |
| 747 | 75,000 | 2000 | B&W (Low NOx) | G/#2 | Steam/SH | 750/750 | IRI |
| 750 | 70,000 | 1996 | Nebraska (Low NOx) | G/#2 | Steam/SH | 750/750 | IRI |
| 709 | 60,000 | 1979 | Zurn (Low NOx) | G/#2 | Steam | 500 | IRI |
| 741 | 60,000 | 1979 | Zurn | G/#2 | Steam | 550 | IRI |
| SB79 | 40,000 | 1986 | Cleaver Brooks | Gas | Steam | 260 | IRI |
| 496 | 800 | 1990 | York-Shipley (Low NOx) | G/#2 | Steam | 200 | IRI |
| 634 | 800 | 1972 | York-Shipley | G/#2 | Steam | 150 | IRI |
| 620 | 800 | 1975 | York-Shipley | G/#2 | Steam | 250 | IRI |
| SB139 | 500 | 2001 | Cleaver Brooks | | Steam | 150 | |
| SB200 | 400 | 2014 | York-Shipley (Low NOx) | G/#2 | Steam | 150 | UL/CSD1 |
| SB138 | 350 | 1994 | Cleaver Brooks | | Steam | 150 | |
| SB137 | 250 | 1994 | Cleaver Brooks | | Steam | 150 | |
| 415 | 250 | 1980 | Eclipse | #2 Oil | HT/HW | 954 | IRI |
| SB148 | 200 | 1995 | Kewanee | Gas | Steam | 325 | IRI |
| SB146 | 200 | 1995 | Kewanee | Gas | Steam | 325 | IRI |
| SB216 | 250XID | 2015 | York-Shipley(Low NOx) | G/#2 | Steam | 150 | UL/CSD1 |
| SB213 | 175XID | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB194 | 175XID | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB210 | 175XID | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB204 | 150 | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB214 | 150 | 2015 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB209 | 150 | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| RB769 | 150 | 1998 | Precision | Electric | Steam | 150 | UL |
| SB212 | 100XID | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB217 | 100XID | 2015 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB208 | 100XID | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB206 | 70 | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB207 | 50 | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB211 | 50 | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |

One hour quote on-line at www.wareinc.com or call 800-228-8861

continued

# WARE new and used List

All equipment listed is for sale or lease and subject to availability

| Unit | HP/PPH | Year | Manf. | Fuel | Type | PSI | Ctrl. |
|---|---|---|---|---|---|---|---|
| SSB33 | 50 hp | 2015 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SSB21 | 70 hp | 2012 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SSB31 | 100XID | 2014 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SSB32 | 150 | 2015 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SSB20 | 175XID | 2012 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SSB25 | 250XID | 2012 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SSB14 | 300XID | 2011 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SSB15 | 500XID | 2011 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SSB28 | 600XID | 2012 | York Shipley | (Low NOx) G/#2 | Steam | 250 | UL/CSD-1 |
| SSB30 | 800XID | 2014 | York Shipley | (Low NOx) G#2 | Steam | 250 | UL/CSD-1 |
| | | | | | | | |
| **Unit** | **Size** | **Manf.** | **Volt.** | **Type** | **Year** | | |
| RC-24 | 30 ton | Mc Quay | 480v | 3 ph | 2000 | | |
| RC-21 | 40 Ton | Mc Quay | 480 v | 3 ph | 1999 | | |
| RC-1 | 60 Ton | Mc Quay | 480 v | 3 ph | 1995 | | |
| RC-2 | 60 Ton | Mc Quay | 480 v | 3 ph | 1995 | | |
| RC-13 | 60 Ton | Trane | 200-230 v | 3 ph | 1989 | | |
| RC-5 | 95 Ton | Mc Quay | 480 v | 3 ph | 1995 | | |
| RC-6 | 105 Ton | Mc Quay | 480 v | 3 ph | 1995 | | |
| RC-8 | 155 Ton | Mc Quay | 480 v | 3 ph | 1995 | | |
| RC-10 | 195 Ton | Mc Quay | 480 v | 3 ph | 1995 | | |
| RC-11 | 195 Ton | Mc Quay | 480 v | 3 ph | 1995 | | |
| RC-25 | 300 Ton | Mc Quay | 480 v | 3 ph | 2003 | | |

Chillers

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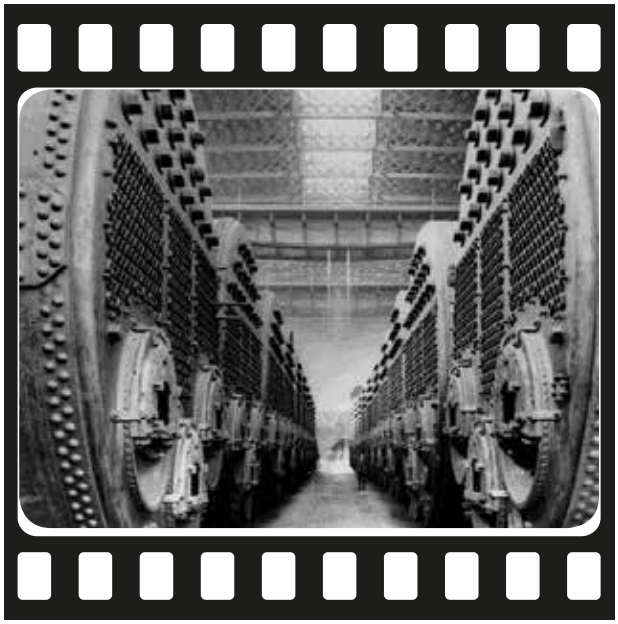
# STEAM IN CINEMA PART 3

April 14, 2015 marks the 103rd anniversary of the most infamous maritime disaster in history—the sinking of the Titanic. Our devotion to boilers drew our attention in James Cameron's 1997 blockbuster film, which ended up grossing over $2 billion worldwide and made it the 2nd highest grossing film of all time. You might remember seeing the ship's boiler rooms in several scenes, most notably when the ship begins to take on water and all the watertight doors are being shut to slow down the flow of water into the ship's compartments.

While the Titanic was ironically called "unsinkable", the ship's size certainly justified its name, so we wondered, just what did it take to move a ship like that? As it turns out, to power the vessel, there were 29 boilers onboard that each stood about 2 stories tall and produce a steam supply at 215 psi. Many of them had furnaces on both sides, which amounted to a total of 159 furnaces. With that many coal-hungry furnaces, it took a crew of 200 men just to keep them full of stone. If the ship wished to remain at full speed, it would need to consume over one million pounds of coal each day!



Those boilers fed steam to the main engines to propel the ship, and they also made steam for dynamos and heat exchangers to generate electricity and hot water. While the average person may not be very familiar with boilers, the fact remains that steam generation is the backbone of many of humanity's great undertakings, and it continues to allow us to produce goods and services on a scale that would make even a vessel as large as the Titanic feel small.

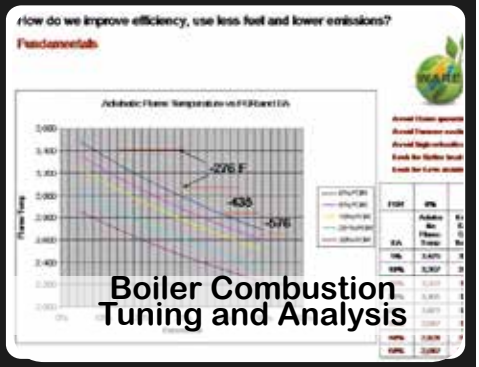
# Informative WARE videos

## BOILING POINT

for more Boiling Point videos:
youtube.com/user/wareboilers


Inside relief valves adjustments & assembly


Steam Trap Testing Infrared



Boiler Combustion Tuning and Analysis

## PRODUCT VIDEOS

HelioJet industrial cleaning technology - water jet

Heat Sponge

## CASE STUDIES

Amelin
EKU - 48,000 Coal Boiler Retube
New York City Housing Authority

**SUBSCRIBE to WARE youtube channel**

**youtube.com/user/wareboilers**

## NEW VIDEOS UPLOADED ALL THE TIME.

## Links WARE Likes

National Board Synopsis of Boiler and Pressure Vessel Laws, Rules and Regulations
http://www.nationalboard.org/ViewAllSynopses.aspx

American Boiler Manufacturer Association
http://www.ABMA.com

Natural Gas Futures Prices - NYMEX
http://www.wtrg.com/daily/gasprice.html

Boiler Mact Compliance
http://www.boilermactsolutions.org

## More Links To Come

## WARE BOILER UNIVERSITY

**$100.00 dollars off**
**when you register on-line for Boiler University at www.wareboileru.com**

## 2015 Class Dates and Locations

Chattanooga, TN
July 14 -16, 2015
December 8 - 10, 2015

Jeffersonville, IN
May 5 - 7, 2015
September 15 - 17, 2015

**for more details:**
**WAREBOILERU.COM**


## TEE SHIRTS FOR SALE

All net proceeds from the sale of SteamWARE T-shirts go to Kosair Charities, where health care is provided to Children when there is no one else to turn to.

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