
# A Look to the Future

by Alex Taylor, National Account Rep

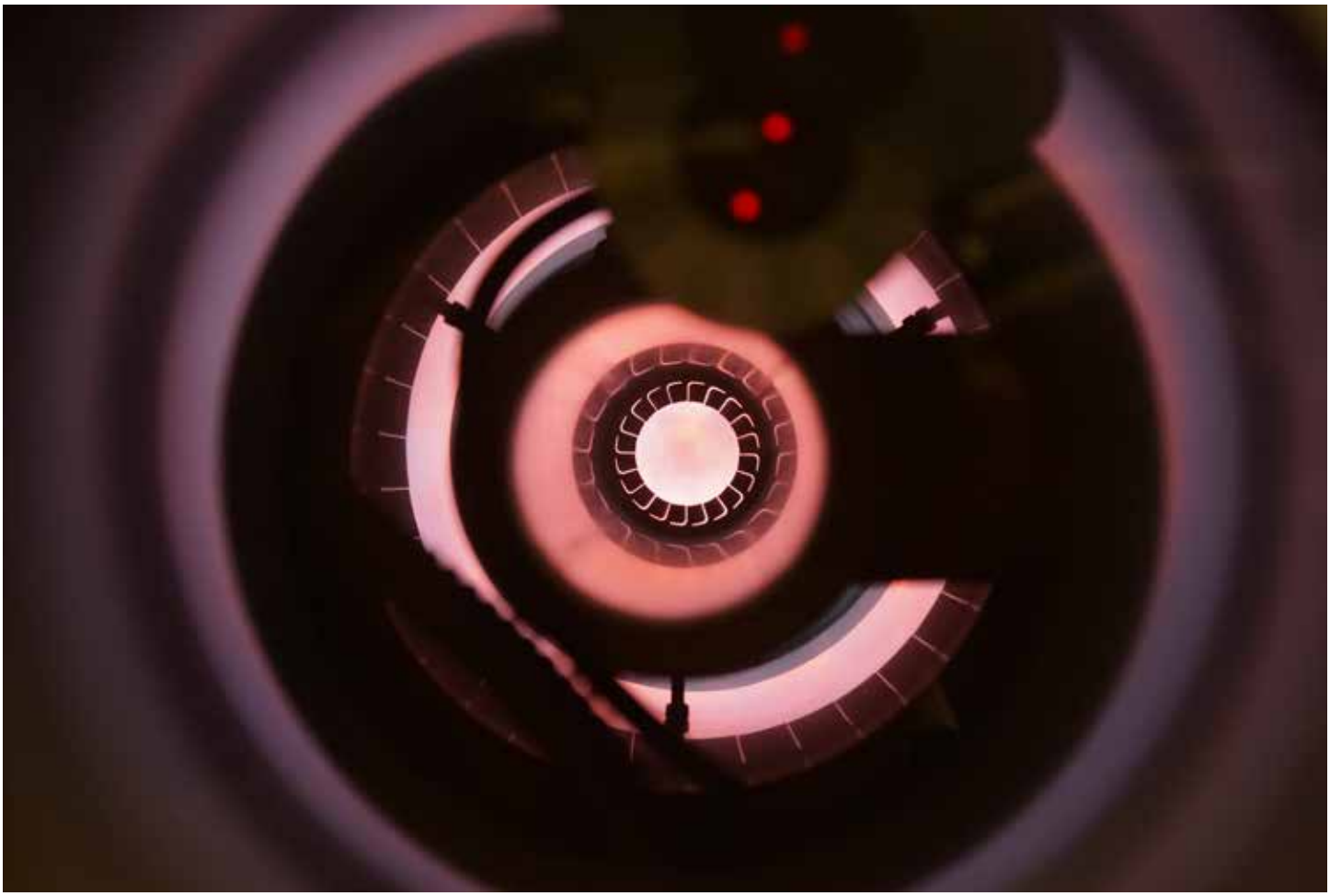
2017—a New Year. Millions of people made a resolution on New Year's Eve, and even if most of them have abandoned that resolution already, it is still a good time to reflect and plan for the future of your company. Looking forward, what is the future of the boiler industry? Well first off, more efficient burners and emissions-reducing technology have been required in order to meet new energy and EPA regulations, so more technology focusing on efficiency can probably be expected. But there is another area of improvement that has taken hold of consumers, and it is beginning to force its way into the industry: controls.

People like the ability to centralize and control their lives—it makes managing activities easier, and it provides assurance that appointments, events, and updates will not be missed. Technology has come a long way in the past couple of years, with learning software even acting as a personal assistant with products like Apple's Siri, Google's Assistant, and Amazon's Alexa taking a prominent place in smartphones and even in home automation packages. This growing dependency on the ability to manage our lives in an easily accessible, user-friendly way is quickly bleeding through to the business world, where more and more professionals are expecting the same level of control over their work lives. Boiler rooms are no exception.

Where maintenance and service technicians used to manually adjust the linkage on a burner to get it back in tune, it is now desired to implement linkage-free burner control packages that automatically adjust themselves to maintain proper combustion. Operators want to have a screen where they can visually see the status of their steam pressure, water & fuel flow rates, and an organized error log from their central control room. Environmental departments are even looking for emissions data logs to be automatically recorded and sent from the boiler room

Continued on pg.3

# Tools of the Trade for Combustion



When we're talking about boilers, there are few things more important than combustion. Combustion is why boilers are called "boilers" instead of "tubs of water." Bottom line: if you don't have combustion, you don't have a boiler—you have a problem.

Ensuring that combustion is occurring efficiently on a consistent basis helps to guarantee that your boiler is providing the most value for the money you're spending on it.

To achieve proper combustion, the boiler must be receiving an appropriate mixture of fuel and air and burning that mixture as completely as possible. Here are three things that you can do to get your boiler combustion occurring as efficiently as possible:

1. **Get rid of linkages.**

Linkages tie air dampers and butterfly valves together so that they are able to work with each other to provide the right amount of air and fuel to the boiler's burner.

The problem with linkages is that they are mechanical pieces of equipment. They can wear out, they can fall off if they are not securely tightened, and over time, slippage occurs, which reduces efficiency. Bottom line: it's easy for things to go wrong with linkages.

In place of linkages, utilize parallel positioning. In parallel positioning, linkages are replaced with a servo motor. In this type of setup, the boiler has one servo motor for fuel and one servo motor for air.

> Just because your boiler is working doesn't mean it's working efficiently.

The parallel positioning technology enables the boiler to burn fuel more efficiently and produce less CO.

## Tools of the Trade for Combustion

continued from pg 2

"CO is basically unburnt fuel that's being carried out of the stack," says WARE's Technical/Safety Director, Mike Taylor. Lower levels of CO mean higher levels of efficiency.

**2. Add an exhaust gas analyzer.**

In addition to getting rid of linkages and utilizing parallel positioning, another way to ensure increased efficiency is to add an exhaust gas analyzer to the control board.

The exhaust gas analyzer measures CO going out of the stack. This analyzer will control parallel positioning and adjust the boiler 24 hours per day for maximum efficiency.

**3. Don't forget preventative maintenance.**

Just because your boiler is working doesn't mean it's working efficiently. We recommend monthly preventative maintenance to ensure that blowers and dampers stay clean.

"Dirt's the other big factor that gets in the way of good combustion, just like it does on your furnace at home or your air filter on your car—it gets dirty, your mileage goes down. Same thing with the burner, if the blower wheel or the air damper gets dirty, the efficiency goes down," says Mike.

Implementing these suggestions can allow your boiler to function more efficiently on a consistent basis. Achieving efficient boiler combustion doesn't have to be rocket science. It's about using more efficient technologies in combination with the right monitoring tools.


## A Look to the Future

continued from pg 1

to their computers. These improvements are not just cosmetic or put there for convenience—they save money by reducing time, manpower, fuel consumption, etc. in order to do the same jobs that were once more labor-intensive and less efficient to complete.

There is another major reason to adopt newer controls packages, and that is the dire shortage in skilled technicians that our country is facing. As more and more of these valuable workers reach retirement, it is becoming difficult to find replacements since the country's labor force has shifted so many people to 4-year colleges instead of vocational schools. Without the expertise to replace what is being lost, technology may serve as a partial buffer for your company. The need for technicians will never be completely eliminated, but if your boiler has sensors and an easy-to-understand control panel that can tell you what the point of failure is, then you might just be able to order a replacement part and get back online in a short time. Rather than having to call in a technician and spend hours diagnosing a problem, the ability for sensors and controls to narrow down or pinpoint problems could allow you to get by with fewer dedicated technical specialists. Such packages can also help reduce or eliminate the risk of catastrophic failure that would require you to overhaul or even replace your equipment.

When it comes to planning for the future, there is no time like the present. Procrastinating on improvements such as a controls upgrade will not benefit you in the long-run. Think of it this way: companies are making these upgrades are not doing it out of sheer vanity—they make good financial sense. Saving money on fuel, labor, and most importantly, time, will make the payback well worth it.

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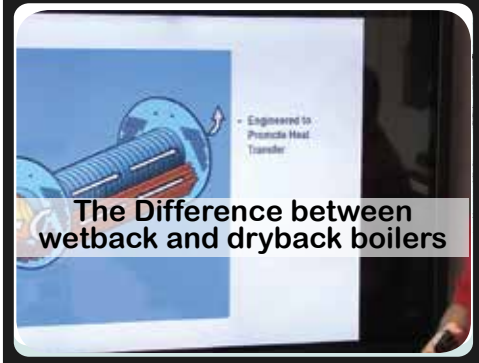
## BOILING POINT



The Difference between wetback and dryback boilers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## 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 | (Low NOx) G/#2 | Steam | 350 | IRI |
| 796 | 82,500 | 2016 | Victory Energy Faber | (Low NOx) G/#2 | Steam | 350 | IRI |
| 797 | 82,500 | 2016 | Victory Energy Faber | (Low NOx) G/#2 | Steam | 350 | IRI |
| 767 | 75,000 | 2011 | Victory Energy | (Low NOx) G/#2 | Steam/SH | 750/750 | IRI |
| 747 | 75,000 | 2000 | B&W | (Low NOx) G/#2 | Steam/SH | 750/750 | IRI |
| 791 | 75,000 | 2016 | Victory Energy | (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 |
| 795 | 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 |
| SSB30 | 800XID | 2014 | York Shipley | (Low NOx) G#2 | Steam | 250 | UL/CSD-1 |
| 620 | 800 | 1975 | York-Shipley | G/#2 | Steam | 250 | IRI |
| SSB28 | 600XID | 2012 | York Shipley | (Low NOx) G/#2 | Steam | 250 | UL/CSD-1 |
| SSB15 | 500XID | 2011 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SB139 | 500 | 2001 | Cleaver Brooks | | Steam | 150 | |
| SB226 | 400 | 2016 | Victory Energy | (Low NOx) G/#2 | Steam | 150 | UL/CSD1 |
| SB138 | 350 | 1994 | Cleaver Brooks | | Steam | 150 | |
| SSB39 | 300XID | 2016 | Victory Energy | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SB137 | 250 | 1994 | Cleaver Brooks | (Low NOx) G/#2 | Steam | 150 | |
| SSB36 | 250 | 2016 | Victory Energy | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| 415 | 250 | 1980 | Eclipse | #2 Oil | HT/HW | 954 | IRI |
| SB216 | 250XID | 2015 | York-Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD1 |
| SB148 | 200 | 1995 | Kewanee | Gas | Steam | 325 | IRI |
| SB146 | 200 | 1995 | Kewanee | Gas | Steam | 325 | IRI |
| SB213 | 175XID | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB220 | 175XID | 2015 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SB210 | 175XID | 2014 | York-Shipley | G/#2 | Steam | 150 | UL/CSD1 |
| SSB20 | 175XID | 2012 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |

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# WeRentBoilers.com

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

| Unit | HP/PPH | Year | Manf. | Fuel | Type | PSI | Ctrl. |
|---|---|---|---|---|---|---|---|
| SSB38 | 150 | 2016 | Victory Energy | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SB235 | 150 | 2016 | Victory Energy | G/#2 | Steam | 150 | UL/CSD1 |
| SB236 | 150 | 2016 | Victory Energy | G/#2 | Steam | 150 | UL/CSD1 |
| 769 | 150 | 1998 | Precision | Electric | Steam | 150 | UL |
| SB-232 | 100 | 2016 | Victory Energy | G/#2 | Steam | 150 | UL/CSD-1 |
| SB-228 | 100 | 2016 | Victory Energy | G/#2 | Steam | 150 | UL/CSD-1 |
| SSB37 | 100 | 2016 | Victory Energy | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SB-277 | 70 | 2016 | Victory Energy | G/#2 | Steam | 150 | UL/CSD-1 |
| SB-238 | 70 | 2016 | Victory Energy | G/#2 | Steam | 150 | UL/CSD-1 |
| SSB35 | 70 | 2016 | Victory Energy | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| SB-234 | 50 | 2016 | Victory Energy | G/#2 | Steam | 150 | UL/CSD-1 |
| SB-227 | 50 | 2016 | Victory Energy | G/#2 | Steam | 150 | UL/CSD-1 |
| SSB33 | 50 | 2015 | York Shipley | (Low NOx) G/#2 | Steam | 150 | UL/CSD-1 |
| | | | | | | | |
| | | | | | | | |

## Chillers

| Unit | Size | Manf. | Volt. | Type | Year | | |
|---|---|---|---|---|---|---|---|
| RC-24 | 30 ton | Mc Quay | 480v | 3 ph | 2000 | | |
| RC-26 | 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 | | |

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| May 16 - 18 | Jeffersonville, IN |
| July 11 - 13 | Richmond, KY |
| August 15 - 17 | Chattanooga, TN |
| September 12 - 14 | Jeffersonville, IN |
| October 10 - 12 | Paducah, KY |
| November 14 - 16 | Chattanooga, TN |

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