

WARE



ALL WAYS STEAM

THE GRIME

Winter 2018 Newsletter

Steam Silencers by Alex Taylor

If you have ever had to vent steam at your facility, then you are aware of what it sounds like when steam comes howling through the pipes and out into the atmosphere. The high velocity of pressurized steam through the valves & pipes and the turbulence created when steam mixes with the atmosphere generates noise. To put it more simply: the steam being vented can be extremely loud; in fact, released steam can often be emitted with a sound intensity of over 100 decibels—sometimes even

higher. To provide a few examples for comparison: a quiet office's noise level is usually measured at around 40-50 decibels, city traffic is 80 decibels, a chainsaw is 110 decibels, and a jet engine can be 140 decibels at around 75 feet away (enough to cause permanent hearing loss without protection). Now, OSHA does not permit workplace exposure to more than 85 decibels for more than 8 hours per day, and the permissible amount of exposure time is cut in half for every 5 decibels over that level, so prolonged exposure

to the scream of steam shooting into the air is not recommended.

Beyond the risk of suffering hearing loss if you are close to the release point, such a loud noise can be disruptive and annoying for anyone trying to work farther away on the premises or in the surrounding community. Boiler rooms are notoriously a bit on the noisy side, but live steam going to atmosphere can be particularly unpleasant, especially if sustained over a long time. It will eventually come to the

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3 Steps to Develop an Effective Spare Parts Program

An effective spare parts program can be the difference between 2-3 hours of downtime or 2-3 weeks of downtime.

We've identified 3 crucial steps you can follow to develop an effective spare parts program. Here's what they are:

1. Take inventory of what you have.

First, look at your current inventory. What spare parts do you have already? How many of each part do you have?

Next, look at the boiler itself. Which parts are replaceable? For all the parts that are replaceable—do you have replacements on-hand?

Keep a running list of all your spare parts, including the part name, model number, and the quantity you have on-hand. This way, you'll have complete oversight into exactly what's in your inventory.

2. Work with your supplier to determine lead times.

Common boiler parts are readily available, but others have much longer lead times than you might think.

This is especially true in the process industry, which is known for having parts that are unique from boiler room to boiler room.

This is also dependent on the type of boiler you have. Some brands have replaceable parts that can only be bought through the manufacturer, which increases the risk of a long lead time.

For example, it's not uncommon for some controls, motors, control valves, and pumps to have four-to six-week lead times.

If one of these parts goes out and you don't have a spare on-hand, the result could be disastrous.

But thankfully, there's a simple solution.

Talk to your supplier to determine which of your boiler parts have long lead times. If you have parts with long lead times and

don't have any spares on-hand, order them as quickly as possible.

Focus on these hard-to-get items first, then focus on maintenance items that are more likely to go out over the life of the boiler.

3. Identify Common Maintenance Items.

Certain items are more likely to go out after repeated use. At bare minimum, you should have the following boiler parts on-hand:

- Ignition electrodes
- Ignition cables
- Sight glasses
- Gaskets

Ultimately, the question of what spare parts you should stock in your facility comes down to how much risk you're willing to accept.

If you have a backup boiler that can handle your facility's load for an extended period of time, you may be able to get by with a less robust spare parts program.

But if you only have a single

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Watch this Boiling Point , Ritchie Ware talks to Brian Grinestaff about Must have Spare Parts in the boiler room.

boiler with specialized replacement parts that have long lead times, you would be wise to implement a spare parts program that stocks not just maintenance items, but those specialized point-of-failure items too.

If you don't know where to start, talk with your supplier. They can guide you through the process of identifying the most critical spare parts and helping you stock them.

For your reference, here's a list of common items in our industry to stock as spares:

- **Fireside and Waterside gaskets (including low water cut-off gaskets)**
- **Deaerator or feed system manway gaskets**
- **Electrodes or Flame rods**
- **Flame Safeguard control**
- **Flame Amplifier card**
- **Purge Timer**
- **Flame Scanner**
- **Relief valves (having a set to swap out for recertification is always a good idea)**
- **Air pressure switch**
- **Gas pressure switches**
- **Vent solenoid valve**
- **Gas/oil valves**
- **Feedwater control valve**
- **Blower motor**
- **Blower wheel**
- **Feedwater pump**
- **Steam regulator**
- **Gas regulator**
- **Level control probes or floats**
- **Level control relay**
- **Servo motors for linkageless system**
- **Steam and Gas sensors**
- **Oil Nozzles**
- **Burner Diffuser**
- **Pressure gauges**
- **Thermocouples or Temperature controls**
- **Ball joints for linkages/Bearings for dampers**



WARE Now Offering Portable Hot Water Units



At WARE, we don't set out to provide what's convenient for us. Instead, we provide what our customers need.

Our bread-and-butter is our standard steam units, which fit the needs of most industrial applications. But sometimes our customers require something a little simpler.

In the past, we had customers come to us requesting simple hot water units, and while we had a few skid units, they weren't ideal. (Skid units must be stored indoors or within a shelter if they're going to be outside.)

After receiving a number of calls from customers that we weren't able to fulfill, we decided to do something about it.

This past spring, we started building portable hot water units.

These hot water units were completed at the end of May, and before they were even finished, three were already rented.

The convenient thing about these units is that they are a complete package. They have everything you need, including flanged connections, flow valves, control valves, and a circulating pump sized for the boiler.

Beyond that, these units are designed to operate outside, which provides a huge benefit over the skid units.

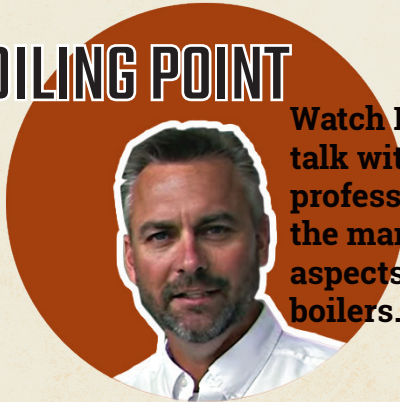
These certainly aren't the most complex units we offer, and we think that's what makes them ideal. They're small, they're simple, and they do exactly what you need them to.



Learn more about hot water rental units. These units are different than WARE's standard steam units.

YouTube /wareboilers

BOILING POINT



Watch Ritchie talk with industry professionals about the many different aspects of steam boilers.



STEAM CULTURE



Every Friday, Brent will talk about where steam and Culture intersect.

WE LIVE AND
**BREATH
STEAM**

BOILING POINT
STEAM CULTURE
CASE STUDIES
WARE CAPABILITIES
FUN WARE VIDEOS

Videos are informational and fun involving boilers, chillers, burners and more from an industry leading boiler company.

NEW FOR wareboilers / WEEKLY BOILER TIP



/wareboilers



Subscribe for future episodes

NEW VIDEOS UPLOADED ALL THE TIME.

BOILER TRAINING

BOILER UNIVERSITY WARE

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).

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.

101 CLASS 2018

March 12-13, 2019 - Bowling Green, KY

April 16-17, 2019 - Chattanooga, TN

May 14-15, 2019 - Louisville, KY

July 9-10, 2019 - EKV, Richmond, KY

August 13-14, 2019 - Chattanooga, TN

October 8-9, 2019 - Louisville, KY

October 15-16, 2019 - Savannah, GA

201 CLASS 2019

March 5-7, 2019 - Louisville, KY

April 23-25, 2019 - Louisville, KY

August 20-22, 2019 - Louisville, KY

September 17-19, 2019 - Louisville, KY

November 12-14, 2019 - Louisville, KY

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.

NEW FOR 2019

Visit www.wareinc.com for details

Classes are four hours long

BOILER 202 - Daily Boiler Operations

BOILER 203 - 4 Hour Steam System Basics

BOILER 204 - Safety and Limit Checks

BOILER 205 - Energy Efficiency Options

Classes are three days long

BOILER 301 - Boiler Open/Close

BOILER 302 - Principles of Combustion

BOILER 303 - Hands on Flame Safeguard and Boiler Control Wiring

BOILER 304 - Feedwater and Level Control

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Air Pressure
Switches

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BLOWDOWN VALVES
BOILER GASKETS
BOILER SIGHT GLASS
FLAME SAFEGUARD
FUEL OIL VALVES
GAS PRESSURE SWITCHES
GAS REGULATORS
GAS VALVES
GAUGES
THERMOMETERS
IGNITORS
MODULATING MOTORS
FEEDWATER VALVES
TEMPERATURE CONTROLS
CONTROL VALVES
RELIEF VALVES
WATER LEVEL CONTROLS

and a **WHOLE
LOT MORE**



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	(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
SSB44	800XID	2018	Victory Energy	(Low NOx) G/#2	Steam	250	UL/CSD-1
620	800	1975	York-Shipley	G/#2	Steam	250	IRI
SSB42	600XID	2018	Victory Energy	(Low NOx) G/#2	Steam	250	UL/CSD-1
SB139	500	2001	Cleaver Brooks		Steam	150	
SB243	400	2018	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
SSB43	250	2018	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD-1
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
SB197	800	2008	Johnston	Gas/#2	Steam	150	IRI

ONE HOUR QUOTE ON-LINE AT WAREINC.COM OR CALL 800-228-8861





NEW AND USED LIST continued

ALL EQUIPMENT LISTED IS FOR SALE OR LEASE AND SUBJECT TO AVAILABILITY

Unit	HP/PPH	Year	Manf.	Fuel	Type	PSI	Ctrl.
SB213	175XID	2014	York-ShIPLEy	G/#2	Steam	150	UL/CSD-1
SB220	175XID	2015	York-ShIPLEy	G/#2	Steam	150	UL/CSD-1
SB240	175XID	2017	Victory Energy	G/#2	Steam	150	UL/CSD-1
SSB20	175XID	2012	York-ShIPLEy	(Low NOx) G/#2	Steam	150	UL/CSD-1
SWVB1	1200	2017	Victory Energy	(Low NOx) G/#2	Steam	250	UL/CSD-1
SWVB2	1500	2017	Victory Energy	(Low NOx) G/#2	Steam	250	UL/CSD-1
SSB38	150	2017	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD-1
SB245	150	2018	Victory Energy	G/#2	Steam	150	UL/CSD1
SB242	150	2017	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-239	100	2017	Victory Energy	G/#2	Steam	150	UL/CSD-1
SSB41	100	2017	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD-1
SB-241	100	2008	York-ShIPLEy	Gas	Steam	150	UL
SB-237	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
SB244	100	2018	Victory Energy	G/#2	Steam	150	UL/CSD-1



WARE will be exhibiting at:

- Power Gen - December 4- 6, 2018
Orange County Convention Center, Orlando, FL
- AHR EXPO - January 14 - 16, 2019
Georgia World Congress Center, Atlanta, GA
- Brewery Expo - April 9 - 11, 2019
Colorado Convention Center, Denver, CO

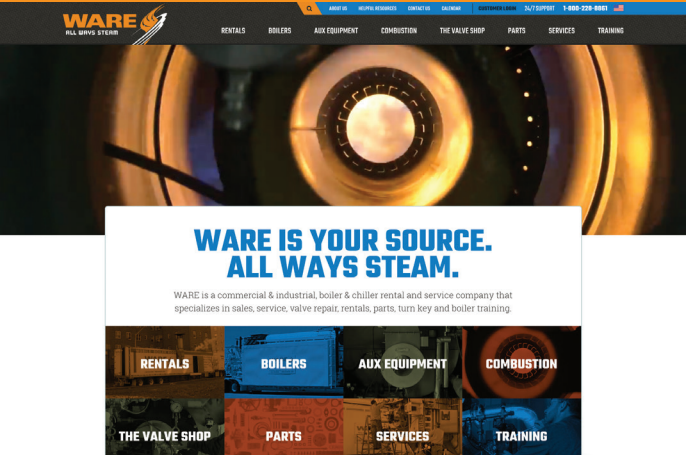
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attention of someone with authority at your company, whether that is by the complaints of fellow employees or legal action from someone in the affected community, and that is when you can expect to be forced to look into a solution. This is where a steam silencer comes in.

Steam silencers, also called “exhaust silencers” or sometimes “vent silencers”, are basically mufflers to take the edge off that harsh sound. Most designs diffuse the steam into smaller flows that move through multiple chambers; these chambers can dissipate the noise and help absorb it with acoustic insulation before safely venting the flow of steam to atmosphere. These silencers must be sized for the steam flow being vented, as they are not “one size fits all”, and they can be connected to a main vent outlet or even to the outlets of pressure relief valves. They can generally reduce the noise level by about 25-45 decibels (depending on the design), which can make an enormous difference. Back to the examples given earlier, that would take the sound equivalent of a chainsaw and drop it down to that of normal traffic, which is far less disruptive and will likely result in fewer (if any) complaints—not to mention drastically reducing the chance of induced hearing loss for employees who may have to work near the vent.

When a boiler’s combustion is being tuned, it has to be ramped all the way up to full capacity, and that steam must go somewhere. If your facility is doing the combustion tuning during a shutdown, or if you have other boilers online that cannot be taken offline, you may not have anywhere to send the steam, so you will need to vent it to atmosphere. A steam silencer can help keep the noise bearable during this process. If you are interested in a temporary steam silencer or the outright purchase of one to help keep the noise down at your facility, you can reach out to WARE and get a solution today!



WAREINC.COM

WARE's new site just went live and is chocked full of stuff you can do.

- Get a rental boiler quote in an hour.
- Learn how to send a valve to The Valve Shop for repair
- Get a quote on valve repair
- Contact WARE on boiler repair service
- Watch helpful videos from combustion to boiler training
- Download formulas, measurements and rental contingency plans
- It's packed with useful information

Throw CAUTION to the Wind
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