



## Rental Boiler Placement

by Alex Taylor, National Account Rep

Whether you are putting together a rental boiler contingency plan for your own facility or helping a customer plan for theirs, there are a few things that will need to be prepared for the placement of the equipment. Often, the first items that are addressed in preparation for a rental unit are the utilities: power, water, steam & condensate return lines, fuel, and drains. It is, however, very important that the boiler or trailer itself be given consideration.

The first item to consider is actual location--it may be tempting to just drop the boiler close to your utility connections, but it is important to remember two things:

- 1) the exhaust and safety relief valves should not be vented to an area where air intakes or open windows could allow emissions or steam to enter an occupied area, and
- 2) if a high-ranking person at the facility has a nearby office, they may not like the boiler being so close; you do not want to invest time and money into the installation only to have the order come down that everything has to be moved to appease an upset executive, increasing the cost and time to install the equipment.

Next, it is crucial that you think about the physical placement of the boiler. Whether it is a Mobile Boiler Room that is housed in a semi trailer or a large boiler skid that comes on a trailer or needs to be placed

with a crane, the boiler must always be leveled to prevent low water safety hazards. It will need to be set on a solid surface that can support the weight of the equipment, so grass or loose dirt is typically not a viable option. A variety of solutions are used in the field, from putting down gravel and steel plates to paving asphalt or pouring a concrete pad, but the surface must be fully supportive; WARE's large watertube skids will also require 8" x 8" wood beams to be interspaced under the rails. If you are renting a boiler housed in a semi trailer for an extended amount of time, you should periodically check the tire pressure and ensure that the unit is still level.

You can never be too prepared for an outage—planned or unplanned—so

when you are working on a contingency plan, do not simply focus on sizing the boiler and knowing the various connection sizes. Rather, consider all aspects of the boiler and installation so that you will be ready when the time comes. If you would like more information on what an installation for your facility may entail, feel free to contact the experts at WARE, or head over to WARE's YouTube channel to see some how-to videos on preparing for a rental scenario and properly placing equipment.



**Watch a video on -  
Rental Contingency Plan**



# The Elements of Proper Condensate Removal

Steam production isn't a perfect process.

If you've been in the game for a while, that's no surprise. If not, here's the lowdown:

In the process of steam creation, steam condenses due to ambient temperature loss and process temperature loss. The steam that condenses is referred to as "condensate."

If you don't remove this conden-

ding. Drip legs get condensate out of the way so your steam can do its job.

According to Inveno Engineering, drip legs should be placed at 700 ft intervals throughout straight piping, at low points in piping, before steam flow metering, at valves that are able to be in the "off" position, and at any direction change.

Drip legs alone don't remove condensate, though. They need

There are a few different methods that steam traps use to remove condensate from the steam line:

**Float** - Once the amount of condensate raises the float to a certain level, a valve is opened to allow the condensate to drain.

**Thermostatic** - These traps open and close in response to temperature to allow condensate to drain or remain in the trap.



sate, it will interfere with proper equipment operation. That's an inconvenience that costs you your two most important resources: time and money.

Proper condensate removal is a simple process, but it requires installation of a few key elements in your steam system:

- Drip legs
- Steam traps

Drip legs capture condensate. They are pipes that collect condensate as it flows through the

a little help from their friends: steam traps.

Drip legs catch condensate, but steam traps allow condensate out of the system. They're the guys that do the actual removing.

Steam traps are pretty ingenious. They stop steam from leaving the system, but let condensate out. Pretty smart, right?

Here's what's really cool: steam traps do this automatically.

**Inverted Bucket** - Condensate flows down and around the bucket and then out of the trap. Steam causes the bucket to rise and closes the outlet.

**Thermodynamic** - These traps use the energy in hot flashing condensate to snap the trap closed and shut off steam flow. Steam above the disc must condense in order for the trap to re-open.

One other, more sporadic means of removing condensate is

continued on page 3



# 16 Essential Spare Parts To Save Your Boiler from Downtime

“Good thing our boiler isn't working right now. The downtime is really helping us out.”

Have you ever heard anyone say that?

Neither have we.

When your boiler system is down due to a faulty piece of equipment, it's inconvenient.

But when your boiler system is down due to a faulty piece of equipment and you don't have a replacement, it's a potential disaster.

If you have a replacement part on-hand, your system may be down for a few hours at most. But if you don't, your downtime may end up being measured in days, not hours.

Here's the good news: you can drastically reduce your potential downtime by spending a little money on spare parts. A small supply of spare parts can save you from a big problem.

We've identified what we believe to be 16 essential spare parts to have on-hand in the event your system goes down:

- Ignitors
- Flame Rods
- Ignition Wire
- Ignition Transformer
- Flame Safeguard Controls
- UV Scanner
- Spare Gaskets

- Gasket Kits
- Gas Pressure Switches
- Air Pressure Switches
- Sight Glass
- Redline Sight Glass
- Sight Gauges
- Mod Motors
- Boiler Tricocks
- Probes

Buying these parts outright when you have no current need for them might seem like it doesn't make sense. Who wants to pay money for something that's just going to sit on a shelf?

But when your system goes down and all you have to do is walk over to a shelf, find the right part, and install it, you'll thank yourself.

Hopefully you won't need these parts for months or years to come, but when you do need them, they will be there, and you'll be glad you made the purchase.

Have our qualified inside sales parts specialist work up your spare parts list today.



## The Elements of Proper Condensate Removal

Continued from pg 2

through blow down, which is a manual method for expediting the removal of air and condensate. This only occurs on system startup.

Condensate removal is a fairly simple process, but errors still occur.

One common problem facilities have when implementing condensate removal is the combination of low- and high-pressure condensate sources. High-pressure sources can prevent low-pressure sources from working, because condensate from the high-pressure source puts additional back pressure on the condensate system. Remember to separate condensate from high and low-pressure sources in order to prevent this.

Implementing a proper condensate removal system can keep your steam system running smoothly, saving you from inconvenience and putting your hard-earned time and money back under your control.



Watch a video on -  
Gestra Steam Traps



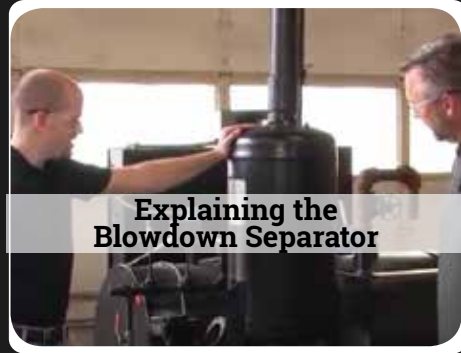
# BOILING POINT



Water Level Control Sensor Probe



Explaining Natural Gas Curtailment



Explaining the Blowdown Separator

# STEAM CULTURE



The 212 Principle



Water Cooled Machine Gun



Steam and Shuttle Launches

## PRODUCT VIDEOS

HelioJet industrial cleaning technology - water jet

Heat Sponge

## CASE STUDIES

Heaven Hill - 78,000PPH install

Amelin

EKU - 48,000 Coal Boiler Retube

**SUBSCRIBE**  
to **WARE**  
youtube channel

[youtube.com/user/wareboilers](https://youtube.com/user/wareboilers)

For more Boiling Point videos: [youtube.com/user/wareboilers](https://youtube.com/user/wareboilers)

**NEW VIDEOS UPLOADED ALL THE TIME.**





**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	(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
SSB40	250	2017	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/CSD-1
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/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

**One hour quote on-line at [www.wareinc.com](http://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.
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
SSB40	100	2017B	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
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-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-10	195 Ton	Mc Quay	480 v	3 ph	1995		
RC-11	195 Ton	Mc Quay	480 v	3 ph	1995		

Chillers

One hour quote on-line at [www.wareinc.com](http://www.wareinc.com) or call 800-228-8861



# Events

WARE will be exhibiting

**September 2017**  
Healthcare Coalition Conference

**September 2017**  
World Energy Engineering Congress

**December 2017**  
Power Gen

**January 2018**  
AHR EXPO

## WARE BOILER UNIVERSITY



### 2017 Classes

August 15 - 17	Chattanooga, TN
September 12 - 14	Jeffersonville, IN
October 10 - 12	Paducah, KY
November 14 - 16	Chattanooga, TN

For more details visit [WAREBOILERU.COM](http://WAREBOILERU.COM)



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.

[4STEAMWARE.COM](http://4STEAMWARE.COM)

### GET SOCIAL WITH US



WARE making it easier  
**With Over 40,000 parts on-line**







PRSR STD  
US POSTAGE  
PAID  
LOUISVILLE KY  
PERMIT #1225



**WARE**  
**AVAILABLE 24/7**  
**GET SOCIAL WITH US**

