



## Resin – The Tiny Protectors of the Boiler Universe

Ant Man hits theaters July 17th with Paul Rudd playing hero Scott Lang. Ant Man is a character from the Marvel Universe who can shrink to the size of... you guessed it - an ant. Along with his ability to shrink, he has super human strength. He truly is the tiniest protector of the Marvel Universe. The tiny protector in the “Boiler Universe” is called resin.

Resin is a collection of tiny beads that are negatively charged and are located inside a water softener. Their purpose is simple: to protect your boiler. They do this by filtering the water before it enters your boiler. If these tiny protectors were not present, the minerals in the water would cause pitting and scaling in your boiler which greatly reduce heat transfer efficiency.

Resin plays a pivotal role in keeping your water clean. It is something that you typically don't see but is at the heart of your water softener. Without it, the feedwater to your boiler would be filled with impurities that would significantly reduce the useful life of your boiler.

### How does it work?

Water enters the water softener “hard”. “Hard” is another way of saying that it is full of minerals and dissolved solids. These minerals are positively charged. When they flow through the water softener and across the negatively charged resin beads, an ION exchange occurs and the minerals attach themselves to the beads. This allows clean soft water to pass through to your boiler system.

### Is there a process to maintain your resin?

The short answer: Yes. Over time the resin collects enough minerals to the point where it becomes ineffective. At that point, it needs to go through a regeneration process. The first cycle in the regeneration process is called a back flush. During the backflush cycle, water flows through the softener in the opposite direction. Running the water through the softener in the opposite direction fluffs the bed and carries away heavy particulate.



After the backflush is complete, the softener reverses cycle and draws brine in over the beads. The brine draw is responsible for removing the minerals from the resin. Not only does the brine draw remove the remaining minerals from the beads, the sodium in the brine returns the negative charge to the resin bed.

### How Often Should You Replace Your Resin?

Resin does have an expiration date. If your water quality is average it will last between 10 and 15 years before needing replacement. There are solutions you can run across your resin beads, however, it is recommended that the resin be replaced entirely.

Water quality is the most important element of extending and preserving the life of your boiler. The resin that resides within your water softener plays a critical role in ensuring only the best water enters your boiler. To learn more about WARE's water softener systems call us today! 800-228-8861.

You can also view a Boiling Point video at [youtube.com/user/wareboilers](https://youtube.com/user/wareboilers), where Ritchie Ware and Steve Duval discuss Resin.

# STEAM CULTURE

## - At the Intersection of Steam and Our Everyday Lives

Everyone loves a good story. There are tons of stories about the history of steam and how we use it in our everyday lives. Steam Culture is the latest production on their YouTube channel by WARE that is a weekly video segment that showcases the lighter side of steam - pun intended.

Steam is all around us, most times, we don't even realize it. Did you know steam is used to make things like paint, dog food and tires? These are things we use all the time but take for granted. The Steam Culture video series draws attention where steam is and how we use it every day. "We recently heard from a Math and Science teacher who is using Steam Culture to show his students how math and science are applied in the real-world. That's the sort of thing we're looking to accomplish, to make people aware of and hopefully curious about steam and it's many uses and applications."

Just in case you've been living under a rock, here is a list of the top 5 things you have missed from Steam Culture:

- 1)The first steam turbine was created by a Roman engineer named Hero. He called it an Aeolipile and it was created to amuse the Emperor. This early steam turbine created 1,500 rpm on just 1.8lbs of pressure.
- 2)James Watt coined the term "Horse Power" in the late 1700's (1HP = 33,000 ft-lbs/min). He used the equation as a way to sell his engine to breweries and coal mines.
- 3)The reason steam is used for the froth on your latte is

that it breaks the lipids into carbohydrates, making them sweeter. Plain hot milk simply won't cut it. Without steam we would have thousands of angry coffee addicts on our hands.

4)The origin of the word "STEAM" dates back to the 1690's from the Dutch word "Stoom," meaning vapor.

5)The movie, The Shining, was filmed in the world famous Stanley Hotel. In the movie, Jack Torrance dies frozen in a maze, however, in the book he dies in a boiler explosion. The Stanley hotel was named after the man who brought you the Stanley Steamer.



### The WHY Behind "Steam Culture"

When asked, "Why does WARE do Steam Culture Videos?" Brent Falcone (VP Operations) responded, "We have smart people at WARE, who are very intentional about providing practical steam solutions, but we also have a lot of fun. The Steam Culture videos are an expression of the culture here at WARE."

These videos contribute to the brand by drawing attention to the personality of the very people you trust with your boiler operations. Not only do you get to experience the personality of WARE, you are given the opportunity to hone your Trivial Pursuit skills. So if a steam related trivia question ever arises, you'll have it covered.

Join WARE every Friday at <https://www.youtube.com/user/wareboilers/featured> for the latest Steam Culture videos.



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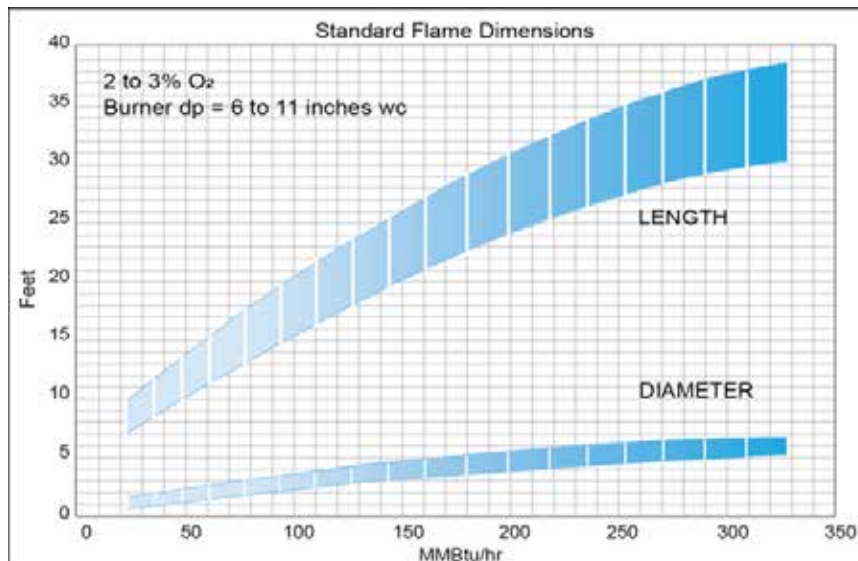
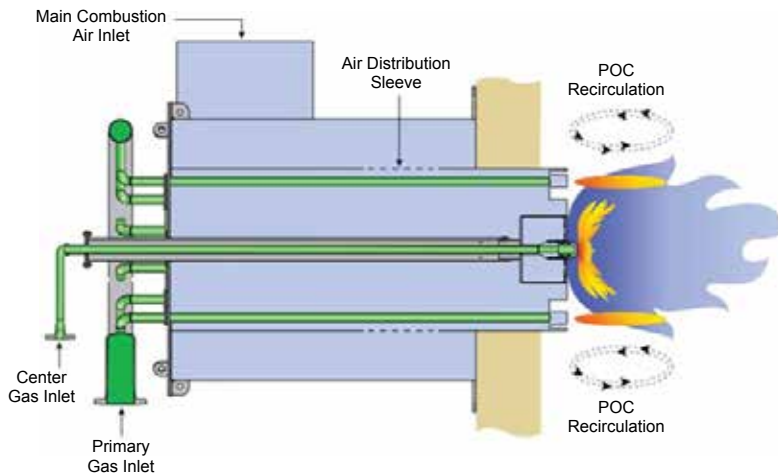
# WARE ADDS NEW BURNER LINE TO ITS EXTENSIVE LIST OF TOP PRODUCTS

**LONOxFLAM**  
Gas Burners  
Bulletin 4196-G2

February 2015

## Features and Benefits

- Proven LoNOx technology for single and multiple burner applications
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- Adaptable flame shape and adjustment capabilities
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- Burner capacities up to 350 MM Btu/hr
- Fully package systems available for boilers and steam generators
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# BOILING POINT



Cutting Gauge Glass



Containerized Boiler Room



Boiler Tubes

# STEAM CULTURE



Ancient Valves



Phreatic Explosions  
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Manitou Springs

## PRODUCT VIDEOS

HelioJet industrial cleaning technology - water jet

Heat Sponge

## CASE STUDIES

Amelin

EKU - 48,000 Coal Boiler Retube

New York City Housing Authority

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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	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
SB220	175XID	2015	York-Shipley	G/#2	Steam	150	UL/CSD1
SB210	175XID	2014	York-Shipley	G/#2	Steam	150	UL/CSD1
SB217	150	2015	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
SB218	100XID	2015	York-Shipley	G/#2	Steam	150	UL/CSD1
SB219	100XID	2015	York-Shipley	G/#2	Steam	150	UL/CSD1
SB221	100XID	2015	York-Shipley	G/#2	Steam	150	UL/CSD1
SB223	70	2015	York-Shipley	G/#2	Steam	150	UL/CSD1
SB222	50	2015	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](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.
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



**THE VALVE SHOP**  
 Contact your local representative (800-228-8861) for Steam Studies

**Meet WARE at the following shows:**  
**POWER GEN 2015**  
 December 8 - 10 in Las Vegas, NV  
**AHR EXPO 2016**  
 January 25 - 27 in Orlando, FL



# Taking Steam Mobile

It is no secret that WARE has long established itself as one of the foremost providers of mobile boiler rooms for both planned and emergency rental needs. With a reputation for having fast service and quality solutions, Ware has been able to meet the needs and exceed the expectations of many customers both domestic and abroad. Having a large fleet spread across the country has necessitated a knowledgeable and reliable service department to help customers with any issues they may have, and immediate hardware needs have fostered the growth of WARE's stock boiler sales, a new online parts store at boilerwarehouse.com, and the Valve Shop.

Despite these vast capabilities, there is much more that WARE can offer through custom projects that blend various aspects of each capability. At this point in time, boiler rooms housed in a semi trailer or a steel shipping container are not uncommon. These typical "mobile boiler rooms" are designed to be delivered to a site, unhitched, connected to utilities, and then fired up. With this temporary installation, by the time the boiler is ready to produce steam or hot water, it has become decidedly stationary...but what if you truly need mobile steam?

One of WARE's customers had a unique application requirement: a truly mobile boiler room installed in a box truck that could quick-

ly come up to full steam. Their outdoor pipe lining business called for moving the boiler room down the road to provide steam along the pipeline to help with certain liner's curing process. An onboard generator and fuel tank supplied the 100 hp boiler, and local make-up water was available for use on job sites. One of these mobile boilers was damaged beyond cost-effective repair, so WARE was able to help them out.

With an identical boiler unavailable, WARE was able to source a new, compatible 100 hp replacement from Vapor Power. The old equipment was removed, and the new system was installed. Experience in the boiler industry has taught WARE that one of the easiest ways to cause significant damage to a boiler is by failing to properly treat the feedwater, and this is especially true in compact watertube boilers such as the ones used in this box truck. To avoid such damage, a water softener was added, and chemical treatment was recommended to protect the boiler and provide reliable service for many years to come. Finally, to prevent rainwater from entering through the stack and causing corrosion in the bottom of the new boiler, a custom telescoping stack with a cap was installed in the top of the box truck.

WARE is committed to being a solutions provider for its customers; with its resources and extensive experience, projects like this one can be completed so that customers can get back to business.



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)

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## WARE BOILER UNIVERSITY

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[WAREBOILERU.COM](http://WAREBOILERU.COM)





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