

# The GRIME

April and May 2013 Newsletter

## A combined heat and power strategy can pay for itself

Companies in the market for a new boiler have some choices to consider. One option is to replace boiler with essentially the same unit, adding some additional features to make it more energy efficient. Another option would be to look into implementing a combined heat and power (CHP) strategy which would make the company eligible for a 10% Federal Investment Tax Credit.

There are several different CHP strategies and a company should consider which one would be best for them.

### What is CHP?

CHP is the simultaneous and sequential generation of heat and power from the same fuel source.

The minimum flow conditions where CHP should be considered are:

- A flow rate of 5,000 lb/hr of saturated steam
- Available pressure drop of 100 psi
- At least 4,000 operating hours per year

One CHP strategy that works well for many industrial customers including hospitals, universities and district heating plants is installing a high pressure boiler with a backpressure steam turbine generator.

For example, consider a current steam load that varies from 10,000 lbs per hour to

22,000 lb per hour, with a mean flow rate of 16,000 lbs per hour. The process operates 8,000 hours per year and requires 90 psi saturated steam. Currently there is one boiler online and one off line available for backup. This set up has always served the plant well, however a CHP strategy could be much more efficient and cost effective.

For this example, a Ware professional would suggest that the company purchase a boiler with a maximum allowable working pressure (MAWP) of 300 psi rather than the 200 psi. While operating the boiler at 250 psi, the steam would first go through a backpressure steam turbine generator which would drop the pressure to the 90 psi, which the system requires.

The Steam turbine generator will produce 59 KW at the 10,000 lb per hour flow rate and 173 KW at the 22,000 lb per hour flow rate. At the mean flow rate of 16,000 lb per hour, the steam turbine generator will produce 138 KW.

The savings will depend on what a company is currently paying per kWh. If the current kWh charge is \$.07 per hour, using 138KW output the savings for this example will add up to approximately \$75,000 per year in electrical production. The additional fuel cost to operate at a higher pressure using

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## SteamT- Shirt Designs at 4steamware.com



*All net proceeds from the sale of Steam Ware T-shirts go to Kosair Charities. Where health care is provided to Children when there is no one else to turn to. Check it out on [www.4steamware.com](http://www.4steamware.com)*

## BOILER TRAINING

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### WARE BOILER UNIVERSITY 2013

May 14 - 16, 2013 / Chattanooga, TN  
July 16 - 18, 2013 / Jeffersonville, IN  
Oct. 01 - 03, 2013 / Chattanooga, TN  
Nov. 12 - 14, 2013 / Jeffersonville, IN

Congratulations to Gerry Mendiola for winning the iPad give away in March.



Check The Valve Shop out. They offer testing, diagnosis, steam studies, maintenance and repair services for all makes and models of valves. All Valve Shop repair procedures strictly adhere to the industry standards and codes.

Combined heat and power strategy continued from pg1

\$4 per decatherm natural gas is approximately \$9,700. This means a net benefit of \$65,300 will be realized.

If the current kWh charge is \$.12, the savings will add up to approximately \$128,000 per year in electrical production; at a rate of \$.19 per kWh the value of the electrical production will be approximately \$203,000.

The savings will only be realized if the electrical production is a byproduct of the steam production. Also, typically 2 to 4% of the total flow of BTUs will be lost going through the turbine.

Many customers question what the return on investment will be for the steam turbine generator. The answer depends on what the company spends per kWh and what, if any, the KW demand charges are, however a return on investment within two years or less are not uncommon before the tax credit.

To learn more about eligibility requirements for the 10% CHP tax credit, visit the Department of Treasury Internal Revenue Service at [www.irs.gov](http://www.irs.gov) and search for Investment Credit form 3468. For more information on selecting a steam turbine generator, contact the WARE Sales Team at 1-888-904-WARE (9273).

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## Equipment List

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

Unit	HP/PPH	Year	Manufacturer	Fuel	Type	Pressure	Controls
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
752	60,000	1980	B&W	G/#2	Steam	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
SB80	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
SB150	800	2011	Victory Energy (Low NOx)	G/#2	Steam	300	IRI
SB123	600	2008	York-Shipley	G/#2	Steam	150	UL/CSD1
SB149	500	2011	Victory Energy (Low NOx)	G/#2	Steam	250	IRI
SB139	500	2001	Cleaver Brooks		Steam	150	IRI
SB63	500	1985	Superior	G/#2	Steam	150	IRI
SB152	400	2011	York-Shipley (Low NOx)	G/#2	Steam	150	UL/CSD1
SB138	350	1994	Cleaver Brooks		Steam	150	IRI
SB137	250	1994	Cleaver Brooks		Steam	150	IRI
415	250	1980	Eclipse	#2 Oil	HT/HW	954	IRI
719	250	1987	Superior	G/#2	Steam	150	IRI
SB148	200	1995	Kewanee	Gas	Steam	325	IRI
SB146	200	1995	Kewanee	Gas	Steam	325	IRI
SB170	250XID	2012	York-Shipley	G/#2	Steam	150	UL/CSD1
SB172	175XID	2012	York-Shipley	G/#2	Steam	150	UL/CSD1
SB183	175XID	2012	York-Shipley	G/#2	Steam	150	UL/CSD1
SB175	150	2012	York-Shipley	G/#2	Steam	150	UL/CSD1
SB181	150	2012	York-Shipley	G/#2	Steam	150	UL/CSD1
SB182	150	2012	York-Shipley	G/#2	Steam	150	UL/CSD1
RB769	150	1998	Precision	Electric	Steam	150	UL
SB131	100	2003	Johnston	G/#2	Steam/HW	15/30	IRI
SB178	100XID	2011	York Shipley	G/#2	Steam	150	UL/CSD1
SB177	100XID	2011	York Shipley	G/#2	Steam	150	UL/CSD1
SB184	70	2012	York Shipley	G/#2	Steam	150	UL/CSD1
SB180	50	2011	York Shipley	G/#2	Steam	150	UL/CSD1

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

# WARE buys used boilers

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

Unit	Size	Manufacturer	Voltage	Type	Year
RC-24	30 Ton	Mc Quay	480 v	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

## New YORK SHIPLEYS AVAILABLE

Unit	HP/PPH	Year	Manufacturer	Fuel	Type	Pressure	Controls
SSB23	50 hp	2012	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
SSB22	100XID	2012	York Shipley	(Low NOx) G/#2	Steam	150	UL/CSD-1
SSB18	150	2011	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
SSB8	400XID	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
SSB24	600XID	2012	York Shipley	(Low NOx) G/#2	Steam	250	UL/CSD-1
SSB11	800XID	2011	York Shipley	(Low NOx) G/#2	Steam	250	UL/CSD-1

*It's Derby time in Kentucky and Ware is headed for the Downs "Churchill Downs"*

*Announcing Ware's Partner Conference 2013 April 30th through May 1st.*

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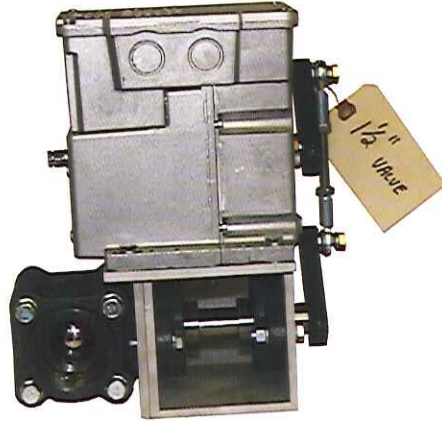
wareinc.com will direct you to our



## Ware develops improved product to answer industry need

The Mod V valve is a newly developed product from Ware that replaces other feed water valves that were not performing as well in the field.

Professionals from Ware noticed an increase in maintenance on certain valves due to leaking problems both at the bonnet and through the valve itself. Lead time for getting replacement valves was also a concern, so the company decided to develop their own valve and the Mod V was born.



“The valves we were using were causing problems on our rental fleet in the field,” explained Brian Grinestaff, Ware parts manager. “The four bolt connection would leak causing increased maintenance, water usage and boiler flooding.”

The Mod V is an improved design. Using a V ported ball valve, the Mod V has great control and a bubble tight shut off to end leakage and cut down on waste. The parts are also readily available to shorten lead times. The new valve is more dependable and can hold up under the industrial use it is intended for in the boiler industry. It is designed for boiler feed water applications and is available in either 0 to 135 ohm or 4-20Ma Signal.

The new valve went from a standard linkage design to a newly designed precision machined linkage, that prevents slippage on the shaft. This change allows for lasting durability as well as increased repeatability and accuracy.

“We have been using it on our rental fleet and have seen a decrease in the maintenance and replacement of these valves,” said Grinestaff. “The Mod V is also available for all of our customers and we have recently been able to replace faulty valves in less than 2 days.”

For more information, contact The Valve Shop at Ware at 1-800-228-8861.

## Tired of repeatedly changing out leaking red line site glass?

Jerguson 15LR20 Heavy Duty sight glass is rated for 2000 psi for boilers operating up to 300 psi.

Ware is offering a special now through the end of June 2013 for the Jerguson brand 15LR20 Heavy Duty sight glass kits. Special price of \$1100.00 for complete kit.

The standard kit includes Gauge body, V146 valves and extra heavy fittings to pipe in to your existing McDonnell and Miller 150 or 194 low water cut off assembly.



Say goodbye to those troublesome red line sight glasses that break or leak.





4005 Produce Road  
Louisville, KY 40218



WARE IS A MEMBER OF  
**ABMA**  
American Boiler Manufacturers Association



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