

WARE

Powerful solutions.
Extraordinary results.

The GRIME

October and November
2013 Newsletter

Asbestos in the boiler room

Few things trigger such an immediate and alarming response as the presence of asbestos. Like radiation, most people know that they do not want to be around it, and if they come into contact with it they could possibly have serious medical complications in the future. Inhaling loose asbestos fibers is known to cause lung cancer, asbestosis, and mesothelioma, though in many cases it may take more than a decade before symptoms of illness become apparent. Every year, thousands of people are diagnosed with these diseases and can attribute them to exposure that occurred in an industrial commercial setting.

Unfortunately the boiler industry is one of these affected industries. In 2005 a survey found that of the 163,000 industrial and commercial boilers currently in use in North America, the majority of them were over 30 years old. This means that most of the boilers in use today were manufactured before or during the seventies, a time when public knowledge the dangers of asbestos first became widespread and OSHA regulations were in the early stages of being revised. Until the latter part of that decade, asbestos' strong insulating and fire-retardant properties caused it to be selected as a principal ingredient in lagging/insulation, gaskets, cements, tape, refractory lining, and millboard in many boiler rooms.

Luckily, asbestos fibers only pose a genuine threat when released into the air and inhaled, so by taking the proper precautions, existing materials that contain the substance can be managed to ensure employee safety. There are three steps necessary to limit exposure to asbestos fibers: identifying where it is located within your facility, monitoring the material's condition, and making sure that the material is not disturbed. First, identify which materials in your boiler room contain asbestos, and label them with warnings so that others will be aware of its presence. Next, make sure that you regularly inspect those materials to see if they have de-

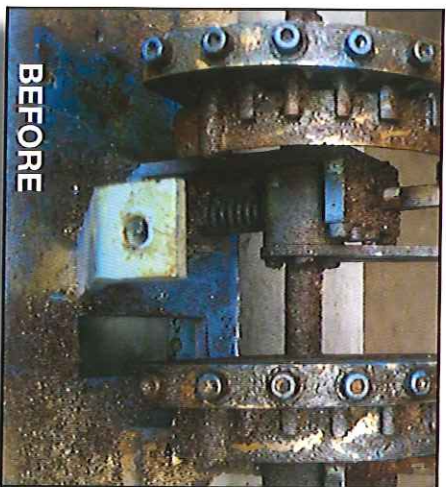
graded enough to cause concern or if they have been damaged. Finally, refrain from disturbing asbestos-containing materials; according to OSHA, 'disturbing' involves "any activity that crumbles, pulverizes, generates visible debris, or otherwise disrupts asbestos." Keep in mind that even bumping into some loose insulation can release those fibers into the air, so extra care should be taken when regular maintenance is being performed on or around your boiler. Poor lighting can make it difficult to see and cause a repairman to accidentally disturb the asbestos in gaskets or insulation, so providing a well-lit workspace can reduce that risk. If asbestos is left alone and prevented from getting loose in the air, it should not be an issue.

Eventually situations may arise in which it becomes necessary to interact with asbestos within your boiler room. With the proper training, protective gear, and safety procedures, asbestos can be effectively handled. Prior to handling it, OSHA requires that an area be isolated and contained to prevent asbestos contamination of the surrounding areas, so that means sealing off the boiler room—preferably with a negative pressure containment area. All workers should have proper respirators with HEPA filters that will protect them from the microscopic fibers, and it is advisable to wear a disposable suit for easier decontamination. When cleaning up and disposing of asbestos: wet down the material to make it harder for the fibers to come loose and go airborne, use only HEPA-filtered vacuum cleaners to pick up debris from the floor (do NOT sweep with a broom), use wet wipes afterward to clean up any areas where asbestos was present, and dispose of everything in proper asbestos trash bags that have been labeled correctly and are destined for approved landfills. After the work is complete, exposed employees should carefully discard their disposable suits in the asbestos trash bags, thoroughly clean their respirators, and shower as soon as possible to prevent the spread of any fibers that may be lingering on them.

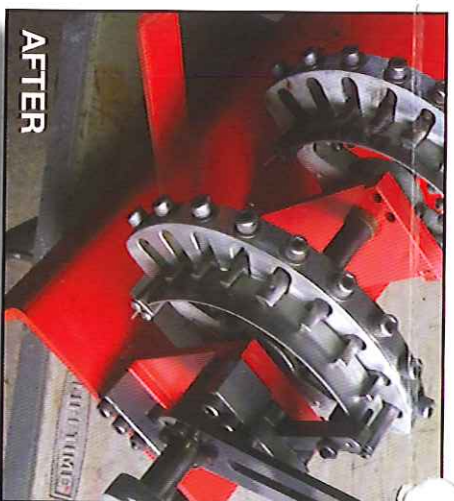


Clean Your Linkage!

Just like the engine in your car, boilers have need of a certain fuel-to-air ratio for proper combustion. Too little air results in incomplete combustion, but too much creates wastefully heated air that gets exhausted through the flue. Since changing factors such as ambient temperature, pressure, and humidity can cause variations in air quality, it is prudent to add an excess amount of air to account for these variations. To add the proper amount of air to mix with the fuel, controls are used to introduce air to the system at the burner. Of the boilers currently in use in the United States, many older models utilize a simple control called a mechanical jackshaft for their modulating burner control. These are also known as single-point controls due to their use of only one mechanical linkage assembly to control the flow of both air and fuel for the burner.



The whole point of utilizing these controls is to “tune” the boiler in order to achieve complete combustion. With that in mind, anything that prevents mechanical controls from operating to their full range limits the amount of air that can enter the burner, thereby jeopardizing the combustion and efficiency of the boiler. One of the most common mistakes made that impairs the controls is painting the linkage or failing to keep it clean; this leads to what is known as “sloppy linkage.” Paint or grime covering the linkage will prevent the controls from allowing fine adjustments, hindering an operator’s ability to regulate the air being added. During the inefficient operation that inevitably results, expensive fuel can be wasted, and the rated steam output of the boiler is harder to deliver.



There are also significant long-term consequences to sloppy linkage; for example, depending on how filthy or covered the linkage is, the valves can eventually stick or bind, which is going to require otherwise unnecessary maintenance to repair. If the valves are out of position and air is improperly mixed with fuel, excess soot may build up in the boiler and flue, which may necessitate a premature shutdown of the system for cleaning or repair. Ware’s own Gary Seltz notes that “one of the most common issues we see is bent linkage that people have accidentally kicked.” Care should be taken around the jackshaft, as not all equipment in a boiler room is as robust as the boiler itself. It is estimated that damaged linkage can be replaced in about four hours, so depending on when that changeover must be performed, it could mean more downtime and less steam generation for your company.

When a boiler is not being operated properly, you may be liable for any repairs due to negligence. By taking some simple steps to ensure that equipment is properly maintained, you can avoid costly and time-consuming repairs. It is recommended that the controls be checked at least twice per year (though quarterly would be ideal) to see if seasonal adjustment or tuning is needed. Make no mistake, linkage can be marked upon, but fully covering the assembly with paint or allowing it to get filthy only serves to create long-term problems that are easily avoidable. Maintaining efficiency with your boiler prolongs its life, avoids down-time for repairs, and reduces operation and maintenance costs. So remember: keep your linkage clean—it’s easy and will save time and money!



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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
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 (Low NOx)	G#2	Steam	150	UL/CSD1
3149	500	2011	Victory Energy (Low NOx)	G#2	Steam	250	IRI
SB139	500	2001	Cleaver Brooks	G#2	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	UL/CSD1
SB137	250	1994	Cleaver Brooks		Steam	150	
415	250	1980	Eclipse	#2 Oil	HT/HW	150	
719	250	1987	Superior	G#2	Steam	954	IRI
SB148	200	1995	Kewanee	Gas	Steam	150	IRI
SB146	200	1995	Kewanee	Gas	Steam	325	IRI
SB170	250XID	2012	York-ShIPLEY(Low NOx)	Gas	Steam	325	IRI
SB172	175XID	2012	York-ShIPLEY	G#2	Steam	150	UL/CSD1
SB183	175XID	2012	York-ShIPLEY	G#2	Steam	150	UL/CSD1
SB185	150	2013	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
SB178	100XID	2011	York ShIPLEY	G#2	Steam	150	UL/CSD1
SB177	100XID	2011	York ShIPLEY	G#2	Steam	150	UL/CSD1
SB188	70	2013	York ShIPLEY	G#2	Steam	150	UL/CSD1
SB186	50	2013	York ShIPLEY	G#2	Steam	150	UL/CSD1

Request a quote on-line at www.wareinc.com or call 800-228-8861

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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
SSB26	800XID	2013	York Shipley	(Low NOX) G/#2	Steam	250	UL/CSD-1

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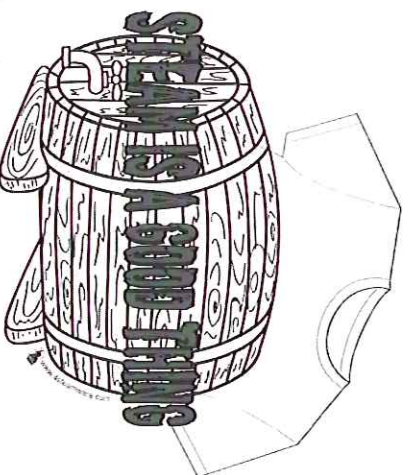
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2014 Classes available

- January 14-16 - Chattanooga, TN
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- May 6-8 - Jeffersonville, IN
- July 15-17 - Chattanooga, TN
- September 30-October 2 - Jeffersonville, IN
- November 11-13 - Chattanooga, TN



**BOILER MAKES STEAM - STEAM MAKES WHISKEY -
WHISKEY MAKES MY BABY A LITTLE BIT FRISKY**

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Great results for the Paper Mill industry

In the world of paper milling, manufacturing efficiency and precision is critical. The delicate process of forming, pressing, and drying paper leaves little room for product defects, and the enormous volume of required finished goods makes it crucial for all machinery to be up and running for as long as possible without incident. By implementing a HelioJET system, mills can ensure that thorough maintenance is constantly performed, which results in immediate reduction of flawed goods and longer periods of up-time.

One of the primary ways that HelioJET helps in the paper manufacturing process is by using fan sprayers on the felts used to press pulp into sheets of paper and also on large conveyor belts that feed the wet paper to the dryers. These sprayers utilize a mixed hot water & chemical solution to clean the press felts and conveyers so that no material buildup can cause wrinkles or holes to form in the wet sheets that are being produced; this leads to fewer breaks in the paper due to less pick-outs or rejections attributed to those flaws. Angling the water jets, the sprayers can be sure to



clean the machinery without negatively impacting the consistency of the paper with excess water. The results are less wasted product and decreased down-time from having to stop the production process and clean the equipment when quality problems arise.

The other major application of HelioJET systems in the paper industry is assisting with a "paper machine boil-out." Simply put, this is a regular maintenance procedure to remove any build-up or deposits of pitch, fibers, biological byproducts, etc. that have accumulated during the course of regular operation; this process is normally completed while the mill is in a shutdown period. Rather than spending time filling large tanks full of water, heating them, and applying a cleaning agent to the machines, HelioJET combines these steps and offers them instantly and on-demand at high pressure. The chemical formulas used in HelioJET's systems are particularly effective at breaking down those deposits of latex, pitch, and fibers that have accumulated, so less time needs to be allocated for the "boil-out." Reducing this maintenance and shut-down time will increase the amount of value-added production time that a mill has available.

Aside from paper mills, there are many other industries that could benefit from a HelioJET system in their facilities:

- **Automotive** –cleaning vehicles or workstations with chemicals that will get the job done faster and with better-looking results
- **Aviation** –cleaning planes off for both practical and aesthetic purposes
- **Food & Beverage Processing** –HelioJET has FDA-approved chemicals that can be used for wash-down applications that would also utilize the high temperatures to kill bacteria and keep machinery clean, much like the paper industry
- **General Industrial Facilities** –general cleaning stations for most industrial customers with steam access would be more effective than current cleaning methods
- **Hospitals** –these are large consumers of steam already, but they could easily use HelioJET to more efficiently sterilize medical carts and tools.
- **Military** –efficient cleaning of armored vehicles, aircraft, or general facility cleaning stations
- **Pharmaceuticals** –(see Food & Beverage Processing above)
- **Tanks/Tanker Trucks** –HelioJET offers an apparatus that can be used to direct the HelioPAC cleaning system into a tanker truck to clean it out. This would be very useful at chemical, petroleum, liquor, or dairy plants where tankers must be cleaned prior to loading a new or different product that needs to be delivered

For more information how HelioJET can help your industry call WARE, 800-228-8861



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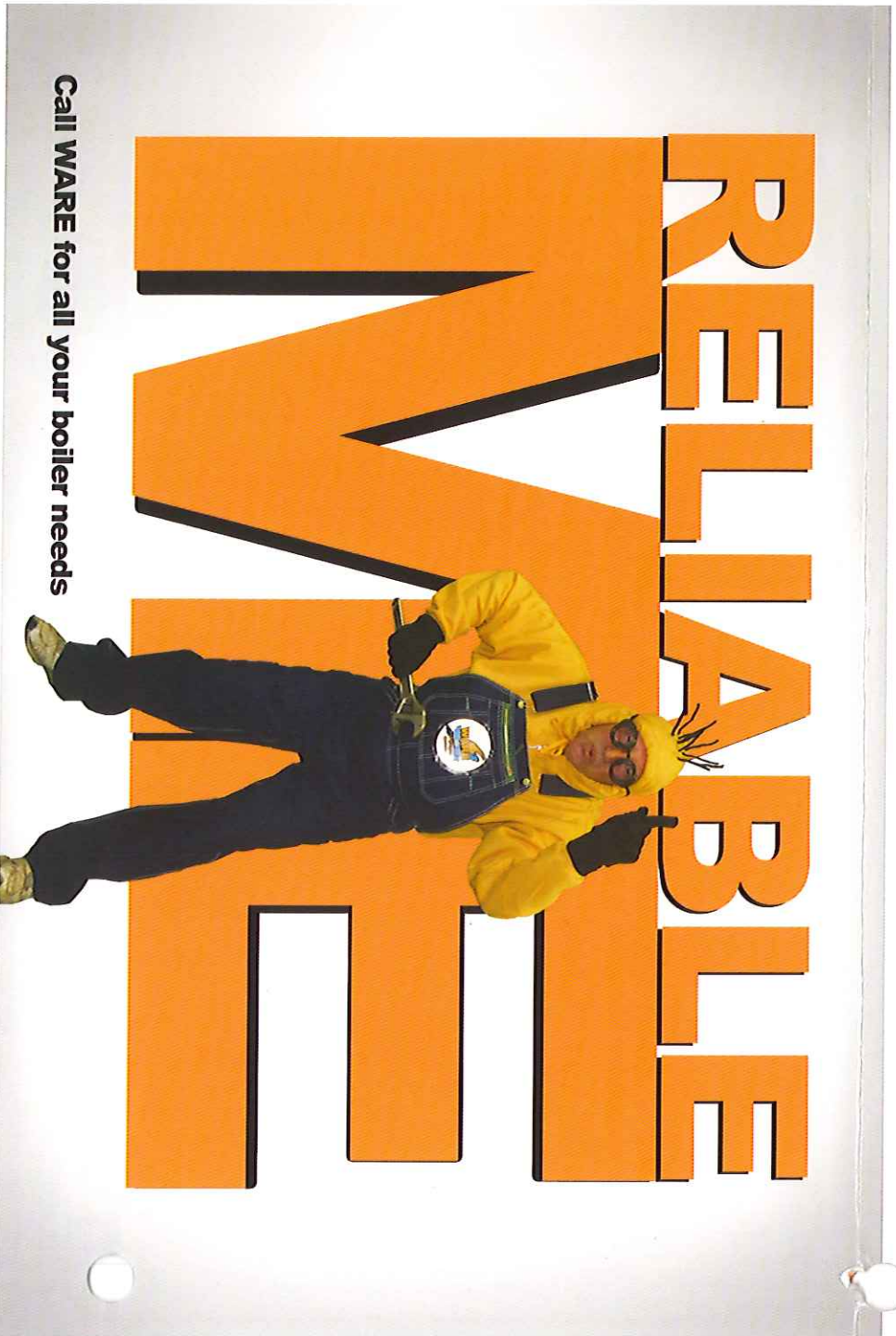
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