

King of Prussia, PA Office  
Phone: 610-275-3599

Washington, PA Office  
Phone: 724-743-0410

Lebanon, PA Office  
Phone: 717-274-3727



# Boiler Tech Update

FEBRUARY 1, 2005

## Cleaver-Brooks History

### Points of interest:

- 1954 Air atomizing Burner
- 1966 CB Deaerator
- 1966 CB commercial W.T.
- 1966 Industrial W.T.
- 1992 FLX Introduced
- 1993 Low NOx burner
- 1993 CBL Introduced
- 1998 CB Buys Nebraska
- 2001 CB Buys NatCom
- 2002 Level-Master
- 2003 Profire NT Burner
- 2003 ClearFire Introduced
- 2004 Hawk ICS

### Inside this Issue:

50th Anniversary	1
Anniversary cont'd	2
Ready to Fire Oil	2
Fire Oil cont'd	3

### NEW

### CLEAVER-BROOKS WEBSITE:

[www.cleaver-brooks.com](http://www.cleaver-brooks.com)

Check it for the news about the Boiler Bucks II contest to be announced soon!

**Don't forget to  
schedule your  
annual cleaning!**

## DELVAL EQUIPMENT CORPORATION CELEBRATES IT'S FIFTIETH ANNIVERSARY!

Delval Equipment Corporation was formed in 1955 by Bruce Mayer and Neal J. Smith Sr., to sell Cleaver-Brooks firetube boilers, replacement parts and



boiler service. Their territory was the Delaware Valley and eastern Pennsylvania.

In those days, the **packaged boiler** was the latest technology. Until then, the contractor bought a pressure vessel, burner and controls, which were field-assembled. Cleaver-Brooks and Delval Equipment were successful in promoting the packaged concept, capturing over

fifty percent of the market. Their four-pass firetube boiler with an integral burner made specifically for that boiler produced guaranteed thermal efficiencies ten to twenty percent higher than the older field-erected designs!

Air-atomizing burners were replacing the rotary cup oil burners because they burned the oil more completely, with better turndown ratios, and **no smoke!**

Boiler owners quickly realized the benefits of having a packaged boiler with an integral burner specifically designed for that boiler, and sales began to grow. By 1970, Delval Equipment was one of the top five Cleaver-Brooks representatives in North

America! The Company added an office in Lebanon, PA in 1970 to service central PA, and an office in Washington, PA in 1990 to service western PA, northern West Virginia, and portions of Ohio.

Today we have sixty employees, twenty-five of which are factory-trained Service Technicians and certified welders. Our product lines now include Cleaver-Brooks, Nebraska/ERI boilers, Raypak boilers, Van-Packer stacks, Grundfos pumps and Autoflame burner management systems, to name a few. We rent boilers, and sell reconditioned boilers. We are always one of the top three rep companies in C-B sales.

Boiler designs improve and multiply as technology evolves.

Today the only field-erected boilers are cast

### 50TH ANNIVERSARY (continued)

iron units going into existing basement boiler rooms. New technology has produced commercial watertube boilers, copper finned tube boilers, and low mass modular boilers. Delval Equipment Corp can provide you with boilers of these types, and engineering/sizing assistance. We also provide boiler room accessories, i.e., deaerators, feedwater systems, economizers, stack and breeching systems, to name a few.

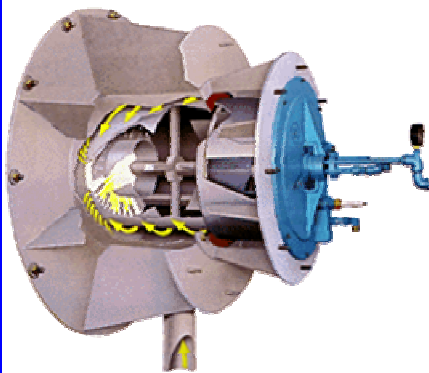
Our staff also includes a group of experienced, dedicated controls specialists to assist boiler owners with variable frequency motor drives, oxygen trim systems, water level controllers, SCADA systems, and NOx-compliant burner equipment to meet today's emission requirements. Our mission is to provide our clients with support and solutions in an expedient manner.



**Three 1955 - 500 hp Cleaver-Brooks Boilers**

Where will the next fifty years take us? Fuel cells? Photovoltaics? Hydrogen-fuelled combustors replacing depleting oil reserves? Who knows? Technology is moving at warp speed compared to 1955. Hang on. It will be a wild and exiting experience for everyone in the business!

## IS YOUR BOILER READY TO FIRE OIL THIS SEASON WHEN THE GAS COMPANY CALLS?



Don't ignore your backup fuel system. Be prepared ahead of time! The key to efficient boiler operation is ongoing, regular maintenance. All too often internal maintenance

is confined to crisis situations. Maintenance professionals all know the basic maxim - anything that moves eventually requires repair. The key to an efficient operation is attention to ongoing, regular maintenance. Preventive maintenance helps avert equipment problems and reduces the possibility of production downtime.

Ideally, even if your primary fuel is gas, you should fire your boiler with oil one day each month in the early

fall to ensure that the oil system is functioning properly. Any maintenance required to the fuel oil delivery system (pumps, strainers, pressure adjustments, valves, etc.) should be addressed before the actual fuel changeover needs to take place.

Firing a boiler on oil brings a multitude of maintenance issues into the overall operation of the burner that need to be addressed beforehand. Oil pressure and temperature directly affect the ability of oil to

## IS YOUR BOILER READY TO FIRE OIL THIS SEASON WHEN THE GAS COMPANY CALLS? (cont'd.)

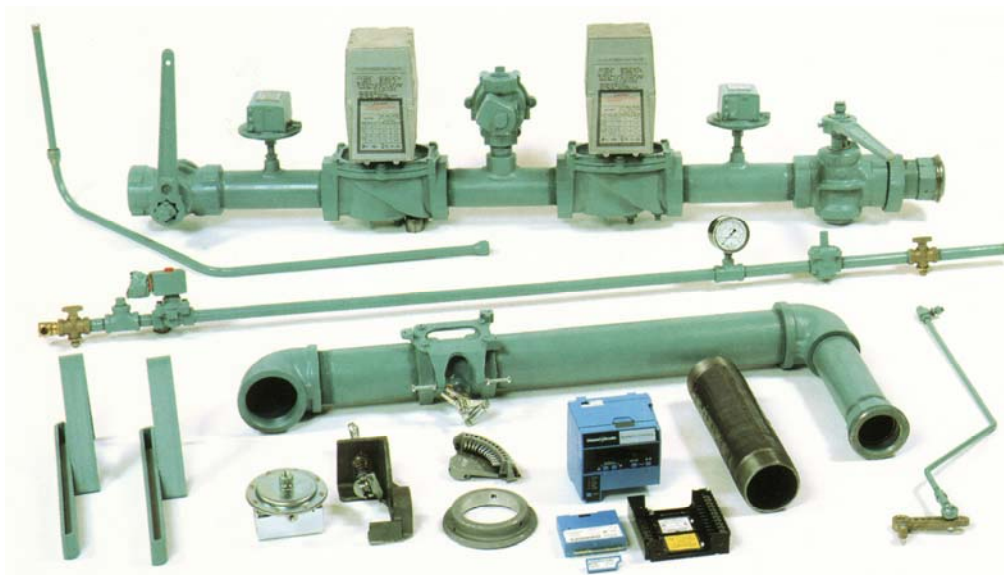
properly atomize and burn completely and efficiently. Changes promote flame failure, fuel-rich combustion, sooting, oil buildup in the furnace, and visible stack emissions. Causes include a dirty strainer, worn pump, faulty relief valve, or movement in linkage or pressure-regulating valve setpoint. Oil temperature changes typically are caused by a dirty heat exchanger or a misadjusted or defective temperature control.

**Atomizing media pressure:** When oil is burned, an atomizing medium, either air or steam, is needed for proper, efficient combustion. Changes in atomizing media pressure cause sooting, oil buildup in the furnace, or flame failure. Changes result from a regulator or air compressor problem or a dirty oil nozzle.

Fuel and air linkage. Changes in fuel and air linkage affect the combustion fuel-to-air ratio. Flame failure or a hazardous fuel rich condition may result. Proper linkage settings can be physically marked or pinned together. Linkage should be checked for positioning, tightness, and binding. Any noticeable changes should be remedied immediately.

OEM spare parts should be stocked to help minimize downtime. Your Aftermarket Technical Specialist can provide you with a complete list of recommended parts to keep on hand.

Be prepared for the heating season. Those who avoid planning for the winter months could face downtime and unnecessary expenses. Call ahead now and make an appointment with Delval before the gas company calls you!



**Always use genuine Cleaver-Brooks replacement parts to protect your investment and equipment warranty!**