



## Two Locations:

- Industry
- San Diego

## Sister Companies:

- Sacramento
- Las Vegas
- Phoenix

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## Lochinvar Continues to Expand its Product Line with CREST Fire Tube Boiler

**LOCHINVAR**® has taken the fire-tube concept in an innovative new direction with the **CREST**® modulating-condensing boiler introduced at this year's AHR Expo. With sizes that range from 1.5 to 3.5 million Btu/hr, you finally have the opportunity to utilize Lochinvar leading-edge technology in your largest applications. With thermal efficiencies up to 99% in low water temperature applications, the **CREST** is positioned to provide exceptional energy-saving performance.

The advanced **CREST** introduces a combustion system with a unique burner design with up to 25:1 turndown. The burner fires into an array of 316L stainless steel fire-tubes that transfer the heat to the surrounding water with exceptionally high efficiency.

**CREST** communicates seamlessly and in real time with building management systems by utilizing an on-board MODBUS protocol. The **SMART TOUCH**™ control has a built-in cascading component that communicates with up to eight units, providing total command without an external control or complex and expensive control logic programming by the BMS integrator. Yes, innovative fire-tube boiler technology integrated with our **SMART TOUCH**™ operating control makes the **CREST** a genuine game-changer among commercial boilers.

### Advanced Negative Regulation Technology

**CREST** safely and reliably operates with supply gas pressure as low as 4 inches water column. Because Negative Regulation (Neg/Reg) technology draws fuel gas into a pre-mix combustion system instead of relying on utility pressure through the gas valve, operation is steady in low gas pressure systems or when peak demands occur on supply lines. Plus, **Neg/Reg** automatic fan speed control

fine-tunes the correct fuel/air ratio entering the burner, providing even, consistent combustion for a cleaner burning flame achieving high combustion efficiency.

### Fully Modulating up to 25:1 Turndown

25:1 turndown means the burner can fire at a rate as low as 4% of its maximum input. For example, a 2 million Btu/hr **CREST** unit can modulate from 80,000 up to 2,000,000 Btu/hr depending on demand. High turndown greatly reduces "short cycling" when demand is low. All boiler systems are designed to provide enough heat to maintain a facility's heat loss on the coldest days. When the system is zoned, the **CREST**'s high turndown works to match the actual system demand and, in return, reduces the customer's fuel bill and provides better comfort by load matching the heat loss of the system. Greater seasonal efficiencies will be realized due to the extremely large turndown offered by **CREST**.

### As Low As 20 GPM\* to Full 350 GPM Flow Rates

**CREST** allows system designers tremendous flexibility to vary the flow rate through the boiler. It can service systems that operate with widely fluctuating flow rates depending on demand. **CREST** can be installed with primary/secondary piping or in a full-flow arrangement. Typical design techniques include full-flow systems or



variable flow systems using variable frequency drives on the heating water pumps. In either case, **CREST** excels in these applications and allows the flow through the boiler to vary based on system demand. \* 20 GPM min. flow on FB1500 model, 50 GPM on FB3500 model.

### The CREST Combustion System

**CREST**'s top-mounted, single micro metal fiber burner is actually "two combustion systems in one," each with its own blower/gas valve assembly to power the combustion process from air/gas intake to driving heat energy down and through the fire-tubes to exhaust venting through the bottom of the unit.

*Continued on Page 4*

**MECHANICAL**

**New Taco 1900 VFD Pump Features Optional Aegis™ Shaft Grounding Rings**



TACO's new 1900 VFD close-coupled, in-line pumps with integrated variable frequency drives are designed to greatly increase energy efficiency and building comfort.

Taco 1900 VFD pumps gently ramp-up and ramp-down operation to match system flow to actual heating and cooling demands, enhancing overall system efficiency. Typically, the payback period for installing VFD pumps in place of single-speed pumps is less than 12 months.

Taco's new 1900 VFD pumps, with single-phase or three-phase motors, are available in five basic

models ranging in size from 1-1/2" x 1-1/2" to 2" x 2" with a flow range of 10 to 250 GPM, and head capability to 160 feet. Rear, pull-out design allows servicing of the pump without disturbing the piping.

Exclusively from Taco: The new 1900 VFD pumps may be optionally-equipped with Aegis™ shaft grounding rings to prevent electrical bearing fluting damage, an important feature not available from other pump manufacturers. The factory-installed rings safely divert harmful shaft voltages and bearing currents to ground with a "path of least resistance" to dramatically extend motor life.

Features of the Taco 1900 VFD pumps include:

- Can be installed anywhere in the piping layout.
- Self-supported by system piping; require no additional strapping or external support.
- Can be mounted horizontally or vertically.
- Permanently-sealed motor design with grease-lubricated ball bearings makes the 1900 virtually maintenance free.
- Ceramic seals standard to meet a wide range of application requirements.



**Emerson Expands Affinity Line with Drives Up to 500HP & Intelligent Pumping**

Announced at the AHR Show... **EMERSON's** most popular Variable Frequency Drive, the Affinity, is now available with horse powers up to 500. The Affinity is the energy saving AC drive specifically designed for HVAC building automation systems. It delivers reliability, ease of use and customer satisfaction.

Also announced was the new Variable Speed Multi-Pump Software. Emerson is now offering

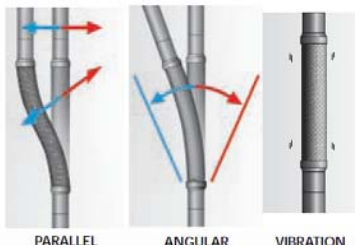
Intelligent Pumping / Packaging Solutions using the Affinity HVAC drive with plug in application module for:

- PID control
- up to 6 pumps controlled
- Cascade control, as many drives as required running to meet demand.
- Any drive can be the lead drive or taken out of service offering inherent redundancy.

- Automatic transfer to the next pump in the event of pump failure, motor failure or drive trip.
- Automatic reconnection to the network when failure or trip is corrected.
- Provide maximum uptime.

Call us today for more information or pricing at (626) 333-9942.

**Protect Your Fuel-fired Equipment with Flex-Hose Fuel Flex**



**FLEX-HOSE Co.'s** UltraFuel Flex UL536 Listed connectors are approved for flammable and combustible gases and liquids. Common applications include gas connections on boilers, water heaters, and unit heaters and fuel connections on emergency generators and gas turbine engine installations.

They are used to prevent damage to critical gas/fuel fired equipment caused by piping stress where rigidly supported pipes connect to equipment. They are available in

flanged, welded and threaded connections from 1" - 4" I.D.

UltraFuel Flex are easily installed, reduce the possibility of equipment connection failure and are manufactured with 321 (ASTM A240) grade stainless steel closed pitch metal flexible hose, making it an extraordinarily flexible connection.

One of the rigorous requirements of UL536 testing is flexure cycle testing. The UltraFuel Flex was flexure tested for 20,000 cycles

while maintaining a working pressure of 175 psig. Upon successful completion of 20,000 cycles, UltraFuel Flex was pressurized to 875 psig (5:1 safety factor) and maintained pressure integrity... Passing the test!

FLEX-HOSE UltraFuel Flex connectors are capable of handling the following movements:

- Parallel Offset
- Angular Offset
- Motion Frequency

PLUMBING

### Introducing Jay R. Smith' RIS Radio Frequency System

Elmco/Duddy was chosen by **JAY R. SMITH** to be the first of 45 representatives in the nation to use their in-house designed Representative Information System, called RIS.

Jay R. Smith has been using the RIS system for more than 10 years and just recently added the Total Radio Frequency (RF) capability.

The new system allows our staff to be on Jay R. Smith's system in Montgomery, Alabama while using RF guns and bar coding in our City of Industry warehouse to offer real-time order entry and stock replenishment based on same day sales.

After months of preparation, integration, testing and training, we went "live" with the new RIS/RF system on January 1st.

Since then, we've experienced a few bumps along the way. On the brighter side, we are now seeing great benefits to our customers including instant credit approvals, reduced will call times, and immediate invoicing.

Another added benefit is the "Order Needed" Option. When given an specific date, we can input that into our new system and the order will automatically "drop" to our order puller's gun the day before so it can be pulled

ahead of time and made ready for will call.

Please note that our paperwork changed a bit since we transitioned to RIS. If you'd like a sales person to visit to review the new system, its paperwork and benefits, just give us a call.

The RIS/RF system is just another way we are constantly striving to offer the best possible service to our customers.



Radio-Frequency Gun, Bar Code Label and Jay R. Smith Product



### Acorn Engineering Now Offers Bradley Drain Adapter Option

Does your school have a Bradley Column Shower installed? Now it's easy to replace it with an **ACORN** Classic or Capital shower by using the Bradley Drain Adapter, option – BDA.

The drawing shown to the far right details how the flange attaches to the Bradley drain and how our



Acorn column attaches to it. The flange comes with pre-drilled mounting holes for attachment directly to the Bradley drain. It also has pre-drilled holes for mounting our column shower.

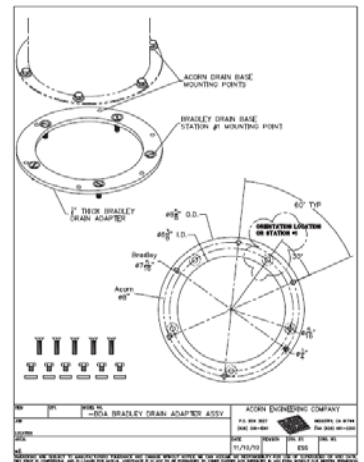
All the necessary screws and washers are included to complete the



installation.

Acorn's Classic and Capital column showers are available from two to six station models and are made of heavy gage, type 304 stainless steel with satin finish. They are completely pre-piped to the valve, shower head, have optional soap system and are hydrostatically tested to 150 PSI.

Call us today for more information or pricing at (626) 333-9942.



### New Portable Gravity-Fed Eyewash Station from Acorn Safety

**ACORN SAFETY's** new portable eyewash station is ideal for low-traffic or remote areas where a person's eyes may be exposed to injurious or corrosive materials and there is no immediately available supply of potable water.

The eyewash station does not require plumbing and can be wall mounted or may be placed on a countertop or other suitable flat surface. Locations such as gasoline stations, mechanical repair shops, and janitorial supply areas all benefit from an economical and

convenient portable eyewash station. It features:

- Highly visible yellow, UV protected, polyethylene tank with no moving parts.
- Eyewash heads provide a minimum of 0.4 gpm flow rate for 15 minutes and include a yellow eyewash pull strap for ease of activation.
- Pull strap caps form an airtight seal that prevents dust and debris from collecting on the eyewash heads.

- Heavy-duty stainless steel wall bracket for wall mounting make removal and remounting easy.
- Integral handles on the top and sides, wide fill opening with threaded cap, highly visible identification/operation label and inspection maintenance tag.
- One container of concentrated water preservative with each eyewash station to increase the storage life of the water solution for up to six months.



Model S0P50



The Crest ... Continued from Page 1



In a 2 Million BTU/Hr CREST Boiler the upper portion of the burner fires first and, with 5:1 turndown, modulates from 80,000 to 400,000 Btu/hr. When demand exceeds 400,000 Btu/hr., the lower portion of the burner fires and modulates from 320,000 to 1,600,000 Btu/hr. With the entire burner firing at capacity, the total input is 400,000 + 1,600,000 = 2,000,000 Btu/hr. The CREST's patent-pending dual-system design is truly an industry first!

The CREST Heat Exchanger

Heat energy and combustion products flow downward into fire-tubes from the burner. Energy from inside fire-tubes heats water flowing through the heating vessel. As water is heated, it flows up through the heating vessel and out into the system. Cold water returning from the system enters the heating vessel to maximize efficiency. Condensate is drained into a stainless steel collector, to be piped to a suitable floor drain. The flue outlet is located at the bottom of the unit.

Built-in Cascading Sequencer

This built-in feature sequences up to an 8-boiler system using simple 2-wire daisy-chain connection, eliminating cost and uncertainty of separate "third party" sequencer. On demand, one boiler functions as the leader and modulates to capacity. Increasing load then "cascades" to additional "lag" boilers in sequence as needed. Lead-lag rotation shifts "first on" boiler role every 24 hours, distributing equal lead-lag runtimes to each unit.

CREST's ability to sequence up to eight units that each have as much as 25:1 turndown means that the combined system has the potential of operating with modulation of up to 200:1 turndown. A bank of eight 2.0M Btu CRESTs would be able to provide as little as 80,000 Btu/hr and as much as 16,000,000 Btu/hr of heating output. In addition, the CREST Cascade can be set for "Efficiency Optimization" with each boiler firing at the same low BTU/hr input rates to receive the benefits of the highest thermal efficiency.

To request sizing assistance or project pricing, please do not hesitate to contact us at (626) 333-9942.



California Building Standards Code Reminder

We want to remind you that the new 2010 California Building Standards Code (CBSC) became effective January 1, 2011.

The California Building Standards Code is maintained by the California Building Standards Commission (www.bsc.ca.gov) and contains the codes and laws that regulate the construction of all buildings and structures in the State of California. The CBSC is Title 24 of the California Code of Regulations (CCR) and consists of eleven parts: Six (6) parts are authored by the State of California and five (5) parts are based on model codes that are authored by various model code writing bodies.

The new 2010 California Building Standards Code includes:

- Part 2, 2010 California Building Code (CBC) which is based on the 2009 International Building Code (IBC) published by the International Code Council (ICC).
• Part 2.5 2010 California Residential Code (CRC) which is based on the 2009 International Residential Code (IRC) published by the International Code Council (ICC).
• Part 3, 2010 California Electrical Code (CEC), which is based on the 2008 National Electrical Code (NEC) published by the National Fire Protection Association (NFPA).
• Part 4, 2010 California Mechanical Code (CMC) which is based on the 2009 Uniform Mechanical Code (UMC) published by the International Association of Plumbing and Mechanical Officials (IAPMO).
• Part 5, 2010 California Plumbing Code (CPC), which is based on the 2009 Uniform Plumbing Code (UPC) published by the International Association of Plumbing and Mechanical Officials (IAPMO).
• Part 6, 2010 California Energy Code (CEC), which is written by the California Energy Commission (CEC), and published by the California Building Standards Commission.
• Part 9, 2010 California Fire Code (CFC), which is based on the 2009 International Fire Code (IFC) published by the International Code Council (ICC).
• Part 11, 2010 California Green Building Standards Code (CALGreen) published by the California Building Standards Commission (CBSC).
• In compliance with State law, the California Building Standards Code is revised and updated every three years.
• In Wake of New Standards, CSLB Clarifies Fire Protection Contractor Requirements

Event Schedule
3/5/11
The Flow Expo, PHCC Long Beach Convention Center
3/25/11
Lochinvar Service School City of Industry
4/7/11
Acorn Master-Trol Training San Diego
5/17-18/11
Emerson Affinity Certification School City of Industry

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