

A TMB Publication

Phc News

plumbing & hydronic contractor news

**What's ahead
for 2009?**

*Industry experts
discuss where
the industry stands
now and what
they foresee during
the coming year*

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**Geisel Heating & Air
Conditioning: A plan
for success**

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SYSTEMS –
SOLAR**

A solar retrospectivePage 32

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FORECAST**

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**BOILERS &
WATER
HEATERS**

Walk the AHR Expo floor! . .Pgs. 64-69



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On the Cover

Technicians for Geisel Heating & Air Conditioning install a Laars Pennant boiler and storage tanks in a country club. Geisel takes an intelligent approach to all aspects of its business, and after 73 years of training quality people and installing quality products, remains a force in the Ohio market. Story begins on page 48

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Based in Joliet, Ill., Rovanco Piping Systems has been manufacturing quality insulated piping systems since 1969, when two contractor partners figured they could make a product as good as anyone else's and deliver it in a much timelier fashion — Pg. 74



Phc News

plumbing & hydronic contractor news

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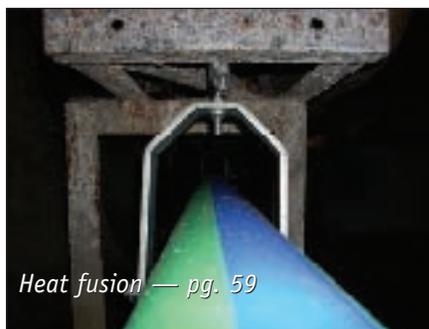
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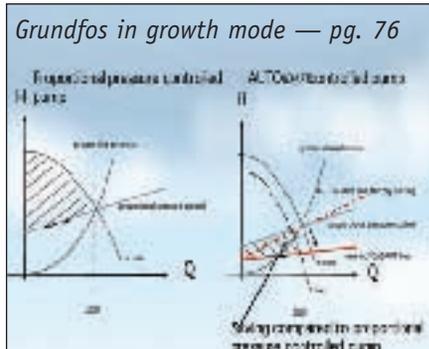
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PHCC joins Water Efficiency Research Coalition

FALLS CHURCH, VA. — At a ceremony at the U.S. Environmental Protection Agency, the Plumbing-Heating-Cooling Contractors — National



Mary Ann Dickinson, executive director for the Alliance for Water Efficiency and Ike Casey, executive vice president, PHCC, sign an agreement that saw the PHCC become part of the Water Efficiency Research Coalition.

Association (PHCC) signed an agreement to be part of a new Water Efficiency Research Coalition.

The coalition will support research

projects that will aid or assist in the development of more water efficient and sustainable plumbing products, systems and practices. Sample potential research topics include: drainline carry research on high-efficiency toilets; water re-use systems and safe applications for re-use water; non-water consuming urinals; and sizing of water-efficient plumbing systems. The coalition will seek government grants and private party financing to fund the research projects.

“The plumbers are on the firing line when new technologies come to market,” PHCC’s Green Construction and Water Conservation Task Force Chairman Kevin Tindall, Tindall and Ranson Plumbing & Heating, Princeton, N.J., said at the signing ceremony.

PHCC forms partnership with GreenPlumbers USA

The Plumbing-Heating-Cooling Contractors — National Association and GreenPlumbers® USA have formed a partnership to train and cer-

tify plumbers across the nation on the environmental impact and technical aspects of water and energy efficient technologies.

Working with interested state and local groups that are part of its national chapter network, PHCC will schedule and promote the programs to members, non-member contractors and potential sponsors. This will help expand awareness about the already successful training program to the industry and general public.

GreenPlumbers training currently consists of a five-course, 32-hour, accreditation in Climate Care, Caring For Our Water, Solar Hot Water, Water Efficient Technology and Inspection Report Service. Five elective workshops will be introduced in 2009 — Natural Wastewater Treatment, Commercial Hot Water Systems, Principles in Pumps, Urban Irrigation Systems and Cooling Tower Efficiency — to expand knowledge gained in the core program.

For more info, www.phccweb.org.

Grundfos holds grand opening at Allentown facility

ALLENTOWN, PA. — Grundfos Pumps Corp. recently held a grand opening of its substantially enlarged training and fabrication facility in Allentown.

The plant was expanded by 64,000 sq. ft. to a total of 104,000 sq. ft. in size at a cost of \$4.5 million. Growth of the facility permits Grundfos to expand local assembly operations of commercial and industrial product, service and distribution through Eastern U.S. and Canada. The company also has increased training activities there for partners on the East coast.

During the day, manufacturer rep, OEM partner, commercial engineering, contractor and wholesale distributor visitors learned about the expansion and how it now enables

Grundfos to improve its outreach among customers in the Northeast.



They received facility tours, saw assembly and test facility operations, and also spent time at multiple product stations within Grundfos’ impressive new Mobile Education Center (MEC), a mobile product laboratory with a wide vari-

ety of working pump displays. The “trade show on wheels” occupies an entire 18-wheel truck with bold graphics outside and, inside, a classroom for hands-on training and a complete movie theater for 40 or more visitors.

BrassCraft offers online access to plumbing product info

NOVI, MICH. — It’s easy to recognize the innovation in BrassCraft’s renovated website, www.brasscraft.com. Structured to reflect the company’s new product strategies, the redesign utilizes rich visuals to reveal breadth of selection, and to effortlessly guide plumbing contractors and wholesalers through the site. More comprehensive information is coupled with uncomplicated navigation. That makes getting very specific, very easy — and very quick. Two clicks gets to all there is to know.

Sea Tech revamps website

WILMINGTON, N.C. — Sea Tech released its new revamped website www.seatechinc.com. The site’s visual navigation and search capabilities were completely overhauled to make finding products easier and quicker. The new detailed product pages include photos, descriptions and literature links. The new Sea Tech website provides downloaded literature including specification sheets, installation instructions and sales brochures.

Sea Tech, Inc., is a division of Watts Water Technologies.

Taco makes acquisition

CRANSTON, R.I. — Taco, Inc. has announced that it has acquired the assets of Innovex Technologies, a Lewiston, ME-based manufacturer of Intelligent Building Systems products (IBS), that include stand alone control devices and accessories that offer a complete control solution for both residential and commercial buildings.

Announcement of the acquisition was made by Taco President and CEO, John Hazen White, Jr.

White said, “The addition of the Innovex Technologies product line is consistent with Taco’s strategy to expand its electronics product offering and our continued focus on sys-

tem selling. This is another way in which Taco will create value for our customers, further diversify the Taco product line and continue to move away from the industry’s tendency of simply selling cast iron by the pound.

“This acquisition will provide Taco with a technology platform that will incorporate our existing line of pumps, hydronic controls and electronic control products along with our unique LoadMatch single pipe heating and cooling system into a networked controls solution that provides comfort in an energy efficient and environmentally friendly manner. This is a huge opportunity for Taco, its employees and the industry as a whole,” added Mr. White.

In brief

American Water Heaters eligible for tax credit

ASHLAND CITY, TENN. — The primary focus of 2009 is on two things — the economy and the environment. American Water Heaters is proud to announce they can help with both of these concerns in 2009 by offering several models of high efficiency water heaters that will allow the consumer to receive a \$300 tax credit.

NATE Bowl champion announced

ARLINGTON, VA. — North American Technician Excellence (NATE) —



www.natex.org — announced the NATE Bowl grand-prize winner of a trip for two to Super Bowl XLIII in Tampa, Fla. is BW Service Experts, Mishawaka, Ind.

The NATE Bowl competition, which kicked off in February, was a fun and rewarding way to build interest in getting more technicians certified and recertified in 2008.

A.O. Smith rep opens energy efficiency showroom

ASHLAND CITY, TENN. — Wales-Darby, Inc., one of A. O. Smith’s leading representatives in the Metro New York/Long Island/New Jersey area, recently opened an energy-efficiency showroom at their Islandia, N.Y., location. Designed as a multipurpose facility, the Wales-Darby Energy Room provides a setting dedicated to the display of functional HVAC/plumbing products and systems that present real, energy-efficient and eco-conscious alternatives to standard efficiency options.

Sears Holdings offers online marketplace

Launching this spring, ServiceLive.com, from Sears Holdings, is a new online marketplace for one-stop hassle-free home improvements and repairs.

ServiceLive.com offers plumbers throughout the country a simple and effective way to stay busier and fill in open time in their schedules without spending money on marketing. The service connects customers online with various home projects — including plumbing services — with local providers who can complete the job.

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NIBCO unveils DURA-PEX manifold

ELKHART, IND. — NIBCO Inc. unveils its patent pending DURA-PEX Home-Run manifold which is now available from 6 ports through 40 ports. Molded from high density polyethylene then cross-linked into PEX for high strength and heat resistance properties, the Home-Run manifold is ideal for residential and commercial applications.

For more info, www.nibco.com.



Gerber achieves WaterSense certification

WOODRIDGE, ILL. — Gerber Plumbing Fixtures' new high-efficiency decorative bathroom faucets have achieved certification by the U.S. Environmental Protection Agency's (EPA) WaterSense Program. Offering water at 1.5 gpm (gallons per minute) as compared to the industry standard 2.2 gpm, Gerber's latest faucets help homeowners significantly reduce water use and save money on water and energy bills.

"If every American home installed a WaterSense labeled bathroom sink faucet or faucet accessories, we could save more than \$350 million in water utility bills, more than \$600 million in energy costs (for heating water), and more than 60 billion gallons of water per year," said Kevin McJoynt, direc-

tor of marketing for Gerber. "What's more, Gerber's bathroom faucets provide homeowners with both high style and superior performance in the bathroom. No loss of water pressure is evident with our low flow faucets"

According to the EPA, WaterSense labeled products are about 20 percent more water efficient and perform better than their less efficient counterparts in the same category.



General Pipe Cleaners offers limited-time rebate

McKEES ROCKS, PA. — General Pipe Cleaners makes it easier for plumbing and drain cleaning pros to get the Power-Vee™ hand-held drain cleaner with automatic feed.

For a limited time, you can get a \$20 rebate. After you get your best deal on a Power-Vee from your favorite General distributor, just send the original rebate ad (see page 31) with your sales receipt and warranty card to General. General will send you \$20! The Power-Vee must be purchased between January 1, 2009 and March 31, 2009. Offer expires March 31, 2009.

The Power-Vee with automatic feed is like having an extra hand in tight spots! General's Power Cable Feed power drain cleaner easily unclogs drains from 1 1/4" to 3" in diameter in sinks, tubs, and laundry drains.

Just squeeze the feed lever, and the cable spins itself into the line. Retracting the cable is just as easy.



General's automatic feed propels tough Flexicore® cable at up to 16 feet per minute. And it handles 1/4", 5/16" and 3/8" cables — with no adjustment or additional parts required. Quick-change cartridges make cable changing clean and easy.

For more info, www.drainbrain.com.

Taco announces 2009 factory training schedule

CRANSTON, R.I. — Taco has announced its 2009 Factory Training Schedule of advanced hydronics training sessions to be held at its Cranston facility. Three advanced courses for hydronics installers and designers will be offered next year. Each class runs for two consecutive days. To participate attendees must be registered Taco FloPro

Team members.

- The Compleat Boiler Room (CBR) — This course, focusing on the latest in controls and products, will discuss sizing and near-boiler piping along with proper sizing/application of circulators and zone valves and zoning strategies. Extensive hands-on opportunities are part of the class.
- Strictly Radiant (SR) — This course focuses on all things radiant: concepts and theories behind radiant heating, real-world temperature control strategies, advanced zoning techniques and boiler piping strategies — all with lots of hands-on opportunities included.

- Hydronic Heat Loss & Design (HHD) — This course focuses on how to conduct an accurate and effective residential heat loss analysis in two ways — with pencil and paper, the old fashioned way, and on laptops employing Taco's newly introduced FloPro Design Software.

Classes are scheduled in three periods beginning at the end of February and concluding in mid-June 2009:

- Trimester 1:
 - Feb. 26-27 CBR
 - Mar. 12-13 SR
 - Mar. 19-20 CBR
- Trimester 2:
 - Apr. 16-17 SR
 - Apr. 23-24 HHD
 - May 7-8 CBR
- Trimester 3:
 - Jun. 4-5 SR
 - Jun. 18-19 HHD
 - Jul. 16-17 CBR

For more info, taco-hvac.com.

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is a modulating wall-hung combi boiler (up to 89% EE) — an ideal companion with a Baxi solar water heating system. Modulates from 105M to 35M Btu/hr, and is also popular with LEED Builders, — saving fuel, money, emissions and valuable living space (closet-install approved).





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*Benjamin Franklin Plumbing® has moved up from #423 to #249 in the U.S. by Entrepreneur magazine's Franchise 500®.***

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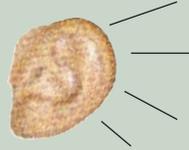
**The source is Entrepreneur magazine and their Franchise 500® rating system, which annually initiates questionnaires to all known U.S. and Canadian franchisors. Judging criteria is financial strength and stability, growth rate and size of the system, including the number of years in business and length of time franchising, startup costs, litigation, percentage of terminations and whether financing is provided, and upon audited financials. Based upon the approximately 75% of responses they receive from the franchisors, scores are compiled for the past five years or less, and those rankings are awarded in January.

Minn. Reg. F-4264 Benjamin Franklin Franchising, L.L.C., 50 Central Avenue, Suite 920, Sarasota, FL 34236. You should not take the franchisor's statement or their experiences as an inference that a purchase of a franchise is a safe investment or that failure, loss or default is impossible or unlikely, or that earnings or profits are assured. © 2008 Clockwork Home Services, Inc.

Circle 7 on Reader Reply Card

Inside the trade

What we're hearing



AGC reports materials price plunge continues

WASHINGTON — According to Ken Simonson, chief economist of the Associated General Contractors of America (AGC), materials prices continue to plunge following the sharp run-up of the first half of 2008. According to its monthly survey of purchasing executives in manufacturing, the Institute for Supply Management (ISM) said that its index of prices paid by non-manufacturing purchasing executives fell to the lowest level since the index began in 1997.

The survey reported, "Manufacturing activity continued to decline at a rapid rate during the month of December. The decline covers the full breadth of manufacturing industries, as none of the industries in the sector report growth at this time. New orders have contracted for 13 consecutive months, and are at the lowest level on record going back to January 1948. Order backlogs have fallen to the lowest level since

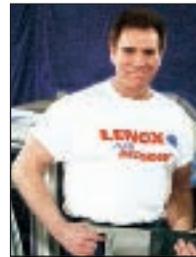
ISM began tracking the Backlog of Orders Index in January 1993. Manufacturers are reducing inventories and shutting down capacity to offset the slower rate of activity."

Respondents listed the following items relevant to construction as down in price in November: construction; copper pipe, fittings and products; diesel fuel; fuel surcharges; PVC pipe and fittings; steel and stainless steel products and plate. Respondents to the manufacturing survey listed aluminum, copper and steel as both up and down in price. No items were listed in short supply in either survey.

The Associated General Contractors of America (AGC) is the largest and oldest national construction trade association in the United States. AGC represents more than 33,000 firms, including 7,500 of America's leading general contractors, and over 12,500 specialty-contracting firms. For more information, www.agc.org.

Tool Tips

with Hackman



Bi-Metal Ship Augers

Tool Tips features trade tips from Lee "HACKMAN" Breton, marketing services manager for LENOX®, team HACKMAN event manager and car cutter extraordinaire. Every month, HACKMAN shares insight from his 25+ years in the tool industry.

A ship auger bit is great tool to use when drilling holes through wood. For electricians, they are useful for

which feeds the bit into the wood while the fluted shaft ejects the scrap wood. When drilling a hole, unforeseen nail encounters are often catastrophic for an auger bit. The screw tip and/or cutting edge are damaged or broken when it hits the nail.

Recently, bi-metal technology has been applied to ship auger bits to work through the problem of nail strikes, including stainless steel nails and sheet rock hardened screws. The bi-metal technology fuses two premium



steels together giving the bit extreme durability. Nail encounters are no match for the high speed steel cutting screw tip and cutting edge of bi-metal.

When looking for a bi-metal bit it's important to look for one designed with a parabolic screw tip for fast, easy drilling with an over-sized head that allows the bit to be removed from the hole easily. Bits are available in two lengths 7 1/2" and 18", and range in diameters 3/8" to 1 1/2". They can also be re-sharpened with a diamond file.

I highly recommend giving the bi-metal ship auger bits a try, especially if you are doing remodeling work where nail encounters are common.

If you have any questions or comments for HACKMAN, email him at hackman@lenoxtools.com or visit www.lenoxtools.com.

Current prices



Fuels

| Gasoline | | | Diesel | | |
|------------------|--------|--------|------------------|--------|--------|
| Area | ¢/gal. | Change | Area | ¢/gal. | Change |
| U.S. average | 168.4 | ↓ | U.S. average | 229.1 | ↓ |
| East Coast | 164.2 | ↓ | East Coast | 238.0 | ↓ |
| New England | 166.9 | ↓ | New England | 259.6 | ↓ |
| Central Atlantic | 166.7 | ↓ | Central Atlantic | 249.6 | ↓ |
| Lower Atlantic | 161.6 | ↓ | Lower Atlantic | 231.0 | ↓ |
| Midwest | 173.3 | ↓ | Midwest | 227.2 | ↓ |
| Gulf Coast | 154.7 | ↓ | Gulf Coast | 222.8 | ↓ |
| Rocky Mountain | 149.5 | ↓ | Rocky Mountain | 221.5 | ↓ |
| West Coast | 184.6 | ↓ | West Coast | 227.5 | ↓ |
| California | 187.4 | ↓ | California | 223.9 | ↓ |

Metals

| | | | | | |
|---------|------------|---|------------|-----------|---|
| *Copper | \$1.48/lb. | ↓ | **Aluminum | \$.71/lb. | ↓ |
|---------|------------|---|------------|-----------|---|

Prices valid as of 1/05/09. Fuel information courtesy of the U.S. Department of Energy <http://tonto.eia.doe.gov/oog/info/gdu/gasdiesel.asp>. Arrows indicate change from previous issue. * Copper prices according to NYMEX.com. ** Aluminum prices according to metalprices.com.

Training Center

Leading contractor commits to industry training

GAINESVILLE, FLA. — Industrial Specialty Contractors, Baton Rouge, La., has agreed to contribute funds for workforce development and recruitment initiatives by signing a National Training Service Agreement with the National Center for Construction Education and Research (NCCER). Industrial Specialty Contractors is the first company to contribute an extra cent toward industry recruitment and image enhancement initiatives for the industry.

"With nearly two million workers needed over the next seven years, the broad availability of training and our ability to fund an

industry-wide recruitment and image campaign is essential to the long-term growth of the industry," said NCCER president Don Whyte.

"Signing the National Training Service Agreement allows us to demonstrate a training commitment to our employees, our customers, and the industry," said Jerry Rispono, president, Industrial Specialty Contractors.

The National Training Service Agreement is an industry-driven funding mechanism that uses cents-per-hour funds to provide quality training to the construction workforce.

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Harvel appoints national sales manager

EASTON, PA. — Harvel Plastics, Inc., has announced that Greg Martino has joined the company as national sales manager for its industrial PVC and CPVC pipe, duct and extruded products sector.



Martino

Haws adds marketing manager

SPARKS, NEV. — Haws announced the hiring of William O'Keefe as the company's corporate marketing manager. O'Keefe has over 12 years of experience in a corporate sales and marketing environment.



O'Keefe

Haws names two outside directors

As part of its continuing effort to enhance operations and grow the business, the Haws Corp. announced the addition of two outside members to the company's Board of Directors. The appointments of Charles A. (Chuck) Dowd and Dr. H. Dean McKay became effective several



Dowd

months ago.

"Bringing in highly successful, experienced executives to provide fresh ideas and other-industry perspectives is a great idea for any family-owned business. But, for our business, in the growth mode we're currently in, it is critical to accelerated success," said Sallie R. Haws, the company's president.



McKay

Clockwork Home Services selects franchise development director

SARASOTA, FLA. — Clockwork Home Services, Inc. (Clockwork), a provider of home services, announced its promotion of Bryan Richards to director of franchise development. Richards will oversee sales and marketing for Clockwork's franchise development team.

Raypak names VP & GM

OXNARD, CALIF. — Rheem announced the appointment of Michael Sentovich to vice president and general manager of Raypak, a manufacturer of commercial and residential boilers and pool and spa heaters. Sentovich replaces Peter Reynolds who was promoted to VP & GM of Rheem Water Heating.



Sentovich

HTP appoints solar product manager

EAST FREETOWN, MASS. — Heat Transfer Products (HTP) has appointed solar industry veteran Rod Hyatt to fill the newly created post of solar product manager, with responsibility for marketing HTP's rapidly expanding line of solar thermal products throughout North America. A native of Utah, he will be based near Salt Lake City. Hyatt brings 16 years of solar product experience to his new assignment, including the launch of two highly successful start-ups in the field: Sun Hydronics and In Hot Water.



Hyatt

Bradford White announces promotion

AMBLER, PA. — Bradford White announced the promotion of Robert G. McKenney to position of region sales manager. In his new role, McKenney will oversee the company's sales efforts throughout the Mid-Atlantic region. McKenney will report to Jim McGoldrick, director of sales. McKenney joined Bradford White in 2001.



McKenney

Uponor announces personnel changes

APPLE VALLEY, MINN. — Uponor Corp. made the following announcements:

- CFO Jyri Luomakoski was appointed president and CEO of the Uponor Group and its parent company. Luomakoski has acted as CEO on an interim basis since Oct. 27, 2008, when previous CEO Jan Lång left the company.



Luomakoski



Sisco

- Industry veteran Wes Sisco was appointed senior trainer for Uponor's renowned factory training program.
- Steve Swanson, an expert in the field of hydronic and steam

heating, HVAC and plumbing, has joined the company as customer trainer.

Danfoss Turbocor appoints president and CEO

BALTIMORE — The Danfoss Turbocor Board of Directors has appointed Ricardo Schneider president and chief executive officer of Danfoss Turbocor Compressors Inc.

The Fulton Group names VP of trade operations

SOUTH EASTON, MASS. — The Fulton Group LLC, an integrated services provider specializing in strategic sourcing and inventory control, has named Brian Keenan as vice president of trade operations.

Blue Angel Pumps announces regional sales manager

HARRISON, OHIO — Blue Angel Pumps announced Drew Dempsey as its West Coast regional sales manager. In his New Role, Drew will oversee the rep agencies, training, and new product placement to ensure the growth and expansion in that region.



Dempsey

Ferguson veteran appointed manager for power sector

NEWPORT NEWS, VA. — Wolsley North America appointed Frank Durham to the position of business manager overseeing the power sector of the industrial business group. Durham's new position will Wolsley furthers the company's expansion into the power sector of the North American industrial market.

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Miro announces contest winners

SALT LAKE CITY — This year's first place prize for the best rooftop support picture — and the award of \$1,000 — went to David Coleman with A.H. Deveney. The submitted picture shows the versatility that MIRO's rooftop supports have. They also have the ability to support various ranges of heights, pipe sizes and can be placed in many conditions.

Honorable mentions are Don Wolfe with Southwestern Industrial Sales for his picture of the conduit support and Cindy Zatto with V.E. Sales for her picture of the crossover.

To view all submitted pictures or to learn more about their 2009 photo contest please visit MIRO at www.miroind.com.

MIRO Industries has been the front runner in the development and engineering of Rooftop Support Systems since they entered the roofing market in 1982. Since then, and over the last 27 years, they have continued to

broaden their product and service line keeping them on the cutting edge of the rooftop support industry. Their 20-year warranty continues to be the longest in the industry.

There are many reasons MIRO rooftop supports protect the roof membrane, but the main and simple reasons are as follows:

1. MIRO's non-penetrating system prevents potential leaks and other possible damage to the roof membrane.

2. The polycarbonate plastic resin used to manufacture the supports has proven over time that it can resist extreme temperature changes without being damaged.

3. MIRO has engineered bases with a large enough footprint to allow for the appropriate amount of weight distribution.

4. MIRO has engineered systems that allow for thermal expansion and contraction, thus eliminating the movement that takes place directly



Best rooftop photo went to David Coleman, A.H. Deveney illustrates Miro's rooftop support flexibility.

on the roof membrane.

5. MIRO rooftop supports have the ability to be adjustable to carry all heights on the roof.

The easy solution of MIRO rooftop

supports can save time and money as the owner eliminates having to replace supports, and in the worst case scenario, possibly an entire roof membrane.

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Caroma donates toilets to Greensburg GreenTown

HILLSBORO, ORE. — Caroma, a leader in dual flush toilets, urinals, and stylish bathroom sinks, is pleased to donate another 250 high efficiency toilets, urinals, and sinks to Greensburg GreenTown. Greensburg, Kansas, was devastated by an EF5 tornado on May 4, 2007. Nearly 95% of homes and businesses were destroyed by the two mile wide tornado.

Greensburg GreenTown is a non-profit organization established to provide residents of Greensburg with resources, information, and the support they need to rebuild the city as a model green community. According to Daniel Wallach, Director of the Greensburg GreenTown project, "The

Mr. Rooter and ACE DuraFlo announce partnership

IRVINE, CALIF. — Mr. Rooter and ACE DuraFlo Systems announced an exclusive agreement that allows Mr. Rooter franchisees to expand their menu of services with the addition of miniE®, an epoxy pipe restoration technology.

MiniE® was created as a service tool allowing a single operator to restore a section of pipe in a matter of hours as opposed to restoring the entire home's piping system, which typically takes several days.

"Our primary focus is to exceed our customers' expectations," said Mary Kennedy Thompson, president of Mr. Rooter Corporation. "Adding the miniE® system to our menu of services keeps us ahead of other plumbing repair companies and deepens the level of service we provide our customers."

ECR announces manufacturing consolidation

UTICA, N.Y. — ECR International, a leading manufacturer of innovative heating and cooling products and systems, reaffirmed its commitment to Upstate New York today by announcing plans to consolidate production at factories in Utica and Dunkirk.

"ECR International is reinventing itself," said CEO Mike Papparone. "To begin this transformation, we are expanding and modernizing two of our plants in Upstate New York and investing significantly in research and development."

ECR donates to college

ECR donated a boiler and a furnace to Morrisville State College to be used for training HVAC technicians. "ECR strongly believes that training for future HVAC technicians is key to the growth and success of our industry" according to Tim Reed, executive director of the ECR Intl. Foundation.

tornado that hit the city and surrounding areas in 2007 caused massive devastation. Since we basically had to start from the ground up in the rebuilding efforts, we want to build in

a sustainable fashion, to preserve our precious resources."

As part of this conservation effort, Caroma has donated 250 high efficiency toilets and urinals to

Greensburg. Greensburg now has ~450 high efficiency toilets from Caroma and is projected to save at least 4600 gallons of water per person per year. Many of the city's buildings were built in the 1960s or early, so many toilets were either 3.5 or 5 gallon toilets.

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Circle 13 on Reader Reply Card

Mike Paparone – ECR International



This month's installment of the Executive's Club is with Mike Paparone, president of ECR International, a company that designs, manufactures and markets hydronic and HVAC equipment for residential, commercial, institutional, and hospitality markets.

Beginning in 1928, Earle C. Reed established manufacturing facilities for cast iron boilers and radiators in Dunkirk and Utica, N.Y. ECR was formed in 1999 as a merger of The Utica Companies (Utica) and Dunkirk Radiator Corp. and named in his honor.

In the early years, Dunkirk manufactured cast iron boilers and radiators and Utica manufactured only cast iron radiators and baseboard and bought boilers from Dunkirk. However, as the demand for both company's products grew, the Utica and Dunkirk facilities have gone through many stages of improvements and modernization to meet the needs of their customers.

For example, during World War II both companies adapted their production to support the war effort. Utica manufactured hand grenade housings and converted part of their production capability to the manufacture of magnesium castings. Dunkirk manufactured cast iron hand grenade housings and bomb noses.

In the late 1950s, Dunkirk purchased The Sanitary Receiver Company for the purpose of manufacturing sheet metal products. In 1986, Utica purchased EnviroMaster International (EMI) of Rome, NY. EMI manufactures ductless split air conditioning systems. In 1992, EMI formed the RetroAire division. RetroAire manufactures package terminal air conditioning and heat pump units for both the new construction and replacement markets. In 1990, Utica purchased the Oneida Furnace Company and the Olsen Furnace Company in 2000.

The acquisition of these companies, as well as others, enables ECR customers to purchase a complete line of heating and cooling products from one source. ECR is the only North American company to make and market all of these products under one corporate roof.

How did you get involved with the company?

Paparone: I enjoyed a 30-year career with the DuPont Co. starting as a chemist, getting my MBA and then moving into sales, marketing management, product management and business management assignments. Now ECR is re-inventing itself in the ever-changing environment of the HVAC industry. ECR has a new vision, a new focus on product development and distribution that will better serve emerging consumer preferences for green, environmentally safe products.

The product innovation and creating efficient routes to market were the two most important elements that lead to significant growth in the businesses I had the fortune to manage in my career. I have an insatiable appetite for profitable growth and I bring that appetite to ECR.

There were several things that attracted me to ECR, including:

- The company history has given ECR a solid reputation in the industry and a history of innovation;
• ECR has some technologies, the most interesting being Micro combined heat and power (Mchp), that I am confident will change the technology of our industry if properly marketed;
• The size of the company appealed to me. Even though I was part of a huge DuPont company for many years, I always preferred being in business units that were large enough to have significant market position but small enough so that I could get to know most of my colleagues and have impact

as an individual. ECR is such a company; and

The challenge presented to me at ECR is to take it to the next level. Both the product position and the financial strength of the company give me the opportunity to take on this challenge and be very successful.

I joined ECR in February, 2008 and I look forward to being here for many years to come. The people and the company have exceeded my expectations.

What are/have been your initiatives for ECR?

Paparone: Whenever there is a leadership change at any enterprise there is a certain amount of anxiety all around the organization. In my case, that probably was magnified since I was the first non-family member to be given the role of CEO/president at ECR. My first task, then, was to bring clarity on what our vision and strategies would be for ECR. During my first 120 days or so, the three senior VPs and I spent significant time and energy to develop the vision and strategic plan and to communicate to the organization.

All our strategies are focused on transforming ECR to achieve, sustainable, profitable, high level growth. The strategies include to:

- Reconfigure our routes to market so that our distributors, dealers and us are better aligned;
• Broaden our product offerings in both heating and air conditioning with the best green technology;
• Establish our brand as ECR;
• Expand geographically both domestically and internationally, especially with our JV in China; and
• Focus on fundamentals including modernizing our facilities, managing costs and optimizing cash and earnings.

The organization has responded very positively to the plan and as my first year at ECR approaches completion, much headway has been made on all these fronts. Many inputs from the organization have been applied to this plan.

What are some new and exciting happenings at ECR International?

Paparone: We are in the early stages of transforming ECR from a traditional boiler company to a company that is recognized as a leader in heating and air conditioning products and services that have the most positive impact on the environment, society and customers. This is our new vision for ECR and so the transformation involves changes to all areas of ECR including:

- On the manufacturing front, we have just announced a restructuring of our manufacturing footprint that includes huge investment in modernizing our facilities;
• Achieving our vision requires a steady stream of product innovation. We have reorganized and are strengthening our R&D both through recruiting additional, strong talent and also, by building a new R&D center that is state of the art;
• Our sales and marketing groups are working to establish the ECR brand and to better align our distribution and dealer network to fit our vision. We believe that less, but more aligned distribution is better to long-term success for our business; and
• We are also working with our joint venture partner to build a modern, new facility in China to serve that rapidly growing part of the world.

What are some of your top sellers?

Paparone: ECR International has been a long-standing leader in the HVAC industry with specific emphasis in the hydronic heating segment. Many (Turn to ECR Intl., page 18.)



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ECR Intl.

(Continued from page 16.)

boiler industry technology advancements where pioneered by ECR brands over the past 80 years and include well-known features such as the oil burner swing out door and integral draft diverter on gas fired atmospheric boilers. Beginning in the early 1990s, ECR introduced the first of its cast aluminum residential condensing boilers, nearly 10 years ahead of the now pop-

ularized high efficiency products. ECR is still the only North American-based company that continues to fully design and engineer condensing boiler products. This product category now accounts for nearly 30% of all residential gas fired water boilers installed in the market and fuels ECR's growth.

In addition to boilers, ECR is a mainstay player in the oil furnace, ductless air conditioning and hydronic system controls industries. Our Olsen oil furnace line has one of the widest

breadths of product offering in the industry and includes 41 different furnaces that meet or exceed the new 85% AFUE EnergyStar requirement. In addition, variable speed blowers and direct vent offerings are available in practically every oil furnace configuration. Our domestically engineered EMI ductless air conditioning line provides product that uniquely matches North American needs and installer familiarity. Features like electric strip heat, low voltage interconnect, wall thermostat opera-

tion, chilled water air handlers and the ability to mix and match up to four different air handlers on a single DX condenser makes it the most flexible product line on the market. Finally, our Argo hydronic control line revolutionized the switching relay market and through product innovation now provides controls that manage both system and boiler operations to increase available efficiency and maximize overall fuel utilization

Innovation continues to thrive at ECR with the introduction of our patented freewatt® micro-combined heat and power gas boiler or furnace based heating systems. These heating systems co-generate electric power while operating which results in reducing a homeowner's annual electric utility bill by as much as half. Consumers will have greater control and security over their heating system as freewatt® is internet connected and can be remotely interfaced with for system operation and service monitoring.

For well over 20 years, combined heat and power (CHP), more commonly called cogeneration, has been used in commercial applications. However, the notion of a residential system has not been possible because the smaller scale requirements present huge technical hurdles. Together with our Joint venture partner, Yankee Scientific, we started working on micro combined heat and power (Mchp) over eight years ago. The breakthrough came by working with Honda to produce a unique engine for the system. This patented system includes the Honda power generator, the gas fired ECR Boiler or Furnace and a micro processor that controls the system.

Basically how it works is that natural gas or propane powers the generator to produce electricity which is used in the house while the heat produced by the generation of electricity is used to warm the house. When and if the outside temperature requires additional heat, the furnace or boiler kicks on to provide the heat. Therefore, the natural gas produces both electricity and heat for the home, i.e. cogeneration.

For an average household north of the Mason-Dixon Line, the freewatt® system will cut the consumer's electric bill in half while using the same amount of natural gas as a conventional heating system. In addition, the carbon footprint is reduced by 66% versus what is used in the current home for electricity and heat.

Additional benefits include the fact that the heat is more continuous than conventional systems, which delivers a more comfortable heat. Also, the system is Internet capable so the consumer may check and/or adjust the system from anywhere there is an Web connection and service can be facilitated using remote, less costly diagnostics.

The bottom line is that for the first time a consumer will be reducing their home's carbon footprint significantly, (Turn to Executive's Club, page 78.)

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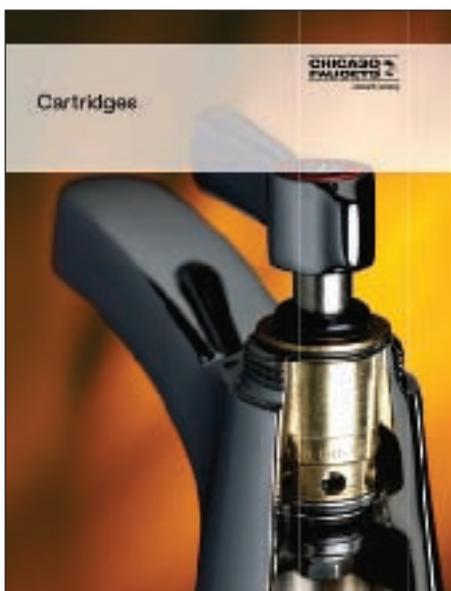


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Cartridge Brochure Tells the Inside Story

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Chicago Faucets Commercial Catalog

Chicago Faucets full line of commercial products is featured in this full-color comprehensive catalog. Select from a variety of manual, electronic, food service and laboratory products, plus components and repair parts. With over 500 standard products, and the know-how to custom build faucets to exact needs, you can count on Chicago Faucets for any commercial or institutional installation including; medical facilities, schools, office buildings, restaurants and stadiums. Chicago Faucets... *Lasts as long as the building.*



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Conservation & Sustainability

Chicago Faucets commitment to water conservation and sustainability is highlighted. The brochure focuses on Chicago Faucets' extensive product offering of components and fixtures designed to assist in maximizing water conservation. Selecting low-consumption, energy saving Chicago Faucet products as new or replacement fittings can help earn green building rating points toward a facility's **LEED certification.**

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Circle 16 on Reader Reply Card



BY DAN HOLOHAN,
contributing writer

This January brings us a new administration and I'm happy to see it, especially since our new president is talking about making all of these government buildings more energy efficient. What a big, juicy plum that is!

I choose to nod

I was on the Number 6 New York City subway train the other day when I spotted a billboard that read, "Cynics may shake their heads, but cynics never really do much anyway — except shake their heads." I like that.

I like that because it's January and anything seems possible during January. This is when the hawk comes screaming down from Canada, tearing at our cheeks and noses, and all the heating systems are running full out. It gets cold every winter, and that's money in the bank. And all of America's heating systems are mechanical and electrical and these things will break down at some point, no matter who you are. That, too, is money in the bank.

I read in the newspapers that America is throwing a recession. The Lovely Marianne and I have decided not to participate in this one. We can do that because we've done it before. We started our company in 1989, just in time for another big recession. We didn't participate in that one either. We couldn't afford to participate. And we didn't have to participate because of the two reasons I just mentioned: It gets cold every winter. Stuff always breaks down.

You don't have to participate in this recession either, unless you're a cynic, of course. Then you'll probably want to take part in this craziness, perhaps even revel in this. It's just not for me.

This January brings us a new administration and I'm happy to see it, especially since our new president is talking about making all of these government buildings more energy efficient. What a big, juicy plum that is! I see such opportunity for all of us who are in the business of keeping people warm and safe. And I imagine that some of this coming work will involve more than just heating equipment. Much of the money will probably go to weatherization, and there's no reason you can't be involved in that business too. It may be time to examine how you go to market, and how you present yourself to the world.

I also think that much of the coming work will involve fixing older heating systems, and many of these systems run on steam. This is a fine time to get up to speed on things like steam traps, how to balance the venting of air from an old steam system, and how to select and properly pipe a replacement steam boiler.

I was in a luxury apartment building in Manhattan last fall, looking at a heating system that dead men installed in the early-1880s. The apartment I was in had just sold for \$16.5 million, was being totally rebuilt, and was to have the same steam system that it has had all along. How come? Changing it to something else would involve changing everything in the building, and that just wasn't feasible. It would disturb too many rich people.

Now think of all the big government buildings all across America that still have steam heat. My guess is that they're not going to rip out all of those systems, not when a bit of tweaking can show very impressive results. It's a matter of getting the most for you money, right? Sure it is, and I think that contractors who are not cynical will get to the right people and talk to them about what's possible.

I think this is the very best time to be in this business. All the planets are aligning and I'm smiling. There is absolutely no reason to participate in this recession

unless you really want to, and I mentioned that on The Wall at HeatingHelp.com recently. Steamhead, one of the guys who regularly visit our site, wrote that he and his partner, Gordon, had just finished a job in Baltimore where they were able to cut the gas consumption in a big building by 36 percent. They did this just by tweaking the air venting in that old steam system, and they do stuff like this all the time. They call it de-knuckleheading the system. It involves putting things back to the way they once were, to the way they're supposed to be.

Dave Brunnell from Amboy, Illinois, wrote, "I'm with Steamhead on this."

There is a time a place for the application of new, high-tech condensing boilers. However, I also have many projects where I made relatively minor upgrades to the system, leaving the existing equipment in place, and properly tuning it. I've seen savings of 20-to-40 percent. Payback on the investment came in less than two months for one of these jobs, and we just about eliminated all the issues of unbalanced heating. I am in the middle of two other projects that are very likely to demonstrate this same pattern. Getting our old systems working properly can result in enormous energy savings with a small investment. I am also looking into taking full advantage of this low-hanging fruit in the near future."

See? Dave isn't participating in the recession either.

Then Mike, another regular visitor, wrote, "We, as a nation, in government buildings, businesses, as well as in our homes, could do a lot to conserve energy with very little investment. I teach part-time at a State Community College. In just one building, the heating system is so unbalanced that one classroom gets into the 90s while the other rooms are a comfortable 70 F. Repeated repair requests to Facilities Maintenance have been unsuccessful in past years. One year, they told us to leave the windows in the overheated room open overnight so it won't be too hot in the morning. Guess what the topic studied in this building was. It was HVAC! But I will put in a disclaimer that students and instructors are prohibited from working on anything within the building. All repairs and adjustments must go through the proper channels. In the past, with cheap energy, there were few consequences, but now, with increased awareness, the top brass has taken notice and it seems the issue may be solved. I know we all live with a certain amount of bureaucracy, but it seems fuel prices have been more successful at breaking through the red tape than we mortal humans have been. As the cliché says, necessity is the mother of invention."

And as I mentioned, the planets are aligning. It is a mighty fine time to be in this recession-proof business of ours. At least I think so.

But on the other hand, I can always use some yin to my yang, so lets hear from some cynics. Here's Scot:

"Stop dreaming. Don't forget they are all politicians! They lie to their families, so why should they tell us the truth? You can't change politicians, and you can't change D.C. They are hand in hand corrupt and wasteful. Regardless of who is in office, the waste will continue and we will continue to pay.

Nice yin, don't you think? But wait, there's more.
(Turn to Why choose... Page 22.)

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Why choose to participate in the recession this go-round?

(Continued from page 20.)

Here's Ron:

"It's deja vu all over again. Like a reread of 1933 — massive public

huge increase in bureaucrats, and more regulations to screw up even more that which was already screwed up. The economy and the

"Proposals to upgrade government buildings must be taken with a five-pound bag of course salt. Gold-plated specs will be passed out to lots of contractors. The contractor they accept will be the one with the best connections (read dollars contributed) or a qualified minority. He or she, like many of the others, will lowball the price (still three times what it's worth) and make a killing off the change orders.

"When it is done and the first year is gone, government clones will take over. Their idea of preventive maintenance is to wait for the last backup to fail and then let their fingers do the walking. They'll call a contractor who will charge

top dollar for the special parts (the government hates off-the-shelf stuff), airfreight, and massive amounts of overtime, to make the repair. All on your dime and my dime, times millions."

So there you have it. Choose your outlook and your attitude. There are two major ones available: Either you see what's going on right now as a fantastic opportunity, one that will allow you to not participate in this recession, or you can see it as a really nasty thing, one worthy of your contempt.

Shake your head or nod your head. It's that simple, and it's your choice.

I choose to nod. ■

For more *Heatinghelp.com* Wall entries, see page 59.

I think this is the very best time to be in this business. All the planets are aligning and I'm smiling. There is absolutely no reason to participate in this recession unless you really want to,

works programs, with massive numbers of new folks on the public (and taxpayer-financed-private) payroll, a

country, were worse off in 1937 than they were in 1933. It took a war to turn things around.



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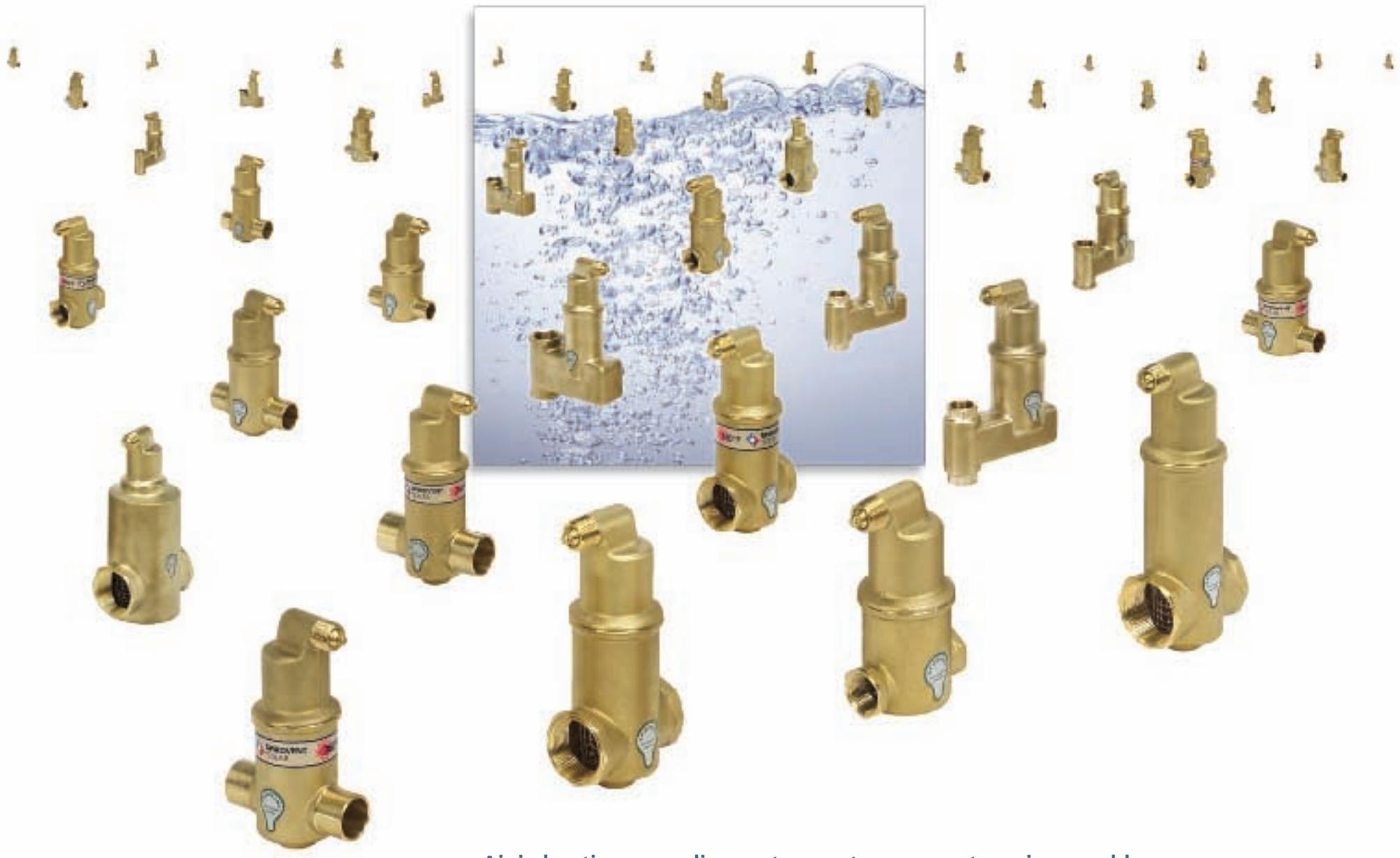
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BY PAUL ROHRS,
contributing writer

Condensate from high-efficiency boilers is aggressive and nasty to drains, but it can be neutralized easily and at little expense

Treating condensate Hard to remain neutral

Mod-con boilers are getting mighty efficient these days. Where does the efficiency come from? Boiler manufacturers are gaining this extra efficiency by extracting heat from the exhaust gases. The exhaust temperature is lowered until it reaches its dew point and condenses. This condensate flows back down the exhaust pipe, where more heat is extracted through a heat exchanger. It is then piped to a trap and down the nearest drain.

We are going to look at the process a little more in depth, talk about why it's important to neutralize the condensate and give some examples of various neutralizers available on the market today.

Condensate from mod-con exhaust gases has a low pH level, which is how the fluid's alkalinity or acidity is measured. It is normal for this condensate to have a pH ranging from the mid-4.0s to the mid-5.0s. pH levels below 7 are considered acidic. If we don't neutralize the condensate to a neutral 7 or 8 range, it can slowly eat away at a drainage system. This lower pH condensate will attack cast iron soil pipe, ABS pipe and septic tanks, to name a few. A pH level of 4 is 10 times more acidic than a pH of 5, so it is important to note that we are dealing with a mild acid with effects that will manifest themselves over time.

The mod-con at our shop had been running for only three months and was close to a drain but was not piped completely to the drain. We noticed that it was etching the limestone and cutting a groove in the concrete. See Figure 1. We corrected this "open flow to drain" by piping it all the way to the drain. After looking a little more closely, you might notice that it was actually eating away at the bronze strainer of the floor drain. Bronze floor drain strainers are not safe from the effects of untreated condensate.

I do have a small control test started, because I wanted to see the long term effects of condensate on cast iron. Why? Imagine all of the equipment out there producing condensate that is being funneled into the floor drain of a house with cast iron pipes for its drainage system. If this condensate eats away at the cast iron, it will only be a matter of time until it eats through the pipe and starts to wreak havoc below the house. I took a small piece of brand new cast iron no-hub pipe, dated it with a Sharpie and placed in the flow path of our condensate. I will report back on the actual life span of the cast iron pipe when the results are conclusive.

This process does not only occur with high efficiency boilers. Think about all of the standard atmospheric forced air furnaces that have been changed out to high efficiency units. High efficiency furnaces also produce condensate and all of that condensate, left untreated, has a head start at eating away at the drainage system. On your next service call or scheduled maintenance, inform the homeowner of the need for a condensate neutralizer.

Several models of condensate neutralizers are available on the market today, or you can make your own. Dave Stroman is a hydronic contractor in Denver. I noticed him

building his own, very effective neutralizer out of commonly stocked PVC fittings. Figure 2 shows the model we cloned from his idea. The condensate is collected in the standpipe where it enters the bottom tee's branch inlet. The condensate is afforded quite a bit of contact time with the neutralizing agent before it rises up to the branch of the higher tee, where it then gets piped down to the nearest drain.

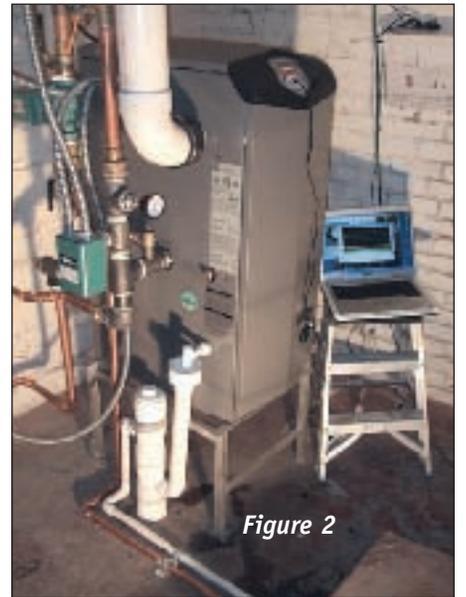


Figure 2

Figure 3 shows a sample of a pre-manufactured neutralizer available from JJM Boiler Works. Stock models are available from several boiler manufacturers, such as Lochinvar and Viessmann. JJM Boiler Works offers several stock models but can also custom design a neutralizer to meet your specifications.



Figure 3

On scheduled maintenance visits, we have found that the interior of our neutralizers, as well as the marble, has turned an orange color. This is a natural chemical reaction and should not alarm you. It is, however, a reminder that you should test the pH of the fluid exiting the neutralizer so that you can ensure that the useable lifespan of the neutralizing medium (marble or limestone) isn't over.

Am I suggesting that you carry small amounts of crushed marble or limestone along with pH test strips on your service trucks? Yes! These neutralizing mediums have a life expectancy, and you should be ready to service them as well. This is yet another value-added service that you can add to your service arsenal and charge for.

The future of condensing boilers and furnaces is bright. Condensate is here to stay, so contractors should stay on the cutting edge of this technology by offering the appropriate neutralizer as part of their standard proposal package. To counter the negative effects of untreated condensate, contractors can order pre-made units or build them themselves. Standard service contracts or routine maintenance can be used to maintain the units' effectiveness.

Responsibly designed radiant systems that feature condensing appliances can be enhanced with the addition of condensate neutralizers. It isn't just for show, and you'll be confident that your customers and the litmus paper will be able to tell the difference. ■

Paul Rohrs welcomes your comments. Contact Paul at paul@biggerstaffradiantsolutions.com.



Figure 1



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BY BRISTOL STICKNEY,
contributing writer

Part 7: Cooling with flat-plate solar panels

Bristol's six principles for good solar hydronic design

In previous articles, I have been making the case that the key ingredients for solar/hydronic design and installation can be divided into six categories, listed below, roughly in order of their importance.

1. RELIABILITY
2. EFFECTIVENESS
3. COMPATIBILITY
4. ELEGANCE
5. SERVICEABILITY
6. EFFICIENCY

The success of any solar hydronic home heating installation depends on the often-conflicting balance between any of these six principles. Finding the balance between them defines the art of solar heating design.

One of the most interesting applications for thermal



Figure 1. A night sky radiant cooling system installed in Taos, N.M. (Image courtesy of Cedar Mountain Solar, LLC.)

hydronic solar panels is also the most neglected and often overlooked, and that is Night Sky Radiant Cooling (NSRC). This type of cooling is especially interesting because it can be virtually free, if flat-plate solar heat panels already exist, and this type of cooling rates highly when evaluated according to the six principles.

Perhaps the most obvious application for using a solar panel to provide useful cooling is the example of the solar water heater running at night. This can be useful when the occupants are away from home, and no one is using the solar heated water. After a few days of solar heat collection, the water tank can become dangerously hot. But if the solar collector pump is allowed to run at night, the system “runs backwards” and delivers the excess heat from the tank to the solar panel at night, which radiates the heat away to the night sky. Some control systems can be programmed to allow this as an optional feature to prevent hot water tank over heating.

A few years ago, I was involved in a local testing program (nicknamed “Skylab”) to see how much cooling we could get from the night sky using conventional flat-plate panels and how we might estimate this cooling potential using local weather records. Since then, we have installed a number of these systems for direct cooling of mass floors with encouraging results. The photo in

Figure 1 shows an NSRC installation next to a small commercial building in Taos, NM. Let's take a closer look at the NSRC phenomenon.

What is night sky radiant cooling?

In the same way that thermal radiation travels from the sun to the surface of the earth, across the vacuum of space, the heat from the earth also radiates back into space. Night Sky Radiant Cooling is a natural process that helps the earth maintain thermal equilibrium. The effect of this radiant heat leaving the surface of the earth can easily be seen on some mornings after a clear night. A layer of frost will form on rooftops and on automobiles even though the outdoor air temperature is well above freezing. This frozen condensation is proof that the rooftops were losing heat by radiation to the night sky faster than the surrounding warmer air could replace that heat by natural convection. The roof surfaces become so cold that moisture condenses out of the air, sometimes freezing solid. The radiant cooling occurs at a slower rate on partly cloudy nights, but can still provide useful cooling. Only when the night sky is completely cloudy, does the radiant cooling effect come to a virtual stop.

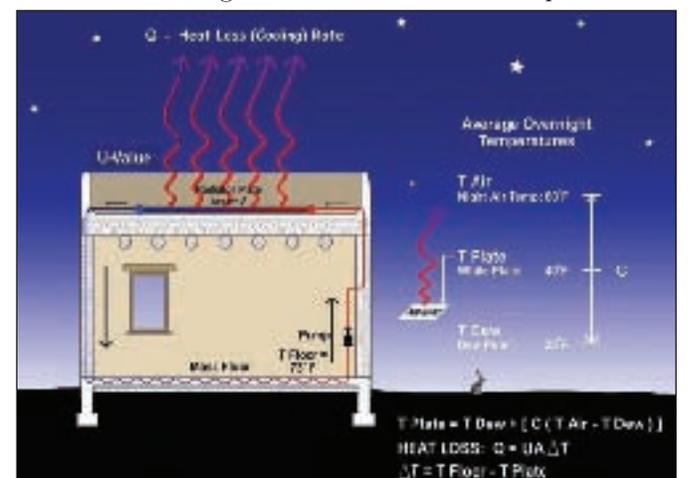


Figure 2. The factors in effective NSRC include dew point, “white plate” temperature and air temperature. (Image courtesy Bristol Stickney and Mark Chalom.)

The same natural mechanism that causes ice to form on car roofs can be used to cool buildings. By harvesting this radiant energy at night and storing it in the thermal mass of a building, the need for air conditioning or evaporative cooling can be seriously reduced or eliminated. The same equipment used for daytime active solar heating can be employed at night for “collecting” and storing the “coolth” obtained by NSRC by implementing relatively simple modifications. The heat storage mass of hydronic radiant heated floors can be used not only for heating in winter, but can be used for “cool storage” in summer. Figure 2 shows a cross section of a simple hydronic floor cooling installation using direct cooling of the floor mass by roof-mounted radiator panels.

While glazed solar thermal panels that are typically used for solar heating can also be used for cooling, supplementing these collectors with unglazed collector panels (Turn to Principles... Page 72.)

One of the most interesting applications for thermal hydronic solar panels is also the most neglected and often overlooked, and that is Night Sky Radiant Cooling (NSRC).

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ELLEN ROHR,
contributing writer

I have been blessed with mentors my whole life. I am grateful for their lessons, some of which didn't sink in until years after they were delivered

Making a difference

Teachers are leaders

“I review my plan every weekend,” Robert shared as he showed me his meticulously crafted business plan. “Sometimes I update it, which is why I’ve written it in pencil. Sometimes I just read it and it inspires me.” Robert is an inmate at the Davis Correctional Facility in Holdenville, Oklahoma. He and his classmates are building their business skills and crafting business plans under the loving care of Randy MacKenzie. Randy teaches a commercial cleaning course to inmates who have earned the right to attend. This course has become about much more than how to clean a floor or manage a power washer. It’s about new beginnings. It’s about expanding freedom.

I visit as a guest teacher every couple of months. It’s probably the most selfish thing I do. The students greet me with so much excitement and treat me with the utmost respect. We spend a few hours together...talking business. On our last visit, my son Max joined us, as did Gail, my sister and the world’s greatest “bean counter.” We showed the class how to use a computerized accounting system. This was a big upgrade for the fellows, who had been accustomed to doing the financials by hand. The students

are “über-motivated. Many of them have put business plans together for cleaning businesses. There are also plans for landscaping companies, a restaurant, a hair salon and a thermal solar contracting company.

At the end of my presentation, I suggested that they choose between two Q&A groups: general business discussion and accounting software discussion. Half of the fellows swarmed Gail with high level queries about how to use the software; the others tackled me with excellent questions like...

“How do you know when to hire your first, or next, employee?”

“How much inventory do I need to start my business?”

“If I can’t get a loan, what are my other options for start up capital?”

(Do these questions sound familiar? Business is a universal language.)

Their teacher is Randy MacKenzie. “Mr. Mac” was hired by the prison to teach a technical class on how to do commercial cleaning work...buff floors, power wash, etc. However, he recognized right away that if these men were going to make a living once they were released, a minimum wage cleaning job was not going to cut it. Randy and his wife own a successful cleaning company.

Randy has created a terrific curriculum for the students: accounting classes, business planning sessions, safety procedures and technical training classes. I met Randy because he uses my books as part of his program. He also lines his class library with worthwhile books by Michael Gerber, Jim Collins, Jack Welch, Larry Winget, Jack Canfield, Jim Rohn...and many more.

The most important thing Randy does is demonstrate that you can make a life for yourself with a simple, meaningful, profitable business. “Mr. Mac” is a mentor. He and Shirley have made a great life for themselves and their now grown kids. He has the freedom to do what he wants and chooses to be of services to his students. They, as you can imagine, love Mr. Mac.

Mentor \ 'men – tor, -tər\ n: trusted counselor or guide

I have been blessed with mentors my whole life. I am grateful for their lessons, some of which didn't sink in until years after they were delivered. Here are a few of my mentors and their pearls of wisdom:

Restaurant owner Jackie Moran taught me that every job is an opportunity to develop excellence. There is honor in washing dishes, filling salt shakers and pouring coffee.

Ski instructor Val Stevens taught me about keeping things simple and sticking to the basics. He believed that we get tired of talking about the few things that make all the difference. So, we ball things up and make it complicated. The basics work...and they are new to your students. As you are getting tired of it...it is just starting to

(Turn to Teachers are Our Leaders... Page 79.)

Super thinking procedure

This procedure will help you and your team brainstorm. Super Thinking will help you come up with Top Projects that will move you towards your goals, or to help you solve a problem.

1. Clearly state the goal (or define the problem) and write it down on a flip chart or dry erase board.
2. Everyone at the meeting: Spend five to 15 minutes writing down as many possible ideas for achieving that goal (or solutions for solving the problem) as you can...no less than 20 solutions.
3. Go around the room. Write down on the flip chart or dry erase board everyone's ideas. Don't write down the duplicates.
4. Go around the room and vote on the top three ideas. Mark the first choice with three points, the second choice with two points, the third choice with one point.
5. Reword the ideas into a project or projects. What to do? And check it...will that project or project move you in the direction of your goal? Help solve the problem?
6. Update the Top Project list.
7. Update your Outlook calendar appointments. Follow up weekly until the due date.
8. Debrief...what have you learned? Is the problem solved? What new problem can you tackle?

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RICHARD P. DiTOMA, L.M.P.,
contributing writer

You're on your own

Who's going to bail *you* out?

You are not a banking institution or a big auto maker. You're Joe the Plumber or Tom the Contractor. Nobody other than you and your family cares if you go out of business.

Your mortgage is overdue. You are having trouble meeting your payroll. Your suppliers are clamoring for their money. Your trucks need repair or replacement. You can't borrow anymore from Peter to pay Paul because Peter is out of money.

Why is it this way? Simple! The cause of all business problems stems from mismanagement. You might think you're running your business correctly. But deep down inside you know you're not sure. And you know you are not happy with the results you're getting for your labors and investments. To make matters worse, you charge the same "going broke rate" that your competitors [who probably are also in financial trouble] charge.

The administrations of the troubled banking institutions and big auto makers obviously have mismanaged their respective enterprises. They are suffering from the same business maladies as your business on a much larger scale. If you were one of them, you could make an argument that the Federal government should bail you out by loaning you billions of taxpayer dollars to help you. The basis of the argument would be the catastrophic effect your failure would have on the economy nationwide.

Regarding the federal bailout, I can argue for it and against it. I guess, like many Americans, I'm torn on the subject. If our economy fails, we're all in a world of hurt. If the bailout is successful it has the potential to be the catalyst which turns the economy around. "If" is such a big word.

Neither of those "ifs" addresses the real problem. When businesses are improperly managed, businesses will fail to be successful. Unsuccessful businesses may move a great deal of money. But that's not the same as recovering costs and earning profits which are above the cost of running the business. When money stops moving, like it presently has, the excrement will always contact the rotary oscillator. The context of this subject — that "if" comes to fruition — is dependent upon the actions of humans who up to date have behaved in an unfortunate and absurd manner.

Greed, stupidity and fear are the root causes of the bad managerial decisions of officers, directors and administrators of publicly traded businesses. When those businesses are not truly profitable and the administrators dole out ludicrous salaries, unearned bonuses, and/or agree to labor contracts that are not proficient in order to line their own pockets and the pockets of their cronies at the expense of their shareholders, those people can only truly be perceived as voracious dolts.

When labor imposes ridiculous work rules on management and a fearful management kowtows to those demands which are actually detrimental to good sound business reasoning, labor is acting like selfish dimwits while that management can be considered as brainless cowards.

When government rules, regulations, mandates and taxing policies are disadvantageous to logical and efficient business management, government is guilty of being greedy, mindless and downright stupid.

To add insult to injury, the three stooges [manage-

ment, labor and government], through their illogical behavior, have the audacity to increase the burden they place upon the taxpayers of the greatest country on earth. The continuation of these types of inane actions can only lead to the financial collapse of the taxpayer base. Where then will the management, labor and government giants of absurdity turn for bailout money?

If management, labor and government would just have done the right thing in the first place, the problem would not have been as disastrous as it is.

I'm not suggesting that businesses should lower their prices just to bring in more sales; that would be equally wrong and as disastrous if the prices were below their true costs and did not allow them to make their businesses financially strong. I am suggesting that they control their costs properly in a balanced, logical and profitable manner rather than a gluttonous and gratuitous one that kills the goose that laid the golden egg.

You are not a banking institution or a big auto maker. You're Joe the Plumber or Tom the Contractor. Nobody other than you and your family cares if you go out of business. The only bailout you can receive comes from you. You can keep putting money and sweat into your business in the misguided hope that mismanagement will somehow miraculously turn into success. But, more than likely you will eventually run out money, and, become an exhausted and stressed out human.

You are the management of your company. In some cases, you may also be its only labor force. Yours is probably a privately owned small business. But, if you mismanage your enterprise in the same fashion as big business, you will put yourself in the same position in which big business finds itself. A position created by greed and destroyed by stupidity and fear.

In order to be fair to yourself, your family, your employees [if any] and your creditors, and to your clientele, you must strive to deliver excellence to your clientele; properly control and recover all your operational costs; earn the reward you deserve for the value you deliver; and make your business financially strong. You can't accomplish that through mismanagement.

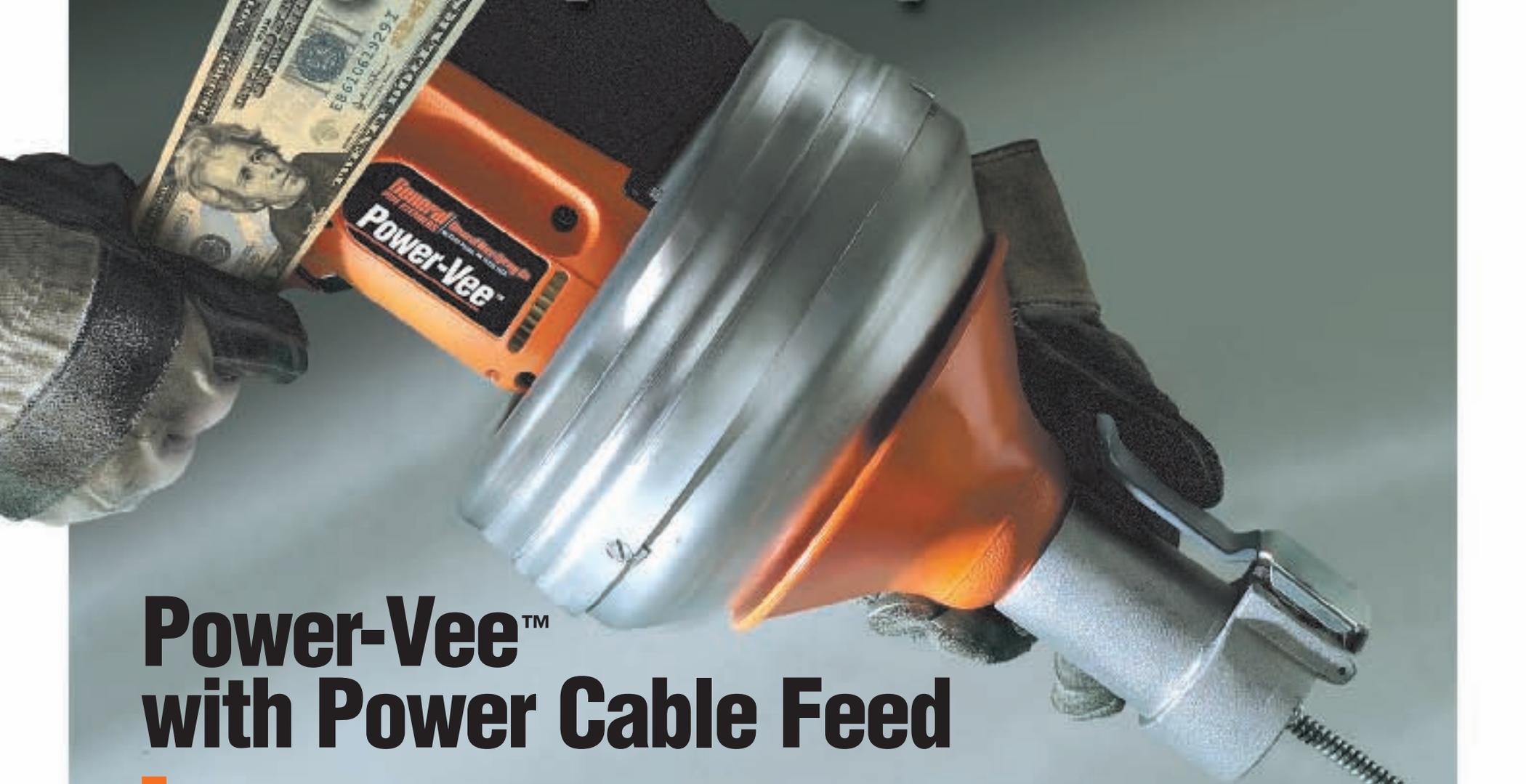
You can only achieve this by understanding the reason your business exists [that is to make a profit above all costs including your salary]; recognizing the problems you will face; taking the correct steps to avoid or remove those problems; and delivering excellence to your clientele.

You must set up a good business game plan that gives you an opportunity to succeed. Although success is guaranteed to no one, failure is the imminent result of those with no, or bad, game plans.

You must know the costs you incur; choose a profit margin that will help you attain your goals; and calculate and sell your services at proper profitable selling prices. When it comes to your prices, you only have three choices. That is, to sell at your cost, below your cost or above your cost. Two of those options will only lead you down the road to failure.

You must be able to address your own doubts. You
(Turn to DiToma, Page 79.)

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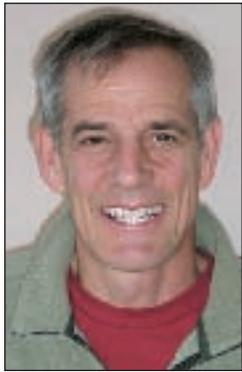
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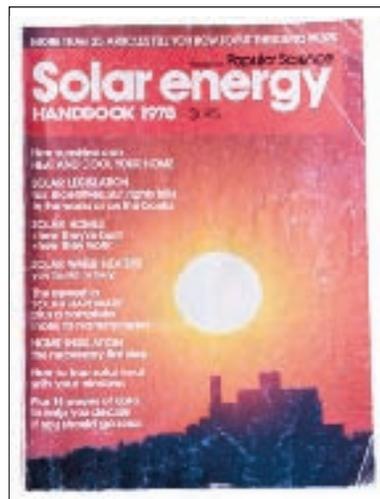
BOB "hot rod" ROHR
contributing writer

Humanity has been using solar energy for a millennia. After the past 50 years of being seen as 'outsider' technology, average people are beginning to embrace the sun's power as never before.

A solar retrospective

Banking on solar; a trip back 30 years

For some unknown reason I managed to hold onto some 30-year-old solar data. It has managed to survive four moves and crossed state lines several times.



In 1978 *Popular Science* magazine published its *Solar Energy Handbook 1978*. I paid \$1.95 for a copy.

Solar's roots

The style of clothing has changed (though several items are still hanging in my closet) but many of the basics remain unchanged.

In 1870, Swedish inventor John Ericsson built a steam engine that was powered by direct input of solar radiation. Ericsson was better known as the designer of the famous war vessel the Monitor.

Aubrey G. Eneas pumped well water for his ostrich farm with a steam-powered pump. He used over 1,700 small mirrors to focus solar radiation on a steam generator.

Tinkerer/inventor O.W. Wood of New Jersey offered his collector plans to DIYers for \$25.00. The frame was plywood edged with pine. It sported 1" thick Styrofoam-edged insulation and four 60' coils of copper, installed and pitched to drain down. O.W. took heat enhancement to new levels by adding two 80-lbs. bags of Sakrete™ to the collector, and painting the whole enchilada black. To reduce cost he bypassed expensive glass and instead chose a piece of 5-mil vinyl as the covering. Four of these collectors, ground mounted of course, were providing about 100 BTU/H per square foot. O.W. spent \$5.00 per square foot for materials. He also detailed a wood stove heat exchanger tie-in to the 350-gallon vinyl lined plywood storage tank. Groovy!

The "SunFloor solar collector" was built in Montana by



The SunFloor solar collector was built by RPA's Larry Drake.

none other than Larry Drake, of RPA fame. He, along with Drake's production manager, John Fantuzzi, and Jim Chauncy, built a clever drain-back collector with rear connections and specific mounting hardware. The collectors flashed nicely to blend into the roof rather than stand proud on mounting legs; they were installed with the "Sunterra Home"™ package to provide DHW and radiant floor heat on these unique homes. Large commercial applications were also installed, like this one pictured in Billings, Montana.

Here are some names you may recognize...

Lennox Industries partnered with Honeywell to offer a complete solar-heating package through its Lennox 6000 dealers. The DHW package had an installed cost of \$1500.00. A dealer-training program covered the design, installation and service of the systems. I helped a home-

All the stuff we are talking about today has been with us since the '70s, '60s... even the '50s. Perhaps now we can bring this fringe movement mainstream.

owner install some Lennox collectors just a few years back. He found a bunch of never used collectors somewhere here in Missouri.

ITT Fluid Handling Division offered pumps, valves and heat exchangers for solar heating, as well as design manuals for contractors and engineers.

Westinghouse Solar Heating and Cooling division offered a solar-assisted air-to-air heat pump. These systems used an air-type collector build by SunWorks™.

General Motors' Harrison Radiator division developed SDHW systems around 1978. Perhaps GM could revive this division and lower the balance on the taxpayer funded bail-out.

Grumman Aerospace's Sunstream™ division started marketing their collectors in late 1975. The curved surface Finplank™ was a copper-tube-aluminum absorber 27 square footer that sold for 300 bucks. Grumman was a popular, high quality collector. I still come across them from time to time.

Revere Copper and Brass was known to be one of the oldest and largest solar energy companies. The SunPride™ was a "tube-in-strip" design. These were closed-loop glycol systems. A two-panel system with tank sold for \$950.

Our friend and hydronic wiz John Siegenthaler worked for Revere after he graduated from college. I believe Revere collectors still are providing SDHW and heat to his upstate New York home. Radiant floor heat is provided via a copper tube staple-up in his home's system.

Universities across the country had solar research projects in the works. NASA got involved in the testing of collectors. A lot of energy and brain power was directed

(Turn to What's old ...Page 34.)

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CALEFFI
Hydronic Solutions

What's old is new: A trip through time with solar energy

(Continued from page 32.)

toward solar in those years.

Solar builders also were appearing on the scene. California-based Blue Skies Radiant Homes sold out its first



The Sunterra Home™ package provided DHW and radiant floor heat in unique homes.

solar subdivision, with homes in the \$37,000 - \$46,000 range.

Business boomed in these years with 400 or more U.S. companies in the solar game. Collector production totaled 136,000 square feet in 1974. Four million square feet rolled off assembly lines in 1977.

Solar cooling also was installed in the '70s. Owens-Corning offered the Sunpak™ evacuated tube collector. Collector manufacturers for solar window glass had approached inventor Y.K. Pei. While OC didn't produce window glass, they were versed in glass container manufacturing. The evacuated tube concept was moved forward from an

early version of 15 years prior, which had a problematic metal-to-glass bond. Y.K. came up with the glass-in-glass concept to address the thermal expansion problems that plagued the earlier designs.

Honeywell-NSF took the solar cooling idea to a higher level by building an 18-wheeler demo truck. With a grant from the National Science Foundation, they built the truck with 750 square feet of collector surface. Inside the van, both Rankin-cycle and absorption-powered AC units were operated.

Sunpak™ tubes were installed on what was billed as the "World's Most Advanced Solar Home" on Long Island, N.Y. The 384 tubes provided in excess of 50% of the homes heating

requirements. The 450-square-foot roof-mounted array stood up to Hurricane Belle. The solar control module, the size of a large refrigerator, included the plumbing, electronics and a minicomputer to operate the system and log data. Phone lines to "mission control" transmitted the data from the roof-mounted minicomputer.

The back pages of this informative handbook include a template to build the "Popular Science Sun Locator" device, load calculators, radiation data and a list of available tax credits and incentives from various state programs.

How about that? All the stuff we are talking about today has been with us since the '70s, '60s...even the '50s. Perhaps now we can bring this fringe movement mainstream. Break out the tie-die. What was once old is now brand new...and needed more than ever before. ■

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Commercial/industrial sector faces 2009 with guarded optimism

Year-end forecasting usually brings out the pundits, the prognosticators and the macro-economists, who lump together all business and industry into one giant crystal ball! In the \$75 billion plumbing-heating-cooling-piping industry, such oversimplification becomes absolutely farcical. This is true first and foremost in our industry's broad-based distribution and contracting system, which encompasses both plumbing-heating-cooling, as well as pipe, valve and fittings.

Even though the upstream sector of the energy markets has become the focus of highly specialized distribu-

Drilling may be the biggest boon to the expansion of commercial/industrial product usage... there is more conventional drilling in the lower 48 than in the past 20 years.

tion and end-use installation, centered in the Greater Houston area, a substantial portion of commercial/industrial commodities is still shipped by multi-branch distributors, who combine all aspects of the plumbing-heating-cooling-piping spectrum.

As we enter 2009 with trepidation, there has never been a greater disparity in the fortunes of the two major industry sectors. Under the best of circumstances, the PHC industry component can hope for a moderation of the severe recession under which it has labored for the past 18 months. At worst, the fast-growing commercial/industrial sector may face some cooling of the red-hot pace that has brought manufacturers, distributors and end users the greatest boom since the early 1970s.

The following factors hold the answer as to the extent of the success commercial/industrial can look forward to this year:

1. The direction taken by the Obama administration in breaking the back of the economic mess in which the U.S. now finds itself. This includes the Obama approach to free trade, labor union card check legislation and the expansion of fossil fuel production within the United States.

2. The acknowledgment that small and medium-sized businesses are at the core of America's recovery. Additional taxation of all kinds and onerous regulation could deal a fatal blow to the survival of hundreds, if

not thousands, of these establishments. This would include the bulk of this industry's independent and privately owned distributors.

3. The recovery of oil and natural gas pricing, which has become as severely underpriced as it had been runaway on the upside in mid-July.

4. The easing of the credit crunch that has continued to bedevil manufacturers, distributors, contractors, installers, end users and OEMs. Both new projects and maintenance operations will continue to be affected adversely as the year wears on.

5. Exports, which had become the saving grace in a tottering economy, may be in a downturn. With the dollar continuing to strengthen and foreign markets hit by growing recession, this near \$2 trillion per annum sector could be on the way south, taking with it a chunk of commercial/industrial sector products. Domestically manufactured industrial products had previously made up two-thirds of the red-hot export picture. Many commercial/industrial manufacturers, as well as distributors, have participated in this surge and could be hurt by its reversal.

Barring the unexpected impact of a one-sided restriction of anti-business, anti-trade legislation by a one-sided Democratic majority, the commercial/industrial juggernaut will continue its steamroller throughout 2009 for the following reasons:

1. The aforementioned two trillion dollar U.S. export sector, the biggest surprise in an otherwise sagging economy, will continue to maintain its momentum. Although a stronger dol-

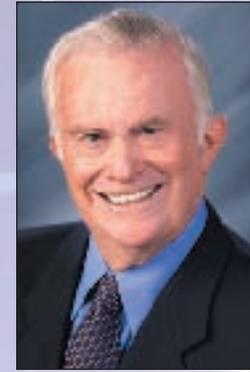
lar and a temporary slowing of the developing nations' growth may act as an inhibitor for now, there will be no appreciable downturn in the demand for the commercial/industrial sector's products for 2009 as a whole.

2. Mechanical contractor-related commercial and industrial construction has been adversely affected for months by the credit strangulation of businesses large and small.

Although government intervention in commercial paper availability and direct access to the Federal Reserve Board's discount window has begun to help, the building of hotels and motels, high rise apartment buildings and planned shopping centers has suffered. Institutional buildings, however, such as healthcare and religious edifices are proceeding apace. Industrial construction is also on schedule. The need for housing technological upgrading, despite reduction in personnel, also calls for expanded facilities.

3. Water and wastewater facility development is on the verge of its greatest year ever; however, federal, regional and local funding may put a cap on the extent of the growth.

4. Power generation. The crescendo of growth in this arena is certain to hit an all-time high as both nuclear and conventional electrical power undergo a catch-up to close the growing gap between supply and demand. Although environmental obstacles continue to be manifested, the danger of brownouts and blackouts should pressure the relevant authorities to be more amenable, even in the area of coal-powered generating facilities.



BY MORRIS R. BESCHLOSS
PVF and economic analyst

5. Alternative energy development. Although still in an embryonic stage, solar and wind power, as well as greater natural gas utilization and expansion of ethanol by utilizing corn husks, feedstock and switchgrass for ethanol conversion should reverse the recent downturn of that questionable gasoline blend.

6. Drilling may be the biggest boon to the expansion of commercial/industrial product usage. Although it's doubtful that the new administration will get behind offshore drilling, shale oil development or drilling in the Alaska National Wildlife Reserve just yet, there is more conventional drilling in the lower 48 than in the past 20 years. The only hold-back could be the further drop of already low prices that may make the current spate of drilling non-profitable.

All in all, there are only a few clouds on the horizon preventing the continuation of the commercial/industrial surge. Even the credit crunch that has inhibited the inventory development of the sector's distribution system is thawing out, as greater access to loans, as well as commercial paper availability, are facilitating the optimizing of requisite inventory levels. ■

Morris Beschloss, a 52-year veteran of the pipe, valves and fittings industry, serves as PVF and economic analyst for The Wholesaler & Phc News.



BY JOE SCHMITT
PHCC—National
Association President

We've really experienced a lot of change in the P-H-C industry recently, haven't we? From unbelievably high gas prices to a down real estate market and tighter financing, we seem to be getting hit

PHCC looks ahead 2009: Staying positive

from all sides. And these challenges do not even include those we are facing on an individual basis — like investment losses, retirement fund concerns and home value declines.

But we've heard enough lately about all these "downers." What I'd like to talk about are the certain-to-be better times ahead. Historically, the P-H-C industry has experienced difficult economic times before, and we have always come through. There are many positive things going on in the industry right now that are worth noting.

The most reassuring aspect of our industry is that we are not going to go

Opportunities certainly exist for the progressive contractor who wants to add additional growth.

away. Our services are definitely needed. I am sure you have seen the American Standard poster that says "The Plumber Protects the Health of the Nation." Well, that phrase really says it all. Professional plumbing and HVAC/R professionals really do provide a vital service to our customers. And,
(Turn to Plenty of... page 38.)

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Plenty of opportunities for contractors in difficult times

(Continued from page 35.)

there is no way our expertise can be outsourced to another country, so that's job security, too.

As we experience this unsettling period, let's remember all the positives for our industry and ourselves. First, we can be thankful that not all of our colleagues are suffering. There are some pockets of the country that are doing very well these days. But for those who are not, I encourage you to "hunker down" and concentrate on making your businesses better. Now is the time to take advantage of all the opportunities we have to improve and expand our businesses, and to hone our skills. Then we'll be "rarin' to go" when the turnaround occurs, because rest assured, things will get better.

Opportunities do exist

With the growth in emerging technologies in the P-H-C field, there are many opportunities today to branch out into new lines of work. For example, several PHCC contractors have developed an expertise in new areas like solar, geothermal and rainwater harvesting. Many have been very successful, and have even found their new technologies have become a larger part of their business than the traditional plumbing and HVAC/R services.

Opportunities certainly exist for the progressive contractor who wants to add additional growth. The International Code Council has mandated installation of residential fire sprinklers as part of the International Residential Code. Beginning Jan. 1, 2011, all new one- and two-family residences will require sprinklers. This is an opportunity for those contractors who do residential plumbing to get involved with fire safety. Fire sprinklers save lives, including fire fighters' lives.

There also is the potential for infrastructure renovation work that is part of incoming President Barack Obama's proposed economic stimulus plan. Sections of the plan encompass construction of new buildings, such as schools and hospitals, and the revitalization of existing buildings, which present business opportunities for P-H-C contractors. Along with new plumbing and HVAC systems for new construction, retrofitting will be a key component in the modernization of existing buildings and structures. PHCC will continue to monitor this proposal, and will guide members on how to get involved if the plan is approved.

Green construction also is a growing market. To establish an expertise and credibility in the green arena, many of our members are becoming certified through the GreenPlumbers® program. Beginning in 2009, PHCC-

National Association will bring this national training and accreditation program to PHCC chapters across the country. We will be working with interested state and local groups to schedule and promote the programs to members, non-member contractors and potential sponsors.

Now is the time for education

During these down times, PHCC encourages all P-H-C contractors to take advantage of the many educational opportunities that are available. Not only will learning new business strategies and skills help you deal with difficult times in your business, you'll also be more prepared when things turn around.

For example, consider attending PHCC's annual convention, "Connect

To establish an expertise and credibility in the green arena, many of our members are becoming certified through the GreenPlumbers® program.

2009." The event, which is geared totally toward the P-H-C contractor, will be held Oct. 21-23, 2009, in New Orleans. There will be a variety of educational and networking sessions offered, as well as a new Product and Technology Showcase. We hope all PHCC members will attend, and encourage non-members to participate as well.

PHCC's sub-groups also are offering educational programs that address the pressing business issues of the day. All of these meetings are open to contractors who are interested in learning more about the groups. The March 3-4 Construction Contractors' Alliance meeting will focus on "Developing the Leader Within You" and economic forecasting.

The Quality Service Contractors will meet March 19-21 in Daytona Beach, Fla., to discuss "Lean Business Practices: Operating Efficiently and Maximizing Profits." The Union-Affiliated Contractors will address union-specific issues at their annual Unity Meeting May 13-16 in Kohler, Wis.

So if you start feeling down when things aren't going according to your business plan, remember to think about the good things that are happening and to take some time to become educated on subjects that will help you now and in the future. Believe me, better times are ahead. ■

For more information about PHCC, visit www.phccweb.org, or call (800)533-7694.



BY PATTY FRANK
Chair, Quality Service Contractors

QSC viewpoint Now is a perfect time to invest in your company

Tired of all the negatives in the news? Many are asking where do I start cutting — marketing, overhead or staff? My advice is to maybe do a little bit of all three, but be very careful on cutting what actually protects you on the downside. Cost savings should never come at the expense of the ability to accomplish your long-term plans. Here are some positive steps you can take to build your business to help you to be positioned for the turnaround that is coming:

Quality Service Contractors (QSC) members have found that now is the perfect time to invest in your company and your employees. Your employees are the most valuable asset within your company. Keeping them up to date on all the latest in great customer service techniques, sales training, technical training and software makes more sense than doing nothing or cutting everything out.

By providing ongoing training, this will send the message to your employees that you are not going to give up, but rather build for the future. There are many inexpensive ways to provide to your employees. This can be done online through Webinars, in-house seminars, vendor technical sessions or teleconferences.

Employees want to be part of the solution, if given the opportunity. You need to make sure people are still setting goals and working toward them. Employees will want to know how they're doing and what's expected of them going forward.

Have you given some thought to reviewing your business operations to search for ways to improve your systems and processes with the ultimate goal of improving your bottom line? The time has never been better to look for ways to reduce unnecessary expenses and improve productivity and profitability.

This can also involve your employees. Ask them if they can think of ways to help the company improve. Of course this also will help them in the long-term by improving the prospect that their jobs and benefits will be there when the economy improves.

Reviewing your financials to see how you compare with industry averages is a good way to determine how solid your company is. Many QSC members utilize the QSC business coaches to help them with this. They can find out if their income and expenses are within averages for company's their size. If not, then they have good ideas of what areas to look at to improve their bottom line.

The QSC Power Meeting in Daytona Beach, Florida, March 18 – 21, 2009, will focus on all the above to help service and repair contractors weather these economic times. If you are looking for ways to improve your business, you will want to mark this on your calendar. ■

If you'd like more information about QSC, an enhanced service group of the Plumbing-Heating-Cooling Contractors — National Association, call (800)533-7694, or visit <http://www.qsc-phcc.org/>.



CCA
outlook

BY BARRY
BANKLER
Construction
Contractors'
Alliance
Chair

We're finding ourselves again

surprisingly, these have been a bit gloomy lately. In fact, at our last CCA meeting, one member jokingly began reading his last report because he said he didn't want to talk about the current economic situation.

The outlook really has changed from what it was just a year ago, and there definitely were a few dismal tales at our October meeting. But at the same time, there were many positives. (Turn to CCA... page 40.)

Typically, one of the most popular parts of a Construction Contractors' Alliance meeting are the "State of the Economy" reports given by new construction contractors across the country. Not



Dick and Larry Stonitsch

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CCA concentrates on priorities

(Continued from page 38.)

itive reports of how profit margins have improved. We like to think this is a testament to how effective members have been at anticipating what was coming, and how they have made appropriate changes to adjust.

Here are some highlights of what CCA members have been experiencing, how they are coping with down times, and what they see ahead:

Day-to-day experiences

On the residential side, work is off 30% to 90% in some areas. Most businesses have had to downsize. Building permit activity is down. National home builders are halting projects. The situation has been complicated by the fact that many prospective homeowners cannot qualify for financing. Members predict things won't turn around until 2010 at least.

On the commercial side, the market is still strong in some areas of the country. However, a number of members reported they were starting to feel the effects of the country's financial instability. For example, some owners are beginning to have trouble securing adequate financing for projects. Others are working harder to get jobs because residential and light commercial contractors are creeping into their markets. Not only does this increase the number of bidders, it adds to the frustration level because in some cases they are "bidding against ignorance."

Overcoming difficulties

Although there has been some commiserating among members, there also are many positive trends to note. For example, many members are taking advantage of the down time to concentrate on improving processes and procedures that will help them be stronger in the future. They're also updating software programs; concentrating on improving quality and efficiencies; refining their pre-fab shops; analyzing the field and warehouse operations; and exploring new initiatives, like green construction and the residential fire sprinkler market. Some also are bidding on jobs in other states or entering growing markets in their areas, like hospital work, design/build and performance contracting.

Training has become even more of a priority. Members are investing in training for themselves and their employees. As an example, CCA will

hold a meeting for controllers in mid-March designed to help them cope with their responsibilities during down economic times. Many members also are training their estimators and project managers on the latest software programs available.

What's ahead

Since our meeting in October, the financial markets have taken another turn downward. Credit has tightened even more, and private work requests have diminished. With the prediction that these uncertain economic times

Training has become even more of a priority. Members are investing in training for themselves and their employees... Many members also are training their estimators and project managers on the latest software programs available.

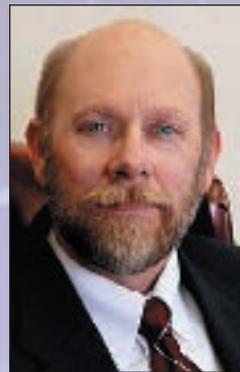
will last a year or two more, CCA members are buckling down to ride out the storm. We've seen things turn around before, and we know that time is coming again. In the meantime, we all have to make tough decisions to keep our companies moving forward. It's great that we're able to keep in touch with our fellow CCA members to stay on top of the latest trends and techniques to make our businesses better.

In some groups, misery loves company. In CCA, the fellow members challenge each other to put aside excuses, and lead our company to successes, no matter what the current conditions. During our Winter 2009 meeting we've planned a full-day leadership training session to help us be effective leaders of our companies during both the good and bad times. We've also scheduled a forecasting session with a professional economist to help us prepare for what's ahead.

We definitely think there are some positives that will come from what we've experienced during these down economic times. Here's what one member said at the last CCA meeting that I think sums up the situation:

"We're finding ourselves again. We're far more discerning about what we want to tackle that has expenses related to it. It's different than the free-wheeling days." ■

If you'd like more information about CCA, an enhanced service group of the Plumbing-Heating-Cooling Contractors — National Association, call (800)533-7694, or visit www.phccweb.org and click on the CCA logo at the bottom left of the page.



BY LAWRENCE DRAKE
Executive director,
Radiant Panel Association

How does one make an industry forecast in times such as these? Although faced with serious obstacles, it is a time of great opportunity. So much depends on a staggering economy and a new administration. What is the most likely scenario? At this point, it is anybody's guess, so I will make the best one I can. As one of my favorite sayings goes, "plan for the worst and hope for the best."

It is ironic that people seem to be at their best when times are worst. And, in most cases, we are at fault for creating our own bad times. I think we all knew we were building homes faster than we could occupy them, using credit beyond our ability to pay, overindulging in goods and services, driving fuel guzzling cars and relying far too much on foreign energy.

Yet, we continued headlong into our current crisis until the system couldn't handle it any more and broke down. Now, faced with the reality of what we have created, we are looking for change.

Change comes when people are pushed out of their comfort zone. When times are good and things are comfortable, no one wants change. If you are sitting in a nice cozy, warm house with a full stomach, you don't want change. Put out on the street hungry and cold, you want change.

So, I guess I am saying that tough times can be good times, because they can bring change, and some of the changes in the wind are how we use our energy, how we treat our environment and how we design for healthier homes and business places. This is where the opportunity lies for the radiant panel industry.

Here is the challenge. As much as people want change, it has to be affordable. "Green" has become the catchword for much of the change people want, but at what cost? If experience teaches us anything, it is that there is a limit to what people will spend on an ideal. When gas prices and interest rates soared in the late 1970s and early 1980s, the government jumped in with tremendous tax incentives for alternative energy. The auto industry was enticed into making smaller cars, highway speeds were limited to 55 mph, and the gov-

RPA weighs in

Forecast for an uncertain radiant future

ernment practically paid for solar systems with tax credits. *Mother Earth News* and Energy Fairs were in. Geodesic domes sprung up like mushrooms and houses all over the country got ugly black boxes tacked to spindly scaffolding bolted to their rooftops to heat water and save energy. We were all going to save the planet, and the government was going to pay the bill.

When Uncle Sam got tired of paying for all this "change" and the energy crisis waned, the public enthusiasm for saving the planet died. It wasn't that people wouldn't have liked to build a super insulated, earth bermed, solar heated house; they just couldn't justify the expense. There were more important things to spend their money on, like hot tubs, upgraded kitchens or third garage stalls for their mobile homes.

So, what does this all have to do with my forecast for 2009? Well, I predict that, as in the mid-1970s, the enthusiasm for the "green" movement by the government and the people will open a window of opportunity for products such as thermal solar and geothermal. Of course, radiant heating enhances these technologies and can hitch its wagon to that rising star. There will also be a flurry of

If our industry is wise, [2009] could be a great launching pad for unprecedented growth.

highly efficient heat sources that can take full advantage of radiant heating. No doubt, new government incentives will be created to help jumpstart this frenzy toward energy independence.

How smart will the radiant industry be? Will we design and price our systems to take advantage of the new tax incentives, or will we produce truly affordable heating and cooling systems that happen to be energy efficient? The modern radiant heating system was reborn in the "Mother Earth" movement of the '70s. It barely survived the crash of the solar industry when the tax credits disappeared. It has struggled for the last 25 years to make a mark in the HVAC market.

The industry has been successful in educating the public on the comfort and energy benefits of radiant heating. It has not been so successful in being price competitive with conven- (Turn to Can we get... page 42.)

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Can we get it right this time?

(Continued from page 38.)

tional HVAC systems and, therefore, remains a niche market product. There are definitely areas and applications in which radiant is very cost competitive. People want radiant heating until they hear the price. Unfortunately, they are willing to tolerate a lesser heating system so that they can spend their hard-earned money on other things that they feel are more important or desirable.

The good news is that the industry is beginning to focus on ways to cut costs, increase performance and become more contractor-friendly. If the industry can continue on this tack and, at the same time, take advantage of the fervor over green technology, without falling into the trap of pricing for the tax incentives, we could see a long-term growth with staying power. Either way, there will be opportunity in the short haul, but not nearly the opportunity that is available to the industry if it can make its product affordable to the majority.

My forecast for 2009? There will be

a lot of buzz over solar, geothermal and biofuel driven radiant systems. Some affluent people will pony up and spend the extra to save energy, but the vast majority of people will not. This will provide opportunities for some contractors and products, but I don't believe it will be a large or sustained market. The housing market may start to recover, providing some relief, but the real growth will come in affordable retrofit systems and some new construction. Commercial construction could see some good growth because radiant in that market can be cost competitive and can also save a considerable amount in energy.

I believe the radiant industry will hold its own overall, but that there will definitely be pockets of decline and pockets of growth. 2009 will be the year that we set the stage for the future. If our industry is wise, it could be a great launching pad for unprecedented growth. If we are lulled into relying on government-subsidized programs, we will remain a small industry in a niche market. ■



BY DAN CHILES
Marketing vp, Watts Radiant

For 2009, I see huge demand for water. Make it heated, cooled, solar, waste, rain, grey, storm, filtered, firefighting and, of course, ... ice. The ice is for the margaritas to celebrate the income statements for any company smart enough to head for water.

Designers across North America have gone nuts for LEED green buildings. The U.S. Green Building Council says that there are 31,000 certified green buildings, 62,000 accredited professionals and a 30% growth rate for green buildings, even in a recession. There will be hundreds of thou-

The next Big Thing The market for water will be redder, but greener

sands of green building projects on the drawing boards in 2009.

Developers and owners are in green Boy Scout mode: They're gathering merit badges for the technologies that make buildings more functional. Get past the building shell and, everywhere you look, water delivers the goods.

The engineer says, "Let's use water-source heat pumps and radiant tubing to space heat and let's cool from the

Engineered, value-added
and integrated water
technologies are waves
of opportunity for
smart companies.

ceiling, because it's cheap to operate."

Tenants want constant domestic hot water circulation to save water and energy and to avoid waiting for their showers.

Moms want a rainwater system for washing clothes in soft water.

Accountants want solar thermal domestic pre-heat because of the 30% tax credit.

The City wants rainwater and grey-water systems installed, because they're facing new EPA stormwater mandates and water re-use downsizes detention basins.

The landscaper wants a low-flow irrigation system for the shrubs on the ground and for the plants on the green roof.

The insurance guy and the fire chief love it when fires go out in 20 seconds.

The marketing folks want reverse-osmosis treated water in the break room because, with all the BPA and pharmaceuticals in the drinking water, they're afraid they won't look like Jennifer Aniston or Brad Pitt.

Bonus: The reverse osmosis filter makes crystal-clear ice for the margaritas.

Sure, that's a lot of trades and technologies, but that's what the telecom guys used to say before they figured out how to bundle services. Now you get your long distance, local calls, cellphones, 3G high-speed data, teleconferencing, internet, cable-TV, movies-on-demand and security services from one obscenely profitable
(Turn to Chiles, page 44.)

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Circle 55 on Reader Reply Card



Chiles

(Continued from page 42.)

giant Mega Corp. Today that's AT&T; tomorrow that's Google and soon it'll be a pimply 14-year-old kid in his bedroom with an i-phone.

Housing starts are sick and won't get back to 2006 levels for a decade or longer, if ever. If you like the idea of bundled water based services, you won't be crying. Tract houses in Vegas weren't customers anyway. The market in 2009 will be smaller, but smarter. Wilder, but wetter. Redder, but greener.

Engineered, value-added and integrated water technologies are waves of opportunity for smart companies. That's why most companies won't get it and why I predict I'll be saying the same thing again in 2010.

But I'll buy a cool, tequila-enhanced drink for anyone who proves me wrong. ■

Hydronics a good bet

Hydronic dips 'n' swings: To survive and thrive, be smarter than the average Bear Market

BY JOHN VASTYAN
Owner, Common Ground
trade communications

Raise your hand if you think the economy stinks. Alright... a quick hand-count confirms

"We're way behind with profitable jobs lined up as far as we can see..."

"Jammin' on all cylinders on high margin jobs with no rest in sight..."

it: we're in a recession. But wait — the story rests with the folks who don't agree.

You could Read All About It! in every newspaper and magazine, seek enlightenment on network news, or tap every dot com resource on the Web. Yet for every poll taken, for every source of intelligence, there's a contrarian view, a thread of hope. This is one of those.

I agree — the conflicting opinions are baffling. Housing starts are way down, and commercial construction is dipping as well. Sadly, these realities are tied to a mortgage and finance mess that the Feds haven't fixed. And then there's the global market vortex: hey, we're all in this together.

It's through this ugly haze that we focus our periscope on the U.S. hydronics industry. Let's take a look at how things may look in '09.

It's down. I won't win any awards for that call. Many of you are struggling to meet payroll and lease payments. But not all of you. Many manufacturers, reps, wholesalers and contractors are saying, "We see the cloud, but it hasn't affected us yet. Business is up."

Spirited leaders

Only a small portion of the new construction market overlaps with hydronics. It's chiefly at the high end where radiant and hydronics dwell. There's little disagreement that — at the core of it — the technology thrives noticeably only in the northern regions, or in hydronic strongholds like Boston and Rochester.

These are areas — frequently where cold winters and higher incomes intersect — where you're most likely to experience the logic-defying, anti-gravitational pull toward hydronics, both in the residential and commercial markets. Typically, in the residential sector, the higher-end work involves mod-con or geothermal and solar technology connected to extensive, multi-zone radiant heat systems. Also, there's the "re-green" residential retrofit business, no small portion of business on the move today. Commercial use of radiant heat, hydronics and geothermal has slowed, but there are many exciting projects out there.

Remarkably, a disproportionately high number of hydronics projects, large and small, are found where spirited, passionate contracting firms or leading reps and wholesalers energetically champion new technology and comfort solutions. They're creating cozy pockets of hot water!

What are they saying today?

- "Business is great. We have never had more work booked and waiting to go in than we have now. I've just hired three field techs and purchased two new trucks," said ex-RPA president Dan Foley, president of Foley Mechanical in Alexandria, Va.

- "We're way behind with profitable jobs lined up as far as we can see; we're busier than we've ever been," said Greg Jannone, another ex-RPA president, president of Jannone & Sons Plumbing & Heating, Inc. in Bound Brook, N.J.

(Turn to Hydronics... page 46.)

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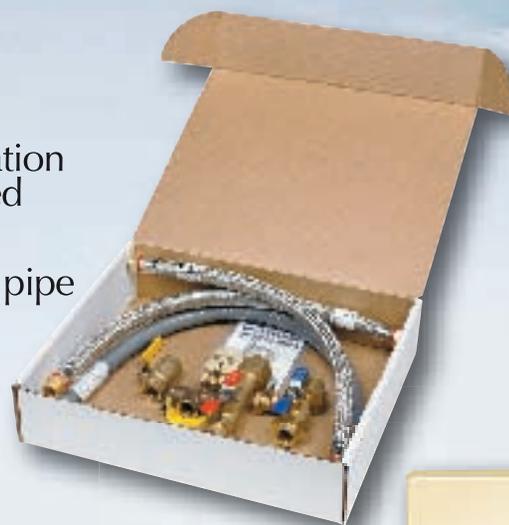
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Circle 29 on Reader Reply Card



Hydronics finally 'back in the consciousness' of Americans

(Continued from page 44.)

• “Stretched thin and gave up any notion of vacation this year,” said Justin Johnson, president of Sprinter Heating & Hydronics in Idaho Falls, Idaho.

• “Jammin’ on all cylinders on high margin jobs with no rest in sight,” exclaimed Dave Yates, president of the full-service plumbing and mechanical contracting firm, F.W. Behler, Inc. in York, Pa.

• “We’re having trouble keeping inventory of our best equipment,” said Rick Meek, vice president of the stocking rep firm, TM Sales based in Denver, Colo.

This stuff is for real, folks. These long-time industry pros are in the same industry we’re in. Yet they’ve clearly got a different perspective on business and the economic outlook than a majority of others.

This Old House celebrity and master plumber Richard Trethewey, said the hydronics industry has, at last, moved back into the consciousness of mainstream America. “The [push for green] is our best opportunity. Let’s make it work.”

Key hydronic indices

Here are the most current numbers from the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). Overall boiler sales are the ultimate barometer:

• 2007 U.S. factory shipments of gas fired boilers were 190,140, down approximately 5,550 from '06.

• 2007 U.S. factory shipments of oil fired boilers were 113,712, down nearly 7,300 from '06.

And of course there’s the influence of new technology:

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circulation;

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• Modulating-condensing boilers that take fossil-fuel systems where they’ve never gone before;

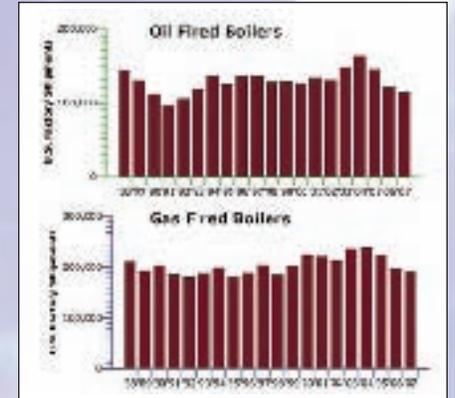
• Sleek, Euro-designed, low NO_x biomass boilers;

• Geothermal boilers that can produce 145°F right out’a the ground; and

• Wind, photovoltaic and solar thermal systems are being tied to these über-green systems.

The push for green is on, and a whole new generation of technology

is waiting for the next shuttle bus into your customer’s home or commercial project. ■



Four factors must occur to end recession, begin rebound

ROCKFORD, ILL. — A substantial economic rebound, particular as it relates to U.S. manufacturing, only will occur in 2009 if four factors trend in a positive way, says the economic analyst for the Fabricators & Manufacturers Association, International.

“Many factors come into play when predicting what must take place to spur growth, and one could go slightly balmy evaluating them all,” said Dr. Chris Kuehl from FMA. “However, four areas do stand out as the best barometers – developments in the financial sector, consumer confidence, exports and commodity prices.”

1. Financial sector needs to stabilize. “This has been the goal of the Federal Reserve and Treasury for months, but there has been scant progress,” said Kuehl. “These efforts are based on monetary policy, so they do take a while to bear fruit. We should start to see marked improvement by end of the first quarter, including in the banking sector, such as some dramatic reduction in the London Interbank rates, more movement in the money markets and banks more willing to do business with one another.” Kuehl believes lower interest rates and extra liquidity should begin to make a difference in the first half of 2009.

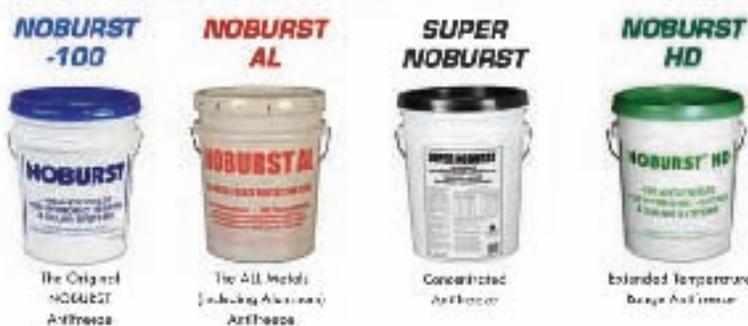
2. Recovery of consumer confidence. Acknowledging this is difficult to predict, Kuehl asserts prices and jobs play leading roles. “For the moment, the price situation is very positive as commodity prices have tumbled to record lows,” he said. “This should continue in the short term, with even food prices beginning to decline. But the job front is different. Major layoffs that have been announced almost daily make consumers extremely nervous. If major job losses are behind us, people can catch their breath and assess. Then, if job prospects begin to improve, the consumer mood will quickly shift.”

3. Regain lost luster of export market. The surging U.S. export market in 2008 faded as the dollar gained against an even weaker Euro, and the rest of the world experiences a down economy, according to Kuehl. “The dollar’s current strength is likely short lived, though, and that will promote U.S. trade,” he said. “More demand also is required, and can happen if the Asian states and India succeed at stimulating their economies.”

4. Commodity prices remain low. “This is currently the best news available for the manufacturing community as prices for every industrial input have fallen for the past few months,” Kuehl said. “Oil is down below \$50 a barrel, and few see it recovering much in the next several months. Steel is down, and so are the other metals, everything from copper to nickel to aluminum.”

“Although, in general, it is likely that the first quarter of 2009 will be in negative territory, and the second quarter is something of a toss-up, there is good news soon thereafter,” said Kuehl. “There is a consensus the third quarter will show some significant improvement with the fourth quarter also likely to end up positive.”

Based in Rockford, Ill., the Fabricators & Manufacturers Association, Intl., is a professional organization with more than 2,300 members working together to improve the metal forming and fabricating industry. Founded in 1970, FMA brings metal fabricators and fabricating equipment manufacturers together through technology councils, educational programs, networking events, and the FABTECH International & AWS Welding Show. FMA also has a technology affiliate, the Tube & Pipe Association, International (TPA), which focuses on the unique needs of companies engaged in tube and pipe producing and fabricating. ■



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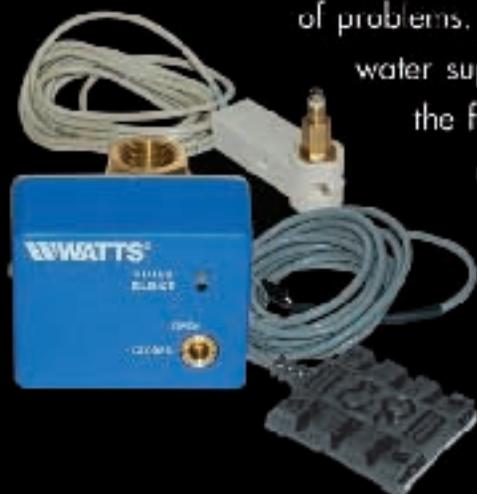
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For additional information, visit our web site at floodsafe.watts.com



Circle 31 on Reader Reply Card

Here's to a better 2009!

JOHN HAZEN WHITE, JR.
President & CEO, Taco Inc.



Like just about everything else right now times are tough in the HVAC business. Home construction has just about stopped and the credit squeeze has frozen most commercial lending. The slowdown is affecting the entire to-market chain stretching from manufacturers to wholesalers, wholesalers to contractors, and contractors to property owners.

By the time you read this column we'll be on the cusp of having a new President in office. As one of his first actions President Obama will prime the pump with an unprecedented economic stimulus package that hopefully will start to raise all boats in the economy. Ideological opponents of government intervention in the economy have little useful argument in drastic times like these because only the government has the influence and means to turn the ship of state around. Not that it will be easy or necessarily quick.

Obama is already talking about jobs creation on the massive model of the Works Progress Administration (WPA) of the 1930s and, significantly for our industry, he's calling for federal buildings and the nation's schools to be modernized, particularly with regard to energy efficiency.

The last thing the nation's 23 million strong small business community needs is more taxes.

Let's hope he modifies his campaign stance on business taxes in light of the current circumstances. The last thing that the nation's 23 million strong small business community – which includes the vast majority of players in the HVAC industry – needs is additional taxation, like increasing the marginal income tax rate on small business owners who pay their taxes under the individual tax rate system, which Obama called for.

Remember the famous Joe the Plumber debate? That conversation between Obama and Joe was at confused cross-purposes for most of it because Joe wasn't entirely straightforward in his representations about himself, as the world soon learned. The \$250k business purchase figure that Joe was talking about is not the same thing as Obama's call for rolling back the Bush tax cuts for those earning over \$250k a year.

Actually, as an individual taxpayer Joe should get a tax cut under Obama. It's his boss's plumbing business that might see higher taxes under Obama. Plus, Obama's "pay or play" healthcare proposal might add costs for Joe's boss – let's also hope that proposed plan gets modified to protect the small businessman who wants to provide healthcare coverage but is already squeezed by the ever-rising costs of doing so.

The HVAC industry is a core industry that has survived other downturns before this one. Our contractor-focused trade pubs are dispensing a lot of good advice right now about ways to get through this bad period and be better positioned to ride the burst of growth that's sure to follow in turn. Remember that historically many of the enduring names in our industry got their start in the midst of the Great Depression.

Here's to a better 2009!

Circle 41 on Reader Reply Card

At Geisel Heating & Air Conditioning, success a way of life

Some contracting firms acquire a unique persona; it may come from the community they're in or the work they gravitate toward. There are those, too, that feel small, act small and remain small despite a wealth of opportunity.

And there are those that become successful through deliberate leadership, the building of long-term customer relationships and dedication to craft. Elyria, Ohio-based Geisel Heating & Air Conditioning falls quite naturally into this category.

The success its employees know and are comfortable with is easy to see. Even the firm's customers affirm it in varied ways: numerous letters are posted at the shop and on "GoGeisel.com," and when their technicians are greeted warmly at a customer's door, there's genuineness to it that any business owner would enjoy.

At the helm of this steadily successful, 40-person firm is Andrew Culberson, president of the company since 1995. In the past 10 years of its 73-year history, the company has opened branches in Lorain, Oberlin and Westlake. Culberson has steadily cut a path to the top of their market, hiring and rewarding highly talented, motivated specialists. If success has lineage and DNA, you'd find it here, tied to the company's early roots.

It was in 1935 that Claude Geisel and Floyd Schlitt opened business as Geisel Manufacturing. From Geisel's basement workshop, they built, sold and installed "Glo-Cone" coal-to-gas conversion burners. By 1944, the full cost to install a new Geisel Glo-Cone gas conversion burner was \$165.00. Out of that the salesman received \$20.00; the installer received \$17.50 to \$22.50.

By 1954, Geisel Manufacturing had installed 800 conversion burners. In the late 1950s Geisel moved to its present location in Elyria and, a decade or so later, they took on a major line of central air conditioning systems, availing year-round sales, and heating systems offered by larger manufacturers. They eventually folded-out the Glo-Cone, but not before 10,000 of the systems were sold.

Chuck Culberson assumed operations in 1975. He'd worked at Carrier's Cleveland distributor prior to buying Geisel and he began selling the Carrier



Andrew Culberson, president, Geisel Heating & Air Conditioning, Elyria, Ohio.

equipment immediately, still their leading product line today. Culberson's background was in commercial engineering, so that became the genesis of Geisel's strengths in the commercial market today.

In '83, Chuck's son Andrew Culberson began working full time at Geisel after receiving a Masters degree from Baldwin Wallace College. In '94, Geisel added a full service plumbing division – now contributing a healthy 25% to business revenue. Chuck retired in '95 and Andrew Culberson became CEO of the company.

The company now has branches in Lorain, Oberlin and Westlake. "We've wanted to grow, but not to meet anyone's notion of what success is," commented Culberson. "Growth at Geisel has been very natural, organic... based on real need and our desire to enhance our offering to a broader base of customers."

"Our plumbing and hydronic work continues to grow. We enjoy challenging installations and service work," he added. "We believe that our reputation for handling tough work and an aptitude for problem-solving has helped immensely."

"As a management group, we seem so 'in the groove' sometimes that we don't contemplate success the way we do when others step in from outside, observing what we do, and how we do it," continued Culberson. (Turn to page 50.)



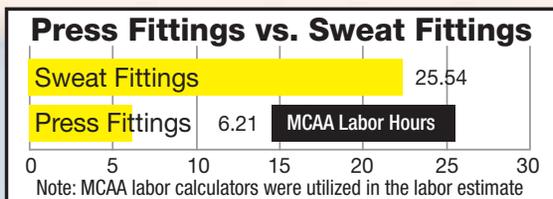
Jason Radesic, Geisel's plumbing service manager, installs a hot water recirculation system with a compact water heater at a Norfolk Southern Railroad facility.



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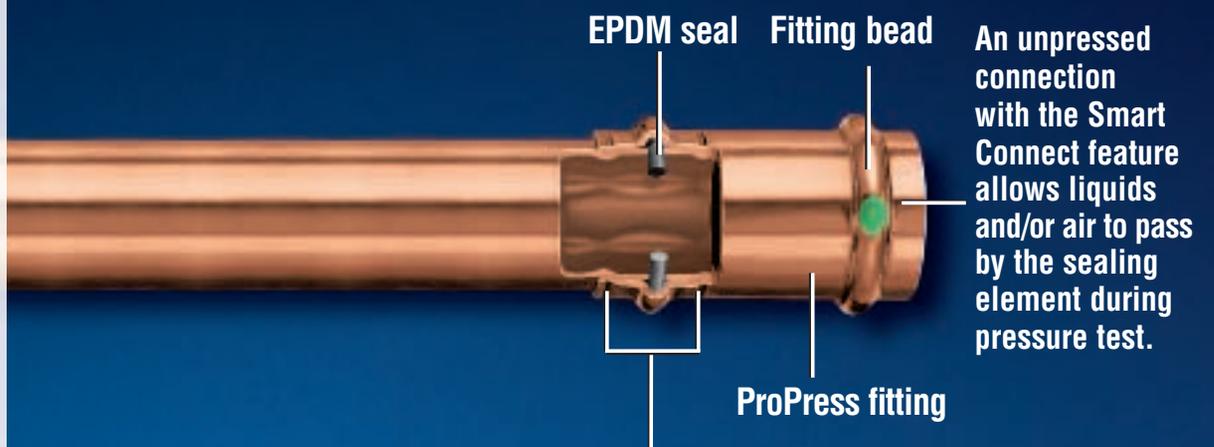


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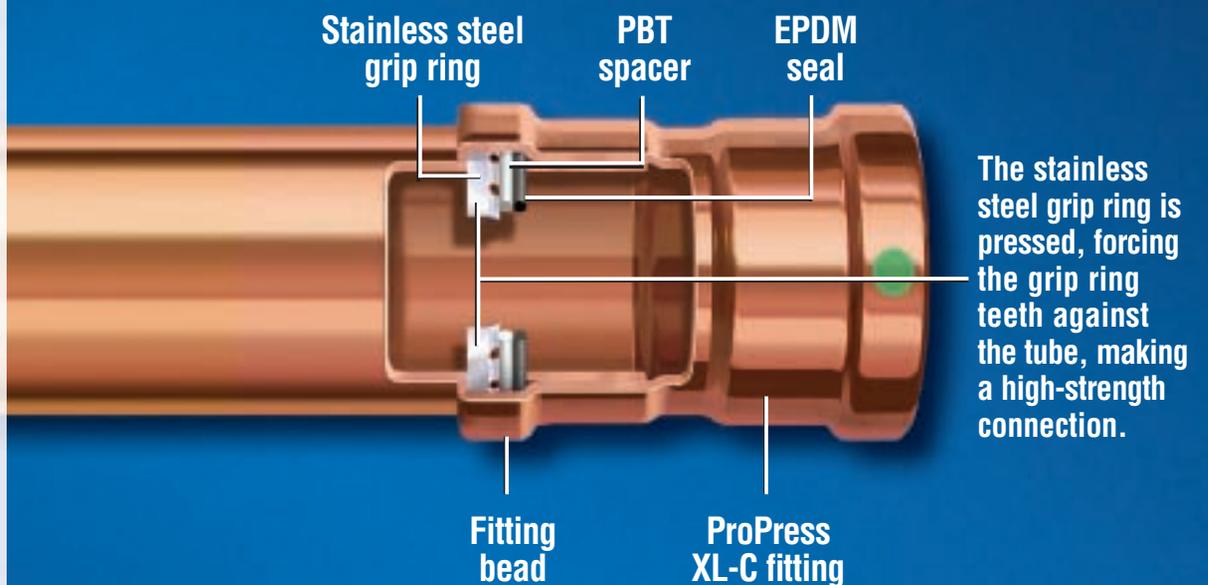
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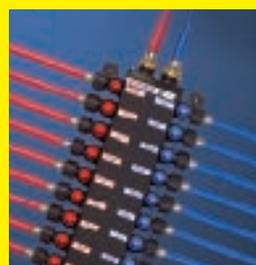


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Circle 32 on Reader Reply Card

Going strong at 73, Ohio contracting firm takes positive approach at all levels

(Continued from page 48.)

berson. “The people that run the company, and those at supervisory levels, and even the technicians — perhaps I should say especially the technicians — are very deliberate in what they do. I think it’s a rarity in business to have so many people who see the company’s future tied so closely to the work they do each and every day.”

The company’s senior managers include Walt Seidl, president and controller; Tracy Ellan, plumbing manager; Jason Radesic, plumbing service manager; and Jerry Meehan, installations manager.

Today, Geisel offers full range of installation and service, HVAC/R, and plumbing and mechanical work. The revenue “pie” is pretty cleanly cut into four equal pieces: residential (25%), commercial (25% — including some industrial work such as a recent steam line conversion), service (25%) and

plumbing (25%). They have approximately 25,000 residential customers within a sales territory that includes all of Northern Ohio with Elyria and Cleveland as its epicenter.

“We have to be proactive in what we do, and how we stay tuned with the newest technology and installation or service techniques,” said Radesic. One of the indications of this is Geisel’s involvement with the North American Technician Excellence (NATE) certification, one of the most respected methods for benchmarking technician skill and development.

Geisel began to offer NATE certification to its technicians about six years ago. Since that time, all of the firm’s technicians have become NATE-certified. “We also look for expected, and not-so-expected ways to exceed customer needs,” added Radesic.

Illustrative of the company’s commercial plumbing and hydronic work

were recent jobs in progress at the Elyria Country Club, at First Church in nearby Lorain, Ohio, and at a large facility for Norfolk Southern Railroad.

Radesic recently installed several Grundfos Comfort System hot water recirculation systems atop compact Bradford White gas or electric water heaters at the Norfolk Southern Railroad facility. “Mostly, these are needed at the employee stations and restroom facilities,” explained Radesic. “They need hot water without the lengthy wait, and waste of water. Bradford White is the water heater line we prefer, and we never regret installing these because of their efficiency and reliability.”

Geisel has maintained a steady presence at the railroad for more than 10 years, attending to plumbing and HVAC needs there with consistency. “Once they experienced the convenience of

(Turn to Geisel... page 52.)



A Geisel employee checks part of the company’s extensive inventory.

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Geisel Heating & Air Conditioning does it right

(Continued from page 50.)

the recirc systems, we were told to add them to every plumbing job."

At the country club, Geisel technicians were involved with a more challenging domestic water system overhaul.

"We had just two days to complete the work because of the club's steady operation and the need to maintain

door reset controls on most of the jobs that we do."

Ten miles away, Radesic stopped in to check on a water heater replacement job at First Church where two 250-gallon water heaters were being installed by technicians Richard Drozdowski and Jeffrey Figueroa.

The pair of 400 MBH, natural gas-fired, high-efficiency eF water heaters made



Tracy Ellan (r), plumbing manager for Geisel, oversees a solderless ProPress connection while installing a gas Pennant boiler for a country club client.

kitchen function six days a week," explained Ellan as he performed final diagnostic testing of two 500 MBH Laars Pennant boilers and two 119-gallon Laars indirect storage tanks.

"It was a nasty task to trace all of the original piping and for us to figure-out how to tie-in all of the new equipment," added Ellan. "Some pipes were live while others were dead, standing in place for who knows how many years. There were hidden Ts and other little gremlins in the works... but we got 'er done, and with some time to spare.

"We're very fond of the Pennant boiler line," continued Ellan. "We've run into problems before with fan-assisted systems. Usually, it's an air switch or hot surface igniter problems, especially with frequent on-off cycling, and this leads to a lot of call-backs; but not with these boilers.

"We also use, as a standard, Grundfos pumps on new installations," he added. "On this job, we have two, single-phase, one horsepower, multi-speed circulators.

"We install a lot of these gas boilers," said Ellan as he completed a solderless ProPress connection of the two-inch near-boiler copper piping. "Their compact size and efficiency are a big advantage. The Pennants are also a four-stage system. Their proportional firing work perfectly as different stages respond to outdoor reset conditions. We use out-

by Bradford White were selected because of owner's interest in high efficiency operation. "The owners wanted to shed as much of the energy load as they could," explained Radesic. "These new eF's are rated at 98% efficiency; about as good as it gets."

"The eF requires only a simple, 4" PVC stack and would cost them a whole lot less to operate than the 12-year-old water heaters we replaced," he added. "The key advantage was the new unit's super-high recovery rate. Because we could heat so much more water with the eF, we were able to size them at 100,000 fewer BTUs than the old systems, too — a move that added nicely to the energy savings."

"Another attribute is that there are no stack losses because the eF is equipped with sealed combustion and uses both PVC exhaust and combustion air lines," continued Radesic. "We also liked that fact that it offered several venting options, electronic controls, four protective magnesium anode rods, a sediment reduction system and factory-installed dielectric fittings."

Back at the shop, Culberson — a fine-arts photographer of considerable skill — was making preparations for a new advertising campaign. "We don't advertise often but when we do, we do it as intelligently as we can."

That's an understatement. Intelligence is a way of life at Geisel. ■

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Leading energy companies unite to promote environmental benefits of natural gas

Sixty percent of Americans agree that natural gas is an environmentally-friendly energy source for your home

WASHINGTON — While policymakers struggle to find solutions that balance America's energy and environmental needs, leaders in the energy industry have formed a new coalition to advance the use of clean-burning natural gas as the responsible energy choice for the nation both now and in the future. The Council for Responsible Energy (CRE), with top management membership from over 190 organizations representing 6.5 million households, is mounting a national education campaign to communicate the superior comfort natural gas provides and why it is a responsible

energy choice for the environment.

According to a new Omnibus survey issued by the CRE this fall,

- Sixty-nine percent of Americans currently use natural gas in their homes – primarily for home heating and water heating.

- Currently only 48 percent of those surveyed buy energy-efficient appliances/insulation but nearly twice as many, 93 percent, think it is very important to use less energy.

- Thirty-five percent of Americans rank energy efficiency as their top priority for home improvement in the next 12 months.

“Research clearly shows that customers want to do the right thing when it comes to the environment and our

long-term energy goals, but they are unaware of the many ways natural gas helps them do that,” said Thomas Skains, president and chief executive officer of Piedmont Natural Gas and the incoming chairman of the American Gas Association for 2009. “The time is right to educate the public that by choosing natural gas you can help save energy, reduce emissions and protect the environment, without compromising performance or lifestyle.”

As part of its launch, the CRE is teaming up with HGTV host Carter Oosterhouse to unveil a new educational campaign to promote the benefits of natural gas.

In response to the nation's focus on energy coupled with a lack of con-

sumer awareness on energy issues, leading energy companies have joined together to form the CRE to educate consumers on energy efficiency and the choices they have in making their energy decisions. The research also indicates that while many consumers believe that energy efficiency is important, they do not always put their beliefs into action.

Using natural gas for heating your home and water produce fewer greenhouse gases than electricity or oil heating in comparable size homes. As a result, the carbon footprint of a natural gas home is an average of 46 percent less than a home using electricity for those same appliances. Many studies have shown that the use of natural gas appliances can deliver on global climate change objectives now and over the long term. Visit www.ComfortableResponsible.org for more information.



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Trade shows and green sensibility

Dear Editor,

Thanks for your recent editorials about trade shows and the economy. Borrowing an Obama theme, I think it's time for a change!

This business of trade shows has been on my mind a lot lately. After spending an entire day and part of an evening at Boston's Logan airport, trying to get home as one flight after another was cancelled or delayed following three days at the Greenbuild show, I'll vent.

As one who's been to all of the shows at least once or twice, and some of them many times (now moving toward my 21st AHR Expo), I have a few thoughts of my own.

ISH-NA was a good effort, but it's failed. Overseas, it's a great show, still the biggest of its kind and valuable as an every-other-year event for

those who want to be on the Frankfurt stage. But here in North America, we're saturated by shows that proliferated during the construction boom years. This year, attendees stayed away in droves for the ISH-NA event held in Atlanta — go figure that location for a show that's largely about hydronics! Many have predicted, and I really hope they're right . . . that the show will, at last, dissolve. Manufacturers dutifully sent products and personnel to this year's ISH-NA show, and it drew a paltry crowd.

I believe that this year's ISH-NA was the last straw for many manufacturers. Of the dozens or so executives I spoke to after the show — mostly manufacturers, though including a few distributors and reps — none could share one shred of enthusiasm about the show. What a waste of

time, money and resources. Nothing green about that.

Let's be real here. At a time when we in the building systems industry are going "green" in every conceivable way, and with an economic climate that's chilling us to the core, we've got to focus on what's important. Why aren't we as an industry reexamining the effort to "car pool" trade shows? ASHRAE + ASPE/EPE together as one. The RPA, PHCC and ASA, among others, could join in. Hey, they've done it before. Move over: the Greenbuild show can squeeze in. It's a time for organizations to set aside their differences. There's enough trade show revenue to go around if we're smart about it.

If we can do it, many other industries could, too. For instance, the IBS (International Builder's Show), PCBC (Pacific Coast Builder's Show) and West Coast Green shows should be encouraged to do the same. Combined,

the Green and PCBC shows pulled in 900+ exhibitors — many of which had already shown their newest wares at IBS earlier in the year.

Imagine. Drilling, geothermal, solar thermal, photovoltaic and water quality shows, among others — folded into a few main tent events. Why not? Because if not, we all lose.

Let the competition for business happen in the field and on the show floor, not among show organizers vying for numb, bludgeoned attendees who, exasperated with the whole affair, simply decide to stay home. With fewer, bigger events, manufacturers and reps can be at their best on the trade show floor, eager to meet with armies of inspired attendees. We'll all spend less money doing it, and more productive time at work.

*John Vastyan, president
Common Ground*

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THE WALL

Dan Holohan's Web site, HeatingHelp.com, features a message board called "The Wall" where hydronic heating professionals post questions and offer answers of all kinds regarding hydronic heating systems. Dan has kindly allowed Phc News to reprint some of the more interesting postings here each month. This section will surely whet your curiosity, so log on to the web site and click on "The Wall" for a treasure trove of useful and just plain interesting information.

Q: I just bought a ski house in Vermont; the same day there was a major ice storm, with no power for two days. I was able to get a propane heater and run it off & on to keep things from freezing up. But since this house is usually occupied weekends only, is there a heating system that can run w/power outage, short of having a standby generator system? Right now, it has a 30-yr+ oil-fired hot water baseboard system that is in need of replacing.

— Andy

A: You can have a gravity system installed with radiators and a boiler with a millivolt gas valve. As far as I

know, I believe Burnham still makes them for the Amish. It would be cheaper to install a generator; Home Depot sells some nice ones that start and switch automatically and exercise themselves. They also run on propane so the fuel won't go bad sitting for long durations.

— Tony

Q: A chimney guy is installing a new masonry chimney — 175 BTUH — chimney height is about 27-ft. and boiler venting is 6". What is the max size of the masonry flue? No other appliance is to be vented.

— Jim Pompetti

A: Why in the world is he building a masonry chimney when we have stainless-steel listed chimneys that are light years better than masonry? Terra cotta flue tile and mortar is obsolete. At 30-ft., your std. nominal 8x8 flue tile would handle roughly 275mBTUH. Since this is oversized by one third, it should have a listed liner right off the bat. You could put a 6" factory chimney that is round with no cold corners, no lousy joints that fail and a listed, warrantied product with insulation that maintains a stable draft. If they must have a masonry exterior, you can still drop a listed liner properly sized, insulated, listed.

— Bob Harper

Q: I seem to have a lack of oxygen in the house. At first I thought it smelled like some kind of smoke, but it is undistinguishable. We have an oil boiler and a cellar-to-rooftop central house chimney. I don't have a CO sen-

sor. Any idea what it might be? Sometimes the flap that opens and closes on the pipe going to the chimney isn't working the way it should. Should it open and close every time the furnace comes on?

— Kelly Gilbert

A: Call your local fire department and tell them what you told us. Ask if they can come by and test for carbon monoxide. If you have a CO problem that is worse than a lack of oxygen. Seriously. Do it now. Then get a professional oil burner technician in there to do some readings and find out what the problem is. No fooling.

— Brad White

A: Make sure the fire department tests with the oil burner running. In one case, testing determined the furnace was getting air for combustion and return air from the same room, also had duct work not properly fastened to the equipment.

— Tim McElwain



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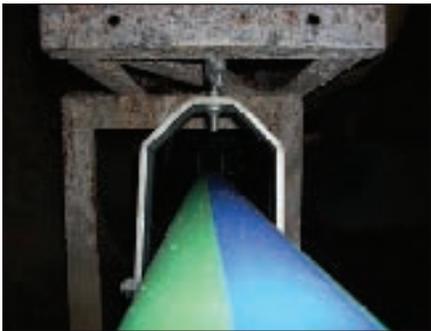
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Pipe and pumps turn wasted water into power plant savings

OREM, UTAH — Tim Cook faced a couple tough challenges buried more than 100 feet underground in a utility tunnel. Cook, special equipment repair lead technician with Vanderbilt University in Nashville, needed to find a retrofit piping solution that would not corrode or leak in a very corrosive subterranean environment. He also had to figure out how to effectively use water from the tunnel for the



With 1,000 feet of Aquatherm Climatherm polypropylene piping installed in the Vanderbilt University utility tunnel, the facility staff is resting easily.

power plant's cooling tower make-up.

The utility tunnel was dug about a decade ago to a depths ranging between 100-130 feet to transport electrical conduit, steam supply, steam condensate, 300 psi natural gas, chilled water, and pneumatic control lines. The 8½-foot-diameter, 1,500-foot-long tunnel runs between the university power plant and the Monroe Carell Jr. Children's Hospital at Vanderbilt.

When spring isn't such a good thing

When the tunnel was originally dug, an aquifer or spring was hit, causing the tunnel to flood. So a sump pit was dug and the water was pumped out



Polypropylene piping was specified in this utility tunnel installation in part because of its ability to resist corrosion and rust. This photo shows the beginning of the 4" Aquatherm Climatherm pipe system's 1,000-foot run resting on roller hangers.

and used for irrigation. At times during construction 200,000-250,000 gallons of water a day were being pumped out of the sump.

However, in September 2003 the university decided to try using the water for cooling tower make-up and to save money. The tunnel was penetrated at a point directly through the rock where it was determined the main source of water was flowing. It quickly became apparent that there was not constant water available from this point, as well as too much sediment in the water and undersized water softeners. Thus, this first effort failed.

But all of this was only part of Cook's problem. The combination of groundwater seeping in from natural springs, rainwater trickling in, and condensate building up in the space had taken their toll on the existing galvanized steel piping. Additionally, some joints were leaking.

So with a failed attempt at using the unreliable water source and leaking steel pipe affecting the university's bottom line, in spring 2008, Cook was charged with solving these problems. "The first issue was to have a reliable constant source of water, which was from a collection sump at the low point of the tunnel," Cook said.

"To do this we had to install two submersible pumps and add an additional 1,000 feet of pipe as well as remove the old source connection." In June 2008 he called the local Ferguson Enterprises, Inc. office for some assistance and advice. Ferguson sales assistant Rick Hollis, and outside sales representative Cale Fuller consulted with Cook and other Vanderbilt facility staff and they reviewed the options: PVC HDPE, steel, and polypropylene.

"A better fit hands down"

While each option had its strengths, "The joint integrity offered by Aquatherm's polypropylene piping, which uses a unique heat fusion process to create seamless joints, made it a better fit hands down," according to Hollis. Ferguson provided the V.U. staff with an Aquatherm demonstration, explaining how the pipes and fittings are correctly joined and installed. "We decided to go with Aquatherm because we don't



This photo shows the low point of sump pit in the utility tunnel prior to the sump pumps and the Aquatherm Climatherm piping being connected. At times during construction 200,000-250,000 gallons of water a day were being pumped out of the sump. The system is now providing the V.U. power plant with cooling tower make-up and substantial savings.

think we'll have any problems with it and if we do they will be easy to fix,"

Cook said. "It was a bit more expensive than some of the other options, but we decided that since it's a wet, damp environment the product would be the way to go. We liked everything about it." Considerable installation time savings also resulted from the selection of the Aquatherm piping.

Three companies bid on the project using Aquatherm's Climatherm piping system that would be supplied by Ferguson. The winning bidder, the Nashville office of FM Sylvan Inc., hadn't previously installed Aquatherm. According to Bill Proctor, VP of Sylvan, "They needed something that would last and not leak. There were some existing leaks and with the hard water and the moisture all around and the constant temperature and humidity underground, steel wasn't going to get it done."

Sylvan staffers attended a four-hour Aquatherm factory rep training

course at the local Ferguson office to get familiar with the product.

"It was a bit more expensive than some of the other options, but we decided that since it's a wet, damp environment the product would be the way to go."

"When we first looked at the pipe and saw its wall thickness and the thickness of the fittings, we were quite impressed. We could tell that it's more durable than Schedule 40

PVC," Proctor recalled.

At the training, the Sylvan employees quickly and easily picked up the Aquatherm fusion process. Simply (Turn to Climatherm... page 63.)



This utility tunnel, which contains 300 psi gas lines, 13,800 volt distribution lines, steam and condensate lines, runs from the Vanderbilt University power plant to the Monroe Carell Jr. Children's Hospital at Vanderbilt. Excessive moisture in the tunnel required out-of-the-box thinking when it came to a piping retrofit.

Vanderbilt University achieves savings via sump improvement and polypropylene piping retrofit.

Oberlin college dorm goes green

Gross Plumbing helps historic dormitory achieve efficient water heating

Founded in 1833, Oberlin College, a top-ranking liberal arts college located approximately 35 miles southwest of Cleveland, has maintained a reputation for progressive thinking. The aggressive pursuit of “green” options — when it comes to retrofitting the buildings on campus — is just an example.

Thought to have been built as a hotel in the late 1800s, the Johnson House dormitory needed a new water heating solution to satisfy the demand of 30 students that call it home. The students share five showers, 11 sinks and a laundry room. The college wanted a practical, yet green technology to fulfill the need.

Rick Gerena, skilled trades manager at Oberlin College, enlisted the help of Dan Gross of Gross Plumbing Inc., a third-generation plumbing, HVAC and fire protection contractor that does new construction or renovation work for commercial jobs to find him the answer.

In the Johnson House’s retrofit, Gerena had three objectives for Gross:

- Keep operating and maintenance costs low;
- Find an easy replacement to the current system with a 100-gallon storage tank with minimal impact to the building; and
- The new unit must be green and leave the smallest carbon footprint as practical.

After much deliberation, Gross chose to install Grand Hall’s Eternal Hybrid Water Heater for this project. Since Gross was concerned with Gerena’s objectives, he worked hard to find the right solution. The Eternal was chosen for its energy efficiency, environmental friendliness and lowered project cost. He found that one Eternal could handle the diversified load, whereas several instantaneous heaters would have been required. As an added benefit, the maintenance department of the college was pleased with the lack of required flushing maintenance.

In addition, the South Coast Air Quality Management District (SCAQMD) stipulates that water heaters must emit less than 55ppm NOx in order to meet the low emissions standard. As one of the cleanest gas burning appliances, Eternal emits as low as just 5ppm NOx, which makes it an extremely green choice in the water heating category.

The old system was located in the basement and had not been removed because the dorm had plenty of space. However, the installation of the compact new Eternal was easy due to its PVC venting, simple piping and the common grounded plug electrical requirement. With two plumbers on the job, the entire project was completed in approximately one day.



Oberlin College’s Johnson House dormitory needed a new water heating solution to satisfy the demand of 30 students.



Rick Gerena (l) and Dan Gross chose the Eternal Hybrid Water Heater for its energy efficiency, environmental friendliness and lowered project cost.

Gerena has been very pleased with Gross Plumbing’s work. Not only has Gross met his objectives, but he also kept costs under control. In fact, Gerena recently compared the gas bills and saw that the new system used 70% less gas in some months than the building’s old system did a year prior. Gerena said that there are several buildings on campus in the process of retrofitting, and he’ll definitely be calling Gross again.

“We recognized that Eternal is truly an energy efficient, low maintenance water heater that has all the advantages of instantaneous heaters with none of the drawbacks. It is easier and cheaper to install and we see it as the future of water heating.

“We believe that by selling the customer a product that cost them less to operate and own, we are going to keep that customer loyal and satisfied,” said Gross. ■

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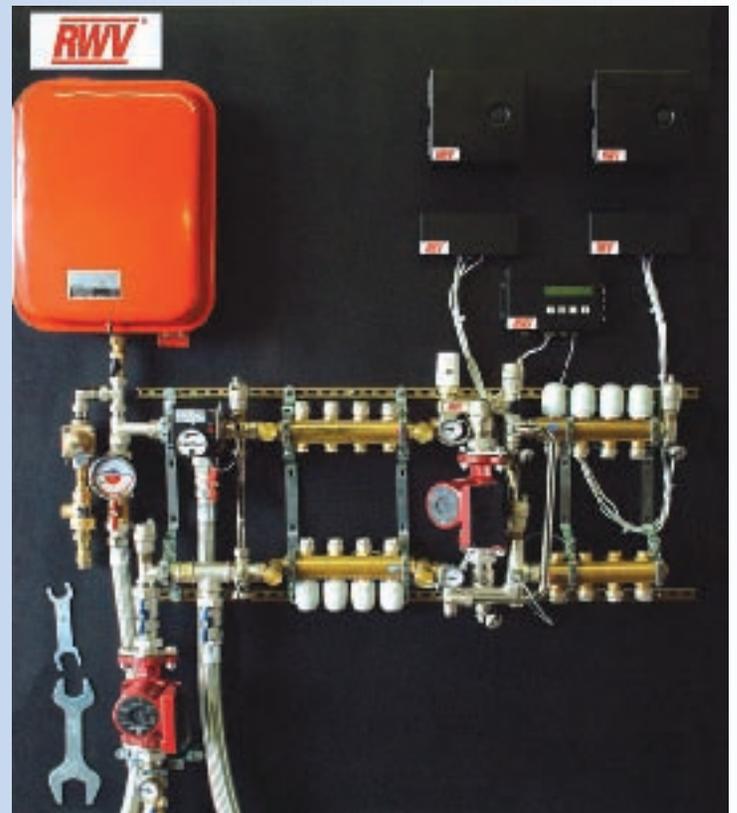
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Climatherm helps university put unwanted water to good use

(Continued from page 59.)

putting a piece of pipe and a fitting on opposite ends of an Aquatherm welding device for the specified amount of



The blue and green Aquatherm Climatherm pipe is shown here installed on roller hangers in the Vanderbilt University utility tunnel. The pipe was selected over PVC, HDPE and steel, because of its joint integrity and ability to resist the corrosive subterranean environment.

time (about 10 seconds for the four-inch pipe), and then joining them together creates an incredibly strong connection. The fused pipe and fitting then have the same physical properties, eliminating systematic weaknesses.

Proper fusion connections won't leak or fail over time, so there's no concern about maintenance or repairs. Another factor making Sylvan and V.U. officials more comfortable with the polypropylene is that it has been used successfully in Europe and more than 70 countries for more than 30 years.

Down the hole

The installation process began in July. One of the installation's biggest chal-

lenges was the difficult access to and cramped space in the tunnel. A winding staircase leads down to the tunnel and the open space in the middle of it proved essential in lowering the 18-foot sections of Aquatherm's 4" Climatherm pipe into the tunnel. Five or six lengths of pipe at a time were lowered in a sling via a chain hoist until about 1,100 feet of pipe was in the tunnel.

A crew of three Sylvan employees installed about 100 hangers and then rolled sections of about 100 feet of Climatherm onto them. Using Aquatherm welding devices rented from Ferguson, the crew made fill joints at each 100-foot section of pipe. "Once we got all the piping down there, we were surprised at how easy the project went," Proctor said.

The installation took roughly a month to complete, and the university's power plant staff has been very sat-

isfied with the project. The power plant cooling tower make-up system is running smoothly, and thanks to Gorman-Rupp submersible pumps, Aquatherm Climatherm pipe, new properly sized softeners with Allen Bradley Micro-Logic PLC controls, Bryneer™ salt tank for regeneration of the softeners, is meeting all expectations.

"When you have a \$500,000 plant water bill, anything you can save is huge," Cook said. "The project is going to pay for itself very quickly," he said. ■

Aquatherm piping systems — a proven technology in 70 countries for the last three decades — are currently installed throughout Canada, with a rapidly growing U.S. presence. For more information, please visit www.aquathermpipe.com, or call 801-805-6657 (U.S.) or 403-653-4440 (Canada).

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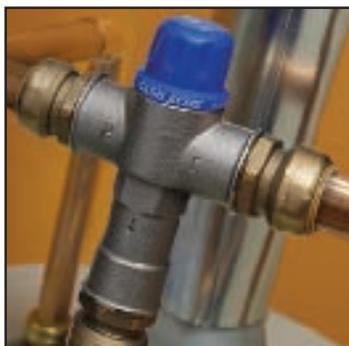


INTRODUCING CASH ACME VALVES WITH SHARKBITE® CONNECTORS.

It's an open-and-shut case for plumbing efficiency. The SharkBite® Connection System now offers thermostatic,



regulator, and ball valves with integral or union type push-fittings, for fast and easy installation in copper, CPVC or PEX pipe plumbing systems. Just insert the pipe and the stainless steel teeth bite down and grip tight – with no soldering, clamps, unions or glue. Disassembly is just



From thermostatic mixing valves to pressure regulators, SharkBite connectors make installation fast.

as fast using the simple disconnect tool. So valves can easily be changed and reused. Valves can even be rotated after assembly for easier installation in tight spaces.

The SharkBite Connection System, now with a wide range of easy-to-install push-fit valves. Just another way Cash Acme takes a bite out of your installation costs.



OVERBUILT IS AN UNDERSTATEMENT.®



New components increase convenience

Two new components for the Eternal Hybrid water heating system boast added user and installer convenience. The new Multi-Controller Unit (pictured) allows for more than two Eternal hybrids to be linked together — making it ideal for commercial applications. For both residential and commercial applications, the Remote Controller makes it easier to set the temperature and read error notifications for units installed in hard to reach areas. **Grand Hall.**

Circle 101 on Reader Reply Card

Condensing cast iron residential boiler

Ray is a gas or propane fired, condensing, fully modulating, cast iron boiler offering 5:1 continuous turndown, 92.7% AFUE and CSA inputs ranging from 40,000 (min.) to 199,000 Btuh (max.). A green product, Ray's heat exchanger is composed of 85% recycled material. Its SmartCycle™ digital control enables simple setup and can run multiple units through a single onboard control. Ray, a Mestek product.



Circle 102 on Reader Reply Card

Electric tankless water heaters

The WET-12 (240V, 11.5kW) and WET-23 (240V, 22.5kW) electric tankless water heaters run at 99% energy efficiency, and these units are field serviceable, designed for durability, easy installation and safety engineering.



neered with precise temperature settings. WET units offer cost effective alternatives to larger gas units, addressing the need for less-powerful, more affordable range of units for warmer climates. Tankless water heaters provide users with a smaller environmental footprint. **WaiWela, represented by Efficient Technology Sales, LLD (ETS).**

Circle 103 on Reader Reply Card

★ Phc News product of the month ★



Condensing Combi water heater

The fin-type stainless-steel heat exchanger and premixed burner make this water heater/space heater incredibly unique. With a BTU input of up to 200,000, this product also utilizes company's trademark features such as dual-heat exchangers, PVC venting and a sleek, compact design. **Navien America.**

Circle 100 on Reader Reply Card



NeoTherm condensing boiler

Fully packaged, space-saving NeoTherm hydronic solution offers 95% energy efficiency. Four new, smaller sizes are now introduced to the modulating boiler line: new residential models include 80, 105, 150 and 210 MBH systems. All sizes will soon be available as volume water heaters. Direct vent, sealed combustion boiler modulates with a 5:1 turndown. Zero clearance to combustibles and convenient top connections (horizontal or vertical direct vent) make it a good choice for tight installations. **Laars Heating Systems.**

Circle 104 on Reader Reply Card

Tankless for light commercial apps

The light commercial version of the T-K3, called the T-K3-Pro, incorporates



all the popular features of the revolutionary T-K3, but with commercial-grade quality materials so it can withstand heavy duty conditions. One of the main features that differentiate the T-K3-Pro from its residential counterpart, the T-K3, is that its heat exchanger is made with HRS35, the most advanced copper alloy on the market. This heat-resistant copper alloy is eight times stronger and harder than the standard copper used in most tankless units, so it makes the unit much more resilient against erosions and leaks. **Takagi.**

Circle 105 on Reader Reply Card



Tube solar collectors

New 30-vacuum-tube solar collector will deliver up to 39,000 BTU per panel per day, depending on available sunlight. The collectors are engineered to maximize energy efficiency even at high ΔT temperatures, making them ideal for colder regions or applications demanding higher outlet temperatures. Each panel assembly consists of 30, twin-glass, evacuated tubes to absorb solar energy for heating water. Shipped with a ready-to-assemble, 439 stainless-steel frame for easy rooftop mounting. **Heat Transfer Products.**

Circle 106 on Reader Reply Card

Outdoor tankless

The RTG-66X is a new outdoor model in the 66 Series residential tankless



water heater line has been added. Meets the hot-water needs of a conventional two-bath residence situated in the Sunbelt or in a coastal area within the southern half of the U.S. Measures 23⁵/₈" high,

13⁷/₈" wide, and 8⁷/₈" deep; takes up no more space than a standard medicine cabinet. It also sports a sleek new exterior — an attractive dove gray cabinet with an upscale look that will complement any modern home décor. **Rheem Manufacturing Co.**

Circle 107 on Reader Reply Card

High efficiency space heating & DHW

The Prestige Excellence is a condensing wall-mounted boiler with a built in "tank-in-tank" indirect fired water heater. The first of its kind,



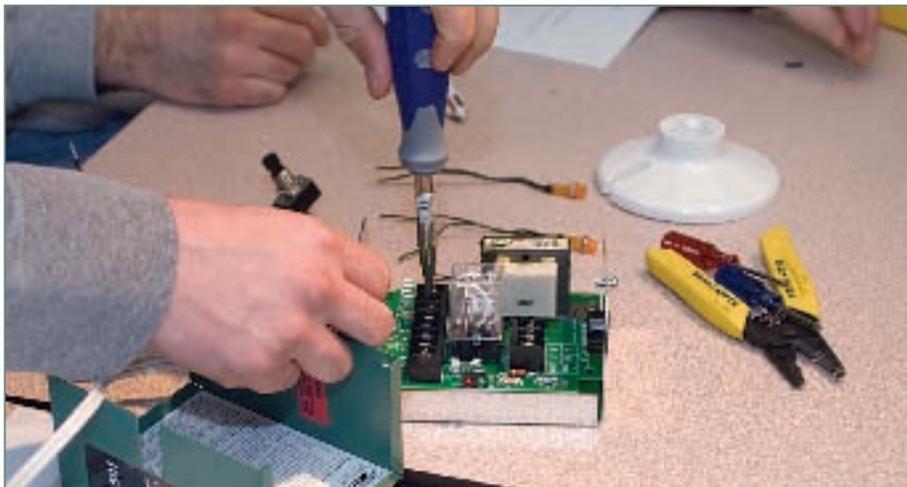
this 95% AFUE boiler incorporates a 15-gallon indirect fired water heater in the cabinet that is capable of producing over 180 GPH of domestic hot water (DHW). The Prestige Excellence features a uniquely designed stainless steel heat exchanger and is fully modulating between 30,000 and 110,000 Btu/hr. **Triangle Tube.**

Circle 108 on Reader Reply Card

Factory Tune ups.

Tune up your business with FloPro Factory Training.

Even the most experienced contractors tell us that Taco FloPro Factory Training helps them work smarter. And with today's economy, working smarter isn't an option – it's essential for profitability. You're sure to benefit from the expertise and insights only to be found in a small, personal classroom setting.



To grow, you have to know.

Our 2-day factory training programs are taught by Taco's own John Barba. Together, you'll focus on one topic and learn it cold. It's work, but it doesn't feel like it.

Sign up now!

Classes are small, and available to FloPro team members only. Visit www.taco-hvac.com/flopro for all the course information and details.



| Date | Course | Description |
|-----------|-------------------------------|---|
| FEB 26-27 | The Compleat Boiler | Learn to design – and sell – the ultimate boiler room using all Taco products. Lots of hands-on, including wiring and programming Taco controls. |
| MAR 12-13 | Strictly Radiant | Radiant theory and design; sizing, piping, and control strategies; injection mixing options; in-depth discussion of zoning requirements. |
| MAR 19-20 | Hydronic Heat Loss and Design | Learn to conduct an accurate heat loss analysis with pencil, paper, and calculator. Learn how to use our state of the art FloPro Design software. Plenty of hands-on. Sure to benefit any experienced hydronics designer. Basic computer skills required. |
| APR 2-3 | The Compleat Boiler | See above |
| APR 16-17 | Strictly Radiant | See above |
| APR 23-24 | Hydronic Heat Loss/Design | See above |
| MAY 7-8 | The Compleat Boiler | See above |
| JUN 4-5 | Strictly Radiant | See above |
| JUN 18-19 | Hydronic Heat Loss/Design | See above |
| JUL 16-17 | The Compleat Boiler | See above |





System 2000

System 2000 achieved the “highest reduction in fuel use” in a Brookhaven National Laboratory study: System 2000 has the highest efficiency of all heat and hot water systems tested and outperformed the 95% AFUE boiler tested. **Energy Kinetics.**

Circle 110 on Reader Reply Card

Maui ‘MWC’ Series boiler

The Maui wall-mounted boiler is available in a “heat only” or “combi” model. Compact design, delivers heat and hot water from the same unit with combi model installed. Ideal for tight spaces. Features 85% AFUE-Energy Star Rated; natural or LP gas; all major components incorporated within the boiler jacket



(circulator, expansion tank, controls); concentric polypropylene venting system; LEDs provide basic diagnostic information; and factory supplied wiring harness. **Crown Boiler.**

Circle 111 on Reader Reply Card

Horizontal boiler feed system

A new two-page literature sheet featuring the HFS Series horizontal boiler feed systems provides the construction features, performance features, specifications and dimensions of the horizontal boiler feed systems. A list of standard and optional



equipment is also available. Tank capacities from 50 to 500 gallons; feeds 15- through 250-PSI boilers. Each model can be supplied as a unit with 1, 2 or 3 pumps. Features atmospheric tank design, easy maintenance and ability to handle 6 to 500 BHP. **Bryan Steam.**

Circle 112 on Reader Reply Card

★ Phc News product of the month ★

SYNC condensing boiler delivers maximum efficiency

With an advanced touchscreen control system (SMART TOUCH), SYNC combines stainless steel heat exchanger technology with modulating/condensing combustion to deliver thermal efficiency as high as 98%. With models producing 1.0, 1.3 and 1.5 million BTU/hr inputs, low NO_x operation and 10:1 turndown, SYNC serves a wide range of commercial applications. SMART TOUCH makes it easier than ever to set up a perfectly synchronized green system and allows access to a complete onboard database of real-time operations data and performance history. Equipped with a built-in cascading sequencer for up to eight boilers, the superior control system allows SYNC to deliver up to 12 million BTU/hr heating capacity. **Lochinvar.**



Circle 109 on Reader Reply Card



Solar panel/tank water heating system

Closed loop thermal solar systems for domestic hot water include flat plate collector panels, mounting hardware, storage tank with heat exchanger, a pump station with expansion tank and temperature/pressure gauges, pressure relief and check valves, and a controller unit with corresponding sensors. For economical, reliable hot water in commercial and residential applications, including space heating and swimming pools. **Stiebel Eltron.**

Circle 115 on Reader Reply Card

Commercial gas water heater

The HGC series water heaters for restaurants and other mid-size applications feature maximum installation flexibility, reliability, and advanced thermal efficiency.



Delivers up to 250,000 BTU input with 95% efficiency. Has an easy-to-read LCD display screen and a microprocessor that controls the ignition and thermostat. **American Water Heaters.**

Circle 116 on Reader Reply Card

Condensing cast iron boilers

KN-2 and KN-4 gas-fired direct vent cast iron boilers offer efficiencies of up to 99% with inputs of 200 and 400 MBH. Onboard HeatNet control eliminates need for third party controls and maximize efficiencies as a single unit, part of a building management system or networked with up to 16 boilers. **Hydrotherm, a division of Mestek.**



Circle 117 on Reader Reply Card

Solar hot water tank with dual coils

These dual-coil domestic hot water storage tanks are made in 60, 80 and 115-gallon units. The lower heat exchanger coil can be connected to



Modulating, condensing wall-hung boiler

Up to 98% efficient and producing 80% less No_x, Baxi Luna HT is a clear choice for green builders. Gas or propane-fired, it is available in combination heating and domestic hot water (Luna HT 380, producing 3.9 gpm at 80°F rise), or heating-only (Luna HT 1.33) mode. Both models come fully packaged, and are equipped with Siemens controller, as well as polypropylene coaxial pipe termination and elbow. May also be vented with dual pipe, and adapts to ABS/CPVC for up to 196' combined venting length. Baxi wall-hung boilers are ASME H-Stamp, Energy Star and CSA certified. **Marathon International.**

Circle 113 on Reader Reply Card



solar collectors, and the upper heat exchanger coil can be connected to a boiler for backup. The units are provided with two 3/8" I.D. thermal wells to control each coil independently. All stainless tanks and coils, a flexible thermoplastic jacket, and R-12 insulation add up to a quality product that is easy to install. **Heat-Flo, Inc.**

Circle 114 on Reader Reply Card

Visit us at AHR Expo Booth #2070

All the dual-purpose water heaters in the world with PVC venting.



The All-New Condensing Combi Water Heater



Where technology meets ecology.

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Circle 46 on Reader Reply Card



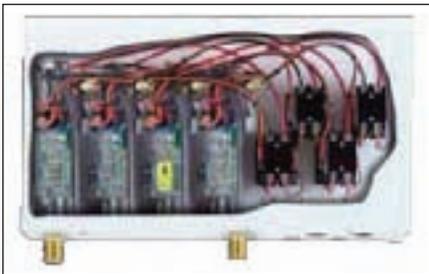
Bobcat boiler

(The 93% efficient Bobcat is designed and built in the USA. Two models; 120,000 BTU/H and 200,000 BTU/H with 4:1 turndown. Wall-mounted or floor standing, and has a five-year parts and labor warranty included. Slant/Fin Corp.

Circle 119 on Reader Reply Card

'Green' electric tankless water heater

The Series Four large capacity electric tankless water heater for the



whole house has microprocessing temperature control. Flow activates each of the EX380T2T2's efficient heating elements in stages based on hot water demand to maximize energy and water usage. Rated 99% efficient. Thermostatic control delivers unlimited hot water at precise outlet temperature. Ruggedly constructed to last for decade. Saves space and money. Eemax Tankless Water Heaters Inc.

Circle 120 on Reader Reply Card

4,000,000 BTU/H thru a doorway

The Futera XLF, a high-efficiency, near-condensing, copperfin boiler offers 4,000,000 BTU/H with full modulation, a 5:1 turndown and efficiencies of 88%. The gas-fired Futera XLF has been uniquely engineered for the commercial heating and domestic water markets to provide maximum output and efficiency within industry-leading compact dimensions: approximately 29" wide and 69" high. RBI Water Heaters, a division of Mestek.

Circle 121 on Reader Reply Card

★ Phc News product of the month ★



Wall-mounted tankless water heater

The Model ODW wall-mounted tankless water heater is available in 4 models ranging from 99,000 to 199,000 BTU/h. The revolutionary S line heat exchangers increase efficiency levels above 90% by using two heat exchangers, including a wet recuperative heat exchanger, manufactured from stainless steel. This reduces energy costs and enables the units to be vented in Schedule 40 PVC. **Quietside.**

Circle 118 on Reader Reply Card

Gas condensing water heater

Employing a top-fired burner and blower combination for more effective combustion, the power-direct-vent Vertex 100 delivers a continu-



Commercial electric water heaters

The Sandblaster CSB series and the Statesman SSE series have been introduced. The CSB units are available with a Surface Mount Thermostat (CSB-S) or an Immersion Mount Thermostat (CSB-I) and are used for standard commercial apps. The SSE units are used for heavy-duty commercial applications. The CSB-S and CSB-I models now come standard with 24K gold plated elements. The new element provides five times the scaling resistance of standard elements. The SSE uses heavy-duty incoloy elements that also provide excellent protection against oxidation and scaling. **State Water Heaters.**

Circle 122 on Reader Reply Card



ous flow of hot water at an industry-leading 95% thermal efficiency with 100,000 BTU/H capacity. The Vertex 100 features a sealed combustion system that draws air in and vents air out through sealed vents for an unlimited source of cleaner, fresh air. With advanced diagnostic capabilities, the new Vertex records performance history and has a backlit LCD display that details model functions including accurate temperature controls. **A.O. Smith.**

Circle 123 on Reader Reply Card

Condensing tankless water heater

The new super-efficient model N-0841MC tankless unit is the result of company's tireless dedication to technology development. The new condensing technology yields 93% energy efficiency versus 60% of a typical tank water heater. This will dramatically decrease the production of carbon dioxide, which will help reduce the emission of green house. These heaters come with stainless steel shell casings to give a unique and an aesthetic presence. The main component of this new technology is the super heat exchanger. A primary heat exchanger is comprised of copper and secondary is stainless steel. **Noritz.**



Circle 124 on Reader Reply Card

Modulating condensing boiler

The Alpine is a fully modulating condensing gas boiler with a 95% AFUE. From its high efficiency stainless steel heat exchanger designed for maximum heat transfer, to its fully modulating firing rates, the new Alpine truly is the peak of efficiency, safety, and reliability. **Burnham Hydronics.**

Circle 125 on Reader Reply Card



Modulating boiler water temperatures

High efficiency Vitola 200 oil/gas-fired line includes six sizes ranging from 83 to 300 MBH input (oil), and 90 to 300 MBH (gas); feature full modulation of boiler water temperature without low limit. Cast-iron and steel heat exchanger surface is reliable, durable. Low-emission combustion burner, reliable heat transfer due to wide water jackets and large water content, and highly effective boiler insulation for negligible standby heat loss. Rated up to 87% AFUE (oil) and 85% (gas) and switch off completely when no heat is required. **Viessmann.**

Circle 126 on Reader Reply Card



HVAC/boiler Back-up system

Offering a solution by creating the first fully-automated indoor energy back-up system and power source. The proprietary technology of the



Everlite Hybrid couples with any HVAC unit or boiler or as a stand-alone unit to provide an instant and continuous

supply of energy should power fail. So long as fuel is being supplied, such as natural gas, liquid propane, or oil, the unit runs indefinitely. Everlite Hybrid Industries.

Circle 128 on Reader Reply Card

PUREFIRE boiler

The new PUREFIRE gas-fired condensing boiler is a high-efficiency boiler available for either natural or LP gas. The direct vent, sealed combustion boiler has an ultra-high 95.85% efficiency and is the most thoroughly tested high efficiency boiler on the market!



The PUREFIRE is Energy Star® approved and has ASME and ETL certifications for both the U.S. and Canada. Features a unique condensate system with float switch protection and built-in neutralizer. A fully modulating burner with 3:1 flame modulation assures dependable operation and maximizes boiler efficiency. Peerless Boilers.

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Circle 129 on Reader Reply Card

Corrugated stainless steel tubing

For water distribution use, the EASYFLEX water line system is ideal for tankless or solar water heater installation, boilers and furnaces and residential or commercial construction. Featuring durable, corrosion and scaling resistant 304 stainless steel, "stab-type" easy-fitting brass fittings, and a 50-year warranty. Operating pressure of 147 psi at 212°F and higher. Available in rolls of 50', 100', 150' and with or without blue or red polyethylene coating. EASYFLEX.



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Circle 130 on Reader Reply Card

★ Phc News product of the month ★



freewatt home energy system

freewatt system provides heat, but also generates eco-friendly electricity. By relying less on electricity from the grid, homeowners can cut back on utility costs and environmental impact. The freewatt system is comprised of a Honda MCHP engine-generator and an energy-efficient furnace or boiler. When heat is needed the engine generates 1.2 kilowatts of electric power as well as 12,000 BTU/H of heat. This heat is sent back to the home and used to create a constant comfortable temperature. When heating demand is high, an Energy Star furnace or boiler supplements the engine's heat output matching the home's requirement. ECR International.

Circle 127 on Reader Reply Card



Ultra Series 3 boiler

Ultra Series 3 boiler features AFUE efficiencies in the range of 92.0-93.0%. These are some of the highest efficiencies in the industry, and when the Ultra Series 3 is used in low-temperature applications such as radiant heating, it can achieve efficiencies up to 98.0%. The Ultra Series 3 is designed to be environmentally friendly and exceeds the highest North American environmental air-quality standards. Weil-McLain.

Circle 131 on Reader Reply Card

PowerStor indirect water heaters

PowerStor Series® single-wall indirect water heaters feature a 1 1/2" O.D. single-wall, glass-coated (Vitraglas®), carbon steel heat exchange coil. Heating



fluid from a boiler passes through the heat exchanger, indirectly heating the surrounding potable water. Produces high volume hot water for many residential applications. Available in 30, 38, 48, 60, 75 and 116 gal. capacities and first-hour deliveries range from 255 – 325 gallons. Also offers continuous supply of 235 gal./hr at 180°F boiler supply and 157,000 BTU/H boiler input. Bradford White.

Circle 132 on Reader Reply Card



Wall-mount suspended platform

Quick stand suspended equipment platform includes four new wall mount solutions and six existing ceiling mount solutions for supporting water heaters, fan coil units, remote chillers and water source heat pumps. Water-tight, galvanized steel platforms eliminate the need for an additional drain pan. Strong 4-corner attachment points accept contractor's standard 3/8" or 1/2" all-thread rods for ceiling mount or manufacturer's included wall mount kit for concrete or wood/metal stud walls. Hubbard Enterprises/HOLDRITE.

Circle 133 on Reader Reply Card

ProTankless water heaters

The gwh 715 ES have a flow rate up to 9.2 gpm with 82% thermal efficiency. The first condensing model gwh C 800



ES offers flow rates of up to 10 gpm, 92% efficiency and the most advanced features in tankless technology, yet only requires an input

of 199,000 BTU/H. Available in natural gas or LP and have an outdoor installation option, low NO_x burner emissions and solid copper heat exchangers. Bosch Water Heating.

Circle 134 on Reader Reply Card

LS Series tankless water heaters

LS Series tankless water heaters provide continuous hot water on demand, saving 30% to 50% more energy than traditional tank-style units. Most models feature the Energy Star® label, so they are easily identified as energy efficient appliances, and all have a life expectancy of 20 years. Rinnai.



Circle 135 on Reader Reply Card



New 3/8" PEX-AL-PEX

3/8" PEX-AL-PEX has been added to this RadiantPEX-AL line. With reliable, easy-to-use compression fittings and greater flexibility, 3/8" RadiantPEX-AL is the most installer-friendly composite tubing available. Now with sizes from 3/8" to 1", RadiantPEX-AL is the perfect choice for any radiant or hydronic distribution needs. **Watts Radiant.**

Circle 137 on Reader Reply Card

Wet rotor circulators for DHW

Line of 3-Speed NRF wet rotor circulators has been expanded for domestic



hot water and closed-loop heating systems. The new model NRF-25 and NBF-25 circulators are equipped with 3-speed motors, which allow the pumps to cover a wide range of hydraulic capabilities. **Bell & Gossett.**

Circle 138 on Reader Reply Card

Dirt separators for boiler systems

Dirtal dirt separators, with specifically designed internal media, provide surfaces that assist in separating the dirt particles, guiding them downward into a low-velocity chamber where they settle on the bottom. The particles can then be conveniently removed even while the system is in operation. **Caleffi.**

Circle 139 on Reader Reply Card

★ Phc News product of the month ★



26 SEER inverter mini-split

The 25 and 26 SEER ductless split systems are the most efficient mini-splits available. The new 9,000 BTU/H model provides 26 SEER with an HSPF of 12. The 12,000 BTU/H system offers 25 SEER with 12 HSPF. Both of the inverter wall-mount systems are available as split system heat pumps, and offer super-quiet operation and nearly full heating capacity down to 5°F ambient and cooling operation down to 14°F. Refrigerant pipe lengths can reach 66 feet between the evaporator coil and the condensing unit. Both of the inverter wall-mount systems are available as split system heat pumps, and offer super-quiet operation and nearly full heating capacity down to 5°F ambient and cooling operation down to 14°F. Refrigerant pipe lengths can reach 66 feet between the evaporator coil and the condensing unit. **Fujitsu.**

Circle 136 on Reader Reply Card



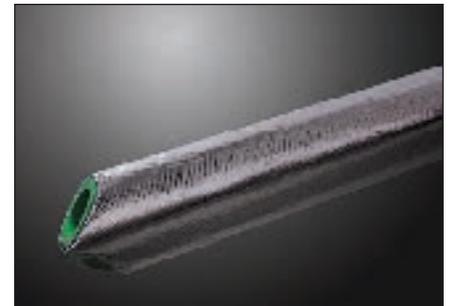
Eye/face wash system

The Axion MSR eye wash system irrigates the eye in a manner that is most recommended by eye care professionals. Using a patented design, the Axion MSR sweeps contaminants outwardly safely away from the nasal cavity. It received the "Innovative Product of the Year" award at the Expo Protection 2008 Conference in Paris. **Haws Corp.**

Circle 143 on Reader Reply Card

Advanced insulation

With the increased need for energy efficiency in every HVAC and plumbing



design, polypropylene pipe, with an insulating R-value up to 1.5 (depending on pipe size and SDR) provides an inherent advantage over traditional piping systems. This new advanced pipe wrap insulation delivers a complete piping and insulation package that meets the demands of chilled water applications (condensation) and insulating hot water lines for energy conservation. **Aquatherm.**

Circle 144 on Reader Reply Card

CPVC manifold system

FlowGuard MultiPort CPVC manifold system offers a versatile solution for use with CPVC and PEX potable water piping materials. Manifold will be



available in 1", 1 1/2", 1 3/4" and 2" sizes for residential and commercial applications and can be installed vertically or horizontally. Allows for any number of ports during installation and accommodates future expansion. Joined with solvent cement for fewer leak points. **Lubrizol Corp.**

Circle 141 on Reader Reply Card

Universal TR6 kit

New Universal TR6 kit includes the full range of thermostatic expansion valves. Packaged in a plastic carrying case, the kit contains either four valves (for R-22 refrigerant systems) or three valves (R-410a), enabling contractors to offer an immediate solution to any system upgrade. **Danfoss.**

Circle 140 on Reader Reply Card

ProPress butterfly valves

Three new butterfly valves added to the ProPress line have semi-lug bodies with EPDM liners, stainless steel disc and stem, with a 10-position handle; available in 2 1/2", 3" and 4" sizes. Compliments the existing 550 bronze and copper ProPress fittings offered in the line. Compatible with ProPress adapter flanges used in copper joining systems for heating and potable water applications. **Viega.**

Circle 142 on Reader Reply Card



Corrugated connectors

State-of-the-art design partnership with John Guest has created a new corrugated stainless steel flexible connector with John Guest "Push-to-



Connect" fitting. These connectors will save you time, ensure a secure and easy installation and can be used with 3/4" PEX, copper and CPVC for water heaters, water softeners, RO systems, recreational vehicles, residential and commercial applications. No special tools required. Reusable and easy to use in confined spaces, these are IAPMO listed and approved to ASME A112.18.6. **Falcon Stainless.**

Circle 145 on Reader Reply Card



Tubing cutter

The RC-2375 ratcheting plastic pipe and tubing cutter is used for fast, easy and accurate cutting of up to 2³/₈" O.D. capacity. Advanced blade design and ratcheting mechanism reduce the force needed to cut through plastic pipe and tubing. Durable aluminum construction and ergonomic handles provide a comfortable grip for precise and easy cuts in PVC and CPVC, PEX, polyethylene, polybutylene and rubber hose. With X-CEL™ quick-change technology, the blade can be changed in seconds without tools and lasts up to 2,000 cuts. **RIDGID**.

Circle 147 on Reader Reply Card

Gel thread-lockers and pipe sealants

Resbond 907TSG thread-locker gel yields high temperature, thermally stable, electrically insulating and



chemically resistant seals up to 2100°F. on screw threads, pipe threads and more. Three strengths: Blue Standard for general purpose, Red High Strength for vibrating applications and Gold High Strength to fill large gap widths. **Cotronics Corp.**

Circle 148 on Reader Reply Card

Cordless reciprocating saw

The M12 HACKZALL™ reciprocating saw is a compact, lightweight tool designed for powerful, versatile cutting in tight spaces. Features a 12V



Lithium-ion battery and cuts over 80 pieces of 1¹/₂" PVC on a single charge. The 2420-22 delivers a 1/2" stroke 3,000 times per minute for a smooth yet aggressive cut, and utilizes a keyless QUIK-LOK™ blade clamp for quick, easy blade changes. **Milwaukee Tool.**

Circle 149 on Reader Reply Card

★ Phc News product of the month ★



Mini-Rooter clears clogged lines

Mini-Rooter XP features a new "up-right" frame design with roll bars to protect the motor when taking the machine up and down stairs, or loading it into the truck. A variable speed power cable feed enables the operator to feed or retrieve the cable at up to 16 feet per minute. It can quickly adjust to take 1/2" and 3/8" cables without requiring tools or additional parts. The Mini-Rooter XP rolls easily on 8" semi-pneumatic wheels and its rubber feet hold it solidly in position on the job. The handle folds down to save space and locks into place to act as a lifting handle. The powder-coated drum can hold up to 75 ft. of 1/2" cable and has an inner drum cage to help prevent cable tangling. **General Pipe Cleaners**, a division of General Wire Spring Co.

Circle 146 on Reader Reply Card



Pipeline inspection systems

EelCam pipeline inspection systems brochure highlights a complete line of pipeline inspection systems, from the B&W EelCam Micro system to the full-color EelCam EC-10LCD system with a self-leveling color camera. The latest addition to the line is the EC-5C economy system that features a 5" color LCD monitor and color camera. **Electric Eel Mfg.**

Circle 150 on Reader Reply Card

Handheld pressing tool

The M20+ and the P20+ professional-grade pressing machines are bringing increased productivity, time savings and ease of job execution to the



skilled plumber and pipe tradesman. VIRAX M20+ is a compact pistol-grip pressing machine the size of a cordless drill. Crimps 1/2" to 1" copper and 3/8" to 1" PEX tubing using a master jaw configuration with interchangeable inserts — the first of its kind in the United States — to accommodate various tube sizes. **Stanley VIRAX.**

Circle 151 on Reader Reply Card



Work gear for professional contractors

A licensing partnership with Custom LeatherCraft includes more than 40 products such as heavy-duty tool belts, kneepads, soft-side tool carriers, tool holders and accessories. The new line is built with heavy-duty materials for improved durability on the job site and innovative features for increased comfort and convenience. **DeWALT.**

Circle 152 on Reader Reply Card

Low-profile side boxes

The new aluminum WEATHER GUARD low-profile side boxes are now avail-

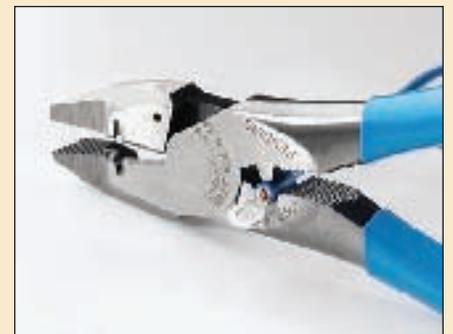


able and combine massive storage space with maximum rear-window visibility. The innovative low-profile design of the side boxes sits just above the bed rail to keep rear sightlines intact but the extra-wide design allows for the utmost storage space. The boxes come with an Extreme Protection Lock, protecting each box against break-ins. **Knaack LLC.**

Circle 153 on Reader Reply Card

Lineman's plier

The #369CRFT lineman's plier was awarded the National Electrical Contractor Association's Showstop-



per Award at the 2008 NECA Show. Features: exclusive joint path guides fish tape without kinking, binding, bending or breaking; built-in 12 AWG wire stripper and precision recess for creating wire loops fast; crimper/crusher for both insulated and non-insulated terminals; and laser heat-treated knife/anvil cutters last longer. **CHANNELLOCK.**

Circle 154 on Reader Reply Card

Principles for good solar hydronic design

(Continued from page 26.)

mounted horizontally on a building will significantly increase the cooling potential of the system.

Skylab overview

Night Sky Cooling is similar to solar heat in that it is governed by an assortment of weather variables. The indoor and outdoor temperatures,

cloudiness, humidity, altitude, wind, and rain all play a part in regulating the radiant cooling performance. Our challenge has been to take what we know about radiant cooling, and begin

to make it more accessible to home builders and mechanical installers so that it can be put to use in the same way that solar collectors and radiant floor heating is today.

Towards that end, Mark Chalom, Kate Snyder, and I embarked on a test program a few years ago, funded by the State of New Mexico, which we referred to as “Skylab.” For two summers, we set up weather instruments and data recorders and monitored the heat loss from a variety of flat-plate hydronic panels. Using these test results we developed a means of evaluating the radiant cooling potential using existing average monthly weather data, without resorting to complex computer simulations. The purpose of this simplified method is to allow any one to make a decision quickly, about the radiant cooling potential in their location by looking primarily at average temperature records and using only the simplest calculations.

Metal plate temperature

A thin metal plate exposed to the clear night sky will typically drop in temperature below that of the surrounding air. This is direct evidence of the radiant cooling effect, since the warmer air cannot be cooling the metal. The plate becomes a “sensor” that reacts to the multiple weather variables surrounding it, like wind and cloudiness, producing a cold temperature that represents the coldest useful temperature available at that moment. Using this sensor, instead of trying to correlate all of the individual weather variables, simplifies the quest for the Night Sky Radiant Cooling Rate. (Steve Baer of the Zomeworks Corporation deserves honorable mention for pointing this out.)

In Figure 2, “T Plate” denotes the temperature of the metal plate.

Dew point & air temp correlation

When measured at night, “T Plate” will almost always be found between the dew point temperature and the night air temperature. During the testing phase of this project, we measured these temperatures every five minutes with data loggers and produced nightly averages time, and time again. The goal was to find a long-term average correlation for our climate, shown as “C” in Figure 2. “C” is shown at the midpoint between the dew point and the Air. This is not a bad assumption, since our test results show an average of 0.441 when all our bench test data is combined, and an average of 0.488 when all the field test data is included from the summer season of 2005. On very clear nights the value is lower and during unfavorable conditions, the value is higher. But it seems that on the average, a value of 1/2 will yield reasonable

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Lester does ISH

The big ISH show in Frankfurt, Germany happens again next March and this will be my tenth visit. I'm looking forward to it, as always, and my buddy, Lester, is talking about going along. I'm still trying to get over the last time we went together. There's something about his sweet shirt that just endears him to folks in foreign lands. Anyway, here's my story and I'm sticking to it. Enjoy. [Click here to read more.](#)



World's most expensive dog house

The next time The Lovely Marianne sends me to the dog house, I think I'd like to check out this one. Lucky dogs. And it's got geothermal heat. Some people have way too much money. [Click here to read more.](#)



An innovative idea!

How about this for being clever? The hospital's new heating system will collect the heat from the parking lot during the summer and store it 100 feet below the surface until they need it during the winter. It's sort of the reverse of that system I told you about at the Japanese airport, where they're saving the snow and using it to cool the building during the summer. Necessity is indeed the mother of invention. [Click here to read more.](#)

Gas, not wood

The airport in Bangor, Maine will be burning gas instead of oil soon, and all because of the price of oil. What's a bit surprising, though, is that they didn't go with wood. So many of the heating systems in Maine are converting from oil to wood right now, but you should click here to follow the reasoning on this one. Interesting stuff. [Click here to read more.](#)

A very playful radiator

I love the creativity that's going into the new radiators. Some of these units are pure art, and that's helping to change the way consumers see hydronics. This radiator brought me back to when my daughters were small. Trust me; the only thing worse than stepping on a Leggo block in the dark of night, is stepping on a Barbie high heel. Ouch! [Click here to read more.](#)



Portsmouth Abbey opens new solar house

Last winter, my friend, Rich Corcoran, of Viessmann fame took Marianne and me to visit the Portsmouth Abbey, a private Catholic boarding school in Rhode Island, to see what they were doing with green technology. This is quite a place. It was a cold, windy day and we all got to go inside their wind turbine, which was a hair-raising experience. Those things are huge! I was pleased to see this article and learn that the abbey is still at it. They are now home to one of the Solar Decathlon houses. This place is inspirational. [Click here to read more.](#)



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results when used as a rule of thumb.

Source temperature (Mass core or reservoir)

Heat loss to the night sky is driven by the difference in temperature between the warm radiator and the cold sky. It is not a simple linear relationship, so increasing the radiator temperature will dramatically increase the heat loss to the sky. For purposes of comparison, we chose a radiator temperature that matched the typical performance or our field tests. In these tests, we monitored the heat loss from concrete floors that were cooled with liquid, pumped through tubing embedded in the floor. The “T Floor” temperature of 73 F, shown in Figure 2, corresponds to the typical conditions seen in our field tests where radiant night cooling was typically available for 10 hours each night in summer. This type of cooling system can be engineered to operate at higher or lower temperatures if needed. They can also be designed to use water tanks for heat/cool storage instead of, or in addition to mass floors.

Radiator Performance Expressed as “U Value” (Heat loss from the radiator plate)

There are a number of different types of panels readily available for use as night sky radiators. Most are manufactured by the solar heating industry, and intended to be used for the solar heating of liquid during the day. But, they can also be operated “in reverse” for cooling at night. They are available in plastic, metal and various liquid flow path configurations. Some work better than others when used for radiant cooling. Since there is no widely accepted testing and rating system for night sky cooling panels, we created methods of testing and comparing to suit the goals of this project.

The results of our radiator panel tests were reduced down to a single number for comparison. This number was intentionally derived to have the same units as “U value”, which is widely used in the building industry as a Heat Loss rating for common building materials. “U value” is commonly expressed in Btus per hour per square foot per degree Fahrenheit. The “U value” of our radiators uses the same units, and represents the number Btus the radiator can emit to the night sky, per square foot of surface area, per hour, per degree (F) of temperature difference between the radiator surface and the white plate.

Figure 3 shows a bar graph of night sky U values for various radiator panels that we tested. The panels showing U values closer to 1 are the ones with glass covers, selective surfaces or other configurations that “hold on” to the heat at night. The panels with U values

closer to 2 have bare surfaces, and good thermal radiation characteristics that lose heat better at night. The best radiators are “wetted plates” that have large surface areas in contact with the hydronic fluid inside the panel.

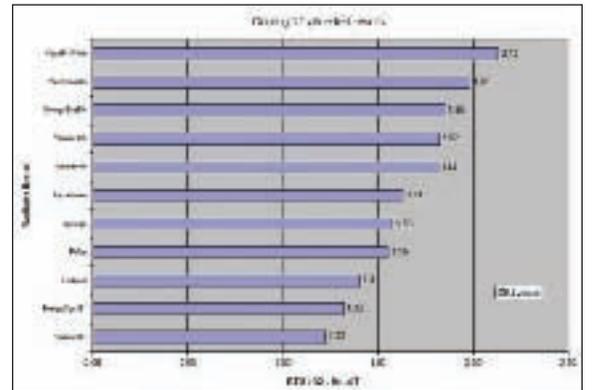
Radiant cooling — hourly, nightly, monthly average

A Heat Loss Rate “Q” can be calculated using the formula shown in Figure 2 based on the average temperatures, the “U value” and the area of the radiator also indicated on the Figure. This yields an hourly value, which represents the average cooling to be expected with this radiator under these temperature conditions, in Btus per hour. To obtain the total cooling to be delivered overnight, multiply by the number of hours the cooling pump will be run. A maximum of 10 hours per night is consistently available in our climate during the warm season. So, to estimate the maximum cooling delivered overnight, multiply by 10 hours. Then

to estimate the monthly cooling total, multiply by the number of days that month (e.g. 31 days).

Conclusions may vary

This method allows you to estimate NSRC cooling potential in any location by looking up the night time dew point and air temperatures and assuming a U value for our radiator. It will get you into the right “ball-park” if you use the assumptions discussed here. This method is intended for quick initial comparisons, and no guarantee of cooling results is expressed or implied. Many design details can alter the outcome, including high local winds, panel tilt, the weather data accuracy and other factors. But, this method may show you that there is more NSRC potential in your region than you thought,



Test results for various “off-the-shelf” heating collectors used as radiators. (Image courtesy Bristol Stickney and Mark Chalom.)

and for the price of running a pump, you may be able to make use of some “free” cooling. ■

Bristol Stickney, partner and technical director at Cedar Mountain Solar Systems in Santa Fe, N.M., has been designing, manufacturing, engineering, repairing and installing solar hydronic heating systems for more than 30 years.

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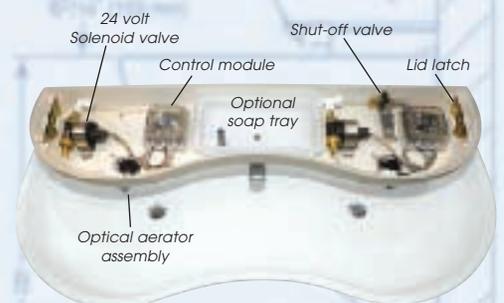
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Rovanco Piping Systems – celebrating 40 years



JOLIET, ILL. — Rovanco Piping Systems, a leading manufacturer of pre-insulated piping systems, is celebrating its 40-year anniversary in 2009. What started as two brothers in the industrial and commercial contracting business trying to make a decent living, serendipitously turned into the quest to become the market leader in pre-insulated piping systems.

Larry and Dick Stonitsch, partners in L&R Contractors, were in need of a pre-insulated piping product for one of their projects so they contacted a manufacturer of pre-insulated pipe in New Jersey, and subsequently were given a long lead time for the product. “When I suggested to them that I needed a better lead time — if they couldn’t do better than 17 weeks — I would have to go to their competitor. They, in turn, informed me they didn’t have a competitor. That was the spark that caused my brother and I to get into the

ical lines, our biggest markets are for the distribution of steam for heating or process use, hot water for heating and chilled water for cooling, as well as fuel distribution systems for airports and fueling facilities. “We see continued steady growth in our market; we are presently introducing innovative above-ground unique piping systems since we are now able to meet the Fire Codes,” said Stonitsch.

Over the course of 40 years, Rovanco has provided piping systems for thousands of projects and have manufactured thousands of miles of pre-insulated, pre-fabricated, pre-engineered piping systems for steam, hot water, containment systems for fuel and hazardous chemicals, chilled water, etc. Some notable projects for which Rovanco has supplied products:

- In 1972 Rovanco received its first major pipe order for 45 miles of pipe for the Alaskan Pipeline project.

was selected as supplier by Philipp Holzmann A.G., a major international contractor based in Frankfurt, Germany. The unique O-ring coupling system allows for the expansion and contraction of a piping system without the need for expansion loops or other expansion compensation by allowing the pipe to slide into an “O” ring. The installation was very easy because there was nothing to weld or solder pipes together. And since there are no expansion loops, the trenches can be dug straight without offsets.

- In 1979 Rovanco was selected to provide 120 miles of 20" pipe to Getty Oil. Rovanco set up a complete pipe insulating facility for this project at the job site in Shafter, California. In eight months 120 miles of pre-insulated pipe was completed as well as 23 miles of corrosion coated pipe. The facility was dismantled and shipped back home in Joliet.

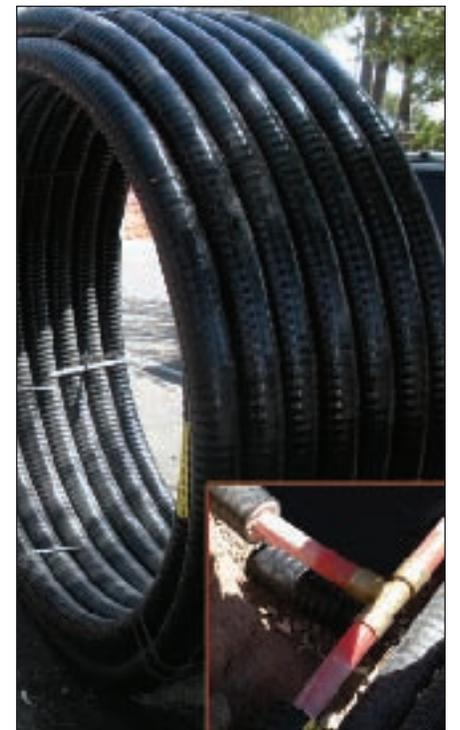
- In 1981 Larry and Dick Stonitsch patented a fitting system with expansion couplings and combined spacer and sealing sleeves.

- In 1983 Rovanco introduced its Fusion Bonded Epoxy Coated Conduit System for high temperature systems. Rovanco felt that any coating that can’t take at least 400°F for at least 24 hours is not a suitable coating for an underground high-temperature conduit system. Amoco, Shell, Getty, Nova Pipeline are just a few companies that Rovanco served.

- In 1987 Rovanco introduced its Quick Fit Containment Piping Systems, it was developed to provide means to contain a leak of a primary pipe, preventing under ground contamination. Rovanco has provided thousands of containment piping systems for fuel oil, jet fuel, hazardous chemical lines, chemical waste, etc. to major airports, industrial, and chemical plants.

- Rovanco’s Insul800 system was introduced in 1994. Rovanco started manufacturing this product because it was a superior product and does not require cathodic protection since it has a polyethylene outer jacket. Insul800 has the highest temperature rating available and is a uniquely different product using a combination of the highest quality foam insulation, high-density polyethylene jacket and a unique support system.

- The United Airlines Maintenance Facility in Indianapolis is a complex of seven hangars, several shops and a power plant. It has more than \$4,000,000 worth of containment pipe installed over a four-year period starting in 1992. Rovanco supplied \$3,600,000 worth of this pipe. The pipe is being used for a variety of applications such as fuel, hot water, waste chemicals and chilled water. It is presently the largest containment pipe



Flexible pre-insulated piping has taken over the market for 4" and smaller pre-insulated pipe because it is a high quality product and it has the lowest installed cost of any pre-insulated pipe.

system in the world, and still growing.

- In 1998 Rovanco started marketing flexible pipe systems, these pre-insulated PEX and Polyethylene pipe systems come in single or dual line, which makes it the right product for the distribution of hot and cold fluids from 20° to 204°F. Flexible pre-insulated piping has the lowest installed cost of any pre-insulated pipe. Rovanco has supplied hundreds of miles of this product all over the United States, Canada and the Caribbean.

One of the things that sets Rovanco’s products apart from the competition is its use of the latest high quality materials. Rovanco has exclusively used fusion-bonded epoxy as its only steel pipe coating since 1983. Others use coal tar, asphalt, and other coatings that can’t meet the ASTM Standards. Its use of high temperature foam also sets it apart from its competition. Rovanco has foam systems that can handle 400°F continuous and also meet the stringent requirements of the Fire Codes to have a 25 Flame and 50 Smoke Rating. “We don’t believe anyone else has a pre-insulated pipe with that type of rating,” said Stonitsch.

The economy, however, is affecting Rovanco like all other companies. There is a slowdown in the amount of jobs bidding and being awarded. “We are working diligently to get our share of the market to ride out the slowdown. One good thing about our business is that approximately 50% of the market we serve is replacement of existing piping systems. So as new construction slows down it certainly affects us, but not as much,” said Stonitsch. ■



Larry (r) and Dick Stonitsch opened Rovanco’s doors for business with the first dual line pre-insulated piping system in 1969.

pre-insulated piping business in 1969. We spent approximately 30 days designing a manufacturing process to make pre-insulated pipe. We quickly gained some orders because of our quick delivery,” said Larry Stonitsch. The business was conceived for the purpose of providing a high quality pre-insulated piping system as an alternative to (outdated, costly, less effective, etc.) field insulated piping.

Rovanco opened for business with the first dual line pre-insulated piping system in October of 1969. It didn’t take long for its reputation for high quality products, prompt delivery, diversity of product range, commitment to innovation and service to the its customers, to move Rovanco to the forefront of this industry. Although Rovanco’s pre-insulated piping systems can be used for almost any application for steam, hot water, fuel, chem-

Rovanco provided pre-insulated heat traced piping for the hot water heating lines, domestic hot water lines, sewer lines, and potable water lines for the work camps north of the Yukon River.

- In 1974 Larry Stonitsch patented the method for making dual line insulated pipe.

- In 1976 Rovanco introduced its Copper O-Ring Piping System.

- In 1978 Rovanco provided 740 miles of Copper O-Ring and FRP pre-insulated pipe for domestic hot water, heating hot water, and chilled water distribution systems for a project in Saudi Arabia with a 13-month completion date. Rovanco completed this project in eight months making it the largest pre-insulated piping system in the world. This project firmly established Rovanco as a leader in the pre-insulated piping industry, both domestically and internationally. Rovanco

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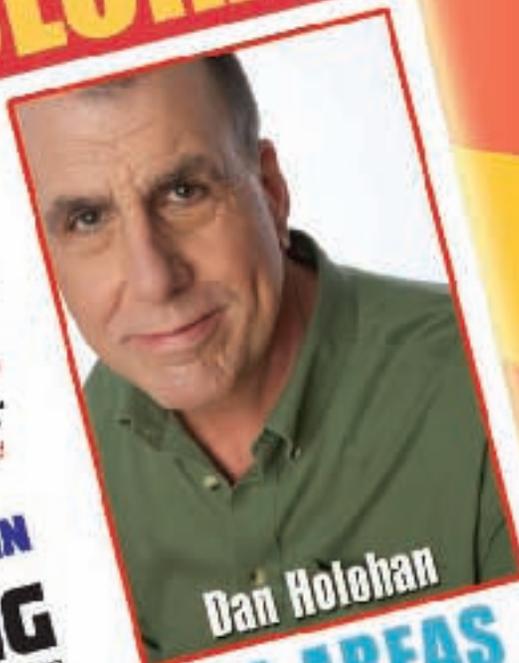
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Steady growth: A strategic corporate accomplishment at Grundfos Pumps

Phc News recently had the opportunity to conduct an exclusive interview with the president of Grundfos Pumps U.S., Dennis Wierzbicki. For four years, Wierzbicki has served Grundfos as director of sales. Two years ago he was named the head of U.S. operations. Wierzbicki has worked in the pump industry for more than 25 years, having held key positions with WICOR/Pentair Industries, DeZURIK, Sta-Rite and Goulds Pumps.

While many company executives wear a sober expression brought on by steadily eroded business hangover here in the U.S., the Grundfos group is rather upbeat. Grundfos' sales in North America are approximately \$450 million. The U.S. pump market alone is estimated to be \$6 billion, so the business potential for Grundfos is significant. Grundfos has had a presence in the U.S. market since 1973. Phc News was interested to learn more about the pump company. The following is a Q&A with Dennis Wierzbicki.

Phc: *It appears that Grundfos continues its steady growth here in the U.S. How do you do it? How are current economic conditions influencing business for you?*

Wierzbicki: You can't escape the news of a bailout for Wall Street, banks and the U.S. automakers, and there's no doubt the downturn in housing has affected the hydronics market, but we continue to make gains in market share. In fact, in 2008 we experienced double digit growth globally and nationally. Since our commercial market is more project-based, consumers are holding back a bit, but overall we are up 11% from last year. Growth is still happening in the commercial and industrial markets, but on the residential side I think '09 might be tough sledding; replacement business has helped — actually up 14%.

We're still projecting a 12-14% percent growth rate long term, but that could involve some swings as the economy wavers. Fortunately, we have an enormously skilled, experienced and motivated sales force and an incredible group of engineers and product development professionals — both here in the North America and in Denmark. In fact, that's one of our most exciting shifts. We now design and develop products here in North America. That begins with a robust R&D effort, all the way through to product introductions here.

We also have a great marketing

team; they've certainly helped to stake out and hold the industry leader position we now enjoy.

A lot of our growth will be tied to product development, and that's compatible with a U.S. market that's becoming increasingly more sophisticated, hydronically speaking.



Dennis Wierzbicki, president of Grundfos Pumps U.S. is all business during his Phc News interview.

Our foray into the solar, geothermal and renewables markets also has pushed business.

Today, we're doing about \$450 million worth of business in North America. We plan to double that amount in the next five years.

Phc: *What is your unique vision for the company. What's happening at Grundfos at this moment... and what can we look forward to in the next 12 months?*

Wierzbicki: We continue to aggressively invest and develop new technologies in pump controls (see page 77). For example, at the AHR Expo in Chicago this month, we are releasing upgrades/improvements to our core products for the residential heating market.

We also are committed to looking at acquisitions that make sense for

Grundfos — acquisitions that add to the strong organic growth of Grundfos North America. Five years ago, Grundfos laid out a plan for growth in the North American pump market. In addition to adding sales resources and significant investments in product development and supply chain infra-

structure, a selected list of acquisition targets was developed.

A great example of this is just one year after Grundfos added Peerless Pump Company to its group of companies, it acquired Yeomans Chicago Corp. (YCC) of Aurora, Ill., which specializes in pumps for waste water. The Yeomans acquisition strengthens the Grundfos product offering, specifically to the waste water segment of the market. Yeomans sells products under the Yeomans Pump, Chicago Pump and Morris Pumps brands and focuses primarily in the waste water and sewage markets.

Phc: *You're based in Olathe, Kansas, but there's more to your facilities here in North America, right?*

Wierzbicki: That's right. Here in North America, we have factories in

Fresno, Calif. and Mexico; our acquired facilities in Indianapolis through the Peerless Pumps acquisition, a much larger and modernized facility in Allentown, Pa., and the Paco Pumps plant in Houston, Texas also through recent acquisition. We're also planning a new North American headquarters facility in the Kansas City area. Despite the current downturn, we're investing long term in a market that's very important to us. At Grundfos, product innovation and new technology is important, and our

ability to respond and get product to where they need to be is key.

Some important questions we ask ourselves: How do more people have access to our product? How do we achieve energy efficiency? How can we help achieve access to water sources, reduce energy costs and attain sustainability?

Phc: *Please give me your thoughts about the current status of the hydronics market here in North America. Do you see problems, or opportunity?*

Wierzbicki: A key shift the industry is seeing right now is that older, traditional cast iron boilers are giving way to condensing, fully-modulating boilers and wall-hung, instantaneous hot water heaters. Heating systems are getting smaller.

Also affecting the industry techno-

logically, variable speed technology is emerging quickly and pre-assembled, pre-engineered control panel systems are becoming more sophisticated, and yet at the same time, are more appealing because of their simplicity.

Systems as a whole — not just the boiler, but the sum of all parts — are becoming a great deal more fuel efficient, and this is especially important as the market focuses on sustainability. This is happening in both the commercial and residential markets.

Among some of the challenges is the need for us to develop our distribution channel. Wholesaler consolidations have helped this in some respects, but not in others. Our goal is to grow our business with independent wholesalers and, as well, to strengthen or ties among new and

existing manufacturer's rep agencies.

Taking technology to a new level, last year we unveiled our new commercial MAGNA pump, a variable speed circulator that is arguably the world's "smartest" pump available today.

Although the MAGNA can be used for new installations, it's ideally suited for the replacement market because the performance curve for replaced pumps is so rarely known. Once it's set in the pump flanges, its 'Autoadapt' function — activated simply with the push of a button — sets it on an autopilot-like course to read the hydronic map before it, taking note of the performance level it needs to achieve, and setting itself accordingly. There's no guesswork at all. The pump meets the performance level needed and adjusts its perfor-

mance immediately to any change in system needs.

And, soon... we will have an entire line of small, residential pumps on the market that offer similar variable-speed performance.

Sure, we'd like to sell more pumps into a booming, home construction business. But what manufacturer wouldn't like to see the return of a robust new construction market? We weren't surprised by the turn of events; the signs of an implosion were there. Grundfos' diversification has helped, and by strengthening our presence in the commercial and industrial industries, we've seen growth. The next year will have its challenges, but our positioning is careful and deliberate, and we're still hard at work to stay in the lead.

Phc: You also have a growing line of hydronic components and accessories. Please explain.

Wierzbicki: In 2008, we introduced a growing line of advanced zone controls for hydronic systems. We built them with a lot of input from contractors and engineers. Models include single, three, and four expandable to six zone configurations. The units offer high-res LED display for system status and zone function, freeze protection and multi-panel linking.

We also have a broad line of hydronic components, and — on the plumbing side — we offer the Comfort System hot water recirc for retrofit application and the completely self contained UP10-16 hot water recirc pump for new construction, recognized as among the best on the market today. ■

Smart circulators: The new generation of intelligent pumps

At this year's AHR Expo in Chicago, attendees from all over the world will see a wealth of new technology that includes one of the true breakthroughs to enter the hydronic realm: smart circulators or, you could say, intelligent, pumps.

Fortunately, leading manufacturers in our industry tend toward conservatism. That is, they place great value in knowing — before products are introduced — that the technology will work reliably. But the hue and cry for this technology has been heard in the United States for a few years, especially at the encouragement of hydronics experts Dan Holohan and John Siegenthaler. News of this technology, already well established in Germany and Asia, has sharpened our interest.

The future is here, and the newest technology has already found its place in a wide range of mechanical installations. In a sense, multi-speed circulators led the way to more sophisticated constant pressure systems with variable frequency drives (VFDs). These then led to the more advanced proportional pressure control — availing pressure loss that's proportionate to flow demand within the piped system. VFDs were then integrated into the pumps and, from these, a whole new generation of intelligent pumps has sprung up. Even more recent advancements have entered the "gene pool" now, giving some pumps the ability to automatically adjust their own performance, based on the needs of the environment, or system, they're placed in.

Manufacturers introduced some very exciting new pumps at last year's AHR Expo. One of the newest and most innovative circulators to enter this rapidly evolving arena is Grundfos's MAGNA pump, a variable speed commercial circulator with a

unique capability. The installer, system engineer or end user can choose, with the simple push of its "Autoadapt" button, to activate the pump's ability to read system need, calibrating function to meet system demand at the lowest possible control curve, maximizing energy savings.

Variable speed circulators — Grundfos offers them — provide a broad range of capability, making them an ideal choice for retrofit situations where there may be little known information about what the system's original design spec was, or whether the pump was oversized.

"I spent a lot of time looking into the capabilities of the MAGNA pump," said

Dave Yates, president of F. W. Behler Inc., a full service mechanical contracting firm based in York, Pa. "It's an answer to every service man's or maintenance engineer's dream. When a pump fails, we rarely know its operating parameters. And it's common that, when a pump goes down, there's a loss of heat or no circulation as part of some important process. If a new pump could be installed quickly, and a button on it could be pushed so that the circulator calibrates its operation entirely on the system's demand and responds to changes in need, that's ideal, an answer to dreams.

"A pump like that offers a speedy replacement, with reliability built in

like never before," added Yates. "Variable speed operation, based on system demand, will lengthen the life of the pump and save enormous amounts of energy for the end user. It will reduce the installation cost substantially, as well, because the installer won't have to reverse-engineer the system to gauge exactly what it calls for."

"We respond to what the market calls for. When design engineers and mechanical contractors ask for new technology to meet specific needs like those Dave Yates has mentioned — and especially when recognized experts like John Siegenthaler champion the cause — we've got to be on (Turn Pumps, page 78.)

The Grundfos MAGNA automatically adapts to system needs

MAGNA, the newest wet rotor circulator by Grundfos, now enters North America after years of duty in Europe, where it won all A ratings for energy conservation and reliability. Magna's broad performance range, with three cast iron and three stainless steel models now available, covers flows from 10 to 170 gpm, making it an ideal choice for a wide range of commercial retrofit applications and for many hydronic, radiant heat and snowmelt uses.

The circulator's patented Autoadapt control function automatically adjusts performance to meet demand and save energy. It "learns" what works best for the system, continually changing its settings to provide the temperature and comfort required. This translates to substantial savings on running costs.

MAGNA pumps exceed the performance of simpler, proportional-pressure circulators. Though proportional pressure pumps operate with a higher minimum head (pressure), the Magna retains a very low "foot point" at 5 feet. The factory-set curve already saves more energy than an ordinary proportional pressure setting. As flow demand increases, the pump pressure follows the Autoadapt performance setting until the pump operates on the maximum curve. At that point it continues downwards until it reaches the required flow. When flow is



reduced, the MAGNA learns what the system needs and sets a new, lower pump speed. It analyzes system conditions and adjusts its performance accordingly.

MAGNA pumps are virtually maintenance free. The pump is oilless and sealless and does not require a fan, because it's cooled and lubricated by the water it pumps. Flange connections are designed for easy replacements.

Also, bus communication permits use of the pumps with building management systems or with data collection features offered by GENIBus and LONWorks.

For more information, visit www.grundfos.com/Magna.

Pumps

(Continued from page 77.)

our toes,” said Joe Rice, product specialist for Grundfos Pumps.

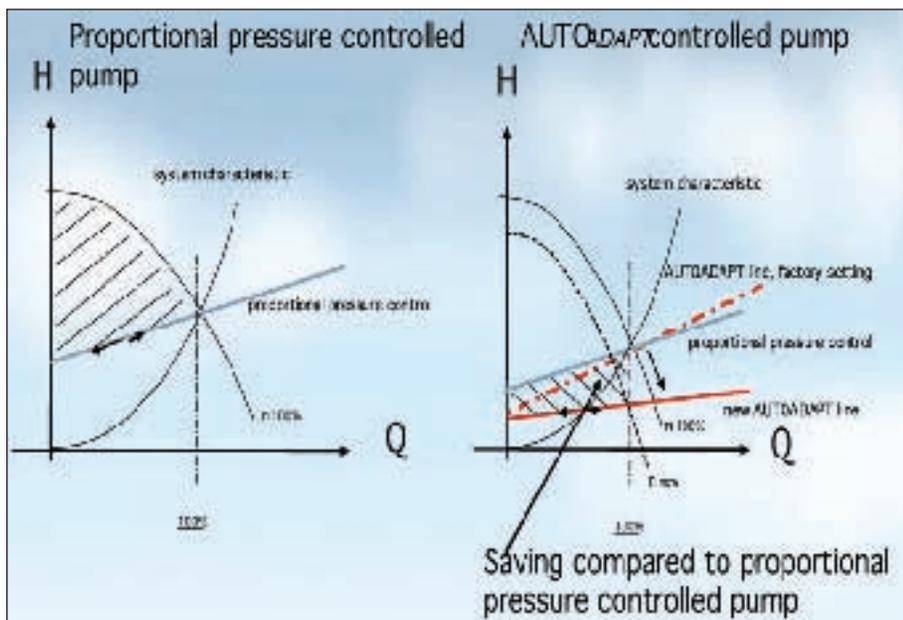
“In a heating system, the primary variable is flow to carry and deliver the requisite Btu,” added Rice. “When compared to a basic constant speed pump, or even constant pressure control, proportional pressure controlled pumps seamlessly deliver higher flow at times of higher Btu demand. At lower heat demand and lower flow a proportional pressure pump can reduce head without any detriment; this allows for much greater energy savings. Essentially, proportional pressure control provides friction loss

snowmelt system is activated.

Suddenly, the system calls for the movement of a large volume of fluid that it had not “known about.” Yet, the circulator’s range of performance easily covers the new ground and welcomes the need to move warmed fluids into the snowmelt loops. Mission accomplished — and with no human interaction.

When the storm leaves, leaving behind only gently steaming concrete surfaces above the snowmelt tubing, controls deactivate the snowmelt zones, and the pump resumes its role as a supplier of inside radiant heat.

How does it work? The new Autoadapt function immediately defaults to a proportional pressure curve at a point on the curve at 50 per-



The circulator’s patented Autoadapt control function automatically adjusts performance to meet demand and save energy.

compensation. This is most advantageous in closed loop systems, where friction loss is the primary component of total head.”

According to Rice, Grundfos’s new Magna has an even more advanced form of proportional pressure — a programmed mode that continuously alters pump performance based on real-time system need. New pumps “know” their own pump and power characteristics and have the capability to continuously monitor their own performance, with no transducers or external sensors. They are designed to collect and use this information, altering performance instantaneously. With that sort of intelligence on the front end, a built-in VFD then drives variable speed performance based on the real-time system need.

Say, for instance, that the pump was installed as the main hydronic circulator at a warehouse facility that feeds 10 radiant heat zones inside and two snowmelt zones outside — an access ramp and a driveway-sidewalk area. When the pump was installed, only the interior radiant heat zones were operational. But, weeks later, a storm front moves in, and the

cent of head capability. The built-in control then seeks out the need for greater or lesser need for flow within the piped system. This starts a mode of continuous monitoring so that, as the system opens more zones and the need for more flow, creating the need for more heat and more head loss, it eventually hits its maximum speed curve.

But it also recognizes that system demand does not match the original (50%) setpoint. As pump operation falls down that curve, with lower head, it calculates a new proportional pressure control line to meet the new setpoint, charting a path quickly along that new line of operation.

“Which, again, further reduces head pressure and, in doing so, saves more energy. These new generation circulators have energy savings of 55%, compared to non-controlled pumps and 35%, compared to existing controlled circulators,” said Rice. “We see this new family of pumps as the best solution for the replacement market. New, smaller residential and light commercial circs are on the way, adding greater breadth to what system designers and installers will have at their disposal to solve a broader range of challenges.” ■

Executive’s Club

(Continued from page 18)

and receive substantial relief from their electric utility bill. I am confident that his system will appeal to the social conscientiousness we all have to preserve, and do it in a way that will not negatively affect our quality of life. To achieve the environmental benefits of freewatt® does not require you to turn off appliances, drive a compact car or move into a smaller home but just requires one to have a freewatt® installed in their home in place of the existing heating system. One thousand installed freewatt systems is the equivalent of removing 660 cars from the road — that’s a lot!

Does this show the company’s dedication to green building?

Paparone: Yes, we do believe green is the right thing to do, not only from an environmental standpoint, but also from a business standpoint. Our company has a long history of innovative, energy efficient products including full lines of boilers and furnaces with EnergyStar rating.

Now freewatt® takes the heating industry to the next level of environmental friendliness and is the first in what will be a series of products in years to come. We would expect that this level of reduced carbon footprint, i.e., 66% less than traditional systems, will become the new standard. In fact, EnergyStar will give way to a new EPA rating, namely “Climate Choice,” which designates products that are most environmentally friendly. Our freewatt® Mchp system will be among the initial recipients of this designation.

Our commitment to “green building” also extends to all modifications in our facilities going forward as well as our approach to marketing and other materials we use to conduct business.

Can you talk about the quality and support of the product?

Paparone: ECR has been an ISO 9001 certified company for many years and understands that exceptional quality in products and services provided to our customers is our greatest responsibility. From supplier qualification, first piece inspections, auditing and continuous oversight we challenge each ECR employee to always improve our products, processes and services.

What is ECR’s commitment to the community?

Paparone: ECR was founded in Utica, N.Y. and Dunkirk, N.Y., respectively and has never left its roots; ECR has remained loyal to the communities it serves. To abandon communities that depend on you when they have the most need is just not right in our view. Hundreds of community and local charitable

organizations are beneficiaries of the company’s spirit of giving and also, the kindness of the Reed family who have been exemplarily contributors to the community with time, money and all types of support. Probably the most well known community event is the 15K Boilermaker race, which was founded by Earle Reed and has grown to the largest, most famous 15K races in the country over the last 35 years. Over 6,000 Volunteers participate in this major event which gathers over 11,000 runners each year in July with week long festivities for everyone. It is a spectacular event and I would encourage anyone who enjoys running to participate.

In December, our commitment to our employees, and to the New York communities we serve, was reinforced with our announcement of our new capital investment in our Dunkirk and Utica facilities, respectively for 2009, the largest such investment in our history. The investment includes construction of a state-of-the-art laboratory facility in Utica, and in keeping with our commitment to “green,” the energy from the lab testing equipment will be used to heat the facility. There is no question ECR intends to stay and succeed in N.Y. State.

Where do you see the company in five to 10 years?

Paparone: To answer that let’s go back to our vision, namely to become a recognized leader in heating and air conditioning products and services that have the most positive impact on the environment, society and customers.

In five to 10 years then, we would expect ECR to have become a well-known force and a brand that is leading the revolution of our heating and air conditioning industry to green, environmentally friendly products. We would expect our growth to be very high and, as a much larger company, to have created opportunities for our employees and communities to achieve both business and personal growth. The breadth of product line and services will include development of new “smart” appliances and new categories of value-added services that help consumers enjoy maximum performance from the appliances. The ultimate compliment is to have consumers recognize ECR as a company they admire and a company who they seek out for products and services.

We realize our goals are ambitious but I believe that without ambition few things are achieved. Our success will be facilitated by the work and dedication of our employees and our partners, including suppliers, distributors and dealers. I have no doubt we will achieve our goals and approach our vision. ■

Teachers are our leaders

(Continued from page 28.)

sink in.

Frank Blau taught me to charge more than it costs. He taught me that the foundation of a successful business is profitability. He taught me that everyone, not just the owner, deserves to make a great living and build a substantial nest egg. He taught me to keep score...and that wealth is integral to a fully lived life.

I used to call John Young to help me when I would hit a brick wall. He responded, "I love solving problems. I am good at it." And he taught me how to solve any problem. (I included a Super Thinking formula. This is from my book, *The Bare Bones Biz Plan*. It's my take on what John taught me and what I learned from Dale Carnegie. It's a simple way to pass on this powerful advice. See page 28.)

Dan Holohan taught me to write like I am talking to you. He is so good at it that he makes you feel like he wrote every word just for you. He connects with people, and connects people with each other. What a gift.

Al Levi taught me to sit in the other person's chair. Al literally gets up and sits in the second chair in his office to consider every move he makes from the other fellow's viewpoint. He believes that every business decision is a win-win...or it is a non-starter.

JR Richardson taught me to pull my gaze up from right in front of me to the

horizon. What do you want long term? What is the biggest dream you can imagine? That's what JR likes to talk about and inspire in his proteges.

My husband, Hot Rod, taught me to follow your bliss. It makes you an expert. He does exactly what he wants to do every day and has made a series of great careers doing just that.

Mr. Mac taught me that there is always hope.

Here's what I have learned from all my mentors (and there have been so many more than I have mentioned): Everyone who has made a success of their life on any level had help from someone else. You don't get there alone. Once someone helps you, you are honor bound to help someone else.

When we wrapped up class at the prison the other day, I gave a homework assignment. It's time for the leaders of Randy's class to take on mentoring duties. There are brand new students in the class. I challenged the gentlemen who have benefitted from Randy's support and his curriculum to reach out to the new kids. Listen to their dreams. Help them write their business plans. Show them their assets from their elbows. Hold them accountable to their commitments. Praise good works and be intolerant of poor behavior.

Here's some advice for being a good mentor:

If you want to stop creating your own financial problems, you must start running your business in a financially prudent manner and deliver value to consumers through excellence in performance. Today is the first day of the rest of your business life. There's no better time to start.

If you don't know where to start, you can call me at 845-639-5050. When it comes to this subject, I am the contracting business doctor. I'll speak with you about that which ails your business. I'll prescribe the medicine and exercise protocols to improve your business. It won't hurt. It's confidential. And with my help, if you put your nose to the grind stone, you could start to turn your business around in as little as 30 to 60 days.

You will have to take the responsibility for taking the medicine and doing the exercise. Doing things correctly is much easier and more profitable.

Remember, you are the only person who can bail your business out! I can help, but, you have to make the conscious effort to call and become skilled at the proper implementation of sound business practices. Strive to make your 2009 better than your past years. ■

- Offer help when asked. Refrain from giving unsolicited advice. I have learned that it makes no sense to offer help to those who don't ask for it. Be open, be available and wait until someone says, "What do you think I should do about?"

- Sometimes it takes a feather and sometimes it takes a brick. There is a time for everything, and more than one way to deliver information. You don't have to do it perfectly. And you can't know if the way you are offering your advice is the "right" way. Always come from a place of service. Always act in a spirit of love and understanding. You won't know if the lesson will be received or not and that's fine. It leads to my last piece of advice.

- Offer to help and let go of the outcome. Don't expect your protegee to act on every bit of wisdom. It may 'hit' them years later. Once you have sown the seed, relax and let it grow. Once upon a time, ski instructor Val asked

me to make my feet "greasy" as I made a turn. I had NO idea what he was talking about. Five years later, I slipped my feet around a turn, stayed in balance, and knew exactly what he meant.

The mentors at the correctional facility will discover what I have discovered: You get really good at something when you teach it. Being a mentor is all about learning. You will be amazed at how much you get when you open yourself up to giving. It is the most selfish thing you can do.

I am returning in February. I look forward to discovering what Randy, Robert and the rest of the class have to teach me.

"Leaders are Teachers." — Jack Welch

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DiToma

(Continued from page 30)

must master the art of answering any questions consumers ask of you in an intelligent and truthful manner. No one trusts someone who starts off his/her responses with "homina, homina" and follows up with incoherent "bla-bla-bla."

And, you must hire employees that have integrity; are loyal; and know how to deliver excellence to your clientele. In the service contracting business, they are probably the only representatives of your business with which your clientele has contact. Mediocre, or worse, employees give your business a bad reputation. They also tend to make your good employees become poor employees.

When you become ill, you go to your doctor. After examining you and discussing your ailment, the doctor will prescribe certain medicines and/or exercises to get you well. It's no different with your business. By taking the proper medicine and implementing proper business protocols you can make your business financially strong and your life much more enjoyable.

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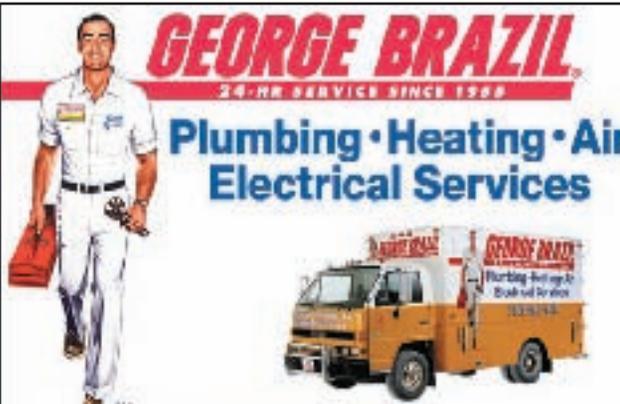
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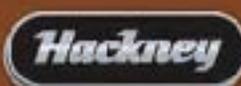
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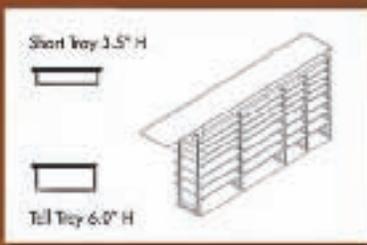
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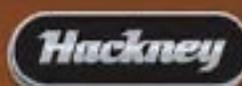


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**BY JOHN
MEISENBRINK,
editor**

So I was on my way to a nice Christmas dinner with my family when I

determined that, with the late morning snowfall coupled with the driving distance, it was going to make for a long trip. My twins were nestled in the backseat and my wife/navigational system to my side. Something magical happens when those wheels on the minivan start to move — the kids fall fast asleep, and so does my wife!

In the land of the conscious, I was going it alone. I hunkered down, turned on the radio for some festive holiday tunes, but to my dismay I stumbled into a talk show host's diatribe about the environmental movement. I was incredulous as to what I was hearing and I felt compelled, responsibly, to listen to his viewpoint on the whole green movement. In a nutshell, this talk show host was intimating that the green building and sustainable design thing was basically a sham and that it was a cash cow for those with their fingers in the pot.

"Global warming? It's 10°F outside and there is a foot of snow on the ground. Don't tell me about global warming," he said. He continued to rant that the research done on global warming doesn't date back far enough to get enough concise data that would support a valid global warming argument.

Green movement not full of hot air, unlike detractors

To paraphrase, he continued, "This whole green thing is a made-up movement so that the "green" manufacturers will capitalize; consumers will sacrifice and suffer. Five dollar compact fluorescent lights (CFLs)? They don't even work that great. Reducing carbon emissions? Heck, it's just another sacrifice homeowners will have to make

In a nutshell, this talk show host was intimating that the green building and sustainable design thing was basically a sham and that it was a cash cow for those with their fingers in the pot.

regarding their own comfort, and at the benefit, or fattening, of the green manufacturers' wallets."

I certainly hope that forward-thinking, progressive types will be the future stewards of the planet. One way to stay committed to green values is by attending the AHR this month — January 26-28 — in Chicago. The Partnership for Environmental Leadership, a collaboration of six green-minded industry associations, is driving its popular HVAC Mobile Green Classroom onto the show floor.

Featuring the latest cutting-edge technologies, the HVAC Mobile Green Classroom is an invaluable educational tool for "going green." The training trailer demonstrates new and innovative equipment for HVAC/R professionals while also providing supplemental hands-on training opportunities in

conjunction with MCAA's LEED AP training programs and the UA/MSCA's Green Awareness Training and Certification Program.

The HVAC Mobile Green Classroom features innovative mechanical systems that are designed to enhance a building's energy efficiency, while decreasing reliance on nonrenewable resources. Some of the green simulators found inside the 40-foot trailer include: • Fuel cell technologies • Wind power generation • Solar heating systems • Greywater toilet flushing systems • Anaerobic treatment process • Infiltration demonstrator • Geothermal system trainer • Gas-fired warm air heating demonstrator • Residential pressure assist trainer • Biological water treatment trainer • Heat pump trainer.

Which category interests you? For more information on the AHR Expo, visit www.ahr.com.

I hope that the culture of thinking is straying away from archaic-type thoughts like those on the radio that snowy Christmas morning to thoughts of those more environmentally refined. I welcome your comments. Please email them my way at editor@phcnews.com. ■

Next issue...

- MCAA Show Issue
- PVF Report
- Best Practices — West

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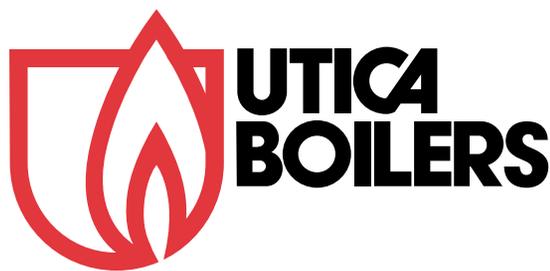
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- Compatible with outdoor reset controls and lower water temperatures



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High efficiency condensing gas boiler

- High Efficiency—98% AFUE
- Patented, advanced design, large diameter, aluminum tube and plate heat exchanger
- 2 models, 4:1 Modulation, 30,000 to 120,000 Btuh input and 50,000 to 200,000 Btuh input
- Floor standing or wall hung
- Natural or LP gas
- PVC, CPVC or stainless steel air intake and vent pipe—100' equivalent length
- Quiet operation
- Environmentally friendly—Low NOx
- 12 year limited warranty
- 5 year parts and labor warranty
- Built-in digital control board with outdoor reset included
- No annual maintenance



LYNX

High efficiency condensing gas boiler

- High Efficiency—95% AFUE
- Advanced design, long life cast aluminum heat exchanger
- 3.4:1 Modulation
- 25,000 to 85,000 Btuh input
- Floor standing or wall hung
- Natural or LP gas
- PVC, CPVC or stainless steel air intake and vent pipe—100 ft. equivalent length
- Quiet operation
- Environmentally friendly—Low NOx
- 15 year limited warranty
- 5 year parts and labor warranty
- Built-in digital control board with outdoor reset included
- No annual maintenance



JAGUAR

High efficiency condensing gas boiler

- Up to 96.7% Efficiency
- Cast Aluminum Mono Block heat exchanger
- 3.5:1 Modulation
- 110,000 to 390,000 Btuh input
- Floor Standing
- Natural Gas
- PVC, CPVC or Stainless Steel air intake and vent pipe—100' equivalent length
- Quiet operation
- Environmentally Friendly—Low NOx
- Built-in Digital Control Board with outdoor reset included
- Compact and lightweight for easy handling
- No annual maintenance

RATINGS—EUTECTIC BOILERS

| Model No. | LB/R Firing Rate GPH | LB/R Burner Capacity Output Btuh | DoG Capacity MBH | LB/R Net Water MBH | A.F.U.E. % |
|-----------|----------------------|----------------------------------|------------------|--------------------|------------|
| EC-10 | 0.55 | 61,000 | 73 | 69 | 87.0 |
| EC-12 | 0.73 | 80,000 | 85 | 74 | 86.0 |
| EC-14 | 0.87 | 112,000 | 99 | 89 | 87.0 |
| EC-15 | 0.93 | 120,000 | 109 | 95 | 86.0 |
| EC-15 | 1.00 | 140,000 | 120 | 107 | 87.0 |
| EC-16 | 1.13 | 154,000 | 134 | 117 | 86.0 |
| EC-16 | 1.15 | 161,000 | 141 | 123 | 87.0 |
| EC-20 | 1.25 | 175,000 | 152 | 132 | 86.0 |
| EC-20 | 1.55 | 217,000 | 160 | 145 | 86.5 |
| EC-26 | 1.93 | 285,000 | 202 | 202 | 86.5 |
| EC-27 | 2.25 | 315,000 | 212 | 237 | N/A |
| EC-30 | 2.53 | 350,000 | 230 | 223 | N/A |

RATINGS—BOBCAT BOILERS

| Model No. | CSA Input Max Btuh | CSA Input Min Btuh | D.O.E. Capacity Btuh | Net I-B-R Btuh | A.F.U.E. |
|-----------|--------------------|--------------------|----------------------|----------------|----------|
| B-120A | 120,000 | 30,000 | 100,000 | 55,000 | 98.0 |
| B-200A | 200,000 | 50,000 | 150,000 | 150,000 | 97.0 |

RATINGS—LYNX BOILER

| Model No. | Input Max Btuh | Input Min Btuh | D.O.E. Capacity Btuh | Net I-B-R Btuh | A.F.U.E. |
|-----------|----------------|----------------|----------------------|----------------|----------|
| LX-85A | 85,000 | 25,000 | 77,000 | 67,000 | 95.0 |

RATINGS—JAGUAR BOILER

| Model No. | CSA Input Max Btuh | CSA Input Min Btuh | D.O.E. Capacity Btuh | Net I-B-R Btuh | Efficiency up to |
|-----------|--------------------|--------------------|----------------------|----------------|------------------|
| J-300 | 390,000 | 110,000 | 352,000 | 301,000 | 96.7 |



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