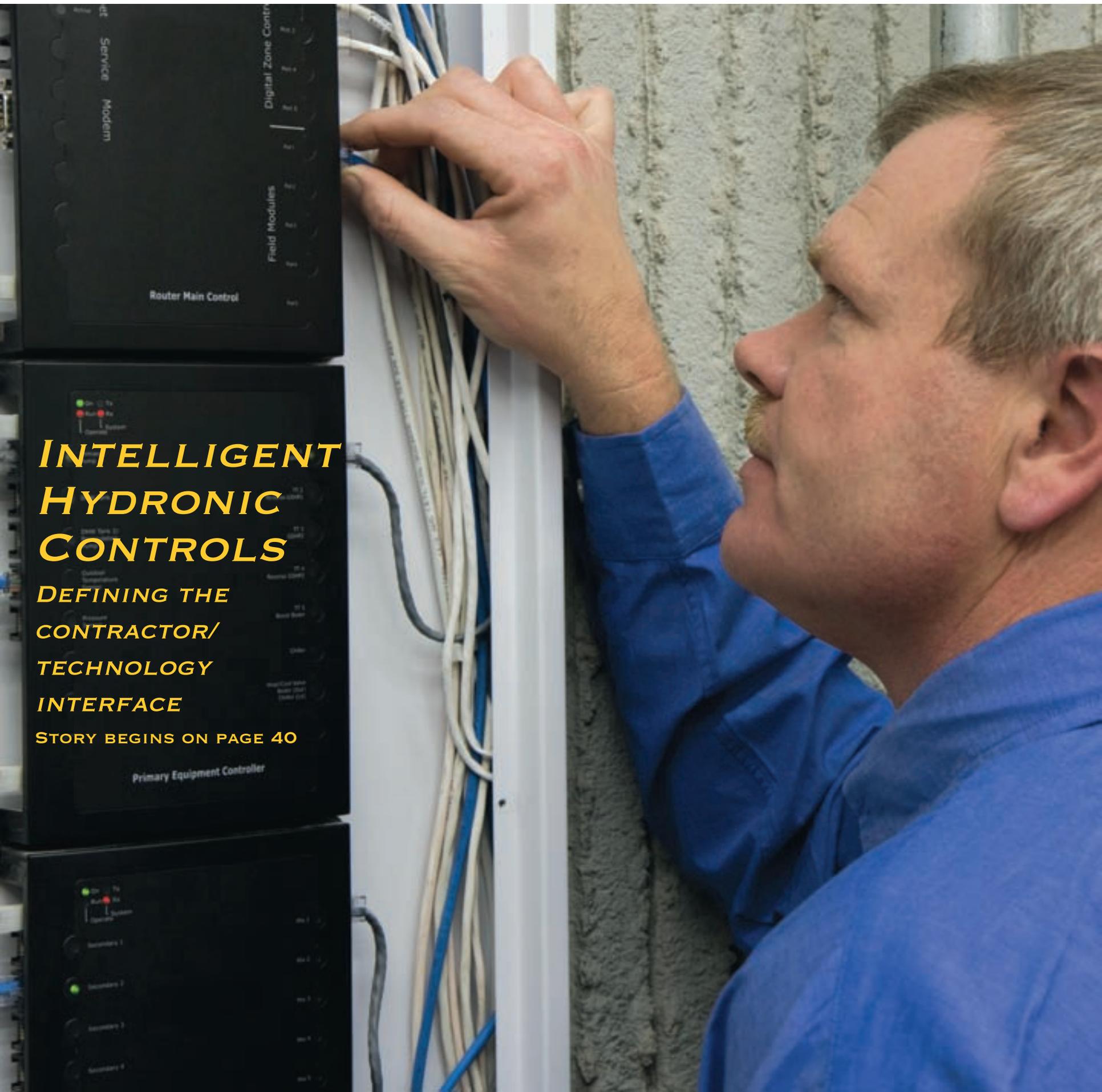


A TMB Publication

Phc News

plumbing & hydronic contractor news



INTELLIGENT HYDRONIC CONTROLS

**DEFINING THE
CONTRACTOR/
TECHNOLOGY
INTERFACE**

STORY BEGINS ON PAGE 40

Take Control with Burnham

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- 85% AFUE, ENERGY STAR rated
- Cast iron heat exchanger
- Equipped with Burnham's innovative "Plug & Play" IQ control system

IQ control system



The IQ Panel accepts optional IQ Option Cards for **simple** "plug & play" installation of outdoor reset, low water cutoff, and aquastat. The IQ Control System integrates aquastat, relay, and ignition functions into a single module. It features an LED readout which displays boiler status and diagnostic information. **A touchscreen interface is also available!**



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Atmospheric
Gas Boiler

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CAPABILITIES**

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Gas Boiler

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- Stainless steel heat exchanger
- Equipped with Burnham's powerful and easy-to-use Sage2 Boiler Control System™

Burnham **Sage2**
boiler control system



The Burnham Sage2 features a two-color backlit **touchscreen display**, and offers intuitive menus using words & sentences, not cryptic codes. This eliminates the frustrating scrolling associated with many other systems.

Circle 1 on Reader Reply Card

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On the Cover

There was a time that a hydronic system took its instructions from a simple thermostat; the building needed heat and the system switched on. Those wasteful days are over as intelligent controls manage all of the building's HVAC and hydronics via a single network control system. Check out this growing opportunity on page 40.

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38 Lead-free bellwethers

Lead no longer is tolerated in manufactured products, especially plumbing products that contact potable water. This month *Phc News* introduces a bi-monthly page devoted to all things lead-free, from legislation to codes to products to innovations.

48 Heat-pump water heaters

Water heating via integrated heat pumps is a relatively new concept, so we present the facts and clear up the misconceptions surrounding this highly efficient means of generating hot water for consumer and commercial use.



Phc News

plumbing & hydronic contractor news

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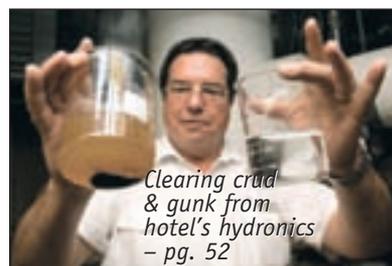
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PATENTED TECHNOLOGY

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1,800 companies at AHR Expo, including 200 new exhibitors

WESTPORT, CONN. — Reflecting an improving economy, a total of 1,813 companies showcased their latest products and technologies to more than 35,000 HVAC/R professionals at the 62nd AHR Expo, the world's largest HVAC/R exclusive event, held Jan. 25-27 in Orlando.

According to show management, the number of exhibitors was only

“The timing of the 2010 AHR Expo is very beneficial to the HVAC/R industry and the overall economy. We expect that there is already some pent up demand for new products and technologies.”

slightly off from other recent AHR Expos. In addition, more than 200 companies signed on to exhibit at the Show for the first time. More than 375 companies came from outside the U.S.

Before the event, Clay Stevens, president of show organizer International Exposition Company, said, “The timing of the 2010 AHR Expo is very beneficial to the HVAC/R industry and the overall economy. We expect that there is already some pent up demand for new products and technologies and that thousands of buy-

ers from around the world will be coming to the Show to make purchasing decisions.”

Stevens added that government incentives are helping to fuel a growing demand for energy-efficient/green products and many of these technologies were on display for the first time at the event. Also, dozens of educational sessions were dedicated to energy related topics.

The International Energy Agency sponsored for the first time at AHR Expo a workshop “Solar Air-Conditioning and Refrigeration.” Nearly 60 companies showed solar products and several hundred exhibited energy-efficient and IAQ products.

Industry experts provided educational perspectives on such topics as energy efficiency; energy saving and reclaiming; building control and automation; green building initiatives/sustainability; mold and moisture; alternative energy sources and more.

The show also included special features that offered practical information, certification and in many cases, continuing education credits in building automation and control; software; certification testing sessions; and educational sessions and workshops presented by AHR Expo and its endorsing associations. ASHRAE presented 19 short courses.

For information, log on to www.ahrexpo.com.

BLÜCHER now part of Watts Water Technologies

SPINDALE, N.C. — BLÜCHER North America announced that it is now part of the Watts Water Technologies family. Formerly sold under the



BLÜCHER-Josam name, BLÜCHER North America will continue to offer its large line of stainless steel drain, shower, channel and pipe products. The BLÜCHER product offering will compliment the extensive line of drainage products cur-

rently offered by Watts.

BLÜCHER is a worldwide manufacturer of stainless steel drainage & pipe solutions with 45 years experience. Core products include push-fit pipe and fittings, shower/bath drains for premium commercial and residential applications, and drain and channel products for a wide range of commercial and industrial applications such as food service, industrial manufacturing and processing, brewery, laboratory, pharmaceutical, and marine specifications.

BLÜCHER North America will be based in here and Burlington, Ontario. For more information, log on to www.BLUCHERdrains.com in the U.S. or www.BLUCHERdrains.ca in Canada.



Burj Khalifa uses Charlotte Pipe's cast iron

CHARLOTTE, N.C. — When an architectural wonder chooses Charlotte Pipe's cast iron soil pipe and fittings, that says something — especially when that structure is the Burj Khalifa, the world's tallest building. The tower is impressive; at more than 2,700 feet high, it can be seen from 60 miles away. It's more than twice the size of the Empire State Building. The top of the Burj Khalifa has a public observation deck and shop, and there is a 160-room hotel that will occupy the lower part of the tower. There also are more than 1,000 apartments, 49 floors of office space and 58 elevators that can travel 33 feet per second. Charlotte's promotional material (right) uses stacked cast-iron pipe to mimic the tower itself.

Haws gains electrical, plumbing certification from IAPMO R&T

ONTARIO, CALIF. — IAPMO R&T has completed electrical and plumbing certifications for Sparks, Nev.-based Haws Corporation, manufacturer of drinking fountains, eyewash stations and emergency equipment.

In all, four products have been formally certified to U.S. and Canadian electrical/plumbing standards for sale in North America: Both the Model 2000 and 2000SM Hydration Stations, the Model 7500EB Heated Eyewash Station and the Model TWBS.EW.H Tempered Water Blending System. All of these products include plumbing and electric

components and have been comprehensively certified as compliant to the standards governing both aspects of their use.

In addition to these new certifications, Haws has certified all of its drinking fountain models to the Uniform Plumbing Code® and Section 116875 of the California Health and Safety Code, the state's recently-enacted low-lead plumbing law. Haws entrusts its certification needs to IAPMO R&T due to the certification body's long-standing reputation in the industry and support of sustainability and emerging technology.

Home Depot pledges \$1 million for student scholarships in construction trades

MOUNT PROSPECT, ILL. — HVAC Excellence announced that the Home Depot is pledging more than \$1,000,000 in scholarships to support HVACR and construction programs.

This year's program will not only support individual students, but also the schools they attend. Specifically, \$1,000 scholarships will be available to 500 trade school students to help them offset the cost of tuition, books and tools for their chosen trade. In addition, the schools of the scholarship recipients will receive matching funds of

\$1,000 for classroom tools from The Home Depot Foundation.

Scholarship applications will be accepted through April 30, 2010. The scholarship program is open to all students nationwide who are currently enrolled in a building and construction trade school program at a vocational/technical school, college, or university. Winners will be selected based on a combination of academic performance, leadership and work experience.

For additional information visit www.hvacexcellence.org.



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Starting January 1, 2010, California's new law, CA AB1953, prohibits the "use of any pipe, pipe fitting or plumbing fixture, solder, or flux that is not lead-free" in public water systems. We're not waiting around; we will have all the lead-free* product you would expect us to have, in advance of this date, and will work with you on this worthwhile effort. No wonder we're the leading supplier of globally sourced, code compliant plumbing and PVF products. Look for the Matco-Norca Lead Free logo and buy with confidence.



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Barnett named as authorized Kohler distributor

JACKSONVILLE, FLA. — Barnett, a leading national supplier of plumbing, electrical, and HVAC products, announced today that it has added Kohler plumbing products to its expansive plumbing offering.

Barnett now stocks over 100 models of Kohler faucets, toilets, urinals, and lavatories in its distribution centers across the country. In addition to the stocked products, Barnett can supply its customers with all other Kohler plumbing products through Barnett's factory-direct department.



Elkhart Brass to hold pricing

ELKHART, IND. — Elkhart Brass Manufacturing Co., Inc. announced that Elkhart's 2010 product pricing will remain at the 2009 level. The 2009 price list will be updated to reflect new product offerings, but will not contain any price increases.

"We listen to our customers when developing new products, and this situation is no different. We heard how our friends and colleagues were suffering through this economic downturn and are doing what we can to stand with them," notes Scott Warbritton, Director of Sales — U.S. Municipal



Market. "I'm proud that Elkhart Brass, as a company, can be a good corporate citizen to the U.S. economy and partner with our dealers and customers in these tough times."

Updates to the 2010 price list will include: the new Sidewinder EXM product line, several new Unibody actuators and accessories, the oscillating 3890 nozzle, plus several other product additions. Elkhart's most recent price list and catalog are always available electronically through the Elkhart Brass website, www.elkhartbrass.com.

Fenway Yard Sale a hit with F.W. Webb contractors

BEDFORD, MASS. — Friday, December 4th saw more visitors on fwwebb.com, the website for New England's largest plumbing/heating/cooling and industrial products distributor, F.W. Webb Company, than any single day since its launch several years ago.

"We had more than 2200 visits on that one weekday," said Jeff Pope, president of the family-owned company. "The visitors came largely from our promotion to register for a chance to gain one of 150 Webb Pri-

ority Access Passes to the Second Annual Fenway Yard Sale on December 12th. We were thrilled that our customers embraced this special opportunity, as this is what our partnership with the Boston Red Sox is all about."

Online registration took place starting at 9 a.m. on Dec. 4th and within a few hours all 150 authorized spots were taken. After Fenway Yard Sale registration was closed, visitors were invited to register to win two free tickets for Opening Day at Fenway Park on April 5th, when the Red Sox will host the Yankees.

One week after the Fenway Yard Sale, a random drawing was held and AH Thermo Heating & Cooling of Exeter, N.H. won the two Opening Day tickets. Mike O'Shea, general manager of F.W. Webb's Dover, N.H. branch, had the pleasure of delivering the news.

According to the Red Sox organization, F.W. Webb contractors purchased more than \$10 thousand in Red Sox memorabilia and souvenirs at The Fenway Yard Sale, where the selection of items included some of the last remaining seats in Fenway Park from the .406 Club, Loge Seats, Roof Seats, game-worn jerseys, Fenway Park bricks, signed memorabilia, baseballs, bats, artwork and other miscellaneous items.

The Fenway Yard Sale is not open to the public. A select group of fans is randomly chosen to attend the sale and pre-registered Webb Contractors were given priority access this year on the day before it opened.

RIDGID® Launches RIDGIDConnect™

ORLANDO, FLA. — RIDGID®, a manufacturer of hand and power tools including multiple digital inspection products, announced the launch of RIDGIDConnect™ — a subscription-based, online business tool designed for service professionals and contractors who create or use digi-

well as the recordkeeping process.

"While developing RIDGIDConnect, we conducted hundreds of hours of research with professionals to identify their needs and make sure the tool could easily and quickly be adopted to help manage their digital assets," said Jay Gatz, vice president of strategic planning, RIDGID. "Based on our research, we were able to develop an online business solution so professionals like plumbers, HVAC technicians and facility managers, have

the opportunity to consolidate and access items associated with a particular job in one location, then communicate this information with pertinent parties, thus increasing their effectiveness and efficiency. We like to say it's an electronic medical record for each of their customers."



tal information. A first-of-its-kind platform, RIDGIDConnect provides the ability to share and store digital assets such as diagnostic job site photos and videos, job reports and histories, maintenance records, customer lists and other business files, which in turn simplifies external and internal communication, as

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THE PULSE



TOOL TIPS with Hackman

A more mobile torch system

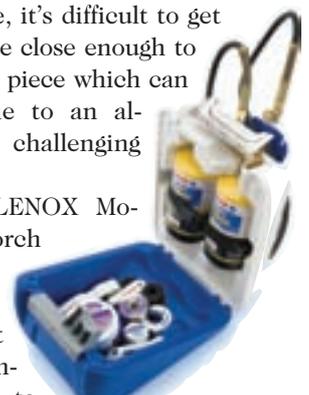
Tool Tips feature trade tips from Lee “HACKMAN” Breton, marketing services manager for LENOX, team hackman event manager and car cutter ex-

traordinaire. Every month, HACKMAN shares insight from his 25+ years in the tool industry.

Soldering and brazing in tight spaces is sure to be a source of frustration for many. Trying to fit the somewhat bulky handheld 14.1 oz. or 16.92 oz. gas cylinders into small spaces can be impossible at times. The torch fits, but the cylinder inhibits range of motion. If you can't get close, it's difficult to get the flame close enough to heat the piece which can add time to an already challenging job.

The LENOX Mobile Torch System II (MTS II) might be the answer to your frustrations. Among its many features, the 12½' hose extends your reach and access in any job situation — crawl space, attic, under cabinets, on ladders and more; making the reach to the heat surface much less of a strain.

The MTS II carrying case holds ei-



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- HIGH QUALITY & WIDELY USED WORLDWIDE
- MEET ASTM F1807 STANDARD
- COMPETITIVE PRICED

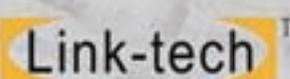




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PEX tools for copper rings (US Patent 7,688,882)



PEX tools for cinch clamps (Patent pending)



Battery PEX crimp tools

FUE

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Area	\$/gal.	Change
U.S. average	2.705	↑
East Coast	2.723	↑
New England	2.752	↑
Central Atlantic	2.749	↑
Lower Atlantic	2.696	↑
Midwest	2.624	↑
Gulf Coast	2.587	↑
Rocky Mountain	2.622	↑
West Coast	2.940	↑
California	3.008	↑

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*Copper \$3.10/lb. ↓

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* Copper & Aluminum prices according to metalprice

Circle 8 on Reader Reply Card

THE PULSE

ther two 16.92 oz. Fat Boy™ Mx Power Propylene/Propane or two 14.1 oz. gas cylinders, or one of each. And the expanded accessory storage has enough room to securely hold your tubing cutter, solder, flux, brushes and more — eliminating the need to carry multiple bags on the job.

Another great feature is the protection of all your torch and soldering accessories. The tip holder protects and cools tips after use and the MTS II case protects the gas cylinders, tools and other soldering accessories which allow for a quick pack up and move onto the next job.

The LENOX Mobile Torch System adds tons of convenience to your day, but it is always important to keep these safety tips in mind when transporting gas:

Transportation and proper use of gas

- When transporting a gas cylinder, there are many things to keep in mind in order to maintain a safer workplace.
- When cylinders are hoisted, they should be secured on a cradle, sling board or pallet.
- Cylinder valves should always be in the off position and all gas

bleed from the hoses tips, regulator and handle before transporting.

- Cylinders moved in a truck, van, car or other powered vehicle should always be transported in the upright position. Always secure gas cylinders

to the vehicle so they do not move or tip over during transport.

- Always close cylinder and regulator valves when transporting, when the cylinder is empty and when the work is complete.

When transporting cylinders with regulator, it is also important to secure other tools to prevent the possibility of falling and breaking off the regulator. ■

JELS

DIESEL

Area	\$/gal.	Change
U.S. average	2.833	↑
East Coast	2.883	↑
New England	3.055	↑
Central Atlantic	2.986	↑
Lower Atlantic	2.823	↑
Midwest	2.790	↑
Gulf Coast	2.800	↑
Rocky Mountain	2.817	↑
West Coast	2.915	↑
California	2.987	↑

TALS

*Aluminum	\$.93/lb.	↓
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 sp. Arrows indicate change from previous issue.
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GREENING STEAM

How to Bring 19th-Century Heating Systems into the 21st Century (and save lots of green!)

By Dan Holohan

NEW

GREENING STEAM

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Dan Holohan

Available at HeatingHelp.com

“ When it comes to saving dollars on heating, old steam systems are delicious low-hanging fruit. There is so much you can do to make them better, and most of what you do won't cost a fortune. ”

Dan Holohan

Circle 9 on Reader Reply Card

Taco expands 2010 FloPro factory training

CRANSTON, R.I. — Taco's FloPro Factory Training offers a broad range of professional development opportu-



nities for plumbing and heating contractors in 2010. Participants learn to grow their hydronic expertise and boost profitability. All classes offer useful information and hands-on experience.

In addition to the 'Compleat' Boiler Room, and Hydronic Heat Loss 7 Design, the company has added a new course, "Hydronic Control Strategies", all of which now happen at five locations nationwide. All classes are NATE-Recognized and NORA Approved.

Tuition for all Taco FloPro Factory

Training course is \$289 and includes two days of training, hotel accommodations for two nights, ground transport, meals and extras (though airfare to the host city is not included).

Course schedule

Location: Taco, Inc., Cranston, RI

- Feb. 11-12: The 'Compleat' Boiler Room
- Feb. 25-26: Hydronic Heat Loss and Design
- March 11-1: The 'Compleat' Boiler Room
- March 25-26: Hydronic Control Strategies
- April 8-9: The 'Compleat' Boiler Room
- April 22-23: Hydronic Control Strategies
- June 24-25: The 'Compleat' Boiler Room

- July 8-9: Hydronic Heat Loss and Design
- Sept 23-24: Hydronic Control Strategies
- Oct. 21-22: The 'Compleat' Boiler Room

'Factory' training on the road

Minneapolis

(location to be announced)

- April 15-16: The 'Compleat' Boiler Room
 - May 13-14: Hydronic Control Strategies
 - May 20-21: Hydronic Heat Loss and Design
 - June 17-18: The 'Compleat' Boiler Room
- Denver (location to be announced)*
- June 10-11: The 'Compleat'

Boiler Room

- August 5-6: Hydronic Control Strategies

- Sept 9-10: Hydronic Heat Loss and Design

New Jersey

(location to be announced)

- July 29-30: The 'Compleat' Boiler Room

- August 19-20: Hydronic Control Strategies

Philadelphia

(location to be announced)

- Oct. 7-8: The 'Compleat' Boiler Room

Taco's Factory Training is available only to members of Taco's FloPro Team, the free contractor training and development program. If you aren't already a member of the FloPro Team, learn more about the program and register at www.flopro-team.com.

Kohler seminars to help contractors profit in 2010

FALLS CHURCH, VA. — Kohler Co. announced that a \$25,000 contribution has been made to the Plumbing-Heating-Cooling Contractors (PHCC) Educational Foundation in support of the 2010 Kohler/Foundation Seminar Series. The Seminar Series program delivers high quality educational sessions to contractors on the local level via live seminar events and online webinars.

"We are proud to have Kohler's support of the Seminar Series," said Foundation Chairperson Bill Jones. "Contractors are looking for every tool they can find to help them sur-

vive this ride through uncertain times. Thanks to Kohler, the Foundation will continue to provide seminars and training that help contractors identify new business opportunities and keep them productive and profitable."

Kohler has been a major supporter of the PHCC Educational Foundation for more than 20 years and is a Charter Founder level donor to the Foundation's Endowment Fund. Combined past and present contributions from Kohler total more than \$1.2 million in support of industry education.

Mestek Institute announces 2010 training schedule

WESTFIELD, MASS. — The Mestek Institute announced the 2010 Boiler Performance Optimization Seminar schedule. These free training seminars provide three days of training with some of the industry's most knowledgeable instructors. Topics covered include system design and maintenance, venting, controls, combustion and start-up procedures. Attendees will leave the seminar with the knowledge to ensure higher system efficiency and lower operating costs. Additionally, attendees will earn up to 16 continuing education hours.

Seminars will be held in one of two Mestek Institute sites located in Boyertown, Pa. and Mississauga, Ontario, Canada. Classes for 2010 are



being offered on the following dates:

- February 23 - 25 (Pa.)
- March 9 - 11 (Ontario)
- March 23 - 25 (Pa.)
- April 20 - 22 (Ontario)
- May 4 - 6 (Pa.)
- May 18 - 20 (Ontario)
- June 22 - 24 (Pa.)
- July 20 - 24 (Ontario)
- Aug 17 - 19 (Pa.)
- Sept 14 - 16 (Ontario)
- Sept 28 - 30 (Ontario)
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Green Technology Expo a success

ROMEIOVILLE, ILL. — The 2009 Green Technology Expo held at Metropolitan Industries, and co-sponsored by Grundfos Pump Corporation in September attracted more than 200 people interested in such technologies and variable speed circulators, solar technology, rainwater harvesting and more.

The focus of the event was to educate and inform decision makers regarding “Green” pumping technologies through displays demonstrating wind and solar power, gray water recycling, rainwater harvest-

display is off the city’s electric and water grids and allows visitors to see exactly what it takes to become energy and water independent. Features include a wind and solar water well, on-site wastewater treatment, solar domestic hot water and radiant floor heating, rain water harvesting for irrigation and laundry, gray water recycling for use in the lavatories, a whole house inverter and more.

Throughout the day seminars were conducted on various green topics such as, “Energy Savings



ing, eco-friendly waste treatment, variable speed pumping technology and other energy conservation techniques.

“Preserving our natural resources is the responsibility of every individual and it is great to see our local businesses partner to provide information on advanced green technologies as displayed at the expo,” said Romeoville Mayor John Noak who attended the event.

“We commend Metropolitan Industries and the other businesses on this successful event,” said Mayor Noak.

Featured during the event was Grundfos Pump Corporation’s 1500 sq. ft. tractor trailer display that travels the country educating customers about the world’s only variable speed circulator pump known as Alpha. The Alpha incorporates a permanent magnet motor design that reduces power consumption by 50%.

Another event highlight included touring Metropolitan’s 800-sq.-ft. Metro Green Display demonstrating almost every advance in green technology all under one roof. This

through Air Elimination,” “Advances in Chemical Dosing,” “Energy Conservation related to Pumping Applications” and the most popular of the day, “Water Harvesting and Recycling Design,” which attracted more than 115 attendees.

As a system supplier of wind, solar, rainwater harvesting and grey water recycling systems, Metropolitan Industries has taken a leadership role by educating decision makers through public and private special events to help contractors, plumbers, engineers and inspectors navigate their way through this new frontier of opportunity.

This proactive stance allows association groups, universities, government leaders, decision makers and others the chance to witness all green technologies on the market and take theory to a new level by actually applying it in the field for all to see.

Metropolitan Industries will continue to be an advocate for education and awareness and encourages all who are interested to visit www.MetroGreen.US.

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American Express OPEN[®] and Lowe's launch new credit card for small business owners

LAS VEGAS — American Express OPEN[®], a leading issuer of payment card products for small business owners, and Lowe's Companies, Inc., a leading home improvement retailer, announced the launch of a new credit card for business owners.

The Lowe's Business Rewards Card — <http://www201.americanexpress.com/business-credit-cards/business-card-details/lowes-business-rewards-credit-card> — from American Express is a new business credit card that enables business owners to earn points on virtually all card purchases. This is the first rewards program offered to Lowe's small business credit customers.

"Every month, we provide billions of dollars in working capital to small business owners who use our pay-in-full charge cards and our credit

cards," said Richard Flynn, senior vice president, product management, American Express OPEN. "Through the Lowe's Business Rewards Card <<http://www201.americanexpress.com/business-credit-cards/business-card-details/lowes-business-rewards-credit-card>> program, we will help business owners manage their spending and provide credit that they can use to run and grow their companies while earning rewards they can reinvest in their businesses."

The new card provides a tiered structure for earning rewards points. Cardmembers earn:

- One reward point for every eligible dollar spent on the Card;
- Double rewards points on every eligible dollar spent at Lowe's; and
- Triple rewards points on every eligible dollar spent on restaurant

purchases, office supplies and wireless bills.

Card members can redeem points for a variety of valuable business credit card rewards, including Lowe's or American Express Gift Cards. There is no cap on the amount of business rewards a Card member can earn, and there is no expiration date to redeem the points.

"The Lowe's Business Rewards Card is the latest way our company is adding value for our commercial customers through a unique blend of benefits and rewards," said Larry D. Stone, president and chief operating officer of Lowe's. "Lowe's has always been committed to providing the best customer experience and this new product offers convenience and rewards at a time when business owners need it most."

Additional benefits include:

- No annual fee;
- Automatic enrollment in OPEN Savings, a program that gives small business owners automatic savings virtually every time they use an American Express Business Card to make purchases at any OPEN Savings partner; and

- Retail and business-related benefits and protections such as Purchase Protection, Extended Warranty, Online Fraud Protection, Emergency Card Replacement, Identity Theft Assistance, Emergency Check Cashing, Online Account Management and Reporting tools.

American Express OPEN is dedicated exclusively to the success of small business owners and their companies. OPEN supports business owners with exceptional service. With products and services tailored to small businesses, the team delivers purchasing power, flexibility, control and rewards to help customers run their businesses.

Stop overpaying to overheat your boiler water!



SmartPlate Water Heaters are designed to work with condensing boilers in low-temp systems.

+5°F Approach Temperature

The plate heat exchanger design is so efficient that the boiler water only has to be 5°F warmer than the desired DHW temperature:

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Fully-packaged Solutions

Each unit ships fully assembled.

This includes: control panel and sensors, potable water side circulator with clean out connections, DHW drain valve, as well as shut-off valves and inlet strainers on both the boiler water and DHW sides.

PHCC promotes EPA's 'Fix a Leak Week'

FALLS CHURCH, VA. — Because minor water leaks account for more than one trillion gallons of water wasted each year in U.S. homes, the Plumbing-Heating-Cooling Contractors — National Association (PHCC) is promoting "Fix a Leak Week," March 15-21, 2010. Fix a Leak Week is

sponsored by the U.S. Environmental Protection Agency's (EPA's) WaterSense® program as an annual reminder to Americans to check household plumbing fixtures and irrigation systems for leaks.

"Leaks can add up to more than 10,000 gallons of water wasted at

home every year — that's enough to fill a backyard swimming pool," said PHCC president Skip Pfeffer. "As trained professionals, PHCC is participating in Fix a Leak Week to advise homeowners on how to save money on their utility bills and to help conserve water in our community and for future generations."

WaterSense-labeled toilets,

faucets, and showerheads have been independently tested and certified to save water and perform as well as or better than standard models. For info, visit www.epa.gov/watersense.

For more information on Fix a Leak Week, visit www.epa.gov/watersense/fixaleak.

For more info, www.phccweb.org.

New speakers added for MCAA 2010

ROCKVILLE, MD. — The Mechanical Contractors Association of America, Inc. (MCAA) has added several new speakers to the program for its upcoming annual convention, MCAA 2010 — Your Bridge to Success. The convention will take place March 28–April 1 in San Francisco.

New speakers who will provide the tools contractors need in order to meet the challenges of these tough economic times include:

- John Koontz, director of MCAA's National Education Initiative, on the

Upside of the Downturn;

- ENR's Stephen Jones on Lessons Learned: The Keys to Building Your Bridge to Success; and

- Attorney Michael Duffee on Unfunded Pension Liability: Everything a Contractor Should Know.

Previously announced speakers Economist Brian Beaulieu and FMI's Lee Smither will also help contractors navigate through this difficult economic period.

Lawrence P. Carr, Ph.D. will help contractors with day-to-day business

challenges. His session on Delivering Results: Managing What Matters joins those by featured presenters Keith Ferrazzi (Who's Got Your Back?), Tom Flick (Ready for What's Next) and Dr. Paul Stoltz (AQ — Building Exceptional Resilience).

Two new sessions will help contractors who are seeking or want to renew their LEED® credentials. New Technologies, Lessons and Market Opportunities in Water Conservation, Reuse and Recycling with Jerry Yudelson, LEED AP, will discuss the findings of a 2009 research project funded by MCAA's Mechanical Contracting Education & Research

Foundation.

In Opportunities in Net Zero Energy Buildings, Tim Wentz, P.E., LEED AP and other industry professionals will explain this potential business opportunity.

Additional industry insiders added to the schedule to assist contractors in plotting their course to business growth:

- Kevin Armistead, Don Brown, Jr. and Ken Durr, on How to Set Up a Peer Group

- Robert Lake and Richard Starr on Best Practices for Success in the Service Industry

- Members of MCAA's Manufac- (Turn to MCAA, page 18.)

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- Max. boiler water pressure & temp is 150 PSIG @ 220°F



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U-Tube Double Wall Heaters

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Clockwork Home Services to appear on 'Celebrity Apprentice'; achieves *Entrepreneur* magazine's top 500 ranking

SARASOTA, FLA. — Clockwork Home Services is excited to announce that its three franchising brands — Benjamin Franklin Plumbing®, Mister Sparky®, One Hour Air Conditioning & Heating will appear in an upcoming episode of the series of NBC's *Celebrity Apprentice*, debuting on March 14.

"In this season of *Celebrity Apprentice*, we challenge the celebrities to raise the creative bar for three familiar home service brands: Benjamin Franklin Plumbing, One Hour Heating Air Conditioning and Mister Sparky," said John Young, CMO of Clockwork Home Services. "This was a huge *Apprentice* first, in that it not only features a home service brand, but encompasses all three of our franchises together. The celebrity contestants were asked to create a catchy commer-

cial highlighting the punctuality and dependability of our brands, and we were really impressed with the quality of their work."

The project of each celebrity team was to create a commercial for the brands, with the winning team's commercial airing at the end of the program.

Clockwork gets ranking

Clockwork Home Services also announced that its companies: One Hour Air Conditioning & Heating® Franchising, Benjamin Franklin Plumbing® Franchising, and Mister Sparky® Franchising are currently recognized in the January 2010 issue of *Entrepreneur* magazine's 31st Annual Franchise 500 ranking.

Benjamin Franklin Plumbing Franchising is ranked #143; while, One Hour Air Conditioning & Heat-

ing and Mister Sparky® Franchising ranked #171 and #398 respectively in this prestigious listing. One Hour Heating and Air Conditioning took the #1 spot in the HVAC category.

"We're thrilled to be recognized on the *Entrepreneur's* Franchise 500 list, which is considered the world's best and most comprehensive franchise ranking," said Denise Swafford, vice president of innovation for Clockwork Home Services, Inc.

"We take great pride in our pursuit of excellence. This is a significant recognition that will help propel us forward while improving the value we deliver to contractors in the home services industry," Swafford said.

Entrepreneur magazine compiles its list based on companies' financial strength and stability, growth rate and size of the franchise system.

New speakers added for MCAA 2010

(Continued from page 17.)

turer/Supplier Council on Tips for "Buying American"

- Walter Sperko on Welding and Brazing—Are You Managing Your Risks?
- John Yale on Standard for Excellence—Taking the Next Steps

These speakers join previously announced industry insiders Lee and Terry Resnick and William Waters.

These business-oriented sessions will join presentations by these major session speakers who will inform and inspire:

- Former Secretary of State Condoleezza Rice will be the Opening Session speaker, will offer important.

• San Francisco 49ers Head Coach Mike Singletary is the featured speaker for the Annual Awards Breakfast.

- U.S. Airways Captain Chesley "Sully" Sullenberger.

To learn more about MCAA 2010, visit www.mcaa.org/mcaa2010.

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Chicago Faucets & The Buy American Act

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Chicago Faucets Expands Electronic Lavatory Faucet Offering

Chicago Faucets most recent efforts to unite reliability and durability with electronic faucet convenience has resulted in the E-Tronic™ 40. The new line features above-deck electronics for easy maintenance, long-term reliability, and offers a choice of a CRP2 battery or AC adaptor. Uncomplicated installation, easy maintenance and reliability, combined with the water conservation and added hygiene offered with hands-free faucets, make the E-Tronic™ 40 an attractive choice for public lavatories.



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A New, Economical Option for Lavatory Installations

The new 420-CP Single Control Lavatory Faucet from Chicago Faucets combines the durability of solid brass body construction with the dependability of a time-tested ceramic mixing valve. Other features include a polished chrome plated finish, metal lever handle, temperature limit stop, volume control and a 1.5 GPM laminar flow outlet. Easy to install and easy to maintain, the ADA compliant Chicago Faucets 420-CP is a great option for any commercial project.

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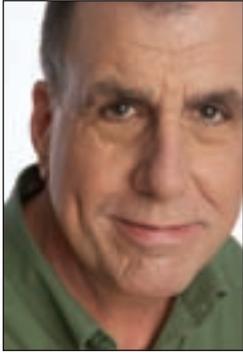
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Circle 16 on Reader Reply Card



BY DAN HOLOHAN
contributing writer

Invention

I was thinking about how the things we take for granted came to be and what life would have been like had they not appeared when they did.

Take the lowly relief valve, for instance. I know it's something you'd rather not touch when you're on a job because, as with everything else, once you touch it, you own it. Unless you're feeling adventurous, you'll look at that lowly valve and hope that it does its job when and if the boiler ever goes berserk.

I was reading a magazine that is more than 100 years old the other day and came across this little story, which I found delightful. Listen:

"The first safety valve was invented in 1681 by Denis Papin, a Frenchman, who was born at Blois, France in 1647. He commenced his experiments on the phenomena of steam in July 1676, at London under Robert Boyle, the distinguished Irishman who founded the Royal Society of London. About 1780, Papin brought out a little steam apparatus called, 'Papin's Bone Digester,' for softening animal bones for 'cookery, voyages at sea, confectionary, chemistry, and dyeing.'

"England's Charles II ordered Papin to make a digester for his laboratory at Whitehall, and the invention excited much interest. By means of this steam-pressure cooking machine, delicious jellies were made from beef, mutton and other bones. Enormous strength was needed in the machine to stand the high pressure generated, and Papin found that he could only make his machine successful by contriving a mechanical device that would release pressure at a certain point and thus prevent explosion.

"This he finally worked out during 1681 in the first steam-pressure safety valve; then his machine could be utilized without fear. A hundred years later, James Watt and others made use of his invention in connection with a steam-powered engine, and later in the 18th Century, Watt and other inventors made use of a similar apparatus utilized for heating purposes.

"Papin was one of the great benefactors of the human race. Living in the age of Pascal, Newton, Boyle, and Leibnitz, he partook liberally of the spirit of progress, which was a work in those days to free the human race of its shackles imposed by ignorance of natural laws, and may well be said that Papin 'builded better than he knew.' He was both a prophet and executor of mechanical progress, and his memory is one of the sacred treasures of the power- and low-pressure, steam-heating industries."

So, because the King of England liked jelly, we now have relief valves. Isn't that wonderful? There's a sketch of the device in that old, yellowed magazine. The relief valve sits atop a big, closed kettle. The relief valve is a long lever attached to a pivot point. There's a plug connected to the lever, very close to the pivot point, and this sits in a hole in the boiler. The lever reaches out several feet and had a movable weight near its end. You could move the weight this way and that to adjust the relief pressure.

And all for the sake of jelly.

It all started in Washington's time

In my files, I have a sketch of the first hot-water heating system, which also has a neat connection to food. The man who first came up with the idea of central, hot-water heating was Jean Simon Bonnemain. The sketch I have is from 1777 and it shows a big, enclosed kettle sitting atop a fire. This was the boiler. Coming out of the top of the boiler there is a large pipe. It goes all the way up to the top of the building and then laces its way back and

forth across each floor of the building and all the way back to the top of the kettle. There are no radiators. The big pipe enters the top of the boiler through a dip tube, much like the dip tube that cold water uses to enter a water heater. There's a second pipe that runs from the kettle to the top of the building, and at the top of this pipe there is a funnel. This is how you fill the system. Go get yourself a bucket and start climbing stairs. Oh, and one more thing, connected to the top of the main heating pipe, there's a second pipe that rises up and then loops over into the top of an open tank. This tank gives the heated water a place to go, should it expand too much. This was the world's first gravity system and Jean Simon Bonnemain used it to warm chickens for the Paris poultry market.

How about that?

Bonnemain's open tank got me thinking about how far we've come. Today, we have these wonderful, pressurized tanks that take up so little space in a boiler room, but as with relief valves, most of us take those tanks for granted. We see them on just about every job and don't give them much thought.

Dealing with air

I was doing some research for a book I'm thinking about writing. This one's about the air that comes out of water when we heat it and gets stuck in radiators. There's a lot to this subject and I'm having fun thinking about it. I wrote to the good folks at Amtrol® in Rhode Island and asked if they had anything of a historical nature that they would like to share with me about the company. I already knew that the first diaphragm compression tanks (the ones we take for granted) came from Amtrol, but I was curious about how that came to be. A few days later, I got a note from Ken Cerpovicz, Amtrol's director of marketing. Ken told me that he was going to send me a package. He did, and it was a very big box.

I opened it and found a couple of things that delighted me. First, there was a disassembled version of Amtrol's popular Extrol® compression tank. I had seen these parts

"Our first cylindrical Extrols were manufactured using an overstock of baby carriage rims. When the competition arrived, we found small holes drilled into their steel hoops, mimicking what they must have thought was a necessary feature."

at their factory years ago when I paid a visit, but it was great to have my own because I have to explain these things to others from time to time.

The other thing in the box looked like a small barbecue grill. I e-mailed Ken and asked him what the heck it was. He told me that it was one of the first prototypes of today's modern compression tank. They used it to prove the concept of a diaphragm compression tank. They had made it years ago by bolting together two streetlight blanks (imagine that). There is a sheet of rubber between the two halves, a pressure gauge on one side of the rubber, and a threaded female connection on the other side for the water. It's sitting on the floor in my office right now and it's making me smile.

Ken wrote, "The first commercially available version of (Turn to *If you need it...* page 26.)

Because the King of England liked jelly, we now have relief valves. Isn't that wonderful?

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Circle 17 on Reader Reply Card



BY ELLEN ROHR
contributing writer

Living a lie

I'm a big reader. Fiction, non-fiction, as long as the writing is good and/or the message is compelling. I love to learn from smart, successful people, and many of them are gracious enough to write books telling you how they became smart and successful. There are a lot of insights to be gained from non-fiction, too. Sometimes, the beauty of the language and the art of the story inspire me. (Read Steinbeck or Hemmingway or Isabel Allende or Rick Bragg or Daniel Mason...) I also like Stephen King. While not fine literature, he puts out darn good writing and often flirts with astounding truths.

In his new bestseller *Under the Dome*, King's character Andrea discusses her withdrawal from painkillers with her friend Julia, who asks:

"What about your back?"

Andrea smiled. It was an oddly knowing smile, without much humor in it. "My back isn't bad at all. Hardly a twinge, even when I bend over. Do you know what I think?"

Julia shook her head.

"I think that when it comes to drugs, the body and the mind are co-conspirators. If the brain wants drugs, the body helps out. It says, 'Don't worry, don't feel guilty, it's okay, I really hurt.'"

Your brain, your body; they may lie to you.

This got me thinking. So often, I encounter resistance as I support people who want to create better business, more money, greater success in their lives. I throw up resistance myself. So often, it's a lie. And so often, someone else who has dealt with that lie has written a book worth reading about their experience laying claim to their truth. Here are a few of my latest favorites:

Lie: I just don't have enough time."

Alternate versions of this lie include, "I'm too old," and, "I'm too young." How about the truth: You won the lottery of time. You have all there is! Lucky you. The point of power is right now, the present moment. And it's how you choose to spend that moment that can make all the difference to your success. Author Dan Kennedy explores "No BS" ways to take charge of your time and shares a simple, sound, break-even discussion of what time is worth. You have plenty of time. You may choose to use it differently. Try noticing what you spend time on that doesn't move you in the direction of what you want. Yes, it's scary. Sure, inertia has its hooks in you. Still, claiming that you don't have enough time is just, well, a lie.

Lie: Success is a result of working really, really hard.

There is evidence of the opposite all around you. Do you know someone who has a rockin' relationship with their significant other and doesn't seem to be trying all that hard? Do you know someone who inherited mega-wealth or won big in the lottery? The problem with this lie (and the others, too!) is that they are effective — for a while. Hard work can reap results. However, if you believe that to be twice as successful, you have to work twice as hard, it's going to knock the wind out of you. I've struggled with this one. And I am recovering! Now, I am looking for things that make me feel good. I aim to do things that delight and inspire me. Interestingly, my relationships and my business benefit as a result. Gay Hendrix addresses this lie in his lovely and supportive book, *The Big Leap*. What if the truth were you could take a quantum leap in your success, your relationships and your financial situation; and *still* have the energy for golf? Why not give that belief a shot? The alternative is compromising your happiness and your health.

Lie: Doing what I do better than anyone else will make me successful.

Author (and one of my bffs) Simon Sinek maintains that WHY you do what you do is vastly more important than what you do. If the why, the mission, the point, is great enough, you will figure out extraordinary ways to deliver what you do. Without a compelling why, it can be tough to get out of bed to respond to an emergency call or to pick up the phone when that troublesome customer is on the line. Your life is about more than turning wrenches. Why do you do what you do? Simon takes you through a process, exploring the moments where you were most alive, and helps you get clear on your passion and purpose.

Lie: Achieving _____ will make me happy and feel successful.

Everything you want and don't have (fill in the blank); you want it because you think it will make you happier. So, what if you work from the other direction? My friend Marlene Chism has written a terrific book about accepting happiness, and success, now. With practical tips for reducing drama and stress, she helps you discover that there are signs all around you of how your life is working and working well! The more you recognize and appreciate that, the easier it is to be happy in this moment. Doesn't that sound better? Righter? The lie is that you should be miserable on your path to happiness.

Lie: If it weren't for bad luck, I'd have no luck at all.

You can continue to lie to yourself with this one, or some other clever way you describe your lack of success thus far. Or you could drop it. Out of the most horrible situations, the most amazing things can happen. And so often do! Wherever you are in your life, no matter what has happened to this point, you can use your tragedy to springboard you to wild success. Mountain climber Greg Mortenson lost his sister to cancer. He set out to climb K2, as a way to honor her and help himself heal. He didn't make it to the top. He got lost on the way down and almost died from exposure. Short of dying, this is as big a loss as you can get in mountain climbing.

He was saved by a local man who took him to his village, located in the highest peaks of Afghanistan. There, he got to know the local people. He devoted himself to building schools, particularly for girls, to help combat poverty and expand opportunities. Greg still works there, erecting schools out of bombed building rubble. An inspiring read — and a reminder that defeat is often the beginning of a miraculous comeback.

Lie: There's no better teacher than real world experience, the school of hard knocks.

This takes us back to the world of non-fiction. Perhaps the greatest leadership lessons can be found in classic fantasy novels. Have you read *The Chronicles of Narnia* series by C.S. Lewis?

Have you read *The Lord of the Rings* series by J.R.R. Tolkien?

Certainly you have heard of these books. Perhaps it's time to reread them — and introduce your Harry Potter-loving kids to these amazing stories of courage and honor and adventure. (The language, the writing; it's so much better than Harry P!) And, put this lesser known but brilliantly written series on your must-read list, too. *The Merlin Trilogy* by Mary Stewart

This is the tale of King Arthur and Merlin and the magical world of Camelot, told in a beautiful, aching human way. Explore the myth and explode the lies.

Happy reading to you and your family! ■

The most common question I get: How do I get the phone to ring NOW? Al Levi and I launching the "Get More Calls Teleseminar" program to help you do just that. We'll share 3 super simple Marketing Drivers that always work (and we money-back guarantee it!) Ready? Reach me at contact@barebonesbiz.com. And, check out www.getmorecallsnow.com.

The more you recognize and appreciate that your life is working and working well, the easier it is to be happy in this moment. Doesn't that sound better? Righter? The lie is that you should be miserable on your path to happiness.

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BY BRISTOL STICKNEY
contributing writer

Warm-floor solar heating for concrete pools

Solar pool heating is already a much larger industry in the United States than solar home heating. Swimming pools can require a tremendous amount of heat depending upon the climate, and so pool owners always seem to be receptive to the solar heating option, since a swimming pool can often double or triple their home heating bill.

The most common solar pool heating systems use unglazed plastic solar heat collectors, where water from the pool itself is circulated through the plastic collectors when it is sunny, using the filter pump as the solar collector circulator. This type system (unglazed direct) can be seen on the plastic collector web sites, such as Fafco, Heliocol, Technosolis and others. (For a complete list of unglazed pool collectors certified in the United States, see the SRCC Web pages.)

Unglazed direct solar pool collectors are appropriate only for climates that do not freeze or for seasonal applications where water is drained from the collectors during times of freezing weather. In our climate (Santa Fe, New Mexico), they are considered seasonal systems, intended to extend the outdoor swimming season by providing solar heat only throughout the spring, summer and fall.

The second most common solar heated pool system applications use glazed flat plate collectors that heat the pool indirectly through an external heat exchanger. This allows the solar collector system to remain in operation all year round, even during freezing weather. In our region, the collectors are typically filled with a pressurized propylene glycol mixture that feeds the hot side of the pool heat exchanger, and pool water is circulated on the cool side of the heat exchanger most often pumped by the pool filter pump. This type of system (glazed indirect) is popular with solar heating indoor pools that are used year round.

A third way of solar pool heating has emerged over the past decade that few people have ever heard of, but has become my preferred solar heating system for pools. That is the “warm-floor” solar pool heating system. Concrete pools and hot tubs that are constructed on-site are made of the same elements as a slab-on-grade “radiant heated floor”; concrete, rebar and mesh in contact with the earth. Sometimes, with a little collaboration with the pool builder, some insulating material can be added around or beneath the concrete shell. When PEX hydronic heat tubing is tied to the rebar and embedded in concrete shell of the pool, you then have a direct solar heat exchanger as shown for a hot tub under construction in Figure 1. This type of system is a simplified version of the glazed indirect approach, but because the concrete shell of the pool is heated directly by solar hydronic fluid, I think it qualifies as a glazed direct solar heating system.

Electrical power advantage of pool floor heat

I designed my first warm floor pool more than 10 years ago for a custom home project near Santa Fe that presented many solar heating challenges. It was an off-grid-enabled home that required extreme electrical efficiency. When grid power was not available, all electrical systems transferred automatically to Photovoltaic (PV, solar electric) battery power. The house was large (over 8000 square feet) and so required a large array of solar heat collectors just for space heating.

The remote location required propane deliveries as the only conventional backup heating fuel. Because of a sprawling site layout, the heat collectors had to be mounted more than 200 feet from the house, and the outdoor lap pool was another 100 feet or so from the house. There was also an outdoor hot tub that required solar heat



Figure 1. A direct solar heat exchanger for a hot tub.

located about 100 feet in a different direction.

To save on electricity, I designed the entire hydronic heating system, including the pool and hot tub solar heat, around DC circulators that use a fraction of the pumping power of typical pumping systems available at that time. All the supply and return tubing diameters (as well as most of the embedded floor tubing) were up-sized to reduce the pumping power required to deliver hydronic heat. The solar collector circulators were directly powered by PV panels, so that solar heat collection did not require any grid power or any battery power. The 200 foot run out to the collectors (18 panels, 4'x10'), required two solar circulator pumps each powered by its own 150 watt PV panels. The ground mounted collectors can be seen in Figure 2.

By putting $3/4$ " PEX (instead of the typical $1/2$ ") into the concrete shell of the pool, I calculated that the daily solar heat provided to the pool could be delivered to the floor of the pool using a DC circulator rated just under 20 watts.

(Turn to Solar pool heating... page 26.)

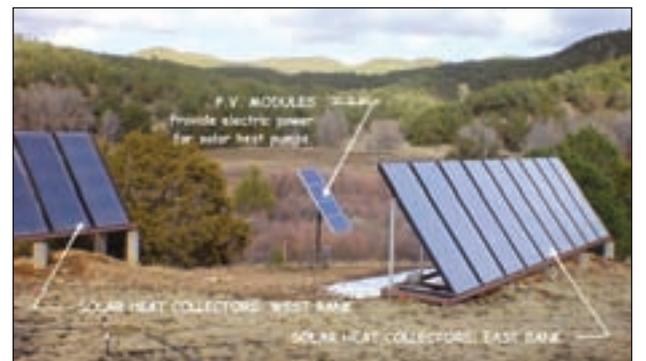


Figure 2: Solar collectors and PV panels provide all the heat and power necessary to operate a pool heating system in a New Mexico off-grid-enabled home.

The solar collector circulators were directly powered by PV panels, so that solar heat collection did not require any grid power or any battery power.

Bristol's Six Principles for Good Solar Hydronic Design

In this series of 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.

- RELIABLE
- COMPATIBLE
- SERVICEABLE
- EFFECTIVE
- ELEGANT
- EFFICIENT

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.

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Circle 19 on Reader Reply Card

Solar pool heating slashes energy costs

(Continued from page 24.)

I used the same approach for the remote hot tub and each floor heating zone in the house. The electrical controls for each circulator were designed so that DC power was consumed only when hydronic heat was being delivered. No wasted electricity was consumed by zone valves

and transformers, since these were eliminated by using the DC equipment powered by the solar electric batteries. Since the inside surface of the pool shell serves as the water side of the solar heat exchanger, the filter pump is not required when delivering solar heat to the pool water. Heat delivery happens by natural

means of conduction, convection and radiation from within the concrete shell of the pool which drastically reduces the electrical consumption while heating the pool.

Other useful advantages

By using warm floor solar pool heating we gain a number of additional benefits. The solar heating equipment becomes completely separated from the conventional pool mechanical equipment. There does not need to be any plumbing or electrical connections between the solar equipment and the pool mechanical systems. The conventional gas backup boiler can be set to provide a minimum water comfort temperature for the pool user, and the solar heat boosts that temperature whenever it can, within a reasonable comfort range under its own separate temperature control. Whenever the solar heat provides a temperature higher than the boiler set-point the boiler will respond normally by turning off

ways a concern with these systems. There is always a possibility that, at some time during the year, the large solar heat collectors will provide more heat than is needed by the heating loads. A swimming pool provides an ideal place to dissipate extra solar heat, since free heat for the pool is almost always welcome.

When heating a pool through the floor, the heat source is at the bottom of the pool where you might expect the coldest water to settle. When the filter pump is not running, the water temperature in the pool will tend to stratify: hot water rises upward and cool water settles to the bottom. In a pool with a warm floor, water temperature tends to de-stratify even without the filter pump mixing it. A pool filter pump is generally an energy hog, requiring hundreds and often thousands of watts to operate. If it is required to run during solar pool heating, the parasitic efficiency loss can be substantial.

Final notes

During the past 10 years I have been involved with about a dozen site-built concrete pools and hot tubs that are solar heated. Some are indoors, some are outdoors. About half have employed external indirect heat exchangers and the others have been “warm floor” pools and tubs. I prefer the performance and simplicity of the warm floor systems. Building them successfully takes cooperation and collaboration with the pool builder. When it comes to structural concerns and functional details, the pool guy has the final word on the pool construction.

The DC hydronic control system briefly described above was Patented by myself and Allan Sindelar, of Positive Energy in Santa Fe and originally called the SETH (solar electric thermal hydronic) control system. Brand names, organizations and manufacturers are mentioned in these articles only to provide examples for illustration and discussion and do not constitute any recommendation or endorsement. ■

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. He holds a Bachelor of Science in Mechanical Engineering and is a licensed Mechanical Contractor in New Mexico. He is the chief technical officer for SolarLogic LLC and is involved in training programs for solar heating professionals (visit www.cedarmountainsolar.com for more information.)



A solar-heated pool under construction. Its warm-floor system is separate from the pool's filter/circulator system so contractors know who is responsible for what. The pool serves as a huge heat sink to absorb “overflow” solar heat from collectors.

If you need it, it will happen

(Continued from page 20.)

the tank was the flying-saucer shape you see in the photos (he had sent those as well). This had a formed rubber diaphragm trapped between two halves that we crimped to lock the tank together. This tank had legs welded to it so the Dead Men could screw it to the floor joists in place of the plain steel tank it replaced. As you know, our industry is slow to break tradition.”

For sure.

He then told me that the early Extrol tanks didn't use an air valve because they wanted to minimize the potential leak paths and speed production. So how did they charge those tanks? They took a measured chunk of dry ice and put it inside each tank prior to assembly. Once the tank reached room temperature, the ice evaporated, releasing its gas and putting a 12-psi charge behind the diaphragm.

I wouldn't have thought of that. Would you?

Here's Ken again: “Our first cylindrical Extrols were manufactured using an overstock of baby carriage rims. When the competition arrived, we found small holes drilled into their steel hoops, mimicking what they must have thought was a nec-

essary feature.”

I think that's as delicious as Denis Papin's jelly.

“Finally, in the 1960s,” Ken continued, “we developed the familiar deep-drawn version you know today, including the hoop-ring attachment method. When a flat disc of steel is drawn under hundreds of tons of pressure into the domes you see in the samples, the strength doubles as a result of cold working. This results in a lighter and stronger tank.”

I get to ask a lot of questions in my work, and the thing that struck me about Amtrol's Ken Cerpovicz was how generous he was with engineering information, company lore, and how he answered every single question I asked, no matter how tough. He told me straight up, without hesitating, and then he asked how else he could help me.

I admire this guy and this company. I admire his generosity, his honesty, his enthusiasm, and the pride he has in what his company is making.

Here's to the inventors. ■

I've created a page on our Web site for those drawings. If you'd like to see them, go to www.heatinghelp.com/invention.

Heat delivery happens by... conduction, convection and radiation from within the concrete shell of the pool which drastically reduces the electrical consumption while heating the pool.

the gas. In this way, the pool guy has his own domain and the solar guy has his. There is no question about who is responsible for what equipment and what warranty belongs to whom.

A cool solar collector is a happy solar collector. You can see this in the collector efficiency graphs included in some of my earlier articles. When circulating warm hydronic fluid through the shell of a pool, it tends to cool off much more than when running through the hot side of an external indirect heat exchanger. This cooler fluid, when returning to the solar collectors, results in higher solar thermal efficiency for the collectors, which translates to more solar heat per day delivered to the pool.

The home heating system described above was one of the most complex solar combi-systems I ever designed. (A combi-system combines solar heat collectors, DHW, space heat and other multiple heat sources and multiple heat loads into one system.) As I have mentioned before, solar heat dissipation is al-

Sometimes a hands on demonstration is all you need.

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BY JOHN BARBA
guest writer

PHC is a commodity... NOT

What is a commodity? My favorite author, Dr. Larry Steinmetz, defines a commodity as a product or a service that is widely and readily available, with no discernable difference.

Not bad. If something is a commodity, no one, not even you, can tell the difference between your product/widget or service, or your competitor's. And the only way you're going to sell it is if it's at the lowest price out there. Right?

Now that we've set the stage, let's look at some things that might be considered commodities.

Fruit and vegetables are traded and sold as commodities, but are they purchased on the consumer level as commodities? Well, maybe.

Most supermarkets sell oranges in a two- or three-pound bag at one price, and then have oranges stacked so shoppers can pick the ones they like and bag them themselves. These oranges are more expensive. They're also bigger, fresher and tastier.

And isn't there a difference between grocery stores as to the quality and freshness of their produce? The better produce is usually found at the so-called "designer" grocery store such as Byerly's or Trader Joe's. It's also a tad more expensive. Yet they sell stuff.

What about milk? Plain, white milk. Whole milk, skim milk, 2%, 1%. Milk's milk, right? Can't sell that at a premium price, can you? But yet some stores sell designer milk, or hormone-free, additive-free milk, milked from hormone-free, additive-free cows. And bacteria-enriched acidophilus milk; egad! They sell it for more money, and people buy it. For more money.

You can buy different sizes of milk, too. Pints, quarts, half gallons, gallons. The larger size is a way better deal, but not if you don't want or need that much. Four quarts cost lots more than one gallon.

Are you old enough to remember "generic" food? Back when I was in college, the local A&P sold generic food. It came packed in plain, white containers marked "spaghetti," or "corn." It was cheaper than even the store brand, never mind the "name" brands. My favorite was the six pack of white cans labeled "beer." This stuff was cheaper than Iron City! A couple of cases of "beer" later, however, my friends and I decided the "King of Beers" was a better value than the no-name stuff, which tasted like it came out of a Clydesdale. An unhealthy Clydesdale.

So is processed, canned or frozen food a commodity? It's all the same, right? No difference at all and it can't be sold at a premium price, right? If that's true, the folks at Birdseye, Campbell's and Green Giant better get ready to lock up the doors because the end is most certainly near.

Is anything in our business a commodity? Circulators? Relays? Faucets? PEX? Toilets?

When I think of commodities, I think of stuff that's traded on commodities markets by commodities brokers, like Billy Ray and Louis and the frozen concentrated orange juice in "Trading Places." Grain. Pork bellies. Copper (the metal, not the pipe). A commodity is the stuff someone uses to manufacture other stuff, and is bought and sold on the commodities market.

Service doesn't matter. Technical support doesn't matter. Delivery doesn't matter. As soon as an enterprise wants to buy it and use it, however, it ceases to be a commodity because at that point, service, technical support and delivery do matter.

Any manufacturing concern will tell you that while price is an obvious concern, it's only one of many. Any purchasing agent will have his hind-quarters chewed off and handed back to him baked, sautéed and carved into

small bite-sized pieces with an appropriate garnish if the stuff he bought so cheap doesn't show up on time. Or isn't any good. Or doesn't meet specification. Or is the wrong size. Or is the wrong color. Or the supplier can't or won't support it. You get the picture.

I have a friend who's a purchasing agent at a major HVAC manufacturer. I asked her once about the suppliers she no longer does business with, and how many were bounced because of price. She could think of several she didn't do business with anymore, but she couldn't think of any that lost her business strictly on price.

She could think of several that couldn't deliver what they promised in the quantities they promised when they promised. She could think of several more whose quality wasn't as advertised, and wouldn't help solve the field issues their poor quality produced. But she couldn't think of any that were bounced simply because their price was too high.

So, is plumbing, heating and A/C service and installation a commodity? Are the products you buy at your wholesalers commodities?

No and no.

If there's a difference between what you do and what anyone else does, then plumbing, heating and A/C service and installation are not commodities. That means there are factors, other than price, that are important to the customer.

Your customers want you to believe in the commodity mentality, however. They want you to believe that the skill set you possess, the products you sell and the heating system you're offering aren't much different from anyone else's. They do this partly because they may not know any better, but also because it's to their advantage.

If you believe that they believe there's no difference, then the pressure's on you to get your price low. It's the hammer the customer holds. They want you to believe in the myth that says if all things are equal, people will buy on price. They'll do their best to denigrate, trivialize or ignore whatever unique value-added propositions you've developed.

Why do they do this?

Do they really not care that you have a live person answering your phone? That you have 24-hour service? That you've been installing radiant heat since 1987? That you have a proven track record of on time arrival and on time/on budget performance? That you've been in business in their town since 1938?

They'll tell you all that stuff doesn't matter, but don't believe them. It matters, often more than you'll ever know. But they're drop-kicking all that stuff into the river and telling you it doesn't matter for one reason and one reason only.

They want you to drop your price.

Why do they do this?

Because they can. And not only do we allow this to happen, we've more than likely trained our customers to do it to us. ■

John Barba is Contractor Training and Trade Program manager for Taco, Inc, and has been in the trades since he could walk, carrying wrenches for his dad in the family's plumbing and heating business outside of Boston. John's practical experience includes everything from ditch digging and drain cleaning to boiler piping and PEX installing, as well as business management and contractor sales. Since 1995, John has trained more than 12,000 contractors in hydronic heating design and installation.

If there's a difference between what you do and what anyone else does, then plumbing, heating and A/C service and installation are not commodities. That means there are factors, other than price, that are important to the customer.

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BY RICHARD DiTOMA
L.M.P.

Hire good technicians and empower them

All professional sport franchises start their seasons with hopes of winning the championship of their respective sport by season's end. All franchises have an owner or owners. And each owner needs a total team consisting of players to put on the field; a coaching/managerial staff to train the team's players; and administrative personnel to tend to the clerical needs of the sporting business. But those requirements alone do not guarantee any team a championship. Victory requires each person involved to perform at the highest level possible. It also requires the owners to give the team that which it needs to perform excellently.

No major league baseball team ever won a World Series by fielding eight players. Baseball requires nine players on the field. If, for instance, they were missing a first baseman, the short stop would have no one to whom he could throw the ball in order to get the batter out at first base when the ball was hit toward the short stop.

In football, a team that consistently fields only 10 poorly equipped players would be at a great disadvantage. When their opponents were properly equipped with 11 players on the field, they would not be able to win a game, let alone a championship. But fielding the proper number of appropriately equipped players alone does not guarantee success. A total suitably equipped team puts you on the road to victory. Excellent execution leads you down that road to the championship.

This also holds true for sports like single's tennis. Professional tennis players are usually their own owners and players. But, they too employ coaches and administrative personnel.

Your business is no different. You need a top quality team that can perform in sync with each other to give your business the chance to win the championship. The first step regarding your business team is to hire personnel with the following traits: integrity; loyalty; aptitude for their position on your team; great mental attitude; self-motivation; intent and ability to be excellent, intent and ability to follow legal and ethical orders; responsibility; and dependability.

In your business you are the owner. Regardless of the size of your business, you have responsibilities that require a total business team even if you are the only person on the team, in which case you are the team. PHC service business owners must train and field one or more technicians and also tend to administrative responsibilities. Therefore, in order to give yourself an opportunity to succeed in your business, each of the members of your team must have the intent and ability to perform the duties of each team position in an excellent manner. If you, as the owner, do not properly equip your business team personnel they cannot perform in an excellent manner. In turn, your business will be at a disadvantage.

In the PHC service business many contractors do not properly equip their technicians — who are often the only people from their businesses with whom their clientele will ever have contact. In your business if your technician doesn't have the proper tools and material to perform a technical task for your clientele, you have placed your business in jeopardy regarding your customer's perception of your business. In that instance, from your technician's perspective, you have sent a detrimental message to your team. That is, if the boss doesn't care, why should I?

Since consumers want to know the price they must pay for any service before they authorize that service to be performed, one of the primary tools PHC service technicians need is the ability to rapidly quote proper, prof-

itable selling prices for services that will deliver excellence to the client and reward to the business enterprise. Stammering or stumbling before quoting a price makes the price dubious in the eye of the consumer. It sends a message to the consumer that this technician isn't fully qualified at his/her job. In turn, the consumer may, in their mind, question the diagnosis of the tech regarding the task he/she recommended to resolve that client's problem.

If your tech must call you for every price, in addition to still giving a flawed perception to the consumer, you will be kept from performing your other business duties.

Common sense dictates that you empower your PHC service technicians with the ability to quote selling prices. After all, your techs are the only representatives from your business who have actually seen the circumstances about the task for which the price pertains.

As the number of techs in your employ increase so will the valuable time you spend giving them prices. That time could have been spent guiding and growing your business.

When a consumer goes into a store and asks the salesperson for the price of an item, a good and well-trained salesperson is able to answer the question rapidly and confidently rather than trying to locate the owner for the price. Since your techs are usually the only people with whom your clientele comes in contact, they are also your sales personnel. Rapid, confident price quotes allow your tech to make more sales in the most efficient manner.

Therefore, common sense dictates that you empower your PHC service technicians with the ability to quote selling prices. After all, your techs are the only representatives from your business who have actually seen the circumstances about the task for which the price pertains. This practice will give consumers more confidence in the tech's diagnosis and the price.

Your technicians should have an updated written price guide that allows them to see common typical jobs and their variables dependent upon circumstances of any consumer's situation. For tasks which are not typically common, the tech should be given 1) cost factoring information such as the properly calculated cost of labor and overhead for one tech hour; 2) the ability to find material costs; 3) the profit margin divisor that must be applied to each task; and 4) any discount percentages which may apply to any of your contract clientele or specials you may have at the time of that price quote.

You can make your own price guide. But, keep in mind that this is a very time consuming task, especially, keeping up with the ever changing costs you incur. Or, you can subscribe to price guides which are printed by others. My *Readily Available Pricing Information Digest® for the Plumbing Heating Cooling Contractor* is a price guide I customize to your business factors and should take care of your price guide needs. It will empower your tech to answer the price question rapidly.

With regards to having your tech calculate prices on the job, Figure 1 is an E.A.S.I.E (Efficient Accurate Sales Itemized Estimate®) sheet (an excerpt from my book *Solutions Management Theories and Methods for the Contracting Business®*). I created it to help technicians develop proper profitable selling prices. The top of the
(Turn to Your techs... page 34.)

Since consumers want to know the price they must pay for any service before they authorize that service to be performed, one of the primary tools PHC service technicians need is the ability to rapidly quote proper, profitable selling prices.

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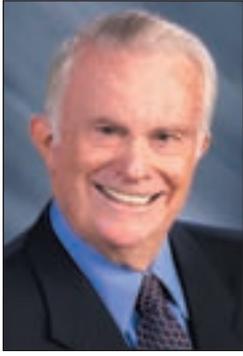
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Circle 22 on Reader Reply Card

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BY MORRIS R. BESCHLOSS
PVF & economic analyst emeritus

Is commercial/industrial construction dodging a bullet this year?

With Arab Emirate Dubai opening the highest building in the world in January, thereby incurring multi-billion dollars of debt, which it was in danger of defaulting, the Arabian Peninsula's Golden City was lucky in being temporarily bailed out by the Sheikdom of Abu Dhabi, swimming in oil.

This playground of the universe could well become the paragon of the massive commercial overbuilding which saw gleaming edifices spring up in such disparate locations as Macao, Malaysia, Las Vegas, Singapore, and Taiwan.

Although these massive construction jewels represented symbols of national hubris, they also deflected the gigantic spurt of commercial and industrial overbuilding that typified the highly leveraged outburst of building, unequaled in world history.

This manifested itself in such aforementioned gleaming national symbols. Such opulence also found its expenditures in office buildings, hotels, motels, medical structures such as mega-hospitals, and assisted living super structures. Also significant were shopping malls and strips and expanded power generating facilities, as well as the expansion of refineries. The boom also saw the incipient development of such renewable energies as solar and geothermal power, as well as wind farms and an expansion of natural gas extraction.

As long as these unprecedented expenditures could tap into the practically unlimited financing offered by large and regional banks and other financial institutions, the unlimited expansion of the past decade did not present the possibility of financial collapse.

But the near financial meltdown of September, 2008 sent danger signals flashing all over the financial world. Unlike the residential construction disaster, which culminated in foreclosures, and millions of underwater mortgages, the commercial/industrial fiasco still hasn't come to full fruition. Since the firewall of such a looming nightmare is being held by the Federal Reserve Board's record balance sheets, the showdown will be in the Fed's ability to support the banking systems' capability to support the multiplicity of huge as well as mid-sized developers, who have initiated these impressive developments. Without the Fed's record low interest rates and unlimited funds, the scope of such a commercial/industrial debacle could greatly overshadow the residential breakdown in size and total cost.

With the Fed continuing to use its financial versatility and independence to hold the potential breakdown of this sector together, it's likely that a potential break down will be prevented, as the economic recovery absorbs the multi-billions that could come crashing down under a less protective support base than that offered by the Federal Reserve Board.

High-tech employment is America's road to future development

It's widely recognized today that double digit unemployment is the major obstacle standing in the way of a solid economic recovery.

When recognizing those working part-time, giving up looking for work, or flooding into the workforce after high school and/or college graduation, plus immigrants, almost 20% of America's employable workforce of near 160 million is now outside those capable of full-time jobs.

According to employment expert Ed Gordon, who recently addressed Federal Reserve Board executives at

the Chicago Federal Reserve Board district headquarters on this subject, the answer lies in upgrading the capability of those job seekers, whose previous work spot no longer exists.

"When considering the implosion of the automotive and housing sectors, as well as steel and metal fabrication industries, new jobs must be created to lower the unacceptable double digit unemployment rate that the U.S.

With a combined global population of almost three billion, these four international giants also contain vast natural resources and are strategically located to influence most of today's teeming masses in the world's largest population centers.

may be facing permanently if such remedial upgrading isn't actively pursued by a combined government/business alliance," asserts Gordon.

Ironically, thousands of businesses in this country have aggressively opted for automation, mechanization, and the latest high tech capability in order to maintain profitability, or even downright survival.

This has resulted in shedding many thousands of personnel, adding to the swelling unemployment rolls. Gordon believes that the Administration is naive in believing that the economic recovery alone will absorb those now unemployed. "Only exports offer substantial growth opportunities at this time," the acknowledged personnel expert concludes.

He further states that two million jobs in the U.S. alone are available for those with the necessary skills. "Only a major effort to upgrade the skills of those available for such training will put a dent in the employment crisis the nation is now facing," warns Gordon.

It seems obvious that the Administration is tone-deaf to this advice, even with the knowledge that maintenance of current unemployment levels could prove disastrous to the party in power.

Still, the December Institute of Supply Management came in at a 55.9 index, higher than expected from last period's 53.6. This continued growth reaffirms expansion in the industrial sector, which has snapped out of its doldrums in the last three months.

BRIC countries due for world-leading growth

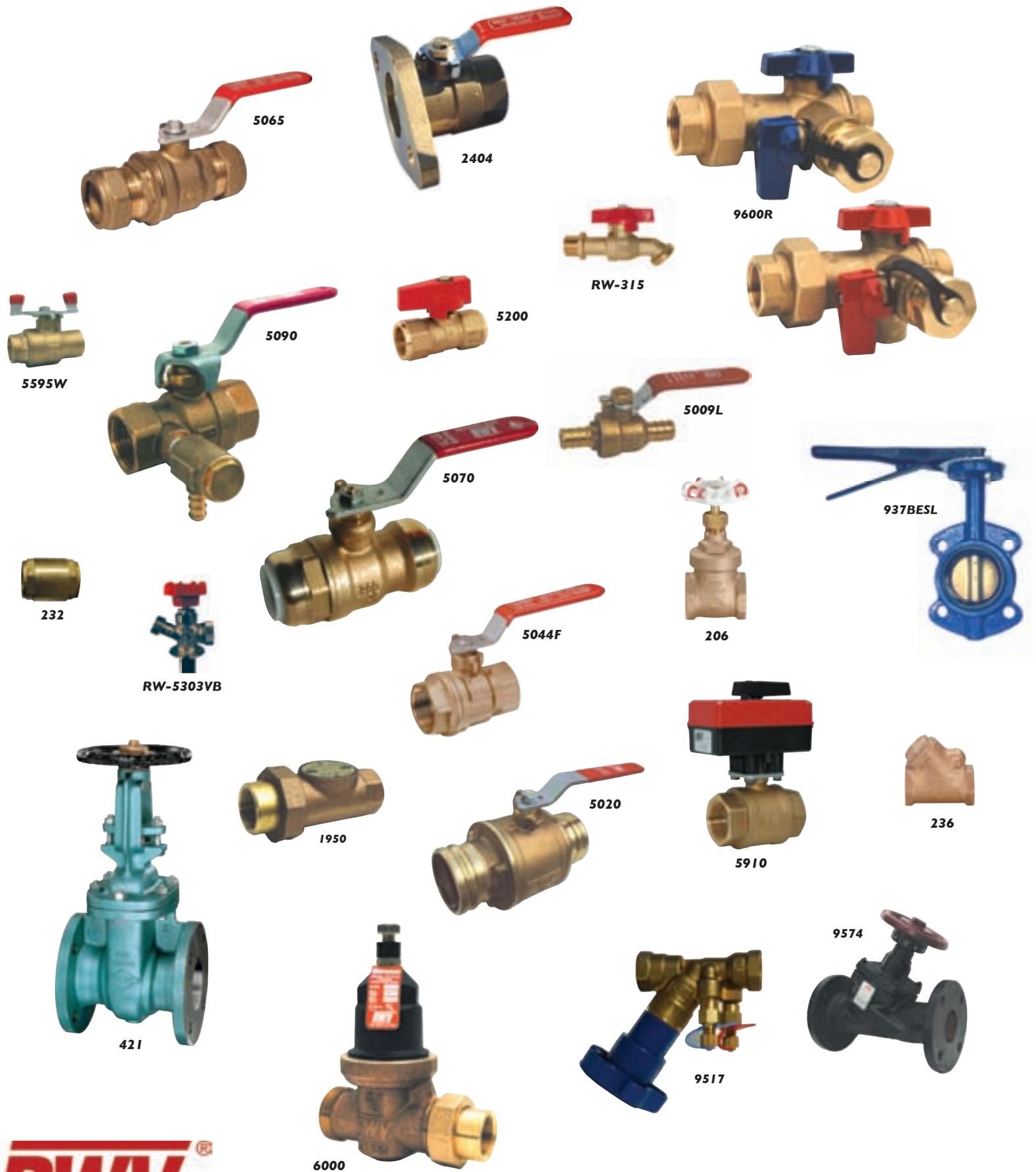
The world's BRIC nations (Brazil, Russia, India and China) are well on the way to world exceptionalism in this decade. With a combined global population of almost three billion (more than 40% of the world's total), these four international giants also contain vast natural resources and are strategically located to influence most of today's teeming masses in the world's largest population centers.

Brazil dominates two-thirds of South America's landmass, and much of its population. In addition, Brazil has an abundance of oil and agricultural products such as coffee, sugar cane, and cotton. Although maintaining a Latin American version of democracy, Brazil has shed its dependence on Washington's political leadership, and is assuming the mantle of an overriding political power as well.

Its chumminess with Iran's rampaging dictator Mah-
(Turn to Brazil, Russia.... page 34.)

"Only a major effort to upgrade the skills of those available for [high-tech] training will put a dent in the employment crisis the nation is now facing."

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Your techs are your public face. How well do they represent your business?

(Continued from page 30.)

form provides space for the date of the calculation; client name and address information; and, description of the task being calculated.

The next section is for identifying the time needed to perform the task. It takes into consideration the time to travel to the work site; to speak with the client regarding diagnosis and explanation; to perform the task; to pick up material, if any; to test the work done; to do the paperwork; and a space for any other time needed to perform the task at hand.

After adding up the time to perform the task, there is a space to multiply that total time by the hourly cost of technician labor and overhead. Next in line comes space for calculating material costs and applicable taxes, if any.

By adding the total labor, overhead and material costs, your tech can arrive at the cost to you to perform the task. By dividing that break-even cost by the percentage difference between 100% and your desired profit (e.g. to reach a 25% profit you would divide by 75%), your tech will be able to quote a price rapidly and profitably. In conjunction, these tools will empower your technicians to better serve

your business and your clientele.

When your tech brings back the invoice with the monies paid, the tech should give you information that will indicate whether he/she arrived at each selling price from your price guide or by calculation. If he/she calculated, the form used should be turned in to your office. Those forms should be attached to the invoice for your records. If the tech quoted prices from the form calculation for jobs which were not done, you can file them in the client's file so you have them for future reference. The client may decide to do that job at a later date. If you have the information you can just update the costs and

selling prices.

If you need my assistance empowering your techs; or, for my consultation services, "how to" book *Solutions Management Theories and Methods for the Contract-*

Brazil, Russia, India, China up-and-coming world powers

(Continued from page 32.)

moud Ahmadinejad and Venezuela's Hugo Chavez is an example of President Lula Da Silva's declaration of independence from the U.S. With the world's fifth-largest population, Brazil has finally arrived economically, and is a dominant force to be reckoned with, in ethanol converted from sugar cane.

Russia may not be the military power it was in the Soviet days, but most European nations are predominately dependent on Moscow's natural gas and oil, especially the former satellite states of Eastern Europe. Its military arms production is among the top three in the world, providing support to any nation, including Iran, who can pay their bills. Global morality has never been Russia's strong suit; a worldwide approach that has not basically changed in the past two decades. Despite a shrinking population, Russia still represents close to 150 million, which makes it one of the world's

ing Business[®], customized price guide, workshops, customized invoices, brochures and/or business forms, give me a call at 845/639-5050. I can show you how your business team can give have an opportunity to win your championship so that you, your techs, and your clientele will be much more satisfied. As always best wishes for your health and prosperity. ■

top six populated areas. Its land mass is the world's largest, covering 10 time zones.

China and India (with respective populations of 1.4 and 1.1 billion) are also the world's fastest-growing

Most European nations are predominately dependent on Moscow's natural gas and oil...

economies. China is setting new industrial production records every month, while India, concentrating on high technology, is not far behind.

Both nations are experiencing a massive gross domestic product expansion this year which adds immensely to their national influence and status as major powers. It's practically a given that China, especially, is successful by integrating its economy into a modern juggernaut that will make that nation the world's dominant economic power by 2050. ■

Richard P. DiToma is a business consultant and contractor with 36 years of experience in the PhC industry. He conducts seminars, evaluates business operations, publishes customized price guides for contractors and offers continuing support.

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Figure 1. The E.A.S.I.E. form helps technicians develop proper selling prices.

Nexstar Network and ACE DuraFlo[®] announce strategic partnership

LITTLE CANADA, MINN. & IRVINE, CALIF. — ACE DuraFlo[®] Systems (ePIPE) and Nexstar[®] Inc. have entered into a strategic partner relationship. The Nexstar ePIPE program permits Nexstar members to add ACE Du-



raFlo's miniE epoxy pipe restoration technology to their existing line of services. Nexstar is a member-owned international group of independent service providers in the fields of plumbing, HVAC and electrical services. Nexstar members get rapid results, guided by experienced coaches, surefire systems and incredible peer connections.

"We are excited about the

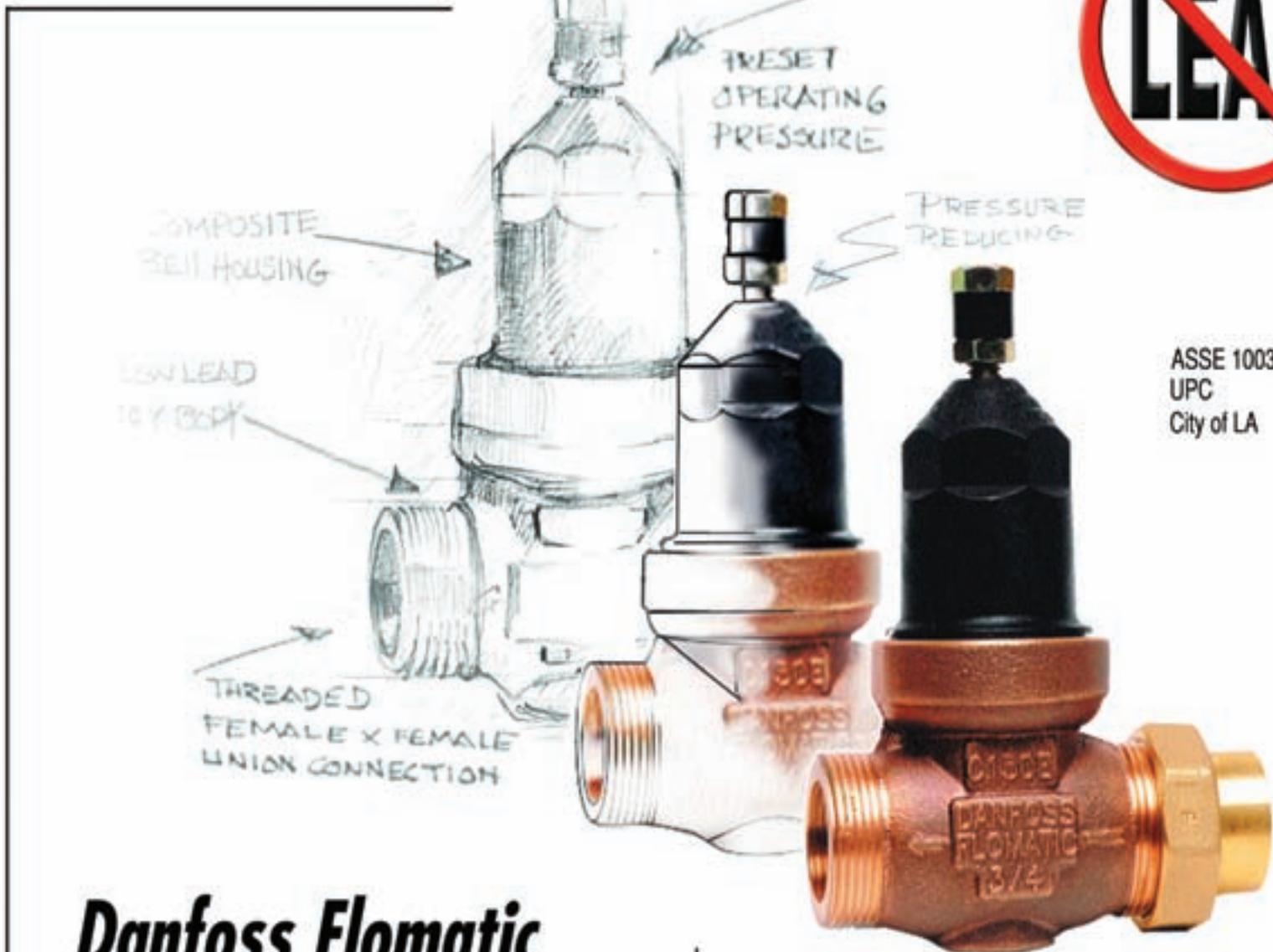
prospect of expanding our installer network in North America by introducing the miniE System to the Nexstar membership," explained Bill Cooper, president of ACE DuraFlo Systems. "The miniE System is a turning point for the pipe restoration industry and we are happy to be able to offer it through the Nexstar Network of independent service providers."

"In our continuing scrutiny of the service plumbing industry, we keep our Nexstar eyes peeled for changes in the marketplace, and unique growth technologies like the ACE DuraFlo ePIPE," said Susan Tigner, strategic partner manager with Nexstar. "Our goal is to provide our members with quality growth and diversification opportunities."

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WHAT DOES “DOMESTIC” MEAN TO YOU?

do-mes-tic [də'mes-tik]

1 : of, relating to, or originating within a country and especially one's own country

2 : produced in or indigenous to a particular country

3 : Indigenous to or produced or made within one's own country; not foreign, native: domestic goods

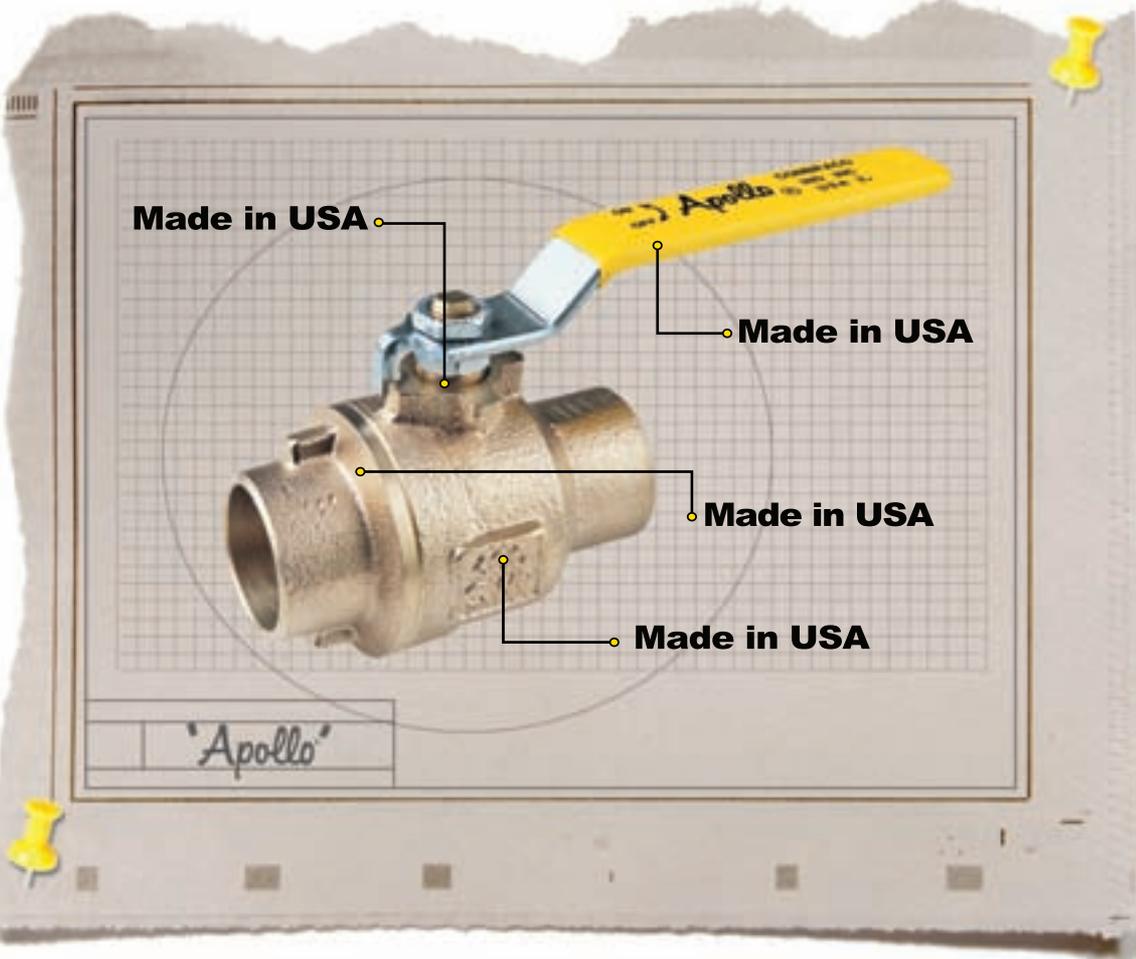
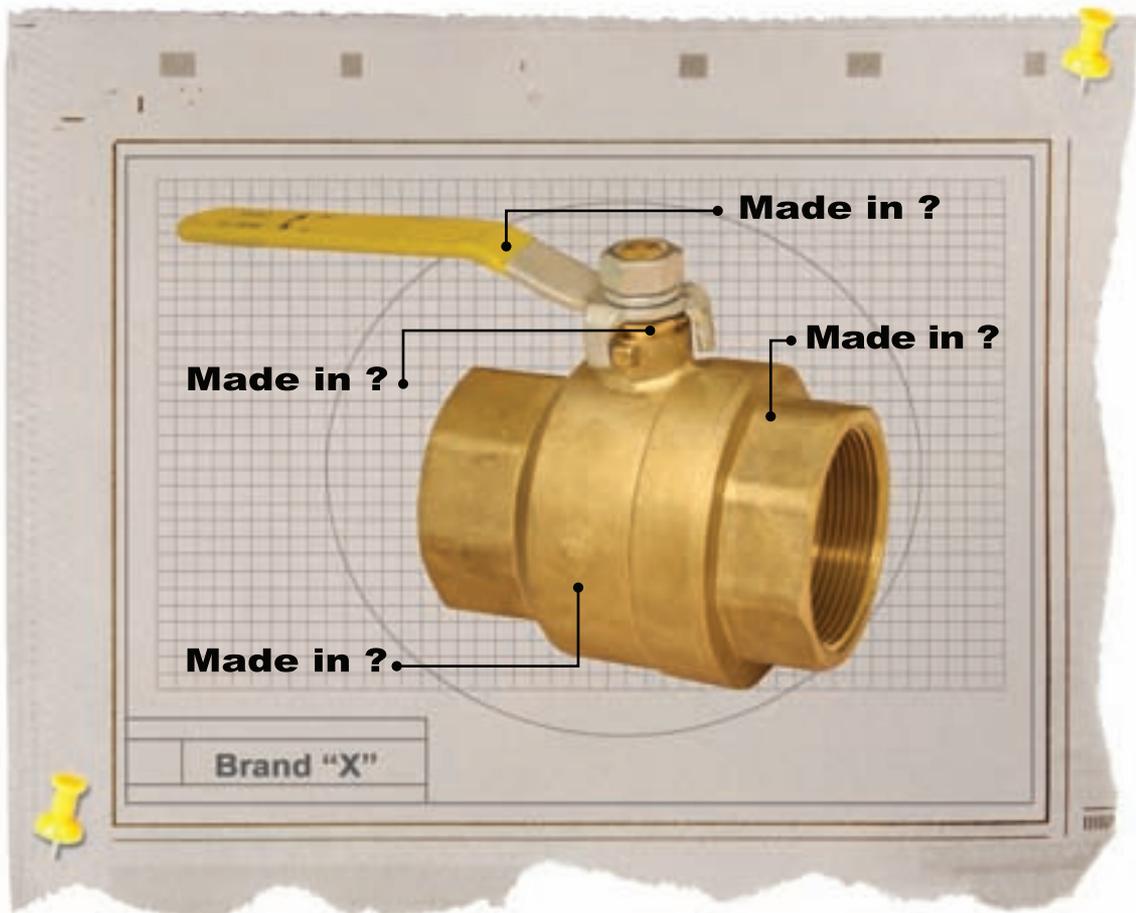
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Lead-free leaders



Sponsored by Watts Water Technologies

Phc News is proud to introduce its “Lead-free leaders” page — a bi-monthly page dedicated to the lead-free movement. Every other month this page will feature the latest lead-free news, products and happenings within the PHC industry.

In September 2006, California became the first state in the nation to pass a “lead-free” plumbing law, followed by Vermont in 2008. Several other states are considering similar legislation. Enacted as an amendment to the state’s Health and Safety Code,

California’s Assembly Bill 1953 stipulated that as of Jan. 1, 2010, “any pipe or plumbing fitting, or fixture intended to convey or dispense water for human consumption” introduced into commerce within California would be limited to a “weighted average lead content of the wetted surface ... of not more than 0.25 percent.”

Many companies had already started selling products manufactured using a proprietary “lead free” alloy, or more commonly, by licensing an existing alloy such as Eco

Brass, which was developed in response to a tightening of the drinking water lead leach restriction in Japan that took effect in 1993.

Section 116875 of California’s Health and Safety Code is now in effect, with manufacturers still encountering considerable uncertainty in terms of how the law will be interpreted and enforced. They are under a great deal of pressure to get the answers and information they need to get products to market while protecting themselves from exposure to

penalties and/or litigation.

A sticky issue as third-party certification bodies jockey for the manufacturers’ business. Some claim that certification to Annex G of NSF/ANSI Standard 61, which regulates the amount of lead in products that come into contact with drinking water, satisfies the requirement. Others point to language differences between the new law and Annex G and contend that certification to one does not ensure certification to the other. For more information, www.iapmo.org.

D.C. follows California, Vermont on lead free

WASHINGTON — According to the lead-free resource site, www.weareleadfree.net, two District of Columbia council members have introduced an amendment to the D.C. Plumbing Code requiring pipes, pipe fittings, plumbing fittings and fixtures contain no more than a weighted average of .25% lead with respect to wetted surface areas. The Safe Plumbing Act of 2009 also defines “lead-free” as not containing more than 0.2% lead with respect to solder and flux. This mirrors legislation found in California and Vermont, which goes into effect in less than a few short months on January 1, 2010. Bill No. DC B18-452 is planned to go into effect one year later on January 1, 2011.

Considering the ongoing water quality issues Washington has faced in recent years, it’s likely ongoing pressure from the community motivated politicians to move towards lead free legislation. The February 2009 posting, Did Chloramine Additives put 42,000 Children in D.C. at Risk? It was reported that elevated levels of lead were discovered in children’s blood following the addition of a chloramine disinfectant to the water supply to kill bacteria. Chloramine treatment significantly increases the leaching of lead from supply pipes.

It’s looking more and more like AB 1953 will be the legislation template for the balance of the country. The new bill is clearly a step in the right direction for D.C. residents, ensuring safer water and bringing

peace of mind to the parents of young children. Check back periodically for updates on D.C and other state initiatives.

Lead Laws update: For lead laws updates for the District of Columbia, visit www.weareleadfree.net/DC.

Lead Free* Program Update

NORTH ANDOVER, MASS. — Watts Water Technologies, Inc., and its associated brands are in the forefront of the lead-free movement and has announced the availability of its extensive line of lead-free* products that are compliant with California and Vermont legislation.

Watts Water Technologies’ www.WeAreLeadFree.net website provides frequent updates on what is happening around the country with lead-free legislation and requirements. This website provides an interactive map showing the status of lead-free initiatives nationwide, downloadable catalogs and educational material. Visit the website to see the overview video.

Watts Water Technologies, Inc. with worldwide sales over \$1 billion, designs, manufactures and sells an extensive line of valves and related flow control products to the plumbing and heating and water quality markets. For more information, www.weareleadfree.net.

*The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight.

Harvel’s PVC and CPVC piping products among first to meet California ‘Lead-Free’ Code

EASTON, PA. — Harvel Plastics, Inc., has received certification by NSF International as being in compliance with new “lead-free” standards regarding drinking water plumbing components. Standards will be adopted January 1, 2010, in California.

Known as AB 1953, the new California law mandates that any pipe, pipe fittings, and plumbing fittings and fixtures used to convey or dispense water for human consumption have no more than 0.25 percent lead

in wetted surfaces as determined by a weighted average. Furthermore, the law requires certification by an independent American National Standards Institute (ANSI) accredited third party, such as NSF International. The California Department of Public Health is developing standards for building officials to implement and enforce compliance with the new regulation. Vermont is also adopting similar “lead-free” standards as of the beginning of the year.

UL announces alternative certification program for lead-free verification of cooking & plumbing products

NORTHBROOK, ILL. — Underwriters Laboratories (UL), a global leader in drinking water quality and safety, announced today a new certification program to help manufacturers of cooking and plumbing related products demonstrate compliance with new, stricter low lead requirements that will be mandatory in California and Vermont starting Jan. 1, 2010.

UL’s new certification program will

test materials to demonstrate compliance to both the California Health and Safety Code and similar legislation in Vermont. It will allow manufacturers that are required to demonstrate compliance with the California Health and Safety Code, but are not covered by or specifically included in Annex G of ANSI/NSF 61, to obtain the proper product safety certification.

Lead-free brass fittings available from Matco-Norca

BREWSTER, N.Y. — Lead-free brass fittings are part of Matco-Norca’s new lead free product offering, which in addition to these fittings include valves, faucets and plumbing specialty items.

All Mateco-Norca lead-free products are compliant with the new California Health and Safety Code 116875-116880, as well as Vermont’s lead-free law, both now in effect. Lead-free brass fittings from Matco-Norca are certified to contain less than .25% weighted average lead content over wetted surfaces. All Matco-Norca brass fittings are UL and ANSI approved.

Lead-free brass fittings from Matco-Norca include elbows, unions, caps, crosses, couplings, bushings, locknuts, plugs, adapters and flanges. Matco-Norca carries a full line of lead-free brass nipples to accompany the fittings.

Matco-Norca has a lead-free products-dedicated catalog available for download at www.mateco-norca.com/lead-free.



Watts Water Technologies’ www.WeAreLeadFree.net website provides frequent

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Circle 26 on Reader Reply Card

Hydronic heating gets 'smart'

New generation of centralized, smart controls maximizes the efficiency of multiple hydronic and forced-air components through a single network system

BY JOEL WILLIAMS

Today, some form of comfort system automation is available in most new homes. But more than programmable thermostats and outdoor temperature sensors, the future of home automation is found in so-called "smart controls." By "smart," we mean the abil-

forward," opines Ted Lowe, executive director of the Radiant Panel Association. "The new technology offers self-configuring networks that require no programming, software or web knowledge, which gives the average heating contractor unprecedented access to this market."

Most HVAC and hydronic heating manufacturers already equip indi-

system synergies to be gained when HVAC and related climate control systems are centralized, argued Robert Bean, a registered engineering technologist and the editor of the *Journal of Indoor Environmental Quality*.

whose company markets one such "smart" controller.

"In the past, contractors might have had one control box for boilers, one for mixing, one for snowmelt — all built by the same manufacturer — and all unable to talk to one another," said Wiedemann. "Our Climate Control Network™ System changes that scenario and links a variety of dif-



An optional high-definition touch panel interface is available with the Climate Control Network System.

To illustrate the focus toward integrated systems, Bean asks rhetorically: "Should there be an air traffic control tower operating in isolation for each plane? Or is it better to have several controllers inside one tower, together integrating the management of air traffic?"

Indeed, Lowe says that systems using centralized, smart control technology are able to reduce energy consumption by 15% to 30% in most applications. When you consider the current and future cost of energy, this level of savings is a powerful investment for homeowners and building owners to consider.

And yet, given the multitude of equipment manufacturers and proprietary communication protocols, this concept of a universal, all-knowing control has been elusive until recently — especially for smaller, non-commercial applications.

The Holy Grail: Intelligent integration

The ability to communicate or "network" among controllers, sensors and components is a key difference between past and future generations of HVAC controls, according to Jeff Wiedemann, product manager, application controls for Uponor, Inc.,

ferent systems and dissimilar equipment under one central control, using intuitive graphical configuration tools that replace complex and time-consuming programming."

Imagine, he said, the ability to automate intelligent, energy-efficient choices without intervention from home or building owners. "It would be a nightmare, using conventional controls, to choose the heating device with the lowest operating cost from among a multiple-stage geothermal unit, solar collectors and a



"Installers will appreciate the uncomplicated wiring methods of the Climate Control Network System," says Jeff Wiedemann, product manager, application controls for Uponor. "End users can benefit from the system's modular approach, making it compatible with any budget, as well as flexible for future changes."

high-efficiency condensing boiler," admitted Wiedemann. But that same task becomes much easier, yet more costly, using direct digital (Turn to Smart... page 42.)

"A service tech could conceivably know about a service issue — via cell phone or e-mail alert — before the occupants do. This, in turn, eliminates the inconvenience and hassle of having to make a separate service call and greatly boosts customer satisfaction levels."

ity to manage all of a building's heating, ventilation and air-conditioning (HVAC) systems — radiant, forced air, domestic hot water, snowmelt, etc. — through a single network control system.

"Smart controllers are perhaps the single biggest opportunity for plumbing and heating contractors going

vidual components with varying levels of "stand-alone"-type controls. These controls are intended to moderate a specific application or purpose (e.g., resetting a boiler, controlling a mixing device, etc.)

But while a boiler, pump or furnace might contain individual efficiencies, there are even greater

The Uponor Climate Control Network™ System: A former contractor offers his point of view

"Far and away, the biggest selling point for contractors is its flexibility," said former heating contractor Alen Frandsen of the Uponor Climate Control Network™ System, an integrated computer hardware and software package that connects all of a building's heating, ventilation and air-conditioning systems to a single network control system.

The Utah native, who spent the past 13 years working as a hydronics installer, recently joined Uponor as a controls specialist, helping users leverage all of the smart controller's available efficiencies.

"I've had great success with other controllers, but the Climate Control Network is easily the most convenient and flexible controller I've found," Frandsen remarked. "Most manufacturers prescribe how to build a mechanical system to operate within the parameters of their controllers. Uponor has built a controller flexible enough to accommodate any application parameters."

According to Frandsen, tasks such as wiring can be handled twice as fast with the Climate Control Network. "Take the example of an incorrectly labeled thermostat," he commented. "With a standard controller, you'd have to physically rewire it; with a smart controller, you'd make the change via software from your office."

Energy-efficient applications also benefit significantly from intelligent control technology. Frandsen points to a solar thermal storage tank whose contents may not be quite warm enough to heat a particular zone.

"Today's smart controls would maximize the 'free' warm water from the solar storage tank by adding heat from the boiler to reach the desired temperature," he explained. "Traditional controls would completely discount the heat value in the storage tank water. Instead, they would rely exclusively on the system's (much more expensive) boiler to heat the zone."

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You will sleep well tonight knowing you are protected by the Max.

For more information on the Home Guard Max, and other Zoeller Pump Company products, please visit www.zoeller.com.



PUMP COMPANY

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Smart controls+hydronics = energy saving comfort

(Continued from page 40.)

controls (DDC).

“The clear choice,” Wiedemann continued, “is the new generation of HVAC controls that can detect all the available heating devices in a home and automatically select the

controls can maximize efficiency by intuitively managing the various temperatures in the space and in the systems, as well as managing the power and fuel consumption.”

Consider a mixing function for which the controller must determine the optimal water temperature. Instead of basing this decision solely on one input (e.g., the outdoor air temperature), today’s newer controls leverage multiple data points (outdoor temperature, supply water temperature, valve position, pump speed, etc.) in order to supply the lowest — that is, the most efficient — water temperature necessary.

In addition to conserving power and leveraging data to make informed decisions, today’s sophisticated HVAC controllers are able to maximize the energy savings associated with variable speed outputs,

or ECMS (Electronically Controlled Motors). In other words, why operate a pump at full power,



Uponor’s Climate Control Network System is an integrated computer hardware and software package that connects all of a home’s or building’s HVAC systems to a single network control system.

one with the lowest possible energy consumption.”

That’s not to say that smart controllers solve all HVAC problems.

“Contractors still need to understand the mechanics behind smart control technology,” said Dave Yates, president of York, Pa.-based F.W. Behler, Inc. “For example, an apartment complex I visited last week had two efficient boilers, but the contractors didn’t install an outdoor temperature sensor to allow the boilers’ internal diagnostics to operate efficiently. As a result, the system was running at only 87% efficiency instead of 95%. We must not miss the low-hanging fruit in our attempt to reach the top of the tree.”

Manage energy — automatically

Energy efficiency is achieved through both electromechanical solutions (e.g., valves, dampers, pumps), as well as power and fuel conservation, said engineering technologist Bean. “Working alongside a radiant-based HVAC system, smart

if a task can be achieved with just 30% of full capacity?”

Noted Yates: “My home’s hydronic variable speed circulators utilize ECM motors with inverter variable-speed technology that, combined with my three-watt zone valves, have slashed my thermal-transfer power consumption by more than 90%.”

And today’s smart controllers do just that, right out of the box. From one central control, contractors are able to control two stages of heating, two stages of cooling and supplemental heating, as well as allow changes to room set-point temperatures and humidity set points, while also controlling the fan and heat recovery ventilator (HRV).

The control technology is so broad, in fact, that contractors and design engineers are now able to consider total system efficiency, instead of focusing on individual contributors, said the RPA’s Lowe.

“It’s like saying that a home is well insulated, but has poor-quality

windows,” said Lowe. “You can’t separate the two, because they both contribute to energy usage and homeowner comfort. Moreover, from an energy standpoint, systems are only as efficient as the controls, and poor controls waste energy, increase life cycle costs and reduce occupant comfort.”

Always watching

Bean noted that smart controls can serve as the contractor’s permanent on-site manager. “When properly applied, these controls can reduce the field technician’s on-site time in commissioning, operation and maintenance,” said Bean. “They can also serve as an early warning system for component failures or to help optimize energy use.”

Uponor’s Wiedemann agreed and pointed to a popular feature on his company’s Climate Control Network that permits a service contractor to monitor a customer’s network online, while making rapid-response changes to meet comfort needs.

“A service tech could conceivably know about a service issue — via cell phone or e-mail alert — before the occupants do,” Wiedemann remarked. “This, in turn, eliminates the inconvenience and hassle of having to make a separate service call and greatly boosts customer satisfaction levels.”

This new generation of smart HVAC controls simplifies integration, monitoring and maintenance of different systems, while yielding better energy efficiency and, ultimately, better occupant comfort and convenience.

Some additional “smart control” features include:

- Scalability: The flexibility of these modular control systems enables plumbing and heating contractors to accommodate any size HVAC system and to incorporate additional elements down the road.

- Accessibility: To view or change system status remotely, users can access their centralized controller via laptop or smart phone.

- Trends-monitoring: The ability to sample, store and read trends enables users to fine-tune system efficiency, as well as troubleshoot potential problem areas.

- Master-passing: Smart controls offer the ability to transfer system command to any thermostat within a system.

While most HVAC systems are de-



“I’ve had great success with other controllers, but the Climate Control Network is easily the most convenient and flexible

controller I’ve found,” said Alen Frandsen, who recently joined Uponor as a controls specialist after spending the past 13 years working as a hydronics installer.

signed prior to construction, the scalable nature of smart controls make them ideally suited for new work, expansion projects, or to incorporate a greater level of control over existing mechanical systems. The modular nature of most smart control technology make these systems compat-



The Climate Control™ Network System integrates with Uponor’s proPANEL® pumping and mixing units to provide precise temperature control and energy efficiency for radiant heating and cooling systems.

ible with most budgets, as well as amenable to future changes.

Finally, contractors can leverage classroom and on-site training to get the most performance from their chosen control system. ■

Joel Williams has been a freelance writer for 18 years and has written extensively on new technologies, trends and product innovations for the home building and DIY marketplace. Joel can be reached at Joel_Williams@sbcglobal.net.



The simple, plug-and-play wiring design in the Uponor Climate Control™ Network System allows contractors to simply press and click to install various components, such as these pump relays.

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A contractor's guide to selecting drain cleaning tools

BY MARTY SILVERMAN

You are a professional plumbing contractor. You know that the best tool to clear a clogged kitchen sink is very different than the right tool to clear a main drain. But did you know that though one tool could be used to clear a sink, bathtub, and toilet, the best tool is different in each case?

And while many contractors use the same drain cleaning tool to clear a line clogged by debris and by grease, they really should be using two different tools. If you are using the same tool for both jobs, read on, and find out why using the best tool for each job will save you time and money.

Ask the right questions first

There are two primary ways to select the right tool for the job:

- Asking what type of drain it is
- Asking what type of clog it is

To determine the proper drain cleaning tool for your application, you must first locate the source of the problem. If the clog is in a small drain line, like the sink, basin, or laundry tub, then a hand-held machine or small floor model drain cleaner is the appropriate tool to use. If several drains are affected, the blockage is probably in the larger

Water jets vs. cable machines

Smaller electric water jets typically offer a maximum of 1500 psi at about 2 gpm. Trying to get more pressure from an electric motor runs the risk of pulling too many amps and popping circuit breakers. It is better to use a gas-powered jet. You get twice the pressure and twice the flow rate of electric jets. This gives you the thrust to pull the hose down long runs, the pressure to break up stubborn stoppages, and the water flow to flush them away. Gas-powered jets can clear indoor 2" to 4" drain lines by using the portable reels that detach from the machine.

However, portable water jets are not effective for clearing tree roots or retrieving objects from a line. Stay with cable machines when the job calls for cutting roots or retrieving debris.



Cable machines are the ideal tools to cut and clear tree roots and other difficult obstructions. Heavy duty machines with large diameter, durable cables are just the tool to clear tough stoppages.

line common to those drains. If this is the case, a larger floor model drain cleaning machine is the right tool for the job.

What type of drain is it?

Sinks, laundry tubs, roof vents

If you are clearing small diameter drain lines (1 $\frac{1}{4}$ " to 3") you can use machines that use smaller diameter cables. Hand-held models that carry $\frac{1}{4}$ ", $\frac{5}{16}$ " or $\frac{3}{8}$ " cables are best suited for this application. (See Cable Application Chart) The small diameter cables are flexible enough to get around the tight bends. It is easier on the cables if you remove the P-trap under the sink rather than wrestle your way past it with a snake.

Bathtubs and showers

The best tool for clearing a clogged or slow-draining tub is a Water Ram. Tubs often drain through drum traps that are very difficult to get through with a cable. The Water Ram uses a burst of compressed air to create a shock wave that follows the path of the water and isn't affected by tight bends and narrow lines. It travels down the line and knocks out the stoppage without harming the pipes. The Water Ram also works well on trailer homes that can be difficult to clear using cables because they have narrow drain lines with tight bends.

Toilets and urinals

The best tool for clearing a clogged toilet is the closet auger. No other tool in your arsenal will go through the bowl as quickly and easily. The

spring is flexible enough to get through the tight bends in the bowl. Some come with a down head that helps guide the cable around tight bends in older bowls. Most low-flow bowls are easier to get through with a regular spring head.

Consider a telescoping auger. If

In order to choose the right tool for the job, it is important to know what stoppage you are up against. Both cable machines and high-pressure water jets provide the power needed to clear a stoppage, whether it is grease, sand, ice, or heavy stoppages like tree roots.

you've ever had to remove a bowl because the stoppage was just beyond it, you'll know why. The telescoping augers hide an extra 3 feet of cable in the handle. When you need it, just push a button and it slides right out.

The tight bends of a urinal are particularly vexing. Getting a urinal auger just for this purpose will make your life much easier. But remember, the more flexible the snake, the less durable it usually is.

Small floor drains and clean-outs

For clearing 2" to 4" drain lines (but not tree roots) you can use a $\frac{3}{8}$ " or $\frac{1}{2}$ " cable. There are many machines available in this range. Some feature variable speed power cable feeds to make the job faster. Others offer wheels and folding handles. (Turn to Choosing... page 46.)

Drum-Type Cable Application Chart

Cable Size	Drain Line Size	Typical Applications
$\frac{1}{4}$ "	1- $\frac{1}{4}$ " to 2"	Small lines, tub, and shower drains
$\frac{5}{16}$ "	1- $\frac{1}{2}$ " to 2"	Sinks, basins, and small drains
$\frac{3}{8}$ "	2" to 3"	Stacks, laundry lines, and small drains
$\frac{1}{2}$ "	3" to 4"	Roof stacks and small floor drains (No Roots)
$\frac{5}{8}$ "	3" to 6"	Floor drains, cleanouts, and tree roots
$\frac{3}{4}$ "	4" to 10"	Large drains, long runs, and tree roots



Hand-held models are best for clearing small diameter drain lines.

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Choosing the right drain cleaning equipment

(Continued from page 44.)

dles to get to and from the job easier. Choose one that has enough cable capacity for most of the jobs you'll encounter.

Floor drains and main lines

Heavy duty machines with large diameter, durable cables are needed to clear tough stoppages and tree roots. A smaller diameter cable does not have the torque needed to cut

advantage of being lightweight. The cables are carried separately from the machine as 7.5, 8, 10, or 15 ft. sections. No need to carry the weight of 100 feet of cable when the job only calls for 50 feet. Once on the job, the cables are feed into the line one section at a time and coupled together as needed. The open coil design of the sectional cable helps corkscrew the cable down the

stitutions where grease clogs are a constant problem, water jets are the tool to use.

They are ideal for clearing grease, sand, ice, and other soft stoppages from drain lines that cable machines have a hard time clearing. Jets use a stream of high-pressure water that hits the stoppage and flushes it away. The thrust of the nozzle drives the hose down the

If the clog is in a small drain line...a hand-held machine or small floor model drain cleaner is the appropriate tool. If several drains are affected, the blockage is probably in the larger common line. A larger floor model drain cleaning machine is the right tool for the job.

Drum-type machines [are] self-contained, fast, and easy to operate. The entire length of cable is contained in one drum and can be transported in a single trip to the job site. Most machines come with large wheels, stair climbers and a truck loading wheel to make getting the machine to and from the job easier.

through roots. Two types of machines are available — drum-type and sectional. Each has advantages.

Advantages of drum-type drain cleaning machines

Drum-type machines have the advantage of being self-contained, fast, and easy to operate. The entire length of cable is contained in one drum and can be transported in a single trip to the job site. Most machines come with large wheels, stair climbers and a truck loading wheel to make getting the machine to and from the job easier. A variable speed automatic feed, feeding at a rate of up to 20 ft/min, makes it easier for the operator to get the cable to the clog quickly. It also helps to retract the cable more easily. A 100 foot cable can weight 100 lbs.

Advantages of sectional drain cleaning machines

Sectional drain cleaners have the

line, making it easier to clear longer runs. And if a sectional cable is ever damaged, it can easily be uncoupled and replaced.

What type of stoppage is it?

In order to choose the right tool for the job, it is important to know what stoppage you are up against. Both cable machines and high-pressure water jets provide the power needed to clear a stoppage, whether it is grease, sand, ice, or heavy stoppages like tree roots.

Tree roots

Cable machines, both drum-type and sectional, are the ideal tools to cut and clear tree roots and other difficult obstructions. Use a larger diameter cable that has the torque to cut tree roots. (See Cable Application Chart)

Grease

For restaurants, factories and in-



A water ram quickly clears clogged or slow-draining lavs and tubs, which often drain through drum traps that resist cable cleaners.

line and gives you wall-to-wall cleaning action. (See water jets vs. cable machines)

Foreign objects

To retrieve objects, rags, children's toys, broken cables, etc, cable machines are the best tool to use. Begin by choosing the size of your drain line to find the right cable machine for your application. (See Cable Application Chart) Closet augers work well retrieving diapers from the toilet. In other lines, there are a variety of retrieving tools available to attach to the end of the cable for this purpose.

Sand, mud

Water jets are ideal for clearing sand, mud, and debris-choked lines, as well as grease, ice, and other soft stoppages from drain lines.

Debris

Debris blockages can range from hair, soap, and scale in smaller lines, to tree roots, clippings and gravel in larger drain lines. Cable drain clean-

ers are required to clear debris choked lines. Two types of machines are available — drum-type and sectional. (See Drum vs. Sectional Comparison chart)

Ice

Water jets are a great tool for clearing lines clogged with ice. They work well in both plastic and metal pipe. The larger gasoline-powered jets can clear a foot of ice per minute in a 4" line.

Choosing the right tool makes you money

Asking the right questions will help you chose the right tool. Choosing the right tool for the job will clear the line faster. It will also reduce your maintenance expenses from using the wrong tool at the wrong time, make your job easier, and make you more money. ■

Marty Silverman is VP of marketing for General Pipe Cleaners.

Advantages of Drum Type Machines	Advantages of Sectional Machines
Completely self-contained	Lighter weight — Machine and cables carried separately
Cleaner operation with wet cables contained in drum.	Sectional cable corkscrews into pipe to more easily clear longer lines.
Easier operation with automatic feed.	Damaged cables will not stop a job. Sections can be coupled and uncoupled as needed.

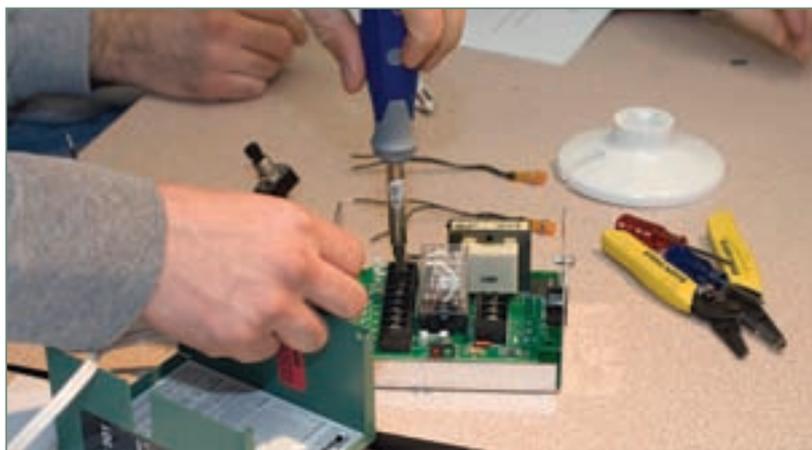
Sectional Cable Application Chart		
Cable Size	Drain Line Size	Typical Applications
5/8"	2" to 3"	Sinks, stacks, and small drains
7/8"	3" to 4"	Mid-size drains and long runs
1-1/4"	3" to 10"	Large lines, long runs, and tree roots

Jet Hose Application Chart		
Hose Size	Pipe Size	Typical Applications
1/8"	1-1/2" to 2"	Small lines, sinks, and tight bends
1/4"	2" to 4"	Sinks, laundry lines, and clean-outs
3/8"	4" to 8"	Floor drains, septic lines, and long runs
1/2"	4" to 10"	Sewer mains and manholes

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FEB 25-26	Hydronic Heat Loss and Design (HHD)	Learn simple strategies to improve any system by adding reset controls to existing cast iron boilers, adding motorized reset valves to mod-con boilers PLUS a whole lot more! Includes an introduction to Taco's new iWorx web-based system controls for residential applications. (CBR is a prerequisite)
MAR 11-12	"Compleat" Boiler Room (CBR)	See above
MAR 25-26	Hydronic Control Strategies (HCS)	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 8-9	"Compleat" Boiler Room (CBR)	See above
APR 22-23	Hydronic Control Strategies (HCS)	See above
JUNE 24-25	"Compleat" Boiler Room (CBR)	See above
JUL 8-9	Hydronic Heat Loss and Design (HHD)	See above
SEPT 23-24	Hydronic Control Strategies (HCS)	See above
OCT 21-22	"Compleat" Boiler Room (CBR)	See above



New this year are several "Off-Campus" locations:

Minneapolis:

April 15-16 CBR
 May 13-14 HCS
 May 20-21 HHD
 June 17-18 CBR

Denver:

June 10-11 CBR
 August 5-6 HCS
 Sept 9-10 HHD

New Jersey:

July 29-30 CBR
 August 19-20 HCS

Philadelphia:

Oct 7-8 CBR

Integrated heat pump water heaters

Fast-emerging technology offers double the energy efficiency with no tradeoffs in consumer comfort

BY TOMMY OLSEN

Over the past 10 years, the water heater industry has seen many advances in technology, delivering higher performance and greater efficiencies: flammable vapor ignition resistance (FVIR), tankless gas, high-efficiency gas units, power direct vent, and enhanced solar products — just to name a few of the innovations.

However, outside of the performance requirements of NAECA II (National Appliance Energy Conservation Act of 2004), little has changed with regard to electric water heaters — until now. Energy-saving, fully integrated, heat pump water heater (HPWH) technology is now readily available, offering more than twice the efficiency of a conventional electric water heater.

While the heat pump concept itself is far from new, the integration of a heat pump, a hot-water storage tank and backup electric elements into the same appliance package is a significant step forward. A new generation of HPWH products incorporates features that boost performance to Energy Star® levels, reducing energy costs and dramatically shrinking a household's carbon footprint.

But it may surprise you that, even with these advances, the operation of an HPWH is not all that compli-

cated, as compared with that of a conventional unit.

How an integrated HPWH works

Based on the simple principle that cold absorbs heat, an integrated HPWH operates follows a four-step process:

1. Refrigerant, such as R410A, circulates through an evaporator coil and absorbs heat from the atmosphere.
2. The refrigerant is compressed to increase its heat content...
3. ... and circulated through a heat-exchange process, where it transfers its heat to the cooler water in the storage tank.
4. Having shed its heat, the cooler refrigerant starts the process all over again.

HPWH design has more in common with your refrigerator than your HVAC (heating, ventilation and air conditioning) system. But to understand the concept of heat pumps, imagine a refrigerator working in reverse:

- A refrigerator removes heat from an enclosed box and expels it to the surrounding air.
- An HPWH takes heat from the surrounding air and transfers it to water in an enclosed tank. Cool air is expelled into the atmosphere.

Myths vs. facts

Heat pump water heating technol-

ogy remains relatively new and unfamiliar to most contractors and their customers, so misinformation and misperceptions are inevitable. With time and usage, these mistaken ideas will fade. But let's accelerate the education process by using the rest of this article to take a closer look at 10 of the most prevalent misconceptions:

Myth: A heat pump water heater will replace a home/light residential heat pump air handler.

Fact: A HPWH is designed as a standalone water-heating product. It does not replace your heat pump HVAC system. The two are separate pieces of equipment and serve two distinct functions.

Myth: I'll have to wait longer for hot water with an HPWH.

Fact: An HPWH performs in the same manner as your current 50-gallon electric water heater, but at less than half the operating cost. For example, with its first hour rating of 67 gallons and a recovery rate of 21 gallons per hour @ 90°F rise in temperature, the Rheem HP-50 Heat Pump Water Heater, for example, requires no lifestyle changes for the consumer. As an added feature, the unit can be set to deliver the same performance as a 65-gallon electric water heater.

Myth: A HPWH is more complicated to install.

Fact: HPWHs require virtually the same installation procedures

as any other tank-type electric water heater. The only additional item is a condensate drain connection. That's because, as an HPWH removes heat from the atmosphere, it generates moisture — or condensate — that must be collected and sent to a drain. This condensate is much like the water droplets that form on a cold drinking glass on a warm day.

(Turn to Heat Pumps, page 50.)

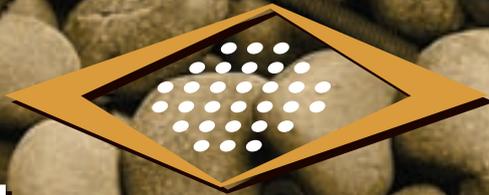


How the Rheem Heat Pump Water Heater Works

In "Energy Saver" mode, this water heater's high-efficiency heat pump operates automatically for hot water storage in this sequence:

1. A fan pulls air through the top air filter.
2. Heat in the air is absorbed by eco-friendly refrigerant inside the evaporator coil and cool (dehumidified) air is exhausted.
3. Refrigerant is pumped through a compressor, which increases the temperature.
4. Simultaneously, the cooler water from the bottom of the tank is pumped to the top of the appliance, where it circulates through a patented condenser coil.
5. Hot refrigerant transfers its heat to the water inside the condenser coil.
6. Heated water is returned back to the top of the tank.
7. All functions are controlled simultaneously by an advanced circuit board located behind the user touchpad.
8. Condensate drain connection.
9. Backup electric heating elements.

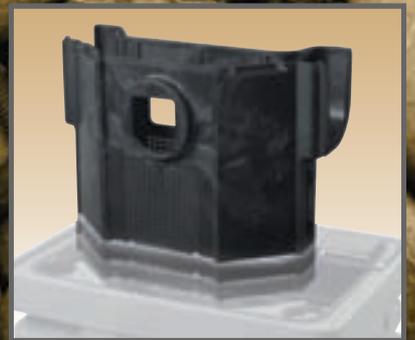
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Heat pump water heaters offer efficiency

(Continued from page 48.)

Myth: If the HPWH draws moisture from the atmosphere, I don't need a dehumidifier any more.

Fact: Since an HPWH operates only when there is a demand for domestic hot water — operating no more than four hours daily in a typical

home — long-term humidity control is best served by products specifically designed to control humidity.

Myth: HPWHs require specialized maintenance.

Fact: Basic water heater maintenance is pretty much all that is necessary: annual flushing of the tank,

periodic inspection of the T&P valve, water and electric connections. The lone additional servicing step involves periodic inspection of a reusable air filter in the heat pump section of the unit. To remove dust and lint buildup, simply wash the filter with a little soap and water.

Myth: A HPWH can be installed in a closet.

Fact: Probably not — unless that closet is a very large, walk-in type. HPWHs require approximately 1,000 cubic feet of ambient (unconditioned air) to operate properly. This is an area measuring roughly 10-foot 5 10-foot 5 10-foot. Ideal installation locations are attics, garages and basements.

Myth: I'll need to hire an HVAC technician to install and service the water heater.

Fact: HPWHs are delivered as fully charged, sealed systems — just like refrigerators and room air conditioners. As a result, an HVAC technician is not needed in the installation process.

Myth: If it gets too cold, my HPWH won't have enough warm air to operate.

Fact: Not so. For example, the Rheem HP-50 will continue to draw warmth from the air when the indoor, ambient temperature falls as low as 40°F. Should the indoor temperature at the installed location drop below that level, the HP-50 will continue to supply hot water using two conventional electric elements. Once the ambient temperature rises above 40°F again, heat pump operation will resume.

Myth: I can use my HPWH to cool my attic, garage or basement.

Fact: While operating, a HPWH will emit cool air from the heat exchange process; however, just as your refrigerator will not generate enough heat to warm your kitchen on a cold day, an integrated HPWH will not operate enough hours in a day for long-term cooling benefits.

Myth: Heat pumps water heaters are loud.

Fact: The Rheem HP-50 with its whisper-quiet fan operates at less than 49 decibels. Normal conversation is 65 decibels.

Improvements to come

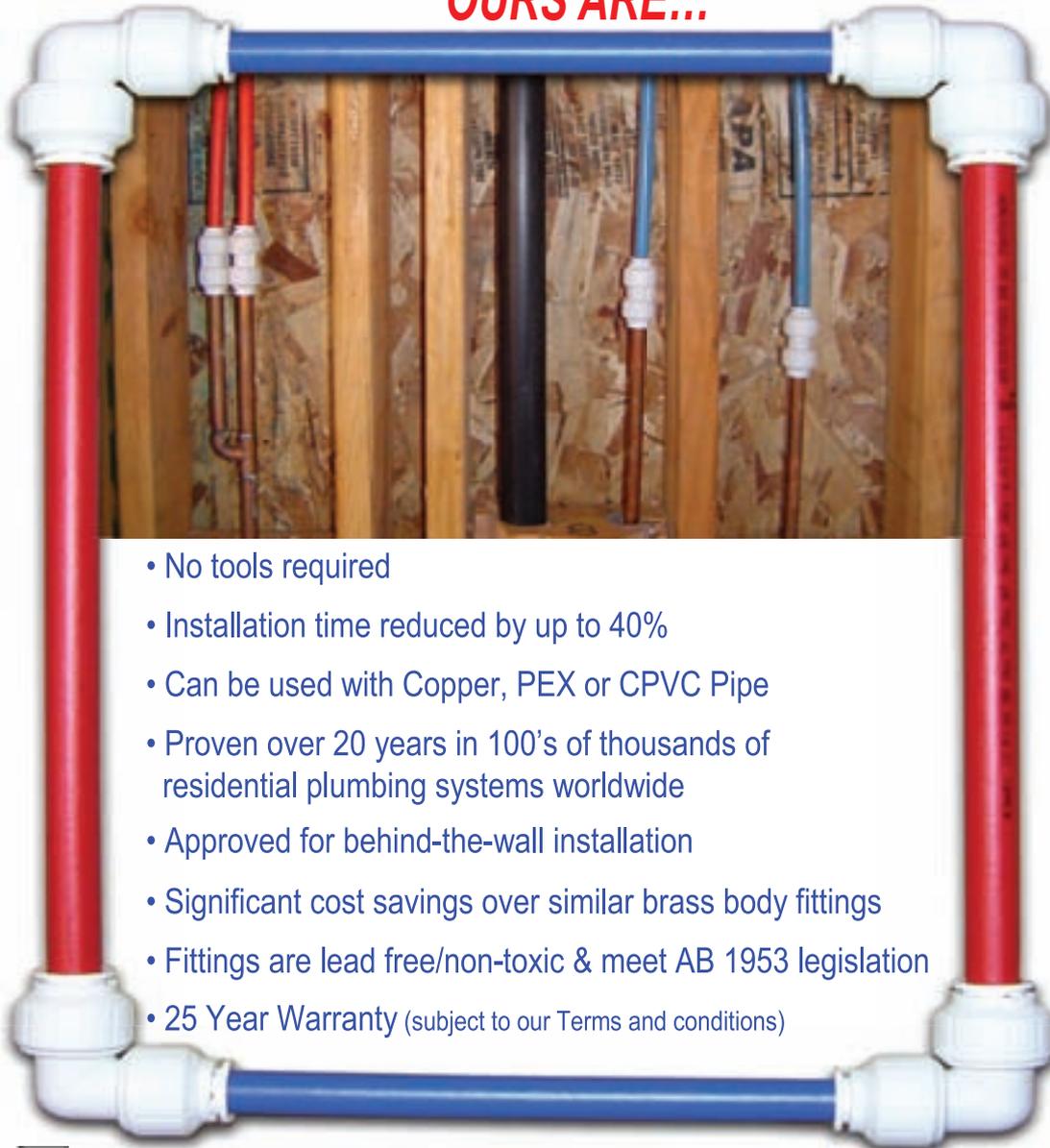
Current HPWH technology is just the beginning, as manufacturers work to maximize water heater performance, energy efficiency and customer payback. As improvements come on stream, you can expect to see units with higher storage capacities, higher kilowatt-hour inputs and even faster first-hour recoveries.

In short, heat pump water heating is a technology whose time has definitely come. ■

Tommy Olsen is a product manager at Rheem Water Heating in Montgomery, Alabama. Email him at: tommy.olsen@rheem.com.



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Bradford White ICON System™ introduces accessory packages

AMBLER, PA. — Bradford White Water Heaters recently introduced their new Bradford White ICON System™ Accessory Packages. The new accessory packages work in conjunction with the company's recently introduced ICON System gas control to provide homeowners with additional benefits such as comprehensive leak protection and better, more energy efficient performance including up to 36% savings on energy usage and an increase in usable hot water by as

K•BIS features innovative products, educational sessions & networking opportunities

ATLANTA — Now in its 47th year as the world's largest international trade show event dedicated to its industry, the Kitchen & Bath Industry Show (KBIS) will be held at McCormick Place in Chicago on April 16-18, 2010. Owned by the National Kitchen and Bath Association (NKBA), sponsored by *Kitchen and Bath Business (K+BB)* magazine, the show is expected to draw more than 30,000 attendees, along with nearly 700 exhibitors made up of the largest kitchen and bath manufacturers in the world.

The must-attend event brings together the industry's top dealers, designers, builders, remodelers, retailers, and other professionals directly involved in the design and remodel of residential kitchens and bathrooms. The nearly 350,000-square-foot expo space at KBIS is complemented by a full conference program.

Among the nearly 30 educational programs, some key topics and presenters include: "The Green Competitive Edge" led by Jack Thomasson, host of HGTV's *Dream Home* and *Green Home*, who demystifies the green trend and shares tips for incorporating eco-friendly components into great home designs; the Builders/Remodelers Seminar led by Bill Rancic, the first winner of NBC's *The Apprentice*, who will use his entrepreneurial insight to discuss how builders and remodelers can succeed in business and life; and David Kohler, president and chief operating officer of Kohler Co., who will provide the State of the Industry Address and an overview of product design, technology, and sustainable design in his presentation titled, "The Road Ahead for the Industry."

much as 50% or more.

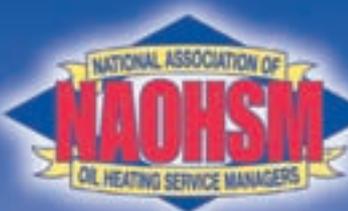
The packages include a fully programmable 7-day, 4-period/day LCD digital control that can be attached to the water heater or mounted remotely throughout the house, leak

detection that includes an audible alarm and optional automatic cold water shut off valve, and an



enhanced integrated mixing device with multiple optional water connections that is quick and easy to install.

For more details and to watch a video about the new Bradford White ICON System™ Accessory Packages, please visit www.bradfordwhite.com.



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Circle 37 on Reader Reply Card

Air & dirt separator up to challenge of hotel's iron oxide problem

In the hotel business the most common guest complaint is over room comfort, specifically air conditioning. Described as being a “killer” in customer satisfaction indexes, this is exactly what happened when the Renaissance Providence Hotel, an upscale brand of the Marriott family of properties, opened its doors in the summer of 2007. Developed and operated by Sage Hospitality of Denver, the hotel has an HVAC system based on the Taco LoadMatch®-IEC fan-coil single pipe system. With two Taco circulators per fan coil, there are 544 installed LoadMatch circulators for the hotel's 272 rooms.

Affected rooms, normally cooled to 72°F dry bulb and 58°F in sum-

Beretta, the hotel's director of engineering, it was a “challenging situation” for a brand new hotel.

Having been called in on the problem, Taco LoadMatch experts led by Greg Cunniff, P.E., Taco's applications engineering manager, had a solution in mind. Greg felt that the common standard type air separators installed in both the cooling and heating mechanical rooms were inadequate for a problem of this magnitude. Initial tests on system water indicated that the gunk could be micro-biological induced corrosion (MIC) that was causing a galvanic corrosion process in the hotel's piping system. It was necessary to purge the system of the oxygen that the microbes were living



The renovated, 277-room Renaissance Providence Hotel suffered from air in the hydronic piping system, which led to micro-biological induced corrosion that was causing a galvanic corrosion process in the piping.



Steve Beretta, the hotel's Director of Engineering, holds a beaker full of the crud and gunk that collected in the new hotel's hydronic piping, and compares it to the clean, oxygen-starved water from the system after installing Taco's 4900-AD separators.

mer, were stuck at 75°F dry bulb and a humid 64° wet bulb, and guests, making their first stays in the renovated property, were not happy. In order to restore comfort for the guests, the hotel's engineering department faced the daunting task of cleaning and/or replacing a high number of system components.

The underlying problem was air in the hydronic piping system and, more specifically, the development of corrosive iron oxide created by the oxygen present. (The hotel's domestic water was never affected.) In draining system water in weekly cleanings, a high degree of sediment was found to be present. The big question then was how to get rid of the air and the associated gunk by purging the system, and how to do that without shutting down the hotel in the process. According to Steve

off and creating the iron oxide corrosion problem.

Draining the entire system and then flushing it with an acid solution would require shutting down the hotel for the duration of the work, a costly proposition and a potentially damaging one to the property's reputation. Cunniff suggested a different approach: Taco would replace the hotel's two air separators in separate off-season actions, starting with the chilled side. That way there would be limited complications and the least amount of affect on guests. What was needed was a more powerful separator, one with air and dirt elimination capabilities — Taco's 4900 Series, specifically the 4900-AD (Air & Dirt) model separator.

Introduced in 2005, the 4900 Series was designed for the complete elimination of air from closed loop

systems. The key to the 4900 Series' effectiveness is its use of patented stainless steel PALL rings. Pall ring technology is widely used in the processing industry to mix or separate gases from liquids. Using PALL rings in hydronic air separation allows removal of microbubbles, sand, dirt and rust. Air bubbles are separated by the PALL rings through a process known as coalescence; dirt particles are caught and sifted to the bottom of the tank, where they can be removed through a blowdown valve.

So convinced of their efficacy when it came to the Renaissance Providence Hotel problem, Taco donated two 4900-AD separators and helped install them in separate middle-of-the-night operations (again to minimize disruptions to hotel operations) in the spring of 2008 (for the chilled side) and then again in the

fall for the heating side. Once operational, the system water, now being starved of oxygen, began to show improvement right away, according to Steve Beretta. In four months' time the problem was gone and heating and chilled system water had turned clear and sediment free.

Having been in hundreds of mechanical rooms over a 40-year career in the hydronics industry, Taco's Greg Cunniff has only encountered about a dozen MIC-type situations. “It's a bit more common in fire protection systems than hydronic systems,” he says. In any event, Taco's 4900 Series Air & Dirt Separator demonstrated that it's up to the toughest air and dirt problems. ■

Information submitted by Taco, Inc. www.taco-hvac.com.



Taco's Greg Cunniff (left) explains to Steve Beretta the PALL ring technology that separates microbubbles, sand, dirt and rust from the water in the hydronic system, thereby preventing the growth of damaging microbes.

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Circle 33 on Reader Reply Card



Plumber's pad

Take the physical pain out of jobs with the award-winning Plumber's Pad. This ergonomically designed support pad and more on-the-job products for plumbers and HVAC professionals can be found on www.ergopads.com. The Plumber's Pad provides knee, back and head support to reduce strain and injuries. The Plumber's Pad is actually two pads: a 6-inch thick base pad for body support, and a foldable head pad that adjusts to cabinet openings and different spaces. Ergopads.com.

Circle 101 on Reader Reply Card

Shower drain

The low profile linear shower drain is clean and non-intrusive — the



outdated round center shower drain is no longer needed. Quick Drain is the lowest-profile bathroom and shower linear drain in the world. It is easy to clean and has a very high flow rate. Ease of installation keeps this shower drain in demand by home builders and contractors, as well as by discerning homeowners. Quick Drain USA.

Circle 102 on Reader Reply Card

Push Tite™ redesign

New version of the Push Tite™ closet flange features a one-piece molded flange and a newly designed,



three-fin elastomer gasket. Works with and install easily into any 4" pipe, including small I.D. cast iron. The gasket helps provide a positive seal on corroded or uneven pipe. Maintains a full 3" flow — unique in the industry. Sioux Chief Mfg.

Circle 103 on Reader Reply Card

★ Phc News product of the month ★



Solar X-Pump Block incorporates functions

The Solar SXPB combines a variable speed solar differential temperature control, bronze heat source and heat sink circulators, and a stainless steel flat plate heat exchanger into one compact package. Variable speed controls match solar collector output, a feature that increases system performance by 20%. With just four pipe connections, the installation is complete. Can be set up to maintain a temperature differential between the solar collector(s) and up to two primary and optional auxiliary storage tanks. The unit can support a booster pump as part of a drain-back system, comes with a heat dump option and freeze protection. A large LCD screen conveniently displays the amount of thermal energy harvested by the collector. Taco.

Circle 100 on Reader Reply Card



Flowban stops bathroom floods

Unlike other flood prevention devices, Flowban™ uses no electrical connections or batteries. Entirely mechanical operation; only three moving parts. Prevents floods by turning off the inlet so there is no wastage of water. Automatically resets when the faucets are turned off. Concealed behind bath panels; needs no service or maintenance. IAPMO approved. Great for commercial hotel and high-rise condominium projects where water damage can be costly. Flowban.

Circle 104 on Reader Reply Card

Novel potable circulator

The ecocirc® energy-efficient potable water recirculator pumps use unique technology to achieve significant energy savings while delivering instant hot water to every faucet. Electronically commutated motor (ECM) technology and spherical motor design eliminates the conventional shaft, seal and bearing assembly. The rotor/impeller is the only moving part and is magnetically balanced on a stationary ceramic bearing inside the housing for silent, long-lasting operation. No seals to leak. Available plug-in timer module adapts easily to all ecocirc circulators to convert the pump to a timer-controlled unit for even greater energy savings. ITT Bell & Gossett.

Circle 105 on Reader Reply Card



Preassembled sump pump system

The Pro Pak 53 is a preassembled sump pump system complete with company's Model 53 primary pump and Model 507 backup pump. Offers extra protection when the primary pump fails due to power outages with 7½ hours of continuous pumping on a fully charged battery. The Pro Pak 49 also is available, featuring a Model 49 primary pump. A three-year warranty is included on both systems. Zoeller Pump Co.

Circle 106 on Reader Reply Card

Ceramic tubs

The Zen bathtubs and lavatories are hand crafted in the Shigaraki region



of Japan, near Kyoto and will be sold semi-exclusively and exclusively to select showrooms in the U.S. Shigaraki dates to the medieval period and is one of the six ancient kilns of Japan. Aquapal USA.

Circle 107 on Reader Reply Card

Corrugated SS water heater connectors

New Series FFSS stainless steel corrugated water heater connectors are more flexible than comparable copper corrugated products and provide an easy, kink free installation every time.

These new connectors provide a built in dielectric sleeve to



negate the need for a separate dielectric union and are available with standard ¾" pipe thread connections in the popular lengths of 12", 15", 18" and 24". Max pressure: 125psi/8.62 bar, max temperature: 180°F/82° C. NSF and IAPMO listed. Watts.

Circle 108 on Reader Reply Card



Van lock protector

Lock Guard protects your external "hockey puck" padlocks from snow, ice, salt and road grime to prevent freezing, rusting and jamming up. Slips over the lock and attaches itself with five strong rare-earth magnets. To access the lock, simply pull it off and let it hang by its attached cable or stick it to the van door. Fits all round "hockey puck" locks on the market; made of high impact plastic and top quality materials for long service. **Reda Innovations.**

Circle 110 on Reader Reply Card

Detachable monitor borescope

The affordable BR200 and BR250 wireless video inspection borescope cameras access tight spots and can



record two GB of video or capture jpeg images. A detachable, wireless 3.5" color display allows users to position the borescope in a difficult location without losing sight of the display. The monitor can be handheld up to 30 ft. away or affixed to any metallic surface using its magnet mount. Has a 39" flexible cable. **Extech Instruments.**

Circle 111 on Reader Reply Card

Rotary hammer

The DH38YE2, 1 1/2" spline shank rotary hammer features more power, lighter weight, less vibration, lower noise than its predecessor. Compact, ergonomically designed to hammer or hammer/drill holes with 5.9 ft/lbs of impact energy

for fast drilling and chiseling. Full load speed of 510 rpm and impact rate of 2,800 bpm. Two modes of operation; has safety clutch. Soft elastomer handle provides a secure grip, absorbs vibration. Just over 16" in length, weighs only 14.1 lbs. **Hitachi Power Tools.**

Circle 112 on Reader Reply Card



★ Phc News tool of the month ★



SeeSnake® microDrain™ inspection system

The RIDGID SeeSnake® microDrain™ inspection system allows for quick inspection in places previously difficult to inspect, providing accessibility, efficiency and reduced job time. The compact microDrain inspection system features a 30-foot flexible cable and a small 22-millimeter diameter camera head that allows for access through many toilet traps and small P-traps without the need to disassemble or dismantle plumbing fixtures. **RIDGID.**

Circle 109 on Reader Reply Card



Cordless grease gun

Company expands its LITHIUM-ION system with the new M12™ cordless grease gun. With up to 25% more pressure and run-time than the competition, the 2446-21XC is capable of delivering over 8,000 PSI max operating pressure for heavy duty applications and dispenses up to seven grease cartridges per battery charge. **Milwaukee Electric Tool Corp.**

Circle 113 on Reader Reply Card

Video inspection systems

Seeker™ video inspection systems come equipped with a high-strength, "obedient," 39.4" camera-tipped



probe with built-in, adjustable LED lighting; a mirror, magnet and pick-up hook that can mount on the end of the probe; batteries; instruction manual and an impact-resistant carrying case. Probes start from 9.5 mm in diameter, and are water, oil and dust-proof. Users can record and transfer still images and video. **General Tools & Instruments.**

Circle 114 on Reader Reply Card

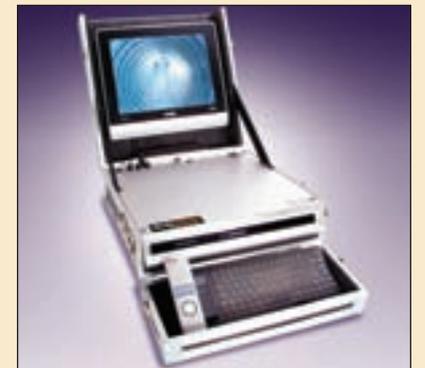
Lightweight corded drill

Rugged 1/2" drill weighs just 5.1 lbs, yet provides up to 248 in-lbs of torque. Ergonomic design and easily accessible trigger button. Has a 2-speed gearbox. Remove the chuck to access the drill's spindle with a hexagon recess that accepts screwdriver bits up to 1/4" for driving applications. Electronic speed control holds proper speed for conditions; available drill stand converts tool to portable drill press. **Metabo Corp.**

Circle 115 on Reader Reply Card

Inspection system

The Gen-Eye Spectra™ video inspection system troubleshoots 2" through 10" lines and features a 15"

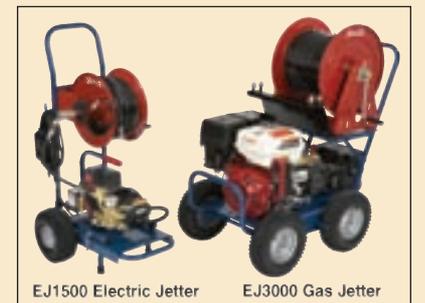


LCD monitor and self-leveling color camera. Record video to the hard drive, then copy to the DVD-R. Built-in AC/DC converter, digital locator, titler, tough keyboard, etc. Standard reels hold 200-, 300-, or 400-ft. rods. Mini Reels hold 100- or 200-ft. rods. **General Pipe Cleaners, a division of General Wire Spring Co.**

Circle 116 on Reader Reply Card

Electric and gas jetters

Eel Jet EJ1500 electric and EJ3000 gas jetters clean 1 1/2" to 8" drain lines with a fast blast through clogs. The 1.5 hp electric jetter cleans 1 1/2"



to 4" dia. with 1500 psi/1.7 gpm; duplex pump w/pulsation; reel capacity 150 ft. of 1/4" hose. The 13 hp gas jetter cleans 2" to 8" dia. lines up to 300 ft. with 3,000 psi/4.7 gpm; smooth, quiet running with pulsation. Automatic throttle; electric start available. **Electric Eel Mfg. Co., Inc.**

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Circle 34 on Reader Reply Card

Sloan names executive director of marketing for Sloan Valve

FRANKLIN PARK, ILL. — Sherry Davenport has been appointed executive director of marketing for Sloan Valve Company. The announcement was made by John Aykroyd, vice president of business development.



Davenport

Munters names industry sector mgr, North America

GLENDALE HEIGHTS, ILL. — Garrett Freeman has been named industry sector manager, North America for Moisture Control Services (MCS), a division of Munters AB. MCS' global

division offers temporary climate control solutions for construction, industrial, surface preparation and coating, and preservation applications as well complete services for water and fire damage restoration and remediation.



Freeman

MTI Whirlpools appoints president

ATLANTA — MTI Whirlpools announced it has appointed Russell Adams as president. Adams is currently vice president/business development



Adams

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of MTI and will take over all day-to-day responsibilities of the company. Kathy Adams, who has led the company since 1998 will transition to CEO.

Watts promotes LaCroix

NORTH ANDOVER, MASS. — Watts Water Technologies, Inc., announced that Chad LaCroix has been appointed to serve as the national market manager for its Watts brand brass & tubular products.



LaCroix

HTP names vice president, engineering

EAST FREETOWN, MASS. — Heat Transfer Products (HTP) president Dave Martin announced the appointment of Phillip W. Stephens to the newly created position of vice president, engineering. A licensed professional engineer, Stephens will oversee all research, design, development and testing activities for HTP products, reporting directly to Martin.



Stephens

Grundfos Pumps and Water Missions International collaborate

BJERRINGBRO, DENMARK — George Green III, Chairman and CEO of Water Missions International (WMI) and his son George Green IV, vice president, recently met with Grundfos leadership at the world headquarters of Grundfos Pumps, Corp. to explore new ideas to continue

bringing clean drinking water to impoverished peoples throughout the world. The two companies share a common vision in their humanitarian efforts to provide safe drinking water to poor villages.

For info on Grundfos Pumps, Corp., visit www.grundfos.us.

Delmar, DEWALT® release complete construction estimating handbook

CLIFTON PARK, N.Y. — Delmar, part of Cengage Learning and provider of learning solutions for ongoing career development and education, has released the DEWALT® Construction Estimating Complete Handbook for contracting professionals.

The comprehensive, concise handbook covers key factors including bid planning, scope review, quantity take-off for all trades and divisions, cost analysis, value engineering, Excel spreadsheet estimat-

ing tutorials and much more. Ideal for general contractors or construction managers who need knowledge of every trade involved on a jobsite.

The book focuses on straightforward, direct answers to on-the-job problems. Loaded with tips, checklists, worksheets and data tables, it provides readers with the tools they need to effectively navigate through every step of the estimating process.

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Can you really gauge an economy on the mend by trade show attendance?

BY JOHN MEISENBRINK,
editor

Let me just say that I am a big proponent of industry trade shows. Everyone needs to circle their calendars and attend at least one to two this year. I just returned from the AHR Show in Orlando and I thought it was a better-than-expected show in terms of networking, new product roll-outs and overall traffic numbers based on a comparison from last year's show. Still, the show looked down a bit from years past. Nonetheless, being at this latest trade show got me thinking: Does better trade show attendance reflect a rise in the economy? "We believe there is a direct correlation between the overall attendance at the show and the state of the economy. Larger cities like Chicago, for instance, are more conducive for international visitors," said Dennis F. Kloster, executive vice president and general manager, International Environmental Corporation.

At my many booth visits throughout the show, it was unanimous that this year's AHR Show was better than last and it was better than anyone had expected. And those who made the trip to the International Builders Show the week before were of the same mindset. "Perhaps this is a good indicator of things to come and attendance is representative of an uptick in the economy," I heard over and over again.

According to PR released from the AHR show, "Signs of a recovering economy was a key view from

many interviewed as to the main reason for the record-breaking number of attendees at the 2010 AHR Expo. Nearly 45,000 attendees and exhibitors filled the aisles during the three-day AHR Expo. The record-breaking attendance figures brought a tremendous crowd of contractors, engineers and other industry professionals to the show to see the newest and most innovative HVAC/R products."

John Barba, residential training/trade program manager, Taco, Inc., said, "Overall, the AHR was better than last year, when no one knew what to make of the economic crisis. With 2009 over, I noticed more traffic, and the heating customers who came all the way to Orlando were serious customers. Last year's show seemed 'light,' in terms of traffic, but the economic crisis was still new and folks may have been wary of spending money to attend a trade show. This year was noticeably better because we've been living with the economy for a year and have adjusted to it."

Some didn't see it quite the same way, however. According to Thomas C.E. Gervais, international sales manager for LAARS Heating Systems Co., "Booth traffic was lighter than in previous years, as I recall, but there was a steady presence of attendees at the booth. My view is that there were not many consulting engineers, at least not many that I talked to in comparison to previous years. Contractors mostly seemed to be from the Southeast, but there was varied attendance from wholesalers in terms of their geographic home



The 2010 AHR Show attendance was heavy early.

base. I think it was clear that attendance was lower due to challenging sales/mood from 2009."

As far as the trade show/economy debate, perhaps a more in-depth comparative analysis is needed. But let's face it, we are not out of the woods yet. "The state of our industry for 2010 should be flat to slightly better than it was in 2009. We are largely dependent on the aggressiveness of institutional lending as there are a large number of projects just waiting on funding," said Kloster. ■

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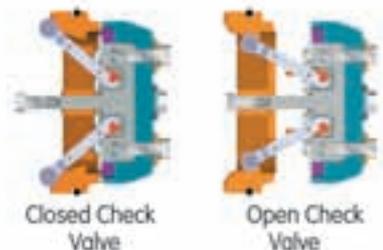
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