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Pump Innovations

july 2009
vol. 10, no. 7

Phc News

plumbing & hydronic contractor news

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Circle 1 on Reader Reply Card



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How It Works

Grease+Gard® uses a heater and belt technology to skim the grease out of the interceptor.

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The skimmer belt goes through the skimmer blades and wipes the grease off of the belt and gravity feeds the grease down the trough into the grease container.

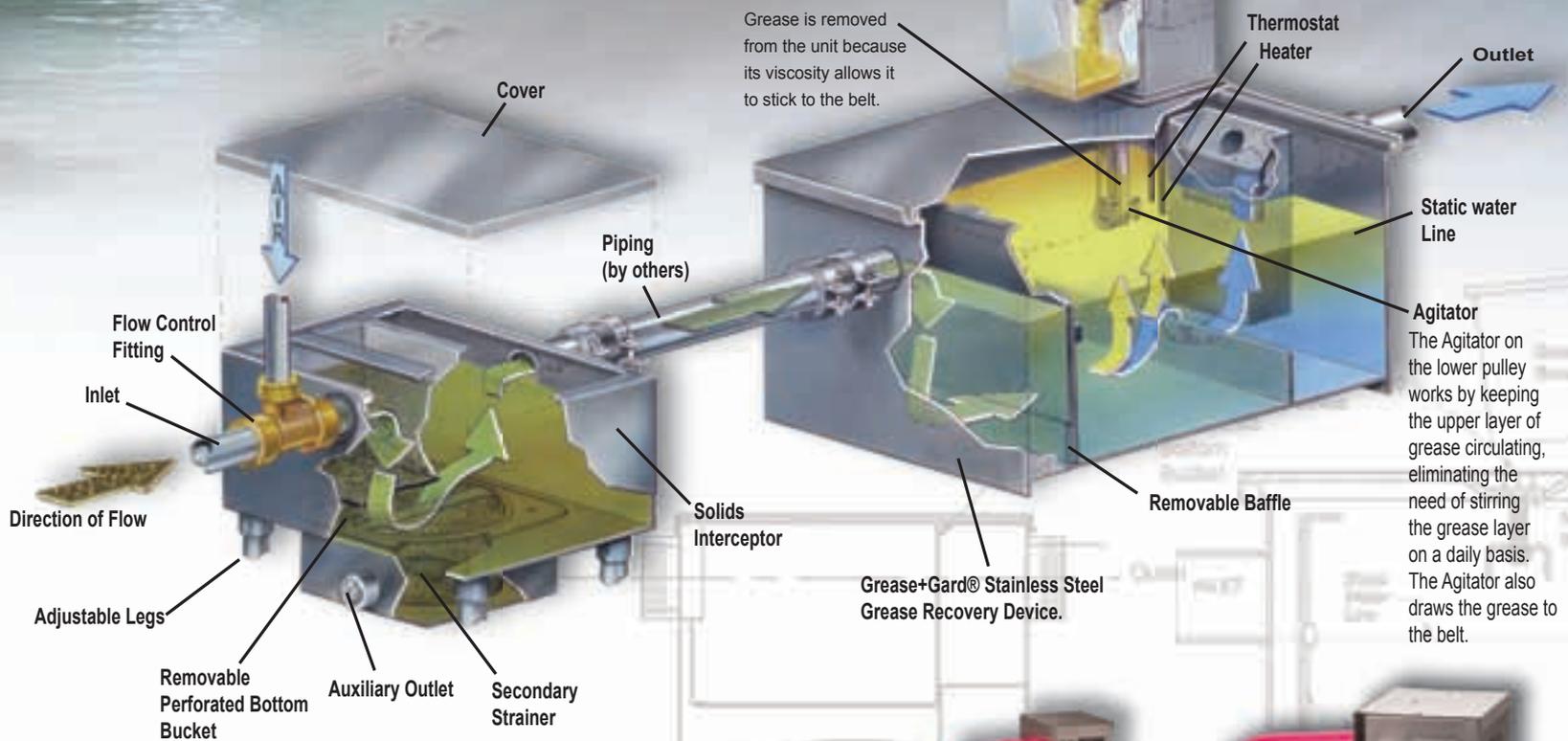
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Circle 2 on Reader Reply Card



On the Cover

Doug Kreifels, president of Lincoln, Neb.-based Action Plumbing & Heating, completes a connection at a Carrier water-to-water geothermal system at the all-geo Bridges development. The system uses the latent energy in decorative lakes to provide heat during cold months and to serve as a heat sink for geothermal A/C during warm weather. Story on page 46.

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The Bridges housing development wasn't planned as an environmentally-friendly, energy-efficient community, but the concept grew from the developer's desire to be green in all possible aspects. Geothermal systems were a perfect fit for the new venture.



Phc News

plumbing & hydronic contractor news

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TMB Publishing, Inc.

Tom M. Brown Jr., President



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Tool innovations — pg. 50

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IAPMO, GreenPlumbers USA collaborate

ONTARIO, CALIF. — The International Association of Plumbing and Mechanical Officials (IAPMO) and GreenPlumbers® USA have signed a Memorandum of Understanding (MoU) to establish a collaborative arrangement to enhance the technical content of GreenPlumbers' training and accreditation modules by extracting provisions contained within IAPMO's Uniform Codes. IAPMO and GreenPlumbers also will partner to develop additional programs and services that will advance the sustainability goals of both organizations.

Through the collaborative agreement, GreenPlumbers will adapt their training/accreditation modules to follow provisions as outlined by

the 2009 editions of IAPMO's Uniform Plumbing Code, Uniform Mechanical Code, Uniform Swimming Pool, Spa and Hot Tub Code, Uniform Solar Energy Code and the 2010 IAPMO Green Plumbing and Mechanical Code Supplement.

IAPMO and GreenPlumbers will also develop a Green Plumbing and Mechanical Inspector Certification Program derived from the Uniform Codes and the GreenPlumbers curriculum, with a target date for delivery in late 2009. GreenPlumbers has provided IAPMO with an exclusive Conservation/Foundation Partnership with regard to GreenPlumbers training and accreditation modules and programs.

Moving forward, the organizations will explore the feasibility of mutually creating an engineer/specifier certification module and training program.

"From its inception more than 80 years ago, IAPMO has embraced the conservation movement through its partnerships and provisions within its Uniform Codes," said Russ Chaney, IAPMO executive director. "The development of a Green Plumbing and Mechanical Certification program is an exciting next step in IAPMO's ongoing advancement of a sustainable environment and we are excited to work with GreenPlumbers on this progressive project."

Sioux Chief hosts emerging plumbers

PECULIAR, MO. — Sioux Chief Mfg Co., Inc., hosted nearly 100 plumbing students and their teachers to their facilities south of Kansas City, Mo. The SkillsUSA participants were able to experience first hand, the manufac-

turing capabilities and innovative processes that produce many of the top-quality products they install.

The 45th annual National Leadership and Skills Conference (NLSC) was again held in downtown Kansas City,

from June 21st through June 26th. SkillsUSA is a national organization serving teachers and students from high school and college, who are preparing for careers in technical, skilled and service occupations, including plumbing occupations.

More than 15,000 people — including students, teachers and business partners — participated in the week-long event. More than 5,000 outstanding career and technical education students competed hands-on in 91 different trade, technical and leadership fields. Sioux Chief congratulates all of the National Conference attendees as well as the champions for each field.



Ford's Transit Connect rolls through Chicago

CHICAGO — The Ford Motor Company is thinking innovation with its new Transit Connect line of commercial trucks. Recently, Ford visited Chicago on its marketing campaign and the editors of *Phc News* were on the scene. They were blown away by



the new design, engine power and technology. The new line offers features such as GPS and fleet tracker, in-dash access to remote computer hard drives and Internet, and an RFID tool tracker, to name a few.

Ford is tapping its global portfolio of products to meet the unique needs of American small-business owners with the 2010 Transit Connect, a spacious new fuel-efficient alternative to larger commercial vehicles that's ideal for navigating U.S. cities.

Ford Transit Connect is built on a dedicated front-wheel drive commercial vehicle platform to meet and exceed the needs of small-business owners and entrepreneurs. To prepare Transit Connect for United States duty, the powertrain was upgraded to include a proven Duratec 2.0-liter dual-overhead cam (DOHC) I-4 engine — giving 22 city, 25 highway miles per gallon — and a four-speed automatic overdrive transaxle.

As part of Ford's aggressive new electric vehicle plan to bring pure battery-powered vehicles, hybrids and plug-in hybrids to market, a battery electric-powered Transit Connect will be offered later in 2010. The Transit Connect battery electric vehicle will be the initial offering in Ford's recently announced electrification initiatives.

Ford Transit Connect can be adapted to individual business needs with the inclusion of Ford Work Solutions™. The "solutions" behind this system allow customers to:

- Run a business from inside the Transit Connect — right from the job site. An in-dash computer provides Internet access, productivity software and optional printing capabilities;
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- Track the fleet. Crew Chief™ is a tailored telematics service to monitor and manage small or large fleets.



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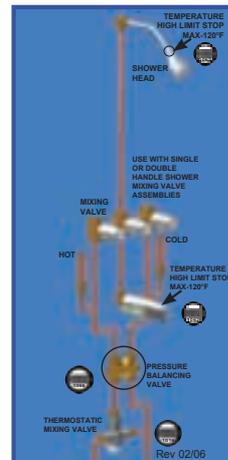
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Viega announces Climate Panel® promotion

MCPHERSON, KAN. — For a limited time only, Viega is offering contractors across the U.S. and Canada a promotion on Climate Panel orders. Climate Panels are a cost-effective

radiant heating solution, designed to go under any type of floor covering – hardwood, carpet, tile or vinyl. In this promotion, when a 1,000 square-foot (or larger) Climate Panel order is placed the contractor will receive a free bag of Viega's new $\frac{5}{16}$ " low-profile repair press couplings. With every eligible order, contractors can also receive a 35% discount on $\frac{5}{16}$ " Pextron® tubing. This limited time promotion runs 6/1/2009 until 9/31/2009 or until the supply of Viega Pextron tubing is no longer available. For additional information, visit your local wholesale location or contact Viega directly at 1-800-976-9819.



Rheem Canada consolidates all facilities

BRAMPTON, ONTARIO — Rheem Canada recently consolidated the physical operations of its three business units — Heating and Cooling, Water Heating, and Swimming Pool Heaters and Boilers marketed under the Rheem, Ruud, Raypak and WeatherKing labels — into a single headquarters and distribution center in Brampton, Ontario, a Toronto suburb. The relocation to the new

220,000-square-foot, two-story facility in the Churchill Business Park is designed to drive higher levels of customer service as well as operational efficiency.

With over 60 employees, Rheem Canada is now responsible for all operations and distribution under the leadership of Dave McPherson, general manager. In addition, the restructuring will set the stage for an enlargement of the heating, ventilation and air conditioning unit, according to Rheem Canada market manager Paul Gharghoury. "The HVAC expansion opportunity enables Rheem Canada to hire new employees and help stimulate the local job market," he commented.



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TOOL TIPS with Hackman



Hackman World Tour

In March of this year, I set out on an

adventure of a lifetime — The Hackman World Tour. The ultimate goal of the tour is to show the world the

extreme performance of new LENOX T2 Blade Technology recip and hacksaw blades, but it has also allowed me the chance to see the world and meet a lot of great people.

The tour kicked off at the LENOX plant in East Longmeadow, Mass. where I sliced a police cruiser in half in just over two minutes. This was my first cruiser and because police cars have a much stronger frame than typical cars, I thought it might take me longer, but it actually went very quickly.

From there, I headed to Fradley, England to cut a double-decker bus in half. This was quite a challenge! The bus we cut was a beauty; retired from years of service in film productions. Back in 1999, I cut a single bus in half at the Super Bowl, but the double-decker bus was a whole new beast. It took just 15 minutes and 48 seconds to cut the London bus in two. The bus at the Superbowl ended up taking much longer at 1 hour and 25 minutes and unfortunately, I have no one else to blame but myself for this. I was the one that decided it would be a good idea to cut it lengthwise! And back then, I didn't have cutting the advantages of the T2 blade technology.

After the UK, I made stops in Germany; New Orleans; Vancouver, BC; Minnesota and Japan. My next big iconic cut was in Manila, Philippines where I was scheduled to cut a Jeepney — one of the most popular means of transportation in the Philippines. This event was like no other that I've experienced in the 28 years that I've been cutting. The fans there made me feel like a rock star! The huge crowd that gathered at the Mall of Asia went crazy when I cut my way through the stage curtain to make my entrance. The event was nothing short of as Broadway show with pre-cut live entertainment including musicians, dancers and cutting contests to warm up the crowd. With their encouragement, I was able to make it through the Jeepney in 18 minutes and 3 seconds.

Yet to come, a Zamboni in Canada and many more stops throughout the U.S., South America and Europe. Thanks to modern technology, you can now follow me along with way. Become a LENOX Tools Facebook friend www.lenoxtools.com/facebook or a follower on Twitter www.twitter.com/lenoxtools to get updates on the tour. You can also check all of the cuts I have done throughout my 28-year cutting career at www.cutsomething.com or www.youtube.com/lenoxtools.

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Circle 9 on Reader Reply Card

Inside the trade

What we're hearing



Website launched for industry-wide training

LOVELAND, COLO. — On June 15, 2009, Teal International Corporation launched www.HEATlibrary.com, a website designed to share training and educational materials across corporate and association lines throughout the heating, ventilation, air conditioning, refrigeration and plumbing trades. The “HEAT” in heatlibrary.com is an acronym for HVACR&plumbing Education and Training. “Library” refers to an extensive database that will grow as educators, associations and institutions contribute materials.

“The HEAT Library is a culmination of over three years of development and consulting with HVACR and plumbing industry education providers,” said Lawrence Drake, Teal International Corporation

president and past executive director of the Radiant Panel Association. “For the 20 years I have been involved with trade associations, there has always been a struggle to find ways to cooperate and coordinate training between organizations. It seemed everyone thought it was a good idea, but the concept was seldom implemented. Now, with the power of the Internet and the digitizing of everything from text books to webinars, the HEAT Library provides a central repository for educational programs and materials from all segments of the heating and plumbing industry.”

With its advisory board made up of several top executives in HVACR and plumbing associations, trade publications and the professional ed-

ucator arena, the HEAT Library has its finger on the needs of the industry training world. Teal International Corporation says input of the advisory board and online forums will help keep the HEAT Library tuned to the needs of the industry.

Educators and education providers can become members of the HEAT Library for very little cost. As a member, they can upload an unlimited number of items into the database. These items include almost anything that can be put in digital form such as word documents, spread sheets, slide presentations, videos, e-books and so on. Even live webinars can be listed in the library with time and dates.

The member can restrict who will have access to their documents, such as trade associations, educational institutions, manufacturers, wholesalers or even specify other HEAT Library members by name. Members can also set a wholesale and retail price for each item, and

provide detailed descriptions with promotional materials.

Members may browse the library and choose items to offer through their own network. They simply select the item, print out the access information, and provide it to their customers. Their customers access the items through a special, customized portal page.

The HEAT Library also contains areas accessible to any visitor. The online retail store has many of the education and training items available for immediate download by anyone. Other features of the HEAT Library include a set of calendars that list local and national training events across North America, open forums where anyone can post a discussion on events, materials or industry education in general. The site also hosts full-featured webinar rooms that can be rented by the month.

“Our first big challenge is to stock the shelves, so to speak” said Drake. “Any organization, business or individual having educational materials to sell and/or share can become a member and upload items to the library.” The HEAT Library is offering a 90-day free trial to new members in order to build content in the library.

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New England	266.5	↑	New England	266.6	↑
Central Atlantic	266.8	↑	Central Atlantic	272.6	↑
Lower Atlantic	259.8	↑	Lower Atlantic	258.4	↑
Midwest	257.2	↓	Midwest	257.8	↑
Gulf Coast	251.6	↑	Gulf Coast	256.9	↑
Rocky Mountain	260.2	↑	Rocky Mountain	263.1	↑
West Coast	290.9	↑	West Coast	271.2	↑
California	298.4	↑	California	278.5	↑

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Prices valid as of 7/6/09. Fuel information courtesy of the U.S. Department of Energy <http://tonto.eia.doe.gov/oog/info/gdu/gasdiesel.asp>. Arrows indicate change from previous issue. * Copper prices according to NYMEX.com. ** Aluminum prices according to metalprices.com.



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Circle 10 on Reader Reply Card

Charlotte Pipe's cast iron chosen for new Yankees' and Mets' stadiums

CHARLOTTE, N.C. — In New York, you're either a Yankees' or a Mets' fan; there is no middle ground. And while the choice of a team can be divisive, there is one thing the new stadiums have in common — Charlotte Pipe and Foundry's cast iron pipe and fittings.

Cast iron has a long history in New York City. It is a strong, resilient product, having been in use, and, in some cases, still is in use for more than 100 years. It has many outstanding characteristics, including its unique resistance and sound abatement qualities. Also, it is made from 100% recycled content.

In addition to the plumbing, there are many great things about these stadiums. For instance, the new Yankee Stadium, which took a grander approach to design, houses a museum

and a multitude of luxury suites, some with tickets as high as \$2,500. The Mets' new park, Citi Field, took a more traditional approach, offering a nod to the old Brooklyn Dodgers and New York Giants stadiums. Part of this nod is the entrance, a rotunda inspired by Ebbets Field in Brooklyn that honors Jackie Robinson.

Charlotte Pipe and Foundry is the only manufacturer that offers a system of ABS, PVC, CPVC, cast iron, FlowGuard Gold®, and ChemDrain® pipe and fittings for residential and commercial plumbing systems and industrial applications. The nation's leading maker of cast iron and plastic pipe and fittings, Charlotte Pipe and Foundry offers the industry's broadest product offering of standard and specialty DWV products.

Charlotte Pipe and Foundry is headquartered in Charlotte, and has seven plant locations across the United States. Combining modern

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The modulating PID control has outdoor reset, indirect water heater priority (*boilers only*) and frost protection. It works with building automation systems and with other controls to become part of a multiple unit sequencing control.

When you put it all together, NeoTherm is everything a modern product should be... easy-to-use, easy on the environment, powerful and compact.



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Pumps power sustainable rainwater tank

WAUKESHA, WIS. — Last summer, the Metropolitan Builders Association, a non-for-profit trade association in Wisconsin, contracted with Herr Environmental, Inc. of Delafield, Wisconsin, to install an innovative rainwater system in the Association's Trend Home in Waukesha. The environmentally mindful Trend Home is a specially designed house that incorporates sustainable technologies that are assumed to be common in the year 2020.

The Trend Home's rainwater system is designed to capture rainwater from the roof and provide water for the lawn sprinkling system. The roof has a potential to generate more than 30,000 gallons of water during any year of average rainfall.

The Trend Home features a number of "Green" rainwater products installed by Herr Environmental. The products include a Goulds Pumps Model 1SC submersible water pump that will play a critical role in the home's rainwater system. Designed to capture rainwater from the roof and provide water for the lawn sprinkling system, the Trend Home's roof has the potential to generate over 30,000 gallons of water during any year of average rainfall.

In addition to the Goulds Model 1SC pump, the Trend Home's Rainwater system also uses an efficient Goulds variable speed drive pump controller, and a Goulds HydroPro V6P pressure tank. "Our company has used Goulds Pumps exclusively for many years," said Todd Stair, vice president of Herr Environmental, Inc. "Now with the new rainwater systems, the line of Goulds products we are using is expanding."

Following six weeks of public tours, the Trend Home is currently for sale. Once sold, \$200,000 will be donated to LaCasa de Esperanza, an organization that will train low-income workers in the construction in-

dustry. The remainder of the money will go to the Wisconsin Builders Association Foundation's scholarship fund to attract high quality students to a career in the trades.

The Trend Home features permeable pavement and other water science technologies that will preserve water resources. The home was con-



structed utilizing structured insulated panels, a tempered passive solar orientation, solar electrical generation, solar hot water heating, Energy Star® appliances, computer operated mechanicals, special windows and other building components.

At the heart of the rainwater system is the durable Goulds Pumps Model 1SC submersible water pump which features:

- Corrosion resistant case made of non-toxic, non-leaching materials;
- Impeller made of FDA-compliant, glass-filled Noryl®, which is corrosion and abrasion resistant;
- Mechanical seal with silicon/carbide sealing faces and stainless steel metal components running in a protected oil chamber;
- Stainless steel pump shaft and motor shell; and
- 1 1/4" NPT vertical discharge connection and detachable suction strainer for easy clean out.

Water heater study names top brand

AMBLER, PA. — For the third year in a row Bradford White Water Heaters has been named the tank type water heater most purchased and recommended by contractors, according to an independent industry study conducted by Clear Seas Research. The annual report provides an in-depth analysis of the water heater industry including trends in product, installation, replacement and servicing, brand selection factors, brands most often purchased, product information resources, and more. Bradford White was also the brand most chosen and recommended in the 2006 and 2007

Clear Seas Research Studies.

"To be named the water heater of choice in an independent study three years in a row is a testament of our dedication to professionals and the plumbing and heating trade. We make the highest quality and most reliable water heaters right here in the U.S., and we sell them only to professional contractors through wholesale distribution. It gives the entire industry a leg up in an era of overseas manufacturing and big volume retail," said Bradford White's Nick Giuffre, president and chief operating officer.

Murphy Company opens Illinois office

ST. LOUIS — In response to significant growth in the Illinois market, Murphy Company has opened a new office in Fairview Heights, Ill. Tom Hegger, vice president of the Quick Response Group, currently heads up the new office.

"As an Illinois native, I've been excited to see the growth in the region over the past few years," said Hegger. "Murphy has made a commitment to become part of this community by establishing an office rather than working in Illinois as a Missouri contractor. We look forward to being part of continued growth in Illinois."

Hegger said the office currently focuses on smaller to medium-sized projects but has capabilities to han-

dle larger projects and can offer the full spectrum of Murphy services. Murphy's recent Illinois work includes projects for Alton Memorial Hospital, Ameren, Ameritech, Collinsville and East Alton-Wood River High Schools, Cerro Copper, Gateway Regional Hospital, KUNA, Greenville and St. Elizabeth Hospitals, St. Clair County, SBC, Scott Air Force Base, Solutia and U.S. Steel.

Murphy also has hired two Illinois natives — Thomas C. Westerheide and Jeff Blandford — as project managers.

Murphy Company delivers mechanical solutions to the industrial, commercial, institutional and heavy industrial markets.

Ferguson teams with Habitat for Humanity

NEWPORT NEWS, VA. — Ferguson, the country's largest wholesale distributor of plumbing supplies, has teamed with Habitat for Humanity to build 20 homes for those impacted by the 2008 floods. The construction is part of the annual Habitat for Humanity AmeriCorps Build-a-Thon, June 14-20.

Ferguson will provide toilets as well as lighting fixtures for the family rooms, kitchens and bathrooms of the homes. Ferguson is a national partner with Habitat for Humanity and provides two PROFLO toilets for Habitat houses built throughout the country.

"Ferguson is honored to help our friends and neighbors rebuild our

community," said Jess Gonzalez, general manager for Ferguson. "Everyone in this community was impacted by the devastation of the floods last year. By working together and each doing a little, we can help provide new homes and a fresh start for our hard-working citizens."

The 2009 Build-a-Thon celebrates 14 years of AmeriCorps members helping Habitat for Humanity affiliates and partner organizations build affordable houses and eliminate substandard housing. To learn more about the build please visit www.evhabitat.org. To find the Ferguson location nearest you, visit www.ferguson.com.

So we made our cable more flexible.

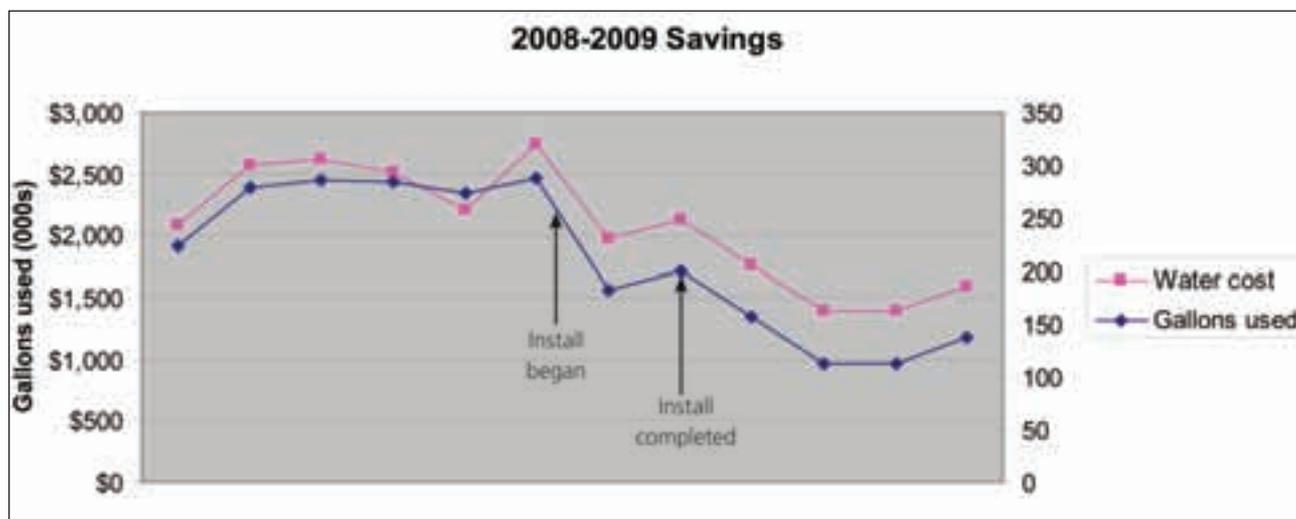


Circle 12 on Reader Reply Card

HETs save substantial water and money

It is estimated that 30% of the water used in a home is used by toilets. Homes built in the 1950s and 1960s often had toilets using seven gallons or more of water per flush. By the 1980s, technology had improved to use 3.5 gallons per flush. In 1995, a 1.6 gallon or less toilet was mandated in all states in the United States. Toilet technology has advanced considerably in the last 20 years, and now the average household can save thousands of gallons of water in just one year.

Located in Dania Beach, Florida, College Gardens Apartments is a complex with more than 60 affordable housing units. During late 2008,



In addition to water and cost savings, Caroma toilets also reduce maintenance expenses.

Caroma toilets were installed in three buildings, including 24 three bedroom, two bathroom units to help conserve water in the region. Sydney 270 Easy Height Elongated and 305 model Round Front Plus high efficiency dual flush toilets were chosen.

Caroma toilets were selected for College Gardens Apartments for three reasons: water conservation to protect the environment, to reduce water bills, and lower maintenance costs. Prior to the Caroma installation, the apartments had a mix of 3.5 gallon per flush toilets, 2.5 gallon per flush, and 1.6 gallon per flush toilets.

The Sydney toilet range is a two button dual flush: one button using 1.6 gallons per flush for solid waste and one button using 0.8 gallons per flush for liquid and paper waste. The average flush volume is only 0.96 gallons per flush, saving 40% more water compared to the federal mandate of 1.6 gallons, 62% more water than a 2.5 gallon toilet, and more than 72% water savings compared to a 3.5 gallon toilet.

The water savings in College Gardens Apartments have been impressive. Sixteen units had toilets installed during October and November 2008, and the remaining 8 were completed in December. The graph above displays the water usage and costs from mid-April 2008 to mid-April 2009 for the 24 units.

During the first six month period recorded, the average water usage was 272,167 gallons at a cost of \$2,452 per month. The following six month period during and after the Caroma installation was completed, there was a 45% reduction in water usage. The average water used was 150,667 gallons, averaging \$1,704

per month. This equates to an average of 121,500 gallons in water savings per month (more than 1.46 million gallons per year) and nearly \$9000 in yearly cost savings!

In addition to water and cost sav-

Toilet technology has advanced considerably in the last 20 years, and now the average household can save thousands of gallons of water in just one year.

ings, Caroma toilets also reduce maintenance expenses. The two piece Sydney toilets have a large trapway, nearly double the industry average, virtually eliminating blockages. In the six months the toilets have been installed at College Gardens Apartments, there have been no calls to maintenance due to overflows or clogging. Because the toilets use washdown technology, waste is pushed from the bowl, creating greater drainline carry, minimizing the chance of blockages further down the pipe.

Tenants have also benefited from the Caroma toilets. The stylish toilets have clean lines, so cleaning is very easy. Because the toilets are virtually clog-free, they do not need an unsightly plunger nearby. The best part: they are helping to substantially reduce the amount of indoor water usage with every push of the Sydney dual flush toilet button.

For more information, visit Caroma online at www.caromausa.com.

NEW PRODUCT

ProBase™

Tile Ready Shower Base Kit

- **Presloped, waterproof shower base**

- High compressive strength
- UPC Listed: IAPMO File #4339
- High moisture and chemical resistance
- Lightweight and durable

- **Compatible with many shower layouts & sizes**

- Allows for 2" adjustment of drain
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- **Saves time and money**

- Pre-applied waterproofing membrane
- No need to create a slope
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- Tile directly to ProBase



Other Noble Shower Products

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Chloraloy®
Waterproofing Membrane



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Code Required Preslope



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Shower Benches



Founded in 1946, the Noble Company has established a reputation of providing quality, innovative products for the plumbing and tile industries. Noble Company is an American Company proudly making American products. Visit our website to view our complete line of waterproof shower products for full mortar bed and thin-set shower installations.



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Circle 13 on Reader Reply Card

ECR International hosts plant tour

UTICA, N.Y. — Members of the Radiant Panel Association and REXperience show attendees toured ECR International's Assembly facility as part of the RPA REXperience 2009. Tour participants were served breakfast and heard Mike Paparone, ECR's

and discuss any of the many products. Eric Dorozynski, plant manager, lead the group on a tour through the facility.

The tour finished with a presentation on freewatt®, ECR's micro combined heat and power system.



REXperience show attendees toured ECR International's Assembly facility as part of the RPA REXperience 2009.

CEO, talk a little about ECR's history and more about its new vision. ECR is becoming the recognized leader of heating and air conditioning products and services that have the most positive impact on its environment, its society and its customers.

ECR's trade show booth was set up with a showcase of their vast product line. Many ECR employees were on hand to meet RPA members

freewatt is an energy-efficient residential heating system that produces heat and electricity for homes, while lowering society's fuel and energy consumption and protecting the environment. A freewatt system has the potential to generate half of a typical home's annual electrical needs, saving homeowners hundreds of dollars on electric bills.

NAOHSM names 'Technician of the Year'

HERSHEY, PA. — Steve Vachon's credentials put him in winning position as NAOHSM's first "Technician of the Year." Vachon is a lead technician for Lamprey Brothers, North Hampton, N.H. He is also the president of the Greater Seacoast Chapter of NAOHSM.

Vachon, along with his wife Jennifer, was invited to be guests at the annual NAOHSM convention and trade show. In addition to a stay at the Hershey Lodge, Steve was presented with a \$1000.00 gift card from NAOHSM and test equipment compliments of Testo. Steve along with the other finalists received a NAOHSM jacket.

Steve's letter of recommendation from the director of field operations, Andrea Myers, stated, "Steve entered the field 14 years ago and has been a dedicated employee of Lamprey Brothers for 14 years. He has been very proactive in mastering his field and attends extra training ses-

sions whenever they are available. As a result, he is quite proficient in troubleshooting and repairing oil fired equipment, and is able to resolve difficult heating and cooling issues and intermittent/recurring problems that many technicians struggle with." She further added, "Because of his devotion to his career and his company, Steve has risen through the ranks and is now one of our two senior technicians."

Vachon is also accomplished outside of work; he is active in the Navy Reserves and in 2008 promoted to Chief Petty Officer.

First runner-up, Wayne Lawrence, who works for Petro and member of the Nassau-Suffolk Chapter, was on hand at the Awards Banquet and he too was recognized and awarded a jacket.

Judges this year included Dan Holohan, Skip Lincoln of the Mid-Atlantic Chapter and David Bessette, past NAOHSM president.

Walk-in bath wins ADEX Award

PISCATAWAY, N.J. — The American Standard five-foot Walk-in Bathtub won a 2009 ADEX Platinum Award, recognizing excellence in product design.

The ADEX awards are sponsored by *Design Journal*, a trade magazine for interior designers, architects and facility managers. ADEX stands for Awards for Design Excellence and is the largest product design awards program for furniture, fixtures and finishes marketed to the design trade.

Available in durable high-gloss acrylic, all American Standard Walk-In Baths feature a patented low-entry walk-in door for easy access and a contoured chair-height seat

with deep soaking dimensions for a luxurious, worry-free soak. Built-in grab bars and textured tub floors



contribute to stability, while the optional Quick Drain™ removes water up to eight times faster than normal drains to further enhance bather comfort.

For more information, visit www.americanstandard.com.

Alan R. Oatey, Chairman Emeritus of Oatey, dies

CLEVELAND — Mr. Alan R. Oatey, Chairman Emeritus of Oatey has died. He was passionate about his family, his friends and the Oatey Company. He served in the Navy in WWII, and then completed his college degree at Ohio State University, graduating in 1947. He married his Lakewood High School sweetheart, Carol, several weeks later. They were married for 61 years until her death last July. They have four children, 11 grandchildren, and two great grandchildren.

Oatey worked his entire life at the Oatey Company, a business founded by his father, L. R. Oatey. He provided the leadership and direction for

Oatey to grow from a single plant with a few employees into an international company with many facilities. Although he retired in 1987, he remained on the Board for many years to mentor his successors and guide the performance of the business.

Oatey was active as a volunteer for numerous charitable organizations, and was proud to financially support many causes. He was voted "Distinguished Citizen of the Year" by the Cleveland YMCA, and was inducted into the Lakewood High School Hall of Fame. Oatey leaves a legacy of love and devotion to his family, his friends and to his community.

Introducing the RIDGID® SeeSnake® microDrain™ Inspection System

Who else was going to do it? The RIDGID® SeeSnake® microDrain™ Inspection System now lets you inspect traps and lines that could never be reached. It has the industry's most flexible cable and the smallest SeeSnake® camera head (7/8") we've ever offered. Learn more and schedule demonstrations: 800.769.7743 or www.RIDGIDUpgrade.com.



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Click Here for the
Google Search Web

Online Store Resources Questions Systems Jobs Seminars Welcome! Affiliate Programs

THE WALL

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

Q: I was at a customer's house today to look at a basement finish job and I noticed that the two furnaces in the basement did not have their combustion air intakes piped to the outside. How common is this practice? Should I recommend that they have the outside air piping installed?
— *RL Refalo*

A: I have two Knight boilers that suck from the boiler room, but the room has shutters and a huge air intake grille. Contact manufacturer and get their opinion. It is not always required, and depends on the mechanical room's needs. If you put your hand over the intake, you will see they pull a lot of air.
— *Tim*

A: Does the house have a piped air intake into the room from outside that feeds the furnace air intakes that suck from the room? Or is the house relatively old and leaky and uses inside air?
It could probably save them a little bit of \$\$\$ on their gas bill to have them piped to outside — when you factor the negative pressure they create if there is no air intake piped into the room.
The other thing worth noting: If there is some kind of make-up air piped into the room that the boilers draw their air intake room from, it might not be a bad idea to put some kind of cold air stop. I'm trying to remember what they are called, an ar-

tic bucket or something like that. Basically, when the air intakes aren't sucking from the room, the cold air will not be allowed to enter the room via convection from the duct, as it relies on the stratification of cold and hot air to keep air from infiltrating the room when the furnaces aren't running.
— *Scott K.*

Q: I'm looking for a zone valve that has kind of a "floating action." That is, it only draws power to actually open or close, but once it finishes moving, it stops drawing power. So if a thermostat told it to open, it would open, then break the circuit — and somehow it could tell when the demand disappeared — and could close again.
Looking to shave another six to eight watts off of a heating system. I'm down to about eight max on a pump and typical max of 45 or so for the boiler on low to medium fire. If we can use the transformer already in the boiler to

power the actuators, or line voltage without a transformer, even better.
If I could keep this whole thing to under 60 watts at all times, I'd be happy; though I am considering using line voltage thermostats to kill power to the boiler when there are no demands, as well. Checking on that with the manufacturer.
— *NRT. Rob*

A: The White Rodgers 3-wire valve does what you want and so does the Taco EBV. I'm not sure, but the Taco might be the Low Power Leader!
— *Larry*

A: The low power leader would be non-electric zoning w/smart pump such as Wilo Eco or Grundfos Alpha w/mod con. We are trying to have contractors go this route as much as possible in new construction and where it's feasible in retrofit applications. Oventrop or Danfoss offer valves and sensor heads w/the remote capillaries (have to be within roughly 25 ft. of valve body).

Dan Holohan Associates, Inc. - 63 North Oakdale Ave., Bathpage, NY 11714 - Tel: 1-800-853-8882 - mailroom@heatinghelp.com



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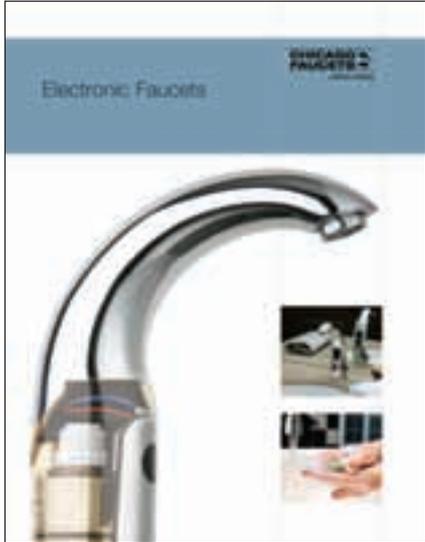
Ames Fire & Waterworks revamps site

NORTH ANDOVER, MASS. — Ames Fire & Waterworks announced the release of its new revamped Web site www.amesfirewater.com. The site's new design makes finding information easy and fast. New detailed product pages include photos, descriptions, literature, approval information and warranty information. A new approval finder application lets users search Ames products by valve type and approval agency. Ames has also updated its site to include information on California and Vermont lead-free compliance. Lastly, Ames also is making available a mobile version of its Web site, available at m.amesfirewater.com.

Ames Fire & Waterworks, A Watts Water Technologies Company, is based in Sacramento, Calif. Ames is focused upon and dedicated to the backflow prevention industry. The management team has more than 75 years of combined backflow industry experience.



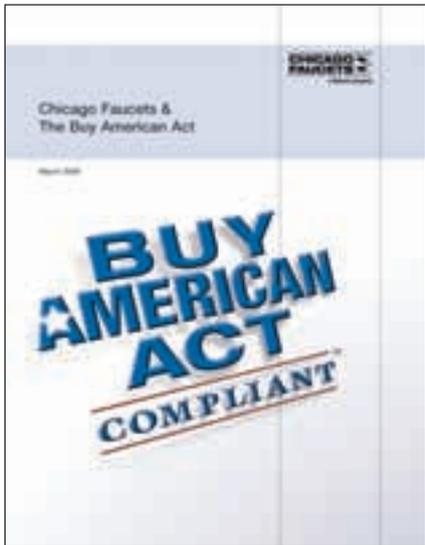
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Electronic Products

From the unparalleled HyTronic™, to the affordable E-Tronic™, Chicago Faucets has set a new reliability standard for electronic faucets. Chicago Faucets' complete electronic faucet line is featured in a new brochure that shows how intelligent design, durability and reliable performance are indeed possible with an electronic sensor-operated faucet. Chicago Faucets Electronic Products... advanced technology you can count on.

Circle 51 on Reader Reply Card



Chicago Faucets & The Buy American Act

The American Recovery and Reinvestment Act recently signed into law includes a Buy American provision favoring domestic sources. Selecting products that meet the requirements of this Act can help support jobs across the USA and assist in our economic recovery. Over 95% of Chicago Faucets products, more than 1,700 items, meet these requirements. Chicago Faucets... unwavering commitment to quality, backed by know-how and determination that is uniquely American.

Circle 52 on Reader Reply Card

ECAST™ Products from Chicago Faucets



ECAST, from Chicago Faucets, is the line of durable, high-quality brass faucets that are designed and manufactured with less than one quarter of one percent (0.25%) total lead content by weighted average. These products are intended for installation where state laws and local codes mandate lead content levels or where lead content is a concern.

Visit ecast.chicagofaucets.com for more information.

Circle 53 on Reader Reply Card



Conservation & Sustainability

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

Circle 54 on Reader Reply Card

hi.

The HyTronic™

Say hi to the HyTronic™ - the most reliable electronic faucet you can buy.

The HyTronic from Chicago Faucets has been built and tested with one goal in mind: to be the most reliable electronic faucet on the market. Water tight electronics and vandal resistant features, combined with a long-life lithium battery, ensure reliable performance for years to come. The twin-beam infrared system responds quickly and minimizes false activations. In addition, above deck components and remote diagnostic technology allow for fast, trouble-free installation and easy maintenance.

For a free HyTronic Product Kit with demonstration CD, call 800/323-5060 or circle the number below on the reader service card.

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Circle 16 on Reader Reply Card

American Standard Brands announces appointments

PISCATAWAY, N.J. — American Standard Brands (ASB) has announced additions to its marketing and sales teams as it continues efforts to grow market share for its range of iconic plumbing brands that includes American Standard®, Crane®, Eljer®, Porcher®, Jado® and Fiat®.

Chris Capone has been appointed vice president — wholesale sales and is responsible for expanding both the residential and commercial growth of the ASB companies via the wholesale distribution channel.



Capone

Tom Santer has been named vice president — distribution strategy and is charged with expanding both the residential and commercial growth of the ASB companies via the wholesale distribution channel.

Scott Meyer has been named general manager — faucet division, with responsibility for American Standard's residential product lines.

Jeannette Long has been appointed general manager — e-commerce, leading a new sales channel for ASB.

Mark Hamilton is the new general manager for luxury and showrooms, responsible for sales of the Jado, Porcher and American Standard luxury products.

Also joining the ASB team is Gerry Messina as director of customer development — retail faucets. In this role he will manage the marketing efforts between product manage-



Santer

ment and field sales for the retail business.

Carter J. Thomas has been named director, industrial design — luxury business. He will oversee the creation of innovative kitchen and bath styles for the Jado, Porcher and American Standard luxury brands.

Haws Corp. names product manager



Mee

SPARKS, NEV. — Haws announced that Margo Mee has been appointed to the position of product manager. Margo has been a dedicated Haws employee for more than 12 years, starting in the Berkeley, Calif. office before transferring to the Sparks, Nev. facility in 1998.

Viking Group Chairman elected to NFPA Board

GRAND RAPIDS, MICH. — Viking Group, a leader in fire protection and life safety solutions, announced that its chairman, Tom Groos, has been elected to the board of directors for the National Fire Protection Association (NFPA). Groos, one of four new board members appointed at the Association's annual conference and exhibition, will serve a three-year term which officially began at the close of the conference's opening general session.

Watts Radiant names VP & GM

SPRINGFIELD, MO. — John Kolson recently joined Watts Radiant as vice president and general manager, succeeding Mike Chiles who leaves the position.



Kolson



Heat-Flo

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quality all-stainless Solar Hot Water Storage Tanks with Dual Coils.

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McWane Plumbing Group makes management changes

OAKLAND, CALIF. — The McWane Plumbing Group has reassigned Tom Leonard to the Bibby Company in Quebec, Canada. Leonard will be returning to the company that he had successfully managed for 11 years. Leonard has excellent production skills and is very knowledgeable in the marketing of cast iron soil pipe in North America.

Bill Bliss has been named interim Tyler national sales manager. Patrick Starkey will provide Tyler customers with additional support as associate national sales manager. Tyler is also served well by three regional sales managers: East Coast, Thad Hicks; South Central/South West, Sterling Bowman; North Central/North West, Brian Gardner, who will take an active role in filling the needs of their distributors.

ARS/Rescue Rooter adds industry veterans

MEMPHIS, TENN. — Continuing to invest in and grow the company, national HVAC and plumbing service provider ARS/Rescue Rooter has added two home service industry veterans to its senior leadership team. Paul An-



Anderegg

deregg has joined ARS/Rescue Rooter as senior vice president of sales marketing, and John Hayes as senior vice president of corporate development.



Hayes

Victaulic announces VP of product development

EASTON, PA. — Victaulic announced that Dr. Richard A. Bucher has joined Victaulic as vice president of product development in its Engineering department. In this position, he will provide leadership to Victaulic product development efforts, as well as strategic planning regarding the development of new products and the investigation of new technologies and business opportunities for Victaulic.

NSF appoints VP of marketing

ANN ARBOR, MICH. — NSF International announced the appointment of Elizabeth A. Jones as its new vice president of marketing.

U.S. Wilo companies unify into one organizational structure

MELROSE PARK, ILL. — Wilo announced that it has unified its two U.S. companies, Wilo USA LLC and Wilo EMU USA LLC, into a single organization that will do business under the name Wilo USA LLC. Effective June 1, Thomasville, Georgia-based Wilo EMU USA LLC and Melrose Park, Illinois-based Wilo USA LLC are united

throughout all phases of operation, from sales through manufacturing.

The unification of the two companies enhances customer service by allowing customers to access more easily the full product line — from the HVAC-related circulator pumps and water supply pumps to submersible sewage pumps and submersible mix-

ers — through a single Wilo contact.

Mike Easterley, president and CEO of the new Wilo USA, said, “We are maximizing the capabilities of all of our resources in the U.S. for the benefit of our customers. This reorganization will facilitate our dramatic growth in the U.S. and accelerate the exchange of timely information.”

WHERE QUESTIONS
GO FOR ANSWERS

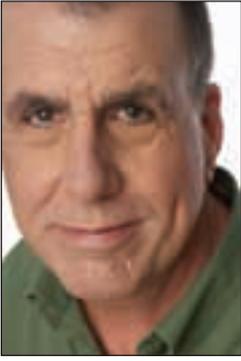
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BY DAN HOLOHAN,
contributing writer

Web plus 10

made those friendships grow even deeper. Without the Internet, most of those friendships probably never would have happened. And all of that knowledge shared would probably have stayed where it was.

Our business has been a Web site for more than a decade now, and if you're thinking about getting your company onto the Internet, here are some things for you to consider.

First, have a direction. A lot of contractors have Web sites built because they think that they have to have one. Some contractors try to build their own, and I always wonder if that's the best use of their time. Many contractors aren't even sure why they're building a site; they just do it, and to me, that's like starting a boiler job without knowing what house the boiler will serve.

I think that if you're in this business, and if you want potential customers to take you seriously nowadays, you need a Web site, but what do you want yours to do for you? You have to think that through before you begin. Is your site to be just an online company brochure? Or will it be a way to build a community within your marketing area? How can you get people to come back to your site more than once? How can you continue to pitch them on what you have to offer? Those are key questions to ask before you start, and you'll find the answers to those questions by asking these three questions:

First, ask yourself what business you're in. I know that sounds silly, but

think it through. Are you in the heating business, or are you in the business of keeping babies safe and warm? The answer you chose will send you in one direction or another. Think long and hard about the business you're really in. Think in terms of benefits, rather than features. What's in it for the customer?

Which brings us to the next question: Who are your customers? Are they the same as last year's customers? How about next year's customers? How will the current economy affect the sort of customers you serve? What business are you in? Who do you serve?

Next, what are your customer's problems? What do you have to offer that will solve those problems once and for all? By thinking in terms of your customer's self-interest, you'll build a Web site that will avoid the biggest mistake most contractors make when building a site – bragging about how great they are. People don't care how great you are. Show me a contractor that claims to be an idiot. They're all great. Just look at their sites.

Don't talk about yourself, talk about what you can do for the customer. Focus 100% on that person. That's what will bring in the business.

Ask those three questions at least once a year, and be willing to change your Web site if any of the answers change.

You have to be willing to invest. How many times have you rolled your eyes and looked down on the low-bidder when it comes to the heating business? That bum who doesn't have the right tools, or the proper insurance, or even a decent truck. That stinker who tracks in mud and is doing his on-the-job learning on every job. You can't stand that guy, right?

So why look for that guy when it comes to building a Web site? Why buy on price alone? Or try to do it yourself. Is Web design your specialty?

If you want a site that works and makes you look as good as you are, you have to invest the time, money, and patience to make it happen. You have to be involved in the process. You can't just have a quick conversation with your Web designer and then hope for the best, not unless you want a cookie-cutter site that looks like every other contractor's site. You want to stand out? Spend a buck and get the right people working for you. Do it on the cheap and that's how you'll look to potential customers.

You have to gather content. People come to the Internet for information, and they use search engines to find what they want. The more content you have on your site, the more you'll attract search engines. Our site, HeatingHelp.com, has an enormous amount of content, and it's taken years to gather it, but when the search engines look at us, they see words such as "heating" used over and over again within the context of articles. Search engines can tell the difference between the legitimate and

non-legitimate use of key words. For instance, if you had a site with the word "heating" typed 5,000 times in a row, Google would never again look at you. Type "heating" into Google and watch how HeatingHelp.com usually comes up within the top five generic results, and often as number one. That's why we have a huge audience. Content gets you there.

Who are your customers? What are their problems? That should determine your site's content.

But then there are the contractors who are afraid that their customers will get too smart. I think these contractors are walking around with bags over their heads. They pretend that the Internet doesn't exist and they're trying to put the genie back into the bottle. That's impossible.

If you don't have content, other sites will have content, and that's where the people will go. Smart customers recognize the value of a good contractor.

You have to build a community. This is the key to getting people back to your site again and again. Ask for feedback. Give your current customers a place where they can post comments about your services. And if you're afraid of what they might write about you on your site, you should first address why they would say bad things about you. Do you do work that's worthy of praise? If not, I suggest you fix that first before you build a Web site. If you do good work, you have nothing to fear from your customers. Give them a place to praise you.

Consider setting up a bulletin board where customers can ask you questions and you can answer them online. Before long, you'll have a great FAQ section on your site (that's content) and everyone in your marketing area will consider you an expert.

But wait! Suppose someone out of your marketing area asks a question? You're worried that you'll be wasting your time answering him or her, right? Have you considered that by answering people from all over, you'll soon be considered a national (international?) expert? Think about it. What makes those heating guys on the TV so special? Are they shaper than you are? Or do they just have a bigger audience?

Think about it.

You have to listen. This is the great thing about building a community on your site. Your customers and your potential customers will tell you things that you need to hear. What are they saying about their problems? Do you have solutions for them? If not, why not? What changes do they suggest you make to your site? Are you willing to ask them? Are you willing to listen? What are they looking for in terms of coupons or specials? Ask and listen. The more you listen, the better able you'll be to answer those key questions:

What business am I in? Who are my customers? What are their problems?

That's the compass for your Web site. It will take you in the right direction. ■

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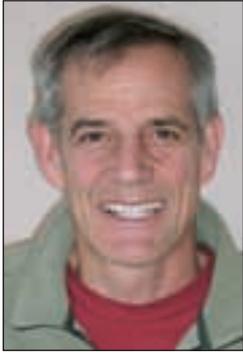
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Treat Your MVP... Hit the Ultimate Home Run with ECR Brand Products...



BY Bob "hot rod" Rohr,
contributing writer

Ten years after

The automobile industry, until recently, has catered well to these whims. They dish out more power and conveniences every year. So, too has our industry embraced the concept of it's never "done." There is always room for improvement in a product. Have you seen some of the wild framing hammers on the shelves these days? Talk about re-defining a fairly simple and basic product!

Perhaps the most requested improvements these days deal with efficiency. The desire to install a product that can do the job better, while consuming less energy in the process, challenges the installers. Boilers, or heat sources, come to mind. The hydronic side of our industry has heeded the call for a boiler geared directly to the low temperature radiant segment of the

shopping overseas for the parts and pieces to higher efficiency boilers. Product specific to hydronics seems to be a few years advanced over there. The size of their market drives this, along with much higher fuel costs, I suspect. The evolution to an Americanized version needs to be considered. As we have learned, or are still learning, it takes more than a voltage and thread change for this to happen. You see, somehow things change as those products bob their way across the seas to our shores.

Perhaps the biggest challenge has been deciding on which materials perform and last the longest. For some reason water, and fluid conditions in North America, seem to sometimes butt heads with the HX materials, for example. Whatever we put inside the pipes, tubes and boiler vessels can offer up some less than

I have yet to see a reliable test to expose a product to real-life conditions for a 10-year life expectancy done in a lab in a 12-month or less period.

switch under lab conditions does vary — sometimes considerably — from real-life conditions. (Throw in dirt, dust, vibration, job site installation abuse, for instance.)

Accelerated testing becomes even foggier to me. I have yet to see a reliable test to expose a product to real-life conditions for a 10-year life expectancy done in a lab in a 12-month or less period. I'm here to say our industry does not lack in the number of agencies that require large sums of money to list and approve a product. Still, at the end of the day, 10 years after, it usually comes down on the shoulders of the contractor or installer to "fix it."

Yes, the contractors have a responsibility to learn the product, read the manuals and offer in-the-field critique. The best of the manufacturers will stand behind their product and trained installers, as well they should. A good manufacturer will ask for, and utilize, contractor input. I doubt many manufacturers are in business for the quick buck. I doubt hydronics would be the category they chose if that was their intent, considering the market size.

I know some contractors that will not sell or install a "new" product until it has a five-year, or more, track record. But we can't all wait five years. The early adopters reap the benefits and shoulder the growing pains.

So we continue to learn, test, improve and engineer. Will we ever reach the goal of products that function as designed, trouble-free for 10 years after. Or should we? Your thoughts?

And on the occasion of *Phc News'* 10-year anniversary, here's to 10, 20, and many more! ■

You may remember that British band that rocked Woodstock, with hits like "I'm Going Home." I will borrow that title for this anniversary issue. And share my thoughts on 10 years after in regard to products we use. Hydronics, mainly, but not to forget solar and tools related to these products. And now I can't get that song out of my head!

When is a product ready for market? Certainly, we, as the installers

I know some contractors that will not sell or install a "new" product until it has a five-year, or more, track record. But we can't all wait five years. The early adopters reap the benefits and shoulder the growing pains.

and contractors, are always looking down the road for new and improved versions of equipment, methods and tools. Of course the consumer, from where our paychecks hail, have an interest in better, faster, quieter and longer lasting products, too.

market. And in the truest sense of evolution our pleas were answered. But what we got was not only job specific, but also much more fuel efficient.

Savvy boiler manufacturers, familiar with the Euro ISH show, went

desirable surprises 10 years after. Also, the methods we use to clean and fill play a part in the lifecycle of a heat exchanger. Could our fuels, ever-changing and always "improving," have a part to play in fireside failures? Can LP, oil and natural gas really be that different and unpredictable from shore to shore? It sure seems like that may be the case.

So how does a manufacturer plan and build with these unknowns? Research and development seems to be the department where much of this responsibility falls. I have switched from the contracting to manufacturing side of our industry. In this new job, I have been able to visit a number of factories and their R&D labs.

I will say that the companies I have visited are very serious about this part of the process. Some testing seems fairly straightforward — testing to failure of a pressure component, for example. The valve, vessel or component is put in a chamber and pressurized until it fails, breaks or leaks. Cycle testing is understandable. But cycling a

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BY PAUL ROHRS,
contributing writer

A trip back in history

Before the advent and market saturation of mod-con boilers, hydronic systems typically had atmospheric boilers that were subjected to high temperature boiler water that could then be mixed down to system requirements and even lower temps when not at design conditions. Radiant floor heating with high mass concrete slabs could have system temperature requirements in the mid- to lower 90°F ranges, and that is at design conditions. So, how to safely protect boilers that required 138°F boiler inlet water and produce lower system temps? Enter vsim. It can provide minimum boiler inlet temperatures, full outdoor reset for the type of heat emitters you have in the system, and can meet the demands of residential, commercial, and snow melting systems.

Let's look at the basic system set up of a variable speed injection loop and how we can use it to meet multiple zones of a single temperature system. If you've learned anything about me it's that I like to use color to show differences in my drawings.

In Figure 1, we see the primary boiler loop in the green square (also marked "A") showing an atmospheric boiler that is designed to provide 180°F

fluid. The P1 circulator is pumping away from the air-separator and expansion tank and pumping right back into the boiler inlet with a wye-strainer. To the far right of the boiler loop is a secondary loop with a blue background marked "B." This is our load side that shows the P2 circulators providing heat to our panel radiators with thermostatic radiator valves (TRVs). Now the P2 circ is pushing our 130°F reset temp water thru the panel radiators giving up their heat and coming back at 110°F to be reheated and sent back out again. How much 180°F boiler water do we need to inject from section A into section B, to get it back up to the necessary 130°F water? Based on our math and design conditions, we need 2.85 GPM. Our variable-speed injection-mixing loop that connects the primary boiler loop and secondary loop of panel radiators is in the or-

ange rectangle. The P3 circulator that connects our primary boiler loop (A) to our secondary loop (B), needs to spin fast enough to provide 2.85 GPM of 180°F water back into the loop to bring it up to 130°F. I am setting a 100,000 Btu/H load at design conditions.

How fast does the variable-speed injection-mixing circulator have to spin to meet the load at design conditions?

Ps = Primary Supply (temp)
Sr = Secondary Return (temp)

GPM = Load
Ps – Sr 5 500

GPM = 100,000
180-110 5 500

GPM = 100,000
35,000
= 2.85 GPM @ design conditions.
That's right, the maximum speed in which the P3 circulator will need is 2.85 GPM.

With a proper deployment of a vsim control, an outdoor sensor will send a signal to the controller so that it knows what the outdoor temp is. Additional sensors are placed on supply and return piping to monitor what the minimum and maximum system temperatures are. Minimum and maximum outdoor air temps are also programmed in. The reset curve is the net result of this programming and automatically adjusts the target temperature for the heat emitters; in this illustration it is the panel rads. A weather-responsive system is really appropriate for load matching in any condition, for any heat-emitter and boiler type. The feature I encourage you to explore further is that of boiler protection. With atmospheric boilers, we need a minimum of 138°F boiler return water to prevent sustained flue gas condensation. With vsim, the boiler loop will now have 138°F water entering the boiler before the P3 circ will start injecting hot water into our secondary loop side. That is pure boiler protection that you can bank on if you choose atmospheric boilers or mod-con boilers are not in the budget. When this system is not at design conditions and there isn't a 100,000 Btu/H load present, the target-reset temp is lowered and the P3 circulator does not need to spin the full 2.85 GPM. Enter the variable portion of variable-speed. In anything

other than design conditions, it is likely that the P3 circulator will spin at an even slower speed, still injecting only what it needs to reach the target temp. At 40°F, say we only need 110°F water to the panel rads, and at a 20°F ΔT, that equals a 90°F return water. Use the formula listed above to calculate the GPM that the P3 circ will need. Email me your answers: paulrohrr@neb.rr.com.

There are several recommendations you should consider when sizing and deploying this vsim circulator. First, do not use a circulator with an integral flow check. It can cause surging and not provide a smooth secondary loop reset temp. Secondly, it is advisable to pipe a thermal trap on your injection piping if you have multiple vsim loops feeding different temperature zones. Thirdly, consider using a ball valve for isolation or a globe valve for isolation and flow setting on the return leg. If you need to isolate the boiler loop from the secondary loop, this is an easy way to keep them separate. Finally, if you are a visual person and need proof that the P3 circulator is doing its job, you can opt for a visual flow indicator. This item has a spring and plunger combination that shows you the actual flow rate of the P3 circulator. When initially setting up a system, it is very easy after the purge and fill process, to hard wire the P3 circulator with the correct voltage and then set the flow with the adjustments provided. After the maximum flow is established, wire it in to your vsim controller.

Vsim is a tried-and-true mixing method that can always provide a full-reset temp to any type of heat-emitter regardless of the type of heat source. Even though it was state-of-the-art ten years ago this method of mixing in systems are now very common to see out in the field and I will say that vsim still has an important place in modern systems still being designed.

Why travel into the "twilight zone" when you can create your own zone of variable-speed injection-mixing and know that you can use your imagination to define new boundaries in hydronic heating. Take that Rod Serling. ■

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

Rod Serling in his best Twilight Zone voice: You're traveling to another dimension, a dimension not only of sight and sound, but of mind. A journey into a wondrous land whose boundaries are that of imagination. Your next stop, the "Twilight Zone."

Recently, I was asked to write about the 10-year anniversary of *Phc News*. In 1999, *Phc News'* inaugural addition was distributed, so let's talk hydronics from 10 years ago. But first, here's some more information that will help you look back in time and see what was going on.

According to the Energy Information Administration, the average price of gas in July of 1999 was \$1.19 per gallon. The Blair Witch Project was scaring people in movie

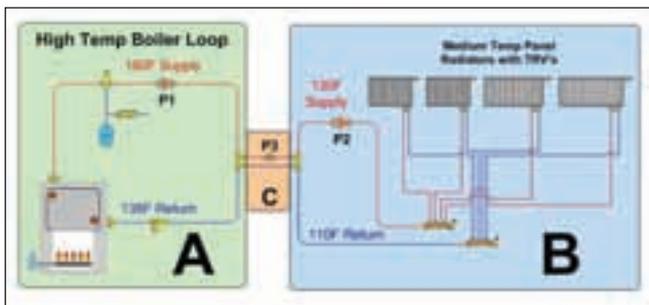


Figure 1.

theatres and there was a very prominent three-letter alphanumeric character on everyone's mind: Y2K. What was going to happen? Were we going to experience a global shutdown of computers and peripheral equipment? Were stoplights going to stop working and cause gridlock? Or would the water supply shut down and basic needs not be met for people nation and worldwide? We all held our breaths as the ball fell.

Does all of that seem like it was 10 years ago? In 1999, hydronic design and sales were really starting to boom in the Midwest. As a wholesaler and radiant designer, things were going fairly well. I had bought a new software program called Visio so that I could view and alter Tekmar drawings that seemed to emulate an interesting industry standard of mixing called variable-speed injection-mixing.

sun block.

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The SXPB keeps the solar collector antifreeze fluid and storage tank potable water completely isolated, so an additional storage tank with a heat exchanger is not required when retrofitting to an existing conventional or indirect water heater.

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BY ELLEN ROHR,
contributing writer

I have seen the future

Currently, you may use a series of systems to accomplish all this: Quickbooks, a dispatch program, snail mail, email, phones, fax, hand gestures, shouting, a pencil and Post-its. Ten years ago, you might have been using just shouting at the computer that crashed, often.

Let's take a closer look at how marketing has changed over the last 10 years. The ONLY time I pick up a phone book is when I am in a hotel room checking out the local plumber's ads. I haven't used a phone book to find anything in the last 10 years. I go online. I google. In 10 years, phone books won't exist.

What didn't exist 10 years ago, and is turning the world inside out, is Facebook, MySpace, Twitter, Digg, Delicious, YouTube and blogging and texting. If these words are new to you, get to google and start typing. Max and his friends keep up to date on Facebook. Max's cousin, Kelly — six years younger — is a texter. Last month, she sent and received over 5,000 texts. Not one of those texts

of a particularly fascinating solar installation (involving unplanned bird poop) and the clip is viewed by about as many people who viewed Susan Boyle. This results in 8,345 people opting in on the company website.

Marketing reaches customers via email, Facebook and Twitter. The blast includes a clever audio coupon for a free solar shower.

Customers contact the office via one of those electronic connections, or by calling the office.

The CSR visits with the customer and gathers all contact information and problem details. She enters this into an online version of QuickBooks and posts the pending call on a website based dispatch board.

The dispatcher emails the plumber all the contact information. He also emails the customer the arrival time and a picture of the plumber.

The plumber finds the customer with a global positioning system (GPS). When he wraps up the service call, he swipes the customer's credit card. The dispatch is converted to an

Donald's or Blockbuster. You could offer \$10 or \$12 an hour and a promise to help him learn the ropes. I spend thousands of dollars on computer and internet professionals. I worked with reputable companies who sent a different tech every week, so we would start the learning curve all over again. I have been promised the moon, paid for it...and been disappointed when the computer was glitching and the website was down. Again.

Then, I found Jon, a student friend of one of Max's friends. Jon was honest when we discussed the position. He told me, "I like computers and I know some basic troubleshooting. I really like design and I am taking a website design class. I don't know anything about networks."

"OK. Here's a deal," I offered. "I will start you at \$10 an hour and you can learn on my time. Just be clear with me about what you know and don't know and we'll figure it out together."

What a great deal this has turned out to be for both of us. His job is super flexible and he works from home most of the time. He only comes to the office if he needs to work on the hardware. He averages about five hours a week. Jon is now a college graduate with a degree in business administration and has a growing business finding and flipping houses. He also does website design and management for a few other clients.

The tools change. What's important is that we communicate with each other. With communication, we gain understanding. Since the beginning of time, untouched by the last ten years, there is a basic human need to connect with one another.

The more things change

Every month, *Phc News* publisher Tom Brown hand writes a thoughtful note on my check. It's old school technology and a timeless gesture of friendship and appreciation. It's my favorite part about working for *Phc News*. Thanks, Tom.

The more things change, the more things stay the same. ■

Need help? Reach Ellen at 417.753.1111 or contact@barebonesbiz.com You also can join in on the FREE "We love solving problems" Teleseminars at www.barebonesbiz.com.

Congratulations, *Phc News*! Look how grown up you are. Ten years fly by.

One look at your kid proves it. How did our son Max get to be 23 years old? Seems like fifteen minutes ago he was just starting high school. I remember when he was 13, a brand new teenager, thinking that this was a critical time to pay attention. It was important to understand him and keep the communication flowing. So, we chose not to pick the battle of purple hair. We did go on fun vacations together. We chose to talk about drinking and driving.

And thank goodness for cell phones. By the time Max started driving, cell phones were easily available and affordable. (Ten years earlier, they were the size of a brick, and required a home equity loan.) Some of our best conversations have been over the phone. And it sure made it easier to sleep, knowing we could stay in touch while he was out and about and growing up so fast.

And the point is...

I've been thinking about that — how the way we communicate has changed over the last 10 years. In the PHC world, the communications technology has gotten pretty cool. Ten years ago, faxing was hip. Yes, we could email, but we didn't really. Computers, used to be 10 times slower and 10 times more expensive. (That's a change to embrace.) And the point of all this technology is to communicate.

In a PHC shop, a few of the communication loops go like this:

The owner develops a marketing message.

Marketing reaches customers.

Customers contact the office.

The CSR communicates with the customers

...and the dispatcher

...who communicates with the plumber

...who communicates with the customer

...who sometimes sends a service survey to the owner.

If you are going to communicate with your customers,
you have to use the tools they are using. So the communication
loops in marketing need to include email, text and all kinds
of social networking sites.

included a whole word or more than 10 letters. She is communicating in a whole new way. Even Max and his friends don't text like kids just a few years younger. If you want to communicate with Kelly, you are well served to text her.

If you are going to communicate with your customers, you have to use the tools they are using. I don't think Kelly or Max has ever picked up a phone book to find a phone number. So the communication loops in marketing need to include email, text and all kinds of social networking sites.

I have seen the future

I recently saw a demo of an accounting and information system. It works like this:

The owner develops a marketing message and posts it on his website. He blogs about the greening of plumbing and gets about 100,000 hits when Huffington Post links to it. The owner also puts a YouTube clip

invoice and the payment is deposited into the company checking account.

The bookkeeper downloads all the checking and credit card account info into QuickBooks.

The customer completes an email survey and submits it to the company site...and to Angie's List. She also posts it on her blog.

And every bit of this can be done with iPhones. Or a smart phone like a Treo or a Blackberry, with a few more technical hiccups.

Could we even imagine that 10 years ago?

You need a kid

The key to handling this technology? You need a kid. Ask your own kid or grandkid if he or she, or a friend, is interested in becoming your technology officer. A high school or college student is a good candidate. The requirements: a love of computers and a willingness to learn. A student may be looking at job options that include minimum wage at Me-

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BY BRISTOL STICKNEY
contributing writer

10 Years of solar hydronic evolution

Solar heating then and now

other types of heat storage such as radiant mass floors, pools, spa tubs, ice melt and anything else that needs heat at any time of the year. The tilt of the multi-purpose collectors is designed differently to provide the right amount of heat to these various loads, during the seasons when the heat is needed. A warm mass floor using solar direct heat requires a more vertical tilt, while a heated pool used only in summer requires a more horizontal tilt. The final tilt chosen depends on the size of the collectors and the seasonal mixture of heating loads.

Higher Profiles Then: The majority of flat plate solar collectors manufactured in the past promoted high profile mounting. In other words, mounting them the “tall” way (or in “portrait” orientation). In most cases, the easiest, most economical way to install the collectors and the piping was to mount

mostly as boiler side-arm tanks. In-tank heat exchanger with internal backup heat was harder to find but also available.

Solar Domestic Hot Water Tanks Now: An external heat exchanger uses more electrical pumping power, involves more heat loss, and is more likely to foul or clog with minerals when used on open potable water systems. I have found that internal heat exchanger tanks are more reliable, result in a higher solar thermal efficiency and require less maintenance. For these reasons more solar DHW installations make use of internal heat exchangers in water tanks these days. Also, there are more stainless steel tanks with internal heat exchanger to choose from (e.g. Amtrol, Triangle Tube, Oventrop). Because of the long life, higher thermal efficiency and lower maintenance costs, a higher initial cost for this equipment can be justified.

Atmospheric Heat Storage Tanks Then and Now: When storing large amounts of solar heat in a large water tank, the use of unpressurized insulated water containers has been a widespread common practice. Unpressurized containers are less expensive than tanks that can be pressurized. They are open to the atmosphere and so tend to lose water by evaporation. Since hydronic boiler fluid and potable hot water are both pressurized, they require heat exchangers, circulators and controls to extract the heat from the unpressurized water tank. So, the use of a low cost tank results in increased maintenance, increased electrical consumption and decreased thermal efficiency. For these reasons, I have been using pressurized tanks almost exclusively in recent years.

Radiant heated floors

Solar heat storage in Warm Mass Floors Then and Now: Radiant heated mass (concrete) floors always have been used as an effective and comfortable distribution method for hydronic solar heat, even in some of the earliest installations. But, about 10 years ago we started thinking of them as “thermal mass” that can be used as solar heat storage. This idea was already fully implemented in well-designed passive solar houses of that era, designed to use interior mass walls and sunlit masonry floors to store solar heat gain through large south facing windows.

The passive solar heating effect can be duplicated using active solar hydronic collectors feeding heat into the mass floors directly. When it is controlled right, the floors warm up by day and discharge heat by night all within the comfort-temperature range

thereby delaying or preventing the backup boiler from firing. When this heat storage is taken into account, insulated and controlled properly, the need for additional large water storage tanks can be eliminated.

This idea can also be carried over into concrete swimming pools and spa tubs. When radiant heat tubing is embedded in the floors and walls of a concrete pool, solar heat can be delivered in a controlled way, independent of the pool filter pump system. I installed my first solar heated swimming pool floor and hot tub floor systems just over ten years ago. Since then I have done a number of them both indoors and outdoors, and they have worked out quite well. Again, the temperature control, especially in the smaller hot tubs can be very important to the owner’s satisfaction.

Overheat prevention

Then: In the past, overheat protection for glycol-filled solar hydronic heat collector systems typically consisted of an oversized expansion tank, a high limit temperature switch and pressure relief valves. The solar collector coolant pump was shut off when things got too hot, and the expansion tank and relief valve were expected to take care of the resulting high temperature stagnation. I have always been in the habit of using photovoltaic powered solar circulators to prevent loss of coolant during daytime power failures and have always used ample expansion tanks, too.

Now: I like to keep the solar coolant pump running any time it is sunny. Systems that are not allowed to stagnate tend to last longer and require fewer repairs. There are more control options available these days that allow this to happen. More attention is being paid to prevent failures due to overheating. Heat dissipation systems, night sky radiant cooling systems and photovoltaic circulator pumps are all part of the mix. Lately we have also been using night sky radiant cooling for comfort-cooling of hydronic mass floors by running the solar floor heating system at night in summer.

Piping and components

Components Then: Most large solar heating systems were assembled piece by piece and piping could become a confusing puzzle for the installation crew, working from a one-of-a-kind “spaghetti diagram” of piping and wiring. We began using a standard primary/secondary piping design in an attempt to make the mechanical room assembly more modular and repeatable. The modular piping system allowed

Today people are concerned about the environment and the unstable cost of conventional energy, which can fluctuate wildly from year to year.

are innovations that I have tried or proven for myself, some are due to advances in new components and some are driven by what the clients are asking for.

Ten years ago, many of our clients were motivated by their concern about “Y2K,” and their desire to become more self-reliant. Today people are concerned about the environment and the unstable cost of conventional energy, which can fluctuate wildly from year to year. Let’s take a look at the ways that common solar hydronic installations have evolved over the past 10 years with a review of common practices “Then” and “Now.”

Collector mounting

Collector Tilt Then: Solar hydronic collectors were virtually always connected directly to water tank heat storage systems, and commonly still are to this day. Since water heaters work well year round with the tilt ranging from latitude to latitude plus 15 degrees from horizontal, this was the tilt most commonly assumed. This tilt is fine for water heaters under constant heating load all year round.

Collector Tilt Now: Solar heating systems known as Combi systems have been increasingly popular because the same collectors can be used for multiple heating loads. The Combi systems in our region are now designed with minimal water storage and maximum direct solar heating using

the collectors side by side with the long dimension standing up tall. If you wanted to mount them the “Low” way or “landscape” orientation, you had to add external copper headers extra elbows and sometimes extra pipe supports to keep the collector tube plate from sliding down hill inside the collector.

Lower Profiles Now: Some collector manufacturers now make low-mount collectors that are designed with internal headers that plug together side by side just like the tall versions do. These collectors are much easier to hide on a flat roof or a ground mount. They can be screened by low parapets, or low landscape elements much easier than tall collectors. Because of this, architects and homeowners alike tend to prefer them, especially when dealing with uncooperative neighbors or historical zoning districts with strict architectural restrictions. For aesthetic reasons, people seem to prefer flush mounting on walls and pitched roofs and low profiles if the collectors can not be flush.

Water tank heat storage

Solar Domestic Hot Water Tanks Then: Glass-lined insulated preheat tanks with external “add-on” heat exchanger, circulator and piping were common. Stone-lined and stainless steel were less often used but readily available. In-tank heat exchangers were less common although available

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

“How much do you charge per hour?” was the title of my first editorial for *Phc News*. That was nine years ago. And, the spring/summer of 2009 marks the beginning of *Phc News*' tenth year. I am proud to be one of its contributing editors.

John Mesenbrink, chief editor, asked me how I thought things had changed over the last decade. With that in mind, I looked up that first article, which was aimed at contractors who charged for their services based on a time & material pricing method.

When I wrote the article, I wanted to show time & material contractors that they had another choice to implement regarding their selling prices. That choice could alleviate arguments over surprise bills after a service was performed, while allowing good contractors to become more profitable in the delivery of excellence to their clientele. That alternative was, and is, the contract pricing method. This method is commonly, and in my opinion erroneously, referred to as flat rate pricing.

The term “flat rate,” with regard to the prices contractors charge, is, at least if not more than, a quarter of a century old. The reason I claim that the words “flat rate” are wrong is simple to understand. The word “rate” gives the misperception that some amount of money (the rate) will be applied to some other factor. In the contracting business that other factor is the “time” spent performing the service. Therein is the problem — the choice of words regarding a pricing method whose strength is the fact that the consumer is quoted the price before the service begins.

A contract price does not change for the consumer if the contractor spends more or less time than he/she estimated to perform the agreed service. The quoted price remains constant. For this reason, it is imperative that contractors know the average true cost they will incur to perform a task before quoting a price for that service.

For years, contractors have argued over the pros and cons of time & material pricing versus contract pricing. Nine years ago, the majority of contractors still used the time & material pricing

Do you still charge by the hour?

method for most of the services performed for their clientele. Yet, since the beginning of our noble industry, all contractors have probably quoted prices for certain tasks before commencing those tasks. In today's industry, most contractors quote a price for water heater replacements; boiler & furnace replacements; A/C condenser replacements, etc., before doing the job. That means that even the die-hard time & material contractors are not 100% behind time & material pricing.

Contractors who have come to see the light and logic of quoting prices to their clientele before commencing service jump on the contract pricing (“flat rate”) express. They realize that good contractors who deliver excellence to consumers deserve proper compensation for the delivery of that excellence and the risks they incur in the delivery. They also realize that their reward was not attainable charging by the hour because consumers would just call every contractor in the book and ask “How much do you charge per hour?” Then, they would select the lowest hourly rate. That means that good T & M contractors would have to keep their rates close to the rates of bad T & M contractors. That hardly seems fair since the good ones could probably do a better job in less time than a bad contractor could do a mediocre job.

Many consumers think with their wallets rather than their brains. They believe that since all people are created equal, all contractors are the same; ergo, the cheapest one is as good as the most expensive one. Obviously, any consumer with a modicum of intelligence should recognize the fact that all contractors are not created equal. That's why products and services are often referred to as “good,” “better,” “best.” Thus, the rate per hour shouldn't be as important to the consumer as the ability and intent of the contractor to deliver excellence. Whenever speaking to consumers on this issue, I inform them that contractors should be chosen the same way they would choose their doctors and their lawyers. If they select either of those professions based on cost rather than excellence they may come to meet their maker before their time, or wind up with a reservation at the gray bar hotel.

Today, many more contractors exclusively use the contract pricing method than they did years ago. That alone answers John's inquiry about change in the industry. The reason these contractors choose the contract pricing method

over the time & material method is simple. Let's compare the main issues of both pricing methods.

Issue 1: The time and materials used

With Time & Material Pricing Method

1. a) Consumers are constantly looking over your tech's shoulder adding to your tech's stress. This gives the consumer the ability to argue over the time used to calculate the bill. The consumer may want the time lowered to compensate for your tech blowing his/her nose or scratching his/her head. This is bad for employee morale.

b) At the end of the job, the consumer might question the time and/or material used to compute the bill.

c) If tech is having a bad day, the consumer pays for inefficiency. This is bad for customer retention.

d) Contractors may not give the consumer the option of replacing rather than repairing.

With Contract Pricing Method

1. There is no legitimate reason to question the time & material used to perform the task after the job is done. The consumer is given the price of repairs and replacements before authorizing the work to be done. Then, the consumer decides whether to proceed with repair or replacement. The price doesn't change after the work is done.

Issue 2: The rate charges per hour

With Time & Material Pricing Method

2. a) Contractor must quote rate over phone before going to the job site.

b) This causes contractors to quote low rates, often below their cost, in order to compete with other T & M contractors who aren't smart enough to know their true cost, or aren't as proficient as a good contractor.

c) Proficient techs that do the work faster spend less time than inefficient techs. Therefore, since the rate is kept close to those contractors who are not as good, proficient techs bring in less money for better workmanship than inefficient techs that are not as good.

d) Less than proficient techs make for more costly callbacks and less satisfied clients.

With Contract Pricing Method

2. a) No need to quote rate over phone. Each task is individual unto itself and should be seen before a price is quoted.

b) Contractor is not compelled to quote low hourly rate which is proba-

bly below his/her true cost.

c) Contractor has the opportunity to quote a selling price, which will allow him/her to recover all costs for the task and make a profit.

d) Proficient contractors who deliver excellence can earn the reward they deserve.

Issue 3: The surprise bill and materials used

With Time & Material Pricing Method

3. a) Since the consumer doesn't know the price before authorizing the work to be done, and the price is often higher than the consumer thought it would be, arguments that take up more valuable time and animosity rear their ugly heads.

b) Contractor may be forced to lower bill in order to get paid some money.

c) Since the rate was probably below contractor's cost, more money is lost.

d) Consumer has a bad feeling about the contractor.

With Contract Pricing Method

3. There is no surprise bill. Therefore, there is no legitimate problem about the price. The consumer received upon which the consumer agreed.

Contractors who still do not believe in the merits of contract pricing over time and material pricing should ask themselves the following question: “Would I buy food, clothing, housing, car, etc., based on the time and material used to make the item without knowing the price I would have to pay before making the purchase?”

I'll bet dollars to donuts that you would not want to pay for any of those items on the time & material basis when a method that gives you, as a consumer, the price before you decide to make your purchase exists.

Using a time & material pricing method is archaic. You don't put your tools in a covered wagon pulled by horse. Years ago that's how things were done. But, now we have motorized vehicles. Changing from time and material is as easy as using a truck over a horse and wagon. And, it makes more sense (cents). Contract pricing makes for more satisfied clients. It also gives contractors the opportunity to be more profitable while reducing stress and frustration.

For those contractors who use the contract pricing method, keep preaching the benefits of contract pricing to your colleagues and clientele. There are

(Turn to Pricing, page 53.)

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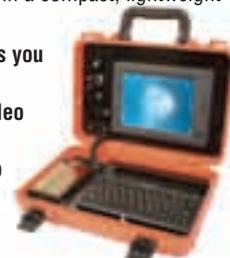
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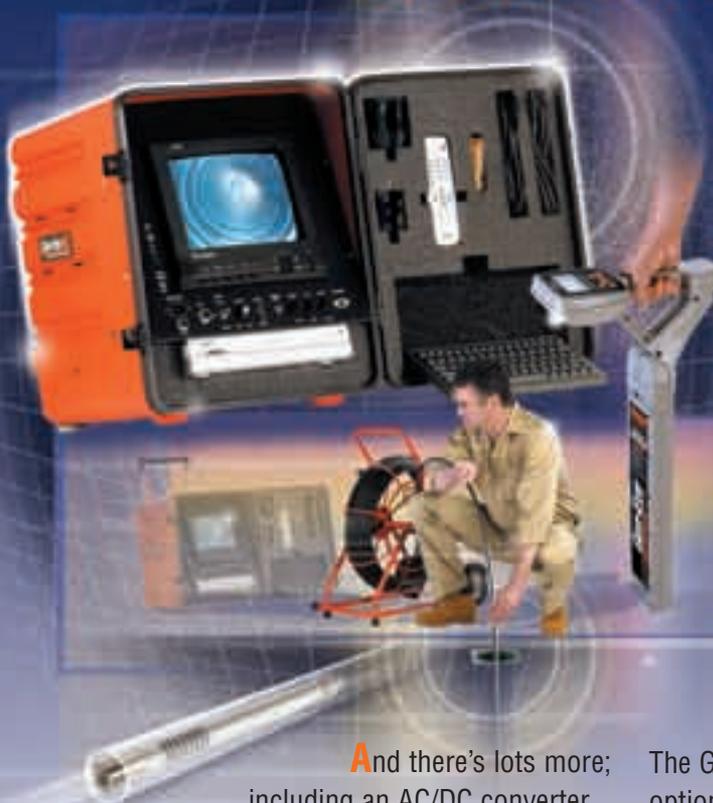
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BY PETER SCHOR,
contributing writer

There were many new and hot products that were shown at K/BIS 2009. Yes, I had to work harder, longer and smarter during these challenging economic times to find the gold! I want to apologize in advance and acknowledge the many great and visible bath and kitchen manufacturers are not included in this article, but I still want to acknowledge their contribution to developing innovative new products.

The Best of K/BIS 2009 — KBB Competition Awards

The 11 judges who were selected were kitchen and bath designers linked to the NKBA, *KBB* magazine, who co-sponsors the awards, along with Nielsen Business Media who owns the show. There was not one bathroom/plumbing showroom or distributor product guru expert to help make the evaluation. It is also a shame for the good of the bath and kitchen industry that these awards were not published in many magazines except *KBB* Magazine, who gives out the awards. There were 93 applicants for the awards. The winners were as follows:

Best of Competition Awards

Bath category: Quick Drain USA www.quickdrainusa.com.

Kitchen category: Affluence Seamless Sink. www.seamlessinks.com.

Bath Category Awards

Gold Award: Seura for One TV Mirror www.seura.com.

Gold Award; Quick Drain for Channel Drain system. www.quickdrainusa.com.

Silver Award: Emetek — Stainless Steel Collections Bright Handle product. www.emetekproducts.com.

Silver Award: El Dorado Stone for Gemstone Walls. www.eldoradostone.com.

People's Choice Awards

Fleurco for Kinetik Slice Glass Shower Door Panel. www.fleurco.com.

Kitchen Category: Elica for Star. www.elica.com.

Must new toys for showrooms!

At K/BIS, I found many things at that most industry people miss or don't see the vision. This first product in the raw was in the second hall all the way in western Siberia, second to last aisle. It is one of my best picks. The Kingston (www.kingstonproducts.com) Body Dryer, which offers a unique drying ex-

K/BIS post-show report

perience that is energy efficient and environmentally friendly (green). This product will eliminate or minimize the need for towels, resulting in lower energy and water consumption costs. Can you imagine the savings in hotel rooms — energy, water, etc. if it took only 25-30 seconds or so to dry the body with a soft-blowing Caribbean wind?

Best new bath product and category for showrooms

My second-best pick was not shown at K/BIS 2009, as many manufacturers did not attend. The new category is the Back-lit Bathroom Lighting System by Electric Mirror (www.electricmirror.com).



Electric Mirror

Electric Mirror has been selling their exclusive, innovative and extraordinary Back Lit Lighting System in the 5-star hotel bath industry (nationally and globally) for 12 years. Furthermore, they are “the brand” for best technology for LCD-mirrored TVs, both dry and wet applications.

Bathing experience

Diamond Spas (www.diamondspas.com) has a complete line of stainless steel, copper and patina copper bathtubs, countertop lavatories, pedestal lavatories, showers bases and walls and outdoor spas. Jason International (www.jasoninternational.com) offers everything you wanted in a bathtub and more. Whirlpool AirMasseur, air-whirlpool, chromatherapy, aromatherapy, sound immersion speaker system, automatic ozone sanitation system, digital LCD controls, impeccably well engineered (quiet), “reduce, reuse and recycle (green)” in every area of operations, and comes in a variety of colors. They are also the “Original Jacuzzi Family” since 1982.

Showering and steam bathing

There is no doubt that Kohler, Jaclo, Hansgrohe and Smart Showers lead the industry in shower power and technology. Showering has just gotten a lot better with Mr. Steam's (www.mrsteam.com) spa package,

which includes Steamtherapy™, AromaSteam™, ChromaSteam™ and in-shower Musictherapy™ speakers. The Mr. Steam ChromaSteam system integrates light with a steam selection of colors ranging from blue to red. Complete with electronic chromalogs for single or rotating color selection, it features multiple vapor-sealed, low voltage, high performance LED light modules. Mr. Steam's innovative AromaSteam system releases aromatherapy essences electronically into the steamroom. It also offers moisture-resistant Musictherapy.

Toilets

Kohler (www.kohler.com) launched the Fountainhead toilet equipped with industry-leading functionality, from a heat-adjustable seat to an integrated LED light. It is about time that we had a LED light and heat adjustable seat! The tankless design of the Fountainhead toilet is achieved by utilizing Kohler's exclusive Power Lite™ technology, a quiet electric pump fully enclosed within the toilet bowl that provides a strong, powerful flush utilizing just 1.28 gallons per flush.

Biolet (www.biolet.com) had an innovative waterless toilet that combines nature's sustainability with the convenience of technology. These products are excellent choices for cottages, basements, barns, pool house or any place where larger volumes are not needed — 35 years of Swedish engineering.

One of my favorites was Brondell's (www.brondell.com) latest innovation called the “Perfect Flush,” which provides eco-conscious homeowners with the opportunity to decrease water usage each time they visit the throne. It is a retrofit to any existing toilet! With half-flush or full-flush functionality, it saves 50% water usage by simply pressing the button that corresponds with the type of bathroom visit.

Caroma's (www.caromausa.com) H₂Zero waterless urinal for environments concerned with extreme water savings is a hot product.

Broan (www.broan.com) came out with a SmartSense ventilation system so homeowners have an automatic, affordable, energy-efficient solution to improve the home's indoor air quality (IAQ) and increase energy savings.

Toastie Tush (www.toastietush.com) had an innovative toilet seat warmer that is simple to install, safe (UL and CSA listed), has an energy saving thermostat, multiple comfort settings, is wet-safe, easy-to-clean, and is a fraction of the cost of any heated toilet seats on the market.

Sinks and lavatories

The Rivers Collection (www.thestockmarket.com/Riversbrochure.pdf) of stone lavatories, vessels, pedestal lavatories, vanity systems, bathtubs,

kitchen and bar sinks are available in a variety of colors. The collection has a wide variety of wrought-iron vessel stands.

Faucets and accessories

One company that made the “biggest splash” exhibiting was Cascade Faucets (www.cascadefaucets.com).



Jason International

faucets.com). Cascade's LaTorre Brand — since 1960 — is Italian designed, engineered and manufactured to all North America standards and code approvals. All single control faucets has the “Eco Cartridge,” which holds in position when you lift the lever to the middle position, allowing users to save 20% - 40% of the water flow/consumption. Cascade Faucets has been manufacturing and distributing through our industry channels in Canada since 1999. To the best of my knowledge, they were the only “Eco Cartridge” at K/BIS, although it was with many manufacturers at ISH, Germany.

Mr. Steam's (www.mrsteam.com) towel warmers, comprised of four wall-mounted models, feature all-welded steel construction and advanced heat technology. Each model is complete with a stainless steel heating element, UL listed temperature control and high limit control for precise heating and exemplary product performance. This collection is available in four designer finishes: polished chrome, satin nickel, oil rubbed bronze and white.

Great Grabz (www.greatgrabz.com) has award-winning designs of wave decorative ADA-compliant safety grab bars with exceptional mounting kits.

Water treatment

Major Avignon of Water, Inc. is a legendary industry distributor water treatment expert who distributed Everpure for 30 years. Avignon created the Body Glove (www.waterinc.com) line of filtration, which is manufactured by 3M. The Body Glove filter system offers 50% more flow and 1.2-micron water filtration through a patent-engineered carbon-block technology. ■

Peter Schor can be reached at pschor@dynamicresultsinc.com.



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PVF sector continues to maintain relative stability

Although the pipe-valve-fittings sector continues to maintain relative stability, this set of circumstances is primarily due to continued strength in power generation, maintenance of oil refineries, transmission line activities, and limited commercial and industrial construction, such as health and retirement facilities and continuation of ongoing projects necessary to pump oil in Alaska's North Slope, as well as the Gulf of Mexico.

Even with the severe cutbacks in drilling rigs, which are now at the mid-1990s level, one-half of those working a bare two years ago, further reductions may be in the offing, as crude oil demand lags.

Refineries, which had been operating at a level of a high nineties percentage rate only a little over a year ago, have now cut their output to a bare 80%, even with the driving season having started effectively after Memorial Day. However, these installations have used the additional downtime to bring their highly modernized installations up to snuff. This has been a boon for PVF manufacturers, distributors, and maintenance specialists, who have continued to manufacture and install the components necessary in fulfilling such maintenance requirements.

I continue to express little confidence in so-called renewable energies such as ethanol, wind and solar, and yet to be developed renewable energy ideas to supplant fossil fuels (the bane of the environmentalists). Outstanding experts will tell you that oil, natural gas and nuclear power will be the overwhelming element that will generate electric power utilities and move our cars and trucks for many years to come.

Unfortunately, America's current Administration does not buy this reality and has all but killed the possibility of offshore drilling or developing billions of oil barrels encased in the shale available in profusion within Rocky Mountain sediment.

Coal has been effectively demonized by the triumphant environmentalists within the Obama Administration. This has forced a buoyant coal industry to ship their production to China and India, who thumb their noses at environmental restrictions while they push their burgeoning industries to the limit by fouling the air indiscriminately.

China has even stated officially that it is the responsibility of the "rich" developed nations to protect the environment. These developing nations would be happy to let the U.S. and the old "rich" nations of Europe and Japan commit 'industrial suicide' in signing the upcoming "Stockholm Protocols," while they continue to capture an increasing segment of the world markets without environmental inhibition.

A telling indication of future oil prices made itself felt on June 9, as the price per barrel of oil crossed \$70 for the first time in more than six months. Although this was at the beginning of the driving season, U.S. gasoline demand has not yet picked up perceptibly. The major push seems to have come from China, the dollar's weakness, and the anticipation of inflation influences later in the year.

Gold, oil square off in battle of inflation hedges

With optimism of a global economic recovery growing more forcefully by the day, concern of future inflation is heading to the top of the list of worries by inflation-wary investors.

Whereas deflation is very much a current reality, the fear of roaring inflation coming down the pike has been kindled by the Obama Administration's amassing trillions of dollars in debt for universal health-care, renewable energy experiments, environmental and climatological commitments, as well as ongoing bailouts.

With a drumbeat of daily advertisements appearing on radio and TV, the fascination with gold is becoming the hedge of choice by increasing believers, sensing that the glittering metal is the only protection against certain hyper-inflation within the foreseeable future.

The problem is that gold is not driven by normal economic supply/demand, but by national treasuries and international banks who control prices by accumulating large hoards when the prices seem propitious, and releasing on the markets when a major profit is in the offing.

A wiser choice by those rightfully stressed by the inevitability of future inflation would be oil. Grossly undervalued, even after the current runup, because of the unprecedented crash last summer, the "black gold" is due to increase

much more emphatically as the world economy recovers in 2010 and 2011.

China has already made its choice by nailing down every oil-producing capability worldwide that Beijing can buy at today's distressed prices. Although supply appears more than adequate because of demand destruction, supply disintegration is growing much faster as drilling rigs are shut down, old oilfields are taking on water, and new reserves are not being developed because of the costs not being covered by today's prices.

Even more important is the fact that oil is universally dollar-denominated. As inflation drives the greenback increasingly lower, the price of a barrel of oil becomes more expensive when measured in dollar terms. Most global oil experts now expect crude oil to meet and even exceed last year's \$147 a barrel peak, within three years. Despite smaller cars and renewable energy development, world usage of oil, which will reach 83 million barrels this year, is expected to easily top 100 barrels a day by 2020.

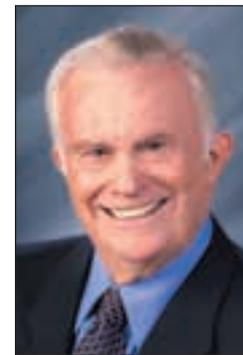
With China and India alone providing hundreds of millions of new combustion engine aficionados by that time, the recent bargain gasoline prices will soon become a distant memory.

Second half consumer spending due to be flat

Although consumer confidence points to improved economic conditions in the second half, don't expect much help from the consumer sector. Despite the initial spending from the \$800 billion stimulus package, income tax rebates and a 5.8% cost-of-living boost in January for Social Security, plus a special one-time payment to Social Security recipients, the first half consumer activity remained essentially flat.

Part of this was due to a 5.7% gain in savings, a 14-year high. This, in effect, absorbed almost all the money that flowed into consumer pockets. But worse may yet come in the third and fourth quarters, with the following factors being faced by the U.S. public.

1) Despite a slowdown in May employment losses, these are due to resume their downward trend this summer as the domestic sector continues its hapless slump. A double-digit unemployment rate is



BY MORRIS R. BESCHLOSS,
PVF & economic analyst emeritus

practically assured before the bottom is reached by year's end. Key to this pessimism is domestic automotive disintegration, including component manufacturers and dealers.

2) A major slowdown in government-led stimulus and other federal gimmicks to reduce taxes and expand after-tax income. Without government bailouts and other artificial stimuli, unleveraged consumption will continue to wallow.

3) Rising interest and mortgage rates, inhibiting a housing building and buying comeback, and blocking the reduction of foreclosures may impose serious new costs on a reviving construction industry.

An increasing savings rate spurred by familial insecurity is sure to be maintained. Almost certainly, gasoline prices nearing \$3 a gallon by the fourth quarter will eliminate the benefits of the \$1.90 per gallon prevalent in the depths of the recession earlier in the year.

When one squares this circle, it becomes obvious that there will be precious little cumulative spending money left in Americans' pockets to drive the once massive consumer sector forward.

Is stimulus plan's buy American clause counterproductive?

With the domestic manufacturing sector increasingly imperiled, any aid to the stabilization of America's industrial sector would normally be welcomed.

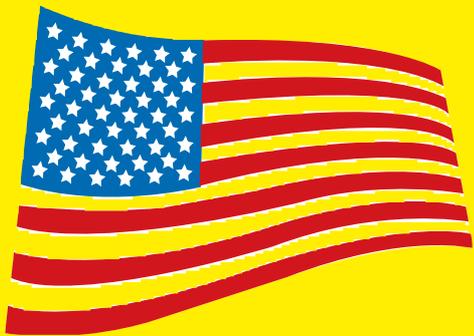
However, the "Buy American" provision may not be all that it's cracked up to be. First of all, the impetus behind this \$800 billion stimulus package amendment, pushed through by Congress with lightning speed, was the labor unions, flexing their newfound muscle, sitting in the Obama Administration's inner circle. There are three major factors that make this obvious stickler counterproductive.

First, what is not known by most (Turn to *Maintaining...* page 54.)

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Innovative injection pumping systems: Using circulators instead of mixing valves to modulate temperature

Today's precisely modulated and maintained indoor comfort is a lot more than just a collection of linked equipment parts generating and distributing heating or cooling within a building. Today's HVAC systems are sophisticated systems where the sum is greater than the parts. This is particularly true of pumping systems for radiant heating and cooling systems. Recent innovations to pumping systems have successfully addressed the need for a hydronic system to supply different water temperatures to different parts of an HVAC system, particularly those in a radiant system.

Traditional hydronic systems generate high temperature from the boiler and low temperature water from the chiller and employ mixing valves to either mix down or mix up water temperatures at the terminal



European pump manufacturers still favor using control valves on their mixing blocks, as shown here.

units at the other end of the system. Newer, more efficient radiant heating and now cooling systems for residences and light commercial applications use water at different

temperatures than those generated by the boiler or chiller. For example, a radiant heating system will typically use water between 100° to 120° F at the radiant panel even though the boiler water temperature is generated between 160° to 180° F. In a similar fashion, radiant cooling systems typically provide water to radiant ceiling and wall panels (chilled beams in commercial buildings) in a temperature range between 55° to 60° F while the chiller supplies chilled water at 40° to 45° F.

How then do you best achieve, in an energy efficient manner, this temperature differential between the generation source and the terminal units? Traditional hydronic systems have used mixing valves to mix down high boiler water temperatures supplying radiant floor or wall panels. In radiant cooling applications,

mixing valves mix up the lower water temperature supplied by the chiller to the radiant ceiling panels. But mixing valves consume energy. Can circulators more efficiently perform the mixing function instead?

The answer is, yes. Today's circulators are more reliable than control valves and consume less energy. With the introduction of smaller, more reliable wet rotor circulator technology this mixing function can indeed be performed by circulators more efficiently than mixing valves using less pump energy. Replacing energy consuming control and balancing valves with small, low kW circulators results in lower pump head and less power needed to move system water. The pumps help deliver the water where it needs to go instead of forcing the water where it doesn't want to go.

Taco, for example, now offers innovative radiant injection pumping packages for radiant and other appli-

Taco's Radiant Mixing Block



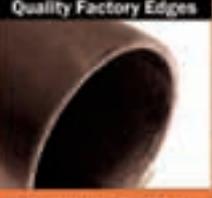
cations. The Taco Radiant Mixing Block (RMB) is a complete injection mixing system that combines a variable speed injection mixing circulator, constant speed zone circulator and air elimination all in one unit. On the cooling side, the brand new Taco LoFlo Injection Mixing Block combines a constant speed zone circulator with a variable speed injection circulator — again all in one unit.

Using variable speed/variable volume injection pumping to mix water temperatures up or down instead of using mixing valves with constant volume pumps is more efficient, even if the constant volume pump is more efficient than the variable volume pump. The variable volume pump responds to the load whereas the constant volume pump does not. ■

Information supplied by Taco, Inc. (More Pump innovation, page 40.)

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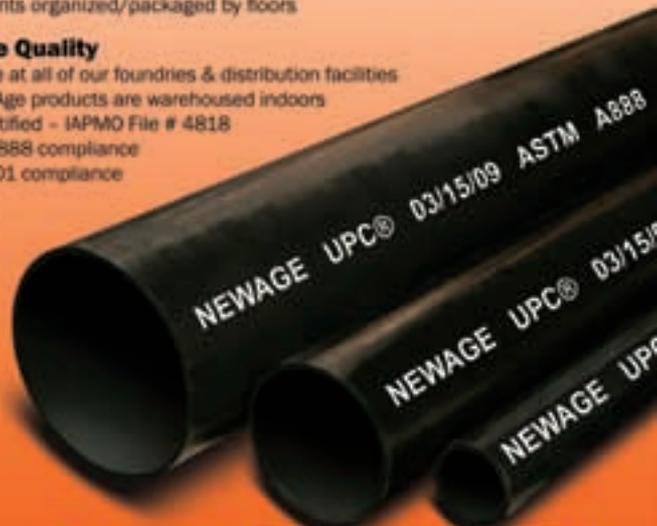
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Circle 28 on Reader Reply Card

Primary-secondary pumping – A 1940s innovation that's still making hydronic systems more efficient

BY LARRY KONOPACZ

Sixty years ago, hydronic heating circuits in residential and commercial buildings often used constant flow pumping to move water from the boiler to the radiation and back. Although constant flow pumping was a simple system, it sometimes did not produce uniform heating within the building, nor did it provide opportunities for savings in material costs and energy.

That was the way it was before Gil Carlson came on the scene and began four decades of influencing the ways in which hydronic systems operate. After earning an engineering degree from Purdue University, Gil started to work at Bell & Gossett. Never satisfied with conventional

answers to problems, by 1950 he was taking a fresh look at heating systems that weren't operating to the higher standards that he had set for himself, and in the process he devised a concept that within a short time would become a common practice in the industry.

Primary-secondary pumping was Gil's way of solving a difficult problem that he encountered in a particular heating system. Then, over the years he applied the principle to more and more applications until they filled a complete textbook. That textbook is still used in hydronic heating training classes around the world.

To understand the benefits of primary-secondary pumping, we need to start by reviewing the operation of the constant flow pumping design.

Constant flow pumping

For years, constant flow pumping was the simple and accepted method for moving water from the boiler to radiation. As seen in Figure 1, in this system a single, large circulator pump moves water through a hundred or more feet of pipe and possibly dozens of pieces of radiation. The result: uneven heat from one end of the loop to

the other and wasted energy. Adding independent zones from the boiler was an attempt to solve the problem, but those zones only added to the complexity and cost of the system.

Primary-secondary pumping

Enter Gil Carlson's primary-secondary pumping idea. The use of primary-secondary pumping eliminated the zone control problems created by the interaction of system components and multiple pumps. Plus, primary-secondary pumping offered a bonus. Since it is a system featuring flow-independent — or “decoupled” — piping

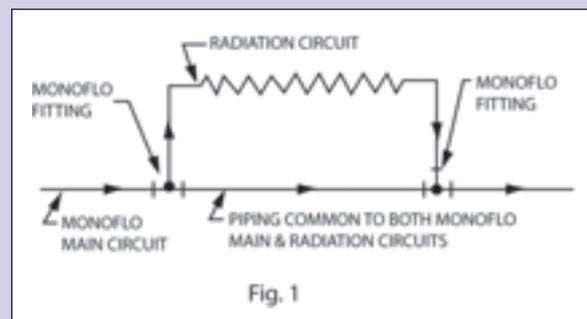


Figure 1 — Constant flow heating system.

(Turn to Primary- ... page 42.)

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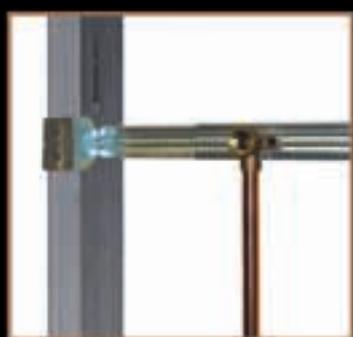
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Primary-secondary

(Continued from page 40.)

loops, the pumps, pipes and other fittings can be reduced in size — and therefore cost — especially in new or retrofit radiant panel systems.

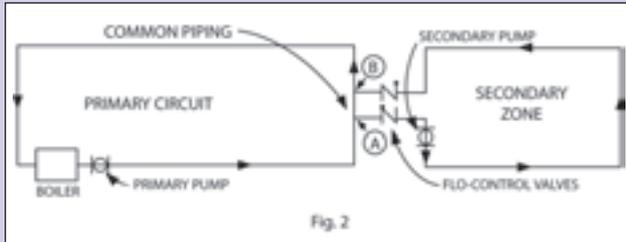


Fig. 2

Figure 2 — Primary-secondary pumping system.

In a typical primary-secondary system (Figure 2), the common piping is designed for very low pressure drop by installing two tees close together at points “A” and “B”, and sizing the pipe between them for very low pressure drop. Design tables or a SystemSzyer (a calculator wheel, also designed by Gil Carlson) will help the designer or installer

choose the right pipe size for the design flow.

Low pressure drop in the common pipe means that flow in the primary circuit cannot cause flow in the secondary zone, making flow in each loop independent. A circulator pump in the secondary loop will cause flow in that loop, diverting water from the primary to the secondary at one tee and returning it at the other. If the secondary pump is off, low

pressure drop in the common pipe will allow primary water to bypass the secondary. When the control system turns on the secondary pump, water will automatically be diverted into the secondary loop to provide heat. This results in a very simple “on/off” method for controlling temperature in the secondary loop. The check valve symbol in Fig-

ure 2 represents a Bell & Gossett Flo-Control™ valve used to prevent gravity circulation of lighter, warmer water from the primary loop into the secondary loop when the secondary pump is off. Flo-Control valves should not be used in secondary systems that use a constantly operating pump and valves that vary the flow because they would close at low demand flow rates. In systems that don't use a Flo-Control valve to prevent un-

wanted gravity circulation, thermal traps - formed by keeping the hot

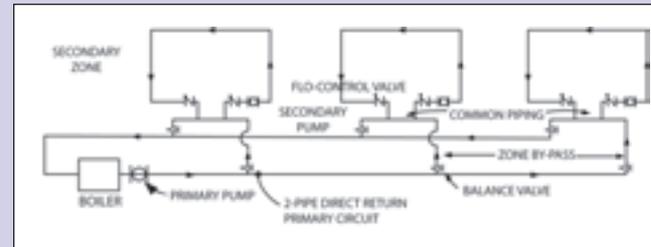


Figure 3 — Two-pipe primary-secondary system.

wanted gravity circulation, thermal traps - formed by keeping the hot

loop at least one foot higher than the connection to the cold loop - can be used.

Two-pipe systems

Figure 3 depicts a two-pipe primary-secondary system in which each secondary zone can get the same primary supply water temperature. The common pipe is part of a “zone bypass” or “cross-over bridge” between the primary supply and return. A balance valve in the zone bypass sets the primary flow in the bypass, but the balance valve cannot

be installed in the common pipe because that would increase the pressure drop in the common. If that happens, flow in the pri-

mary loop will always generate flow in the secondary, and the two loops would no longer be independent.

Although Gil Carlson is no longer with us, his great ideas continue to grow.

Many people in the hydronics industry recognize the him as an innovator and problem solver. As director

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Gil Carlson, 1922-1994

of Technical Services at Bell & Gossett, he developed many of the tools and products that are used every day in the design and installation of hydronic heating systems. A holder of numerous patents, his innovations include the Circuit Setter® balance valve, the Red Ring Monoflo® fitting, the Triple Duty® valve, and the SystemSzyer® calculator. And of course, one of his most lasting contributions to the hydronics industry is the concept of primary-secondary pumping. ■

Larry Konopacz is manager, Training & Education, ITT, Morton Grove, Illinois. He may be reached at 847-983-5841.

Innovative pump design spawns the ALPHA

The new ALPHA from Grundfos Pumps has been introduced — a 115-volt circulator for hydronic heating applications in residential and light-commercial applications, and is now on the North American market.

“As is our custom with a new product, we did our due diligence with the ALPHA in the United States, taking two full heating seasons to be certain it would perform as well here as it has in Europe. Our objective is to verify the ALPHA as a stable pumping platform for the North American market for many years to come. Europe’s hydronic systems are different than ours. As a result, pumping requirements are different, too. Our larger systems require larger flow rates, so we had to do our homework, making critical adjustments to the hydraulic design of the ALPHA,” said Bob Reinmund, senior product specialist, Grundfos Pumps.

The ALPHA’s permanent magnet motor design that will avoid motor slippage problems common to induction-type motors, while delivering a starting torque four times higher than a standard induction motor.

The AUTOADAPT™ function automatically modulates circulator performance to match ever-changing system demand, cutting power consumption by a minimum of 50%, as compared with other circulators in its class.

And, the circulator’s design makes the ALPHA the most compact circulator offered by Grundfos. Rather than being bolted on, its sophisticated electronics are fully integrated within the motor, simplifying installation in tight spaces.

“If the installer is not familiar with piping layout, he may decide the best way to avoid a callback is simply to oversize the pumps. ALPHA creates a colossal opportunity to address this oversizing tendency. The circulator will automatically find the lowest possible operating-efficiency point to meet changing system demand. Then it will continuously adjust that setting to achieve optimal comfort at minimal power consumption — all without direct human intervention. The pump can operate with an input as low as five watts, as compared with a minimum of 80 watts for a conventional circulator of comparable size,” said Reinmund.

“The previous circulator con-

sumed between 55 and 70 watts during periods of peak usage. Using the AUTOADAPT feature, the ALPHA went as low as 7 watts and as high as 22. It installed easily, and we never had a problem with it,” said Phillip Hughes, principal, Hughes Plumbing & Heating, Inc., Harrod, Ohio.

Its easy-to-read LED (light-emitting diode) display offers a range of unique, user-friendly features:

- Large, real-time display alternates readings between energy consumption (Watts) and estimated flow indications (gallons per minute).
- One-touch, button-type interface permits the user to toggle quickly and easily among seven dif-



ferent hydraulic operating modes: three fixed speeds, three levels of constant pressure, and one automatic setting — the AUTOADAPT.

- Plug-and-play convenience: Six-foot-long ALPHA plug connects the circulator to a wall outlet, with no wiring required, eliminating the need to open a terminal box to make electrical connections.

• Installer-friendly pipe connections: Standard two-bolt flange with a built-in nut-capture feature holds the bolt steady during tightening, so the installer has a free hand to hold the circulator in place.

“As the valves in the different sections open or close with rising or falling demand, my ALPHA automatically ramps up or down to meet the load without any adjustments on my part. It’s pretty much a set-it-and-forget-it proposition. The circulator has worked so well for me, I’m looking forward to specifying it in my various company projects, as well,” said Paul Seward, Principal, Seward Mechanical Systems, Louisville, Colo. ■

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tors are ready to ship, with backup support and U.S. application testimonials immediately available.

High-efficiency circulators

The WILO ECO is the award-winning standard for high-efficiency residential circulators. Automatically adjusting to system demands, pressure by-pass valves, balancing, over-pumping and noisy zones are a thing of the past. Like the commercial Stratos, the ECO offers up to 80% energy savings compared to an uncontrolled circulator, consuming only 5.8 to 59 watts. Replacing over 50 competitor models, there is only one pump you need.

The WILO Stratos was introduced to the European market as the world's first high-efficiency circulator in 2001. This efficient, functional and flexible pump for



heating, cooling, and air conditioning reduces annual power consumption by up to 80%. ECM technology essentially comprises a synchronous motor with a permanent magnet rotor. The unique slotted tube made of synthetic composite carbon-fiber avoids eddy-current losses, thus considerably increasing overall efficiency.

Easy installation

The reliable and quiet operation of the WILO Stratos circulator makes it ideal for use in large residential buildings, apartment blocks, housing developments, commercial real-estate complexes, hospitals, schools, and industrial and institutional buildings. The Stratos offers quick and reliable installation.

No condensate

Conventional, electronically controlled wet-running circulators are only suitable for heating. However, there is increasing market demand for circulators as part of cooling water systems for air conditioning and industrial refrigeration. The WILO Stratos is the first electronically controlled wet-rotor circulator to meet all these requirements. Conventional models pose the following problem: During operation with cooling water, condensate forms inside the electronic module, possibly resulting in pump failure. In contrast, the WILO Stratos is designed to avoid a formation of condensate in sensitive areas. This has resulted in the first high-efficiency circulator suitable for heating, air conditioning, and refrigeration.

Simple operation

The elegantly simple red button makes the WILO Stratos easy and comfortable to operate. All essential functions of the Stratos can be controlled by means of this one button. The WILO Stratos circulator's front-mounted display shows all important operational data for technicians to read whenever necessary.

Professional building management

The WILO Stratos offers the right functionality for every requirement. In addition to issuing standard collective error messages, the Stratos can be optionally connected to local operating networks (LON). Additional IF (interface) modules with integrated dual-pump management as well as 0-10V DC capabilities can be retrofitted. With these additions, the WILO Stratos fulfills all requirements for professional building management. ■

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Nebraska's first 'geo' neighborhood a bridge to the future

The Bridges housing development near Lincoln, Neb., is quickly becoming one of the "greenest" neighborhoods in America. It's not a marketing ploy by Miracle Grow. Rather, the state's first all-geothermal development is a study in

back-to-the-future energy reduction. But it didn't start out that way.

"I just like to create stuff that looks good," said Gary Pickering, Bridges developer and president of Lincoln-based Pickering Creative Group, a marketing firm. "My initial vision was purely aesthetic. I wanted to make a gorgeous environment with lots of water that would include a variety of unique bridges, all set like gems within the green



Geothermal energy from decorative lakes in the development, and photovoltaic panels place these new homes on the cutting edge of energy efficiency.

under the weight of a car. Other bridges are made of cedar, stone and bowed metal." One bridge will have an ornate cupola in its center.

The green landscape/green energy approach stems from a conversation Pickering had with Mike Rezac, president of Rezac Construction Inc., a partner in the Bridges project, when they first reviewed the plan for so many bodies of water. A decade ago — before green-build was cool — Rezac focused his firm on sustainable home construction.

"I've had experience with geothermal before," said Pickering. "So, when Mike and I looked at the landscape plan, he brought up the idea of tapping

"The surprise came when we discovered that exchange levels exceeded those of ground loops. We've achieved a 20-degree differential, well above design standards."

living space. It wasn't about energy efficiency."

Pickering's all-things-green approach evolved many months before the first of 70 planned homes was constructed at the 181-acre space. The devel-



Doug Kreifels, president of Action Plumbing & Heating, readies a "Slim Jim" stainless steel heat exchanger for installation at the bottom of a 12-foot-deep lake that is a distinctive feature of a housing development. The Slim Jims help push the homes' geothermal systems' efficiency to 30 EER.

opment's landscaping is well under way as big machines sculpt the property, adding small lakes, roads, miles of paved walkway and entry points for a multitude of bridges.

"Each bridge is distinctly different," said Pickering. "At the development's entry point is an 80-foot-long covered bridge built with heavy timbers with a floor surface that deliberately rumbles

the abundance of BTUS in the water."

The lakes at Bridges, some of which measure 500 feet long and 70 feet wide, are about 12 feet deep. "They're deep enough for a bunch of stainless steel, 4-by-6-foot, or 4-by-8-foot "Slim Jim" heat exchangers, one dedicated to each of the 58 homes planned for the development on property bordering any of the seven lakes," said Doug

Kreifels, president of Action Plumbing & Heating, tapped by Rezac to do the mechanical work.

Rezac, who builds eight to 12 homes a year, built the first three homes in the

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Bridges development. Each home is a Nebraska state-certified “green build” home (see www.nebraskagreenbuilders.com), recognizing deliberate steps Rezac has taken to manage a home’s design, construction, energy use, water efficiency and lot development.

Lake loops

According to Kreifels, the lakes are the key source of energy savings. During the development’s very early stage, geothermal pipes were horizontally bored from each of the initial lake-bordering home sites to the water’s edge.



Floating a Slim Jim to the center of a lake, ready to sink it to its home on the bottom.

“We went down about six feet and, from that point, pointed the drill toward the lake,” said Kreifels. After inserting the geothermal tubing underground, the last 10 feet of borehole was grouted, sealing it to eliminate the risk of water penetration from the pond.

“This way, most of the underground work and tubing to and from the home is ready to go. When a buyer presents a home plan, determination can then be made about the size of the lake-loop heat exchanger: the larger the home, the larger the ‘Slim Jim,’” added Kreifels.

Up to 30 EER

“With the tubing already in place to complete the system, and buried, there’s little exterior work involved,” said Rezac. The 12 homes not bordering a lake will tap the earth’s thermal energy through more traditional geo-exchange – with closed loop pipes inserted into deeply-drilled boreholes.

All homes will include either a Carrier GT-PX geothermal unit or a ClimateMaster Tranquility 27 system. Some homes are served by a four-, five- or six-ton heating and cooling systems; others may require two units to meet a total of seven tons. According to Steve Wilkey, geothermal division manager for Comfort Products Distributing, involved in the project as the manufacturer’s rep for Carrier and ClimateMaster, all are two-stage systems with variable-speed blowers for maximum heating and cooling comfort and efficiency. Factory-installed hot water generators will provide about 50% of the heat for all domestic water needs.

“The Nebraska State Department of Energy asked me to go a step further with one of the homes, hoping that we’d be willing to take it to a net-zero energy level,” added Rezac.

And so they did. The third home in the devel-

opment has achieved total energy independence. One of the surprising things Rezac discovered in monitoring energy performance so closely for the DoE home is that, coupled with the underwater heat exchangers, they pushed the efficiency of the geothermal systems from an expected efficiency of 27 EER to 30 EER because of the superb thermal transfer they achieved with the lake water plates.

Rezac explained that they researched the effectiveness of wind and photovoltaic (PV) energy production for the net-zero home. “But we wanted the home to be mainstream and to side-step all the code restrictions on wind turbines, so we went with PV and also incorporated other active and passive solar design facets — such as a longer roof overhang, and optimal orientation of the home for winter solar gain.

According to Rezac, each geothermal system — which requires no combustion process — avoids the release of about one ton of greenhouse gas each year.

The Norris Public Power District based in Beatrice, Neb. estimates, depending on the size of the home, that residents will save between \$500 and \$1,500 per year on their utility bills. “We’re partnering with local utilities, Carrier and ClimateMaster on this project,” continued Rezac. “They’ve helped immensely, working closely with us in designing the systems.”

“There’s really no limit to what we can do, or at least attempt to accomplish, with the combination of geothermal energy at this development,” said Wilkey. “There’s been a sense of exploration and discovery from the beginning. Ultimately, the homeowners will reap the benefit, and beyond this development we hope we’re making some contribution to a larger, broader good for the building industry and the environment.”

Heat exchanger fisheries

Utility experts have closely monitored exchange temperatures at the submerged heat exchangers, both in the heating and cooling modes. “The surprise came when we discovered that exchange levels exceeded those of ground loops. We’ve achieved a 20-degree differential, well above design standards.”

Rezac went on to explain that one surface acre of water with an average depth of 10 feet could serve 20 tons (240,000 BTUS) of heating and cooling without significantly influencing ambient temperatures in the body of water.

“The lakes have an average temperature of 60 degrees in the heat of summer,” added Rezac. Monitoring lake temperatures before and after insertion of the lake plate heat exchangers has been especially important because each of the lakes is a unique and carefully-controlled ecosystem. “Each body of water is home to one specific fish,” said Rezac. Species include yellow perch, small or largemouth bass, and catfish. Each lake is tended carefully by an expert dedicated to the task.”

“No doubt, we’ll be building homes at the development for several years,” concluded Pickering. “We’re taking it at a realistic pace with time to enjoy accomplishment at each new stage. It’s not every day that you can be involved in something like this.” ■

FROM THE DESK OF...

John Hazen White, Jr.

Solar Energy is Here to Stay.

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



There’s a lot of talk these days about the need to develop alternative energy technologies – wind, wave and solar – both to counter the increasing ill effects of carbon burning and also to create jobs in a new industry. At Taco, we remember this kind of talk back in the 1970s in the aftermath of the OPEC Oil Shock, when interest in developing solar energy became a brief national priority. We saw a market opportunity back then for our residential circulators. But with the return of lower oil prices, investment and tax credits for rooftop solar energy dried up and the market went dead.

This time around, however, it’s different. We are just at the beginning a paradigm shift to clean energy, and we’ve learned by now that fluctuating oil prices are a fact we must live with. We’ve seen prices for carbon-based fuels go high enough to know that depending on them is detrimental to our economy and our national security. Clean alternative technology, for its part, has developed significantly in recent years, and has at last become practical, in addition to necessary.

In response to this shift to clean energy, Taco has introduced a range of energy efficient “Green” products, including two new products specifically designed for the solar thermal market: a Variable Speed Solar Control Circulator and a Solar X-Pump Block.



Learn more about Taco Solar products at www.taco-hvac.com/solar.html

The **Variable Speed Solar Control Circulator** continuously optimizes water flow through a solar collector to achieve maximum energy gain; it accomplishes this by maintaining the proper Delta through the solar collector over an extended period of time. The **Solar X-Pump Block**, an extension of our all-in-one X-Pump Block, is a breakthrough in the design, control and installation of solar thermal systems, as it combines a variable speed differential control, collector circulator, storage tank circulator and a heat exchanger in a single unit.

These products are part of a mix of new energy saving and versatile products that include recirculation and plumb n’ plug products for domestic hot water, smart controls and valves, and our new home automation line of controls. All are characterized by ease of installation and dependable operation. Most significantly, they have been designed to function as a system. Developing and offering to the HVAC marketplace *energy efficient systems* is our overriding product development goal at Taco.

Circle 36 on Reader Reply Card

INDUSTRY NEWS

Industry loses a great friend

By John Mesenbrink

EVERY ONCE and awhile you come across a person that makes a lasting impression on your life. For me, one of those individuals was Frankie Jaen, Viega product manager for INFIVA, an industrial distributor of products for total flow management located in Puerto Rico. Shockingly and tragically, Frankie passed away a couple of weeks ago. He was 39 years old.

I met him on an overseas trip to Germany a few months back. We traveled in a group for six



Frankie Jaen

days. And it was because of him that I will never forget my time in Germany. He had the most infectious smile, he was easy to talk to and he created his own adventures everywhere he went. A lot of people knew Frankie and everyone talked highly of the man.

Employer and close friend, Jose Merino, said, "Frankie lived for his daughter, Viegga/INFIVA and golf. He had an infectious smile that could light up a room and we would like to remember him like that — full of life and joy. Frankie Viegga: that's how everyone knew him since we incorporated INFIVA as being the main cog for Viegga's success in Puerto Rico. He sorely will be missed, and he will be remembered as a fine and loyal friend, surrogate son and hard-working associate."

Frankie will be missed. God bless your soul and may you rest in peace.

U.S. Secretary of Energy tours WaterFurnace International

FORT WAYNE, IND. — U.S. Energy Secretary Steven Chu toured the world headquarters of WaterFurnace International, Inc., a manufacturer of residential, commercial, industrial and institutional geothermal and water source heat pumps, during a visit to Fort Wayne, Ind. His visit to Fort Wayne also included the announcement of a \$50 million program that will encourage the installation of geothermal heating and cooling systems like the ones manufactured by WaterFurnace.

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It still does...

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Between July 15 and August 31, 2009

- \$75 for Condensing Boilers
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- \$25 for Domestic Water Tanks
- \$25 for Controls



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Ask your wholesaler for program details and rewards forms.

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Circle 37 on Reader Reply Card



Variable speed circulator

The “00” solar thermal Variable Speed Solar Control Circulator continuously optimizes water flow through the solar collector for maximum energy gain. Combines the features of external speed and solar controls with the convenience of the dependable “00” cartridge circulator. Wiring for power and sensors is direct to the circulator; an LED status panel makes it easy to check functionality. Dip-switch-based user configurable settings allow a fast set-up, regardless of application. **Taco.**

Circle 101 on Reader Reply Card

Point of use TMV

Point of use valve — a lead-free $\frac{3}{8}$ " compression thermostatic mixing valve (TMV) — has been added to its growing Navigator® line. The only lead-free $\frac{3}{8}$ " compression TMV on the market, this point of use TMV contains less than 0.25% lead content and meets lead-free requirements as defined by CA AB 1953, making the valves even safer for commercial applications and better for the environment. **Bradley Corp.**

Circle 102 on Reader Reply Card

AquaPEX® reclaimed water tubing

Offers all the benefits of Uponor PEX: (a crosslinked polyethylene) — flex-



ibility, durability, corrosion-resistance, 20-year proven history in plumbing, 25-year limited warranty — with a layer of purple coloring to designate the tubing for greywater systems that supply non-potable, reclaimed water to laundry, toilets and irrigation systems. **Uponor.**

Circle 103 on Reader Reply Card

★ Phc News product of the month ★

Tempra Series tankless, on-demand electric water heaters

The next generation Tempra® and new Tempra® Plus models are now available. Enhancements include: output to 140°, upgraded heavy-duty electronics, single flow sensor, easy access hinged cover and a larger inlet filter screen. Tempra® Plus models have a digital display for °F or °C readout and Advanced Flow Control™ to automatically adjust flow rate to maintain set point temperature. Further, the Tempra® series is now an ideal backup for solar thermal systems. Industry-leading 3-year warranty extended on all tankless, on-demand, electric water heaters. **Stiebel Eltron.**



Circle 100 on Reader Reply Card

Surface water management products

The durable StormDrain water management systems is a long lasting, permanent solution to collecting and dispersing standing surface water. For residential and commercial surface water drainage applications, these water management systems offer channel drains, distribution boxes, drain basins, drain grates, atrium grates, pop-up emitters, valve and meter boxes. Quick and easy to install, cost effective, durable and aesthetically pleasing. **Fernco Inc.**

Circle 104 on Reader Reply Card



Category IV PVC Venting

The XTherm™ condensing boiler has vaulted the optional selection of stainless steel, CPVC, or PVC venting to the 2000 MBTU level, even for the 98% efficiency rated boilers. The PVC adaptor is factory installed inside the boiler jacket. Where local codes allow, PVC venting can offer tremendous installation cost reduction. CSA approval for PVC venting has been granted for all XTherm™ models, including the 2000 (8" vent). For single and multiple boiler systems, this can reduce installation cost 30-50% while retaining all the energy saving benefits of condensing boilers. **Raypak.**

Circle 105 on Reader Reply Card

Medium temp water-source heat pump

Tranquility medium temperature, R-410A water-to-water units are



now available in sizes ranging from 3 tons (36,000 BTUS) to 28 tons (336,000 BTUS). The TMW water-to-water series offers high efficiency and high capacity with quiet operation. TMW series can be used for radiant floor heating, snow/ice melt, chilled water for fan coils, industrial process control, potable hot water generation (with field-supplied secondary heat exchanger or with factory-installed double wall load heat exchanger, hot/chilled water for make-up air, and many other types of HVAC and commercial application. **ClimateMaster.**

Circle 106 on Reader Reply Card



Emergency tempering valves

New line of ASSE 1071-listed emergency tempering valves deliver tepid water to eye and face washes, drench showers and combination units in compliance with ANSI Z358.1-2004. Built on the HydroGuard XP platform and features greater cold-water bypass flows, more precise temperature control, higher top-end capacities and a new 2" model for multi-fixture applications (119 gpm at 30 psi differential). **Powers, a Division of Watts Water Technologies, Inc.**

Circle 107 on Reader Reply Card

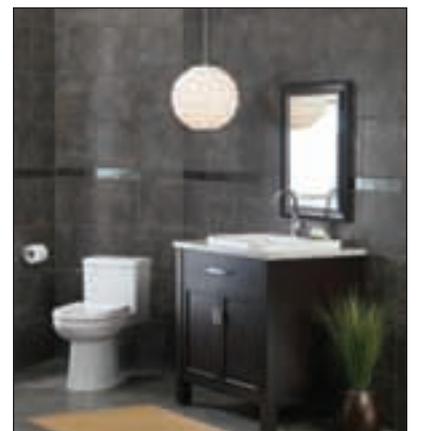
Hot water storage tanks

Pipe the high efficiency heat source to a well-insulated all stainless storage tank. Tanks have four 1" top connections for easy installation — two for cold and hot, and two for heat source in and out; hydraulically isolated from cold and hot water draws. Heat source in and out are hydraulically isolated from cold and hot water draws. The units are easy to install and are available in 30, 40, 50, 60, 80, and 115 gallons. **Heat-Flo, Inc.**

Circle 108 on Reader Reply Card

Wicker Park Suite

Designed with water conservation in mind, the sophisticated Wicker



Park™ bathroom suite provides the ultimate in contemporary design and product performance. The suite is complete with high efficiency toilets, low flow bathroom faucets, pedestals, and self-rimming or undercounter lavatories. **Gerber.**

Circle 109 on Reader Reply Card



Compact recip saw

The compact, lightweight HACKZALL™ saw provides powerful, versatile cutting in tight spaces for tradesman to tackle plumbing, electrical, remodeling and HVAC applications. Featuring a 12V lithium-ion battery, the saw cuts over 80 pieces of 1½" PVC on a single charge. Delivers a ½" stroke and 3,000 rpms for a smooth yet aggressive cut. Utilizes a keyless QUIK-LOK™ blade clamp for quick, easy blade changes. Milwaukee Tools.

Circle 110 on Reader Reply Card

Stainless steel cutter

The Model 65S Stainless Steel Quick-Acting tubing cutter makes quicker



cuts to stainless steel and other metallic tubes. Its larger, ergonomic X-CEL® knob allows more force to be applied to the cut. With a spare wheel stored in the knob, the X-CEL wheel pin allows quick wheel changes without tools. RIDGID.

Circle 111 on Reader Reply Card

Handheld pressing tool

The M20+ and the P20+ professional-grade pressing machines are bringing increased productivity, time savings and ease of job execution to the skilled plumber and pipe tradesman. VIRAX M20+ is a compact pistol grip pressing machine the size of a cordless drill. Stanley VIRAX.

Circle 112 on Reader Reply Card

★ Phc News tool of the month ★

Power-Vee™ automatic feed drain cleaner

Drain cleaner has a simplified feeding system that's lighter and is easier to operate. The Power-Vee is like having an extra hand in tight and awkward places. Just squeeze the lever and the cable feeds at a rate of up to 16 feet per minute. The Power-Vee easily unclogs sink, shower, toilet, and laundry drains ranging from 1¼" to 3" diameter and at a distance of up to 50 ft. The automatic feed can quickly adjust to take any cable from ¼" to ⅜" without requiring the use of tools or additional parts. The optional Handy-Stand™ turns the Power-Vee into a practical countertop or floor machine. The ergonomically balanced Handy-Stand™ enhances the drain cleaner's versatility, safety and stability. General Pipe Cleaners, a division of General Wire Spring.

Circle 109 on Reader Reply Card



Color mini camera system

New EC-5 mini color camera drain line inspection system offers a 5"



color LCD monitor; a color camera (also available with a new self-leveling color camera); 100 ft. of durable push cable and a 512 HZ In-Line transmitter, all conveniently housed in a lightweight, portable reel. Inspects 2"-8" drain lines and weighs only 25 lbs. for easy transport. Jacks are provided on the unit for an external recording device. Electric Eel Mfg. Co., Inc.

Circle 114 on Reader Reply Card

Snap-back arbors

Versatile design features drive-off pins to allow easy attachment and detachment from the saw with no need for adaptors. The drive-off pins also prevent the arbor from tightening on the saw during use, which prevents threads from stripping. The unique design allows hole saws to be switched out much quicker than most other arbors on the market. The sleeve doesn't need to be held back to engage/disengage the arbor and requires no secondary tightening; eliminating the need for yet another tool on the job. LENOX.

Circle 113 on Reader Reply Card



CoBolt 8" compact bolt cutters

The new 8" CoBolt bolt cutters with angled head and newly designed joint construction now allow almost flush cutting. Cuts almost any hard material up to ¼" with ease. The handles run at an angle to the cutting blades for cutting with ample hand room. Available with very slim single component handles and ergonomic dual component handles for additional comfort. Offered in both straight and angled versions. KNIPEX.

Circle 115 on Reader Reply Card

Circular saw blades

Finding the right circular saw blade for the job is easy with a new circular saw blade portfolio. Includes



blades for framing, finishing, wet or pressure-treated lumber, and general purpose applications. Blades feature ultra-thin kerf technology for smooth cuts, fast performance and reduced operator fatigue. High strength steel and laser-fused carbide teeth provide long life, and the 5/8" arbor with a diamond knockout allow the blades to work with most professional circular saws. Hilti.

Circle 116 on Reader Reply Card

Reed catalog available

Manufacturer has been making tools for professionals for 113+ years. Full-



line catalog has six pages of new tools and eight pages of Best Ever! tools, and showcases tried-and-true tools plus new combo roll groovers, universal pipe cutters for steel pipe, large diameter ratchet wrenches, smooth jaw wrenches and pliers, power tapping and drilling machines, and PEX tools. Reed Manufacturing.

Circle 117 on Reader Reply Card

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PRESSING TOOL FOR
1" TO 4" TUBING

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Patented Self-Cleaning Probe

Minimizes scale build-up and extends recommended cleaning interval to 5 years.

NEW Brass Threads

Metal-to-metal seal ensures a leak-free installation.

NEW Wrench Flats

Easily and quickly installs in any hydronic system.



Plug & Play Installation

Universal wiring harness fits any gas boiler. "Plug & Play" harnesses available for most residential boilers.



NEW Push-to-Test Button

Enables low water cut-off protection to be verified without draining any part of the system.



To learn more, contact your local McDonnell & Miller Representative or visit www.mcdonnellmiller.com



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Circle 39 on Reader Reply Card

SOLAR SOLUTIONS

Solar: then & now

(Continued from page 28.)

for the controls to be more easily duplicated as well.

Modular Now: Our modular primary loop systems are slowly being transformed by the ever increasing availability of multi-function components. Circulators with built in check valves, flanges with built in ball valves, charge ports with three valves in one unit. These components are more compact, and not only save space but save labor during installation. There is a much bigger choice of these components available than ever before and there is even a photovoltaic circulator now that includes a check valve, air vent, valve and unions built into the pump body. The next generation of modules has recently arrived from Europe, where modular pump stations and prefabricated pump manifolds and flow separators are used instead of small primary loops. We have been trying this equipment in solar heating installations and intend to keep using it, mostly because of the ease of assembly with this "snap together" approach.

Collectors

Then and Now: Solar heat collector technology has not changed much in the last 10 years. Flat plate absorber surfaces were and still are mostly coated with selective black surfaces, and covered with a single layer of tempered glass that is low iron and high transmission. The frames and insulation are designed to withstand severe weather and "oven" temperatures without failure. Collectors are tested and rated by the SRCC, and when you look at the ratings today, there are many sizes and brands to work with, and collectors with similar construction tend to perform similar to one another. There are many more companies listed now that offer vacuum tube collectors and they may be worth considering in colder, cloudier climates where high temperatures are needed. But, flat plate panels tend cost less and perform well through out most of the country for common water heating jobs. Collector manufacturers now offer more accessories like mounting clamps, union connections and other prefab hardware that can make an installation go quicker.

Regional results may vary

This article presents a brief snapshot of solar heating developments in my region. If your situation is much different than ours, you may be seeing different innovations with different kinds of equipment. It is always a good idea to talk to local solar suppliers and solar installers for a reality check before investing heavily in one technology over another.

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.



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Circle 40 on Reader Reply Card

PLUMBING BUSINESS

Pricing

(Continued from page 30.)

many more of you than there were years ago. For those who want to continue to deny reality while using a horse and wagon method, think about the costs you incur stabling, grooming and feeding that horse. Contemplate the lost time you spend driving your much slower wagon while the contractor using a truck flies by and does more calls because he/she gets to those calls faster. Think about the profitable benefits of contract pricing as you try to justify your horse and wagon method.

For those of you who are not happy with the results you are getting from your monetary and sweat equity investments in your business, and who want to change, give me a call at 845-639-5050. In as little 30 to 60 days, depending on your learning pace, I can lead you into the 21st century confidentially, quickly, painlessly, profitably and completely with your own price guides. And, we can do it over the phone with a few conversations.

In order to show John change in the industry after 10 years of this exceptional publication, I would like to anonymously chronicle the progress of some contractors from the beginning of their change from T & M pricing to Contract Pricing in the upcoming issues. Obviously, each contractor would have to be using the contractor pricing method properly. If the contractors didn't implement the method correctly the comparison would be flawed.

It wouldn't take much time and just a few phone calls. It could improve the industry as a whole for contractors and consumers as well as your own business. By comparing the dollars you bring in with contract pricing in the upcoming months with the revenue you brought in using the time & material pricing method the previous year for the same time period readers could see the results. Then, they could make up their own minds based on facts rather than ignorance and fear. In addition to those dollar amounts, it would be helpful to know whether the amount of work done for each time period was the same, more or less.

This is also open to contractors I have already helped. You know the benefit you've received from the change. Help others help themselves.

Please consider this project. Remember, participants who contribute this information would remain anonymous unless any individual wanted to be known. Your involvement would be invaluable to the industry. You could help to make the industry better for consumers, contractors, creditors, employees and your families. ■

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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- Monitor is mounted on a 355 degree swivel gooseneck for easy viewing in all directions.
- Mini-reel carries 125 ft. or 175 ft. of push rod small enough to trouble shoot 2" to 4" lines.



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The Cablesphere® connector has control rods already permanently attached. There's nothing to assemble. Nothing to forget.

And the cable control units are already sized to prevent the joint from expanding past its limit. There are no adjustments to make.

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Metroflex
for pipes in motion

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Bradford White Solar Water Heating Solutions!

This year Bradford White is introducing 20 new water heaters for solar applications. Along with the 9 models the company introduced in 2008, the company now offers a total of 32 models...one of the most extensive solar water heating lines in the industry.

SOLAR SAVER MODELS

- Appropriate for open system applications where water from a solar collector is pumped into the tank
- Directly heats the potable water (no internal heat exchanger coil)
- Alternate collector supply and return connections provided for installation flexibility

ECOSTOR™ SC SOLAR INDIRECT SYSTEM SINGLE-WALL SINGLE COIL ELECTRIC BACKUP MODELS

- Features an internal single-wall heat exchanger that allows heated water from a solar collector to flow through the coil
- A dual or single backup heating element provides heat only when solar energy does not satisfy demand
- Dual element models allow the entire tank to hold hot water during periods when solar heating is not available

ECOSTOR™ DC SOLAR INDIRECT SYSTEM DUAL COIL HEAT EXCHANGER BACKUP MODELS

- Dual heat exchanger design provides superior installation flexibility
- Allows combination heat source systems to operate independently or simultaneously
- Top heat exchanger coil is single-wall & lower heat exchanger coil is double-wall
- Typical applications: solar, boiler, wood burner, geothermal or space heating

ECOSTOR2™ SC SOLAR INDIRECT SYSTEM DOUBLE-WALL SINGLE COIL ELECTRIC BACKUP MODELS

- Features an internal double-wall heat exchanger
- Design provides additional protection required in certain municipalities and applications
- Ensures separation of the surrounding water from the solar heating fluid

ECOSTOR2™ SC SOLAR INDIRECT SYSTEM DOUBLE-WALL SINGLE COIL GAS BACKUP MODELS

- Design utilizes a gas burner as backup when periods of supplied solar energy does not meet the required hot water demand
- Electronic temperature sensor located in upper portion of the tank in order to promote greater solar collector efficiency
- Double wall heat exchanger located in lower portion of the tank to optimize solar heating performance
- Provides additional protection between surrounding water and solar heating fluid
- Atmospheric venting provides an easy replacement for existing standard water heaters

ECOSTOR2™ SC SOLAR INDIRECT SYSTEM DOUBLE-WALL SINGLE COIL TTW GAS BACKUP MODELS

- Utilize some of the same design features as the atmospheric vent models
- Incorporates a powerful, quiet blower motor for additional venting flexibility

ECOSTOR2™ SC SOLAR INDIRECT SYSTEM DOUBLE-WALL SINGLE COIL ECO-DEFENDER GAS BACKUP MODELS

- Incorporates Bradford White's Eco-Defender Safety System® Ultra Low NOx burner as a power backup when solar energy is not enough to satisfy demand
- State-of-the-art radiant burner that significantly reduces NOx emissions
- Advanced control system that increases efficiency
- Safe, efficient and ecologically friendly



BRADFORD WHITE
WATER HEATERS

For more information about
Bradford White's
Solar Water Heating Solutions, visit
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Circle 44 on Reader Reply Card

Maintaining stability

(Continued from page 35.)

observers is that labor gets the benefit of the Davis-Bacon Act, passed during the 1930s Roosevelt years, forcing employers working on government-supported projects to pay the highest prevailing wage offered by organized labor in a particular area, whether such work is unionized or not.

Second, foreign and domestic companies employing thousands of workers in the U.S., but not able to guaranty source of origin of all component parts as domestically made, are disqualified from bidding on any stimulus-involved projects.

Third, the most dangerous component of this ill-conceived provision is that it has stirred up a hornet's nest among our trading partners. This could conceivably lead to loss of jobs among our domestic workforce, and lost revenues for America's companies who have benefited dramatically from the upshot of America's No. 2 global export sector.

Representatives of a dozen American trading partners are already consulting with each other as to how to respond to what is being called the "United States' protectionist drive." Our No. 1 trading partner, Canada, which has been barred from bidding for stimulus-oriented American business, is threatening to back a Dominion-wide response, retaliating in kind.

An analysis communicated by the Peterson Institute for International Economics, Washington, D.C., estimated that "Buy American" provisions could save 9,000 American jobs vs. 650,000 jobs directly involved in the foreign government procurement of American exports.

Taken in the context of what's good for America, "Buy American" in the stimulus bill could well turn out to be "un-American" due to all its ramifications.

Global manufacturing is breaking out all over

One of the most demoralizing aspects of the current global recession has been the simultaneous disintegration of manufacturing in the world's leading industrial centers.

This has not only undermined the economies of major developed nations, but has stopped the emerging, most agrarian nations from developing their economic societies, as imports from the U.S. and other industrialized nations shrank precipitously.

The worldwide deep recession has also brought international trade to multi-year lows, which has had the side effect of encouraging a new round of protectionism.

But latest statistics from around the world seem to indicate a significant rebound is in

the making. In the United Kingdom, the purchasing managers' index hit its highest level in a year. In the Eurozone, the manufacturing recession seemed to be easing, with indices for Germany, Italy and Spain rising by a record amount. China's manufacturing sector in May grew for a third month in a row, indicating that the Asian giant's industry is gathering new momentum.

Even the U.S. manufacturing numbers are "less worse" than they have been since the summer of 2008.

India and Australia also seem to be well on their way to industrial recovery, with indexes hitting multi-month manufacturing highs.

A major reason for this unexpected turn of events is that the U.S., as well as most of the industrialized world have cut their inventories to the bone, while production has been cut back severely. Increasing inventory draws, as demand has started coming back, have created shortages that can only be alleviated by an acceleration of factory activity. Whether this comeback will prove to be spasmodic, rather than long-term, still remains to be seen.

U.S. savings rate spikes to 12-year high levels

The U.S. savings rate, which had dropped below zero as consumption spiked to its highest level ever in 2007, has reversed course, reaching 5.7% most recently.

Although the American savings rate has not taken into account 401ks, IRAs, or other federally-sanctioned savings plans, the spate of leveraged U.S. consumption had reached bubble proportions, creating the scenario that had led to an unprecedented financial crisis, bringing the U.S. to the verge of a liquidity meltdown last summer.

Although the current fear-inspired rush to savings safety has severely curbed consumer appetites, it has also solidified an eventual economic recovery.

With consumer borrowing, such as home equity and credit card loans increasingly harder to come by, providers of consumer products, both imports and domestically produced, have seen severely reduced demand, impinging drastically on their revenues.

Although increasing unemployment has only aggravated consumer buying momentum, a more prudent consumer approach will eventually lead to a balanced equilibrium between demand and supply.

This could permanently impact such major manufacturing sectors as housing and automotive once the American economy emerges from its grinding recession sometime in 2010. ■

Morris Beschloss, a 49-year veteran of the pipe, valves and fittings industry, serves as PVF and economic analyst for Phc News and The Wholesaler.



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- Micro Combined Heat and Power
- Replacement PTAC Chassis
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Circle 45 on Reader Reply Card

Get a grip on combustion.

WÖHLER



Full 4-Year Warranty
on workmanship and materials



Wohler A 400 Flue Gas Analyzer

The Wohler A 400/A 400™ Flue Gas Analyzers do so much for you and your residential- and light-commercial applications. Some features of the Wohler A 400 series include:

- One-hand operation (Why use two?)
- Full 4-year warranty (We believe in it. So will you.)
- Brilliant OLED full color display (Perfect for dark mechanical rooms.)
- Easy-to-use, four-button keypad (It's a snap!)
- Safety controls, including LT sensors (You'll love it.)

The Wohler A 400 series comes with the patent-pending Wohler Tuning Guide, with graph-feature for all combustion readings.

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Circle 46 on Reader Reply Card

Brown

(Continued from page 58.)

would receive your magazine through the regular mail.

Maintaining a specific philosophy

Since the advent of our own move into the digital era, we've always maintained the philosophy that our printed magazines will use technology to deepen our relationship with our existing readers and to introduce ourselves to new readers. There is no "one size fits all" formula for creating a meaningful magazine-branded experience using digital delivery as a sole method of distribution. Because our printed magazines are trusted, recognizable and targeted communities of interest they have the ability to connect with people across a wide range of delivery systems. So, rather than transferring all of our content verbatim to the Internet we feel that our Web sites are better served by providing updated content between publishing cycles, to provide a place for our industry

members to interact together, and to highlight industry news and topics from the printed magazines.

Naturally, we believe strongly in the future of the paper-based magazine. It's been with us for more than 260 years. Paper-based magazines are a timely and timeless medium. And while we're certainly moving to an era where there are exciting digital platforms, magazine content, the power of magazine brands and the communities of magazine readers will always be part of this evolving media transformation, as well. So beware of publishers who place all of their proverbial eggs in one basket by claiming that an exclusive move to an online-only format is the next wave of the future or allowing them to be cutting edge. We here at TMB Publishing will continue to support our printed products as we've always done in the past by maintaining high quality standards for our editorial content and providing advertisers with a complete marketing package that serves both their traditional and online needs. ■

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Don't count magazines out

BY TOM BROWN,
president

On March 17, the Hearst Corporation printed the final copy of its *Seattle*

Post-Intelligencer newspaper and confirmed plans to turn into an online-only newspaper, making it the largest U.S. daily newspaper to shift to an entirely digital news product. Preceding that was the *Christian Science Monitor's* announcement last year that it was scrapping its daily print issue to focus on running its Web site. And, in the PHCP industry, recent news has surfaced regarding several other magazines that are also going (or have already gone) the digital route.

Naturally, some people see this as the future of magazines and newspapers; however, while the "print is dead" meme has been hashed out countless times in the media world since the advent of the World Wide Web, few experts are willing to predict that print magazines will become dinosaurs anytime soon. In fact, the publishing industry is one that constantly reinvents itself to serve the evolving needs of its readers and advertisers, and we at TMB Publishing are no different. And while no one in the business will argue that ad dollars are moving online, it's extremely important to note that a lot of those dollars are still falling into the magazine industry bucket.

Of course, none of that really means anything if publishers operate on a faulty business platform — specifically one that seriously hinders efforts toward selling physical ad space in their printed magazines, which forces them to go digital on a permanent basis. Unfortunately, this is already happening in the PHCP industry, where one publisher has announced digital issues being offered in place of sev-

eral printed issues throughout the year, and another publisher completely replacing its print magazines with digital offerings. In both of these cases, the move to digital is strictly advertising-based, meaning it's because of a lack of advertising and not one for the sake of being cutting edge or from a position of strength in the marketplace.

The power of the printed word

The advantages of printed media are many. For the advertiser, a printed magazine ensures them that their corporate message will be delivered to a select and definitive audience on a timely basis. Additionally, it means that their carefully crafted ad will be found alongside quality editorial, rather than becoming lost within a sea of rotating banner ads, media rich videos and other online offerings all competing within the same digital space for visitor attention. Also, print ads provide for more accurate and detailed metrics, such as audited and qualified circulation, reader demographics, geographical breakouts and more — all plausible measurements of whether an ad in one magazine will have more impact than in another.

Speaking in terms of our readers, they read *Phc News*, *The Wholesaler* and *Plumbing Engineer* in print every month. They like the format of a printed magazine. They like the feel of it, the touch of the paper, slipping page after page through their fingers. They even like the surprise of finding a story in a section they wouldn't have sought out in an online search or browsing session. How do we know this? A recent survey conducted by *The Wholesaler*, revealed that 85% of wholesalers, contractors and engineers still view trade publications as a top viable choice for industry topics, news and product information.

Additionally, our magazines have one great

strength that digital publications will never be able to match: They've not been commoditized. There are many online outlets that are reporting the same things. Magazines, such as those printed by TMB Publishing, have a specific voice that reaches a specific targeted audience, and in this era voice is value; our magazines create content with unique value, and because of that we don't plan on going completely digital any time soon.

Digital media has its place, too

When used correctly, Web sites — such as those for *Phc News*, *Plumbing Engineer* and *The Wholesaler* — can contain wonderful content-rich offerings that exist to serve as powerful brand extensions of our printed core products. When used to augment the reader's printed experience, digital copies of magazines can be made searchable and interactive via a hyperlinked Table of Contents that takes the reader directly to the articles, features and sections of most interest to them. Keyword searches help them find a topic or name in seconds while also providing quick links to advertisers' sites and additional editorial content on the Web. Also, it gives the reader the ability to read our magazines anytime, anywhere — even when they're offline, and automatic delivery of every issue directly to your computer is provided via the Internet as soon as it is published, often before you

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Phc News (USPS number 022-074) is published 12 times yearly by TMB Publishing Inc., 1838 Techny Ct. Northbrook, IL 60062; tel. 847/564-1127; fax 847/564-1264. No part of this publication may be reproduced, stored or transmitted in any form or by any means, mechanical, photocopying, electronic recording or otherwise, without the prior written permission of TMB Publishing Inc. *Phc News* is delivered free of charge to qualified subscribers in the U.S. and Canada. Others: U.S., U.S. Poss. and Canada, \$100/yr.; two-year annual subscription rate U.S. and Canada, \$155; other countries, \$200/yr. or \$300 for two year (U.S. funds) plus \$20 surface postage. Single copies, \$15.

Application to mail at Periodicals Postage Rates is pending at Northbrook, IL and additional mailing offices.

POSTMASTER: Send address changes to Plumbing & Hydronic Contractor News, Creative Data Services, 519 E. Briarcliff Road, Bolingbrook, IL 60440. clewis@cds1976.com

Publications mail agreement No. 41499518: Return undeliverable Canadian addresses to PO Box 503, RPO West Beaver Creek, Richmond Hill ON L4B 4R6

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