

JULY '12 **CONTRACTING**  
**BUSINESS**.COM

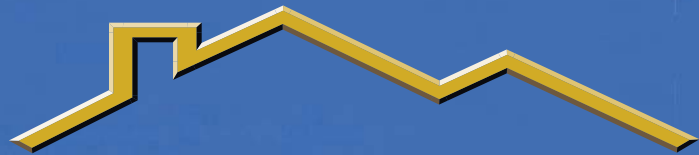
HELPING HVACR MANAGERS RUN BETTER BUSINESSES SINCE 1944

**ALSO IN THIS ISSUE:**

Mike Weil on  
Healthcare Ruling, P. 4

Woman of the Year  
Alana Ward, P. 52

Matt Michel: We Don't Need  
No Stinkin' Permits, P. 64



**QualityHome**  
**Comfort**

A W A R D S



## **Digital Edition Copyright Notice**

The content contained in this digital edition (“Digital Material”), as well as its selection and arrangement, is owned by Penton Media, Inc. and its affiliated companies, licensors, and suppliers, and is protected by their respective copyright, trademark and other proprietary rights.

Upon payment of the subscription price, if applicable, you are hereby authorized to view, download, copy, and print Digital Material solely for your own personal, non-commercial use, provided that by doing any of the foregoing, you acknowledge that (i) you do not and will not acquire any ownership rights of any kind in the Digital Material or any portion thereof, (ii) you must preserve all copyright and other proprietary notices included in any downloaded Digital Material, and (iii) you must comply in all respects with the use restrictions set forth below and in the Penton Privacy Policy and the Penton Terms of Use (the “Use Restrictions”), each of which is hereby incorporated by reference. Any use not in accordance with, and any failure to comply fully with, the Use Restrictions is expressly prohibited by law, and may result in severe civil and criminal penalties. Violators will be prosecuted to the maximum possible extent.

You may not modify, publish, license, transmit (including by way of email, facsimile or other electronic means), transfer, sell, reproduce (including by copying or posting on any network computer), create derivative works from, display, store, or in any way exploit, broadcast, disseminate or distribute, in any format or media of any kind, any of the Digital Material, in whole or in part, without the express prior written consent of Penton Media, Inc. To request content for commercial use or Penton’s approval of any other restricted activity described above, please contact the Reprints Department at (888) 858-8851. Without in any way limiting the foregoing, you may not use spiders, robots, data mining techniques or other automated techniques to catalog, download or otherwise reproduce, store or distribute any Digital Material.

NEITHER PENTON NOR ANY THIRD PARTY CONTENT PROVIDER OR THEIR AGENTS SHALL BE LIABLE FOR ANY ACT, DIRECT OR INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF OR ACCESS TO ANY DIGITAL MATERIAL, AND/OR ANY INFORMATION CONTAINED THEREIN.



The new degree of comfort.™

RHEEM DEFINES

# VALUE PR<sup>o</sup>DUCT

**val•ue pro•duct noun** A quality, well-built, reliable solution from Rheem that offers the perfect blend of energy efficiency and affordability needed to be competitive. Example: Rheem Value Series 13-15 SEER heat pumps and 13-16 SEER condensing units featuring a robust metal jacket for coil protection and homeowner peace of mind.

Visit [Rheem.com](http://Rheem.com) or contact your local Rheem authorized distributor today.



### Save Time With DesignStar®

Make your first visit to a customer's home a success with the timesaving, Rheem exclusive remote load calculation and proposal building tool, DesignStar.

[www.Rheemdesignstar.com](http://www.Rheemdesignstar.com)



# RIGHT NOW

Your customers can manage the comfort of their home and save energy as easily as setting a car radio.



**With the Emerson Blue™ Easy Set™ thermostat the perfect temperature is just one touch away.**



Simply hold the Home, Sleep or Away preset button for three seconds and the perfect temperature is set for as long as the homeowner wishes. And changing it is just as simple. Learn more about this easy to set, easy to sell thermostat, visit [EmersonClimate.com/EasySet](http://EmersonClimate.com/EasySet)



Scan with your smartphone for more information.

The Emerson logo is a trademark and a service mark of Emerson Electric Co. ©2011 Emerson Electric Company



**EMERSON™**  
Climate Technologies

*circle 2 on reader service card*

**EMERSON. CONSIDER IT SOLVED.™**

Cover photo by Russ Donnici.  
Inside QHCA story photography  
by Tim Ryan.



Features

19 2012 QUALITY HOME COMFORT AWARDS

Introduction: A Refreshing Six-pack of Comfort

Our six, 2012 Quality Home Comfort Award winning projects prove that artful designs can meet high efficiency goals in any size home.

20 Trusted Team Serves With Distinction, For 'Net Zero' Results

For this mansion in Atherton, CA, Mechanical Air Service President Russ Donnici handed the reins over to his son Matt, and son-in-law Scott Larson. They came through with flying colors.

26 Comfort in the Clouds

It was a project almost as monumental as Pike's Peak, which occupies the "backyard" of this Colorado getaway: provide maximum comfort and efficiency across 19 radiant zones. Energy Environmental Systems reached the summit.

32 Big Comfort Hunter

Many customers know what they want right from the start, and seek out the HVAC contractor who can help them achieve it. Professional Geothermal Systems President Mark Doll's assignment was to provide radiant heat, pool heating, fresh air, humidity control, and an overall green design. He delivered.

38 A Barnful of Comfort

Jim Patterson strikes again, with a project that earns him his 11th QHCA. This time around, Jim provided superior comfort solutions in a 2,700 sq. ft. barn-style guest and pool house. It went swimmingly, as Jim's projects usually do.

42 Right-sizing HVAC System Works Wonders

The primary challenge facing Tim Bruce of General Air Conditioning, was to convince the homeowners that their system was just too darn big. Once they were in agreement, Tim and his team engineered some practical improvements.

46 The Name is Kjelshus . . . Eric Kjelshus

Eric Kjelshus is an "agent" of excellent HVAC installations. The story of his latest QHCA-winning project is told in part by the customer, a very green-aware homeowner, whose home needed many improvements. They started with insulation, and ended with a 27 SEER geothermal heat pump system.

52 HVACR Woman of the Year: Alana Ward

Alana Ward, owner of Baggett Heating & Cooling, Inc., Clarksville, TN, is a young leader with her sights set high. Her energy and enthusiasm for the HVAC industry radiate in the quality of work her company performs.



6



42



52

Columns

- 4 First Word
- 56 Tec Daddy's Corner
- 64 The Rant

Editor's Notebook

- 14 Products & Comfortech Product Showcase Award
- 14 Smart Products
- 13 Business Bits

Departments

- 6 From the Field
- 10 Tech Update
- 62 Classified Ads
- 63 Ad Index

Reader Services

CONTRACTING BUSINESS.com (ISSN 0279-4071). Published monthly by Penton Media, Inc., 9800 Metcalf Ave., Overland Park, KS 66212-2216. All Rights Reserved.

POSTMASTER: Send address changes to Contracting Business.com, P.O. Box 2100, Skokie, IL 60076-7800. Periodicals Postage Paid at Shawnee Mission, KS and at additional mailing offices. Phone: 847-763-9670, Fax: 847-763-9673

SUBSCRIPTIONS: U.S. & possessions: 1 year/ \$84, 2 years/\$126, single copy/\$7; Canada: 1 year/\$110, 2 years/\$131, single copy/ \$9, Add 7% GST or 15% HST if applicable; International: 1 year/\$126, 2 years/\$210, single copy/ \$11. Payable in advance, in U.S. funds. Prepaid subscriptions (US funds only) may be sent to Contracting Business.com, P.O. Box 2100, Skokie, IL 60076-7800. Phone: 847-763-9670. contractingbusiness@halldata.com

COPYING: Permission is granted to users registered with the Copyright Clearance Center Inc. (CCC) to photocopy any article, with the exception of those for which separate copyright ownership is indicated on the article's first page, provided that a base fee of \$1.25 per copy of the article, plus 60 cents per page, is paid directly to CCC, 222 Rosewood Dr., Danvers, MA 01923. (Code No. 0279-4071/97 \$1.25+ .60)

CANADIAN GST #R126431964. Canadian Post Publications Mail agreement No. 40612608. Canada return address: Pitney Bowes, P.O. Box 25542, London, ON N6C 6B2.

Printed in the U.S.A. Copyright © 2012 by Penton Media, Inc.



"Whatever you do in life,  
do it well."

*Ruby Crowder-Gurgin*

**BUILT RIGHT.  
BUILT BY**

**Y  
O  
R  
K**

OVER  
**135**  
YEARS  
OF DESIGN AND  
INNOVATION

Nobody can tell you how much York is committed to continuously improving its quality better than the people who are making it all happen. In every department, and in every aspect of what we do and how we do it. Come hear Ruby talk about building things right at [builtbyyork.com](http://builtbyyork.com).

*circle 3 on reader service card*

# Health Care & HVAC Contractors

**H**ealth care is the hottest of hot potatoes in this politically charged election year. The Obama administration's health care law has been the focus of debates since first signed into law in 2010, and even more so now that the U.S. Supreme Court upheld it as being constitutional. In fact, according to Chief Justice John Roberts, the penalty associated with NOT having health care insurance is to be considered a *tax*. Really?

"The ruling seems to circumvent the original issue of whether it's proper under Congress's constitutional right to regulate commerce among states," says a *Wall Street Journal* article published on July 2nd (*GOP's New Health-Law Front*, [bit.ly/GOP\\_HF](http://bit.ly/GOP_HF)).

Don't get me wrong — I'm all for making sure Americans get the health care they need, but I've felt all along that forcing people to buy health care insurance, even if it's high quality insurance (that remains to be seen) that's affordable (also remains to be seen) begs the question of how all this actually gets paid for. The answer to that still seems to be in the smoke and mirrors of a national debt that's so far beyond comprehension, it's funny. To the point of tears.

But is anyone talking about the impact on small business owners of a law that mandates health care to all Americans — small business owners such as HVACR contractors? Sure, but such discussions seem buried in all the political rhetoric and noise.

From my perspective, HVACR contractors should now be concerned with what this law will cost them. What real options do you have for controlling those costs? Contractors such as Stan Johnson, owner of Stan's Heating & Air Conditioning, Inc., Austin, TX say the law creates a "European-style welfare state system that doesn't work in Europe and won't work here either. It will lower the standard of care in this country for everybody that had health care."

Johnson wrote this in response to a very clear summary of the impact of the Supreme Court ruling in a blog written by The Air Conditioning

Contractors of America's (ACCA) vice president for government relations, Charlie McCrudden ([bit.ly/CM\\_NewLaw](http://bit.ly/CM_NewLaw)).

Johnson also said, "Which future generation will realize the disaster that has been visited upon them by a past generation that elected governments that believed the government had to control our lives and distribute our resources to the point that there was no longer any incentive to work harder, to grow, to prosper and to advance as a country . . . to lead the world. The lesson of history is clear; we have failed to learn the lessons of history."


If things aren't complicated enough, Republicans plan a renewed effort to get the law repealed based on a loophole in a Senate rule with regard to legislation that is tax-based.

There will be a phase-in for this law over time, and for HVAC contractors employing less than 50 employees, nothing changes right away. But that doesn't mean you should stick your head in the sand and ignore things, because as early as 2014 the impact on individuals kicks in.

One provision of the mandate requires individuals to get health care insurance coverage from their employer or a federal program or one of the state health care exchanges ([bit.ly/HC\\_xChg](http://bit.ly/HC_xChg)).

According to law, if they don't they will be assessed a penalty (tax). In 2014 the penalty tax is \$95 per adult and \$47.50 per child (up to \$285 per family) or 1% of the household income — whichever is greater. The penalty increases in 2015 and for the years 2016 and beyond.

Again, I am not against finding ways to make sure Americans have the medical coverage they need to stay healthy — I'm just not so sure how good this law is in the long run. It opens the door for federal involvement in personal issues more than ever before. Where does this end? It might have been better to attack this issue from an insurance and tort reform standpoint.

What do you think about this topic and its impact on your business? Drop me a note, message me on Facebook at [bit.ly/CB\\_Facebook](http://bit.ly/CB_Facebook), or Tweet your comments to [@ContractingBiz](https://twitter.com/ContractingBiz). 



Is anyone talking about the impact of this law on small business owners? Yes, but . . .

## EDITORIAL ADVISORY BOARD

- ALAN BARNES  
Aircond Corp.
- MIKE CAMPBELL  
Campbell & Company
- TOM CASEY  
Climate Partners
- MITCH CROPP  
Cropp-Metcalf
- VINCE DIFILIPPO  
DiFilippo's Service Co.
- TOMMY ESTES  
Estes Heating & Air Conditioning
- VINCE GILLETTE, JR.  
Gillette Air Conditioning
- P.J. GOODWIN  
Coastal Mechanical Services
- CHARLIE GREER  
HVAC Profit Boosters
- DOMINICK S. GUARINO  
National Comfort Institute
- LOUIS HOBAICA  
Hobaica Services
- DEWEY JENKINS  
Morris-Jenkins
- JOSH KAHN  
Kahn Mechanical Contractors, Inc.
- RAY ISAAC  
Isaac Heating and Air Conditioning
- BARBARA KEIL  
Keil Heating & Air Conditioning
- VICKI LAPLANT  
Vital Learning Experiences
- ED MATTOS  
REMCO, Inc.
- MATT MICHEL  
Service Roundtable
- STEVE MILES  
Jerry Kelly Heating and AC
- JOHN OWENS  
Owens Companies, Inc.
- LEE ROSENBERG  
Rosenberg Indoor Comfort
- STEVE SAUNDERS  
Tempo Mechanical
- RANDY SEAMAN  
Seaman's Heating, AC, & Refrig.
- ANDY STACK  
Andy Stack & Sons
- MARK SWEPSTON  
Altas-Butler
- DAN THAYER  
Thayer Corp.
- CARL WOLF  
Service Unlimited, Inc.
- THOMAS A. WINSTEL, SR.  
Engineering Excellence, Inc.

SHIFT the way you move



12:01 PM  
HEADQUARTERS

high roof available with  
up to 320+ cu. ft. for cargo  
and 6'3" of headroom

11:38 AM  
MARKETER

near-vertical  
sidewalls offer ample  
advertising space

2:45 PM  
CORNER OFFICE

optional locking center  
console includes file  
cabinet and laptop storage  
with 120V power



7:15 AM  
EXTRA HAND

magnetically secured  
243-degree opening rear  
doors with storage pocket

4:45 PM  
POWER PLANT

powerful 5.6L V8 and  
4.0L V6 engine options

6:18 PM  
STORAGE FACILITY

choice of either custom  
shelving or exterior graphics  
at no additional charge

## INNOVATION THAT WORKS

The Full-Size NV Cargo



Being your own assistant is never easy. It's especially tough when you're acting as a marketing agency and storage supervisor too. Luckily, the full-size NV Cargo is well-equipped with reinforced mounting points for shelving that eliminate the need for drilling into sheet metal, ample exterior space for advertising, and near vertical sidewalls that maximize cargo space and minimize the number of trips you need to make. So you can concentrate on the task at hand.

**NISSAN** Commercial Vehicles

Designed for the way you work. The full-size NV Cargo. Innovation for all.  
For more information, visit [nissancommercialvehicles.com](http://nissancommercialvehicles.com)





## Southland Industries Unveils Innovative Southern California Campus

*Cutting-edge facility features sustainable and efficient building systems*

Southland Industries recently unveiled its new Southern California Campus in Garden Grove, CA, showcasing the engineering and architectural benefits of an integrated design process. With the opening of this new building, the company turned its talent inward, to design a cutting-edge facility that provides its own employees the same energy efficiency and sustainability benefits that it consistently delivers to its customers.

“Our new Southern California Campus allows us to not only better serve customers regardless of geographic location but also to showcase the best of Southland’s engineering and construction capabilities,” says Dr. Ted Lynch, chief executive officer.

Southland Industries — the 2001 *Contracting Business.com* Commercial HVAC Contractor of the Year, and a 2011 Design/Build Award winning company—partnered with LPA, Inc., to completely remodel the 42,000 sq.ft. building in Garden Grove, and incorporate a design that supports collaboration, productivity, and innovation.

The building features four different HVAC systems. Among these is a heat pump from the previous building, which was left in place to demonstrate the energy efficiency benefits that can be achieved with integrating existing HVAC systems with modern systems.

The three new systems include displacement ventilation, fan-powered induction units, and chilled beams, all of which allow for an open and well-lit space for design teams and detailers to collaborate. A state-of-the-art controls system enables Southland to monitor real-time gas, electric, lighting and HVAC usage, contributing to an expected LEED Gold certification.

“Customers can come here to work, and we can also showcase the work we’ve done. We can show the customers the benefits of using the systems



A great first impression: visitors to Southland Industries’ new campus are greeted by an impressive display that chronicles milestones in the firm’s history.



The open workstation area features displacement ventilation systems at the ground-level and plenty of natural lighting.

we use and why they’re used in those areas,” Lynch adds.

The new building is adjacent to the company’s existing 92,000 sq.ft. fabrication facility, which will continue to house fabrication shops and a remodeled space for corporate training, building information modeling (BIM) coordination, and “big room” teaming. [southlandind.com](http://southlandind.com)

### Ernst & Young Names Dina Dwyer-Owens Named Entrepreneur of the Year

Dina Dwyer-Owens, chairwoman and CEO of The Dwyer Group, has been named a winner in the Ernst &



Dina Dwyer-Owens, with the Ernst & Young Entrepreneur of the Year Award.

Young Entrepreneur of the Year Awards in the Southwest Area North program. Dwyer-Owens was among a group of leading entrepreneurs selected by an

# NO MORE ROUGH AROUND THE EDGES.



The Emerson logo is a trademark and service mark of Emerson Electric Co. ©2012, RIDGID, Inc.

## MAKES FAST, CLEAN CUTS... EVEN ON DOUBLE FLANGED TUBE

### PTEC 3000 FEATURES INCLUDE:

- **NEW** open design cuts 1-1/2" double-flanged and 1-1/4" single-flanged thin walled tube
- Automatic deburring and beveling ensures a clean cut
- Cuts quickly and easily

LEARN MORE AT 800.769.7743  
OR [RIDGID.COM/PTEC](http://RIDGID.COM/PTEC)

We  
Build  
Reputations™

**RIDGID**

  
**EMERSON**  
Commercial & Residential Solutions

circle 4 on reader service card

independent panel of previous winners of the award, leading CEOs, private capital investors, and business leaders.

"To be among so many outstanding finalists and named a winner is a true honor," Dwyer-Owens said. "I share this recognition with an incredible team at

The Dwyer Group, that continues to make the journey so rewarding."

The Dwyer Group's franchise brands are Aire Serv, Glass Doctor, Mr. Appliance, Mr. Electric, Mr. Rooter, Rainbow International, and The Landscape Guys. [dwyergroup.com](http://dwyergroup.com)

### Training Wheels Roll at AAA Refrigeration Service

Throughout its 75-year history, AAA Refrigeration Service, Inc., Bronx, NY, has been committed to offering state-of-the-art training for its service and installation technicians. Recently, the commercial re-



frigeration leader — and the *ContractingBusiness.com* 2008 *Commercial Refrigeration Contractor of the Year* (see [bit.ly/AAACB](http://bit.ly/AAACB)) expanded its training outreach to provide even greater attention to "real-world" supermarket applications.

The main element in this initiative is a customized, mobile refrigeration training trailer. Read more at [bit.ly/AAAtaining](http://bit.ly/AAAtaining).



# BIG CHILL

*Summer Condensing Unit Promotion*

Free Limited-Edition Cap with purchase of any Tecumseh indoor or outdoor condensing unit!

**Hurry! Big Chill offer available June 1–August 31, 2012.**

Visit your local authorized Tecumseh wholesaler today to purchase any Tecumseh indoor or outdoor condensing unit, and cap off your order with a limited-edition Tecumseh cap in Mossy Oak® camo style. The Big Chill is coming your way — with Tecumseh!

Visit [www.tecumseh.com](http://www.tecumseh.com) for more information.

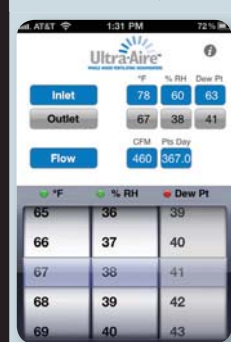
© 2012 Tecumseh Products Company. All rights reserved.

### THERE'S AN APP FOR THAT!

Ultra-Aire's free, Ultra-Aire Psychrometric Calculator iPhone app provides quick, easy access to calculations such as relative humidity, dew point, grains per

pound, and dehumidifier performance. The app outputs the corresponding dew point or grains per pound, giving the user the insight needed to track a dehumidification job effectively. The app includes a dehumidifier performance function that calculates water removal by selecting the dehumidifier's CFM, and entering its intake and exhaust conditions.

Ultra-Aire Contractor.com



**FEATURING:**

- **R-410A**  
Chlorine-Free  
Refrigerant



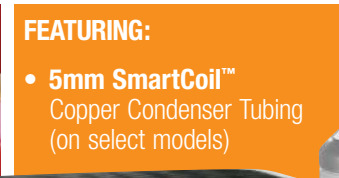
**FEATURING:**

- **ComfortNet™**  
Communicating Systems  
(on select models)



**FEATURING:**

- **5mm SmartCoil™**  
Copper Condenser Tubing  
(on select models)



## COMPARE STANDARD FEATURES. OUR HEAT PUMPS DELIVER PREMIUM PERFORMANCE!

When you compare the standard features on Amana® brand heat pumps, you might be surprised. That's because, all Amana brand heat pumps are loaded with features and components that homeowner's value for long lasting premium performance.

All Amana brand heat pumps feature:

- Energy efficient scroll compressors
- Oversized suction line accumulators
- High density compressor sound blankets
- Factory-installed filter driers
- Discharge mufflers
- SmartShift™ defrost control technology
- Crankcase heaters
- Low pressure switches



\* Complete warranty details available from your local dealer or at [www.amana-hac.com](http://www.amana-hac.com). To receive the Lifetime Unit Replacement Limited Warranty (good for as long as you own your home) and the 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Quebec. Amana is a trademark of Maytag Corporation or its related companies and used under license to Goodman Company, L.P. All rights reserved.

circle 6 on reader service card

For full information, contact your local Amana brand distributor or visit [www.amana-hac.com](http://www.amana-hac.com).



COMPILED BY KATE KELLY, ASSOCIATE EDITOR

# Commercial & Residential:

*Coil Cleaning Chemicals, Water Tower Agents, Odor Blocking Chemicals, Compressor System Cleaning Kits*

## DiversiTech

DiversiTech's Triple-D universal coil cleaner effectively cleans both indoor and outdoor coils. Triple-D removes dirt, oils and other material to restore efficiency and system performance. It's metal safe and doesn't attack aluminum or copper coil components, extending equipment life and diminishing the potential for refrigerant leaks.

The coil cleaner is available in an easy to mix concentrate, ready to use spray bottle, fast aerosol and convenient granular version.

[diversitech.com](http://diversitech.com)  
circle 154



uniquely powerful descaler with an excellent eco-profile, sources state. This descaler is suitable for variety of applications including cooling towers, boilers, processing equipment, evaporative coolers, and more. Eco-Lyme provides descaling performance similar to hydrochloric acid, but is a significantly safer option to hydrochloric acid for system metals - including stainless steel.

The Vital-Flo tankless water heater descaler kit is a complete service tool for descaling tankless hot water heaters. Vital-Flo quickly restores heat, flow and heater efficiency by dissolving scale to ensure end-user satisfaction in the investment. The kit consists of a 1/6 hp submersible descaler pump, a set of 5 ft. 3/4-in. female hose threaded assemblies, and a formulated food-grade 8 ounce descaler solution packaged in a lidded four gallon chemical-resistant container.

[nucalgon.com](http://nucalgon.com)  
circle 155

## Nu-Calgon

The TriClean 2x coil cleaner from Nu-Calgon, is a specially formulated chemistry paired with convenient packaging. TriClean 2x is designed with an integrated sprayer that allows the user to simply connect to hose, clean and rinse. This metal safe and biodegradable chemistry rapidly emulsifies insulating soils from the outdoor coil, restoring system efficiency.

Other products from Nu-Calgon include the Eco-Lyme descaler and Vital-Flo tankless water heater descaler kit.

Eco-Lyme is a



## Rectorseal

Acid-Away is a patented chemical treatment from Rectorseal, for use in air conditioning and refrigeration systems that have experienced a burnout, or operating systems that are showing a buildup in acid content. It circulates quickly throughout the system and chemically neutralizes acids that are always left in an air conditioning or refrigeration system after a burnout occurs. Once neutralized, this acid can no longer continue its corrosive attack and cause another burnout. Acid-Away may be used in either hermetic or semi-hermetic compressors that operate with standard CFC or HCFC refrigerants using mineral oil and alkybenzene type refrigeration oils.

K.O. Dirt Blaster is a high pressure cleaner and degreaser for small

condenser coils found in restaurant and food service refrigeration, air conditioners, electrical and mechanical equipment. It strips off dirt and cooking grease without a water rinse, and has a quick drying safety solvent with a pleasant scent.

CTT Tablets are 100% active, non-acidic, multi-purpose water treatment, which will prevent hard water mineral scale formation and both ferrous and non-ferrous corrosion. It suspends mud, dirt and silt, which can clog condenser tubes and spray nozzles. It also controls foaming. For systems up to 400 tons.

[rectorseal.com](http://rectorseal.com)  
circle 156



## Sporlan

The Flush-All kit is a total solution for system clean-up. Specifically developed to assist in HFC conversions (R-410A) and severe compressor burn-outs in minimizing costly and frustrating service calls. The kit pairs high pressure solvent with a patented filter-drier that provides staged filtration.

[sporlan.com](http://sporlan.com)  
circle 157





# Future of Energy?

It's right under your feet.



The Bosch Geothermal TA Series has been awarded ENERGY STAR® Most Efficient Designation for 2012. Add the industry leading TA Series to your business portfolio today. To learn more about our products, lead generation tools, marketing support and loyalty programs visit [BoschWayToGrow.com](http://BoschWayToGrow.com).



**BOSCH**  
Invented for life



Most Efficient  
**2012**  
[www.energystar.gov](http://www.energystar.gov)

Copyright © 2012 Bosch Thermotechnologie Corp. All rights reserved.

circle 7 on reader service card

Things have changed.

**Before:** Only 11% of people programmed their thermostats. That meant frustration for customers and seasonal reprogramming calls for you.

**After:** 99% of Nest Learning Thermostats have schedules that work with their owner's lives and keep them happy.

**Before:** People only bought thermostats when their old ones broke.

**After:** Nests are given as gifts on birthdays, Mother's day and housewarmings. After Nest sold out in two days, over 100,000 people signed up for the waitlist.

**Before:** Thermostats were an afterthought.

**After:** The Nest thermostat can help you drive your business, get referrals and excite your customers.

*"I just set up as an installer yesterday and I have had 5 phone calls requesting your product."*

- Frank Garcia, Electrical & A/C Contractors  
in Owassa Edinburg, TX.

The world of HVAC has changed. Be a part of the

**After** and join the 9,000 Nest Certified Professionals at [nest.com/pro](http://nest.com/pro)



nest®

circle 8 on reader service card

COMPILED BY TERRY MCIVER, EXECUTIVE EDITOR

### Daikin-McQuay First to Meet DOE Rooftop Unit Challenge Numbers

Daikin McQuay is the first HVAC manufacturer to successfully meet the U.S. Department of Energy's "Rooftop Unit Challenge." The goal of the challenge is to satisfy a DOE-issued specification for energy savings and performance. This includes meeting an integrated energy efficiency rating (IEER) of 18 or higher, with a 50 to 60% reduction in energy use.

The DOE and independent testing organization Intertek conducted the performance testing for the challenge. The testing confirmed manufacturer claims that the Rebel commercial rooftop system exceeds the DOE's energy savings and performance specifications with part-load efficiencies of up to 20.6 IEER and energy savings of up to 60 to 70%. Learn more at [bit.ly/Daikinrooftop](http://bit.ly/Daikinrooftop)

### Danfoss EnVisioneering Symposium Explores Energy Efficiency Possibilities

Danfoss recently hosted its 17th EnVisioneering Symposium, "The Path of Renewable Energy in Buildings," in Washington, D.C. The event convened executives in heating, ventilation and

air conditioning (HVAC), government, and industry associations, to discuss the role renewable energy resources can play in the U.S. building sector, and identify the opportunities and obstacles as they pertain to HVAC manufacturers and consulting engineers.

Presenters included Robert Wilkins, Danfoss director of public affairs; Congressman Peter Welch (D-VT); Congressman Charles Bass (R-NH); Steve Lindenberg, senior advisor for renewable energy, U.S. Department of Energy; Scott Hennessey, director of legislative affairs and general counsel at Solar Energy Industries Association; and Ron Domitrovic, senior project manager, energy efficiency at the Electric Power Research Institute.

These experts joined with others to offer solutions and progress reports related to achieving greater energy efficiency in buildings, and fostering a greater appreciation for renewable energy sources. For a report on the Symposium, visit [bit.ly/DanfossSymposium12](http://bit.ly/DanfossSymposium12)

### Trane Wins Product Design, Women's Choice Award

The Trane ComfortLink II Control has been recognized by Design Jour-

nal, with top honors in its annual Awards for Design Excellence (ADEX) competition. The Trane ComfortLink II Control was named a Platinum ADEX award winner in the "Product Design" category. The annual ADEX Awards are dedicated to recognizing the best in form, function, and aesthetics of appliances, furniture, and fixtures marketed to the design trade.

In other news, Trane received a Women's Choice Award from Women-Certified. The survey polled more than 5,000 female consumers about their favorite HVAC brands.

[bit.ly/TraneAwards](http://bit.ly/TraneAwards)

### Jon Wayne Heating & Air Named Bryant Dealer of the Year

Bryant Heating & Cooling Systems has named San Antonio, Texas-based Jon Wayne Heating & Air Conditioning, San Antonio, TX as the 2011 Bryant Dealer of the Year.

Jon Wayne Heating & Air Conditioning is one of 15 Bryant dealers in the U.S. and Canada to be selected as a Medal of Excellence regional winner out of more than 3,500 Bryant dealers in North America.

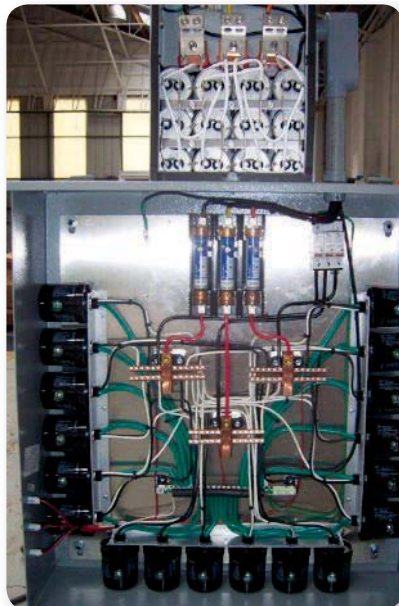
This is fifth consecutive year that the Jon Wayne company has received the Bryant Medal of Excellence award. [bit.ly/BryantJonWayne](http://bit.ly/BryantJonWayne)

### APPOINTMENTS

Mike Paulson has been named president of the new, California-based air conditioning company, **AmeriCool Inc.** AmeriCool, Inc., has entered into an exclusive deal with Korean-based Weltem Co., Ltd. Weltem air conditioners are described as ideal for the "mission critical" needs of highly technological applications. Additionally, AmeriCool sources say the units are built to withstand harsh, industrial applications.



Mike Paulson



### 'Power House' Reclaims Electricity

A new product offered by Comfort Supply, a Tennessee-based wholesaler of Ruud HVAC products — gives home and business owners an opportunity to reduce energy and maintenance costs by reclaiming electricity normally lost to the ground.

The Power House conditioning system, by Black Hawk Energy Products, installs on a building's electrical system. The Power House was invented by Jerry Johnson, a 40-year electrician who was inspired to develop it by rising energy costs. It was tested in residential, restaurant, and industrial applications. [bit.ly/PowerHouseCB](http://bit.ly/PowerHouseCB)

Black Hawk Power House interior.



COMFORTECH PRODUCT SHOWCASE AWARD

At HVAC Comfortech 2011, 12 products were recognized as Product Showcase Award winners. Judges took into consideration the ease with which HVAC contractors can apply the technology, and the technical value of the product or service to the HVAC industry. We'll feature these products each month in upcoming issues of Contracting Business. This month, we're featuring Johnson Controls York Affinity Communicating Control, the winners in the Controls category. For additional information on any of the products listed here, circle the appropriate number(s) on the reader service card at the back of this issue or visit [www.contractingbusiness.com/freeinfo.html](http://www.contractingbusiness.com/freeinfo.html).

**Johnson Controls Introduces the York Affinity Communicating Control for Total System Integration**

This revolutionary new control communicates with all key components in a home comfort system, providing total system integration that ensures maximum system efficiency and homeowner comfort, while equipping contractors with a reliable, distinctive tool to build their business.

The Communicating Control takes advantage of advanced digital technology to build a real-time system profile, displaying equipment and accessory status that provides contractors and homeowners with precise information and better control. A simplified four-wire plug-and-play design eliminates time-consuming wiring and system checking at installation. And when new compatible components are added to a system, an auto configuration feature automatically recognizes and configures them, based on the comfort settings and operation requirements of the existing system.



[www.yorkaffinitycontrol.com](http://www.yorkaffinitycontrol.com)  
Circle 145



SPECIAL ADVERTISING SECTION

> EDITOR'S NOTEBOOK: Smart Products, Web Reviews, Literature, Tools & Instruments

**Take your company to the next level with Contracting Business' Smart Products** — a section featuring the latest technical and business management tools from leading manufacturers and service providers. For more information on any of the products listed here, circle the appropriate number(s) on the reader service card at the back of this issue, or go to [www.contractingbusiness.com/freeinfo.html](http://www.contractingbusiness.com/freeinfo.html). If you're interested in having your company's products appear on these pages, contact your Contracting Business sales representative.

**New from Fieldpiece! Wireless Swivel Clamp Meter**

The new SC57 Wireless Swivel Clamp meter is the first clamp meter on the market with wireless capabilities. Now HVACR professionals can receive or send measurements up to 75 feet away. This helps techs do a better and faster job as they can receive measurements like indoor wet bulb while they're outside at the condenser making adjustments based on real-time measurements – so there's no need to run between indoors and outdoors. The head swivels 180° for easy visibility. [www.fieldpiece.com](http://www.fieldpiece.com)

— Fieldpiece Instruments

CIRCLE 146



**57% More Runtime\*. You'll Take More Breaks Than it Does**

The DEWALT Brushless Impact Driver works more efficiently compared to brushed motors and provides significantly more runtime in a smaller, more efficient cordless power tool. It also features 3-speed selections, for enhanced application control, and has a push button chuck, which allows users to change accessories and is preferred when compared to traditional 1/4-in. chucks.

\*vs. brushed tools. [www.dewalt.com/brushless](http://www.dewalt.com/brushless)

— Dewalt CIRCLE 148



**Electronic Flowhood**  
Air balancing and energy audits are faster and easier with the CFM-Electronic Flowhood. It offers unequalled accuracy, direct digital readout, and density-corrected airflow measurement. No Ak correction factors are needed. Reads 20 to 25,000 cfm or liters per second. Comes with five tops and a carrying case. Custom tops are available. Is NIST-traceable.  
— Shortridge Instruments, Inc.  
CIRCLE 147

SAMSUNG



HEALTHY

VIRUS &  
ALLERGY-  
FREE

PURE

FRESH

COOL

CLEAN



VIVACE



NEO FORTE



SLIM DUCT



FLOOR  
STANDING



4-WAY  
CASSETTE



MINI 4-WAY  
CASSETTE



MSP DUCT



36K CLASSIC

## CLEAN AIR FOR THE ENTIRE FAMILY

The Vivace air conditioner is not just for cooling and heating. With the built-in MPI Generator, it provides clean air by eliminating molds, allergens, tobacco odors and pet dander, leaving the air you and your family breathe, fresh and pure.



[quietside.com/samsung-vivace](http://quietside.com/samsung-vivace)

circle 9 on reader service card

Vivace Mini Split System



**AmeriCool Introduces A New Portable Unit**

AmeriCool, Inc. announces the addition of a new portable air conditioning unit to its product line-up. The WPC-4000 features a cooling capacity of 16,800 BTU and operates between 64 and 104F. Other features include:

- Highest capacity at 115V (16,800 BTUH)
- Removable nozzles with integrated grill
- 12-in. flange included
- Spot cool and room cool modes available.

According to company sources, these units can also be used to dehumidify, and are very effective in drying out water-damaged buildings.

[americoolinc.com/](http://americoolinc.com/)  
circle 149



**Billtrust Launches Invoice Central Network**

Billtrust, a provider of outsourced billing services, announces the launch of Invoice Central, a cloud-based business invoice network that's focused on streamlining invoice delivery and payment for both vendors and small businesses. Invoice Central provides vendors with a hub-based approach to deliver invoices and accept payments electronically. Small businesses can sign up for free, log in, and begin receiving and paying invoices from multiple vendors from one convenient website. Invoice Central empowers small business owners with a one-stop location for invoice and payment management, helping them avoid late fees, maximize early-pay discounts and save time by scheduling future payments.

[invoicecentral.com](http://invoicecentral.com)  
circle 150

**ICM Controls Launches SC700 Series of Fan Coil Thermostats**

ICM Controls, a manufacturer of electronic controls to the HVACR industry, launches its new Simple Comfort SC700 series of fan coil thermostats designed for high voltage fan coil and baseboard applications.



Each of the four UL listed, non-programmable models in the SC700 series support either 24 or 115-277 VAC, 3-speed fan, and 4-pipe heat/cool applications, with precise comfort controls accurate to +/- 1F.

The two SC700V models are auto-changeover; the two SC710V models are manual changeover. All models feature an easy-to-use, mechanical slide bar temperature adjustment and support remote room temperature sensing.  
[icmcontrols.com](http://icmcontrols.com)  
circle 151

**Channellock Re-Launches Code Blue Line of Pliers**

Channellock, Inc. announces the re-launch of its Code Blue line of pliers, as well as the return of manufacturing from overseas to Meadville, PA. Thanks to this manufacturing shift, Channellock's entire Code Blue line now features newly designed American-made grips.



The pliers have been improved with redesigned grips that feature composite thermoplastic elastomer cores and over-molds that deliver a more secure hold, greater durability and comfort, sources say.

[channellock.com](http://channellock.com)  
circle 152

**Move out of the Stone Age and into the Digital Age**

We measure it.



Approved for use in CheckMe!® programs

**Today's high efficiency equipment require tight tolerances - Testo Digital Manifolds deliver!**

- Superior accuracy and reliability
- Real-time superheat/subcooling
- Up to 40 refrigerant profiles
- Vacuum, leak test and heat pump operation

Visit [www.testoUSA.com/refrigeration](http://www.testoUSA.com/refrigeration)

**Special Mail-in Rebate Offer**

**SAVE \$50** With purchase of any model digital manifold. June 1 - August 31, 2012

circle 10 on reader service card



# 57% MORE RUNTIME.<sup>†</sup> YOU'LL TAKE MORE BREAKS THAN IT DOES.

**BRUSHLESS IMPACT DRIVER**  
**BRUSHLESS MOTOR TECHNOLOGY. LONGER RUNTIME.**

[dewalt.com/brushless](http://dewalt.com/brushless)



**20V MAX / LITHIUM ION**



[dewalt.com](http://dewalt.com)

Scan to learn more

<sup>†</sup> vs. brushed tools

<sup>\*</sup> Maximum initial battery voltage (measured without a workload) is 20 volts. Nominal voltage is 18.

Copyright ©2012 DeWALT. The following are examples of trademarks for one or more DeWALT power tools and accessories: The yellow and black color scheme; the "D"-shaped air intake grill; the array of pyramids on the handgrip; the kit box configuration; and the array of lozenge-shaped humps on the surface of the tool.

*circle 11 on reader service card*

**DON'T GET**  
**CAUGHT**

**USING REGULAR THERMOSTAT WIRE.**

**Introducing SIMpull Tstat™ by Southwire.  
Now with SIM Technology® for an easier, faster pull.**

Your job is about to get a lot easier. Because we added our patented SIM Technology to the jacket of our thermostat wire, making it much easier to pull and strip. And it's the only product of its kind that's abrasion-resistant, which means you can work faster and without any snags. So try a spool of SIMpull Tstat today. And go easy on yourself.



# A Refreshing Six-pack of Home Comfort

We had a great response to our 2012 Quality Home Comfort Awards competition. The HVAC contractors in charge of these winning projects had their ducks in a row, and took flight with superior examples of state-of-the-art home comfort. This year, we have one of the widest range of home sizes ever represented, from a cozy 2,400 sq.ft. home, to a palace of 12,600 sq.ft. Yet, despite their diverse features, these homes now have two factors in common: superior home comfort systems, and highly-trained and qualified HVAC contractors who fulfilled their comfort dreams.

Let the smaller home projects featured here inspire those of you who feel your projects are “too small” to garner recognition, to submit an entry in 2013. For those who often tackle larger home projects, we trust these winners will inspire you for your future home comfort adventures.

**RUNNER UP:**

**New Construction from 8,000 to 11, 000 sq. ft.  
Doty Mechanical, Lansing, MI,  
for the Rosnowski residence.**

The homeowner always loved early American architecture, which was a guiding principal that influenced the design of his home in Williamston, MI. He was looking for a late 1700's/early 1800's Federalist-style home, and wanted it to be as “green” as possible. The 10,200 sq. ft. home was built following all guidelines to make it historically correct to that era. Gary Doty and his team Incorporated state-of-the-art-green energy efficiency and technology, which earned the home LEED Gold Certification.



**THANK YOU!** Contracting Business.com extends a special thank-you to our sponsors, who, through their vision and generosity, helped make this year's Quality Home Comfort Awards possible.



After *Contracting Business.com* established the Quality Home Comfort Awards 20 years ago, I was assigned each year to fly and drive around the country to photograph home projects by talented HVAC contractors. They, and the owners of those homes have been more than generous with their time and hospitality. However, some of God's creatures weren't always so accommodating. For example, in Massachusetts and



Vermont, I had to wait for black bears to wander away from two homes, in their own good time, and I just missed “participating” in a stampede of wild horses in Oklahoma.

It's been a blast! I want to thank the publishers, editors, and especially, the art directors, for the privilege of shooting these assignments. I have been truly blessed to have *Contracting Business.com* as a client. — *Tim Ryan, Tim Ryan & Sons, Clev., OH*

A business owner looks forward to the day when he can hand increasing amounts of responsibility over to his managers. For the comfort system installation in this latest “Home of Distinction,” Russ Donnici, president, Mechanical Air Service, did just that. He took a step back, and let his team take the reins on the installation of a geothermal system in a 12,600 sq. ft. home in Atherton, CA.



## Trusted Team Serves with Distinction, for ‘Net Zero’ Results

This project was handled solely by Mechanical Air Service’s second-generation management team of Matt Donnici, vice president of construction, and Scott Larson, vice president of service. Both men are International Ground Source Heat Pump Association (IGSHPA)-certified, and took full charge of the design of the geothermal system, equipment selection, installation, and commissioning.

“We call these ‘Homes of Distinction,’ because they’re large, with magnificent interiors; this home is no different,” says President Russ Donnici, who last won a Quality Home Comfort Award in 2008. The developer — MVA Construction Co. — spared no expense on the home. It’s a traditional French-style home that expands over four acres, in one of the highest priced real estate regions of the U.S. The team’s comfort design included accommodating a 1,150 sq. ft. pool house and swimming pool.

Giving total project control over to Matt and Scott was an example of Russ Donnici’s belief in letting managers manage. When *Contracting Business.com* interviewed Donnici in 2011 for his thoughts on manager excellence, he told us that both Matt and Scott — and his daughter, Chief Financial Officer Danielle Donnici Larson — possess absolute integrity and honesty, and solid decision-making skills.

“I had complete confidence in Matt and Scott. They’re both well-trained and motivated individuals, and a great team to work with,” he boasts.



BY TERRY MCIVER, EXECUTIVE EDITOR

The home occupies four acres, and includes a pool house and audio-visual room.

Regarding the project development, it would soon become something bigger and better than originally imagined.

"This project was supposed to be a conventional HVAC system," Russ adds. "However, Matt educated the client on the energy efficiencies and benefits of a geothermal system and the opportunity to become a 'net zero' energy home, one that produces all the power and hot water it needs through the use of ultra-high efficiency geothermal equipment, as well as solar photovoltaic (PV) for power and solar thermal for hot water. The home generates all its own power without the need of the utility grid."

### Team and Client See Eye-to-Eye

With that recommendation, the team was certainly on the same page with the homeowner, who has chosen to remain anonymous. He told the MAS team that the system had to be the highest efficiency on the market. Comfort, quiet, energy efficiency, as well as great indoor air quality (IAQ) were to be essential elements.

### Dual Built-up System

The comfort system draws its heat from 30 wells drilled at 325-ft. The home's ground loop is divided between the right side of the home, which uses the heat and cooling

from 13 of the loops, and the left side, which uses 17 loops for the home and the swimming pool.

Two Grundfos Magna variable speed pumps are used, each with a flow meter and a motorized zone valve.

"This project was a great learning experience, due to the fact that some new ideas were tried, and were successful," Matt Donnici explains.

"Normally, when we do geothermal jobs, we use a flow center with each unit. In this project, we designed a built-up system, with piping and variable speed pumps for higher efficiency. We often install variable speed pumps on radiant systems, but this was our second for a geothermal that went with a built-up system. With the variable speed pump system, the pump matches the load, so that when a valve opens on the right side of the house, that pump controls three units.

"When a geothermal unit turns on and opens its valve, the pump sees that pressure change and ramps up to compensate. When the valve closes, the pump ramps down. It provides greater energy savings in a more efficient operating system.

"A variable speed pump saves money, because electrical usage is less. In this home, it provides a better functioning system, based on my performance testing. If it were a single-speed pump it would be on full blast or off. This unit matches the load accurately."

Six ClimateMaster Tranquility 27 two-stage, 4-ton geothermal units and one 2-ton units are the heart of the system.

The home's systems were commissioned, including air balancing with a flow hood, and testing and recording static pressure and temperature splits. The entire geothermal water-to-water system was balanced using Caleffi circuit setters.

As a value-added service, the home was monitored and tested for carbon dioxide (CO<sub>2</sub>) levels, to verify ventilation efficiency. CO<sub>2</sub> levels were measured using a Critical Environment Technologies YESAIR data logger, that also records temperature, humidity, and carbon monoxide.

Giving total control of the project over to Matt and Scott was one example of Russ Donnici's belief in letting his managers manage.

second for a geothermal that went with a built-up system. With the variable speed pump system, the pump matches the load, so that when a valve opens on the right side of the house, that pump controls three units.



The team at Mechanical Air Service comes through again, with fantastic comfort for this elegant home. From left are, Scott Larson, Russ Donnici, and Matt Donnici.





In addition, the home was tested using an RAE Systems hand-held VOC detector capable of measuring total VOCs down to 1 part per billion.

### Green System Design

Mechanical Air System's goal in designing the home's HVAC system was to integrate as many "green" energy related items as possible. The systems were engineered for maximum heat load, plus some reserve, which is expected during times when the homeowner would be entertaining guests. "I base load on average usage and client expectations," Matt Donnici explains.

No energy penalty occurred, since the systems all have two-stage compressors and variable speed motors, and the extra capacity is in reserve until needed. In addition, the Crestron home automation thermostats were programmed with a 3.5F dead band between the first and second stages, instead of the normal differential.

Each of the geothermal systems has an Aprilaire zone system, which serves 19 interior temperature zones.

The duct work and grille discharge air velocities were designed to maintain quiet operation. One airflow challenge Donnici and Larson faced was in engineering the airflow into the home's theater. The solution was to oversize the registers and ductwork for noise reduction.



Larger grilles and ductwork ensured quiet comfort in the 'super-cool' home theater.

All systems were equipped with Ultravation high intensity UV light systems for improved indoor air quality, and Honeywell electronic air cleaners. The intensity of the Ultravation UV light systems was tested with a radiometer for output verification. A laser particle counter, and a TSI Dust Trak aerosol monitor were used to determine the efficacy of the electronic air cleaners. There were no problems with the startup or commissioning of the systems.

"The plumbing in the U-shaped home was also split into

RECTORSEAL

ELECTRONIC CONDENSATE  
OVERFLOW SWITCH

SS 610 E

Detects clogged condensate drains & shuts  
down system - **NO MESS**

Connects directly to the indoor unit wiring -  
**NO BATTERIES REQUIRED**



UL LISTED

508  
IND. CONT. EQ.  
25XE  
5A 250V AC  
5A 30V DC



The onboard LED lights indicate the  
condition of the unit at a glance




[www.rectorseal.com](http://www.rectorseal.com)
 2601 Spenwick Drive, Houston, TX 77055
 713.263.8001 - 800.231.3345
 713.263.7577 - 800.441.0051

© Rectorseal 2012

circle 13 on reader service card



The natural choice.

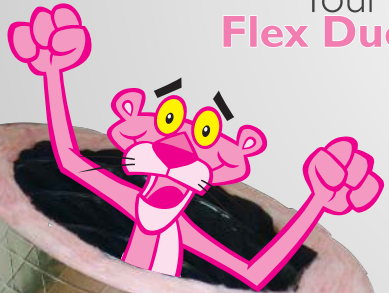
Yes, there is one insulation product that does everything you need it to.

EcoTouch® Insulation isn't just easy to handle and install. It also meets customer requirements. If you are looking for insulation with the highest recycled content; outstanding thermal and acoustical performance; and a natural, biobased material\* — Owens Corning has the solution.

Our EcoTouch® Insulation has even been named the greenest insulation by *Green Builder*\*\* magazine and is the only fiberglass insulation product listed in the USDA BioPreferred Catalog because of its biobased binder.

Don't lose jobs of tomorrow by not being ready today. EcoTouch® Insulation — now available for flexible ducts. Look for PINK® every time.

What's Inside Your Flex Duct?



INNOVATIONS FOR LIVING®

Learn more at [www.owenscorningcommercial.com/ecotouch](http://www.owenscorningcommercial.com/ecotouch)



\*Unfaced insulation with a minimum of 99% by weight natural materials. \*\*Green Builder magazine, 2012.

Scientific Certification Systems (SCS) provides independent verification of recycled content in building materials and verifies recycled content claims made by manufacturers. For more information, visit [www.scs-certified.com](http://www.scs-certified.com).

The GREENGUARD INDOOR AIR QUALITY CERTIFIED Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute.

Pub. No. 10017538. THE PINK PANTHER™ & ©1964–2012 Metro-Goldwyn-Mayer Studios Inc. All Rights Reserved. The color PINK is a registered trademark of Owens Corning. ©2012 Owens Corning. Owens Corning Insulating Systems, LLC. All Rights Reserved.

circle 14 on reader service card

## PRODUCTS KEY TO SUCCESS

- Aprilaire 6404 zone panels
- Caleffi 3-in. hydro separators
- Caleffi circuit setters and zone valves
- Six ClimateMaster Tranquility 27 two-stage, 4-ton geothermal units; two, 2-stage units
- ClimateMaster Genesis geothermal water-to-water 5-ton geothermal unit for pool heating.
- Crestron home automation thermostats
- Critical Environment Technologies YESAIR meter
- Flatplate heat exchanger for pool
- Grundfos Magna 40-120 variable speed pumps for ground loop
- Heliodyne solar thermal hot water systems
- Honeywell F300 electronic air cleaners
- Ultravation UV light systems
- Mitsubishi Mr. Slim ductless split system for AV room
- York AM240AT fan coil with Tecumseh AKA946 condensing unit for wine room refrigeration.
- RAE Systems VOC detector



Masterful plumbing work on display in the mechanical room.

two zones. I designed two solar thermal systems for the house. On the roof, on the right and left points of the 'U' are Heliodyne panels that go to a 120-gallon tank for each side of the home. The solar PV system by the electrician generates all the power needed for the home, resulting in a net-zero energy home" Donnici says.

### With the Right Team, It's Easy

When you have a great team, great things happen. This exclusive home now features a high level of exclusive comfort, thanks to Matt Donnici and Scott Larson. Their training and experience prepared them to meet the high efficiency requirements of their customer, and they moved forward with the confidence found in winners . . . especially in *Contracting Business.com* Quality Home Comfort Award winners. 



# Qwik System Flush®

- BIODEGRADABLE
- NON TOXIC
- NON-FLAMMABLE
- OZONE SAFE
- AEROSOL or LIQUID

U.S. Patents:  
7,566,409  
7,736,537



## Outstanding Performance

**10X**  
more effective  
Oil Absorption

**6X**  
more effective  
Moisture Absorption

**5X**  
more effective  
Acid Removal



Ideal for System Change-Out  
or Clean-Up After a System Burnout

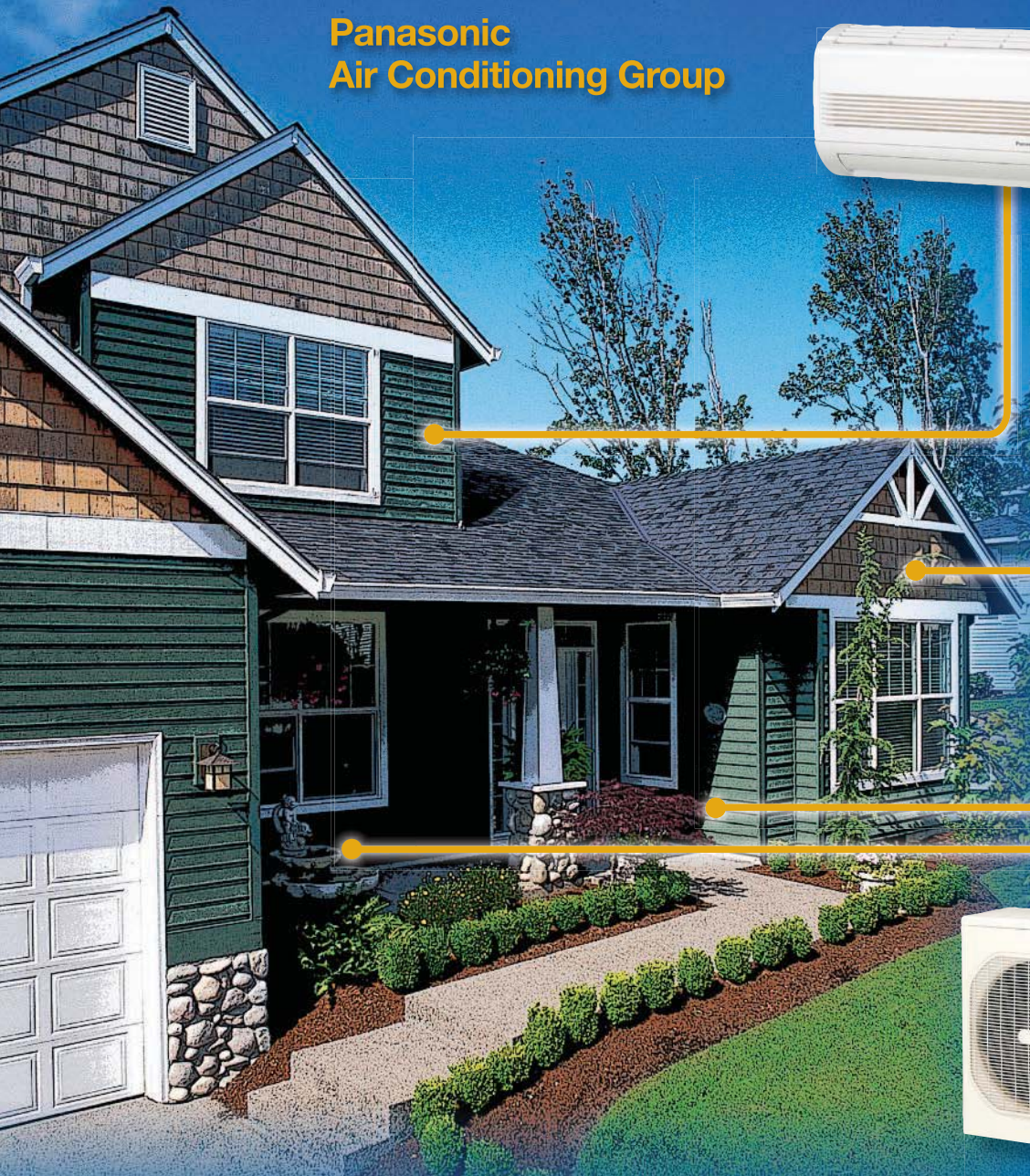
# Ask for It by Name!



Contact Your Local Distributor  
Mainstream Engineering Corp. • 200 Yellow Place, Rockledge, FL 32955 • [www.qwik.com](http://www.qwik.com)

circle 15 on reader service card

Panasonic  
Air Conditioning Group



Scan QR codes  
to see catalogs



Split Air



ECOi

## Install **Trust.** Build **Confidence.** Choose **Panasonic.**

Panasonic and Sanyo have teamed up to renovate the HVAC landscape. For your next job, put your trust in the **World's Number One** AC compressor manufacturer, and a **global leader** in Split AC technology. The new Panasonic Air Conditioning Group has 30 years of residential and commercial HVAC experience, over 250 million compressors produced, and an unwavering commitment to performance, reliability and energy-efficiency.

**Just another way we're engineering a better world for you.**

To find your local Panasonic Distributor, or to apply to become a dealer yourself call **1-800-851-1235** or visit **[www.panasonic.com/aircon](http://www.panasonic.com/aircon)**

eco  
ideas

circle 16 on reader service card



**Panasonic**  
ideas for life

The primary function of this beautiful new home, at 8,500 feet in the Colorado sky, is to serve as an entertainment getaway for family, friends, and business associates of the owners, Dean and Kathy Buysee. The Buysees are successful turkey farmers from Minnesota, who commissioned this home to be built in Woodland Park, CO, overlooking Pike's Peak, one of the most celebrated of U.S. landmarks.

The Buysees had installed a geothermal system in a farm shop business, and were familiar with geothermal's capabilities and benefits. Fortunately, as they scouted for a Colorado-based contractor, they became acquainted with someone with a grasp of geothermal concepts, and an understanding of how to leverage them for absolute efficiency: Al Wallace, president and principal owner of Energy Environmental Corporation (EEC) of nearby Centennial, CO.

Wallace and EEC had been designing and installing high-performance, integrated HVAC and renewable energy systems for 10 years, for projects of many sizes. From stand-alone ground source heat pumps to fully integrated hydronic and air systems with BACnet controls, EEC has been there, done that. Al Wallace knew what the Buysees wanted, and he knew how to make it a reality.

"We toured EEC on an extremely hot day, and it was the type of cool, air conditioned comfort we wanted, without any air movement," Dean Buysee recalls. Kathy Buysee also appreciates the elimination of dust in the air, for a home that's easy to keep clean.

### Comfortable, Efficient, Durable

At an altitude of 8,500 feet in a dry climate, there was concern over maintaining a comfortable level of indoor humidity. In addition, without access to natural gas and rising propane costs, the homeowners wanted high energy efficiency to reduce utility costs. Durability was a concern as this home was intended for occupancy on an irregular basis, and subject to severe weather.

While the Buysees didn't desire Leadership in Energy & Environmental Design (LEED) or Energy Star certification for the home, EEC consulted with the owners and their designer — Jerrod Nelson, Nelson Design Service — to implement elements of both LEED and Energy Star. Of first priority was a tight, well insulated, high mass building envelope incorporating energy recovery ventilation. The home is built using an



User comfort, indoor air quality, and energy savings are found in every room of this beautiful home.

# Comfort in

insulated concrete form (ICF) structure, for superior energy efficiency.

"Dean Buysee was very conscientious about having a tight building envelope, and it's performing better than off-the-shelf homes," explains Wallace. "The home has 10-in. walls on the first floor, and 8-in. walls on the second, for an oversized thermal mass. We've been able to take advantage of the improved building envelope to lower compressor speed, which provides higher efficiency operation."

The integrated systems design provides heating and cooling through a 120/MBTUH ground source heat pump with reversing valves to provide hot or chilled water to dedicated heating and cooling buffer tanks. Water is distributed through half-inch diameter Uponor AquaPEX-A hydronic distribution piping at six inches on-center, a critical measurement.

"With radiant floor cooling you have to put the tubing six inches on center, which is a higher density than any heating recommendation you'd ever find elsewhere," says Wallace. "By installing the tubing six-inches on center, it allows you to deliver as much heat as you need to any zone. So if you have a small bathroom, with tubing six inches on center, you're able to provide any heat response to the room that's required. Once we designed the system for radiant floor cooling, we didn't worry about the spacing of tubing in heating mode because we knew we had far more capacity than we needed. We only had to determine the flow rates for each zone and sizing our supply and return manifolds to support that.

"Larger piping also makes the system more efficient, because the pump pressures are a lot lower when you're circulating the supply and return," Wallace says.

The home's geothermal heat pump (GHP) has the capacity to heat domestic hot water (DHW) through a heat exchanger. A wine cellar is cooled via radiant floor cooling and a chilled water hydronic fan coil.

BY TERRY MCIVER, EXECUTIVE EDITOR

### Precise Radiant Zone Control

The home's BACnet control system used commercial off-the-shelf control modules from an Uponor Climate Control System. Additional BACnet programming was required to support the radiant floor cooling.

The home was divided into 19 individually-operated radiant zones. Five snowmelt zones, including the garage zones, operate separately, and are freeze protected with propylene glycol.

All bathrooms are zoned separately from adjacent living spaces. Bathrooms are enabled for heating only (no cooling), due to the possibility of condensation when cooling, from the rapid rise in humidity from showers.

The Buysee's desire to have remote access was especially challenging.

"In that regard, you have to look at the systems from the point of view of

# the Clouds

what will happen should one system fail and another system has to pick up the load," Wallace explains. "You have to consider multiple 'layers' of comfort but also layers of reliability. The biggest challenge for us was designing the system so you had automatic roll over. Because, if the system froze up, there could be severe issues. If the heat pump fails, the boiler has to kick on. If the boiler fails the electric heating element has to kick on. We fused those elements together and staged them to activate in the right order, based on energy efficiency. The geothermal ground loop consisted of 3,600 ft. of piping in solid granite, "which provides the best thermal connectivity you can get," Wallace says. Six wells were drilled, 300 ft. below the surface.

### Control Benefits of Radiant Systems

EEC's design eliminates many of the inherent balancing and comfort issues prevalent in air systems, such as hot and cold spots, and zoning control. Wallace truly appreciates radiant's simplistic efficiency.

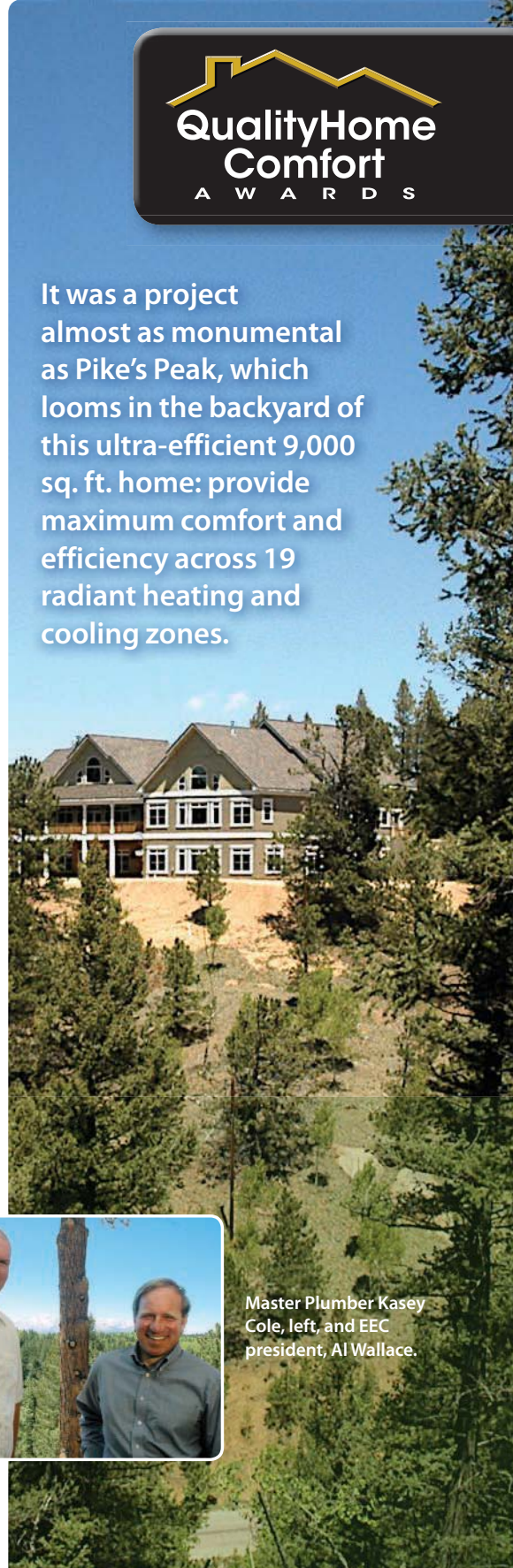
"It's hard to get an air molecule to go where you want it to go, or to get the right volume of air to go off of a branch duct. A radiant system doesn't require any of that math. It's a pipe that carries water. Hot is left, cold is right. Because of the type of hydronic technology that's available today, we can deliver energy to a zone or room much more easily," Wallace says.

Each zone contains an Uponor Climate Control Network (CCN)-compatible thermostat. The thermostat has an air temperature sensor, an infrared floor temperature sensor, connections for an in-slab temperature sensor and a humidity sensor. These intelligent devices communicate with the CCN control system to determine radiant supply temperatures to the home. In heating mode, the supply temperature uses outdoor reset control to maintain the lowest temperature required to meet heating demand. The GHP maintains the heating buffer tank at this temperature. With PEX-A tubing installed at six inches on-center to accommodate RFC, the system operates at a lower operating temperature than when tubing is installed more typically at 8- or 12-in. on-center. The extra capacity provides some insurance to the contractor when two zones have different entering water temperature requirements.

In cooling mode, the CCN calculates dew point and sets the cold tank temperature below dew point, to provide chilled water to fan coils in-line with the ERVs. At the same time, a three-way thermostatic mixing valve provides



It was a project almost as monumental as Pike's Peak, which looms in the backyard of this ultra-efficient 9,000 sq. ft. home: provide maximum comfort and efficiency across 19 radiant heating and cooling zones.



Master Plumber Kasey Cole, left, and EEC president, Al Wallace.



*It's Hard To Stop A Trane.®*



## RELIABLE DOESN'T JUST HAPPEN. IT'S PROVEN OVER AND OVER AGAIN.

RELIABLE,  
ENERGY-EFFICIENT,  
CLEAN AIR FOR  
THE HOME.

[trane.com](http://trane.com)

We continually put our promise to the test to see just how far Trane's reliability can be pushed. And while it may seem a bit extreme, our rigorous testing program is one of the reasons why more dealers select Trane as the one brand that is best in reliability.\* Because they know that when it comes to quality and reliability, actions speak louder than words. Ready for a breakthrough? Put your local Trane distributor to the test.

\*Independent research by JLA Strategic Research LLC, funded by Ingersoll Rand

*circle 17 on reader service card*

## PRODUCTS KEY TO SUCCESS

- Uponor Climate Control Network (CCN)
- Enertech GeoComfort Comfort Series heat pump
- Grundfos pumps
- Triangle Tube Prestige condensing boilers
- Ultimate Aire 200DX energy recovery ventilator
- Ultimate Aire water-to-air coil
- Enertech Hydronic fan coil
- Wilo Stratus VFD circulators
- Grundfos circulators with Webstone flanges
- Rheem Marathon hot water tank
- Lochinvar Squire storage tank
- Flat Plate heat exchanger
- Triangle Tube MaxiFlo heat exchanger
- Spirotherm air eliminators

The overall system design for this award-winning project was a collaborative effort between EEC and Ray Blum of Dahl Denver, the Uponor distributor in Denver. Al, Kasey, and Ray jointly designed the hydronic heating and cooling system based on EEC's technology demonstration home experience ([platinumLEEDhome.com](http://platinumLEEDhome.com)) and lessons learned from other EEC radiant floor cooling projects.



The mechanical room in the Buysee's Colorado home features flawless work by Master Plumber Kasey Cole.

the supply temperature to the radiant manifolds at an offset temperature above the dew point (usually 4- to 5-degrees) to prevent condensation in the floors. When outside humidity is below 50% (the normal Colorado climate), the ERVs operate without the chilled water fan coils in operation. However, when outside humidity increases substantially (as will happen during summer thun-

derstorms), the chilled water is circulated in the fan coils to dehumidify the indoor air below 50% so that the radiant floor system maintains its effectiveness.

Unlike an air system, the hydronic system as designed by EEC is almost self-balancing. Each zone has a dedicated multi-temperature sensor, and individual control with a dedicated zone valve, making every room a micro-climate in the overall heating and cooling envelope.

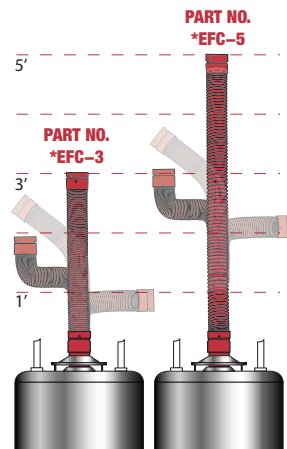
# SELKIRK®



## Expandable Flexible Gas Vent Connector

### Model EFC

- Simple connection between appliance and Type B Vent
- No elbows required
- Expands 1' to 3' or 2' to 5'
- Integrated Draft Hood Connector
- Limited Lifetime Warranty
- 360° Flexibility



Call Customer Service Today 1.800.992.8368  
[www.selkirkcorp.com](http://www.selkirkcorp.com)

circle 18 on reader service card



Commissioning involves confirming that the zone valves are responding to the control inputs, and overall system set points for the hot and cold buffer tanks, and DHW tank, are maintained by the geothermal heat pump. When the GHP is turned off, boiler operation is confirmed to meet heating set point in the hot buffer and DHW tanks. When the GHP and boilers are manually de-activated, the electrical heating elements in the DHW tanks are tested to maintain the minimum set point manually established on each tank.



The home features windows with a U-factor of .31, and a solar heat gain coefficient of .29, to reduce the solar heating load.

air design temp. The Uponor Manual J calculations were 165 MBTUH total radiant heating load, an increase of 65%. Since backup boiler capacity was available, the GHP was sized based on 120 MBTUH. This is an acceptable value-engineering approach in heating dominated climates.

Reducing the size of the GHP system reduces overall system first costs by reducing the ground heat exchanger (GHEX) "ground loop" expense.

### Commissioning Challenge With ICF Design

A challenge was found in modeling and performing Manual J calculations on the true thermal envelope with the ICF structure. On several retrofit applications involving ICF homes, EEC has found that the building envelope didn't perform to the ICF manufacturer R-value claims. According to Wallace, there's an "art" to working with the science of ICF high mass systems.


EEC performed Manual J calculations using RightSuite universal 8.0.18 software based on the ICF manufacturer's specifications. Incorporating a DHW demand of 20 MBTUH (as calculated by Water Furnace GeoLink software), the GHP sizing was 120 MBTUH, using a 100% runtime at 0F outside

### Worry-free, Comfort-filled Escape Zone

Dean Buysee says the home's comfort system is performing better than he anticipated it would.

"It's performing well below where I expected it to be for energy consumption," he says. "It's already paying back in energy savings."

Additionally, the system's comfort benefits are a pleasant reminder of the Buysee's wise decision to go with a geothermal system installed by Energy Environmental Corporation.

And when you travel 1,000 miles to enjoy your Colorado getaway, that's what you want to take back home with you: sweet memories of cozy comfort. 

## CURB APPEAL



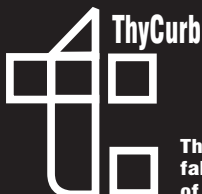
Custom Base

Need a pitched, uninsulated equipment base for your rooftop? Thybar has a complete line of laser cut, competitively priced custom bases. Each custom base has all welded construction and is shipped to the site in one piece if trucking permits. Options include; a built-in roof pitch, insulation, extra height, and a pressure treated wood nailer. Licensed P.E. on staff. Order direct from [www.thybar.com](http://www.thybar.com).

53

YEARS OF EXCELLENCE

5 Nationwide Plants means FAST DELIVERY!



ThyCurb by the fabricating div. of Thybar Corp.

[www.thybar.com](http://www.thybar.com)  
[info@thybar.com](mailto:info@thybar.com)  
 fax: 630-543-5309

Illinois	800-666-CURB
Ohio	800-837-CURB
Texas	800-777-CURB
Kentucky	800-993-CURB
Nevada	866-917-CURB

circle 19 on reader service card

## AirData Multimeter®

Differential & Absolute Pressure, Temperature  
 Density Corrected Air Flow and Velocity  
 English or Metric Units

Up to 2000 Reading Memory with Average, Total,  
 Minimum, Maximum, & Standard Deviation  
 Serial Output to Computer or Printer



## Shortridge Instruments, Inc.

7855 E. Redfield Road Scottsdale, AZ 85260  
 480-991-6744 Fax: 480-443-1267  
[www.shortridge.com](http://www.shortridge.com)

circle 20 on reader service card

# ReKlaim<sup>®</sup>

Today's used  
**R-22**  
is tomorrow's supply



## Return Your Used Refrigerants for Cash

You already recover used refrigerants from your customer's systems. Need a convenient, hassle-free return program? Join HVACR contractors from coast-to-coast who return their used refrigerants to an authorized ReKlaim Collection Center and receive cash for your used refrigerants. With a ReKlaim return refrigerant program, you'll get a competitive buy back price, DOT-approved recovery cylinders, and the support of ReKlaim experts that make the process easy for you.

Don't wait—get started today!

*circle 21 on reader service card*

Find a ReKlaim Center Nearest You  
**1-800-406-2292**  
[www.recyclerefrigerants.com](http://www.recyclerefrigerants.com)



# Big Comfort Hunter

In some cases, great projects start with demanding customers. Demanding doesn't have to mean difficult: It can simply mean customers who know what they want, and are willing to seek out the HVAC contractor who can help them achieve it.

Homeowners David and Laura Grisar knew what they wanted. They were building a new 6,500 sq.ft. home, and the only fuel available was LP gas. The Grisars wanted an energy-efficient HVAC system without sacrificing comfort. They wanted radiant floor heat in the lower level and all first floor tiled areas. They wanted a system that would heat the pool. They wanted fresh air brought to the home, and humidity control so no condensate would form on the windows (this was especially important in a trophy room where numerous game mounts are located). They also were concerned about being green.

In stepped contractor Mark Doll of Professional Geo-

thermal Systems, and the rest, as they say, is Quality Home Comfort Awards history.

The Grisar's home is a ranch-style "Y" shaped home with a fully exposed lower level. This unusual shape called for three distinct zones on the first floor, with one of those located above a heated garage.

"I enjoy working on custom homes like this that have unique elements to them," Doll says. "The homeowners wanted a very energy efficient system and had some nice land, so we immediately considered geothermal. When we started talking to them about their real-time savings and the federal tax credits, they were sold on the concept."

Doll started the design process by performing a Manual J load calculation using Elite Software's HVAC load program. The load calculation information was then input into Climate Master's Geo Design program to determine which equipment best suited the loads.

Ultimately, a 5-ton geothermal water-to-water heat pump was selected for the radiant floor heating system. This unit also heats the outdoor pool in the summer. For the home's

BY RON RAJECKI, SENIOR EDITOR

The trophy room at the Grisar's home needs tight climate control.

forced-air system, a 5-ton geothermal water-to-air heat pump was chosen.

The system has two 5-ton horizontal loop fields that have individual manifolds in the ground. The piping mains from each field enter the mechanical room where they share a manifold in a reverse-return configuration. This essentially makes the loop field a single 10-ton field. This design allows for an even exchange when the water-to-air heat pump is running in cooling mode and the water-to-water unit is running to heat the pool. Flow is optimized with separate pumping controls for each unit. A loop expansion tank allows pressure to increase or decrease in the large loop when the seasons change.

The hydronic side of the system includes a 40-gallon non-pressurized buffer tank. This simplifies the system by combining air elimination, pumps, and controls all in one package. Five of the eight pumps distribute water to five different radiant floor zones via 3/4-in. Roth AluLaser piping connected to Roth manifolds with flow meters. Roth 1/2-in. PEX is poured in the concrete slab, with 2-in. R-10 foam slab insulation on the bottom and ends of the concrete slab. Two more pumps distribute hot water to the first floor tile areas for floor warming using staple-up heat transfer plates. The last pump serves a cupro-nickel pool heat exchanger

controlled by a 24V digital temperature control wired in series to a flow switch.

The forced-air side of the system features four zones. The architect and builder designed floor trusses to accommodate all of the ductwork, which is sealed using mastic on all joints and insulated to R-8 in the unconditioned spaces. All of the bathroom exhausts feature Broan UltraSilent exhaust fans with 6-in. ducting. Fresh air ventilation is achieved using a Honeywell TrueFresh energy recovery ventilator. A direct-ducted system pulls air from the house directly from the bathrooms, which provides additional moisture removal from the areas where the moisture originates.

Proper humidity levels are maintained with a Honeywell TrueSteam 12 gph steam humidifier. The hydronic system is controlled with digital thermostats for each zone; the forced-air system uses EWC zone dampers with an electronic bypass damper to control static pressure. This is all tied to Honeywell's wireless RedLink wireless zoning system. Communicating to the system's zoning panel are wireless thermostats, with the main first floor thermostat also controlling the humidifier and air-to-air exchanger.



The HVAC system designed and installed by Mark Doll (below) keeps both the home and the pool water comfortable.



The control package features an outdoor air/humidity sensor that can be read from the first floor thermostat, a remote control that allows the homeowners to control the entire house, and an Internet gateway that allows the system to be controlled remotely using a computer or smartphone.

In commissioning the system, Doll balanced every forced air outlet as well as every zone using the minimum and maximum settings on the EWC dampers. Balance for the radiant flooring was achieved by adjusting the flow meters on the manifolds. Heat of rejection/extraction calculations were performed on the heat pumps, and amperage draw readings were obtained on all of the equipment and pumps. Loop water flow was balanced by adjusting the ball valves.

“At Professional Geothermal Systems, we take great pride in providing creative and efficient comfort solutions for our customers. We also take pride in the quality and craftsmanship our company delivers,” Doll says.

He also tipped his cap to his partners in the project, Welton Builders and Harbor City Plumbing, and Mishefski Designworks Studio LLC.

“We’ve worked with Welton many times, and it’s always



This great room is as comfortable as it looks, thanks to the efforts of Mark Doll and Professional Geothermal Systems.

a pleasure,” Doll says. “They build a very tight home, are dedicated to giving customers what they want, and are very much onboard with geothermal. Harbor City did a nice job

# Say Hello to the Most Intelligent Voice in Zoning

*The Only One of its Kind!*

## UltraTalk



The ONLY communicating Zone System available on the market today built on the robust ClimateTalk® open protocol. EWC Controls has built a truly innovative, plug-n-play 4 wire communicating zone system for any application. EWC's design allows the zoning system to “Talk” to the equipment and thermostats to reduce labor time and optimize performance. Imagine a 4 wire connection to control a 4 stage heat and 2 stage cool system with no programming and no dip switches to set. All components on the EWC network will communicate and inform each other (auto-configure) and know what to do and when to do it. Installing a zone system has never been this easy.

- True Proportional Fan Control – reduces need for by-pass dampers
- Hybrid style design
- Built in Staging Capacity
- No Field Set-up
- Auto-configure installation for all equipment
- Fault Free Programming

Excellence Without Compromise  
**EWC**  
CONTROLS INC.

Phone: 800-446-3110  
www.ewccontrols.com  
info@ewccontrols.com



ClimateTalk™  
SPOKEN HERE



IF YOU'RE LOOKING TO ADD TO YOUR TROPHY CASE,

# IT'S TIME.



© 2012 American Standard Heating & Air Conditioning All rights reserved

If you're an American Standard dealer, congratulations. In May of 2012, readers of a national product testing and research magazine rated American Standard Heating & Air Conditioning's air conditioners and heat pumps as the most reliable brand among leading manufacturers. This comes after ranking highest in overall dealer satisfaction five times in the last six years.\* So clear a little space in your trophy case. And learn more about our award-winning brand from your independent American Standard distributor.

American Standard Heating & Air Conditioning, as comfortable as it is reliable.

A HIGHER STANDARD OF COMFORT.

*American Standard*<sup>®</sup>  
HEATING & AIR CONDITIONING

[americanstandardair.com](http://americanstandardair.com)

\*Based on survey results compiled by the independent research firm Syndics Research, funded by Ingersoll Rand

**circle 23 on reader service card**

of integrating their systems with ours, and Mishefski always provides creative and innovative designs. It's a team effort."

And as for "demanding" homeowner Dave Grisar? He has nothing but praise for Doll and his company.



The work done by Professional Geothermal Systems drew raves from HVAC industry insiders.

### PRODUCTS KEY TO SUCCESS

- ClimateMaster 5-ton water-to-water heat pump
- ClimateMaster 5-ton water-to-air heat pump
- B+D Manufacturing 40-gal. nonpressurized buffer tank
- Honeywell TrueFresh energy recovery ventilator
- Honeywell TrueSteam steam humidifier
- Roth PEX Manifolds with flow meters
- Ranco 24V digital temperature control
- Honeywell TrueZone zone control panel
- Honeywell Prestige IAQ thermostat
- Honeywell Internet gateway
- Honeywell personal comfort control
- Honeywell wireless outdoor sensor
- EWC zone dampers
- EWC electronic bypass damper
- Broan UltraSilent bathroom fans
- Roth AluLaser radiant piping

"Mark is a total professional. I have two cousins who do HVAC work, and when they came in and took a look at the geothermal system, they were very impressed," Grisar says. "They said the system was just beautifully done. It's impressive to hear that from other professionals in the field.

"The equipment is quiet, the temperatures are even, and the comfort is great," Grisar adds. "We're really happy with the system. And beyond that, Mark was a breeze to work with. Anytime we had any questions he came out to the house and walked us through it. He was a true professional and made it all very easy for us."



The geothermal heat pump and buffer tank help the system provide quiet, efficient comfort.



## Air Conditioning And Refrigeration

**A Comforting experience!**

Great Lakes Copper, Inc. Proves why 56 years in the copper tube industry is a reason to feel comfortable.

Providing a wide range of the products you require in stock, quality packaged and shipped to your local wholesaler are standard reasons why your next order should be with Great Lakes Copper, Inc.

Offering industry standard refrigeration coils, our new GL Plus™ nitrogen purged and pressurized MED/ACR tube, EZ-Roll™ Line Sets and Ductless Mini Splits offer a complete line for your air conditioning and refrigeration requirements.

So relax and get comfortable. We'll take it from here.

Visit us at Comfortech 2012 in Schaumburg, IL at booth # 436



**Kamco**  
A Div of GLC Inc.

**GL Plus™**  
Nitrogen Purged and pressurized MED/ACR

Refrigeration

MED/ACR

Line Sets

Ductless Mini Splits

Toll Free 1.800.561.7119

www.glcopper.com

circle 24 on reader service card



## The Retrofit Compressor Specialists

What if Your Chiller Goes Down This Summer?  
What if No Replacement Compressor is Available?  
What Will You Do? Where Will You Go?



On the left: Large Recip to be Replaced



On the right: New BITZER Screw Installed



On the left: Vertical Screw to be Replaced



On the right: New BITZER Screw Installed

**Call BITZER... We Offer New High Efficiency Screw Compressors to Replace Old, Inefficient and Failed Screw or Reciprocating Models.**

Mechanical Contractors:  
Contact [sales@bitzerus.com](mailto:sales@bitzerus.com) or  
phone 770-503-9226

**BITZER U.S., Inc.**  
Phone - 770-503-9226  
Email - [techsupport@bitzerus.com](mailto:techsupport@bitzerus.com) / [sales@bitzerus.com](mailto:sales@bitzerus.com)  
Scan this Code to Download BITZER's Free Refrigerant Pressure Temperature Reference App



circle 25 on reader service card



# Hawaiian Candy Maker is **SWEET** On MovinCool **VERSATILITY**

World-famous for their chocolate-dipped macadamia nuts, Hawaiian Host® prevents production line meltdowns with several MovinCool portable systems.

“Spot cooling keeps the candy at the right temperature—plus when workers are more comfortable, their productivity is better.”

To read more about this application story, visit: [MovinCool.com/HawaiianHost](http://MovinCool.com/HawaiianHost)

Scan to see the top 50 reasons why MovinCool products are the highest quality in the industry. [MovinCool.com/50Reasons](http://MovinCool.com/50Reasons)



Hawaii’s tropical climate makes it a vacation paradise. But the islands’ high summer temperatures and humidity also translate into some serious problems for Hawaiian Host and their iconic chocolate-covered creations.

According to Oahu Plant Manager Lito Aquiat, what Hawaiian Host needed was a cost-effective way to prevent their uniquely formulated chocolate from softening during the production process—and also keep their candy makers more comfortable. And what they found, was a versatile family of MovinCool spot cooling solutions.

Today, Hawaiian Host strategically deploys no less than seven self-contained MovinCool portable systems throughout their production, packing and R&D areas—including two Classic 40 (39,000 Btu/h) units, one Classic Plus 14 (13,200 Btu/h) model and four Office Pro 12 (12,000 Btu/h) units. And things couldn’t be sweeter. From mission critical computer room cooling applications to manufacturing processes and people, MovinCool is the solution.



Whatever your heat problem is...



We’ve got you covered.

**MOVINCOOL®**  
THE #1 SPOT COOLING SOLUTION

800-264-9573 | [MovinCool.com](http://MovinCool.com)

©2012 DENSO Sales California, Inc. MovinCool, SpotCool and Office Pro are registered trademarks of DENSO Corporation. QR Code is a registered trademark of DENSO Wave Incorporated.



In a changing world, there are certain constants. One of those is that Jim Patterson of Orchard Valley Heating and Cooling, Southampton, MA, will perform outstanding residential comfort system design and installations. Patterson this year notches his 11th Quality Home Comfort Award.

Patterson performs all of the design, installation, start-up, and servicing of his systems. In recent years, he has gained two helpers: his sons Brian and Matt. Brian recently completed his two-year degree in HVAC at Springfield Technical Community College in Springfield, MA, and Matt is just finishing his degree in the same program.

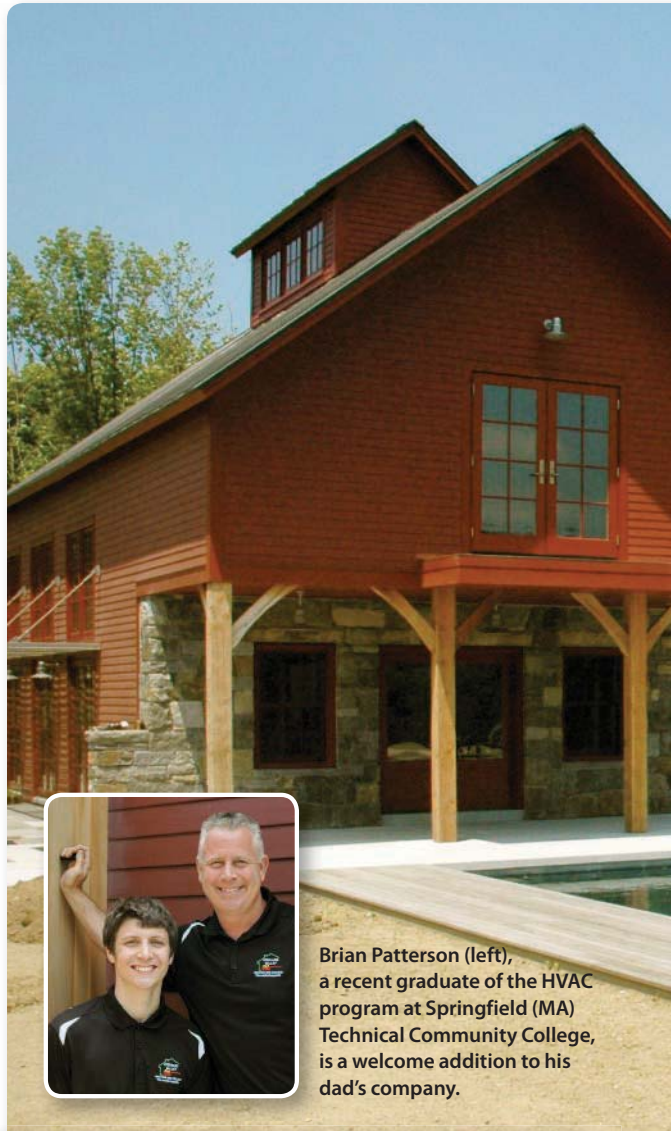
“My experience with the Quality Home Comfort Awards over the years has taught me a great deal in respect to my desire to maintain the integrity of the systems I am called upon to design and install,” Patterson says. “The pride I take in my success with the Quality Home Comfort Awards program translates into my day-to-day operations and my interactions with clients and business associates. I treat every project as a potential award winner and strive to deliver perfection on each system. Clients deserve that attention, as well as the opportunity to experience what a well designed and installed system can do for their home living environment.”

Patterson added that his 11 Quality Home Comfort Awards have helped in training Brian and Matt the importance of doing things the right way.

“I want them to learn not to cut corners to get jobs, and deliver unmatched comfort and a great experience for the client every time,” he says.

In this case, the beneficiaries of Patterson’s devotion to his craft are the owners of this 2,726 sq.ft. barn-style guest and pool house. Guests will certainly feel like royalty in this spectacular setting overlooking the Berkshire Hills. The guest/pool house includes a bedroom, spa, entertaining room, and studio loft. The main room features a 30-ft. high vaulted ceiling and custom wood paneling. Just outside of the structure is a heated in-ground swimming pool and a redwood hot tub. Extensive stone walls surround the pool and hot tub, as well as an outdoor fireplace and shower.

“A desire to blend green efficiency into a design that held several high-demand features, such as the hot tub, shower, and pool,



Brian Patterson (left), a recent graduate of the HVAC program at Springfield (MA) Technical Community College, is a welcome addition to his dad’s company.



BY RON RAJECKI, SENIOR EDITOR



# A Barnful of Comfort



The HVAC system designed and installed by Jim Patterson keeps the 2,700 sq.ft guest/pool house comfortable, and also heats the pool water.

The 30-ft. high ceilings made the great room perfect candidate for a radiant heating system.

was the driving force behind the design," Patterson says. "We wanted something that served the needs when called on, but remained in the background in the meantime."

Patterson's design features a 5-ton water-to-water, closed-loop geothermal system that serves the home's radiant and air systems (both heating and cooling). The home's high ceilings made it a perfect candidate for a staple-down radiant system. The second-stage of winter heating and summer cooling and dehumidification is accomplished using an air system made up of the geothermal system and two Carrier air handlers equipped with Hydron Module "A" coils.

"The boilers are capable of providing a quick reheat of the structure as it's not used as a primary living space and

may be set to lower temps for long periods and need reheat quickly— a task not easily available with the geothermal due to the low-delivery (120F) temps to the air handlers," Patterson explains.

The main air system is split into three zones, and the spa has its own air handler and acts as its own zone.

The home's tight, spray-foam envelope required careful attention to ventilation. In particular, the steam shower in the spa wing needed adequate ventilation to prevent it from causing condensation on the skylight above. To handle the ventilation needs, Patterson selected a Venmar EKO air exchanger. The pool and hot tub's water heating requirements, as well as that of the master shower's full-load flow of 24 gpm ("flotation vests are kept just outside of the

shower,” Patterson jokes) were met using two 225 kBtu boilers and two 120-gal. indirect hot water storage tanks.

According to Patterson, the water-to-water geothermal equipment was chosen to streamline the system and create a single geothermal appliance for all of the systems. The dual-boiler system uses lead/lag technology and a wide range of modulation to ensure efficiency.

Two Sanuvox ultraviolet air purification systems help maintain good indoor air quality in the structure.

Start-up and balancing of the system went smoothly, thanks to Patterson’s dedication to properly sizing and installing duct systems. “I place a great deal of attention on duct design, as properly sized and installed systems are very easy to balance,” he says. “Zoning also helps create ‘self-balancing’ systems, as the satisfied zones shut down and the system focuses on areas needing more cooling or heating.”

Patterson says that he was fortunate to work with homeowners who were receptive to — and eventually sold on — the benefits of geothermal space conditioning.

“All-in-all the system has been very successful, and has led us to win phase two: the main house, which we will be roughing in this summer,” he says.

The homeowners told *Contracting Business.com* that they chose Patterson because he was attentive and timely with his interest in the project. He was also keen to offer the education and analysis they requested. “He won the business because he engaged early and with deep expertise that he was willing to share,” they said.

“Technically, there was a lot to balance: seasonal heating and cooling, the pool, a four-season spa and hot tub, and a large main room” the homeowners add. “[Jim] managed the design and integration very well. He was on top of the technologies, and that was impressive. We anticipated that

his enthusiasm and character would carry over to the project in on-time management and good communication for important decisions; this is exactly what happened. The project was on-time and well managed. So, we gave him a second project without reservations.”

It’s said that the reward for good work is more work, and Patter-

## PRODUCTS KEY TO SUCCESS

- IBC boilers
- Carrier air handlers
- Carrier zone controls
- Hydron Module A-coils (chilled and hot water)
- Hydron Module 5-ton water-to-water geothermal heat pump
- Venmar heat exchangers
- Phase 3 pool heat exchangers
- Grundfos pumps
- Uponor tubing, manifolds, and heat transfer panels
- GR8 duct wrap
- Sanuvox UV air purification system
- Honeywell filters
- Caleffi hydraulic separator
- Viega ProPress copper piping




Give Jim Patterson a blank canvas on which to paint one of his award-winning custom HVAC systems, and he’s likely to come up with a work of art.

son looks forward to continuing to work with the homeowners, architect, and builder on the second phase of this project.

“This is the third project on which I’ve worked with architects Burr and McCallum, and they are one of the best firms I’ve had the pleasure of working with,” Patterson says. They’re very much into the Design/Build approach and allow me to ‘do my thing,’ promoting the technology I believe in so much. And Scott and Chris at Chenaille Moore Builders are both top-notch builders, making this an amazing experience despite the nearly two-hour drive to the job.

“This project was a great ‘blank canvas,’” he adds. “It allowed me to work all of the design features into a very neat composition, which is one of the tasks I enjoy most. “It’s rare that I’m able to blend all of these technologies the way I was able to on this home. The challenges presented really pressed my design ability to turn out something worthy of this project.”

And worthy of yet another in his long line of Quality Home Comfort Awards. 



Beautiful setting? Check. Stunning home? Check. Optimal comfort? Of course. And this is just the guest house.

# RedLINK™ connects.



## Connect to your customers with RedLINK™ products and accessories.

Honeywell is committed to connecting contractors to their customers, and connecting those customers to ideal comfort. With our complete line of RedLINK™ Wireless Comfort Systems and accessories everyone's satisfied. Your customers get complete control of their heating and cooling systems while you enjoy simple installation, increased add-on sales and an overall improved bottom line. It's all included in the RedLINK connection. **After all, comfort is found in your connection.**

## Honeywell



Scan this code and try our apps for Total Connect Comfort Services.

Find out more by contacting your Honeywell representative or visit [www.forwardthinking.honeywell.com](http://www.forwardthinking.honeywell.com).

© 2012 Honeywell International Inc. All rights reserved.

circle 27 on reader service card



## Right-Sizing HVAC

# Works Wonders

Most contractors will point to technical issues when asked to recall the most challenging aspects of a residential HVAC installation. But for Tim Bruce, owner/founder, General Air Conditioning, San Antonio, TX, the highest hurdle he and his team had to clear was one of perception: convincing the homeowners that their old system — a pair of 10-SEER units — was just too darn big.

They did agree that it was old and inefficient, and that something had to take its place. This two-story, four bedroom home was being heated and cooled by two 10-SEER, gas furnace split systems installed in 1996. Five tons were cooling the 1,800 sq. ft. lower level, while another three tons conditioned air on the 900 sq. ft. upper level, which includes a guest room, music room, and two children's bedrooms.

"Other contractors had only provided prices on replacing the existing system with like-size equipment," Bruce says. "We were able to show them how one system would save money up front on the installation, and how proper insulation and testing would save money on operating costs. Only having one

BY TERRY MCIVER, EXECUTIVE EDITOR

Ready to enjoy a meal in a more comfortable and welcoming kitchen are, from left, Ian, Keira, and Sean Kirk.

system to maintain was another valuable savings feature we recommended.”

The homeowners — Mr. and Mrs. Scott Kirk — wanted to reduce their overall energy consumption and maintain comfort throughout the home, and improve the home’s defense of outdoor allergens, notably oak and cedar tree pollen.

Of particular concern from a temperature standpoint was a quest for comfort in the west-facing master bedroom, and in the guest room directly above it, in late afternoons. The Kirks also wanted daily comfort in the loft and music room, so their children could practice their musical instruments in clean, cool air.

A challenging structural feature of the home had always been that the loft was open to the living room. Consequently, air from the upstairs system affected the thermostat located in that space, leaving the lower level master bedroom and guest room at uncomfortable temperatures. Therefore, the General Air Conditioning Team faced a three-fold challenge:

- reduce energy drain
- equalize room temperatures
- clean the air.

With these goals in mind, the team got down to work.

### Eight Take Away Three = Correct Comfort

A load calculation was performed, which showed the home really needed a bit over five tons of cooling at any given time, rather than the eight-tons that had been previously installed. An air delivery test was performed on both systems using Escan test equipment by Enalasy. Massive air leaks were



The General Air Conditioning team for this winning project. From left are, Victoria Sanchez, Andrew Walraven, Tim Bruce, Sarah Walraven, and Michael Castillo. Not shown is Clara Santillan.



The Trane TZONE controller provides accurate comfort settings, remote control, and keeps a record of run times for a year-end review of usage patterns.

detected in the upper and lower duct systems, as well as undersized return ducts.

This is where General Air differentiated itself from competitors. For six months prior to the project, the Kirks had received several estimates from area contractors, but General Air was the only team to perform a load calculation and air delivery test on the home and system.

General Air got the job, albeit with a tough project window: complete it between Christmas and New Year’s Day, to accommodate Mr. Kirk’s schedule as an airline pilot, and to work around the contractor installing radiant barrier in the home’s attic.

Once they were “cleared for takeoff,” the three-person General Air team removed the old equipment from the attic — to make room for the radiant barrier installation — and began work on removing the old outdoor unit.

After the radiant barrier contractor had provided for the home’s insulation needs, General Air installed the furnace, zone dampers, controls, and necessary ductwork. They required



For every home, the correct amount of heating and cooling must be calculated, not guessed. General Air came to the rescue for this home that had too much of both.

The Kirks had received several estimates from area contractors, but General Air was the only team to perform a load calculation and air delivery test on the home and system.

The General Air team communicated with the homeowners frequently.

every minute of their project window, and took the work right up to New Year's Eve day. To make the most of their time, they worked as a team to keep the home clean during the week long installation.

They were good communicators, too, Bruce says. "They kept the homeowners informed, and offered suggestions about thermostat locations, or how adding a grille to the home's entertainment closet, would serve to better exhaust excess heat generated by the electronics system," he recalls.

Following the installation, a test-out of the home's air delivery system was performed, to verify room-to-room performance, and overall duct leakage.

"The ductwork that feeds the lower level was all concealed between the floors, so there were some issues that just couldn't be overcome without extensive home remodeling," Bruce explains.

### Useful Controllers Serve a Comfort Purpose

As a pilot, and someone interested in the capabilities and benefits of modern comfort technology, Mr. Kirk wanted a system with a remote control. He was given detailed instruction on the use of the Trane TZONE950 controller, and being comfortable with high-level controls, he was able to set up the wireless network to enable remote control of his system, and to receive local weather right at the



### PRODUCTS KEY TO SUCCESS

- Trane XL20i air conditioner
- Trane XC80 variable speed gas furnace
- Trane cooling coil
- Trane CleanEffects
- Trane TZONE 950 communicating comfort control
- Trane TZONE zone panel
- Attic-Tent
- Johns-Manville coated duct board
- Air Seal 33 Mastic

The problem of competing temperatures between the upper loft and living room was solved, and now, every room in the Kirk's home receives even comfort.

controller. The controller was also set to log run times so that at the end of the year, both the customer and contractor could review how much any zone or any stage of the equipment was being used. The entire range of installed equip-


ment received a Trane 10-year parts and labor extended warranty. General Air Conditioning matched the warranty on its workmanship for non-covered items, and provide a one-year, two-visit maintenance agreement, known as the 4-Star Maintenance Agreement.

### The Proof is in the Comfort

Tim Bruce says this project proves that a bigger comfort system isn't necessarily the best choice for a customer.

"We removed three tons of air, reducing the system by about 40%. Now, we have evidence that the smaller system was the better choice," Bruce says.

"The Kirks believed in us to give them what they wanted: constant, even temperatures, efficiency, and the ability to control four areas of the house evenly," Bruce says. "That's often a concern for people with larger homes. There's always one unit controlling a larger area, and one guest room or alcove that isn't satisfied as well as the rest of the home."

This project also proves the value of providing an exact, professional assessment of the existing home HVAC system, as a foundation to building trust, right from the start. 



Trane's 10-year warranty was supplemented by General Air Conditioning's 4-Star Maintenance Agreement.

# THERE CAN ONLY BE ONE INDUSTRY LEADER.



## It's LG.

With an up to 28.0 SEER Rating on the new Art Cool™ Premier Duct-Free Heat Pump, LG leaves the competition behind. So when your customers ask about energy consumption and saving money, tell them to go with the leader. Innovative style, quiet comfort and now the industry's highest efficiency rating.\* LG is leading the way.

- Up to 28.0 SEER Rating. **Highest in the Industry.\***
- Ultra-Quiet 17dB(A) Sound Level (Sleep Mode)
- Revolutionary Inverter Technology
- Larger Cross-Flow Fan & Enhanced Outlet-Increases Airflow by 29%
- 4-Way Swing Disperses Air Quickly
- Choose from 9,000 & 12,000 BTU Models



BLDC Motor / Cross-Flow Fan



up to **28.0**  
**SEER**

circle 28 on reader service card

To find out more, visit [lg-dfs.com](http://lg-dfs.com)





Fans of the James Bond books will recall that in *The Spy Who Loved Me*, author Ian Fleming “discovers” on his desk a manuscript written by a woman who had met 007 when her life was in grave danger. Fleming steps back and simply presents the manuscript to readers, allowing “Vivienne Michel” to tell her own tale about her experiences with the suave British spy.

Taking a cue from Mr. Fleming, *Contracting Business.com* would like to present a *Quality Home Comfort Award* in a unique way: by allowing the homeowners to tell their own story.

The homeowners, Gary and Bobbi Walker, turned to Eric Kjelshus, president of Eric Kjelshus Energy, Greenwood, MO, when their comfort was in grave danger. And like a certain secret agent, Kjelshus stepped in and performed his own brand of heroics.

By way of background, the Walkers’ home is an unassuming, 2,400 sq.ft. structure located in a rural area about 45 minutes east of Kansas City in Napoleon, MO. Built in 1984, the home was plagued with numerous comfort problems, which was particularly appalling to Bobbi Walker. For the past 20 years, Bobbi has been on a quest to construct and live in an energy-efficient, sustainable home. She is the mastermind behind the website [www.playhavengreen.com](http://www.playhavengreen.com) and the author of the blog at [www.playhavengreen.blogspot.com](http://www.playhavengreen.blogspot.com).

“The whole point of the website and blog is to



This home may be low-key, but it boasts some of the most advanced heating and cooling technology available today.

Eric Kjelshus is a master at creating comfortable, efficient home comfort systems.

# The Name is Kjelshus...

BY RON RAJECKI, SENIOR EDITOR



The Walkers' dogs made life interesting for Kjelshus. "If you get down on the floor to work, they think it's play time because that's their space," he says.

show ordinary people all the cool things they can do in their homes from a sustainability standpoint," Walker says.

Bobbi had met Kjelshus years ago through an energy auditor, and when the time came to address the home's HVAC system, there was only one man for the job.

Here, in Bobbi Walker's own words, is the story of the project.

"(November 2011) This summer (late June) we discovered water on the floor in the basement around and under the water heater and furnace. The water heater is pretty old and we figured we'd need to be replacing it sooner than later, so we assumed that was the reason for the water on the floor.

"I called a plumber, and he agreed that the water heater was nearing its end. But, lo and behold, it wasn't the reason for the water.

"The air conditioning was the source of the water. Our coil had frozen and the water was the result of it thawing out. A frozen coil meant low refrigerant, which meant we must have a leak somewhere. Unfortunately, we were not in a position to replace the unit or even spend the money to find the leak and have it repaired. So, while it pained me to do it, we had the system recharged and just had to live with a leak for the time being.

"I started researching the problem, and called the person I trust the most when it comes to heating and cooling: Eric Kjelshus. I really just wanted to pick his brain.

"Eric offered to come out and evaluate the house. That is exactly what he did on July 16 . . . one of the hottest days of the year. He brought his energy audit equipment and did a blower door test, used the hood to check the supply and return. He even had his infrared camera.

"We learned that to make our house perform better and to get an adequately sealed house and effective ductwork, it needed:

- the crawlspace under the master bedroom insulated
- the crawlspace under the front hall insulated
- the rim joist in the basement insulated
- a return added in the master bedroom
- a return added from the second floor
- correction of the supply ducts to the master bedroom.

"After my research, Eric's visit, and talking with my husband, it apparent that it didn't make sense for us to spend a bunch of money to do a partial solution.

"I have always wanted to go with a geothermal system (ground-source heat pump). We priced the difference be-

# Eric Kjelshus

tween an air-source system and figured in the various incentives for each. Either way, we would have to take out a loan, so we decided to get what we wanted and spend a little more upfront, to save more in the long run with the geothermal system.

"After we got rid of the water in the crawlspace under the master bedroom, the insulation contractor sprayed closed-cell foam on the crawlspace exterior walls and on the rim joist in the basement. Then he came back another day and filled the cavity between the old concrete floor and the wood floor of the front hall with dense-packed cellulose.

"Next, the geothermal trench was dug, the tubing laid, and the holes drilled through the foundation walls (and sealed again after the tubing was inserted, of course). This part of the project was SO fascinating to me. Because we have lots of land to work with, our installation was very straightforward and simple, but don't be discouraged if you have much less land to work with. It's possible to put in a geothermal system almost anywhere these days due to advanced drilling and trenching techniques.

"Lastly, Eric's crew came out and fixed the ductwork and installed the equipment. George, the team member in charge of the ductwork, went to work shaping the metal into an extension of the main return to add the return vent from the master bedroom. We had him put it in the wall between the bedroom and the living room, where we knew it wouldn't be affected by any future remodeling.

"Then, he had to cut through the rim joist between the crawlspace and the basement to get enough space to add the three separate runs of ducting to the three supply registers. Previously, there was one run with a 'T' to divide the supply to one register in the bathroom and the two registers (using a second 'T') in the bedroom. In the crawlspace, he used insulated flexible tubing to each register. There's now one complete run for each register off the main supply in the basement, and we can certainly tell the difference in the air supplied to the master bedroom.

"After the propane water heater was removed, the chase where the vent stack went up to the roof was available to turn into an additional return duct from the second floor. Since the chase is open not only to the attic but the wall cavity and space

between each floor as well, Kjelshus' team inserted an insulated flexible tube and put a boot at the vent so that it would work as a return correctly. That was connected to a metal duct that connected into the main return in the basement.

"Once everything was connected and done, George sealed everything using a special caulk designed specifically for sealing duct work."

Thus ends Bobbi's part of the tale, but not the story.

For his part, the always low-key Kjelshus begins by stressing the importance of having a well-trained and highly qualified team. "I'm a huge proponent of North American Technician Excellence (NATE), and all of my technicians are NATE-certified," he says.

He then recounts his work on this project, from starting with thorough heat loss and heat gain calculations, to carefully crafting proper duct and geothermal loop designs, to testing, testing, and more testing throughout. His description of the project reads like a report back to "M", the head of the British Secret Service:

"When we got there, the house was in a bad way. The


108,000 Btu, 60% furnace was providing very little heat to the master bedroom, and there was no air conditioning to that room," Kjelshus says. "There was no return to the master bedroom and not enough on the second floor.

"In addition, by using AirAdvice, we identified a low-level carbon monoxide problem caused by a water heater that was backdrafting whenever the blower was on.

"We upgraded the supply and return to lower the system's static pressure and reduce stratification. We took out a 6.5 EER air conditioner and oversized furnace, and put in four, 750-ft. geothermal loops. After super sealing the house and adding rim and attic insulation, we put in a 27-SEER two-stage geothermal heat pump.

"We also provided proper combustion air and venting to address the backdrafting water heater and ensure a safe indoor environment for the homeowners.

"The Walkers were very enthusiastic about the project, and very pleased with the final results," he concludes.

Like James Bond, Kjelshus is a professional, and to him this was simply another successful mission — because there cannot be any other kind. 

### PRODUCTS KEY TO SUCCESS

- ClimateMaster (branded Heat Controller/Century) vertical two-stage 27-SEER geothermal heat pump
- Copeland Ultra-Tech two-stage unloading scroll compressor
- Honeywell IAQ programmable thermostat



Neat installations and attention to detail, such as that shown in this geothermal heat pump installation at the Walker's home, are hallmarks of Eric Kjelshus' work.

# ZONEFIRST®

Energy Saving HVAC Zoning Systems

## We put the **COMFORT** in HVAC

Your Townhouse



Your Home



Your Office



For over half a century, ZONEFIRST has been the industry leader in zoning.

Starting with the development of the first zoning dampers and registers in the 1950s to today with exclusive **"Plug & Play"** dampers, ZONEFIRST has led the way in excellence and continued innovation.

*circle 29 on reader service card*

ZONEFIRST

Toll Free: 877 - FIRSTZONE

[www.zonefirst.com](http://www.zonefirst.com)



# CHICAGO!

## 2012

### Mechanical Systems WEEK

The National HVACR, Hydronics & Plumbing Seminar and Product Showcase

SEPTEMBER 19-21, 2012

Schaumburg Convention Center // Schaumburg, IL



# Get In Your Comfort Zone...

## ...at Mechanical Systems Week 2012!

### Opening Keynote Event

PRESENTED BY



*It's Hard To Stop A Trane.*

THURSDAY, SEPTEMBER 20 // 10-11:15 AM

***"Crossing the Generational Divide:  
Leveraging the Power of Generations  
for Your Strategic Advantage"***

PRESENTED BY JASON DORSEY, THE GEN Y GUY®

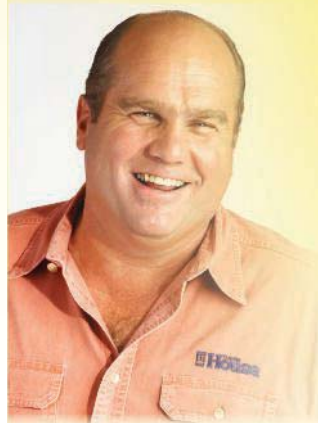
A best-selling author and award-winning entrepreneur, Dorsey will share his insights on generational differences in the workplace (you leave a voicemail and they reply with a text!).



### Friday Keynote & General Session

FRIDAY, SEPTEMBER 21  
10-11:15 AM

RICK TRETWEY, PRESIDENT – RST THERMAL



A fourth-generation master plumber, Trethewey has been involved in the plumbing industry for 30 years and has been the HVAC and plumbing expert on PBS' "This Old House" and "Ask This Old House" programs since 1979. Trethewey also writes a column and contributes to *Green Mechanical Contractor*, a quarterly supplement to *CONTRACTOR Magazine*.

HVAC  
**COMFORTECH®**  
**2012**



POWERED BY **CONTRACTING BUSINESS** **HPAC ENGINEERING** **CONTRACTOR**  
THE NEWSMAGAZINE OF MECHANICAL CONTRACTORS

# Learn How to Run Your Business Better!

We're assembling the finest faculty from across the industry to cover all aspects of operating a successful HVACR/Plumbing contracting firm. Walk away armed with the knowledge and information you need to make better decisions, identify new opportunities, take advantage of existing ones... and grow your business!



**Sessions will cover the entire mechanical contracting specialty for both residential and commercial projects:**

- Business Management
- Sales & Marketing
- Technical Plumbing
- Service Management
- Technical HVAC & Hydronics
- Commercial HVAC & Hydronics

» Visit [mechanicalsystemsweek.com/seminars](http://mechanicalsystemsweek.com/seminars) for complete details on scheduled sessions and speakers.

## See the Latest and the Greatest, from Leading Suppliers!



**See the most innovative equipment and technology and meet with representatives from top names in the industry – more than 200 exhibitors, including:**

- American Standard
- Lennox
- Rheem
- Climate Master
- Emerson Climate Technologies
- Trane and others

» For a complete list, visit [mechanicalsystemsweek.com/exhibitors/listing](http://mechanicalsystemsweek.com/exhibitors/listing).

### Online Registration Now Open!

## To register, visit [MechanicalSystemsWeek.com](http://MechanicalSystemsWeek.com)

To keep up with all the event news and developments...



Follow us on Twitter @mechsysweek @hvacomfortech

**[MechanicalSystemsWeek.com](http://MechanicalSystemsWeek.com)**



Use your Smartphone QR app to learn more!

THANK YOU TO OUR SPONSORS



**EMERSON**  
Climate Technologies



*It's Hard To Stop A Trane.*



# Woman of the Year: A Young Leader, No Limits

Alana Ward, owner, Baggett Heating & Cooling, Inc., is a young leader with her sights set high. Her energy and enthusiasm for the HVACR industry radiate in the quality of work her company performs.

By Kate Kelly

Clarksville, TN has a history of ambitious women. It's known for being home to the First Woman's Bank, which opened in 1919, said to be the only bank in America to ever be owned and operated solely by women. Wilma Rudolph, the first American woman to win three Olympic gold medals was born here, as was Pat Summitt, former head coach of the Tennessee Lady Vols basketball team. There must be something in the water in Clarksville because it continues to produce successful women. One in particular — Alana Ward, owner and president of Baggett Heating & Cooling — is **Contract-**

**ing Business.com's** 2012 HVACR Woman of the Year.

Alana Ward didn't start out seeking a career in the HVACR business. She was a political science major in college and thought that she might go to law school when she graduated. After working at the U.S. Attorney's office while still in school, she decided that wasn't the path for her. Her father, who owned Baggett Heating & Cooling at the time, needed a bookkeeper the summer after Ward graduated.

"My dad offered for me to work for him over the summer and take a break after school. He said he'd let his bookkeeper go and all those records and books were a mess. I was pretty organized, so it was something that I could help out with. I decided to do it for the summer, then I'd figure out where I was going to go from there."

Although Ward was successful in organizing the office and bookkeeping, she thought she'd pursue a career at the Opryland Hotel and Conference center in Nashville when the summer ended in September, 2001. She lost out on the Opryland Hotel, because they had a hiring freeze after the 9/11 attacks. It was after those events that her father offered her the position as general manager.

"My dad was semi-retired at the time and had a general manager running the company, who wasn't doing a very good job. I was only 23 years old, but my dad offered for me to take over and be the general manager." She took on the challenge.

Ward had to wear many hats in the years that followed first taking over the company. "I went from bookkeeper to general manager. Through that progression and through the years following, I've been the dispatcher, the bookkeeper, the sales person, the human resources person, and I've cleaned the office. You name it, I've done it, with the exception of actually doing the service work or installations."

## Doing It Right

Even though Ward didn't have a technical background and didn't attend a trade school, she learned the HVAC business by surrounding herself with the right people and by asking a lot of questions. Above everything else, her goal is getting the job done right for each customer. "It's a slow process but I'm very conscious of getting the job done right. That's paramount to most anything else that we do," Ward explains.

One of Ward's goals as an HVAC business owner is to raise the level of professionalism in the industry. That starts with the hiring process. "We've all but quit hiring experienced people because I'm finding that many experienced people have bad experience," Ward explains. "You can't convince someone that they've been doing the wrong thing for 20 years, and you especially can't convince them if that news is coming from a woman who's only been in the industry for 10 years."

Ward explains that a technician can't just pick up a set



of gauges and a jug of refrigerant and go to work. "It's technical and it's very scientific. It takes a special person to do this, not just some person off the street. We hire very good, smart, hard working people. We want people who take the industry seriously."

"We're having success with people who are hard working, have positive attitudes and are willing to learn," She says.

Another of Ward's goals is to take control of the company's finances. "My attitude about the financial side of the business has changed. I'm not going to borrow money, and I'm going to think long and hard about every dime that goes out the door," she asserts.

### Pride in Work

To improve sales, Ward had to make sure that she knew enough about the technical side of the industry to know how to solve each customer's unique needs. "I've gone from literally knowing nothing about this industry, to now being at the point where I can communicate with homeowners how we can solve their problems. I tell my customers all the time that the contractor they choose to install their system is the most important choice they'll make in the installation process. I explain that a 15 SEER heat pump is only going to remain a 15 SEER heat pump if it's installed the right way."

Ward continues, "Learning the technical side of the business and being able to communicate the importance of the process to a homeowner that knows nothing about air conditioning, are two skills that I've developed over the years that I'm most proud of"

Former college classmates have come to rely on Ward for advice with their own HVAC systems. "Nothing makes me prouder than to have sorority sisters call me up and ask if I can come work on their system, or advise them as to what they need or what shape their existing system is in. I know the answers, and I can help get them to the end result that they desire," she says.

### It's a Family Affair

Ward isn't afraid to bring work home, and in some cases bring home to work. Her husband Chad, is a captain with American Eagle airlines but when he's home, he's installing air conditioners. "I feel like we have a 'one-two punch,'" Ward explains.

"When I'm selling or doing the administrative part of the job, Chad can be out in the field making sure the jobs are done correctly, and that our technicians are being trained properly. It's been stressful on our family at times, but we're making progress, reaching our goals and moving in the right direction.

# Perfection in a cube!



Created for **YOUR** customers.  
Designed for **you**.






SMALL  
POWERFUL  
ECONOMICAL

## The Ideal Air Exchanger for Small Spaces.

- For condominiums, apartments and other limited space applications that require up to 70 cfm of continuous ventilation
- Very quiet operation
- Quick and easy to install (exclusive wall mount bracket available)



VENMAR®  
AVS  
THE PROFESSIONALS' CHOICE

Venmar Ventilation Inc., Residential Group  
550, Lemire Blvd., Drummondville (Quebec) Canada J2C 7W9  
Toll-Free: 1-800-567-3855 (Canada and U.S.A.)  
[www.venmar.ca](http://www.venmar.ca)

circle 30 on reader service card



It's a short-term inconvenience for a long-term success story."

Alana says knowing when to step back and rely on others is key in getting a balance between her work life and home life. "We've been pretty successful in knowing when to go full speed and when to pull back and take

a break. Having phenomenal teammates in my organization that are dependable helps when we need some family time. We've got really great people behind us that make our company truly unique."

Ward believes that part of her success in the HVAC industry is from hav-

ing someone in the industry that she can talk to for advice, or when times get tough. "I have a mentor, David Allen, who I talk to literally every day. I could never begin to repay him for the advice, guidance and leadership that's he's given to me. My advice to anyone starting their own company or trying to run a company is to get a mentor in the industry that you can talk to."

Allen, owner of Allen's Air Conditioning in Tuscumbia, AL, talks about how Ward has grown through the years.

"Alana has more desire to want to do the job right than anyone I've ever met," Allen says. "Whatever it takes to do the job right, she wants to do it that way. I've told her to stay focused on the positive things and not to get down. Her sales ability has really come a long way. It's really great."

Ward hopes to return the favor someday by being a mentor and helping other contractors who are struggling to get by. "Someday someone will call me and I'll have the answers and the guidance to give them. Ultimately, that's how I return that favor."

Ward's sales skills have continued to grow over her 11 years of running the company. "Every time a homeowner looks at me and asks — "what would you do if you were me?" — that shows me that they trust me and believe that our team will do a good job for them. When I sell a system and hear those words, it's something I really love, because this is about making the customer happy."

Ward's love for the HVAC industry and commitment to building a strong, successful company radiates in the work her team produces. At a time when the workforce in the HVAC business is aging, and it's becoming more difficult to find younger technicians and business owners, Ward is blazing a trail and leaving her mark on the industry. And, at only 33 years old, with 11 years of running a company, she's really only getting started. *ContractingBusiness.com* magazine is proud to present Alana Ward with the 2012 HVACR Woman of the Year award. 

## If you're happy with...

- Basic code or compliance training
- Just selling "boxes"
- Me-too marketing
- 2-5% net profit

Then Performance-Based Contracting™ is probably not for you.



# BUT

## If you're looking for...

- Training beyond code or utility program compliance
- New ways to differentiate your company
- Ways to sell "solutions" and delivered performance
- Stand-out marketing
- Double-digit net profits

Then you owe it to yourself to learn more about Performance-Based Contracting™



Scan this code or go to [WhyPBC.com](http://WhyPBC.com)



800-633-7058  
[www.WhyPBC.com](http://www.WhyPBC.com)

circle 31 on reader service card

# HVACR-JOBS.COM

(855) 248-6557

We offer free  
resume browsing  
and unlimited job  
listings for the lowest  
price in the HVACR  
jobs industry.

## Membership benefits include:

- ✓ LOWEST PRICE JOB POSTINGS
- ✓ FREE RESUME BROWSING
- ✓ FIXED RECRUITMENT COSTS
- ✓ IMMENSE VALUE
- ✓ MAXIMUM VISIBILITY
- ✓ TARGETED SEARCHES
- ✓ 24/7 ACCESS
- ✓ LIVE SUPPORT

*I'm Mark Veilleux.  
As the President of my  
own HVACR company, I  
designed HVACR-jobs.com  
for my business. It works  
so well I decided to share  
it with my fellow tradesmen.  
My goal is to provide you with  
the best HVACR recruiting  
tools at the lowest price.*



Visit [HVACR-jobs.com](http://HVACR-jobs.com) to become a member or call (855) 248-6557.

circle 32 on reader service card

# THE Top 10 List for HVAC System Sellers

Here are 10 proven time-tested techniques that will improve the skills of any HVAC salesperson or selling technician.

## 10. Say as little as possible.

Say only enough to make the sale. Do not say anything you can make the sale without saying.

People are always stating that people buy from people they like. People like good listeners. On the other hand, many people (such as your prospective customers) tend to be poor listeners. When you talk too much, they stop listening.

## 9. Be an active listener.

You have to do more than just listen. You have to make sure prospects *know* you are listening. You do this by not doing anything other than standing and listening while others speak to you, then repeating back to them what they just said.

## 8. Make productive use of your drive time.

Most HVAC professionals who work in the field spend nearly half their work day behind the wheel of the vehicle.

The most convenient, economical and appropriate time



Make eye contact. Good eye contact will get you further with people than good words. Good eye contact gives you authority.

and place to do this is in the vehicle between calls.

Listen to sales instruction on CD or your digital device, and practice your sales techniques between calls instead of talking on your cell phone or listening to the radio. You'll show up on every call more focused and sharper. Before long, you'll be the best salesperson in your market area.

## 7. Set goals.

Set a daily minimum sales goal and commit to it. Make it mandatory. Tell yourself that you're going to keep running calls each day until you hit your minimum goal. If you dislike working overtime as much as I do, you'll hit your goal by mid-afternoon every day.

## 6. Close early.

You've probably been told that you must "build value" prior to quoting prices. That means you won't give prospects the price until after you've given them your sales pitch.

Be more nonchalant about the price. If you were giving prospects special deal—say, a \$20,000 project for only \$10,000—you wouldn't feel a need for a big, long sales pitch, would you? You'd expect them to jump right on that opportunity, wouldn't you? Well, act like that.

## 5. Give prospects more than one opportunity to make a buying decision.

Always do some minor disassembly and leave things that

way prior to making your presentation and initial closing attempt.

During service calls, bring what you'll require to do the work in with you, set up a little work area, then close.

Then, when you receive a rejection or a smoke-screen objection, you'll still have to do some reassembly and clean up before you leave. Often, those few minutes are enough time for prospects to simmer down and realize they really don't have any other choice.

After you've put things back together, give the prospects some new and different information about the product or service you're selling. When they say something like, "Oh, I didn't know that," you can say, "Based on this new information, is this something you'd like to move forward on?"

## 4. Project a positive level of expectation.

Regardless of how your prospects act, you act and conduct yourself as though you expect them to: listen, be interested in what you're saying, be cooperative, want you to solve their problems, and buy from you.

Additionally, regardless of appearances or anything your prospects say to you, speak to everyone as if they have complete buying authority and have the money.

## 3. Project authority.

Take charge of your calls. Don't provide too many options and require prospects to make too many decisions.

Don't be afraid to say "I've compiled a list of requirements for you. There are some of things on this list that you don't get a choice on, and there are others that are optional. In other words, act like doing the minimum is already a given and that the only decision they need to make is how much additional to buy.

## 2. Project confidence.

People want you to be confident. Confidence sells and confidence is what people buy. Prospects must feel confident in you, and they won't unless you project confidence.

## 1. Make eye contact.

Good eye contact will get you further with people than good words. When you make good eye contact, people don't question you, doubt you, or try to push you around. Good eye contact gives you authority.

This has been a condensed version of this article. Go to [www.contractingbusiness.com](http://www.contractingbusiness.com) for the complete version.

Charlie Greer is the creator of *Slacker's Guide to HVAC Sales on Audio CD*, which you can listen to between calls to increase your sales and income. Check it out on [www.hvacprofitboosters.com](http://www.hvacprofitboosters.com), or call 800/963-HVAC (4822). Email Charlie at [charlie@charliegreer.com](mailto:charlie@charliegreer.com)

**BUYING HVACR EQUIPMENT**

**CHILLERS/GENERATORS WANTED**

**TURN YOUR SURPLUS & USED HVACR EQUIPMENT INTO WORKING CAPITAL!**

Lazco Corp. **BUYS & SELLS Surplus... HVACR EQUIPMENT**

- Chillers
- Boilers
- Cooling Towers
- Generators
- Roof Tops
- Liebert A/C Units

Save 30% - 50% On The Manufacturer Brands That You Are Currently Selling. We Will Quote Any Project Worldwide.

**Turn Your Surplus or Used HVACR Equipment Into Cash RIGHT NOW!**

Contact Steve Lazar at

**lazco Corp.**

Tel: 619-840-0004 • Fax: 866-427-3531  
Lazcocorp@gmail.com • [www.lazcocorp.com](http://www.lazcocorp.com)

circle 401 on reader service card

**Print your free copy of**

**HVAC Wiring Solutions**

[www.fast-stat.com](http://www.fast-stat.com)

How to use FAST-STAT wiring extenders on residential & commercial retrofit projects.

Install air conditioners, heat pumps furnaces, etc without re-pulling cables.

Includes cable testing & repair methods.



Nordic Technology Ltd

1-800-775-4750

circle 402 on reader service card

**INFOTECH ADVERTISING**

Dave Kenney

216-931-9725

david.kenney@penton.com

**ALAN Manufacturing, Inc.**  
Manufacturing Dampers & Duct Supports

1-800-435-ALAN (2526)  
Fax: 1-877-333-ALAN (2526)  
Email: [alansteel@alanmfg.com](mailto:alansteel@alanmfg.com)  
[www.alanmfg.com](http://www.alanmfg.com)

circle 403 on reader service card

**Improve your efficiency with ACOTRUCK Mobile Work Order now available on iPad & iPhone!**

- Download Call Details
- Review Service History
- View/Add Equipment
- Enter Dispatch Times
- Enter Material Used
- Enter Flat Rate Repairs
- Enter Approval & Capture Approval & Decline Signatures
- Enter Repair Resolutions
- Process Credit Cards
- Generate Invoices & Accept Payments
- Capture Invoice Signature
- Print or E-Mail invoice or Work Order



**Team Management Systems, Inc.**

[www.acowin.com](http://www.acowin.com) • [sales@acowin.com](mailto:sales@acowin.com)

**(800) 299-7351**



circle 404 on reader service card

**SAWIN MOBILE IS NOW AVAILABLE FOR DROID PAD, IPAD, IPHONE, AND OTHER "SMART" DEVICES!**



**SAWIN**  
SERVICE AUTOMATION, INC.

**SAWIN Mobile** provides complete, end-to-end, wireless communication by providing technicians the critical information they need to efficiently complete their calls and invoice their customers in the field. **SAWIN Mobile** dramatically cuts down verbal communications between the field and the office and streamlines the billing process significantly by eliminating paper invoices which are typically keyed in at a later date.

**SAWIN Mobile** also records dispatch, arrival, and completion times, flat-rate pricing codes, parts used, work descriptions, recommendations, etc. to the **SAWIN PRO database** giving up-to-the-minute status of calls, invoices, parts used, and service history. **SAWIN Mobile** will run on PDA devices or laptops and utilizes the latest mobile technology.



Please call us to schedule an on-line demo of **SAWIN Mobile** at 800-774-7230 or you can order an interactive demo CD at our website: [www.SAWINPRO.com](http://www.SAWINPRO.com)



circle 405 on reader service card

# Need Portable Cooling?



## Call the Specialists

Primary, Supplemental, or Emergency Cooling Rentals and Sales • Offices Nationwide

**Call 800.972.6600**

**Atlas Sales & Rentals, Inc.**  
THE PORTABLE COOLING & HEATING SPECIALISTS

[www.AtlasSales.com](http://www.AtlasSales.com)



circle 406 on reader service card

# STOP LEAKS. PERMANENTLY.



## A/C Techs Love These A/C Leak Freeze Products!

### A/C Leak Freeze

- stop leaks of refrigerant gas in HVACR air conditioning and refrigeration systems
- inert until it mixes with the refrigerant
- activated by refrigerant escaping at the site of a leak — forming a chemical weld and sealing the leak
- compatible with all standard refrigerant gases
- polymer-free
- tested to be nonlogging to the A/C compressor and recovery unit

### A/C Leak Freeze with Magic Frost

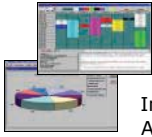
- all the benefits of A/C Leak Freeze & more...
- extends compressor life and reduces noise
- improves A/C system lubrication
- reduces friction
- cleans and revitalizes the A/C system
- reduces energy consumption
- enhances the performance of older A/C systems.

866-345-1450 • [www.leakfreeze.com](http://www.leakfreeze.com)

circle 407 on reader service card

## Wintac Pro™

The #1 best-selling all-in-one software for contractors



Scheduling, Dispatching  
Job Costing, Estimating  
Equipment Tracking  
Inventory, Purchasing  
Invoicing, Flat Rate Pricing  
AR/AP, Payroll, Accounting  
CRM, Marketing, Vehicle Management

Check out the amazing software that service contractors everywhere are talking about!

[www.wintacpro.com](http://www.wintacpro.com) 1-800-724-7899

circle 408 on reader service card



### AUDIO RECORDINGS

All sessions were recorded live and are available on MP-3 CD! Order now!

- Phone: (800) 798-5468
- Fax: (830) 537-5495
- Web: [www.rollinrecording.com](http://www.rollinrecording.com)

circle 409 on reader service card

**Promote Your Products and Services in the Classifieds!**

**DAVE KENNEY**  
**216.931.9725**

**david.kenney@penton.com**

# MAKE THE MOST OF YOUR SUMMER...

Get the Service Management Tools You Need to Simplify Operations & Maximize Profitability

- Complete More Jobs Daily
- Increase Customer Care
- Reduce Expenses
- Improve Accuracy
- Reduce Collections
- Identify Sales Opportunities
- Improve Response Time
- AND MUCH MORE!

### Join Us for Our Summer Webinar Series

FREE best practice tips & tricks on everyday issues you face.  
To register contact [Sales@dESCO-Soft.com](mailto:Sales@dESCO-Soft.com)

Free Trial



IT ALL STARTS WITH

**ESCO**  
HVAC Service Software



800.226.7529

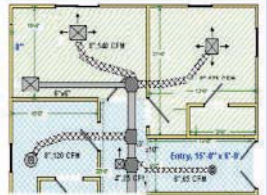
[dESCO-Soft.com/Free-Trial](http://dESCO-Soft.com/Free-Trial)

circle 410 on reader service card

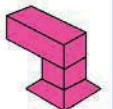
## Elite Software

Over 20 Hvac Design Programs!

Hvac Load Calcs (Both ACCA and ASHRAE), Duct Sizing, Energy Analysis, Sales Proposals, Pipe Sizing, Gas Vent Sizing, Psychrometrics, Refrigeration, More!



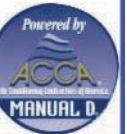
**Rhvac \$495** Includes ACCA approved Manual J 8th Edition load calcs, Manual D Duct Sizing, Equipment Selection, Sales Proposals and free links to ResCheck, EnergyGauge USA, and REM/Rate software.



**\$295/up** To add on Bill of Materials, CAD Drawing Features, Graphic Sales Proposals, & Gas Vent Sizing

**\$20/up** For HVAC E-Books & Training Video DVD's

[www.elitesoft.com](http://www.elitesoft.com) 800-648-9523



circle 411 on reader service card

# Triple your money in 10 minutes!

**Year-Round  
Green Product  
for your business**

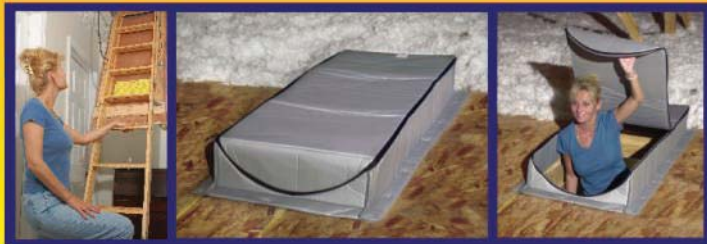
Stopping air leaks will maximize HVAC efficiency!

Sealing the envelope of the home will allow the HVAC system to heat or cool only the air in the home.



HVAC systems in homes are designed for a closed envelope, making air balancing with supply and return air very critical. Every time these systems are operating, they create a positive or negative pressure, thus forcing conditioned air out or drawing outside air in the home. The Attic Tent is the perfect green product to seal the attic access door stopping air infiltration. It comes fully assembled and ready to install in just 10 minutes.

**Easy Sale!** Just add installed price of the Attic Tent to the invoice/quote for your service and install Attic Tent for free! Our suggested installed pricing was set from quotes from other contractors already installing the Attic Tent in their day to day business. *It works for them, it will work for you.*



Check with your local distributor, or CALL US.

Phone: 877-660-5640  
or 704-892-5399  
www.attictent.com

circle 412 on reader service card

## COMPLETE PRICE BOOK SET

**"Contractor Benefits"**  
Common to both books:

1. Proven to increase average ticket by 65%+
2. You can print as many books as needed
3. Unlimited updates to your books included

Download a FREE HVAC Contracting Success Manual e-book at [www.GrowMyHVAC.com](http://www.GrowMyHVAC.com)

1-800-240-2823



**"Contractor Benefits"**  
Award Winning Flat Rate Service Price Book

1. Includes 99.9% of all common repairs
2. Tech notes help prevent costly call-backs
3. Customer notes help sell service agreements

**"Contractor Benefits"**  
Flat Rate Installation Price Book

1. Easy set up in your preferred equipment brand
2. Includes all system configuration types
3. Easy good-better-best-premium upsell

*"Using your Flat Rate Service and Installation Price Books we increased our average sales ticket by 65%. We thank you."*  
— Robert White, Air-Economics, KY



View price book layout at **GrowMyHVAC.com**

Division of Building Services Institute

circle 413 on reader service card

**Looking for a  
cost-effective  
way to  
complement  
your print  
advertising?**

Please enquire  
about 125 x 125  
Tile ads located  
right on the  
**Contracting  
Business.com**  
home page!

**Capture your  
target market in  
both print and  
online!**

To learn more,  
contact:

**Dave Kenney**

**216-931-9725**

**david.kenney@  
penton.com**



**spotcoolers**  
PORTABLE AIR CONDITIONING AND HEATING

## We deliver the cool!

When cooling counts trust Spot Coolers to deliver the goods.

We rent and sell high performance portable air conditioning systems sized from 1-12 tons at each of our 38 locations nationwide.

Spot Coolers brings you the best engineered portable cooling systems available!

**Rentals and Sales**

**MOVINCOOL** Preferred Distributor  
MovinCool, SpotCool and Office Pro are registered trademarks of Denso Corporation

**800.367.8675** [www.spot-coolers.com](http://www.spot-coolers.com)

circle 414 on reader service card



**rentals**  
to the **rescue**

**Carrier**

- Chillers
- Cooling Towers
- Air Conditioners
- Spot Coolers
- Air Handlers
- Dehumidifiers
- Heaters
- Boilers
- Generators

**COME TO THE SOURCE**

**Carrier** Rental Systems  
**800.586.8336**  
**CarrierRentals.com**

circle 415 on reader service card





## Achieve Real Success TODAY!!

Take action today with the industry's lowest cost way to achieve success!! Implement proven **Ready-Built<sup>SM</sup>** retail residential or commercial service website, **business systems, processes and forms** – and do so for less than the cost of a cup of coffee a day!!

### Make the phone ring more with our:

- Best-practice HVAC contractor website
- Seasonally timed proven lead generation campaigns

### Make more money with our:

- Service & installation flat rate price books
- Professional service/sales call handling processes & forms
- Efficient written work delivery standards & forms
- Effective labor productivity management processes
- Benchmarking & rules based performance management
- Right at your desktop training & unlimited support

### Make more FREE time with our:

- Management of processes – not people



**GrowMyHVAC.com**

Division of Building Services Institute

### Achieve Real Success TODAY!!

Visit us at [GrowMyHVAC.com](http://GrowMyHVAC.com) or call 800-240-2823 for more details about our step-by-step plan for achieving real success.

### Stop Missing Your Opportunities

*"We increased business 65% by having your professional service and sales call handling processes and flat rate price book set that provide our customers with system enhancement options on all calls. We sincerely thank you."*

**TIM PULICE**

First Class Heating & A/C, MD

A clear program to help you have a wealthy stress free life

circle 416 on reader service card

# CHILLERS



**Aqua Products Company, Inc.**

Building Quality Chillers Since 1993

1-800-849-4264  
[www.aquaproducts.us](http://www.aquaproducts.us)

## CHILLER-PAC

CONVERTS  
YOUR R-410A  
CONDENSING  
UNIT INTO A  
2 TO 20 TON  
SINGLE STAGE

REMOTE  
CHILLER

OR

MULTIPLE  
STAGES

FROM  
2 TO 30 TONS

circle 417 on reader service card

## Expert HVAC TECHS & PLUMBERS needed!

We need  
**LICENSED  
PLUMBERS  
& HVAC TECHS**

to join our team in Denver, CO. We offer top pay & generous benefits including 100% paid health insurance for employees AND their families, plus much more! Applewood Plumbing Heating & Electric has been providing residential service since 1973. If you want to work in a growing, established company with pros like yourself, **CALL NOW 303-328-3097**. Relocation assistance available. Learn more at:

[www.ApplewoodFixIt.com](http://www.ApplewoodFixIt.com)

circle 418 on reader service card

**CONTRACTINGBUSINESS.com**

**DAVID MILLER**  
vice president  
David.Miller@penton.com

**DAN ASHENDEN**  
group publisher  
Dan.Ashenden@penton.com

**MICHAEL S. WEIL**  
editorial director  
Mike.Weil@penton.com

**TERRY MCIVER**  
executive editor  
Terence.Mciver@penton.com

**KATE KELLY**  
associate editor  
Kate.Kelly@penton.com

**RON RAJECKI**  
senior editor  
Ron.Rajecki@penton.com

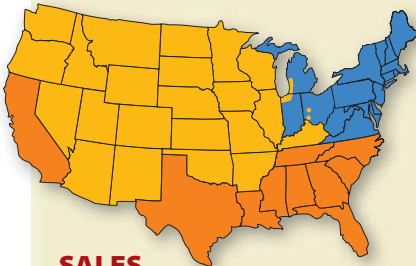
**ANGIE GATES**  
online sales & marketing manager

**STEVE PALMISON**  
group event director

**CONNIE CONKLIN**  
art director

**MARGE DIETRICH**  
administrative director

**JUSTIN MARCINIAK**  
production manager



## SALES OFFICES

### EAST/NORTH CENTRAL:

#### SEAN BOGLE

senior manager, business development  
28 Wellington Rd. • Newtown, PA 18940  
215/504-5004; CELL: 610/405-4707;  
FAX: 215/504-5058  
Sean.Bogle@penton.com

### SOUTH/TEXAS/CALIFORNIA:

#### RANDY JETER

senior manager, business development  
908 Electra • Austin, TX 78734  
512/263-7280 CELL: 512/426-9145;  
FAX: 913/514-6628  
Randle.Jeter@penton.com

### MIDWEST/SOUTH CENTRAL/WEST:

#### JOHN EHLEN

senior manager, business development  
17340 46th Ave. North • Plymouth, MN 55446  
763/550-2971; CELL: 612/669-7582;  
FAX: 763/550-2977  
John.Ehlen@penton.com

### CLASSIFIEDS AND ANCILLARIES:

#### DAVE KENNEY

inside sales rep  
1300 E. 9th Street • Cleveland, OH 44114  
216/931-9725; FAX: 913/514-6663  
David.Kenney@penton.com

 **Penton**  
David Kieselestein, Chief Executive Officer

## > AD INDEX

Airgas Refrigerants Inc. ....	31
American Standard Heating & Air Conditioning .....	35
Bitzer US, Inc. ....	36
Bosch .....	11
Chrysler Group/Ram Commercial .....	IBC
DeWalt .....	17
Emerson Climate Technologies .....	1
EWC Controls Inc. ....	34
Goodman Global .....	9
Great Lakes Copper .....	36
Hart & Cooley, Inc. ....	29
Honeywell Homes & Buildings .....	41
HVACR-Jobs.com .....	55
LG Electronics USA Inc. ....	45
Mainstream Engineering Corp. ....	24
Mechanical Systems Week 2012 .....	50-51
MovinCool .....	37
National Comfort Institute .....	54
Nest .....	12
Nissan North America Inc. ....	5
Owens Corning .....	23
Panasonic Company .....	25
Quietside/Samsung .....	15
RectorSeal Corp. ....	22
Rheem .....	IFC
RIDGID Tool Company .....	7
Ritchie Engineering Company .....	BC
Shortridge Instruments, Inc. ....	30
Southwire Co. ....	18
Tecumseh Products .....	8
Testo Inc. ....	16
Thybar Corporation .....	30
Trane Company .....	28
Venmar Ventilation .....	53
York .....	3
ZONEFIRST .....	49

**For Customized ARTICLE REPRINTS please contact:**

Penton Reprints: 1.888.858.8851  
reprints@pentonreprints.com • www.pentonreprints.com

## Get advertiser information FAST!

Use our online inquiry system

- Go to [www.contractingbusiness.com](http://www.contractingbusiness.com)
- Go to the "Resources" section found on the lower left
- Click on this icon and follow the instructions. →

**FREE**

**IT'S FAST, EASY, & FREE! TRY IT TODAY!**

# Permits? We Don't Need No Stinking Permits

I'm just going to say it: The most useless step in the residential HVAC installation process is permitting. Permitting adds costs, hassles, and little, if any value.

In theory, permitting is necessary to protect consumers from poor work by contractors and to ensure the work meets current code requirements. In theory, passing inspection provides the contractor with liability protection in the case of a lawsuit (ha!). Also in theory, inspectors are competent, service oriented, have a strong work ethic, and operate in a department that's staffed sufficiently so inspections are performed on a timely basis, at the convenience of the consumer and contractor.

While we're still in theory mode, think about this: Even if the inspector does a perfect job, he's only checking for the government's minimum acceptable installation practices. Good contractors don't need a government inspector to ensure they deliver quality work. They'll do the same job whether there's a permit or not. Where's the value add? Moreover, many not-so-good contractors don't bother to pull permits. Where's the consumer protection?

The mere fact that a government inspector will sign off

someone likely has to take off additional time from work. If the contractor must be present, the value of his time must be built into the job.


Inspections often aren't timely. The codes and inspections area is one place where municipalities have economized. Many cities have backlogs of jobs awaiting final inspection. Since the fees, pricey as they can be, are unlikely to cover the costs of operating the department, why not just eliminate inspections altogether and give taxpayers, homeowners, and contractors a break?

Of course the major costs aren't the fees the contractor must mark up or the time he must cover in his pricing. The major costs are tied to the mandates approved by the bureaucracy and enforced through the permitting process.

Some government entities use permitting as a way to force consumers to take actions and make upgrades that might be good for them, but that they don't necessarily want to do at the time. This puts the contractor in the role of enforcer for the state, who must inform the consumer about the necessity to make undesired repairs or purchases (e.g., hard wired CO detectors in all electric homes) that may have little or nothing to do with the job at hand. Is this the role you want?

If permitting is so problematic, why do contractors put up with it? Many don't. If the hassles are too high, the risks of getting caught are low, and the penalties

acceptable, a number of contractors don't bother pulling permits, giving them a competitive advantage over those who follow the rules. Those who do follow the rules, justifiably cry out for enforcement. Yet, effective enforcement would require government to swell the bureaucracy, further raising costs. Do we really want an army of bureaucrats looking over our shoulders, trying to find something wrong to justify their existence?

The current permitting system is broken. We can attempt to fix it through government. A better approach would be to outsource it to the private sector. Best would be to eliminate it altogether. In an industry without permitting, consumers would save money and be encouraged to be more careful when selecting a contractor. Taxpayers would see a reduction in the cost of government. Contractors would face fewer hassles and the playing field would be leveled for contractors who follow the rules. That's a triple win. 

**Matt Michel** is CEO of the Service Roundtable, which will pay contractors over \$1 million in rebates on parts, supplies, equipment, consulting, software, books, and services. Call toll free 877/262.3341 to learn how much you can save with Roundtable Rewards.



The current permitting system is broken. Do we really need an army of bureaucrats looking over our shoulders, trying to justify their existence?

on an installation may give consumers peace of mind, but it's a false peace. Incompetent contractors eventually go out of business. Incompetent inspectors keep going to work. Remove the aura of benign government protection and consumers will be more careful in the selection of contractors. This benefits better contractors.

## A Negative Value Add

Permitting is a hassle. Typically, each locality has its own rules and requirements. Given the presence of Internet browsers for the last 20 years, one would think contractors could pull permits online. However, most jurisdictions still require someone to drive to a municipal office to pull a permit for each installation. In states blessed with licensing (CB, May 2012, page 64, or online at [bit.ly/KDnIrD](http://bit.ly/KDnIrD)), some locales require the license holder to show up in person.

The way inspections are conducted varies by jurisdiction as well. Even within a town, different inspectors carry different pet peeves. Contractors often complain about the lack of uniformity from one inspector to the next within the same city.

If a consumer needs to be home to meet the inspector,

# BUSTS ITS BUTT. WON'T BREAK THE BANK.



## THE NEW RAM TRADESMAN



**ON THE  
JOB**

BUSINESS LINK

WE BACK BUSINESS OWNERS WITH A STRONG NETWORK OF SERVICE AND SALES SUPPORT, AND ON-THE-JOB INCENTIVES TO KEEP THEIR WHEELS TURNING AND THEIR BUSINESSES RUNNING STRONG. DISCOVER ALL THE BENEFITS AT [RAMTRUCKS.COM/BUSINESS/LINK](http://RAMTRUCKS.COM/BUSINESS/LINK).

**20** MPG HWY WITH  
STANDARD V8 POWER<sup>1</sup>

CLASS-EXCLUSIVE, NO CHARGE  
RAMBOX<sup>®</sup> CARGO SYSTEM<sup>2</sup>

AVAILABLE  
10,450 LB OF TOWING<sup>3</sup>

MSRP  
STARTING AT \$22,370<sup>4</sup>

CLASS IV HITCH WITH 4- AND 7-  
PIN TRAILER HARNESS CONNECTOR

5-YR/100,000-MI  
POWERTRAIN WARRANTY<sup>5</sup>

**GUTS - GLORY**



**RAM**

[RAMTRUCKS.COM/COMMERCIAL](http://RAMTRUCKS.COM/COMMERCIAL)

1)EPA estimated 14 city/20 hwy mpg, Ram 4x2. 2)Class based on Automotive News classification. 3)When properly equipped, as shown 6,300 lb. 4)MSRP excludes tax, title, registration. 5)See a dealer for a copy of the Powertrain Limited Warranty. Properly secure all cargo. Ram and RamBox are registered trademarks of Chrysler Group LLC.

circle 33 on reader service card



**Q: WHAT'S THE QUICKEST  
WAY TO LEARN THE  
DIFFERENCE BETWEEN  
3-2-3 AND 1% GAUGES?**

**A: WATCH QUICK TIP #1 ON YELLOWJACKETUNIVERSITY.COM**



Here's another easy question: What's the quickest way to brush up on your HVAC education? Answer: Get your *Degree in Cool*. Just take a 25-question exam at YELLOW JACKET University. When you pass, you'll be entered into a drawing to win one of three YELLOW JACKET tools\*.

Visit [www.yellowjacketuniversity.com/cb](http://www.yellowjacketuniversity.com/cb)

\* You must pass the exam before March 1, 2012 to be entered into the random drawing.  
More terms and conditions on [yellowjacketuniversity.com](http://yellowjacketuniversity.com).  
© 2011 Ritchie Engineering Company, Inc. All rights reserved.



**ENGINEERED TO BE THE BEST**

circle 34 on reader service card