

## Insider News

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### **MRI University – Why We Think This Is Important.**

Why would Mechanical Reps, Inc. (an HVAC manufacturer's firm) embark on an initiative called MRI University?

As a company, we debated the same question and the reasons became obvious fairly quickly:

- It helps fulfill our purpose
- Our quest for continuous improvement demands we become better educated
- Giving back is important to our company
- Investing in the future will sustain our growth
- Brand awareness provides a consistent message

#### **It helps fulfill our purpose**

MRI's Purpose is "To provide the best value in HVAC products, training and services for our business partners and to maintain the highest ethical standards in all we do."

Training is a hallmark purpose of Mechanical Reps, Inc. We believe that educating our people and our business partners is one of the reasons we are in business. It is what we think about every day. We demand that our staff attend nearly every manufacturer's training school that is offered. We believe that internal and external technical training on HVAC equipment and systems is vital to maintain our desire to bring value to our business partners. We also invest in training beyond products and systems. In the last several years, we have trained our staff on topics such as stress relief, memory improvement and speed reading. Ken Graham and I both subscribe to executive coaching and business peer review advisory sessions through Vistage.

#### **Our quest for continuous improvement demands we become better educated**

My belief is if you aren't growing, you are dying. That holds true with company revenue and profits and with personal growth and education. I have seen too many companies and people succumb to the attitude that status quo is acceptable.

Statements like.... "I am okay with my current position, so why should I change or try to learn new things" really does not sit well with me. Our leadership team demands we strive for continuous improvement every day; thus MRI University makes sense. Having a systematic, pre-determined and regularly scheduled set of classes for education is paramount to become better and more valuable to our customers.

#### **Giving back is important to our company**

Whether it is donating money and time to our favorite charities, serving on industry organization committees, or helping train our business and industry partners ....giving back is important to MRI's leadership and employees. We have been very blessed and we have a desire and obligation to share some of our time, talent and treasure with others.

#### **Investing in the future will sustain our growth**

We also believe that if we train our people and our business partners, we are investing in the future growth of our company and our industry. As organizations grow in age, much of the talent and experience leaves when senior people retire. If a system is not in place for training the younger generation, gaps develop, which can lead to expensive problems and even unsafe situations. With the economic hardships we have seen in our country and industry, many companies have cut back on personnel and training budgets. The remaining staff are tasked with unreasonable deadlines and workloads, thus little time is devoted to training and mentoring. MRI University can help fill that void.

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*"Live as if you were to die tomorrow. Learn as if you were to live forever."  
- Gandhi*

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## Insider News (Cont'd)

### Brand awareness provides a consistent message

We are not so naive as to think we can do all this without producing sales and profits. If we fulfill our purpose to provide the best value in HVAC products, training and services for our business partners and to maintain the highest ethical standards in all we do ...but don't produce a profit at the end of the day, we won't be in business very long. We must continue to hire good people, provide competitive compensation and benefits and run our business well to make a reasonable profit. MRI University, if done well, should produce the desired results of the education on equipment and systems, but should have the added benefit of increased brand awareness for MRI's service and exposure to the companies we represent. MRI University will not be a sales presentation, but true technical training with exposure to our manufacturer's products, systems and application. Our hope is if we are truly bringing value to our business partners, we will earn their trust for using our products as basis of their designs.

We welcome your input and feedback as we embark on this endeavor. We want to be your trusted advisors and expect that MRI University will be one of your tools for improving how you can serve your clients better and grow your businesses.

Regards,



Larry R. Bloomquist, P.E.  
CEO Mechanical Reps, Inc.



*Pictured:  
Jonathan Feuchtenberger*



*Pictured:  
Laura Pettit*

## Newest Additions –

### Jonathan Feuchtenberger

We are pleased to announce the addition of Jonathan Feuchtenberger to Mechanical Reps. He is a graduate of the University of Missouri – Rolla with a BS in Mechanical Engineering. Straight out of school he worked briefly for Trane – Sioux Falls. In addition, he previously worked for Adams Thermal Systems as an application engineer and participated in several engineering internships with John Morrell, Inc. and Caterpillar. He decided to move to South Texas to be closer to family and his fiancé, Hannah.

His hobbies include missionary work in Mexico and Jamaica, golfing, hunting, and basketball.

He will be located in San Antonio for the next 6 months while training on our product lines, sales, and MRI systems. Following, he will be relocated to our McAllen office to handle the South Texas market.

### Laura Pettit

We welcome Laura Pettit to our San Antonio estimating team. Laura will perform the role of Estimating Administrative Assistant. She is a graduate of Trinity University with a BS in Computer Science and retired from H.E.B. grocery after 32 years of service in their IT Department. She lives in San Antonio with her husband, Kim and has two married children, Stephanie and Chris, and two grandchildren. Her hobbies include tennis and bicycling.

# News Flash

Centralized Estimating Email  
MRI San Antonio Branch  
[saestimating@mechreps.com](mailto:saestimating@mechreps.com)



# PRICE<sup>®</sup>

## Updated Discharge Sound with Duct End Reflection Corrections

Discharge sound power levels of all Price terminals have been updated to include duct end reflection corrections to comply with the 2011 version of ANSI/AHRI Standard 880 – Performance Rating of Air Terminals.

ANSI/AHRI Standard 880-2011 requires that duct end reflection corrections be added to terminal unit discharge sound power levels. AHRI Standard 885 defines end reflection as follows – “When plane wave sound passes from a small space such as a duct into a large space the size of a room, a certain amount of sound is reflected back into the duct, significantly reducing low frequency sound.” When terminals are tested for discharge sound in accordance with Standard 880, end reflection occurs due to the test setup. The new 2011 calculation procedure takes this fact into account by adding duct end reflection corrections to the measured sound power level. This will be consistent with how sound power levels are calculated in other product programs.

## How Does This Affect Data? Discharge Sound Power Levels

Duct end reflection is a calculated value that is dependent on octave band center frequency and equivalent discharge duct diameter. The correction is highest at low frequencies and small discharge duct sizes. As a result, the new published discharge sound power levels will be higher than they previously were, particularly for small terminals in the low octave bands. For example, see the table below of duct end reflection corrections for Price single duct terminal model SDV. The updated catalog sound power levels will be higher than before by the decibel amount tabulated below.

### Duct End Correction Factors

UNIT Size	Octave Band Center Frequency					
	125	250	500	1000	2000	4000
4	8	3	1	0	0	0
5	8	3	1	0	0	0
6	8	3	1	0	0	0
7	7	3	1	0	0	0
8	7	3	1	0	0	0
9	6	2	1	0	0	0
10	6	2	1	0	0	0
12	5	2	0	0	0	0
14	4	1	0	0	0	0
16	3	1	0	0	0	0
24x16	2	1	0	0	0	0

## Discharge NC Levels

Note that the resultant catalog discharge Noise Criteria (NC) levels will also increase in most cases. This does not mean that actual room noise levels will be affected; the actual terminal sound output has not changed. Field measurements are not affected by this new calculation procedure. However, HVAC designers may find that a certain terminal model size at a certain flow rate may no longer meet their room NC specification based on the new cataloged values. Remember that the terminal is not actually any louder than before and the same noise level will be heard or measured in the field. Relaxing the room NC specification may be the best option. Another option is selecting a quieter terminal, but this usually carries a cost premium. The table below illustrates how the updated Price single duct terminal (SDV) NC values compare with previous cataloged values. Note that the small size units increase the most.

Size	CFM	Old NC	New NC
4	225	27	34
6	400	23	27
8	700	24	28
10	1100	24	26
12	1800	27	31
14	2500	29	31
16	3500	30	33
24x16	6000	39	41

### Comparing Data

According to the deadline imposed by AHRI, manufacturers have until January 1, 2013 to catalog discharge sound power levels with duct end reflection corrections. Until that time, it will be important to understand if catalog discharge performance data includes duct end reflection corrections or not. Discharge sound power level or NC level comparisons cannot be made between manufacturers unless both are based on the same calculation procedure.

### New Price All-In-One Catalog Data Adheres to New ANSI/AHRI Standard 880 - 2011

As stated above, the new All-In-One catalog provides discharge sound data with duct end reflection corrections applied for all Price terminals.

## Z1000 Variable Speed Drive

3 HP to 500 HP

### A Single Drive for all Your Needs with Outstanding Performance

The Z1000 variable speed drive is designed for building automation applications such as fans, pumps, and cooling towers through 500 HP. The Z1000 features an easy-to-read LCD keypad that provides Hand-Off-Auto interface and a real time clock. These features make the Z1000 perfect for most building automation applications that require reliable motor control.

### Yaskawa Continues to Lead the Way with the New HVAC Drive – The Z1000

Building owners will welcome the updated Yaskawa Z1000 drive with its many new standard features that now further elevate Yaskawa's value proposition. Pay particular attention to the added STANDARD features like:

- Built-in 5% line impedance for input harmonic reduction
- On board EMI/RFI filters
- Embedded BACnet communication (BTL Certified), along with Modbus/Memobus
- Internal Real-Time Clock
- LCD, 5 Line 16 character alpha-numeric , easy to read and understand display
- Pre-configured set of macros to match the application for quick and easy set up
- Sealed heatsink to allow the drive to be mounted in NEMA 12 enclosure with heatsink external

Contact MRI for more information or a quote for a quick delivery of the advanced Z1000 VFD from Yaskawa.



**YASKAWA**  
The Drive for Quality™

Click here  
<http://youtube/RI29kqVZA0c>  
to watch a short five minute video  
outlining why this is the drive  
building owners request.



### Proper Selection & Application of Air Terminal Units

#### Want to learn more?

Mechanical Reps January 2013 MRI University will feature effective system design using fan powered and single duct terminal units. Explore the challenges and benefits of parallel and series fan powered terminals, discover key system differences between single duct and fan powered terminal units, unit energy consumption characteristics and current status of ASHRAE Standard 90.1 and much more...

**REGISTER TODAY!**

[admin@mechreps.com](mailto:admin@mechreps.com)

## Texas A&M University New Northside Residence Hall

The new Texas A&M University Northside Residence Hall is currently being constructed on a site previously occupied by the removed McInnis, Crocker and Moore Residence Halls, just across University Drive from the famed Dixie Chicken.

The facility will include:

- Residence units for 600 students
- Public and private areas to be used in support of community living such as 24 hour desk operation, lounge space, computer lab, recreational space, kitchen and dining/meeting space
- Multi-Purpose Room space for the learning center
- The facility is estimated to be 241,430 GSF and five (5) stories

The \$43 million project consists of five floors and 241,430 square feet. The design team is **SHW Architect** and **H2MG MEP consultants**. The General Contractor is The **Linbeck Group**. **Garrett Mechanical** is the mechanical contractor. Mechanical Reps, Inc. was fortunate to provide many HVAC products for this project including **Greenheck** fans and dampers, **Energy Labs** air handling units, **AAF** filters, **Armstrong** pumps, **Price Industries** air devices, air terminals and sound attenuators, **Pro-Hydronics** valve packages, **Yaskawa** variable frequency drives, **Semco** spiral duct, **Young Regulator** remote dampers and The **VMC Group** vibration isolation. The project is scheduled for completion in June 2013.

## Austin



*TAMU Northside Residence Hall  
College Station, TX*

## Resolute Health Wellness Campus and Hospital

Resolute Health is an 84-acre wellness campus and hospital, located at the Creekside shopping center in New Braunfels, is a unique partnership between Vanguard, Baptist and Resolute Health. The campus will include a state-of-the-art acute care hospital, medical office building, a medically-integrated fitness facility, and retail health and wellness shops and restaurants. Resolute Health is a new health and wellness system that promotes prevention and increases wellbeing in the communities of Comal, Guadalupe and Hays Counties.

The \$102 million project consists of 365,000 sf for a new full-service hospital with 130 beds and 6 OR's. The new full service hospital will be 4 stories with structural provisions for two future floors.

Chris Graham and Oktay Basci of Mechanical Reps, Inc. helped assist in the design along with **Brandt Engineering** and **Enfinity Engineering**. Mechanical Reps supplied a vast array of products to include **Price** air devices, fan filter units and air terminal units, **Greenheck** fans, louvers, dampers, **Yaskawa** VFD's, **Dri-Steem** humidifiers, **BAC** cooling towers, **Purafil** air filtration and **Armstrong** pumps.

The project is scheduled for completion in May 2013.

## San Antonio



*Resolute Health  
New Braunfels, TX*



Please join us each month in 2013 for an informative seminar on the latest technology and advances in the HVAC industry.



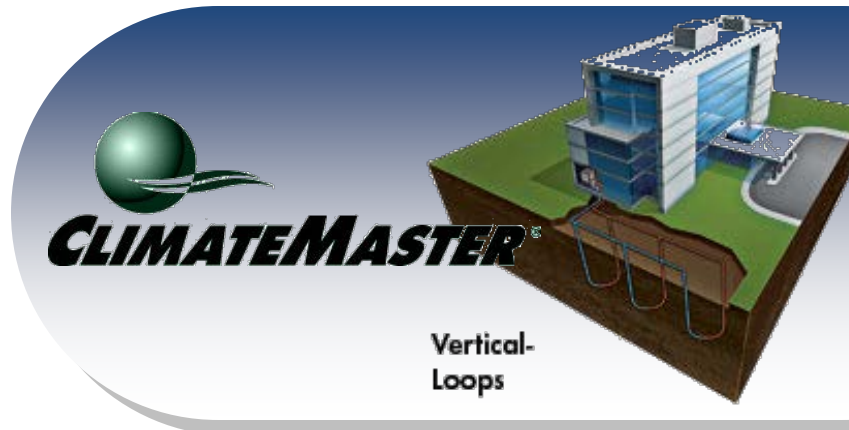
**Sept. 10 – Sept. 13, 2012**—XII in '12 September featured proper design of **Greenheck variable air volume kitchen ventilation systems**. Presenter, Matthew Pavlovich – Application Engineer at Greenheck Fan Corporation, covered the differences between filter efficiencies, why kitchen systems should be incorporated into the mechanical design, ASHRAE's recommendations on conditioned make-up air, and common installation issues and solutions.

**Oct. 8 – Oct. 11, 2012**—XII in '12 October featured **Armstrong Variable Speed Pumping Systems**. The speaker, Matt Tiberi, covered pump basics, systems and controls theory, application, selecting and sizing, versatility of vertical in-line pumps, constant speed versus variable speed pump selection, and understanding "Design Envelope". It was well-attended.



**Nov. 5 – Nov. 8, 2012**—XII in '12 November featured an update on **BAC cooling tower technologies and Puroflux cooling systems filtration**. Adrienne Stoinoff with BAC covered cooling tower optimization, efficient evaporative cooling design considerations, tower offerings: closed versus open circuit & counterflow versus crossflow, and ice thermal storage technologies. Dennis Jamison with Puroflux presented effects of cooling tower debris build up, benefits of filtration and separation, and filtration sizing and application.

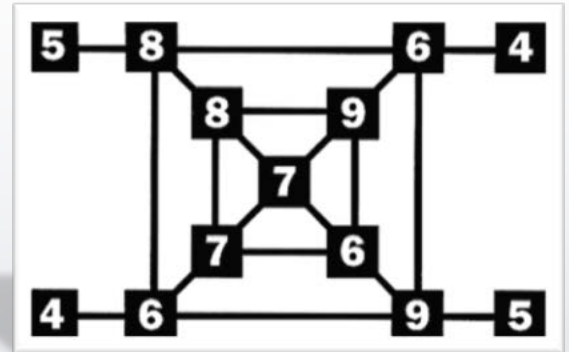
**Dec. 10 – Dec. 13, 2012**—XII in '12 December featured **ClimateMaster application for water source heat pumps**. Our guest speaker, Trey Austin with Geo-Energy Solutions, presented geothermal applications, loop project planning and geothermal well field design. Dee Brower and Kurt Krawczyk with ClimateMaster gave a product overview of WSHP's, distributed heat pump systems, centralized heat pump systems and hybrid heat pump systems.





## Solve this new riddle!

Start at the center number and collect another four numbers by following the paths shown (and not going backwards). Add the five numbers together. What is the lowest number you can score?



## And the answer to last quarter's riddle is...

Starting in the bottom left corner and moving either up or right, adding up the numbers along the way, what is the largest sum that can be made?

2	3	6	2	4
2	3	1	5	1
6	1	1	1	7
5	3	5	2	2
3	2	7	2	3

ANSWER: 34

Congratulations to the first three to submit the correct answer!

*Rajesh Kapileshwari, PE, LEED AP with ACR Engineering, Inc.  
Stillman Jordan III with HDR Engineering, Inc.  
Dean L. Hunt, P.E. with Jose I. Guerra, Inc.*



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