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FROM THE EDITOR

Sustainable Production

Our own Mike Grennier kicks off this issue with his article titled, "Atlas Copco Compressors Enables Sustainability-Based Production." We appreciated the opportunity to interview their team and learn about their mission to help manufacturers reduce their energy consumption.

Thanks go to PneuTech's Derrick Taylor for sending us an article about how they helped industrial woodworking equipment provider, SCM Group North America, design a compressed air system able to be energy efficient at significantly different load profiles.

Heat recovery continues to represent low-hanging fruit – particularly with water-cooled air compressors. Enjoy the article sent to us by Tamturbo titled, "Using Heat Improves Compressed Air Production Efficiency by 90+%."

I had the opportunity to attend Festo USA's gala celebration of their 50th anniversary in New York City's Gotham Hall. The theme of this elegant evening was "Five Decades of Innovation." I hope you enjoy the write-up as much as I enjoyed the event.

Bill Smith has provided us with a detailed and picture-rich show report titled, "Air Compressor and Dryer Innovation Unveiled at Best Practices 2022 EXPO & Conference." We thank once again all who attended the event!

Thank you for investing your time and efforts into ***Compressed Air Best Practices.***

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Compressed Air Industry News

Ingersoll Rand to Acquire SPX FLOW's Air Treatment Business

Ingersoll Rand Inc., a global provider of mission-critical flow creation and industrial solutions, has entered into an agreement to acquire SPX FLOW's Air Treatment business for approximately $525 million.

With expected revenue of approximately $180 million in 2022, the Air Treatment business is a leading manufacturer of reliable and energy efficient desiccant and refrigerated dryers, filtration systems and purifiers for dehydration in compressed air. The business has manufacturing capabilities in the U.S., Germany and South Korea with nearly 500 employees and goes to market through the highly recognized brands of Hankison®, Pneumatic Products®, Jemaco, Deltech® and Delair®.

"We are excited to welcome the SPX FLOW Air Treatment team into the Ingersoll Rand family," said Vicente Reynal, chairman and chief executive officer of Ingersoll Rand. "Our customers lean on us to deliver innovative technologies that drive reliability, efficiency, performance and excellence. Compressed air dryer and filtration equipment helps increase the production and process reliability of the compressor and continues our strategy of expanding our product offerings in the broader compressor ecosystem. The business is highly complementary and we expect it to be driven by the same sustainability trends that we see as a tailwind for our compressor business."

Reynal said, "Not only does the acquisition add a highly complementary product portfolio, nearly half of its revenue is from recurring aftermarket offerings – one of our critical strategic acquisition criteria. We expect the strong strategic fit to quickly yield adjusted EBITDA margins accretive to the IT&S segment and drive significant synergies that are expected to result in adjusted EBITDA margins greater than 30% by year three."

"I'd like to thank the team for their dedication in developing a high-quality business and for their commitment to serving customers," said Marc Michael, president and chief executive officer of SPX FLOW. "Being a part of Ingersoll Rand is an exciting next step for the business."

The all-cash transaction is expected to close in the fourth quarter upon obtaining required regulatory approvals. Upon transaction close, the SPX FLOW Air Treatment business will join Ingersoll Rand's IT&S segment.

About Ingersoll Rand

Ingersoll Rand Inc., driven by an entrepreneurial spirit and ownership mindset, is dedicated to helping make life better for our employees, customers and communities. Customers lean on us for our technology-driven excellence in mission-critical flow creation and industrial solutions across 40+ respected brands where our products and services excel in the most complex and harsh conditions. Our employees develop customers for life through their daily commitment to expertise, productivity and efficiency. For more information, visit www.IRCO.com.

New CAGI Rotary Air Compressor Selection Guide Available

Installing an intermittent-duty compressor to satisfy a continuous demand is a recipe for early compressor failure. Likewise, installing a continuous-duty compressor to satisfy intermittent demand results in premature failure of the compressor due to rapid compressor cycling as well as very inefficient compressor operation. Successful compressor selection begins with an accurate analysis of the demand of the system. Knowing how to properly apply a rotary compressor to satisfy the known system demand is crucial to ensure the long and efficient life of a compressor.

To help users understand the different positive displacement, rotary compressor technologies, so they can make informed decisions regarding the type of compressed air system they install, operate, and maintain, the Compressed Air & Gas Institute (CAGI) is pleased to announce the release of the new Rotary Air Compressor Selection Guide. The guide focuses on rotary screw, sliding vane, and scroll compressors that are driven by electric motors, combustion engines, and PTO drives.

The Rotary Positive Compressor Guide is available for free download on the CAGI website at www.cagi.org.

About CAGI

For more than 100 years, the Compressed Air and Gas Institute has been the leading source on all matters related to compressed air. As the united voice of the industry, CAGI promotes the development and organization of educational material, including compressed air system training programs, to benefit the users of compressed air and the operators of compressed air systems. For more information, visit www.cagi.org.

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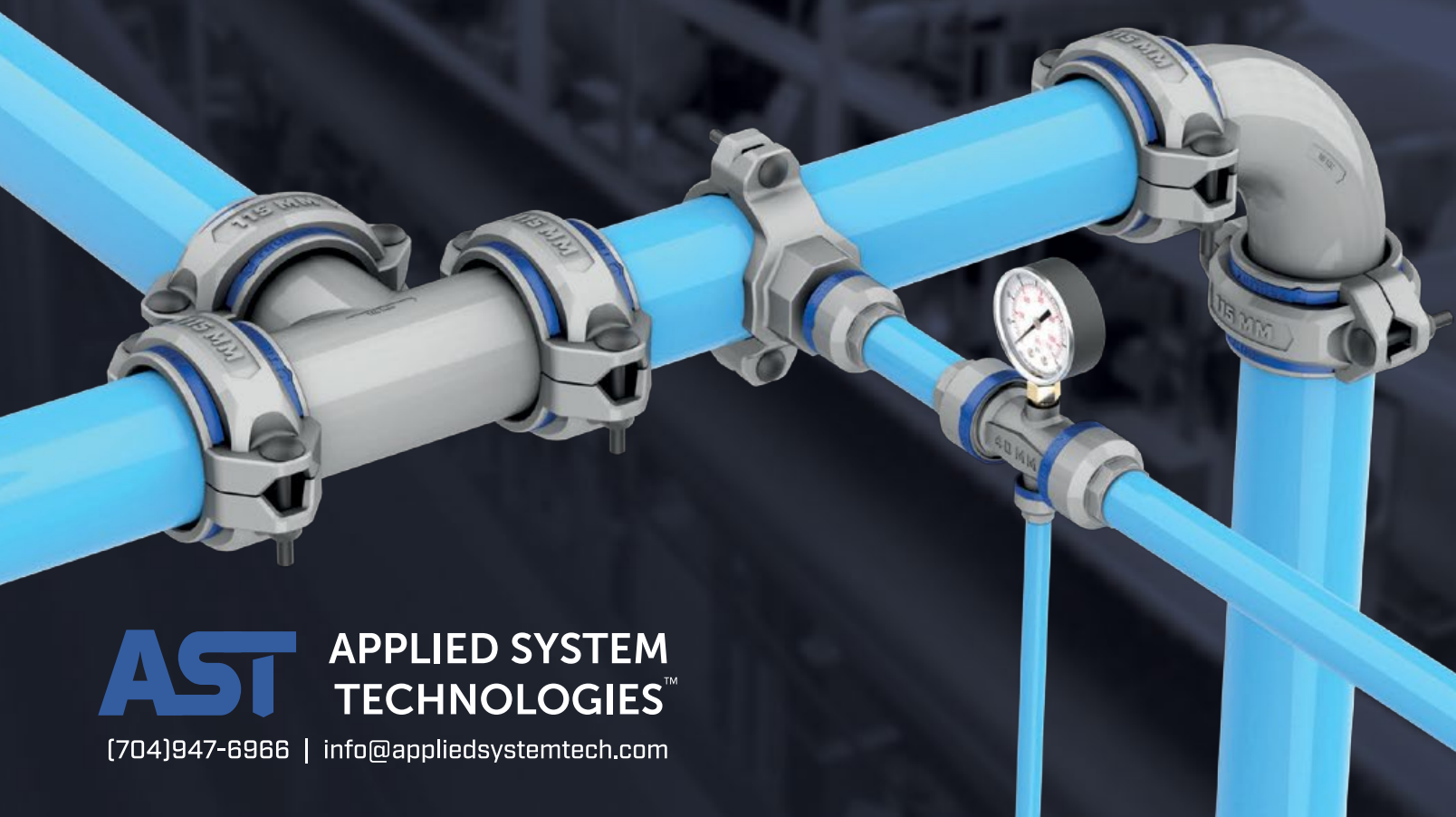

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Compressed Air Industry News

Kaishan USA Announces New Website

Kaishan USA announced the launch of a new website that will make it easier for plant managers, engineers and maintenance personnel to make informed decisions when designing and procuring compressed air systems.

"We want to give our customers the information they need to make smart choices about their next project. A big part of that is educating them on what compressed air systems are, how to calculate key KPIs, our capabilities and our project experience," said Henry Phillips, director of marketing. "This new, easy-to-understand website will facilitate this understanding, ultimately encouraging them to work with us."

About Kaishan Compressor USA

Kaishan Compressor USA (KCA), is headquartered in Loxley, AL in a 65,000 ft2 state of the art manufacturing facility that was formally opened in October 2019. Kaishan is a vertically integrated company that procures 85% of its rotary screw compressor product content from within their own company subsidiaries. This allows Kaishan to vigorously control the cost and quality of its product to a very high level. Kaishan USA is performing precision machining of rotating and static parts in our ultra-modern machine center cells that provides exact tolerance control to thousands of an inch. Kaishan USA is also currently performing complete machine assembly, modification, and testing of rotary screw compressors from 5-500 horsepower in the new Loxley, AL factory. To learn more about Kaishan USA and becoming part of a rapidly expanding company as a team member or distributor, visit www.KaishanUSA.com.

Motion Ai Launches New Website

Motion Industries, Inc., a leading distributor of maintenance, repair and operation replacement parts, and a premier provider of industrial technology solutions, is pleased to announce the launch of the new Motion Ai website, https://ai.motion.com.

Announced in February 2022, the Motion Ai business group unifies acquired technical companies, including Applied Machine and Motion Control (AMMC), Axis New England/ Axis New York, BRAAS, F&L Industrial Solutions, Integro Technologies, Kaman Automation, Meier Transmission and Numatic Engineering.

This new and growing website reflects the unity of these legacy brands and showcases Motion Ai's broad, technical capabilities with a clean, modern design that is easy to navigate. The Resources page contains educational videos, a blog with informational articles and a document library, including product specs and other descriptors to help users with their technical applications. The Industries page narrows the focus, so users can quickly find potential solutions to meet their specific needs.

The Products page allows users to search anything automation-related, from motion control to pneumatics to sensors, while the information on the Solutions page ranges from automation and process to machine vision and robotics. In these spaces, users can easily research and source diverse products and explore Motion Ai's wide range of solution capabilities.

For custom assistance at any technical level, website users can access a complete and comprehensive team of experts, such as engineers regarding product or system design, and industry-segment specialists with ultra-focused expertise.

"The new Motion Ai website provides more innovative resources and enhanced information for users who want to learn anything and everything automation, robotics and motion control," said Aurelio Banda, Motion's Senior Vice President, Automation Intelligence. "As an automation industry leader, Motion Ai delivers consistent, relevant news and trends via this new website, while allowing for rapid-response functionality. We also look forward to launching a contemporary eCommerce platform in the near future."

Randy Breaux, President of Motion, said, "Blending the acquired technical brands under Motion Ai has been a huge success, and the resulting synergies are a major benefit for our customers. Now, this new website makes assistance and solutions more accessible than ever for users who want to optimize automation and IIoT in their organizations."

About Motion Ai

Motion Ai brings together the leading high-tech automation solution providers for industrial automation across the United States. The expertise found in this group includes emerging automation technologies with focused disciplines in robotics, motion control, machine vision, digital networking/IIoT, industrial framing, pneumatics and custom mechatronic systems. Industries including semiconductor, pharmaceutical, medical, logistics, automotive, aerospace and many more benefit from Motion Ai applying best-in-class engineered systems, products and services. For more information, visit www.ai.motion.com.

Tired of downtime and scrap as a result of poor compressed air quality?

Moisture is found in compressed air lines and exhausting from valves and actuators on equipment thereby reducing component life and machine efficiency. Tired of draining water and oil from your compressed air lines every spring? Tired of cleaning or replacing pneumatic components well before their lifespan?

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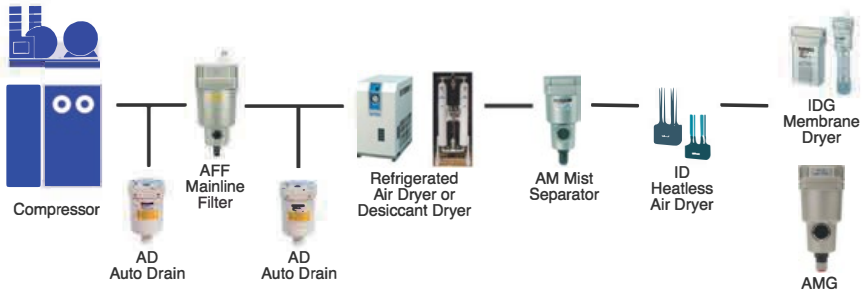

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Compressed Air Industry News

Atlas Copco Compressors Acquires Mesa Equipment & Supply Company

Atlas Copco has acquired the operating assets of the compressor business of Mesa Equipment & Supply Company (Mesa). Mesa is headquartered in Albuquerque, New Mexico and has a significant market presence across the entire state. Nineteen people will join Atlas Copco as a result of this acquisition.

"Mesa is a company with whom we have enjoyed a long working relationship, and it's always a proud day when we are able to bring such a talented group of people directly into Atlas Copco," said Robert Eshelman, president, Atlas Copco Compressors LLC. "We work with many great customers across New Mexico, and keeping a strong presence across the area is very important to us as we work to develop and grow the business."

Mesa has been a distributor for Atlas Copco Compressors for several decades and will be integrated into Atlas Copco Compressors' West Region. The purchase price is not disclosed.

About Atlas Copco Compressors

Atlas Copco Compressors LLC is part of the Compressor Technique Business Area, headquartered in Rock Hill, South Carolina. Atlas Copco Compressors provides innovative solutions, including world-class compressors, air blowers, industrial coolers, vacuum pumps, quality air products, and gas generation systems, all backed with full service, remote monitoring, and auditing services. With a nationwide service and distribution network, Atlas Copco Compressors is your local, national, and global partner for all your compressed air needs. For more information, visit www.atlascopco.com/air-usa.

Compressed Air Academy Partners Syncing Synergy for Success

Collaborators on the Michigan City High School's Compressed Air Academy connected at a recent open house event to tour the space, see how students are embracing the program and seek out ways to keep the synergy moving forward.

The Economic Development Corporation Michigan City team, representatives from the compressor/vacuum industry, high school and college leadership and teachers Ralph Gee and Jeff Rochowiak are among the key partners who are behind the program to not only boost the workforce but also keep these skilled workers in LaPorte County.

"The academy was established with focused curriculum to ensure that we are preparing students for the industry and that it's aligned directly with what the workforce needs are right here in Michigan City," said Dr. Barbara Eason-Watkins, superintendent at Michigan City Area Schools. "With the pilot program during the 2018-19 school year, we had 45 students enrolled. Then enrollment took

a hit during Covid. We are here to hit the rest button, and we are excited about our new partnerships, initiatives and opportunities."

The one- or two-year program seeks to prepare students to work at such partner companies as Sullair, Boss Industries, Dekker Vacuum Technologies, Sullivan-Palatek and Vanair. The students work with an industry-grade air compressor and vacuum system, 3D printers, industrial robotic components, CAD software and construction equipment. Ivy Tech Community College offers up to 6 dual credits in Advanced Manufacturing for program completion.

"The students are making boxes and learning how to use joiners, planers, nail guns – all of the little tools that they need. We are now teaching them the basics," Rochowiak said.

"We have students working on resumes and understanding how they are a living document that needs to be updated once in a while," Gee added.

Rochowiak said the momentum will be ignited by putting career and job fairs into place, student tours of area companies, rebooting the work study program, internships and after-school employment opportunities. Overall, the school's tech-ed classes have 150 to 200 students enrolled.

"We recently went to Vanair and students asked tons of questions. They can see how every company is unique," Rochowiak said. "We would love guest speakers. The students want to hear your stories and how you got to be where you are today – that means a lot to these students."

The first-of-its-kind program is centered in a community that is No. 1 for the air compressor industry in Indiana and the Midwest, said EDCMC Executive Director Clarence Hulse.

"For me the idea was to create a workforce pipeline. We were ahead of the curve to get that done in 2017. We had the idea and it

Compressed Air Industry News

germinated and is growing," Hulse said. "It's about relationships and getting involved. We need to make sure people here are successful, are getting trained, and going straight into jobs. What's better than local people coming out of local schools and remaining a part of our community?

"We have good paying jobs at great companies that want to stay here, expand and create new products. My challenge today is for companies to appoint liaisons, so we all have the vital resources that we need – the workers."

"It's about relationships, mentoring and engaging with our students – all for the betterment of our community," Eason-Watkins said.

About EDCMC

Economic Development Corporation Michigan City, Indiana, is committed to growing and attracting new industry and business to the community as well as strengthening existing business. EDCMC concentrates on services, programs, partnerships and one-on-one assistance to provide the optimum business environment for commerce and industry to prosper and grow. As a private nonprofit, EDCMC merges the right mix of resources by uniting key leaders in government, business, schools and the community. For more information, call (219) 873-1211 or visit www.edcmc.com.

About Compressed Air Academy

The Michigan City High School Compressed Air Academy is a one- or two-year program to prepare students for entry-level positions within the compressor/vacuum industry. Launched in the 2018-19 school year with a pilot program, the curriculum was developed with educators and industry team leaders. The CAA has received the state's Earn and Learn Certification in 2020, and in 2021, Sullair hired the first graduates and rising seniors as summer assemblers. For more information, visit www.mcas.k12.in.us/compressedair.

Michigan City High School students work with an industry-grade air compressor and vacuum system, 3D printers, industrial robotic components, CAD software and construction equipment.

P-A Industrial Services Now Serves Sioux Falls, South Dakota

P-A Industrial Services (PAIS), a Donaldson company that offers preventative maintenance/filter change services, parts, and equipment for dust/mist/fume collection systems, industrial fans, air compressors, and nitrogen/oxygen generators, is pleased to expand its operations to the Sioux Falls area. This includes the regions of eastern South Dakota, southwestern Minnesota, and northwestern Iowa.

With over 100 years of combined industry experience, the company strives to help make its clients' plants safer and more productive workplaces. As part of the Donaldson family, the global leader in industrial filtration solutions, PAIS is pleased to expand its scope of expertise and technology.

PAIS can service, repair, design, and install various types of dust/mist/fume collection and compressed air systems from numerous global brands, such as Donaldson, Atlas Copco, and more. This includes everything from installing compressed air piping and new equipment to providing on-site baghouse filter changes and dust/mist/fume collector replacement parts such as diaphragm valves and fans.

Regarding the company's Preventative Maintenance & Remote Monitoring Program, PAIS offers a total system approach and broad product expertise that enables its team to optimize all equipment components in a system. When remotely monitoring, the company utilizes Donaldson's proprietary iCue™ connected technology to provide operational insights directly to end users.

PAIS staff consists of thoroughly trained and factory-authorized field technicians to perform service, data collection, and trending of all key points. This includes fan performance, compressed air quality, filter condition, filter pressure differential, air velocity, airflow (CFM), and maintaining detailed documentation for record keeping and historical trending.

The key benefits of investing in the PAIS Preventative Maintenance & Remote Monitoring Program include helping to prevent equipment downtime, ensuring clean air for the working environment, assisting in managing air emissions, supporting OSHA/EPA/MPCA regulatory compliance, and receiving recommendations for system efficiency that support lower operating costs and higher productivity.

PAIS General Manager Patrick Becker said, "More and more companies are addressing inefficiencies head-on and striving to work smarter, not harder. PAIS is here to help. We look forward to serving you!"

About P-A Industrial Services

P-A Industrial Services is a one-stop shop for services, parts, and equipment for various industrial applications. As a Donaldson company, PAIS can provide its clients with innovative technology to help their businesses operate at peak efficiency. To learn more about PAIS, visit https://www.paindustrialservices.com/ or contact Patrick Becker at pbecker@pa-is.com.

Atlas Copco Compressors Enables Sustainability-Based Production

By Mike Grennier, Compressed Air Best Practices® Magazine

Heat recovery technology is among a variety of options that can help companies reach their sustainability goals.

➤The opportunity for U.S. manufacturers to optimize their compressed air systems and reduce electrical consumption as a result is nothing short of massive. There's also no shortage of solutions for manufacturers to take advantage of it.

That's at the core of a recent report issued by Atlas Copco Compressors, which is on a mission to shed light on the opportunity – while also helping to guide manufacturers on their journey toward sustainability-based production.

"We're so passionate about this subject and have been for many, many years," said Robert Eshelman, President & General Manager, Atlas Copco Compressors, regarding the importance of the comprehensive report. "We want to share all of the different opportunities for savings on that monthly power bill, as well as the ability for them to reduce their CO_2 footprint."

Equally important, said Eshelman, is for manufacturers to understand the full picture of any investment in compressed air technology that contributes to sustainability.

"While there is focus on energy costs, it's also drilling down to the total cost of ownership. What companies want to see is payback. We want to bring them the business case so they can decide whether a given technology offers the right payback," he said. "Payback is something which has changed a lot over the last decade; it used to be measured in months or years, but now with the different ways to buy, the right ROI can provide positive cash flow from day one – and the monthly energy savings are greater than the monthly cost."

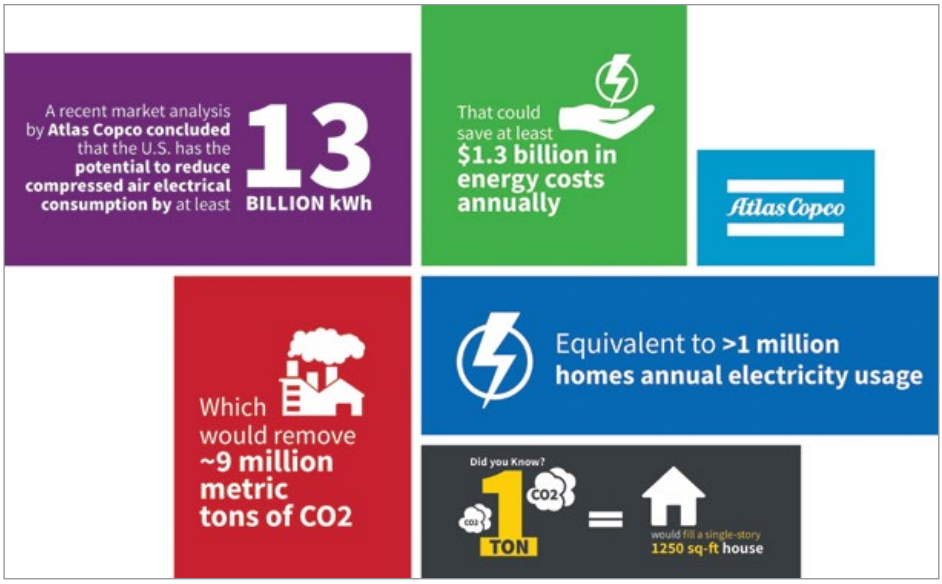
Eye-opening Savings Potential

To shine a light on the opportunity compressed air system optimization offers, Atlas Copco Compressors (www.atlascopco.com/air-usa) analyzed the U.S. air compressor market and subsequently shared eye-opening findings.

It concluded the market has a compressed air installed base of at least 15 million horsepower. Further, it evaluated various air audits across different customer types, sizes and segments and determined U.S. manufacturers stand to save around 13 billion kilowatt hours (kWh) annually in electricity associated with compressed air. That translates to a savings of $1 billion in energy costs per year, which would remove nine million metric tons of CO_2 annually. That equates to more annual energy usage of more than 1 million homes in the United States.

Atlas Copco Compressors took its analysis another step by sharing an example of potential savings to help companies better understand what the opportunity could mean for them. An inefficient 50-hp air compressor, the report showed, easily consumes 148,000 kWh per year. Optimization can reduce electrical consumption of the same machine by 44,000 kWh per year, which represents a 30% reduction in energy use.

"We know the numbers are big, yet they're in line with other things we've seen," said Paul Humphreys, Vice President of Communications, Atlas Copco Compressors, in reference to the figures in the report and other studies by various organizations and governmental agencies worldwide. "One of the key takeaways for us is that companies can only reach their sustainability goals with optimized compressed air and gas. We're absolutely convinced it's the only way it can happen."



Measuring and monitoring key compressed air information is essential for system optimization and energy savings.

It Starts with Measurement and Monitoring

Another conviction of Atlas Copco Compressors and other industry leaders is that manufacturers can only achieve energy and cost savings goals by investing in the right technology specific to their compressed air systems.

To help companies reach their goals, Atlas Copco Compressors is committed to ongoing development of innovative energy-saving technologies, among other initiatives. It starts, said Eshelman, by making informed decisions regarding investments in compressed air optimization.

"Part of what we're able to do is bring you the numbers," Eshelman said, citing the capabilities of solutions like Atlas Copco's SMARTLINK, which is the company's remote data monitoring system on all of its air compressors. SMARTLINK tracks key compressed air information and relays it at all times to users. Users can use it to view reports and recommendations for how to realize system efficiencies. It also issues alerts to potential problems, helping protect the investment, but measuring data just from the compressor is only one data point when it comes to efficiency.

"I see a lot of companies, especially in the food industry, moving toward airflow and power monitoring to gain efficiencies and to be able to see whether they're getting the amount of compressed air they paid for," said Leslie Marshall, an Atlas Copco Compressors National Accounts Manager.

Atlas Copco Compressors Enables Sustainability-Based Production

Atlas Copco Compressor's team of dedicated energy consultants perform compressed air audits to help companies navigate energy-efficiency improvements.

The remote monitoring system is in addition to Atlas Copco Compressor's team of dedicated energy consultants who are experts at performing compressed air audits that lead to recommendations for energy-efficiency improvements. Atlas Copco Compressors is now expanding its team of experts who perform air audits to help companies gain insight into their systems and capitalize on the opportunities that exist.

"A lot of companies are moving to verifiable energy reduction programs, and we can give them the data to support that," Eshelman said.

Technology Evolves to Meet Need

Aside from offering tools to measure and monitor air compressor performance and identify energy-saving opportunities, Atlas Copco continues to push the envelope in air compressor advancements to give manufacturers a leg up in their sustainability efforts.

An example is the company's VSD+ air compressor range which comes with a number of unique features, such as vertically oriented, space-saving airend and an interior Permanent Magnet (IPM) motor. Unlike traditional Variable Speed Drive (VSD) air compressors with induction motors, the direct-drive system eliminates gears and couplings between the motor and airend for optimal efficiency. The closed-circuit, oil-cooled drivetrain further enhances efficiencies. A sentinel valve, in the meantime, seals the airend when the machine stops to prevent any escape of compressed air to eliminate blow-off losses.

In 2022, Atlas Copco engineers developed a combination of technologies to further increase efficiency with the launch of the latest generation VSD^S+ air compressors. They include an advanced, in-house developed inverter and a Smart Temperature Control (STC) Valve, along with a variable-speed fan. The inverter manages the machine's motor and also regulates control of the STC Valve and fan. The valve, which continuously monitors ambient conditions, works in conjunction with the fan to inject oil into the system at the optimal temperature. The result is an additional measure of efficiency, as well as the elimination of condensation and increased reliability.

Jan Vansweevelt, Global Product Manager at Atlas Copco, said these advancements in individual air compressor components are built into the latest GA VSD^S air compressors and combine to deliver better overall performance, especially concerning energy savings.

"Our GA VSD^S air compressors rated from 22 kW to 37 kW (30-50 HP) achieve a reduction of approximately 10% in terms of a specific energy requirement and an increase in free air delivery of 11% when compared with the previous generation VSD+ machines," Vansweevelt said, noting it operates efficiently at low and high speeds. "In every working condition, the air compressor is designed to reduce the amount of energy required to produce air."

In addition to advanced air compressors, Atlas Copco Compressors encourages manufacturers to consider any number of technologies that offer the best opportunity for sustainability. Examples include air compressor heat recovery modules to put waste heat to use, as well as technologies to conserve water, such as air-cooled compressors instead of water-cooled machines where applicable.

Education Fuels Progress

Whether it's data collection and connectivity, or any number of investments to optimize a compressed air system, the Atlas Copco Compressors team said ongoing education is essential for those working toward sustainability-based production.

"The biggest challenge is time for everyone," said Adam Legters, Atlas Copco Compressors Vice President of Service, regarding the immense opportunity and the wide variety of options for achieving energy savings. "You could argue that air compressor systems can be the ultimate caveat to the phrase, if it isn't broke then don't fix it, and so to step back and see what is truly possible is a big challenge for many companies, just due to the multiple priorities they have. Dedicated resources and teams mean most of the large corporations have already created energy-programs in compressed air but many still fear the time it will take, and that's where we can really help them."

As part of its ongoing educational efforts, Atlas Copco Compressors has offered and will continue to offer free or heavily discounted online seminars through the Compressed Air Challenge (https://www.compressedairchallenge.org/). The training covers two courses, including The Fundamentals of Compressed Air Systems (Level I) and Advanced Management of Compressed Air Systems (Level II). Offering training through The Compressed Air Challenge is in addition to a host of training programs Atlas Copco Compressors offers customers.

Paul Maguire, Department of Energy (DOE) AirMaster+ Specialist, Atlas Copco Compressors, said those who attend their first Compressed Air Challenge training session often walk away with actionable steps.

"Using basic information, users can typically save 20% on their energy consumption right off the bat with things like maintenance and system adjustments that can be done very easily," Maguire said.

Decisions Rest with Manufacturers

Looking forward, Atlas Copco Compressors will continue to promote the immense opportunity for energy savings compressed air system optimization offers U.S. manufacturers and the nearly countless options available to achieve measurable results. At the same time, it will continue to help companies determine what's best for their operations as they strive to balance profitability with sustainability – while bolstering product quality.

Choosing between a lubricated air compressor or an oil-free air compressor to meet production goals, while also achieving energy-savings, serves as a classic example.

"We'll show the advantages and disadvantages of each," Eshelman said. "We want the best solution for the application, but in the end, it's really up to the customer to decide." BP

All images courtesy of Atlas Copco Compressors. Visit https://atlascopco.com for more information.

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When Three Air Compressors Are Better Than One (or Two)

By Derrick Taylor, PneuTech

The SCM compressed air system includes three compressors of different sizes, wet and dry air tanks, and an air dryer. All three compressors can be used individually or in any combination.

What's the best way to meet peak CFM demand events that only happen once or twice a year? That was the challenge for SCM Group North America, an industrial woodworking equipment provider headquartered in Duluth, Georgia. A three-compressor system manufactured by PneuTech made sure they could meet the demand during air-intensive "Dealer Weeks" while keeping energy costs and service requirements low the rest of the year.

Challenge: Ramping Up Demand for "Dealer Week"

SCM Group distributes high-end woodworking equipment through a nationwide network of dealers, ranging from timber systems and large CNC machines for industrial manufacturers to band saws, sanders and joiners for hobbyists and small shops. Each January, dealer representatives from across the eastern U.S. gather at their showroom outside Atlanta to see all the latest and greatest equipment in action.

During Dealer Week, they needed enough compressed air to power multiple machines at a time all day long. Keeping simultaneous demos running for all their top machines required airflow of up to 400 cubic feet per minute (CFM). However, outside of Dealer Week, their compressed air demands were quite modest. On a typical day, they only needed 20 CFM to power their dust collection system and pneumatic tools for their dock and warehouse crating areas.

Previously, they had one 40 HP fixed-speed compressor to service both the showroom and the warehouse and dock areas. The compressor was too large for their daily needs but not large enough to handle all of the equipment they wanted to demo at once during Dealer Week. In addition, a failure during Dealer Week had once left them scrambling for a mobile rental backup. That's when Adam McCracken, the Logistics and Warehouse Manager for SCM Group in Atlanta, contacted WSI Machinery, a PneuTech equipment dealer in Illinois.

McCracken knew that he wanted a two (or more) compressor solution so he would always have a backup in-house. "I always try to plan ahead," he says. "I hope for the best and plan for the worst." Having multiple compressors would ensure that they would have enough air to keep basic operations and at least a few demos running even if one compressor was down.

Two Compressors or Three? How a Multiple-Compressor Solution Reduced Costs

SCM was initially considering two 40 HP fixed-speed rotary screw compressors, each capable of delivering about 190 CFM. The compressors would be linked with a master control system to equalize compressor use. A single compressor would run on days when they needed less air, and the two would work together when demand was high. This would have worked – but was it the best option?

After talking to WSI and PneuTech about their needs, SCM settled on a more unusual solution: *three* compressors of varying sizes. An energy analysis showed that the three-compressor system would save energy and reduce costs over the complete lifecycle.

The system proposed by WSI and PneuTech included three different sizes of rotary screw air compressors in addition to a refrigerated air dryer and wet and dry air tanks.

- A 7.5 HP fixed-speed rotary screw compressor with integrated dryers, filtration and a 72-gallon air tank provides plenty of CFM for daily operations, including the dust collection system, nail guns for the crating area and other pneumatic equipment in the warehouse and dock.

The 7.5 HP fixed-speed compressor, with integrated dryer and 72-gallon tank, supplies air for daily needs, including the warehouse, dock and dust collection system.

When Three Air Compressors Are Better Than One (or Two)

Wet and dry storage tanks provide ready air for high-demand events and increase the efficiency of the air dryer.

- A 60 HP variable speed drive (VSD) rotary screw compressor serves as the main compressor for the showroom. VSD allows the compressor to ramp air production up and down according to actual usage. It is used for Dealer Week and for new equipment setup and testing.
- A 40 HP fixed-speed compressor serves as a backup and kicks on during high demand when the 60 HP VSD can't keep up. By itself, it is still large enough to run a small number of critical demos during Dealer Week or handle equipment setup and testing.

Together, the three compressors can deliver up to 455 CFM at 115 PSI. A valve system allows the compressors to be run individually or in any combination to support both warehouse and showroom activities; they can easily turn on any two compressors together or even all three for events with especially high demand. The compressors are WiFi and Bluetooth® capable and can be controlled using a secure, proprietary app via a smartphone or tablet.

The system does not require a complex master controller to operate the units in tandem. It is set to automatically add capacity if the compressor is not keeping up with demand.

- When the large 60 HP VSD compressor is running, pressure for the showroom is set to 108 PSI. Because it is variable speed, it automatically ramps up air production to meet demand up to its maximum capacity of 260 CFM.

- If demand exceeds this point, pressure in the system will start to fall; when pressure drops to 104 PSI, the 40 HP compressor kicks in automatically to provide an additional 167 CFM (for a maximum of 427 CFM for both compressors together).

- If demand still exceeds supply, the 7.5 HP compressor kicks in when pressure drops to 100 PSI, providing an additional 28 CFM of capacity.

This system ensures that pressure does not drop below the 95 PSI required for most of their machines, even during their highest demand events. This allows SCM to run multiple demos simultaneously during Dealer Week and support high-demand applications such as their hot air

SCM Group North America System Components

Compressors

- 7.5 HP fixed-speed rotary screw with integrated air dryer (28 CFM at 115 PSI)
- 40 HP fixed-speed rotary screw (167 CFM at 115 PSI)
- 60 HP VSD rotary screw (260 CFM at 115 PSI)

Dryers

- Refrigerated air dryer rated for 550 CFM
- Integrated dryer on the 7.5 HP Compressor

Filtration

- 1 Micron rated dryer pre-filter
- 0.01 micron rated dryer post-filter
- Condensate oil water separator

Storage

- 72 gallon (integrated storage for 7.5 HP compressor)
- 400 gallon wet storage
- 1060 gallon dry storage

Distribution Piping

- Unipipe aluminum piping system

When Three Air Compressors Are Better Than One (or Two)

The two large compressors provide air to the showroom during "Dealer Week" and other high-demand days. Shown: PneuTech RK Series 60 HP VSD (back) and PneuTech RK Series 40 HP fixed-speed (front).

fusion machines. McCracken says, "It gives us a lot of peace of mind. We don't have to worry about a situation where we're in the middle of a demo and start running out of air. The system recognizes if one compressor isn't keeping up and will automatically turn on another compressor to maintain the pressure we need."

Two large storage tanks (400 gallons wet storage and 1060 gallons dry storage) are used for the showroom to provide ready air for high-demand events and increase the efficiency of the air dryer. On days when they are setting up or testing new equipment or running small individual demo sessions in the showroom, they can quickly fill the tanks using the 60 HP VSD compressor and then

turn the large compressor off and use the 7.5 HP to meet their ongoing CFM requirements.

SCM also installed a new distribution piping system. They chose aluminum compressed air piping from Unipipe. The modular system does not require special tools or a licensed plumber for installation and is rated for up to 232 PSI.

Calculating the Cost Savings: Two Air Compressors vs. Three

Capital equipment costs were only slightly higher for the three-compressor system than for the two-compressor system initially proposed. SCM saved $10,000 that would have been spent on the controller for the two-unit system. This offset the cost of the additional 7.5 HP compressor proposed. The small compressor is significantly more cost-effective to operate and maintain than the 40 HP fixed-speed initially proposed. Using the small compressor for normal operation outside of Dealer Week will save energy and reduce the total lifetime costs for the system. Here's how the three-compressor system saves energy.

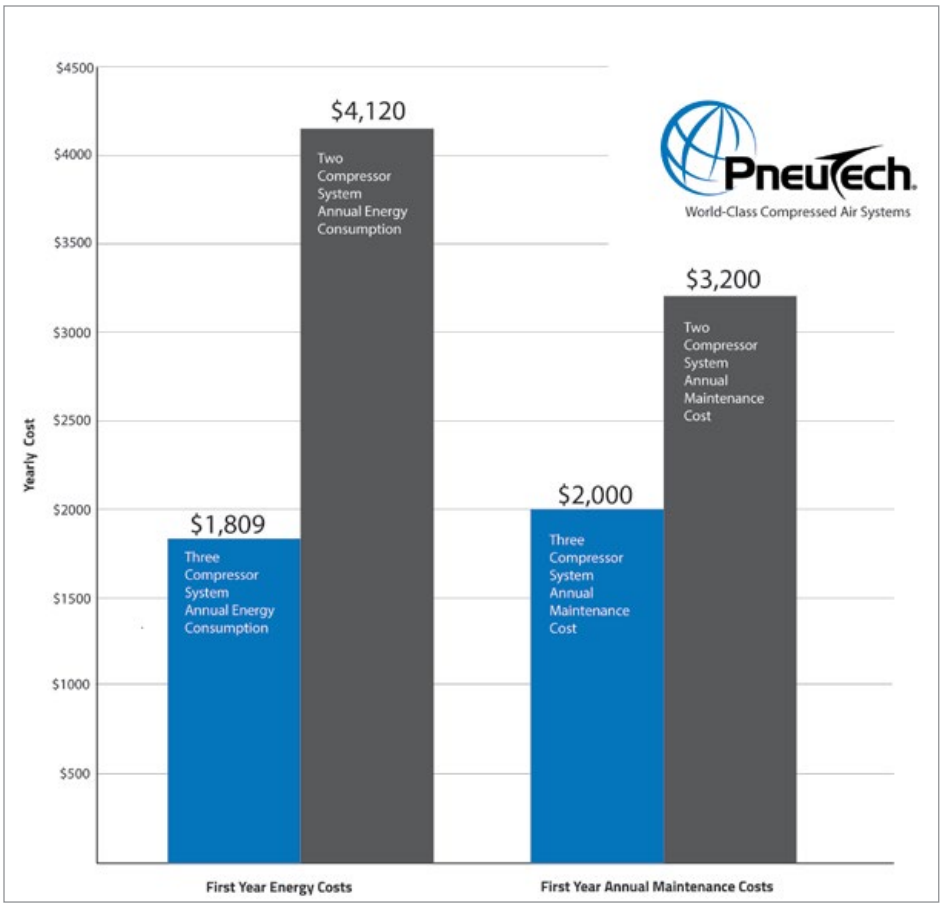
Two 40 HP Fixed-Speed Air Compressors

- The 40 HP fixed-speed compressors were capable of delivering up to 190 CFM each. On days when demand was only 20 CFM – about 95% of the time – the compressor "on duty" would be sitting idle (unloaded) most of the day. The compressors draw about 10 kW at zero flow and about 35 kW while loaded. If operating at 10% capacity for a ten-hour day, the compressor would consume ~125 kWh of electricity per day (10 kW x 9 hours + 35 kW for 1 hour).
- With both 40 HP compressors on and loaded, total energy use would be ~700 kWh per 10-hour day.
- Out of an estimated 2500 runtime hours annually, the 40 HP fixed speed would be on and idle for at least 2160 hours, using 21,600 kWh per year while not producing any air. At $0.10 per kWh, this adds up to $2,160 per year in wasted energy.

When Three Air Compressors Are Better Than One (or Two)

	Two-Compressor System (2 x 40 HP fixed-speed compressors)	Three-Compressor System (7.5 HP fixed-speed, 60 HP VSD, 40 HP fixed-speed)
Energy draw, normal operations 2400 hours annually @~ 20 CFM	Unloaded Power Usage 10 kW x 2,160 = 21,600 kWh X 0.10/kWh= $2,160 Loaded Power Usage 35 kW x 360 = 12,600 kWh x 0.10/kWh= $1,260	Unloaded Power Usage 2.5 kW x 740 = 1,850 kWh X 0.10/kWh= $185 Loaded Power Usage 5.5 kW x 1,680 = 9,240 kWh x 0.10/kWh = $924
Energy draw, Dealer Week and other high-demand days (~380 CFM) 100 hours annually	70 kW x 100 = 7,000 kWh X 0.10/kWh= $700	70 kW x 100 = 7,000 kWh X 0.10/kWh= $700
Total Estimated Annual Energy Costs	**$4,120**	**$1,809**

* numbers in this chart are generalized to not be brand specific



Three-Air Compressor System

- In contrast, the 7.5 HP compressor draws just about 5.5 kW while fully loaded. Even assuming the compressor is working all day, this adds up to just 55 kWh for a 10-hour day – less than half the cost of running the 40 HP fixed speed.

- The 60 HP VSD draws about 50 kW at maximum capacity. The 40 HP fixed speed draws 35 kW when loaded.

- If all three compressors run together, they would draw a maximum of 90.5 kW and deliver 455 CFM. However, it would be very rare for all three compressors to run simultaneously, and this would likely be for only very short times. A more typical draw during Dealer Week would be up to 85 kW to operate the 60 HP VSD and 40 HP fixed speed together.

- In practice, savings are likely to be even greater, as the system is not likely to be operating with both large compressors at maximum capacity for the entire day. The VSD motor allows the 60 HP compressor to adjust the motor speed to match demand, allowing SCM to deliver precisely the amount of air needed from moment to moment. This provides additional energy savings.

The Bottom Line: A Flexible System that Reduces Operating Costs

In addition to energy savings, the three-compressor system offers other benefits for SCM, as well.

- The 7.5 HP compressor is easier to operate and maintain, using less oil and requiring less time for routine maintenance.
- The small compressor is significantly quieter and throws off less heat, creating a more pleasant working environment around the warehouse and dock.
- Using the small compressor for routine daily operations minimizes runtime for the more expensive large compressors, which reduces maintenance requirements and will extend their service life.
- The two larger compressors still get runtime through the year as they test larger machines for shorter periods of time, which ensures that the oil keeps moving to eliminate any moisture from building up inside the compressors.
- The three-compressor system is highly flexible, allowing them to adjust their air production for the requirements of the day. They have enough extra capacity in the system to support future growth, as well.
- The system has built-in redundancy; if any of the compressors is out of service, the others can be switched on to pick up the slack. Either of the larger compressors, in combination with the 7.5 HP, has enough capacity to support their most critical needs during Dealer Week.

The system was installed in March of 2022 and has performed well since installation. The three-compressor system works for SCM because of the high variability in their demand. While it might not be right for every application, it gives SCM the flexibility they need to optimize performance for both daily operations and annual high-demand events.

McCracken says, "This is the best thing we could ever have done. This is a solution that satisfies all of our needs. And WSI and PneuTech were there every step of the way to answer all of our questions." BP

Author Bio

Derrick Taylor has more than 20 years of experience in the compressed air industry as the co-owner of Fluid-Aire Dynamics and current General Manager of PneuTech. PneuTech distributes high-quality industrial air compressors and compressed air accessories. For more information visit https://pneutech.com/usa/about/

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Using Heat Improves Compressed Air Production Efficiency by 90+%

By Hannu Heinonen and Olli Kuismanen, Tamturbo

A high-speed turbo air compressor (left) next to a heat management unit.

Compressed air production in industrial facilities consumes 10% of electrical power, on average. While this can vary up or down, it is an industrial average, and is very significant in most plants.

Do you know how much of your power cost goes to producing compressed air? We'll come back to this at the end of this article.

Up to 95% of the air compressor power turns into heat energy. Traditional air compressor technologies waste most of this energy.

Compressing air heats up the compressed air significantly – in traditional "oil-free" screw compressors, the temperature of the air can reach close to 400°F or even higher and then it has to be cooled. Compressed air is cooled either by air or by liquid. Most smaller compressors (<150hp) are air cooled. Then warm cooling air is ducted typically outside the facility without reusing the energy.

Why not use the Hundreds of Kilowatts of Free Energy Available?

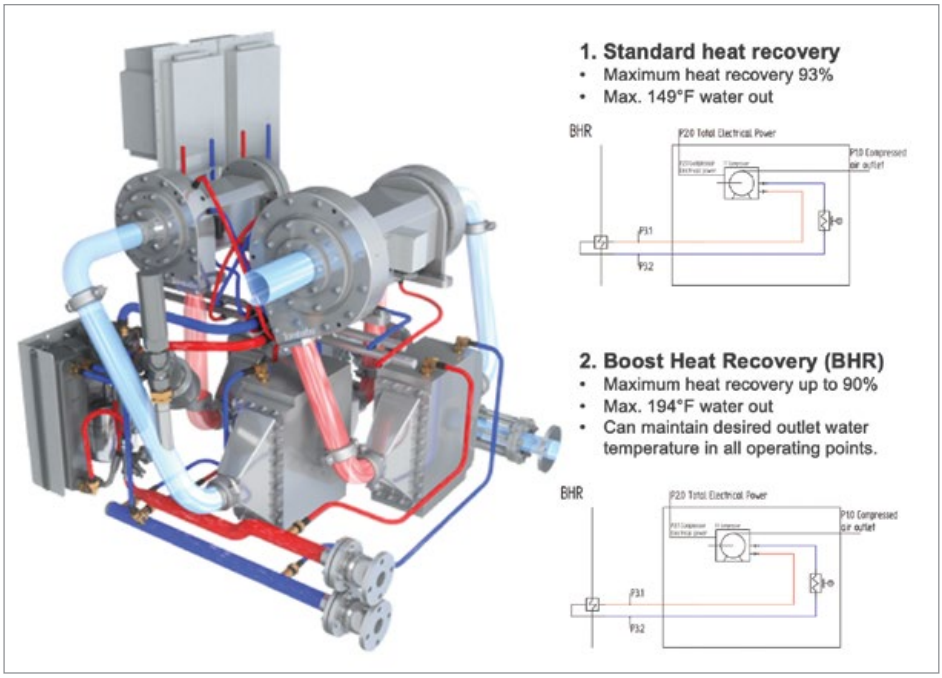
Cooling air flows for larger compressors are very high because of the low heat coefficient of (cooling) air. This is one of the main reasons why big air compressors >150hp and especially >300hp are more commonly liquid cooled. In theory, hundreds of kilowatts of "free" energy is available as heat/thermal energy to industrial facilities.

Tamturbo has put significant effort into designing the most efficient cooling method for our air compressors. In addition to capturing the heat of compression, we utilize liquid cooling to protect and recover the heat from the energy-intensive parts of our compressor – the frequency converters, electric motors

and the turbo heads. This is built-in as a standard feature which captures up to 93% of the compressor input energy. Please note that this is a real recovery without using somewhat manipulated numbers from using the compressor as a heat pump as it is seen in some marketing materials, promising recovery over 100% of the input energy.

Boosted Heat Recovery BHR Offers Higher Temperatures for Heat Energy Recovery

In addition to recovery of significantly higher percentage of input energy, a patented Boosted Heat Recovery (BHR) offers liquid temperatures up to 194°F for heat energy recovery.



Using Heat Improves Compressed Air Production Efficiency by 90+%

Easy Integration to Plant System with Heat Management Unit HMU

The ability to integrate the heat recovery to plant systems is sometimes a source of hesitation for utilizing the heat energy from the compressor. A Heat Management Unit (HMU) makes the integration easy and affordable. Connections between the air compressor and the plant are in one compact module which minimizes the installation work and cost.

Save Significant Amounts of Energy and Money by Using the Heat

Long story short: Lower your total energy consumption by using the heat from the compressor heat recovery. Potential savings add up to 9% of total power cost of your facility. Common uses for the heat recovery energy are: heating the facilities during cold season, preheating boiler make up water, wash down of plant equipment or process lines, pasteurization, process water heating, and others.

Economics are attractive – multiply your existing compressed air power cost by 0.1 and then divide this number by the ratio of your cost of primary energy and electricity. For example (a case from Germany):

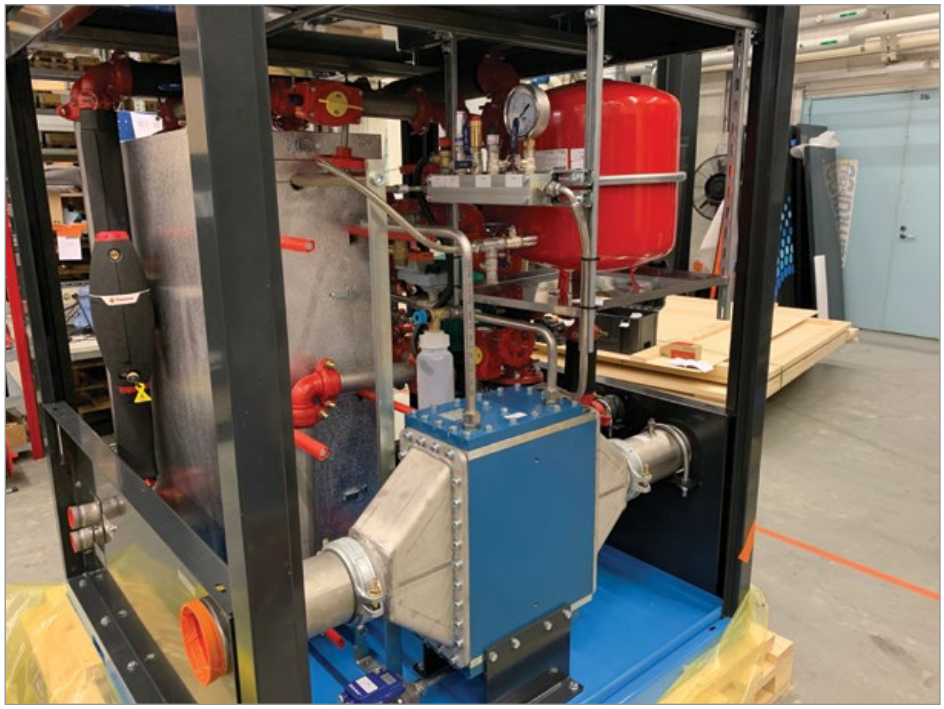
Compressed air power cost (electricity) $450,000/year

0,1*$450,000= $45,000/year (the unrecoverable compressed air energy cost), remainder $407,000 (90%) worth is recovered in the heat

$0,06/kWh / $0.14/kWh = 0,43 (ratio of heating energy cost (e.g. natural gas) and electrical energy cost

$407,000 x 0,43 = $175,000 (recovered heat as primary heat energy)

Saving: $175,000 when using Tamturbo compressors to heat up your processes. BP



The Tamturbo HMU is an easy plug-and-play solution

Lower your carbon footprint and capture the energy savings with Tamturbo heat recovery

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All photos courtesy of Tamturbo.

About Tamturbo

Tamturbo manufactures and sells industrial air compressors with 100% oil-free technology which is based on VSD controlled, high-speed turbo air compressors with active magnetic bearings making the air compressor wear free with industry's lowest total cost of ownership. Without a single drop of oil in the system, air compressors are completely risk-free from oil adding any contamination in compressed air. For more information, visit www.tamturbo.com.

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Five Decades of Innovation at Festo USA

By Roderick Smith, Compressed Air Best Practices® Magazine

Dr. Ulrich Stoll speaking at the Festo USA 50th Anniversary Gala in New York City's Gotham Hall.

Festo USA continued the 2022 celebrations of its 50th anniversary by inviting customers, business partners, members of the board, media and employees to a gala in New York City's Gotham Hall on October 20, 2022.

I was honored to be invited and very interested to learn more about the history, innovations and people at this leading manufacturer of pneumatic and electromechanical systems powering automation in virtually all modern manufacturing processes.

This truly celebratory evening featured an elegant dinner, an energetic band, and a line-up of distinguished speakers from Festo's Supervisory Board and executive management team. The theme of the evening was "Five Decades of Innovation."

Dr. Ulrich Stoll, Vice Chairman of the Supervisory Board, began the presentations with a look at the history of Festo. "The history of Festo began in 1925 in Germany. Festo USA was founded on March 15th, 1972 in Port Washington on Long Island, with the focus of being a full-line supplier of pneumatics – a focus we continue with today."

Curt Michael Stoll, Deputy Chairman of the Supervisory Board, spoke of Festo's historic

Board Members and Executive Management pictured are Frank Notz, Christoph Stoll, Dr. Ulrich Stoll, Dr. Wilfried Stoll, Carlos Miranda and Dr. Oliver Jung (left to right).

and continued focus on innovation when he said, "Many years ago, my father Curt Stoll discovered pneumatics on a trip to Chicago and brought the innovative idea back to Germany." Emphasizing Festo's long-standing focus on innovation he continued, "Whether it's technology for life sciences or a 200-laser machine using argon gas pneumatics, we will continue to focus on supporting start-up technologies on the cutting edge of innovations changing the world."

Dr. Oliver Jung, Chairman of the Management Board and Member of the Management Board Human Resources, said sustainability is a core value of the company. "Festo is focused on helping our partners reduce their energy consumption related to pneumatics by 70 percent." Recent announcements relating to "Smart Pneumatics" and the new Festo Artificial Intelligence (AI) Solution, called Festo Automation Experience (AX), certainly support this.

Curt Michael Stoll, Deputy Chairman of the Supervisory Board, spoke about Festo's history with innovation.

Carlos Miranda, Chief Executive Officer North America, described the growth of automation and the recent significant market share increases by Festo in the U.S.

Past Festo USA CEOs were recognized. Pictured are Dr. Wilfried Stoll, Dr. Horst Saalbach (CEO; 1978-2000), Curt Michael Stoll, Richard Huss (CEO; 2011-2021) and Dr. Ulrich Stoll (left to right).

Readers of Compressed Air Best Practices® Magazine are familiar with our long-time editorial focus on industrial sustainability as it relates to energy and water conservation opportunities. Over my 30 years in the compressed air industry, I've observed the patience deployed by firms, like Festo, who have long had the ability and technology to help clients save energy on the "demand-side" of the compressed air system. The current energy crisis in Europe and consumer-demand for sustainability in the U.S. have finally increased the demand for projects able to deliver considerable energy savings, meaning compressed air is receiving more attention than ever. What Festo is talking about is the next-level of optimization. I look forward to seeing the full cooperation and power of compressed air system optimizations when the "demand-side" optimization projects with pneumatics receive the investments and resources they deserve. I fully believe and support the 70% energy savings numbers mentioned by Dr. Jung in his speech as this includes the fact that production equipment

Five Decades of Innovation at Festo USA

John Holmes, Vice President of Sales North America, recognized Festo USA employees with 25+ years experience.

will actually produce more – once the pneumatic components and compressed air supply (pressure and flow) are fully optimized for energy efficiency. This highly technical work will be central to helping corporations hit their ambitious and highly publicized corporate carbon reduction targets.

Carlos Miranda, Chief Executive Officer North America, said several factors, including COVID-19 and global supply-chain issues, are causing automation-focused manufacturing in the U.S. to grow. "As this market grows, Festo's market share in the U.S. has grown significantly over the past five years due to our ability to add value with solutions, components and innovations. Our significant investments in our Long Island (Islandia, New York) headquarters and our Mason (Ohio) fully automated distribution center, effectively supports the needs of our partners." Mr. Miranda went on to say that further Festo manufacturing and automated warehousing investments are expected in the U.S., particularly at the 47-acre campus located in Ohio. He also provided a list of key focus industries including Assembly and Test, Automotive, Food Manufacturing, Electronics and Batteries, and Life Sciences.

John Holmes, Vice President of Sales North America, said he was proud to work for a

$4 billion revenue family-owned enterprise whose employees can be characterized as "overflowing with respect, ambitious, tech-savvy, and who are proud to work for Festo." He said, "Tonight, I'd like to recognize the more than 50 Festo USA employees with more than 25 years service who share my appreciation for Festo's culture and values – a culture exemplified by the recent $1 million donation to Ukrainian families in need."

Our congratulations go out to Festo USA for their 50th Anniversary and we look forward to the Festo (global) 100-year anniversary in 2025! BP

About Festo U.S. – 50th Anniversary 2022

Festo is a leading manufacturer of pneumatic and electromechanical systems, components, and controls for process and industrial automation. Celebrating 50 years in the U.S., Festo Corporation has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Through advanced technical and industrial education, Festo Didactic Learning Systems and its partners prepare workers for current and future manufacturing technologies. For more information, visit https://www.festo.com/us/en/

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Air Compressor and Dryer Innovation Unveiled at Best Practices 2022 EXPO & Conference

By Bill Smith, Compressed Air Best Practices® Magazine

➤In early October 2022, professionals from around the world gathered at the Best Practices 2022 EXPO & Conference in Atlanta to source and learn about the latest on-site utilities powering modern plant automation including compressed air, blowers, vacuum, pneumatics, motors and cooling water systems.

This report recaps a fraction of the event's education curriculum and provides an editorial tour of sponsoring exhibitors' machinery displays and product introductions. Editorial booth tours are sequenced by sponsorship level, then alphabetically. Due to article space limitations, not all exhibitors present at the show could be featured.

EXPO & Conference for Sustainable, Safe & Reliable On-Site Utilities Powering Automation

The Best Practices Conference program featured a diverse group of speakers with hundreds of years of combined experience in compressed air, vacuum and cooling system assessment and specification – guided by the objective educational and proficiency expectations of Compressed Air Best Practices® Magazine.

The Keynote presentations featured corporate sustainability and operations executives from Gentex Corporation, Georgia Pacific and Intertape Polymer Group – as well as leading air compressor and compressed air treatment suppliers. The eight breakout Conference Sessions were organized in two tracks. Track 1 was titled *On-Site Utility Sustainability: Energy & Cooling Water Conservation,* and Track 2 was titled *On-Site Utility Reliability, Safety and Quality.*

The highest-attended Conference Session was the Compressed Air & Gas Institute (CAGI) Seminar – *Case Studies in Compressed Air Efficiency.* CAGI gathered engineering and technical managers from Ingersoll Rand, Kaeser Compressors, Quincy Compressor and Sullair (listed alphabetically), to present recent, challenging compressed air system assessments and installations, and share best practices in

application of compressed air equipment to attendees. Mr. Chad Larrabee, CAGI's Education Committee Chair, directed this session then delivered the Opening Remarks in the Opening Keynote Session. There, Larrabee updated the industry on CAGI's latest efforts to serve as the united voice of the compressed air industry. Its latest efforts include a new Blower Chapter in its Compressed Air & Gas Handbook, a new Rotary Air Compressor Selection Guide and more. The audience enjoyed a video Mr. Larrabee presented, of a Formula 1 pit stop in the 1950s, versus a Formula 1 pit stop today – which represented a hyperbole for the progress the compressed air industry has made over the years.

Several attendees also left the event as a CAGI Certified Compressed Air System Specialist (CCASS), after passing the standardized exam offered by CAGI at the Best Practices EXPO & Conference.

In the EXPO Hall, BEKO Technologies displayed a full gallery of its compressed air treatment equipment, and revealed multiple new product prototypes to in-person attendees exclusively. Standing tall on the show floor

The Conference's Opening & Plenary Sessions featured speakers from CAGI, Gentex Corporation, Georgia Pacific, Intertape Polymer Group, BEKO Technologies, Pattons, iZ Systems and Atlas Machine & Supply.

Chad Larrabee, Bruce McFee, Jenny Oblock and Rob Hasely at the CAGI booth (left to right).

Yannick Koch, Co-Managing Director, presenting a Global Innovation Roadmap at the BEKO Technologies booth.

Jason Brister, Wes Carl, Adrian Fernandez, Tilo Fruth, Luciano De Oliveira, Jan Sielk, Joe Fecko, Josh Borrego, Marcia Gomes, Sarah Porterfield, Randall Corthouts, John Hays and Terry Hole at the BEKO Technologies booth (left to right).

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VISIT BOTH EVENTS

OCTOBER 23-25, 2023

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was a 2,300 scfm BEKO XFe Series heated blower purge desiccant dryer. The XFe Series is available in 11 models from 800 – 6,000 scfm. Its average purge air consumption of 3% is made possible by the integrated blower, heater and its BEKOTOUCH 2 controller with full-color, 7" touch screen display, data trends, spare parts lists, ambient humidity readings and more. Also displayed was a BEKOKAT catalytic converter for highly sensitive oil-free compressed air applications. Through catalysis technology, BEKOKAT generates oil- and germ-free compressed air with a barely measurable residual oil content of 0.01 mg/m^3. BEKOKAT is available in seven sizes from 18 – 1,200 m^3/h. The portfolio's newest 18 m^3/h size was on display – for point-of-use applications like laboratories.

BEKO Technologies also contributed to the educational curriculum of the event. Its team held eight hours of technical sales and service experience training for its network, plus 18 different presentations at their booth. In addition, BEKO Technologies president Tilo Fruth presented in the standing-room-only Opening Session on efficiency, connectivity and reliability of modern compressed air treatment systems.

Kaeser Compressors USA displayed the capabilities of its Kaeser Air System Enclosures (KASE). These are fully configured compressed air systems delivered ready to operate in a sheltered, weatherproof enclosure. These units are rated for 110 mph wind loads and 50 lbs/ft2 of snow loads. Ventilation and temperature control comes standard – providing better operating conditions than many traditional compressor rooms lacking ventilation. Thermostatically controlled ventilation and

Neil Mehltretter, Greg Ashe and Joe Dorazio at the Kaeser Compressors booth (left to right).

David Carpenter, James Anthony, Stephanie Brockman, Clark Beal and Bob Groendyke at the Hertz Kompressoren USA booth (left to right).

Ken Schiefer, Mike Kinnucane, Volkan Ayhan, Evren Yazici, Ryan Loeffler, Allan Hoerner and Jeff Crutchfield at the Mikropor booth (left to right).

Air Compressor and Dryer Innovation Unveiled at Best Practices 2022 EXPO & Conference

Robert Ruskaup, Gregg Lesniewski, Bob McKay and Jim DiMaiolo at the Altec AIR booth (left to right).

Chris Canipe, Bill Duffell and Bill Kirkpatrick at the Applied System Technologies booth (left to right).

Brice Shultz, Wolfgang Strobelt, Pam Tetterton and Luis Cantu at the BOGE America booth (left to right).

external fans facilitate fresh air flow, while captured heat of compression and external heaters maintain proper temperatures in colder conditions. The piping and electrical systems are both preconfigured, connecting conveniently to the plant for efficient installation. Kaeser Compressors USA stocks five KASE configurations from 125 – 300hp with appropriate air treatment and storage, but also offers custom engineered air system enclosures for users with precise compressed air flow, pressure and quality requirements.

On display at the hertz Kompressoren USA booth was its latest innovation, the IMPETUS Series two-stage, oil-flooded rotary screw air compressor. The IMPETUS Series is available in eight VSD or fixed speed models sized from 90 – 315 kW (125 – 430 HP), and achieves flows up to 2,242 scfm, pressures ranging from 100 – 175 psi (6.9 – 12.1 bar) and noise levels ≤ 80 dB(A). Features contributing to the CAGI performance verified energy efficiency of the unit include: IE4 efficiency class motors, the two-stage air end reducing the compression ratio of each stage, VSD technology keeping starting current lower than full load current, VSD controlled aftercooler fan, separate oil cooling circuit, optional integrated heat recovery exchangers and more.

The Mikropor America team displayed its MNG-US Series PSA nitrogen generator, M-CHILL Water Process Chiller, MK-US Series refrigerated air dryer, Mia Air indoor air purifier and compressed air filters. The MNG Series PSA nitrogen generator is available in 28 sizes. With nitrogen gas purity set to 99.999%, the MNG-US Series achieves flows from 1.2 – 1,089.3 scfm. When the nitrogen purity set point is

down to 95%, the MNG-US Series achieves flows from 3.3 – 3,005.2 scfm. Nitrogen purity levels and energy consumption have a positive correlation. If you don't need 99.999% purity for your process, you will save on energy costs if lower purity levels can meet the needs of your application. Mikropor also sponsored the Welcome Reception.

The Altec AIR team displayed its range of refrigerated and desiccant compressed air dryers and filtration. Sales Manager Jim DiMaiolo spoke with attendees in the New Technology EXPO Classroom about Altec AIR's point-of-use desiccant air dryer technology. Through Altec AIR's MDH (0.4 – 3.2 scfm), VSA (2.8 – 12 scfm) and HR (3 – 50 scfm) series heatless desiccant air dryers, customers can achieve a -40 °F/C outlet dew point (ISO 8573.1 Class 2) at the point of use, saving space with their compact, mountable configurations. Altec AIR's desiccant air dryer offering ranges from 0.4 to 6,000 scfm. It's non-cycling and energy saving refrigerated air dryer offering ranges from 10 to 2,000 scfm.

Applied System Technologies (AST) has offered aluminum piping systems for distribution of compressed air, vacuum and inert gases since 2005. AST's large- and small-diameter pipe offering is suitable for any business – from a high-tech manufacturer to a home garage. Its design and engineering team invests bandwidth into offering a product with fast, safe installation to save installers time and money.

BOGE America, based in Powder Springs, GA, offers lubricated and oil-free rotary screw compressors and piston compressors, scroll and turbocompressors, as well as compressed air treatment equipment and accessories. The

Mark Harmon, Scott Folsom, Matt Smith, Justin Johnson, Madison Kelly and Kourtney Stallings as the FS-Curtis and FS-Elliot booth (left to right).

Pat Lamon, Charley Kowalyshyn, Adrian Espinoza and Jim Riley at the Sauer Compressors USA booth (left to right).

Jon Jensen, Butch Baker and Nathan Eisel and the SMC Air Management System (left to right).

Air Compressor and Dryer Innovation Unveiled at Best Practices 2022 EXPO & Conference

Austin Wilkins, Josh Ward, Bruce McFee, Larry Colley, Grant Hebert, Horace Douglas, Justin Dick and Gerret Tengblad at the Sullivan-Palatek booth (left to right).

Kristen Meredith and Eric Phelps at the BAUER Compressors booth (left to right).

Bill Kennedy, Dale Mays, Jon Sanders, Justo Valenzuela and Bobby Sczech at the Mattei booth (left to right).

BOGE team displayed a C 9 PM rotary screw, oil-lubricated, frequency regulated air compressor. The C PM Series (5.5 – 11 kW) is equipped with a permanent magnet motor which combines improved energy efficiency and a low noise level. The nine models in the C PM Series achieve pressures from 109 – 189 psig. Area Sales Manager Pam Tetterton presented in the New Technology EXPO Classroom on compressed air dryer refrigerant and environmental sustainability. Tetterton provided an overview on the state of refrigerant regulations, and BOGE's refrigerated air dryers converting to non-flammable R-513A (GWP 573).

The FS-Curtis & FS-Elliott teams recently introduced the ECO-Turbo Series water-cooled/air-cooled centrifugal air compressor, and the FS-Connect remote monitoring system. The ECO-Turbo Series is equipped with two-stage compression by titanium impellers, dual carbon ring seals, three energy control modes, inlet and unloading valves, high efficiency coolers and more. The water-cooled ECO-Turbo models are available in four sizes (1,241 – 1,541 acfm) ranging from 248 – 335 HP (185 – 250 kW), reaching discharge pressures of 100 – 125 psi and decibel levels of 75 dB(A). The air-cooled models are available in four sizes (1,242 – 1,512 acfm) ranging from 248 – 335 HP (185 – 250 kW), reaching discharge pressures of 90 – 115 psi and decibel levels of 82 dB(A).

Sauer Compressors USA rental sales manager Jim Riley presented *High Pressure Air & Gas Applications to Meet and Exceed Your Customer's Needs*, encapsulating the capabilities of Sauer Compressors USA. It has recently introduced new helium compressor models. Since helium is a finite natural

resource, helium recovery and leak prevention have been critical in the development of Sauer Compressors helium machines for the last 50 years. Sauer's helium compressors are equipped with either a double lip seal at the crankshaft or a magnetic coupling drive for hermetic gas-tightness, gas-tight hoses, and a gas tight oil-lock to the crank case. Sauer's Charley Kowalyshyn can describe many helium compressor applications.

SMC presented its Air Management System (AMS). To be concise – it's a combined point-of-use solution for smart air pressure regulation up to 105 psi, and KPI monitoring, as air enters pneumatic circuits. Its motto is *solution for sustainability, predictive maintenance and digitalization*. Pressure regulation during non-production or reduced capacity reduces CO_2 emissions, then its compact metering provides readings to the AMS Hub's digital twin to establish baselines for compressed air demand profiles of production machinery.

Sullivan-Palatek manufactures electric and diesel-powered air compressors for industrial, construction, portable, offshore and utility mount applications here in the USA. Its industrial electric rotary screw air compressors are performance verified by CAGI. Its largest HP range, the SP32 Series lubricated air compressor, ranges from 300-450 HP achieving flows from 1,480 to 1,730 cfm, and pressures up to 125 psi. The SP32 is equipped with a large side-by-side air-cooled oil cooler and aftercooler, microprocessor controller for up to eight machines and more. It's also available in a cabinet enclosure or standard open configuration to meet the user's maintenance accessibility preferences.

Jason Jones and William Sprouse at the Rogers Machinery booth (left to right).

BAUER Compressors presented its BMP Medium Pressure air compressor. The BAUER BMP Series air compressors are sized from 20 – 175 HP (15 – 128 kW) with flow rates from 27 – 247 scfm (46 – 420 m^3/hr). It's also available in a two-stage design to achieve final pressures up to 580 psig (40 bar), or three-stage design to achieve final pressures up to 1,450 psig (100 bar).

Mattei displayed its Rotary Vane Xtreme Inverter (RVXi) Series variable speed drive, lubricated air compressor, and its Rotary Vane Direct-Drive (RVD) single-stage, tank mounted lubricated belt drive air compressor. The RVXi is available in 75, 100, 125 HP (55, 75, 90 kW) models, and the RVD is available in 10 and 15 HP (7 – 11 kW) models.

Rogers Machinery displayed a KRV Series single-stage, lubricated rotary screw air compressor. A KRV Series air compressor comes as an enclosed unit, with a fixed-speed or VSD option, an air- or water-cooler option – sized from 25 – 350 HP, 23 – 1,604 scfm, achieving pressures from 40 – 200 psig.

In conclusion, the Best Practices 2022 EXPO & Conference reaffirmed its role as the leading North American event for *Sustainable, Safe and Reliable On-Site Utilities Powering Automation.* Next year, for the first time ever, the Best Practices 2023 EXPO & Conference will co-locate with Process EXPO – the global food equipment and technology show – October 23-35 at McCormick Place in Chicago, IL. For more information, visit https://cabpexpo.com. BP

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Compressed Air Technology News

BAUER Introduces BMP Medium Pressure Air Compressor

For over 75 years, BAUER has been known worldwide as an industry leader for high-pressure compressors. Now, the Munich, Germany headquartered company is breaking new ground by introducing the new 2 and 3-stage BAUER BMP™ Medium Pressure air compressor series with a final pressure range of 435 – 1450 psig.

Like all BAUER industrial compressor systems, the new BMP™ medium pressure series has been designed for continuous, heavy-duty applications. The BAUER BMP™ Series air compressors offer a wide size range from 20 – 175 HP (15 – 128 kW) with flow rates from 27 – 247 SCFM (46 – 420 m^3/hr). The BMP™ Series is available in a 2-stage design for final pressures up to 580 PSIG (40 bar) or 3-stage design for final pressures up to 1450 PSIG (100 bar).

Each compressor in the mid-pressure series is carefully designed and engineered to fit the traditionally challenging requirements of the industrial, maritime and hydropower industries. Every unit in the BMP™ series has a low center of gravity and can be operated at inclinations up to 30° under motion on a ship or offshore rig. To support this, the oil sump is flange-mounted underneath the crankcase to reduce oil consumption and allow for operation at extreme installation angles. Compact design also makes the BMP™ Series ideal for shipboard operations where deck space is at a premium. All BMP™ Series models are available with ABS and DNV certification.

BAUER designed their medium-pressure air compressor series with extreme conditions in mind. An integrated oil pump provides forced lubrication to all essential components of the compressor under the most severe operating conditions, to extend the life of all critical components such as cylinders, pistons, and valves. The compressors are air-cooled, with a large cooling fan to provide optimal cooling across all the cylinders even in high-temperature conditions.

For additional protection, the air compressors include integrated inter-stage safety valves for every stage of compression. The integral inter-stage separators also ensure condensate removal at 99% efficiency, and include automatic condensate drains with condensate collection for worry-free operation.

Every BAUER product is built with a 20 – 30-year product lifecycle expectation. With the optional BAUER CONNECT® remote control and IOT overlay, the entire BMP™ compressor system can be monitored 24/7 through BAUER'S propriety AI software which automatically sends out alerts if system parameters run out of spec. This allows for intervention before an unexpected shut-down occurs.

BAUER BMP™ Medium Pressure air compressor.

About BAUER COMPRESSORS

BAUER COMPRESSORS, INC. is recognized as one of the world's foremost innovative designers and manufacturers of compressor systems. Our mission at BAUER COMPRESSORS, INC. is to provide the highest quality products and solutions for air and gas. We are committed to use the latest technology, best materials, most qualified human resources and the most efficient fabrication techniques. As a result, our equipment solutions offer superior performance along with best value, which are delivered in accordance with our ISO 9001 promise: on-time, defect-free, and supported to achieve their maximum potential throughout their entire lifecycle. For more information visit https://www.bauercomp.com/products/industrial-air/medium-pressure or contact our Industrial Sales Team at industrialsales@bauercomp.com.

Walker Filtration Releases SmartSep Oil-Water Separator Series

Walker Filtration is proud to introduce the SmartSep Oil-Water Separator Series as part of its comprehensive condensate management product portfolio. The launch of the SmartSep is the second phase of the condensate management line to be released following the CondenSmart Drain series, which launched earlier in April of 2022.

The SmartSep Oil-Water Separator uses state-of-the-art filtration and sensory technology to refine oil-laden condensate for safe disposal. Featuring nine different models to correspond with compressor flow rates, the SmartSep can provide an oil-trace as low as 5ppm. Each device is complete with Organoclay filter cartridges and easy-to-change polypropylene bags for efficient, user-friendly maintenance.

As environmental conservation laws become more stringent, it is important to invest in equipment that will exceed and maintain the highest condensate purification standards. Walker Filtration is committed to offering new and advanced products in the compressed air and gas market and looks forward to providing customers with environmentally and economically conscious condensate solutions.

About Walker Filtration

Walker Filtration is an established and recognized leader in the compressed air and gas technology industry. Dedicated to providing world class customer service alongside premium products, Walker Filtration serves over 100 countries across the world, with office locations in the United Kingdom, the United States, and Japan. For more information on the SmartSep product range and Walker Filtration's other product offerings, contact usa@walkerfiltration.com or visit www.walkerfiltration.com.

The SmartSep Oil-Water Separator Series features nine different models to correspond with compressor flow rates.

Compressed Air Technology News

Teledyne FLIR Debuts Extech RH600 Dew Point Meter

Teledyne FLIR, part of Teledyne Technologies Incorporated, announced the Extech RH600 Dew Point Meter for accurate and fast dew point temperature measurement primarily positioned to prevent problems associated with water vapor in compressed air systems.

As part of a predictive maintenance program in manufacturing environments, the Extech RH600 provides measurement down to -50°C (-58°F) with an accuracy of ±2°C (±3.6°F) over the entire range pressure, up to 20 bar. The Extech RH600 is ideal for monitoring dew point across long periods of time, including for monitoring switch behavior within the drying process and better optimizing energy consumption.

"For inspectors who require the convenience and freedom to inspect multiple positions within a compressed air system, the Extech RH600 provides the ideal form factor at a competitive price to capture accurate readings and then data log that information as part of an integrated predictive maintenance program," said Rob Milner, director of business development, Teledyne FLIR. "The Extech RH600 is also optimal for low-humidity measurement with high accuracy, but should the sensor get wet, it can withstand the condensation and fully recover for future use."

The included RH601 dew point probe provides accuracy and long-term stability. Users can directly insert the probe sensor into the compressed air system through a G half-inch thread, ensuring reliable readings with increased peace of mind, knowing the probe will dry quickly after moisture contact. The highly sensitive probe provides inspectors the ability to measure relative humidity at less than 5% and with high accuracy (±0.025%).

Teledyne FLIR Extech RH600 Dew Point Meter accurately measures and logs dew point data to improve manufacturing quality and performance.

Users can easily monitor dew point on the built-in color graphical display with a menu-based user interface. They can program high/low set points for temperature as well as relative humidity and dew point with visual and audible alarms. The device also enables logging and transferring up to 32,000 datasets to a PC in CVS format via a USB cable connection. The easy data transfer provides inspectors all key data points to create inspection reports for colleagues and clients, as well as to integrate the data into broader predictive maintenance initiatives that consolidate and analyze data across multiple inspection types and equipment.

The Extech RH600 consists of the RH601 dew point probe, AC adapter, micro-USB-to-USB-A cable, a 3.7 V Li-ion battery, and a hard case for storage. For more information, including availability and pricing by region, visit www.flir.com/RH600.

About Teledyne FLIR

Teledyne FLIR, a Teledyne Technologies company, is a world leader in intelligent sensing solutions for defense and industrial applications with approximately 4,000 employees worldwide. Founded in 1978, the company creates advanced technologies to help professionals make better, faster decisions that save lives and livelihoods. For more information, please visit www.teledyneflir.com.

Exair Adds New TurboBlast Safety Air Gun

EXAIR's new TurboBlast® Safety Air Gun is the latest addition to the EXAIR line of Safety Air Guns. This dynamic air gun is capable of producing up to 23 pounds of force with a simple press of a button trigger and is the ideal solution for blowoff applications requiring maximum force such as removing stubborn or heavy debris like slag and flash, part drying or cooling from a distance, as well as heavy duty cleanup in busy facilities.

The TurboBlast features a cast aluminum handle with a rugged elastomer grip that's not only comfortable, but UV resistant, chemical resistant and insulated from heat or cold. The light touch activation trigger creates a powerful blast of air and also includes a "Dead Man's" grip that turns air off if the air gun is dropped. All models include an integrated nozzle guard for safety. Models are available with an adjustable gate valve to control blowing force on the fly, or without the gate valve.

Exair's New TurboBlast Safety Air Gun for heavy duty jobs requiring powerful blowoff.

The TurboBlast is available in multiple different flow rates and extensions up to 6 feet long to provide ease of reaching into difficult to reach areas. The TurboBlast Guns are the most powerful air guns from EXAIR and complement our VariBlast Precision, VariBlast Compact, Soft Grip and Heavy Duty Safety Air Guns. All EXAIR Safety Air Guns are CE compliant and meet OSHA standards. Price starts at $800.00.

For more information, visit https://www.exair.co/turbo.

Asahi/America's Actuators Included in MasterSpec®

Asahi/America, Inc., the leader in thermoplastic fluid flow technology, is pleased to announce that its electronic and pneumatic actuators have been added to the control valves specification section (230923.11) of MasterSpec®.

The Series 19 electric actuator and Series 79 pneumatic actuator specifications have been vetted and formatted by MasterSpec® to fit the Product MasterSpec™ format. Engineers who use MasterSpec® will now be able to incorporate Asahi/America's Series 19 and Series 79 actuator specifications as the basis of design for various municipal and industrial projects.

The Series 19 electric actuator is available in four operating configurations: on/off, modulating, failsafe, and modulating failsafe; and three sizes to meet valve torque requirements. The multi-voltage general purpose unit operates at a 75 percent duty cycle for more frequent cycling of the valve. Compatible with most PLCs, the Series 19 is an ideal choice for OEMs and skid manufacturers where space is at a premium, but power cannot be sacrificed.

Asahi/America's Series 79 pneumatic actuator is offered in glass-reinforced polyamide, cataphoresis & Rilsan-coated cast aluminum alloy, and 316 stainless steel – all of which incorporate ISO and NAMUR mounting configurations for simple installation of valves and accessories. The units are compact, yet extremely durable and available in output torques from 59 to 40,710 in-lbs based on an 80psi air supply.

About Asahi

Asahi/America is the premier manufacturer and supplier of thermoplastic fluid flow and air handling solutions for industrial, environmental, high purity and commercial applications. Asahi's piping systems, valves and actuators have been installed with confidence for over 40 years in a variety of industries including water and wastewater treatment, oil and gas, water parks and aquariums, landfills, semiconductor and pharmaceutical manufacturing, and chemical processing. The company maintains fabrication, machine and assembly shops in its Massachusetts headquarters, as well as an extensive custom fabrication department in Louisiana. The Asahi/America staff is here to support you through every step of your project, offering engineering support, on-site consultation, supervision and training. From concept to completion, we're Your Experts in Plastics™. For more information about Asahi/America products and services, please contact us: 655 Andover St. Lawrence, MA 01843; 800-343-3618; asahi@asahi-america.com; www.asahi-america.com.

Asahi/America's Electric and Pneumatic Actuators Included in MasterSpec®.

Compressed Air Technology News

nano Introduces VDR Variable Speed Refrigerated Air Dryers

Non-cycling refrigerated air dryers operated at 100% power consumption and other cycling technology can provide some savings, but nano's new R6 VDR range of variable speed refrigerated air dryers take power savings to the next level.

While offering clean, dry compressed air at ISO 8573.1:2020, Class 4, 5 or 6 as necessary, nano's VDR range saves energy by reducing refrigerant compressor speeds during reduced flow, and under low-temperature conditions. Not only do the dryers provide consistent dew point and low-pressure drop, but they are also rebate-friendly providing additional savings through reduced energy bills.

With a compact "all-in-one design," the dryers are delivered ready for use and their installation is straightforward – minimizing costs and downtime.

For more information, visit www.n-psi.com.

nano's new R6 VDR range of variable speed refrigerated air dryers.

Hankison Now Offers HWS50 and HWS100 Oil-Water Separators

SPX FLOW, Inc., a leading provider of process solutions for the industrial, and nutrition & health markets, now offers the latest oil-water separators from trusted compressed air brands Hankison and Deltech, part of the company's portfolio of solutions, that extract lubricants from condensate more efficiently and effectively than ever before.

The 75 to 3000 ACFM (actual cubic feet per minute) series and smaller 50 to 100 ACFM series offer unmatched performance to the broad range of end-users that rely on compressed air every day, including those in the manufacturing, automotive, food and beverage, and healthcare industries. Other oil-water separators typically remove only oil from the condensate discharge of compressed air machines. Yet, Hankison's newest model removes all compressor-based lubricants, including silicone, polyalkylene glycol (PAGs), and food grades, making the discharge water cleaner. In turn, discharge meets or exceeds environmental regulations for disposal.

"The Hankison brand – and SPX FLOW as a whole – is committed to ongoing solutions and innovations to help businesses and their equipment perform at their peak," said SPX FLOW's Global Product Manager for Dehydration, Chris Spainhower. "The newest HWS series helps provide a cleaner byproduct, which not only helps our customers but results in a better, more eco-friendly result all around. It's a win-win."

The Hankison and Deltech brands offer trust and quality with its products. All HWS products are pre-plumbed and leak-tested. When properly sized, installed and registered,

SPX FLOW's HWS50 and HWS100 oil-water separators remove all lubricants from condensate.

the HWS systems are guaranteed to reduce contaminants in compressor condensate to 10 ppm or less for the unit's life.

Hankison's HWS series is also flexible for various uses and conditions. A single oil-water separator supports up to six simultaneously connected compressors or downstream components. Additionally, units are maintenance-free – with no bag change-outs needed – giving customers peace of mind.

"Flexibility lets businesses use their equipment when, where and how they need it," Spainhower said. "It's about finding the best way the HWS unit can fit each and every customer's specific needs."

Premium features include:

- Condensate inlet hub, which allows users to replace caps with supplied push-to-connect fittings and insert compressor lines

- Specialized vent to enable pressure to decompress, preventing airlocks
- Outlet ensuring only 10 ppm or less of filtered condensate exits to sanitary or floor drain

To learn more about Hankison's 75 to 3000 ACFM series and 50 to 100 ACFM series, visit: https://www.spxflow.com/hankison/products/hws-hws-micro-series-oil-water-separators/

About SPX FLOW, Inc.

Based in Charlotte, N.C., SPX FLOW, Inc. improves the world through innovative and sustainable solutions. The company's product offering is concentrated in process technologies that perform mixing, blending, fluid handling, separation, thermal heat transfer and other activities that are integral to processes performed across a wide variety of nutrition, health and industrial markets. SPX FLOW had approximately $1.5 billion in 2021 annual revenues and has operations in more than 30 countries and sales in more than 140 countries. To learn more about SPX FLOW, please visit www.spxflow.com.

ABB Expands the ABB Ability™ Smart Sensor

ABB, a global leader in technology, is now enabling customers to remotely monitor the health and performance of general machinery with the ABB Ability™ Smart Sensor, a key element of the ABB Ability™ Digital Powertrain.

The ABB Ability™ Smart Sensor turns rotating equipment including drives, motors, and applications such as pumps, into smart, wireless connected assets. This new innovative solution is designed to detect potential asset disturbances and planned maintenance before the reliability, productivity and safety of machinery are impacted. The smart sensor fits to the assets surfaces, collecting and transmitting data via smartphone or gateway to a secure cloud service. Advanced algorithms analyze the data to provide real-time insights into the condition and performance of monitored assets. The asset to be

Compressed Air Technology News

ABB Ability™ Smart Sensor is now available for industrial motors and general machinery including pumps and fans.

monitored is chosen during commissioning. All components of a powertrain can be monitored via one portal; either individually or as part of the complete powertrain.

The ABB Ability™ Smart Sensor is ideal for application in hazardous areas and harsh environments. The sensor's enclosure is designed to withstand high vibration levels and protects from total dust ingress (IP66/67). The sensor is certified for ATEX, IECEx and NEC 500.

About ABB

ABB is a leading global technology company that energizes the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation and motion portfolio, ABB pushes the boundaries of technology to drive performance to new levels. With a history of excellence stretching back more than 130 years, ABB's success is driven by about 105,000 talented employees in over 100 countries. Learn more about ABB Ability™ Digital Powertrain and Smart Sensor by visiting www.abb.com.

ControlAir Introduces New Miniature Back Pressure Regulator

ControlAir LLC, a leading manufacturer of precision pneumatic and electro-pneumatic control products, announced the introduction of the Type 855BP Miniature Back Pressure Regulator. The Type 855BP is a compact relief valve that provides economical, high performance pressure relief with an adjustable set point.

It is a normally closed valve that will remain closed until the inlet pressure exceeds the regulator's set point. A typical application for the Type 855BP Miniature Back Pressure Regulator is to provide protection against over pressurization in the downstream portion of a pneumatic system. In an over pressurization scenario, the air flowing through the Type 855BP can be vented to atmosphere or could be captured and directed to trigger an emergency shut-off valve.

The Type 855BP is capable of relieving at a rate up to 35 scfm (990 Nl/min) and is available in 1/4" NPT porting. The Type 855BP will handle a 250 psi (17.5 bar) maximum system pressure and offers five setpoint pressure ranges from 0-5 psi (0-0.4 bar), up to 0-100 psi (0-7 bar). The Push-Pull locking knob feature prevents inadvertent pressure adjustment.

About ControlAir

ControlAir LLC manufactures precision pneumatic and electropneumatic controls. ControlAir's markets include process control, semiconductor, printing and converting presses, diagnostic and surgical medical equipment, robotics, quality control, automotive, analyzers, compressors, pumps and paint equipment. For more information, ControlAir's website offers full product specifications with pdf files, product 3D CAD models, and company profile. For more information, please visit www.controlair.com.

Control Air's Type 855BP Miniature Back Pressure Regulator provides protection against over pressurization.

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