VENTIL: Complete Customized Tes

As a global supplier of valve test and repair equipment, Ventil supports its customers at every stage of planning, development and execution of unique engineering applications. Offering both standardized and 'Engineered Solutions' for the industrial sectors, Ventil strives to provide safe, reliable products for their customers by maintaining the quality and integrity of all their valve and testing products. Fugitive Emissions Journal was thrilled to speak with Jeramy Dickson, P.E., Director of Operations at Ventil USA, about the company's impressive in-house production capabilities, service repair equipment, fugitive emissions valve tests and the coveted PreVentTest testing device.

By Stephanie Matas

In-House Production Capabilities

At Ventil, they pride themselves on safeguarding their manufacturing by engineering everything in-house. This enables continuous improvement of their products and testing capabilities. In-house disciplines include 3D modelling and design, fitting and assembling high pressure systems, designing and assembling electronic PLC controlled operating systems, fabrication of machine parts, developing high quality testing software and much more. "In-house production is important because it gives us the flexibility to change or enhance our test products on the fly," said Dickson.

Fugitive Emission Valve Testing

As most of the fugitive emissions from the process industries are caused by leaking valves, effective fugitive emission tests for valve equipment are highly sought after. Stringent regulations enacted by the Environmental Protection Agency (EPA) and other international regulatory bodies have forced valve manufacturers to become more diligent in their monitoring practices. Fugitive



HCAT3000 - Horizontal 3000 ton clampling force test unit for 2 to 48 valves.



VC25-SRV-FL-II - High Volume PRV Test Unit.

emission tests for valves evaluate the integrity of valve stems, seals, shafts and/or body joints of on/off and control valves intended for operations with volatile air pollutants, contaminates and precarious fluids. "Initial production tests and continual monitoring of in-service valves ensures a high-quality product is in operation, so the plant operates safely, at peak performance while assuring a layer of protection for employees, personnel and the local environment," Dickson commented.

There are several different valve applications that require specific tests based on the service conditions of the equipment, whether the environment is cryogenic, ambient, under extreme temperature, or otherwise. The most common standards for valves are: ISO-15848-1 and 2, ANSI/ISA S93.00.01, ANSI / FCI 91-1, TA-Luft / VDI 2440, Shell SPE 77/300, Shell SPE 77/312, API-622, API-624 and API-641 – all of which Ventil is equipped to test for. As these standards are so varied and dispersed, no one standard can be used unilaterally across all valves, which means each manufacturer, distributor

ting Solutions for Engineering Excellence



and procurement manager must evaluate their equipment needs and corresponding standard for every individual application. Ventil prides itself on being able to work with their clients to deliver a test facility for any type of valve testing and qualifications according to any test standard. "One of Ventil's pillars is our 'Engineered

• THE PREVENTEST ON-SITE TESTING SYSTEM:

- ... requires no plant shutdown testing can be conducted while valves are in-service.
- ... requires no dismantling of the valve.
- ... results in no loss of productivity or profitability.
- ... is offered in an ATEX version for use in explosive atmospheres.
- ... can be supplied as an intrinsically safe version with ATEX and CSA certifications.

Solutions', where we and the customer share our experiences. This process helps us arrive at a final product that not only tests their product to minimally required regulations and standards, but also for any additional internal and possibly more stringent procedures the company may have," he said.

PreVenTest: On-Site Testing

On-site testing of pressure relief valves is a practical alternative to traditional bench testing methods, which are conducted in plant workshops or off-site authorized assemblers during maintenance turnarounds as repairs cannot be made while the equipment is in service. Due to some of the governing Codes and Standards, such as ASME Boiler & Pressure Vessel Code Section I and VIII-1 as well as National Board Inspection Code (NBIC) Part 4 qualified personnel may use a lift assist device to test the set pressure of a pressure relief valve. Ventil offers a lift assist device, the PreVenTest LTC 2.0, to circumvent some of the tedious prerequisites necessary for valve bench testing. The ingenious system is designed for testing all types of spring-operated PSVs in-situ, under, in normal operating conditions. Its portable, lightweight construction enables operators to prove proper performance in equipment, as well as help identify any PSVs in need of repair without shutdown. The system's semi-automatic online functionality combined with a small and smooth stroking hydraulic pump further emphasizes how the PreVenTest can simplify valve testing for end users and operators alike. Complete automation is available with the slightly larger PreVenTest Advanced version, if so required.

The PreVenTest works on the simple principle of measuring the lifting force required to open the PSV and computing the set pressure using the Effective Seat Area and System Pressure.



To achieve this simple principle, the PreVenTest is provided with a set of accurate load transducers to measure the required pulling force needed to generate the initial lift of the valve. Additionally, a lift sensor detects spindle movement while an acoustic sensor monitors vibrations in the valve body from the media passing through the nozzle and past the disk because of the valve being slightly open.



HCT60 - Automated Horizontal 60 ton clamping force test machine for Flow Meters.

"We want our team, both locally and internationally, to have fun with the company as we continue to grow, develop and expand."

Included with every system is the PreVenTest Online Valve System Software, which includes a large database with accurate seat dimensions for customer review and use. As Ventil strives to maintain its high standards for reliable pressure set data, as the company understands that accurate, conscientious data can only be achieved when effective seat areas are available. The final element in order ensure accurate testing is knowing the exact system pressure at the time of the lift. The PreVenTest features an additional connection to connect a pressure transducer to help mediate any discrepancy between pressures and



Jeramy Dickson, Director of Operations, Ventil USA.

equipment. Widely used across the globe as an efficient auxiliary lift assist device, the PreVenTest is accepted and recommended by many major relief valve manufacturers. "The number one question I get from suppliers is how do we know if we can use this lift assist device in our country or region? The answer is the leading internationally recognized codes and standards such as ASME and API provide rules and guidance for their allowance and use. They also allow for preventative maintenance and functional testing without having to stop the unit, which increases productivity and profitability."

Ventil also offers free training for up to five people when customers come to collect their PreVenTest system at the Houston office. Otherwise, there are options for a Ventil technician to visit the customer's site for any necessary training. "Whether training is done in-house, or off-site, at the end of the course the operator is presented with a certificate," Dickson mentioned. It is imperative to Ventil that everyone from the end user testing the valves at the refinery, to upper management have the same valuable and credible repertoire of knowledge in order to make the best, most informed decisions for their clients. This begins with extensive training programs for company employees and customers alike.

A Thriving Workplace

Ventil believes in creating a positive workplace environment where their employees can thrive. The company harnesses the talents and extensive experience of the team to share knowledge and better assist customers to improve their efficiency, operational safety and com-



PreVenTest - PRV in-situ lift assist device on-site.

petitiveness in the market. "Part of Ventil's DNA is the idea, 'Fun Lives Here'. Every Friday, our team in Houston breaks out the ping-pong table and holds mini tournaments to make sure we are living up to this motto!" The company creates a relaxed and social atmosphere to encourage an open exchange of information and flow of ideas. Employee games and activities pertinent to the region, such as tennis in the Middle East and badminton in the Netherlands, are found at every company location worldwide. "We want our team, both locally and internationally, to have fun with the company as we continue to grow, develop and expand."

Looking Forward

Ventil intends to further improve and highlight the robotic functionality of their test units in the coming year. "Primarily production and sales of robotic automation is based in the Netherlands, so we intend to harness that technology and bring it to the U.S.A. by mid-2020," said Dickson. The complete 'Engineered Solution' will continue to be the focus for all Ventil representatives. "By 'Engineered Solution', we mean collaborating directly with the client on-site to design equipment to best suit their needs and testing requirements for the specific application at-hand. This means putting our hands physically on their equipment and testing to any internal standards that they are trying to meet - sometimes even above and beyond the minimum code requirements indicated by law." Dickson says that at the end of the day, with the addition of robotics, Ventil customers with semi or fully automated machines will be capable of performing all necessary production processes themselves. "It is quite impressive what these automated machines can do. They have already been established as a globally approved design for multiple key clients." As the future of



PreVenTest LTC 2.0.



VCB500 - Fully Automatic Vertical 500 ton clamping force test unit for API 15K Shut-off Valve.

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the industry veers closer to more advanced electronic testing technologies, Ventil will forge ahead of the competition by embracing this new digital age.

Final Thoughts

Ventil provides complete customized testing solutions for their clients' industrial valve test and repair needs across the globe. Advanced testing technologies that promote safety, accurate data collection and report generation ensure compliance with ever-changing emission regulations and standards. Ventil will continue to innovate and develop the most advanced valve and fugitive emission testing in efforts to create a more sustainable world.

AT A GLANCE

Company name: Ventil

Primary Activities: Global supplier of valve test & repair equipment, and customized engineering solutions.

Number of Employees: 100 FTE

Headquarters: Rijswijk, The Netherlands

International Locations: USA, Russia, UAE, Kazakhstan, Singapore, The Netherlands

Annual Production: 375,000 kg Carbon Steel; 35,000 kg Stainless Steel; 2 km Seamless Pipe