STEAM TRAP MANAGEMENT SERVICES
SUSTAINABLE, PROACTIVE STEAM TRAP MANAGEMENT

Armstrong’s proven trap management program is engineered to maintain low trap failure rates, which can increase safety and efficiency, reduce production stoppages, and lower your energy use and environmental emissions. Our specialists are trained to help you improve the reliability and performance of your utility system with ongoing auditing, repair and replacement, and routine maintenance of your steam assets.

ARMSTRONG IS THE TRUSTED THERMAL UTILITY PARTNER FOR SATISFIED CUSTOMERS IN MORE THAN 100 COUNTRIES

We’re global leaders in energy management, with more than a century of knowledge and experience. Whether your company has 10 steam traps or 10,000, in one location or facilities all over the world, Armstrong can show you how to manage your steam system better than anyone.

ABOUT ARMSTRONG INTERNATIONAL

Founded in 1900, Armstrong International is a privately held, fifth-generation, family-owned company. Our unique heritage of knowledge, experience and insight reaches back more than a century, enabling us to serve you in ways no one else can. Often the first to market, Armstrong invented the inverted bucket steam trap and our company has been granted more than 70 patents on exceptional products, technology and software.

WE WANT YOU TO ENJOY WORKING WITH US

Building strong, lasting relationships with our customers is a top priority at Armstrong. We become an integral part of your team, consistently delivering on our promises and exceeding your expectations, while remaining transparent and simple to do business with. We want working with us to be an experience you enjoy, every single time.
OUR PROVEN, BEST-IN-CLASS TRAP MANAGEMENT PROGRAM

Armstrong is here to solve your problems and prevent them with a holistic approach that considers your entire steam system, as well as the unique requirements of your facilities and industry. Our specialists will work with you to implement a custom trap management program designed to increase reliability and efficiency while avoiding safety risks, such as water hammer. From utility system optimization and expert coordination for steam trap replacements to complete turnkey solutions customized for your requirements, Armstrong does it all.

WE OFFER A COMPLETE RANGE OF SOLUTIONS TO ADDRESS YOUR NEEDS, INCLUDING:

- Reliable, accurate trap surveys performed by Armstrong's trained, certified technicians
- Tools and training to help you conduct your own surveys more accurately and efficiently
- Expert studies to assess one or more issues on your site

RELIABLE, ACCURATE STEAM TRAP TESTING

Regular trap surveys, performed on a yearly basis or more frequently, as appropriate, are an integral part of our comprehensive trap management program. Armstrong's trap surveys provide:

- Evaluation of steam trap performance, such as proper functioning, leaking, plugged, cold, etc.
- Diagnosis of the root cause of any trap failures
- Visual assessment of valve status and condition
- Identification of any steam system issues around traps, such as: insulation defects, water hammer, condensate return, piping issues, back pressure

DETAILED REPORTING FOR YOUR STEAM SYSTEM

Armstrong’s trap management includes access to timely information and deep, comprehensive insight into your utility system. Using SAGE®, our state-of-the-art platform for smart steam system monitoring and reporting, we can provide regular updates, custom reports, and vital, real-time data, including:

- Work order reports
- Recommendations for trap replacements
- Recommendations for system optimizations to improve safety, energy use, and maintenance costs

THE ADVANTAGES OF ACCURATELY EVALUATING YOUR TRAP POPULATION CAN BE SIGNIFICANT

Maintaining steam trap failure rates at appropriately low levels can improve the efficiency, safety and performance of your thermal utility system—resulting in reduced costs for fuel, equipment and maintenance. Accurate trap surveys, conducted on a regular basis, are vital to maintaining consistently low rates of failure.

THE CONSEQUENCES OF IRREGULAR OR INFREQUENT TRAP TESTING CAN BE COSTLY

Neglecting your steam trap surveys can result in significant problems and safety risks. Accurate, consistent testing helps prevent serious issues such as: water hammer, unscheduled downtime and production stoppages, frozen lines, increased energy waste and fuel consumption, as well as increased equipment maintenance, repair and associated hours.

TWO OPTIONS FOR MORE EFFECTIVE TRAP SURVEYS

WHETHER YOU PERFORM YOUR OWN SURVEYS OR OUR CERTIFIED EXPERTS HANDLE THEM FOR YOU—YOU OWN YOUR DATA AND WE KEEP IT SECURE.

We have the knowledge, tools and expertise necessary to help you maintain low trap failure rates and shorten the lead time between detection of an issue and replacement. By providing access to the real-time status of your steam traps, we make it possible to replace failed traps before they have a negative impact on your processes and efficiency. Whichever option you choose, your data is owned by you and protected by the high-level security of SAGE®.

TEST YOUR OWN TRAPS MORE ACCURATELY AND EFFICIENTLY—ARMSTRONG WILL SHOW YOU HOW

Armstrong’s experts can train your personnel and contractors to consistently and reliably perform more accurate, efficient steam trap surveys using state-of-the-art tools and technology. Certification is also available through Armstrong University.

ARMSTRONG’S TRAINED, CERTIFIED TECHNICIANS CAN HANDLE TRAP SURVEYS FOR YOU

Our technicians are steam and condensate system experts, with extensive experience in testing thousands of steam traps each year. Armstrong survey techs have satisfactorily completed all the required Armstrong University coursework for their level, and have met requirements for quantity of trap surveys and different locations in SAGE®.
ARMSTRONG CAN HELP YOU ACHIEVE BEST-IN-CLASS STATUS

Shown below are leakage rates for sites using SAGE® that have been surveyed by Armstrong. Only 20% of these customers utilize a true trap management program that maintains failure rates at below 5%. By conducting frequent surveys, replacing traps as needed, and addressing the root cause of any failures, Armstrong's trap management program helps customers significantly reduce failure rates and move into the best-in-class category of the chart.

LEADING-EDGE SOLUTIONS TO MAKE YOUR LIFE EASIER

Armstrong provides rugged, hardworking products, groundbreaking tools and technology, and complete steam and condensate system solutions to satisfy your most difficult challenges. We offer custom engineering, long-term or short-term solutions, and turnkey services and implementation, and we have the flexibility to tailor our services to meet your unique requirements. Our products all work together to consistently deliver outstanding performance, longevity and value for your company, whatever industry you’re in.

SELECTING THE RIGHT STEAM TRAP

AT ARMSTRONG, WE KNOW THERE IS NOT ONE PERFECT STEAM TRAP—BUT THERE IS A RIGHT TRAP FOR EACH TYPE OF APPLICATION

Our specialists consider industry, application and total cost of operation for your system, including the lifecycle of each trap, which can vary according to pressure and application. We can ensure that your steam traps are all properly selected, sized, placed, installed and in working order, for the most effective, energy-efficient steam system.

DEPENDABLE, RUGGED, HARDWORKING STEAM TRAPS

Armstrong’s steam traps are engineered to provide energy efficiency, minimal steam loss, corrosion resistance, air and CO2 venting, operation against back pressure, freedom from dirt problems, and long, dependable service. We offer a comprehensive range of steam traps that includes:

- Bimetallic superheat steam traps
- Clean steam thermostatic steam traps
- Disc steam traps
- Dual orifice steam traps
- Float and thermostatic steam traps
- Inverted bucket steam traps
- Steam trap options and connectors
- Thermostatic steam traps
- Thermostatic wafer steam trap
- Trap valve stations

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SAGE® SMART STEAM SYSTEM MONITORING, MEASURING AND DOCUMENTATION

SAGE® keeps you fully informed, 24 hours a day with regular updates, precise documentation, custom-filtered reports, and real-time alerts notifying you of any problems. SAGE® works seamlessly with our real-time monitoring products including SteamEye® and AIM®, ensuring that it always has access to the most current data. With SAGE®, you are the owner of your data and it’s always protected by high-level security.

WHATEVER YOUR INDUSTRY, SAGE® IS THE INTELLIGENT SOLUTION YOU NEED

Armstrong’s powerful software calculates steam loss data and reports it using our proprietary steam system efficiency methodology that has been approved by the United Nations Framework Convention on Climate Change (UNFCCC).

- Survey steam traps quickly and accurately with SAGE® Mobile
- Maximize your equipment’s reliability, efficiency and safety
- Customizable user experience
- Accessible on tablets, laptops and PCs
- Real-time dashboard monitoring
- Multi-location views

SAGE UMT™ WIRELESS, HANDHELD TRAP TESTER

Testing steam traps is as simple as pressing a button with SAGE UMT™. Armstrong’s state-of-the-art, automatic trap testing device eliminates user error and raises the quality of trap testing to a new level. With SAGE UMT™, any steam trap technician can survey traps quickly, easily and accurately on a regular basis, while information syncs seamlessly to SAGE®.

- Detects traps in good, cold and blow-through condition
- Piezoelectric acoustic sensor, developed and tuned specifically for the unique conditions found in steam traps
- Non-contact infrared temperature sensor
- RFID technology significantly reduces the time required to locate and identify traps
- SAGE UMT™ works seamlessly with SAGE® Mobile and SAGE® Smart Utility System Management platform
- SAGE® immediately uploads data to the cloud where it’s protected by high-level security and automated backups
- Customers own their own data

WIRELESS STEAM SYSTEM MONITORING

Armstrong’s superior, groundbreaking solutions provide real-time monitoring of your critical steam trap population. You receive instantaneous notifications of any problems, enabling you to repair or replace failed traps before they create serious steam quality issues. Both SteamEye® and AIM® can communicate with SAGE®, allowing the user to continuously monitor critical traps and survey the entire trap population, all in the same database.

AIM® (Armstrong Intelligent Monitoring)—This wireless monitoring technology is built on the WirelessHART and ISA-100 communications protocols, which continuously monitors and evaluates the operating condition of steam traps and other critical equipment in your system. AIM® provides instantaneous notification in the event of steam trap or critical equipment failure.

SteamEye®—SteamEye® uses a proprietary wireless transmitter mounted at the inlet of any type of steam trap to detect temperature and ultrasonic fluctuations in steam flow. In the event of steam trap failure, a signal is sent to a central receiver, alerting system operators that maintenance is required.
If you’re interested in having a certified Armstrong expert manage your steam trap population for you, or you’re ready to know more about tools and training to start your own trap management program, contact your rep for details.

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RECOMMENDED COURSES FOR TRAP MANAGEMENT

- **Steam Traps**—Learn about the purpose of steam traps, steam trap types, how to size and select traps, and typical maintenance and preventative measures.

- **Testing Steam Traps**—Learn about: reasons for steam trap testing, economics of energy savings associated with repair or replacement of failed traps, how to test common types of traps and recommended frequency.

- **College of Steam Users Package**—Includes 12 courses. Lessons cover typical steam users in industrial and institutional environments. Other areas of focus include heat exchangers, steam tracing, control valves, steam traps and more.

- **O&M Best Practices for Steam Users**—Topics include: the importance of steam user quality, identification of key performance indicators, best practices for steam users, equipment maintenance and routine checks, and key attributes of standard operating procedures.

- **Water Hammer**—Find out about the basic mechanics of water hammer, learn to identify conditions conducive to water hammer and how to apply preventative solutions.

- **Smart Solutions**—This course will discuss: smart solutions and industry applications, how smart solutions can help identify system issues and reduce energy costs, the basics of wire technology, and the value of steam asset management.

Customized Online Courses—Armstrong University can customize an online curriculum for your organization, to be delivered at your site or one of our global learning centers, whichever is most convenient.

Introductory, Intermediate and Advanced Courses—Choose from over 145 online courses in steam, humidification, hot water, water treatment, refrigeration, flow measurement, environmental health and safety, and more, including courses that qualify for Continuing Education Units (CEUs).

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ONLINE COURSES, TRAINING AND SEMINARS

ARMSTRONG UNIVERSITY GIVES YOU EASY, ONLINE ACCESS TO MORE THAN A CENTURY OF IN-DEPTH KNOWLEDGE AND EXPERIENCE

At Armstrong, we’re committed to sharing all that we’ve learned to help you make the smartest possible decisions for your company. We offer an extensive array of online education, training and seminars, as well as on-demand webinars and educational packages that provide industry-specific content and learning opportunities to help you address tough, everyday issues.

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