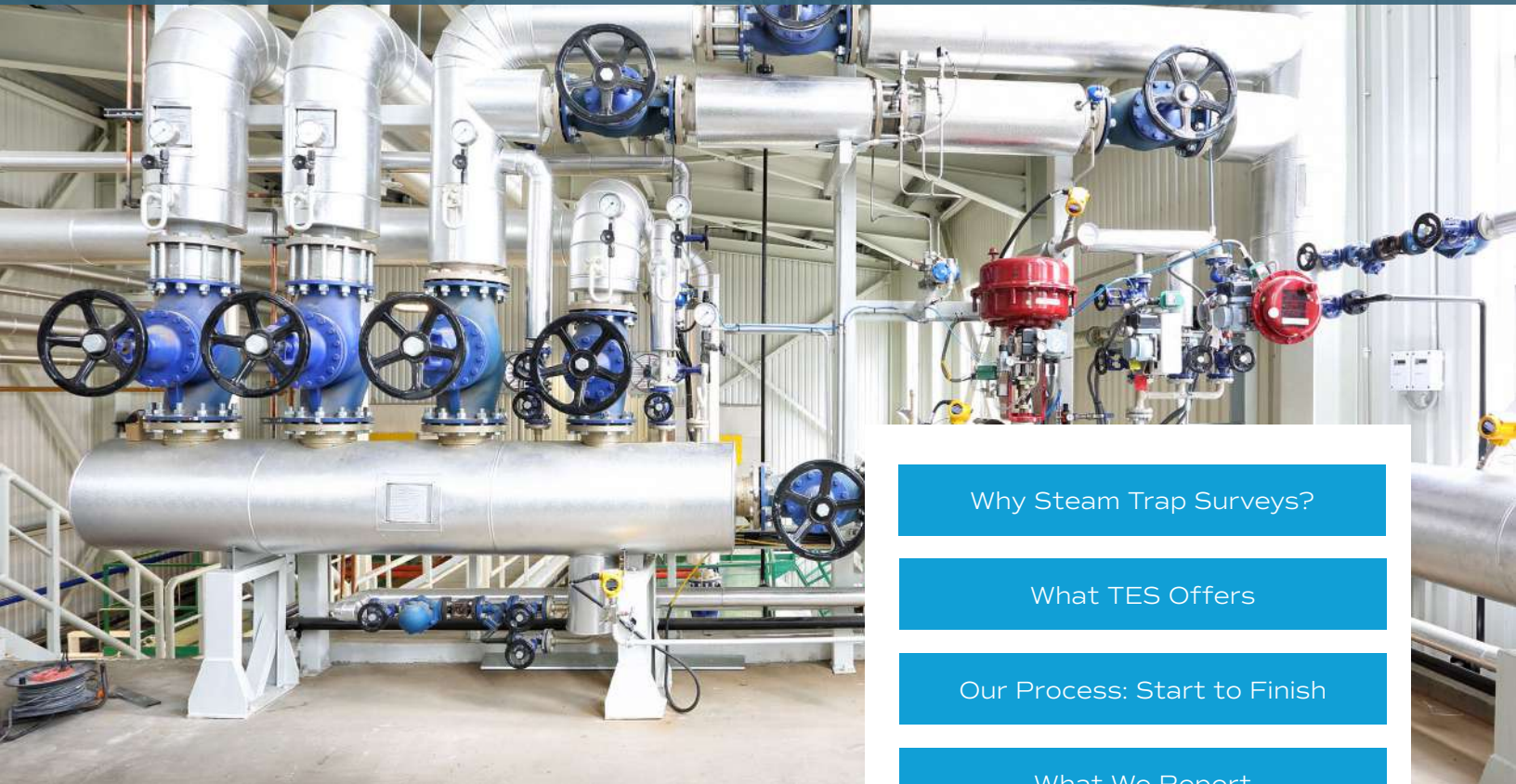


# TRAP

ENERGY  
SOLUTIONS

REDUCE ENERGY LOSS | IMPROVED EFFICIENCY | TIMELY ROI

## Steam Trap Surveys



Why Steam Trap Surveys?

What TES Offers

Our Process: Start to Finish

What We Report

Ongoing Partnership



# Why Conduct Steam Trap Surveys

Do you know all aspects of your steam system? How well are your steam traps operating? How many of your steam traps are not working properly right now? Is your steam trap maintenance program working well to keep steam costs down?

**It is highly probable that 10-20% of your current steam traps are not functioning properly** and this condition is resulting in undesirable steam loss, increased equipment failures, and rising maintenance costs. And, all of this is affecting business in a negative way.

## Do you want to reduce overall energy losses and become more efficient?

Shoring up steam traps in your steam system is low hanging fruit on the energy conservation measures (ECM) tree. Sure, LED lights are bright and offer a proven energy savings, but at a significant cost. ROI for a new lighting system pales in comparison to an effective steam trap maintenance plan.

## What can you do to shore up your steam traps?

One aspect of a proper steam trap maintenance program is to conduct a routine steam trap survey. A proper survey includes current testing methods and utilizes advanced testing equipment. Once a survey has identified failed or poorly operating steam traps, giving you a pretty good idea about how much energy your steam traps are currently losing, technicians can conduct necessary repairs to return the steam traps to normal operating conditions, and thus,

your steam system becomes more efficient; back to where it should be.

## What we offer?

We provide an honest, accurate and advanced steam trap survey service. Our technicians are highly skilled and experienced, qualified in UE Systems ultrasonic testing and Flir Level 1 infrared thermography.

## Why we offer steam trap surveys?

We believe some energy losses can be mitigated through energy conservation measures and steam trap maintenance can be a cost-effective way to help people achieve their energy goals. What does our steam trap survey look like? Not only are we experienced technicians, but we are very thorough and patient. It is not our goal to see how fast we can survey steam traps. Our goal is to provide our customers with an honest and accurate assessment of their steam traps so that they can make effective repairs to get their steam plant operating as energy efficient as possible. Our surveys are simple yet technologically advanced, easy to read and understand but have meaningful results, and will be promptly delivered...that is our promise. We back each of our surveys with a 100% satisfaction guaranty.



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# Our Process:

## 1 //

### Locate, Identify and Smart Tag all the steam traps located within your facility



Before a survey starts, it is important that our technician understands current operating conditions of the steam plant, including any safety issues that need to be addressed. Once we are cleared to start the survey, our technicians will locate and identify every steam trap in the steam system. Upon verification, we will attach a smart tag to each steam trap. The smart tags have a QR code that can be scanned to acquire information about that steam trap, thus helping people to make more effective decisions.



## 2 //

### Assess, Analyze, and Test Steam Traps



Our technician will test all steam traps wherever possible and identify those traps that are not operating properly. The surveyor will utilize a combination of testing methods including but not limited to: test valve method, ultrasonic listening device test, infrared thermography camera, and visual observation. Our technician will analyze the steam trap operations using advanced ultrasonic detection equipment and an infrared camera. Together, these components are very effective in determining the condition of a steam trap. Our technician will also be assessing steam trap piping arrangements, scanning for steam leaks, and observing poor steam insulation.





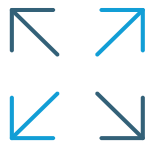
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# Our Process: (continued)

## 3 //

### Reporting Steam Trap Conditions



After our technician is satisfied that all steam traps have been assessed, we will discuss preliminary results of the survey with steam trap owners, giving them an idea of their current situation. Back at the office, we will generate a detailed report, clearly identifying the condition of the steam traps. Our report will include necessary repair recommendations to return the steam system back to optimum operating conditions and it will provide energy loss calculations describing how the steam losses are affecting the plant and the business.

#### OUR STEAM TRAP SURVEY REPORT WILL:

**Provide steam trap inventory** including such information as operating status, model number, manufacturer, trap type, pressures and a description of trap location if one does not exist.

Will provide plant maintenance personnel in **proper testing methods**.

**Note specific problems** such as water hammer, improper sizing of condensate returns and poorly designed piping configurations.

**Provide report of surveyed traps**, including operating status, condition of each trap, those traps needing repair or replacement and inlet and outlet pressures.

Develop a testing schedule for maintenance personnel including a Steam Trap Maintenance Record to assist in **establishing a continuing Preventive Maintenance Program**.

Will include a Cost Summary Report which will provide a listing of the cost of steam loss due to defective traps, cost estimates of repairing or replacing defective traps and **economic ROI payback period calculations**.

Will be **submitted within 7 days** of actual on-site visit.



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# Our Process: (continued)

# 4 //



## Follow-up Energy Rebate Applications

Trap Energy Solutions is familiar with current rebate programs being offered by some utility companies and we will help customers complete necessary rebate applications to ensure all available resources are acquired that help to offset energy and maintenance costs.

## Unbiased Survey Results

Although we frequently consult with steam trap manufacturing and service repair firms, Trap Energy Solutions is NOT affiliated with any steam trap manufacturing or service repair companies. In our best effort attempt to give our customers our utmost attention and a thorough and honest consultation, we feel that our surveys must be 100% independent stand-alone reports...with no sales strings attached. Therefore, we choose to be completely independent. We do not sell steam trap equipment, nor do we provide steam trap repair services.

### STEAM TRAP MAINTENANCE

Steam Trap Maintenance is the **single biggest area for energy improvement** opportunity for process steam applications.

**Failure rates for systems without a maintenance plan,** including an annual survey, can easily be as high as 20%.

Systems with a regular maintenance program typically experience a 3-5% steam trap failure rate.



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# What you need to know. Key Points:

**1 //** A steam trap survey, essential to finding leaking faulty traps, offers serious savings for the customer

**2 //** An annual steam trap survey should be a tool in all steam plant preventative maintenance programs

**3 //** A failed open steam trap on a 150 psig steam system could cost up to an additional \$2,000 per year. For a processing plant with 100 steam trap units and a 15% failure rate a, additional cost due to unnecessary steam losses could cost \$30,000 annually

**4 //** Trap Energy Solutions' technicians use a combination of ultrasonic and thermal imaging to determine the condition of steam traps in real time

**5 //** Slate™ smart steam trap tags are the latest cost-effective asset tagging & management solution

**6 //** ROI for a steam trap survey can be a very short period if recommendations to repair or adjust affected steam traps are carried out after the survey

**7 //** An optimized steam system will reduce steam energy losses, enhance system efficiency, and reduce overall steam plant equipment maintenance

**8 //** Faulty steam traps waste fuel, increase carbon emissions, reduce efficiency, increase maintenance for other equipment and increase production time and cost

**9 //** Testing steam traps annually is one of the best investments you can make in your steam system with a typical payback of just a few weeks