



SENSEVEN



How Valve Sense can detect leaking valves in steam generating processes to avoid economic losses and increase health and safety on site

CASE STUDY STEAM PROCESSES

Overview

Steam is used in most industrial steam power processes to generate electric current or heat. It is applied in a wide variety of industries such as energy production, pharmaceuticals and pulp and paper, just to name a few.

As an example, each steam line in an industrial plant contains at least one vent and drain valve to remove air and water. The drainage should avoid temperature differences and material stress inside the lines. Vent and drain valves need to be closed during operation to avoid the loss of steam (= energy loss) and ensure the efficient operation of steam boilers.

The problem today

Already one valve with a steam loss of ~100kg/h generates annual losses of over EUR 30,000. And large plants have hundreds, sometimes thousands of valves in their process.

However, inspection of such valves during operation is a great challenge for employees due to the high temperature surfaces of up to 400-500° C. Therefore, companies often remove valves during maintenance cycles and test them on the test bench to ensure that they are tight. These are costly and time-consuming processes which cannot be carried out too often (remove, test, and re-install valves takes up to 2 days). As a result, companies lose steam in case valves are leaking, the risk of injury increases in case of hot steam leakage, too much time and money is spent on inefficient maintenance and very often companies replace intact valves due to wrong assumptions.





SENSEVEN



CASE STUDY STEAM PROCESSES

Senseven

has developed a new digital solution

“Valve Sense” based on acoustic emission.

It is a software guided inspection system which can support companies in inspecting valves – e.g. vent and drain valves - during operation, avoid economic losses and increase the safety for employees on site.



We turn a Smartphone into a smart inspection system

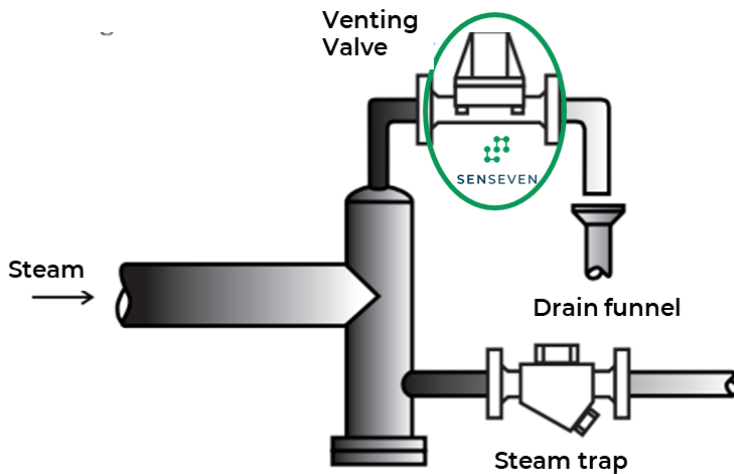




SENSEVEN



Senseven has applied Valve Sense for a leading energy producer in Austria in steam generating processes



The result



15 valves have been inspected



1 valve which was expected to be leaking was actually tight

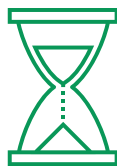


1 leaking valve was detected

Your Business Case



Minimize steam (= energy) losses



Reduce costly maintenance time



Reduce safety risks for employees



Stop replacing healthy valves



CASE STUDY STEAM PROCESSES