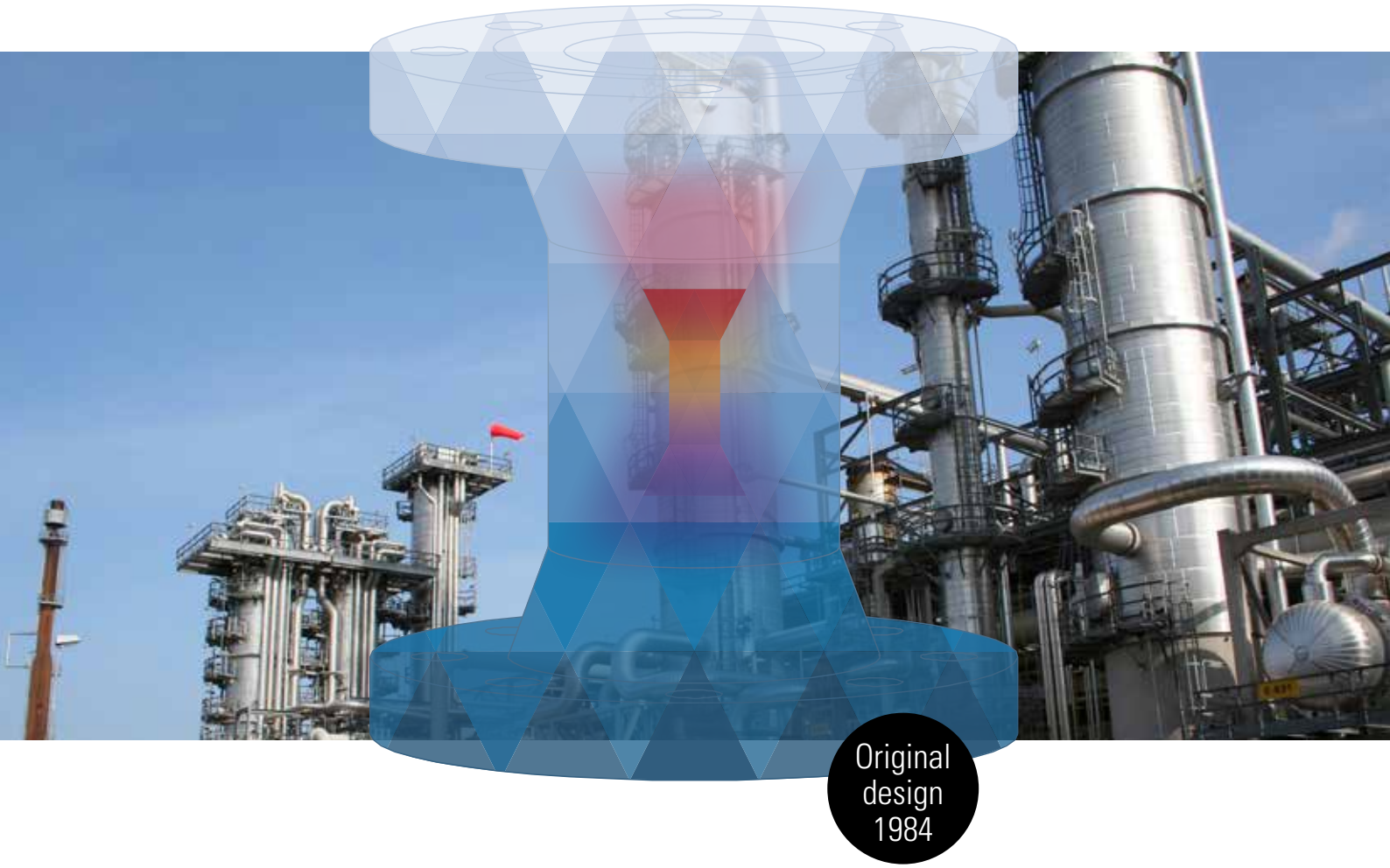
STEAMLOC®

international

THE RIGHT CONDENSATE REMOVAL



Venturi steam traps

100% Reliability Energy friendly Maintenance free

INTRO

Together we improve the life cycle cost of your steam driven installations.

Traditional mechanical steam traps are designed to remove condensate from steam consumers.
Their working principle and generally accepted failure will inevitably force you to frequent check-ups, unpredictable energy losses, intensive maintenance and downtime of your production.
They definitely set the ball rolling for ever returning costs, every year again.

Steamloc®

is a better concept

Since 1984, we re-engineered venturi technology for highly effective liquid/gas separation in general. Our Steamloc® 'active' element is a well designed venturi construction founded on simple principles without any moving part. It assures excellent, complete and lifetime condensate removal.

Success is proven far over 25 years with a first focus on heavy process applications. However, also small utility applications perfectly qualify for this technology.

The drive for this success is the exceptional combination of a few unconventional contradictions:

100% Reliability which avoids downtime and creates process stability.
Energy friendly which contributes to lower energy costs and less emissions.
Maintenance free which saves a lot at daily plant operation.

New technologies always require daring and far-seeing great minds to push organisations for the best.

Dimensions

Custom made size : DN15 - ½" to DN250 - 10"
Installation : horizontal, vertical downstream, vertical upstream

Process conditions

Loads : 1 kg/h to +100.000 kg/h
Pressures : 0,01 barg to +100 barg

References

From the beginning this technology quickly found way to all kinds of steam driven process applications. Steamloc® is a perfect 'fit and forget' for small utility applications (drip, tracing, …) but furthermore for your heavy steam consumers like reboilers, air heaters, autoclaves, boiling vessels, rotary dryers, … In addition, liquid/gas separations in many different chemical processes perfectly work thanks to this well designed technology. Even very high pressures, or extreme tiny pressure differences never stopped us to succeed the challenge.

Our clients are found in chemical and petrochemical, waste treatment, breweries, oil and seeds, starch and sweeteners, potatoes, sugar, canning factories, textiles, pharmacies, … In fact, any steam using heat exchanger will have advantage from this technology. Worldwide we equipped lots of maintenance projects in existing plants as well as lots of new grass root plants.

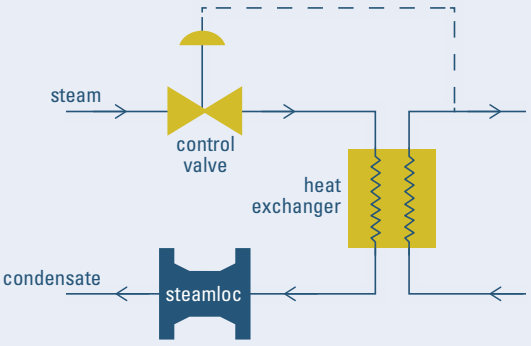
Mouth to mouth referral is the leading thread that pushes the increase of installations worldwide. Thanks to all our valued friends for contributing!

HOW STEAMLOC® WORKS (EXTRACT)

Steamloc venturi principles are routed on differences in physical conditions which enable to remove all condensate, and at the same time inhibit loss of live steam. The core grounds on density and velocity, laminar to turbulent flows and compressing to expanding flows.

Although it seems to be the opposite, a well dimensioned venturi has a very wide active range to allow changes in condensate load such as for batch processes without any problem. Since the capacity through the venturi is pressure dependent, the device is also completely self-regulating in case of any control valve on the steam side. And even air will be removed without any additional mechanical element.

More on www.steamloc.org



FAQ & A

1. Is Steamloc® limited in capacity and pressure?

There are no process limitations nor for pressures nor for capacities.
Logically a positive pressure drop is required to remove condensate, which is the same for mechanical traps.
The internal venturi construction is designed to handle your start-up conditions as well as your normal and minimum conditions in a most economical way.
High pressures, even above 100 barg, are no problem. But also interesting are the very tiny pressure drops. A dP 0,05 bar which is impossible for most traps, is still a perfect fit for Steamloc®.

Steamloc® design and material choices are ALWAYS a full match for your process data and your design conditions.

2. Will Steamloc® be subject to erosion after years of operation?

Erosion requires the combination of:
- High velocity.
- Two-phase flow with primarily steam and additional few small particles of condensate.

A steam leak is a good example to demonstrate how a high velocity wet steam flow blasts the opening to bigger size in relatively short notice.

Steamloc® designs only allows low velocity flows which do not show any erosion, even after 25 years. The continuously condensate flow keeps the velocity relatively low, while the water itself does not cause erosion as a function of time.

3. How can Steamloc® handle pressure and condensate load variations?

The most logical example we find at every start-up condition. The wide condensate range permits Steamloc® to handle these maximum loads in a time that is competitive with mechanical systems, even if they have a start-up pressure drop.
Other variations are initiated by the process itself. Steam flow rates and therefore condensate rates can vary depending on required production capacity. This is normal.
Such processes usually have control valves at the steam inlet. Higher steam flow to meet the requested higher temperature results in higher pressure in the equipment. Since Steamloc® capacity is pressure dependent it can follow these variations very well.
In fact Steamloc® operates perfectly in conjunction with the control valve.
For process applications that work with other types of controls and variations in steam/condensate flow, like batch processes, the wide condensate range of the Steamloc® at constant pressure will allow to operate also at these extreme conditions. For more details we suggest you contact us.

APPLICATIONS

- Reboilers
- Heat exchangers
- Autoclaves
- Drying technologies
- Air heaters
- Cookers
- Sterilization
- Drips
- Tracing

INDUSTRIES

- Petrochemical
- Chemical
- Food
- Waste treatment
- Pharmaceutical
- Textile
- Contractors
- Engineering companies

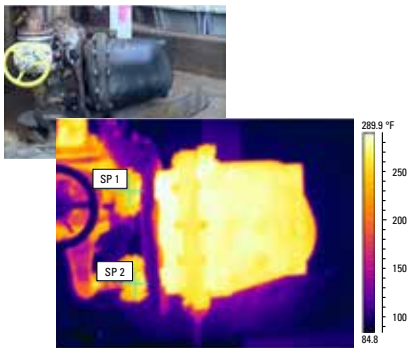
CASE STUDY

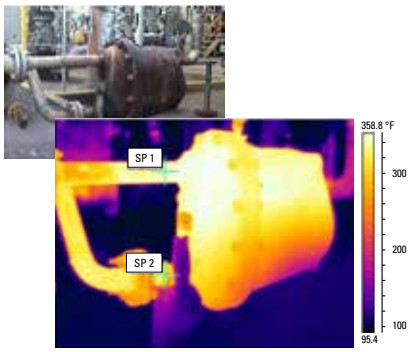
INITIAL CHOICES DO MATTER

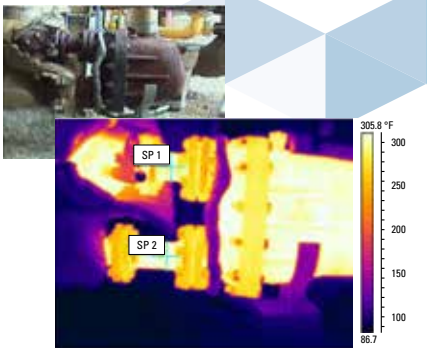
A prospect with 18 important process steam traps called us in to replace a leaking trap into Steamloc®. Looking at the eroded external leak, this trap obviously had been blowing internally for quite some time. So I wondered for the condition of their 17 other process traps. “Guess they are OK’ he said, ‘since Operations do not complain, nor for temperatures, nor for output” he said.

But a ‘thermal camera check’ on the other traps created some disbelief: 3 more traps clearly showed internal blow through, although all 3 looked excellent on the outside!

STEAMLOC







What happened?

This is exactly what we often see:

- There is very good effort to check and dike in energy losses from small utility traps, because of the big numbers and because there is no direct production feed-back.
- The few heavy process traps are often treated separately because their importance is linked to feed-back from Operations. But can we rightly assume the condensate removal is correct, only because production output is OK?

What do we learn?

When you design a new project, steam traps certainly are not the hottest item. However we all know traps fail every 4 to 6 years on the average. This means, in your 20-year scope capital investment, each process application needs 3 to 5 new traps – if you notice their failure in time of course.

Purchasing and replacing is a little annoying but not insuperable. Yet, as in the above case, who would notice a 150 kg leak at a condensate flow 20.000 kg/h? It's exactly this loss that represents the real substantial cost. Every leak again.

'If we know all this, why do we still design based on old technologies? Why do we saddle up our plant people with an irrevocable later operational cost? Why in fact signing a blanc cheque for trap suppliers for easy future sales, while in fact you bear all the costs of his old design?'
It almost looks as traps are designed to fail, perhaps to ensure the automatic replacement market?

Perhaps old habits and time shortage divert you for a closer look on new techniques?

A proven one-time solution is a far better choice for maximum reliability, from the beginning. True, this will go along with vendor nominations and technology specifications. But only this ensures to work with the technologies you really want.

Anyway, we are glad we could help our customer to solve his energy losses and at the same time avoid any future failures by using Steamloc® technology. And if you want, we are ready to help you too.

Impressions often mislead us
while final solutions are not necessarily far away

More on www.steamloc.org

Steamloc®
Industrieweg 9
2340 Beerse
Belgium

info@steamloc.org
tel +32 14 421 055

For our local agent in your area, see our website www.steamloc.org.
Contact us: info@steamloc.org.

Always near for a local service – Thank you for contacting us!

MIX Paper from responsible sources FSC® C008551

ClimatePartner° climate neutral
Print | ID: 10327-1311-1001