

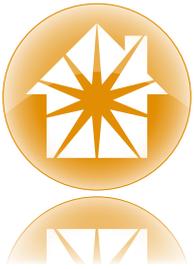


Ensure delivery of district heating system with proactive leak detection

Using vehicle-borne thermography

aquademica 

EXPERTS IN LEAK DETECTION



What is the status of the district heating network?

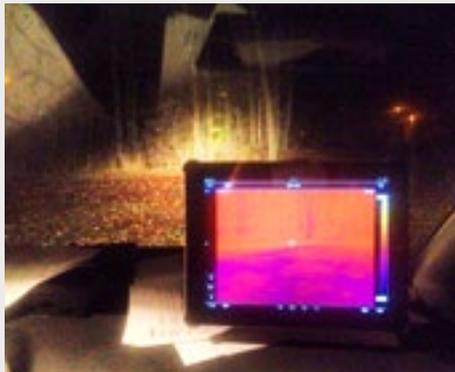
Aquademica are experts in leak detection. We perform vehicle-borne thermography of district heating networks to help you secure the supply of heat and hot water to households. A clear picture of the status of the district heating net-

work makes it easier to plan maintenance and control costs. By locating leaks with great precision, before the shovel is in the ground, maintenance are made easier and more cost effective.

How it works

When using vehicle-borne thermography, the leak detection technician controls the thermal camera using a robotic head. Measurements are made at night taking thermal pictures at a distance of 20 kilometers depending

on the terrain. We use an advanced infrared camera. The picture we take with the thermal camera can also be integrated with a standard digital image using GPS coordinates to create a clear picture of energy leaks.



Full report

When we have conducted measurements, we compile a report and make a complete walkthrough and evaluation of the results with you. In this report, we present the status of the district heating network, along with the recommended maintenance in what we consider to be the best action

scheme. Our report gives you the opportunity to fix the leaks before they become acute, and planning and budgeting for future maintenance. We can also help you to structure the maintenance of district heating network over time.



**Water loss in the district heating network?
We can locate the leak!**

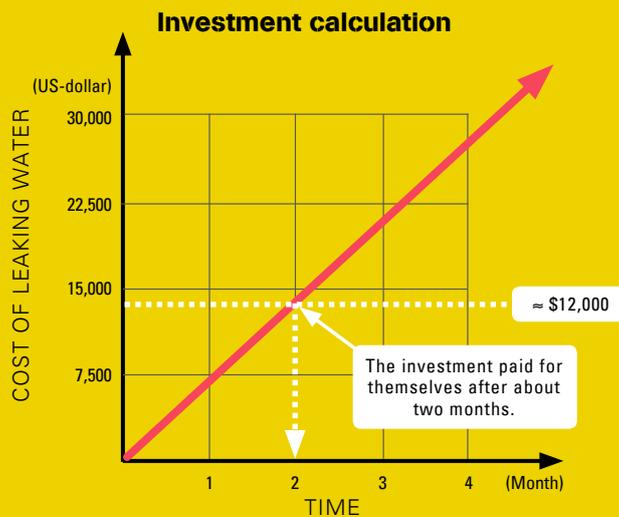
The leak, what does it cost?

A leak in the heating network can cause a variety of problems, for example, wet insulation can lead to corrosion and energy loss. The costs of this can be difficult to estimate, however it is easy to see the cost over time of the leaking water. Send us your drawings and details of the size of the leak in your heating networks and we can offer you a free investment calculation.

* On a monthly basis, leakage is 900 cubic meters. In this case estimated cost of treatment and heating of new water before it can be introduced into the system to \$9 per cubic meter.
 ** vehicle-borne thermography costs about 30 cent per meter.

Case

A municipality with a 40 km long district heating network with a leak of 30 cubic meters per day have a monthly cost of \$8,100.* The cost of car-borne thermography is estimated, in this case, to \$12,000.**



The example shows that the investment for the vehicle-borne thermography paid for themselves after only about two months. The savings generated in the first year corresponds, in this example, the cost of five years of pro-active thermography. (Assuming the leaks located are corrected.)

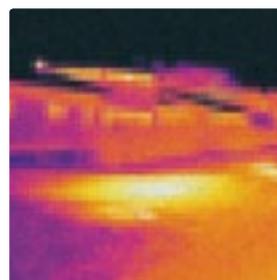
Infrared camera

Aquademica's vehicle-borne thermography uses market-leading equipment, providing a complete status report over the district heating network. Our certified thermographers are experts at interpreting the image. A simpler infrared camera delivers an image that is perceived as more grainy and details leak becomes less clear.



Aquadmeica Camera
640x480 pixels

High resolution wide angle which can be enlarged to provide clear information.



Standard Camera
120x120 pixels

The default camera is a great addition to the car-borne thermography.



We can also help you with:

- Correlation analysis
- Sound measurement
- Ground listening
- Pressure testing of pipe overpack
- Alarm wire measurement
- Sale of measuring instruments
- Sale of trace elements

About Aquademica

Aquademica was founded in 2005 and is the Swedish market leader in the area of leak detection. We have the resources and the know-how to carry out large investigations both on a local and international basis. Energy companies, construction companies, housing cooperatives and building service companies are among the customers that utilize Aquademica's comprehensive leak detection solutions. Our consultants are proficient in detecting leaks in several areas such as district heating systems, water pipes

and roofs, and detect the source of the leakage without damaging the surrounding material.

We are truly leak detection professionals and our consulting engineers investigate the source of the leakage regardless of what and where it leaks. Having information about the source of the leak offers our customers the information they need to take proper action and repair the leak.

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