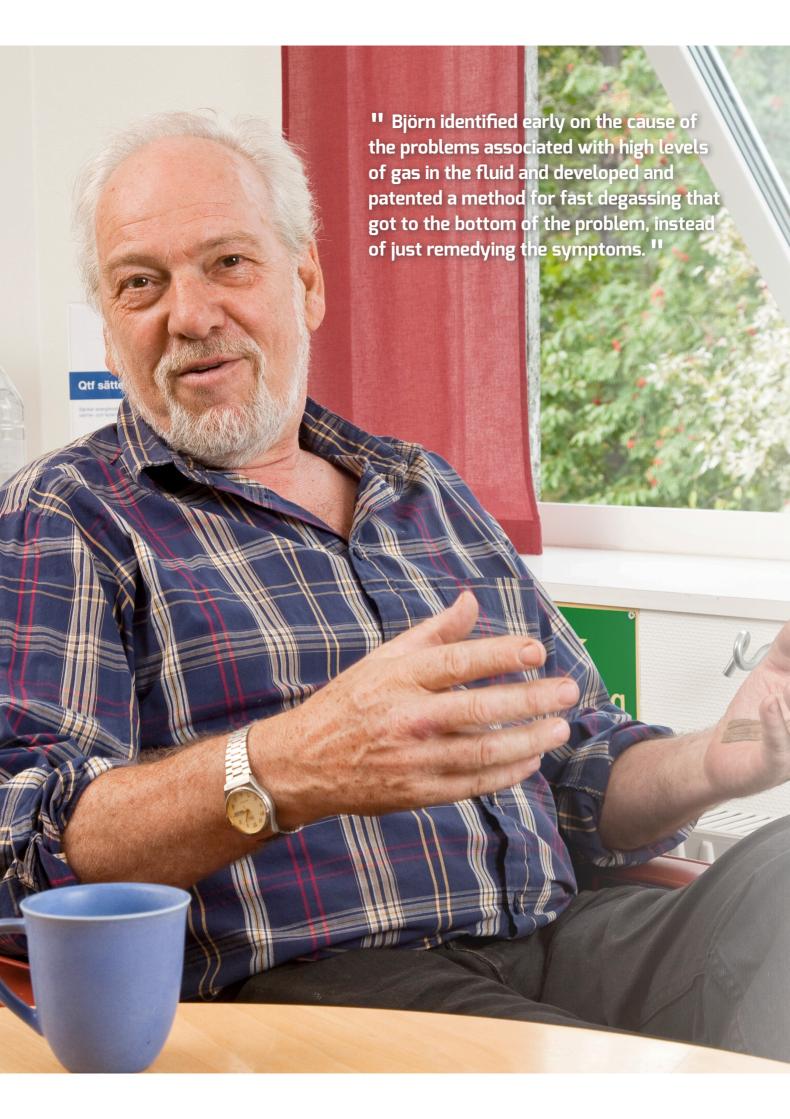
## WE CLEAN AND DEGAS SYSTEM FLUID IN HEATING AND COOLING SYSTEMS



## The QTF Method

steps to energy-efficient and corrosion free HVAC systems and energy wells.





TF Sweden AB is working to ensure that all heating and cooling systems will have a system fluid that allows the system to work energy efficiently, without malfunctions or rusting to pieces. We have the solution to many of the HVAC Industry's common and serious problems and we would be happy to share it.

Today, QTF employs ten people and is growing in step with the increasing awareness of degassing. The head office is in Kalmar and we are active across all of the Swedish market. QTF was started in 2006 by Björn Carlsson to develop and market ideas about the best and most efficient ways to degas system fluids in HVAC systems.

The symptoms of problems in heating and cooling systems have been known for a long time; cold radiators, blocked valves, noise and malfunctions, pump breakdowns etc., but few people have wondered about the real cause. Björn identified early on the clear cause of the problems associated with high levels of gas in the fluid and developed and patented a method for fast degassing that got to the bottom of the problem, instead of just remedying the symptoms.

The problem really started in Sweden in the 1980s, when "open heating systems", where gases were "boiled out" and the system vented of gases, were abandoned. The industry, to save energy and investment costs, went over to closed low energy systems, but valves and pumps became more sensitive and pipes, radiators etc. used thinner materials. When the systems were filled with normal tap water (which, among other things, contains 8–10 mg/l oxygen gas), the gases are locked in, impairing the energy transfer capability and creating a good fertile ground for corrosion.

The method that was developed, which is today known as the QTF Method, consists of six steps for guaranteeing the quality of the system fluid in HVAC systems (heating systems, cooling systems and energy wells).

The QTF method results in immediate, large, energy savings, environmental benefits and safe function. When filling new systems, replacing fluids or refilling system fluid in old systems, it is important to remove the oxygen gas promptly before corrosion or decomposition of the coolant starts.

#### QTF offers knowledge

QTF is actively engaged in spreading knowledge about degassing on a broad front. For the industry to raise the awareness about the solution to the problems, education is needed as early as secondary school level. QTF is investing in the HVAC experts of the future by offering seminars, laboratory lessons and lending out equipment, first out was Lars Kaggskolan in Kalmar. QTF also has a tradition of offering students opportunities for thesis work and also to participate in research projects such as the Swedish Energy Agency's evaluation of Xylem's energy storage. QTF also offers companies/organisation free training on cleaning and degassing as part of its marketing efforts.

#### **Environment and society**

By energy optimisation and combating corrosion, we save a lot of energy, reduce the destruction of capital and increase the service life of Swedish HVAC systems. A gas-free fluid in heating and cooling systems is crucial for the systems to function as intended.

#### Everybody needs clean water

Of course, having clean water in our HVAC systems is financially and environmentally important, but having clean drinking water is vital. Many people do not have the luxury of clean water and, for this reason, QTF supports the aid organisation charity: water in their work in water projects worldwide. They have a 100 % policy, which means all donations go in full to the water projects, other administrative costs are covered by their sponsors.





# Everybody should have clean water!

QTF has started a collection campaign for charity: water. Every krona goes to water projects where they do real good. Charity: water's 100% model means that their administration and expenses are covered by private, long-term, donors, so 100% of everything donated by the public goes directly to the projects. The projects are presented on charitywater.org.

Clean water changes much, in many cases everything, for many people. If you would also like to help, go to the collection campaign on charity: water via www.qtf.se and the link to the collection.

### "We transform water from food to technical fluid for energy distribution."

"Based on our experience from more than 10,000 inspected Swedish HVAC systems, our assessment is that at least 80 % of the systems in Sweden could reduce their energy consumption by more than 5 % just by degassing the system fluid. This is good for Sweden and Swedish companies in terms of national and business economics as well as environmentally."





