



**SuperQuench.**  
**Greater performance, more flexibility.**



Hard work wins



# The lower the alloy-content of steel, the greater the importance of correct quenching.

Low-quality steels pose big challenges when it comes to heat treatment.

Challenges that you can now confidently take on – with the SuperQuench oil bath from Ipsen.

Less demands more: Given the fact that steels of this type are, on grounds of cost, increasingly being specified and offered for sale, Ipsen has been busy dealing with the issue of how to optimise the quenching process. The solution is now available: SuperQuench.

One decisive factor when it comes to quenching performance is the flow rate at which the oil is fed into each batch, particularly when the workpiece is plunged into the oil at the initial phase of the cooling process, causing a film of steam to form on its surface. This layer conducts little heat, so the rate of cooling is normally very low at the start of the quenching process.

SuperQuench offers optimum quenching performance for low-alloy steels in particular.



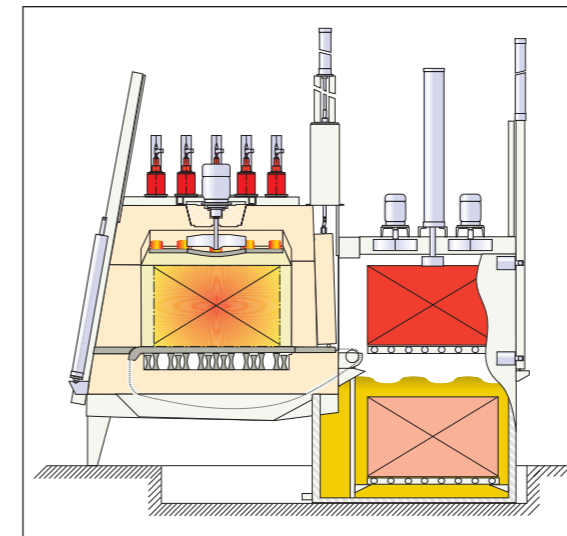
However, it is precisely these steels with reduced hardenability (i.e. low-alloy or non-alloy steels) that require a short steam-layer phase if optimum hardness is to be achieved. It is therefore important to use a high-speed flow of oil to disintegrate the insulating film of steam as quickly as possible. Flow rate also has a decisive influence on correct hardness during the subsequent boiling phase, when the oil begins to bubble up.

These are the three key factors that allow SuperQuench to optimise the hardening process:

1. powerful drive motors and circulating pumps,
2. Specially-designed conducting channels,
- and 3. Carb-o-Prof® software designed to optimise the quenching process for each grade of steel.

The array of up six motors is infinitely adjustable by means of frequency converter. This allows the oil to flow into the workpiece batch at up to four times normal speed, thus ensuring optimum heat dispersal. Each individual circulation pump is also assigned its own separate flow-control system

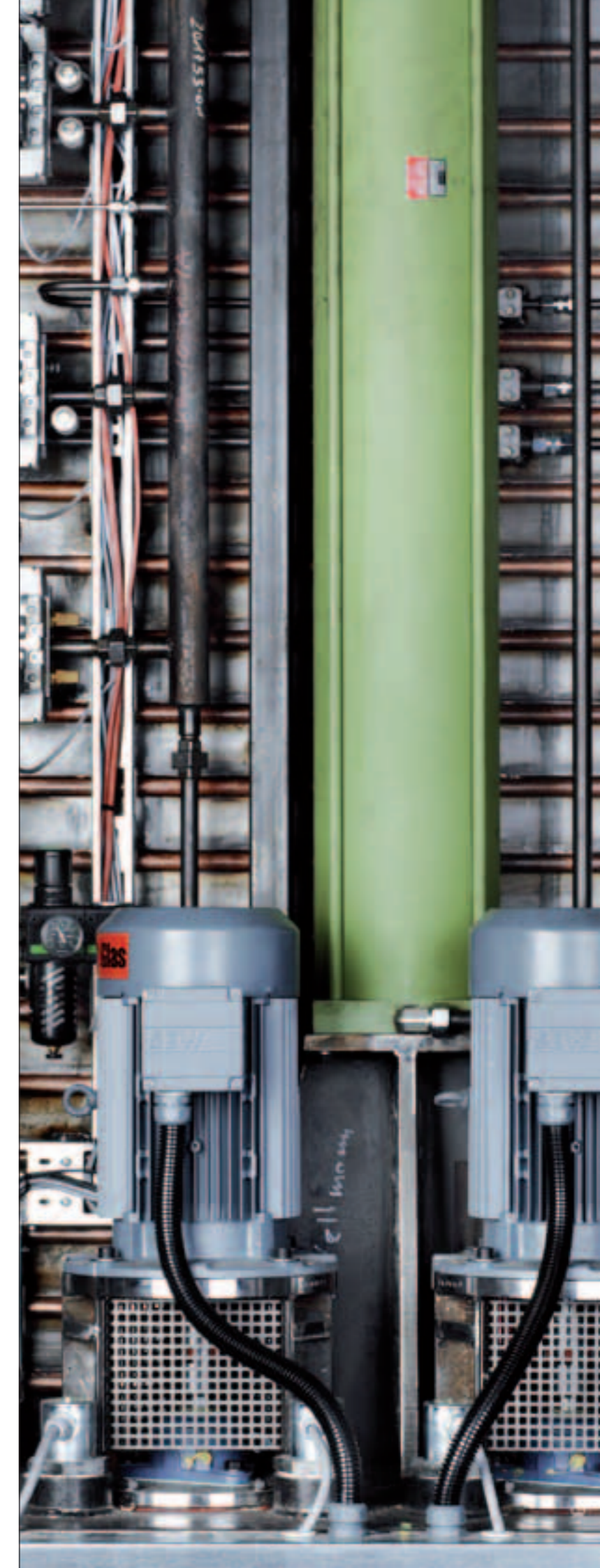
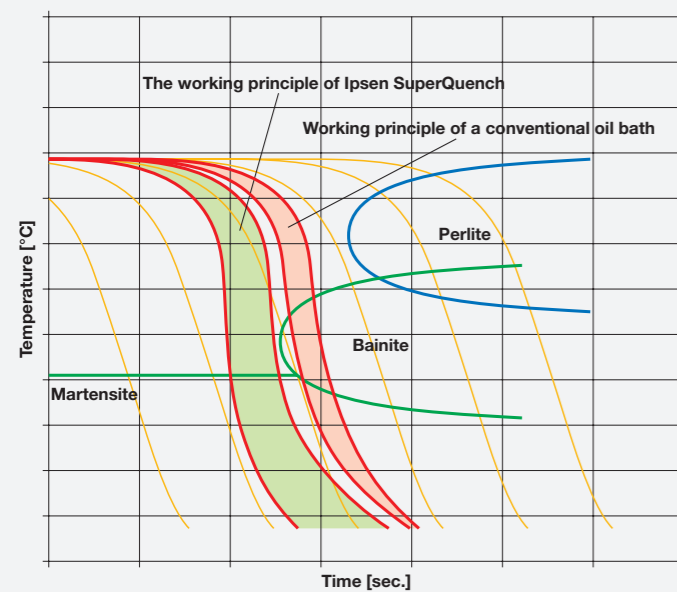
to ensure the reliable, consistent and fast cooling of each batch.



Non-stepped flow control is of particular benefit to the user, as is the thoroughly tried-and-tested Carb-o-Prof® software, which provides maximum flexibility for the configuration of the heat-treatment process, allowing multiple tasks to be handled smoothly with a single oil bath.

Ipsen thus provides a universal solution that is suitable both for low-alloy, low-quality steel and its high-alloy, high-quality equivalent – an achievement unmatched anywhere else in the sector. Results of trials carried out by our R&D staff demonstrate this convincingly – and we will be more than pleased to show you the evidence.

SuperQuench is also compatible with all Ipsen atmosphere furnaces.



# About the company.

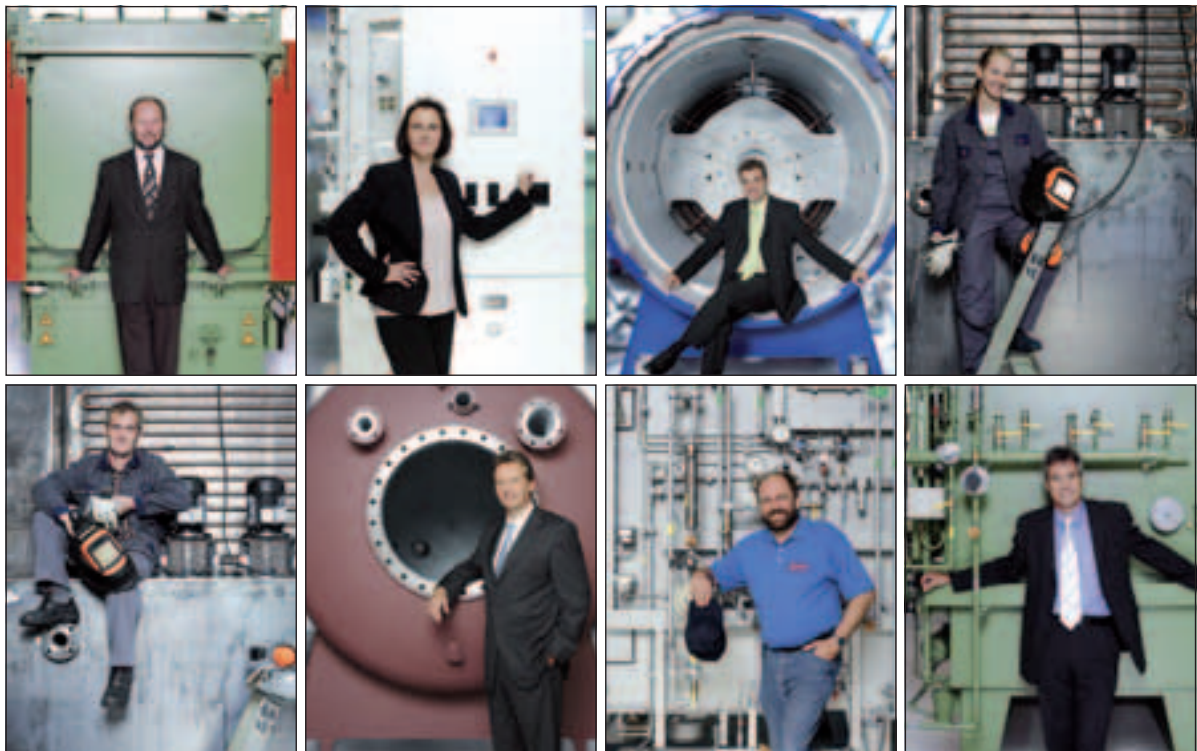
**Ipsen – we deliver performance.**

**Ipsen stands for cutting edge heat treatment technology and systems. Few companies in the world have had such a decisive impact on the development of heat treatment.**

For over 60 years Ipsen has been finding new ways of producing steel of ever improving quality using the company's innovative, proprietary technologies, such as the AvaC<sup>®</sup> process (low-pressure carburising), the SolNit<sup>®</sup> process (solution nitriding) and the recently developed HybridCarb process (gas carburising with recycling). Ipsen's offerings combine the highest performance with outstanding reliability, which perhaps explains why our furnaces and heat treatment equipment enjoy an excellent reputation

all over the world. Our customers work in automotive, aviation and aerospace as well as tooling, machining, medical and commercial heat treating.

Despite Ipsen's many important innovations, our focus is not solely on technology: in all we do, we aim to surpass our customers' expectations. We are not only committed to developing great technology, we are also passionate about providing quick, seamless and attentive service.



If you require further information or would like to know more about our company and the products we make, please contact us. We look forward to hearing from you!

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