



## Cleaning at low temperatures?



### Why is the process safer, more material protective and cheaper?

Dear user and prospective customer

From time to time we are confronted by you with the question, up to which temperature can be cleaned in **kolb** systems.

The simple answer is: Up to 80 °C - in all systems with the abbreviation HT (High Temperature - more information on [www.kolb-ct.com](http://www.kolb-ct.com))

The more complex answer is: We have those HT systems on offer for customers who only use hot water for cleaning (e.g. when using water-soluble flux) or who still use some kind of "historical" detergents which have a real efficiency window only above 60 - 70 °C.

A standard **kolb** system is designed for temperatures up to 55 °C. For a good reason: Modern detergents have a comparable efficiency window at a much lower temperature level. Research in recent years has made great progress in the development of high performance low temperature cleaners. These non-foaming detergents reach their degree of efficiency already at 20 - 45 °C and thus the necessary viscosity to clean 4 mil standoffs and even below. They make the process more stable, extend the life of the detergent, significantly save energy and protect machines and material.

You certainly know this development from your private environment. The so-called "hot wash" we still associate with grandmother's laundry day. Thanks to modern detergents and washing machines (which today don't even have 90 °C programs at all), we today have the same cleaning performance already in a temperature range from 30 to 40 °C.



Washing with 60° instead of 90 °C saves energy, between 47 and 61 percent, depending on the test-institute. The step from 90 to 40 degrees is even up to 80 percent (!) and from 40 to 30 degrees still up to 65 percent energy savings!

Low-temperature detergents offer more reliable processes as, opposed to "historical" cleaners, no evaporation of the water content of the cleaning agent takes place. This alone already offers a much higher process stability.

**kolb** offers only state of the art chemistry, operating very efficient with best material protection at lower temperatures. We are always willing to run benchmark tests with all high temperature cleaners, which are still on the market, to prove the capability of our products.

Your **kolb** Team

