

Ultrasonic cleaning

Advanced cleaning method based on sound waves

Ultrasonic cleaning is an advanced cleaning method based on a unique combination of high-frequency sound waves and special cleaning liquids.

Cleaning heavily polluted fuel and oil filters, cylinder heads and air coolers is often a problem, and generally the use solely of a cleaning product is insufficient. Part of the deposit will be removed, but in most cases carbon residue and other solids remain. In such cases, a combined treatment with ultrasonic energy and a special cleaning product will lead to a good result.

The polluted parts are immersed in a bath of liquids developed by Vecom. Transducers produce high-frequency sound waves in the liquid, creating microscopic vacuum bubbles, which implode forcefully onto the surface that is to be cleaned. This phenomenon is called cavitation. This energy produces a powerful cleaning effect that is able to remove stubborn contamination, even in spaces that are hard to reach, drastically shortening the cleaning time. It is therefore extremely suited for cleaning a.o. air coolers, fuel and lubrication oil filters, radiators (only the air side), Boll & Kirch filters, hydraulic filters.



Stainless steel filter after cleaning

Efficient cleaning is the result of optimum density, viscosity, surface tension and temperature. Vecom's cleaning liquids have been especially developed to work as efficiently as possible within the system. This is not the case with, for instance, emulsifying solvents that are ineffective when they are used in combination with ultrasonic energy (ultrasonic sound waves).



Ultrasonic bath with transducers fitted to the wall

Ultrasonic energy or ultrasonic sound waves have a sound frequency that lies above the human limit of audibility at around 18000 Hertz. The frequency used for ultrasonic cleaning starts at this point. The frequency generally used with ultrasonic cleaning equipment is 25 KHz.

An ultrasonic unit consists of the following elements:

- An ultrasonic generator for producing high-frequency electrical energy;
- Transducers that transform this electrical energy into mechanical energy;
- A tank with cleaning liquid.

Advantages:

- Removal of contamination in hard-to-reach spaces;
- The cleaning time is significantly shorter than when using a normal degreasing process;
- Cleaning is very thorough;
- Customer specific installations possible for each application;
- Cleaning can be carried out using environmentally friendly water-based products.

Interested and want to know more?

For further information and/or questions about this subject or in case you have other questions, please contact one of our specialists via +31 10 59 30 258 or go to our website.