# Infringement analysis Koks Ecosonic 3 vs. EP 2 516 074

## Claim 1 EP 074

1. Claim 1 of EP 074 can be subdivided as follows:

|  |  |
| --- | --- |
| **1A** | A system comprising an apparatus for cleaning industrial components and a cleaning liquid, comprising: |
| **1B** | a liquid container (200) having sidewalls (202, 203; 309, 310; 403, 404, 405, 406) defining a liquid enclosure for containing the cleaning liquid, |
| **1C** | the liquid container (200) having a component-receiving area spaced from the sidewalls (202, 203; 309, 310; 403, 404, 405, 406); and |
| **1D** | ultrasonic transducers (207; 315; 409; 700; 912) having an operating frequency and a wavelength in the cleaning liquid and secured to at least a portion of the liquid container (200) at a spacing of between 2 and 10 wavelengths in the cleaning liquid, |
| **1E** | wherein in operation the ultrasonic transducers (207; 315; 409; 700; 912) generate a power density in the component-receiving area of the liquid container (200) that is greater than an average power density of the liquid  container, wherein the ultrasonic transducers (207; 315; 409; 700; 912) are resonating rod transducers secured to the inner surface of the liquid container (200); and |
| **1F** | wherein the liquid container (200) comprises an aqueous cleaning solution comprising at least one of solvent additives, an acid solution and an alkaline solution. |

## Sources

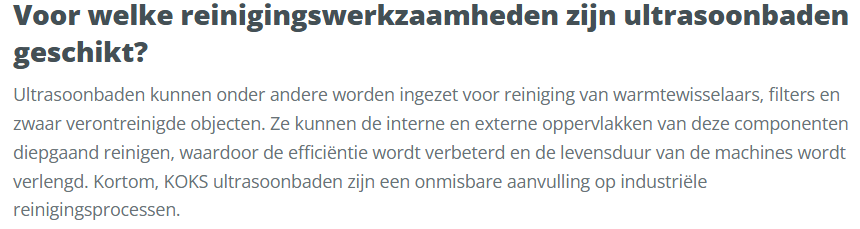
This analysis is based on the following sources from Koks:

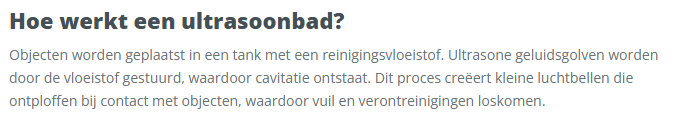
* <https://koks.com/nl/ultrasone-reinigingssystemen>
* <https://koks.com/nl/product/ultrasoonbaden>
* [Ultrasonic Cleaning System KOKS EcoSonic 3 Meter Vessel 3D Animation | KOKS Group](https://www.youtube.com/watch?v=TmsFWg-bnAU) (hereinafter: "the Animation Video")
* [KOKS EcoSonic 4.1M Ultrasonic Cleaning System | KOKS Group - YouTube](https://www.youtube.com/watch?v=fmmJ1hm0O-Q) (hereinafter: "the Demonstration Video")

## Ecosonic 3

### Feature 1A: A system comprising an apparatus for cleaning industrial components and a cleaning liquid, comprising

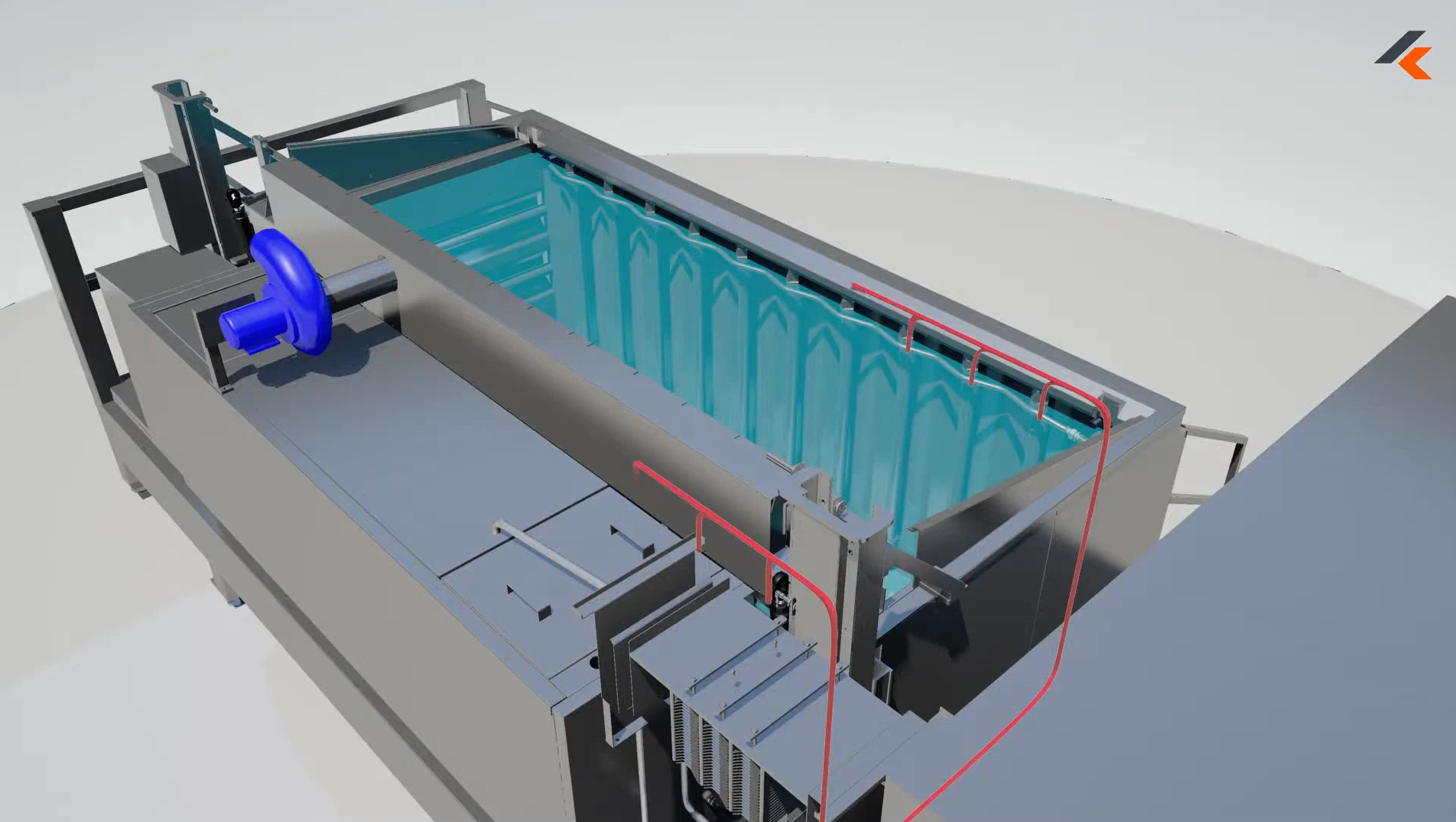
1. The website of Koks Group BV (hereinafter: "Koks") describes that the ultrasonic baths can be used for cleaning industrial components. They use cleaning agents for this purpose.





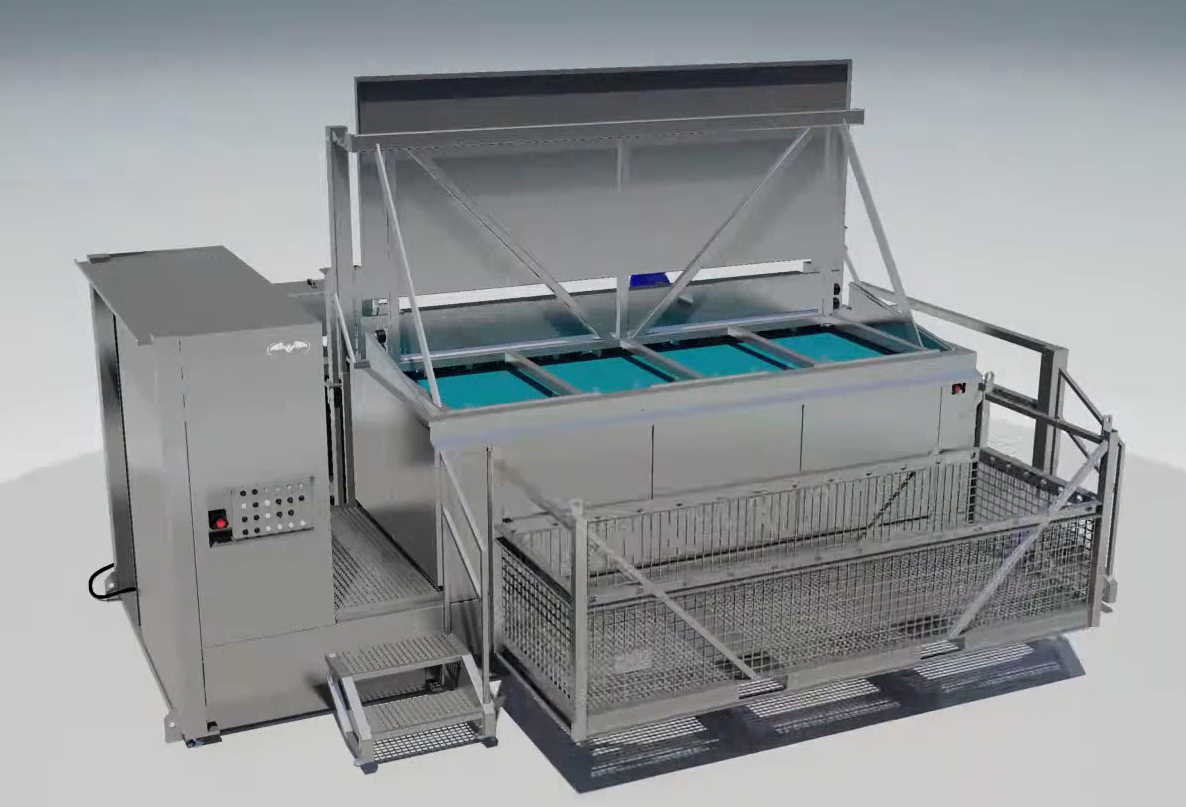
### Feature 1B: a liquid container (200) having sidewalls (202, 203; 309, 310; 403, 404, 405, 406) defining a liquid enclosure for containing the cleaning liquid,

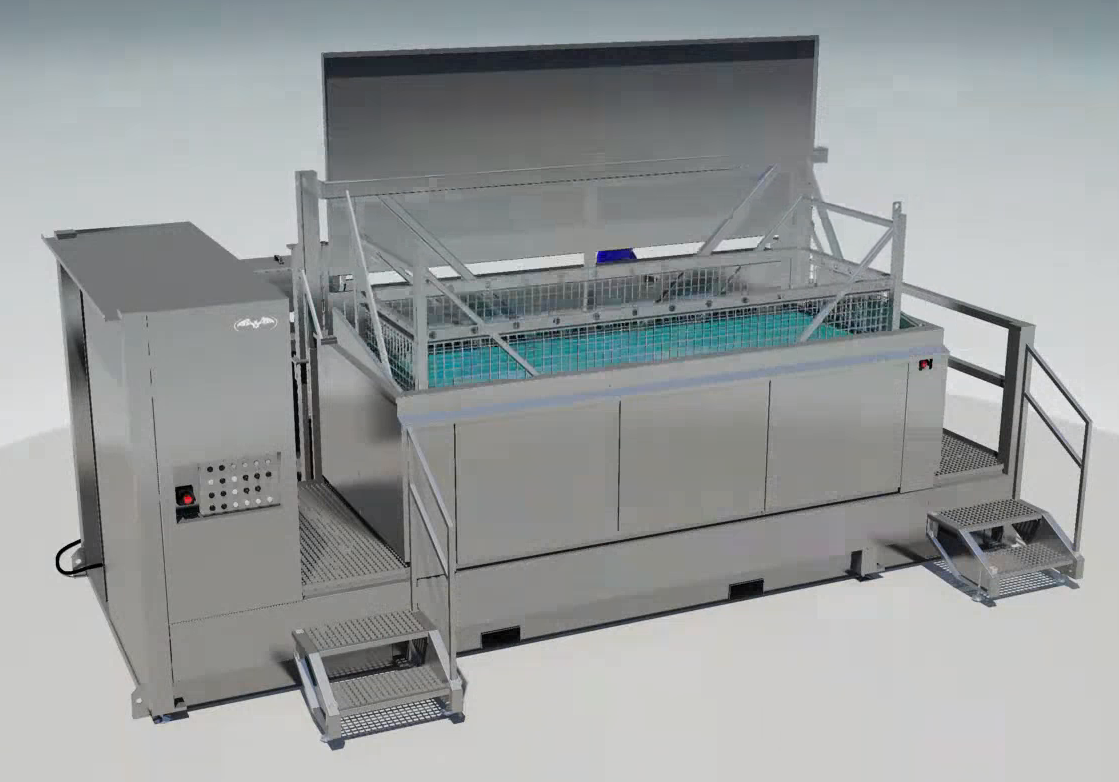
1. The Ecosonic 3 comprises a *liquid container* with *sidewalls* for containing cleaning liquid. See the screenshot below.



### Feature 1C: the liquid container (200) having a component-receiving area spaced from the sidewalls (202, 203; 309, 310; 403, 404, 405, 406); and

1. The Ecosonic 3 includes a separate basket (*component-receiving area*) in which the parts are placed for cleaning. There is space between the side walls of the container and the basket:





1. The basket is used for placing parts to be cleaned:

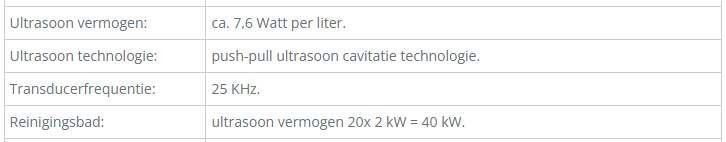


### Feature 1D: ultrasonic transducers (207; 315; 409; 700; 912) having an operating frequency and a wavelength in the cleaning liquid and secured to at least a portion of the liquid container (200) at a spacing of between 2 and 10 wavelengths in the cleaning liquid,

1. The Ecosonic 3 contains 20 ultrasonic transducers of 2,000 watts each. These are attached to the upper end of the liquid container.



The distance between the transducers is approximately 25-30 centimeters. The Ecosonic 3 uses waves with a frequency of 25KHz and therefore a wavelength of approximately 6 centimeters.

**

The transducers are therefore positioned at a distance that falls within the claimed distance of 2-10 wavelengths.

### Feature 1E: wherein in operation the ultrasonic transducers (207; 315; 409; 700; 912) generate a power density in the component-receiving area of the liquid container (200) that is greater than an average power density of the liquid container, wherein the ultrasonic transducers (207; 315; 409; 700; 912) are resonating rod transducers secured to the inner surface of the liquid container (200); and

1. The ultrasonic baths have resonating rod transducers. The placement of the rod transducers causes interference that results in places in the basket where the power density is higher than the average power density in the entire liquid container.

### Feature 1F: wherein the liquid container (200) comprises an aqueous cleaning solution comprising at least one of solvent additives, an acid solution, and an alkaline solution

1. Koks' baths are clearly intended for aqueous cleaning liquids containing solvents, acids, or alkalis.

### Claim 8

1. Claim 8 discloses a cleaning method as performed in the baths according to claim 1. The Ecosonic 3 is evidently used for a method for cleaning industrial parts as described above, and that method fulfills the steps further disclosed in claim 8.

--- ooo ---