



**Ultrasonic Cleaning
Equipment for the
Industries of the
21st Century**

The Engineer's Choice

Hilsonic. The Engineer's choice

Hilsonic is one of Europe's leading manufacturers of ultrasonic cleaning equipment for industrial, medical and commercial cleaning applications.

Ultrasound is used widely throughout industry for removing problem contamination from all forms of hard surfaces, such as metals, plastics and ceramics. Its unique properties can be harnessed to clean items of all shapes, sizes and technical complexity, penetrating holes and cavities that are impossible to reach using ordinary cleaning methods.

The principle of the process is as follows. Piezo electric transducers are attached to the cleaning tank. They generate ultrasound waves that vibrate the cleaning fluid at very high velocity, creating a process called cavitation. Millions of tiny bubbles implode within the solution and penetrate into every orifice of the item being cleaned, removing dirt and grime within seconds.

Hilsonic products are unique in their design and construction, and have been developed for superior performance and long life. As well as being a producer of primary equipment, Hilsonic is also an original equipment manufacturer, supplying high quality ultrasonic components and assemblies to install in various forms of industrial plant for on and off line cleaning.

The exclusive characteristics of the Hilsonic range are:

Generators

Hilsonic produce robust and powerful generators with a choice of standard frequency, frequency sweep or bar frequency modes, offering a wide selection of cavitation intensities to suit different forms of cleaning.

The generators include versions that are totally sealed from harsh environments, either in the atmosphere or as a result of 'dirty' power supplies. This ensures uninterrupted performance, even with power spikes of up to 2500 volts.

In addition, the standard Hilsonic generators feature ES environmental cooling. This system dispenses with fan assisted forms of cooling which suck in pollution from the outside atmosphere. As a result, there is considerably less risk of generator failure.

Finally, each generator has its own, independent output indicator, making it easy to detect and isolate defective components and to reduce machine down time.

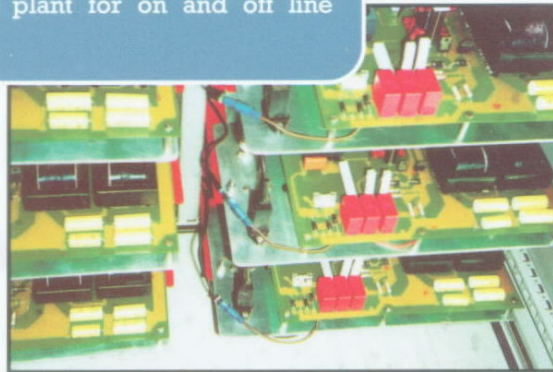
Transducers

Hilsonic machines are constructed using ultrasound 'bar' transducers as opposed to conventional 'cone' transducers. These have a 50% greater contact area with the outside surface of the tank. This factor substantially reduces the risk of 'hot spot' erosion and stress cracks to the metal surface and provides more uniform cleaning.

The Hilsonic transducer bar is not just bonded to the tank, but has a unique centre-bolt mechanical fixing to ensure long lasting adhesion.

The transducers are made of high quality phosphor-bronze/silver construction in order to minimise heat build up, thus extending the life of the transducers and piezo electric crystals.

Hilsonic is so confident in the quality of its transducer assemblies, the most vital components in any ultrasonic machine, that the piezo-electric elements are provided with a 5 year guarantee.



Flexibility

Hilsonic is a highly flexible manufacturer of non-standard size ultrasonic machines for specialist cleaning applications. These range from microchips to aircraft parts and from watches to bakers' trays.

Custom designed tanks can be made to order without

the customer having to suffer the penalty of high cost for non-standard requirements.

Hilsonic also takes great care at the consultation stage in order to establish the right specification, frequency and chemicals to suit the particular cleaning problem, building on over 20 years of experience in the industry.

Ease of Servicing

Hilsonic machines have a unique modular design, which makes components very easy to remove, replace and repair if required. This means that most functions can be serviced by the average electrician without the need for specialist knowledge or expensive down time.

That is why we are known as 'The Engineer's Choice'

Hilsonic. The Product Range

Bench Top ultrasonic tanks

Wherever there are small scale cleaning problems, from dentists' drills to aircraft components, bench top ultrasonic tanks are in constant use.

The list of applications is enormous, including surgical instruments, electronics, jewellery and ceramics.

Hilsonic bench top tanks are offered in 2 distinctive ranges:



The Budget Range

Budget bench tops are designed for small scale or occasional use. They are 'no frills' basic units constructed in powder-coated mild stainless steel with a power range from 100 to 800 watts RMS.

The Budget Range is designed for good cleaning performance at a reasonable price, whilst not cutting any corners in terms of ultrasonic power.



The Performance Range

The Performance Range of bench top ultrasonic tanks are constructed in all stainless steel and are designed for long lasting durability under constant use.

Additional features of the Performance Range include Hilsonic's specially patented 'frequency sweep' process for more uniform and intense cavitation, leading to more powerful cleaning properties.

The performance range also benefits from hardwearing industrial 'bar' transducers, producing a range of mechanical frequencies from 20 - 100 kHz.

Industrial Cleaning Tanks

Industrial cleaning processes require a diverse range of machine specifications, as every problem is unique and different. In order to accommodate this diversity, Hilsonic industrial tanks are available in 4 distinct variations.

The Budget Range

These products have a more lightweight construction than more expensive industrial tanks, but with a greater range of power and frequency levels. The Budget Range is constructed using hard wearing powder coated steel panels and comes complete with integral controls.



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Industrial Cleaning Tanks

The Standard range

Built for exceptional performance and durability, the Standard Range of industrial tanks is constructed entirely in heavy gauge 316L stainless steel.

All standard models include the rugged and reliable Hilsonic generators and industrial 'bar' transducers, as well as the company's unique 'frequency sweep method'.

And with a watts per litre density range up to 50W, the Hilsonic standard range is designed for years of trouble free service in the most hostile of industrial environments.



The ES Range

With a similar build quality to the Standard Range, there are 2 special options on the ES range of industrial ultrasonic cleaning tanks. Firstly, the special splash proof generator enclosures have no forced air-cooling. This is to ensure that dirt and moisture is not sucked in to the circuit board causing machine malfunction.

In addition, the generator control panels can be sited up to 30 metres away from the cleaning tank for safety and ease of operation.

The EST Range

The EST models are the very top of the Hilsonic industrial range. Whilst the build quality is similar to the standard models, the principle difference is that the generators are totally enclosed and can handle voltage spikes of up to 2000 volts, making the units virtually indestructible in order to cope with the harshest industrial environments.

The EST Range also has remote controls as an option and is designed for very heavy-duty industrial cleaning applications.



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Submersible Systems

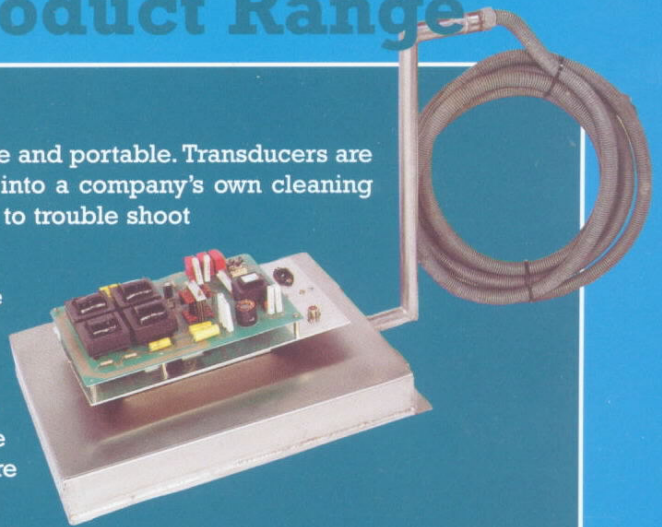
Submersible systems are designed to be flexible, versatile and portable. Transducers are enclosed in a water proof casing that can be immersed into a company's own cleaning tank, used as part of an on line cleaning process, or used to trouble shoot where there are cleaning hot spots required.

For maximum flexibility, Hilsonic can produce submersible units to almost any shape or size without the penalty of prohibitive prices.

As well as delivering the kind of quality performance to be expected from Hilsonic ultrasonic systems, the submersible units are available in 3 optional enclosure finishes:

- 316L heavy gauge stainless steel for general industrial use
- Hard chrome to combat particularly aggressive chemicals, such as acids, solvents and caustic solutions
- Titanium, for when a unit is located in a very hostile industrial environment.

It all adds up to the most dynamic and versatile range of submersible ultrasonic cleaning units available anywhere in the industry.



Custom Built Machines and Multi Stage Systems

Like the submersible range, custom-built ultrasonic tanks of all shapes and sizes carry no special premium.

From 1 litre to 15,000 litre capacities, and with a huge range of frequencies, densities and power ratings, Hilsonic custom built models will always deliver the best cleaning results with no compromise on either quality or reliability.

For more complex industrial cleaning processes, requiring multi-stage solutions, Hilsonic are pleased to consult fully with the customer in order to develop the system to suit the purpose.

This can include a combination of aqueous, vapour and drying processes in a variety of flow control systems.



Vapour Degreasing Units

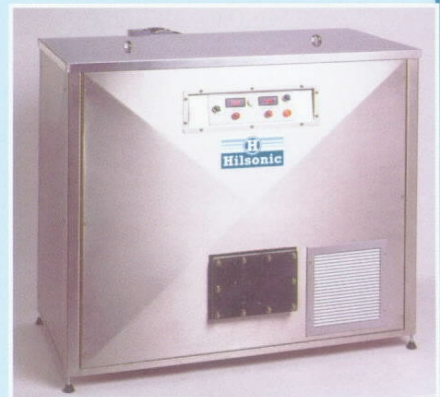
Supplied in a range of 8 standard sizes, Hilsonic vapour degreasing units are designed for cleaning problems where either a wet system is not suitable or it needs to be combined with a solvent vapour for the best results.

The system uses boiling solvent in a liquid or vapour state for the degreasing of engineered components. The process is further enhanced by the introduction of ultrasound.

Condenser coils, located near the top of the tank, convert the rising vapour back to liquid for efficient recycling of the cleaning chemical.

The solvent can be heated using electricity, steam or high-pressure hot water. The comprehensive insulation surrounding each tank helps to maintain the operating temperature and minimise the power consumption.

Available both with and without ultrasonic assistance, Hilsonic vapour degreasing units are suitable for use with all normal solvents, including 1.1.1 trichloroethane.





Sonic Chemistry

The ultrasonic cleaning business is in constant evolution, with new applications requiring special chemical solutions almost every day.

Hilsonic have always been at the forefront of ultrasound chemistry development, with special processes including the breaking down of particles, liquid sanitising and the decontamination of mining waste.

Special partnerships are in place with leading authorities in ultrasound technology and research so that solutions can be found to virtually any cleaning problem. Whether it is as simple as unblocking pipes using external transducers to reducing metal fatigue in industrial plant, Hilsonic will find the solution.

That is why we are known as the Engineer's Choice!

Application Specific Machines

Window Blind Cleaners

Hilsonic is Europe's leading manufacturer of machines that are dedicated to cleaning venetian and vertical blinds as well as a wide range of janitorial applications.

There are 8 different models, from the bench top 'Louver-King' to the 12 ft long 'Super Ultra' models.

The machines are in widespread use throughout Europe and in countries as diverse as Iceland, Malta and South Africa.



Golf Club Cleaners

Cleaning dirty golf clubs with ultrasound is hugely popular in the USA and is rapidly growing in awareness in both Europe and the rest of the world.

Hilsonic golf club cleaners are purpose designed, compact units that can be easily located in a pro shop or driving range and operated with or without coin/token mechanisms.

For more information:



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