LCT
Laue cleaning technology

LCT Ultrasonics for cleanliness

Basic Line

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Compact ultrasonic devices for highest levels of flexibility

Every surface treatment process requires a preparatory and a final cleaning stage, areas in which ultrasonic cleaning has established and proven itself over the years.
The table top devices of the LCT BasicLine are the ideal solution for professional applications.

Ultrasonic cleaning is both an extremely thorough and – assuming the appropriate parameters are chosen – gentle process for a thorough cleaning of delicate surfaces.

The LCT BasicLine provides you with the highest degree of cleanliness with relatively short cleaning cycles, even in the case of complex, delicate parts with structured, porous surfaces and the tiniest grooves and holes.

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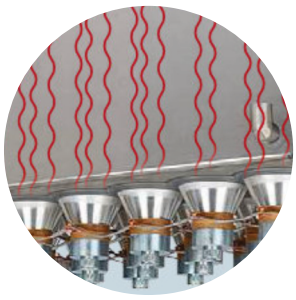
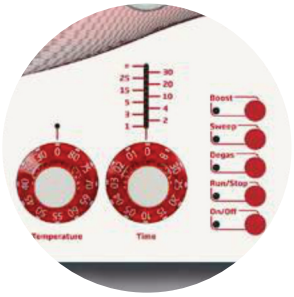
Cleanliness demands absolute precision

- **Powerful ultrasonics**
  High levels of efficiency with constant power output



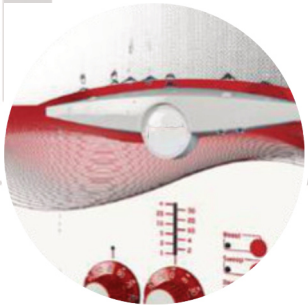
- **Operation**
  User-friendly control elements for adjusting time, temperature and the specialfunctions



- **Accessories**
  Broad range of practical, high-quality accessories

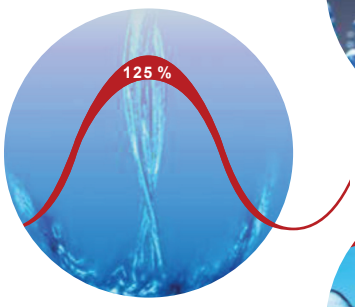
- **Hygienic surfaces**
  Chemically and mechanically resistant stainless steel for permanently safe hygienic surfaces

- **Dripping edge**
  A dripping edge effectively protects the controls from excess cleaning liquid

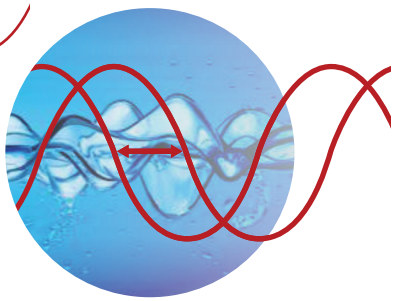


- **Degas function**
  For rapid degassing of the medium prior to cleaning

- **Boost function**
  Increases cleaning performance by 25 percent to remove persistent contamination



- **Sweep function**
  Shifting the maximum sound pressure level ensures a uniform sound field distribution and cleaning action in the bath



- **Guarantee**
  24 months

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Transparency thanks to ultrasonic cleaning

The LCT-T1to T6 devices guarantee intensive yet gentle cleaning of spectacle frames and glasses.

Cleanliness promotes brilliance

Our specially developed cleaning agents reliably remove contamination such as the oxide films and polishing pastes used in production, as well as grease and cosmetics. Intensive cleaning in an ultrasonic bath puts the sparkle back into jewellery.

Hygienic thanks to ultrasonic cleaning

Whether stains from rinsing water, organic or other forms of contamination, the use of ultrasonics cleans impression trays, prostheses, traces of plaster and instruments safely and without leaving any residues.

Precision demands highest levels of cleanliness

Surfaces that are clean and totally free of residues are a must in precision engineering. Even the slightest contamination can cause malfunctions or the failure of components. The LCT BasicLine reliably removes lapping and polishing agents, grease, oil, wax, scaling, etc. without leaving any residues.

Ultrasonic cleaning for greater efficiency

Craft businesses and workshops in particular benefit from the use of ultrasonic cleaning. Mechanical components are thoroughly cleaned without any scrubbing, brushing or scraping– even if the items being cleaned have a porous structure, complicated geometry, narrow gaps or blind holes.

Cleanliness to the highest levels

Ultrasonic cleaning reliably frees brass instruments of production residues such as polishing pastes and the contamination that occurs when they are used. Quickly, gently and thoroughly.

Cleanliness in the lab

It is vital that persistent contamination, such as chemical residues, carbonization and dried up contamination, is removed if we want to be able to rely on the results of our analyses. Ultrasonics clean all those areas that a cleaning fluid can also reach and is thus an invaluable aid in the day-to-day work of a laboratory.

Ultrasonics in the health service

Ultrasonic cleaning is a permanent part of the hygiene chain in hospitals and doctors' practices. Stains from rinsing water, organic or other forms of contamination are all removed without trace. This gentle treatment extends the service life and functionality of instruments.

Quality brooks no compromise

The manufacture of mechanical watches demands the highest levels of precision. And this applies to cleanliness as well. Ultrasonic cleaning removes all traces of contamination and the residues that form during the manufacturing process from every part of the watch, guaranteeing a totally professional approach towards production and service.

Cleanliness in larger projects

In industry, intensive degreasing and cleaning of individual components is the decisive factor in determining the quality of the finished product. The LCT-T45 and T90 ultrasonic tanks are the perfect choice when it comes to cleaning large parts or large numbers of parts.

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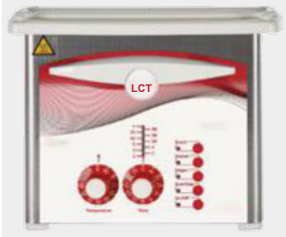
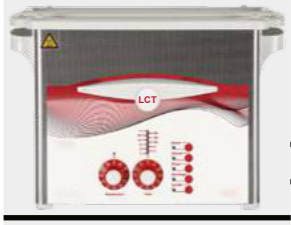
Table-top LCT-T1 bis T30

	Description	Application area	Volume (Litres)	Internal bath dimensions (mm)	Heating	Drain
	LCT-T1		0.8	L 190 B 85 H 60	–	–
	LCT-T1-H				✓	–
	LCT-T3		2.75	L 240 B 135 H 100	–	–
	LCT-T3-H				✓	–
	LCT-T3-Hplus				✓	✓
	LCT-T6		5.75	L 300 B 150 H 150	✓	✓
	LCT-T12		12.75	L 300 B 240 H 200	✓	✓
	LCT-T30		28	L 500 B 300 H 200	✓	✓

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Accessories LCT-T1 bis T30

A

B

C

D

E

F

G

H

I

L

J

K

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	Description	Internal dimensions (mm)	For Type
A	Polymeric cover		LCT-T1/H
			LCT-T3/H/plus
			LCT-T6
			LCT-T12
			LCT-T30
B	Stainless steel basket (mesh size 5 × 5 mm)	177×73×30 (L×W×H)	LCT-T1/H
		198×103×50 (L×W×H)	LCT-T3/H/plus
		255×115×75 (L×W×H)	LCT-T6
		250×190×120 (L×W×H)	LCT-T12
		455×250×120 (L×W×H)	LCT-T30
C	Insert cover for beaker glass		LCT-T1/H
			LCT-T3/H/plus
			LCT-T6/T12/T30
D	Set: Insert cover, 2 beaker glasses with covers and retaining rings	dia 80 / 600 ml	LCT-T1/H
E	Set: Insert cover, 2 beaker glasses with covers and retaining rings	dia 95 / 600 ml	LCT-T3/H/plus
F	Single beaker glass, 600 ml	dia 80	LCT-T1/H
G	Single beaker glass, 600 ml	dia 95	LCT-T3/H/plus – T6
H	Single beaker glass, 1000 ml	dia 95	LCT-T3/H/plus – T6
I	Cover for beaker glass, dia. 80 mm		LCT-T1/H
I	Cover for beaker glass, dia. 95 mm		LCT-T3/H/plus – T6
J	etaining ring for all types of beaker glasses		alle Geräte
K	Stainless steel basket (mesh size 1 × 1 mm)	dia 59 x60	alle Geräte
L	Stainless steel basket (mesh size 1 × 1 mm)	dia 78 x60	alle Geräte

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For a large number of parts or larger parts...

In industry, intensive degreasing and cleaning of individual components is the decisive factor in determining the quality of the finished product. For many years, ultrasonic cleaning has proved to be an extremely efficient and thorough cleaning system, which is why the devices are frequently integrated directly into the production process.

The LCT-T45 and T90 ultrasonic tanks are the perfect choice when it comes to cleaning large parts or large numbers of parts. Their constant power output, reliability and low running costs mean they have quickly found favour in the production halls of cost- and quality conscious manufacturers.

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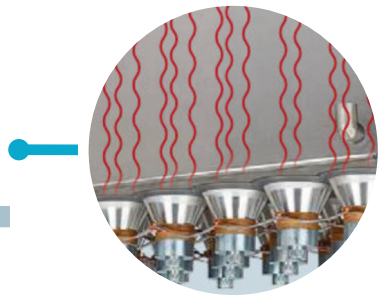
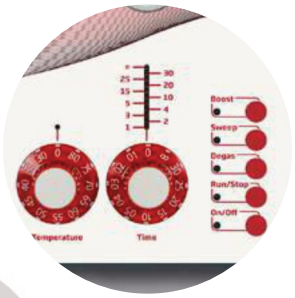
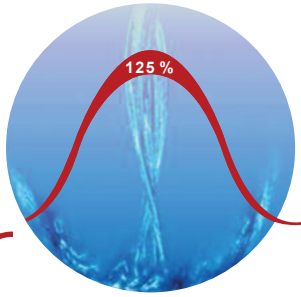
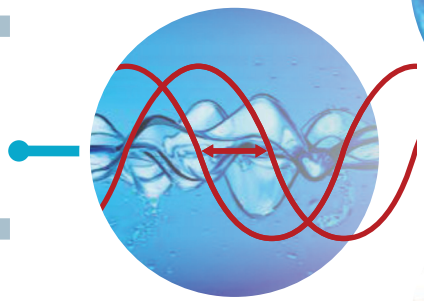
Cleanliness on a big scale

- **Powerful ultrasonics**
  High levels of efficiency with constant power output
- **Operation**
  Ergonomically positioned control elements with user-friendly functions for adjusting time, temperature and the special operations
- **Hygienic surfaces**
  Chemically and mechanically resistant stainless steel for permanently safe hygienic surfaces
- **Emptying**
  Drain at the rear side with lateral operation
- **Degas function**
  For rapid degassing of the medium prior to cleaning
- **Boost function**
  Increases cleaning performance by 25 percent to remove persistent contamination
- **Sweep function**
  Shifting the maximum sound pressure level ensures a uniform sound field distribution and cleaning action in the bath
- **Guarantee**
  24 months









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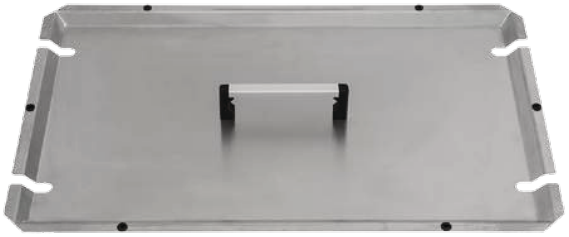
Cleanliness on a big scale – LCT-T45 und T90

A

B

Accessories LCT-T45 und T9



C

D

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	Description	Application area	Volume (Litres)	Internal bath dimensions (mm)	Heating	Drain
A	LCT-T45		45	500×300×315 (L×W×H)	✓	✓
B	LCT-T90		90	600×500×315 (L×W×H)	✓	✓

	Description	Internal dimensions (mm)	for type
C	Stainless steel coverl		LCT-T45
			LCT-T90
D	Stainless steel basket (mesh size 5 × 5 mm)	455×265×195 (L×W×H)	LCT-T45
		550×465×190 (L×W×H)	LCT-T90

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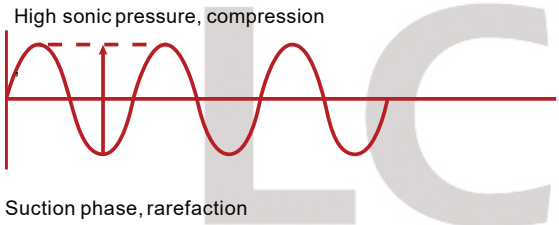
Cleanliness as a core competence

How it works:

The electrical alternating field energy produced by an ultrasonic generator is converted into mechanical energy by piezoelectric transducer systems and transmitted into the bath liquid. This causes pressure changes within the liquid. Liquids are bound together by binding forces, often referred to as cohesive forces. These affect the individual atoms and molecules within a material and determine the tensile strength of a liquid.

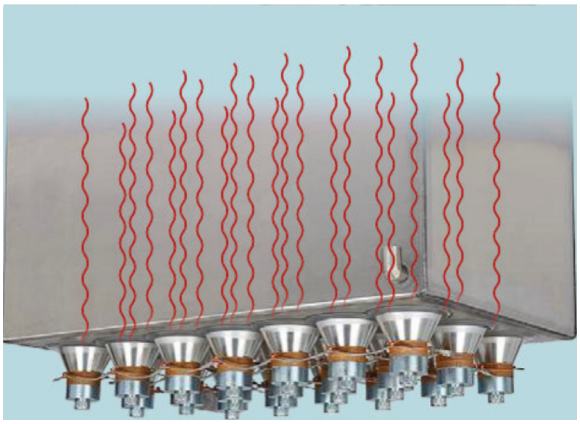
Compression/expansion



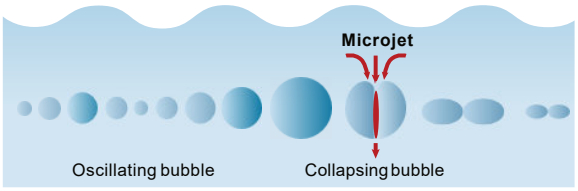
The pressure changes caused by ultrasonic waves (Expansion and Compression) tear apart the liquid's intermolecular bonds, creating transient and bubble-like cavities (bubbles), which are instantly filled with vapor due to vaporization of the liquid at the boundary of the cavity. During the compression phase, this vapor condensates again.

This creates millions of microscopic cavitation bubbles with oscillating sizes. If a sufficient level of ultrasonic energy is applied, the cavitation bubble can no longer oscillate in a stable fashion and collapses during the following compression phase ("transient cavitation"), creating millions of smaller bubbles or disappearing into the liquid.

This creates immense localized pressures (shock waves) as well as turbulences and currents. These phenomena are what actually causes the removal of dirt particles from the surface of the component. During this process cavitation bubble implosions occur mainly at the boundary areas between the liquid and the component. The microjets created by the sudden influx of liquid are directed to the surface – precisely where they are required for effective cleaning.



Collapsing bubble with microjet near a boundary area



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