

LCT Single-chamber cleaning units

Type KTR / KTRO

LCT-KTR-200 / LCT-KTRO-25



LCT-KTR-450 / LCT-KTRO-40
with working platform



Compact single-chamber cleaning units for gentle precision cleaning

- Compact design
- Simple, straightforward operation and maintenance of the unit
- Leading edge ultrasonic technology with DUAL and MIX frequency technology
- Maximum cleaning efficiency
- Automated process flow
- Entirely made of high-quality stainless steel
- Integrated parts drying
- Integrated filtration of process media
- Gentle movement of goods
- Designed for maximum cleaning quality, meets the high quality standards of the medical optical and watch-making industries

The compact single-chamber cleaning units guarantee smooth and reproducible aqueous cleaning.

The following processes take place in the system:

- Ultrasonic cleaning
- Ultrasonic rinsing
- Spraying with purified water
- Drying with hot air

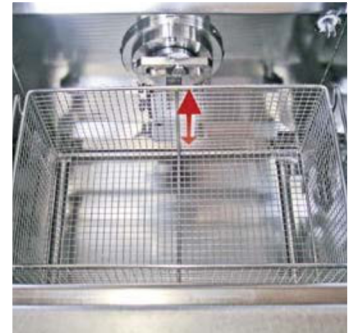
This design concept, combined with ultrasonic technology from LCT, ensures excellent cleaning results from an extremely compact unit.

The ideal solution to clean delicate and small parts.

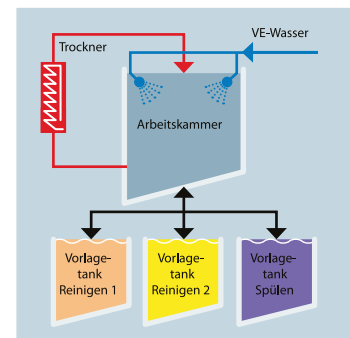
KTR: Unit with basket rotation



KTRO: Unit with basket oscillation



Schematic process flow



Technical data		Type	LCT-KTR 200-2T-1111 LCT-KTR0 25-2T-1111	LCT-KTR 200-3T-2211 LCT-KTR0 25-3T-2211	LCT-KTR 450-2T-1111 LCT-KTR0 40-2T-2211	LCT-KTR 450-3T-2211 LCT-KTR0 40-3T-2211
External dimensions in mm	Length		1150	1480	1350	1950
	Width		1130	1130	1700	1700
	Height		1950	1950	2000	2000
Operating height in mm (without working platform)			1100	1100	1150	1150
Number of storage tanks			2	3	2	3
Storage tank capacity	Litres		65	65	170	170
Working chamber capacity	Litres		20	20	100	100
Process flow	Cleaning 1	Freely programmable process sequence				
	Rinsing 1					
	Cleaning 2					
	Rinsing 2					
	Spraying with purified water					
	Hot-air drying					
Ultrasonic frequencies		DUAL technology 27 & 80 kHz / 30 & 60 kHz / 40 & 100 kHz				
Ultrasonic power	W		600	600	2000	2000
Maximum load	kg		1	1	15	15
Movement of goods		Programmable recipe parameters KTR: Direction of rotation, speed of rotation, pivoting angle KTR0: stroke rate				
Control system		SIEMENS SIMATIC IPC with S7-1500 PLC				
HMI		SIEMENS SIMATIC 15" multi-touch panel with hygienic glass front				
Electrical specs		3 × 400VAC/50 Hz, 3L + N + PE; special voltages on request				
Network connection		1 × RJ45 for integration of the unit into existing networks and remote maintenance via remote control				
Compressed air connector		½"; 3 - 6 bar oil-free, 0.5 m³/h				
Municipal water connection		¾"; 3 - 6 bar				
Purified water connection		¾"; 3 - 6 bar				

Baskets		Type	LCT KTR 200-2T-1111	LCT KTR 450-2T-1111 LCT KTR 450-3T-2211	LCT KTRO 25-2T-1111	LCT KTRO 40-2T-1111 LCT KTRO 40-3T-2211
KTR workpiece size in mm	Ø		200	450		
	Height		100	200		
Number of KTR baskets	Basket Ø 63 mm		4	8		
	Basket Ø 80 mm		4	8		
	Basket Ø 90 mm		1	5		
	Basket Ø 135 mm		1	5		
	Basket Ø 175 mm		1	4		
	Basket Ø 200 mm		1	-		
	Basket Ø 450 mm		-	1		
KTRO workpiece size in mm	Length				200	460
	Width				200	280
	Height				130	200



Halar coated basket



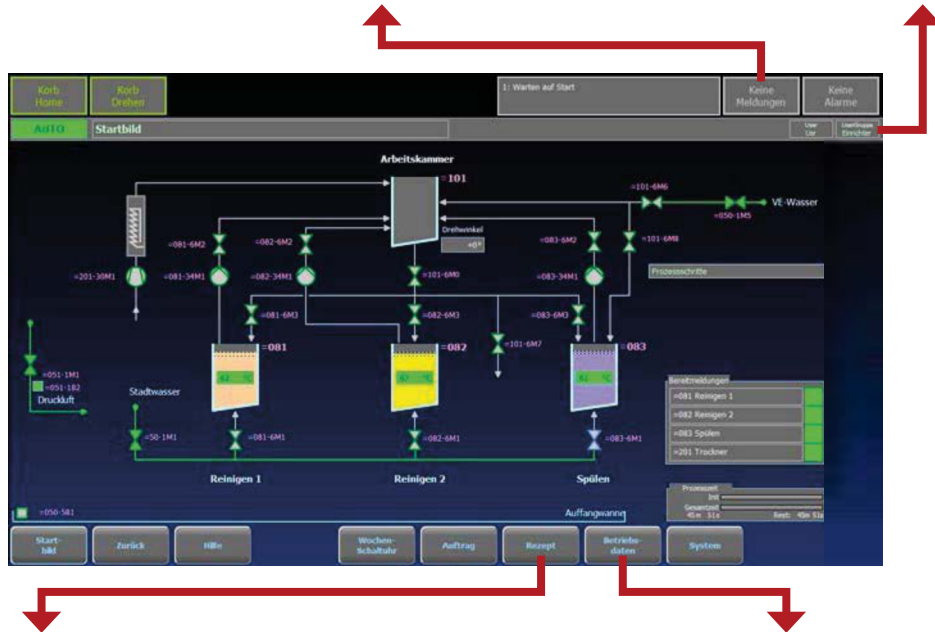
Product-specific
component holder

Visualisation of the system status:

- Error messages and warnings in a straightforward plain text display
- Visualisation of the system status, also via signal column

User management:

- User management (user name and password), four different authorisation levels



Process flows and recipe management:

- Integrated order and recipe management
- Unlimited number of recipes possible
- Management of orders and recipes with different statuses
- Freely programmable process sequence (recipes)
- Freely definable parameters for each process step

Data archiving:

- Complete recording of all process data
- SQL database for central storage of all set and actual values
- Trending of parameters (e.g. temperature)
- Automatic backup and archiving function in the SQL database for saving data to the unit memory or an external hard drive connected to the unit
- Recording of operating data with a set value and integrated counters

Software and HMI

Control systems are the central interfaces to the user and to superordinate systems/networks. LCT sets great value by reliable, user-friendly interfaces as well as process visualisations and interfaces that permit the integration of the unit into existing networks. These are core requirements of our system planning process.



Remote maintenance support can be enabled by the user when required

Hardware options:

- **Leak basin**
Monitoring of the leak basin with level sensor, interruption of water supply in the event liquid detection
- **Purified water treatment**
Demineralised water with the highest purity - in the exact amount required
- **Working platform**
Enables easy loading and unloading and simplifies parts handling
- **Dosing unit**
Dosing of cleaning media during filling or/and refilling
- **Qualification**
Design and qualification (DQ/IQ/OQ) from a single source

Purified water treatment



Dosing unit



Software options:

- Barcode reader for simplified and error-free entering of process data
- Logging of actual values of the process data for each batch in PDF format
- Integration of the unit into existing IT networks
- Computer system validation in accordance with GAMP5/ FDA 21 CFR Part 11

Barcode reader
for simplified

