

ISO 9001, ISO 14001



Industrial cleaning stations: ultrasonic cleaners; shower and vacuum cleaners; shower-vacuum cleaners.



About Us



Each year, our company is a guest at the Poznań International Fair (surface treatment section - Surfex and MachTool), the Kielce Trade Fairs, the Expo Silesia Sosnowiec Trade Fair and the Katowice Trade Fair. We also attend fair trades outside Poland, i.e. France, Belarus, Russia and Germany.

ULTRON was established in 1989. We manufacture chamber-type shower cleaning stations, powerful ultrasonic cleaning stations for various industries, cleaners designed for medical use, laboratories, printing plants, with a capacity ranging from 1 to several thousand litres. Our offer also includes the manufacturing of complete automatic process lines for various chemical processes. We incorporate state-of-the-art technologies to improve performance and production quality at our customers' sites. The equipment manufactured by our company is often customised. In addition, the offer includes the development of designs from scratch to meet our customers' expectations.

Our company manufactures machines that are recognised as leading solutions on the market.

Ultrasonic cleaning provides the maximum cleanliness at a shorter time than it is possible with conventional methods such as manual, shower and similar cleaning methods. Ultrasounds are effective in the removal of contaminants that can include oil, grinding and polishing pastes, abrasive materials, carbon deposits, turnings and sawdust, grease and emulsion coolants.



We have a large machinery fleet at our disposal.

How do ultrasounds work?

High-frequency current from the generators is supplied to an ultrasonic transducer that is equipped with working components in the form of two piezoceramic plates. The transducer is attached to the bath sidewall bottom and induces vibrations transferred to the cleaning fluid. Rapid compression and expansion of the fluid causes cavitation by creating and collaps-

ing microscopic vacuum bubbles. This results in the intense out still controlled, removal of contaminants within the entire

Although cavitation caused by ultrasounds has an intense effect, there is no damage to delicate or intricate mechanisms. This cleaning method requires minimum supervision and can be performed by unqualified staff. Ultrasonic cleaning stations are easy to adapt to batch production by having the station incorporated into the process line.



Our company manufactures ULT 911A ultrasonic generators equipped with the Ran-Scan system, measuring and controlling resonance frequency of the ultrasonic transducer. The level of frequency precisely selected by the Ran-Scan makes it possible to maintain the maximum generator output under different operating conditions, e.g. variable temperature, degasification of the bath in the cleaning station or various masses of the batch.

The Ran-Scan system automatically tunes the generator at short intervals and maintains fixed power ranging from 92-100%.

With the Ran-Scan system, ULTRON cleaning stations are as effective as brand-new machines, even after long-lasting operation!

IGBT transistors are used as driver elements in the output management unit. These, combined with Ran-Scan digital control, ensure that servicing of the cleaning station can be eliminated completely. Our assembly standard is based on the EURO 19 modular system that is easy to expand, replace and handle.



Apart from the reduction of standing wave, the sweep method stabilises device operation at variable load, temperature and over time. In modern cleaning stations with one frequency level, complex circuits with frequency tracking are used to ensure adjustment.

The sweep method ensures an effective use of ultrasonic transducer output and more even distribution of the vibration amplitude in the cleaning station.

Advantages of U.S.P:

- thorough cleaning of complex shapes without damage
- good response of the generator to the load
- extended transducer life-span
- effective and fast cleaning
- reduced standing wave
- U.S.P considerably improves effectiveness
- in hydrocarbon cleaning stations
- reduced power consumption at high performance
- stability over time



By choosing ULTRON, you may rest assured that you will receive the cuttingedge technology suitable to your needs.

Technology









Generator features: - digital tuning ranging from 20 kHz to 270 kHz - two modes of operation: without modulation and with modulation

- frequency modulation span ± 1 kHz

Catalogue cleaners

















ULTRON U-501

Usable tank capacity: approx. 11 Usable bath dimensions: - length - 120 mm - width - 110 mm - height - 70 mm Total mass: 3 kg

ULTRON U-502

Usable tank capacity: approx. 1,4 I Usable bath dimensions: - length - 120 mm - width - 110 mm - height - 110 mm Total mass: 3 kg

ULTRON U-503

Usable tank capacity: approx. 1,6 I Usable bath dimensions: - length - 210 mm - width - 110 mm - height - 70 mm Total mass: 3 kg

ULTRON U-504

Usable tank capacity: approx. 2,5 I Usable bath dimensions: - length - 270 mm - width - 120 mm - height - 70 mm

Usable tank capacity: approx. 3,5 | Usable bath dimensions: - length - 270 mm - width - 120 mm - height - 110 mm Total mass: 5,5 kg



Usable tank capacity: approx. 4 I Usable bath dimensions: - length - 480 mm - width - 115 mm - height - 70 mm Total mass: 7 kg

ULTRON U-507

Usable tank capacity: approx. 5,5 I Usable bath dimensions: - length - 300 mm - width - 280 mm - height - 70 mm Total mass: 10 kg

ULTRON U-509

Usable tank capacity: approx. 9 I Usable bath dimensions: - length - 300 mm - width - 280 mm - height - 120 mm Total mass: 12 kg

Input power of ultrasonic generator: 80 W Heater output: 220 W Total input power: 300 W Maximum heating temperature: 55°C Ultrasonic oscillation frequency: 21.5 kHz or 40 kHz

Input power of ultrasonic generator: 80 W Heater output: 220 W Total input power: 300 W Maximum heating temperature: 55°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

Input power of ultrasonic generator: 150 W Heater output: 220 W Total input power: 370 W Maximum heating temperature: 55°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

Total mass: 4,5 kg

ULTRON U-505

Input power of ultrasonic generator: 160 W Heater output: 250 W Total input power: 410 W Maximum heating temperature: 55°C Ultrasonic oscillation frequency: 21.5 kHz or 40 kHz

Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

Input power of ultrasonic generator: 160 W

Maximum heating temperature: 55°C

Heater output: 250 W

Total input power: 410 W

Input power of ultrasonic generator: 300 W Heater output: 450 W Total input power: 750 W Maximum heating temperature: 55°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

Input power of ultrasonic generator: 310 W Heater output: 250 W Total input power: 560 W Maximum heating temperature: 55°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

Input power of ultrasonic generator: 320 W Heater output: 600 W Total input power: 920 W Maximum heating temperature: 55°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

ULTRON U-2 cleaning station for washing out photopolymer. Usable tank capacity: approx. 2,5 I Input power of ultrasonic generator: 150 W

Usable bath dimensions: - length - 290 mm - width - 270 mm - height - 70 mm Total mass: 8 kg

Heater output: 300 W Total input power: 450 W Maximum heating temperature: 80°C Ultrasonic oscillation frequency: 21,5 kHz

ULTRON U-32A

Usable tank capacity: approx. 10 I Usable bath dimensions: - length - 475 mm - width - 285 mm - height - 75 mm Total mass: 10 kg

Input power of ultrasonic generator: 340 W Heater output: 500 W Total input power: 840 W Maximum heating temperature: 80°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

ULTRON U-32B

Usable tank capacity: approx. 15 I Usable bath dimensions: - length - 475 mm - width - 285 mm - height - 115 mm Total mass: 15 kg

Input power of ultrasonic generator: 350 W Heater output: 500 W Total input power: 850 W Maximum heating temperature: 80°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

ULTRON U-32C

Usable tank capacity: approx. 23 I Usable bath dimensions: - length - 475 mm - width - 280 mm - height - 170 mm Total mass: 20 kg

Input power of ultrasonic generator: 360 W Heater output: 1000 W Total input power: 1360 W Maximum heating temperature: 80°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

ULTRON U-70

Usable tank capacity: approx. 80 I Usable bath dimensions: - length - 400 mm - width - 500 mm - height - 400 mm Total mass: 48 kg

Input power of ultrasonic generator: 700 W Heater output: 2000 W Total input power: 2700 W Maximum heating temperature: 80°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

ULTRON U-100

Usable tank capacity: approx. 144 I Usable bath dimensions: - length - 640 mm - width - 500 mm - height - 450 mm Total mass: 96 kg

Input power of ultrasonic generator: 1500 W Heater output: 4200 W Total input power: 5700 W Maximum heating temperature: 80°C Ultrasonic oscillation frequency: 21,5 kHz or 40 kHz

Device configuration and cleaning agents are selected individually according to user needs. Dimensions of wash tubs are tailor-made.

Available additional equipment:

- microprocessor controller
- basket for small workpieces - draining tubs
- tables

myjki katalogowe











Application:

Industry: cleaning of sub-assemblies, regeneration of mesh filters, cleaning required to remove abrasive compounds, cleaning of vulcanisation moulds, cleaning small castings, moulds, little dies, cleaning of high--pressure apparatus, cleaning of anilox rolls, cleaning of baking baskets

Laboratories and hospitals: cleaning of laboratory glassware, pipettes, fluid degassing, emulsion preparation, cleaning of prostheses, dental instruments

Jeweller's craft: removal of abrasive compounds and casting residues, cleaning of contaminated products, catalogue cleaners

U-1000 Cleaning Station



Tank cover Special tank cover designed to ensure minimum heat loss





Closed-circuit pump Circulation pump installed externally provides easy access during the cleaning process or deaeration.



Drain valves

Located at the lowest tank point to ensure full discharge sludge and other impurities.

Application:

- cleaning prior to powder coating,
- galvanisation (degreasing, phosphate treatment)
- cleaning of sub-assemblies
- regeneration of mesh filters
- removal of abrasive compounds
- cleaning of coolers, exchangers
- cleaning of vulcanisation moulds
- cleaning of small castings, moulds, little dies
- cleaning of high-pressure apparatus

Features:

- top-surface rinsing system
- settler for grease and light contaminants
- sludge settler
- effective contamination separation
- microprocessor controller
- thermal and acoustic insulation
- customisable for use within process lines
- fluid filtration

The U-1000 cleaning stations offer efficient use of cleaning agents.



9 0

4

Condensate drainage system Provides condensate discharge into the station cham ber. Helps maintain clearness at the working site of the cleaning station.

bottom.

U-1000 Cleaning Station

Microprocessor controller The controller makes it possible to replace a time-switch and a thermostat as well as ensures smooth control of operating time and heating temperature in the cleaning station. The controller can be set to force pulsing mode of operation. Pulsing mode (e.g. ultrasounds for 1.0 sec. and pause for 0.2 sec.) facilitates solution degasification and the contaminants fall into the settler quicker. During the pause period, gas bubbles freely escape from the solution upwards, whereas contaminants fall to the



- 1. Tub frame
- 2. Rinsing pump
- 3. Heaters
- 4. Sludge drain
- 5. Upper settler
- 6. Settler drain
- 7. Controller
- 8. Ultrasonic panels
- 9. Dirty compartment
- 10. Rinsing direction

Industrial Cleaning Stations



Cleaning line for heavy workpieces with a length up to 3 linear metres, to be operated in auto or manual mode.

Cleaning line components:

- U-1000 type ultrasonic cleaning station
- 2 x W-1000 type rinsing chambers
- pumping system that collects contaminants
- bath levelling system (cascade)
- automatic handling system



Basket handling unit - semi-automatic unit

- semi-automatic unit - U-1000 type ultrasonic cleaning station - rinsing chamber - chamber-type dryer - handling system w/ electric telpher



ULTRON R-3 drum-type ultrasonic cleaning station

Designed for cleaning, rinsing and drying large quantities of small workpieces.



Line for cleaning and drying PCBs. **Cleaning line components:** - U-1000 type ultrasonic cleaning station - rinsing chamber - chamber-type dryer



The U-1000 type cleaning stations are designed for operation under heavy-duty conditions:

- humidity
- dustiness
- resistant to chemical agents

leaning line for workpieces w/ phosphate treatment and drying. **Cleaning line components:** - U-1000 type ultrasonic cleaning station - phosphate treatment tub w/ bath activation - rinsing chamber - chamber-type dryer - slidable hatch system









Industrial Cleaning Stations

Line designed for surface preparation of large workpieces Cleaning, phosphate treatment, rinsing, drying.

Cleaning line components:

- U-1000 type ultrasonic cleaning station
- phosphate treatment tub w/ bath activation
- 2 rinsing chambers
- dryer
- tub manipulator



U-1000 type ultrasonic cleaning station w/ a pneumatic lifting-lowering system.

Tunnel-structured enclosure.



Shower Cleaning Stations



Spray cleaning station w/ a rotary basket.



Spray cleaning station with a rotary basket, equipped with a dosing brush.



Chamber-type spray cleaning station w/ a rotary basket.

Standard cleaning station equipped with:

- basket-driving mechanism
- oil contamination separator
- filtration of insoluble impurities
- belt skimmer for oil removal



Chamber-type spray cleaning station w/ a rotary nozzle system (front-loaded). Optional roller table for loading operations.

.....

Four-treatment spray cleaning station (front-loaded) for heavy workpieces.

- cleaning
- rinsing
- drying

Spray cleaning station for small workpieces placed in a basket that rotates inside.



Automatic pass-through spray cleaning station with 2 zones for cleaning small workpieces. Visible water vapour condensation system (optionally).

Dimensions of the main cleaning chamber are always customised.

Dimensions of the cleaning chamber are always customised.

Shower Cleaning Stations

Available treatment procedures:

- phosphate treatment









Aluminium chromate and steel phosphate treatment line.

Equipment of the line includes:

- U-1000 type ultrasonic cleaning station
- surface treatment tub
- rinsing tub
- chamber-type dryer

Tub manipulator for handling workpieces in the basket.

Control executed by a microprocessor controller with visualisation of process parameters.

Cleaning line for workpieces of more intricate detail.

Equipment components:

- ultrasonic cleaning station (one or more)
- rinsing chambers
- chamber-type dryer

The equipment has a handling unit for the rotary basket. The entire structure is housed in a tunnel-type enclosure (with vapour extraction).

Loading and unloading of workpieces in the storage zone. Automatic mode, controller. Unrestricted microprocessor operating configuration.





Line for treatment of aluminium and steel workpieces. **Equipment components:**

- ultrasonic cleaning station with two ultrasound ranges (21.5 and 50 kHz)
- rinsing cahmber
- process tubs for chemical treatment
- two rinsing chambers in a cascade with bath regeneration in the last rinsing unit.
- chamber-type dryer

Automatic tub manipulator for handling workpieces in the basket or using H-beams, integrated into the paint shop conveying system. Control executed by a microprocessor controller (optional remote control) and visualisation of process parameters.

Bath heating with a heat exchanger, drying – burner. Gas-fired central heating.





LUA-1000 Line

Equipment components:

- U-1000 type cleaning station cleaning of workpieces upstream of the FPI chamber
- rinsing chamber
- chamber-type dryer
- automatic handling manipulator

Automatic manipulator for handling workpieces in the basket. Control provided by the SIEMENS S7 microprocessor controller with visualisation of parameters. Vapour condensation system.



LUA-1000 Line

Equipment components:

- U-1000 type cleaning station cleaning of automotive pieces
- U-1000 type ultrasonic cleaning station
- vacuum dryer
- corrosion protection tub
- chamber-type dryer
- automatic handling manipulator

Automatic manipulator for handling workpieces in the basket. Control provided by the SIEMENS S7 microprocessor controller with visualisation of parameters. Vapour condensation system. External oil contamination separator. Roller table system.



LUA-1000 Line

Equipment components:

- U-1000 type ultrasonic cleaning station etching of aluminium tubes
- process tubs for chemical treatment and rinsing
- chamber-type dryer
- automatic handling manipulator operating together with the rotary basket

Automatic manipulator for handling workpieces in the rotary basket.

Control provided by the SIEMENS S7 microprocessor controller with visualisation of parameters displayed on the KTP-1000 panel. Separate feed-in and feed-out zone to operate all basket at the same time.



LUA-1000 Line

Equipment components:

- U-1000 type ultrasonic cleaning station copper degreasing and passivation
- rinsing chambers
- chamber-type dryer
- automatic handling manipulator operating together with the rotary basket

Automatic manipulator for handling workpieces in the rotary basket. Control provided by the SIEMENS S7 microprocessor controller with visualisation of parameters displayed on the KTP-1000 panel. Equipped with an automatic 3-position loading and unloading system.



LUA-1000 Line

Equipment components:

- U-1000 type ultrasonic cleaning station cleaning of injection moulds
- U-1000 type ultrasonic cleaning station post-cleaning
- 2 x rinsing chambers
- chamber-type dryer
- automatic handling manipulator operating together with the basket

Automatic manipulator for handling workpieces whose mass is up to 1500 kg Control provided by the SIEMENS S7 microprocessor controller with visualisation of parameters displayed on the KTP-1000 panel. Low trolleys to transfer the basket with workpieces.



LUA-1000 Line

Equipment components:

- U-1000 type ultrasonic cleaning station cleaning of rings after grinding
- 2 x rinsing chambers
- chamber-type dryer
- automatic handling manipulator operating together with the basket

Automatic handling manipulator with basket tilting by ± 15° in all tubs. Control provided by the SIEMENS S7 microprocessor controller with visualisation of parameters displayed on the KTP-1000 panel. Equipment with "multi-basket" functionality. An external oil separator extends cleaning bath lifetime.



LUA-1000 Line

Equipment components:

- U-1000 type ultrasonic cleaning station degreasing of small workpieces
- 1 x rinsing chamber
- chamber-type dryer
- automatic handling manipulator operating together with the basket

Automatic handling manipulator suitable for single-basket operation.

Control provided by the SIEMENS S7 microprocessor controller with visualisation of parameters displayed on the KTP-1000 panel. Equipped with a coil-based heating unit. Filtration system with a magnet insert.



LUA-1000 Line

In order to obtain very high performance, the machine is designed for dual operation. The use of servo drives reduces the manipulator travelling time to a minimum.

Equipment components:

- U-1000 type ultrasonic cleaning station (on the left and right side)
- rinsing chamber (on the left and right side)
- DEMI rinsing chamber (on the left and right side)
- chamber-type dryer (on the left and right side)
- automatic handling manipulator for use with two tubs at the same time

Automatic manipulator for handling workpieces in the basket. Control provided by the SIEMENS S7 microprocessor controller with visualisation of parameters. Double-filter system in each tub. External oil contamination separator. Roller table system.



Line for surface preparation before powder coating.

Equipment components:

- U-1000 type ultrasonic cleaning station
- phosphate treatment tubs with bath
- aeration and surface rinsing
- rinsing chambers
- chamber-type dryer

Manipulator-operated tubs. The line is equipped with two storage zones – at the beginning and the end. Control ensured by a microprocessor controller with visualisation of operation.









Line for surface preparation of aluminium and steel workpieces before painting.

Equipment components:

- U-1000 type ultrasonic cleaning station
- chemical treatment tub
- rinsing chamber
- chamber-type dryer

Tub manipulator for handling workpieces in the basket or using H-beams. Control executed by a microprocessor controller with visualisation of process parameters.

Control system for the ULTRON process lines.

The machines are equipped with manual control or microprocessor controllers of different complexity to facilitate operation and provide visual monitoring of the machine's operating parameters.

Visualisation software offers real-time process monitoring and parameter modification.

Settings can be change at any moment without interruption to the process.





Cleaning Stations and Dedicated Equipment



Cleaning station designed for anilox rolls and sleeves. The machine is equipped with a mechanical shaft drive and length adjustment.





Ultrasonic cleaner for instruments. Application: medical.





Cleaning station for DPF (particulate filter) and catalysts

Equipment suitable for cleaning DPFs and catalysts. Mobile design to facilitate relocation. Equipment: sized output and frequency of the ultrasonic system, bath deoiling system, solid particle filtration, second chamber for rinsing and drying workpieces. It is possible to manufacture the machine with any dimensions required.

Ultrasonic cleaning station suitable for cleaning vertical blinds and shutters. Equipped with two chambers: ultrasonic cleaning and rinsing enhanced by the bath aeration system.



Cleaning station designed for anilox rolls and sleeves. The machine is equipped with a mechanical shaft drive and length adjustment.

Automatic chamber dryer for full-face respirators.

Cleaning Stations and Dedicated Equipment

The ultrasonic cleaning station features surface rinsing with the medium, and oil contamination separator. Designed for cleaning small workpieces in the basket.



Cleaning Stations and Dedicated Equipment



Wheel washer

Designed and built by ULTRON, ultrasonic cleaning station for washing car wheels.

Advantages:

- Cleaning of wheels without the need to remove the tyre from the rim
- Suitable for aluminium and steel rims
- Cleaning aided by ultrasounds at 60 kHz and an innovative Venturi nozzle system
- Thorough cleaning of all rim types, including wire rims
- Cleaning at approx. 40°C
- Automatic wheel lifting and lowering, rotation during the washing cycle. Manual vertical rotation to remove the wheel
- Quick-acting wheel insertion and clamping system
- Microprocessor control
- Closed-circuit operation with solid contamination filtration
- Using a cleaning preparation (approved by the National Institute of Hygiene ULTRON UNI PLUS, at a concentration of 5%) means perfect degreasing for proper attachment of balancing weights.

Cleaning cycle 5 minutes, up to 21-inch wheel sizes.

Parameters: machine with usable dimensions of the working chamber:

Length - 900 mm, Width - 450 mm, Depth - 600 mm

Usable chamber capacity: 240 I. Total washer capacity: 330 I.

Equipped with:

- heating of the cleaning medium up to 80°C; electric heaters with a total power of 7.5 kW
- three panels with ultrasonic transducers and ULT 911 A generators with a total power of 2.2 kW
- Ultrasonic unit mounted on a side wall.
- Venturi nozzle system
- thermal and acoustic insulation of the tank
- necessary fittings together with level and bath temperature sensors
- drain valve located on the inclined bottom of the tub to discharge the bath completely
- cleaning bath filtration system
- automatic UP-DOWN lift with a wheel rotation unit during the cleaning cycle and complete wheel fasteners
- control panel with water-ingress protection



"Hydrocyklon" centrifugal filtration system with a dedicated pump The hydro-cyclone removes solid particles from the fluid in the flow section or by-pass section.

It is often used in pressurised cleaning station to filter the fluid before being supplied to nozzles. The fluid flows through the inlet (tangential to the inlet chamber) and through a series of apertures creating whirling motion and the distribution chamber. Heavier particles in the fluid are thrown away by whirling motion due to the centrifugal force towards internal walls of the distribution chamber and fall down into the settling chamber. The fluid without suspended matter is returned in counter-current through a reduced pressure zone to the outlet. The suspended matter separated in the sedimentation chamber is drained through a blowing-down connector. Desludging - manual or automatic.

is suitable for cleaning cylinder heads.

Standard equipment includes:

- sludge settler
- closed-circuit rinsing system for working surfaces
- heating of the cleaning medium up to 80°C; electric heaters with a total power of 10 kW
- six panels with ultrasonic transducers and ULT 911 A generators with a total power of 3 kW Panels located in the tub bottom
- subsurface shower system (Venturi nozzle system + stainless steel pump) for the post-cleaning of head channels.
- thermal and acoustic insulation of the tank
- manual control of time and temperature
- drain valve located on the inclined bottom of the tub to discharge the bath completely
- top cover with thermal insulation
- basket



Cleaning Stations and Dedicated Equipment

External oil contamination separator:

External cascade separator collecting grease and light contaminants, equipped with a large-area coalescence insert used to concentrate and precipitate oil. The precipitated oil is collected near the scraper chute. Used for demulgation fractions.

"Hydrocyklon" centrifugal filtration system



The U-1000 type ultrasonic cleaning station

- settler with grease and light contaminant separator

- necessary fittings together with fluid temperature and level sensors





Olsztyńska st. 66 11-001 Dywity near Olsztyn phone: 89 511 94 60 phone: 89 511 91 61 phone: 89 511 91 62 fax: 89 511 94 61 e-mail: ultron@ultron.pl info@ultron.pl www.ultron.pl