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Operating Instructions Ultrasonic Cleaners from 53L

These instructions cover the safe installation, operation and care of Labmaterial industrial ultrasonic cleaners from 53L. Read them fully before filling or switching on the unit. Keep them with the unit.

These instructions apply to Labmaterial industrial ultrasonic cleaners from 53L. Model-specific performance, dimensions and power supply are stated in the relevant data sheet and on the nameplate.

Model specifications: 53L and 88L use 230V; 135L, 260L and 360L use 400V. These models operate at 28kHz. Fans cool the electronics: on one side for 53L, 88L and 135L, and on both sides for 260L and 360L. The units are CE, RoHS and FCC compliant.



Before Starting

- Check for transport damage and verify the delivery
- Place the unit securely in a dry, well-ventilated area
- Close the drain tap
- Have qualified personnel check the electrical connection
- Fill at least two thirds full or as indicated by the fill mark/pictogram
- Space workpieces apart in the basket
- Only then switch on the unit

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Safety Instructions

WARNING Follow these instructions before each startup.

- Never operate the unit without water or a suitable cleaning liquid. Fill the tank at least two thirds full or as indicated by the fill mark or pictogram on the unit. Liquid may evaporate during extended heating. Check the level and top up in good time. Dry operation can damage the unit and presents a fire hazard.
- Do not touch the liquid during operation. Hot liquid can cause burns; ultrasonic energy can cause injury.
- Never use flammable solvents such as alcohol, acetone or ether. Vapours may ignite. Use only suitable, non-flammable cleaning liquids.
- Before filling, emptying, cleaning or moving the unit, switch off the main switch and safely disconnect the power supply.
- Have qualified personnel check the electrical connection, protective earth and circuit protection. Follow the nameplate and local regulations.
- Do not touch plugs, switches or controls with wet hands. Protect the housing, electrical connection and control panel from splashes.
- Keep ventilation openings clear. Do not place the unit on soft surfaces or operate it near flammable gases, corrosive vapours, high humidity or strong temperature fluctuations. Where a fan is fitted, it cools the electronics.
- Place workpieces in the basket. Do not place or drop parts directly onto the tank bottom. Do not overload the basket or overlap parts.
- Keep the lid closed during operation where the process allows. This reduces splashing, heat loss and evaporation.
- Do not leave the unit operating unattended. Avoid continuous operation exceeding 24 hours. For extended use, check the liquid level, temperature and unit regularly.
- If smoke, sparks, a burning smell, unusual noise or another fault occurs, switch off immediately, disconnect the power supply and stop using the unit.
- Only instructed persons may operate the unit. Do not open the housing; repairs must be carried out by qualified personnel.
- Move the unit only when completely empty. Lock the castors before operation, if locks are fitted.

Warranty and liability: We exclude all warranty claims and other liability in cases of improper storage or handling, overloading or use other than intended.

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Intended Use

The unit generates ultrasonic waves in water or a suitable, non-flammable cleaning liquid. The resulting cavitation removes contamination from gaps and recesses. Check that the workpiece, liquid, temperature and ultrasonic power are compatible before cleaning. The unit is intended for cleaning and does not replace validated sterilisation or disinfection.

Scope of Delivery and Inspection

The scope of delivery depends on the order and model. Check the components against the delivery documents. Remove packaging carefully and inspect the unit, tank, controls, castors, drain tap and electrical cables for visible damage. Do not connect a damaged unit.

Installation and Electrical Connection

- Place the unit on a level, clean, dry surface with sufficient load capacity.
- Leave sufficient clearance around vents and side panels. Keep the drain accessible.
- Lock the castors, if locks are fitted. Never move the unit while filled.
- Close the drain tap and prepare a safe drainage route for emptying later.
- The Labmaterial versions covered by these instructions have a rated supply voltage of 230V/400V. Always follow the nameplate. Qualified personnel must provide the connection and circuit protection in accordance with local regulations.
- Route electrical cables so that they cannot contact water, cleaning liquid or hot surfaces.

Filling and Loading

- Switch off the unit, disconnect the power supply and check that heating and ultrasound are off.
- Fill the tank with a suitable cleaning liquid. Fill the tank at least two thirds full or as indicated by the fill mark or pictogram on the unit. Do not exceed any MAX mark; observe the minimum level marked on the unit.
- Space workpieces apart in the basket. Do not overlap parts or place them directly on the tank bottom.
- Lower the basket carefully into the tank. The liquid must adequately cover the area to be cleaned.
- Fit the lid. Only then connect the unit correctly to the power supply and switch on the main switch.

Control Panel

Control	Function
Temperature display	Shows the current temperature and the target temperature during adjustment.
TEMPERATURE + / -	Sets the target temperature; press briefly for 1°C steps, or hold for faster adjustment.
HEATING ON/OFF	Switches the heater on or off.
Time display	Shows the set time or remaining operating time.
TIME + / -	Sets the timer; press briefly for 1min steps, or hold for faster adjustment.
ULTRASONIC ON/OFF	Starts or stops ultrasonic cleaning.
Power control	Sets ultrasonic power within the model-specific range.

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Cleaning Cycle

Setting the Timer

After startup, the time display shows the default value of 3min. Use TIME + or TIME - to set a duration from 1 to 99min. The time required depends on the workpiece, contamination, temperature, ultrasonic power and cleaning liquid. Start with a short cycle and check the result.

Using the Heater

Set the target temperature with TEMPERATURE + or TEMPERATURE -. For many applications, 40 to 60°C is suitable. Higher temperatures do not automatically improve cleaning. The maximum set temperature is 80°C.

Press HEATING ON/OFF. The heating indicator lights while heating is active. The heater maintains the set temperature and restarts as needed. When the set cleaning time has elapsed, ultrasound and heating switch off automatically. Check the liquid level during extended heating.

Setting Ultrasonic Power

Set the power control to a low or medium level initially. Increase it gradually for robust workpieces. For delicate, coated or precision parts, start with low power and a short cycle. Check material compatibility beforehand.

Starting Ultrasound

Press ULTRASONIC ON/OFF. The ultrasound indicator lights and a steady operating sound is audible. When the set cleaning time has elapsed, ultrasound and heating switch off automatically. To stop early, press ULTRASONIC ON/OFF again.

During Operation

- Monitor the liquid level, temperature and cleaning action. Do not touch the liquid or insert or remove workpieces while ultrasound is active.
- If noises are loud or irregular, check the liquid level and load. Switch off if the unit behaves abnormally.

Selecting the Cleaning Liquid

Water is a cleaning medium for many applications. A small amount of suitable, non-flammable cleaning concentrate may improve performance. Follow the cleaning agent’s dosage, material compatibility and safety data sheet.

- Do not add flammable solvents to the tank.
- Do not mix chemicals without verifying compatibility.
- Strongly acidic or alkaline solutions can attack the tank, housing and workpieces. Use only expressly suitable methods and, where necessary, a separate insert container.
- Test sensitive materials on a non-critical area first.
- Replace the cleaning liquid when its effectiveness decreases or it is heavily contaminated.

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Stopping and Emptying

- Switch off ultrasound, heating and the main switch, then safely disconnect the power supply.
- Allow hot cleaning liquid to cool to a safe temperature before emptying.
- Remove the basket carefully. Let workpieces drain and rinse with clean water if required.
- Prepare a suitable hose or collection container at the drain. Open the tap slowly and drain in a controlled manner. Follow disposal rules for the liquid and contaminants.
- Clean and dry the tank interior with a soft cloth. Wipe the housing with a slightly damp cloth only; keep liquid out of vents and controls.
- Close the drain tap and store the unit dry.

Care and Maintenance

- Empty, rinse and dry the tank after every use.
- Do not use sharp, abrasive or corrosive cleaning tools or products on the tank or housing.
- Inspect electrical cables, switches, drain tap, castors and vents regularly.
- Keep vents clean and unobstructed.
- Do not open the housing. Repairs and electrical checks must be carried out by qualified personnel.
- Store the unit clean, dry and protected from frost. Do not place heavy objects on the lid.

Troubleshooting

Fault	Checks and Action
No display	Have qualified personnel check the main switch, connection, circuit protection and power supply. Stop using the unit if visibly damaged.
No ultrasound	Check timer, ULTRASONIC ON/OFF, power control and liquid level. If the fault persists, switch off and contact service.
No heating	Check the target temperature and HEATING ON/OFF. Heating takes time depending on volume and initial temperature.
Irregular operation	Check liquid level, load and workpiece spacing. Parts must not rest on the tank bottom.
Liquid leak	Switch off and disconnect immediately. Check drain tap, hose connection and tank. Do not use the unit if the cause is unclear.
Smoke, sparks or burning smell	Switch off immediately, safely disconnect and do not restart. Contact service.

Service and Documents

For technical questions, spare parts or service, have the product code, serial number, nameplate details and a brief fault description ready.

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