ALSTRON

Alstron Ultrasonic Cleaner

ALD Series

USER MANUAL



Product of Singapore

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What is Ultrasonic Cleaning

Ultrasonic cleaning uses high-frequency sound waves in a liquid medium to create tiny bubbles that collapse rapidly (implosion), generating intense energy that removes dirt and contaminants from hard-to-reach areas and surfaces of objects, making it an effective method for cleaning various products like jewellery, watches, dental devices, eyewear, bicycle parts and accessories, and workshop tools.

Alstron's ALD Series, with its innovative design and user-friendly features like touch-sensitive panels, memory function, pulse effect, and efficient heating, provides a variety of options with different ultrasonic power, volume size, and internal tank dimensions to cater to different cleaning applications and requirements.

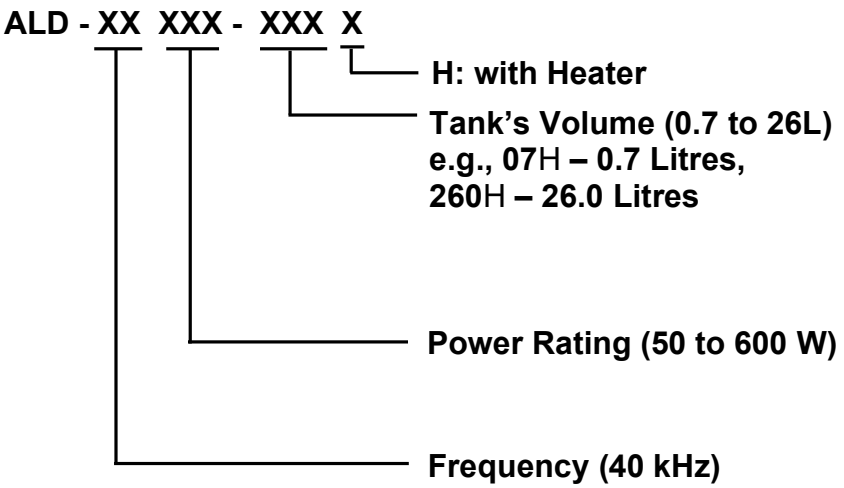


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Range of Units and Technical Data

Model	Power (Watts)	Volume Size (Litres)	Internal Tank Dimension (mm)	Frequency (kHz)	Timer (mins)	Memory Timer	Heating	Drain Outlet	Carrying Handles	Unit Weight (kg)	High Density Mesh (Optional)
ALD-40050-07H	50	0.7	152 x 87 x 65	40	30	✓	✓	×	×	2.3	AHBK-ALD-14007 5040-00-07L
ALD-40050-12H	50	1.2	152 x 137 x 65	40	30	✓	✓	×	×	2.5	AHBK-ALD-14012 5040-00-12L
ALD-40050-18H	50	1.8	152 x 137 x 100	40	30	✓	✓	×	×	2.7	AHBK-ALD-14012 5070-00-18L
ALD-40050-20H	50	2.0	234 x 132 x 65	40	30	✓	✓	×	×	3	AHBK-ALD-23012 7040-00-20L
ALD-40100-20H	100	2.0	234 x 132 x 65	40	30	✓	✓	×	×	3.5	AHBK-ALD-23012 7040-00-20L
ALD-40100-25H	100	2.5	152 x 140 x 150	40	30	✓	✓	×	×	3.7	AHBK-ALD-14012 7110-00-25L
ALD-40100-28H	100	2.8	234 x 137 x 100	40	30	✓	✓	×	✓	3.8	AHBK-ALD-23012 5085-00-28L
ALD-40100-38H	100	3.8	302 x 152 x 100	40	30	✓	✓	×	✓	5	AHBK-ALD-29014 2070-00-38L
ALD-40150-38H	150	3.8	302 x 152 x 100	40	30	✓	✓	×	✓	5.2	AHBK-ALD-29014 2070-00-38L
ALD-40150-60H	150	6.0	302 x 152 x 150	40	30	✓	✓	✓	✓	5.5	AHBK-ALD-29014 2110-00-60L
ALD-40200-60H	200	6.0	302 x 152 x 150	40	30	✓	✓	✓	✓	6.5	AHBK-ALD-29014 2110-00-60L
ALD-40300-90H	300	9.0	298 x 239 x 150	40	60	✓	✓	✓	✓	9	AHBK-ALD-29022 9110-00-90L
ALD-40400-130H	400	13.0	302 x 240 x 200	40	60	✓	✓	✓	✓	12	AHBK-ALD-27521 6180-00-130L
ALD-40500-150H	500	15.0	328 x 302 x 150	40	60	✓	✓	✓	✓	13	AHBK-ALD-32029 0110-00-150L
ALD-40500-200H	500	20.0	498 x 296 x 150	40	60	✓	✓	✓	✓	16	AHBK-ALD-48828 2110-00-200L
ALD-40600-260H	600	26.0	498 X 296 x 200	40	60	✓	✓	✓	✓	18	AHBK-ALD-48728 3155-00-260L

Model Numbers Defined



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Specifications

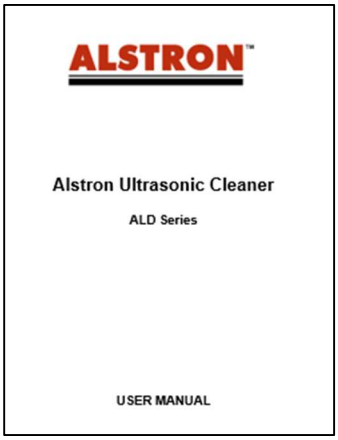
Tank Capacity, Litres (L)	0.7 to 26
Ultrasonic Power, Watts (W)	50 to 600
Working Frequency (kHz)	40
Power Supply	Single Phase, 230Vac (50/60Hz)
Operation Time	Up to 30 mins (for units **ALD-40050-07H** to **ALD-40200-60H**) Up to 60 mins (for units **ALD-40300-90H** to **ALD-40600-260H**)

What's In Your Box

1. ALD Unit
2. Power Cord
3. Stainless Steel Basket
4. Cover Lid
5. User Manual









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How to Operate your Ultrasonic Cleaner

1) **SEC Display** shows the timer's countdown in seconds (00 – 59)
2) **MIN Display** shows the timer's countdown in minutes (30/60*)

   *Refer to the previous page on Operation Time for selected units.
3) **LED Indicator (ULTRASONIC)** indicates the state of the ultrasonic cleaning operation – Continuously lit: Ultrasonic is activated and running.
4) **INCREASE TIME** press to increase (increment of 5)
5) **DECREASE TIME** press to decrease
6) **START/PAUSE** press to start/pause the Ultrasonic cleaning process
7) **POWER** press to activate/deactivate the power to the Ultrasonic Cleaner
8) **Set°C Display** indicates the set temperature you wish to maintain
9) **Actual°C Display** shows the actual tank's temperature
10) **LED Indicator (HEATER)** indicates the state of the heater in operation – Continuously lit: The heater is activated and running.
11) **DECREASE TEMP** press to decrease the heater's temperature
12) **INCREASE TEMP** press to increase (increment of 5)

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Before you begin cleaning

! Warning !

- Do not operate when the tank is empty.
- Do not allow the water level to drop more than half with the Ultrasonic cleaner running.
- Do not use flammable solutions such as IPA, alcohol, or acetone directly in the tank that could cause fire hazards.
- Do not use strong hazardous chemicals that could cause damage to the tank. Use a glass beaker with care as an indirect cleaning method.
- Do not place objects directly on the bottom of the tank; use an appropriate mesh basket or apparatus to suspend the items.

The warranty will be voided should you fail to comply with the proper use.

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Maintenance Instructions

- **Touch-sensitive buttons** – lightly apply pressure on the buttons and avoid using excessive force on the buttons that could damage them.
- **Storage** – store the Ultrasonic Cleaner in a well-ventilated, dry, and cool place when not in use. Unplug the power cord and keep the unit dry and clean.
- **Electronics Maintenance** – after operating for 3 continuous cycles, stop for about 15 minutes at the end of the 3rd cycle before operating again to better protect the electronic components.
- **Disposal** – proper disposal and drainage of liquid should be observed. Always unplug the cleaner before draining. Check the tank for any contamination. Remove any contaminant as necessary in a safe manner.
- **Emptying water** – Allow the inner tank to be cooled after operating at a high temperature before draining. For a faster cooldown, fill at least half the tank with cool water and allow it to sit for a few minutes before draining.
- **Low Water Level** – This will affect the unit's frequency and efficiency, causing it to stress, overheat and fail quicker. After operating for some time or during the removal of parts, the water level will naturally drop below the operating level. Monitor and ensure the tank has the water level maintained accordingly when in use.
- **Direct Contact with the Bottom of the Tank** – Suspend and position the items above the base of the tank adequately for optimal cleaning. This can help to prevent damage to the items and the transducers.
- **Quick Heating** – When adjusting the water temperature, always mix boiling/hot water with room-temperature water first. Add small amounts of hot water gradually, allowing the ACTUAL temperature to stabilise after each addition, and avoid exceeding 60°C using this method. Never pour boiling water directly into the tank without pre-mixing, as sudden temperature can damage components.

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Different Ways of Cleaning

"The best way to find out the best or desired results is to find out the optimal temperature, cleaning cycles, and process variables through tests."

General Cleaning

A clean water bath can act as a rinsing bath to remove any remnant dirt from the surface of the items being cleaned.

Enhanced Cleaning

Set a temperature to about 50 to 60°C with an appropriate amount of standard cleaning solution; Soap, detergent, or non-acidic/water-based cleaning agents work best at higher temperatures. Replenish as necessary when you observe a decrease in the cleaning action.

Extensive Cleaning

For removing Tarnish, Carbon & Rust from non-plated metals, it is recommended to use a specialised solution (depending on the application, it is possible to pre-soak before using the ultrasonic cleaner for surface cleaning. Inspect and repeat the necessary procedure till satisfaction). Tarnish is a form of corrosion and causes certain metals to dull. Polishing after cleaning can help restore its original shine.

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Cleaning Steps

1. Fill the tank with water (and solution if required).

2. Connect the power cable to the unit and plug it into a functional electrical socket.

3. Switch on the Power Switch at the back of the unit.
   - All the displays will light up upon switching on.
   - Display settings will show as **00 00**.

4. Set the desired temperature (0 - 70°C) which is displayed on the Set°C Display.
   Note: Please set the SET Temperature between the range of 0 to 70°C.

   The heater will begin to operate (with the LED indicator continuously lit) when the SET temperature is higher than the ACTUAL temperature.
   - When the set temperature is reached, the LED indicator will be turned off.
   - If heating is not required, simply set the input as “00” in the Set°C Display.

5. Set the desired ultrasonic cleaning time. The memory timer will be set at the very first cycle.
   - To clear and reset this timing, press the **POWER button** to turn off the Ultrasonic Cleaner, and switch off the Power Switch at the back of the unit. Wait for a few seconds, before switching on the Power Switch again.

6. Press the **START/PAUSE** button to begin the ultrasonic operation. It will stop automatically with a buzzer alert upon completion.
   - To remove items at any time, press the START/PAUSE button to deactivate the ultrasonic. The timer will remain at the last paused time.

7. After finishing the cleaning process, rinse and dry the items as necessary, and turn off the power switch at the back of the unit to power down the unit.

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Suggested Applications

Airbrushes, Spray Guns

Automotive & Aviation Components

Biking Parts

Calligraphic Pen/Nibs

Computer Plotter Pens/Nips

Dental & Surgical Instruments

Equipment or components of a Hobbyist nature; 3D modeling, fishing, diving, etc.

Experimental Works

Fuel Injectors

Geological & Metallurgical Specimen

Hypodermic Needles

Inkjet Printer Cartridges

Jewelry Manufacturing

Kitchen Wares

Laboratory Glassware & Apparatus

Lenses & Optical Components

Metal/Rubber seals

Metal & Fiber Filters

Microelectronic Circuits & Components

Molding Dies

Nozzles

Printed Circuit Board (PCBs)

Production Line Cleaning

Scientific & Industrial Instruments

Spectacle Frames & Lenses

Toiletry Wares

Watches & Clockwork

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Troubleshooting Procedure

Scenario	Possible Reasons	Remedy
1. The unit fails to turn on when the power switch is activated, indicated by the absence of the power switch's indicator light.	1. Unit is not properly plugged into a power source; 2. Power source is not functional; 3. Cable's fuse is blown.	Ensure the unit Is plugged in and the power switch at the back is on. If the display remains off, test another device on the same outlet to verify the power source. Contact Alstron Singapore for assistance.
When Unit is ON		
1. Heater and timer values cannot be set; 2. Ultrasonic operation does not start.	1. Pressing of button not detected; 2. Faulty button; 3. PCB Card damaged due to improper usage.	Check if you can adjust the heater or timer values by pressing the buttons; ensure they display correctly with a 'beep' for each press. If issues persist, reset the unit by turning off the power switch at the back, switching off the main power source, waiting a few seconds, and then turning it back on. Contact Alstron Singapore for troubleshooting tips and assistance.

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3. The indicator light on the power switch at the back of the unit is off, but the heater, timer, and ultrasonic functions are working correctly.	1. The indicator lamp might be blown.	Contact Alstron Singapore for rectification.
4. The heater indicator light is on, but there is no heating (Actual °C is not reacting to Set Temp. or Actual °C is consistently reflecting room temperature)	1. Heater damaged.	Contact Alstron Singapore for rectification.
5. The heater indicator light is off, but the heater is operational (Actual °C matches Set Temp.) Note: The temperature must not be that of the room.	1. Faulty connection; 2. The Indicator Light malfunctioned.	Contact Alstron Singapore for rectification.
Others		
1. The display sticker is peeling.	1. Adhesive has worn off	Contact Alstron Singapore for rectification.

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Accessories

We offer additional accessories, including borosilicate beakers, high-density mesh baskets, custom beaker holders, and safe, environmentally friendly, non-toxic cleaning chemicals for general cleaning purposes.





High Density Mesh

Grid I.D.: 5 x 3.5 (mm)





Warranty

ALSTRON Ultrasonic Cleaners come with a 2-year warranty, subject to manufacturer's defects.

The warranty will be void under the following conditions:

1. Operating the unit without water/solution;
2. Using corrosive or volatile cleaning agents;
3. Improper usage or tampering with the unit;
4. Running the unit with IPA/Alcohol directly in the tank;
5. Overloading the tank.

Alstron Singapore Pte Ltd shall not be liable for accidents or fire hazards resulting from failure to observe safety procedures. The user has sole discretion over the usage of solutions/cleaning agents.

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