SPECIFICATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Professional Ultrasonic Cleaner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>P4831-NH (no heater)</td>
</tr>
<tr>
<td>Tank Capacity</td>
<td>3L / 3.2 quart (US)</td>
</tr>
<tr>
<td></td>
<td>Max. 2.5L / 2.6 quart (US)</td>
</tr>
<tr>
<td></td>
<td>Min. 1.5L / 1.6 quart (US)</td>
</tr>
<tr>
<td>Tank Size</td>
<td>25.0 x 17.4 x 7.8 cm / 9.8&quot; x 6.9&quot; x 3.1&quot;</td>
</tr>
<tr>
<td>Longest Item Fits inside Tank</td>
<td>26.6 cm / 10.5&quot;</td>
</tr>
<tr>
<td>Power Supply</td>
<td>80 W (AC 100~120V 50/60 Hz)</td>
</tr>
<tr>
<td></td>
<td>80 W (AC 220~240V 50/60 Hz)</td>
</tr>
<tr>
<td></td>
<td>80 W (AC 100V 50/60 Hz)</td>
</tr>
<tr>
<td>Digital Timer Settings</td>
<td>1 to 30-minute full range timer with memory</td>
</tr>
<tr>
<td>Drainage</td>
<td>Drainage valve</td>
</tr>
<tr>
<td>Ultrasonic Frequency</td>
<td>35,000 Hz</td>
</tr>
<tr>
<td>Tank Material</td>
<td>Stainless Steel SUS304</td>
</tr>
<tr>
<td>Housing Material</td>
<td>ABS</td>
</tr>
<tr>
<td>Net Weight</td>
<td>5.1 kg / 11.3 lb</td>
</tr>
<tr>
<td>Gross Weight</td>
<td>6.1 kg / 13.4 lb</td>
</tr>
<tr>
<td>Unit Size</td>
<td>45.5 x 27.5 x 21.0 cm / 17.9&quot; x 10.8&quot; x 8.3&quot;</td>
</tr>
<tr>
<td>Inner Carton Size</td>
<td>49.0 x 31.5 x 28cm / 19.3&quot; x 12.4&quot; x 11&quot;</td>
</tr>
<tr>
<td>Qty per Master Carton</td>
<td>1 pc / ct</td>
</tr>
<tr>
<td>Master Carton Size</td>
<td>50.5 x 33 x 30.5 cm / 19.9&quot; x 13.0&quot; x 12.0&quot;</td>
</tr>
</tbody>
</table>

Warranty

This unit carries a one-year warranty for parts and labor for quality defects. Damages caused by misuse or careless uses of the unit are not covered. Customer is responsible for shipping both ways outside of the continental USA and one way within the continental USA. Contact us first before sending the unit back. To register for warranty, email the receipt and the serial number to warranty@isonicinc.com.

iSonic Inc.
2243 S. Throop St. Chicago, IL 60608 USA
Tel: +1-847-850-0404 info@isonicinc.com
www.isonicinc.com

© iSonic Inc. v. 20191218
iSonic® is a registered trade mark of iSonic Inc.

FEATURES

1. Large tank capacity
   Tank capacity 3.0 L / 3.2 qt.
   Tank size 25.0 x 17.4 x 7.8 cm / 9.8" x 6.9" x 3.1"

2. Control panel with capacitive sensing technology
   Durable, reliable, resistant to water and harsh chemicals
   Convenient to use

3. Drainage valve
   Ø 45mm super-sized stack transducer (80W), 30% more powerful than standard stack transducer
   Recalls last timer setting

4. Super-sized ultrasonic transducer
   Easy to operate, with 4 key control panel, 6 timer settings
   When overloaded or improperly used, the protectors shut down the power to certain areas to protect the machine
   Improves heat dissipation and beneficial for continuous operations
   PCBs are placed vertically for better moisture-proof performance. Better anti-interference
   One-piece stainless steel basket, stainless steel rack and basket, plastic basket, beaker, perforated stainless steel beaker, beaker holders
   4.5 mm thick wall housing made from engineering grade plastic with tongue in groove design for better water-proof and drop-proof performances, 60% quieter than steel housing designs, suitable for indoor uses
INTRODUCTION

Use tap water. Special solutions are not necessary in most cases.

**Principles of ultrasonic cleaning:**
Millions of tiny air bubbles are generated within liquid by high frequency vibration. The air bubbles burst when in contact with object and dislodge the debris to achieve the cleaning effect.

⚠️ Using tap water is sufficient. Purified water or distilled water has the same cleaning effect as regular tap water for ultrasonic cleaning.

**Main Features**
- Tank opening 25.0x17.4x7.8 cm / 9.8"x6.9"x3.1". Longest item that can fit inside the tank is 26.8 cm / 10.5". Tank capacity 3000 ml / 3.2 qt.
- Multiple options for accessories, suitable for various applications.
- Super-sized Ø45mm stack ultrasonic cleaner (80 W), 30% more powerful than standard stack transducers.
- 3-color LED display, 4-key controls, simple and straightforward to operate.
- Memory feature to recall last timer setting.
- Control panel with capacitive sensing technology. Durable, reliable, resistant to water and harsh chemicals.
- Thermal protector to prevent PCB from overheating due to overload.
- Industrial grade I.C. Moisture-proofed PCB. Cooling fans.
- Drainage valve. Durable valve handle with brass insert.

**Read the Manual First**
The manual should be carefully reviewed before starting to use the device. Warnings should be observed carefully. Please follow the manual for operations.

---

FOIL TEST-QUICK METHOD

Material: Regular aluminum foil used at home kitchens. Do not use heavy duty industrial grade foil. Cut one or multiple pieces ¾” to 1” wide and 2”-3” long.

**Procedure:**
1. To test a single ultrasonic cleaner, remove the basket and anything else in the tank. Add water to half way between MIN and MAX lines marked inside the tank. If no MIN line, add water to about half to ¾ full. Hold the foil vertically into the water, with the short end about ½” for small models or 1” for medium to large size models above the transducer which is typically mounted in the center of the tank on the bottom, underneath a circular platform for Isonic’s models. If an ultrasonic cleaner has multiple transducers, use a new foil each time on each transducer. Start the ultrasonic action and count the time either by using the timer on the unit or with a separate stop watch. Withdraw the foil once it’s 60 seconds. The three edges at the bottom of the foil should have a number of holes or became serrated. This is an indication that the ultrasonic action from the transducer is working properly. Empty the water and rinse the tank clean before using the unit for actual cleaning.

**Note:** ultrasonic action may bend the foil. Try to fold the foil into a L and hold it in the center of the transducer will help to avoid it. Try to keep the foil stay vertically in the water.

2. To compare two or more ultrasonic cleaners, add water to the Maximum line marked inside each tank. Use the same procedure on each unit with the same relative locations and the same duration. Compare two foils afterwards. The foil with more areas with holes or serrated indicates stronger ultrasonic action.

**Note:** This instruction is meant for a quick check of whether an ultrasonic cleaner is working or effective, or a quick comparison between two ultrasonic cleaners. For more detailed analysis, consult with Isonic.

---

**TABLE OF CONTENTS**

- Safety Precautions ................................................................. 1,2
- Items Not Suitable for Ultrasonic Cleaning .......................... 2
- Applications ........................................................................... 3,4,5
- Sample Applications .............................................................. 5,6
- Product Structure and Accessories ....................................... 7
- Product Exploded View .......................................................... 8,9
- Control Panel and Operations .............................................. 10
- Common Cleaning Methods .................................................. 11,12
- Operation Guidelines ........................................................... 13,14
- Care and Maintenance ........................................................ 15
- Optional Accessories ........................................................... 16
- Foil Test-quick Method .......................................................... 17
OPTIONAL ACCESSORIES

One-piece stainless basket for dental, veterinary applications
Note: One-piece basket is quieter than 2-piece rack and basket shown below.

Stainless steel rack and basket for dental, veterinary applications
The rack can be used to support cassettes. Up to 2 layers of cassettes can be used. The tray or basket can be used for loose instruments.

Beaker and beaker holder
Place the beaker holder with beaker across the top of the main cleaning tank as shown. Add water to the main tank so the water level reaches at least half inch (12 mm) above the bottom of the beaker. Add solution inside the beaker(s). It can be used to clean small items such as dental burs and files, nozzles, etc.
Alternatively, use perforated stainless steel beaker to clean small items such as burs and files. It shares the same solution in the main tank.

Removable cleaning chamber
Stainless steel removable cleaning chamber can be used similar to a beaker for indirect cleaning but it is good for larger items. It can hold regular sized dental instruments. It provides a better way to handle corrosive or expensive solutions separately from the main cleaning tank.

SAFETY PRECAUTIONS

⚠ Keep it away from children!
- Please store the ultrasonic cleaner where it is not reachable by children.
- Danger to children! Danger for death through suffocation! Keep the packaging material away from children.
- This appliance shall not be used by children. Keep the appliance and its cord out of reach of children.

⚠ To prevent life-threatening electrical shock, please observe the following:

⚠ Danger of electrical shock! Do not use while bathing. Never immerse the device or the power cord in water or other liquid.
- Danger of electrical shock! Never touch the power plug with wet hands, especially when inserting or removing the plug.
- Danger of electrical shock! If the unit has fallen into water during operation, do not touch the unit. Remove the power plug from the socket first.
- Danger of electrical shock! Do not spray water or liquid over the device.
- Never operate the device unattended.
- Follow the manual to operate the device.
- Do not use components unapproved by the manufacturer.
- When removing the power cord from the socket, grab the power plug not the cord.
- To protect the power cord from damage, do not cause it to get caught by things such as a cupboard door or a chair leg; do not drag across a hot surface.
- If there is damage to the power plug, cord, housing, or other parts of the device, do not use the device.
- Do not disassemble the device, except by professionals.
- If the unit is damaged, non-operational or has fallen into water, take it to a qualified service provider.
- Remove the power plug from the socket
  - if malfunction occurs
  - before cleaning the device
  - if the device is not going to be used for prolonged period
  - after each use (recommended)
- The installation of an earth leakage circuit breaker with a rated tripping current of no more than 30 mA provides further protection against an electrical shock. The installation should only be carried out by a trained electrician.

⚠ To prevent fire hazards, please observe the following:
- Never block the vents on the device. Keep the vents free from lint, hair and other materials.
- Do not place the device on a soft surface, such as a bed or a couch, where the vents could be blocked.
- Observe the other warnings in the previous section.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.
SAFETY PRECAUTIONS

Other observations:
- Do not operate the product without filling the tank with water. Running dry will damage the unit.
- Do not fill the tank above the Max line to avoid overspill.
- Do not use solution containing abrasive substances or strong corrosive chemical solution not recommended by the manufacturer or the supplier.
- Place the device on a dry and flat surface for operation.
- When the device is subjected to severe electromagnetic interference, it may malfunction, stop operating or lose control functions. If this happens, unplug the power cord then reinsert it to restart the device.

IMPORTANT SAFETY INSTRUCTIONS

When using electric appliances, basic precautions should always be followed, including the following:
- Read all the instructions before using the appliance.
- To reduce the risk of injury, close supervision is necessary when an appliance is used near children.
- Only use attachments recommended or sold by the manufacturer.
- Do not use outdoors.
- To disconnect, turn all controls to the off (O) position, then remove plug from outlet. Do not unplug by pulling on the cord. To unplug, grasp the plug, not the cord. Unplug from outlet when not in use and before servicing or cleaning.
- To reduce the risk of electrical shock, do not put the appliance in water or other liquid. Do not place or store appliance where it can fall or be pulled into a tub or sink.
- All servicing of this product, including transducer replacement, is to be conducted by qualified service personnel.
- Do not operate any appliance with a damaged cord or plug, or after the appliance malfunctions or is dropped or damaged in any manner. Return appliance to the nearest authorized service facility for examination, repair, or electrical or mechanical adjustment.

Items Not Suitable for Ultrasonic Cleaning

| Soft Jewelry: | Pearls, emerald, ivory, coral, agate, sea turtle shells, etc |
| Welded, Plated and Glued Items: | Welded or plated metal items, glued items |
| Watches: | Except diver’s watches with depth rating over 50 m (150 ft). |
| Others: | Wood, coated glass, ceramic, camera filters with preexisting cracks. Eyeglasses and sunglasses with poor quality coatings |

These items are not hard, so scratches may occur during cleaning.
Ultrasonic cleaning may enlarge the gaps inside the welded joints, plated coating or glued items and may cause separation.
Because the strong penetration capability of the ultrasonic waves, water may get into the watches if they are not truly waterproof. Use the watch stand supplied as a precaution if not sure.
Ultrasonic cleaning may enlarge the cracks pre-existing in the coating on the glasses, ceramic, and glass. If the items have no pre-existing cracks, then it is okay.

CARE AND MAINTENANCE

1. Do not turn on the unit without water in the tank. Even though the unit is designed with multiple protections, if it is turned on for over 30 seconds without water in the tank, it may damage the unit or severely reduce its lifespan.
2. Do not run the unit for extended time or continuously. The unit is designed with overheat protection. If the unit has been running for 30 minutes, it is recommended to stop the unit for about 20 minutes to prolong the life of the unit.
3. Do not keep water in the cleaning tank for a long time. After cleaning is completed, open the drainage valve to drain the dirty water. Clean and wipe the tank dry.
4. If condensation water forms on the lid, shake it off or wipe it before placing the lid on the lid holder to avoid water dripping down from the lid.
5. Do not spray water or disinfectant over the housing. Use a towel to wipe the tank and the housing dry.
6. Do not use corrosive solutions such as liquid bleaches in the stainless steel tank.
6. Do not use corrosive solutions such as paint thinner or acetone as it will corrode plastic housing. Do not use flammable solutions. Do not use reverse osmosis water or highly purified water as they may aggressively corrode stainless steel.
7. Avoid spilling water over the control panel or inside the housing. Cover the control panel with a plastic film will help to protect it.
8. If there is water on the control panel, wipe it dry before touching the control keys otherwise it may cause lockup of the control panel.
9. To prevent accidental lockup of the touch-sensing control panel, please observe the following:
   1. Do no touch two or more keys at the same time.
   2. Do not leave water or solution on the control panel.
   3. Do not push the control panel with too much force. Only light touch is needed.
10. If the control panel is locked up, do the following to reset it. If the first step does not work, move on to the next step.
    1. Turn off the power switch.
    2. Turn off the power switch multiple times.
    3. Unplug the power cord and wait for 15 minutes.
    4. Leave the unit unplugged for several hours or overnight.
11. Keep the unit in a dry, cool and ventilated area. Do not expose the unit under direct sunshine for a long time.
12. Keep a strainer over the drain inlet to prevent small instruments such as burs and files or large debris from clogging the drain valve.
13. Keep the original packing material in case of sending it for repair service. If it is no longer available, use enough cushioning equivalent to minimum 1” Styrofoam all around the unit inside the shipping carton to avoid damages to fragile transducers. Warranty does not cover damages during return shipping from customers.
4. Select one of the four cleaning methods recommended earlier.
When debris "cloud" is no longer visible, cleaning is done. If additional cleaning is needed, reset the timer and repeat the steps above.

5. When cleaning is completed, switch off the power, open the lid and retrieve the basket and the items.
Connect the hose to the drainage pipe as shown.
Open the drainage valve to drain the dirty water.
Clean and wipe the tank dry.
Close the drainage valve.

MEMORY OPERATIONS

Equipped with advanced power off memory capability, this unit is able to memorize the last timer setting used.

**Last timer setting recall.**

1. Once the timer hits 0:00, either touch the Start/Stop key within 5 seconds to recall/repeat the latest timer setting, or wait 5 seconds for the latest timer setting to appear.
2. If unit powers off during a cleaning cycle, the latest timer setting will appear once powered on.
3. If the Start/Stop key is touched twice during a cycle, the cycle and timer will stop. It resumes when the Start/Stop key is touched twice again.

**NOTE:** To prevent accidental lockups of the touch-sensing control panel, please observe the following:
1. Do not touch two or more keys simultaneously.
2. Do not leave any liquids on the control panel.
3. Light touches are sufficient, do not aggressively push the control panel.
4. Keep a barrier film over the control panel.

If the control panel is locked, do the following to reset it. If the first step does not work, move on to the second step:
1. Turn off the power switch.
2. Turn off the power switch multiple times.
3. Unplug the power cord and wait for 15 minutes.
4. Leave the unit unplugged for several hours or overnight.

APPLICATIONS

1. **Metal Processing Manufacturers and Jewelry Makers**
- Ultrasonic cleaning can remove grease or abrasive powder from work-in-process metal items and keep them clean.
- Jewelry made with investment casting often has wax layer in addition to debris. Turning on the heater will raise the water temperature, melt the wax and improve the cleaning.

2. **Optical Labs**
During edging and polishing, debris and abrasives can scratch lenses. Ultrasonic cleaning can effectively protect the lenses. Debris exists in the crevices of the frames during processing and polishing. Using ultrasonic cleaner and tap water can easily remove the debris.

Add iSonic Jewelry/Eye Ware Cleaning Solution Concentrate #CSG01 will remove smudges and finger prints from glasses and make lenses crystal clear.

3. **Biology, Chemical Laboratories:**
Labs can use ultrasonic cleaners to clean test tubes and other glass or metal containers to remove residual chemicals and debris that can affect the accuracy of the test results.

4. **Medical Instrument Disinfection Rooms:**
Non-disposable medical instruments may have blood or organic tissues left after use. They need to be removed with ultrasonic cleaners before disinfection.

5. **Dental Clinics:**
Dental clinics can use ultrasonic cleaners to clean dental instruments and to remove blood and small particles left on the instruments before disinfection.

Add iSonic Dual Enzymatic Cleaning Tablet #CTDE01 to clean dental instruments. Add iSonic White Denture Cleanser #CSDW01 to remove stains and buildups from dentures, appliances.

6. **Electrical Component Manufacturers**
Terminals on AC contactors and relays need to be kept clean to prevent sparking and non-contact. Ultrasonic cleaning is the most effective method to keep these parts cleaning.
7. Watch and Precision Metal Part Manufacturers
Machined watch components and other precision metal parts often have coolant and debris left on the surfaces. Ultrasonic cleaning can remove the debris and keep the parts clean.

8. Shooting Clubs
To reuse brass cartridges: Adding special solution can make fired brass useable and like new again. Gun cleaning and care: Cleaning guns after shooting is time consuming. Using special solution in the water and using ultrasonic cleaners can complete the cleaning better, quicker and easier than traditional methods. Add iSonic GreaseBuster and Gun Cleaning Powder #CSG01 to remove grease and other debris.

9. Special Education Institutes / Kindergartens
Speech therapy tools or small toys that are reused need to be cleaned to prevent the growth and spread of bacteria. Ultrasonic cleaning can perform thorough cleaning by removing debris hidden inside small holes and crevices before disinfection.

10. Jewelers and Jewelry Stores
Jewelry with complex patterns and settings are best to be cleaned by ultrasonic cleaners. Adding iSonic Jewelry Cleaning Solution Concentrate #CSGJ01 will remove common debris and make jewelry especially diamonds sparkle. Using iSonic Ultrasonic Silver Tarnish Remover #CST01 will remove tarnish and clean the items at the same time.

11. Mobile Phone and Electronics Service Shops
PCB renewal: Non-operational electronics, after falling into water, or non-operational key pads can be cleaned with ultrasonic cleaners and pure alcohol to recover the functions. Use the Indirect Cleaning method for small-sized PCBs.

12. Homes
Silverware, silver, copper or brass decorations: It's difficult to clean debris hidden in the patterns with regular methods. Ultrasonic cleaning with iSonic Jewelry Cleaning Solution Concentrate #CSGJ01 will clean the debris quickly. For silver, copper or brass items with oxidation which has darkened the items, use special solution that can remove oxidation and using ultrasonic cleaning will restore the shine.

Children or baby items: Debris left in the small holes and crevices are difficult to clean. Bacteria and molds can grow. Using ultrasonic cleaning to deep clean the items before disinfection.

---

**OPERATION GUIDELINES**

1. Remove the cover and put it on the cover holder vertically. Put items in the basket then put them in the cleaning tank. Add water to a level between MIN and MAX and above the area to be cleaned.

   ![Image]

   **Attention:** If the unit is turned on without water, ultrasonic energy will not be absorbed. This model also has high power. Once on for over 15 seconds, it may damage the unit or severely reduce the life of the unit.

2. Connect the power cord to an outlet and turn the switch on. LED display shows the last timer setting used. If the timer needs to be adjusted, touch Time key. Select desired time setting by pressing Time button: 10min → 15min → 20min → 25min → 30min → 5min

   ![Image]

   This model is equipped with memory function that recalls the last timer setting used.

   Prolonged cleaning time may result in:
a. Loosening of the screws if used.
b. If items are plated and have existing cracks, the cracks may become more pronounced.
c. Coating with preexisting damages may experience more peeling.
d. Overheating the unit.

3. Touch Start/Stop key twice to start cleaning. During cleaning, buzzing sound can be heard from the cleaning tank, indicating that the cleaning is underway. Closing the lid will reduce the noise level.

   The digital timer will count down to show the remaining cleaning time. When it displays 00:00, the cleaning is done. To stop cleaning at any time, touch Start/Stop key twice.

   The unit is equipped with overheat protector. If the unit has been running for too long, the red warning light “A” will illuminate, indicating the unit is under overheat protection. The unit can not be operated until idling for about 15 to 20 minutes. The “A” turns off and the operation can be resumed.
INDIRECT CLEANING

Put the items in a separate container. Use ultrasonic waves to penetrate the container to do the cleaning. This can be used to isolate certain items, certain solutions especially corrosive or dangerous solutions. It can also reduce the amount of the solution used. **Applications:** To clean dental, medical or veterinary instruments, 3D printed parts or other items with special, corrosive or expensive solutions such as cement or plaster remover, etc., or to clean small items such as burs and files, crowns, verniers, implant parts, items made by labs, etc.

Different industries use different fluids to be used inside the container:

1. Watch service shops - Watch oil (to prevent rust)
2. Dental clinics: cement or plaster remover
3. 3D printed parts. 99% isopropyl alcohol.
4. Precision electrical parts – Hexane (to dissolve grease, to evaporate quickly)
5. Mobile phone and electronic service shops - Pure alcohol (to evaporate quickly)
6. Printing shops – Acetone are often used (to dissolve ink)
7. Homes - Rubbing alcohol (to remove odor, to clean and to disinfect at the same time)

Avoid acetone from contacting the plastic housing to prevent corrosion. Use Indirect Cleaning and a glass or metal container for acetone.

Cleaning Method:
1. Put the item inside a container, recommended to use a stainless steel removable cleaning chamber (#1T4831A) or a beaker holder set (#BH01A or #BH03A). Add proper fluid to submerge the area to be cleaned.
2. Place the container in the tank and suspend it. Add water to a level between MIN and MAX, at least 1/2” or 12 mm above the bottom of the container, not over the container.
3. Turn the power switch on. Touch Time+ key to set the timer to 10 minutes. Touch Start/Stop key twice to start cleaning. Ultrasonic waves will penetrate the container and clean the item.

Selection of container:
1. Plastic containers – Plastics are soft and will absorb about 20-40% of ultrasonic energy and reduce the cleaning effect.
2. Aluminum containers – Absorbs about 20% of ultrasonic energy.
3. Glass containers – Absorbs about 15% of ultrasonic energy.
4. Stainless steel containers – Absorbs about 8% of ultrasonic energy.

**Applications:** To clean items with special solutions. For example: Silver, copper or brass items with oxidation which has darkened the items.

Cleaning Method:
1. Put the items in the basket and then in the tank.
2. Add special solution that can remove silver or copper oxidation according to the ratio recommended. Use special solutions according to the instructions for brass cartridges.
3. Turn the power switch on.
4. Touch Time+ key to set the timer to 10-15 minutes. Touch Start/Stop key twice to start cleaning.
5. When it is done, remove the basket and the items. Rinse the items with tap water or follow steps 6 and 7 in the Enhanced Cleaning section.

During cleaning, debris will come off the items like “cloud” in the water. Water will become murky. This method will remove silver or copper oxidation and debris in the decorating patterns and crevices and make the items look new again.

To remove tarnish from sterling silver, recommended to use iSonic Ultrasonic Silver Tarnish Remover (#CSST01). To remove oxidation from brass items, recommended to use iSonic Ultrasonic Brass Cleaning Solution Concentrate (#CSBC001).

Crystal glasses and decorations, chandeliers: Ultrasonic cleaning can bring back the sparkles and make them look like new again.

Jewelry, eyewear, watch bands, shavers or razors: Ultrasonic cleaning can clean the debris in the crevices. It is quick and convenient.

This model has a large tank. When cleaning small items, the Indirect Cleaning method can be used with satisfactory results.

13. Printing Shops
Unblocking dried printer heads or ink cartridges: Large printers and inkjet printers often have dried printer heads or ink cartridges ports. Replacing them with new ones is very costly. Adding acetone or special cleaning solution and using an ultrasonic cleaner with a couple of minutes of cleaning will remove the blockage and make them usable again.

 Avoid acetone from contacting the plastic housing to prevent corrosion. Use Indirect Cleaning explained later and a glass or metal container for acetone.

14. Automotive Repair Shops
The Enhanced Cleaning method can be used to clean precision parts such as valves, injectors, gears and bearings. It cleans out debris in tiny holes and crevices effectively.

Add iSonic GreaseBuster and Gun Cleaning Powder #CSGG01 to remove grease and other debris.

---

**SAMPLE APPLICATIONS**

<table>
<thead>
<tr>
<th>JEWELRY</th>
<th>PERSONAL ITEMS</th>
<th>MEDICAL / DENTAL / VET. INSTRUMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Necklaces, rings, earrings, bracelets, etc.</td>
<td>Eyeglasses, sunglasses, shaver heads, watch bands, diver's watches, dentures, etc.</td>
<td>Surgical instruments, pliers, etc.</td>
</tr>
</tbody>
</table>

---

12
# SAMPLE APPLICATIONS

<table>
<thead>
<tr>
<th>PRECISION PARTS</th>
<th>SILVERWARE, SILVER, COPPER OR BRASS DECORATIONS</th>
<th>CHILDREN AND BABY ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bearings, gears, valves, tools, fuel injectors, etc.</td>
<td>Silverware, silver, copper or brass decorations, etc.</td>
<td>Toys, baby items, speech therapy tools, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LAB ITEMS</th>
<th>BRASS, GUN PARTS</th>
<th>PCB, INJECT CARTRIDGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test tubes, beakers, flasks, etc.</td>
<td>Reusable brass, gun parts, etc.</td>
<td>PCBs from mobile phones and MP4, ink cartridges, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GOLF CLUBS</th>
<th>ELECTRICAL PARTS</th>
<th>LENSES, CRYSTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golf clubs and golf balls</td>
<td>Terminals for relays and contactors</td>
<td>Lenses, crystals</td>
</tr>
</tbody>
</table>

# COMMON CLEANING METHODS

## REGULAR CLEANING

Only tap water is needed. **Applications:** Items with loose or dry debris. **Cleaning Method:**

1. Put the items to be cleaned inside the basket and put the basket inside the tank.
2. Add water to the cleaning tank to a level between “MIN” and “MAX” lines and above the area to be cleaned.
3. Turn the power switch on. Touch Time+ key to set the timer to 5 - 10 minutes. Touch Start/Stop key twice to start cleaning.

**Notes on using the basket:**

1. Basket can reduce the friction between the items and the tank. But stainless steel basket absorbs approximately 8% of ultrasonic energy, plastic basket absorbs about 35% of ultrasonic energy. This reduces the cleaning effectiveness.
2. During cleaning, dirt will come off like cloud and the water will become murky over time. When “cloud” stops coming, the cleaning is basically done.

## ENHANCED CLEANING

**Applications:** Soiled dental or veterinary instruments, debris accumulated over a long period of time, greasy or heavily soiled items. **Cleaning Method:**

1. Large items can be put in the tank directly. Small items can be put in the basket then put in the tank. Do not put the items on top of each other to avoid rubbing during cleaning.
2. Add water to a level between MIN and MAX and above the area to be cleaned.
3. Add proper cleaning solution for the application.
4. Turn the power switch on.
5. Touch Time+ key to set the timer to 10 or 15 minutes. Touch Start/Stop key twice to start cleaning. Debris will dissipate and appear to be like cloud in the water.
6. When it stops, open the drainage valve to release the dirty water. Close the valve afterwards.
7. Clean the tank and add fresh water. Wash the items for another 3 minutes to remove the residual debris and the detergent.

To clean dental or veterinary instruments, use ultrasonic enzymatic cleaning solution. Recommended to use iSonic DualEzyme dual enzymatic cleaning tablet (#CTE201). One tablet per half gallon or 2L of water. To remove stains and buildups from dentures, other dental or sleep apnea appliances, use proper denture cleaning solution. Recommended to use iSonic White Ultrasonic Denture Cleaning Powder (#CSWD01). To clean Invisalign, recommended to use iSonic AligherClean Aligner, Retainer Cleaning Tablet (#CTAR01).
1. **Working Time Display.** It counts down after work is started.

2. **Multistage Thermometer.** Solid green light indicates that the water temperature is 0-30% of the set temperature or 60°C for NH (no heater) versions. Solid orange light indicates that the water temperature is 30-60% of the set temperature. Solid red light indicates that the water temperature is 60-90% of the set temperature. Flashing red light indicates that the water temperature is close to the set temperature. All lights indicate that the water temperature is at the set temperature (90-100%).

   Note: Heater is not needed to clean regular dental or veterinary instruments as high temperature solidifies blood and protein and makes them harder to remove. Once the unit is run for one or two cycles, the water will become lukewarm which is perfect for most cleaning.

3. **Warning light.** If the unit is working improperly or has been running for too long, the red warning light will illuminate, indicating the unit is under overheat protection. The unit can not be operated until idling for about 15 to 20 minutes. The warning light then turns off and the operation can be resumed.

4. **Degas Status.** Illuminated, the degas function is selected. Flashing degassing is underway.

5. **Normal Cleaning Status.** Illuminated, normal cleaning is underway.

6. **Degas Key.** Touch key twice to start degassing. It will flash for 90 seconds, then the unit will return to the normal cleaning function. Touch Degas key twice before it ends will stop degassing.

   Degas: Newly added water may generate many air bubbles on the tank walls. These will reduce the cleaning effect in the beginning phase of ultrasonic cleaning. Turning on the degas function will dissipate the air bubbles, usually in 90 seconds, and improve cleaning efficiency. It is unnecessary to run degas if normal cleaning is run with sufficient time.

7. **Time- Decreasing Key.** Touch key each time reduces the timer by 1 minute.

8. **Start/Stop key.** After powering on, the LED displays a timer setting as 10:00 (as shown), and the unit is ready with the normal working status. Touch the key twice to turn the display on. The cleaning stops when the timer counts down to 00:00. If the unit needs to be stopped before the timer runs out, key twice.

   To prevent accidentally turning on or off the unit, the key needs to be touched twice within 6 seconds to turn it on or off. It flashes, indicating the unit is running under Normal Cleaning mode.

9. **Timer Quick Set Button.** Touch Time key, LED display shows a timer setting such as 10:00. Each touch increases the time by 5 minutes.

---

**STANDARD ACCESSORIES:**

- Power cord #P42820A
- Hose #DH01A
- One-piece stainless steel basket #5084831A

**OPTIONAL ACCESSORIES:**

- Stainless steel rack and basket #5R84831A
- Plastic basket #P84830A
- Stainless steel removable cleaning chamber #74831A
- 500 ml glass beaker and beaker holder #BHK01A
- 1000 ml glass beaker and beaker holder #BHK03A
- 500 ml perforated stainless steel beaker #BK05A
<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Lid-window</td>
<td>AS</td>
</tr>
<tr>
<td>②</td>
<td>Lid-top</td>
<td>ABS</td>
</tr>
<tr>
<td>③</td>
<td>Lid-bottom</td>
<td>ABS</td>
</tr>
<tr>
<td>④</td>
<td>Top ring</td>
<td>ABS</td>
</tr>
<tr>
<td>⑤</td>
<td>Left cover</td>
<td>ABS</td>
</tr>
<tr>
<td>⑥</td>
<td>Left handle</td>
<td>ABS</td>
</tr>
<tr>
<td>⑦</td>
<td>Cooling fan</td>
<td>Standard part</td>
</tr>
<tr>
<td>⑧</td>
<td>Socket board</td>
<td>94V0</td>
</tr>
<tr>
<td>⑨</td>
<td>Drain fitting</td>
<td>Stainless steel 304</td>
</tr>
<tr>
<td>⑩</td>
<td>Washer</td>
<td>AL</td>
</tr>
<tr>
<td>⑪</td>
<td>Nut</td>
<td>AC</td>
</tr>
<tr>
<td>⑫</td>
<td>Nut</td>
<td>ABS</td>
</tr>
<tr>
<td>⑬</td>
<td>Spout</td>
<td>PP</td>
</tr>
<tr>
<td>⑭</td>
<td>Valve handle</td>
<td>ABS + brass insert</td>
</tr>
<tr>
<td>⑮</td>
<td>Bracket</td>
<td>ABS</td>
</tr>
<tr>
<td>⑯</td>
<td>Ball valve</td>
<td>Standard part</td>
</tr>
<tr>
<td>⑰</td>
<td>Elbow</td>
<td>PP</td>
</tr>
<tr>
<td>⑱</td>
<td>Internal hose</td>
<td>Rubber</td>
</tr>
<tr>
<td>⑲</td>
<td>Thermal cutoff holder</td>
<td>ABS</td>
</tr>
<tr>
<td>⑳</td>
<td>Thermocouple</td>
<td>Standard part</td>
</tr>
<tr>
<td>㉑</td>
<td>Thermocouple holder</td>
<td>ABS</td>
</tr>
<tr>
<td>㉒</td>
<td>Power switch PCB</td>
<td>94V0</td>
</tr>
<tr>
<td>㉓</td>
<td>Power switch</td>
<td>Standard part</td>
</tr>
<tr>
<td>㉔</td>
<td>Power socket</td>
<td>Standard part</td>
</tr>
<tr>
<td>㉕</td>
<td>Main power PCB</td>
<td>94V0</td>
</tr>
<tr>
<td>㉖</td>
<td>Bottom housing</td>
<td>ABS</td>
</tr>
<tr>
<td>㉗</td>
<td>Internal housing</td>
<td>ABS</td>
</tr>
<tr>
<td>㉘</td>
<td>Stainless steel tank</td>
<td>Stainless steel 304</td>
</tr>
<tr>
<td>㉙</td>
<td>Silicon seal</td>
<td>Silicone rubber</td>
</tr>
<tr>
<td>㉚</td>
<td>Right handle</td>
<td>ABS</td>
</tr>
<tr>
<td>㉛</td>
<td>Right cover</td>
<td>ABS</td>
</tr>
<tr>
<td>㉜</td>
<td>Power PCB 1</td>
<td>94V0</td>
</tr>
<tr>
<td>㉝</td>
<td>Cover holder</td>
<td>ABS</td>
</tr>
<tr>
<td>㉞</td>
<td>LED and control PCB</td>
<td>Fire-retardant ABS, 94V0</td>
</tr>
<tr>
<td>㉘</td>
<td>Keypad cover</td>
<td>ABS</td>
</tr>
<tr>
<td>㉙</td>
<td>Control panel cover</td>
<td>PC</td>
</tr>
<tr>
<td>㉚</td>
<td>Control panel rim</td>
<td>ABS</td>
</tr>
</tbody>
</table>