

Ultrasonik™ Cleaner

Owner & Operator's Manual

Model No (liters)

5B (0.5l)	28B (2.8l)	208H (20.8l)
14B (1.4l)	28H	
14H	57H (5.7l)	
19B (1.9l)	104H (10.4l)	
19H	136H (13.6l)	

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SAFETY

- **The cleaner must be electrically grounded to a three wire electrical outlet or receptacle.** The electrical service provided must be a ground outlet to prevent electrical shock. An electrical outlet or receptacle with "ground fault" protection is preferred.
- **Disconnect the power cord before moving, filling or draining** the cleaner.
- **Do not attempt to service the Ultrasonik cleaner yourself,** it contains high voltages and should only be serviced by a properly trained technician.
- **Do not use chlorinated solutions in the tank.** They will cause the tank to rust or corrode. Pit holes in the tank are generally caused by chlorinated solutions (eg. chlorine bleach).
- **Do not use solvents or acids in the cleaner** they may cause dangerous or harmful fumes.
- **Do not place objects to be cleaned directly on the bottom of the tank.** This disrupts the flow of energy from the ultrasonic transducers and may cause them to overheat and damage the tank.
- **Do not leave the Ultrasonik cleaner running when not in use or unattended.** The natural action of the ultrasonic cleaner wears out the tank. The cleaner can also run dry which will damage it.
- **Do not place your hands or fingers in the cleaner** when it is running.
- **Do not fill the tank higher than 19mm (3/4") from the top or lower than 50mm (2") from the top. (38mm (1.5") on Model 14).**
- **Do not place the cleaner in sinks or tanks** where water can run or splash inside and damage the electronics.
- **Do not place cold solutions into a cleaner that has run dry,** turn off the cleaner and allow it to cool before adding any solution. Sudden temperature changes can damage the transducers.
- **Do not operate the cleaner with the cover on,** the cover may cause the cleaner to over heat if operated continuously.
- **If the cleaner is not used in the manner as specified in this manual, the protection provided by the cleaner may be impaired.**

SYMBOL TABLE

	- Alternating current	Courant alternatif
	- On (Supply)	Marche (alimentation)
	- Off (Supply)	Arrêt (alimentation)
	- Caution, Hot Surface	Attention, surface chaude
	- Protective Conductor Terminal	Borne de masse, châssis
	- Caution, Risk of Danger	Attention risque de DANGER

FEATURES

- **Full Power Ultrasonik Generator**
- **60 Minute Mechanical Timer**
- **Stainless Steel Tank**
- **Large Fast Acting Drain On Larger Cleaners**
- **Convenient Pinch Valve On Larger Cleaners**
- **Corrosion Resistant Powder Paint Coated Aluminum Enclosure**
- **Temperature Limiting Heater Thermostat On Larger Cleaners**
- **Efficient Silicone Pad Heaters**
- **Lighted Heater Switch**
- **Vertically Mounted Electronics For Maximum Water Resistance**
- **Beaker holders And Perforated Pans Available For All Sizes**
- **Agency Approvals: ETL Canada, CE**

INSTALLATION

UNPACKING

Carefully unpack and remove the ultrasonic cleaner from its shipping carton. Save the carton and other packing material for future use in transporting the ultrasonic cleaner.

Shipping damage should be reported to the carrier as soon as detected.

The ultrasonic shipping carton contains the following:

- One Ultrasonik Cleaner Complete With Power Cord
- Owner & Operator's Manual
- Stainless Steel Cover
- Drain Extension Hose On Larger Cleaners

INSTALLATION

- Remove all packing material from in and around the cleaner.
- Locate cleaner on a level secure surface.
- Partially fill the cleaner with the desired cleaning solution.
- Check the solution height with the intended load (beakers, pans, baskets, racks, etc.). Do not allow the solution to overflow when placing the load in the tank.
The solution must not be lower than 50mm (2") from the top during operation. 38mm (1.5") on Model 14. This allows the solution to cover the heater which is attached to the side wall of the tank.
- Plug the cleaner into the closest power outlet. The cleaner is now ready to operate.

OPERATIONS

HOW IT WORKS

An ultrasonic cleaner uses transducer(s) mounted to the bottom of the tank to create high frequency sound waves in the tank's liquid. In the simplest sense, the sound waves cause tiny vacuum cavities to form in the liquid, a process called "cavitation". When these cavities collapse, or "implode", they release large amounts of energy. The implosions "scrub" particles of dirt, stains, or other debris from the surfaces immersed in the liquid.

An ultrasonic cleaner performs best when the amount of cavitation is sufficient to clean the surface efficiently and thoroughly, but not great enough to damage the surface. The ultrasonic energy is so strong that it eventually etches away the stainless steel tank. Aluminum foils are etched away in just minutes. Care must be used in cleaning soft metals and stones. The ultrasonic activity can damage their surface finish.

CLEANING SOLUTIONS

The DENTSPLY NeyTech Ultrasonik Cleaner can be used only with water-based solutions such as detergents, soaps and industrial cleaners.

Cleaning solutions serve two purposes. The first and most important purpose is to act as a surfactant, which reduces the surface tension of the solution and allows cavitations to occur more easily. The second is to aid in removing soil from the surface of the part to be cleaned - investment plaster, scale, rust, tarnish, oils, fats, polishing compounds and other soils.

Excess concentrations of cleaning solutions can actually reduce the ultrasonic activity in the tank. Test your cleaning solution at low concentrations to determine the most effective level. More is not necessarily better with ultrasonics. Carefully read the cleaning solution label for instructions on proper dilution. Too much solution will decrease the cavitation activity thereby, reducing the effectiveness of the cleaning procedure.

If there is no ultrasonic cleaning solution readily available a small amount of a simple liquid detergent (i.e. "Joy", "Simple Green", etc.) will suffice.

OPERATION

Remember: UNPLUG THE UNIT before filling or draining.

1. Turn on the unit by turning the timer dial clockwise PAST THE 5 MINUTE MARK to the desired setting. If you desire less than 5 minutes, simply turn the knob past the 5 position and then back to the lower setting. The cleaner will turn on instantly and turn off automatically at the end of the cycle.

CAUTION: Be sure to check the water level often. Running the cleaner without an adequate level of solution may cause damage and void your warranty.

The cleaner should be operated only when needed. Normal operation of the cleaner will cause tank wear.

New solutions placed in the tank will require some amount of time for "degassing" before the solution will attain peak performance. Degassing may take 10 to 30 minutes depending on the solution.

After the solution is degassed, the cleaner will produce full cleaning power within a few seconds of being turned on.

Operations (cont.)

- 2 Place the items to be cleaned in a perforated pan or beaker with holder, and lower the pan or beaker into the tank. The items to be cleaned can also be supported with wires or racks. Be careful not to allow the tank to overflow.

CAUTION: Never rest items to be cleaned directly on the bottom of the tank. This increases tank wear and reduces transducer life.

- 3 At the end of the cleaning cycle, turn off the cleaner by turning the timer to zero, remove trays, rinse and dry parts.
- 4 Empty, rinse and clean the tank. The cleaner's solution should be changed when it becomes saturated with dirt. The tank should be rinsed out so that sediments or dirt from the cleaning process do not attack or corrode the stainless steel tank. The interval or frequency at which the solution is changed is dependent on the amount of dirt on the materials being cleaned.
- 5 Empty and dry out the cleaner's tank if it is not going to be used for prolonged periods. This will reduce the possibility of corrosion.

SPECIFICATIONS (electrical)

Model	Wattage (Watts)	100V	120V	230V
5B	No Heat	---	40W	---
14B	No Heat	50W	60W	75W
14H	With Heat	95W	115W	120W
19B	No Heat	50W	60W	75W
19H	With Heat	95W	115W	120W
28B	No Heat	100W	100W	115W
28H	With Heat	140W	160W	230W
57H	With Heat	230W	260W	370W
104H	With Heat	340W	400W	620W
136H	With Heat	340W	400W	620W
208H	With Heat	580W	700W	1060W

Model	Current (Amps)	100V	120V	230V
5B	No Heat	---	0.4A	---
14B	No Heat	0.5A	0.5A	0.32A
14H	With Heat	0.95A	0.95A	0.52A
19B	No Heat	0.5A	0.5A	0.32A
19H	With Heat	0.95A	0.95A	0.52A
28B	No Heat	1.0A	0.8A	0.5 A
28H	With Heat	1.4A	1.3A	1.0A
57H	With Heat	2.3A	2.2A	1.6A
104H	With Heat	3.4A	3.3A	2.7A
136H	With Heat	3.4A	3.3A	2.7A
208H	With Heat	5.8A	5.8A	4.6A

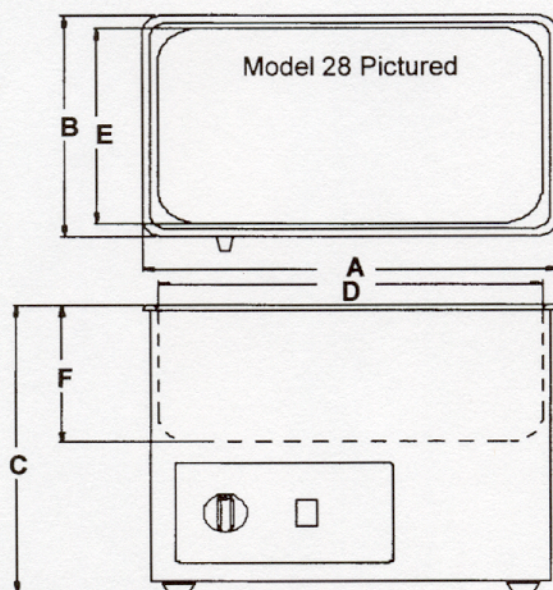
Operating Frequency: 44-48 KHz

ENVIRONMENTAL

Ambient Operating Temperature: 5 - 40°C (40 - 105°F)

Relative Humidity: Maximum 80%, non-condensing

SPECIFICATIONS (mechanical)



Exterior Dimensions

		"A" Length	"B" Width	"C" Height
Model:	5	140mm (5.5")	105mm (4.13")	127mm (5.0")
	14	226mm (8.9")	130mm (5.1")	193mm (7.6")
	19	175mm (6.9")	163mm (6.4")	214mm (8.4")
	28	264mm (10.4")	163mm (6.4")	214mm (8.4")
	57	328mm (12.9")	173mm (6.8")	262mm (10.3")
	104	330mm (13.0")	267mm (10.5")	262mm (10.3")
	136	330mm (13.0")	267mm (10.5")	381mm (15.0")
	208	533mm (21.0")	325mm (12.8")	312mm (12.3")

Tank Dimensions

		"D" Length	"E" Width	"F" Height
Model:	5	122mm (4.8")	89mm (3.5)	67mm (2.6")
	14	191mm (7.5")	89mm (3.5")	76mm (3.0")
	19	152mm (6.0")	140mm (5.5")	102mm (4.0")
	28	241mm (9.5")	140mm (5.5")	102mm (4.0")
	57	295mm (11.6")	152mm (6.0")	152mm (6.0")
	104	295mm (11.6")	236mm (9.3")	152mm (6.0")
	136	295mm (11.6")	236mm (9.3")	203mm (8.0")
	208	495mm (19.5")	292mm (11.5")	152mm (6.0")

Weight Model:

--- Cleaner Only ---

100 & 120V

230V

--- Shipping ---

100 & 120V

230V

5	2 lbs (1.0 Kg)		3 lbs (1.3Kg)	
14	3.2 lbs (1.5 Kg)	4.5 lbs (2.0 Kg)	6 lbs (2.7 Kg)	8 lbs (3.6 Kg)
19	3.3 lbs (1.5 Kg)	4.7 lbs (2.1 Kg)	6 lbs (2.7 Kg)	8 lbs (3.6 Kg)
28	4.5 lbs (2.0 Kg)	9 lbs (4.1 Kg)	8 lbs (3.6 Kg)	12 lbs (5.5 Kg)
57	7.7 lbs (3.5 Kg)	12.8 lbs (5.8 Kg)	12 lbs (5.5 Kg)	17 lbs (7.7 Kg)
104	9.5 lbs (4.3 Kg)	14.6 lbs (6.6 Kg)	15 lbs (6.8 Kg)	22 lbs (10 Kg)
136	13 lbs (5.9 Kg)	18.6 lbs (8.4 Kg)	20 lbs (9.1 Kg)	25 lbs (11.1 Kg)
208	19.6 lbs (8.9 Kg)	27.6 lbs (12.5 Kg)	27 lbs (12.3 Kg)	35 lbs (16 Kg)

TROUBLESHOOTING

- **Cleaner does not operate:** Check the wall socket for power, verify that the power cord is securely plugged into the back of the cleaner. If the cleaner is a heated model does the heater switch light? If the heater switch lights and the cleaner does not make any noise when the timer is turned on the internal circuitry has failed.
- **Cleaner ran dry:** Turn the cleaner off and allow it to cool. Do not pour solution into the hot tank, it may crack the transducer. Allow the cleaner to cool, pour solution into tank and resume cleaning. If cleaner does not operate, the tank or control board is damaged.
- **Water inside cleaner:** Unplug and turn off the cleaner. Allow the cleaner to dry out. Test the cleaner the next day. If cleaner does not operate, the water may have damaged the electronics inside.
- **Cleaner smokes or smells:** Does the cleaner have the proper water level? If the water level is too low, the tank heater is getting too hot. Test with heater turned off.

Tank transducers (Ceramic discs on bottom of tank), heater or control board burning or damaged. Discontinue operation, send the cleaner in for service.
- **Heater is not heating:** Is heater switch light on? (Switch lights when switch is on.) Put cold water into the tank and check the back side of the tank for heat. If no heating is detected, the heater or temperature cutoff (Model 28 and larger only) is defective.

MAINTENANCE

CLEANING:

- Wipe tank clean using a mild soap solution. Isopropyl alcohol may be used to break down grease and oily residues.
- Use a soft damp cloth to clean the control panel. Avoid excess water or solution when cleaning the cleaner. These solutions can attack the panel or electronics and cause the ultrasonic cleaner to malfunction.

Fuses:

- Models 14, 19, 28, 104, 136 and 208 - F250, 2A (5x20mm)
- Model 57 - F250, 3.15A (5x20mm)

ACCESSORIES

<u>Description</u>	<u>NUMBER</u>
<u>MODEL 5: (0.5L or 18oz)</u>	
Perforated Basket	9494620
96mm(3.80")L x 69mm(2.70")W x 64mm(2.50")H	
Cover	9493736
<u>MODEL 14: (1.4L or 1.5Qt)</u>	
Perforated Baskets,	9493187
190mm(7.5")L x 86mm(3.4")W x 64mm(2.5")H	
Beakerholder, (holds one 600ml)	9493182
Beakerholder, (holds two 400ml)	9493565
Cover	9493176
Wire Basket	9493783
174mm(6.875")L x 76mm(3.0")W x 69mm(2.75")H	
<u>MODEL 19: (1.9L or 2Qt)</u>	
Perforated Baskets	9493188
121mm(4.7")L x 114mm(4.5")W x 81mm(3.2")H	
Beaker Holder, (holds one 600ml)	9493183
Cover	9493177
Wire Basket	9493782
123mm(4.83")L x 114mm(4.5")W x 76mm(3.0")H	
<u>MODEL 28: (2.8L or 3Qt)</u>	
Perforated Baskets	9493189
203mm(8.0")L x 117mm(4.6")W x 97mm(3.5")H	
Beaker Holder, (holds two 600ml)	94-93-184
Cover	94-93-178
Wire Basket	94-93-784
203mm(8.0")L x 102mm(4.0")W x 79mm(3.125")H	
<u>MODEL 57: (5.7L or 6Qt)</u>	
Perforated Baskets	9493287
260mm(10.2")L x 114mm(4.5")W x 142mm(5.6")H	
Beaker Holder, (holds three 600ml)	9493185
Cover	9493179
<u>MODEL 104: (10.4L or 11Qt)</u>	
Perforated Baskets	9493288
267mm(10.5")L x 203mm(8.0")W x 142mm(5.6")H	
For Beaker Holder, use 2 pieces of:	9493184
Cover	9493180
<u>MODEL 136: (13.6L or 14Qt)</u>	
Perforated Baskets	9493848
267mm(10.5")L x 203mm(8.0")W x 194mm(7.625")H	
For Beaker Holder, use 2 pieces of:	9493184
Cover	9493180
<u>MODEL 208: (20.8L or 22Qt)</u>	
Perforated Baskets	9493289
468mm(18.4")L x 254mm(10.0")W x 143mm(5.6")H	
For Beaker Holder, use 3 pieces of:	9493185
Cover	9493181
600ml Beaker (1 piece)	9359013
400ml Beaker (2 pieces)	9491265A
Adapter ring for 400ml beaker (1 piece)	9492176
Adapter ring for 250ml beaker (1 piece)	9492177

PRODUCT SERVICE

BEFORE RETURNING THE CLEANER, DO THE FOLLOWING:

- Remove all baskets, racks and other loose items from inside the cleaner.
- Pack the cleaner in the original packing material. Contact DENTSPLY NeyTech for replacements if necessary.
- Call DENTSPLY NeyTech for a RMA number (Return Material Authorization). This is used to track and identify your ultrasonic cleaner. Material received without this number may not be identifiable.
- Mark the RMA number clearly on the outside of the packaging, ship cleaner.
- Equipment damaged in shipment as the result of improper packing may not be paid by the carrier. DENTSPLY NeyTech will not be responsible for damages resulting from improper packing.

TEL 909.795.2461
FAX 909.795.5268

Ship Prepaid To:
DENTSPLY NeyTech
RMA Number _____
13553 Calimesa Blvd.
Yucaipa, CA 92399-2303 USA

WARRANTY

WARRANTY: Except with respect to those component parts and uses which are herein-after described, DENTSPLY NeyTech warrants this ultrasonic cleaner to be free from defects in material and workmanship for a period of two years from the date of sale. DENTSPLY NeyTech's liability under this warranty is limited solely to repairing or, at DENTSPLY NeyTech's option, replacing those products included within the warranty which are returned to DENTSPLY NeyTech within the applicable warranty period (with shipping charges prepaid), and which are determined by DENTSPLY NeyTech to be defective. This warranty shall not apply to any product which has been subject to misuse; negligence; or accident; or misapplied; or modified; or repaired by unauthorized persons; or improperly installed.

INSPECTION: Buyer shall inspect the product upon receipt. The buyer shall notify DENTSPLY NeyTech in writing of any claims of defects in material and workmanship within thirty days after the buyer discovers or should have discovered the facts upon which such a claim is based. Failure of the buyer to give written notice of such a claim within this time period shall be deemed to be a waiver of such claim.

DISCLAIMER: The provisions herein stated DENTSPLY NeyTech sole obligation and exclude all other remedies or warranties, expressed or implied, including those related to *MERCHANTABILITY* and *FITNESS FOR A PARTICULAR PURPOSE*.

LIMITATION OF LIABILITY: Under no circumstances shall DENTSPLY NeyTech be liable to the buyer for any incidental, consequential or special damages, losses or expenses.

LIMITATION OF ACTIONS: The buyer must initiate any action with respect to claims under the warranty described in the first paragraph within one year after the cause of action has accrued.



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