



Compact Model Manual



From



MICROBE NINJA™

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Note: This manual is subject to change at any time based on system improvements, design changes, authorized modifications, or new information. Please consult Microbe Ninja for the latest revision.

SECTION 1 - DESCRIPTION

1.1 GENERAL INFORMATION

The Microbe Ninja NinjaGen Compact system is an on-site hypochlorous acid generator. The NinjaGen Compact can produce up to 7.5 liters (2 gallons) of hypochlorous acid at either 200, 500 or 1,000 ppm with a pH range between 5.5 and 6.5. The system produces hypochlorous acid in batches from a salt and acid solution. The NinjaGen Compact is designed for commercial use. The basic components of the system are outlined below.



1.2 PRINCIPLES OF OPERATION

To begin production of hypochlorous acid, the NinjaGen Compact storage tank is filled with two gallons of clean water. Consumables are added to the storage tank according to the operations video and the desired concentration (200, 500 or 1,000 ppm). The power supply has two buttons SELECT and START which are used to operate the NinjaGen Compact. The user selects the concentration according to consumables added and then pushes START to begin production. **The NinjaGen Compact automatically turns off once the selected cycle is complete.** The user applies the produced solution and then recreates new solution as needed. The power supply provides the current to the electrolytic cell to produce the hypochlorous acid strength selected. In addition, the power supply houses all the safety features to prevent system operation in the event of a malfunction.

1.3 GENERAL SPECIFICATIONS AND PRODUCT USE

	NinjaGen Compact
HOCl production	7.5 liters or 2 Gallons per Batch
ppm strength of solution	200 / 500 / 1,000
pH of solution	5.5 - 6.5
Electrical requirements	120 - 240VAC @ 1.7A 50/ 60Hz

For sanitizing use 200ppm FAC

For disinfecting use 500 / 1,000ppm FAC

Test with high chlorine test strips prior to use

1.4 NINJAGEN COMPACT CONSUMABLES

pH control: 5% Vinegar (No dilution necessary)



Salt: Table salt (iodized or non-iodized)



Solution strength consumable table

# of Scoops	200 ppm	500 ppm	1,000 ppm
5% Vinegar	2 scoops	4 scoops	8 scoops
Table salt (iodized or non-iodized)	2 scoops	2 scoops	2 scoops

SECTION 2 - INSTALLATION

2.1 UNPACKING

Units are shipped from the factory. In the event of damage during shipping, it is the responsibility of the customer to notify the carrier immediately and to file a damage claim. Open the box carefully and examine all the materials inside.

2.2 STORAGE

When storing units, use the original packaging and store under a shelter to protect the contents from weather.

2.3 SAFETY CONSIDERATIONS

IMPORTANT SAFETY PRECAUTIONS

READ AND FOLLOW INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WHEN INSTALLING, OPERATING, AND MAINTAINING THIS EQUIPMENT, KEEP SAFETY CONSIDERATIONS FOREMOST. USE PROPER TOOLS, PROTECTIVE CLOTHING, AND EYE PROTECTION WHEN WORKING ON OR INSTALLING THE EQUIPMENT. FOLLOW THE INSTRUCTIONS IN THIS MANUAL AND TAKE ANY ADDITIONAL SAFETY MEASURES APPROPRIATE. BE EXTREMELY CAREFUL IN THE PRESENCE OF HAZARDOUS SUBSTANCES.

THE PERSONNEL RESPONSIBLE FOR INSTALLATION, OPERATION, AND MAINTENANCE OF THIS EQUIPMENT MUST BE FULLY FAMILIAR WITH THE CONTENTS OF THIS MANUAL.

ANY SERVICING OF THIS EQUIPMENT MUST BE DONE WITH THE UNIT FULLY OFF AND DISCONNECTED FROM THE POWER SOURCE.

WARNING

- **MICROBE NINJA** SYSTEMS ARE INTENDED TO BE INSTALLED ACCORDING TO ALL LOCAL AND NATIONAL REGULATIONS.
- THE **MICROBE NINJA** NINJAGEN COMPACT SYSTEM MUST BE INSTALLED IN A WELL-VENTILATED AREA.
- ONLY A QUALIFIED TECHNICIAN MAY SERVICE THE **MICROBE NINJA** NINJAGEN COMPACT.
- MODIFYING THE **MICROBE NINJA** NINJAGEN COMPACT IN ANY WAY MAY CAUSE BODILY INJURY AND WILL VOID THE WARRANTY.
- DO NOT ALLOW CHILDREN OR ANYONE NOT CAPABLE TO OPERATE THE **MICROBE NINJA** NINJAGEN COMPACT SYSTEM.
- ONLY REPLACE COMPONENTS WITH THOSE SPECIFIED BY THE MANUFACTURER.
- ALL ELECTRICAL ENCLOSURES ON THE **MICROBE NINJA** NINJAGEN COMPACT SYSTEM CONTAIN HIGH VOLTAGE COMPONENTS. NEVER OPEN ANY ENCLOSURE WHILE THE POWER IS ON.
- THE SYSTEM HAS THE POTENTIAL TO RELEASE HIGH DOSES OF CHLORINE. USE CAUTION WHEN HANDLING, SERVICING, OR OPERATING THE EQUIPMENT.
- DO NOT ENERGIZE OR OPERATE THE SYSTEM IF THE CELL CONTAINER IS DAMAGED OR IMPROPERLY ASSEMBLED.
- USE ONLY THE CORD CONNECTED AT TIME OF MANUFACTURE.
- REPLACE DAMAGED CORDS IMMEDIATELY. DO NOT BURY CORD.
- DO NOT MODIFY THE PLUG PROVIDED WITH THE NINJAGEN COMPACT. IF IT WILL NOT FIT THE OUTLET, USE THE CORRECT PLUG.

2.4 PLAN AHEAD

WARNING

THE NINJAGEN COMPACT SYSTEM MUST BE INSTALLED IN A WELL-VENTILATED AREA.

DO NOT USE A METAL SPOON TO STIR THE SOLUTION.

NEVER OPERATE THE NINJAGEN COMPACT WITH LID/COVERING ON THE UNIT.

NEVER OPERATE THE NINJAGEN COMPACT IF DAILY INSPECTION REVEALS A LEAK.

SECTION 3 - OPERATION

3.1 BOX CONTENTS

Unpack the shipping box and confirm the contents below:

- 1 x Fill Tube

- 1 x NingaGen Compact

- 1 x Scoop

- 1 x Chlorine Test Strips

3.2 OPERATING THE NINJAGEN COMPACT



Step 1: Install the front valve and turn the blue lever to the closed position.

Step 1: Fill the container with two gallons of clean water.

Step 2: Add salt and vinegar according to the ppm of solution desired:

- For a 200ppm solution, add two scoops of salt and two scoops of 5% vinegar.
- For a 500ppm solution, add two scoops of salt and four scoops of 5% vinegar.
- For a 1,000ppm solution, add two scoops of salt + eight scoops of 5% vinegar.
- Stir for 10 seconds

Step 3: Plug in the power supply. The screen will illuminate and show the number 200. The 200 stands for 200ppm strength of solution. Use the SELECT button to choose either 200, 500 or 1,000 ppm strength. Once you have chosen the solution strength, push the START button. The solution will begin to fizz.

Step 4: If 200ppm was chosen, an eight minute timer will start (count down occurs in whole minutes) and the indicator light will blink green to show production is underway. 200ppm solutions are typically used as a general purpose cleaner.

Step 5: If 500ppm was chosen, a twenty minute timer will start (count down occurs in whole minutes) and the indicator light will blink green to show production is underway. 500ppm solutions must be used for pseudomonas, staphylococcus, Rhinovirus and Adenovirus applications. See section 8 for additional testing results.

Step 6: If 1,000ppm was chosen, a fifty-five minute timer will start (count down occurs in whole minutes) and the indicator light will blink green to show production is underway. 1,000ppm solutions must be used for canine parvo virus applications. See section 8 for additional testing results.

Step 7: Once the timer is complete, the fizzing will stop, and the indicator light will turn solid green. The display will show the ppm strength originally chosen.

Step 8: To cancel the production run, hold the START and SELECT button together for ~5 seconds. The screen will flash the letters ABT, the timer will stop and the default 200ppm setting will appear. The fizzing will also stop at the cell.

Step 9: Use the chlorine test strips provided to verify the strength of the solution.

Step 10: The solution is now ready to use as needed.

Step 11: Rinse the container with fresh water after each use.

SECTION 4 - MAINTENANCE

4.1 ROUTINE MAINTENANCE

Daily

- Visual inspections for:
 - ❖ Leaks
 - ❖ Wear on electrical wires

Monthly

- Visual inspections for:
 - ❖ Calcium buildup on the cell. May occur due to high hardness in water supply.
 - If there is calcium on the cells perform an acid wash as directed.

WARNING

Read all cautions and directions provided with any muriatic acid used. ALWAYS add acid to water. Use only with adequate ventilation. If a strong odor is noticed, STOP, ventilation is inadequate. Leave the area immediately. If the work area is not well ventilated you MUST use a properly fitted and maintained NIOSH approved respirator for acid fumes.

- ALWAYS disconnect unit before performing cleaning outlined below.
- ALWAYS wear PPE required by the muriatic pool acid product label.
- For light buildups of calcium (sporadic spots of white):
 - Use a 10:1 mix of water and muriatic acid (typically 2.9%) in the storage container.
 - Once the calcium has been dissolved off, dispose of solution according to regulation and immediately rinse with fresh water.
- For heavier buildups of calcium (consistent white around plates):
 - Use a 4:1 ratio of water and muriatic acid (typically 6.3%) in the storage container.
 - Once the calcium has been dissolved, dispose of solution according to regulation and immediately rinse with water.

SECTION 5 - TROUBLESHOOTING



Root Cause: User starts the machine without water

Effect #1: There is no effect from this scenario, and nothing will happen.

Remedy: Fill the container with water and the consumables according to the desired solution strength. Start the cycle.



Root Cause: User starts the machine without salt

Effect #1: A small amount of fizz will occur at the cell with a very low final solution concentration.

Remedy: Add salt to the solution according to the desired solution strength and rerun the cycle.

SECTION 6 - WARRANTY INFORMATION

THE MICROBE NINJA NINJAGEN COMPACT system carries a limited 3-year warranty

- 1. 3-year warranty on assembly of the system.**
 - 2. 1 year on all electrical items and production tanks.**
 - 3. 2,000 hours of operation or 2 years pro-rated monthly, on titanium electrodes. (Year 1 is warranted fully, thereafter pro-rated warranty applies, applicable over the remaining 1-year period.)**
- MICROBE NINJA advises that titanium electrodes will have to be replaced approximately every 2,000 hours of operating time and are not warranted after 2,000 hours of use.**
 - MICROBE NINJA warranties will not be honored should it be shown that the operating and maintenance procedures have not been followed, particularly with regard to the monthly cleaning checks.**
 - During the warranty period the customer shall return the defective component, freight prepaid, accompanied by the original invoice or proof of purchase, and MICROBE NINJA shall at its sole discretion elect to repair or replace the defective component and return it to the customer, freight pre-paid.**

MICROBE NINJA accepts no responsibility other than to repair or replace a defective component, and this warranty specifically excludes product failure due to accidental damage, abuse, misuse, and negligence, damage due to non-compliance of the operating manual or unauthorized alterations or modifications to the system. MICROBE NINJA accepts no responsibility and is not liable for any extended warranties or variations to this warranty offered by re-sellers of MICROBE NINJA systems.

SECTION 7 – PARTS GUIDE



SECTION 8 – EPA ESTABLISHMENT NUMBER & TESTED PATHOGENS

EPA ESTABLISHMENT NUMBER: 82229-GA-1

1. Bacteria tested by third party labs:

- a. 500ppm [PASS, 10 MCT]: Pseudomonas Aeruginosa (ATCC 15442), Staphylococcus Aureus (ATCC 6538)

2. Viruses tested by third party labs:

- a. 500ppm [Log Reduction > 4.25, 10 MCT] Rhinovirus 37 (Strain 151-1 ATCC VR-1607), Adenovirus 5 (Strain Adenoid 75, ATCC VR-5), Phi6 Bacteriophage
 - b. 1,000ppm [Log Reduction > 4.75, 1 MCT]: Canine Parvovirus (Cornell Strain, ATCC VR-2017)
 - c. 1,000ppm [Log Reduction > 5.00, 2 & 5 MCT]: Canine Parvovirus (Cornell Strain, ATCC VR-2017)
3. Sanitizer for use on hard surfaces, Staphylococcus Aureus (ATCC 6538), 1 MCT.
4. Bacterial and viral testing data only applicable for the 500ppm NinjaGen Compact setting. Canine Parvo virus applications must use 1,000ppm solution.