DISINFECTION CHAMBER Quaternary Ammonium (QUAT - IDEC) Installation and Operation Manual **ENERGENICS KART**





ADVANCED DISINFECTION TECHNOLOGY

energenics.com





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PART 1:

INSTALLATION & UTILITY CONNECTION REQUIREMENTS QUATERNARY AMMONIUM (QUAT) CHAMBER

PART 2: IDEC DISPLAY - QUAT CHAMBER OPERATING AND PROGRAMMING INSTRUCTIONS

PART 1

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INSTALLATION & UTILITY CONNECTION REQUIREMENTS QUATERNARY AMMONIUM (QUAT) CHAMBER

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CHAMBER UNLOADING & INSTALLATION

Your Chamber is shipped fully assembled and ready for your predetermined floor or pit placement. Follow these directions: *DO NOT SIGN BILL OF LADING UNTIL INSPECTED*

- 1. Unwrap Chamber and inspect for damage during shipping.
- The Chamber should be picked up with a forklift using long forks (60" minimum). If this type of forklift is not available, the Chamber should be carefully removed from the truck by other means. Use caution not to damage fiberglass base beams.
- 3. Lift the Chamber to unbolt the wood securing it to the shipping pallet. Remove the pallet and any plywood under the Chamber.
- 4. Slowly lower the Chamber onto the floor.

Floor Installation

- 1. Ensure Chamber is facing desired direction. Slide Chamber into final position (use wood between the Chamber frame and forks for added protection).
- 2. Mount to the floor in 4-8 places using appropriate fasteners per floor type.
- 3. Install 2 (supplied) yellow exit posts approximately 4" past the trailing edge of each door on the discharge side of the Chamber.
- Mount sensors on yellow exit post side closest to the Chamber to avoid damage from discharged carts. Installed sensors will ensure the cart is completely clear of the doors before beginning a new cycle. (See Page 9)

5. Mount entrance and exit ramps on models with built in sump option. Ensure exit ramp is flush to the floor level for smooth exit of carts.

Pit Installation

- 1. Ensure the Chamber is facing desired direction. Remove the shipping blocks.
- 2. Employ appropriate rigging techniques and personnel to carefully lower the Chamber into the prepared pit. (See Page 7)
- 3. Install (2) yellow exit posts (supplied) approximately 4" past the trailing edge of each door on the discharge side of the Chamber.
- On side closest to the Chamber (to avoid damage from discharged carts), mount photo-eye sensors on yellow exit posts. Sensor installation is required to ensure a cart has completely cleared the exit doors before unit will beginning a new cycle. (See Page 9)

OVERALL DIMENSIONS



4-INCH BEAM PIT DIMENSIONS



*This configuration allows carts to be loaded / unloaded at floor level. The unit is permanently installed and not easily moved.

BUILT-IN SUMP WITH LOADING / UNLOADING RAMPS



*This configuration allows the Chamber to be placed on the surface of a finished floor. A 1-inch piece of PVC coupling is installed under each loading / unloading ramp (required) for draining. Use one end for draining and cap the opposite side. The built-in sump allows for relocation of the unit for future growth.

EXIT POST AND SENSOR PLACEMENT

- 1. Position exit posts (supplied) approximately 4-inches past the trailing edge of the open exit door edge.
- 2. Posts must be installed equidistant from exit door edge so that photo-eye sensors are equally positioned.
- 3. Mount photo-eye sensors on the side of post nearest the Chamber to avoid exiting cart damage.
- 4. Secure post positioning with appropriate fasteners.



UTILITY REQUIREMENTS

Failure to comply with utility requirements may result in:

- Damage to the machine
- Incurred travel expenses of factory technician(s)
- Voided warranty



CHEMICAL PUMP SETTINGS

To attain an accurate chemical pump setting of your selected chemical disinfectant, have the chemical supply company representative set the dilution ratio as required per that specific chemical.

WATER SUPPLY REQUIREMENTS

Connect a dedicated 3/4" fresh water supply line.

COMPRESSED AIR SUPPLY REQUIREMENTS

- 1. The Chamber requires a 1/2" compressed air supply line.
- 2. Connect filtered, dried compressed air with a constant pressure no lower than 80 psi and no higher than 100 psi.

*If supplied air pressure is below 80 psi, the cart floor will not properly lift to eject the cart. If air pressure is above 100 psi, premature failure of the solenoid valves will occur. These are not covered under the standard warranty.



Regulated Pressures:

Upper (80 psi) - Ejector Bags and Stop Pin Lower (20 psi) - Doors

ELECTRICAL SUPPLY REQUIREMENTS (CONTROL PANEL)

1. Connect dedicated 240/60/3 (23.4 FLA) or 480/60/3 (11.7 FLA) wiring from building power source.

*Breaker size to be determined by local electrical codes and installers.



240/60/3 23.4 FLA

INSTALLATION IS NOW COMPLETE

TO OPERATE AND TO SELECT OR CHANGE CYCLE SETTINGS, REFER TO ENERGENICS DISINFECTION CHAMBER OPERATION MANUAL (PART 2)

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OPERATING AND PROGRAMMING INSTRUCTIONS FOR QUAT - IDEC DISPLAY CHAMBER

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PRIOR TO START UP

- 1. Open dedicated water supply valve (facility).
- Open air supply valve (facility).
 *Constant filtered, dried compressed air with pressure > 80 psi and < 100 psi. In the Mechanical Chamber, check that the first air pressure regulator is set to 80 psi and the second regulator is set to 20 psi.
- 3. Turn on main power disconnect (facility).
- 4. Turn red power handle located on the front exterior of the Chamber control cabinet to the on position.

THE CHAMBER IS NOW READY FOR OPERATION!

DEFAULT CYCLE SETTINGS

Disinfect Cycle	15 Seconds
Drain Cycle	5 Seconds
Dry Cycle (blower)	90 Seconds
Cart Exit	5 Seconds

*Cycle Settings Are Fully Customizable

LOAD SEQUENCE



The Chamber is prepared to operate. Operator should:

- 1. Completely load the cart into the wash/disinfect chamber.
- 2. Ensure front wheel is resting against the eject pin located on the floor.
- 3. Observe door open/close clearance.

START SEQUENCE



A cart has been loaded into the Chamber and is ready for disinfection.

1. Press green "START" button to begin cycle

Note: If the "START" button is flashing with a cart in the unit, the PLC is missing an input required for beginning the cycle. See Diagnostics Section (Pages 9-11).

DISINFECT SEQUENCE



The Disinfect Sequence has started and will process the inside and outside of the cart. Total time remaining for cycle completion is shown in the "TIME LEFT" box and is measured in seconds.

Note: If the cycle needs to be paused, press the "STOP" button. To resume the cycle, press the "START" button.

DRAIN SEQUENCE



The Drain Sequence will begin following the Disinfect Cycle. The drain sequence will tilt the cart allowing water inside to exit through manufacturer placed drain holes in the cart bottom. Total time remaining for cycle completion is shown in the "TIME LEFT" box and is in measured in seconds.

Note: If there are no drain holes in the cart, $\frac{1}{2}$ " holes should be drilled in each corner of the base.

Note: If the cycle needs to be paused, press the "STOP" button. To resume the cycle, press the "START" button.

DRY SEQUENCE



The Dry Sequence has started. During the Dry Cycle, the cart will remain tilted to allow excess water to drain through the holes in the cart bottom. Cycle time remaining for the drying process is shown in the "TIME LEFT" box and is in measured in seconds.

Note: If the cycle needs to be paused, press the "STOP" button. To resume the cycle, press the "START" button.

EJECT SEQUENCE











The Eject Sequence has started. The "clean-side" door opens and the wheel-stop pin releases the cart to exit the wash chamber. After the cart is fully ejected past the photo-eye sensors mounted on the yellow exit posts, the "clean-side" door will close allowing the "soilside" door to open to setup a new wash sequence.

Note: If a cart has not completely passed the exit post sensors indicating the unit is ready for a new cycle, the exit door will not close and the entry door will not open.

DIAGNOSTIC INPUTS / OUTPUTS STATUS SCREEN



CYCLE STATUS INDICATORS

(Inputs page 10 / Outputs page 11)

- Load Sequence: **Input** #5, 7 1.
- 2. Start Sequence: **Input** #5, 7
- 3. Wash Sequence: **Input** #5, 6, 8
- 4. Rinse Sequence: **Input** #5, 6, 8
- 5. Drain Sequence: **Input** #5, 8,
- 6. Dry Sequence: **Input** #5, 8, 12
- 7. Eject Sequence: **Input** #4, 8, 10

- **Output** #6, 8
 - **Output** #6, 8
- Output #2, 3, 5, 6, 8, 9, 10, 11
- **Output** #1, 2, 3, 5, 6, 8, 9, 10
- Output #2, 5, 6, 7, 8
- Output #2, 4, 5, 6, 7, 8
- Output #2, 5, 6, 7, 12

INPUTS SECTION

- 1. E-Stop Illuminates when any E-Stop buttons are depressed
- 2. Wash Tank Level Illuminates when sanitizer / detergent tank level is low.
- **3. Rinse Tank Level** Illuminates when rinse agent tank level is low. (Not applicable to HOCL models)
- 4. Clean Door Open Illuminates when clean door is open.
- 5. Clean Door Closed Illuminates when clean door is closed.
- 6. Water Pump Contact Illuminates when pump contactor is engaged.
- 7. Soil Door Open Illuminates when soiled door is open.
- 8. Soil Door Closed Illuminates when soil door is closed.
- 9. Cart in Sensor Not applicable
- **10. Cart Exit Sensor** Illuminates when cart passes cart exits sensor mounted on the clean side posts.
- **11. Water Tank Level Low** Illuminates when water level is low in the storage tank.
- **12.** Blower Contact Illuminates when blower contactor is engaged.

OUTPUTS SECTION

- 1. **Pump Rinse** Illuminates when rinse chemical pump is engaged. (Not applicable to HOCL models)
- 2. Chamber Light Illuminates when wash chamber light is on.
- 3. Water Pump Illuminates when water pump is on.
- 4. Blower Illuminates when drying blower is on.
- 5. Soil Door Illuminates when "soil-side" door is closed.
- 6. Clean Door Illuminates when "clean-side" door is closed.
- 7. Ejector Valve Illuminates when floor is raised / tilted.
- 8. Stop Pin Illuminates when wheel stop pin is engaged.
- **9.** Inside Zone Solenoid Valve Illuminates when inside cart spray is operating.
- **10. Outside Zone Solenoid Valve** Illuminates when outside cart spray is operating.
- 11. Pump Wash Illuminates when chemical pump is operating.
- **12. Beacon Light** Illuminates when open "clean-side" door beacon and siren are operating. (VA spec'd models only)

SEQUENCE PROGRAMMING PROCEDURE



ENTER	PASSWORD



SEQUENCE PROGRAMMING PROCEDURE



("1470" ENTER)



SEQUENCE PROGRAMMING PROCEDURE



(TYPE NEW VALUE; PRESS ENTER)

*Exit to Main Screen at any time by pressing the "HOME" icon.

MANUAL DOOR OPERATION



MANUAL DOOR CONTROL

To perform manual door operations:

- 1. Enter Sequence Programming Screen by selecting "Settings" from the Main Screen.
- 2. Enter Pass-code 1470; press Enter.
- 3. Press "Manual Door Control" icon at bottom of Programming Screen.
- 4. Touch directly on top of desired door to activate.
- 5. Touch "Stop Pin" icon to disengage the floor wheel stop pin.

*Exit to Main Screen at any time by pressing the "HOME" icon.

MAINTENANCE

Your Energenics Disinfection Chamber is designed for low maintenance and long life. All maintenance items are assessable at floor level.

ROUTINE MONITORING:

Indicator alerts on the control screen notify operators to adverse operating conditions involving pH and water temperature.

The electric photo-eye on exit posts should be kept clean from dirt and debris. They should be wiped off with a clean cloth as needed.

MONTHLY:

Check, remove, and clean wash chamber spray nozzles.

QUARTERLY:

Periodically test the Emergency Stop buttons to ensure operating safety.

Check the door air cylinders and auto ejector cylinder.

ANNUALLY:

Check water tank float and float seals.

Inside the washing compartment, inspect the caulking around the base between the fiberglass and aluminum. Re-caulk if necessary, to prevent water from entering between the aluminum flange and the fiberglass panel.

LIMITED WARRANTY & DISCLAIMER STANDARD CONDITIONS OF SALES

Energenics Corporation (herein called Energenics) warrants to the original purchaser, & to the original purchaser alone, its products to be free from defects in material and workmanship under normal use & service for a period of twenty-four (24) months from the date of shipment. Energenics' obligations under this warranty shall be limited solely to the repair or replacement of such parts, which Energenics examination shall disclose to Energenics satisfaction to have been thus defective & to the shipment of the repaired or replacement part or parts to the original purchaser F.O.B. point of shipment. In no event shall Energenics be liable for any consequential, incidental or special damages of any kind caused by the defect. The Warranty set forth shall not apply to & Energenics shall not be responsible for any equipment or part, which has been repaired or altered in any way, regardless of how or why the part was altered or repaired nor for any equipment or part, which has been subjected to the negligence or accident, improper use or care, nor for equipment or part with respect to which Energenics instructions relating to installation, maintenance, or use have not been followed. This limited warranty is expressly made in lieu of all other warranties, expressed or implied, and in lieu of all other obligations or liabilities on the part of Energenics.

The purchaser by acceptance of the delivery of any part or product from Energenics agrees to indemnify Energenics & to hold it harmless against any liability, which may arise if the part or product received is mis-applied, improperly installed, improperly maintained, misused or abused, altered or rendered partially or totally inoperative due to any cause.

RETURNS: Merchandise may not be returned unless a RMA is obtained from Energenics. A copy of the RMA must accompany the returned item as the packing Slip. Energenics will assume no responsibility for merchandise returned neither without such prior approval nor for any charges or expenses incurred therewith.

<u>CANCELLATIONS</u>: Any order may be canceled by the purchaser only upon written notice & upon payment to Energenics of reasonable & proper cancellation charges.

SALES & SIMILAR TAXES: Energenics prices do not include sales, use, gross receipts, excise or similar taxes, license fees & export or import duties. All taxes or other charges assessed to Energenics by reason of a transaction with the Purchaser must be paid by the Purchaser.

PRICE POLICY: All sales are made F.O.B. point of shipment and all prices are subject to change without notice.

DESIGN CHANGES: Energenics reserves the right to make changes in the design & changes or improvements in its products without notice or without imposing any obligation upon Energenics to install the same upon products heretofore manufactured.

<u>GENERAL</u>: No alteration, modification or extension of the foregoing conditions shall be binding upon Energenics unless made in writing & signed by an officer of Energenics.

AVOIDING UNNECESSARY SERVICE COSTS

Any modifications made to the system without the express written consent of Energenics Corp. will result in termination of the warranty agreement. This includes modifications to the wash pump, wash pump settings, pump system hoses, spray nozzles, and associated tanks, sensors, and fittings. Any travel expenses incurred by Energenics for repair(s) resulting from unauthorized modifications will be the responsibility of the end user