



1470 Don Street • Naples, Florida 34104

Telephone: (239) 643-1711
Fax: (239) 643-6081
Customer Service: (800) 944-1711

Installation, Start-up, Operation & Maintenance Manual For ENERGENICS KARTWASH PREMIER

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03/2006

KARTWASHER UNLOADING & INSTALLATION INSTRUCTIONS

Your Kartwasher is shipped fully assembled ready to place on the floor or pit in your selected location. Follow the directions:

Unloading: *DO NOT SIGN BILL OF LADING UNTIL INSPECTED*

1. Unwrap Kartwasher and inspect for damage during shipping.
2. The Kartwasher may be picked up with a forklift with extra long (60" min.) forks. It must be picked up off center, the weight of the components in the side of the Kartwasher make it off balance at the center lift. The balance point which is indicated on the Kartwasher is near the door edge in the middle of the Kartwasher pallet.
If there is no forklift with extra long forks to pick up the Kartwasher it can be lifted by any means at one end and dragged off the truck and slid into position.
3. Lift the Kartwasher and unbolt the wood holding the Kartwasher to the pallet. Remove the pallet and any plywood under the Kartwasher.
4. Slowly lower the Kartwasher onto the floor. Do not drop. Slide into the final position using wood between the Kartwasher frame and forks.
5. Mount to the floor in 4-8 places using proper fasteners per floor type.

PIT INSTALLATION (Refer to Drawing 9501-100 or 9501-101)

1. Remove the shipping blocks. Place 4" blocks in one end of the pit.
2. Slide the Kartwasher onto the blocks. Using a "J" bar, forklift or similar leverage instrument, lower the Kartwasher into the pit. Remove the blocks from the one end and lower that portion into the pit. Due to the pit dimensions and depth the Kartwasher must be lowered in stages into the pit. For conveyor systems see additional instructions.

UTILITY CONNECTIONS: (Refer to Drawing KW100)

The electrical conduit, water pipe and air line should be connected through the ceiling to the component, utility section of the Kartwasher. Drill holes directly above the internal connection locations. Caulk around the ceiling holes inside and out after connecting.

- 1) Connect the power to the internal safety box complying with local electrical codes. (See Kartwash component chamber drawing KW100)
- 2) Connect the hot water to the $\frac{3}{4}$ "NPT water connection on the poly tank. (See Kartwash component chamber drawing KW100)
- 3) Connect the compressed air to the $\frac{1}{4}$ " air connection. (See Kartwash component chamber drawing KW100)
- 4) The exhaust outlet (20"X20") in the roof of the wash chamber should be ducted to the outside of the laundry.
- 5) The inlet (20"X20") on the utility cabinet roof may be connected to fresh air or to the clean side of the laundry.

For Kartwashers with built-in sumps in the bottom of the wash chamber connect the 2" drain (placement specified when ordered) to the main drain of the laundry per applicable codes.

START UP INSTRUCTIONS

1. Turn on power at safety switch. In the control panel enclosure manually press the motor contactor to check direction of the blower motor. If wrong shut off the power at the safety switch and switch two wires on the bottom of the contactor. This will change the direction of the blower motor. Do the same procedure with the pump motor. Both the blower and pump motors are setup for the proper direction in the factory.
2. Apply compressed air to unit. The clean door should be closed and soil door should be open. Turn on water to unit and fill reservoir. Make sure ball valve after pump is in open position. Then prime pump by loosening plug on pump and pressing motor starter in motor starter box. Load cart in Kartwasher and press start.

CONTROL KEYPAD

The Control Keypad is a multi key, multi function panel that allows system change and system error messaging from the PLC. The Control System is UL listed and approved. All output and monitoring is controlled by the programmable Logic Controller. The LCD message center informs the operator of the cycle point and alerts to system errors. All of the system sensors, photo eyes and doors send error messages when problems occur.

CONTROL PANEL OPERATION

Function Keys, F1-F6

- F1: This is the START button, pushing F1 starts the cycle. The words Wash will appear, the seconds of the wash cycle will count down. It then displays Rinse, Rest (drain) and Dry all with the remaining countdown in seconds.
- F2: Not assigned.
- F3: This is the programming function key. Push F3, enter the password code (9552), press page down to find the program you desire to change, press clear, enter new data with numeric keys, and press enter. It is not uncommon to desire a longer blowdown for dryer carts. Press F3, enter 9552, press page down to display the blowdown duration, press clear, enter the new time in seconds, and press enter. The new timing is set.
- F4: This is the manual stop button. Pressing F1 after an F4 stop will restart the cycle from the beginning. NOTE: The Emergency Stop Buttons are push to activate and pull to reset.. As in the F4 stop, pushing F1 restarts the program from the beginning.
- F5: Not assigned.
- F6: Program exit. After changing the program with the F3 key, F6 must be pushed to exit the programming mode and return to the run mode. Pushing F1 after F6 will restart a wash cycle.

ERROR AND WARNING MAESSAGES

- Workers often handle carts roughly resulting in the cart impacting the doors which cause jams. A Door Jam message occurs as well as the location, specifically soil or clean side.
- The Kartwasher won't work if a cart is not activating the eye looking for the presence of a cart in the wash chamber. A message on the Keypad will display the eye does not see the presence of a cart.
- Messages for any other sensor that is not activated when it should be will also be displayed on the Keypad.
- Low Chemical level, either detergent/sanitizer or rinse agent.
- **EMERGENCY STOP:** There are three Emergency Stop buttons, one on the soil side (entrance), one on the clean side (exit) and one inside the Kartwasher. The buttons all perform the same function. Pushing the Emergency Stop button stops all action, the soil door opens and the Kartwasher is disabled; the same as if power is removed. Depress the Stop button upon recognition of an unsafe or dangerous condition. When the unsafe condition is satisfied, you must reset as above to return the Kartwasher to operation.
- **RESET EMERGENCY STOP:** Observe the 3 Emergency Stop Buttons. After determining the reason for the switch(s) to be depressed and ascertaining a safe operating environment, pull switch(s) outward to reset.

SYSTEM OPERATING DEFAULTS

The PLC is programmed with the following default settings for the wash cycle:

1. 5 second detergent/sanitizer cart exterior wash.
2. 10 second detergent/sanitizer cart interior wash.
3. 5 second rinse agent exterior rinse.
4. 10 second rinse agent interior rinse.
5. 10 second drain rest. Auto Eject (if equipped as an option) tilts the cart during this time to improve drainage.
6. 80 second blowdown.

The cycle ends with the opening of the clean side door. It waits for the cart to be removed from the wash chamber and the door to be closed with the close door button. When the clean side door is closed, the soil door automatically opens for the next cart.

With the Auto Eject option, the clean side door opens, the cart is released and it gravitates out of the wash chamber. When it clears the clean door exit eye, the door automatically closes and the soil side door opens.

SYSTEM OPERATION

The cycle starts with the pushing of the start cycle then the following sequence of events occurs:

1. 5 second detergent exterior wash
2. 10 second detergent interior wash
3. 5 second sanitizing exterior rinse
4. 10 second sanitizing interior rinse
5. 1 second ejector lifts (If the Auto Eject option is ordered)
6. 90 second blow dry

The cycle ends with the opening of the clean side door. The cart is automatically ejected and then the clean door closes automatically once the cart clears the electric eye, and the soil door opens for next cart.

The optional hand held spray wand is mounted on wall next to the maintenance doors. Toggle switches turn on the wand and supply the detergent formula if desired. A 50' hose is standard. Pressure is 600 psi.

MAINTENANCE

The Energenics Kartwasher was designed for low maintenance and long life. In addition, except for the conveyor under the floor, all maintenance items are assessable at floor level.

ROUTINE MONITORING:

The detergent and sanitizer must be refilled as needed. There will be a message on the LCD panel to indicate low solution conditions.

The electric eyes should be kept clean from dirt and debris. They should be wiped off with a clean cloth as needed.

Periodically test the Emergency Stop buttons to insure operating safety.

QUARTERLY:

Door & ejector wheels: Spray with WD-40.

Check the door air cylinders and auto ejector cylinder.

Check the two chemical pumps, the Pulsatron metering pump tubes have a design life of one year.

ANNUALLY:

Water Tank Float: Check the 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.

COMPONENTS:

Blower fan: **American Fan** 15hp blower

Pump: **Grainger model –Teel** 2hp Booster Pump 2PC31

Motor Starter: **Telemecanique**

Water Valves: **Asco Valves**

Air Cylinders: (Doors-**Econoair**) (All others) **Speedair**

Spray nozzles: Spraying systems Pro Max

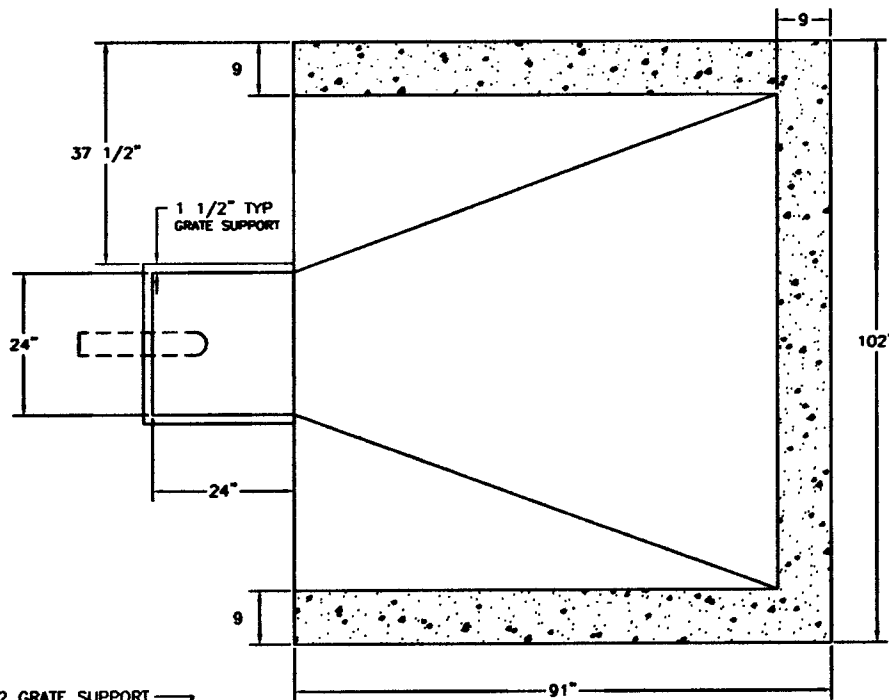
Nozzles: Yellow **Quick Jet** QPH6.5

Receiver: Grey **Quick Jet** QPP-VI 1/4

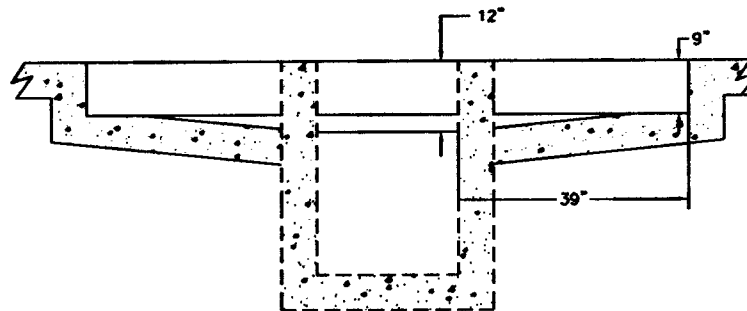
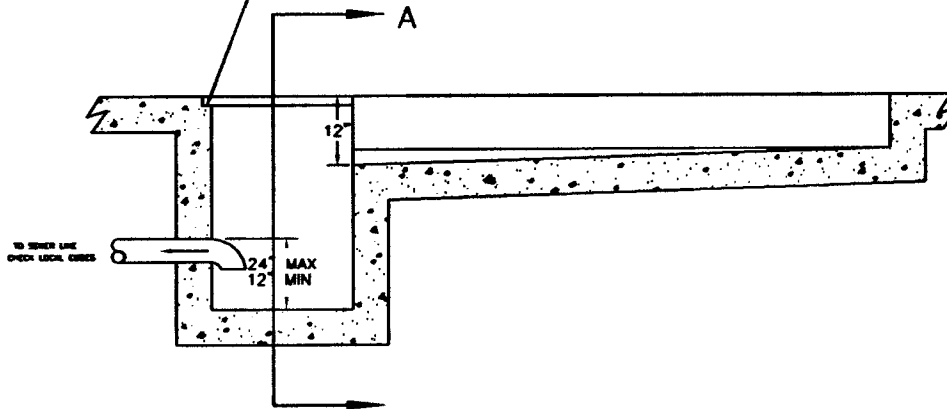
Electric eyes: **ATC** self contained beam sensors.

Chemical pumps: **Pulsatron Electronic Metering Pumps**

Control by **Energenics**, wiring diagram attached.



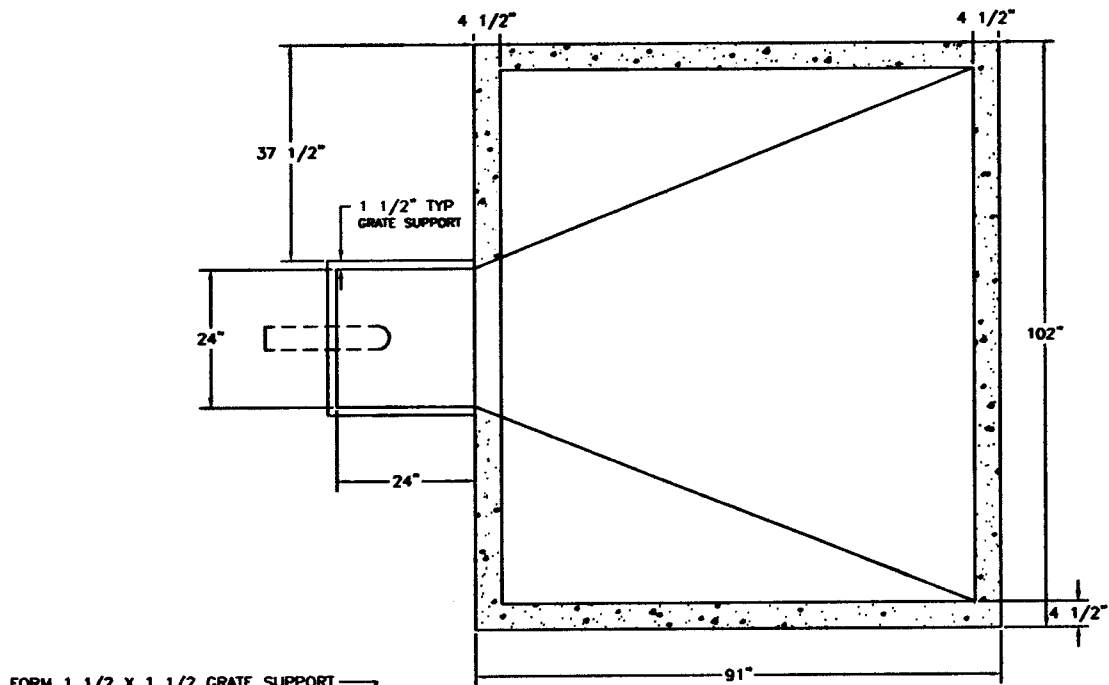
FORM 1 1/2 X 1 1/2 GRATE SUPPORT



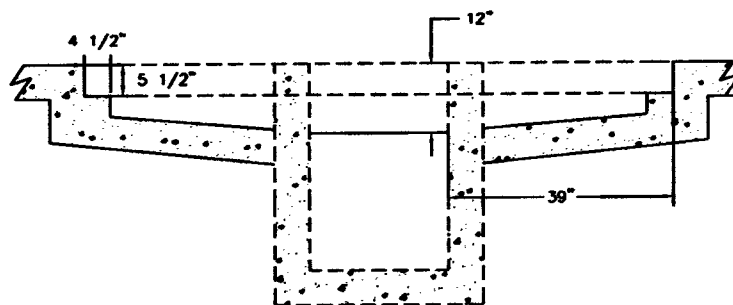
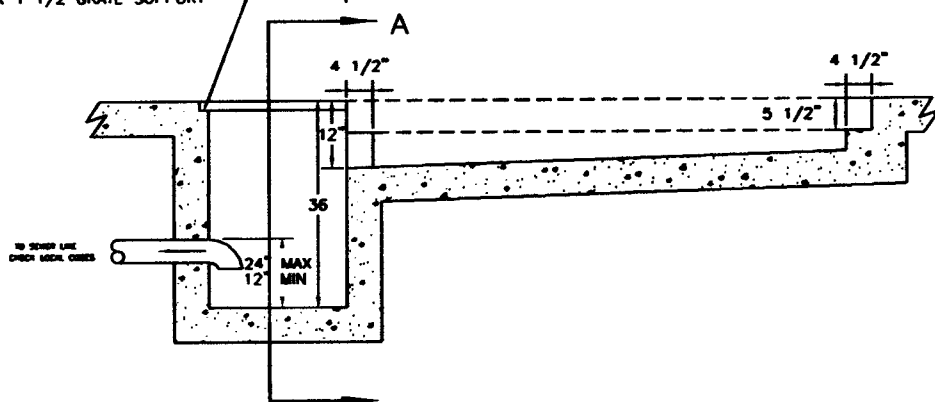
SECTION A-A

CART WASHER SYSTEM
PIT AND SUMP DETAIL
FOR 8" BEAMS

			ENERGENICS Corporation	
			409 Ben Street Naples, Florida 33941-2386 Tel. 352-645-1711 Fax 352-645-0888 USA 352-645-1711	
DESIGNED BY:	J. Morgan	DATE:	12-10-05	PIT CART WASHER SYSTEM PIT AND SUMP DETAIL
ENGINEER:	J. Morgan	DATE:	12-10-05	
REVIEW:	S. Aron	DATE:	05-18-06	
MANUFACTURED:				
			DRAWING NUMBER:	9501-100



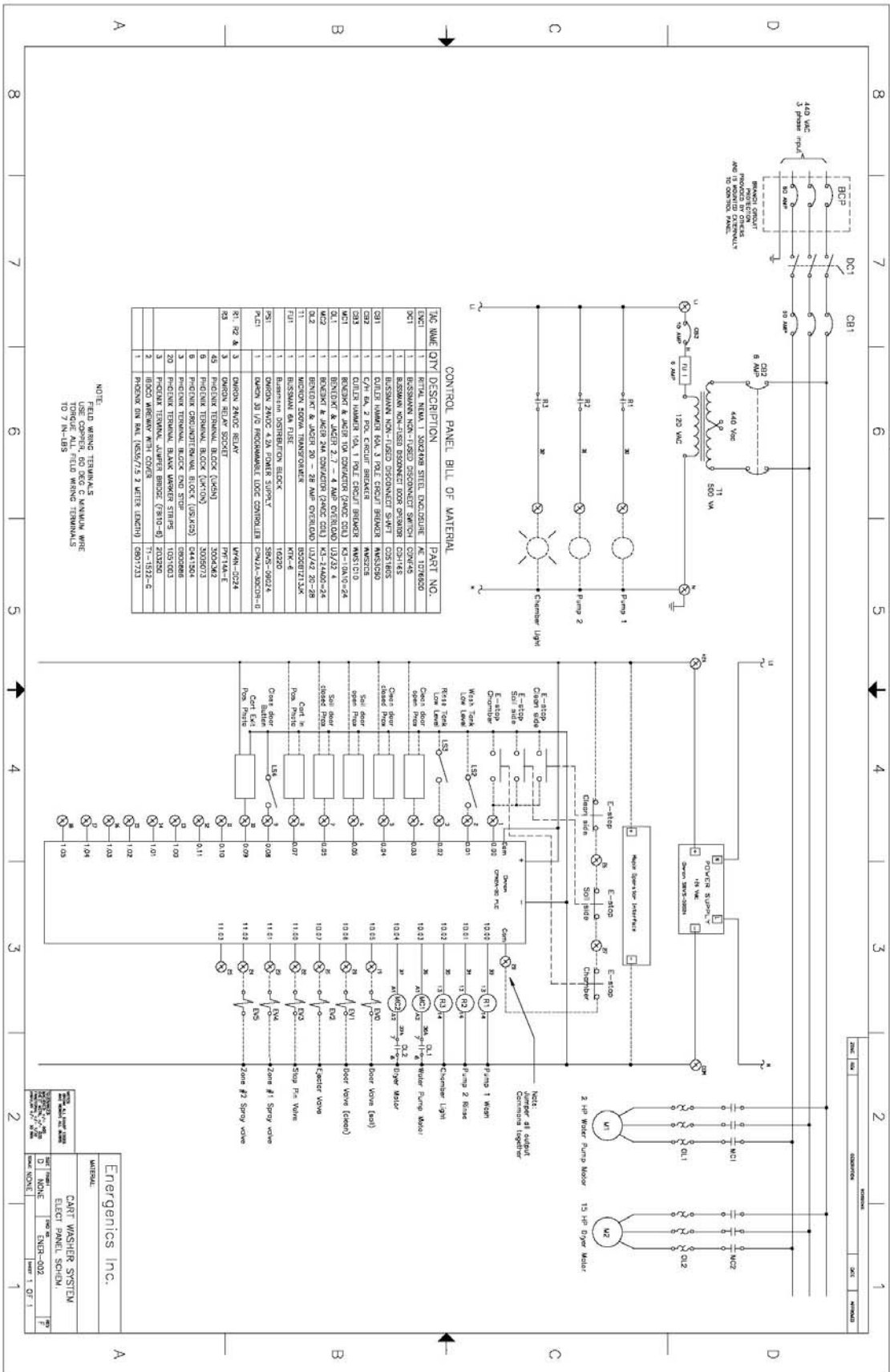
FORM 1 1/2 X 1 1/2 GRATE SUPPORT



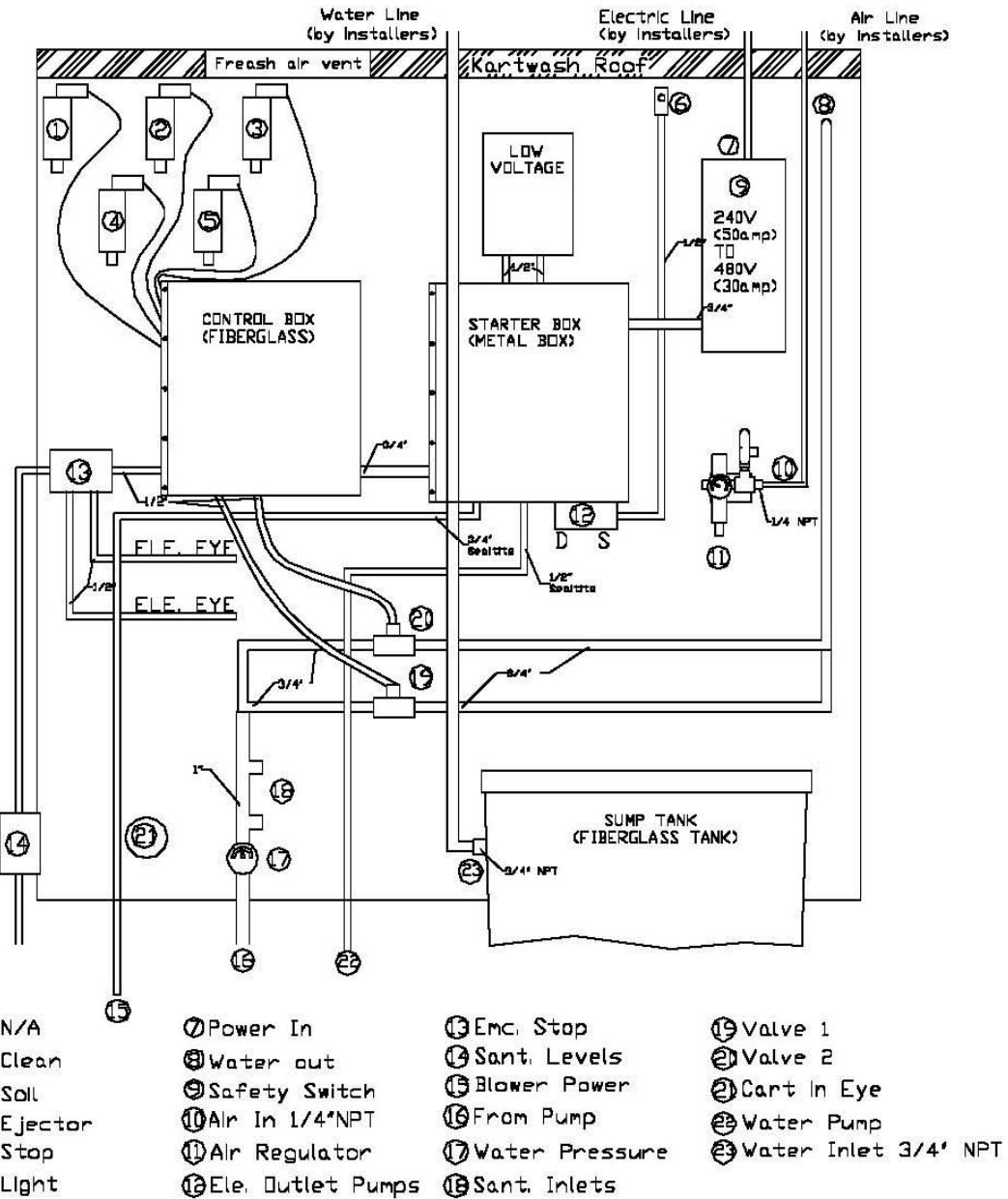
SECTION A-A

CART WASHER SYSTEM
PIT AND SUMP DETAIL
FOR 4" BEAMS

			ENERGENICS Corporation	
			1470 Sun Street Muskogee, Florida 32561	PH (904) 625-1711 FAX (904) 625-1888 CBA 888-999-7711
DESIGNED BY:	E. Rogers	12-16-89	TITLE	CART WASHER SYSTEM PIT AND SUMP DETAIL
DRAWN BY:	J. R. King	12-27-89		
REVIEWED BY:	E. Rogers	11-05-90		
DATE:	E. Rogers	08-16-92		
			DRAWING NUMBER	9501-101



KARTWASH COMPONENT CHAMBER UTILITY BOARD



COMPONENT CHAMBER
DRAWING KW100
08-01-02