

## INTRODUCTION

Thank you for purchasing your Aquastorm™100C/200C Aqueous Cleaning system.

This document contains information to answer all the frequently asked questions in relation to the installation of an Aquastorm™100C/200C Aqueous Cleaning system.

Section 1 – Important Installation Requirements

Section 2 – Machine Foot Print

Section 3 – Training

If you have any further questions, please don't hesitate to contract the ELECTROVERT Customer Support Group @ 800-737-8110 Option 3 or [evtsupport@itweae.com](mailto:evtsupport@itweae.com).

Thank you for your cooperation, may I take the opportunity of wishing you many years of quality production with your new Aquastorm™100C/200C Aqueous Cleaning system.

Sincerely,

Pat O'Brien  
Vice President/General Manager

# Aquastorm™ 100C and 200C

## PRE-INSTALLATION INSTRUCTION



### Customer Service and Support

ELECTROVERT  
1629 Old South 5 Camdenton,  
MO 65020 U.S.A.  
800-737-8110 Option 3  
[evtsupport@itweae.com](mailto:evtsupport@itweae.com)

## **SECTION 1:**

### **1. FACILITY REQUIREMENTS**

These general facility requirements pertain to both the Aquastorm 200 and Aquastorm 100 systems and cover all possible options available. During preliminary preparation and system set up refer only to those items relating to the system ordered or purchased.

#### **1.1 WATER REQUIREMENTS:**

The Fill and Final Rinse water supplies must be separate. The immersion heaters in the recirculating wash and rinse tanks will heat incoming tap or treated water after an initial waiting period. Electrovert recommends supplying heated water 60–71 °C (140–160 °F) to the recirculating wash, and rinse tanks in order to maintain operating temperatures.

##### **FINAL RINSE:**

User supplied, heated tap or treated water.

Connection 3/4 in. NPT

Temperature 60–71° C (140–160° F)

Flow Rate 11–19 L/Min (3–5 Gal./Min.)

Nominal Pressure 2.8–3.3 kg/cm<sup>2</sup> (35– 40 PSI)

##### **FILL:**

User supplied, heated tap or treated water.

Connection 3/4 in. NPT

Temperature 60–71° C (140–160° F)

##### **SYSTEM DRAIN:**

Common 1-1/2 in. NPT, CPVC pipe

Constant 38 L/Min. (10 GPM)

#### **1.2 EXHAUST REQUIREMENTS**

The following exhaust specifications assist the customer in specifying an exhaust blower capable of exhausting the system. Measure all exhaust measurements at the machine exhaust port. Proper exhaust is required to ensure correct machine operation and safety. An independent, separate blower is recommended for this equipment due to the high-volume requirements and condensate build up resulting from normal operation. Contact your local HVAC specialist for blower requirements and ventilation hook-up.

## Recommended venting material:

305 mm (12 in.) diameter minimum galvanized spiral hard duct. Seamless stainless steel or PVC air duct can be used in wet section. PVC Duct can NOT be used on Torrid dryer.

Total requirements for standard two (2) dryer system:

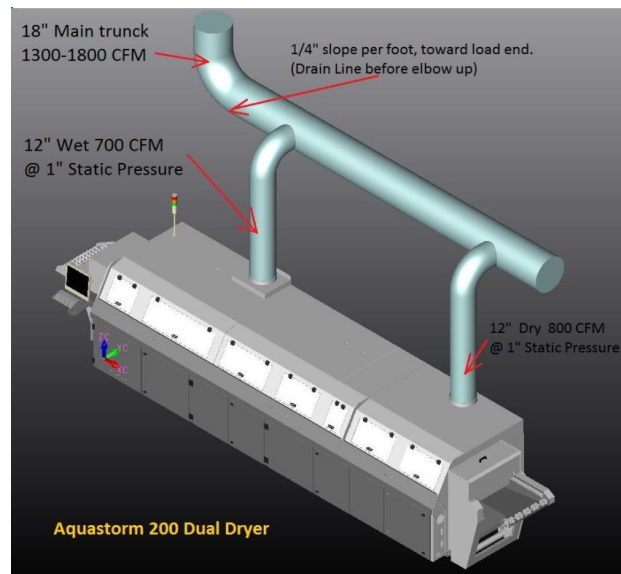
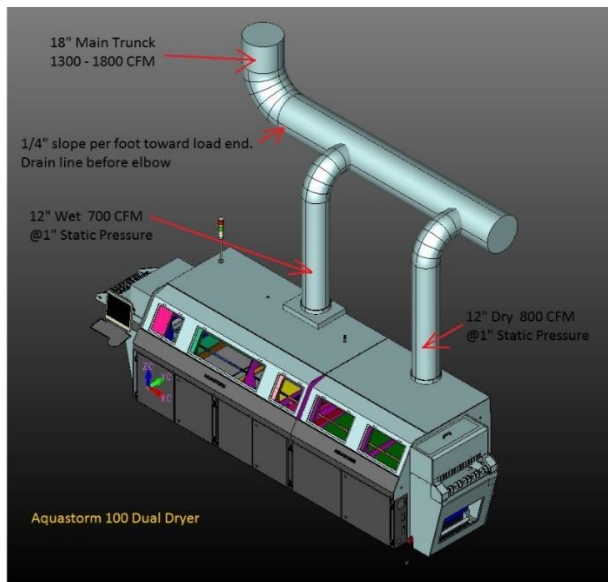
68 M3/min. @ 2.5 cm (1900 SCFM @ 1.0 in.) H<sub>2</sub>O static pressure

Total requirements for Torrid Dryer system:

Port: SCFM @ 2.52. cm (1 in.) H<sub>2</sub>O ,305 mm (12 in.) Wet – 750

(Wet Section can be run as low as 600 SCFM as long as there is NO steam escaping and NO Chemical Partials entering the Operator environment.)

Dryer: 152.4 mm (6 in.) Exhaust #1 - 500–700 @ 152.4 mm (6 in.) Exhaust #2 - 300–400 Total Exhaust: 1550–1900 SCFM



## **CAPACITIES:**

Unless otherwise noted, all options listed are available on both the Aquastorm 200 and Aquastorm 100 systems.

### **Wash Tank:**

300 Liter (80 gallon)

**Rinse Tank:** Available on Aquastorm 200 systems only.

189 Liter (50 gallon)

### **¾ HP Optional Sump Pump tank:**

49 Liter (13 gallon)

**OR**

### **2 HP Optional High Pressure Sump tank:**

76 Liter (20 gallon)

## **1.3 AQUASTORM ELECTRICAL REQUIREMENTS.**

### **STANDARD CONFIGURATION:**

460 VAC, 3 Phase, 60 Hz

### **OPTIONAL CONFIGURATION:**

380 VAC, 3 Phase, 50 Hz 230 VAC, 3 Phase, 60 Hz (Aquastorm 100 only)

For specific power requirements see Serial Nameplate on your Aquastorm or sale order.

## 2. UNPACKING PROCEDURES

### 2.1 LOCATE AND LEVEL THE SYSTEM

Tools required for unpacking: Minimum two (2) ton (4000 lb.) capacity forklifts 1-1/2 in. adjustable or fixed wrench

Wheel the Aquastorm 200 or Aquastorm100 into place for installation. To prevent loss of parts or installation hardware, do not remove any system components from their containers prior to their requirement in the installation process. **LEVELING FEET**



Leveling Foot

1. Locate and open the cardboard container labeled Documentation Package Enclosed.
2. Remove the twelve (12) system leveling feet required for the Aquastorm 200 or the eight (8) system leveling feet required for the Aquastorm 100 from the container.
3. To avoid damage to the equipment and system drain fixtures located under the machine, adjust the fork lift forks to their widest position. Use fork extensions on forks if the forks do not extend at least seven (7) feet. The Aquastorm 200 and Aquastorm 100 frame width is 153.7cm (59.9 inches).
4. Using a two (2) ton (4,000 lb.) minimum capacity fork lift, carefully position the extended forks at their widest setting under the frame of the Aquastorm 200 or Aquastorm 100. Forks should be set as close to the arrow stickers as possible. See lift point drawings.



5. Blocks are to be used under the machine frame at all lift points in the front and back of the machine - 115 mm (4 in.) minimum. Use extreme caution as to not crush the conveyor or under side plumbing and never push or pull on user interface.
6. Once the fork lift is in place, carefully raise the system off the floor high enough to remove the wheels. Use the 1-1/2 in. adjustable or fixed wrench to remove the wheels.

7. As each wheel is removed install the 12 leveling feet on the Aquastorm 200 system and the eight (8) leveling feet on the Aquastorm 100 system.
8. Install the leveling feet so they extend approximately 12.7 cm (5 in.) from the base of the system frame. Be consistent with each leveling foot.
9. Remove the twelve (12) Aquastorm 200 or eight (8) Aquastorm 100 pads for the leveling feet from the cardboard container labeled Documentation Package Enclosed. Place the pads below where each leveling foot rests on the floor at the site of installation.
10. Carefully and slowly lower the Aquastorm 200 or Aquastorm 100 onto the pads at the site of installation. Remove the forklift.

## 2.2 CABINET LEVELING PROCEDURE

Aquastorm 200 systems refer to Figure 25 for X and Y axis information.

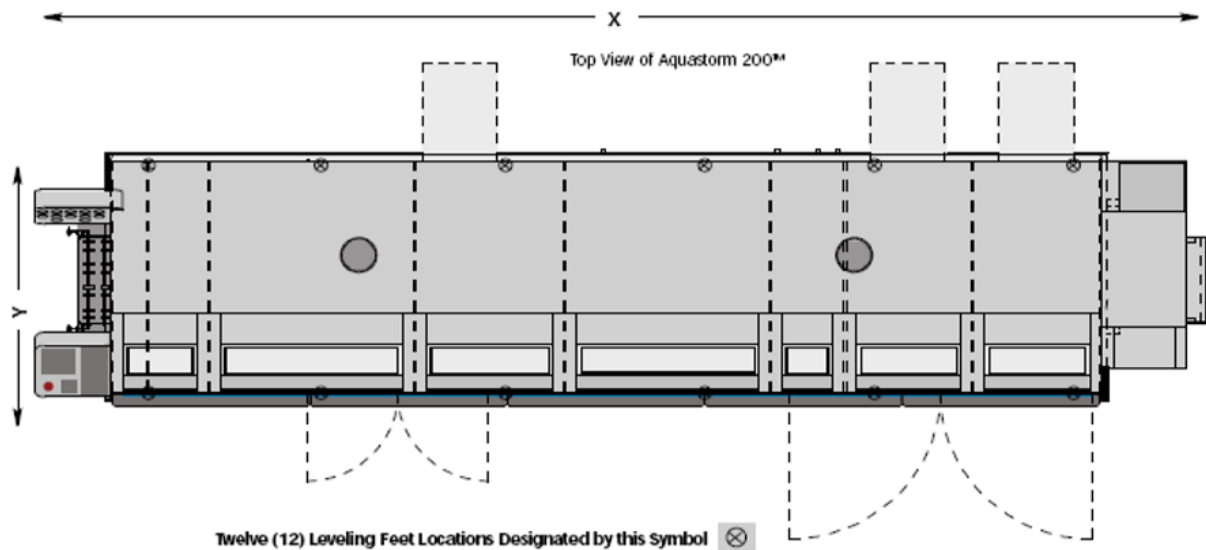


Figure 25: Aquastorm 200™ Leveling Foot Locations



Aquastorm 100 systems refer to Figure 26 for X and Y axis information.

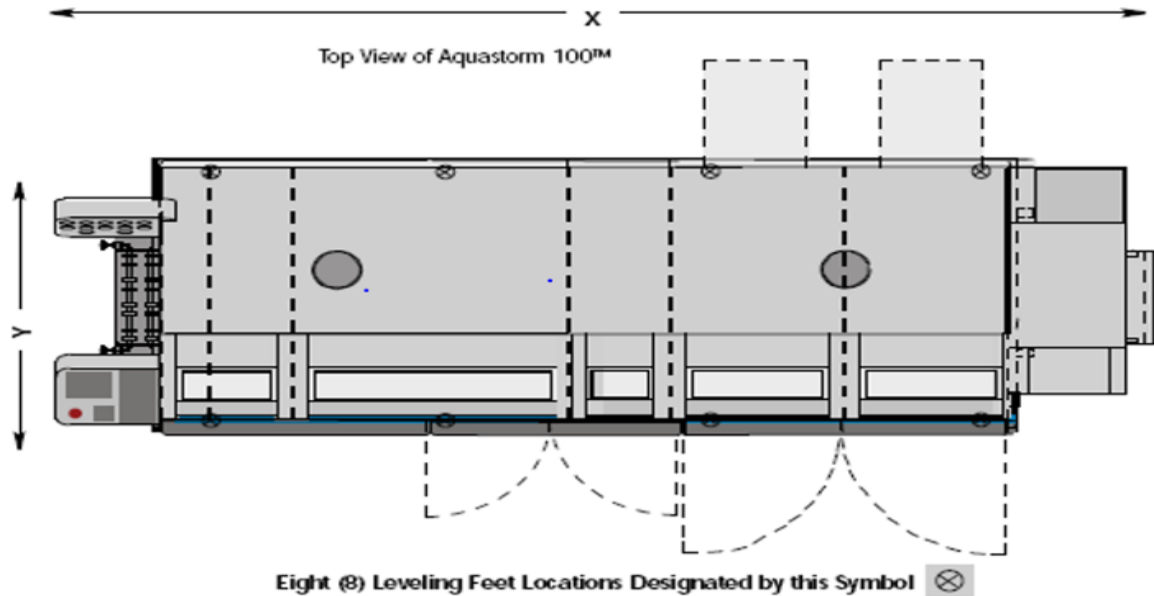
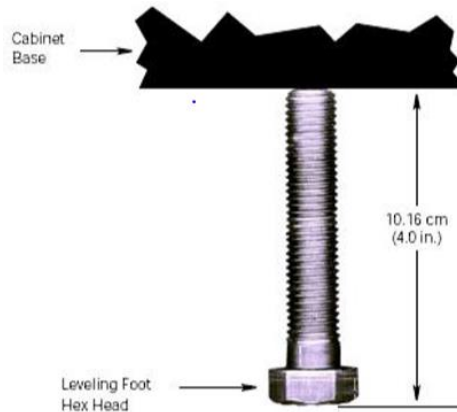


Figure 26: Aquastorm 100™ Leveling Foot Locations

## Leveling Foot Adjustment

1. On the X axis, place a level positioned on the underside corner of the Aquastorm 200 or Aquastorm 100 metal frame near the leveling foot.
2. Make the necessary height adjustments at the base of the leveling foot hex head.
3. Turn the leveling foot hex head clockwise to elevate the system or counterclockwise to lower the system until the distance between the base frame of the cabinet and the floor is approximately 10.16 cm (4 in.).
4. Repeat the above steps for all four (4) corners of the system, front and rear.
5. On the Y axis, place the level positioned on the underside corner of the Aquastorm 200 or Aquastorm 100 frame near a leveling foot.
6. Make the necessary adjustments to the leveling feet to bring the system into level.
7. Recheck the X axes to be sure the leveling at these points have not changed
8. Repeat the above steps as necessary.



## 2.3 SUMP PUMP

The optional sump pump assembly ships configured with the necessary electrical connectors and 610 cm (240 in.) of cable. **The customer is responsible to supply the following additional plumbing:** 1-1/2 in. CPVC drain plumbing 1 in. facility drain plumbing

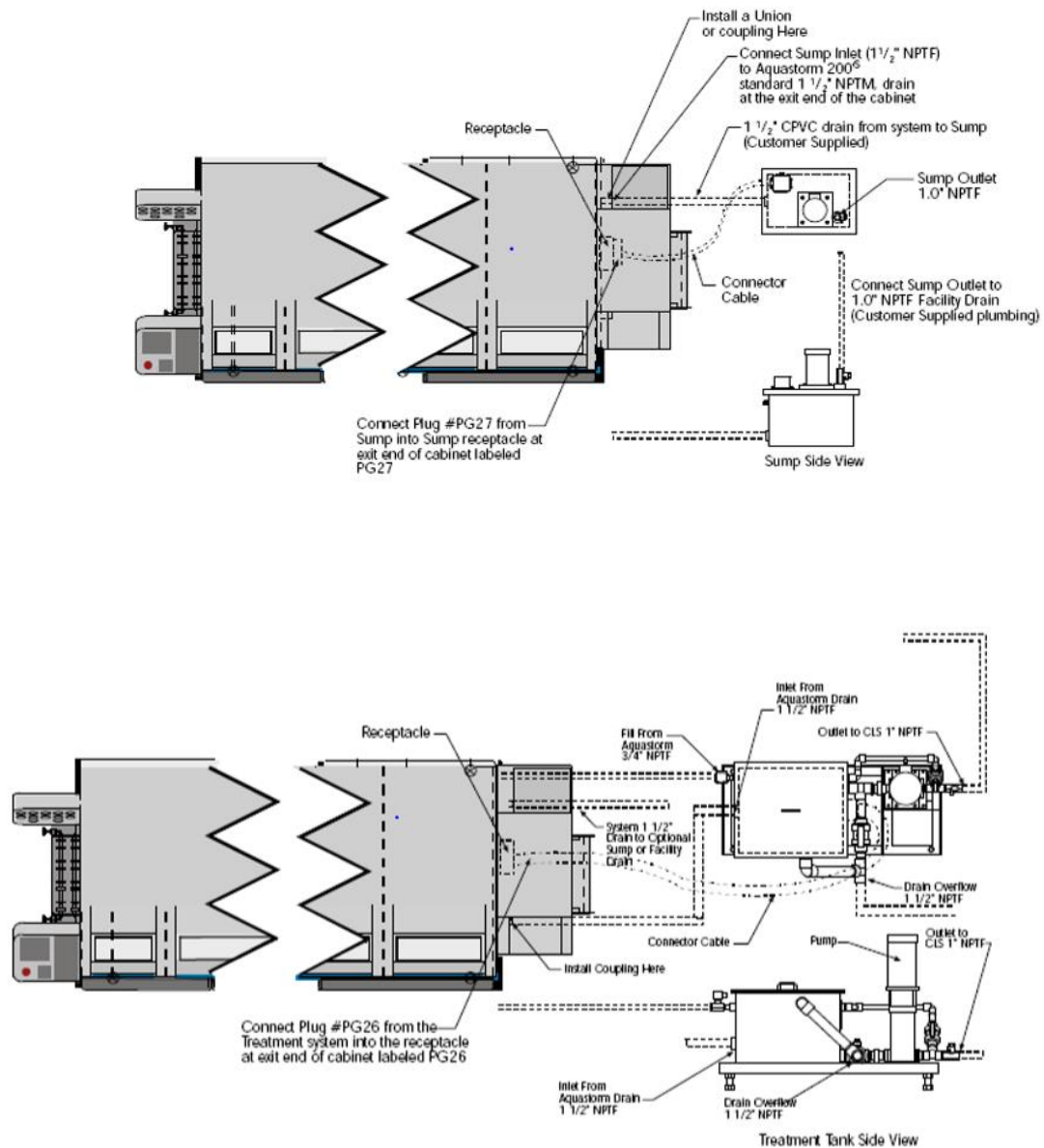
Ensure Teflon® tape is used on all threaded plumbing fittings. The sump assembly is designed to be positioned at the exit end of all Aquastorm systems.

## SUMP PUMP INSTALLATION

1. If your system has been configured with the optional sump pump, locate and remove the assembly from the shipment contents.
2. Position the sump pump assembly at the exit end of the system, with the drain pipe facing the exit end of the system.
3. Install a customer supplied union or coupling at the end of the 1-1/2 in. drain plumbing at the exit end of the Aquastorm system.
4. Install the required length of 1-1/2 in. CPVC drain pipe [not to exceed 610 cm (240 in.)], to the remaining end of the union or coupling.
5. Connect the opposite end of the drain pipe installed in Step 4 to the 1-1/2 in. NPTF fitting on the sump.
6. Connect the 1.0 in. NPTF sump outlet to the customer supplied 1.0 in. facility drain or facility water treatment system.

7. Locate the cable from the sump pump with the connector labeled PG26.
8. Plug the connector labeled PG26 into the receptacle at the exit end of the Aquastorm 200 or Aquastorm 100 labeled PG26.

### Sump Pump Installation Reference Drawing



### 3. FACILITY AND POWER CONNECTIONS

This section provides step-by-step instructions for connecting facility power, exhaust, and water to the Aquastorm 200 or Aquastorm 100 aqueous cleaning system. Perform the following procedures in the order in which they are presented. Failure to do so may result in damage to the equipment or personal injury. Read each procedure in its entirety before performing any installation procedures. This section refers to standard and optional features. Disregard references to any features that are not configured with the system ordered or purchased.

#### 3.1 FACILITY WATER HOOK-UP

Electrovert recommends the customer provide the following plumbing connections near or at the system operating site: Serviceable unions attached to all plumbing connections. Serviceable ball or gate valves installed on the appropriate pressure lines. Pressure gauges on the facility side of service valves to monitor and verify availability.

#### WATER SUPPLY

Fill and final rinse water supplies are separate on all machines. Fill water supply requires heated water at a temperature between 60–71°C (140–160°F). Final rinse water supply requires heated tap water or treated water at a temperature between 60–71°C (140–160°F).

#### CONNECT THE PLUMBING

Refer to the Installation Sales drawing included in the system documentation package or to the installation drawings referenced in section 3. Aquastorm 200 System Footprint Drawings / Aquastorm 100 System Footprint Drawings .

1. Connect the facility water supply to the ¾ in. NPT male SST fill inlet pipe.
2. Connect the facility water supply to the ¾ in. NPT male CPVC Final rinse inlet pipe.

#### SUGGESTION That can be helpful

During routine preventive maintenance procedures, it is necessary to rinse out the system. This requires the use of a hose and spray nozzle. Install a clean-out hose in the vicinity of the system. The clean-out hose requires either a hot and/or cold deionized (DI) water supply to ensure that no system cross contamination occurs.

### 3.2 FACILITY EXHAUST HOOK-UP (reference scfm section 1.2)



Do not walk or stand on the top of the Aquastorm cabinet. Damage to the cabinet may result. The top of the cabinet is designed with internal exhaust plenums and is assembled from welded polypropylene.

#### CONNECT THE EXHAUST

1. Locate the two (2) exhaust ports at the top of the system. Each exhaust port is 30.5 cm (12 in.) in diameter. (Systems that include an optional Torrid dryer section have an additional exhaust port installed. Torrid exhaust ports are 6 inch and should be fitted with metal ducting. PVC can NOT be used on the Torrid Dryer.
2. Connect the facility exhaust system to the exhaust ports.
3. Use an Inclined Manometer to verify the static pressure and SCFM ratings specified for each exhaust. Please refer to EDS.

### 3.3 CONNECT FACILITY POWER



Turn off facility power at the facility breaker before connecting the facility power to the Aquastorm 200 or Aquastorm 100. Use safety lock outs on the safety disconnect for added protection.

Do not operate the system or turn on power before the field service eng. is present when access panels are open, except for brief periods when power is required for testing or to verify motor rotation. Use caution when shields, panels or covers are removed exposing electrical terminals or wires. It is the responsibility of the customer to provide the necessary conduit and conduit connectors to the exit end of the Aquastorm system.

The power enclosure houses the main power disconnect where power is connected. Before connecting facility power to the system, use a voltmeter to verify the incoming power agrees with the specifications indicated on the system serial tag.

#### SYSTEM GROUNDING

The Aquastorm aqueous cleaning system must be grounded in accordance with local, state, and/or federal electrical codes, (i.e. National Electrical Code).

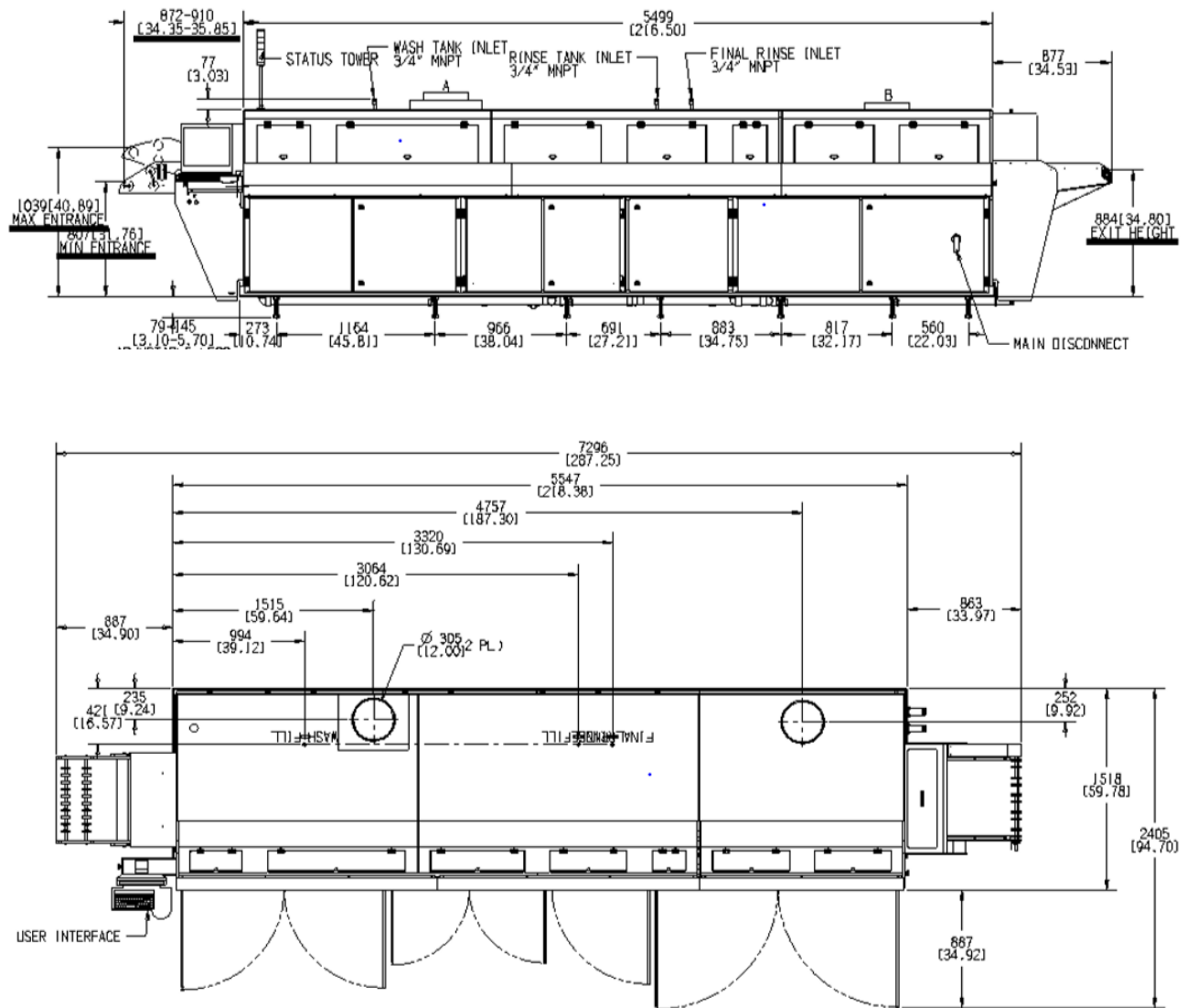
## CONNECT SYSTEM POWER

1. Attach the necessary conduit to the exit end of the cabinet, from the facility power source.
2. Bring the facility power wiring to the system through the conduit, into the main power enclosure of the Aquastorm system.
3. Connect the 3 phase electrical service to the primary power terminals of the Main Power Disconnect, labeled SW1.
4. Make ground conductor connection at the proper terminal strip, labeled GND,PE.

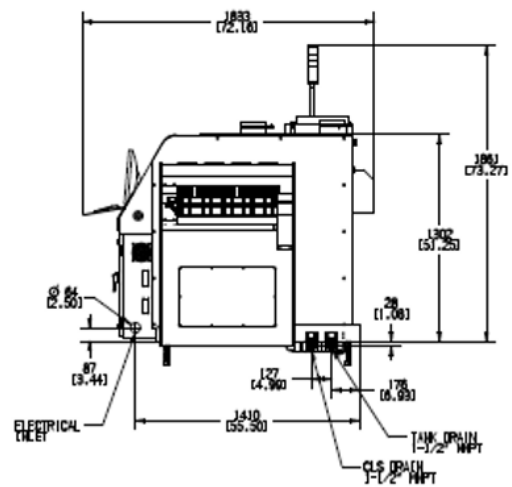
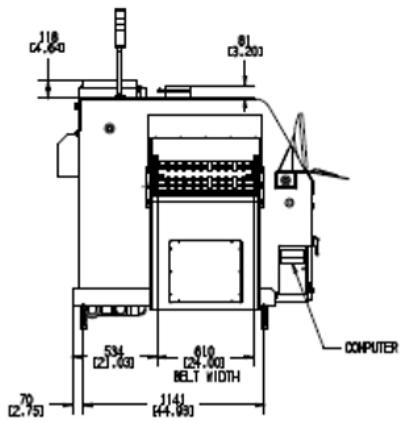
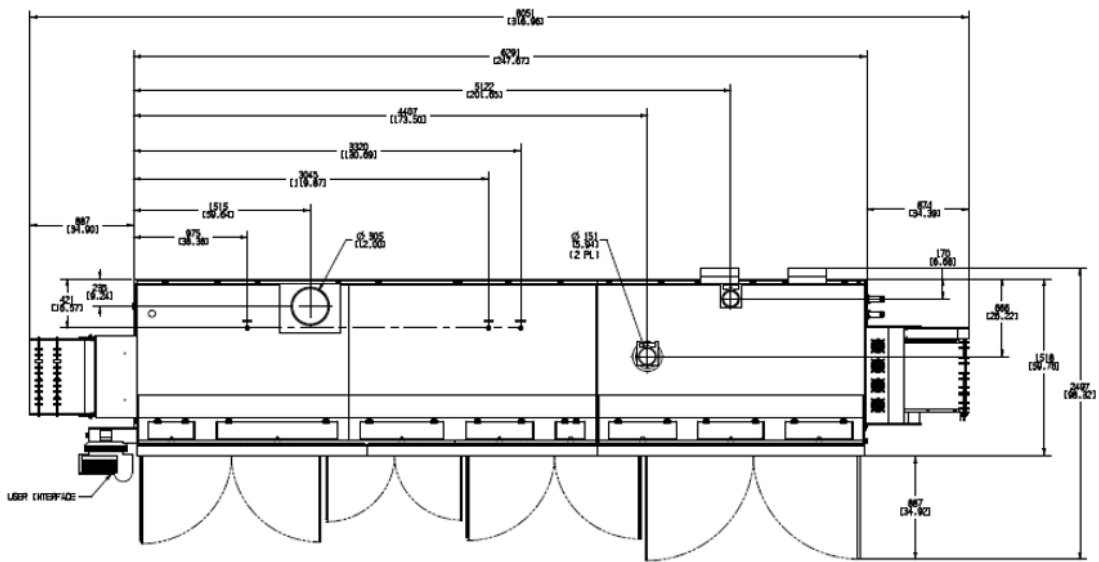
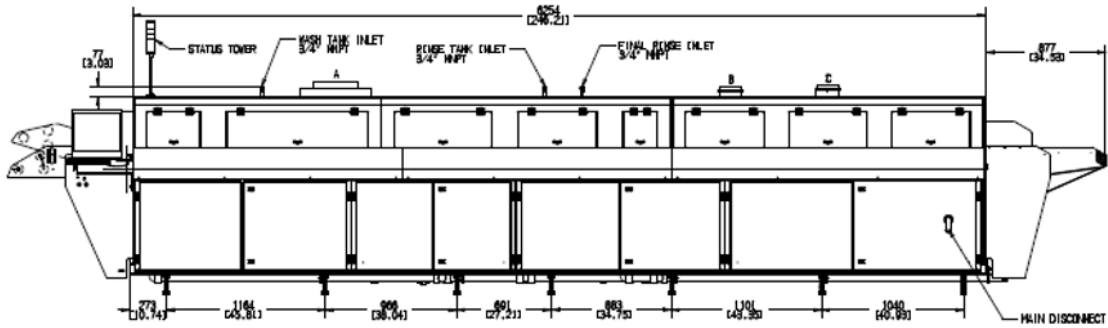


For torque specifications, please refer to main disconnect switch and machine schematics.

### 3. AQUASTORM 200 Foot Print

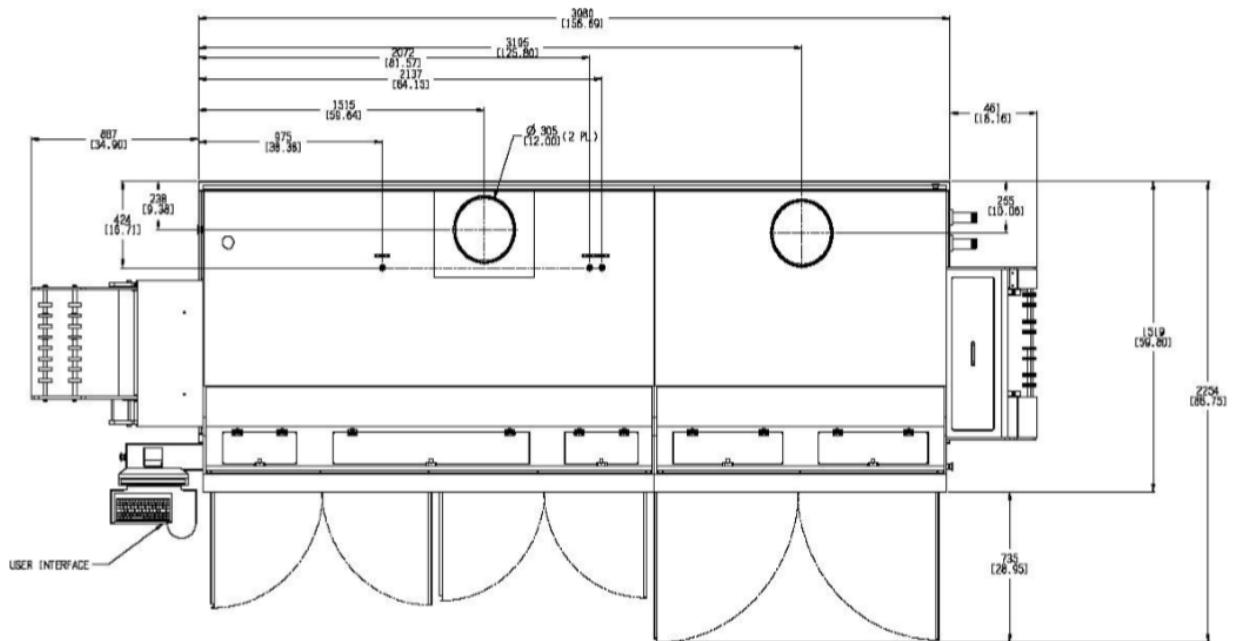
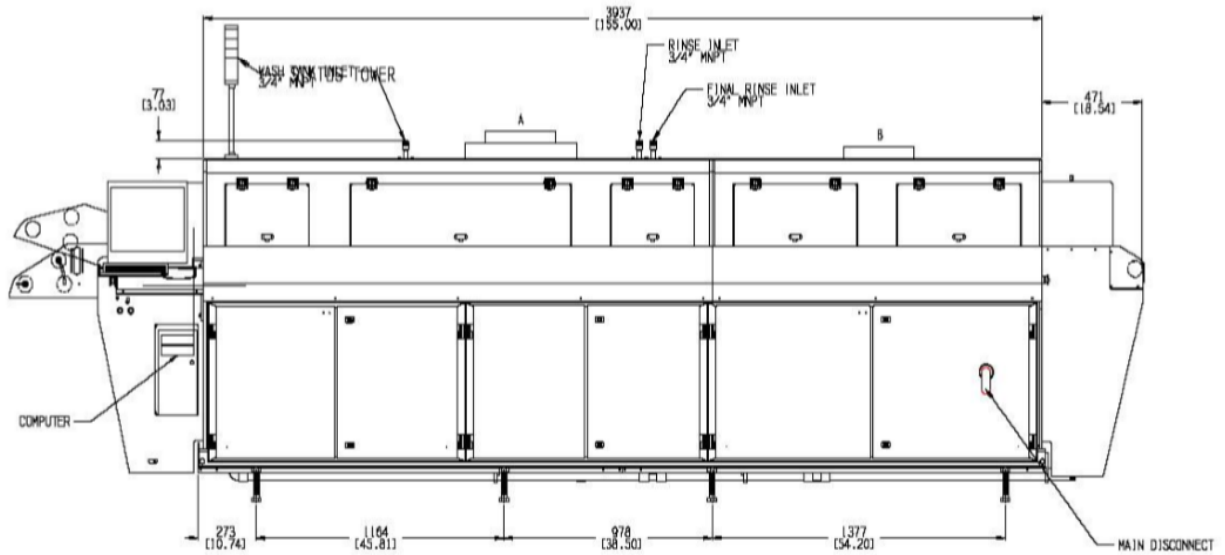


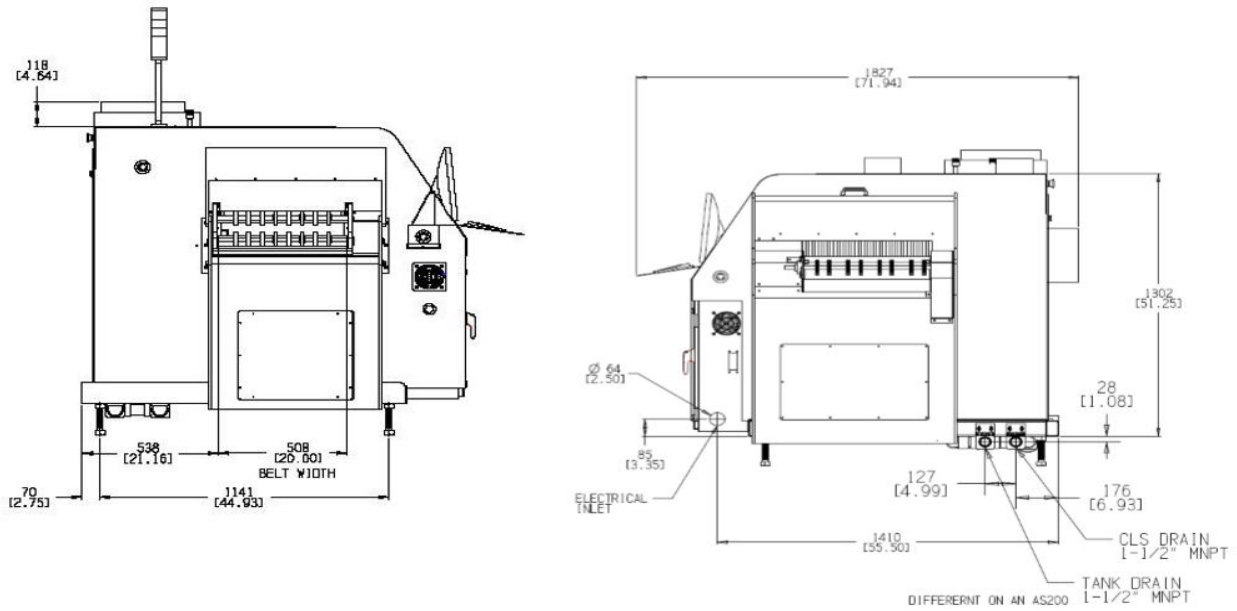
## AQUASTORM200 TORRID ZONE



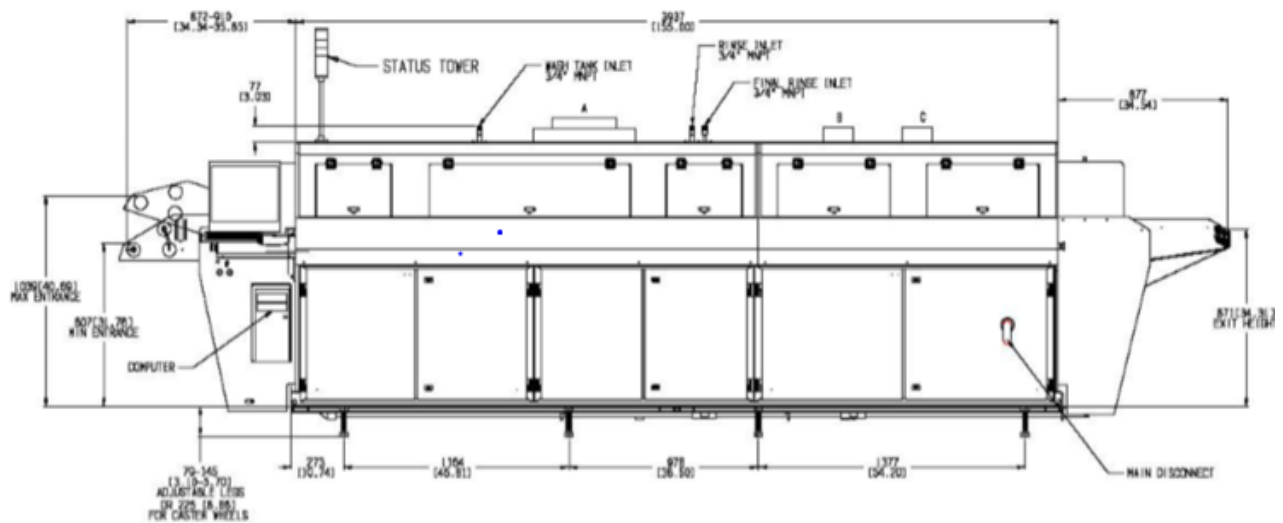


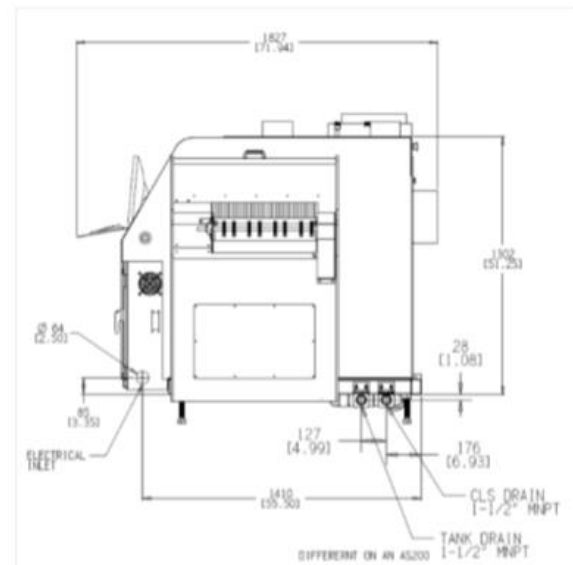
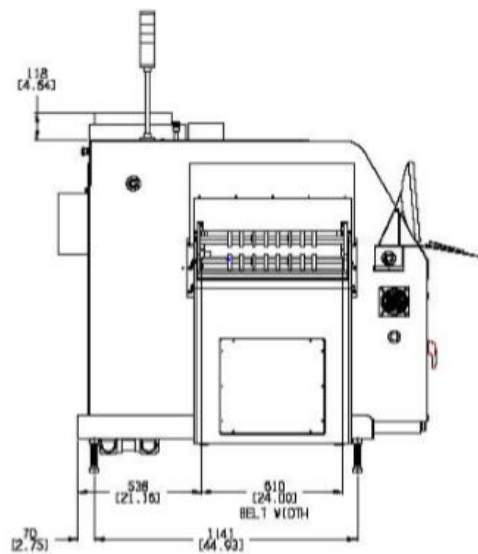
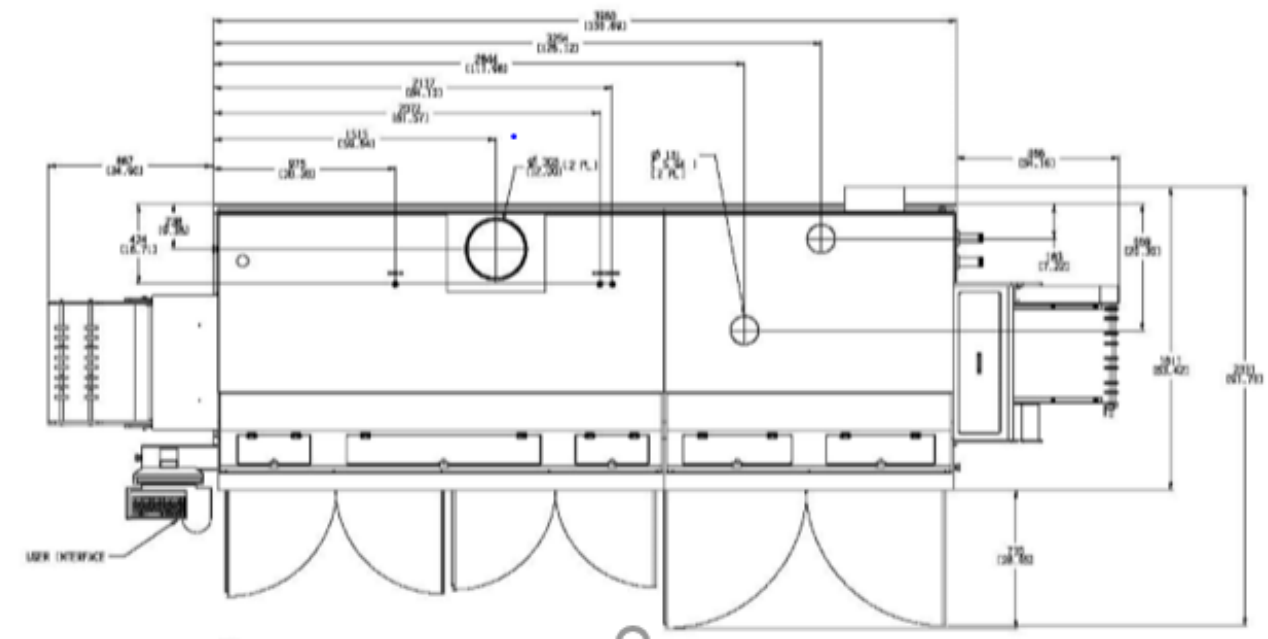
## AQUASTORM100 STANDARD



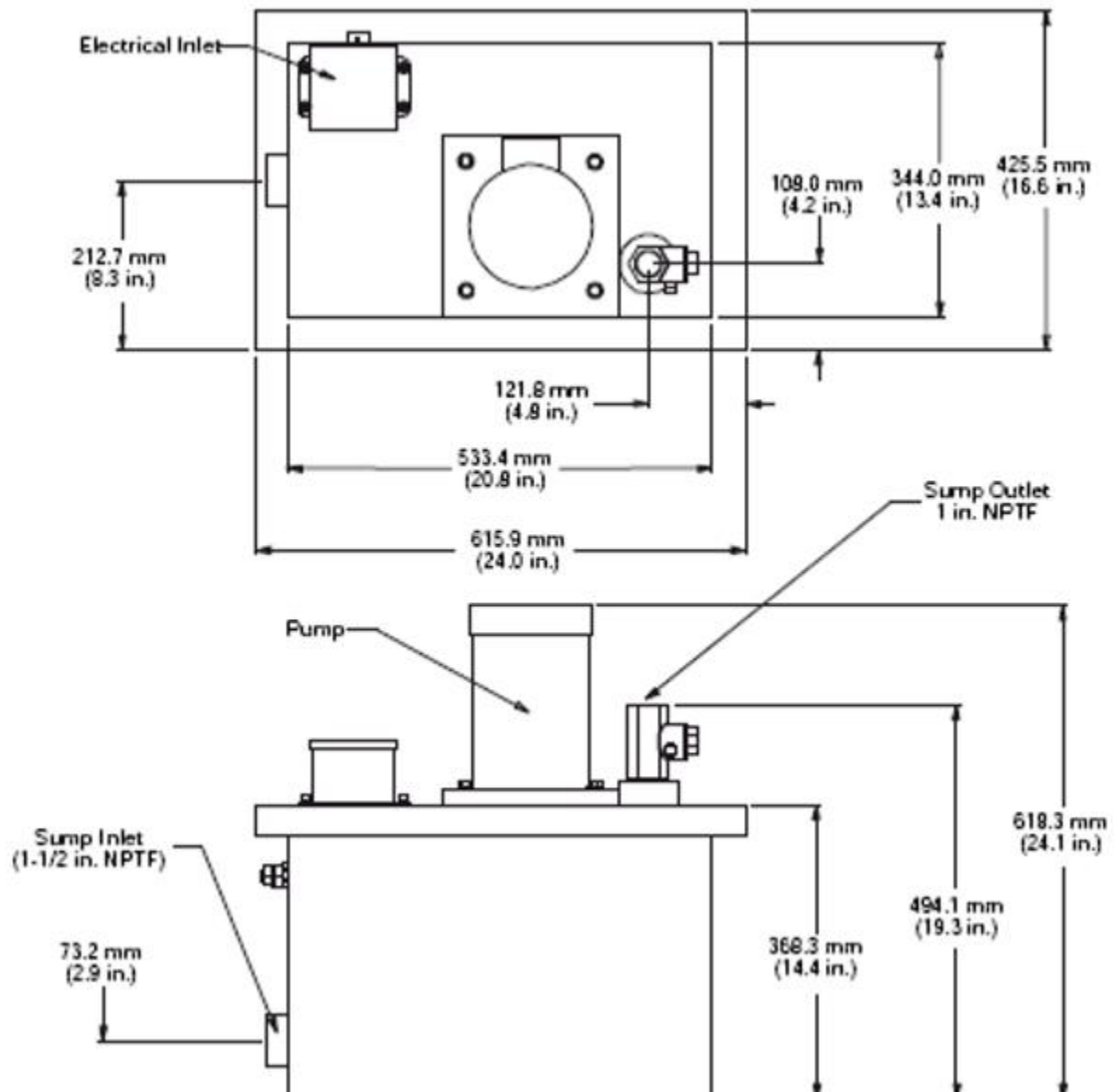


## AQUASTORM100 TORRID ZONE





## SUMP TANK



## TRAINING AT INSTALLATION

As part of the Installation process, ITW EAE offers a complimentary “up and running” training program. This covers the basic operation, maintenance and programming of the oven and associated options.

- Production Boards
- Required floor space needed for the machine
- Availability of upstream and downstream conveyors

### Training Summary

#### **Customer Start-Up Assistance Training**

- The FSE (field service engineer) will provide maximum of 4 hours of training for up to four process engineers)
- The FSE will provide a maximum of two hours of training for up to four operators.
- The FSE will provide a maximum of two hours of training for up to four maintenance technicians.
- The FSE will assist to create new recipe for basic usage.
- The FSE will then demonstrate that the system performs to specification using the customer’s board production.

**\*NOTE:** The customer's personnel are expected to devote the entire time to the training program. Hours not devoted by the customer may not be “banked” for later use.

### Additional Training

A full range of training courses are available covering operation, maintenance and process. Courses are conducted at our ITW EAE Camdenton, MO.

For further information, including course descriptions and schedule please contact the Training Department or visit <http://www.itweae.com/services-and-support/americas>

## NEED CONSUMABLES?

\*For current pricing and availability please contact our Parts Department at [parts@itweae.com](mailto:parts@itweae.com)

\*For any questions you may also contact us at 800-737-8110 Option 4.