



# SWIMEX

## PLUNGE TANK

### ARCHITECTURAL GUIDELINES

These guidelines are intended to be a planning tool for the installation of your SwimEx hot or cold plunge tank. The equipment and sizing in the Architectural Guidelines refer to what is supplied as standard. For specific details please reference the submittal documents provided or the installation manuals submitted with electrical and plumbing schematics for each unit.

#### 1) ACCESS

Openings should be no less than 8' wide x 8' high (2.45m x 2.45m) for standard size tanks with no obstructions, narrow hallways, or stairs. For Sectional pools a 4' wide x 8' high (1.22m x 2.45m) door will typically be sufficient. For smaller openings, contact SwimEx for options.

#### 2) PIT REQUIREMENTS

Pit should be dug a minimum of 2 feet (60 cm) larger than vessel all around for placement of unit to ensure no damage to piping, and to allow for access while leveling. Unit must sit on a flat and level concrete pad at least the size of the unit with a minimum load bearing capability for 260 lbs. per square foot (1,270 kg per square meter). Backfilling is not recommended and problematic if the pool has jets. Having a concrete pit will allow access to any equipment in the pit as well as all the plumbing connections. Access to a below ground pit can be done via a 3' x 3' access hatch. The pit should have a sump pump installed; the plumber will locate a sump pump in the area and connection means must be provided for. The pit/below deck area should have lighting for installation as well as future maintenance.

#### 3) STRUCTURAL SUPPORT

For an in-ground installation, no additional structural support is required. Tank will sit upon concrete slab.

For an above ground application, the unit requires no additional support structure. Set it on your flat level slab and construct your deck around the unit.

SwimEx recommends that water testing for all tanks be completed prior to any decking being assembled.

#### 4) PLUMBING

All units come partially factory pre-plumbed and require jobsite plumbing by others for piping from the vessel itself to the equipment location. Diagrams are provided with each unit for plumbing per general health department requirements. It is highly recommended to check with your local authorities. A "P" trap with air gap, to floor sink for draining the unit, must be provided. Potable water hook-up requires an approved anti-backflow device. **Check for local code requirements. NOTE: All plumbing should be tested prior to constructing deck around unit.**

Equipment can be located next to the unit or as far as 50 feet (15.25 meters) away. If equipment is located below waterline, check valves and/or ball valves must be installed, to prevent siphoning and to isolate equipment. All pumps are gravity (self) priming. Unions should be installed to isolate pump and filter for cleaning, or removal for repair. **DO NOT ATTEMPT TO OPERATE SYSTEM WHILE THESE VALVES ARE CLOSED. DAMAGE MAY OCCUR.**

#### 5) HEATING / COOLING

Unless otherwise requested, all hot plunge tank units come with a 5.5 kW or 11kW heater (8kW for 208 incoming voltage); all cold plunge tank units come with a 1-ton or a 3-ton chiller. Sizing of the electric heater or the chiller unit is determined by total gallons in the tank. If a gas heater is utilized, a gas line should be run directly from gas meter to heater. Heater unit can be placed with the filtration equipment. Gas heaters do require a 5" (12.7 cm) vertical vent pipe.

The chiller provided for a cold plunge installation requires an ambient temperature of no more than 85 degrees Fahrenheit (29.5 degrees Celsius). Any higher temperatures will lower the efficiency of the unit, and water temperatures will not be 75 attained. The chiller should be located in a well-ventilated room and it will have a remote outside condenser that will need to be within 75 pipe feet (22.85 meters) of the chiller. (NOTE: It will be the responsibility of the HVAC contractor to run the refrigeration lines and start up the chiller with support from Trane.) Chillers will also need a clear area of 3 ft (92 cm) around 4 sides of the chiller for access. We strongly recommend a dedicated space within 50 ft (15.25 meters) of the pool for the chiller. A water-cooled chiller option is available.

#### 6) ELECTRICAL

The total amperage requirements vary from 60 to 120 amps, depending on the number of pumps and electrical equipment installed. A sub-panel should be located in the equipment area. One emergency cut-off switch is required for all equipment. All railings and equipment must be bonded together by an un-insulated, #8 copper wire. One continuous, green #8 wire must be installed from the main panel to pool junction box.

All standard equipment runs off 208-230 V single phase (Additional voltages available). A licensed electrician should complete this work with a helper in 6 to 8 hours.

## 7) FILTRATION

The tank circulation systems will be provided with a cartridge filter sized to work with the proper turnover rate of less than 30 minutes for a hot plunge and 2 hours for a cold plunge. If the filter is installed below deck allow top clearance equal to or exceeding the height of the filter for service of filter elements for cleaning or installation of cartridges. We recommend against the use of salt sanitizers. If not balanced properly it will lead to excess chloramines being produced. This can cause fluctuation in Ph and will make your water corrosive. It can also cause corrosion to any metals that are in the pool area.

## 8) EQUIPMENT AREA

Provide a room to allow for a pump, a filter, heater or chiller, and electrical panels. Note that NEC requires three (3) ft. (92 cm) clear in front of the electrical panels. In most cases, a room six (6) ft. (1.83 m) by eight (8) ft. (2.45 m) will work. It is important to note that if a gas heater is specified, it must be vented to the outside with fresh air intakes to comply with building and safety codes and typically a 5" (12.7 cm) vertical vent is required. If a chiller is provided, please consider the outdoor condenser provided that comes with the heat exchanging unit. A floor sink must be provided and piped to the city sanitary system. Additional components to consider include (1-2) jet pumps, automated chemical controls, UV water treatment system, or an ozonator water treatment system.

**Note:** Piping from filter to floor sink must have air gap (do not hard plumb into drain). In addition, install one ball valve prior to entering floor sink to control flow.

## 9) DECK AREA

Some commercial installations require 4'-0" (1.22 m) deck area around 50% of the tank. This may vary from state to state. **Check with local authorities.**

## 10) VENTILATION

In an indoor tank installation, an exhaust fan designed for pool systems should be installed to vent chlorine vapors and humid air to the outside. It should not be tied into the building air conditioning/ventilation system. A dehumidifier may be necessary depending on the size of the unit. Bromine can be substituted for chlorine, to reduce the harshness and odor, but it can affect the stainless-steel rails if PH is not controlled. In the pit area, it is recommended to have a stand-alone dehumidifier with an integral hose draining to a sump to reduce moisture in the pit area.

## 11) TESTING

As the factory has no way of knowing if the vessel or its piping has been damaged during shipment or when it is lifted in place, the contractor shall go by the following recommendations.

1. Make sure the tank is level
2. Run rough piping back to equipment area, stub up and plug. Fill vessel with water, and then check all connections for leaks. Additional pressure tests may be required by local code.

If all are secure, complete hookups. After all approvals by local authorities have been obtained, start decking construction.

**NOTES:** *Check all local codes for possible additional requirements before completing final installation and back-filling.*

*Use only schedule 40 and 80 PVC pipes on all plumbing.*

*Cut all pipes squarely, prime with PURPLE PRIMER, and use proper CEMENT. Keep bends to minimum. Use 45 degree ells, instead of 90 degree ells, on return piping or whenever possible.*

All tanks from **SwimEx** are partially pre-plumbed with main drains, jet fittings, and jet suctions installed.

Advisory assistance is available during installation from our technical support staff.