

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY ACID NEUTRALIZATION TANK GUIDELINES

General Information:

The T&C Neutralization tank is designed to intercept harmful chemicals; dilute and neutralize these wastes so that they are safe to discharge to the sewer.

How it Works:

The inlet channels the incoming waste directly to the bottom of the tank. Before reaching the outlet the fluids must first pass through proper limestone chips filling the tank. The Calcium carbonate in the limestone reacts with acids to form harmless neutral salts, carbon dioxide and water. The neutral salts are transformed into sludge and fall to the bottom of the tank. Carbon dioxide gas mixes with water to form carbonic acid, which helps to neutralize alkaline wastes. The water helps to dilute the acidic, alkaline and solvent wastes. Once neutralized, wastes are discharged to the sewer systems.

Limestone Chips:

The limestone chips used in conjunction with neutralization tanks must be in the one to three inch (1" - 3") diameter size range and must contain a high calcium carbonate content in excess of 90%. **NOTE:** This guide provides the approximate amount needed for a charge (one filling). Replacement chips will be required as determined by the use of the tank.

Tank Maintenance:

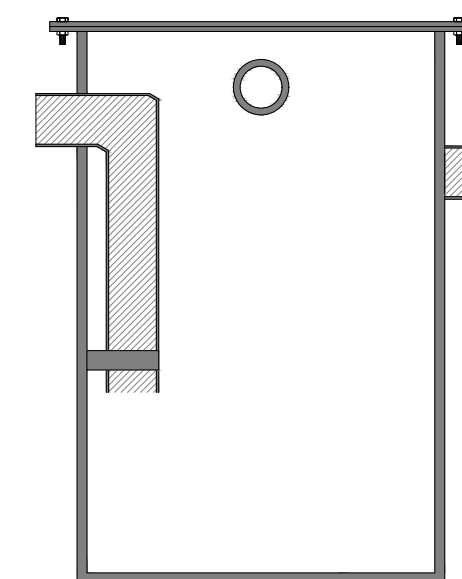
- * All limestone chips must be replaced every 6-12 months. Over time, the surface of the stones becomes crystallized and are no longer effective. Oils and solids can also make limestone ineffective over time.
- * Always fill the tank with the water, up to the bottom (invert) of the outlet fitting (lowest fitting). Gently add the proper limestone chips so not to damage the tank or fittings. As the limestone is added, some water will overflow out of the outlet fitting. The room/area should be ventilated.

School Construction Authority Sizing Requirements:

1. If the total number of laboratory sinks is twenty-five or less, an individual neutralization unit containing limestone chips may be installed under each sink (T&C Plastics NT-5 or NT-5M/HDPE-2).
2. The applicant must determine the adequate capacity for the centralized system from Table 1 when there are over twenty-five laboratory sinks.
3. The number of sinks in Table 1 represents sinks with a single faucet. Double-faucet sinks should be counted as two, and triple-faucet sinks should be counted as three. The requirement of counting faucets, and not drains, remains unchanged. A cup sink under the vent hood should be continued to be counted as a single sink. Floor drains are continued to be excluded from the count.
4. Centralized pH neutralization system tank capacity is calculated after limestone chips are added to the tank.
5. Centralized systems must have a control panel with pH meter and alarms.
6. The above requirements may not necessarily apply to laboratories that may be used for research or commercial purposes, or for college level courses. In such cases, DEP's approval of the pH neutralization system is required
7. The limestone chips must be replaced at least once every 6 months, or more frequently if required by the manufacturer's instructions. A logbook must be established and maintained to record the date of each replacement. Such logbook shall be available for inspection by the DEP at all times.
8. The applicant is required to follow manufacturer specifications for the operation and maintenance of the selected equipment.
9. The applicant must also comply with any applicable federal, state, or local requirements applicable to the permitted activity.

Table 1:

Number of Lab Sinks	pH Neutralization Tank Usable Capacity (gal) After Limestone	NT Tank Size
26-35	150	NT-550
36-50	200	NT-800
51-70	250	NT-1000
71-90	300	NT-1100



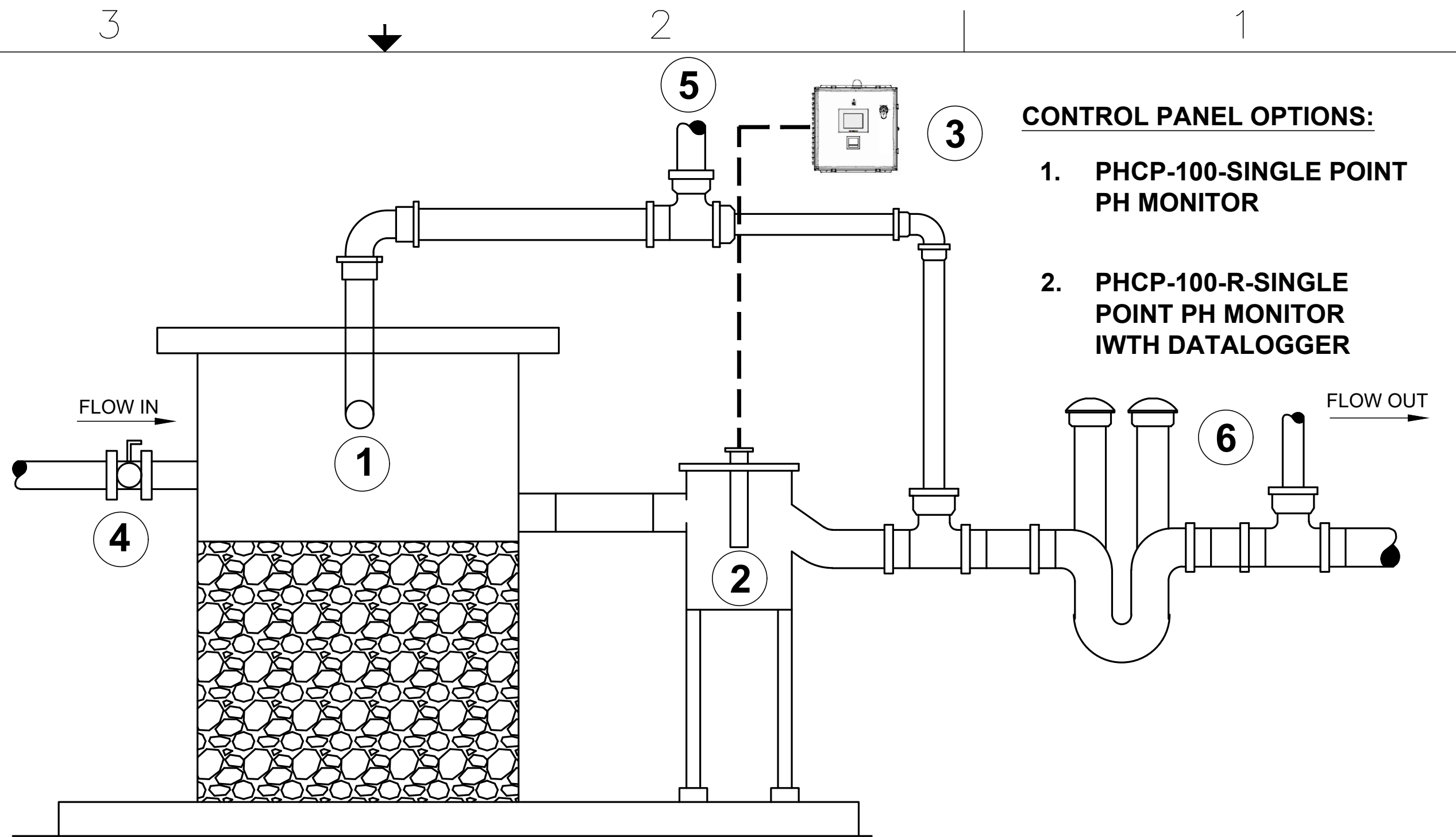
UNLESS STATED OTHERWISE DIMENSIONS ARE IN INCHES	MATERIAL: HDPE			TITLE: LIMESTONE TANK SIZING FOR NEW YORK CITY SCHOOLS	NT	REV:	T&C PLASTICS WWW.TANDCPLASTICS.COM 732-780-5300	
	WEIGHT [lb]:		NAME			DATE		SIZE:
	DO NOT SCALE DRAWING		DRAWN			DR		
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SPECIFICATIONS:

1. ACID NEUTRALIZATION TANK T&C PLASTICS MODEL # _____ WITH MODEL RLS-50 LIMESTONE CHIPS.
2. SAMPLING TANK T&C PLASTICS MODEL NT- _____ WITH PH ELECTRODE.
3. PH MONITORING PANEL T&C PLASTICS PHCP-100 SERIES
4. POLYPROPYLENE SHUT OFF VALVE T&C PLASTICS MODEL PPV- _____
5. ACID WASTE VENT OUT
6. SANITARY HOUSE TRAP OR RUNNING TRAP WITH SANITARY VENT

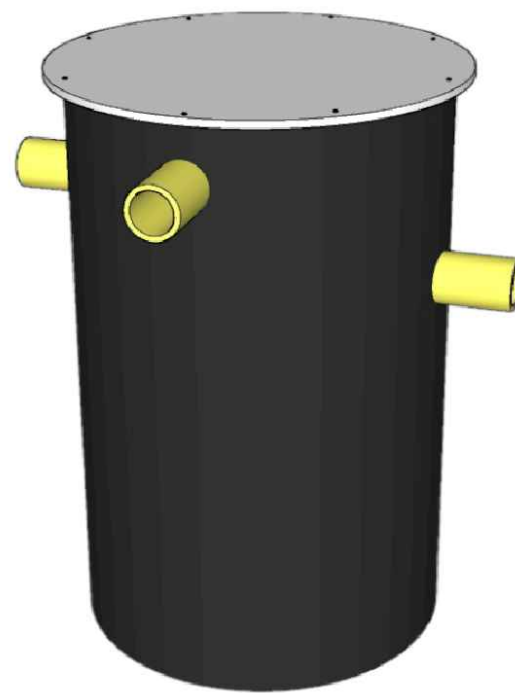
CONTROL PANEL OPTIONS:

1. PHCP-100-SINGLE POINT PH MONITOR
2. PHCP-100-R-SINGLE POINT PH MONITOR WITH DATALOGGER

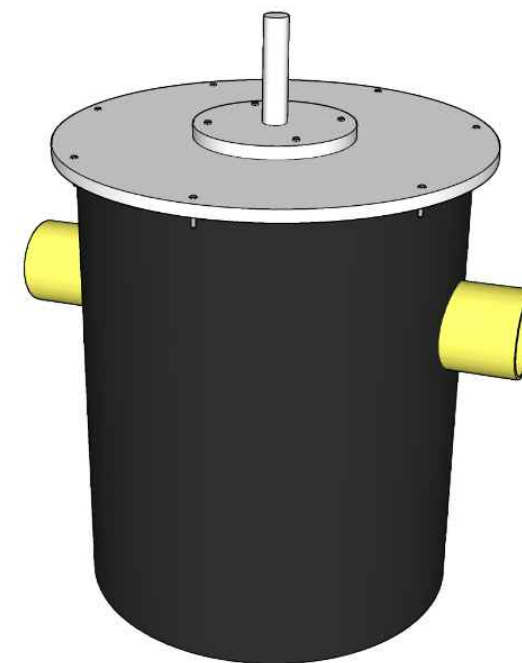


NOTES:

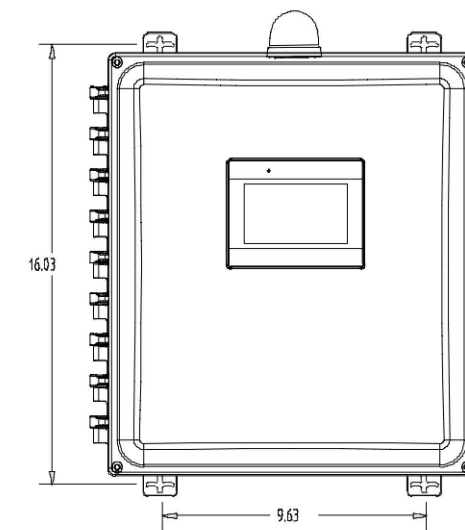
- A. THE PLUMBING CONTRACTORS SHALL FURNISH AND INSTALL THE ACID NEUTRALIZATION TANK, LIMESTONE CHIPS, SAMPLING SUMP, PH MONITORING ALARM SYSTEM, AND MAKE ALL REQUIRED PIPING CONNECTIONS.
- B. THE ELECTRICAL CONTRACTOR TO PROVIDE ELECTRIC POWER TO CONTROL PANEL AND ANY NECESSARY CONDUIT FOR SENSORS OR ELECTRODE WIRES.
- C. STAND FOR SAMPLING TANK BY OTHERS.



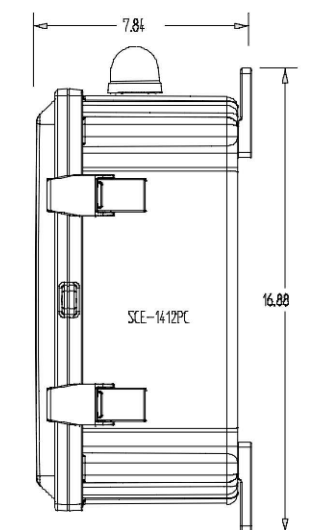
NT TANK



NT-5M SAMPLING TANK



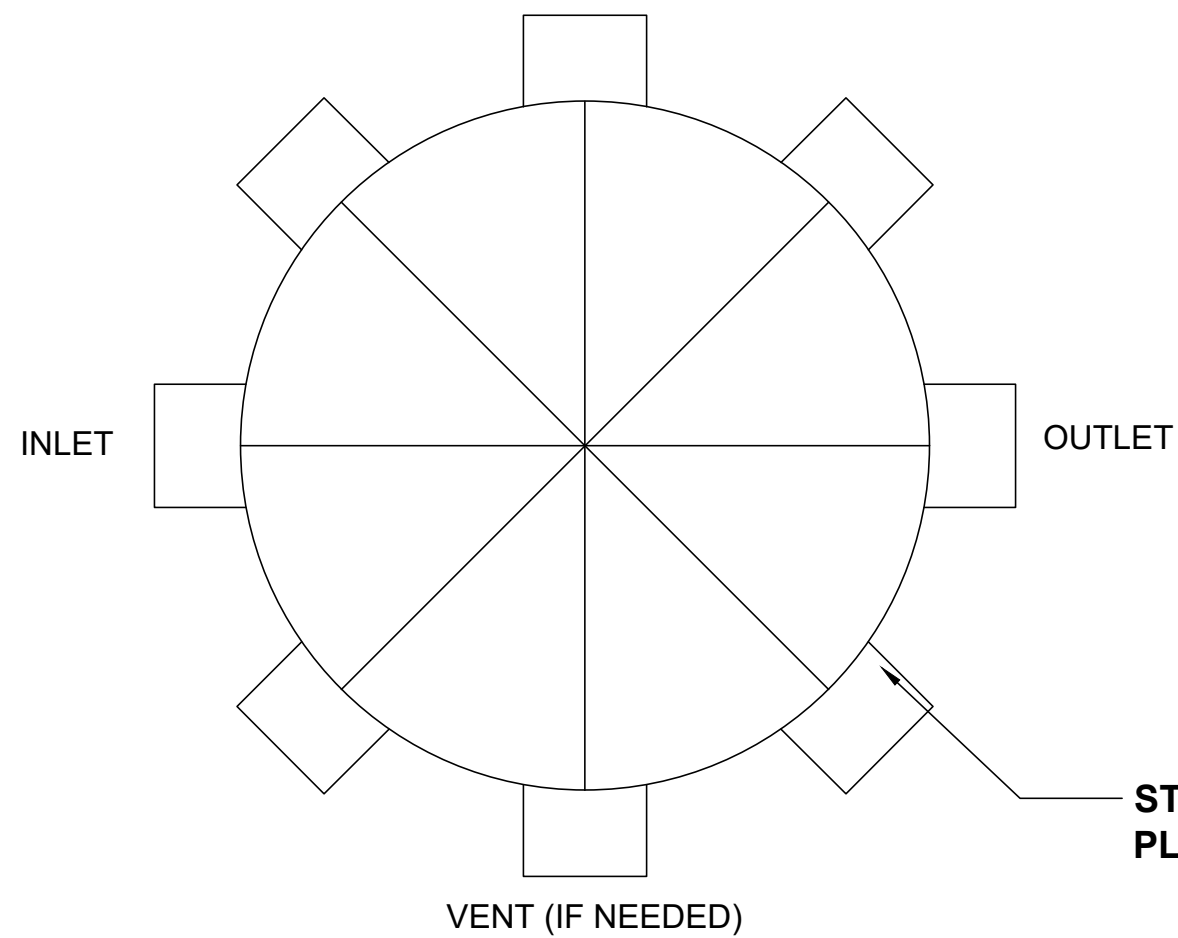
PH MONITORING CONTROL PANEL



NOTES:	MATERIAL: HDPE / PP			TITLE: METHOD 1B STANDARD INSTALLATION	REV: NT SERIES	 WWW.TANDCPLASTICS.COM 732-780-5300		
	UNLESS STATED OTHERWISE DIMENSIONS ARE IN INCHES	WEIGHT [lb]:					NAME: DR	DATE: 12/05/2022
		DO NOT SCALE DRAWING					CHECKED:	
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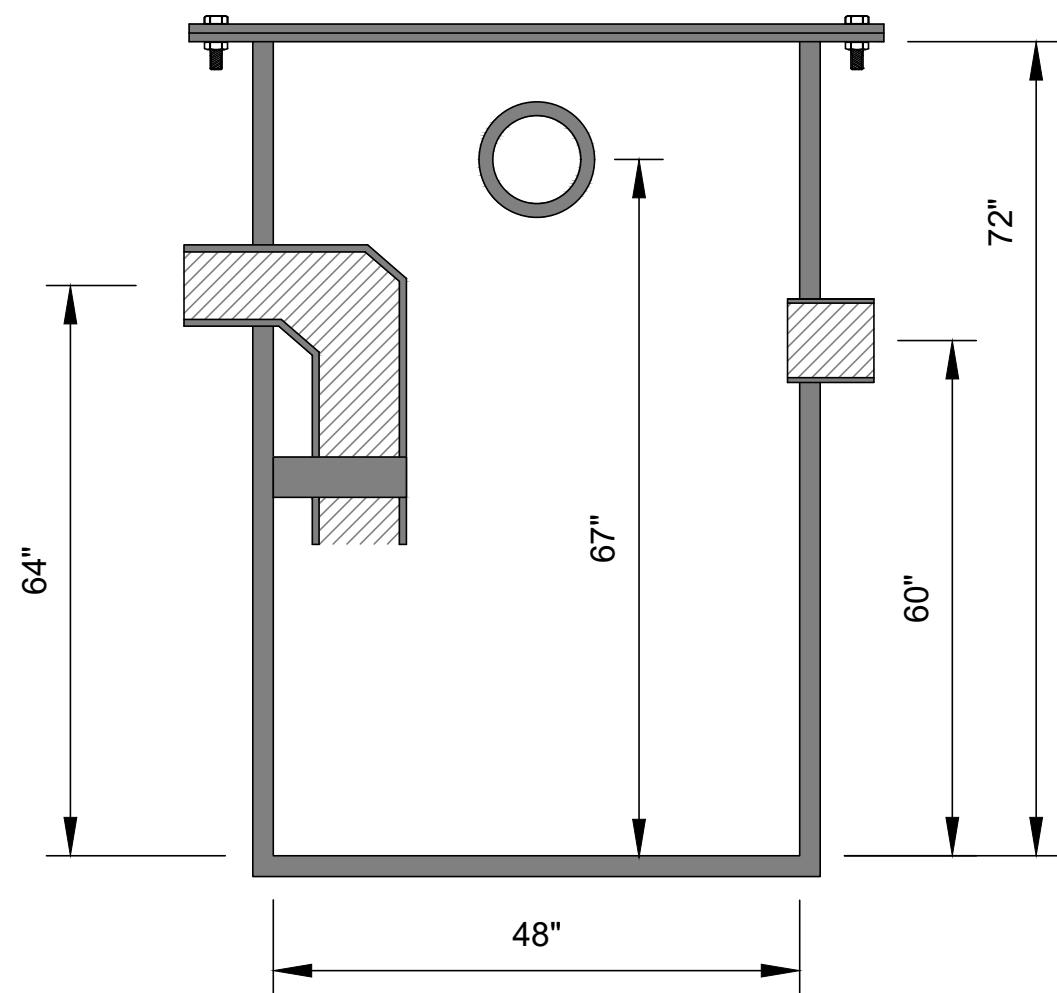
TOP VIEW



	FITTING SIZE	FITTING TYPE (MPT OR PLAIN END)	STANDARD FITTING CENTERLINES	FITTING CENTERLINE (IF DIFFERENT THAN STANDARD)
INLET			64"	
OUTLET			60"	
VENT (IF NEEDED)			67"	

STANDARD FITTING LOCATIONS SHOWN.
PLEASE MAKE NECESSARY CHANGES ON TOP VIEW

VENT (IF NEEDED)



SECTION VIEW

BOLTED & GASKETED COVER



TANK GALLON CAPACITY: 447	WELDED BY:	UNLESS STATED OTHERWISE DIMENSIONS ARE IN INCHES	MATERIAL: HDPE - ASTM 2148			TITLE: NT-550 HDPE NEUTRALIZATION TANK	NT SERIES	REV:	 T&C PLASTICS WWW.TANDCPLASTICS.COM 732-780-5300
TANK GALLON CAPACITY WITH LIMESTONE: 149	COMPLETED BY:		WEIGHT [lb]: 275 LBS.	NAME	DATE	SHEET 1 OF 1	SIZE:		
LIMESTONE REQUIRED: 7,500 LBS.	REVIEWED BY:		DO NOT SCALE DRAWING	DRAWN	DR	08/30/2022	SCALE: 1:2		
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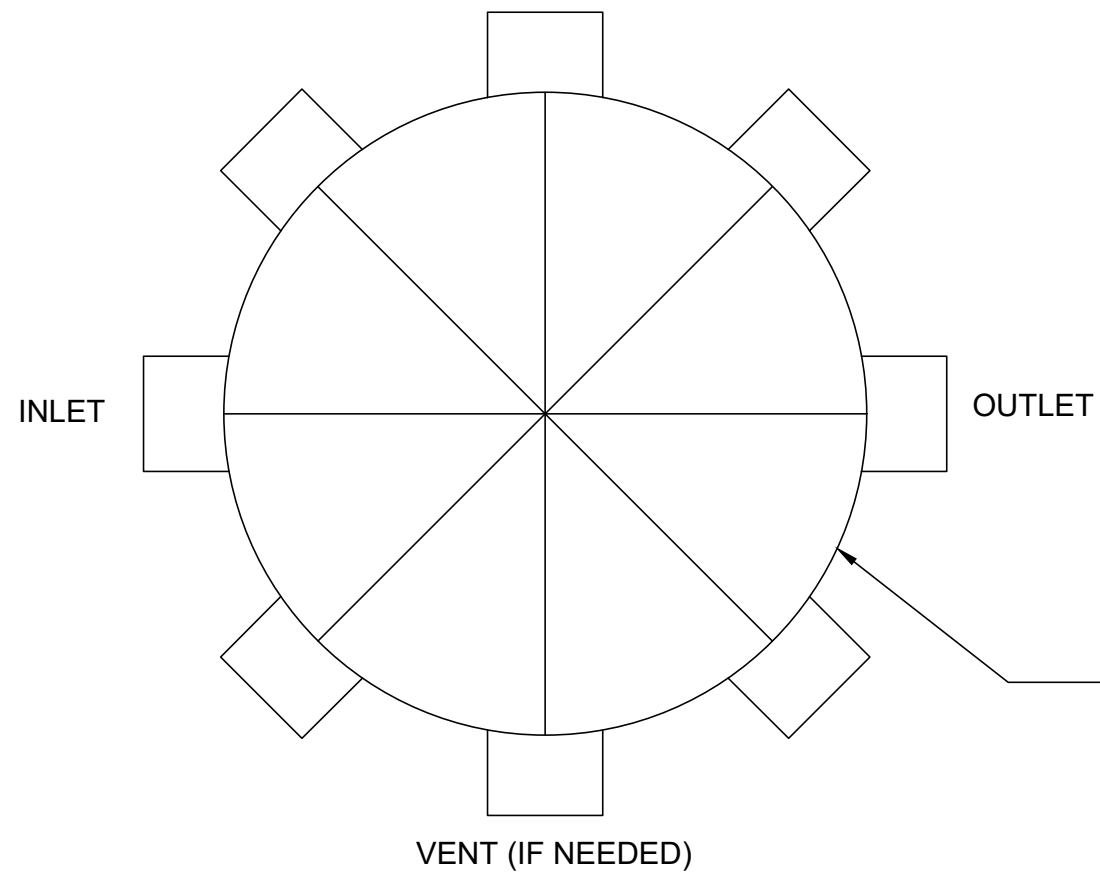
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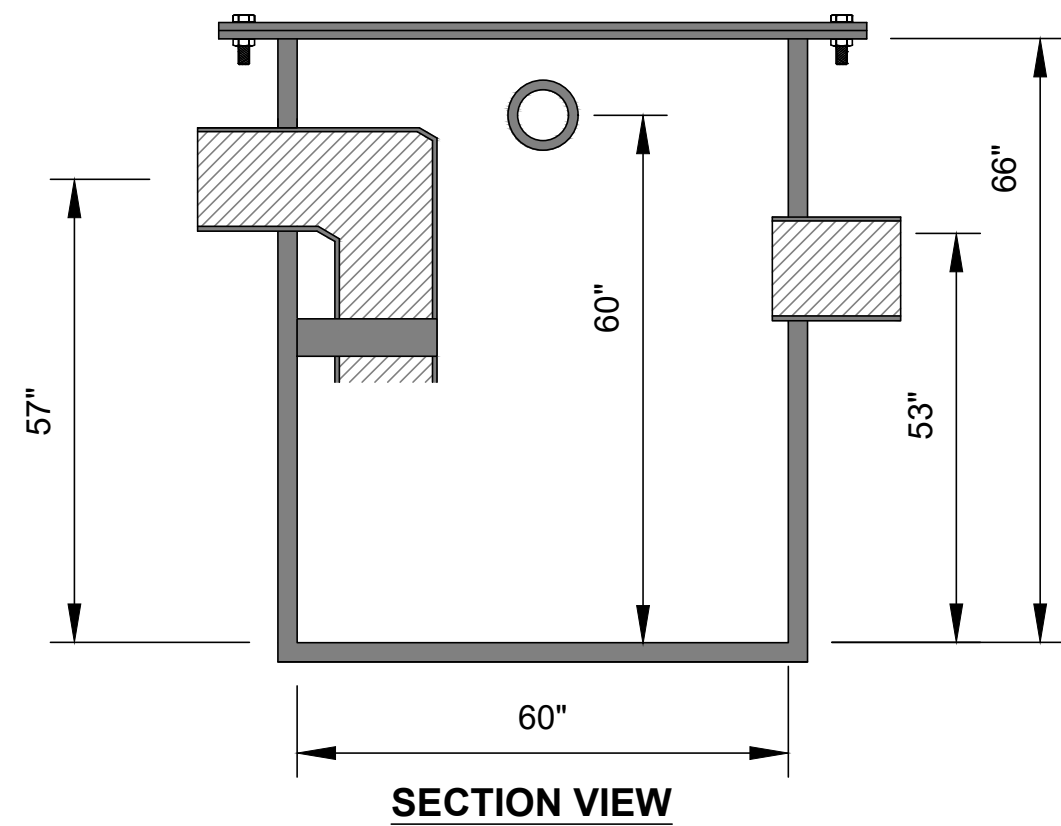
TOP VIEW



	FITTING SIZE	FITTING TYPE (MPT OR PLAIN END)	STANDARD FITTING CENTERLINES	FITTING CENTERLINE (IF DIFFERENT THAN STANDARD)
INLET			57"	
OUTLET			53"	
VENT (IF NEEDED)			60"	

STANDARD FITTING LOCATIONS SHOWN. PLEASE MAKE NECESSARY CHANGES ON TOP VIEW

BOLTED & GASKETED COVER



SECTION VIEW

TANK GALLON CAPACITY: 612	WELDED BY:	UNLESS STATED OTHERWISE DIMENSIONS ARE IN INCHES	MATERIAL: HDPE - ASTM 2148			TITLE: NT-800 HDPE NEUTRALIZATION TANK	NT SERIES	REV:	 T&C PLASTICS WWW.TANDCPLASTICS.COM 732-780-5300
TANK GALLON CAPACITY WITH LIMESTONE: 204	COMPLETED BY:		WEIGHT [lb]: 500 LBS.	NAME	DATE		SHEET 1 OF 1	SIZE:	
LIMESTONE REQUIRED: 9,500 LBS.	REVIEWED BY:		DO NOT SCALE DRAWING	DRAWN	DR		08/30/2022	SCALE: 1:2	
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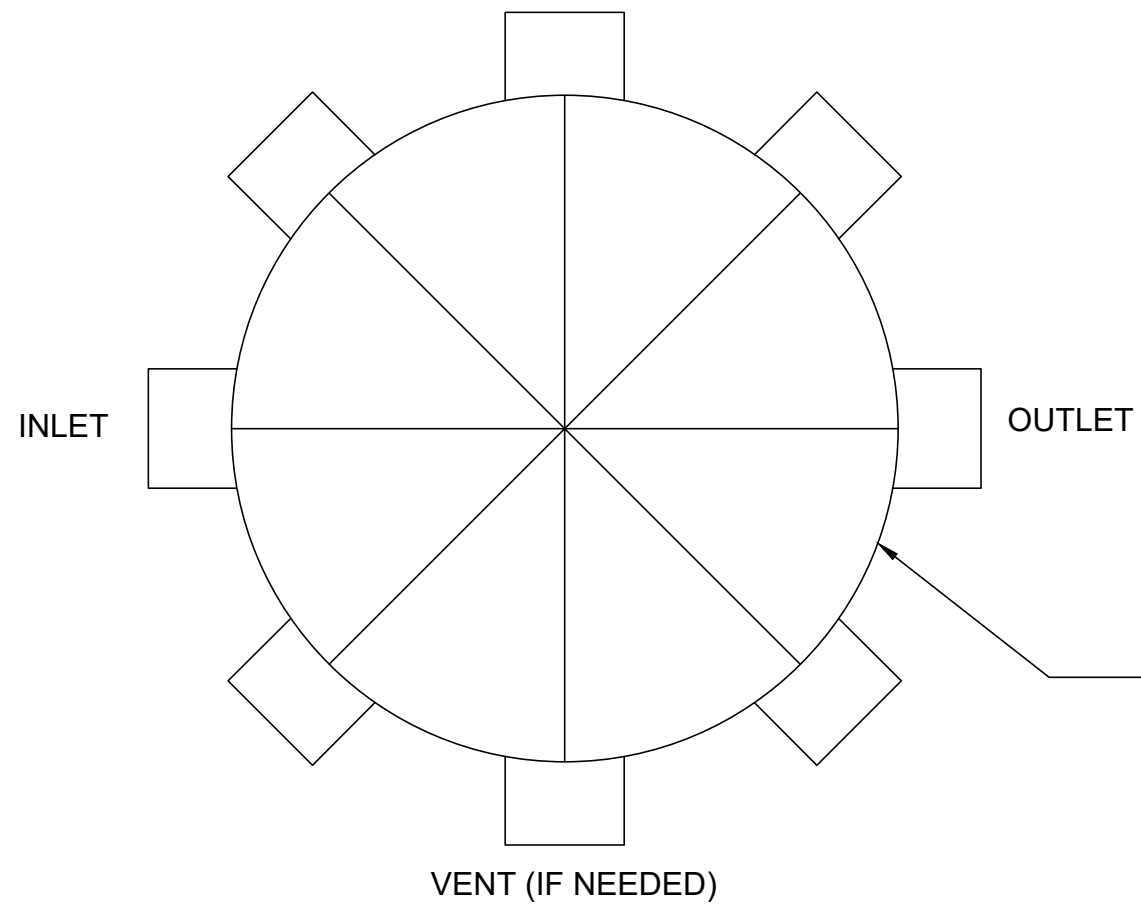
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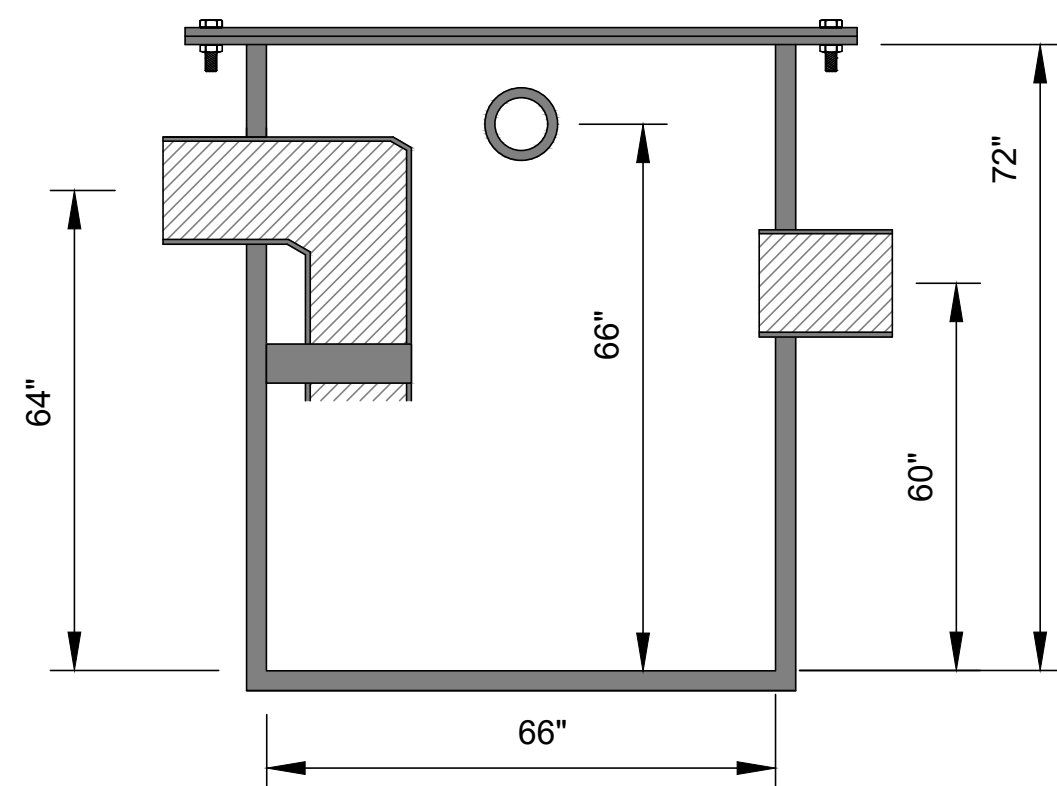
TOP VIEW



	FITTING SIZE	FITTING TYPE (MPT OR PLAIN END)	STANDARD FITTING CENTERLINES	FITTING CENTERLINE (IF DIFFERENT THAN STANDARD)
INLET			64"	
OUTLET			60"	
VENT (IF NEEDED)			66"	

STANDARD FITTING LOCATIONS SHOWN. PLEASE MAKE NECESSARY CHANGES ON TOP VIEW

BOLTED & GASKETED COVER



SECTION VIEW

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TANK GALLON CAPACITY: 844	WELDED BY:	UNLESS STATED OTHERWISE DIMENSIONS ARE IN INCHES	MATERIAL: HDPE - ASTM 2148			TITLE: NT-1000 HDPE NEUTRALIZATION TANK	NT SERIES	REV:	T&C PLASTICS WWW.TANDCPLASTICS.COM 732-780-5300	
TANK GALLON CAPACITY WITH LIMESTONE: 281	COMPLETED BY:		WEIGHT [lb]: 550 LBS.	NAME	DATE			SHEET 1 OF 1		SIZE:
LIMESTONE REQUIRED: 10,200 LBS.	REVIEWED BY:		DO NOT SCALE DRAWING	CHECKED	08/30/2022			SCALE: 1:2		
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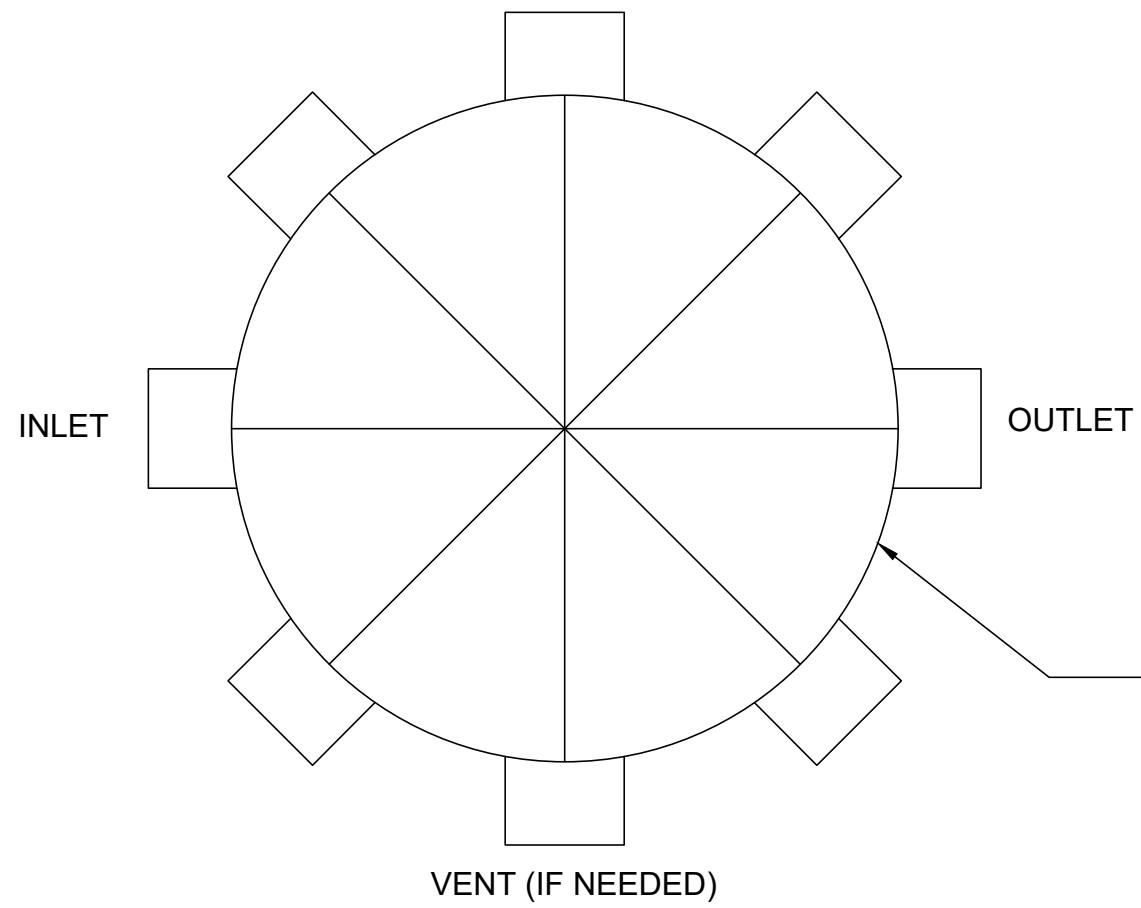
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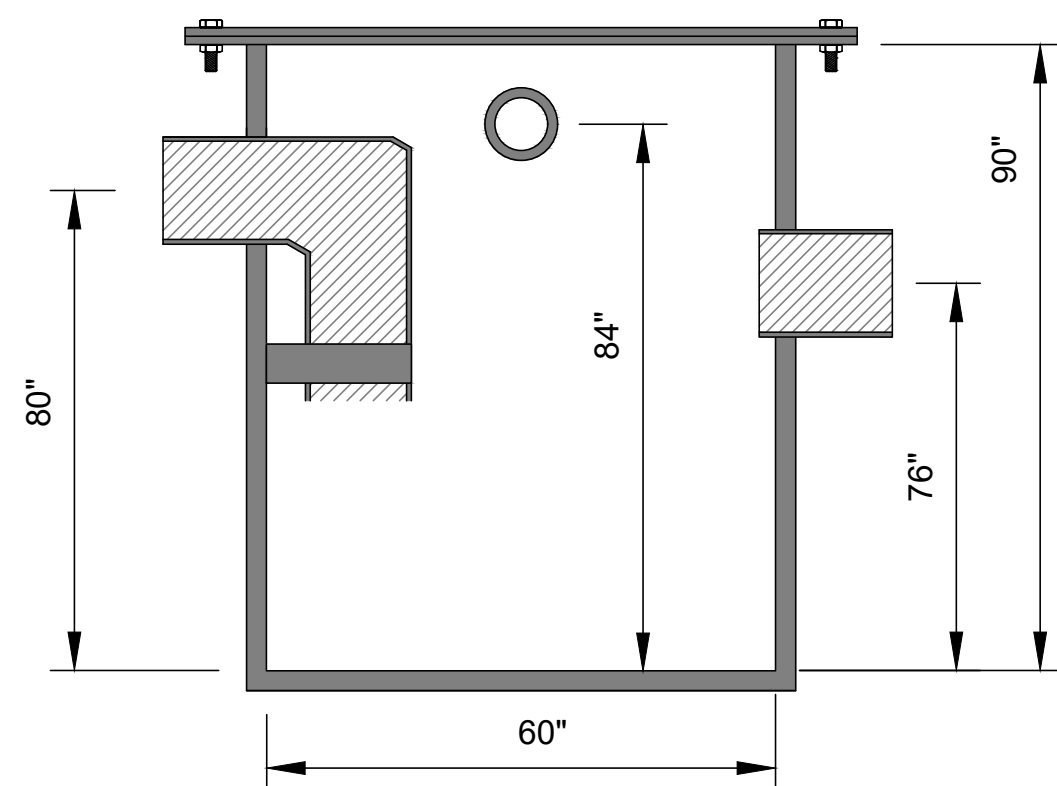
TOP VIEW



	FITTING SIZE	FITTING TYPE (MPT OR PLAIN END)	STANDARD FITTING CENTERLINES	FITTING CENTERLINE (IF DIFFERENT THAN STANDARD)
INLET			80"	
OUTLET			78"	
VENT (IF NEEDED)			84"	

STANDARD FITTING LOCATIONS SHOWN. PLEASE MAKE NECESSARY CHANGES ON TOP VIEW

BOLTED & GASKETED COVER



SECTION VIEW

TANK GALLON CAPACITY: 894	WELDED BY:	UNLESS STATED OTHERWISE DIMENSIONS ARE IN INCHES	MATERIAL: HDPE - ASTM 2148			TITLE: NT-1100 HDPE NEUTRALIZATION TANK	REV:	 T&C PLASTICS WWW.TANDCPLASTICS.COM 732-780-5300	
TANK GALLON CAPACITY WITH LIMESTONE: 300	COMPLETED BY:		WEIGHT [lb]: 575 LBS.	NAME	DATE		NT SERIES		SIZE:
LIMESTONE REQUIRED: 10,600 LBS.	REVIEWED BY:		DO NOT SCALE DRAWING	DRAWN	DR		08/30/2022		SHEET 1 OF 1
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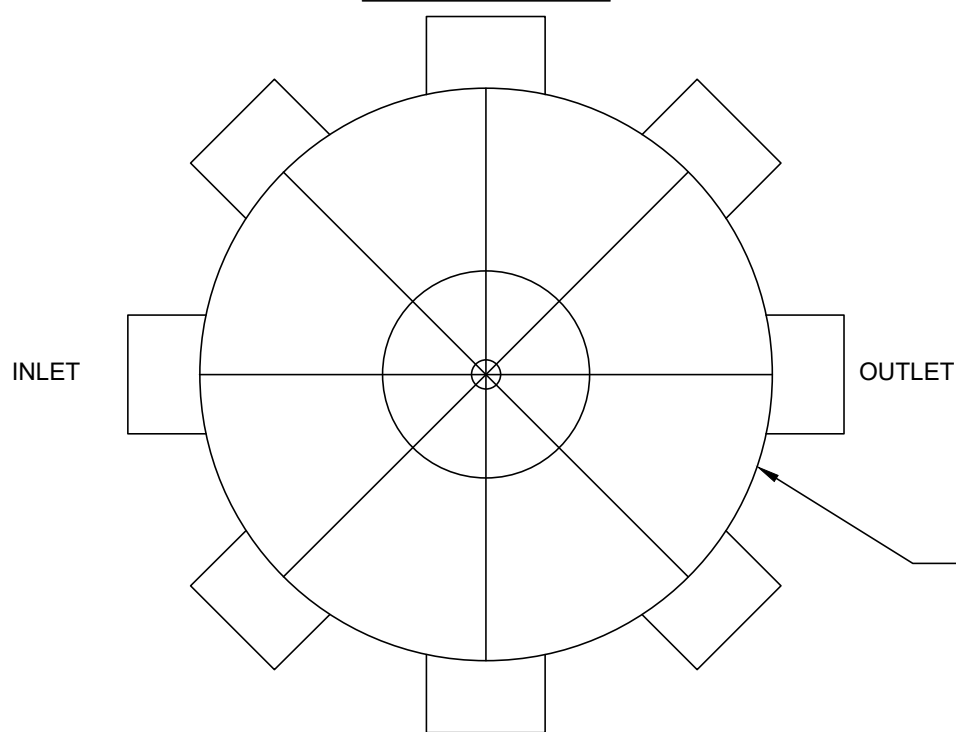
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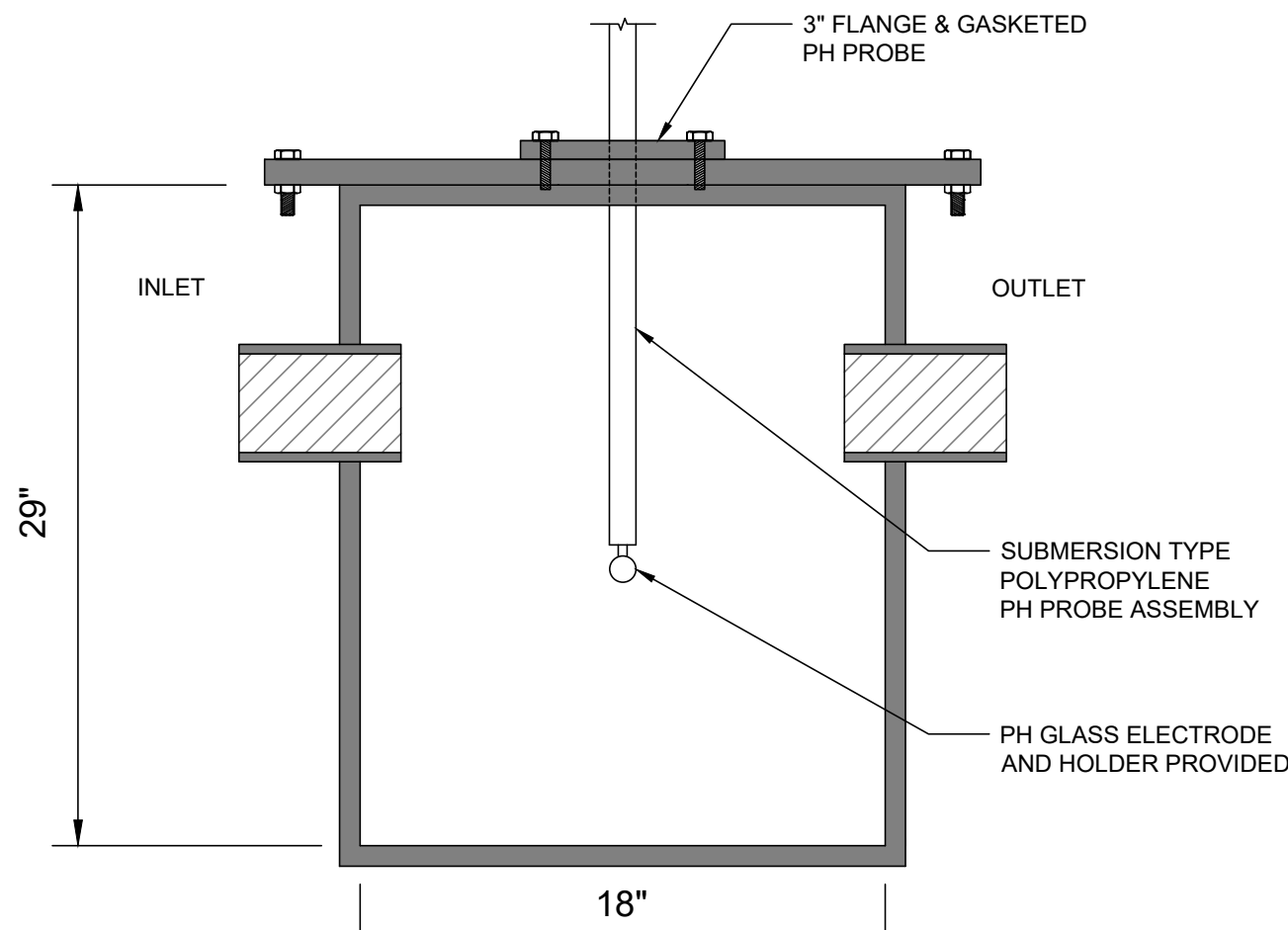
TOP VIEW



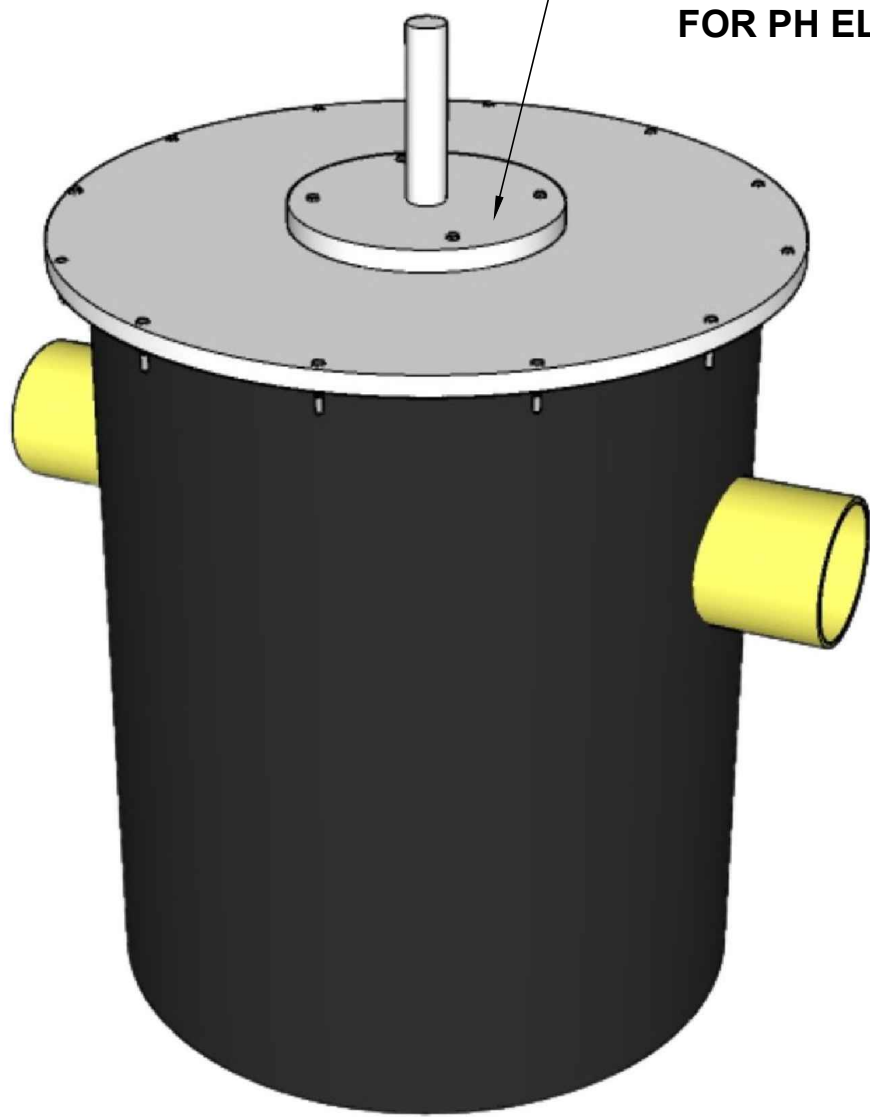
	FITTING SIZE	FITTING TYPE (MPT OR PLAIN END)	FITTING CENTERLINE (IF DIFFERENT THAN STANDARD)
INLET			
OUTLET			
NOTES			

STANDARD FITTING LOCATIONS SHOWN. PLEASE MAKE NECESSARY CHANGES ON TOP VIEW

3" FLANGED & GASKETED MOUNTING ASSEMBLY FOR PH ELECTRODE



SECTION VIEW



TANK GALLON CAPACITY: 30	WELDED BY:	UNLESS STATED OTHERWISE DIMENSIONS ARE IN INCHES	MATERIAL: HDPE - ASTM 2148			TITLE: NT-30M / HDPE SAMPLING TANK	NT SERIES	REV:	 T&C PLASTICS WWW.TANDCPLASTICS.COM 732-780-5300
TANK GALLON CAPACITY WITH LIMESTONE: N/A	COMPLETED BY:		WEIGHT [lb]: 14 LBS.	NAME	DATE		SHEET 1 OF 1	SIZE:	
LIMESTONE REQUIRED: N/A	REVIEWED BY:		DO NOT SCALE DRAWING	CHECKED			SCALE: 1:2		
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732-780-5300 www.tandcplastics.com sales@tandcplastics.com

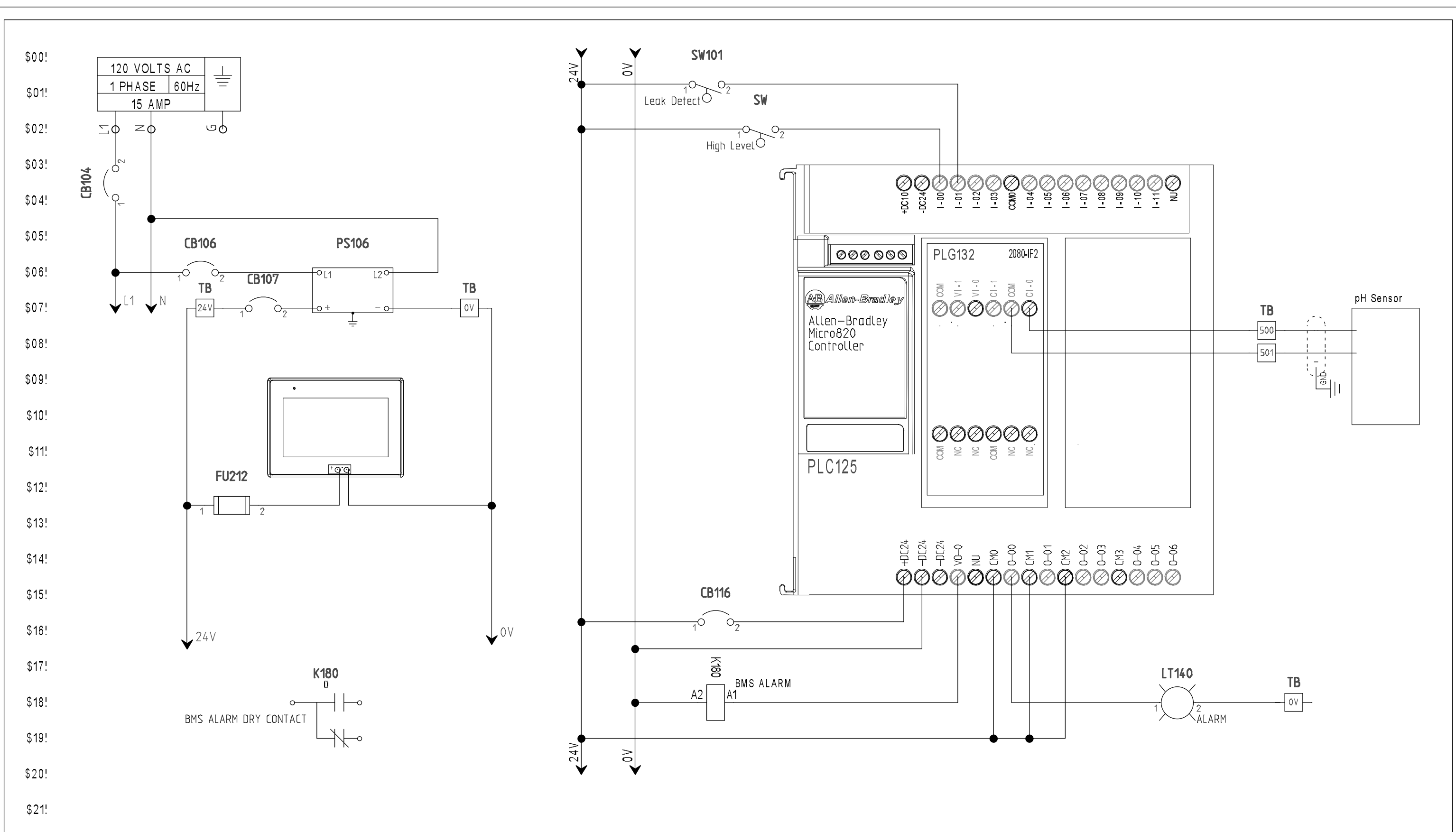
Model PHCP-100 pH Control Panel

-R denotes internal datalogger

FEATURES:

- Programmable PLC Based pH Controller
- Touchscreen Operation with Settings Screen
- Single pH Electrode Included with Optional Datalogger
- 2 Additional Sensor Inputs (level sensor or other) Included
- Dry Contacts for BMS Connectivity Included
- Additional Inputs / Outputs Available

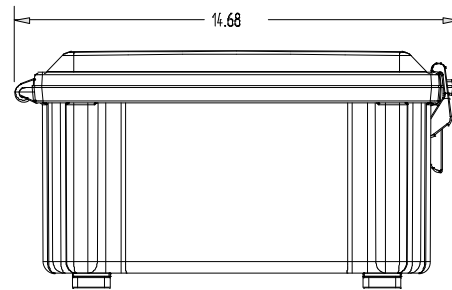
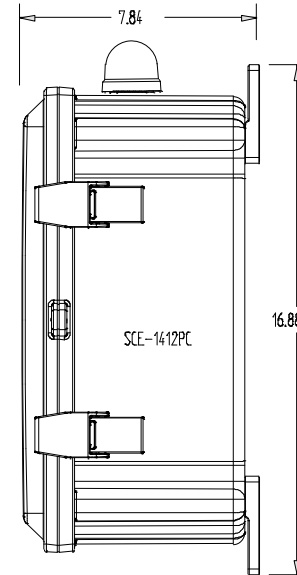
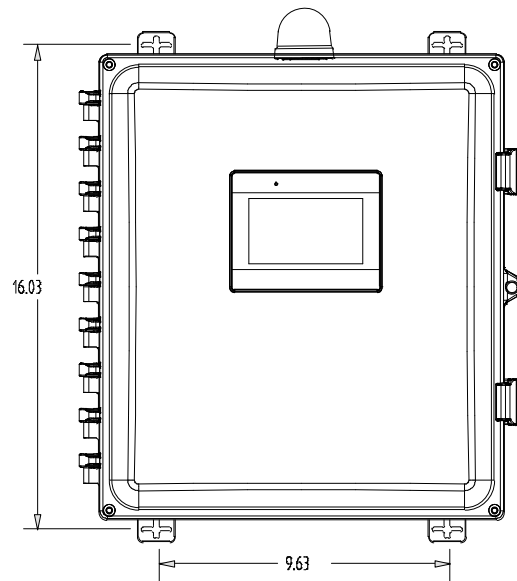
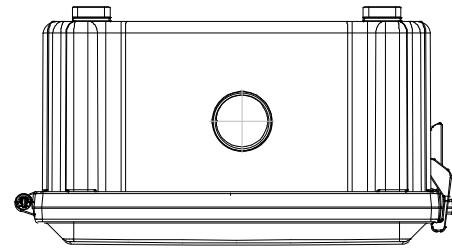
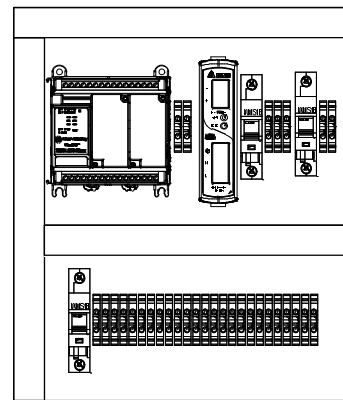




Modifications Since Previous Revision	
Modification #1	
Modification #2	
Modification #3	

T&C pH Monitor

Document Number: 02282022T&C	Sheet: 3 of 3	Rev. Date: 2/28/2022 12:57:17 PM	Rev.:
T&C Town & Country Plastics, LLC 10 - B Timber Lane Marlboro, NJ 07746		Cre. Date: 2/28/2022	Sheet Created by:



	Modifications Since Previous Revision
Modification #1	
Modification #2	
Modification #3	

T&C pH Monitor
Enclosure Layout

Document Number:
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Sheet:
2 of 3

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