Pan America Environmental, Inc.

262.716.0105 · www.panamenv.com
technical@panamenv.com

ENGINEERING SPECIFICATION

SPC Series Polypropylene Slant Plate Clarifier

Engineering Specification

GET A QUOTE	SPEAK TO AN ENGINEER
technical@panamenv.com	262.716.0105

PRODUCT PAGE

https://www.panamenv.com/clarifiers/spc-slant-plate-clarifier/

SECTION 1.0 EQUIPMENT

Performance

The Pan America Environmental SPC Series Slant Plate Clarifiers are designed to settle readily settleable and suspended solids using inclined plate and Lamella plate clarifier designs.

1.01 Design

The SPC Slant Plate Clarifier will be designed and fabricated per the following specifications. The tank shall be a rectangular Polypropylene design with features as described.

1.02 Influent Chamber

The influent chamber provides a velocity decreasing surface area and influent diffuser that minimizes turbulence. A slotted exit is provided at the bottom of this chamber to allow unimpeded, uniform flow of water and solids into the sludge/clarification chamber. The slotting will prevent bridging of solids over the exit in the influent chamber.

1.03 Solids/Clarification Chamber

Once the flow exits the influent chamber the diversion plate located below the slotted exit of the chamber redirects it. The flow is diverted from its vertical, downward path to a horizontal path to the solids/clarifying chambers. This is performed to prevent settled solids from being re-entrained into the flow. The readily settleable solids drop out in this chamber while the finer solids continue in an upward flow through the SPC plates. PVC plates are bound together via an FRP/PVC support structure that facilitates removal and installation of all plates simultaneously. The effective plate angle of inclination will be 55° with a standard plate spacing of 1". The plate material provides a slippery surface that assists in solids removal.

1.04 Lifting Lugs and Skid

The tank shall be provided with lifting lugs and skid. The skid will provide bolt -holes for hold down to the installation surface.

1.05 Slant Plate Pack Chamber

A chamber is provided directly above the solids chamber for location of our SPC, Slant Plate Clarifier plate pack assembly. This chamber allows easy removal and installation of the plate pack. The water

©1991–2026

overweir is located at the top of this chamber and provides an even water distribution across the width and length of the chamber. The water flows up from the bottom of the plate pack through all the plates for 100% flow exposure to the entire non-transitory plate surface area. Lifting lugs are provided.

1.06 Effluent Chamber

The water flows up through the plate pack and uniformly crests over the fixed water weir and into the effluent chamber. A flanged outlet is provided. The effluent chamber will be provided spanning the entire width of the SPC tank.

- Fittings

All fittings shall be ANSI, B16.5, 150# Flat Faced flange (SPC300 and larger). All fittings shall be FNPT couplings (SPC12 through SPC240).

Applications

- industrial wastewater treatment clarifier
- metal hydroxide removal clarifier
- produced water treatment
- groundwater remediation clarifier
- mining wastewater clarifier
- food processing wastewater clarifier
- chemical plant wastewater clarifier
- backwash water clarification
- pretreatment before filtration
- tertiary treatment clarifier
- oil water separator with plate clarifier

Benefits & Features

- space saving clarifier
- compact wastewater clarifier
- high rate settling clarifier
- enhanced solids removal clarifier
- shallow depth sedimentation
- lamella plate pack
- 55-degree inclined plates
- reduced footprint clarifier
- gravity settling clarifier
- low maintenance plate clarifier

SECTION 2.0 SUBMITTAL PACKAGE

2.01 Submittal Approval Package

Upon receiving an order Pan America Environmental will engineer and produce a Submittal Approval Package, which allows you the customer to review and change or keep aspects of the system detailed in this quote. The submittal package provides the following at a minimum:

- General arrangement drawings, 2D, 3D, plan, end, sectional, detail and other views
- Hydraulic profile
- Electrical schematics
- Control panel physical layout
- Process/control narrative (where project size is applicable)
- Component datasheets
- Component cutsheets

Options

- P&ID
- Structural, seismic, wind load, lifting lug review, anchorage and/or other PE review calculations
- Design sizing PE calculations and/or calculations of any other types
- Testing review and implementation during fabrication and assembly, i.e. NDT, NDE, radiographic, x-ray, ultrasonic, magnetic particle exam, others
- Piping testing per desired standards, i.e. ASME B31.1 power piping, ASME B31.3 process piping
- Rigging and lifting guide, drawings and/or procedures and methods
- WPS, ITP, PQR, PMI, others
- Document, QC report and/or other project document binder
- Mill certificates

Revisions & Meetings

The submittal package contains a limited amount of engineering and provides a maximum of Two (2) revisions of up to 10% maximum each. This quote does not include open ended, extensive or continuous revisions until approval is given. This submittal package does not include: Iterative R&D and review projects, design/redesign projects, pre-submittal before or after order placement to attain approval from the end user before order is placed, honored or executed by Buyer, engineers/consultants, contractors and/or other parties involved with this project. In addition, numerous and/or excessive meetings relative to the system design and complexity are not provided as PAE strives to have all valuable communications in writing so as to create a trackable/traceable project evolution.

Engineering Only

The quotation provides a limited amount of engineering and does not provide “Engineering Only”. The limited engineering is part of the system cost and is provided to give direction and final understanding as to what is being provided to you in the system design. The quoted and submitted system is a proprietary PAE product and PAE will not produce drawings for you to build, license, bid out or produce and/or market as your product for your or any other entities use.

Component & Process Types

- chemical feed system
- chemical injection system
- coagulant feed system
- flocculant dosing system
- pH control system
- ORP control system
- neutralization tank
- reaction tank pretreatment

©1991–2026

- automated chemical dosing
- SCADA chemical pretreatment
- skid-mounted pretreatment system
- pretreatment chemicals
- pretreatment for powder coating

SECTION 3.0 MATERIALS OF CONSTRUCTION

3.01 Construction

Tank:	Tank shell, baffles, external structural members and internal structural members shall be constructed of ASTM HPP or CPP polypropylene all joints are to be double welded. Polypropylene material thickness determined by SPC size and other design criteria. Material to be FDA, USDA & NSF compliant with a flammability rating UL94.

3.02 Internal Piping External Fittings

Internal piping shall be polypropylene. External couplings and flanges to be polypropylene. Couplings to be NPT, flanges to be ANSI B16.5 150# FF.

3.03 SPC Plate Pack

Plate packs will be constructed of stress relieved PVC. The plate support structure shall be constructed of FRP/PP and schedule 80 PVC.

3.04 Hardware

All wetted hardware shall be ANSI, FRP/PP. All non-wetted hardware to be ANSI, FRP OR PP.

3.05 Manufacturer

The manufacturer of preference shall be: Pan America Environmental, Inc.

3.06 Warranty

Pan America Environmental warrants its products to be free of defect in materials and workmanship for a period of one year from the date of shipment.

SECTION 4.0 FREIGHT AND SHIPPING PREPARATION

4.01 Freight Cost

The quoted freight cost is an actual or estimated cost. This cost is subject to change throughout the life of the quote and any resultant order.

4.02 Palletizing

All equipment prices include palletization.

4.03 Crating

Any crating cost included or itemized includes an export slat crate design. Other crate styles can be provided on request and may incur additional cost.

Export crating is not included in the equipment cost unless indicated in the quote provided to you.



Specifying an SPC Series Polypropylene Slant Plate Clarifier for your project?

technical@panamenv.com · 262.716.0105 · www.panamenv.com

The materials in this document are for general reference only and not for design or construction. Pan America Environmental, Inc. is not responsible or liable for use by third parties.