



PARALLEL PLATE CLARIFIER WITH FLASH MIX-FLOC TANK MODEL PPC-____-FMF

Pollution Control Systems, Inc. (PCS) is pleased to provide the following equipment specifications for your consideration.

One (1) prefabricated Parallel Plate Clarifier, Model PPC-____-FMF furnished complete with an integral Flash Mix / Flocculation chamber. This unit is designed and constructed to allow the influent wastewater to thoroughly mix with process treatment chemicals (by others) to form floc particles, enhancing the removal of free settling, non-hindered concentrations of solids from the wastewater. The solids separation process will utilize sets of inclined parallel plates fabricated from stress relieved polypropylene material. This will allow solids to easily slide downward along the inclined parallel plates to the hopper bottom collection chamber. In the chamber, the solids will be allowed to thicken and be available for discharge via an outlet port. The clear effluent will exit via gravity flow.

A. General Specifications

Model Number:	PPC-____-FMF
Capacity:	_____ gpm
Flash Mix/Flocculation Chamber Volume:	_____/____gallons
Solids Chamber Volume:	_____ gallons
Effective Settling Area:	_____ square feet
Surface Loading:	_____ gpm/sq.ft.
Influent Temperature:	_____ °F
Inclined Parallel Plate Material:	Polypropylene
Inclined Parallel Plate Spacing:	2 inches
Influent Connection:	_____ inches, flanged
Effluent Connection:	_____ inches, flanged
Solids Outlet Connection:	_____ inches, flanged
Length/Width/Height:	_____ x _____ x _____
Shipping Weight:	_____ lbs

B. Materials of Construction

The tank shell, baffles, and structural members shall be constructed of A-36 carbon steel. All plates shall be a minimum of 1/4" thick. All weld joints necessary for watertight construction will be continuously welded. All piping shall be Schedule 40, steel pipe.

The inclined plates shall be of all polypropylene material. The polypropylene plates shall be ultraviolet light stabilized and stress relieved. The design shall permit the individual plates to be easily removed from the clarifier for ease of cleaning or replacement. To insure proper spacing, the plates shall be held in position by use of PVC molded spacers mounted on the plates, two serrated supports on the bottom, and one serrated spacer/hold-down bar on the top.

C. Surface Preparation and Coating

All vessel surfaces to be painted will be properly prepared in a workmanlike manner to obtain a smooth, clean, and dry surface. All rust, dust, and mill scale, as well as other extraneous matter, will be removed by means of cleaning by wire brushing or whatever means necessary.

All interior surfaces shall be prepared to SSPC-SP10 (near white metal sandblast) and coated with a High Solids Epoxy, 8-10 mils total dry film thickness.

All exterior surfaces shall be prepared to SSPC-SP6 (commercial sandblast) and coated with a High Solids Epoxy, 8-10 mils total dry film thickness.

D. Flash Mix / Flocculation Chamber

The flash mix/flocculation chamber will incorporate the use of the appropriate number and type of baffles and mixers to ensure thorough mixing and flocculation of the wastewater/process flow and the chemical blend treatment chemicals (supplied by others).

E. Mixer

The chamber shall be fitted with one (1) gear-drive mixer. The mixer shall be complete with a ___ hp, ___ volt, ___ ph, ___ Hz, ___ motor. Shaft and propellers shall be stainless steel.

F. Flocculator

The chamber shall be fitted with one (1) gear-drive flocculator mixer. The flocculator mixer shall be complete with a _____ hp, ___ volt, ___ ph, ___ Hz, ___ motor. Shaft and propellers shall be stainless steel. The flocculator will be provided with a Variable Speed Drive Controller for varying the speed.

G. Control Panel

A NEMA 4X fiberglass control panel will be supplied to operate both the mixer and flocculator. The panel shall contain an ON-OFF switch for both the flash and flocculation mixer. The panel shall be wired for ___ volt, ___ ph, and ___ hz. Overload protection will be provided to protect the mixers.

H. Influent Zone

The influent zone shall be located between two sets of plates so as to dissipate the influent velocity and disperse the influent flow evenly along the length of each set of plates. This helps eliminate any flow short-circuiting and prevent any heavy solids plugging.

I. Settling Chamber

The parallel plates shall be arranged on 2" spacing and on a 55 degree angle from the horizontal to allow optimum solids removal. The design of the sets of plates shall enhance solids deposition on the plate surfaces. Settled solids will slide downward along the plate surfaces and drop off into the lower collection chamber.

The parallel plates shall be designed and installed with top mounted hold-down/space-bars to help properly space the plates and prevent the plates from floating during operation yet allow easy removal of individual plates for cleaning if necessary.

J. Collection Chamber

The collection chamber (hopper) for settled solids shall be located directly below the sets of parallel plates and shall be equipped with pitched sides and a flanged outlet connection. The hopper design will minimize any turbulence from the incoming wastewater/process stream, and shall allow for the thickening of the solids.

K. Effluent Chamber

The effluent leaving the sets of parallel plates shall pass over an adjustable stainless steel weir into the effluent collection trough. Water level in the clarifier is established by the adjustable weir plate height setting. Clarified effluent shall exit the collecting trough by way of a flanged outlet connection.

L. Inspection Hatch

The clarifier shall be furnished with a removable inspection hatch to allow access into the settling chamber compartment. The hatch shall be sealed, gasketed, and suitably reinforced to provide a watertight assembly.

M. Service Platform – Optional

A service platform can be provided to service the plant equipment. Please consult factory for material specifications to meet project requirements.

N. Handrails – Optional

Handrails can be supplied with mounting flanges for bolting into place. Longer sections of hand railing are spliced to allow for easier handling and installation. Please consult factory for material specifications specific to the project requirements.

O. Access Ladder – Optional

A plant access ladder can be provided for PCS tanks to access the plant equipment. Please consult factory for construction specifications specific to project requirements.

P. Guarantee

PCS will guarantee for one (1) year from the date of shipment that the vessel and all component equipment will be free from defective materials and workmanship. PCS will furnish replacement parts for any component considered in the opinion of PCS to be defective, whether of his or other manufacturer during the guarantee period.