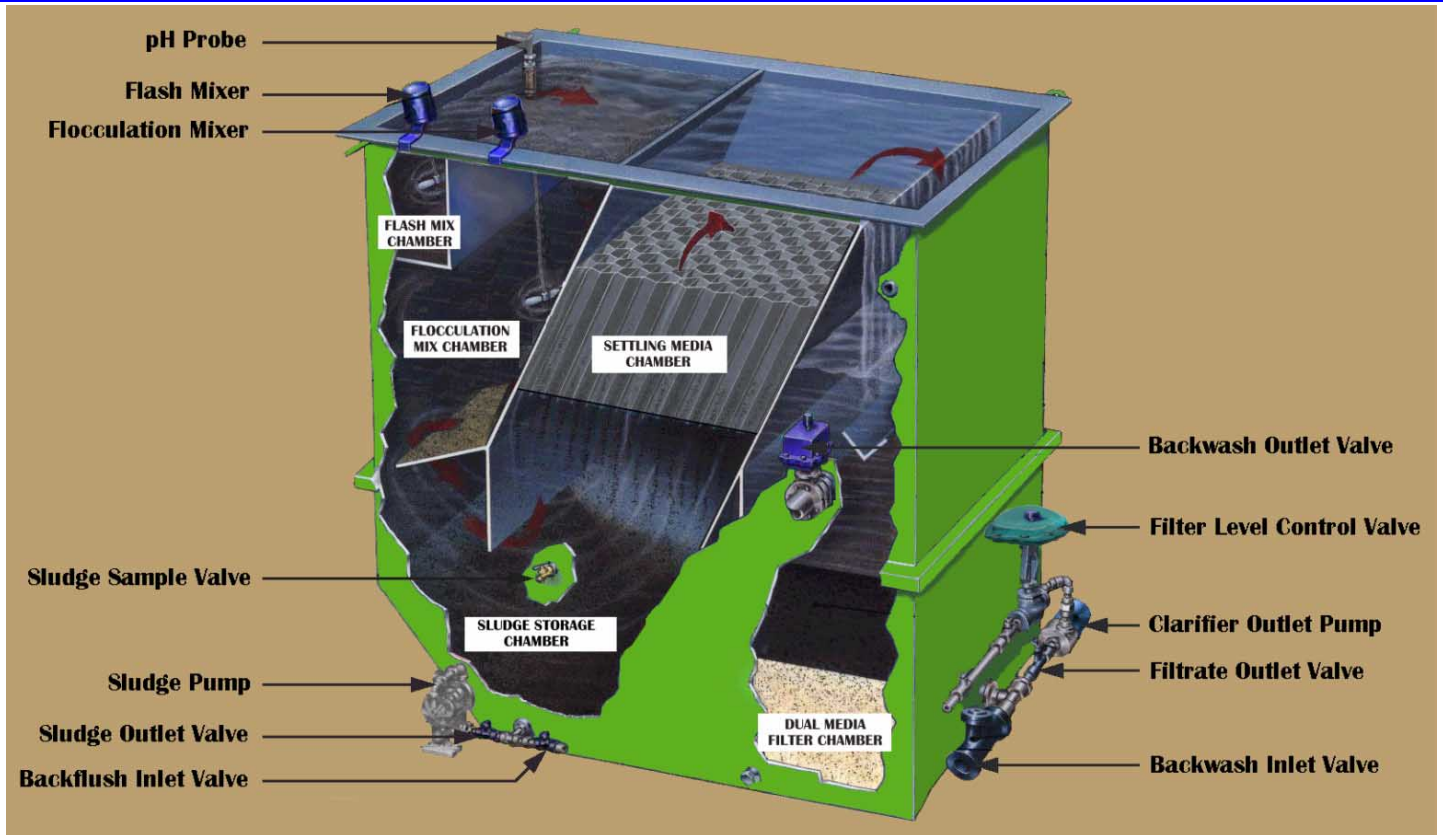




PACKAGED CLARIFIERS



BACKGROUND

The processes of precipitation, coagulation flocculation have long been applied to separate colloidal or suspended particles from process streams and to remove toxic substances from waste streams. Five separate operations are typically required for proper treatment. Our packaged clarifier provides all five in one prepackaged assembly.

- Automatic Chemical Feed and Mixing
- Flocculation
- Clarification and Settling
- Sludge Collection and Storage
- Polishing Filtration

OPERATION

The feed stream enters the Flash Mix Chamber where suitable treatment chemicals are added and intimately mixed with the feed to adjust the pH and promote precipitation. Polyelectrolytes may be added to aid coagulation. The stream exits the flash mix chamber and enters the Flocculation Chamber where the waste is mechanically slow mixed to promote coagulation and agglomeration of the floc. The stream then flows upward through the Settling Chamber where the inclined plates or tubes settle out virtually all of

the suspended solids. The suspended solids settle against the lower side of the tube or plate and slide downward along the incline and collect in the sludge thickening and collection chamber. The thickened sludge is periodically discharged for further dewatering or disposal.

The stream then flows through a gravity dual media polishing filter. Standard filtration media consists of graded layers of silica sand and anthracite. The polishing filter removes virtually all of the remaining suspended solids that may have escaped the settling section. The filtered effluent is then discharged to disposal or further treatment depending on the specific application requirements.

Sludge removal is controlled by automatic timers. The desludge interval timer controls the frequency of the sludge removal process. The backflush duration timer controls the refluidization of the sludge prior to removal. The desludge duration timer controls the amount of sludge removed per cycle.

The filter backwash is automatically initiated by the high level switch in the filter chamber and is controlled by the backwash duration timer. When the filter returns to service the Effluent flow rate is automatically throttled by a flow control valve to maintain a minimum water level in the filter chamber

BENEFITS

- Simple automatic operation.
- Compact Space Saving Design.
- Easy to Install.
- Integral Filter provides upset protection.
- Corrosion Resistant Components for long life.
- Designed to ensure compliance with EPA treatment standards.
- Controls are housed in a NEMA-4X fiberglass enclosure

OPTIONS

Fabricated of A-36 carbon steel exterior coating epoxy paint, interior coating epoxy phenolic. Or we will paint and line the unit per your specifications.

Custom Units are available constructed of a wide variety of materials including Stainless Steel, Fiberglass, and Polypropylene.

Choice of Tube Packs for applications with crystalline solids or Plate Packs for all applications.

Choice of variety of specialty filter media.

AVAILABLE ACCESSORIES

1. **Backwash Storage System** - Recovers and pumps treated water to backwash the filter.
2. **Equalization System** - Provides holding tank(s) and transfer pumps to impound the influent and ensure steady constant flow to the clarifier
3. **Sludge Dewatering** - Includes sludge thickening tank and filter press.
4. **Effluent Monitoring** - Monitors, and records effluent flow and pH.
5. **Oil Water Separator** - Removes free oil and grease prior to the clarifier.
6. **Chrome Reduction System** - Reduces hexavalent chrome to the trivalent state.
7. **Cyanide Oxidation System** - Oxidizes cyanide to carbon dioxide and nitrogen.
8. **Iron Removal System** - Oxidizes ferrous iron to ferric iron for lower solubility and better removal.
9. **Alum Pre-treatment System** - Removes raw water color and turbidity.
10. **Cold Lime Softening System**-Removes calcium and magnesium hardness and associated alkalinity.

GENERAL SPECIFICATIONS

CLARIFIER MODELS		TYPICAL FLOW GPD	UNIT DIMENSIONS Inches			SHIPPING WEIGHT Pounds
INCLINED TUBE	INCLINED PLATE		Length	Width	Height	
ITC-18	IPC-18	25,200	132	48	116	5,000
ITC-36	IPC-36	50,500	132	66	116	8,200
ITC-54	IPC-54	75,700	196	66	116	11,200
ITC-72	IPC-72	101,000	196	90	116	14,500
ITC-108	IPC-108	151,500	196	114	116	20,000
ITC-180	IPC-180	252,600	254	136	116	30,000

For further information contact.

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