Scum and Grease Dewatering Concentration Systems for Wastewater Treatment Systems

- Scum Separator
- Scum and Grease Concentration
Scum Separators

And

Grease Concentrations Systems

**Scum Separators** are designed to separate floatable material from the effluent of clarifier skimming systems.

**Scum and Grease Concentration Systems** are designed to separate water from floatable material that has a high grease content. The system includes a separation tank and a heated and mixed day tank.
Circular Collector mechanisms that have skimming systems must have a means to flush skimmings to a collection point outside of the clarifier tank for removal. Many Circular collector skimming systems include flush valves that release a significant volume of water at each pass of the skimmer.
Rectangular Collector mechanisms use pipe skimmers that require large amounts of flush water to remove skimmings from the surface of a clarifier and to move the recovered material to a collection point for removal.
Sampling at several WWTPs demonstrated that most floatable material will surface in less than a minute.

Non-floatable material will begin settling after several minutes and are clearly visible after 10 – 15 minutes.
Scum Separator

* Height may vary by application
Scum Separator

Features –

• **Separation Tank** - Size and shape are specifically designed for
  • Indoor Installation
  • Sufficient detention time to re-float skimmings
  • Short enough detention time to minimize solids settling
  • Recommended Surface Rate 2 – 4 gpm/sf
  • All tanks are 17’-6” long x 5’0” deep x 4 ft., 5 ft., or 6 ft. width

• **Bottom Feed Inlet** – Energy Dissipating to minimize agitation and enhance re-float of material removed from the clarifier.

• **Detention Time** from 2 to 4 minutes – provides sufficient time to re-float material but short enough to keep the tank from accumulating settable solids.
Scum Separator

Features Continued –

• **Non-Metallic Chain and flight** scum collection mechanism  
  • Plastic Chain  
  • Fiberglass Flights  
  • Stainless Steel Hardware

• **Variable Speed Drive** to adjust scum removal rate.

• **Carbon Steel or Stainless Steel Tank** – Compact Design and shipped with mechanism completely installed. Optional tank covers are available.

• **Optional Tank Cover**  
  • Aluminum  
  • Fiberglass  
  • Stainless Steel  
  • Galvanized Steel
• Bottom Feed Inlet – Energy Dissipating to minimize agitation and enhance re-float of material removed from the clarifier.
• Non-Metallic Chain and flight scum collection mechanism
  • Plastic Chain
  • Fiberglass Flights
  • Stainless Steel Hardware
Scum Separator
Stainless steel tank with discharge to a bin.
Scum discharge to a disposable fabric bag.
Scum and Grease Concentration System

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• Greasy material recovered from skimming requires additional processing to remove water content.

• Substantial amounts of water are mechanically locked or interstitial to agglomerates of grease and other water is held as an emulsion.

• Release of the water content may be accomplished by further processing by first grinding and then pumping the material to a heated and agitated Day Tank where released water can be decanted.
Day Tank

Features –
• **Day Tank** - 5’-0” or 6’-0” diameter x 10’-6” overall height
• **Mixer** – Top entry type, variable speed, 10 Hp
• **Tank Heating**
  • Electrical – 4.5 kW heating strips
  or
  • Hot water heating jacket – requires 20 gpm hot water at 150 dF
• **Bottom cone Insulation**
• **Electrical Control Panel**