

PROCESS FILTRATION / SEPARATION

Filter Press for Waste Treatment Applications

Industry: Industrial Waste Treatment & Ground Water Remediation

Goals: Filtration to dewater sludge from clarifiers & thickeners

Project Overview:

The technologies used for industrial wastewater treatment typically include precipitation followed by some type of clarification or solids settling & thickening for solids removal. Filter press dewatering is the most recognized and efficient technology for dewatering the resulting sludge. Filter presses are able to dewater sludge to leave a dry easily handled filter cake suitable for transport and disposal, based on classification, to hazardous or non-hazardous landfills.

Critical Issues:

Dewater sludge of varying composition and density, into a solid filter cake that can be transported and disposed of.

Vision for Solution:

- Low pressure (100) or high pressure (225) PSI designs.
- Piping, automation, plate shifters, drip trays available as options for design optimization.
- Choice of standard recessed, caulked & gasketed or membrane squeeze plates for maximum dewatering efficiency and cake dryness.
- Filter cloth selection to suit individual application.

Typical Project Scope:

Complete system design
Fabrication / integration
Commissioning & start-up
Detailed design engineering

General Equipment Description:

Equalization & Feed Tanks
PLC Controls & Automation
Low pressure – 100 PSI or High pressure – 225 PSI design
Membrane Squeeze Systems
Filter Press Systems with conveyors, drip trays, piping, plate shifters etc.

Special Features:

- Corrosion resistant coatings
- Heavy duty high and / or low pressure design
- Wide range of filter cloth media
- Choice of filter plate design & materials



Technical Data:

Application - Clarifier and Thickener underflow sludge.

Equipment - Filter Press, either low (100) or high (225) PSI pressure design. Polypropylene, Polypropylene/FRP or KYNAR® filter plates in standard recessed, caulked & gasketed or membrane squeeze design, manual or automated, accessory systems such as drip trays, conveyors or water squeeze.

Materials of Construction - Steel frame with various corrosion resistant coatings, Polypropylene, Polypropylene/FRP or KYNAR® filter plates, numerous cloth selections such as polypropylene, polyester, TYVEK®, cotton, nylon, RYTON® etc.

Filtration Data:

Flow Rate ----- 0.1 GPM/sq.ft. to 0.5 GPM/sq.ft.

Suspended Solids - Metal hydroxides, metal sulfides, clay, dirt & grit

Cycle Length ----- 4 hours to 24 hours

Precoat ----- DE, Perlite, Lime, Ferrous Sulfate & Ferric Chloride