Filter Press

FEATURES

- High-Strength Carbon Steel Frame
- Blasted to SSPC-SP6
- Epoxy-Coated Framework
- 304 Stainless Steel Side Bar Wear Caps
- Schedule 80 PVC Piping Connections
- Four Corner Discharge Piping
- Caulked & Gasketed Recessed Polypropylene Plates
- Manual, Air, or Electric Hydraulic Closure Systems

OPTIONS

Press Closure

- 100 psi and 225 psi Designs
- Hand-Operated Hydraulic Pumps
- Standard Air-Operated Hydraulics
- High-Capacity Electrically-Powered Hydraulics

Plate Shifter

- Semi-Automatic: Standard, includes a visible pressure gauge as well as easy access to the regulator.
- Fully Automatic: Available in shuttle and continuous chain drives. An automatic plate shifter with a clot washeris also available.

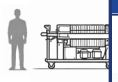
Controls

- AFPCS: Automatic Feed Pump Control System, increases feed pressure as the press fills.
- EHCS: Electric Hydraulic Control System, controls the feed pump, electric-hydraulic closure, and automatic tlrip trays.
- PACS: Process Automation Control System, controls the feed pump and automatic manifold valves on air-operated presses.
- FACS: Full Automation Control System, automates the filter press and controls the feed pump.

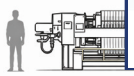
Safety

- Safety Light Curtains: Stops press functions when objects cross between the infrared light bars.
- Auto Shut-off Safety Tripwire Cable: Stops press functions with less than two pounds of pressure.
- Safety Splash Curtains: Contains liquid that may, under certain conditions, squirt or splash from between the filter plates during the fill cycle or power washing of the filter plates and cloths.
- Safety Gates: Protects surrounding areas at all times.
- 2-Palm Safety Closure Switch: Protects the operator during press closure.

PRODUCT RANGE



Model	Plate Dimensions	Capacity Range	Hydraulics	Std. Feed	Std. Discharge	Plate Shifting
320	320mm x 320mm (12.5" x 12.5")	0.3 ft^3	Manual	1"	1"	Manual
470	470mm x 470mm (18" x 18")	0.5 ft^3 to 4 ft^3	Manual (Standard) or Air (Single Acting)	1-1/2"	1"	Manual
630	630mm x 630mm (24" x 24")	2 ft^3 to 12 ft^3	Air (Standard) or Manual	2"	1-1/2"	Manual, Semi-Auto or Automatic
800	800mm x 800mm (32" x 32")	8 ft^3 to 30 ft^3	Air (Standard) or Electric	2"	1-1/2"	Manual, Semi-Auto or Automatic
1000	1000mm x 1000mm (39" x 39")	20 ft^3 to 50 ft^3	Air (Standard) or Electric	3"	3"	Manual, Semi-Auto or Automatic
1200	1200mm x 1200mm (48" x 48")	40 ft^3 to 125 ft^3	Electric (Standard) or Air	3"	3"	Manual, Semi-Auto or Automatic
1500	1500mm x 1500mm (60" x 60")	100 ft^3 to 275 ft^3	Electric (Standard) or Air	4"	3"	Manual, Semi-Auto or Automatic
1500 X 2000	1500mm x 2000mm (60" x 79")	250 ft^3 to 350 ft^3	Electric	6"	4"	Automatic
2000	2000mm x 2000mm (79" x 79")	300 ft^3 to 600 ft^3	Electric	6"	4"	Automatic



Additional Options

- Trailer Mounted Filter Press
- Non-Gasketed Filter Plates
- Diaphragm Squeeze Plates
- Diaphragm Squeeze System
- Various Plate Materials
- Filter Cake Hoppers
- Cake Chutes
- Leg Extensions
- Elevated Platforms
- Stainless, Carbon Steel, Polypropylene, FRP, and CPVC Manifold Piping
- Even Fill Manifold Piping
- Cake Wash Manifolding
- Manual or Automatic Drip Trays
- Feed Pumps: Air-Operated Diaphragm (ADD), Progressive Cavity, and Centrifugal
- Cloth Washers
- Blanking Plate
- Expansion Piece
- Enduroliner" NSF-61 Polyurethane Abrasion and Chemical Resistant Coating
- Electric Hydraulic Closure with PLC Controls
- Cake Thicknesses from 20 to 50mm
- Wide Selection of Filter Media

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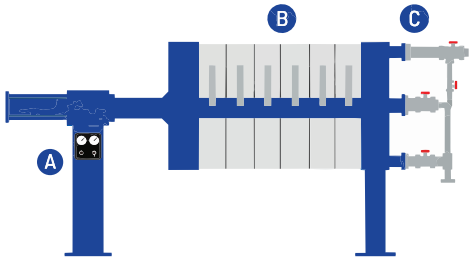
DESIGN AND USAGE

What is a Filter Press?

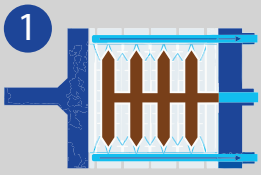
A filter press is a batch operation, fixed volume piece of equipment ranging from .01-600 ft that separates liquids and solids using pressure filtration. A slurry is pumped into the filter press and dewatered under pressure. A filter press can be used for process, water and wastewater treatment in a variety of different industries and applications.

Main Components

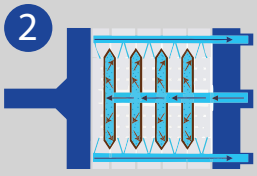
- Frame: The steel frame acts as a clamping device for the filter press. (A)
- Filter Plates: A filter cake forms in the chambers between filter plates. (B)
- Manifold: Our standard manifold consists of piping and valves which control the slurry inlet and connect the four corner filtrate discharge ports into a common discharge pipe. (C)
- Filter Cloth: A cloth filter that is attached to both sides of a filter plate. Solids build up on cloth to form a filter cake, separating liquids from solids.



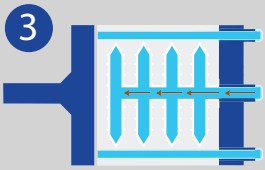
How Does it Work?



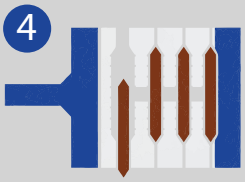
Slurry is pumped into the filter press. The solids are distributed evenly on the filter cloths during the feed (fill) cycle.



Solids begin to build on the filter cloth, trapping the ensuing particles and building a filter cake. The filter cake acts as a depth filter for solid/liquid separation. Filtrate exits the plates through the corner ports into the manifold.



When the correct valves in the manifold are open, the filtrate exits through the filtrate outlet. As the feed pump builds pressure, the solids build within the chambers until they are completely full of filter cake.



Once the chambers are full, the fill cycle is complete and the filter press is ready to be emptied.

Press Sizing

This information is needed to quote a press. Please obtain all possible slurry information as outlined below. If one or more criteria are not available, we can test a sample of the slurry, and/or use some standard data.

- Type of slurry to be processed
- Amount of slurry to be processed in a given amount of time expressed in either.
  - Gallons per minute, per hour. per day, or per week
  - Pounds of solids (100% dry basis) per time period
- Number of hours per day, and days per week the process operates
- Percent solids (by weight) per time period
- Specific gravity of slurry if available
- Process operating temperature
- Density of wet filter cake
- Chemical conditioning amounts, if required (D.E., etc.)
- Press location: Indoor or outdoor, temperature range
- Desired cake thickness (std. is 32mm - 11/4")
- Desired closure & control automation (Specify: Manual, Semi-Automatic or Automatic)
- Other (Please specify optional features required)

Filter Press Capacity Required Per Filtration Cycle (ft^3)

Standard Slurries = V× P × G × 8.34 ÷ Dx S
Metal Hydroxide Slurries = V× P ÷ 2.89
V = volume of slurry in gal. per cycle
P = % solids in feed
G = specific gravity of slurry
D = density of wet cake in lb. per ft°
S = % dry solids in filter cake