M.W. Watermark™ Filter Press

M.W. Watermark’s standard and customized filter presses incorporate designs developed through years of experience to provide superior reliability, durability, and ease of use.

Highly efficient solid/liquid separation for the following industries:
- Stone Fabrication
- Metal Finishing
- Mining & Energy
- Power
- Industrial Wastewater
- Municipal Wastewater
- Lime Softening
- Chemical Processing
- Ready Mixed Concrete
- Car & Truck Washes

M.W. Watermark

Filter Press

Model FP250N25L-6-0.2MXX FP320G32-6-0.3MXX
Plate Dimensions 250 mm x 250 mm (10” x 10”) 320 mm x 320 mm (12.5” x 12.5”)
Capacity 0.2 ft³ 0.3 ft³
Plate Type Non-Gasketed Gasketed
Filter Cloths Included Included
Hydraulics Manual Manual
Std. Piping Connections 1/2” Feed x 1/2” Discharge 1” Feed x 1” Discharge
Plate Shifting Manual Manual
Skid Mounted Standard - Included Standard - Included
Feed Pump Standard - Included Standard - Included

In-house treatability laboratory. Two pilot models for rental or purchase.
What is a Filter Press?

A filter press is a batch operation, fixed volume piece of equipment ranging from .01-600 ft³ 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.

A filter press has four main components:

Frame: The steel frame acts as a clamping device for the filter plates. (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?

1. Slurry is pumped into the filter press. The solids are distributed evenly on the filter cloths during the feed (fill) cycle.
2. 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.
3. When the correct valves in the manifold are open, the filtrate exits the press through the filtrate outlet. As the filter press feed pump builds pressure, the solids build within the chambers until they are completely full of filter cake.
4. Once the chambers are full, the fill cycle is complete and the filter press is ready to be emptied.

Press Sizing Formulas*

Information Needed to Quote a Press

- 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) in slurry
- 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 - 1 1/4")
- Desired closure & control automation (Specify: Manual, Semi-Automatic or Automatic)
- Other (Please specify optional features required)

*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.

Standard Slurries

Volume of slurry in gal. per cycle * % solids * 8.34 * specific gravity of slurry

Density of wet cake in lb. per ft³ * % dry solids in filter cake

Metal Hydroxide Slurries

Volume of slurry in gal. per cycle * % solids in feed

2.89
M.W. Watermark™ Filter Press
Product Range

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<tr>
<th>Plate Dimensions</th>
<th>Capacity Range</th>
<th>Hydraulics</th>
<th>Std. Piping Connections</th>
<th>Plate Shifting</th>
</tr>
</thead>
<tbody>
<tr>
<td>470 mm x 470 mm (18&quot; x 18&quot;)</td>
<td>0.5 ft³ to 4 ft³</td>
<td>Manual (Standard) or Air (Single Acting)</td>
<td>1-1/2” Feed x 1” Discharge</td>
<td>Manual</td>
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</tbody>
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Options Shown:
Air-Operated Diaphragm Feed Pump (On Shelf)
Filter Cake Hopper

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</tr>
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<tbody>
<tr>
<td>630 mm x 630 mm (24&quot; x 24&quot;)</td>
<td>2 ft³ to 12 ft³</td>
<td>Air (Standard) or Manual</td>
<td>2” Feed x 1-1/2” Discharge</td>
<td>Manual, Semi-Automatic, or Automatic</td>
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Options Shown:
Expansion Piece

<table>
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<th>Plate Shifting</th>
</tr>
</thead>
<tbody>
<tr>
<td>800 mm x 800 mm (32&quot; x 32&quot;)</td>
<td>8 ft³ to 30 ft³</td>
<td>Air (Standard) or Electric</td>
<td>2” Feed x 1-1/2” Discharge</td>
<td>Manual, Semi-Automatic, or Automatic</td>
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Options Shown:
Semi-Automatic Plate Shifter
Self-Dumping Filter Cake Hopper
Air Hydraulics

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</tr>
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<tr>
<td>1000 mm x 1000 mm (39&quot; x 39&quot;)</td>
<td>20 ft³ to 50 ft³</td>
<td>Air (Standard) or Electric</td>
<td>3” Feed x 3” Discharge</td>
<td>Manual, Semi-Automatic, or Automatic</td>
</tr>
</tbody>
</table>

Options Shown:
Automatic Plate Shifter with Cloth Washer
Full Automation Control System (FACS)
Electric Hydraulics
Light Curtains
Automatic Drip Trays
Automated Valves
Plate Dimensions 1200 mm x 1200 mm (48" x 48")
Capacity Range 40 ft³ to 125 ft³
Hydraulics Electric (Standard) or Air
Std. Piping Connections 3" Feed x 3" Discharge
Plate Shifting Manual, Semi-Automatic, or Automatic

Options Shown:
- Semi-Automatic Plate Shifter
- Process Automation Control System (PACS)
- Non-Gasketed Filter Plates
- Enduroliner™ Coating

Plate Dimensions 1500 mm x 1500 mm (60" x 60")
Capacity Range 100 ft³ to 275 ft³
Hydraulics Electric (Standard) or Air
Std. Piping Connections 4" Feed x 3" Discharge
Plate Shifting Manual, Semi-Automatic, or Automatic

Options Shown:
- Automatic Plate Shifter
- Full Automation Control System
- EnduroLiner™ Coating

Plate Dimensions 1500 mm x 2000 mm (60" x 79")
Capacity Range 250 ft³ to 350 ft³
Hydraulics Electric
Std. Piping Connections 6" Feed x 4" Discharge
Plate Shifting Automatic

Options Shown:
- Automatic Drip Trays
- Double Air Blowdown, Even Fill Manifold

Plate Dimensions 2000 mm x 2000 mm (79" x 79")
Capacity Range 300 ft³ to 600 ft³
Hydraulics Electric
Std. Piping Connections 6" Feed x 4" Discharge
Plate Shifting Automatic

Options Shown:
- Overhead Plate Suspension
- Full Automation Control System
- Light Curtains
- Automated Valves
- Automatic Plate Shifter with Cloth Washer

Ask us about our full range of equipment rentals.
Press Closure
With 100 psi and 225 psi designs, M.W. Watermark offers hydraulic press closure systems to fit a variety of requirements. Hydraulics range from hand-operated hydraulic pumps to standard air-operated hydraulics, to high-capacity electrically-powered hydraulics for large or automated filter presses.

Plate Shifter
M.W. Watermark’s mechanical plate shifters move each plate along the sidebar, allowing rapid discharge of the dewatered cake. A stainless steel sidebar cap is provided to facilitate plate shifting and protect the sidebar. Plate shifter designs include semi-automatic and automatic types. Our standard semi-automatic plate shifter includes a visible pressure gauge as well as easy access to the regulator. The automatic designs are available in shuttle and continuous chain drives. An automatic plate shifter with a cloth washer is also available.

Safety
M.W. Watermark offers many different safety features to help protect press operators and bystanders:
- **Safety Light Curtains**: Stops the press functions when any object crosses 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

Controls
M.W. Watermark’s control options include the following models:
- **Automatic Feed Pump Control System (AFPCS)**
  Increases feed pressure as the press fills
- **Electric Hydraulic Control System (EHCS)**
  Controls the feed pump, electric-hydraulic closure, and automatic drip trays
- **Process Automation Control System (PACS)**
  Controls the feed pump and automatic manifold valves on air-operated presses
- **Full Automation Control System (FACS)**
  Automates the filter press and controls the feed pump
Other M.W. Watermark™ Products & Services

**Rebuilt Equipment**
Used equipment is rebuilt in our facility and quality checked prior to shipment. A six month warranty is available on rebuilt equipment. M.W. Watermark can also rebuild your current equipment.

**Other Rental Equipment**
In addition to filter presses, M.W. Watermark stocks other equipment available for rental including Slant-Plate Clarifiers and DAF/OCS pilot units.

**Parts for Your Press**
Parts for many makes and models of filter presses are in-stock. Plate shifters, hydraulic retrofits and custom filter cloths are available. Cloth and gasket installation services are also available.

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**Field Service**
Factory-trained professionals are available to visit jobsites to assist with start-ups, training, installation supervision, mechanical repairs and troubleshooting, PLC programming, process review, engineering, and rebuilds.

**Troubleshooting**
Technical sales and service employees are available by phone to troubleshoot and answer service questions during regular business hours.

**Laboratory Testing**
M.W. Watermark maintains an in-house laboratory for determining the most effective equipment, equipment sizing, filtration media, and dewatering techniques for your specific application.

**About M.W. Watermark**
M.W. Watermark’s top priority is customer satisfaction. We treat our customers the way we want to be treated. We offer prompt, courteous service and truly enjoy helping our customers.

The M.W. Watermark team has decades of experience designing, building, and servicing water and wastewater treatment equipment. Our experience in the field has given us insight into ways in which to better solve your water problems and improve your equipment.

Our mission is to provide advanced solutions to our customers while setting the standard for quality and value. We strive to create and provide products and services to meet and exceed expectations in quality, reliability, delivery and cost.
Why M.W. Watermark™?

M.W. Watermark wants to make a difference. We are passionate about the world’s water. We are innovative, focused on customer service and always try to exceed expectations. We are an environmentally conscious company with people who are energized, encouraged and inspired to make a difference on our planet by helping to keep our shared, finite water supply clean and usable for generations to come.

We build amazing, custom water and wastewater treatment equipment.

Together, we can make a difference.

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