



**evoQUA**  
WATER TECHNOLOGIES



## **J-PRESS® AUTOMATED HIGH PERFORMANCE FILTER PRESS**



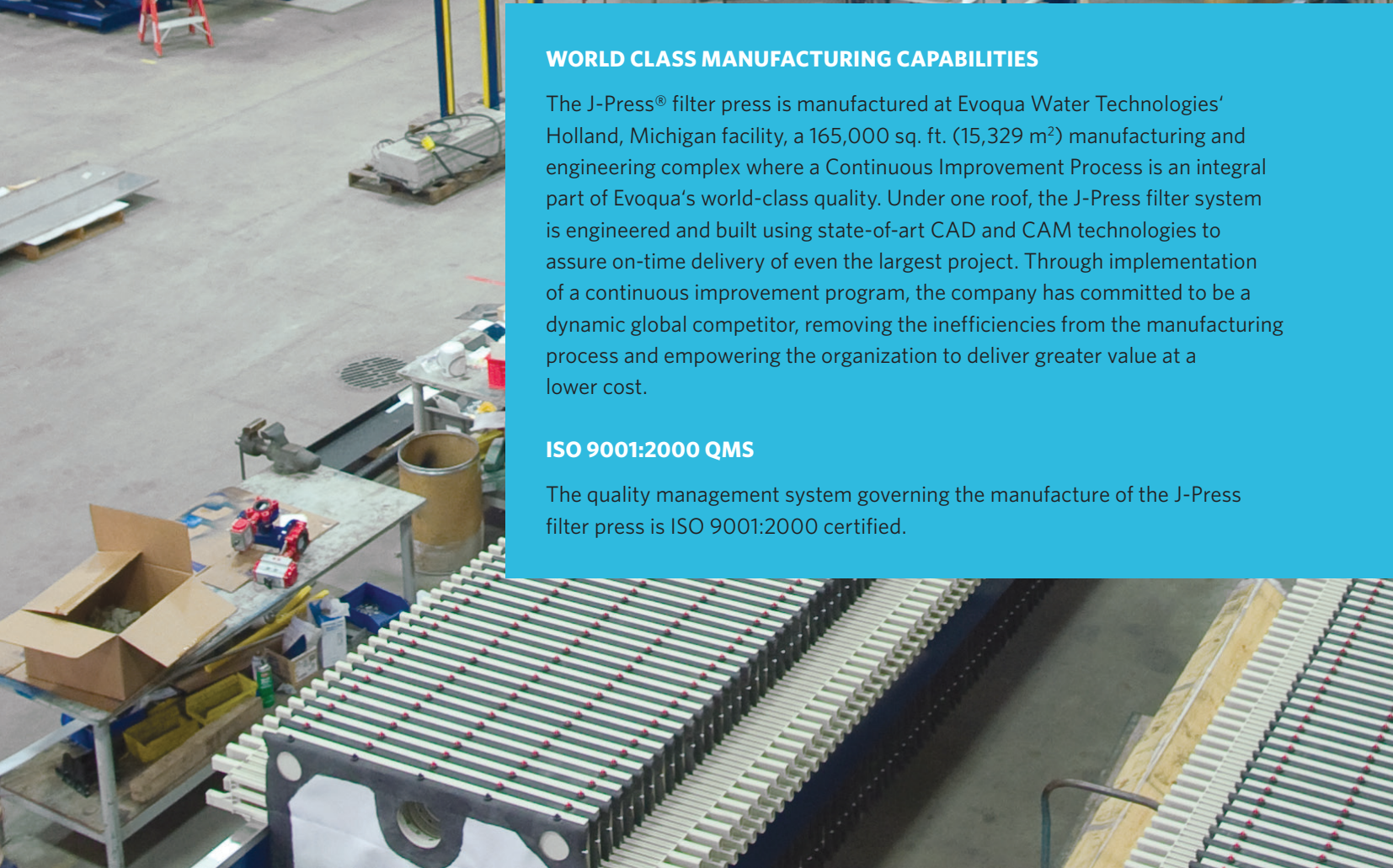


### **WORLD CLASS MANUFACTURING CAPABILITIES**

The J-Press® filter press is manufactured at Evoqua Water Technologies' Holland, Michigan facility, a 165,000 sq. ft. (15,329 m<sup>2</sup>) manufacturing and engineering complex where a Continuous Improvement Process is an integral part of Evoqua's world-class quality. Under one roof, the J-Press filter system is engineered and built using state-of-art CAD and CAM technologies to assure on-time delivery of even the largest project. Through implementation of a continuous improvement program, the company has committed to be a dynamic global competitor, removing the inefficiencies from the manufacturing process and empowering the organization to deliver greater value at a lower cost.

### **ISO 9001:2000 QMS**

The quality management system governing the manufacture of the J-Press filter press is ISO 9001:2000 certified.





# J-PRESS® FILTER PRESS

## THE INDUSTRY STANDARD

The J-Press® automated filter press is the high-performance solution for producing high solids filter cake with extremely high clarity in the liquid effluent. Considered by industry professionals as the premier filter press, the J-Press filter press combines rugged construction, precision engineering, ease of operation and a wide range of features and options to tackle the most difficult dewatering problems. These automated J-Press filter presses are key systems in municipal and industrial facilities around the world.

In 1978, JWI revolutionized the industry with the introduction of the J-Press filter press. The J-Press filter press was the first to feature, in a single design, a self-compensating air/hydraulic closure system for ease of maintenance, gasketed filter plates for virtually leak free dewatering, semi-automatic plate shifting for labor savings and safety, automatic pump controls and a superior paint system that provided the highest level of protection from corrosion. The J-Press filter press quickly set the benchmark for filter press performance.

Today, the J-Press filter press offers the most advanced automation available, from fully automatic plate shifting and cloth washing to PLC controls and a full complement of ancillary slurry processing and cake handling systems. The J-Press line of filter presses continues to set the benchmark for system efficiency, with versatile, high performance solutions.

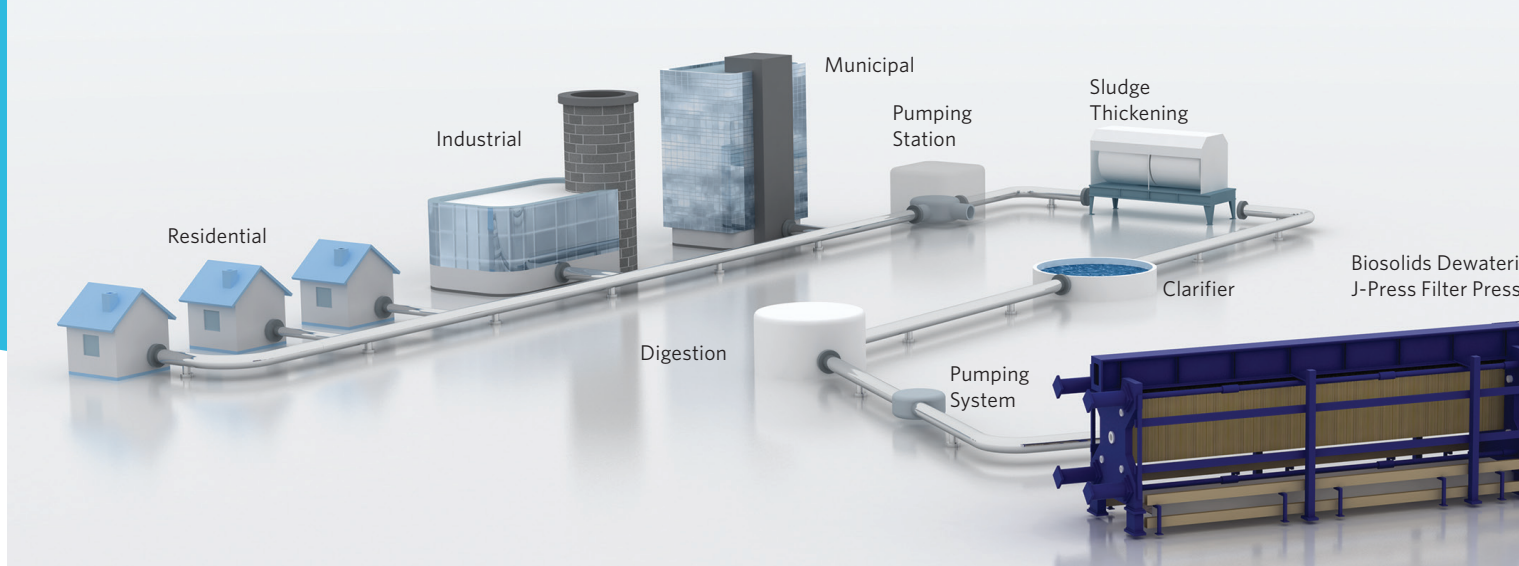


Automated manifolds for consistent cycling times

Designed for maximum performance with minimal operator oversight, J-Press automated filter presses are built with robust features:

- 100 psi/7 bar or 225 psi/16 bar designs
- Electric hydraulic closure
- Recessed or membrane squeeze style filter plates
- Feed and discharge manifolds with automatic valves in materials to suit your application
- Fully automatic plate shifting systems
- Evoqua and Allen-Bradley® PLC control systems are standard
- High pressure automatic cloth wash systems
- Custom coating systems available
- Safety light curtains/trip wires
- Automatic drip trays





The automated J-Press® filter press is making a growing contribution to municipal and industrial wastewater flow strategies, including environmental protection and resource recovery.

## SYSTEM DESIGN AND INTEGRATION

Evoqua Water Technologies is a global resource for both municipalities and industries, assisting in the design, fabrication and installation of complete slurry dewatering and sludge handling systems. From Europe, to the Americas and the Far East, Evoqua successfully serves clients, providing them with proven, technically proficient, cost effective dewatering systems.

The J-Press® filter press is world renowned for its ability to discharge the driest possible solids and the highest clarity filtrates. Our large selection of filter elements and filter media combined with the availability of fully automatic operation give you a versatile choice of sludge dewatering devices.

In addition to the filter press, Evoqua can provide all of your system component needs and, in general, all the equipment required to form a complete and functional sludge dewatering system, including:

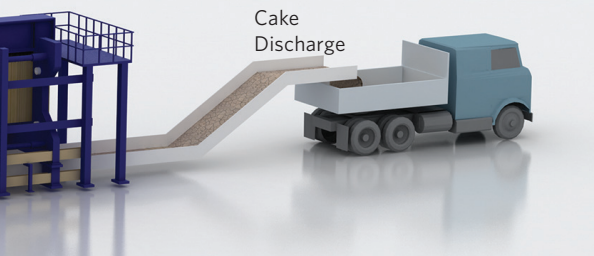
- Polymer and chemical addition systems
- Sludge thickening and storage tanks
- Wastewater transfer and filter press feed pumps
- Filter cake transport conveyors

Advanced PLC instrumentation makes it possible to have total supervisory control of the entire dewatering system from a central operator station. Integration with a main plant control system can be handled through the use of standard computerized networks.

Through years of experience and technical expertise, Evoqua understands what equipment is required to produce high filter cake solids with minimal chemical usage, energy and labor requirements. From individual components to complete dewatering systems, Evoqua is committed to serving your slurry dewatering systems needs with unparalleled support and uncompromising quality.

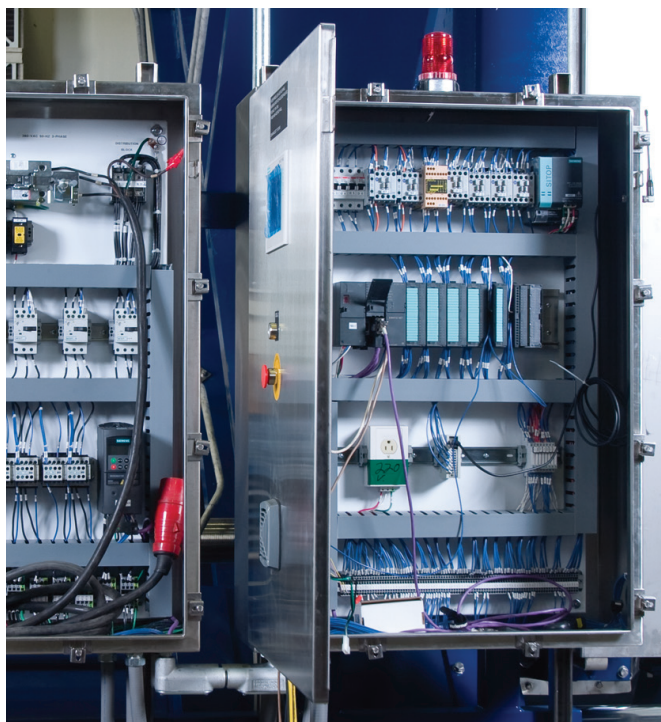


watering  
Press



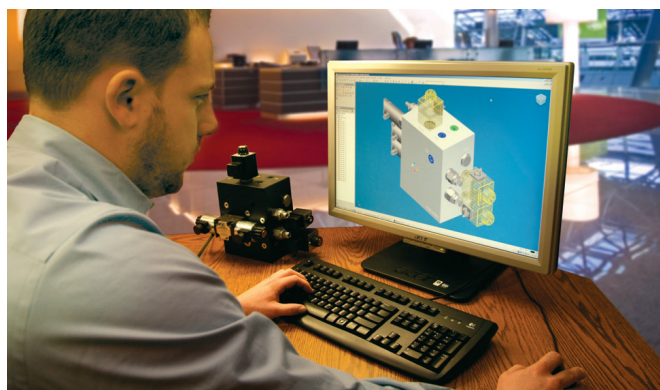
## ENGINEERING TO SUIT YOUR NEEDS

Our technical sales and engineering staff is available to develop the best solution for your application based on innovative analysis technologies, customized system engineering and a sound knowledge of customer applications and requirements. Designs begin with the development of an effective process layout, taking into consideration system performance objectives, operating costs and maintenance requirements. A Process and Instrumentation Diagram (P&ID) is developed to articulate the physical sequence of the equipment layout and provides the basis for the development of system design and equipment selection as well as system control schemes.

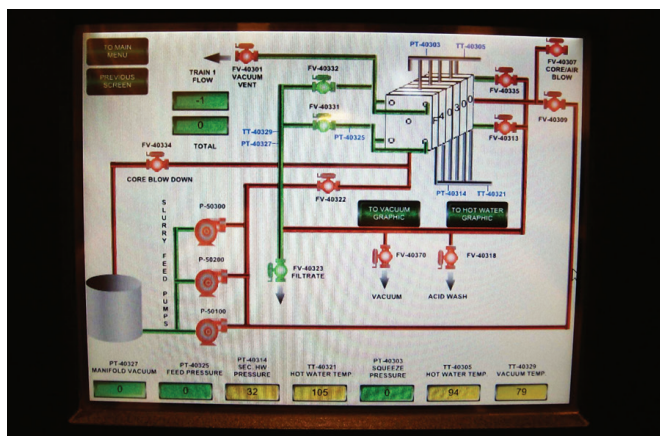


View of inside of the PLC control panel

Evoqua controls engineers use the latest technology and tools to develop a process control package that provides a state of the art operator interface that is both user friendly, safe to use and cost effective. Safety is a primary concern of any Evoqua equipment design and the J-Press® filter press is no exception. Our engineers incorporate all the latest features and interlocks for intrinsically safe operation.



Evoqua engineers develop the optimal solution for your specific application.



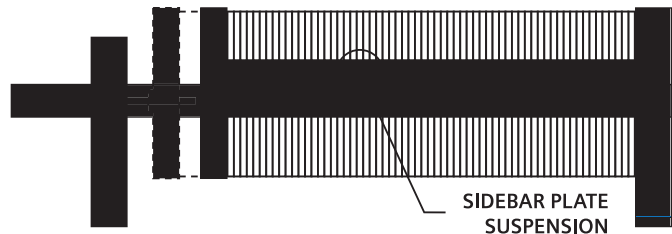
A typical OIT screen of a P&ID

## THREE FRAME DESIGNS IN OVERHEAD AND SIDEBAR

The J-Press® high performance filter press is available in three different frame designs with plate sizes ranging from 1.2 m x 1.2 m to 2.4 m x 2.4 m. The sidebar filter press, the overhead compression close filter press and the overhead tension close filter press each offer fully automatic operation. Their unique construction features make these large presses the best solution when balancing the requirements of the application with economies of the project.

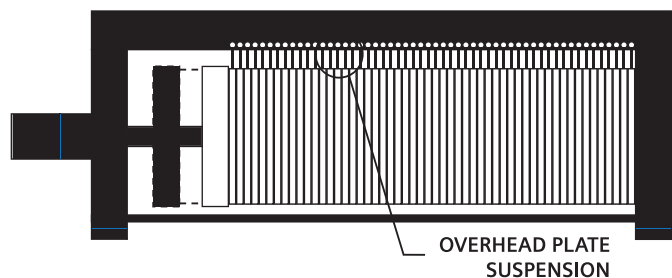
### SIDEBAR COMPRESSION CLOSE

A single hydraulic cylinder keeps the filter pack closed while in the compression stroke. Filter plates are suspended by the plate handles resting on the sidebar.



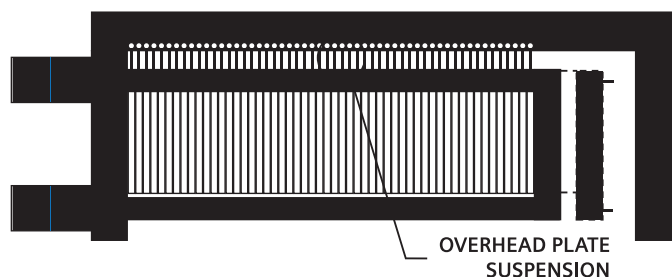
### OVERHEAD COMPRESSION CLOSE

A single hydraulic cylinder keeps the filter pack closed while in the compression stroke. Filter plates are suspended by hangers from the overhead beam flange.



### OVERHEAD TENSION CLOSE

Hydraulic cylinders on all four corners keep the filter pack closed while in the tension stroke. Filter plates are suspended by hangers from the overhead beam flange.





### ADVANTAGES OF SIDEBAR COMPRESSION CLOSE

- Available in a wider range of sizes, from 470 mm to 2.4 m x 2.4 m designs, with working pressure ratings of 100 psi (7 bar) and 225 psi (16 bar)
- Lighter weight than overhead designs
- Plates are easily accessible and removable from top
- Full range of automation options
- Available with air hydraulic systems in smaller sizes
- Less expensive than overhead designs



### ADVANTAGES OF OVERHEAD COMPRESSION CLOSE

- Slightly smaller footprint than tension close
- More robust, heavy-duty frame construction than sidebar machines, accepts more chambers
- Overhead plate shifting minimizes cake contamination of shifter components
- Hydraulic cylinder mount and fixed head connected at four points for a more rigid base frame construction than sidebar machines
- Single overhead shifter mechanism reduces complexity of design
- No side rail interference allows full accessibility to the filter plates



### ADVANTAGES OF OVERHEAD TENSION CLOSE

- Four hydraulic closing cylinders, positioned at the corners, give even distribution of closing load over sealing surfaces
- Each filter press offers only static loading to foundations (no dynamic load as with compression close machines) thereby making building design or steelwork simpler and less expensive
- Because the closing load is balanced between the four hydraulic cylinders these presses can be used with maximum number of chambers
- Evoqua is one of a limited number of experienced manufacturers for this style of filter press



## SUPERIOR FILTER PLATE TECHNOLOGY

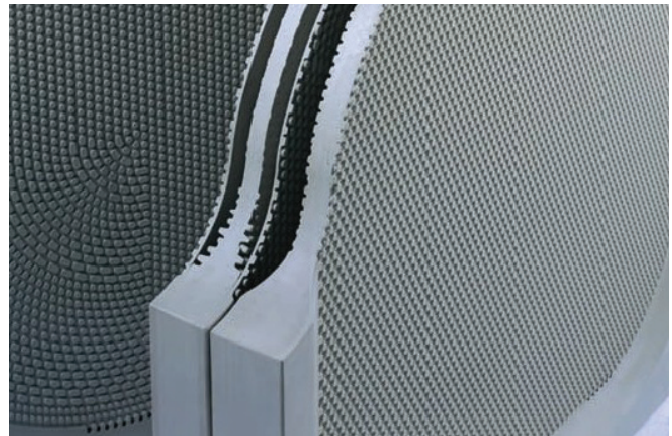
Adding to the versatility of the J-Press® filter press is the largest selection of filter plates and filter cloths available from Evoqua. Based upon the process demands, filter plates are selected for each specific application. Corrosion resistant polypropylene plates are available in recessed chamber and diaphragm squeeze (membrane) designs. Diaphragm squeeze plates are also available with replaceable diaphragms made of PP, PVDF, Nylon or EPDM. Filter packs can be configured as full recessed packs for fixed volume filtration, full diaphragm squeeze packs for variable volume filtration or mixed packs where diaphragm squeeze plates alternate with recessed chamber plates for a cost effective alternative to an all diaphragm squeeze plate design.



2 m x 2 m recessed chamber plates provide high capacity fixed volume filtration.

Filter cloths are also available in a wide variety of weave patterns, weights, materials and porosities and are specifically selected to best fit your application and desired results.

Like the J-Press filter press, the filter plates can be designed to withstand operating pressures up to 225 psi (16 bar).



Diaphragm (or membrane) plates feature flexible drainage surfaces that expand to exert additional pressure on the filter cake, further reducing moisture.



Filter cloths materials, weave patterns and porosities are selected to meet specific performance requirements.



## FILTER PACK AUTOMATION

Automation of the J-Press® filter press is available for process control, cake discharge, cloth maintenance and safety. Our sales engineers develop each filter press design with automation packages using a building block approach so they can assist you in choosing the system that will deliver optimal performance for your particular application.

The baseline plate shifting mechanism for the sidebar filter press is the shuttle style “Pry Shifter,” which promotes positive plate separation for optimal cake discharge. Our overhead filter presses use a high speed continuous plate shifting mechanism for a more rapid cake discharge. This system can incorporate an optional plate latching system to ensure single plate shifts. Both shifter systems can be upgraded to include a “Plate Bump” mechanism for auto assisted cake discharge.

The final tier of filter pack automation (available only in the sidebar configuration) is the Automatic Cake Discharge Detection System (ACDDS), which incorporates a bump system that can literally weigh each filter plate to detect excess filter cake on the plate as it is being shifted.

### SIDEBAR SHUTTLE SHIFTERS

#### Pry Shifter

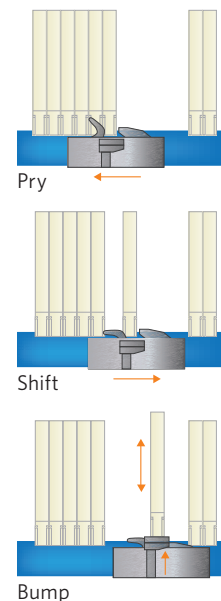
- Promotes positive plate separation for single plate shifting
- Automatically decelerates prior to plate handle engagement reducing handle strain
- Variable speed control for optimal cake discharge time

#### Pry and Bump

- Promotes discharge of filter cake without operator intervention
- Plates are bumped while being shifted to maximize shifter speed
- Multiple bumps may be selected for difficult to discharge material

#### ACDDS (Pry, Bump and Weigh)

- Tests each plate to determine if residual solids are still in the cake chamber
- Automatically re-bumps the plate if test fails
- After three failures, plate shifting is stopped and operator is alerted to clear cake



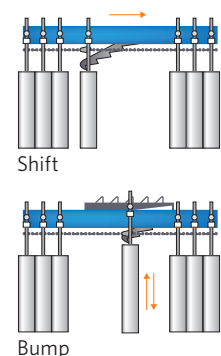
### OVERHEAD CONTINUOUS SHIFTERS

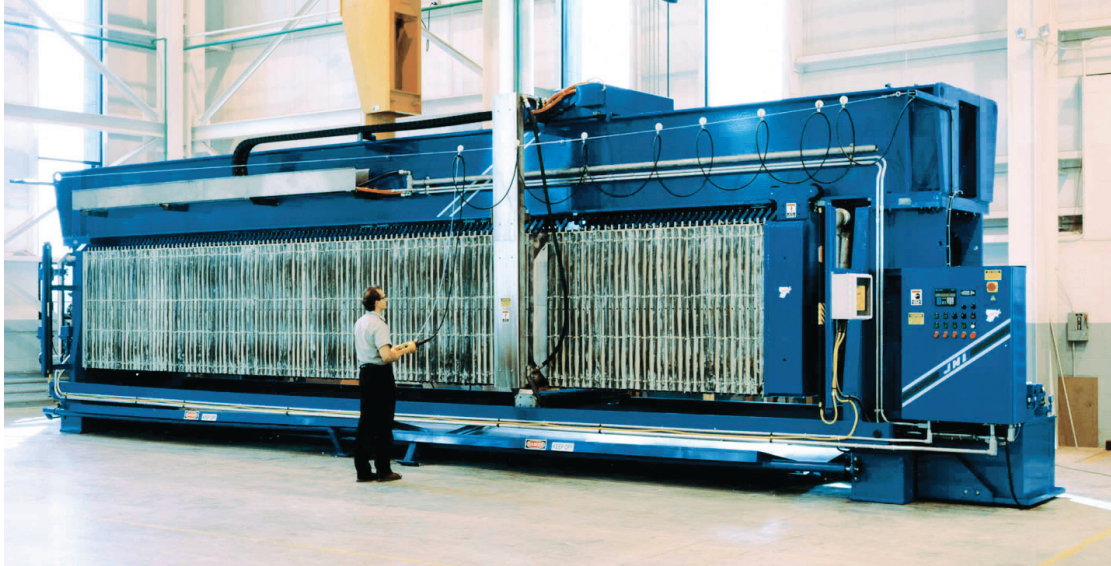
#### High Speed Continuous Shifter

- Plate shifting time is as little as three seconds per chamber
- Variable speed control for optimal cake discharge time
- Optional plate latch system ensures positive plate separation

#### High Speed Continuous Shifter with Bump

- Promotes discharge of filter cake without operator intervention
- Plates are bumped while being shifted to maximize shifter speed
- Utilizes multiple bumps over the shifting distance to ensure positive cake discharge





## CLOTH MAINTENANCE AND SAFETY

### AUTOMATIC CLOTH WASHING SYSTEMS

Designed to automate the washing process, extend cloth life and enhance overall press performance, filter cloth washers traverse the length of the filter plate, simultaneously washing both sides of the plate while it is separated from the pack. The washer is constructed of non-corrosive materials for washing a wide range of solids from the cloths.

- Washes both sides of the same plate
- Wrap-around design minimizes overspray and misting
- Variable number of passes, with up to 1450 psi (100 bar) water pressure
- Wash head speeds up to 4 inches
- Available on both sidebar and overhead style filter presses



### LIGHT CURTAIN

Available for one or both sides of the J-Press filter press, light curtains provide maximum operator safety by stopping all press motion if the infrared light beam is interrupted. Operation does not resume until curtain integrity is reset and the operator presses the restart button.

### SPLASH CURTAIN

Splash curtains help contain liquid that may potentially splash from between filter plates during the fill cycle or during power washing. The vinyl curtains and metal framework typically shield the two sides of the press, but may be customized for other configurations.

### SAFETY GUARD

A wire mesh guard is mounted on the non-operator side of the press to shield personnel who might approach the press from behind during operation.

### DRIP TRAYS

Automatic drip trays provide positive collection of liquids from cloth wicking during press fill or spent water from cloth washing. Available in your choice of painted carbon steel, Nicklad® coated carbon steel or stainless steel.





## SUPPORT SERVICES

### LABORATORY SERVICES—AN INFORMED DECISION IS THE BEST DECISION

Evoqua Water Technologies maintains a fully-staffed, state-of-the-art laboratory for determining the most effective liquid/solids separation techniques for your specific application.

- Feasibility testing of your materials
- Portable pilot units for on-site testing
- Determine the most effective feed pressures, fill times, filter media and sludge conditioning
- Helps you maintain maximum performance of your J-Press® filter press

### PREVENTATIVE MAINTENANCE SERVICES

- Customized for your specific equipment, application, and environment
- Lower maintenance cost and years of worry-free operation

### PARTS AND SERVICE

- Quick and reliable answers to your technical questions
- Troubleshoot your specific requirements
- Fast parts shipments
- On-site service calls
- Service engineers located throughout the world

### REFURBISHMENT SERVICES

- Partial or complete rehabilitation of your equipment to a warranted like-new condition
- Available at your site or ours

### AFTERMARKET SERVICES

- Factory-based customer service support
- Expert technical consulting
- Same-day shipment on many service and spare parts
- Worldwide repair and preventative maintenance services
- Emergency support services
- Equipment retrofits, upgrades, and refurbishments
- Training
- Testing, evaluative and customized services

For more information on our Aftermarket Services, call 616.772.9011.





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