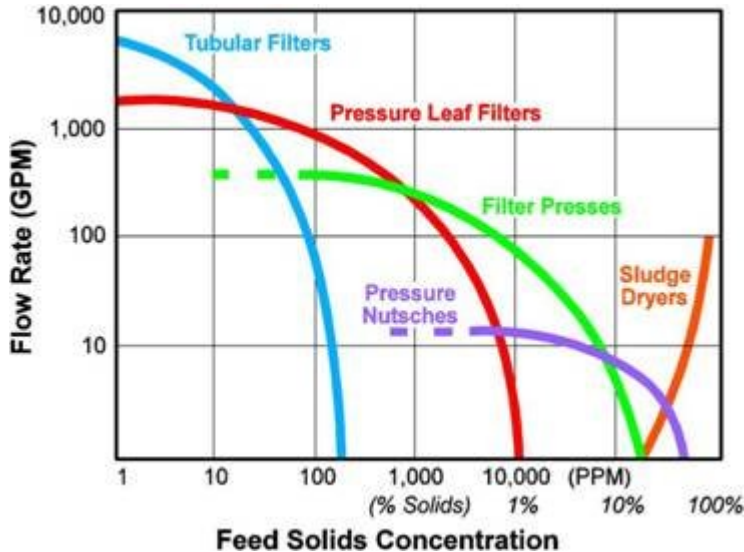


Durco EP Sidebar Filter Press Systems Are Designed For:



- **Cost-Effective Industrial Batch Filtration Application With High Flow Rate Requirements**
- **'Dewatering' Of Aqueous Or Other Sludge/Slurry Process Streams With 3-30wt% Solids Loadings**
- **Highly Reliable, Low Maintenance, Easy Operation In Routine Handling Of Sludges & Slurries**
- **A Wide Range Of Filter Plate Media To Support Your Specific Application**

Durco Also Supplies A Line Of Highly Efficient [Enviro-Dri Sludge Dryers](#)



Durco EP Filter Press Guide:

1. Durco EP Filter Press Construction
2. Durco EP Filter Press Operation
3. EP Filter Plate Shifting Sequence
4. Filter Plates & Typical Applications
5. EP Filter Press Features & Benefits
6. Durco EP Filter Press Options
7. Durco Industrial Filtration Products

Durco [QP Overhead Filter Presses](#) Are Designed For The Most Demanding Industrial Filtration Applications:

[More Information On The Cost Effective Durco EP Sidebar Filter Presses Online](#)
[More Information on the Ultra-Reliable Durco QP Overhead Filter Presses Online](#)
[Download A Printable Durco QP Overhead Filter Press PDF Document](#)

Ascension Industries has purchased & owns all records, drawings, bills of materials and support data for existing: Duriron (DURCO), Aquacare, FSD Filter Presses, Pressure Leaf Filters & Pressure Nutsches, Tubular Filters & Enviro-Dri Sludge Dryers. Ascension is the only authorized supplier of certified DURCO OEM Filters & Filter Parts.

1. Durco EP Sidebar Filter Press Construction

EP Sidebar Filter Press Construction

Durco EP Presses are built to withstand routine handling of various industrial sludges and process solid/liquid slurries.

The Durco EP Filter Press Is Comprised Of The Following Basic Components:

- **Structural Frame** - Structural Steel Frame built to operate at feed pressures up to **225 psi**
- **Stainless Steel Side Bar Caps** - These caps prevent excessive wear during shifting and lifting of filter plates.
- **Hydraulic Open/Closure System** - Standard system comprised of Pneumatic/Oil hydraulic closure system which is self compensating. Automatically adjusts hydraulic cylinder pressure to the process conditions to prevent over stressing of plates.
- **Filter Plates** - Lightweight, chemically resistant polypropylene filter plates are used in all standard Durco EP Filter Presses. Kynar and Nylon filter plates are also available for special chemical and temperature specific applications.
- **Plate Shifting Mechanism (Optional)** - Overhead/single point pickup plate shifting mechanism. Pneumatic plate shifting device is activated by the unique Durco **Shifter Rod Assembly** (Up to 1000 mm size presses). Electric hydraulic plate shifting mechanism uses a hand-held pendant for 1200 mm and 1500 mm presses.



Consider The Following When Specifying Your Durco EP Press:

Capacity Requirements (Contact Durco for sizing assistance)

Feed Pressure Requirements (100 psi or 225 psi)

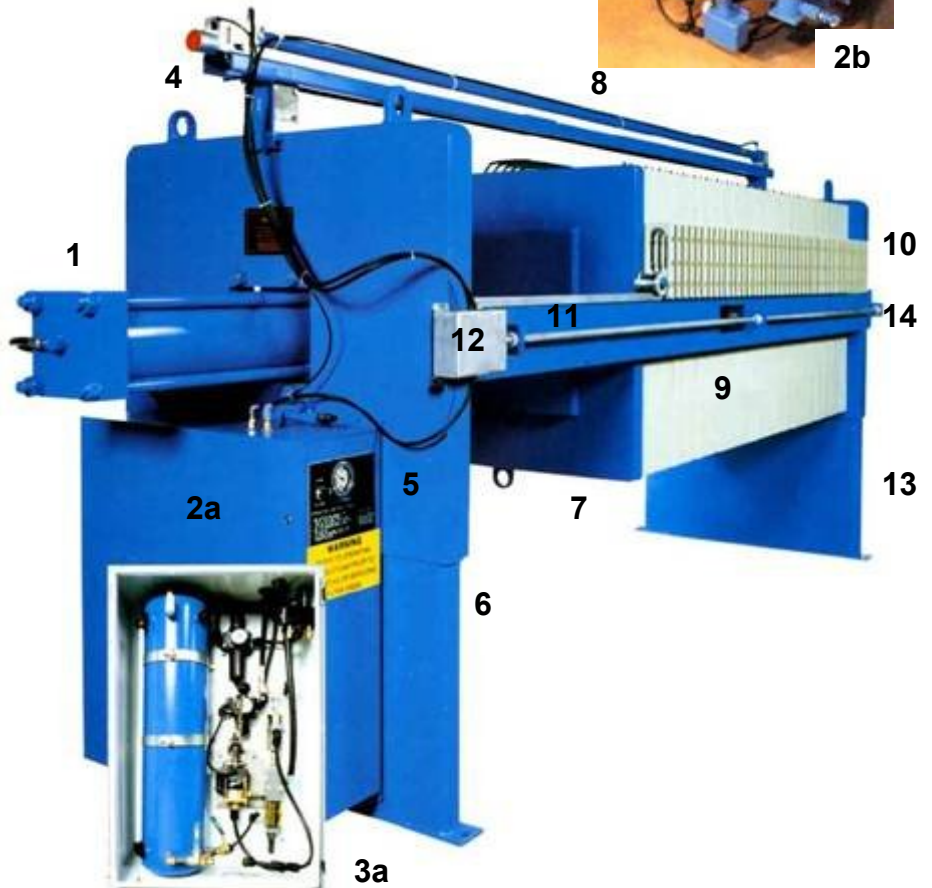
Plate Shifting Requirements (Manual, Semi-Automatic or Fully Automatic)

Method of Cake Disposal (Hoppers, Drums or Conveyors)

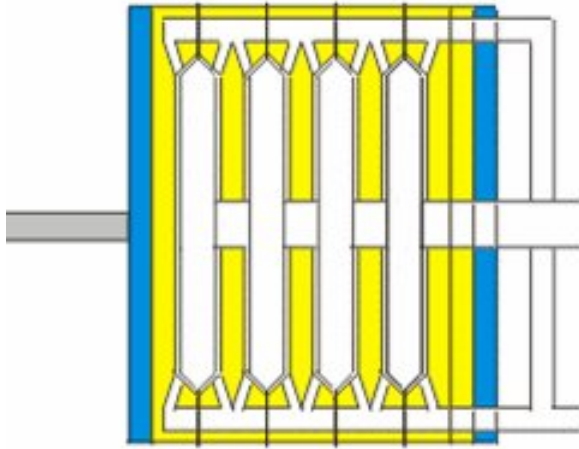
Future Capacity Requirements

Type of Filter Plates Needed

1. Cylinder (HydraulicRam)
- 2a. Hydraulic Enclosure (630 -1000 mm)
- 2b. Hydraulic Base Plate Mount (1200 - 1500 mm)
- 3a. Hydraulic/Pneumatic Closure System (630 - 1000 mm)
- 3b. Hydraulic/Electric/Pneumatic Closure System (1200 - 1500 mm)
4. Lifting Lugs
5. Controls
6. Ram Head
7. Movable Head
8. Optional Overhead Shifter
9. Plate Stack
10. Plate Handles
11. Side Bar
12. Optional Overhead Shifter Control
13. Fixed Head
14. Control Rod for Shifter



2. Durco EP Sidebar Filter Press Operation



Durco EP Sidebar Filter Press Standard Sequence Of Operation

Typical Filter Press Dewatering Operation (See Animated Schematic Online)

- (A) The plate stack is pressurized by a hydraulic ram closure system that extends the movable head to the plate stack. The movable head and the fixed head form the boundaries of the plate stack. As pressure builds on the plate stack, plates come together to form chambers.
- (B) Liquid slurry containing suspended solids is then pumped into the feed inlet of the filter press. The slurry is forced into each chamber of the filter press.
- (C) As the slurry enters each chamber, liquid passes through the filter cloth to channels in the filter plate. This liquid then exits through the discharge ports of the filter plate.
- (D) Suspended solids are captured on the surface of the filter cloths. As the solids build, they provide a medium for further filtration.
- (E) With pressure exerted by the feed pump, solids displace liquid in the chamber. Eventually, a filter cake is formed.
- (F) When maximum pressure is reached, the filter press is vented and the movable head is retracted from the filter plates.
- (G) Filter plates are then separated to allow formed filter cakes to fall into an appropriate cake handling system. Separation of the filter plates can be accomplished either manually or by using an optional semi-automatic plate shifting mechanism.

Semi-Automatic Plate Shifting Provides Improved Safety and Operation

- (A) Unique plate shifting mechanism provides convenient and safe cake discharge from the filter press.
- (B) Overhead plate shifting mechanism allows single point pickup at the top center of the filter plate. This swing-free, overhead design increases operator safety.
- (C) The pneumatically operated shifter pawl assembly is controlled by a shifter rod positioned horizontally along the length of the filter press. This allows the operator to move freely along the length of the filter press without being restricted by a hand-held pendant controller.
- (D) (Not shown) A reversing hydraulic motor operates a center chain driven, single point pick-up pawl on 1200 mm presses and larger. Shifter action is a push button control and powered by the main electro/pneumatic power pack.

Unique Durco Shifter Control ►

The shifter rod operates the shifter assembly.

The assembly can be moved left or right as required.

Releasing the shifter rod stops movement instantly and leaves the rod in a neutral, idle position, thus increasing operator safety.



3. Durco EP Sidebar Filter Press Filter Plate Shifting Sequence

Durco EP Filter Plate Shifting Sequence:



1

Rest Position: Shifter Pawl is in the locked and ready position at the Ram Head of the filter press



2

Shifter Rod is moved slightly in the direction of the first plate causing the shifter assembly to move accordingly.



3

Shifter Pawl moves up and over the first plate handle. Operator returns the shifter rod to the neutral position as the pawl drops behind the first plate handle.



4

The pawl direction is reversed allowing it to engage the plate and move it to the Ram Head end of the press. Repeat steps 2 through 4 until all filter plates have been shifted.



5

Once all filter plates have been shifted, the Shifter Pawl assembly is moved toward the end stop located at the frontal piping end of the filter press.



6

As the Shifter Assembly contacts the end stop, the Pawl lifts up into the assembly in an unlocked position.



7

The assembly is returned to the opposite end of the filter press by moving the Shifter Rod toward the Ram Head end of the press.

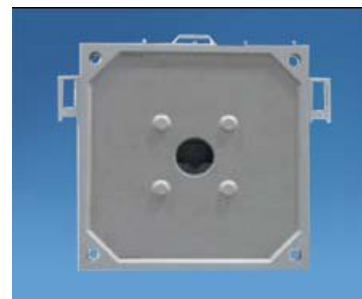


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As the Shifter Assembly contacts the end stop, the Pawl drops back down into the locked position.

4. Durco EP Sidebar Filter Press Available Filter Plates & Typical Applications

Available Filter Plates	
Styles	Available Materials
1. Standard Recessed * 2. Caulked And Gasketed * 3. Recessed Membrane *	4. Polypropylene - lightweight, chemically resistant (standard) 5. Kynar - chemically resistant, broader temperature range than polypropylene 6. Nylon
* Center Feed and Corner Feed filter plates are available	



EP Plate with Hanger

Filter Cloth	(Porosity - Typical Range - 0.1 to 400 CFM)		
Types	Materials	Weaves	
Multi-Filament	Polypropylene	Plain	Laminated
Multi-Mono-Filament	Polyester	Sateen	Twill
Mono-Filament	Nylon	Double	Oxford
	Teflon	Basket	Broken
		Needled	Tripled
		Knit	Honeycomb



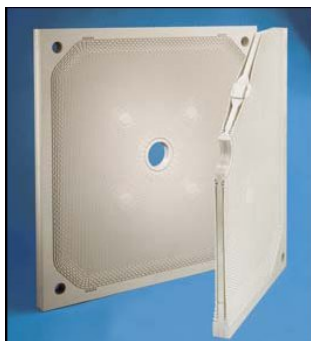
Filter Cloth

Typical Filter Cloth Applications

Metal Hydroxide	Sateen Weave, Multi-Mono Filament
Food and Beverage	Sateen Weave, Mono Filament
Mining	3x1 Double
Chemical	Sateen, Double, Multi-Mono, Multi



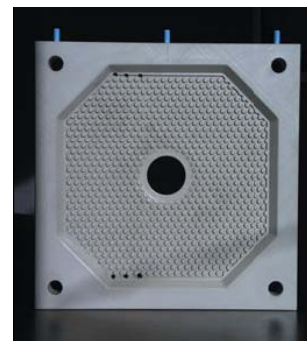
Caulked And Gasketed



Center Feed Membrane Plate



Plate and Frame



Recessed Chamber Plate

5. Durco EP Sidebar Filter Press Features & Benefits

FEATURES

- Manual Hydraulic Closure System
- Electric / Hydraulic Closure System
- Pneumatic Hydraulic Closure System
- Compact Design
- Factory Assembled
- Enclosed Control Cabinet
- Multiple Feed Pressures Up To 225 psi
- Expandable Capacity
- Semi-Automatic Filter Plate Shifter (Optional)
- Complete Systems

BENEFITS

- For Applications Where Utilities Are Not Readily Available ☐
- For Heavy or Sticky Cake Applications
- Ideal For Explosion-Proof Requirements ☐
- For Limited Space Or Portable Applications ☐
- Low Installation Cost ☐
- Easy Maintenance ☐
- Multiple Solutions For Multiple Problems ☐
- Low Cost Future Production Capacity ☐
- Improved Safety and Operation ☐
- Single Source Supply

6. Durco EP Sidebar Filter Press: Available Options

- **Cake Chutes**
- **Bomb-Bay Door Style Drip Trays**
- **Skids**
 - Including Portable Skids With Pumps, Tanks, Piping...
- **Platforms**
- **Cake Disposal Systems**
 - Drum, Hopper, Dumpster, Truck, Conveyor
- [Durco Enviro-Dri Sludge Dryers](#)
- **Piping And Valves**
- **Process Automation**
- **Pumps, Tanks, Auxiliary Equipment**
- **Incremental Pump Control Systems**
- [Paint Sludge Dewatering System](#)



"M" Stamp

Codes: ASME Sec. VIII, Division I (U and R Stamps)
China Code "M" Stamp

*Contact A Durco Filtration Expert To Discuss Your
Filtration / Filter Press Requirements*



U & R Stamp

7. Durco Industrial Filtration Product Lines

[Pressure Leaf Filters](#)

[Tubular Backwashing Filters](#)

[Pressure Nutsches](#)

[Filter Presses](#)

[Sludge Dryers](#)