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Filter Press Quick Start Guide

This guide is intended to help operator with basic filter press operating instruction. See opposite side for off-loading procedure. IOM manual should be consulted for more detailed instructions and specifications.

OPERATION

To Close Filter Press

1. Connect air supply to filter press.
2. Turn AIR SUPPLY switch ON; line air pressure registers on gauge.
3. Turn OPEN-CLOSE-CLAMP selector switch to CLOSE position; hydraulic cylinder extends, closing the press.
4. With ram fully extended, turn OPEN-CLOSE-CLAMP selector switch to CLAMP position. The hydraulic pump engages, reaching the required clamp pressure on hydraulic gauge, indicated by red line. Leave switch in CLAMP position when press is in operation
   a. If specified hydraulic clamp pressure is not reached, see IOM Manual before proceeding.
5. Open inlet valve and start feed pump. Air diaphragm feed pump cycling slows as press fills. With press completely filled, feed pump stalls.
6. Turn off feed pump by shutting off its air supply.
7. Air blow: air supply pressure is 40-60 PSI.
   a. Position valves as shown in the table below.
   b. Allow air to blow through the press for approximately 5-15 minutes.
   c. Close air blow inlet (valve A)
   d. Open all valves on discharge manifold. Leave slurry inlet (valve D) closed. This allows gravity drainage of press (approximately two minutes). The press may now be opened.

To Open Filter Press

1. Verify feed pump has been turned off, and pressure within the filter plate stack has been bled.
2. Verify AIR SUPPLY switch is in the ON position.
3. Turn OPEN-CLOSE-CLAMP switch to OPEN position. Hydraulic cylinder retracts, opening the press.
4. With press open, turn AIR SUPPLY switch to OFF position.
5. Shift the filter plates. NOTE: New gaskets have a tendency to stick. Use care in separation of plates to prevent damage when first put into service.
6. Use the non-abrasive paddle furnished with the filter press to remove any cake that has not fallen free.
7. Failure to thoroughly clean the plates can cause filter plate cracking due to unbalanced pressure build up.
8. All cake should be cleaned from sealing surfaces.
9. With the plates thoroughly cleaned, the press is ready to be closed.

CAUTION: Care should be taken to never interrupt slurry flow to the press during the feed cycle. If flow to the filter press is interrupted, it is recommended that the feed pump be restarted at a low pressure for 5 to 10 minutes before slowly increasing the feed pressure. When the feed to the press is interrupted, the solids within the chambers have a tendency to fall from the sides of the chamber and settle to the bottom, possibly blocking the center feed hole. Restarting with high feed pressure does not give the sludge time to re-soften and distribute itself in the chamber. Blockage of the center feed can cause uneven pressure build up and result in plate breakage.

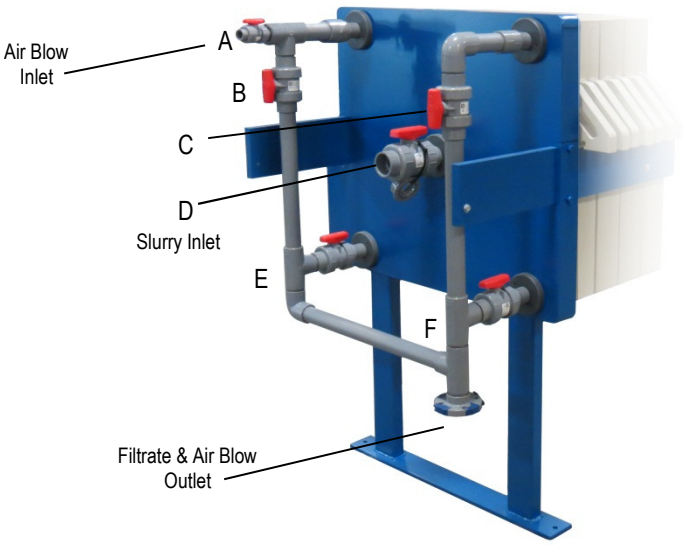
MANIFOLD VALVE POSITIONING

Process	Open Valves	Closed Valves
Even Fill	B, C, D	All Others
Feed	B, C, D, E, F	All Others
Air Blow	A, F	All Others

The standard manifold configuration is known as “Air Blow – Even Fill”.

Even Fill includes a valve on each lower discharge port that may be closed during feeding of the press to force chambers to completely fill with slurry prior to filtrate discharge.

Air Blow blows air back through the top left corner and discharges at the bottom right corner, same place as filtrate. Air blow removes free water from within the filter plate stack and improves cake release from the filter cloths.



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Filter Press Quick Start Guide

This guide is intended to help operator with immediate filter press receiving, installation, and basic operation instructions. IOM manual should be consulted for more detailed instructions and specifications.

FILTER PRESS RECEIVING AND HANDLING INSTRUCTIONS

Inspect all equipment immediately upon receipt. If any damage occurred during shipping, notify the shipper and the carrier for claims inspection.

CAUTION: Be sure all lifting devices have sufficient capacity to lift the filter press.
CAUTION: Always use qualified riggers and appropriate equipment when lifting and moving the filter press.
DANGER: Never stand beneath the filter press when lifting or moving.

Recommended Off-Loading Procedure

There are two methods of lifting an M.W. Watermark filter press. If equipped, the use of lifting straps around the sidebars (Figure 1); a spreader bar is also recommended. For presses larger than 1000mm, the use of shackles and provided lifting eyes is recommended.

Figure 1: Press Rigging Using Sidebars 800mm and Smaller Presses

Alternate Off-Loading Procedure *(800mm and smaller)*

If appropriate rigging equipment is not available for overhead lift, a forklift can be used to lift and transport a filter press 800mm and smaller. The filter press has been shipped in the clamped position to hold the filter plates during shipping. Un-clamp using the press hydraulic controls (compressed air may be required, see instructions on next page) to retract the cylinder. Slide the filter plates toward the retracted follower to allow room for a fork from the lift truck. Pick up the filter press from under the side bars as shown in Figure 2. 630mm filter presses equipped with semi-automatic plate shifters may require the use of wood blocks beneath the sidebars to ensure the forklift tines do not bend the shifter rails. Be sure to lift near the center of the filter press to prevent the press from tipping. Verify load balance before moving the press.

Figure 2: Lifting Press with Fork Lift

Mounting and Leveling the Filter Press:

1. Place the filter press on the foundation and level the filter press horizontally and vertically.
2. Confirm the filter press is square by measuring diagonally from footpad to footpad. If diagonal measurements do not match, consult IOM manual or call M.W. Watermark for information on realignment.
3. Tighten the head leg bolts.
4. Install the plates if they were shipped out of the filter press.
5. Close the filter press and clamp it to full operating pressure.
6. Prior to connecting field piping to the filter press, verify all lock nuts on the feed and discharge liner pipes are tight.

NOTE: The filter press frame will move slightly as the press is clamped. To allow for this, during installation, bolt the manifold end of the press securely and allow the hydraulic cylinder end of the press to "float" by using a hex nut with a jam nut. This helps ensure even movement and loading of the filter press structure.

FILTER PRESS FEED / DISCHARGE / AIR CONNECTIONS

	Description	SCFM	Air Quality	PSI	Minutes
A	Air Hydraulics	3	Instrument	100	2-3
B	Air Blow	*	Standard	40	5-15
C	Shifter	3	Instrument	40	Intermittent
D	Slurry Inlet	-	-	-	-
E	Filtrate / Air Blow Outlet	-	-	-	-

*For air blow SCFM, see IOM manual.
Standard Plant Quality Air: Maximum Particle Size 40µm.
Instrument Quality Air: ANSI/ISA-S7.0-1996
Air shall be free of all corrosive contaminants and hazardous substances.