

TROUBLESHOOTING

NOTE: This troubleshooting guide gives general mechanical diagnostic guidelines. Use the following general guidelines for diagnosing electrical problems.

For Discrete Electrical Devices:

1. Check that the main power is on.
2. Check that all "Emergency Stop" buttons are reset.
3. Check fuse or circuit breaker.
 - If fuse is okay, proceed to step 4.
4. Insure remote device has proper electrical signal (example valve).
 - a. Check remote device input voltage.
 - If voltage is acceptable, device is at fault and needs repair or replacement.
 - If voltage is not acceptable, continue to step 5.
5. Inspect signaling device in main control panel (example: relay).
 - a. Check signaling device output voltage.
 - If signaling device is sending proper signal, system wiring is at fault.
 - If signaling device is not giving proper signal, signaling device is at fault.

For Analog Electrical Devices:

Pressure sensors and current to pressure (I/P) transducers require a thorough understanding of their operation for proper diagnostics. If you are not familiar with these devices, please consult the Siemens Electrical Controls Department for assistance.



WARNING: Alteration of wiring or electrical devices is prohibited without express written permission of Siemens®! Unauthorized changes to Siemens controls may result in:

- Poor process performance.
- Severe damage to the machinery.
- Personal Injury.

Any changes to the controls without written permission of the Siemens Electrical Controls Department nullifies any warranty.

HYDRAULIC POWER UNIT (M-71 Block)

(Reference Drawing # 13341800 in the Drawings Section of this manual)



CAUTION

When troubleshooting hydraulics, insure that the press has been properly "LOCKED OUT" (See Section 3 page 3 in manual). The Follower should be opened until it is no longer against the plate stack, and the handle turned to the "STOP" position to insure that all hydraulic and air pressure has been vented.

| TROUBLE | PROBABLE CAUSE | REMEDY |
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| Hydraulic Cylinder Extends Slowly | <ol style="list-style-type: none"> 1. Insufficient air supply. 2. Plugged Oil Filter Cartridge. 3. Faulty Check Valve. | <ol style="list-style-type: none"> 1. Insure air supply (A1) is at 80-100psi [5.5-6.9 bar] with 25-30 scfm [0.71-0.85m³/min. 2. Remove Oil Filter Hex Cap (1 1/2" filter) & Filter Cartridge. View inside of Filter Cartridge for foreign material. If filter appears plugged, replace filter & change hydraulic fluid in reservoir. 3. Remove Check Valve (CV), view inside the end of the valve for any obvious debris & push on the Check Valve to make sure that it moves smoothly. The Check Valve should move inward approximately 0.12 inch [3mm]. Check O-rings for wear. |
| Hydraulic Cylinder Will Not Extend | <ol style="list-style-type: none"> 1. Physical Obstruction. 2. Lack of Air. 3. Low Hydraulic Oil level. 4. Plugged Oil Filter Cartridge. 5. Faulty Hand Valve (No Pressure on Orange Line). 6. Faulty Check Valve. | <ol style="list-style-type: none"> 1. Carefully check the Plate Stack and perimeter of the Follower for any objects that may have fallen in their path. 2. Insure air supply (A1) is at 80-100psi [5.5-6.9 bar] with 25-30 scfm [0.71-0.85m³/min. 3. Check Hydraulic Oil Reservoir. Level should be at check level with follower completely retracted. 4. Remove Oil Filter Hex Cap (1 1/2" filter) & Filter Cartridge. View inside of Filter Cartridge for debris. If filter appears plugged, replace filter & change hydraulic fluid in reservoir. 5. With Hand Valve in "STOP" position, remove Orange Line from Hand Valve. With air pressure supplied to the machine, turn switch to "Close" position. If no air comes out, Hand Valve is faulty. Replace Hand Valve. 6. Remove Check Valve (CV), view inside the end of the valve for any obvious debris & push on the Check Valve to make sure that it moves smoothly. The Check Valve should move inward approximately 0.12 [3mm]. Check O-rings for wear. |
| Hydraulic Cylinder Will Not Return | <ol style="list-style-type: none"> 1. Hand Valve faulty. No pressure on Blue Line. 2. Faulty Decompression Valve if hydraulic pressure does not drop at all. 3. Faulty Release Valve. | <ol style="list-style-type: none"> 1. With Hand Valve in "Stop" position, remove Blue Line from back side of Hand Valve; turn Hand Valve to "OPEN". If no air comes out, Hand Valve is faulty Replace Hand Valve. 2. Replace Decompression Valve (DCV). 3. Replace Release Valve (RLSV). |

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| System Will Not Build Pressure | <ol style="list-style-type: none"> 1. Faulty Check Valve. 2. Faulty Release Valve. 3. Improperly set/faulty Relief Valve. | <ol style="list-style-type: none"> 1. Remove Check Valve (CV), view inside the end of the valve for any obvious debris & push on the Check Valve to make sure that it moves smoothly. The Check Valve should move inward approximately 0.12" [3mm]. Check O-rings for wear. 2. Remove Release Valve (RLSV) & view the inside of the end for any obvious debris. Push in on the stem. If the stem moves inward, then it was stuck in its open position & may need replacing. 3. Insure Relief Valve (RV) is set properly; refer to Section 4 "Hydraulic Power Unit". Remove Relief Valve (RV) and visually inspect O-rings for wear & for debris that may cause valve to stick slightly open. |
| Haskel Pump Will Not Build Pressure | <ol style="list-style-type: none"> 1. Lack of Air. 2. Faulty Air Regulator. 3. Faulty Hydraulic Pump. | <ol style="list-style-type: none"> 1. Insure air supply (A1) is at 80-100psi [5.5-6.9 bar] with 25-30 scfm [0.71-0.85m³/min]. 2. Replace Regulator (AREG) 3. Replace Pump (P1) |
| Loud Bang When Cylinder Begins to Return | Faulty Decompression Valve. | Replace Decompression Valve (DCV) |
| Excessive Oil Running Out of Exhaust Filter/Reclassifier | <ol style="list-style-type: none"> 1. Overfilled Hydraulic Reservoir. 2. Failure of Hydraulic Cylinder Cup Seals. 3. Failure of Release Valve, or Decompression Valve. | <ol style="list-style-type: none"> 1. Inspect Hydraulic Reservoir sight gauge with cylinder COMPLETELY retracted and add or drain necessary oil. 2. Contact Siemens Service Department (Section 1 in manual). 3. With no pressure to system, remove blue air line from Decompression valve. If any oil is present, one of the two components has failed. Remove each component and inspect. |

RECESSED CHAMBER PLATES (Gasketed)

| TROUBLE | PROBABLE CAUSE | REMEDY |
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| Plate breakage. | <ol style="list-style-type: none"> 1. Clogged feed ports. 2. Irregular pumping of feed pumps. 3. Short batches with insufficient solids. 4. Solids build up in plate drainage areas reducing flow to outlet. Plugged or partially plugged outlet. 5. High velocity constant pressure/flow pumps such as progressive cavity pumps used for | <ol style="list-style-type: none"> 1.a Remove excess slurry remaining in feed eyes using a nylon cleaning spatula. 1.b Do not stop feed in mid-cycle. <ol style="list-style-type: none"> 2. Check pump to insure adequate pumping capacity and discharge pressure. Restart pump at a very low pressure and gradually build pressure. 3. Have enough slurry available to complete the filter cycle, or obtain a back-up plate to shorten the cycle. 4. Inspect plate drainage areas behind cloths frequently. Some cloths may allow more |

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| | <p>feeding sludge to the press may cause breakage due to velocity shock on one side of the plate.</p> <p>6. Improper use of back-up plate.</p> <p>7. Pressure Loading of plates- feed valve is closed when the feed pump is started, or outlet valves are closed when the feed pump is started.</p> <p>8. Careless handling of plates.</p> | <p>solids to pass through than other style cloths (consult Siemens). Unplug and clean outlet.</p> <p>5. Use pumps with a pressure/flow curve corresponding to the filtration curve of the material being filtered.</p> <p>6. Place back-up plate directly behind tail plate. Do not use tail plate alone to shorten chamber size.</p> <p>7. Open all valves before starting feed pumps.</p> <p>8. Handle plates carefully. Do not drop on side bars during installation or cleaning.</p> |
| Water leaks out between plates. | <p>1. Gaskets loose or torn.</p> <p>2. Low hydraulic pressure.</p> <p>3. Wrinkle or hole in filter cloth.</p> <p>4. Filter cake present in sealing surface.</p> | <p>1. Reinstall or replace.</p> <p>2. Increase to required pressure.</p> <p>3. Replace filter cloth.</p> <p>4. Use nylon cleaning spatula to remove cake from sealing surface.</p> |
| Filter cloths pull out of grooves during operation. | A full cake was not developed before wash or blowdown, causing cloth to be pushed out of the caulking groove. | Be sure chambers are completely full before wash or blowdown. The filter cake will then support the cloth. |
| Filter cloths pull out of grooves during operation, even though full cakes are being built. | Improper size sash cord for cloth or application. | Future cloths should be made with a slightly larger sash cord. Contact Siemens for recommendations. |

PRECOAT

| TROUBLE | PROBABLE CAUSE | REMEDY |
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| Cloudy filtrate. | Insufficient quantity of precoat added to press. | Need dosage rate of 0.1 lb/ft ² [1225 g/m ²] filtration area. |
| Uneven distribution of precoat (if applicable). | <p>1. Flow rate too low.</p> <p>2. Stopped precoat pump before starting feed pump (precoat falls to bottom of chamber).</p> <p>3. No precoat manifold.</p> | <p>1. Need 0.25 to 0.5 gal/min/ft² [31 to 61 l/min/m²] per square foot of filtration.</p> <p>2. Start feed pump before stopping precoat pump.</p> <p>3. Contact Siemens or local sales representative.</p> |

FILTRATION CYCLE (General Information)

| TROUBLE | PROBABLE CAUSE | REMEDY |
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| Solids in Filtrate. | <p>1. Holes in filter cloths.</p> <p>2. Filter cloth in head plate improperly installed.</p> | <p>1. Replace filter cloths. Be careful when scraping cake- sharp edges may tear cloth.</p> <p>2. Replace.</p> |

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| | <ol style="list-style-type: none"> Filter cloth sash cord out of groove in gasketed plates. Incorrect filter cloth for application. Change in feed characteristics. | <ol style="list-style-type: none"> Clean groove and drainage surface behind cloth and reinstall. Consult Siemens. Submit sample for testing. Consult Siemens. Submit sample for testing. |
| No filter cake formed (very little flow). | <ol style="list-style-type: none"> Material not amenable to pressure filtration. Filter cloths blinded from polymer, oils, fine particulate, too high initial flow. Feed pump, feed line, or suction line plugged. | <ol style="list-style-type: none"> Consult Siemens. Submit sample for testing. Clean or replace filter cloths. Clean as needed. |
| Partial filter cake formed (firm on edges, liquid in center). | <ol style="list-style-type: none"> Material not amenable to pressure filtration. Too low air pressure to feed pump (if air driven). Pump located below or too far away from filter press. Filter cloths partially blinded from -polymers, oils, and fine particulates. Ran out of feed material. Premature termination of cycle. Bodyfeed dosage too low, or inadequate pretreatment. | <ol style="list-style-type: none"> Consult Siemens. Submit sample for testing. Increase air pressure to maximum rating of filter press (last stage). Relocate pump next to filter press. Clean or replace filter cloths. Wait until more feed material is available or obtain backup plate. Allow longer time period between pump strokes at high pressure. Increase bodyfeed dosage or re-evaluate treatment. |
| Uneven filter cake formation. | <ol style="list-style-type: none"> Clogged feed eye. Plugged drainage surfaces or drain ports. Filter cloths partially blinded. Flow rate too low. Stopped feed pump during cycle and then restarted (filter cake slumps blocking feed eye). | <ol style="list-style-type: none"> Clean at end of every cycle. Remove cloth and clean. Clean or replace filter cloths. Increase air pressure or pump size. Restart pump at low pressure and gradually build pressure. |
| Cycle time too long. | <ol style="list-style-type: none"> Too low of solids in feed slurry. Dewatering characteristics of feed material. Filter cloths partially blinded. Feed pump undersized- Too low of flow rate. Too low or air pressure to feed pump (if air drive) Filter press oversized. | <ol style="list-style-type: none"> Concentrate/thicken solids in feed material. Add filter aid or evaluate treatment alternatives. Clean or replace filter cloths. Replace with larger pump. Increase air pressure to maximum rating of filter press. Wait until more feed material is available before running cycle, or obtain backup plate. |

AUTOMATIC PUMP CONTROL SYSTEM (NEMA4)

| TROUBLE | PROBABLE CAUSE | REMEDY |
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| Pressing the "Start" button will not start a cycle. | <ol style="list-style-type: none"> Insufficient air supply to system. Press not properly clamped | <ol style="list-style-type: none"> Insure 100 psi [6.8 bar] system pressure. Follow press closing procedure for proper operation. |
| Pump stops in mid cycle- "Low Hydraulic Pressure" light illuminated. | <ol style="list-style-type: none"> Air supply pressure dropped and clamping force lost. Press closure switches in wrong position. | <ol style="list-style-type: none"> Insure 100 psi [6.8 bar] system pressure. Insure press is properly closed and clamped. |

