

Kansas City Deaerator
C O M P A N Y

DEAERATOR TROUBLESHOOTING

| Symptom | Possible Causes | Comments or Possible Solutions |
|---------------------------------------|--|---|
| High O² | Air in-leakage Insufficient stabilization period Trays not installed properly and in place Not steady state conditions O ² inlet not in accordance with specified designed conditions Spray valves not installed correctly Water inlet temperature too low Improper venting Incorrect testing Operation outside of design conditions | Loose fittings Shut scavenger off Remove chemical interferences Verify design conditions |
| Excessive Pressure Fluctuation | Steam PRV improperly sized or calibrated Improperly sized downcomer and equalizer Inlet steam pressure too high or too low Excessive inlet temperature variation Heater flooding | Check size and calibration Keep within design range Check all valve and control settings |
| Low Outlet Temperature | Incorrect Thermometer reading Insufficient steam flow Incorrect steam/water ratio Spray valves or internals malfunctioning Heater flooding Inlet flow piped incorrectly | Check calibration Check steam supply Check for restrictions Check Pipe and valve sizing Check heat and mass balances Check spray valves, trays, etc. Check all valve and control settings Check all inlet flows and temperatures |
| Water Hammer | Inlet flows mixing just prior to Deaerator inlet Improper pipe design High inlet velocities | Mix flows farther upstream of Deaerator Check and/or redesign Keep within HEI |
| High CO² | High CO ² at inlet High pH Improper venting | Verify CO ² design condition Lower pH Review vent system |

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| Tray Upsets | Tray hold down not secure Turbine trip Flashing | Install correctly Gradual increase/decrease of controlled flows |
| Unexpected Storage Tank Level Excursions | Malfunctioning level control system Malfunctioning overflow or improper boiler feed pump operation Pressure fluctuations | Check setting and system operation Check overflow level and boiler feed pump operation See pressure fluctuations above |
| Water Out of Vent | Cracked vent welds Improper vent piping Water carryover | Repair or redesign Should be as short and as vertical as possible Reset vent flow |
| Iron Oxide in Deaerator | Condensate or system corrosion Frequent shutdowns High O ² | Keep positive pressure on Deaerator See High O ² section above |
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If you have questions or comments on this troubleshooting document, you may contact us via email at inquiries@deaerator.com or 913-338-2111 (voice), 913-338-2144 (fax). You can also reach us regarding Deaerators, field service and sales.

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