

CONDENSER LEAKAGE MONITORING SYSTEMS (CLMS)



The ability to sense a condenser tube or tube sheet leak is critical for maintaining cycle purity in the power plant. Monitoring the entire condenser is normally done at the discharge of the condensate pump, but a more precise technique is to sample within the condenser itself. Rather than shutting down the entire condenser to search for a leak, a more efficient method for monitoring your condenser may be to consider **WATERS CONDENSER LEAKAGE MONITORING SYSTEM**. A CLMS can provide constant surveillance of the condenser to detect when and where infiltration of the external cooling water supply is occurring.

Many hotwell-sampling devices in the past had difficulty delivering linear, low flow samples from the kind of conditions found within a typical surface condenser. Waters improved condenser sampling by utilizing magnetic drive gear pump technology to ensure uninterrupted sample flow.

Choose from a wide variety of options to make your CLMS as basic or as automated as you like. Add on-line instrumentation and get the ultimate protection in condenser sampling.

STANDARD SPECIFICATIONS

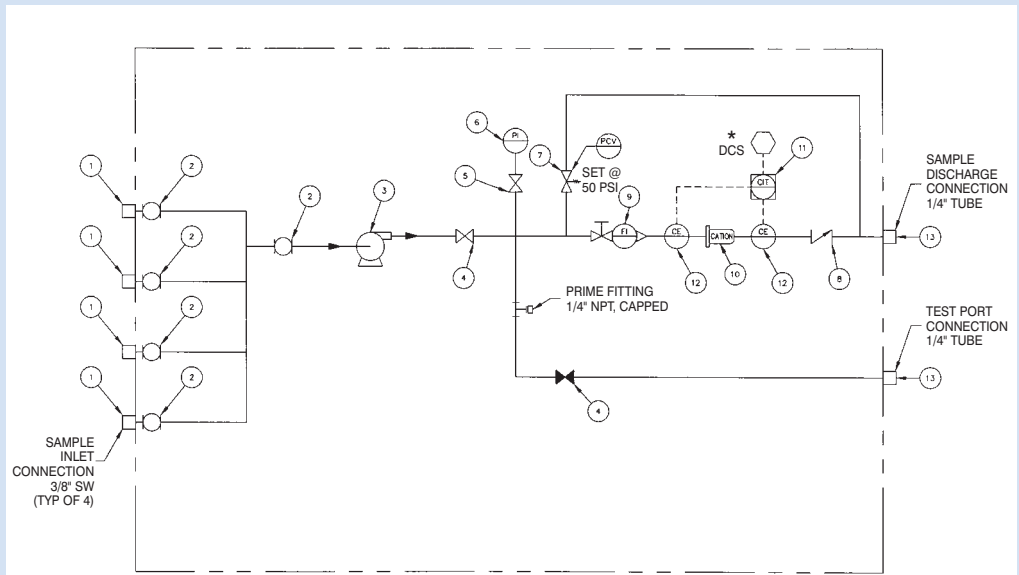
- ❑ **PUMP HEAD:** Magnetic Gear, 316SS
- ❑ **POWER:** 120/240 VAC 1ph
- ❑ **TUBING:** SA213-TP316
- ❑ **VALVES:** Swagelok inlet ball, outlet globe, relief and check
- ❑ **FLOW RATES:** 2800 CCM @ 35 PSIG
1200 CCM @ 40 PSIG
- ❑ **SKID:** Carbon Steel, Painted
- ❑ **ELECTRICAL CONTROLS:** NEMA 4
- ❑ **CONNECTIONS:**
Inlet: 3/8" Socket Weld
Return: 1/4" Tube Compression
Grab: 1/4" Tube Compression

OPTIONAL FEATURES

- ❑ **MULTIPLE SAMPLES:** Manual or automatic sequencing of multiple inlets.
- ❑ **REDUNDANT PUMP:** Provides 100% backup in the event the primary pump fails. Manual or automatic switchover is available.
- ❑ **ON-LINE ANALYZERS:** For continuous monitoring of critical parameters.
- ❑ **REMOTE OPERATION:** Available with either remote start-stop or automatic sequence selection.
- ❑ **TEMPERATURE CONDITIONING:** Includes small capacity sample cooler and air-cooled chiller if local supply of cooling water is not available.

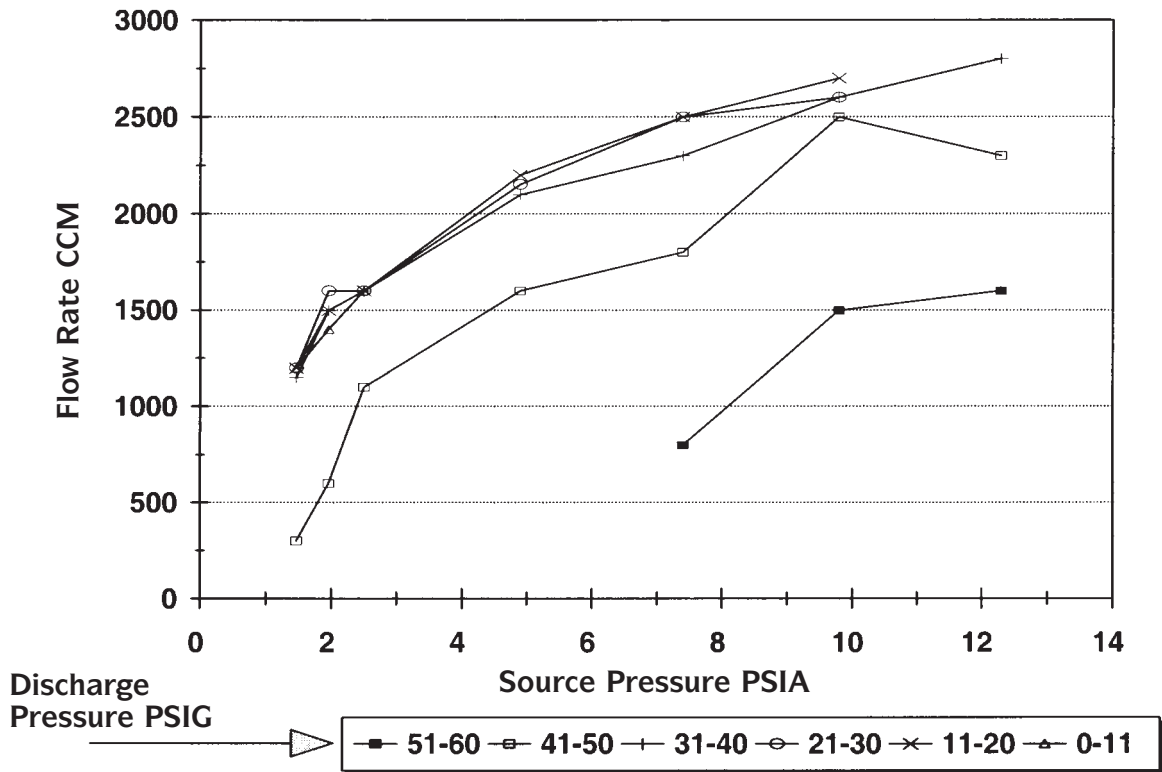
TYPICAL OPERATING FEATURES

1. Inlet connection, typical 3/8" SW
2. Inlet isolation valve
3. Magnetic gear pump
4. Throttling, grab sample valve
5. Pressure gauge isolation valve
6. Pressure gauge, 0–100 psig / 0–700 kPa
7. Pressure relief valve, set @ 50 psi
8. Check valve
9. Flow meter, 20–240 ccm
10. Cation column, 650 cc capacity
11. Dual channel conductivity analyzer
12. Conductivity cells
13. Discharge and grab sample ports, 1/4" tube compression



CONDENSER LEAKAGE MONITORING SYSTEM ASSEMBLY

FLOW RATE VS. SOURCE PRESSURE (Grouped by Discharge Pressure)



The Waters Equipment expertise goes beyond Condenser Leakage Monitoring Systems. We also design and manufacture:
 Total Plant Water & Steam Analysis Systems • Sample Coolers • Pressure Reducers • Grab Sample Stations • Multi-Stream Sequencers
 Cooling Water Isolation Skids • Refillable Resin Cartridges • Hi-Temp Shut-Off Valves & Modules
 Portable Samplers • Sample Conditioning Modules



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