



Cooling System Performance Checklist

System Overview & Documentation

Initial assessment of system details and available documentation. Verifies basic system information and ensures operational records are accessible.

System Name/Identifier

System Capacity (tons/kW)

Date of Last Major Overhaul

Brief System Description (age, make, model, configuration)

System Schematic/P&ID

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Cooling System Type (e.g., Chilled Water, Direct Expansion)

- ☐ Chilled Water
- ☐ Direct Expansion (DX)
- ☐ Absorption
- ☐ Other

Relevant Operating Procedures/Maintenance Schedules available?

Write something...

System Status (Operational, Standby, Out of Service)

- ☐ Operational
- ☐ Standby
- ☐ Out of Service

Chiller Performance

Detailed checks related to chiller units including efficiency, temperatures, pressures, and operational status.

Chilled Water Supply Temperature (°F)

Enter a number...

Chilled Water Return Temperature (°F)

Enter a number...

Condenser Water Supply Temperature (°F)

Enter a number...

Condenser Water Return Temperature (°F)

Enter a number...

Chiller Power Consumption (kW)

Enter a number...

Entering Refrigerant Pressure (PSI)

Enter a number...

Leaving Refrigerant Pressure (PSI)

Enter a number...

Chiller Operational Mode

- ☐ Normal
- ☐ Standby
- ☐ Emergency

Notes/Observations regarding chiller operation

Write something...

Cooling Tower Performance

Inspection and evaluation of cooling tower operations, focusing on water quality, fan efficiency, and structural integrity.

Cooling Tower Water Inlet Temperature (°C)

Enter a number...

Cooling Tower Water Outlet Temperature (°C)

Enter a number...

Cooling Tower Water Flow Rate (GPM/LPM)

Enter a number...

Cooling Tower Fan Speed (RPM)

Enter a number...

Water Treatment Type

- ☐ Chemical Treatment
- ☐ UV Treatment
- ☐ Other

Observations Regarding Water Quality (Clarity, Color, Odor)

Write something...

Condition of Cooling Tower Fill

- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Poor

Photo of Cooling Tower Basin and Fill

 Upload File

Last Water Treatment Log Review Date

Enter date...

Pump Performance

Assessment of pump efficiency and condition, focusing on flow rates, pressures, and signs of wear.

Pump Discharge Pressure (PSI)

Enter a number...

Pump Suction Pressure (PSI)

Enter a number...

Pump Flow Rate (GPM)

Enter a number...

Pump Motor Current (Amps)

Enter a number...

Pump Noise Level (Qualitative)

- ☐ Normal
- ☐ Slightly Elevated
- ☐ Elevated
- ☐ Abnormal

Pump Vibration (Qualitative)

- ☐ None
- ☐ Slight
- ☐ Moderate
- ☐ Severe

Observations/Notes on Pump Performance

Write something...

Last Pump Maintenance Date

Enter date...

Refrigerant Management

Checks related to refrigerant levels, leaks, and compliance with environmental regulations.

Refrigerant Type (GWP Value)

Enter a number...

Current Refrigerant Charge (lbs/kg)

Enter a number...

Refrigerant Leak Rate (lbs/kg/year)

Enter a number...

Leak Detection Method Used

- ☐ Electronic Leak Detector
- ☐ Soapy Bubble Test
- ☐ Ultrasonic Leak Detector
- ☐ None

Last Refrigerant Level Check Date

Enter date...

Description of Any Refrigerant Leak Events (Date, Location, Repair)


Write something...

Refrigerant Handling Procedure Followed?

☐ Yes

☐ No

Upload Refrigerant Handling Log (if applicable)

 Upload File

Distribution System (Air & Water)

Evaluation of air handling units (AHUs) and water distribution piping for leaks, insulation, and airflow/water flow issues.

Air Handler Supply Air Temperature (degF)

Enter a number...

Air Handler Return Air Temperature (degF)

Enter a number...

Water Chiller Supply Temperature (degF)

Enter a number...

Water Chiller Return Temperature (degF)

Enter a number...

AHU Fan Speed (%)

Enter a number...

Evidence of Water Leaks Observed?

- ☐ Yes
- ☐ No
- ☐ Unsure


Notes on Air Duct Insulation Condition

Write something...

AHU Drain Pans Clear and Functioning?

- ☐ Yes
- ☐ No
- ☐ N/A

Upload Photo of AHU Condensate Drain Line

 Upload File

Control System & Instrumentation

Review of the control system's functionality, sensor calibration, and alarm settings.

Chiller Entering Water Temperature (EWT)

Enter a number...

Chiller Leaving Water Temperature (LWT)

Enter a number...

Cooling Tower Water Temperature (CWT)

Enter a number...

Differential Pressure Across Air Filters (in)

Enter a number...

Control System Software Version

- ☐ Version 1.0
- ☐ Version 1.1
- ☐ Version 1.2
- ☐ Version 1.3
- ☐ Other - Specify in Long Text

Notes on control system behavior/issues (if any)

Write something...

Date of last control system calibration

Enter date...

Which alarms are currently active?

- ☐ High EWT
- ☐ Low LWT
- ☐ Pump Failure
- ☐ Refrigerant Leak
- ☐ None

Safety & Environmental Compliance

Verification of safety protocols and compliance with relevant environmental regulations.

Refrigerant Leak Detection System Test Results (ppm)

Last Refrigerant Leak Repair & Documentation Date

Refrigerant Type in Use?

- ☐ R-22
- ☐ R-134a
- ☐ R-410A
- ☐ R-1234yf
- ☐ Other (Specify)

Description of any recent environmental concerns or incidents related to the cooling system

SDS (Safety Data Sheet) for refrigerants readily available?

☐ Yes

☐ No

Cooling Tower Blowdown Temperature (degrees F)

Enter a number...

Proper signage displayed regarding refrigerant hazards?

☐ Yes

☐ No

Details of any training provided to personnel handling refrigerants or working near the cooling system

Write something...