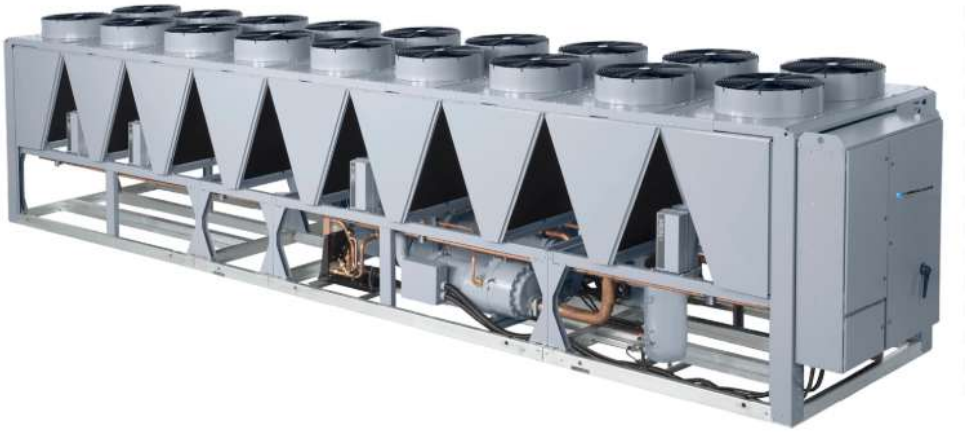
METHOD STATEMENT

FOR

INSTALLATION

OF



AIR-COOLED (SCREW COMPRESSOR) CHILLER

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Method Statement for Installation of Air-Cooled Screw Compressor Chiller

1.0 PURPOSE

To describe the method and procedures to be followed for the proper installation, testing, and commissioning of Air-Cooled Screw Compressor Chiller Units as per project specifications, manufacturer recommendations, and safety standards.

2.0 SCOPE

This method covers the equipment handling, installation, alignment, electrical connections, piping, testing, and commissioning of Air-Cooled Screw Chillers at the designated project site.

3.0 REFERENCES

- Project Specifications and Drawings
- Manufacturer's Installation Manuals
- ASHRAE Guidelines
- SMACNA Standards
- Local Authority Regulations
- Safety Standards (OSHA or relevant local HSE regulations)

4.0 DEFINITIONS

- AHU – Air Handling Unit
- BMS – Building Management System
- HSE – Health, Safety, and Environment
- MCC – Motor Control Center

5.0 RESPONSIBILITIES

- Project Manager – Oversee planning and resource allocation.
- HVAC Engineer/Site Engineer – Ensure technical compliance and supervise installation.
- QA/QC Inspector – Verify installation as per standards and approve each activity.
- Safety Officer – Ensure all safety protocols are followed.
- Technicians – Carry out the physical installation.

6.0 EQUIPMENT & TOOLS

- Forklift / Crane (for unloading and lifting)
- Chain blocks / Slings
- Spanners, torque wrenches
- Leveling tools
- Welding and Brazing Tools (for piping, if applicable)
- Multimeter / Megger
- Pressure testing kit and vacuum pump
- Nitrogen cylinder with regulator
- Insulation materials and accessories

7.0 INSTALLATION PROCEDURE

7.1 Pre-Installation Checks

- Ensure civil foundation is ready and level as per manufacturer recommendations.
- Verify anchor bolt locations and base frame design.
- Inspect unit for any transport damage.
- Confirm clearances for service access, ventilation, and piping.

7.2 Equipment Handling

- Use forklift/crane with certified rigging.
- Lift the unit using factory-designated lifting points.
- Position the unit onto vibration isolators and align properly.
- Bolt the unit to the foundation using approved anchor bolts.

7.3 PIPING CONNECTION

- Chilled Water Piping
  - Use flexible connectors at inlet and outlet.
  - Support pipes properly to avoid stress on chiller nozzles.
  - Install flow switch and thermometers as required.
  - Flushing and chemical cleaning of piping before connection.
  - Insulate piping post-pressure testing.
- Condensate Drain (if applicable)
  - Connect drain lines from control panels or other sections.

7.4 ELECTRICAL CONNECTIONS

- Terminate incoming power cables as per approved shop drawings.
- Ensure proper earthing of the unit.
- Use correct cable lugs, ferrules, and labels.
- Connect to MCC/BMS as per control diagram.

7.5 CONTROL & INSTRUMENTATION

- Connect sensors: flow switch, temperature sensors, pressure transducers.
- Integrate control wiring with BMS system.
- Verify that control panel settings match project requirements.

8.0 TESTING & COMMISSIONING

8.1 Pre-Commissioning Checks

- Ensure piping and electrical connections are complete.
- Verify refrigerant charge as per nameplate.
- Check voltage, phase sequence, and insulation resistance.
- Leak test refrigerant circuit with nitrogen.
- Evacuate system with vacuum pump (if refrigerant recharging is required).

8.2 Functional Testing

- Start the chiller in accordance with manufacturer instructions.
- Monitor operating parameters: suction/discharge pressure, compressor amps, chilled water flow.
- Calibrate controls and safety interlocks.
- Record commissioning data.

9.0 SAFETY & ENVIRONMENTAL CONSIDERATIONS

- Use appropriate PPE at all times (gloves, helmet, safety shoes, eye protection).
- Secure lifting area during hoisting operations.
- Ensure fire extinguisher is available near welding activities.
- Avoid refrigerant leaks; handle as per MSDS and environmental regulations.

10.0 QUALITY CONTROL

- Installation to be verified against approved shop drawings.
- All materials and equipment to have compliance certificates.
- Inspection Request (IR) to be raised for consultant/client approval at key stages:
  - Foundation readiness
  - Equipment placement
  - Pipe and electrical connection
  - Pre-commissioning and commissioning

11.0 DELIVERABLES

- Installation Checklist
- Pre-Commissioning Report
- Commissioning Report
- Test Certificates (electrical, refrigerant, pressure test, insulation resistance)
- As-Built Drawings
- Manufacturer's Warranty & Operation Manuals