

SUPERSEDED

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STANDARD SPECIFICATION

SECTION 15901

SYSTEM COMPONENT CHECKOUT AND BALANCE

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STANDARD SPECIFICATION

SECTION 15901

SYSTEM COMPONENT CHECKOUT AND BALANCE

PART 1 - GENERAL

1.01 SCOPE

This specification covers the SNL furnished checkout and system balancing. The Contractor is responsible to have a functioning system prior to Testing and Balancing; to provide a joint and cooperative effort to coordinate the test and balance; and, to solve any problems in balancing and controls in order to establish proper system performance before leaving the job. The Contractor is responsible for providing the the TAB Agency with a complete set of project drawings and submittals, and, for providing and installing new sheave or sheaves, and new belts, as required, if a change in fan speed is necessary which cannot be made by adjusting the sheave originally installed.

PART 2 - PRODUCTS

2.01 INSTRUMENTATION

- A. Instruments used will be those that meet the instrument requirements for Agency Qualifications of the AABC as published in the AABC "National Standards for Total System Balance" volume four.
- B. Vibration analyzer which measures both vibration amplitude and frequency.

PART 3 - EXECUTION

3.01 REVIEW

When requested, the Test and Balance Agency (TAB) will review plans and specifications of the systems prior to installation and submit a report of any deficiencies which could preclude proper adjusting, balancing and testing of the system.

3.02 COMPONENT CHECKOUT

- A. All dampers are checked for travel and close off.
- B. All rotating equipment is operated to verify equipment integrity and to verify it is the proper equipment. Equipment nameplate data will be recorded.

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3.03 SYSTEM BALANCING

- A. Duct air volume shall be adjusted to within 5% of design, and diffuser air volumes to within 10% of design.
- B. Water volumes shall be adjusted to within 5% of design whenever balancing cocks or flow meters are installed.

3.04 SYSTEM TESTING

- A. Test all safety limits to ensure each performs proper function.
- B. Place each system in all normal modes of operation to verify proper control logic.
- C. Cooling towers will be tested per the AABC "National Standards for Total System Balance".
- D. Perform operating test of the mechanical systems periodically recording all pertinent operating data.

3.05 SOUND LEVEL TESTING

When equipment schedules specify maximum sound levels for various items, record sound level data, equipment schedule number, and a sketch showing test point locations.

3.06 VIBRATION LEVEL TESTING

Record vibration information for all rotating equipment with motors 5 HP or larger. Measure and Record vibration at all bearings in horizontal, vertical, and, if possible, axial directions.

3.07 REPORTING (Submit five copies of final Test Report)

- A. Complete nameplate data and equipment schedule number for all rotating equipment.
- B. Design and actual operating data for all rotating equipment including inlet and outlet data, flow rates, amps, voltage and rpm.
- C. Design and actual duct and diffuser volumes. Prepare a diagram showing flow measurement points.
- D. Design and actual water flow rates. Prepare a diagram showing flow measurement points.
- E. Record each; coil air pressure drop, filter pressure drop, and fan static pressure.
- F. Record flow rates, temperatures and pressures across each water coil, condenser and other heat exchangers.

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- G. Heating equipment nameplate data, equipment schedule number design data, and operating data at maximum achievable load conditions.
- H. Sound level data when required.
- I. Vibration data for all rotating equipment with motors larger than 5 HP.

END OF SECTION