SECTION 230593

TESTING, ADJUSTING AND BALANCING FOR HVAC

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**NOTE TO SPECIFIER**

*Use this Specification Section for Mail Processing Facilities.*

***This is a Type 1 Specification with completely editable text; therefore, any portion of the text can be modified by the A/E preparing the Solicitation Package to suit the project.***

*For Design/Build projects, do not delete the Notes to Specifier in this Section so that they may be available to Design/Build entity when preparing the Construction Documents.*

*For the Design/Build entity, this specification is intended as a guide for the Architect/Engineer preparing the Construction Documents.*

*The MPF specifications may also be used for Design/Bid/Build projects. In either case, it is the responsibility of the design professional to edit the Specifications Sections as appropriate for the project.*

*Text shown in brackets must be modified as needed for project specific requirements.* *See the “Using the USPS Guide Specifications” document in Folder C for more information.*

*The last date that USPS revised this standard specification section occurs in two places, at the end of this section and in the Table of Contents. If the date in this section matches the date in the Table of Contents, then you are using the latest version. Do not delete or revise the “last revised” date at the end of the section during the development of the Project Manual.*

*The footer in this section should be edited to replace the text, “USPS MPF SPECIFICATION” with the project name, and the blank date in the center should be replaced with the submission date, for interim design reviews, or the issue date of the completed Project Manual.*

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1. GENERAL
	1. SUMMARY
		1. Balancing, airflow and water flow within distribution systems, including submains, branches and terminals, to indicated quantities according to specified tolerances.
		2. Adjusting total HVAC systems to provide indicated quantities.
		3. Measuring electrical performance of HVAC equipment.
		4. Setting quantitative performance of HVAC equipment.
		5. Verifying that automatic control devices are functioning properly.
		6. Measuring sound and vibration.
		7. Reporting results of the activities and procedures.
	2. SUBMITTALS
		1. Certification: Required
		2. Testing and Balancing Reports: Required
	3. QUALITY ASSURANCE
		1. Qualifications:
			1. Company specializing in testing, adjusting, and balancing of the types of systems & equipment specified with minimum 5 years documented experience.
			2. Company or agent certified by AABC or NEBB.
			3. Testing and Balancing Company shall be submitted for approval prior to commencement of work.
		2. Reference Standards:
			1. AABC
			2. AMCA
			3. ASHRAE
			4. CTI
			5. NEBB
			6. SMACNA
	4. INSTRUMENTS
		1. All instruments used by this agency shall be accurately calibrated and maintained in good working order. Calibration records must be with the instruments.
2. PRODUCTS (NOT USED)
3. EXECUTION
	1. EXAMINATION
		1. Verify that systems are complete and operable before commencing work.
		2. Verify that all required balancing dampers, valves and fittings are provided before commencing work.
	2. INSTALLATION TOLERANCES
		1. Air Handling Systems: Adjust to within plus or minus 5 percent of design for fans.
		2. Air Outlets and Inlets: Adjust outlets and inlets in the specific space to within plus or minus 10 percent of design.
		3. Pump Flow: Adjust to 110% of design flow rate.
		4. Hydronic Components: Adjust to within plus 5 percent of design.
		5. All rotating equipment such as fans, compressors and pumps shall be balanced and aligned so that vibration severity measured at bearing caps shall not exceed 0.09 inch/second in rms velocity for frequency range from 1 Hz. To 100 Hz.
	3. GENERAL TESTING AND BALANCING PROCEDURES
		1. Test and balance each system according to the procedures contained in reference standards.
	4. REPORTS
		1. Provide 4 certified copies of all test data.

END OF SECTION

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