

DAMPERS - BALANCING

1. GENERAL

1.1 Summary

.1 Section Includes:

- .1 Balancing dampers for mechanical forced air ventilation and air conditioning systems.

1.2 References

.1 Sheet Metal and Air Conditioning National Association (SMACNA)

- .1 SMACNA HVAC Duct Construction Standards, Metal and Flexible.

1.3 Submittals

.1 Product Data:

- .1 Submit manufacturer's printed product literature, specifications and datasheet in accordance with Section 01 33 00 - Submittal Procedures. Include product characteristics, performance criteria, and limitations.

.2 Quality assurance submittals: submit following in accordance with Section 01 33 00 - Submittal Procedures.

- .1 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

- .2 Instructions: submit manufacturer's installation instructions.

.3 Closeout submittals: submit maintenance and engineering data for incorporation into manual specified in Section 01 33 00 - Submittal Procedures.

2. PRODUCTS

2.1 General

.1 Manufacture to SMACNA standards.

2.2 BALANCING DAMPERS

.1 Fabricate of galvanised steel, minimum 1.5 mm. Full blade-length shafts of hollow square construction with blades rigidly fastened along entire blade length.

.2 Lockable quadrant type operating mechanism with end bearings on accessible rectangular ducts up to 400 mm deep and on accessible round ducts.

.3 Wide pitch screw operating mechanism with crank operator and end bearings on accessible rectangular ducts 425 mm and over in depth and on all inaccessible rectangular and round ducts.

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- .4 On rectangular ducts up to 275 mm deep construct of single blade (butterfly) type.
- .5 On rectangular ducts 300 mm to 400 mm deep construct of two opposed blades mechanically interlocked with pivots at quarter points.
- .6 On rectangular ducts over 425 mm deep construct of multiple opposed blades mechanically interlocked with blades no greater than 200 mm deep and pivots equally spaced.
- .7 On round ducts construct of single blade (butterfly) type. On 500 Pa class and on all dampers over 300 mm diameter fabricate with full blade-length shaft.
- .8 Construct damper blades for medium and high pressure systems to block air passage 70% maximum. Provide complete with locking type handles.
- .9 Provide over-ride limiting stops on all operating mechanisms.
- .10 Identify the air flow direction and blade rotation and open and close positions on operating mechanism.
- .11 On round ductwork install operating mechanism on a steel mounted base firmly secured to the ductwork.
- .12 On externally insulated ductwork, install operating mechanisms on a steel bridge type mounting base to permit continuity of insulation under the mechanism.

3. EXECUTION

3.1 Manufacturer's Instructions

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 Installation

- .1 Install where indicated.
- .2 Install in accordance with recommendations of SMACNA and in accordance with manufacturer's instructions.
- .3 Locate balancing dampers in each branch duct, for supply, return and exhaust systems.
- .4 Runouts to registers and diffusers: install single blade damper located as close as possible to main ducts.
- .5 Dampers: vibration free.
- .6 Ensure damper operators are observable and accessible.
- .7 Corrections and adjustments conducted by TAB agency.

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3.3 Cleaning

- .1 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION