SECTION 233600 - AIR TERMINAL UNITS

PART 1-GENERAL

1.1 SECTION INCLUDES

A. Variable air volume reheat terminals.

B. Fan-powered, variable air volume reheat terminals.

1.2 SUBMITTALS

A. Submittals are required and shall include product data noting the following:

1. Product data indicating dimensions, weights, capacities, and materials.

2. Static pressure requirements.

3. Sound performance levels.

4. Accessories.

1.3 QUALITY ASSURANCE

A. Construction standard shall meet NFPA 90A.

B. Product certification shall comply with ARI 880.

C. Sound power level rating shall comply with AMCA 300, ASHRAE 68, and AMCA 301.

D. Coil performance shall comply with ARI 410.

E. Insulation standard shall comply with UL 181.

1.4 WARRANTY

A. Contractor shall warranty entire systems and equipment for a period of one (1) year.

PART 2-PRODUCTS

2.1 MANUFACTURERS:

A. Titus (Basis of Design)

B. Trane

C. Metal-Aire

D. Johnson Controls Inc.

E. Tuttle & Bailey

F. Price

G. Envirotec

2.2 COMPONENTS

A. Single-Duct Reheat Terminal Units

1. Configuration: Volume-damper assembly inside unit casing.

2. Casing: Zinc-coated steel

3. Casing Lining: 1-inch thick, 1-1/2 pound density insulation with corrosion-resistant coating.

4. Air Inlets: Round or flat oval with integral air velocity sensor.

5. Volume Damper: cylindrical flow control device with 1% of damper nominal CFM at 4" W.G. differential.

6. Damper Position: Normally closed at 4." W.G. Differential.

7. Hot-Water Heating Coil: Copper tube and aluminum finned coil.

8. Velocity sensor: multi-point averaging type.

9. Controls: Electronic DDC controls.

a. Furnished and sent to terminal unit manufacturer for installation by BASC

10. Each unit shall include the following control accessories supplied by terminal unit manufacturer:

a. Flow Ring.

b. Disconnect switch

c. Mount controls in NEMA 250 Type 1 enclosure.

11. Each unit shall include the following control accessories supplied from Temperature Control Contractor to the box manufacturer for mounting at the factory.

a. Volume regulators with D.P. sensors and airflow probe.

b. VAV controller.

c. Damper actuator and damper

d. Control wiring associated with VAV box operation.

12. Temperature Control Contractor to furnish reheat coil automatic temperature control valve to mechanical contractor for installation by same.

13. Electrical contractor shall furnish and install 120- volt power wiring to the junction boxes noted on the Mechanical drawings. Temperature Control Contractor shall extend all low voltage wiring from transformers (by Temperature Control Contractor) to VAV boxes.

B. Fan-Powered Reheat Terminal Units

1. Configuration: Volume-damper assembly inside unit casing.

2. Casing: Zinc-coated steel

3. Casing Lining: 1-inch thick, 1-1/2 pound density insulation with corrosion-resistant coating.

4. Air Inlets: Round or flat oval with air velocity sensor.

5. Access: Removable panels with cam-lock fasteners.

6. Volume Damper: cylindrical flow control device with maximum airflow leakage of 1% of damper nominal CFM at 4" W.G. Differential.

7. Damper Position: Normally Closed

8. Fan: Series type unit located in acoustically lined plenum housing a direct-drive, forward-curved fan, and thermally protected PSC motor.

9. Hot-Water Heating Coil: Copper tube and aluminum finned coil.

10. Velocity sensor: multi-point averaging type.

11. Filter: Attenuating air inlet section complete with 1 inch filter rack.

12. Controls: Electronic DDC controls.

    a. Furnished and sent to terminal unit manufacturer for installation by BASC

13. Each unit shall include the following control accessories supplied by equipment manufacturer:

    a. Flow Ring.

    b. Control relay for fan operation.

    c. Reduced voltage transformer on the box.

    d. Disconnect switch.

14. Each unit shall include the following control accessories supplied from Temperature Control Contractor to the box manufacturer for mounting at the factory.

a. Volume regulators with D.P. sensors and airflow probe.

b. Fan Powered VAV controller.

c. Control wiring associated with fan powered box operation.

d. Fan SCR speed controller wired to motor for full variable speed control.

15. Temperature control contractor to furnish reheat coil automatic temperature control valve to mechanical contractor for installation by same.

16. Electrical contractor shall furnish and install 120 or 277 volt power wiring (as noted on the electrical drawings) to the fan powered box transformer and shall make final power wiring connections to the unit/transformer.

PART 3-EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturers requirements.

B. Startup and training to be provided by a factory-trained service technician.

3.2 TRAINING

A. Startup and training to be provided by a factory-trained service technician for a total of four (4) hours. These hours of training are to be "bankable hours" used within one full warranty year.

B. All training and start-up shall be videotaped with a professional videographer and present two (2) copies of the training on DVD format to the Construction Manager within one (1) week of the training session. This DVD will be provided to the owner.

END OF SECTION 233600