

TECHNICAL BULLETIN

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Air Terminals

EFFECT OF INLET DUCT CONFIGURATION ON PERFORMANCE

Anemostat recommends a minimum length of 1.5 x Inlet Diameter of straight, rigid duct connected to the inlet of the air terminal with 3 x Inlet Diameter (or more) being optimum.

Examples:

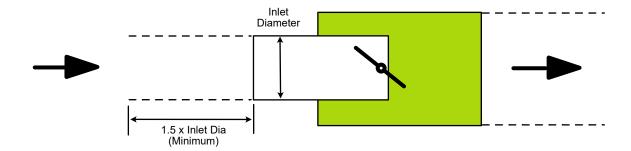
8" Air Terminal : $1.5 \times Dia = 1.5 \times 8" = 12"$

 $3.0 \times Dia = 3.0 \times 8" = 24"$

16" Air Terminal: 1.5 x Dia = 1.5 x 16" = 24"

 $3.0 \times Dia = 3.0 \times 16" = 48"$





During balancing, each terminal unit controller and sensor are calibrated as installed, essentially eliminating any air flow sensor errors introduced due to inlet conditions. After balancing, the air flow sensor accuracy will be maintained.

See research project ASHRAE 1353 "Stability and Accuracy of VAV Box Control at Low Flows" which includes tests with varying inlet conditions. ASHRAE and SMACNA recommend a minimum 3 x Diameter as best practice and optimum.