The IDV, induction air terminal unit, is uniquely designed and features a round primary inlet, an engineered venturi section with a variable area jet nozzle, an airfoil shaped venturi entrance, an insulated mixing plenum and an optimally sized induction port with integral damper. The IDV can be used with two basic control strategies. The “automatic” control mode utilizes a system controlled induction damper while the “manual” control mode features a manually adjusted damper, which is set during balancing to achieve the desired induction air flow.

**OPERATING PRINCIPLE**

The IDV is capable of delivering a virtually constant total discharge air flow at primary air turndown ratios as low as 50%, depending on the downstream static pressure. This is accomplished as a result of the engineered venturi section converting energy from the primary air flow to create a negative static pressure, which acts to induce the warm plenum air into the primary air stream. The optimally sized induction port with an integral damper accurately controls induction when operating in the heating/cooling sequence. In the “automatic” control mode, the primary air damper, which also serves as the venturi nozzle, begins to close as the cooling load is satisfied. The induction damper simultaneously begins to open, thereby inducing warm plenum air. The result is the discharge air flow is held relatively constant and the cold primary air is tempered by the induced plenum air, improving comfort and conserving energy. In the “manual” control mode, the induction damper remains in a fixed position and induction occurs down to 20% primary air flow. This control mode provides more total air at higher primary air flows, which at some conditions exceeds 140% of the primary air flow. In both cases optional hot water heat is available.

**SOUND**

The IDV is generally quieter than fan powered air terminals due to the absence of a fan. This allows the IDV to be used where fan powered terminals are normally not recommended.

**APPLICATIONS**

The IDV is an excellent alternative to fan powered air terminals in many applications, leaving behind the noise, maintenance and operating expense associated with these units. The IDV is ideal for reheat applications, cold air distribution or ice storage systems due to the IDV’s ability to effectively temper cold primary air.

**FEATURES**

- Patented Flo-Cross® Sensor features 24 point sensing with center averaging chambers and exclusive amplification wings (Patent # 4,453,419)
- A wide variety of sizes result in a total flow range of 45 to 3000 CFM
- ARI certified performance data (refer to www.ari.org for a free copy of the ARI Applied Directory)
- Heavy duty 22 gauge casing construction
- Industry standard round inlet collars sized to accept either flexible or rigid duct
- Mixing plenum constructed of 13/16” thick, 4 pcf density foil faced fiberglass duct board insulation. Insulation meets or exceeds the safety and erosion requirements of standard UL-181 and NFPA 90A
- Uniquely shaped damper blades provide the venturi effect necessary for superior induction. The blades are constructed of heavy duty extruded aluminum and/or galvanized steel
- Solid damper shaft with Nyliner self-lubricating bearings. Shaft features a position indicator for easy identification of damper angle
- Access door allows maintenance of damper linkage

**OPTIONS**

- IDV terminals can be furnished without controls, with electronic analog controls, with factory-mounted direct digital controls (supplied by others) or with four function pneumatic controls
- Hot water (ARI certified) coils factory installed
- No insulation fibers exposed to air stream