

# TECH TALK

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## Spiral Diffuser Scoop Used as a Balancing Device

by Dave Fetters

Hart & Cooley's extruded aluminum spiral duct diffusers are available with an optional "scoop" air deflector, which helps funnel air flowing along the duct to exit at the diffuser. Without the scoop, depending on the system design, air having momentum along the duct may be reluctant to exit at the desired diffuser location or in the optimum amount.

The scoop length is about 45% of the diffuser width (the dimension along the axis of the duct). It does not cover the full opening of the diffuser core area and, therefore, will not act as a volume-control damper with full shutoff capability. We did not want the scoop to be so long that it could easily reach the opposite side of the duct and disrupt downstream flow.

The 2000 International Mechanical Code states: "Balancing dampers or other means of supply air adjustment (my underline) shall be provided in the branch ducts or at each individual duct register, grille, or diffuser." Our scoop is not a damper in the traditional sense. However, the code clearly says "or other means," so an add-on duct damper, an air-control grid, an air diverter, a flexiturn, or the spiral diffuser scoop would all comply as supply air adjustment means. Nowhere does the code imply that one needs 100% shutoff capability, only that air adjustment be provided. This requirement only applies to branch ducts. Main ducts do not have to meet this requirement.



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