

# ENGINEERING REPORT

## TOPIC: Use of Access Doors in Duct Design Downstream of Dampers

Report No. 8190:2

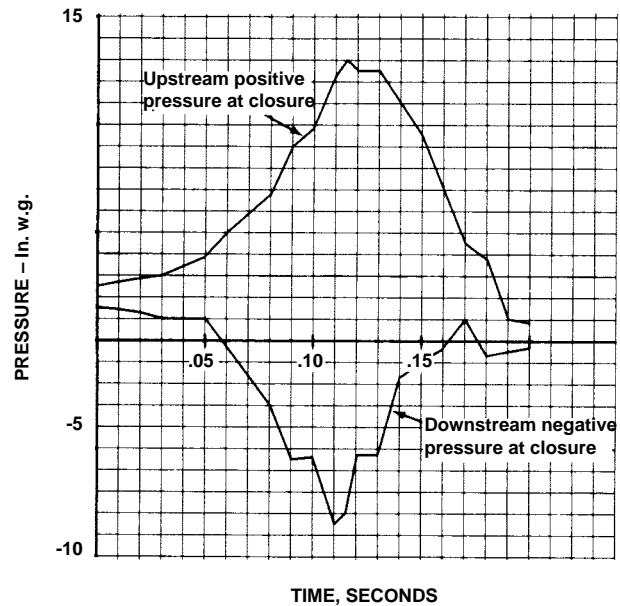
By Robert Van Becelaere

When fire dampers are installed in ductwork, the ductwork downstream from the fire damper must be specifically designed to handle negative pressure. Negative pressure is created by the air mass that continues to flow through the ductwork when the damper closes very fast. The graph at right shows a negative 8 in. w.g. static pressure that built downstream after the fast closing of the curtain fire damper in the ductwork.

To prevent the ductwork from collapsing under this high negative pressure, Ruskin offers a patented access door to relieve this pressure. Our high pressure relief access door installs downstream from the fire damper and automatically relieves the negative pressure generated by fast closing dampers.

Ruskin offers the access door to meet relief requirements and protect ducts no matter what the damper type:

STATIC PRESSURE vs. TIME  
24" x 24" NIBD23



### Dampers Type

Dynamic Curtain Fire Dampers with springs

Multiple Blade Fire Dampers with Fusible Links

Multiple Blade Fire Dampers with FireStat

### Access Door Requirements

ADHP3 High Pressure Access Door

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ADH/ADC Duct Access Door

Multiple blade fire dampers with FireStats or Electrical Fusible Links close at a slow enough rate that the negative pressure will not build up downstream of dampers. Therefore, standard access doors can be installed downstream of the damper for inspection purposes only.

# RUSKIN®

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