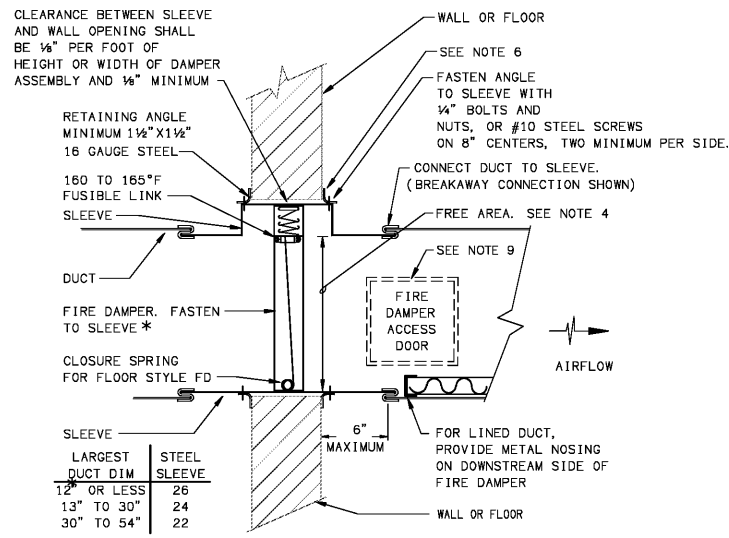


**FIRE DAMPER BEHIND GRILLE OR LOUVER**  
SCALE: NTS



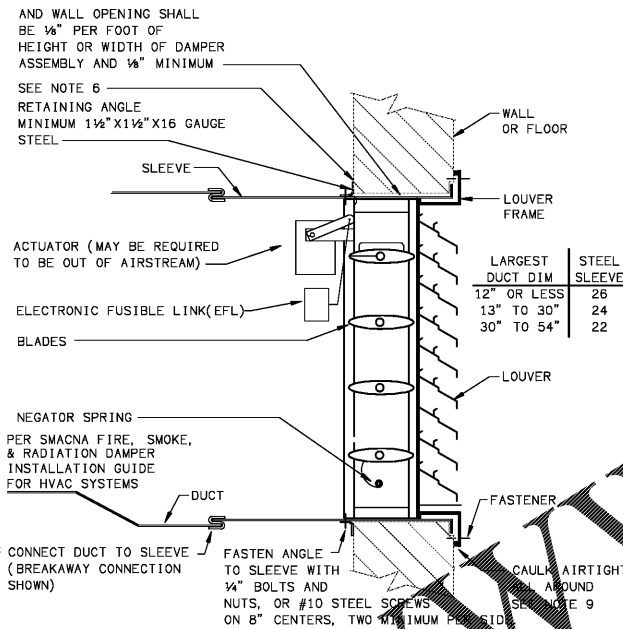
**FIRE DAMPER IN DUCT**  
SCALE: N. T. S.

**FIRE DAMPER DETAIL NOTES**

1. FIRE DAMPER (FD): CURTAIN OR BLADE TYPE, WALL OR FLOOR MOUNT
2. PROVIDE IN ACCORD WITH UL-555, NFPA-90A, AND SMACNA FIRE, SMOKE, AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC SYSTEMS.
3. THIS DETAIL IS FOR A TYPICAL FD INSTALLATION. THE UL TESTED AND APPROVED INSTALLATION DETAILS AND INSTRUCTIONS OF THE PARTICULAR FD MANUFACTURER CHOSEN SHALL TAKE PRECEDENCE.
4. PROVIDE FD ASSEMBLY WITH MINIMUM FREE AREA AS LARGE AS THE INTERNAL DUCT DIMENSIONS OR FREE AREA WALL OR FLOOR PENETRATION DIMENSIONS SHOWN ON PLANS.
5. PRIOR TO INSTALLING THE FD, VERIFY THAT THE FIRE RATING OF THE WALL OR FLOOR HAS BEEN MAINTAINED CONTINUOUSLY THRU THE OPENING. FOR FRAME WALLS, LINE THE OPENING WITH THE SAME TYPE GYPSUM BOARD USED FOR THE WALL. IF THERE IS A QUESTION, CONFIRM WITH LOCAL CODE OFFICIAL.
6. FIT ANGLES TIGHT TO STRUCTURE BUT DO NOT FASTEN TO STRUCTURE. ANGLES SHALL OVERLAP WALL BY 1" MINIMUM. ANGLES SHALL OVERLAP AT CORNERS OF OPENING.
7. WHERE DUCTS ARE REQUIRED TO BE INSULATED, PROVIDE EXTERNAL INSULATION OF EQUIVALENT R-VALUE OVER SLEEVE. EXTEND TIGHT TO BOTH SIDES OF STRUCTURE BUT NOT THRU STRUCTURE.
8. SUPPORT WEIGHT OF DUCT FROM STRUCTURE, NOT FROM FD.
9. PROVIDE ACCESS DOOR WITHIN 12" OF FD, ON BOTTOM OR SIDE OF DUCT. INSULATED IF DUCT IS AIR TIGHT, QUICK DISCONNECT. 10"x10" MIN, 18"x18" WHERE DUCT SIZE ALLOWS. WHERE DUCT IS TOO SMALL FOR A 10"x10" DOOR, INCREASE DUCT SIZE OR PROVIDE A REMOVABLE SECTION OF DUCT AT LEAST 12" LONG. LABEL WITH 1/2" HIGH LETTERS VISIBLE AFTER INSULATING: "FIRE DAMPER ACCESS".

PROVIDE ALL FIRE DAMPERS AND FIRE/SMOKE DAMPERS AS DYNAMIC RATED.

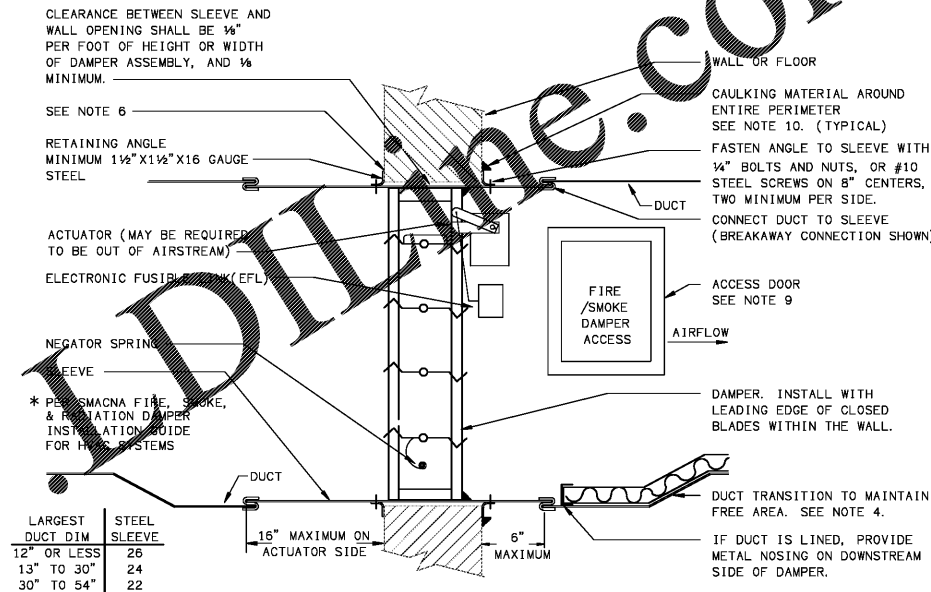
WHERE FIRE/SMOKE DAMPER IS INSTALLED IN A SPACE WITH LESS THAN 14" VERTICAL CLEARANCE, ENSURE THAT ACTUATOR IS TURNED FROM THE FACTORY AS REQUIRED TO FIT.



**COMBINATION FIRE & SMOKE DAMPER DETAIL (MOUNTED BEHIND LOUVER)**  
SCALE: NTS

**COMBINATION FIRE & SMOKE DAMPER DETAIL NOTES**

1. COMBINATION FIRE & SMOKE DAMPER (FSD): POWERED OPEN, SPRING SHUT
2. PROVIDE IN ACCORD WITH UL-555, UL-555S, NFPA-90A, AND SMACNA FIRE, SMOKE, AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC SYSTEMS.
3. THIS DETAIL IS FOR A TYPICAL FSD INSTALLATION. THE UL TESTED AND APPROVED INSTALLATION DETAILS AND INSTRUCTIONS OF THE PARTICULAR FSD MANUFACTURER CHOSEN SHALL TAKE PRECEDENCE.
4. PROVIDE A FSD ASSEMBLY WITH A FREE AREA AT LEAST AS LARGE AS THE INTERNAL DUCT DIMENSIONS
5. PRIOR TO INSTALLING THE FSD, VERIFY THAT THE FIRE RATING OF THE WALL OR FLOOR HAS BEEN MAINTAINED CONTINUOUSLY THRU THE OPENING. FOR FRAME WALLS, LINE THE OPENING WITH THE SAME TYPE GYPSUM BOARD USED FOR THE WALL. IF THERE IS A QUESTION, CONFIRM WITH LOCAL CODE OFFICIAL.
6. FIT ANGLES TIGHT TO STRUCTURE BUT DO NOT FASTEN TO STRUCTURE. ANGLES SHALL OVERLAP STRUCTURE BY 1" MINIMUM. ANGLES SHALL OVERLAP AT CORNERS OF OPENING.
7. WHERE DUCTS ARE REQUIRED TO BE INSULATED, PROVIDE EXTERNAL INSULATION OF EQUIVALENT R-VALUE OVER SLEEVE.
8. SUPPORT WEIGHT OF DUCT FROM STRUCTURE, NOT FROM FSD.
9. PROVIDE ACCESS DOOR WITHIN 12" OF FSD, ON BOTTOM OR SIDE OF DUCT. INSULATED IF DUCT IS AIR TIGHT, QUICK DISCONNECT. 10"x10" MIN, 18"x18" WHERE DUCT SIZE ALLOWS. WHERE DUCT IS TOO SMALL FOR A 10"x10" DOOR, INCREASE DUCT SIZE OR PROVIDE A REMOVABLE SECTION OF DUCT AT LEAST 12" LONG. LABEL WITH 1/2" HIGH LETTERS VISIBLE AFTER INSULATING: "FIRE/SMOKE DAMPER ACCESS". ALTERNATE-MAKE LOUVER OR GRILLE REMOVABLE.
10. PROVIDE CAULKING MATERIAL WHERE INDICATED TO PREVENT THE PASSAGE OF SMOKE. CAULKING IS REQUIRED ON ONLY ONE SIDE OF THE STRUCTURE. CAULKING MATERIAL SHALL BE DOW-CORNING 999, DOW-CORNING SILASTIC 732 RTV, OR GE RTV 108. USE 1/8" BEAD AND PRESS IN PLACE.
11. CONTROL FSD THRU FIRE ALARM SYSTEM
12. ACTUATOR POWER SHALL BE 120V. COORDINATE CONTROL VOLTAGE WITH FIRE ALARM CONTRACTOR.
13. PROVIDE WITH INTEGRAL SMOKE DETECTOR. SMOKE DETECTOR SHALL BE MONITORED BY THE FIRE ALARM CONTROL SYSTEM WHICH SHALL CLOSE THE FSD IN THE EVENT OF SMOKE.



**COMBINATION FIRE & SMOKE DAMPER DETAIL (DUCT MOUNT)**  
SCALE: N. T. S.

**COMBINATION FIRE & SMOKE DAMPER DETAIL NOTES**

- 1.
2. PROVIDE IN ACCORD WITH UL-555, UL-555S, NFPA-90A, AND SMACNA FIRE, SMOKE, AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC SYSTEMS.
3. THIS DETAIL IS FOR A TYPICAL FSD INSTALLATION. THE UL TESTED AND APPROVED INSTALLATION DETAILS AND INSTRUCTIONS OF THE PARTICULAR FSD MANUFACTURER CHOSEN SHALL TAKE PRECEDENCE.
4. PROVIDE A FSD ASSEMBLY WITH A FREE AREA AT LEAST AS LARGE AS THE INTERNAL DUCT DIMENSIONS OR FREE AREA WALL OR FLOOR PENETRATION DIMENSIONS SHOWN ON PLANS.
5. PRIOR TO INSTALLING THE FSD, VERIFY THAT THE FIRE RATING OF THE WALL OR FLOOR HAS BEEN MAINTAINED CONTINUOUSLY THRU THE OPENING. FOR FRAME WALLS, LINE THE OPENING WITH THE SAME TYPE GYPSUM BOARD USED FOR THE WALL. IF THERE IS A QUESTION, CONFIRM WITH LOCAL CODE OFFICIAL.
6. FIT ANGLES TIGHT TO STRUCTURE BUT DO NOT FASTEN TO STRUCTURE. ANGLES SHALL OVERLAP STRUCTURE BY 1" MINIMUM. ANGLES SHALL OVERLAP AT CORNERS OF OPENING.
7. WHERE DUCTS ARE REQUIRED TO BE INSULATED, PROVIDE EXTERNAL INSULATION OF EQUIVALENT R-VALUE OVER SLEEVE. EXTEND TIGHT TO BOTH SIDES OF STRUCTURE BUT NOT THRU STRUCTURE.
8. SUPPORT WEIGHT OF DUCT FROM STRUCTURE, NOT FROM FSD.
9. PROVIDE ACCESS DOOR WITHIN 12" OF FSD, ON BOTTOM OR SIDE OF DUCT. INSULATED IF DUCT IS AIR TIGHT, QUICK DISCONNECT. 10"x10" MIN, 18"x18" WHERE DUCT SIZE ALLOWS. WHERE DUCT IS TOO SMALL FOR A 10"x10" DOOR, INCREASE DUCT SIZE OR PROVIDE A REMOVABLE SECTION OF DUCT AT LEAST 12" LONG. LABEL WITH 1/2" HIGH LETTERS VISIBLE AFTER INSULATING: "FIRE/SMOKE DAMPER ACCESS".
10. PROVIDE CAULKING MATERIAL WHERE INDICATED TO PREVENT THE PASSAGE OF SMOKE. CAULKING IS REQUIRED ON ONLY ONE SIDE OF THE STRUCTURE. CAULKING MATERIAL SHALL BE DOW-CORNING 999, DOW-CORNING SILASTIC 732 RTV, OR GE RTV 108. USE 1/8" BEAD AND PRESS IN PLACE.
11. CONTROL THRU FIRE ALARM SYSTEM.
12. ACTUATOR POWER SHALL BE 120V. COORDINATE CONTROL VOLTAGE WITH FIRE ALARM CONTRACTOR.
13. PROVIDE WITH INTEGRAL SMOKE DETECTOR. SMOKE DETECTOR SHALL BE MONITORED BY THE FIRE ALARM CONTROL SYSTEM WHICH SHALL CLOSE THE FSD IN THE EVENT OF SMOKE.

Charlan Brock Associates, Inc. hereby reserves all copyright and other rights in these plans, specifications, schedules, and details. These plans, specifications, schedules, and details are the property of Charlan Brock Associates, Inc. and shall remain the property of Charlan Brock Associates, Inc. No part of these plans, specifications, schedules, and details may be reproduced, changed or copied in any form or manner whatsoever, nor are they to be assigned to any third party, without first obtaining the express written permission from Charlan Brock Associates, Inc. All dimensions and notes are in inches unless otherwise specified.