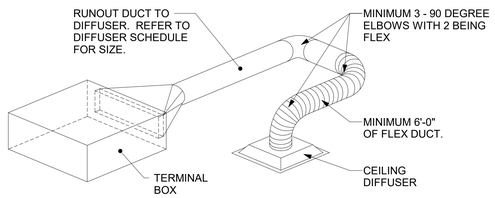


TYPICAL LOW WALL RETURN GRILLE

MD-2003

No Scale



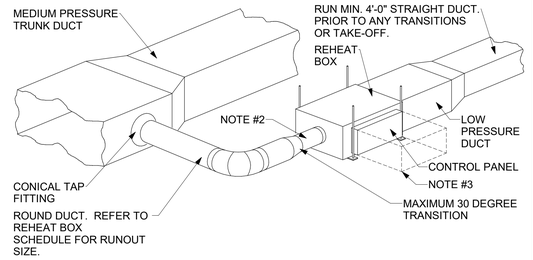
NOTES:

1. 90 DEGREE ELBOWS IN FLEX DUCT TO HAVE NOT LESS THAN ONE DUCT DIAMETER CENTERLINE RADIUS.

BOX SERVING ONE DIFFUSER DETAIL

MD-2031

No Scale



NOTES

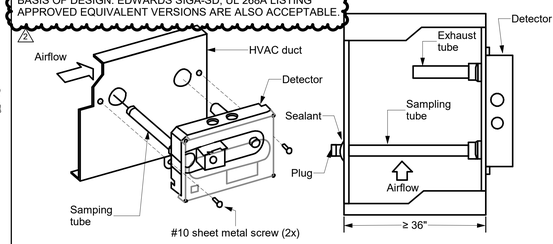
1. BOXES 1,400 CFM OR LESS TO BE SUPPORTED WITH 1/2"x1/2"x1" GALANIVED BAND IRON ON FOUR CORNERS BOXES GREATER THAN 1,400 CFM SHALL HAVE TRAPEZE SUPPORT OF REINFORCING ANGLE WITH 3/8" GALVANIZED ALL THREAD ROD HANGERS.
2. PROVIDE A MINIMUM LENGTH OF 2 INLET DIAMETER OF STRAIGHT RIGID SHEETMETAL FROM THE DUCT TRANSITION PIECE TO THE VAV BOX INLET.
3. BOXES WITH ELECTRICAL REHEAT COILS TO HAVE 3'-6" MINIMUM WORKING CLEARANCE ON TERMINAL BOX SIDE.

VARIABLE VOLUME BOX CONNECTION DETAIL

MD-2901

No Scale

BASIS OF DESIGN: EDWARDS SIGA-SD; UL 268A LISTING
APPROVED EQUIVALENT VERSIONS ARE ALSO ACCEPTABLE.

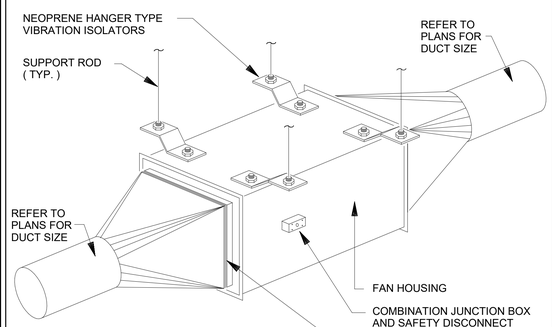


1. INSTALL DUCT MOUNTED SMOKE DETECTOR IN ACCESSIBLE LOCATION.
2. SAMPLING TUBE SHALL EXTEND AT LEAST TWO-THIRDS ACROSS THE WIDTH OF THE DUCT. FOR DUCT WIDTHS GREATER THAN 36", USE A SAMPLING TUBE THAT IS LONGER THAN THE WIDTH OF THE DUCT.
NOTE: SAMPLING TUBES LONGER THAN 36" MUST BE SUPPORTED AT BOTH ENDS OF THE DUCT.
3. IF USING AN AIR SAMPLING TUBE THAT IS LONGER THAN THE WIDTH OF THE DUCT, DRILL A 3/4" HOLE ON THE OPPOSITE SIDE OF THE DUCT FOR TUBE TO PASS THROUGH. SEAL THE OPENING AROUND THE TUBE WITH AN APPROVED DUCT SEALANT.
4. MOUNT THE DUCT SMOKE DETECTOR ON THE HVAC DUCT AND SECURE IT USING TWO #10 SHEET METAL SCREWS.
5. DUCT MOUNTED SMOKE DETECTORS SHALL BE WIRED IN ACCORDANCE WITH NFPA 72 AND SUPERVISED BY THE FIRE ALARM SYSTEM. VERIFY THAT ALL FIELD WIRING IS FREE OF OPENS, SHORTS, AND GROUND FAULTS.
6. INSTALL DUCT ACCESS PANEL IN ACCESSIBLE LOCATION TO ALLOW FOR INSPECTION AND CLEANING OF SAMPLING TUBE.
7. VERIFY THE AIR PRESSURE DIFFERENTIAL VALUE FALLS WITHIN THE SPECIFIED OPERATING RANGE OF THE DETECTOR.
8. TEST THE DETECTOR TO ENSURE IT IS OPERATING CORRECTLY.
9. PROVIDE REMOTE INDICATOR FOR DETECTORS LOCATED MORE THAN 10FT ABOVE FINISHED FLOOR OR ABOVE HARD CEILING.

DUCT MOUNTED SMOKE DETECTOR DETAIL

MD-2036

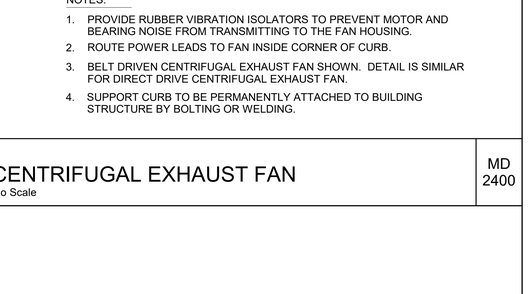
No Scale



IN-LINE EXHAUST FAN ABOVE CEILING MOUNTING DETAIL

MD 2700

No Scale



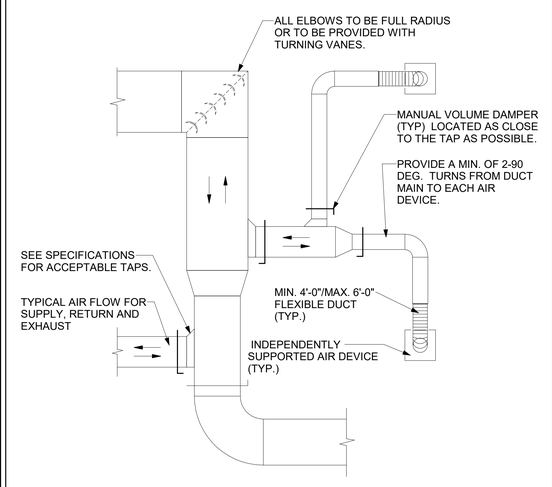
NOTES:

1. PROVIDE RUBBER VIBRATION ISOLATORS TO PREVENT MOTOR AND BEARING NOISE FROM TRANSMITTING TO THE FAN HOUSING.
2. ROUTE POWER LEADS TO FAN INSIDE CORNER OF CURB.
3. BELT DRIVEN CENTRIFUGAL EXHAUST FAN SHOWN. DETAIL IS SIMILAR FOR DIRECT DRIVE CENTRIFUGAL EXHAUST FAN.
4. SUPPORT CURB TO BE PERMANENTLY ATTACHED TO BUILDING STRUCTURE BY BOLTING OR WELDING.

CENTRIFUGAL EXHAUST FAN

MD 2400

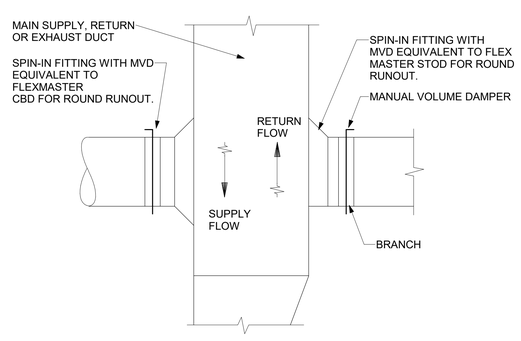
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TYPICAL LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCT DETAIL

MD 2032

No Scale



LOW PRESSURE ROUND BRANCH DUCT RUNOUT

MD 2001

No Scale

SMACNA DUCT HANGER AND SUPPORT

MD 2035

No Scale

TYPICAL INSTALLATION DETAILS

(A) RETAINING ANGLES:
MINIMUM 11/2"x11/2"x0.054 (16 GA.) RETAINING ANGLES MUST LAP STRUCTURAL
OPENING 1" MINIMUM AND COVER CORNERS OF OPENINGS.
SINGLE SIDED RETAINING ANGLES ARE ACCEPTABLE.

(B) CLEARANCE 1/8" PER LINEAR FOOT BOTH DIMENSIONS (SEE NOTE #1 BELOW.)

(C) STEEL SLEEVE: GAUGE AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS.

(D) APPROVED FIRE DAMPER (CURTAIN OR BLADE TYPE)

(E) SECURE RETAINING ANGLES TO SLEEVE ONLY, ON 8" CENTERS WITH:
1. 1/2" LONG WELDS, OR
2. 1/4" BOLTS AND NUTS, OR
3. NO. 10 STEEL SCREWS, OR
4. MINIMUM 3/16" STEEL RIVETS

(F) SECURE DAMPER TO SLEEVE ON 8" CENTERS WITH:
1. 1/2" LONG WELDS, OR
2. 1/4" " BOLTS AND NUTS, OR
3. NO. 10 STEEL SCREWS, OR
4. MINIMUM 3/16" STEEL RIVETS

(G) CONNECT DUCT TO SLEEVE AS REQUIRED BY THE MANUFACTURER.

(H) INSTALL ACCESS DOOR OR PANEL FOR SERVICE AND INSPECTION. DOOR MUST BE LARGE ENOUGH TO CHANGE LINK.

NOTES:

1. FIRE DAMPER SLEEVE CLEARANCE WITHIN WALL OPENING.

2. CLEARANCE REQUIREMENTS FOR DAMPER SLEEVES WITHIN A WALL OPENING IS BASED ON 1/8" INCH PER FOOT OF WIDTH (OR HEIGHT) UNLESS OTHERWISE STATED IN THE LISTING OF THE ASSEMBLY. THE SLEEVE MAY REST ON THE BOTTOM OF THE OPENING, AND NEED NOT BE CENTERED. (FRACTIONAL DIMENSIONS SHALL BE TAKEN AS THE NEXT LARGEST WHOLE FOOT.)

EXAMPLE: A 30 INCH X 24 INCH FIRE DAMPER SLEEVE IS INSTALLED IN A WALL OPENING. THE OPENING SHALL BE 30 3/8 INCHES WIDE (1/8 INCH x3 FEET) BY 24 1/4 INCHES HIGH (1/8 INCH x2 FEET.)

3. THE SLEEVE IS RETAINED IN THE WALL OPENING BY THE USE OF STEEL RETAINING ANGLES (A). THESE MUST OVER-LAP THE EDGE OF THE FRAMING BY A MINIMUM OF ONE (1) INCH OVER AND BEYOND ALL MATERIAL IN THE OPENING. THIS MEANS THAT THE MINIMUM WIDTH OF THE RETAINING ANGLE WOULD BE 1 3/8 INCHES (GOOD PRACTICE CALLS FOR AN ADDITIONAL SAFETY FACTOR BY MAKING THE ANGLE IN THIS CASE 1 1/2 INCHES WIDE.) THE DIMENSIONS REQUIRED FOR THE OPENING SHALL BE THOSE REMAINING AFTER THE OPENING HAS BEEN FRAMED AND FIRE RESISTIVE MATERIALS PROVIDED WHERE REQUIRED. THE FIRE RESISTIVE MATERIALS SHALL BE EQUAL TO THE REQUIREMENTS FOR FIRE RESISTIVE MATERIALS USED IN THE CONSTRUCTED WALL SO THAT A CONTINUOUS RATING EXISTS AT THE WALL PENETRATION.

DAMPERS EQUIPPED WITH FUSIBLE LINKS, INTERNAL OPERATORS OR BOTH SHALL BE PROVIDED WITH AN ACCESS DOOR THAT IS NOT LESS THAN 12 INCHES SQUARE OR PROVIDED WITH A REMOVABLE DUCT SECTION.

BASIS OF DESIGN

FIRE DAMPER BASIS OF DESIGN: RUSKIN IBD2; UL555 LISTING R5531

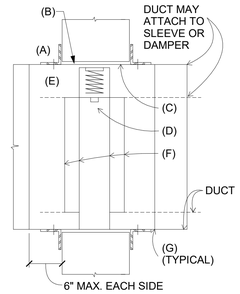
FIRE/SMOKE DAMPER BASIS OF DESIGN: RUSKIN FSD60; UL555S LISTING R5531

APPROVED EQUIVALENT VERSIONS ARE ALSO ACCEPTABLE.

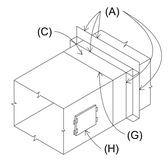
MANUFACTURERS' INSTALLATION DETAILS

THE FIRE DAMPER MANUFACTURERS' INSTALLATION DETAILS AND INSTRUCTIONS AS TESTED AND APPROVED BY U.L. MUST BE USED IN LIEU OF THESE DETAILS WHERE APPLICABLE.

NOTE:
NO CAULKING IS REQUIRED ON FIRE DAMPERS OR FIRE DAMPER RETAINING ANGLES.



VERTICAL POSITION IS SHOWN, HORIZONTAL INSTALLATION IS SIMILAR. FOLLOW INSTALLATION INSTRUCTION FOR FUSIBLE LINKS. LINKS TO BE 165° F.



NOTE:
A DUCT MOUNTED SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCTWORK WITHIN FIVE FEET OF A COMBINATION FIRE/SMOKE DAMPER. SMOKE DETECTOR TO BE PROVIDED BY ELECTRICAL CONTRACTOR INSTALLED BY MECHANICAL CONTRACTOR.

PROVIDE A COPY OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AT THE AHCA INSPECTION.

FIRE & FIRE/SMOKE DAMPERS

MD 2033

No Scale

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ICT PROJECT NO. 2304T.00
FIRM CERTIFICATE OF AUTHORIZATION
FLORIDA REG. # CA-0001276
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PHILIP GARRETT, PE.
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SEAL

Digitally signed by Daniel Allen Nesman
DN: E=Dan.Nesman@SalasOBrien.com, CN=Daniel Allen Nesman, O=I.C. Thomasson Associates, L=Nashville, S=TN, SERIALNUMBER=MAS20260116744091, C=US
Location: Tampa, FL
Contact Info: 8138824415
Date: 2026.08.03 15:03:32-04'00'

This item has been digitally signed and sealed by Daniel A. Nesman on the date adjacent to the seal.
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

DEUK SPINE INSTITUTE
Surgery Center at Millenia, LLC

Hunton Brady ARCHITECTS

DATE	SUBMISSION	NO
12.12.2023	CONSTRUCTION DOCUMENTS	
08.07.26	CCD #2R	2

MECHANICAL DETAILS

PROJ. NO. H-23016.00 SHEET
DRAWN OA
M800A

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