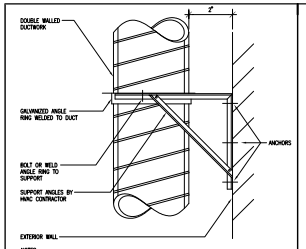
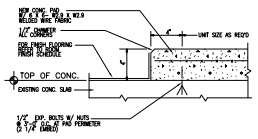
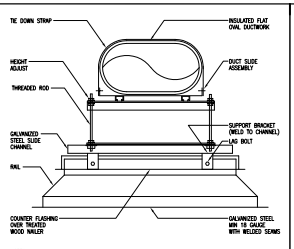


NOTES:
1. LOCATE BRACKETS AT 12 FOOT INTERVALS, MAXIMUM.
2. SIZE WALL ANCHORS AND BRACKET FOR A SAFETY FACTOR OF 4.

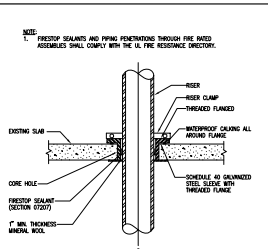
X EXTERIOR DUCTWORK WALL SUPPORT
SCALE: NTS



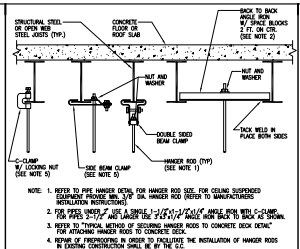
X HOUSE KEEPING PAD DETAIL
SCALE: NTS



X ROOF MOUNTED DUCT SUPPORT DETAIL
SCALE: NTS

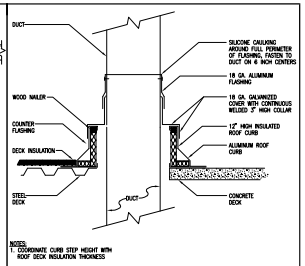


X RISER SUPPORT THROUGH EXISTING SLAB
SCALE: NTS



NOTE:
1. REFER TO PIPE HANGER DETAIL FOR HANGER ROD SIZE. FOR CEILING SUSPENDED EQUIPMENT PROVIDE MIN. 3/8" DIA. HANGER ROD (REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS).
2. FOR RODS LONGER THAN 4' USE A SINGLE 1-1/2"x1-1/2"x1/4" ANGLE IRON WITH C-CLAMP FOR RODS 2-1/2" AND LARGER USE 2"x2"x1/4" ANGLE IRON BACK TO BACK AS SHOWN.
3. REFER TO TYPICAL METHOD OF SECURING HANGER RODS TO CONCRETE DECK DETAIL FOR ATTACHING HANGER RODS TO CONCRETE DECK.
4. REPAIR OF FIREPROOFING IN DOOR TO FACILITATE THE INSTALLATION OF HANGER RODS IN EXISTING CONSTRUCTION SHALL BE BY THE G.C.
5. USE OF C-CLAMPS AND SIDE BEAM CLAMPS IS LIMITED TO PIPING 2-1/2" AND UNDER.

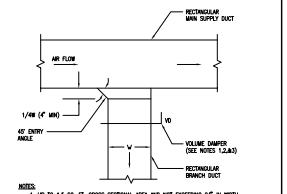
TYPICAL METHODS OF SECURING HANGER RODS TO STRUCTURAL STEEL DETAIL
SCALE: NTS



NOTES:
1. COORDINATE CURB STEP HEIGHT WITH ROOF DECK INSULATION THICKNESS

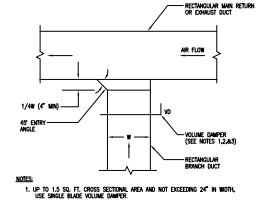
X DUCT PENETRATION THROUGH ROOF
SCALE: NTS

General Notes:



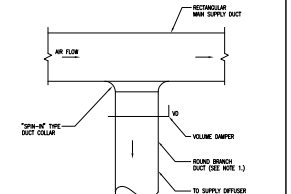
NOTES:
1. UP TO 1.5 SQ. FT. CROSS SECTIONAL AREA AND NOT EXCEEDING 24" IN WIDTH, USE SINGLE BLADE VOLUME DAMPER.
2. FOR CROSS SECTIONAL AREAS FROM 1.5 TO 3.0 SQ. FT. AND NOT EXCEEDING 24" IN WIDTH, USE 3 SINGLE BLADE VOLUME DAMPERS INDIVIDUALLY OPERATED TO FUNCTION IN AN OPPOSED MANNER.
3. FOR CROSS SECTIONAL AREAS GREATER THAN 3.0 SQ. FT. AND/OR EXCEEDING 24" IN WIDTH, USE GANG OPERATED OPPOSED BLADE VOLUME DAMPER AND FRAME ASSEMBLY.

X TYPICAL LOW PRESSURE RECTANGULAR SUPPLY DUCT TAKE-OFF DETAIL
SCALE: NTS



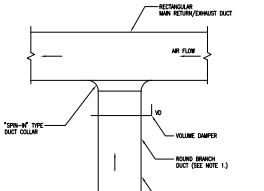
NOTES:
1. UP TO 1.5 SQ. FT. CROSS SECTIONAL AREA AND NOT EXCEEDING 24" IN WIDTH, USE SINGLE BLADE VOLUME DAMPER.
2. FOR CROSS SECTIONAL AREAS FROM 1.5 TO 3.0 SQ. FT. AND NOT EXCEEDING 24" IN WIDTH, USE 3 SINGLE BLADE VOLUME DAMPERS INDIVIDUALLY OPERATED TO FUNCTION IN AN OPPOSED MANNER.
3. FOR CROSS SECTIONAL AREAS GREATER THAN 3.0 SQ. FT. AND/OR EXCEEDING 24" IN WIDTH, USE GANG OPERATED OPPOSED BLADE VOLUME DAMPER AND FRAME ASSEMBLY.

X TYPICAL LOW PRESSURE RECTANGULAR RETURN/EXHAUST DUCT TAKE-OFF DETAIL
SCALE: NTS



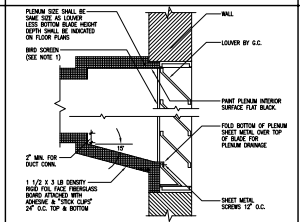
NOTE:
1. MAXIMUM ROUND DUCT SIZE SHALL BE 12"ø. REFER TO LOW PRESSURE RECTANGULAR SUPPLY DUCT TAKE-OFF DETAIL FOR BRANCH TAKE-OFFS GREATER THAN 12"ø.

X TYPICAL LOW PRESSURE RECTANGULAR TO ROUND SUPPLY DUCT TAKE-OFF DETAIL
SCALE: NTS



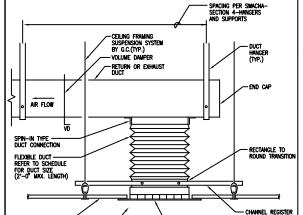
NOTE:
1. MAXIMUM ROUND DUCT SIZE SHALL BE 12"ø. REFER TO LOW PRESSURE RECTANGULAR RETURN/EXHAUST DUCT TAKE-OFF DETAIL FOR BRANCH TAKE-OFFS GREATER THAN 12"ø.

X TYPICAL LOW PRESSURE RECTANGULAR TO ROUND RETURN/EXHAUST DUCT TAKE-OFF DETAIL
SCALE: NTS

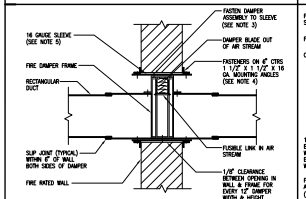


NOTES:
1. COVER INSIDE FACE OF LOUVER WITH 1/2" MESH ALUMINUM BIRD SCREEN SCREWED IN PLACE.
2. INSULATE UNUSED PORTION OF LOUVER WITH 1 1/2" GLASS FIBER INSULATING BOARD.
3. SEAL ALL PLENUM SEAMS WATERTIGHT WITH SILICONE SEALANT.
4. TYPICAL FOR SUPPLY AND EXHAUST PLENUMS.
5. PROVIDE ACCESS DOOR IN PLENUM. DOOR SHALL BE FIELD COORDINATED FOR ACCESS. DOOR SIZE SHALL BE 30" HIGH x 18" WIDE. REFER TO SPEC FOR DOOR CONSTRUCTION.

X INTAKE AND EXHAUST LOUVER INSTALLATION DETAIL
SCALE: NTS

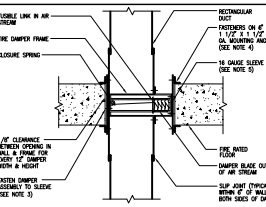


X TYPICAL EXHAUST/RETURN REGISTER DETAIL WITH FLEXIBLE DUCT CONNECTION
SCALE: NTS



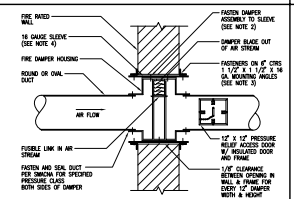
NOTES:
1. INSTALL ACCESS DOOR IN DUCT FOR DAMPER ACCESS.
2. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND NFPA-90A.
3. REFER TO SMACNA-"FIRE, SMOKE AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC SYSTEMS" FOR FIRE DAMPER INSTALLATION DETAILS.
4. MOUNTING ANGLES SHALL BE 2" X 2" X 16 GA. FOR DAMPERS 48" OR LARGER IN WIDTH OR HEIGHT.
5. SLEEVE THICKNESS SHALL NOT BE LESS THAN THE GAUGE OF THE DUCT.

VERTICAL FIRE DAMPER INSTALLATION DETAIL LOW PRESSURE RECTANGULAR DUCT
SCALE: NTS



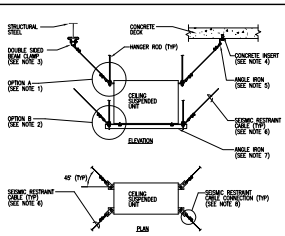
NOTES:
1. INSTALL ACCESS DOOR IN DUCT FOR DAMPER ACCESS.
2. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND NFPA-90A.
3. REFER TO SMACNA-"FIRE, SMOKE AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC SYSTEMS" FOR FIRE DAMPER INSTALLATION DETAILS.
4. MOUNTING ANGLES SHALL BE 2" X 2" X 16 GA. FOR DAMPERS 48" OR LARGER IN WIDTH OR HEIGHT.
5. SLEEVE THICKNESS SHALL NOT BE LESS THAN THE GAUGE OF THE DUCT.

HORIZONTAL FIRE DAMPER INSTALLATION DETAIL LOW PRESSURE RECTANGULAR DUCT
SCALE: NTS



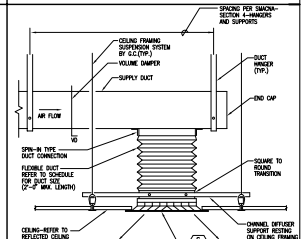
NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND NFPA-90A.
2. REFER TO SMACNA-"FIRE, SMOKE AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC SYSTEMS" FOR FIRE DAMPER INSTALLATION DETAILS.
3. MOUNTING ANGLES SHALL BE 2" X 2" X 16 GA. FOR DAMPERS 48" OR LARGER IN WIDTH OR HEIGHT.
4. SLEEVE THICKNESS SHALL BE 14 GAUGE FOR DUCTS OVER 24"ø, OVER 24" IN HEIGHT, OR OVER 36" IN WIDTH.

VERTICAL FIRE DAMPER INSTALLATION DETAIL HIGH PRESSURE ROUND OR OVAL DUCT
SCALE: NTS

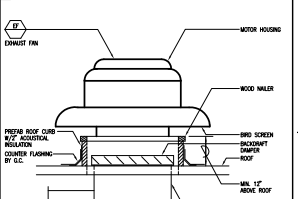


NOTE:
1. OPTION A APPLIES TO EQUIPMENT HAVING TOP OR SIDE ATTACHMENT.
2. OPTION B APPLIES TO EQUIPMENT SUPPORTED FROM THE BOTTOM OF THE EQUIPMENT.
3. USE DOUBLE SIDED BEAM CLAMPS FOR ATTACHMENT TO STRUCTURAL STEEL OR JOISTS.
4. USE CONCRETE INSERTS FOR ATTACHMENT TO CONCRETE DECK TYPE CONSTRUCTION.
5. ANGLE IRON SHALL BE 2-1/2"x2"x1/4" ANGLE 2" WIDE WITH (2) 9/16" HOLES FOR FASTENING TO CONCRETE SEISMIC BRACING.
6. SIZE CABLE BASED ON SEISMIC HAZARD LEVEL SPECIFIED. PROVIDE CABLE WITH 1/2" OF SLACK WHERE CABLES ARE USED WITH VIBRATION ISOLATED EQUIPMENT.
7. PROVIDE 2 ANGLES FOR BOTTOM SUPPORT OF UNIT (OPTION B). PROVIDE (4) 2"x 2"x 1/4" ANGLES WELDED TO BOTTOM SUPPORT ANGLES AND TO UNIT. (THIS IS NOT REQUIRED WHERE UNIT IS PROVIDED WITH BOTTOM MOUNTING HOLES).
8. REFER TO SMACNA-"SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS" FOR CABLE CONNECTION DETAIL.

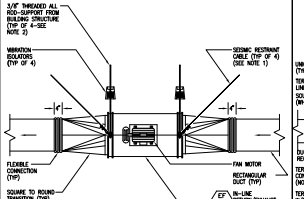
X TYPICAL SEISMIC BRACING FOR CEILING MOUNTED EQUIPMENT DETAIL
SCALE: NTS



X TYPICAL SUPPLY DIFFUSER DETAIL WITH FLEXIBLE DUCT CONNECTION
SCALE: NTS

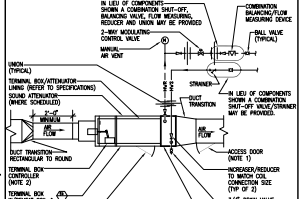


X ROOF EXHAUST FAN INSTALLATION DETAIL
SCALE: NTS



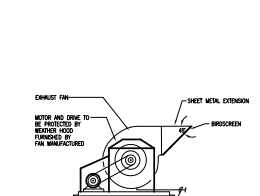
NOTES:
1. INSTALL SEISMIC RESTRAINT CABLE PER SPECIFICATIONS, SMACNA SEISMIC RESTRAINT MANUAL-GUIDELINES FOR MECHANICAL SYSTEMS, AND "TYPICAL SEISMIC BRACING FOR CEILING MOUNTED EQUIPMENT DETAIL".
2. REFER TO "TYPICAL METHOD OF SECURING HANGER RODS DETAIL" FOR ATTACHING FAN TO BUILDING STRUCTURE.

INLINE CENTRIFUGAL RETURN/EXHAUST FAN INSTALLATION DETAIL
SCALE: NTS



NOTES:
1. PROVIDE ACCESS DOORS UPSTREAM AND DOWNSTREAM OF REHEAT COIL TO FACILITATE CLEANING OF COIL. ACCESS DOOR UPSTREAM OF REHEAT COIL SHALL BE PROVIDED BY TERMINAL BOX MANUFACTURER.
2. MAINTAIN MIN. 18" CLEAR IN FRONT OF TERMINAL BOX CONTROLLER FOR MAINTENANCE.

X SINGLE DUCT TERMINAL BOX INSTALLATION DETAIL
SCALE: NTS



X ROOF EXHAUST FAN DETAIL
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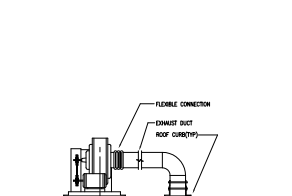

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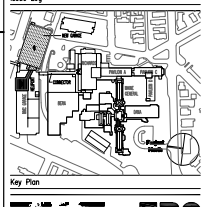
PERMIT	08/16/04	PERMIT SET
BID	08/26/04	BID SET

Issue Log



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ARCHITECTURE
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Maine Medical Center
Pkg F - Garage / Vault / Conn / Heliport
Portland, ME MMC Project No. 21845

Drawing Title
HVAC
TYPICAL DETAILS

0' 0 0 0 0

Commission No.	4678	Date Issued	08/26/04
Scale	NTS	Sheet Number	PKG-F
Drawn By	FMC		H601
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Filename	4678H01		

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