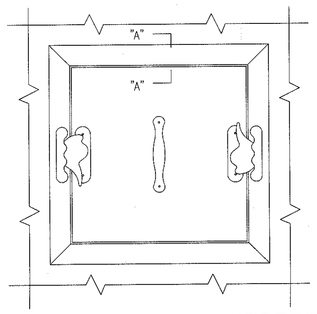
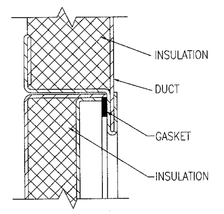
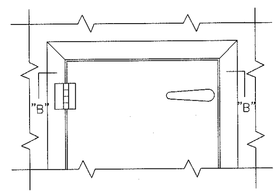
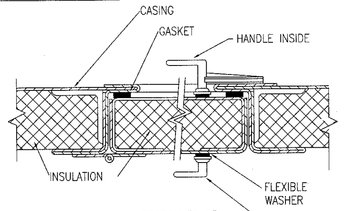




SECTION "A-A"

ACCESS PANEL





ACCESS DOOR

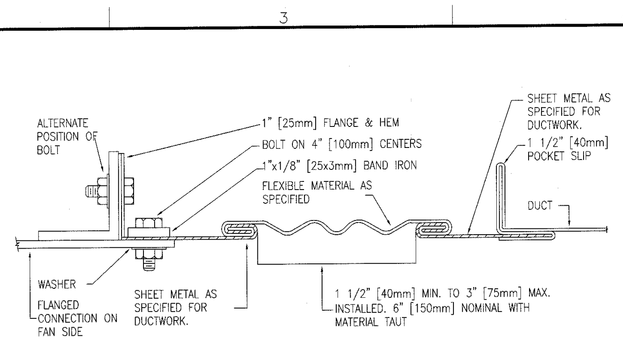
SECTION "B-B"

NOTES:
1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS.
3. SEE SMACNA 2005, FIGURE 9-15

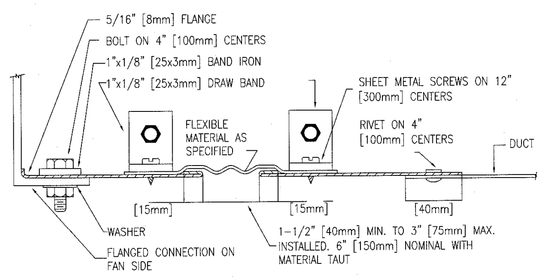
ACCESS PANEL AND DOOR DETAIL

1 / 1-H10

NTS



RECTANGULAR FLEXIBLE CONNECTION

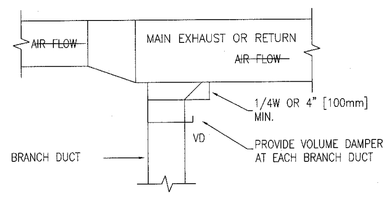


ROUND FLEXIBLE CONNECTION

FLEXIBLE DUCT CONNECTIONS

4 / 1-H10

NTS



PLAN VIEW

EXHAUST OR RETURN BRANCH DUCTWORK

5 / 1-H10

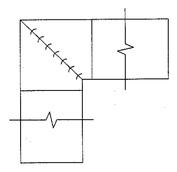
NTS

PLAN VIEW

SUPPLY DUCT TAKEOFF - AIR TERMINAL UNITS

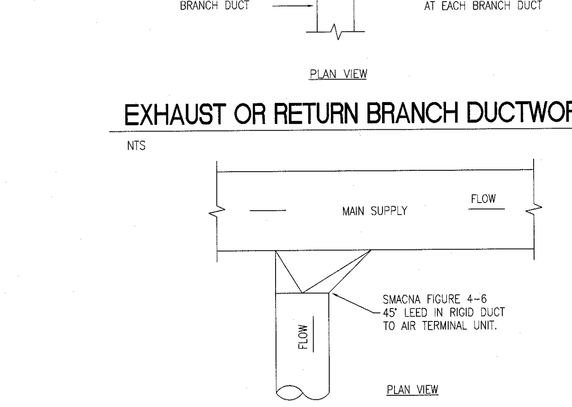
6 / 1-H10

NTS

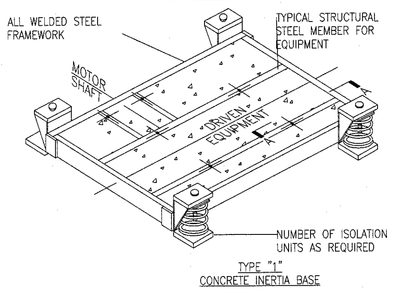


NOTE:

1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" [50mm] RADIUS, 1 1/2" [40mm] MAXIMUM SPACE BETWEEN VANES AND A 3/4" [20mm] TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" [500mm] VANES SHALL BE DOUBLE VANE TYPE.



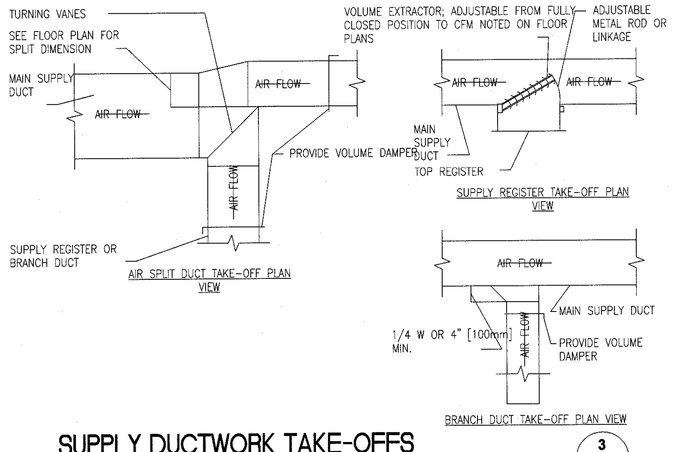
SECTION A-A



VIBRATION ISOLATION BASES

2 / 1-H10

NTS



SUPPLY DUCTWORK TAKE-OFFS

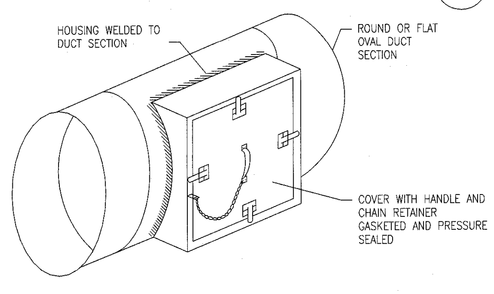
3 / 1-H10

NTS

DUCTWORK SQUARE VANE ELBOWS

7 / 1-H10

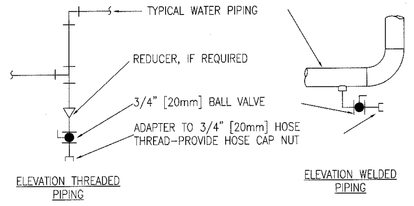
NTS



ACCESS SECTION FOR ROUND/OVAL DUCT

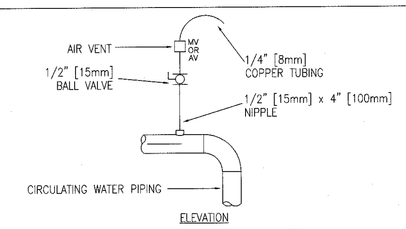
8 / 1-H10

NTS



TYPICAL HOT WATER PIPING DRAIN VALVE CONNECTIONS

NOTES:
1. DRAIN ALL LOW POINTS AS INDICATED ABOVE.
2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.



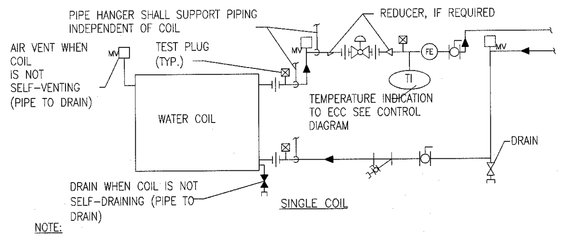
TYPICAL MANUAL AIR VENT

NOTES:
1. VENT ALL HIGH POINTS INDICATED ABOVE.
2. IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN.

DRAIN VALVE AND AIR VENT CONNECTIONS (HYDRONIC SYSTEMS)

9 / 1-H10

NTS



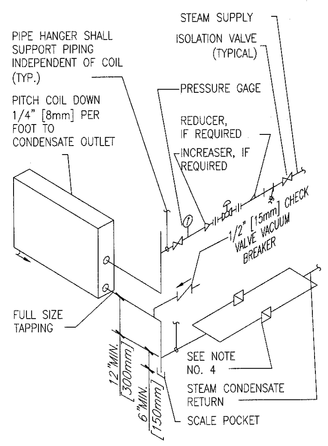
NOTE:

1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATORS THE FIRST 2 HANGERS FOR EACH PIPE SHALL BE SPRING & NEOPRENE TYPE. TYPE "H" FOR 4" [100mm]ø PIPE & SMALLER. TYPE "H-P" FOR 5" [125mm]ø PIPE & LARGER.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALES, OR EQUIPMENT.
3. THE FLOW ELEMENT MAY BE INSTALLED IN THE SUPPLY PIPING IF THE REQUIRED MINIMUM UPSTREAM AND DOWNSTREAM DIMENSIONS CANNOT BE OBTAINED IN THE RETURN PIPING.

WATER COILS - PIPING CONNECTIONS

10 / 1-H10

NTS



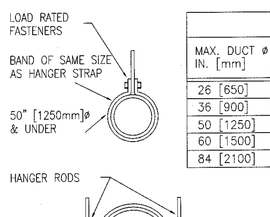
NOTE:

1. STEAM IS TO BE PROVIDED BY ELECTRIC STEAM GENERATING UNIT
2. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATOR UNITS, THE RUNOUT PIPING FOR CONNECTIONS TO COIL SHALL BE INSTALLED WITH SWING JOINTS TO ALLOW FOR THE VIBRATION.
3. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALVES, OR EQUIPMENT.
4. TRAP EACH COIL SEPARATELY WHEN INSTALLED IN A BANK OF TWO OR MORE HIGH. ALSO PROVIDE SEPARATE VACUUM BREAKER FOR EACH COIL.
5. TWO TRAP ASSEMBLIES IN PARALLEL ARE SHOWN. TWO TRAPS REQUIRED WHEN CONDENSATE LOAD IS 5,000 LBS/HR [2400 KG/HR] OR GREATER.
6. SUPPLY & RETURN PIPES ARE SHOWN FROM SAME END. REHEAT COIL MAY HAVE SUPPLY & RETURN PIPES FROM OPPOSITE ENDS.

STEAM COIL - PIPING CONNECTIONS

11 / 1-H10

NTS



HANGER STRAPS OR RODS

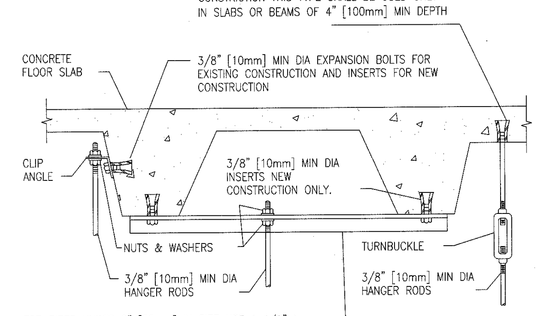
MAX. DUCT ø IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS. [kg]	MAX SPACING IN. [mm]
26 [650]	ONE 1 [25] x 22 GA STRAP	260 [119]	144 [3600]
36 [900]	ONE 1 [25] x 18 GA STRAP	420 [190]	144 [3600]
50 [1250]	ONE 1 [25] x 16 GA STRAP	700 [317]	144 [3600]
60 [1500]	TWO 3/8 [10]ø. RODS	1320 [598]	144 [3600]
84 [2100]	TWO 1/2 [13]ø RODS	2500 [1133]	144 [3600]

NOTE:
TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

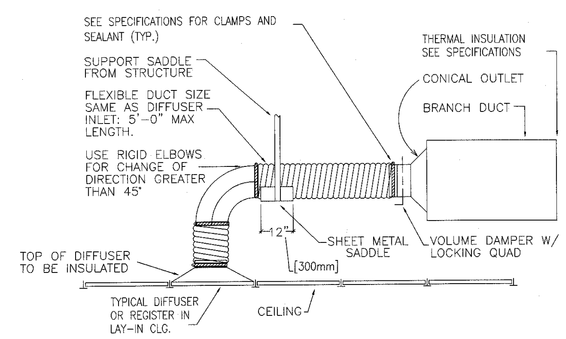
ROUND DUCT HANGERS

12 / 1-H10

NTS



FOR PIPES UNDER 2" [50mm] IN SIZE USE 1 1/2"x1 1/2"x1/4" [40x40x6.4mm] ANGLE. ALL PIPES 2" [50mm] & LARGER USE 3"x3"x1/4" [75x75x6.4mm] ANGLE



FLEXIBLE AIR DUCT CONNECTOR

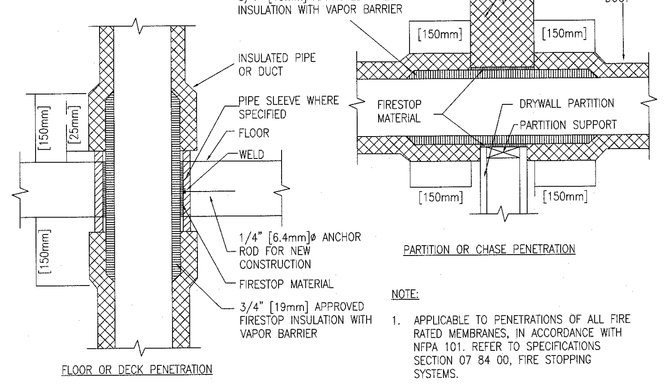
13 / 1-H10

NTS

SECURING HANGER RODS IN CONCRETE

14 / 1-H10

NTS



FLOOR OR DECK PENETRATION

PARTITION OR CHASE PENETRATION

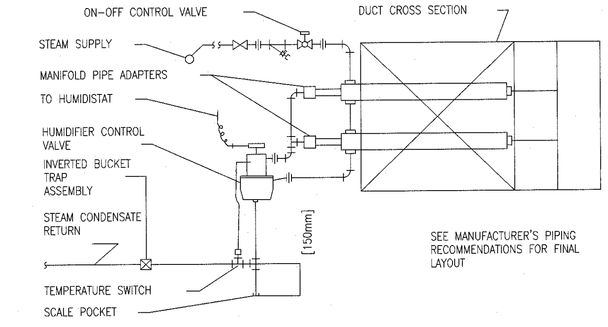
NOTE:

1. APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH NFPA 101. REFER TO SPECIFICATIONS SECTION 07 84 00, FIRE STOPPING SYSTEMS.

PIPE/DUCT PENETRATION OF SMOKE/FIRE BARRIERS

15 / 1-H10

NTS



STEAM HUMIDIFIER-PIPING CONNECTIONS (MULTIPLE DISPERSION TUBES

16 / 1-H10

NTS

FULLY SPRINKLERED BUILDING
BID DOCUMENTS

Revisions:	Date

CONSULTANTS:

KERRY LEE PICKETT 36602-006 REGISTERED PROFESSIONAL ENGINEER STATE OF WISCONSIN 7/19/12

ARCHITECT/ENGINEERS:

PARADIGM
ENGINEERS AND CONSTRUCTORS
PO BOX 436223 Louisville, Kentucky 40253 – PH: 502.339.8511 – www.paradigmusa.com

19 July 2012 BLAINE CAMIEL VAN GANSBEKE 24,788 LICENSED PROFESSIONAL ENGINEER STATE OF KENTUCKY

Drawing Title: MECHANICAL DETAILS 2

Approved Project Director

Project Title: SURGICAL SUPPORT AND LOCKERS

Location: IOWA CITY VAMC
601 HIGHWAY 6 WEST, IOWA CITY, IOWA 52246-2208

Date: 07-13-12 | Checked: KLP | Drawn: JEM

Project Number: 636A8-11-011

Building Number: 1

Drawing Number: 1-H10

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231