





 osmac coposes $x$ res sax

 $1^{5}$





 8. THE New








 COMPEETON OF NSTALLATON ANO TEST \& BLNMCE








## EXPLODED VIEW OF FLANGED CONNECTION

TYPICAL FOR ALL EXHAUST DUCTS NOT TO SCALE

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NOTES:

1. ALL CONNECTOR FITTINGS SHALL BE WITH THREADED CONNECTIONS WITH O-RINGS. COMPRESSION FITTINGS ARE DT ALLOWED
2. LEAK DETECTION MODEL SHALL BE SERIES 1000 LEAK-GOPHER, OR APPROVED EQUAL. FOR LARGE DISTRIBUTED SYSTEMS, AUTOMATIC FLOW LIMITING DEVICES MAY BE REQUIRED IN PLACE OF LEAK DETECTION. (PROVIDE O-LOGIC SYSTEM OR EQUAL)
3. FLOOR DRAINS SHALL BE REQUIRED FOR INSTALLATIONS IN NEW BUILDING, BUT FOR RENOVATIONS SHALL BE CONSIDERED ON A CASE-BY-CASE SCENARIO
4. PRV SHALL BE BRASS CONSTRUCTION (WATTS OR APPROVED EQUAL)
5. GFCI RECEPTACLE SHALL BE REQUIRED WHEN NECESSARY AS REQUIRED TO MEET CODE.
6. ALL SHOWN RIGID PIPE (COPPER, STAINLESS STEEL, OR POLYPROPYLENE) SHALL BE INSTALLED BY A PROFESSIONAL
7. ALL INSTALLATIONS MUST BE APPROVED BY FMD. DEPENDING UPON LOCATION RELATIVE TO SENSITIVE EQUIPMEN (ELECTRICAL ROOMS, RESEARCH EQUIPMENT, ETC.) REQUIREMENTS MAY VARY.
8. ANY PIPING DISTRIBUTION BEYOND THE FINAL FILTER SHALL BE STAINLESS STEEL OR HEAT-FUSED POLYPROPYLENE AND SHALL BE PROPERLY SUPPORTED WITH PIPE HANGERS, SADDLES, PIPING CLAMPS, ETC., UNLESS THE END SOURCE IS DIRECTLY ADJACENT TO THE DI TANKS, THEN POLYETHYLENE TUBING IS ACCEPTABLE

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## TRAPEZE HANGER INSULATION DETAIL NO SCALE

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A.H.U. COIL PIPING DETAIL - SINGLE COIL SCHEMATIC ONLY

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2. ALL HORIZONTAL CONNECTIONS TO COILS FROM VERTICAL RS TO BE SIZE OF COIL CONNECTIONS
3. ALL COMPONENTS, INCLUDING DRAIN VALVE ADAPTER CAPS, TO BE RATED FOR FULL SYSTEM OPERATING PRESSURE
4. CIRCUIT SETTER SHALL BE TOUR AND ANDERSON, MODEL STAD, OR APPROVED EQUAL
5. INSTALL CONTROL VALVE PACKAGE IN HORIZONTAL PIPE RUN AS
REQUIRED TO FACIIITATE COIL REMOVAL.

## LOOP PUMP SEQUENCE OF OPERATION

1. WHEN THE OUTSIDE AIR TEMPERATURE DROPS BELOW $50^{\circ} \mathrm{F}$ (ADJ.), THE LOOP PUMP SHALL BE ENERGIZED
2. THE TWO-WAY CONTROL VALVE SHALL MODULATE AS
3. THE LOOP PUMP SHALL SHUT OFF WHEN THE OUTSIDE AIR TEMPERATURE RISES ABOVE $52^{\circ} \mathrm{F}$ (ADJ.).
A.H.U. COIL PIPING DETAIL
HOT WATER COIL WITH LOOP PUMP \& 2-WAY VALVE schematic only
4. DESIGNER NOTE: LOOP PUMP SEQUENCE OF OPERATION TO BE

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FAN COIL UNIT \& TERMINAL UNIT COIL PIPING DETAIL 2-WAY VALVE CONFIGURATION
(sChematic only)

## NOTES:

1. ARRANGE ALL PIPING TO ALLOW REMOVAL OF COIL.
2. PIPING SHOWN IS DIAGRAMMATIC.
3. ALL COMPONENTS, INCLUDING DRAIN VALVE ADAPTER CAPS, TO BE RATED FOR FULL SYSTEM OPERATING PRESSURE.
4. CIRCUIT SETTERS SHALL BE TOUR AND ANDERSON, MODEL STAD, OR APPROVED EQUAL.


NOTES:

1. ARRANGE ALL PIPING TO ALLOW REMOVAL OF COIL.
2. PIPING SHOWN IS DIAGRAMMATIC
3. ALL COMPONENTS, INCLUDING DRAIN VALVE ADAPTER CAPS, TO BE RATED FOR FULL SYSTEM OPERATING PRESSURE.
4. CIRCUIT SETTERS SHALL BE TOUR AND ANDERSON, MODEL STAD, OR APPROVED EQUAL

FAN COIL UNIT \& TERMINAL UNIT COIL PIPING DETAIL 3-WAY VALVE CONFIGURATION
(SCHEMATIC ONLY)

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PUMP \& GAUGE MANIFOLD PIPING DETAIL NOT TO SCALE.


PREFERRED PIPING MATERIAL: COPPER
$\frac{\text { PIPING DETALL TO ASSIST IN KEEPING SYSTEM PRESSURE DROPS LOW. }}{\text { SCALE: N.T.S. }}$


GUIDELINES FOR PIPING INSTALLATION
SCALE: N.T.S.
note: DEAD

1. NO C
2. INTERCONNECTNG PPiPNG 2

T//SEC VELOCTY OR LESS.
3. OISTRBUTION HEADER 30
4. FEED TO PROCESSS SHOULD aE 35 FPS OR LESS.

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(1) blow-through condensate drain traps SCALE: NONE


Notes:

1. ALL CONDENSATE DRAN LNES SHAL BE FUL SIZE OF DRAIN PAN OUTLE
2. 1 DO NOT PENETRATE FLOOR SLAB WITH TRAP.
(2) DRAW-THROUGH CONDENSATE DRAIN TRAPS SCALE: NONE


NOTES:

1. ALL CONDENSATE DRAIN LINES SHALL BE FULL SIZE OF DRAIN PAN OUTLET 2. A $=$ UNIT TOTAL STATIC PRESSURE (T.S.P.).
(3) CONDENSATE DRAIN TRAPS SCALE: NONE

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AUTOMATIC AIR VENT (1/2" SPIROTOP OR
APPORVED EQUAL)


1/2"x 4" NIPPLE
FULL PIPE SIZE -

PIPE TO FLOOR OR INDIRECT DRAIN, FULL SIZE OF CONNECTION


NOTES:

1. VENT ALL HIGH POINTS AS INDICATED ABOVE.
2. PROVIDE BALL VALVE IN ACCESSIBLE LOCATION

WHERE DISCHARGE FROM TUBING CAN BE OBSERVED. PROVIDE AAV WHERE INDICATED. PROVIDE BALL VALVE AHEAD OF AAV.

## AUTOMATIC AIR VENT DETAIL

 SCALE: NONE| 0 | INITIAL FOR UGA STANDARDS | $05 / 01 / 2023$ |
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PIPE TO FLOOR OR INDIRECT DRAIN, FULL SIZE OF CONNECTION

BALL VALVE (TYP.)
FULL PIPE SIZE


1/2"x 4" NIPPLE
$\overline{\mathrm{O}}-$ NOTE 2

MANUAL AIR VENT DETAIL
SCALE: NONE

## NOTES:

1. VENT ALL HIGH POINTS AS INDICATED ABOVE.
2. PROVIDE BALL VALVE IN ACCESSIBLE LOCATION WHERE DISCHARGE FROM TUBING CAN BE OBSERVED.


NOTES:

1. IDENTIFY ALL "TIE DOWNS" INCLUDING ON STRAIGHT RUNS OF PIPE WITH 4" WIDE PLASTIC ADHESIVE BANDS TAPED ALL AROUND AND MARKED "VAPOR PROOFED TO IPE.'PROVIDE TE-DOWNS EVERY
2. DO NOT DAMAGE VAPOR BARRIERTIII DOWNS ON EXISTING WORK WHEN ADDING NEW WORK. REPAIR ANY DAMAGE DONE.
3. PROVIDE INSULATION ON AL

INSTRUMENTS, VALVES, PROBES, PETE'S LUGS, TO PREVENT

RIPPING. INSULATION PPRE ARMAFLEX" OR OTHER APPROVED FLEXIBLE CEL
NSULATIO FIXED WITH
MANUFACTURER'S APPROVED ADHESIVE OR "NO DRIP" TAPE NEATLY APPLIED. THE CELLULAR INSULATION SHALL BE FORMED NTO A "CUP" OF SUITABLE DIAMETER TO APED TO THE VURF, PROBE, ETC. AND NSULATION.


INSULATION TIE DOWN AT EQUIPMENT COLD PIPING


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(1) DIVERGING DUCT TRANSITION

UNLESS NOTED OTHERWISE ON PLANS, ANGLES SHOWN SHALL APPLY

(2) TRANSITION AT EQUIPMENT

UNLESS NOTED OTHERWISE ON PLANS, ANGLES SHOWN SHALL APPLY

(3) CONVERGING DUCT TRANSITION

UNLESS NOTED OTHERWISE ON PLANS, ANGLES SHOWN SHALL APPLY

## DUCT TRANSITIONS

SCALE: NONE

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1. WHERE EXTERNAL DUCT WRAP INSULATION IS UTILIZED, POLYISOCYANURATE BOARD WHERE EXTERNAL DUCT WRAP INSULATION IS UTILIZED, POLYISOCYANURATE BOARD
INSULATION WILL BE USED AT BETWEEN SUPPORT AND DUCT WITH SAME THICKNESS AS EXTERNAL DUCT WRAP INSULATION. OOF FACING BEYO TAPE SECURELY.
2. ONE HALF-ROUND MAY BE USED IF DUCT RETAINS IT'S SHAPE.
$\frac{\text { DUCT HANGER SUPPORT DETAIL }}{\text { NO SCALE }}$


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## DUCT BRANCH TAKE-OFF DETAIL

NO SCALE

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SECTION THROUGH FIRE DAMPER AT FIRE RATED FLOOR

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## DETAIL OF CONNECTION OF TRANSITE DUCTWORK AND STAINLESS STEEL DUCTWORK <br> SCALE: NONE

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(1) DUCTED RETURN DETAIL SCALE: NONE

(3) PLENUM RETURN DETAIL SCALE: NONE

(2) PLENUM RETURN DETAIL

(4) RETURN GRILLE CONNECTION DETAIL SCALE: NONE

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## EXHAUST GRILLE CONNECTION DETAIL

SCALE: NONE



TRANSFER DUCT DETAIL
NOT TO SCALE

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TRANSFER DUCT
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SECURE FLEXIBLE DUCT TO METAL DUCT\& DIFFUSER WITH STAINLESS STEEL SCREW AND CLAMP


INSULATED SUPPLY DUCT
U.L. LISTED CLASS 1 AIR DUCT CONNECTOR WITH STANDOFF BRACKET AND BALANCING DAMPER INSULATED FLEXIBLE DUCT; INSIDE DIAMETER AS NOTED ON PLANS

DIFFUSER; SIZE AS NOTED ON PLANS


DIFFUSER CONNECTION DETAIL SCALE: NONE

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