ROOFTOP EQUIPMENT PIPING RUNOUT

EQUIPMENT	CONDENSATE DRAIN SIZE
3 TON RTU	3/4"

GENERAL INFORMATION:
1. RUNOUT SIZES ARE FOR INDIVIDUAL PIECES OF EQUIPMENT. REFER TO ROOF PLAN FOR COMBINED LINES SIZES.
2. CONDENSATE PIPE SIZE IS DOWNSTREAM OF 4" REDUCER. REFERENCE CONDENSATE DRAIN/SUPPORT DETAIL.

AIR DEVICE SCHEDULE

MARK	SERVICE	MANUFACTURER	MODEL	STYLE	FRAME TYPE	FACE SIZE	NOTES
CD	SUPPLY AIR	TUTTLE & BAILEY E.H.PRICE CARNES	S1200 SCD SFTB	ROUND NECK CEILING DIFFUSER	LAY-IN	24"x24"	B, D, E
CD4	SUPPLY AIR (DIRECTIONAL)	TUTTLE & BAILEY E.H.PRICE CARNES	M SMD SKFA	ROUND NECK CEILING DIFFUSER	LAY-IN	24"x24"	B, D, E, L, M
EAG	EXHAUST AIR	TUTTLE & BAILEY E.H.PRICE CARNES	CRE500 80TB RAPAH	1/2"x1/2"x1/2" EGGCRATE CEILING GRILLE	LAY-IN	24"x24"	C, D, E, F
RAG	RETURN AIR	TUTTLE & BAILEY E.H.PRICE CARNES	CRE500 80TB RAPAH	1/2"x1/2"x1/2" EGGCRATE CEILING GRILLE	LAY-IN	24"x24"	C, D, E, F

VOLUME / BALANCE DAMPER SCHEDULE

TYPE	MANUFACTURER / MODEL
ROUND	AES / WMVCD RUSKIN / WMRS25
RECTANGULAR	AES / AMD4 RUSKIN / WMD25

GENERAL INFORMATION (ALL DEVICES):
1. INSTALL BOTTOM OF WALL MOUNTED AIR DEVICES AT ELEVATION INDICATED ON DRAWINGS UNLESS NOTED OTHERWISE.
2. BALANCE DAMPER CONTACTS: □
   AES - (800) 786-0402
   RUSKIN - (816) 761-7476

NOTES:
A. 6-WAY (DB1-DB3) OR 4-WAY (DB4-DB8) THROW UNLESS SHOWN OTHERWISE WITH FLOW ARROWS ON PLAN.
B. ALL STEEL CONSTRUCTION.
C. ALL ALUMINUM CONSTRUCTION.
D. BRANCH DUCT SIZE SHALL BE SAME AS NOTED DIFFUSER NECK SIZE UNLESS NOTED OTHERWISE.
E. STANDARD WHITE FINISH.
F. PROVIDE NECK FOR DUCT CONNECTION.
G. DROP BOX DIFFUSERS FURNISHED BY OWNER INSTALLED BY CONTRACTOR. REFERENCE SPECIFICATIONS.
H. PROVIDE INTEGRAL OPPOSED BLADE DAMPERS ON ALL DRUM LOUVERS ON DROP BOXES WITH BRANCH DUCTWORK ATTACHED TO THE SUPPLY PLENUM.
I. PROVIDE MANUFACTURER'S OPPOSED BLADE DAMPER ACCESSIBLE THROUGH FACE UNLESS NOTED OTHERWISE.
J. PROVIDE WITH FASTENERS FOR COMPLETE (NON-HINGED) REMOVABILITY OF GRILLE. DO NOT PROVIDE FILTER UNLESS NOTED OTHERWISE.
K. TWO 2" SLOTS WITH MANUFACTURER'S INSULATED PLENUM (TUTTLE & BAILEY LP, PRICE JSPI, CARNES CXPC.)
L. REFER TO PLANS FOR DIRECTIONAL ARROWS INDICATING CFM THROWS FOR PROPER GRILLE SELECTION. NO DIRECTIONAL ARROWS INDICATES 4-WAY THROW.
M. PROVIDE ROUND NECK ADAPTER
N. PROVIDE CEILING TRANSITION REGISTER BOX WITH 16" OR 24" PLATE FOR ROUGH-IN.

ROOFTOP UNIT SCHEDULE (LENNOX)

ALL PRODUCTS ON THIS SCHEDULE ARE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. REFER TO SPECIFICATIONS.

			NOMINAL	SUPPLY FAN						EFFICIENCY		HEATING TYPE		SMOKE	ELECTRICAL				
MARK	AREA SERVED	MODEL	CAPACITY (TONS)	CFM	HP	ESP (IN.)	DRIVE KIT	OUTSIDE AIR CFM	OPERATION	ARI SEER	ARI EER	GAS (MBH)	ELEC (KW)	DETECTOR LOCATION	VOLTS	MCA	MOCP	WEIGHT (LBS)	NOTES
RTU 39	VISION CENTER	SCH036H4EE1G	3.0	1425	1.50	0.50	ECM	140	AUTO	18.6	13.9		15	N/A	460	26.0	30	966	ALL

□ GENERAL INFORMATION (ALL UNITS): □
1. UNITS ARE 3 PHASE, 60 HERTZ. UNITS MUST BE UL OR ETL AS WELL AS AGA APPROVED. MINIMUM AFUE = 80%.
2. OUTSIDE AIR IS CONDITIONED THROUGH THE AIR HANDLING UNITS FOR THE SALES FLOOR AREA AND THROUGH THE ROOFTOP UNITS AS SCHEDULED ABOVE IN ACCORDANCE WITH ASHRAE 62.1-2010.
3. FURNISHED WITH FACTORY INSTALLED SMOKE DETECTORS. SMOKE DETECTORS ARE NOT REQUIRED IN UNITS SUPPLYING OVER 2000 CFM THAT ARE NOT CAPABLE OF SPREADING SMOKE BEYOND THE ENCLOSING WALLS, FLOORS AND CEILINGS FOR THE ROOM OR SPACE IN WHICH THE SMOKE IS GENERATED PER IMC SECTION 606.2.
4. REFRIGERANT R-410A.
5. FURNISHED WITH FACTORY INSTALLED HACR-TYPE RATED CIRCUIT BREAKER.
6. SINGLE POINT POWER AND GAS ENTRY CONNECTIONS. □
7. ROOF CURB AND ANCHOR BRACKETS FURNISHED BY OWNER, INSTALLED BY CONTRACTOR. REFER TO SPECIFICATIONS AND HVAC SEISMIC/WIND RESTRAINT BRACKET DETAIL.
8. FURNISHED WITH FACTORY INSTALLED RTU CONTROLLER. REFER TO SCHEDULE NOTES FOR BAS VENDOR SPECIFIC REQUIREMENTS.
9. REFER TO SCHEDULE NOTES FOR UNIT-SPECIFIC TEMPERATURE SENSORS.
10. FURNISHED WITH FACTORY INSTALLED HIGH PERFORMANCE, FULLY MODULATING ECONOMIZER.
11. FURNISHED WITH FACTORY INSTALLED CONVENIENCE RECEPTACLE.
12. MULTI-STAGE COOLING UNITS ARE PROVIDED WITH MULTI-STAGE SUPPLY AIR VOLUME (MSAV) TECHNOLOGY FOR PART-LOAD OPERATION ENERGY SAVINGS.
13. FURNISHED WITH 2 INCH, MERV8 (MINIMUM EFFICIENCY REPORTING VALUE) AIR FILTER.

□ NOTES: □
A. FIELD INSTALLED CONTROLS BY CONTRACTOR. REFER TO BAS SHEETS FOR ADDITIONAL INFORMATION.

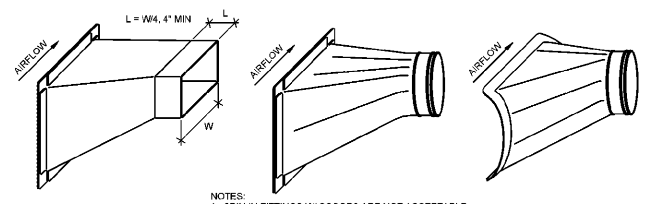
FAN SCHEDULE

MARK	AREA SERVED	MANUFACTURER	MODEL	CFM	ESP (IN.)	MOUNTING FAN TYPE	VOLTS	PH	HP	DRIVE	CONTROL METHOD	NOTES
EF 13	VISION CENTER	CARNES ACME PENNBARRY GREENHECK	VEDK06J2 W/ FCP PRN080-1 DX08R G-070-D	125	0.300	ROOFTOP CENTRIFUGAL	120	1	0.125	DIRECT	WALL SWITCH	A, B, C, D, E

GENERAL INFORMATION: □
1. FANS MUST AMCA CERTIFIED AS WELL AS UL OR ETL LISTED. □
2. SCHEDULED FAN HORSEPOWERS ARE MAXIMUM AND MAY VARY BETWEEN MANUFACTURERS.
□□
NOTES: □
A. FURNISH WITH FACTORY MOUNTED DISCONNECT.
B. FURNISH WITH GRAVITY BACKDRAFT DAMPER AND BIRDSCREEN.
C. ROOF CURB PROVIDED BY GENERAL CONTRACTOR. REFER TO SPECIFICATIONS.
D. FURNISH WITH FACTORY PRE-WIRED FAN SPEED CONTROLLER.
E. FASTEN THE BASE OF EQUIPMENT TO ROOF CURB WITH (8) #10 SCREWS WITH BONDED NEOPRENE WASHERS [illegible] PER SIDE.
F. PROVIDE SAIL SWITCH (HONEYWELL #S688A).
G. REF ELECTRICAL DRAWINGS FOR INFORMATION REGARDING FAN INTERLOCK.
H. REF ELECTRICAL DRAWINGS FOR INFORMATION REGARDING FAN CONTROL.
I. PROVIDE WITH MANUFACTURER'S CEILING GRILLE.
J. PROVIDE 12" CURB EXTENSION.
K. FURNISH WITH MANUFACTUTRER'S HINGE KIT AND INSTALL KIT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR NFPA 96 CLEANING ACCESS.

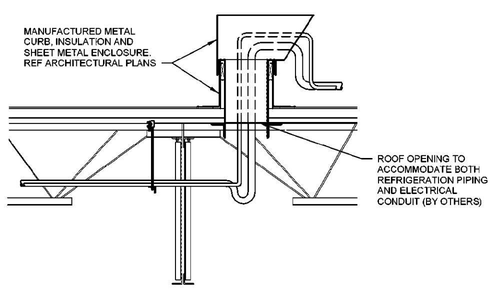
MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
18"x12"	RECTANGULAR DUCT 18" WIDE BY 12" DEEP
12" Ø	12" DIAMETER ROUND DUCT
	SUPPLY DUCT IN SECTION
	RETURN OR EXHAUST DUCT IN SECTION
	ELBOW WITH TURNING VANES
	TEE WITH TURNING VANES
	ROUND (OR OVAL) ELBOW
	VOLUME/BALANCE DAMPER
	SUPPLY AIR DIFFUSER WITH ROUND SUPPLY DUCT
	RETURN OR EXHAUST AIR DIFFUSER WITH ROUND DUCT
24 CD 450	BRANCH DUCT AND/OR NECK SIZE DIFFUSER OR GRILLE TYPE CFM
T	THERMOSTAT
S	TIMER
S-X	TEMP SENSOR
	CONNECT TO EXISTING
ETR	EXISTING TO REMAIN
FD	FIRE DAMPER



NOTES:
1. SPIN-IN FITTINGS W/ SCOOPS ARE NOT ACCEPTABLE
2. REF PLANS FOR RUNOUT SIZES
3. 45° LEAD IN

7 HIGH EFFICIENCY BRANCH DUCT FITTING
NTS



6 ROOF PENETRATION
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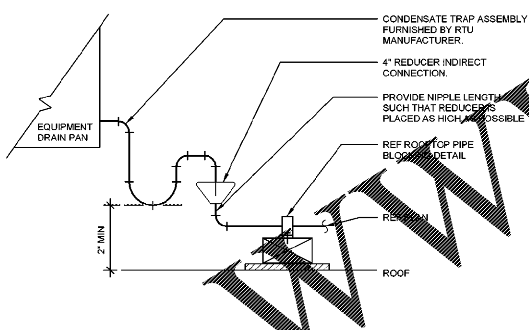
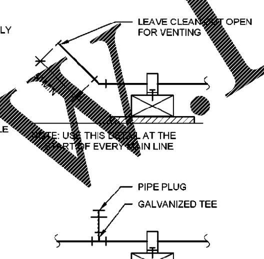


RTU CONNECTION

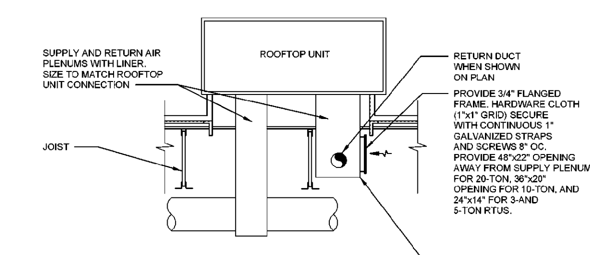


NOTE: USE THIS DETAIL AT THE START OF EVERY MAIN LINE

NOTE: THIS CLEAN OUT IS TO BE INSTALLED EVERY 100 FT IN THE MAIN LINE AND SHOULD BE IN THE MIDDLE OF ALL FEEDERS OVER 50 FT LONG

CLEAN OUTS

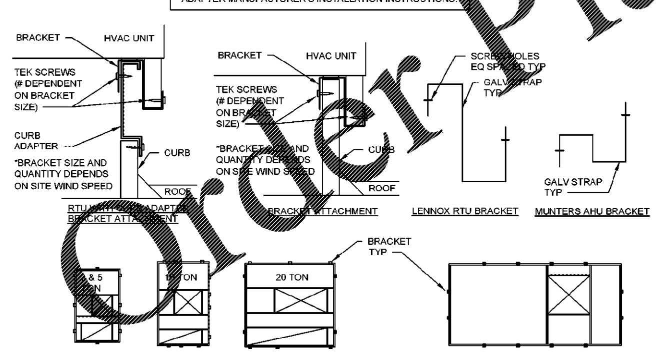
5 CONDENSATE DRAIN/SUPPORT
NTS



NOTE: ROUTE DUCT AS HIGH AS POSSIBLE BELOW JOIST GIRDER WHILE MAINTAINING A MINIMUM OF 18" BELOW ROOF JOISTS. FOLLOW ROOF SLOPE

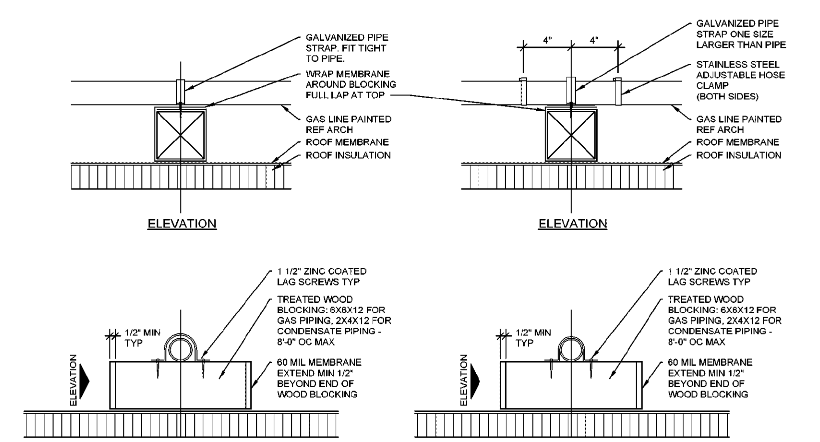
4 RTU DUCTWORK DETAIL
NTS

BRACKET CONSTRUCTION, QUANTITIES, AND SPACING SHOWN ON THIS DETAIL IS FOR GENERAL COORDINATION ONLY. INSTALL BRACKETS ACCORDING TO CURB/CURB ADAPTER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

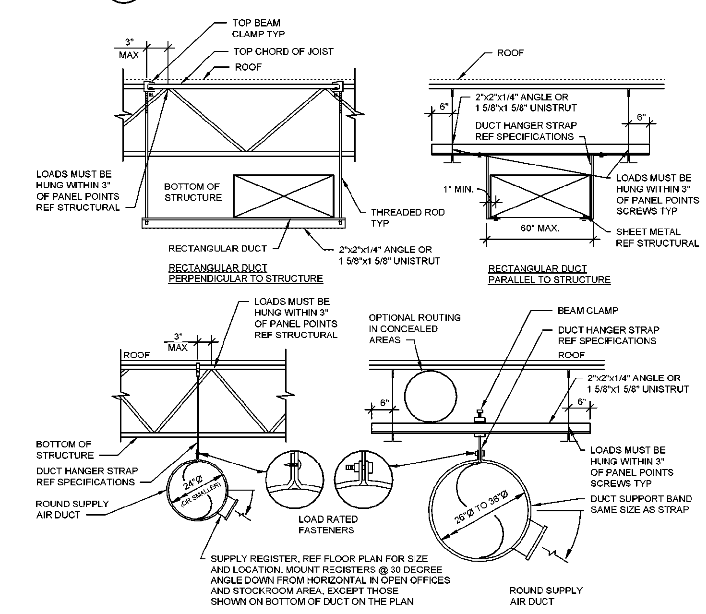


BRACKETS ARE FURNISHED WITH ROOF CURB OR CURB ADAPTER. ROOF CURB/CURB ADAPTER SUPPLIER IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION INSTRUCTIONS FOR THE BRACKETS. COORDINATE FINAL BRACKET LOCATIONS AND INSTALLATION WITH ALL SUPPLIERS AND DO NOT OBSTRUCT OPENINGS OR UTILITY CONNECTIONS.

3 HVAC SEISMIC/WIND RESTRAINT BRACKET
NTS



2 ROOF TOP PIPE BLOCKING
NTS



1 DUCT SUPPORT AND GRILLE
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MECHANICAL DETAILS AND SCHEDULES

SHEET: M2

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