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THE CONTRACTOR SHALL INSTALL A COMPLETE WORKABLE HVAC SYSTEM IN ACCORDANCE WITH, BUT NOT LIMITED TO, THE ATTACHED PLANS AND SPECIFICATIONS, THE FOLLOWING LISTED REQUIREMENTS, MATERIALS AND EQUIPMENT ARE THE MINIMUM STANDARDS OF QUALITY, CAPACTY, AND WORKMANSHIP, THIS CONTRACTOR SHALL COMPLY WITH THE LATEST EDITION OF THE SOUTHERN STANDARD BUILDING CODE, AND ALL APPLICABLE LOCAL AND STATE CODES; OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED TO PERFORM THIS WORK. ALL MATERIALS SHALL BE NEW AND UNDAMAGED. ALL EQUIPMENT SHALL BE U.L. LISTED AND/OR APPROVED BY THE AUTHORITY HAVING JURISDICTION OVER SUCH EQUIPMENT; AND SHALL BE WARRANTEED BY THIS CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE, ROOFTOP UNIT COMPRESSORS SHALL HAVE 5 YEAR MANUFACTURES WARENTEE.

THIS MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH ALL OTHER TRADES AND WITH ANY EXISTING JOBSITE CONDITIONS PRIOR TO THE INSTALLATION AND/OR FABRICATION OF ANY MATERIALS OR EQUIPMENT. LOCATE ALL ITEMS TO PROVIDE ADEQUATE CLEARANCE FOR ARCHITECTURAL DESIGN, AND TO PROVIDE PROPER OPERATION AND SERVICE FOR ALL EQUIPMENT.

3. ALL DUCTWORK SIZES SHOWN ON THE DRAWING ARE NET FREE INSIDE CLEAR DIMENSIONS, THIS MECHANICAL CONTRACTOR SHALL PROVIDE ALL SUPPLY DIFFUSERS AND RETURN AIR GRILLES AS REQUIRED TO ACHIEVE THE AIR DISTRIBUTION SHOWN ON M-2. VERIFY THE FINAL LOCATION OF ALL CEILING DIFFUSERS AND GRILLES WITH THE ARCHITECT PRIOR TO INSTALLATION.

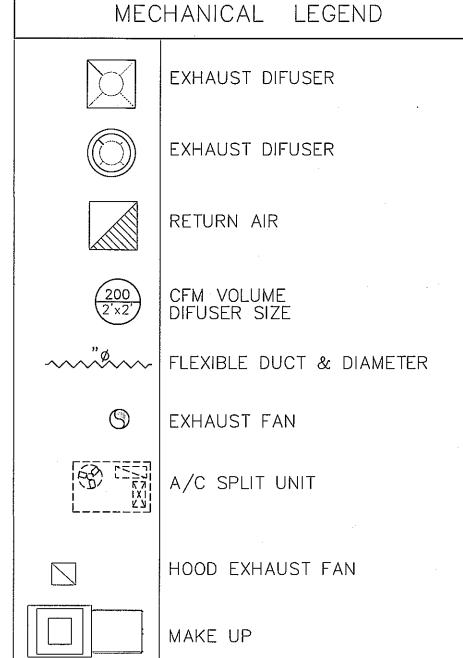
THIS CONTRACTOR SHALL VERIFY THE FINAL LOCATION OF ALL ROOM TEMPATURE SENSORS WITH THE ARCHITECT PRIOR TO THEIR INSTALLATION.

5. DUCTWORK

- A. SHALL BE RIGID DUCT BOARD WITH 1 1/2" THICK FIBERGLASS INSULATION WITH FOIL VAPOR BARRIER. ALL JOINTS AND SEAMS SEALED IN MANNER TO PROVIDE A COMPLETE VAPOR TIGHT ENCLOSURE. ALL DUCTWORK SHALL BE FABRICATED IN ACCORDANCE WITH THE LATEST ISSUE OF THE SMANCA STANDARDS FOR LOW VELOCITY DUCTWORK. DUCT SIZES INDICATED ON THE DRAWINGS ARE NET FREE INSIDE CLEAR DIMENSIONS. PROVIDE TURNING VANES IN ALL ELBOWS, AND MANUAL VOLUME DAMPERS IN ALL BRANCHES. PROVIDE SPLITTER DAMPERS IN ALL DIVISIONS. PROVIDE OTHER SIMILAR DEVICES AS REQUIRED TO PROPERLY BALANCE THE SYSTEM.
- FLEXABLE DUCTWORK SHALL BE INSULATED TYPE R-6 AND SHALL NOT EXCEED 8 FEET IN LENGTH; BENDS SHALL NOT RESTRICT THE INSIDE CROOS-SECTIONAL AREA OF THE DUCT; AND CONNECTION SHALL BE MADE AS DIRECT AS POSSIBLE TO THE MAIN SUPPLY.
- THE MECHANICAL CONTRACTOR SHALL VERIFY UNIT LOCATION AND ROUGH-IN WITH LANDLORD'S ARCHITECT PRIOR TO INSTALLATION. PROVIDE 2-4X4X6 CONTINUOUS AROUND DECK PENETRATIONS.
- GENERAL CONTRACTOR SHALL NOT MAKE ANY ROOF OR WALL PENETRATIONS WITHOUT LANDLORD'S APPROVAL. ALL SUCH PENETRATION SHALL BE MADE BY CONTRACTORS APPROVED BY LANDLORD.
- A/C GRILLES SHALL BE TYPICAL 24" x 24" PERFORATED LAY-IN AT SUPPLY GRILES - PROVIDE VOLUMN DAMPER AND ADJUSTABLE BLADE DEFLECTORS.
- 9. GRILLES SHALL BE LOCATED AS SHOWN ON HVAC PLAN.

CALCULATIONS FOR OUTSIDE AIR: (AS PER TABLE 4-1, U.M.C.) OUTDOOR AIR REQUIREMENTS FOR VENTILATION: KITCHEN AREA: $660 \text{ S.F. } \times 0.3 =$ 198 CFM DINING AREA: 1400 S.F. x 0.5 = 700 CFM OFFICE AREA: 50 S.F. × 0.20 = 10 CFM TOTAL 998 CFM OUTSIDE AIR FLOW RATE (CFM)=30 % NOTE: INSTALL (2) 75 CFM EXHAUST FANS IN:

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MECHANICAL PLAN Scale: 3/8"=1'-0"

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THE SYSTEM SHALL BE

CONTROLLED BY A MANUAL CHANGEOVER OR CAPABLE OF RETAINING PROGRAMMING AND TIME SETTING DURING DUAL SET—POINT THERMOSTAT, A

LOSS OF POWER FOR A PERIOD OF AT LEAST 10 HOURS.

-RESTROOM (SWITCHES AT DOOR)

WALL CAP

300 2'x2'

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10"ø

20")

20"X12

300 2'×2'

ROOF TOP

MAF ROOF TOP

300 2'×2'

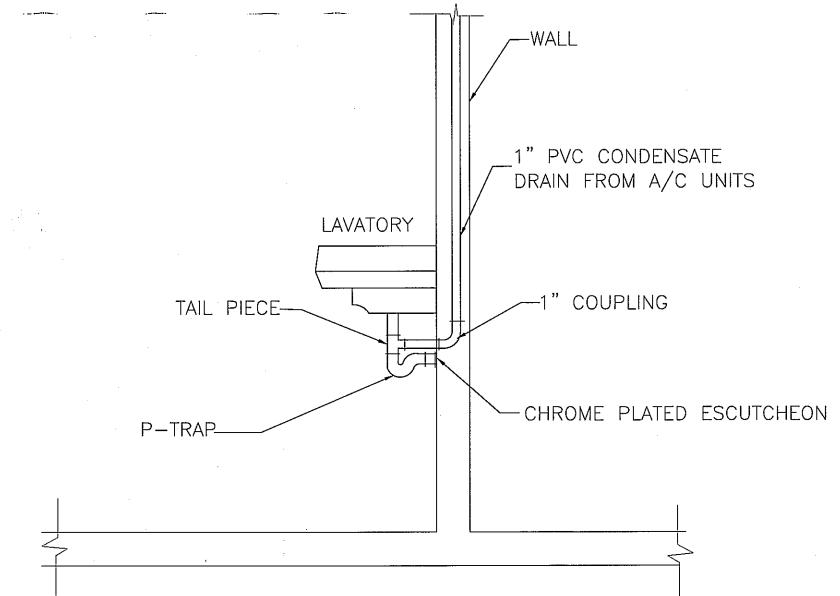
75 CFM

WWW.

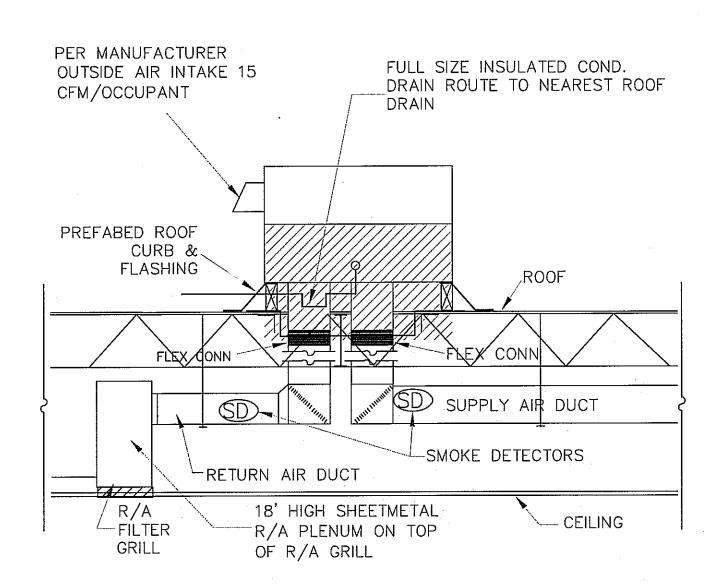
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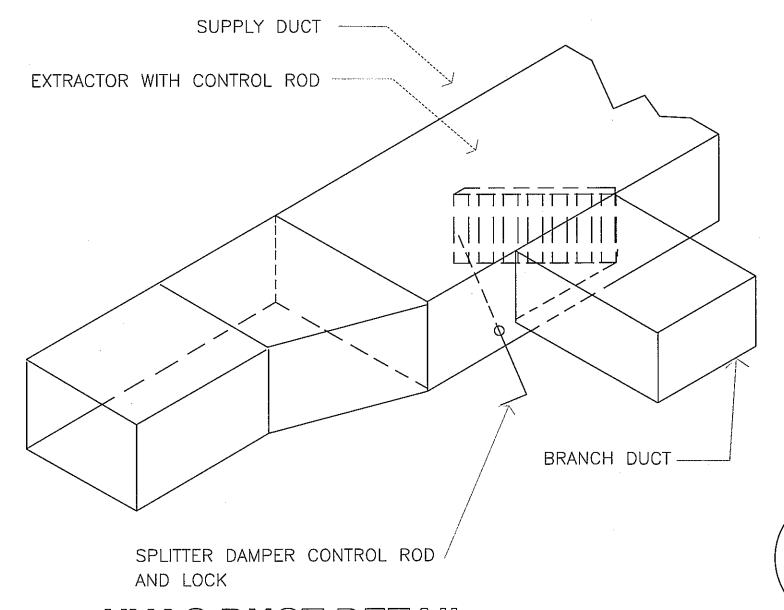
DIFFUSER CLOSED CEILING NOT TO SCALE



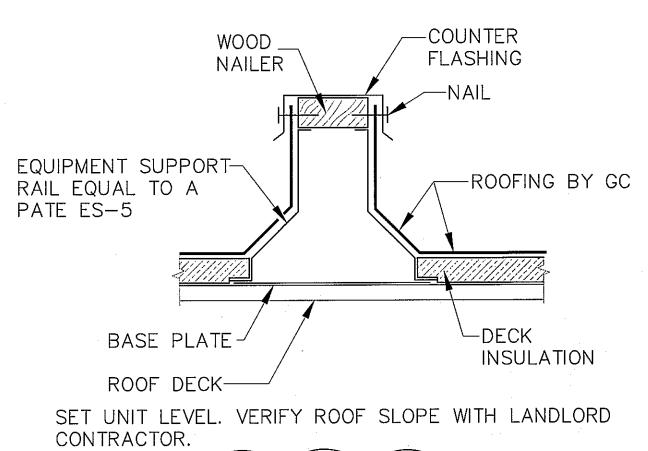
CONDENSATE DRAIN AT LAV.



ROOF TOP SCHEMATIC DETAIL NOT TO SCALE



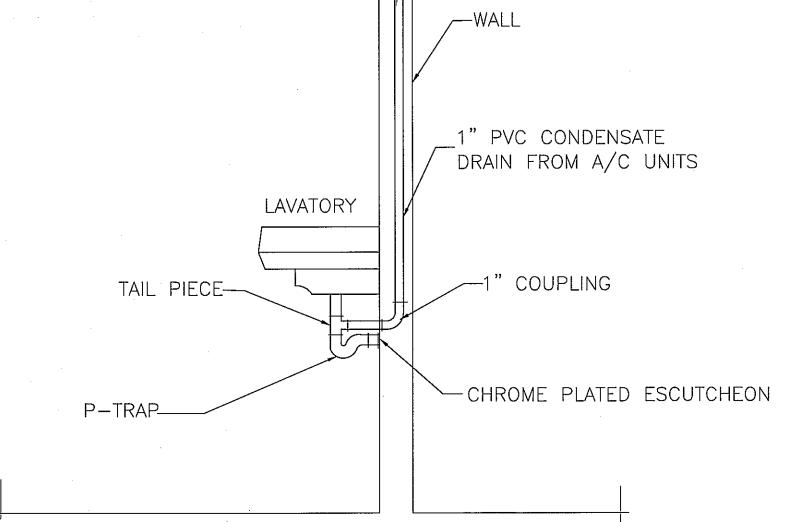
NOT TO SCALE



ALL ROOF MOUNTED EQUIPMENT TO RESIST UPLIFT IN 120 MPH. WIND EVENT (COLC 22-38)

EQUIPMENT CURB

NOT TO SCALE



NOT TO SCALE

NOTE:

CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE RECORD DRAWINGS OF THE ACTUAL INSTALLATION BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER. RECORD DRAWINGS SHALL INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES. MANUALS. CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT AN OPERATING MANUAL AND A MAINTENANCE MANUAL BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE. THESE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS (SEE APPENDIX E) AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING: (A) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. (B) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED. (C) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY. (D) HVAC CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SET-POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS. (E) A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SUGGESTED SET-POINTS. SECTION 6.7.2 - 2008 HOUSTON COMMERCIAL ENERGY CONSERVATION CODE.

1 HOOD-1-4' FOR COOKING AREA (TYPE-1) AIR EXHAUST = 4'-0"-x4'x100 = 1600 CFM AIR SUPPLY = $1600 \times 80\% = 1280 \text{ CFM}$ AIR VELOCITY = 1300 FPM

EXH.DUCT SIZE = 20"X12"

1 HOOD-2 - 5' FOR COOKING AREA (TYPE-1) AIR EXHAUST = 5'-0"-x4'x100 = 2000 CFM AIR SUPPLY = $2000 \times 80\% = 1600 \text{ CFM}$ AIR VELOCITY = 1600 FPM EXH.DUCT SIZE = 20"X12"



PAC	KAGE UNIT I	EQUIPMI	ent so	CHEDU	JLE			·				
MARK	DESCRIPTION SIZE BTUH FAN ELECTRIC								O/S AIR	O/S DIA.	SEER	
				CFM	H.P.	KW.	VOLTAGE	PH.	BREAKER			
*RTU-1	80TM014	8.0 TON	90,000	3,000	1	11.1	240/120V,60HZ	3	20 A	500 CFM	10"ø	10
*RTU-2	50TM012	5.0 TON	50,000	1,400	1/2	20	208/120V,60HZ	- 3	40 A	499 CFM	10"ø	10

ALL RTU UNITS WILL REQUIRE 7 DAY PROGRAMMABLE TEMPERATURE CONTROLS

TOI	LET EXHAUST	FAN S	SCHE	DULE			
MARK	DESCRIPTION			ELECTRIC			
		CFM _.	WATTS	VOLTAGE	PH.	S.P.	SONES
(2)FF	GREENHECK-SP-850	75	40	120V. 60HZ	1	0.125	1.9

1. BACKFLOW DAMPERS 2. SPEED CONTROL.

3. FAN TO RUN CONTINUOSLY.

4. WALL CAP MOUNT AT LEAST 10' ABOVE GRADE, PAINT TO MATCH EXTERIOR

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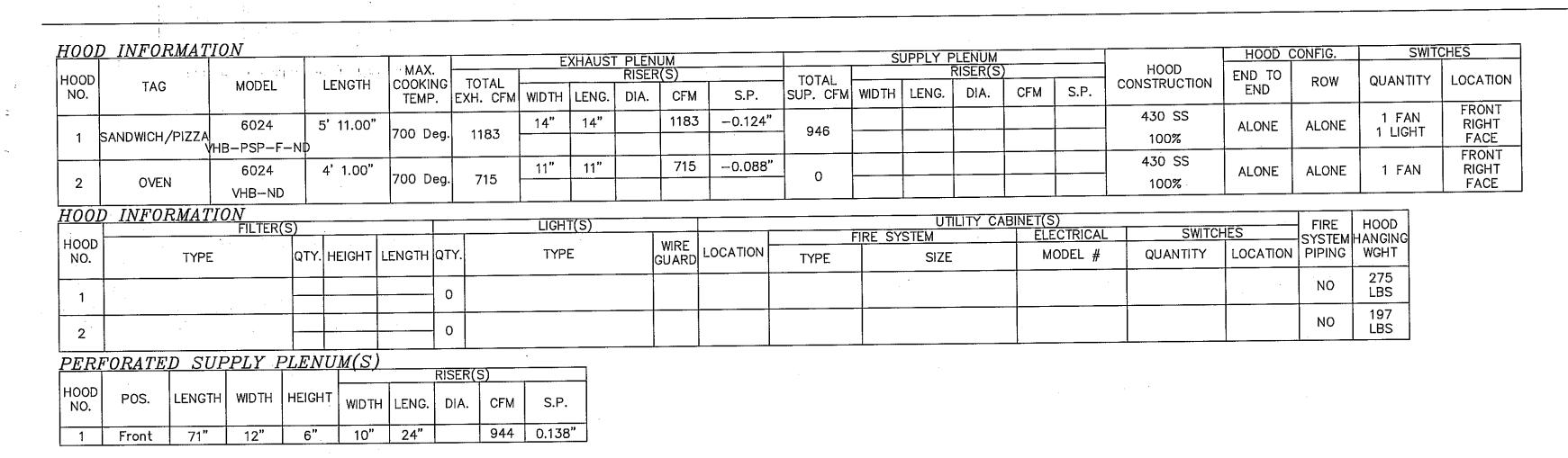
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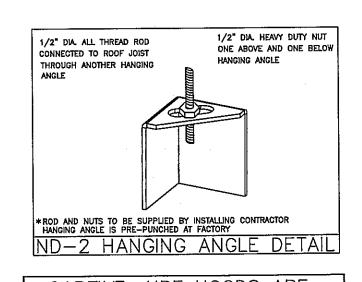
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ETL LISTING DESCRIPTION BLOCK

THE CAPTIVE AIRE MODEL VH HAS BEEN E.T.L. TESTED, LISTED, AND APPROVED TO EXHAUST A MINIMUM OF 100 CFM PER LINEAR FOOT OVER 700 DEGREE EQUIPMENT

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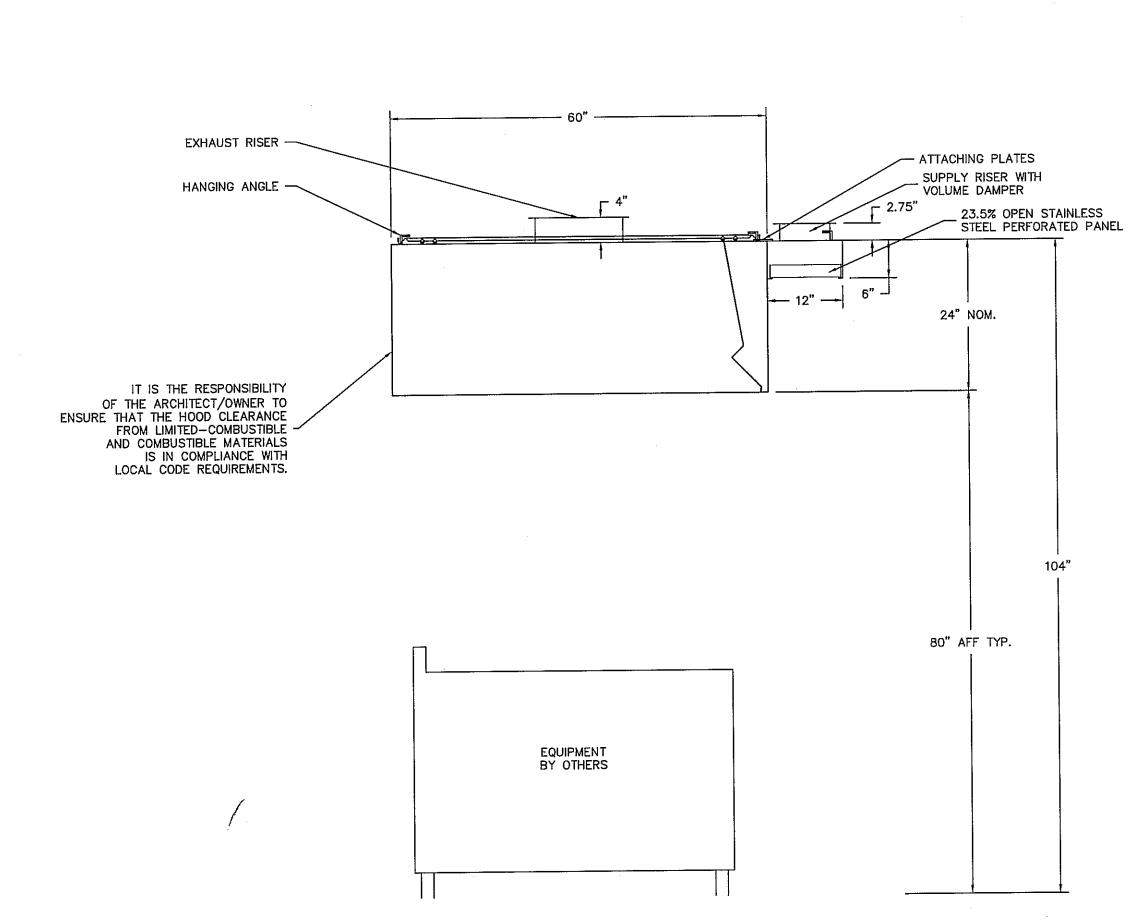
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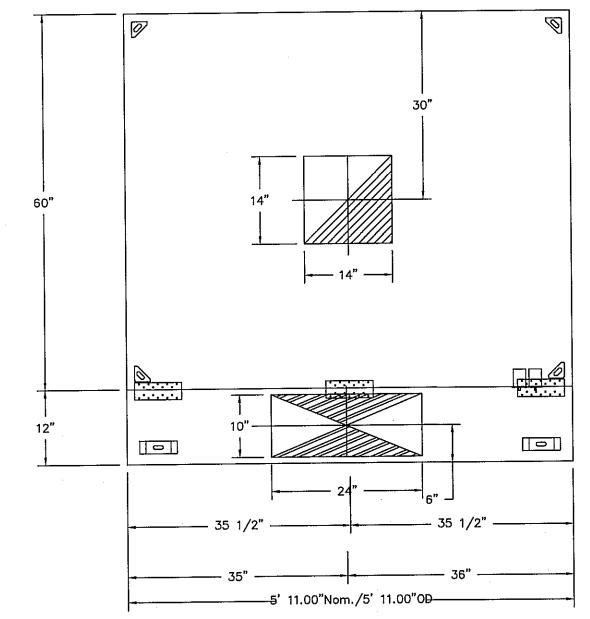
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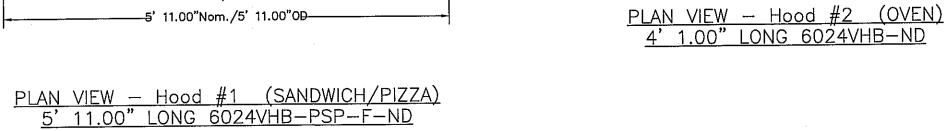
 $(x,y) \in \mathcal{F}_{p,p}(X,Y)$

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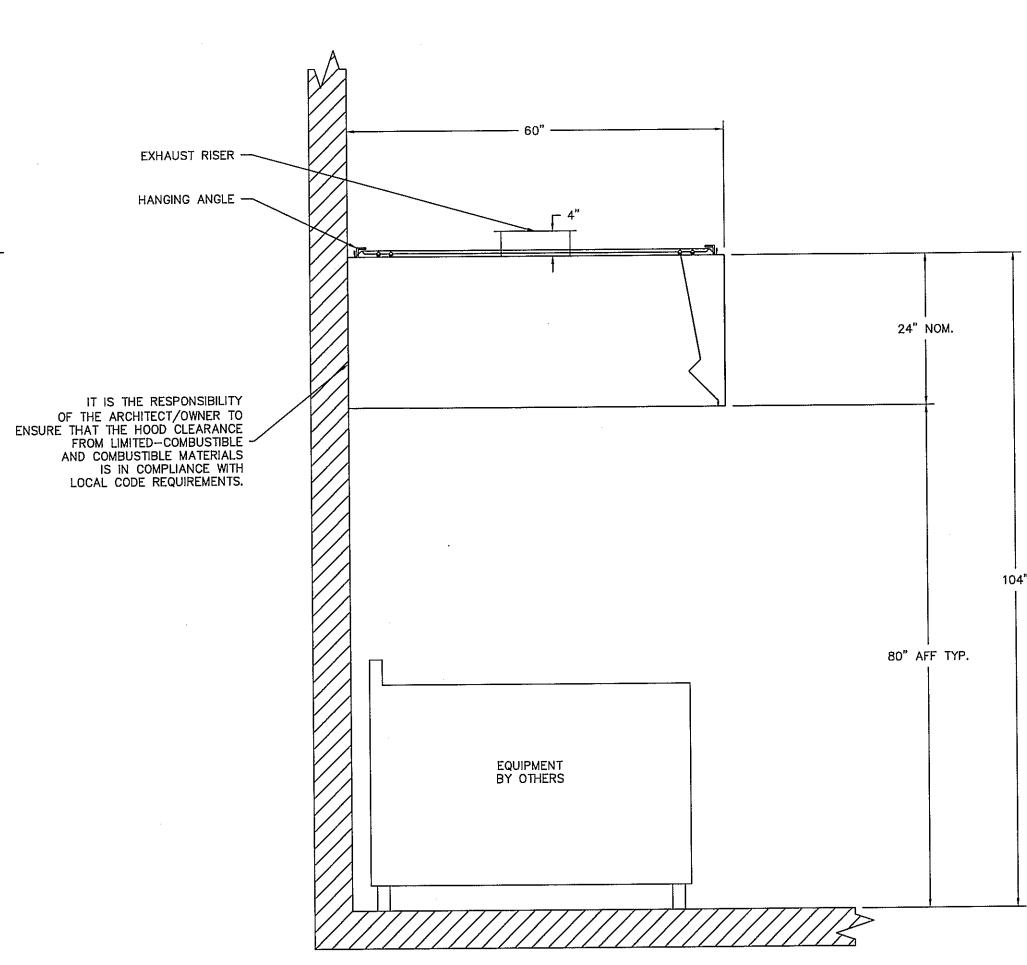








—4' 1.00"Nom./4' 1.00"OD——



<u>SECTION VIEW - MODEL 6024VHB-ND</u> <u>HOOD - #2 (OVEN)</u>



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EXHA	AUST FAN INFORMATION										
FAN UNIT NO.	FAN UNIT MODEL #	MODEL	TAG	CFM	S.P.	RPM	H.P.	ø	VOLT	FLA	WEIGHT (LBS.)
``1	DU75HFA	DU75HFA		1183	0.750	1022	0.750	1	115	13.0	75.73
3	. DU30HFA	DU30HFA		715	0.500	1314	0.250	1	115	4.0	52.56

HEAT	<u> 'ER/MUA FAN INFORMATI</u>	ON										
FAN UNIT NO.	FAN UNIT MODEL #	BLOWER	HOUSING	TAG	СҒМ	S.P.	RPM	H.P.	ø	VOLT	FLA	WEIGHT (LBS.)
2	NSAU1-G10	G10	NSAU.1		946	0.500	702	0.333	1	115	7.0	184.00

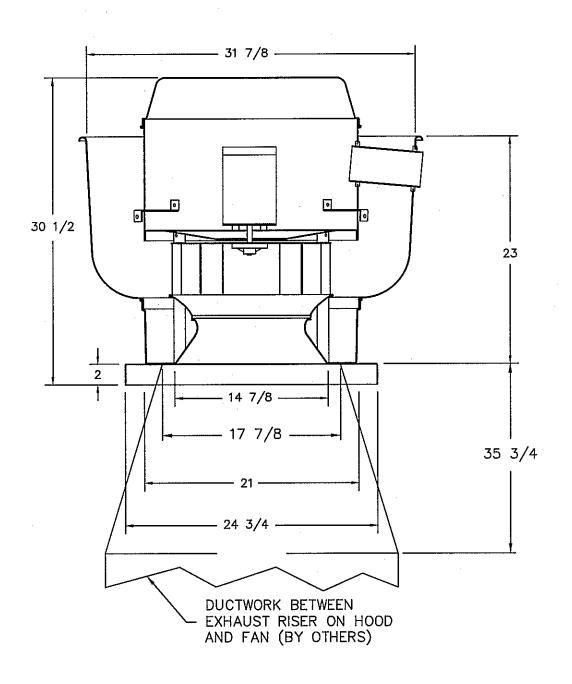
<u>CUR</u>	B ASS	SEMBLIES	
NO.	ON FAN	ITEM	SIZE
1	# 1	Curb	23.000"W × 23.000"L × 14.000"H
2	# 2	Curb	23.000"W × 23.000"L × 14.000"H
3	# 3	Curb	19.500"W × 19.500"L × 14.000"H

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FAN #1 DU75HFA — EXHAUST FAN



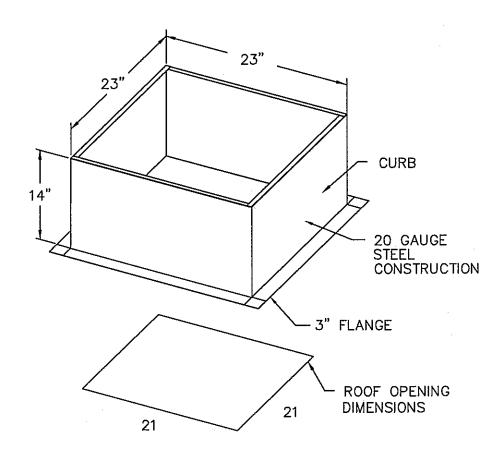
FEATURES:

- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- VARIABLE SPEED CONTROL
- INTERNAL WIRING WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE) - HIGH HEAT OPERATION 300°F (149°C)

- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300'F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.



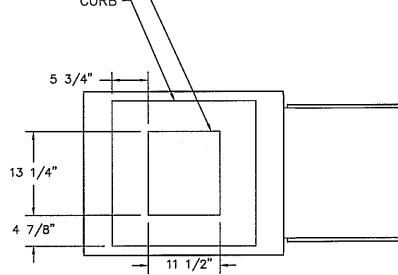
*THE INTAKE OF SUPPLY FAN HAS TO BE 10 FEET AWAY FROM EITHER EXHAUST FAN.

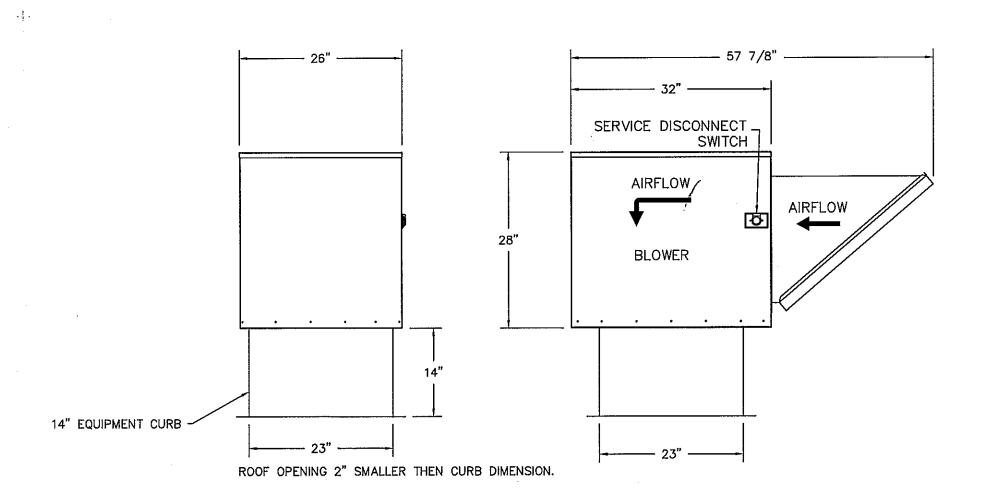
BLOWER DISCHARGE -

1. SUPPLY UNIT WITH 10" BLOWER IN SIZE #1 HOUSING
2. INTAKE HOOD WITH EZ FOAM FILTER
3. DOWN DISCHARGE — AIR FLOW RIGHT —> LEFT

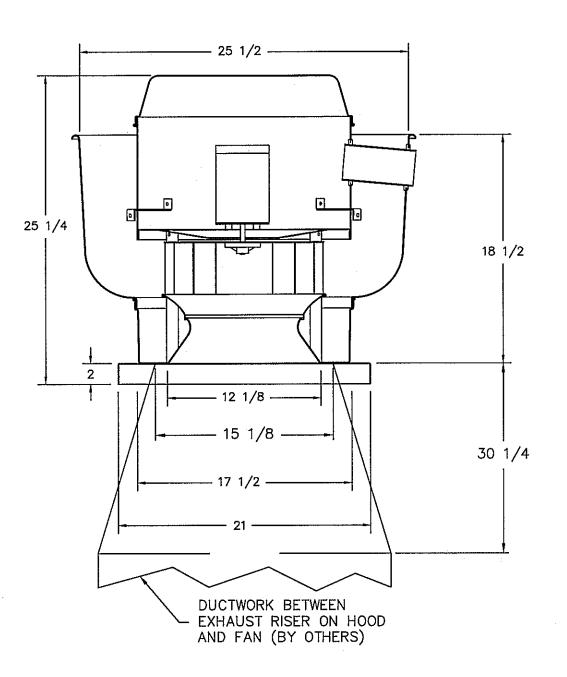


FAN #2 NSAU1-G10 - SUPPLY FAN





FAN #3 DU30HFA - EXHAUST FAN

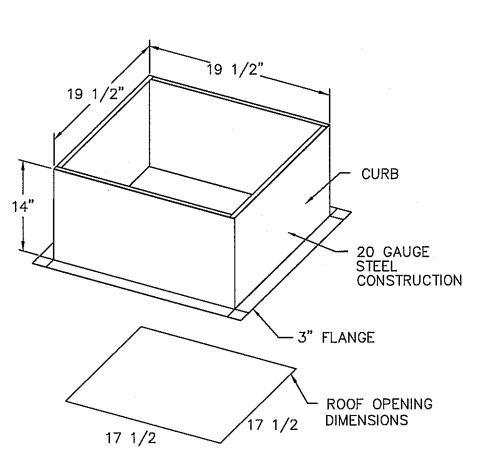


FEATURES:

- ROOF MOUNTED FANS
- RESTAURANT MODEL - UL705 AND UL762
- VARIABLE SPEED CONTROL - INTERNAL WIRING
- WEATHERPROOF DISCONNECT - THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING NORMAL TEMPERATURE TEST

EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.





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