

MECHANICAL SYMBOLS & ABBREVIATIONS LEGEND	
	NEW PIPE, DUCTWORK OR EQUIPMENT
	DUCT SIZE: FIRST DIMENSION IS SIDE DRAW
	FLEXIBLE ROUND DUCTWORK
	FIRE DAMPER, SMOKE DAMPER, SMOKE DETECTOR
	CEILING SUPPLY DIFFUSER
	CEILING RETURN OR EXHAUST AIR
	SA DUCT OUT OF TU BOX WITH DUCT LINER FOR THR FIRST FIVE FEET OF DUCT OUT OF TU BOX
	SIDEWALL REGISTER OR GRILLE
	CHANGE IN PIPE OR DUCT SIZE OR SHAPE
	REFRIGERANT PIPING
	CONDENSATE OR OTHER DRAIN PIPING
	ELBOW TURNED DOWN OR TURNED UP IN PIPING
	THERMOSTAT, ARROW SHOWS CONTROL WIRING PATH
	TIME CLOCK
	DIAMETER
	U.C. UNDER-CUT DOOR 3/4", UNLESS OTHER SIZE NOTED
	INDICATES EQUIPMENT ON PLANS; TOP ITEM SHOWS TYPE OF EQUIPMENT AND BOTTOM ITEM SHOWS SPECIFIC MARK NUMBER
	ITEM IN HEXAGON SHOWS AIR DEVICE MARK NUMBER, ITEM ABOVE LINE SHOWS NECK SIZE, ITEM BELOW LINE SHOWS AIR FLOW THROUGH DEVICE, AND NUMBER IN FRONT SHOWS QUANTITY IF MORE THAN ONE
	ABOVE FINISHED FLOOR
	AIR HANDLING UNIT
	BYPASS DAMPER
	BRITISH THERMAL UNITS, THOUSAND BRITISH THERMAL UNITS
	CAPACITY
	CUBIC FEET PER MINUTE
	CEILING
	CONDENSING UNIT
	DRY BULB TEMPERATURE, WET BULB TEMPERATURE
	EXHAUST AIR, EXHAUST GRILLE
	EXHAUST FAN
	EXTERNAL STATIC PRESSURE (USUALLY EXPRESSED IN INCHES OF WATER IN GAGE)
	HEAT PUMP UNIT
	MANUAL VOLUME DAMPER
	OUTSIDE AIR
	RETURN AIR, RETURN GRILLE
	PACKAGED ROOFTOP UNIT
	SUPPLY AIR
	SUPPLY FAN FOR SHOP VENTILATION
	VOLTS ALTERNATING CURRENT, NUMBER OF PHASES
	WATTS, KILOWATTS
	UNIT HEATER
	AUDIBLE/VISUAL ALARM DEVICE CONNECTED TO DUCT SMOKE DETECTOR
	ACCESS DOOR
	CONTROL DAMPER-OPPOSED BLADE
	CONTROL DAMPER-PARALLEL BLADE
	BACKDRAFT DAMPER
	RADIUS ELBOW (R=1.5)
	VANED ELBOW
	MANUAL VOLUME DAMPER (MVD), MOTOR OPERATED DAMPER (MOD)
	X INDICATES SECTION NUMBER, XX INDICATES ON WHICH DRAWING SECTION APPEARS

KITCHEN HOOD SCHEDULE					
MARK	CFM H/L/O	WIDTH IN	VOLTS/PH	LAY-OUT BASIS: AIRING MODEL	REMARKS
KH-1	250/150	30"	120/1	OZ SERIES	1:2-3:4:5:6

1. FILTER FOR THE KITCHEN HOOD SHALL BE LOCATED IN THE MIDDLE.
2. HOOD SHALL BE EXHAUSTED TO OUTSIDE THRU 7" Ø DUCT. PROVIDE MANUFACTURER DUCT ADAPTER AND DAMPER.
3. PROVIDE ROOF CAP ON ROOF WITH ROOF CURB FOR RANGE HOOD EXHAUST.
4. VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.
5. PROVIDE SENSLESS STEEL FINISH FOR KITCHEN HOOD.
6. PROVIDE TYPE B FLUE VENT FOR KITCHEN EXHAUST DUCT.

FIRE SUPPRESSION SYSTEM FOR KITCHEN HOOD			
MARK	SERVES	LAY-OUT BASIS: GURDIAN SAFETY SOLUTIONS, INC	REMARKS
FS-1	KH-1	GURDIAN III	1:2-3:4

1. FIRE SUPPRESSION SYSTEM SHALL BE LOCATED IN THE CABINET ABOVE KITCHEN HOOD PER MANUFACTURERS INSTRUCTIONS.
2. FIRE SUPPRESSION SYSTEM SHALL BE PROVIDED AND INSTALLED BY GUARDIAN SAFETY SOLUTION, INC QUALIFIED INSTALLER.
3. FOLLOW LOCAL FIRE PROTECTION CODES FOR INSTALLING FIRE SUPPRESSION SYSTEM.
4. INTERLOCK RANGE TO FS-1 SUCH THAT RANGE TURNS OFF WHEN FS-1 IS ON.

PACKAGED ROOFTOP UNIT SCHEDULE																				
MARK	AIRFLOW	SUPPLY AIR CFM	MIN OUTSIDE AIR CFM	EXT. SP IN. W.G.	NOMINAL TONS	EVAP. COIL		SYSTEM COOLING		GAS HEAT		HEATING COIL		POWER VAC/PH	BASIS OF DESIGN: CARRIER	WEIGHT LBS	NOTES			
						ENTERING AIR DESIGN CONDITIONS DB F / WB F	LEAVING AIR DESIGN CONDITIONS DB F / WB F	MAX. REQUIREMENTS (MBH)	REQUIREMENTS (MBH)	OUTSIDE AIR TEMP. CONDITIONS DB F / WB F	IN/OUT / IN/OUT / IN/OUT	OUTSIDE 25F	OUTSIDE 25F							
RTU-1	HORIZONTAL	3,500	630	0.60	10.0	78.2	65.3	55.0	54.0	125.8	96.2	95	120/98	180/148	61.0	84.0	208/3	48FEDN12M2MS-0A0A0	1,200	1:2-3:4:5:6:7:8:9:10:11:12
RTU-2	HORIZONTAL	3,500	630	0.60	10.0	78.2	65.3	55.0	54.0	125.8	96.2	95	120/98	180/148	61.0	84.0	208/3	48FEDN12M2MS-0A0A0	1,200	1:2-3:4:5:6:7:8:9:10:11:12
RTU-3	VERTICAL	1,400	250	0.60	4.0	78.2	65.3	55.0	54.0	52.0	38.5	95	50/40	67/54	61.0	84.0	208/3	48CEDN05M2MS-8B0A0	850	1:2-3:4:5:6:8:9:11:12:13:14

1. PROVIDE FILTERS, CONDENSATE TRAP AND PIPING, FLEXIBLE CONNECTIONS, PROGRAMMABLE T-STAT, AND CONDENSATE P-TRAP TO DISCHARGE INTO ROOF DRAIN.
2. VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.
3. ROOF TOP UNITS SHALL HAVE MEDIUM STATIC MOTOR.
4. PROVIDE MANUFACTURER'S SUPPLY AIR SMOKE DETECTOR. ELECTRICAL SHALL INTERLOCK IT WITH BUILDING FIRE ALARM SYSTEM. PROVIDE MANUFACTURER'S INTEGRAL CONDENSATE OVERFLOW SWITCH.
5. PROVIDE BUILT-IN HUMID-MEZER ADAPTIVE DEHUMIDIFICATION SYSTEM.
6. PROVIDE FLUE DISCHARGE DEFLECTOR THAT DEFLECTS FLUE UPWARD. PROVIDE FLUE DISCHARGE HEAT SHIELD.
7. PROVIDE CH 3-4 HORIZONTAL SL ECON W/POLZ24(RECONOM28106A00).
8. 2-STAGE COOLING WITH HUMID-MEZER. PROVIDE 2-SPEED INDOOR FAN CONTROLLED. PROVIDE DIRECT DRIVE ECO BLUE EVAPORATOR FAN MOTOR.
9. UNDER HEATING MODE SUPPLY CFM SHALL BE SET TO PROVIDE 100% OF AIR UNDER COOLING MODE STAGE FAN TO MATCH COOLING STAGE.
10. PROVIDE ELECTROMECHANICAL CONTROLS AND LOUVERED HAIL GUARDS.
11. PROVIDE GLOBAL PLASMA SOLUTIONS COMPACT SELF-CLEANING IONIZATION SYSTEM. REFER TO SCHEDULE PROVIDED.
12. PROVIDE MANUFACTURER'S UL60335-2-40 APPROVED R-454B DISSIPATION BOARD AND LEAK SENSOR.
13. PROVIDE STANDARD LEAK TEMPERATURE ECONOMIZER WITH BAROMETRIC RELIEF.
14. PROVIDE ELECTROMECHANICAL CONTROLS WITH POLZ24. PROVIDE THRU THE BOTTOM CONNECTIONS, ROOF CURB, AND LOUVERED HAIL GUARDS.

SELF-CLEANING IONIZATION SYSTEM SCHEDULE		
AIRFLOW CAPACITY MIN-MAX CFM	BASIS OF DESIGN GLOBAL PLASMA SOLUTIONS	NOTES
0-6000	GPS-IM00	1:2-3:4:5:6:7

1. ONE SELF-CLEANING IONIZATION SYSTEM SHALL BE INSTALLED PER SYSTEM.
2. SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
3. USE THIS SYSTEM FOR PACKAGED UNITS.
4. MODULAR NEEDLEPOINT BIPOLAR IONIZATION AIR IONIZATION SYSTEM.
5. THE UNIT SHALL MOUNT AT THE INLET OF THE COIL AND SHALL BE SIZED TO FIT THE WIDTH OF THE COIL.
6. UNIT SHALL BE EQUIPPED WITH VOLTAGE SELECTOR SWITCH, ILLUMINATED ON/OFF SWITCH, OPERATION STATUS LED, AND SIX HV OUTPUT PORTS.
7. INTERLOCK IONIZATION SYSTEM TO RUN WITH EVAPORATOR FAN.

FAN SCHEDULE									
MARK	CFM	EXT. SP IN. W.G.	DRIVE TYPE	MOTOR AMP/WATTS	MAX SONES	POWER/PHASE	SERVES	BASIS OF DESIGN	NOTES
EF-1	140	0.30	DIRECT	0.47 A	1.3	115/1	BI05 WOMEN	DELTA SMT150	1:2-3:4
EF-2	140	0.30	DIRECT	0.47 A	1.3	115/1	BI08 MEN	DELTA SMT150	1:2-3:4
EF-3	70	0.30	DIRECT	0.33 A	2.0	115/1	BI06 SUPPLY	DELTA ITG100	1:3:4:5

1. VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION. FAN SHALL BE ENERGY STAR RATED. ALL DUCTWORK FOR FAN SHALL BE SHEET METAL.
2. FAN SHALL BE INTERLOCKED WITH LIGHTS IN THE ROOM IT SERVES. PROVIDE 15 MINUTE TIME DELAY. CONTRACTOR MUST COORDINATE WITH ELECTRICAL.
3. CEILING MOUNTED CENTRIFUGAL FAN. PROVIDE FACTORY SUPPLIED DISCONNECT SWITCH, BACKDRAFT DAMPER, VIBRATION ISOLATION, FAN SPEED CONTROLLER, GRILLE AND MOTOR WITH THERMAL OVERLOAD.
4. PROVIDE AND INSTALL MANUFACTURER'S ROUND DUCT CONNECTION.
5. FAN SHALL BE CONTROLLED BY A SWITCH LOCATED IN ROOM IT SERVES.

AIR DEVICE SCHEDULE									
MARK	SERVICE	NECK SIZE	FACE SIZE	MATERIAL	TYPE	PATTERN	MOUNTING TYPE	LAYOUT BASIS TITUS	NOTES
S1	SUPPLY	SEE PLANS	NECK + 1-3/4"	STEEL	DOUBLE DEFLECTION REGISTER	2-WAY	DUCT MOUNT	300RS	4:5:6
S2	SUPPLY	SEE PLANS	24" X 24"	STEEL	SQUARE CONC.	4-WAY	LAY-IN	TMS	1:2:4
S3	SUPPLY	SEE PLANS	12" X 12"	STEEL	SQUARE CONC.	4-WAY	LAY-IN	TMS	1:2:4
R1	RETURN	SEE PLANS	NECK + 1-3/4"	ALUMINUM	FULL LOUVERED FACE	---	SURFACE	350R	6
R2	RETURN	SEE PLANS	24"X24"	ALUMINUM	EGGCRATE	---	LAY-IN	50F	1:3

1. PROVIDE STANDARD WHITE FINISH.
2. INSULATE BACK OF DEVICE.
3. PROVIDE FULL SIZE LINED SHEET METAL PLENUM ON TOP OF GRILLE FOR CONNECTION.
4. BALANCE AIRFLOW TO QUANTITY SHOWN.
5. PROVIDE ALUMINIZED FACE OPERATED DAMPER THAT IS ACCESSIBLE FROM THE FACE OF REGISTER/DIFFUSER.
6. GRILLE SHALL BE SAME COLOR AS THE WALL/DUCT IT IS MOUNTED ON. CONTRACTOR SHALL COORDINATE EXACT GRILLE FINISH WITH ARCHITECTURAL BEFORE PROVIDING A FINISHED COLOR.