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SUPPLY AIR VAV BOX SCHEDULE

1. UNITS SHALL UTILIZE PRESSURE INDEPENDENT CONTROLS, BE FURNISHED WITH 24-VOLT POWER CONNECTIONS AND BOTTOM MOUNTED ACCESS DOORS. HEATING COIL CFM BASED ON MAX AIRFLOW AMOUNT.
 2. PROVIDE WITH 3-FOOT LONG DISCHARGE ATTENUATOR AT OUTLET OF VAV BOX.

Mark	OUTLET SIZE	INLET SIZE DIAMETER	TYPE	SERVICE	DIFFERENTIAL PRESSURE DROP (IN WC)	MINIMUM OPERATING PRESSURE DROP	AIR FLOW (CFM)		REHEAT COIL DATA (40% PROPYLENE GLYCOL SOLUTION)												BASIS OF DESIGN MANUFACTURER AND MODEL NUMBER	REMARKS
							MAX	MIN	EAT	LAT	APD	MBH	EWI	LWT	GPM	ROWS	WPD (FT)					
VAV-HS-1	12x10	8"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	CORRIDOR/GALLERY	0.35	0.32 in-wg	495	155	64 °F	85.0 °F	0.15	11.3	180 °F	150.8 °F	1.21	1	1.31	Price Industries	1			
VAV-HS-2	20x17.5	14"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	SCIENCE CLASSROOM 231	0.20	0.21 in-wg	1,550	998	64 °F	85.0 °F	0.30	35.0	180 °F	125.7 °F	1.33	2	0.29	Price Industries	1			
VAV-HS-3	12x8	4"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	STUDY POD 231A	0.52	0.02 in-wg	90	50	64 °F	85.0 °F	0.01	2.2	180 °F	147.0 °F	0.13	1	0.03	Price Industries	1			
VAV-HS-4	12x10	7"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	PREP ROOM 231B	0.44	0.09 in-wg	340	143	64 °F	85.0 °F	0.06	7.8	180 °F	160.2 °F	0.80	1	0.63	Price Industries	1			
VAV-HS-5	20x17.5	14"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	SCIENCE CLASSROOM 230	0.35	0.26 in-wg	1,405	988	64 °F	85.0 °F	0.25	31.8	180 °F	123.7 °F	1.16	2	0.17	Price Industries	1			
VAV-HS-6	12x8	4"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	STUDY POD 230A	0.52	0.02 in-wg	85	50	64 °F	85.0 °F	0.01	2.2	180 °F	147.0 °F	0.13	1	0.03	Price Industries	1			
VAV-HS-7	12x10	7"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	PREP ROOM 230B	0.44	0.09 in-wg	340	143	64 °F	85.0 °F	0.06	7.8	180 °F	160.2 °F	0.80	1	0.63	Price Industries	1			
VAV-HS-8	20x17.5	14"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	SCIENCE CLASSROOM 233	0.49	0.27 in-wg	1,440	822	64 °F	85.0 °F	0.26	32.6	180 °F	124.3 °F	1.21	2	0.24	Price Industries	1			
VAV-HS-9	20x17.5	14"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	SCIENCE CLASSROOM 232	0.50	0.26 in-wg	1,385	1,007	64 °F	85.0 °F	0.25	31.4	180 °F	123.6 °F	1.15	2	0.16	Price Industries	1			
VAV-HS-10	12x8	4"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	STUDY POD 232A	0.52	0.02 in-wg	85	50	64 °F	85.0 °F	0.01	2.2	180 °F	147.0 °F	0.13	1	0.03	Price Industries	1			
VAV-HS-11	12x10	7"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	PREP ROOM 234A	0.49	0.09 in-wg	350	143	64 °F	85.0 °F	0.06	8.0	180 °F	160.5 °F	0.85	1	0.69	Price Industries	1			
VAV-HS-12	20x17.5	14"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	SCIENCE CLASSROOM 226	0.41	0.26 in-wg	1,600	1,131	64 °F	85.0 °F	0.34	38.3	180 °F	127.7 °F	1.51	2	0.36	Price Industries	1			
VAV-HS-13	20x17.5	14"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	SCIENCE CLASSROOM 234	0.50	0.26 in-wg	1,385	993	64 °F	85.0 °F	0.25	31.4	180 °F	123.6 °F	1.15	2	0.16	Price Industries	1			
VAV-HS-14	12x8	4"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	STUDY POD 235C	0.49	0.02 in-wg	105	45	64 °F	85.0 °F	0.01	2.4	180 °F	147.6 °F	0.15	1	0.03	Price Industries	1			
VAV-HS-15	12x10	7"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	PREP ROOM 235D	0.67	0.12 in-wg	415	162	64 °F	85.0 °F	0.08	9.5	180 °F	162.6 °F	1.11	1	1.14	Price Industries	1			
VAV-HS-16	12x8	5"	SINGLE DUCT TERMINAL UNIT WITH REHEAT COIL	STUDY LOUNGE W207A	0.48	0.03 in-wg	140	60	64 °F	85.0 °F	0.02	3.2	180 °F	136.0 °F	0.15	1	0.02	Price Industries	1			

EXHAUST AIR VAV BOX SCHEDULE

1. UNITS SHALL UTILIZE PRESSURE INDEPENDENT CONTROLS, BE FURNISHED WITH 24-VOLT POWER CONNECTIONS AND BOTTOM MOUNTED ACCESS DOORS.
 2. PROVIDE WITH 3-FOOT LONG DISCHARGE ATTENUATOR AT OUTLET OF VAV BOX.

Mark	SIZE DIAMETER	TYPE	SERVICE	DIFFERENTIAL PRESSURE DROP (IN WC)	AIR FLOW (CFM)		BASIS OF DESIGN MANUFACTURER AND MODEL NUMBER	REMARKS
					MAX	MIN		
EVAV-HS-1	12	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	SCIENCE CLASSROOM 230	0.16	1,405	1,040	E.H. Price SDE SERIES	1, 2
EVAV-HS-2	12	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	SCIENCE CLASSROOM 231	0.19	1,550	1,060	E.H. Price SDE SERIES	1, 2
EVAV-HS-3	7	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	PREP ROOM 231B	0.15	340	150	E.H. Price SDE SERIES	1, 2
EVAV-HS-4	4	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	STUDY POD 231A	0.15	90	50	E.H. Price SDE SERIES	1, 2
EVAV-HS-5	12	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	SCIENCE CLASSROOM 233	0.15	1,385	1,060	E.H. Price SDE SERIES	1, 2
EVAV-HS-6	12	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	SCIENCE CLASSROOM 235	0.20	1,690	1,190	E.H. Price SDE SERIES	1, 2
EVAV-HS-7	4	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	STUDY POD 235C	0.15	105	45	E.H. Price SDE SERIES	1, 2
EVAV-HS-8	7	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	PREP ROOM 235D	0.20	415	170	E.H. Price SDE SERIES	1, 2
EVAV-HS-9	7	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	PREP ROOM 230B	0.15	340	150	E.H. Price SDE SERIES	1, 2
EVAV-HS-10	4	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	STUDY POD 230A	0.15	85	50	E.H. Price SDE SERIES	1, 2
EVAV-HS-11	12	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	SCIENCE CLASSROOM 232	0.15	1,385	1,060	E.H. Price SDE SERIES	1, 2
EVAV-HS-12	7	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	PREP ROOM 234A	0.15	350	150	E.H. Price SDE SERIES	1, 2
EVAV-HS-13	4	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	STUDY POD 232A	0.15	85	50	E.H. Price SDE SERIES	1, 2
EVAV-HS-14	12	QUIET EXHAUST SINGLE DUCT TERMINAL UNIT	SCIENCE CLASSROOM 234	0.15	1,385	1,045	E.H. Price SDE SERIES	1, 2

MULTI-ZONE INVERTER HEAT PUMP SCHEDULE

1. PROVIDE HEAT PUMP WITH MITSUBISHI MODEL QSM51801M 18" HIGH STAND AND PROVIDE ACCESSORIES TO INTEGRATE EACH FAN COIL UNITS INTO BACNET DDC SYSTEM (MITSUBISHI PAC-UKPRC001-CN-1). PROVIDE ONE MITSUBISHI PAC-UKPRC001-CN-1 FOR EACH FAN COIL UNIT. POWERED FROM THE FAN COIL UNIT, WHICH ALLOWS FOR BUILDING DDC SYSTEM TO CONTROL THE INDOOR UNIT.
 2. PROVIDE EACH INDOOR UNIT WITH BUILT-IN CONDENSATE DRAIN LIFT MECHANISM (SP), BACNET AND MODBUS INTERFACE, AND WIRED CONTROLLER (MITSUBISHI MODEL PAR-40MAU).
 3. PROVIDE POWER CONNECTION AND ALL REQUIRED WIRING FOR INDOOR UNIT FROM OUTDOOR UNIT POWER SOURCE. PROVIDE ALL REQUIRED CORDING, WIRING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS BETWEEN OUTDOOR UNIT, INDOOR UNITS AND WIRED CONTROLLERS.

Mark	SERVICE	DESCRIPTION	COOLING CAPACITY	CAPACITY COOLING (Btu/h)	CAPACITY HEATING (Btu/h)	CFM			ELECTRICAL DATA						FAN MOTOR OUTPUT	WEIGHT	BASIS OF DESIGN MFG. AND MODEL	Mark	COOLING OPERATING RANGE (DEGREE F DB)	HEATING OPERATING RANGE (DEGREE F WB)	CAPACITY HEATING @ 5 DEGREE F DB	CAPACITY COOLING	ELECTRICAL DATA				REFRIGERANT	REFRIGERANT SEER	REFRIGERANT HSPF	WEIGHT	BASIS OF DESIGN MFG. AND MODEL	REMARKS
						HI	MID	LO	VOLTS	PHASE	HERTZ	MCA	VOLTS	PH									MCA	MOP								
FDLHS-1	OFFICE E137B	2'x2 4-WAY CEILING CASSETTE	8,984 Btu/h	4,800 Btu/h	10,152 Btu/h	300	265	230	208 V	1	60 Hz	0.25 A	50 W	31 lb	MITSUBISHI SLZ-KF09NA	HP-HS-1	14-115	-13.65	22,000 Btu/h	20,000 Btu/h	208	1	29.5	40	R410A	17	9.8	187 lb	MITSUBISHI MXZ-2CC0NAH22	1, 2, 3		
FDLHS-2	SECURE VESTIBULE E137A	2'x2 4-WAY CEILING CASSETTE	8,984 Btu/h	4,800 Btu/h	10,152 Btu/h	300	265	230	208 V	1	60 Hz	0.25 A	50 W	31 lb	MITSUBISHI SLZ-KF09NA																	

FAN SCHEDULE

1. PROVIDE FAN WITH 16" HIGH ROOF CURB, ELECTRICALLY COMMUTATED MOTOR, MOTORIZED DAMPER AND 0-10 VDC CONTROL LEAD.
 2. PROVIDE FAN BACKWARD INCLINED, NON-OVERLOADING WELDED ALUMINUM WHEEL, AMCA TYPE "B" SPARK RESISTANT CONSTRUCTION, HIGH VELOCITY DISCHARGE CONE, UV PROTECTION TYPE PHENOLIC EPOXY POWDER COAT FINISH, LARGE BOLTED ACCESS DOOR, FAN DRAIN, WEATHER COVER, NO BYPASS PLENUM, 12" HIGH COATED STEEL LAB EXHAUST CURB, REINFORCED CURB CAP, DESIGNED TO WITHSTAND 125 MILE PER HOUR WIND.
 3. PROVIDE WITH NEMA 3R DISCONNECT MOUNTED AND PRE-WIRED.
 4. ADD ALTERNATE #2.

Mark	LOCATION	SERVICE	TYPE	DRIVE	CFM	STATIC PRESSURE (IN WC)	MINIMUM IMPELLER DIAMETER	UNIT HEIGHT	EFFECTIVE PLUME HEIGHT	ELECTRICAL DATA					MIN FAN STATIC EFFICIENCY	TOTAL SYSTEM WEIGHT	BASIS OF DESIGN MFG. AND MODEL	REMARKS
										RPM	BHP	HP	WATTS	VOLTS				
EFHS-1	ROOF	FUME HOOD	CENTRIFUGAL, IN-LINE, CURB MOUNT, BACKWARD INCLINED WHEEL, LABORATORY EXHAUST UNIT	BELT	500	1	10.0 in	11.3 ft	17'-0"	2,576	0.392	1/2	115	1	23%	431 lb	COOK 100TCNHBLE05	2, 3
EFHS-2	ROOF	FUME HOOD	CENTRIFUGAL, IN-LINE, CURB MOUNT, BACKWARD INCLINED WHEEL, LABORATORY EXHAUST UNIT	BELT	500	1	10.0 in	11.3 ft	17'-0"	2,576	0.392	1/2	115	1	23%	431 lb	COOK 100TCNHBLE05	2, 3
EFHS-3	ROOF	FUME HOOD	CENTRIFUGAL, IN-LINE, CURB MOUNT, BACKWARD INCLINED WHEEL, LABORATORY EXHAUST UNIT	BELT	500	1	10.0 in	11.3 ft	17'-0"	2,576	0.392	1/2	115	1	23%	431 lb	COOK 100TCNHBLE05	2, 3
EFHS-4	ROOF	FUME HOOD	CENTRIFUGAL, IN-LINE, CURB MOUNT, BACKWARD INCLINED WHEEL, LABORATORY EXHAUST UNIT	BELT	500	1	10.0 in	11.3 ft	17'-0"	2,576	0.392	1/2	115	1	23%	431 lb	COOK 100TCNHBLE05	2, 3
EFHS-5	ROOF	FUME HOOD	CENTRIFUGAL, IN-LINE, CURB MOUNT, BACKWARD INCLINED WHEEL, LABORATORY EXHAUST UNIT	BELT	500	1	10.0 in	11.3 ft	17'-0"	2,576	0.392	1/2	115	1	23%	431 lb	COOK 100TCNHBLE05	2, 3
EFHS-6	ROOF	FUME HOOD	CENTRIFUGAL, IN-LINE, CURB MOUNT, BACKWARD INCLINED WHEEL, LABORATORY EXHAUST UNIT	BELT	500	1	10.0 in	11.3 ft	17'-0"	2,576	0.392	1/2	115	1	23%	431 lb	COOK 100TCNHBLE05	2, 3
EFHS-7	ROOF	SCIENCE CLASSROOM 208 AND PREP ROOM 208A	DOWNBLAST CENTRIFUGAL VENTILATOR, CURB MOUNT	DIRECT	1,250	0.8	12.0 in			1,639	1/2	300.0	115	1	49%		COOK 120C1TDEC	1.4
EFHS-8	ROOF	SCIENCE CLASSROOM 212	DOWNBLAST CENTRIFUGAL VENTILATOR, CURB MOUNT	DIRECT	1,000	0.8	12.0 in			1,472	1/2	220.0	115	1	53%		COOK 120C1TDEC	1.4

RADIANT PANEL SCHEDULE

1. PRESSURE DROP DATA BASED ON FLOW RATE THROUGH PANEL OF 1.0 GPM.
 2. PROVIDE 1.5" THICK, 1.5 POUND PER CUBIC FOOT DENSITY, INSULATION BLANKET ON TOP EACH RADIANT PANEL WITH MINIMUM INSTALLED R-VALUE OF 4.7 TO COMPLY WITH PART C402.2.6 OF THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.

Mark	TYPE	HEATING CAPACITY PER FOOT OF RADIANT PANEL	GPM	SIZE LENGTH	AVERAGE 40% PROPYLENE GLYCOL SOLUTION TEMPERATURE	PRESSURE DROP (FEET OF WATER PER 100 FEET OF .565 ID TUBE)	WIDTH	NUMBER OF TUBES	BASIS OF DESIGN MFG. AND MODEL	REMARKS
RP-HS-1	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-2	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-3	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	0.8 GPM	4'-0"	178 °F	2.40	18"	3	AEROTECH	1, 2
RP-HS-4	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	0.8 GPM	4'-0"	178 °F	2.40	18"	3	AEROTECH	1, 2
RP-HS-5	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-6	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-7	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-8	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-9	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-10	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	0.5 GPM	2'-0"	178 °F	1.10	18"	3	AEROTECH	1, 2
RP-HS-11	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-12	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-13	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	0.5 GPM	2'-0"	178 °F	1.10	18"	3	AEROTECH	1, 2
RP-HS-14	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	0.5 GPM	2'-0"	178 °F	1.10	18"	3	AEROTECH	1, 2
RP-HS-15	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-16	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-17	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	0.5 GPM	2'-0"	178 °F	1.10	18"	3	AEROTECH	1, 2
RP-HS-18	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-19	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-20	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-21	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-22	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2
RP-HS-23	RADIANT LINEAR EXTRUDED PANEL	301.0 Btu/h	1.0 GPM	6'-0"	178 °F	4.10	18"	3	AEROTECH	1, 2

DUCT SILENCER SCHEDULE

1. SHALL BE A STRAIGHT DISSIPATIVE SILENCER.
 2. SHALL BE A RECTANGULAR, ELBOW, DISSIPATIVE SILENCER.

Mark	LENGTH	HEIGHT	WIDTH	LEG A	LEG B	AIRFLOW	VELOCITY	AIR PRESSURE DROP (IN WG)	Description	OCTAVE BAND DYNAMIC INSERTION LOSS (dB)						BASIS OF DESIGN MFG. AND MODEL	REMARKS	
										63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	4000 Hz			8000 Hz
DS-HS-1	3'-0"	16 in	40 in			3,630 CFM	-817 FPM	0.02	Rectangular High Velocity - Absorptive Silencer	4	6	10	16	13	9	7	Price Industries RH364A	1
DS-HS-2	3'-0"	16 in	40 in			5,675 CFM	-1,254 FPM	0.05	Rectangular High Velocity - Absorptive Silencer	4	6	10	16	13	9	7	Price Industries RH364A	1
DS-HS-3	3'-0"	16 in	52 in			7,246 CFM	-1,254 FPM	0.04	Rectangular High Velocity - Absorptive Silencer	4	6	8	14	11	9	7	Price Industries RH367A	1
DS-HS-4	3'-0"	8 in	52 in			3,255 CFM	-1,232 FPM	0.04	Rectangular High Velocity - Absorptive Silencer	4	6	8	14	11	9	7	Price Industries RH367A	1