

DUCTWORK INSULATION SCHEDULE

PURPOSE	DUTY	DUCT		INSULATION			NOTES
		LOCATION	STYLE	MATERIAL	APPLICATION	THICKNESS	
SUPPLY	LOW PRESSURE/VELOCITY	CONCEALED	RECTANGULAR	FIBERGLASS	LINED	1/2"	---
		CONCEALED	ROUND	MINERAL FIBER	WRAPPED	1-1/2"	---
		EXPOSED	RECTANGULAR	FIBERGLASS	LINED	1/2"	---
	MEDIUM PRESSURE/VELOCITY	CONCEALED	RECTANGULAR	FIBERGLASS	LINED	1"	---
		CONCEALED	ROUND	MINERAL FIBER	WRAPPED	1-1/2"	---
		EXPOSED	RECTANGULAR	FIBERGLASS	LINED	1"	---
RETURN	LOW PRESSURE/VELOCITY	CONCEALED	RECTANGULAR	FIBERGLASS	LINED	1/2"	---
		CONCEALED	ROUND	MINERAL FIBER	WRAPPED	1-1/2"	---
		EXPOSED	RECTANGULAR	FIBERGLASS	LINED	1/2"	---
	EXHAUST	CONCEALED	RECTANGULAR	FIBERGLASS	LINED	1/2"	---
		CONCEALED	ROUND	FIBERGLASS	LINED	1/2"	1
		EXPOSED	RECTANGULAR	FIBERGLASS	LINED	1/2"	1
SUPPLY & RETURN DUCTS FROM UNITS > 4,000CFM		CONCEALED	ALL	SOUND LAGGING WRAP (SEE SPECIFICATIONS)			2,3

NOTES:

1. PROVIDE LINER ONLY WITHIN 10' OF FAN FOR ACCUSTICS.
2. IN ADDITION TO OTHER SCHEDULED INSULATION.
3. INSTALL FROM UNIT DISCHARGE TO FIRST DUCT ELBOW, THEN 10' FURTHER. NOT REQUIRED INSIDE CHASES OR MECHANICAL ROOMS, BUT SHALL BE INSTALLED ON REMAINING DUCTWORK WHEN 10' DIMENSION FALLS OUTSIDE ROOM.

GENERAL REMARKS (APPLICABLE TO ALL TYPES):

- 1) ALL DUCTWORK, INSULATION AND MATERIALS IN PLENUMS MUST MEET ASTM E84 FLAME/SMOKE RATING OF 25/50.
- 2) ALL INSULATION THICKNESSES SHALL MEET ASHRAE 90.1 - 2010 REQUIREMENTS AT A MINIMUM.
- 3) REFER TO SPECIFICATIONS FOR MORE DETAILED INFORMATION FOR INSULATION PRODUCTS AND SYSTEMS.

LOUVER SCHEDULE

MARK	MANUFACTURER	MODEL	SIZE	FREE AREA	REMARKS
L-1	RUSKIN	ELF-375	18 X 12	57%	0.41 SF, 1,2,3

REMARKS:

1. EXTRUDED ALUMINUM WITH DRAINABLE STATIONARY BLADES & BIRDSCREEN
2. PROVIDE WITH MOUNTING FRAME TO MATCH CONSTRUCTION
3. PROVIDE CUSTOM COLOR FINISH. COORDINATE COLOR WITH ARCHITECT & BUILDING OWNER.

VAV ROOFTOP UNIT SCHEDULE (GAS HEAT)

MARK	MANUFACTURER	MODEL	NOMINAL TON	SUPPLY FAN				RETURN FAN			HEATING COIL		MIN. O/A CFM	MCA	MOCP	V/PH	DISC. TYPE	WEIGHT (LBS.)		
				FAN TYPE	CFM	ESP (IN.)	MIN HP	VFD (Y/N)	CFM	ESP	HP	INPUT (MBH)							OUTPUT (MBH)	MIN. NO. STAGES
RTU-1	AAON	RN-020	20	DIRECT	6400	2.0	7.5	Y	6400	.75	5	270	218	MODULATING	1150	123	150	08/3	NOISE USED	6033

NOTES:

- FURNISH WITH INTEGRAL SINGLE POINT DISCONNECT SWITCH, INSULATED ROOF CURBS AND HAIL GUARDS.
- FURNISH WITH ECONOMIZER, POWERED EXHAUST AND VFD ON SUPPLY AND RELIEF FAN FOR VAV OPERATION.
- PROVIDE VARIABLE COMPRESSOR CAPACITY MODULATING GAS HEAT.
- PROVIDE MODULATING HOT GAS RE-HEAT COIL.
- PROVIDE CONTROLLER TO TIE INTO THE DDC SYSTEM.
- SUPPLY FAN SOUND POWER LEVELS (IN dB AT OUTLET) AT 250 HZ, 1000 HZ, AND 4000 HZ SHALL BE 91, 92, AND 82 RESPECTIVELY. RELIEF FAN SOUND POWER LEVELS (IN dB AT OUTLET) AT 250 HZ, 1000 HZ, AND 4000 HZ SHALL BE 88, 87, AND 72 RESPECTIVELY.

FAN-POWERED VARIABLE AIR VOLUME TERMINAL SCHEDULE (ELECTRIC HEAT)

MARK	SERVED FROM	MANUFACTURER	MODEL	INLET SIZE (IN)	PRIMARY CFM	MINIMUM CFM	HEATING COIL				V/PH	CFM	HP	V/PH	SOUND POWER		MCA	MOCP	NOTES
							EAT	LAT	KW	PS					RADIATED	DISCHARGE			
FPB-1	RTU-1	TITUS	DTQP-322	08	650	195	55	57	5.0	5.0	208/3	327	1/4	208/1	35	23	19.2	20	A-1
FPB-2	RTU-1	TITUS	DTQP-322	10	1000	300	55	96	6.0	6.0	208/3	500	1/4	208/1	40	27	29.6	30	A-1
FPB-3	RTU-1	TITUS	DTQP-322	08	650	180	55	97	6.0	6.0	208/3	300	1/4	208/1	34	22	19.2	20	A-1
FPB-4	RTU-1	TITUS	DTQP-322	10	1100	350	55	93	6.0	6.0	208/3	550	1/4	208/1	41	28	29.9	30	A-1
FPB-5	RTU-1	TITUS	DTQP-322	08	450	135	55	93	3.5	3.5	208/3	225	1/4	208/1	31	18	14.0	15	A-1
FPB-6	RTU-1	TITUS	DTQP-322	06	350	105	55	93	2.5	2.5	208/3	200	1/4	208/1	30	17	10.5	15	A-1

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- HEATING COIL CAPACITY BASED ON 65F MAX. AIR TEMPERATURE RISE AND MAX. DISCHARGE AIR TEMPERATURE.
- INSTALL FLEXIBLE DUCT CONNECTOR AT ALL CONNECTIONS.
- PROVIDE INTEGRAL DISCONNECT SWITCH.
- PROVIDE FACTORY INSTALLED CONTROL POWER (CP) TRANSFORMER.
- COORDINATE PRIMARY POWER WITH ELECTRICAL DRAWINGS.
- BOX NOT TO EXCEED SCHEDULED DISCHARGE OR RADIATED SOUND NC LEVEL USING 0.5" PRESSURE DROP.
- PROVIDE FACTORY-INSTALLED, PRESSURE INDEPENDENT ELECTRONIC CONTROL PACKAGE TIED TO THE DDC SYSTEM.
- PROVIDE TEMPERATURE SENSOR INLET AND CONTROLS FOR AUTOMATIC CHANGEOVER BETWEEN HEATING AND COOLING MODE.
- PROVIDE BOX WITH EITHER RIGHT HAND OR LEFT HAND CONFIGURATION AS SHOWN ON DRAWINGS.

FAN SCHEDULE

PLAN MARK	MANUFACTURER	DESIGN CFM	STATIC PRESSURE IN. WG	TIP SPEED FPM	WIND SPEED FPM	HP	SONES	MOTOR HP	VOLTS/PHASE	WEIGHT LBS.	REMARKS
FF	LOREN COOK	3570	0.5	3570	1710	5.7	1.6	120/1	60	1	
FF	SKY BLADE	3800	0.6	3800	1735	6.8	1.5	208/3	220	2.3	
FF	SKY BLADE	3800	0.6	3800	1735	6.8	1.5	208/3	220	2.3	

NOTE:

- PROVIDE SPEED CONTROLLER, INTEGRAL DISCONNECT, HANGER KIT, VIBRATION ISOLATORS, AND A 10" WALL CAP
- PROVIDE WITH MANUAL WALL MOUNTED VFD SPEED CONTROLLER WITH FORWARD, REVERSE, AND OFF CONTROL WITH A VARIABLE SPEED CONTROL
- PROVIDE RELAY TO INTERLOCK WITH FIRE ALARM SYSTEM TO DISABLE FAN WHEN SPRINKLER HEADS ARE FLOWING WATER

VARIABLE AIR VOLUME TERMINAL SCHEDULE (ELECTRIC HEAT)

MARK	SERVED FROM	MANUFACTURER	MODEL	INLET SIZE (IN)	PRIMARY CFM	MINIMUM CFM	SOUND POWER		NOTES
							RADIATED	DISCHARGE	
VAV-1	RTU-1	TITUS	DESV-312	08	215	215	24	21	A-G
VAV-2	RTU-1	TITUS	DESV-312	06	505	150	27	22	A-G
VAV-3	RTU-1	TITUS	DESV-312	05	240	80	20	18	A-G
VAV-4	RTU-1	TITUS	DESV-312	09	950	285	23	20	A-G

NOTES:

- INSTALL FLEXIBLE DUCT CONNECTOR AT INLET CONNECTION.
- PROVIDE INTEGRAL DISCONNECT SWITCH.
- PROVIDE FACTORY INSTALLED CONTROL POWER (CP) TRANSFORMER. COORDINATE PRIMARY POWER WITH ELECTRICAL DRAWINGS.
- BOX NOT TO EXCEED SCHEDULED DISCHARGE OR RADIATED SOUND NC LEVEL USING 0.5" PRESSURE DROP.
- PROVIDE FACTORY-INSTALLED, PRESSURE INDEPENDENT, ELECTRONIC CONTROL PACKAGE COMPLETE WITH SOUND ATTENUATOR SECTION.
- PROVIDE TEMPERATURE SENSOR IN INLET AND CONTROLS TIED TO DDC SYSTEM.
- PROVIDE BOX WITH EITHER RIGHT HAND OR LEFT HAND CONFIGURATION AS SHOWN ON DRAWINGS.

SUPPLY DIFFUSER AND REGISTER SCHEDULE

PLAN MARK	MANUFACTURER	TYPE	SERVICE	ST. PRESS. DROP IN. WG.	THROW FT. TO 50 FPM	NC	NECK SIZE IN.	FACE SIZE IN.	MOUNT TYPE	VOLUME DAMPER	MATERIAL COLOR	REMARKS
A	TITUS	LINEAR SLOT ML-39	SUPPLY	0.04	7	23	6"0	60X2	HARD CEILING	NONE	STEEL COLOR BY ARCH	ADJUSTABLE BLADE. 1" 1-SLOT DIFFUSER WITH FIELD CONSTRUCTED INSULATED PLENUM PROVIDE WITH BORDER Z2 FOR CONCEALED MOUNTING
B	TITUS	LINEAR SLOT ML-39	SUPPLY	0.05	7	25	10"0	48X4	HARD CEILING	NONE	STEEL COLOR BY ARCH	ADJUSTABLE BLADE. 1" 2-SLOT DIFFUSER WITH FIELD CONSTRUCTED INSULATED PLENUM PROVIDE WITH BORDER Z2 FOR CONCEALED MOUNTING
C	TITUS	LOUVER TYPE REGISTER 300FS	SUPPLY	0.05	9	13	12X6	14X8	DUCT MOUNTED	AG-35	STEEL COLOR BY ARCH	DIFFUSER ASSEMBLY WITH DOUBLE DEFLECTION 3/4" SPACING AND NECK OPERATED BLADE DAMPER
D	TITUS	LOUVER TYPE REGISTER 300FS	SUPPLY	0.01	24	17	6X9	12X12	HARD CEILING	AG-35	STEEL COLOR BY ARCH	DIFFUSER ASSEMBLY WITH SQUARE LOUVERED CEILING FACE
E	TITUS	LOUVER TYPE REGISTER 300FS	SUPPLY	0.05	9	13	8X8	10X10	HARD CEILING	AG-35	ALUMINUM COLOR BY ARCH	DIFFUSER ASSEMBLY WITH DOUBLE DEFLECTION 3/4" SPACING AND NECK OPERATED BLADE DAMPER

NOTE:

1. CONTRACTOR SHALL VERIFY THE MOUNTING TYPE AND MOUNTING FRAMES WITH TYPES OF CEILINGS PROVIDED.
2. CONNECT RA GRILLES TO NEAREST OVERHEAD DUCTWORK MAIN WITH 2X22 DUCT AS REQUIRED.
3. INSTALL PER MANUFACTURER'S INSTALLATION DOCUMENTS.

RETURN AND EXHAUST GRILLE SCHEDULE

PLAN MARK	MANUFACTURER	TYPE	SERVICE	ST. PRESS. DROP IN. WG.	NC	NECK SIZE IN.	FACE SIZE IN.	MOUNT TYPE	VOLUME DAMPER	MATERIAL COLOR	REMARKS
AA	TITUS	LOUVER TYPE REGISTER 300FS	RETURN	0.045	15	22X10	24X12	HARD CEILING	NONE	STEEL COLOR BY ARCH	
BB	TITUS	LINEAR SLOT ML-39	RETURN	0.045	15	-	60X4	HARD CEILING	NONE	STEEL COLOR BY ARCH	PLENUM SLOT DIFFUSER WITH LIGHT SHIELD. PROVIDE WITH BORDER Z2 FOR CONCEALED MOUNTING
CC	TITUS	SQUARE SINGLE DEFLECTION 300FS	EXHAUST	0.045	15	8X8	10X10	HARD CEILING	AG-35	ALUMINUM COLOR BY ARCH	DIFFUSER ASSEMBLY WITH SINGLE DEFLECTION 3/4" AEROBLADE WITH 1/2" SPACING
DD	TITUS	SQUARE LOUVERED TDC	RETURN	0.1	17	8X9	12X12	HARD CEILING	AG-35	STEEL COLOR BY ARCH	DIFFUSER ASSEMBLY WITH SQUARE LOUVERED FACE

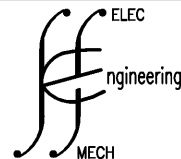
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2. CONNECT RA GRILLES TO NEAREST OVERHEAD DUCTWORK MAIN WITH 2X22 DUCT AS REQUIRED.
3. INSTALL PER MANUFACTURER'S INSTALLATION DOCUMENTS.

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PROJECT NUMBER: A1718

SEAL



ISSUED FOR: DATE:
 95% CDS 12/22/2017
 Permit Set 01/12/2018

MECHANICAL SCHEDULES

M201