

EXHAUST AND RETURN GRILLES

MARK		EG1	EG2	EG3	EG4	EG5	EG6	EG7	EG8	EG9	EG10	EG11	RG1	RG2	RG3	RG4	RG5	RG6	RG7	RG8	RG9	RG10	RG11
TYPE	DESCRIPTION	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	SECURITY	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED
	MATERIAL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STAINLESS STL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	WOOD	STEEL
	BORDER TYPE	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	—	[1]	[1]	[1]	[1]	[1]	[1]	—	—	—	WOOD	[1]
CAPACITY	NOMINAL FACE: IN	24x12	24x12	24x12	24x24	10x10	10x18	14x18	12x12	12x12	18x12	30x38	24x12	24x12	24x12	24x24	10x10	12x12	50x26	74x38	24x14	24x12	24x10
	DUCT SIZE: IN	8	10	12	18x12	8	10x18	14x18	12x12	12x12	14x10	28x36	8	10	12	18x12	8	10	48x24	72x36	24x14	24x12	24x10
	MAX FLOW: CFM	200	380	600	1,400	200	350	525	500	210	600	4,000	200	380	600	1,300	200	275	5,000	10,000	1,500	900	600
	MAX SP: IN WG	0.03	0.04	0.03	0.05	0.05	0.05	0.07	0.06	0.03	0.05	0.07	0.03	0.04	0.03	0.05	0.05	0.07	0.07	0.07	0.07	0.07	0.10
	MAX CORE VEL: FPM	200	300	450	450	350	350	350	550	200	500	600	200	300	450	350	350	350	350	600	700	750	450
BASIS OF DESIGN	MAX NC [2]	—	—	16	18	20	22	25	19	210	17	27	—	—	16	18	20	20	20	33	25	25	30
	MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	STEPHAN	TITUS
	MODEL	25RL	25RL	25RL	25RL	23RL	23RS	35ORL	SG—SD	35ORL—SS	35ORS	25RL	25RL	25RL	25RL	23RL	23RL	35ORL	35ORL	35ORL	35ORL	—	23RL
	NOTES	[3, 4]	[3, 4]	[3, 4]	[3, 4]	[3, 4]	[4]	[4]	[4]	[4]	[4, 6]	[5]	[3, 4]	[3, 4]	[3, 4]	[3, 4]	[3, 4]	[3, 4]	[3]			[7]	[4]

NOTES:

1. PROVIDE GRILLES WITH BORDER STYLES THAT ARE COMPATIBLE WITH ADJACENT CEILING SYSTEMS, REFER TO ARCHITECTURAL DRAWINGS.
2. NC BASED ON OCTAVE BANDS 2 – 7 SOUND POWER LEVELS MINUS A ROOM ABSORPTION OF 10 DB, MEASURED PER ASHRAE 70–91.
3. PROVIDE ATTACHED PLENUM. SEE DETAIL 1 ON M10.04.
4. DUCT SIZES AS SCHEDULED UNLESS NOTED OTHERWISE ON PLANS.
5. PROVIDE GRILLE WITH VANDAL RESISTANT SCREWS.
6. PROVIDE HINGED STAINLESS STEEL EXHAUST GRILLE.
7. WOOD GRILLE TO MATCH THE WOOD IN THE CHAPEL. SUBMIT COLOR SAMPLE.

UNIT HEATERS - HW

MARK		UH-1	UH-2	UH-3	UH-4
LOCATION		STOR 1004	MECH 1095	MECH 5005 S	MECH 5005 N
SERVES		STOR 1004	MECH 1095	MECH 5005 S	MECH 5005 N
TYPE	DESCRIPTION	PROP	PROP	PROP	PROP
	DISCHARGE	HORIZ	HORIZ	HORIZ	HORIZ
CAPACITY	TOTAL MBH	15.0	15.0	15.0	15.0
	AIRFLOW: CFM	420	420	420	420
	EAT: F	60	60	60	60
	LAT: F	92	92	92	92
	EWT: F	180	180	180	180
ELECTRICAL	LWT: F	160	160	160	160
	FLOW: GPM	2.0	2.0	2.0	2.0
	VOLT/PHASE	120/1	120/1	120/1	120/1
	MOTOR HP	16 WATTS	16 WATTS	16 WATTS	16 WATTS
	FLA	0.8	0.8	0.8	0.8
OPER WEIGHT	WEIGHT: LBS	40	40	40	40
BASIS OF DESIGN	MANUFACTURER	TRANE	TRANE	TRANE	TRANE
	MODEL	S–18	S–18	S–18	S–18
	NOTES	[1, 2, 3]	[1, 2]	[1, 2]	[1, 2]

NOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR MOTOR STARTER AND DISCONNECT SWITCH.
2. CONTROLLED BY REMOTE DDC TEMPERATURE SENSOR.
3. HEATER UNIT ON EMERGENCY POWER.

LINEAR DIFFUSERS

MARK		LD1	LD2	LD3	LD4	LD5	LD6
TYPE	DESCRIPTION	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT
	INSTALLATION	CEILING	CEILING	CEILING	SIDEWALL	SIDEWALL	CEILING
	SLOTS: [1]	2	3	4	1	1	4
	SLOT WIDTH: IN	1	1	1	1	1	1
	LENGTH: FT	4	4	4	4	4	2
CAPACITY	BORDER TYPE	[2]	[2]	[2]	[2]	[2]	[2]
	INLET SIZE: IN [5]	8	10	12	10	14x8	8
	MAX FLOW: CFM	140	200	500	320	400	130
	MAX SP: IN WG	0.06	0.06	0.05	0.11	0.11	0.10
	MAX NC: [3]	26	25	18	25	25	24
BASIS OF DESIGN	MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
	MODEL	MP–39	MP–39	MLR–39	FL–10–JT	FL–10–JT	MP–39
	NOTES	[4]	[4]	[4, 6]	[4]	[4, 6]	[4]

NOTES:

1. TOTAL NUMBER OF SLOTS, DIVIDED THROW EACH DIRECTION.
2. PROVIDE DIFFUSERS WITH BORDER STYLES THAT ARE COMPATIBLE WITH ADJACENT CEILING, WALL OR SILL SYSTEMS. REFER TO ARCHITECTURAL PLANS.
3. NC BASED ON OCTAVE BANDS 2 – 7 SOUND POWER LEVELS MINUS A ROOM ABSORPTION OF 10 DB, MEASURED PER ASHRAE 70–91.
4. SHEET METAL PLENUM BY MECHANICAL CONTRACTOR.
5. INLET SIZE TO SLOT DIFFUSER PLENUM.
6. RETURN AIR PERFORMANCE.

CEILING DIFFUSERS

MARK		CD1	CD2	CD3	CD4	CD5	CD6	CD7	CD8	CD9	CD10	CD11
TYPE	DESCRIPTION	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LAMINAR	LAMINAR	LAMINAR	SECURITY	LOUVERED
	MATERIAL	STEEL	STEEL	STEEL	STEEL	STEEL	ALUM	STAINLESS	STAINLESS	STAINLESS	STEEL	STEEL
	NOM FACE SIZE: IN	24x24	24x24	24x24	24x24	24x24	24x24	48x24	24x24	24x48	12x12	26x12
	FINISH / COLOR	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	STAINLESS	STAINLESS	STAINLESS	WHITE	WHITE
CAPACITY	BORDER TYPE	[1]	[1]	[1]	[1]	[1]	[1]	STAINLESS	STAINLESS	STAINLESS	[1]	TYPE 1
	MAX FLOW: CFM	100	225	400	625	900	100	265	130	630	350	670
	NECK SIZE: IN	6x6	9x9	12x12	15x15	18x18	6x6	12	7	12	12x12	24x10
	DUCT CONN: IN	6	8	10	12	14	6	12	7	12	10	24x10
	MAX NECK VEL: FPM	400	400	400	400	400	400	400	400	100	350	440
BASIS OF DESIGN	MAX SP: IN WG	0.08	0.08	0.08	0.08	0.08	0.08	0.04	0.08	0.35	0.06	0.06
	MAX NC: [2]	13	15	17	19	20	13	22	21	25	15	27
	MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	CAMFIL–FARR	TITUS	TITUS
	MODEL	TDC	TDC	TDC	TDC	TDC	TDC	TLF–SS	TLF–SS	PHARMASEAL	SG–SD	250 L4
	NOTES	[3]	[3]	[3]	[3]	[3]	[3]	[4]	[4]	[4, 5]	[3]	

NOTES:

1. PROVIDE DIFFUSERS WITH BORDER STYLES THAT ARE COMPATIBLE WITH ADJACENT CEILING SYSTEMS. REFER TO ARCHITECTURAL PLANS.
2. NC BASED ON OCTAVE BANDS 2 – 7 SOUND POWER LEVELS MINUS A ROOM ABSORPTION OF 10 DB, MEASURED PER ASHRAE 70–91.
3. PROVIDE ATTACHED PLENUM SEE DETAIL X ON MX.
4. ALUMINUM HOUSING, STAINLESS STEEL FACE GRILLE WITH QUARTER TURN FASTENERS, STAINLESS STEEL BORDER TRIM, INTEGRAL VOLUME DAMPER ACCESS THRU FACE OF DIFFUSER.
5. MODEL # PH-25D49D–12D–F–B–12–R–TS–A–C–A–1–0–A–2–A–2. DIFFUSER EQUIPPED WITH HEPA FILTER.

FANS

MARK		EF-1	EF-2	EF-3	EF-4A	EF-4B	EF-5	FUT. EF-6	FUT. EF-7	REF-8	EF-9	EF-10	EF-11	PSF-1	PSF-2	PSF-3	GEF-1
LOCATION		LEVEL 5	LEVEL 5	LEVEL 5	LEVEL 5	LEVEL 5	LEVEL 5	FUT LEVEL 8	FUT LEVEL 8	LEVEL 5	ROOF LEVEL 6	ROOF LEVEL 6	ROOF LEVEL 6	LEVEL 9	LEVEL 9	LEVEL 6	LEVEL 1
SERVES		GEN. EXH. 1ST	2ND FLR SOUTH	3RD FLR NORTH	LVL 4 SOUTH	LVL 4 NORTH	CHILLER RM	FUT LEVEL 6	FUT LEVEL 7	ELEC 5007	ISO. RMS 3ND	ISO. RMS 2ND	4TH PHARMACY	ELEVATORS	STAIR	AVGS	GARAGE EXH
TYPE	DESCRIPTION	INLINE	[4]	[4]	INLINE	INLINE	UTILITY SET	—	—	INLINE	UTILITY SET	UTILITY SET	UTILITY SET	CENTR	CENTR	AXIAL	INLINE
CAPACITY	DRIVE	BELT	—	—	BELT	BELT	BELT	—	—	BELT	BELT	BELT	BELT	BELT	BELT	DIRECT	BELT
	FLOW: CFM	2,000	—	—	3,000	850	2,000	—	—	3,000	2,000	2,600	1,200	40,000	26,000	30,000	28,000
	TSP: IN WG	1.50	—	—	1.25	1.00	2.50	—	—	1.25	2.50	2.50	2.00	1.75	1.75	[9]	1.25
	FAN RPM	1,401	—	—	1,550	2,250	1,860	—	—	1,220	1,850	1,710	1,150	1,302	1,332	1,750	1,396
	MOTOR BHP	1.00	—	—	0.93	0.27	1.30	—	—	1.15	1.16	1.52	0.69	29.60	17.10	9.50	13.90
ELECTRICAL	VOLT/PHASE	460/3	—	—	460/3	460/3	460/3	—	—	1.5	460/3	460/3	460/3	460/3	460/3	460/3	460/3
	MOTOR HP	1.5	—	—	1.5	.5	1.5	—	—	460/3	1.5	2	1	50	30	15	15
	VFD	YES	—	—	NO	NO	YES	—	—	YES	YES	YES	YES	YES	YES	YES	YES
OPER WEIGHT	WEIGHT: LBS	250	—	—	400	175	125	—	—	275	400	425	500	1,440	1,130	794	1,090
BASIS OF DESIGN	MANUFACTURER	COOK	—	—	COOK	COOK	COOK	—	—	COOK	COOK	COOK	COOK	COOK	COOK	BUFFALO	COOK
	MODEL	180SQN–HP	—	—	150 QMX	90 QMX	150PVC	—	—	180SQIB	150 CPS	165 CPS	110 MHA	300CADWDI	270CADWDI	38A5	300QMX
	NOTES	[3, 5, 6]	[4]	[4]	[1, 5]	[1, 5]	[3, 5, 6]	[7]	[7]	[5, 8]	[5, 6]	[5, 6]	[5, 6]	[3, 5, 6]	[3, 5, 6]	[5, 6]	[2, 3, 5, 6]

NOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR MOTOR STARTER AND DISCONNECT SWITCH.
2. PROVIDE BACKDRAFT DAMPER.
3. MOTOR NOT INCLUDED IN WEIGHT.
4. SEE AIR HANDLER UNIT SCHEDULE.
5. ON EMERGENCY POWER.
6. REFER TO ELECTRICAL DRAWINGS FOR DISCONNECT SWITCH.
7. UNIT NUMBER RESERVED FOR FUTURE USE.
8. INTERLOCK WITH AHU-9
9. TOTAL PRESSURE = STATIC PRESSURE + VELOCITY PRESSURE =1.60"WG

GRILLES - SUPPLY

MARK		SG1	SG2	SG-3	SG4	SG5	SG6	SG7	SG8	SG9
TYPE	DESCRIPTION	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	EGGCRATE	LOUVERED	LOUVERED	LOUVERED
CAPACITY	MATERIAL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL
	DUCT SIZE: IN	12x8	48x24	12x12	18x14	30x30	60x60	24x16	72x36	42x88
	MAX FLOW: CFM	250	5,000	500	1,000	4,500	17,000	1,875	10,000	4,000
	MAX SP: IN WG	0.03	0.06	0.06	0.11	0.11	0.15	0.11	0.52	0.20
	MAX CORE VEL: FPM	400	650	600	800	870	750	800	700	800
BASIS OF DESIGN	MAX NC	20	30	17	27	32	30	28	38	38
	MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
	MODEL	271RS	272RL	271RS	271RS	271RS	271RS	271RS	350RL	300RL
	NOTES	[1, 2]	[1, 2]	[1, 2]	[1, 2]	[1, 2]	[1, 2]	[1, 2]		

NOTES:

1. PROVIDE GRILLES WITH BORDER STYLES THAT ARE COMPATIBLE WITH ADJACENT CEILING SYSTEMS, REFER TO ARCHITECTURAL DRAWINGS.
2. NC BASED ON OCTAVE BANDS 2 – 7 SOUND POWER LEVELS MINUS A ROOM ABSORPTION OF 10 DB, MEASURED PER ASHRAE 70–91.

ROOFTOP AC UNITS

MARK LOCATION SERVES		RTU-1		
		ROOF		
		1ST FLOOR		
SUPPLY FAN	TYPE	CENT		
	AIRFLOW: CFM	1,200		
	ESP: IN WG [1]	0.35		
	TSP: IN WG			
	WHEEL DIA: NO / IN	NA		
	FAN RPM	950		
	MOTOR BHP	0.3		
	MOTOR HP	1/2		
DX COOLING	FAN CONTROL	VFD		
	TOTAL: MBH	36.8		
	SENSIBLE: MBH	26.6		
	AMBIENT DB: F	95		
	EAT DB: F	80		
	EAT WB: F	67		
	LAT DB: F	—		
	LAT WB: F	—		
COMPRESSOR	MAX AIR PD: IN WG	0.5		
	REFRIGERANT	R-410A		
	MOTOR: HP	3		
	RPM	3,450		
	AMPS: LRA	37.6		
	VOLT/PHASE	460/3		
	CONDENSER	TYPE FAN	PROPELLER	
		NO FANS	1	
CFM		2,550		
MOTOR: HP		1/20		
PRE-FILTER	TYPE	PLEATED		
	CLEAN PD: IN WG	0.15		
	MAX FV: FPM	350		
	MERV RATING	8		
OA VENTILATION	MIN AIRFLOW: CFM			
	ECON CONTROL: %			
ELECTRICAL	VOLT/PHASE	460/3		
	MCA			
OPER WEIGHT	WEIGHT: LBS	1,000		
BASIS OF DESIGN	MANUFACTURER	TRANE		
	MODEL	TSC036A4		
	NOTES	[2]		