

## SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

INDOOR SECTION													OUTDOOR SECTION					COOLING		HEATING	BASIS OF DESIGN				
MARK	TOTAL AIR CFM	OUTSIDE AIR CFM	EXT. S.P.	FAN HP	FILTER		AUX. HEATING DATA				ELECTRICAL				MARK	ELECTRICAL				TOTAL COOLING CAPACITY MBH	ENT. AIR		HEATING CAPACITY @ 47 F MBH	INDOOR	OUTDOOR
					MAX. FACE VEL.	TYPE	THK.	TYPE	CAPACITY KW	MIN. NO. OF STAGES	V/PH/Hz	MCA	MFS/HACR	∅/Hz		COMP. RLA	COND. FAN FLA	MCA	MFS/HACR		DB	WB			
AHU-1	1000	200	0.8	0.33	400 FPM	THROW AWAY	2"	ELEC.	9.6	1	230/1/60	54.0	60	HP-1	230/1/60	11.5	0.8	15.0	25	29.8	85.0	67.0	29.8	TRANE GAM5A30	TRANE ATWB3030

- NOTES:
- ALL COOLING CAPACITIES SHOWN ARE BASED ON AN AMBIENT OUTDOOR TEMPERATURE OF 105°F.
  - CONTRACTOR SHALL INSTALL ALL NEW FILTERS PRIOR TO TEST AND BALANCE WORK.
  - PROVIDE LOW AMBIENT COOLING CAPABILITY DOWN TO 0°F.
  - PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTIES.
  - ALL CAPACITIES LISTED ARE MINIMUM REQUIRED QUANTITIES.
  - PROVIDE AIR HANDLING UNITS WITH SINGLE-POINT ELECTRICAL CONNECTION.

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## AIR DEVICE SCHEDULE

MARK	DESCRIPTION	BASIS OF DESIGN	REMARKS
CD	CEILING DIFFUSER	TITUS TMS-AA	ALUMINUM, SURFACE MOUNT, OFF WHITE FINISH ROUND NECK, PROVIDE WITH OPPOSED BLADE DAMPER SIZE, CFM AND THROW AS INDICATED
RAR	RETURN AIR REGISTER	TITUS 350FL	ALUMINUM, OPPOSED BLADE DAMPER, OFF WHITE FINISH SIZE AS INDICATED
RAR	EXHAUST REGISTER	TITUS 350FL	ALUMINUM, OPPOSED BLADE DAMPER, OFF WHITE FINISH SIZE AS INDICATED

- THROW PATTERNS FOR CEILING DIFFUSERS ARE INDICATED ON MECHANICAL PLANS
- EQUALS BY METAL-AIRE, CARNES & PRICE
- AIR DEVICE TAGS:

CD FIRST LINE: REFERENCE TO AIR DEVICE  
400 SECOND LINE: AIR QUANTITY IN CFM

## FAN SCHEDULE

MARK	SERVICE	FAN TYPE ①	DRIVE TYPE ②	CFM	E.S.P. IN w.c.	SONES	MOTOR DATA		INTERLOCK	REMARKS	BASIS OF DESIGN ③
							HP	∅/HZ			
EF-1	TOILETS	ICF	DD	150	0.50	1.4	81 W	120/1/60	AHU-1	⑤ ⑥ ⑦	GREENHECK CSP-A290
EF-2	OIL CHANGE	ICF	BD	3,000	0.25	7.2	0.5	240/1/60	SWITCH	⑤ ⑦	GREENHECK BQZ-240
EF-3	TIRE STORAGE	SPF	BD	7,000	0.125	10.7	0.5	240/1/60	SWITCH	④	GREENHECK SPS-240

- ILF-CENTRIFUGAL INLINE FAN SPF-SIDEWALL PROPELLER FAN
- BD-BELT DRIVE DD-DIRECT DRIVE
- PROVIDE GREENHECK MODEL SPECIFIED OR EQUIVALENT BY TWIN CITY, PENN OR COOK.
- PROVIDE DISCONNECT SWITCH, FAN STARTER, BIRDSCREEN, GRAVITY TYPE BACKDRAFT DAMPER, WALL HOUSING AND SAFETY GUARD.
- BACKDRAFT DAMPER PROVIDED AS PART OF FAN PACKAGE.
- PROVIDE SOLID STATE SPEED CONTROLLER.
- FAN SHALL BE SUSPENDED FROM STRUCTURE WITH HANGING NECK REINFORCED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL PROVIDE FLEXIBLE CONNECTIONS AT FAN INLET AND FAN OUTLET.

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## LOUVER SCHEDULE

MARK	SERVICE	SIZE		USE ①	MAX PRESSURE DROP (in. w.c.) ②	RUSKIN SERIES NUMBER	REMARKS
		WIDTH (IN)	HEIGHT (IN)				
L-1	EF-1	16	16	OA	0.10	EFL6375DX	③ ④ ⑤
L-2	EF-2	48	48	RA	0.10	EFL6375DX	③ ④ ⑤ ⑥
L-3	SERVICE	48	48	TA	0.10	EFL6375DX	③ ④ ⑤ ⑥
L-4	EF-3	48	48	TA	0.10	EFL6375DX	③ ④ ⑤ ⑥

- OA=OUTSIDE AIR; EA=EXHAUST AIR; RA=RETURN AIR; TA=TRANSFER AIR
- PRESSURE DROP THRU LOUVER ONLY. LOSS THRU SCREEN NOT INCLUDED
- INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS
- COLOR AS APPROVED BY OWNER. PROVIDE COLOR CHART WITH SUBMITTAL.
- SEE PLANS FOR ADDITIONAL INFORMATION REGARDING MOUNTING HEIGHT.
- PROVIDE WITH MOTORIZED DAMPER

## DUCTWORK LEGEND

NEW WORK	
	SQUARE TO ROUND SIDE TAKEOFF WITH MANUAL VOLUME DAMPER
	LAY-IN DIFFUSER WITH FLEX. DUCT CONN. (5'-0" MAX. LENGTH)
	RADIUS ELBOW R=1/2 DUCT WIDTH MINIMUM
	SQUARE ELBOW WITH ACOUSTIC TURNING VANES
	OFFSET UP OR DOWN AS INDICATED
	MANUAL VOLUME DAMPER WITH LOCKING QUADRANT
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	RETURN/EXHAUST DUCT UP
	RETURN/EXHAUST DUCT DOWN
	FLEXIBLE DUCT CONNECTION
	THERMOSTAT CONTROL WITH ASSOCIATED RTU NUMBER
	SWITCH

## GENERAL NOTES

- CONTRACTOR SHALL VERIFY THAT ALL EQUIPMENT, AS SHOWN ON THESE DRAWINGS, WILL NOT CONFLICT WITH ANY DRAINS, SCUTTLINGS, VENTS, ETC. THESE DRAWINGS ARE TO BE CONSIDERED DIAGRAMATIC ONLY, AND ARE NOT INTENDED TO INDICATE ALL CHANGES IN DIRECTION AND NECESSARY FITTINGS TO BE RELOCATED OR OFFSET FOR PROPER CLEARANCES. DEVIATION FROM DRAWING MUST HAVE THE ARCHITECT'S APPROVAL. THE DESIGN INTENT I.E., PITCHES, VELOCITIES, PRESSURE DROPS, VOLTAGE DROPS, CABLE PULLING TENSIONS, ETC., CANNOT BE GREATLY ALTERED WITHOUT THE APPROVAL OF THE ARCHITECT. COST OF THESE DEVIATIONS TO AVOID INTERFERENCES SHALL BE PART OF THE ORIGINAL CONTRACT. THE CONTRACTOR WILL PULL AND TERMINATE THE HVAC CONTROL WIRES BETWEEN UNITS, CONTROL DEVICES, AND SENSORS.
- ALL MOTORS, AC UNITS AND EXHAUST FANS SHALL BE PROVIDED WITH STARTER AND/OR FUSED DISCONNECT SWITCHES, STARTERS AND/OR FUSED DISCONNECT SWITCHES SHALL BE INSTALLED BY CONTRACTOR WHEN NOT PROVIDED AS PART OF THE EQUIPMENT. TEST ALL DUCTWORK WITH ALL SUPPLY, RETURN AND EXHAUST AIR INLETS AND OUTLETS OPEN TO THE DESIGN AIR FLOW RATES. MECHANICAL CONTRACTOR SHALL PERFORM TEST AND BALANCE PROCEDURES FOR ALL HVAC SYSTEMS. CONTRACTOR SHALL PROVIDE A TEST AND BALANCE REPORT TO OWNER AT PROJECT COMPLETION. CONTRACTOR TO DELIVER TEST AND BALANCE REPORT TO OWNER PRIOR TO ANY MECHANICAL TRAINING.
- PROVIDE EQUIPMENT IDENTIFICATION TAGS FOR AIR CONDITIONERS AND EXHAUST FANS. THE TAGS SHALL BE RED PLASTIC LAMINATE WITH 1/2" TALL WHITE LETTERS. TAGS FOR INDOOR EQUIPMENT SHALL BE AFFIXED WITH DOUBLE-SIDED FOAM TAPE. TAGS FOR OUTDOOR EQUIPMENT SHALL BE AFFIXED WITH ALUMINUM METAL SCREWS AT EACH CORNER. PROVIDE SILICON SEALANT UNDER TAGS TO PREVENT RUSTING AT SCREW HOLES.
- ALL ROOF MOUNTED EQUIPMENT AND PENETRATIONS SHALL BE FLASHED A MINIMUM OF 12" ABOVE THE ROOF. FLASHES SHALL BE A MINIMUM OF 10'-0" FROM ANY EXHAUST FAN OR PLUMBING VENT.
- CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO FABRICATION OF DUCTWORK.
- PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE CONNECTIONS TO ALL MOVING EQUIPMENT.
- ALL DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. THE CONTRACTOR SHALL COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH LIGHT LAYOUTS AS REQUIRED.
- THE CONTRACTOR SHALL PROVIDE COMPLETE INFORMATION AND COOPERATION TO THE OTHER CONTRACTORS AND TRADES AS REQUIRED FOR COMPLETION AND COORDINATION OF THE COMPLETE PROJECT.
- TRANSITION ALL DUCTS AS REQUIRED TO ATTACH EQUIPMENT.
- CONTRACTOR SHALL PAINT THE INTERIOR OF ALL DUCTWORK VISIBLE THROUGH GRILLES, REGISTERS AND DIFFUSERS FLAT BLACK.
- MANUFACTURER'S LISTED ARE FOR COORDINATION OF SPECIAL PERFORMANCE AND ELECTRICAL REQUIREMENTS ONLY. IF ANOTHER PRODUCT, MAKE OR MODEL IS USED IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAKE SURE THAT ANY CHANGES REQUIRED TO ACCOMMODATE EITHER THIS DISCIPLINE OR ANY OTHER DISCIPLINE IS TAKEN INTO CONSIDERATION AND APPROVED PRIOR TO BID.
- CONTRACTOR TO SUPPLY AND INSTALL FIRE DAMPERS IN ALL DUCT PENETRATIONS OF FIRE WALLS.

## GAS FIRED INFRARED HEATERS

MARK	TYPE	RADIANT SURFACE (IN <sup>2</sup> )	FUEL	HEATING CAP. (MBH)	ELECTRICAL ∅/HZ	REMARKS	BASIS OF DESIGN
GIR-2	HIGH INTENSITY	170	NAT. GAS	50.0	120/1/60	① ② ③ ④ ⑤	RE-VERBER-RAY DR-50
GIR-3	HIGH INTENSITY	170	NAT. GAS	50.0	120/1/60	① ② ③ ④ ⑤	RE-VERBER-RAY DR-50
GIR-4	HIGH INTENSITY	170	NAT. GAS	50.0	120/1/60	① ② ③ ④ ⑤	RE-VERBER-RAY DR-50

### UNIT HEATER NOTES:

- SUSPEND FROM STRUCTURE WITH THREADED ROD (MINIMUM OF 2). HEATER SHALL BE MOUNTED SUCH THAT DISCHARGE AIRFLOW IS NOT OBSTRUCTED BY EQUIPMENT, ETC. MAINTAIN MANUFACTURER REQUIRED CLEARANCES TO COMBUSTIBLE MATERIALS
- UNITS SHALL HAVE HORIZONTAL DISCHARGE
- PROVIDE 24V TRANSFORMER
- PROVIDE WITH DISCONNECT
- PROVIDE WITH LOW VOLTAGE ROOM THERMOSTAT

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## 2012 INTERNATIONAL MECHANICAL CODE VENTILATION SCHEDULE

SPACE NAME	ROOM #	FLOOR AREA SQ. FT.	NUMBER OF PEOPLE	PEOPLE OUTDOOR AIRFLOW RATE (CFM/PERSON)	PEOPLE OUTSIDE AIR CFM	AREA OUTDOOR AIRFLOW RATE (CFM/SQ. FT.)	AREA OUTSIDE AIR CFM	TOTAL OUTSIDE AIR CFM	EXHAUST RATE (CFM/SQ. FT.)	EXHAUST AIR CFM
SERVICE WRITING	1	125	2	5	10	0.06	7.5	18	-	-
WAITING	2	215	10	5	50	0.06	12.9	63	-	-
TOILET	3	50	-	-	-	-	-	-	75CFM PER FIXTURE	75
MANAGER	5	60	1	5	5	0.06	3.6	9	-	-
BREAK ROOM	7	100	2	5	10	0.06	6.0	16	-	-
TOILET	10	50	-	-	-	-	-	-	75CFM PER FIXTURE	75
CONDITIONED BUILDING TOTALS		600						106 *		150

\* AHU-1 PROVIDED WITH 200 CFM OUTSIDE AIR.



Express Oil Change & Tire Engineers  
Single Building Right Hand Oil Change  
Augusta, GA

FINAL

No.	Description	Date

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## MECHANICAL NOTES AND LEGENDS

Project number 16031  
Date 03/29/17  
Drawn by JJJ  
Checked by CJD

# M001

Scale As indicated