



DIFFUSER / REGISTER / GRILLE SCHEDULE (BASED ON PRICE)

TAG	BASIS OF DESIGN		SERVICE	DESCRIPTION	REMARKS
	MANUFACTURER	MODEL No.			
A	PRICE	SPD	SUPPLY AIR DIFFUSER (SURFACE MOUNT)	24/24 SQUARE PLAQUE DIFFUSER WITH ROUND INLET NECK. NECK SIZE AS INDICATED ON PLANS. HEAVY GAUGE STEEL FACE PANEL. PROVIDE WITH SPRING LOCK FOR PLAQUE ADJUSTMENT. FACTORY BAKED WHITE ENAMEL.	1
B	PRICE	520	SUPPLY REGISTER (CEILING OR WALL SURFACE MOUNT)	ALL STEEL SUPPLY REGISTER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH DOUBLE DEFLECTION 3/4" SPACED HORIZONTAL FRONT BLADES, OPPOSED BLADE DAMPER. FACTORY BAKED WHITE ENAMEL.	1
C	PRICE	920	H.D. GYM SUPPLY GRILLE (SURFACE MOUNT)	HEAVY DUTY 18 GAUGE BORDER AND 14 GAUGE BLADE ALL STEEL CONSTRUCTION OF SIZE INDICATED ON THE DRAWINGS. PROVIDE WITH DOUBLE DEFLECTION 1/2" SPACED HORIZONTAL FRONT BLADES, OPPOSED BLADE DAMPER. FACTORY BAKED WHITE ENAMEL.	1
D	PRICE	91	H.D. GYM RETURN/TRANSFER GRILLE (SURFACE MOUNT)	HEAVY DUTY 16 GAUGE BORDER AND 14 GAUGE BLADE ALL STEEL CONSTRUCTION OF SIZE INDICATED ON THE DRAWINGS. PROVIDE WITH 3/8" LONG DIMENSION BAR SPACING AT 45° DEFLECTION & OPPOSED BLADE DAMPER. FACTORY BAKED WHITE ENAMEL.	1
E	PRICE	800	RETURN GRILLE (SURFACE MOUNT)	ALUMINUM GRILLE OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH STEEL DAMPER. PROVIDE WITH 1" NARROW TYPE N BORDER. FACTORY BAKED WHITE ENAMEL.	1
F	PRICE	800	TRANSFER GRILLE (SURFACE MOUNT)	ALUMINUM GRILLE OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH STEEL DAMPER. PROVIDE WITH 1" NARROW TYPE N BORDER. FACTORY BAKED WHITE ENAMEL.	1
G	PRICE	SPD	SUPPLY AIR DIFFUSER (SURFACE MOUNT)	12/12 SQUARE PLAQUE DIFFUSER WITH ROUND INLET NECK. NECK SIZE AS INDICATED ON PLANS. HEAVY GAUGE STEEL FACE PANEL. PROVIDE WITH SPRING LOCK FOR PLAQUE ADJUSTMENT. FACTORY BAKED WHITE ENAMEL.	1
H	PRICE	800	EXHAUST GRILLE (SURFACE MOUNT)	ALUMINUM GRILLE OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH STEEL DAMPER. PROVIDE WITH 1" NARROW TYPE N BORDER. FACTORY BAKED WHITE ENAMEL.	1
I	PRICE	520	SUPPLY REGISTER (CEILING OR WALL SURFACE MOUNT)	ALL STEEL SUPPLY REGISTER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH DOUBLE DEFLECTION 3/4" SPACED HORIZONTAL FRONT BLADES, OPPOSED BLADE DAMPER. FACTORY BAKED WHITE ENAMEL.	1

- NOTES:
1. PROVIDE WITH OPPOSED BLADE DAMPER AT AIR DEVICE.
2. MAX NC LEVEL 30.
3. PROVIDE SQUARE TO ROUND NECK ADAPTOR.
4. SEE ARCHITECTURAL DRAWINGS FOR PAINT AND FINISH.
5. PROVIDE 4-WAY AIR THROW PATTERN UNLESS OTHERWISE NOTED OR INDICATED.
6. PROVIDE INSULATED PLENUM.

NOTE:
ALL BALANCING DAMPERS MUST BE ACCESSIBLE. CONTRACTOR TO FIELD COORDINATE PRIOR TO INSTALLATION.

EXHAUST FAN SCHEDULE

UNIT NO.	SERVES	BASIS OF DESIGN		TYPE	DRIVE TYPE	FLOW RATE	EXTERNAL STATIC PRESSURE	RPM	ELECTRICAL DATA			REMARKS
		MANUFACTURER	MODEL No.						CFM	W.C.	WATTS / HP	
EF-1, 2, 8, 10	TOILET ROOMS	GREENHECK	SP-B90	CEILING MTD.	DIRECT	70	0.25	700	20 W	115	1	1, 3
EF-3 THRU 7, 9	TOILET ROOMS	GREENHECK	SP-B150	CEILING MTD.	DIRECT	140	0.25	1050	128 W	115	1	1, 3
EF-11	LAUNDRY	GREENHECK	SP-80-VG	CEILING MTD.	DIRECT	75	0.40	935	8.1 W	115	1	1, 4
EF-12	KITCHEN	GREENHECK	SQ-80-D	INLINE	DIRECT	400	0.10	1,550	---	115	1	1, 2

- NOTES:
1. PROVIDE WITH GRAVITY DAMPER AND BIRDSCREEN.
2. PROVIDE WITH HANGING VELOCITY ISOLATION KIT. PROVIDE WITH MANUAL SWITCH ON KITCHEN WALL (COORDINATE WITH ELECTRICAL CONTRACTOR).
3. SHALL BE INTERLOCKED WITH TOILET ROOM LIGHT SWITCH.
4. SHALL RUN CONTINUOUSLY.

ROOM NUMBER & NAME	AREA SQ. FT.	NO. OF PEOPLE	REQ'D OA CFM/PERSON	REQ'D OA CFM/SQ FT	TOTAL OSA	TOTAL OSA AHU-1	TOTAL OSA AHU-2	TOTAL OSA AHU-3	TOTAL OSA AHU-4	TOTAL OSA AHU-5	TOTAL OSA AHU-6	TOTAL OSA AHU-7
VESTIBULE 100	69	0	0	0.06	4.14	4.14						
LOBBY 111	207	6	5.0	.06	42.42	42.42						
CENTRAL CORRIDOR 133	361	0	0	0.06	21.66	21.66						
DIRECTORS OFFICE 101	150	2	5.0	0.06	19.00	19.00						
RECEPTION 102	234	4	5.0	0.06	34.04	34.04						
KITCHEN 126	253	2	5.00	0.06	25.18	25.18						
UTILITY ROOM 123	221	0	0	0.06	13.26	13.26						
KITCHEN PANTRY 129	118	0	0	0.12	14.16	14.16						
ADULT B.F. TOILET 1(103)	58	0	0	0	0.00	0.00						
STAFF LOUNGE 127	90	2	5.0	0.06	15.40	15.40						
GYM 116	944	0	0.0	0.30	283.20	283.20						
GYM CHLD TOILET (117)	43	0	0	0	0.00	0.00						
GYM EQUIP (114,115)	100	0	0	0.12	12.00	12.00						
TODDLER 1 (121)	671	12	10.0	0.18	240.78	240.78						
TODDLER 2 (119)	645	12	10	0.18	236.10	236.10						
PRE-SCHOOL 2 (112)	702	19	10	0.18	316.36	316.36						
CHILD TOILET 8 (113)	77	0	0	0	0.00	0.00						
CHILD TOILET 9 (120)	67	0	0	0	0.00	0.00						
PRE-K2 (137)	635	17	10	0.18	254.30	254.30						
CLOSET 140	114	0	0	0.12	13.68	13.68						
CHILD TOILET 7 (138)	77	0	0	0	0.00	0.00						
CORRIDOR 1 (132)	580	0	0	0.06	34.80	34.80						
PRE-K1 134	765	20	10	0.18	337.70	337.70						
PRE-SCHOOL 1 (109)	620	15	10	0.18	261.60	261.60						
LAUNDRY ROOM 128	69	0	0	0.12	8.28	8.28						
CHILD TOILET 6 (135)	82	0	0	0	0.00	0.00						
VARSITY ROOM 106	312	25	10	0.12	359.44	359.44						
CHILD TOILET 3 (107)	48	0	0	0	0.00	0.00						
CHILD TOILET 4 (108)	48	0	0	0	0.00	0.00						
INFANT 2 (122)	540	8	10	0.18	177.20	177.20						
PRE-SCHOOL 10	580	14	10	0.18	244.40	244.40						
INFANT (124)	8	8	10	0.18	177.56	177.56						
OFFICE ROOM 118	75	2	5	0.06	14.50	14.50						
CHILD TOILET 2 (105)	78	0	0	0	0.00	0.00						
TOTALS					189.26	535.98	552.46	332.78	607.58	536.64	436.46	
												3300

- NOTES:
1. ESTIMATED MAXIMUM OCCUPANCY AND REQUIRED OUTSIDE AIR BASED ON THE ASHRAE 62.1-2007.

HEAT PUMP SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE (BASED ON CARRIER)

AIR HANDLING UNIT:	AHU-1/CU-1	AHU-2/CU-2	AHU-3/CU-3	AHU-4/CU-4	AHU-5/CU-5	AHU-6/CU-6	AHU-7/CU-7	OAU-1/CU-8
TAG								
TONNAGE	5	5	5	5	5	5	5	25
SYSTEM TYPE	SPLIT	SPLIT	SPLIT	SPLIT	SPLIT	SPLIT	SPLIT	SPLIT
SUPPLY AIR (CFM)	1800	1800	1800	1800	1800	1800	1800	3300
OUTSIDE AIR (CFM)	190 (FROM OAU-1)	540 (FROM OAU-1)	555 (FROM OAU-1)	335 (FROM OAU-1)	610 (FROM OAU-1)	540 (FROM OAU-1)	440 (FROM OAU-1)	3300
PERCENT OF OUTSIDE AIR	0	0	0	0	0	0	0	100
ENT. AIR TEMP. (DB/WB)	80/67	80/67	80/67	80/67	80/67	80/67	80/67	79
CONDENSER ENT. TEMP.	95	95	95	95	95	95	95	83
TOTAL COOLING (MBTUH)	54.43	54.43	54.43	54.43	54.43	54.43	54.43	95
SENSIBLE COOLING (MBTUH)	45.47	45.47	45.47	45.47	45.47	45.47	45.47	145
DRIVE TYPE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
MANUFACTURER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	WIRE
AHU MODEL NO.	FV4CNB006L00	FV4CNB006L00	FV4CNB006L00	FV4CNB006L00	FV4CNB006L00	FV4CNB006L00	FV4CNB006L00	UDC-4425RU28MH050C00A-CVY
MOTOR HP	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
UNIT TOTAL S.P.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
VOLTS/PH	208/1	208/1	208/1	208/1	208/1	208/1	208/1	208/230/1
MCA/MAX FUSE	53/60	53/60	53/60	53/60	53/60	53/60	53/60	44.7/45
NET WEIGHT	207	207	207	207	207	207	207	157
CONDENSING UNIT:								
REFRIGERANT	R-410-A	R-410-A	R-410-A	R-410-A	R-410-A	R-410-A	R-410-A	R-410-A
NUMBER OF COMPRESSORS	1 SCROLL	1 SCROLL	1 SCROLL	1 SCROLL	1 SCROLL	1 SCROLL	1 SCROLL	1 SCROLL
STAGES	1	1	1	1	1	1	1	1
VOLT/PHASE	208/1	208/1	208/1	208/1	208/1	208/1	208/1	480/3
MCA/MAX FUSE	32/50	32/50	32/50	32/50	32/50	32/50	32/50	8.3/15
RUNNING LOAD AMPS COMPRESSOR	24.4	24.4	24.4	24.4	24.4	24.4	24.4	6.1
LOCKED ROTOR AMPS COMPRESSOR	144.2	144.2	144.2	144.2	144.2	144.2	144.2	41.0
FANS FL AMPS	1.52	1.52	1.52	1.52	1.52	1.52	1.52	0.7
FANS HP	---	---	---	---	---	---	---	---
MANUFACTURER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER
CU MODEL NUMBER	25HCE460A003	25HCE460A003	25HCE460A003	25HCE460A003	25HCE460A003	25HCE460A003	25HCE460A003	24ABB348
SYSTEM SEER/EEER	14/11.5	14/11.5	14/11.5	14/11.5	14/11.5	14/11.5	14/11.5	13.3
THERMOSTAT	---	---	---	---	---	---	---	---
OPERATING WEIGHT	212	212	212	212	212	212	212	186

- NOTES FOR SPLIT SYSTEM SCHEDULE:
1. PROVIDE 5 MINUTE ANTI-FLOOD TIMER IF NOT PROVIDED IN THERMOSTAT.
2. PROVIDE FIELD INSTALLED THERMOSTAT SWITCH.
3. PROVIDE RANK CASE HEATER.
4. PROVIDE MOTOR MASTER CONTROLLER FOR LOW AMBIENT SWITCH.
5. PROVIDE SUPPORT FEET.
6. PROVIDE BALL BEARING FAN MOTOR.
7. MOTOR SHALL BE PROVIDED WITH A FLOAT SWITCH WITH A SENSOR SPECIFICALLY DESIGNED FOR THE APPLICATION ON THE DRAIN PAN.
8. PROVIDE WIRE LINE SET AS REQUIRED. VERIFY PRIOR TO ORDER.

LOUVER SCHEDULE (BASED ON RUSKIN)

TAG	MODEL	TYPE	SIZE	CFM INTAKE	P.D. (IN WG)	FACE AREA (SQ FT)	FREE AREA PERCENTAGE	FREE AREA (SQ FT)	FREE AREA VELOCITY	MATERIAL	REMARKS
L-1,2	ELF83750XD	INTAKE	36"x20"	1650	0.07	5.0	48.0%	2.41	685	ALUMINUM	1 THRU 7

- NOTES:
1. SEE HVAC PLANS FOR NECK SIZES AND CFMS.
2. HORIZONTAL DIMENSION GIVEN FIRST.
3. PROVIDE WITH STAINLESS STEEL REMOVABLE BIRDSCREEN, KYNAR COATING, AND BRASS OR STAINLESS STEEL FASTENERS.
4. COORDINATE LOCATION AND SIZE OF AIR INTAKE WITH MANUFACTURER AND CODE REQUIREMENTS PRIOR TO BID.
5. REFER TO ARCHITECTURAL PLANS FOR WALL TYPE AND CONSTRUCTION.
6. UNIVERSAL FLANGE FRAME.
7. PAINT TO MATCH ARCHITECTURAL SPECIFICATION.

FLEX DUCT SCHEDULE

CFM	SIZE
0 - 100	8"
101 - 170	10"
171 - 300	12"
301 - 510	14"
511 - 750	16"
751 - 1100	18"
1101 - 1450	20"
1451 - 1900	24"

BASED ON WIRE HELIX FLEXIBLE DUCT TYPE FLEX-MASTER
LISTING:
-181 ETL CLASS 1 AIR DUCT
STANDARD CODE:
NEPA, ISA AND SOB, BOCA, SBBC
HJDA, MIN PROPERTY STD.
FLAME SPREAD.....LESS THAN 25
SMOKE DEVELOPE.....LESS THAN 50
MIN R8.0 FOR ATTIC/UNCONDITION SPACE.
MIN R6.0 FOR RETURN CONDITIONED SPACE.
MANUFACTURER IS TO BE USED AS A BASIS FOR DESIGN. EQUAL IS ADVISED.

BUILDING AIR BALANCE SCHEDULE

MARK	OUTSIDE AIR	EXHAUST
EF-1		-70
EF-2		-70
EF-3		-140
EF-4		-140
EF-5		-140
EF-6		-140
EF-7		-140
EF-8		-70
EF-9		-140
EF-10		-70
EF-11		-75
EF-12		-400
OAU-1	+3300	
TOTAL:	3300	-1595
BUILDING POSITIVE AIR BALANCE		1705

CONTROL SEQUENCE OF OPERATIONS: SPLIT SYSTEM (HEAT PUMP)

- SPLIT SYSTEM SEQUENCE OF OPERATION:
DAY CYCLE - COOLING:
1. SUPPLY AND RETURN AIR FAN SHALL RUN CONTINUOUSLY.
2. OUTSIDE AIR DAMPER SHALL BE IN MINIMUM POSITION.
3. THERMOSTAT SHALL CYCLE ROOF CONDENSING UNIT TO MAINTAIN ROOM SET TEMPERATURE.
DAY CYCLE - HEATING:
1. SUPPLY AND RETURN AIR FAN SHALL RUN CONTINUOUSLY.
2. OUTSIDE AIR DAMPER SHALL BE IN MINIMUM POSITION.
3. THERMOSTAT SHALL CYCLE HEAT PUMP ELECTRIC HEAT TO MAINTAIN ROOM SET TEMPERATURE.
MORNING WARM-UP:
1. SUPPLY AND RETURN AIR FAN SHALL RUN CONTINUOUSLY.
2. OUTSIDE AIR DAMPER SHALL BE IN CLOSED POSITION.
3. THERMOSTAT SHALL CYCLE ELECTRIC HEATER TO ACHIEVE ROOM SET TEMPERATURE.
4. WHEN SET TEMPERATURE IS REACHED DAY CYCLE SHALL COMMENCE.
NIGHT SETBACK:
1. OUTSIDE AIR DAMPER SHALL BE IN CLOSED POSITION.
2. RETURN AIR DAMPER WILL BE IN 100% OPEN POSITION.
3. THERMOSTAT SHALL CYCLE EITHER COOLING OR HEATING AND SUPPLY AIR FAN TO MAINTAIN ROOM SET TEMPERATURE.

THERMOSTAT SCHEDULE

MARK	OCCUPIED		UNOCCUPIED		REMARKS
	COOLING	HEATING	COOLING	HEATING	
AHU-1	75	70	78	60	
AHU-2	75	70	78	60	
AHU-3	75	70	78	60	
AHU-4	75	70	78	60	
AHU-5	75	70	78	60	
AHU-6	75	70	78	60	
AHU-7	75	70	78	60	

- NOTES:
1. CONTRACTOR SHALL COORDINATE EXACT OPERATIONAL TIMES WITH OWNER/MANAGER PRIOR TO PROGRAMMING.

CONTROL SEQUENCE OF OPERATIONS: (ELECTRIC/ELECTRIC) OAU