MECHANICAL GENERAL NOTES:

- ALL WORK SHALL BE PERFORMED IN A FIRST CLASS WORKMANLIKE MANNER BY LICENSED CONTRACTORS. THESE DRAWINGS ARE DIAGRAMMATIC. ALL OFFSETS, FITTINGS, TRANSITIONS AND ACCESSORIES ARE NOT SHOWN. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL ITEMS REQUIRED TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. DO NOT SCALE DRAWINGS FOR INSTALLATION.
- THE CONTRACTOR SHALL OBTAIN AT HIS EXPENSE ALL NECESSARY FEES PERMITS, AND TESTS. ALL WORK SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES. NO CONTRACTOR SHALL BID UNLESS FAMILIAR WITH THESE CODES.
- ALL WORK OF THIS TRADE SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID ANY INTERFERENCES THAT MAY DELAY PROGRESS OF CONSTRUCTION. CORRECTION OF DEFECTS TO THIS WORK SHALL BE MADE PROMPTLY WITHOUT CHARGE TO THE OWNER. REPAIR AND REPLACEMENT FOR DAMAGE CAUSED BY THIS CONTRACTOR SHALL BE MADE PROMPTLY WITHOUT CHARGE TO THE OWNER
- EQUIPMENT SHALL BEAR A U.L. OR OTHER RECOGNIZED LABEL, NAMEPLATES, WIRING DIAGRAMS, AND ENERGY RATINGS AS APPLICABLE. THE CONTRACTOR SHALL INCLUDE THE WORK OF ALL REQUIRED SUBCONTRACTORS, SUCH AS ELECTRICAL, INSULATING, TEST & BALANCE, ETC., AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
- THE CONTRACTOR SHALL PROVIDE THREE COPIES OF SUBMITTAL DATA, SHOP DRAWINGS, AND AT COMPLETION OF THE PROJECT TWO SETS OF OPERATION AND MAINTENANCE MANUALS FOR ALL PROJECT ITEMS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND ACCESSORIES TO BE READLY ACCESSIBLE FOR SERVICING, TESTING, BALANCING, AND REPLACEMENT. THE CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE AGAINST DEFECTS IN ALL MATERIALS AND WORKMANSHIP FOR ONE YEAR FROM ACCEPTANCE, WITH FOUR ADDITIONAL YEARS OF WARRANTY ON COMPRESSORS.

TWO-POSITION AUTOMATIC VALVE INTERLOCKED WITH COMPRESSOR STARTER

CIRCUIT

BALL TYPE SHUTOFF VALVES

his

FLEXIBLE PIPE

THE HVAC CONTRACTOR IS RESPONSIBLE FOR MAINTAINING, ON SITE, A DETAILED AS—BUILT PLAN SHOWING ACTUAL INSTALLATIONS. THE CONTRACTOR IS TO PROVIDE A NEATLY DRAWN COMPREHENSIVE AS—BUILT SET OF PLANS UPON COMPLETION, WHICH ARE SUITABLE FOR SUBMISSION TO THE BUILDING DEPARTMENT AND TO THE OWNER. PROVIDE ALL CONTROLS, STARTERS, CONTROL WIRING, DISCONNECTS, AND OTHER ELECTRICAL EQUIPMENT AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.

12.

SUPPLY AND INSTALL DUCT MOUNTED SMOKE DETECTORS AS REQUIRED. PRIOR TO ACCEPTANCE BY THE OWNER THE SYSTEMS SHALL BE TESTED AND BALANCED BY AN INDEPENDENT AABC OR NEBB CERTIFIED TEST & BALANCE FIRM, AND A TYPEWRITTEN COMPREHENSIVE REPORT SUBMITTED. COORDINATE LOCATION OF CEILING DIFFUSERS, GRILLES AND REGISTERS IN THE FIELD WITH LIGHTS AND ARCHITECTURAL ELEMENTS.

FROM ENERGY MANAGEMENT – SYSTEM

AIR FLOW

TO MOTORIZED O/A DAMPER INTERLOCKED WITH FAN STARTER

<u>HEAT</u>

PUMP

CONNECTION DETAIL

15.

17.

- ALL DUCT WORK SHALL BE BUILT AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS AND LOCAL BUILDING CODES. ALL GRILLES TO BE TITUS OR METALLAIRE UNLESS OTHERWISE NOTED, SIZES AS SHOWN ON PLANS, ALUMINUM CONSTRUCTION. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
- ALL EXHAUST AIR DUCT SHALL BE GALVANIZED SHEET METAL CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS. ALL OUTSIDE AIR DUCTWORK SHALL BE SHEETMETAL WITH EXTERIOR R-6 INSULATION. PROVIDE BLANKET TYPE INSULATION IN CONCEALED SPACES, AND BOARD TYPE IN EXPOSED AREAS.

PROVIDE CLEARANCE FOR ALL ACCESS PANELS

3/8" THREADED RODS, VERIFY ATTACHMENT TO STRUCTURE WITH ARCHITECT

TRANSITION S/A DUCT AS REQUIRED

21.

20. 19.

- FLEXIBLE DUCT, WHERE SHOWN, SHALL BE U.L. CLASS 1, R-6 INSULATION. LOW PRESSURE SUPPLY AND RETURN RECTANGULAR DUCTWORK IS RIGID DUCTBOARD, 1 IN. THICK, R—4.2 INSULATION.
- PROVIDE ELBOW TURNING VANES IN ALL RECTANGULAR DUCTS WHERE TURNS ARE GREATER THAN 45 DEGREES.
- PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST FANS.
 VERIFY ALL THERMOSTAT LOCATIONS WITH THE LANDLORD.

HEAT PUMP UNIT

25.

24.

CONDENSER WATER SUPPLY AND RETURN PIPING SHALL BE TYPE "L" COPPER. PROVIDE DIELECTRIC COUPLINGS FOR ALL CONNECTIONS BETWEEN DISSIMILAR MATERIALS. PROVIDE ISOLATOR PADS AT ALL HANGERS AND SUPPORTS. CONDENSATE DRAIN PIPING SHALL BE ABOVE GRADE COPPER DRAIN, WASTE AND VENT FITINGS. INSULATE ALL CONDENSATE PIPING W/3/4" IMCOA IMCOLOCK PIPE INSULATION.

DEMOLITION NOTES

FILTER AND RACK AT R/A OPENING

PROVIDE FLOAT

SWITCH IN THE EMERGENCY DRAIN PAN FOR SHUTDOWN OF

1-1/2" PAN STRAPPED TO UNISTRUT SUPPORTS

2X2 UNISTRUT SUPPORTS, PAINT ALL CUT ENDS

3/8" THICK NEOPRENE VIBRATION ISOLATOR PADS

HORIZONTAL

HEAT

PUMP

DETAIL

CEILING STRUCTURE

UNLESS OTHERWISE NOTED, ALL EQUIPMENT AND DUCTWORK IN THE PROJECT AREA WHICH IS NOT INDICATED TO REMAIN, IS TO BE REMOVED. THE CONTRACTOR SHALL INVESTIGATE THE PROJECT AREA PRIOR TO BID TO DETERMINE ALL REQUIRED DEMOLITION.

?

- DEMOLITION WORK IS NOT SPECIFICALLY IDENTIFIED ON THESE PLANS, AND MAY BE DESCRIBED ON THE ARCHITECTS PLANS. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED DEMOLITION WHETHER SHOWN ON THE PLANS OR NOT. EXISTING CONDITIONS SHOWN ON THIS DRAWING ARE TAKEN FROM ORIGINAL DRAWINGS AND FIELD INVESTIGATION. ALL EXISTING CONDITIONS MUST BE VERIFIED PRIOR TO BID. FIELD CONDITIONS SHALL GOVERN.
- ALL MECHANICAL SYSTEMS SERVING OTHER SPACES OR FLOORS, THAT RUN THROUGH THE PROJECT AREA SHALL REMAIN ACTIVE DURING CONSTRUCTION, SO AS NOT TO CAUSE ANY DISRUPTION TO THESE OTHER SPACES.
- ALL ITEMS REMOVED UNDER THIS PROJECT SHALL BE DISPOSED OF OR TURNED OVER TO THE OWNER AT THE OWNER'S DISCRETION.
- PROPERLY REMOVE AND DISPOSE OF ALL HVAC DUCTWORK AND AIR DISTRIBUTION DEVICES WHICH ARE TO BE REMOVED. CONSULT WITH OWNER AND OBTAIN THE OWNER'S APPROVAL PRIOR TO DISPOSAL OF REMOVED MATERIAL.
- ALL OCCUPIED SPACES ARE TO REMAIN OPERATIONAL DURING BUSINESS HOURS THROUGHOUT THE DEMOLITION AND CONSTRUCTION PERIOD. COORDINATE ALL WORK AS DESCRIBED IN THE ARCHITECTS DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL PIPING AND DUCTS, NEW OR EXISTING, WITHIN THE PROJECT AREA, ARE PROPERLY SUPPORTED.

AUXILIARY DRAIN PAN-WITH LIQUID SENSOR AND RELAY - TIE TO AHU SHUTDOWN

PROVIDE CONDENSATE PUMP ONLY IF

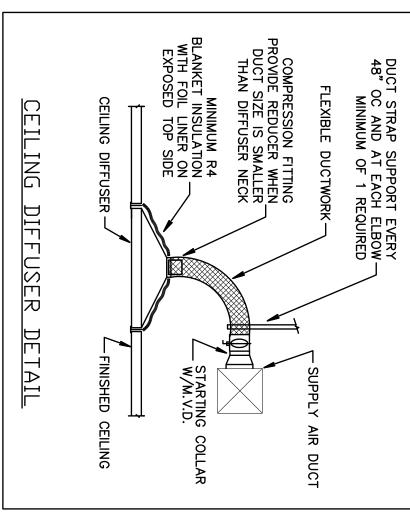
CEILING

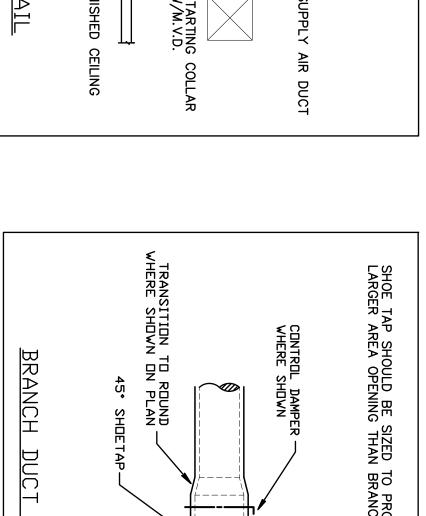
- CLEANOUT PLUG
- TRAP DEPTH AS PER UNIT
MANUFACTURER'S RECOMMENDATION.
- SCREWED ON PERFORATED CAP
- CONDENSATE DRAIN,
INSULATED FROM UNIT TO EXTERIOR

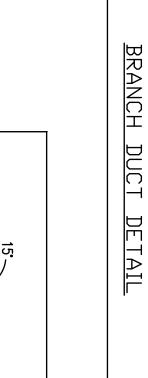
CONDENSATE

TRAP

HVAC NO SCALE







UNIT SIZE (WxLxH)

36X43X21

22X45X19

22X45X19 230

22X55X19

304

30

20

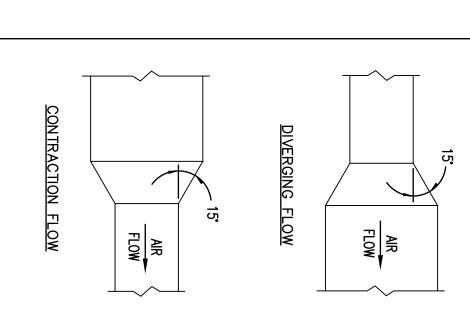
15

180 8.9

60

-1-60

OPERATING WEIGHT LBS



NOMINAL TOP

4.0 6.4

2.5 12.8

8.5 2.5

5.8

SNOT

NO. OF STEPS

COMPRESSORS:
NO. OF COMPRESSORS

POWER VOLT-PH-HZ

MAX. FUSE SIZE

INDOOR FANS:
NO. OF FAN(S)/MOTORS

FAN MOTOR H.P.

EACH

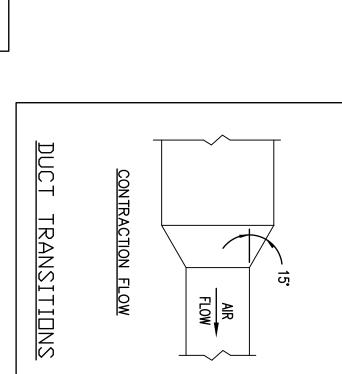
1.6

1.6

2.0 1/2

1.6

7



1) EXISTING UNIT TO REMAIN,
2) EXISTING UNIT TO BE RE-L

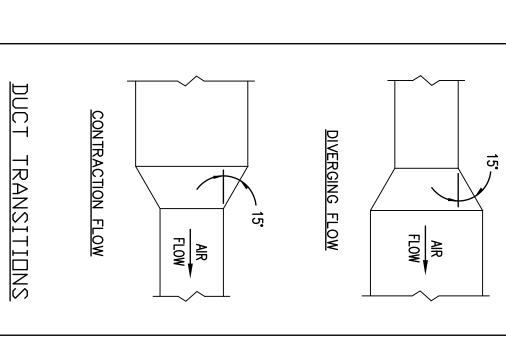
_OCATED.

RATINGS SHOWN ARE AT 80°DB

AND

INDICATED

ACCESSORIES AND NOTES:



D TO BROWDE A MINIMINA OF 140%	HORIZONTAL	_ HEAT PUMP	PUMP
AN BRANCH DUCT SIZE.		<u>-</u>	<u>-</u>
MAIN DUCT	A/C UNIT TAG NO.	EHP-1	EHP-2
/ 	MANUFACTURER	FHP	FHP
+ 	MODEL NO.	EM048	EC048
AIRFLOW	TOTAL SENSIBLE M.B.H.	37.2	36.5
	TOTAL COOLING M.B.H.	48.6	47.8
AIRFLOW	HEATING CAPACITY M.B.H.	61.0	58.0
(FOR R/A)	SUPPLY AIR CFM/EXT. S.P.	1700/0.6	1375/0
AP	OUTSIDE AIR CFM	113	108
>	EER	12.2	14.0
<	COP	4.6	4.8
] 	GPM	12.0	12.0
<u> </u>	CWS&R PIPE SIZE	1" FPT	1"FPT

HORIZONTAL HEAT PUMP	HEAT		A/C UNIT SCHEDULE	SCHEDU	E	
	<u>-</u>	<u>-</u>	2	<u>-</u>	<u>-</u>	
A/C UNIT TAG NO.	EHP-1	EHP-2	EHP-3	EHP-4	EHP-5	HP-1
MANUFACTURER	FHP	FHP	FHP	FHP	FHP	Ŧ
MODEL NO.	EM048	EC048	EM031	EC030	EC036	EC018
TOTAL SENSIBLE M.B.H.	37.2	36.5	24.9	22.4	27.6	14.4
TOTAL COOLING M.B.H.	48.6	47.8	32.8	29.3	36.1	18.7
HEATING CAPACITY M.B.H.	61.0	58.0	40.0	35.0	46.0	24.0
SUPPLY AIR CFM/EXT. S.P.	1700/0.6	1375/0.7	900/0.5	1000/0.4	1200/0.5	600/0.
OUTSIDE AIR CFM	113	108	108	132	60	73
EER	12.2	14.0	13.0	13.0	13.8	13.0
COP	4.6	4.8	4.7	4.3	4.5	4.4
GPM	12.0	12.0	7.5	7.5	9.0	4.5
CWS&R PIPE SIZE	1" FPT	1"FPT	3/4"FPT	3/4"FPT	3/4" FPT	3/4" F



	_	INTSII	JE AI	ス < <u> </u>	AIILA	_		JLA I II	L N N			
EHP-1		EHP	-2		EHP-3			EHP-	-4		EHP-5	Ŧ
	TCE	CONFER.	OFFICE	WAITING	BREAK	OFFICE	CONFER.	BREAK	CORRIDOR	OFFICE	OFFICE	BREAK
	720	200	500	250	94	820	218	84	130	550	670	100
	.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
8	4	10	3	3	2	4	11	2	ı	3	4	2
5	5	5	5	5	5	5	5	5	ı	5	5	5
50	63	62	45	30	16	70	68	15	8	48	60	16
	ı		ı			0.78				0.88	ı	
- 1	13	_	107			106	ı			129	1	
.13	ı	0.16	_	0.17	0.16	ı	0.17	0.16	ı	-	_	0.16
	1.0		0.99			0.98				0.98	1.0	
_	13		108			108				132	60	
) PER 62.	1-6.2.	6.2										
	EHP—1 CONFER. OFF 160 7 0.06 0 8 8 5 5 5 5 0.13 1	EHP-1 -ER. OFFICE 160 720 .06 0.06 8 4 5 5 5 63 - 113 .13 - 1.0 1 1.0 D PER 62.1-6.2.	P-1 OFFICE 720 0.06 4 4 5 63 - 113 - 113 - 113 ER 62.1-6.2	EHP-1 EHP-2 -ER. OFFICE CONFER. OFFICE 160 720 200 500 .06 0.06 0.06 0.06 8 4 10 3 5 5 5 5 5 63 62 45 - 113 - 107 .13 - 0.16 - 113 108 D PER 62.1-6.2.6.2	EHP—1 EHP—2 FER. OFFICE CONFER. OFFICE WAITING 160 720 200 500 250 .06 0.06 0.06 0.06 0.06 8 4 10 3 3 5 5 5 5 5 5 50 63 62 45 30 — 113 — 107 110 0.16 — 0.17 113 108 PER 62.1—6.2.6.2	EHP−1 EHP−2 EHP−3 FER. OFFICE CONFER. OFFICE WAITING BREAK 1.06 0.0	SIDE AIR VENITION SHP-3 EHP-2 EHP-3 NFER. OFFICE WAITING BREAK OI 200 500 250 94 0.06 0.06 0.06 10 3 3 2 5 5 5 5 62 45 30 16 - 107 0.16 0.16 - 0.17 0.16 0.99 0.16 108 108 108 108 109 108 108 108 109 108 108 108 108 109 108 100 100 100 1	SIDE AIR VENITEALIUN EHP-2 EHP-3 NFER. OFFICE WAITING BREAK OFFICE O.06 O.06 O.06 O.06 10 3 3 2 4 5 5 5 5 5 62 45 30 16 70 62 45 30 16 70 0.16 - 0.17 O.16 - 0.98 108	SIDE AIR VENITEALIUN EHP-2 EHP-3 NFER. OFFICE WAITING BREAK OFFICE O.06 O.06 O.06 O.06 10 3 3 2 4 5 5 5 5 5 62 45 30 16 70 62 45 30 16 70 0.16 - 0.17 O.16 - 0.98 108	SIDE AIR VENITEA IIIN CALCULA III EHP-2 EHP-3 EHP-3 EHP-NFER. OFFICE WAITING BREAK OFFICE CONFER. BREAK 200 500 250 94 820 218 84 60.06	SIDE AIR VENITA IIIN CALCULA IIINS EHP-2 EHP-3 EHP-4 NFER. OFFICE WAITING BREAK OFFICE CONFER. BREAK CORRIDOR 200 500 250 94 820 218 84 130 0.06 0.06 0.06 0.06 0.06 0.06 0.06 10 3 3 2 4 11 2	SIDE AIR VENITION CALCULATIONS SHP-2 SHP-3 SHP-4 SH

				AIR DI	AIR DISTRIBUTION SCHEDULE	JN SC	HEDULE				
MARK	MAKE	MODEL	SIZE	NECK	MATERIAL	BORDER TYPE	MOUNTING TYPE	DAMPER	THROW	FINISH	REMARKS
>	TITUS	PAS-AA	24X24	6"ø	ALUMINUM	3	LAY-IN	AG-100	4 WAY	WHITE	SEE NOTES
В	TITUS	PAS-AA	24X24	œ ø	ALUMINUM	3	LAY-IN	AG-100	4 WAY	WHITE	SEE NOTES
С	TITUS	AA-SAA	24X24	10"ø	ALUMINUM	3	LAY-IN	AG-100	4 WAY	WHITE	SEE NOTES
RA	TITUS	PAR-AA	24X24	22X22	ALUMINUM	3	NI-AY	-	I	WHITE	SEE NOTES
RB	TITUS	PAR-AA	24X12	22X10	ALUMINUM	3	NI-AY	ı	ı	WHITE	SEE NOTES
PROVIC PROVIC	PROVIDE ROUND FLEXIBLE DUCT RUN—OUT SIZED TO MATCH S/A DIFFUSER NECK UNLESS NOT PROVIDE DAMPERS ONLY WHERE DUCT TAKE—OFF DAMPER IS NOT ACCESSIBLE ABOVE CEILING.	LE DUCT RUN—	OUT SIZED TO	O MATCH S/A	DIFFUSER NECH	BOVE CEII	INLESS NOTED OTHERWISE.	WISE.			

DRAWN BY CD GD

10/5/12

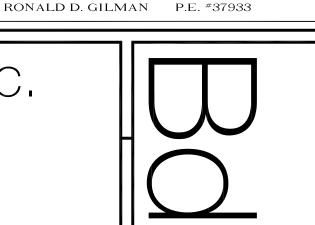
REVISIONS

8TH FLOOR SPEC SUITES

1400 CENTREPARK 1400 CENTREPARK DR WEST PALM BEACH, FL PROJECT NUMBER CP40 birse design inc. 5300 woodland lakes drive palm beach gardens, fl 33418

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