

EUC # Project/Job name or Client last name

Project Address

1) Cooling efficiency

Heating Efficiency

	SEER		EER
	AFUE/HSPF		

Minimum requirements are SEER >15, EER>12.5, AFUE >.92, HSPF >9.1

2) Conditioned Floor Area

Maximum Cooling Capacity

Max Heating Capacity

	Square Feet		
	Nominal Tons		SF/Ton
	BtuH Input		BtuH/SF

Minimum of 800 SF per AC/heat pump Ton, and maximum furnace of 18 BtuH per SF conditioned floor area

3) Measured System Airflow in Cooling

Measured Furnace/Air Handler Fan Watts

	CFM		CFM/Ton (connected)
	Watts		Fan Watts/CFM

Acceptable methods Airflow: FlowBlaster "sum of supply" total airflow, Energy Conservatory True Flow plate at returns, and/or plenum pressure matching using DuctBlaster.

Acceptable method Watt Measurement: Any device capable of accurately measuring true RMS Watts

4) Total Distribution Sytem Leakage @25Pa

Nominal AC tons x 400 CFM/ton

Total Leakage CFM25 divided by nominal airflow

Ducts fully supported by bottom chord/ceiling joists

Compact duct design utilized

Ducts fully extended with no visible kinks

	CFM25		Flow Ring Used for leakage test
	Nominal airflow		
	% leakage		
	yes/no		
	yes/no		
	yes/no		

SYSTEM SIZING AND REQUIRED PEFRMANCE REFERENCE TABLE					
BTUH / SF FURNACE SF PER TON SIZING TABLE		THE SYSTEM DESIGNER MUST CERTIFY THE DESIGN IS CAPABLE OF MEETING ALL PERFORMANCE TARGETS AND MEETS OR EXCEEDS MANUAL J, D, S, T			
CONDITIONED SF	AC SIZING	MAX FURNACE INPUT		COOLING COIL MIN.	FAN WATT DRAW
TYPICAL RANGE	MAXIMUM	MIN	MAX	REQUIRED CFM	MAXIMUM AT MIN CFM
0-1599	1.5	0	21600	675	169
1600-1999	2.0	0	28800	900	225
2000-2399	2.5	0	36000	1125	281
2400-2799	3.0	0	43200	1350	338
2800-3199	3.5	0	50400	1575	394
3200-3999	4.0	0	57600	1800	450
4000-Up	5.0	0	72000	2250	563

5) Sensible Delivered BtuH calculation

Outdoor dry bulb during testing

Indoor dry bulb (use average returns below)

Indoor wet bulb (cooling tests only)

Site Elevation above Sea Level

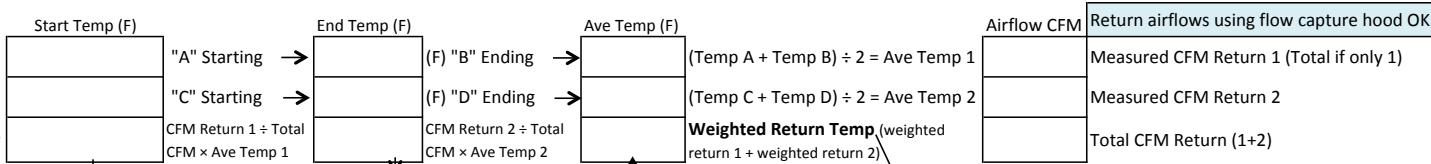
	(F)
	(F)
	(F)
	Feet

Return Flow (Alnor flow hood, TF or plenum pressure matching)

Return air temp #1 start

Return air temp #2 start

Calculate the weighted return average CFM with 2 returns:



Supply Airflows (use only Energy Conservatory FlowBlaster)	Temp (F)	CFM	Flow Correction	Constant	Delta T	Calculation	Btu/Hr	Calculation
Supply Grille #1 Room:				1.08		Delta SG1 -Weighted Return Temp		BtuH (delta x 1.08 x CFM x Flow Correction)
Supply Grille #2 Room:				1.08		Delta SG2 -Weighted Return Temp		BtuH (delta x 1.08 x CFM x Flow Correction)
Supply Grille #3 Room:				1.08		Delta SG3 -Weighted Return Temp		BtuH (delta x 1.08 x CFM x Flow Correction)
Supply Grille #4 Room:				1.08		Delta SG4 -Weighted Return Temp		BtuH (delta x 1.08 x CFM x Flow Correction)
Supply Grille #5 Room:				1.08		Delta SG5 -Weighted Return Temp		BtuH (delta x 1.08 x CFM x Flow Correction)
Supply Grille #6 Room:				1.08		Delta SG6 -Weighted Return Temp		BtuH (delta x 1.08 x CFM x Flow Correction)
Supply Grille #7 Room:				1.08		Delta SG7 -Weighted Return Temp		BtuH (delta x 1.08 x CFM x Flow Correction)

Supply Airflow (continued from page 1)	Temp (F)	Flow Correction	CFM (indicated)
Supply Grille #8 Room:			
Supply Grille #9 Room:			
Supply Grille #10 Room:			
Supply Grille #11 Room:			
Supply Grille #12 Room:			
Totals			CFM Total (Indicated airflow)

1.08
1.08
1.08
1.08
1.08

	Delta SG8 -Weighted Return Temp
	Delta SG9 -Weighted Return Temp
	Delta SG10 -Weighted Return Temp
	Delta SG11 -Weighted Return Temp
	Delta SG12 -Weighted Return Temp

	BtuH (delta x 1.08 x CFM x Flow Correction)
	BtuH (delta x 1.08 x CFM x Flow Correction)
	BtuH (delta x 1.08 x CFM x Flow Correction)
	BtuH (delta x 1.08 x CFM x Flow Correction)
	BtuH (delta x 1.08 x CFM x Flow Correction)
	Total Btu/Hr Delivered (sum entire column)

Total Delivered BtuH as measured at supply grilles

Manufacturer Capacity at test condition or furnace rated output

Total Delivered BtuH divided by Manuf Capacity

Manufacturer System Power at test condition (indoor + outdoor) AC & Heat Pumps only

Delivered EER divided by Manufacturer EER

	BtuH
	BtuH
	% Sensible Delivered energy
	Watts
	% Sensible Delivered EER

Gas furnace tests- Calculate % Sensible Delivered energy and leave EER sections blank

Manuf. EER

Manuf capacity divided by kW (x1000)

System Power

Measured System Pwr (Watts)

Delivered EER

Delivered BtuH divided by measured power (kW x 1000) = Delivered EER

6)

Room temperature stratification testing at 3' AFF, center of all rooms

All temps after continuous minimum 15 minutes of system operation, system running, all doors open

#1 Room:		(F)		Pascals across door
#2 Room:		(F)		Pascals across door
#3 Room:		(F)		Pascals across door
#4 Room:		(F)		Pascals across door
#5 Room:		(F)		Pascals across door
#6 Room:		(F)		Pascals across door
#7 Room:		(F)		Pascals across door
#8 Room:		(F)		Pascals across door
#9 Room:		(F)		Pascals across door
#10 Room:		(F)		Pascals across door
Central Point 1' up Room:		(F)		All <5 Pa is a pass
Central 1' down ceiling		(F)		
Difference between coldest and warmest-all:		(F)		Difference of 3.0 degrees or less is a pass

7)

Measure all exhaust flows and mark type and whether continuous or demand controlled

Ventilation Location	CFM Flow	Supply or Exhaust / continuous or switched
#1 Room:		
#2 Room:		
#3 Room:		
#4 Room:		
#5 Room:		
#6 Room:		
#7 Room:		
#8 Room:		
		Total CFM all continuous exhaust ventilation
		Total CFM all continuous supply ventilation
		Total required ventilation CFM (ASHRAE 62.2)
		Total Watts of all continuous ventilation
		Watts ÷ CFM of all continuous ventilation

Continuous ventilation exceeds required plus: HRV <=0.45W/CFM passes or exhaust fans <=0.20 W/CFM is a pass

By signing below, I _____ (Print name) certify that I am the lead installing technician on this project and performed all measurements listed herein. I certify that all numbers listed herein have been measured, are true, and are of the best ability of my equipment and self to accurately measure and calculate. _____ (Signature) (Company Name) _____ (Date)

Installing Contractor must attach a signed copy of the ACCA Manual J, D, S, and T "as built" forms to this form, with the system designer's name and signature.

