

Residential Retrofit Worksheet

Customer _____ Address _____
 City, State, zip _____ Home Phone # _____ Cell or Work # _____
 Salesperson _____ Quote # _____ Branch # _____

Package Pkg. over/under HP or A/C _____ Upflow/Horz _____ How many systems? * _____
 Split Pkg. duct reversed Furnace or A/H _____ Nat./LP/oil/elec _____ *Use multiple sheets if needed

Existing brand _____ **Ref. Type** _____ **Proposed brand** _____
 Furnace or fan coil model # _____ Furnace or fan coil model # _____
 Evap. Coil model # _____ Evap. Coil model # _____
 Cond. or pkg. unit model # _____ Cond. or pkg. unit model # _____

Ductwork

Main trunk connections = Round Rect. Flex Ducts need repair or change? Yes No
 Supply trunk size _____" Return trunk size _____" (If yes, explain in notes)
 Crawlspace or attic height _____" Is crawlspace wet? Yes No
 List the supply registers: List the return grilles:
 Size _____ Qty. _____ Size _____ Qty. _____ Size _____ Qty. _____
 Size _____ Qty. _____ Size _____ Qty. _____ Size _____ Qty. _____
 Size _____ Qty. _____ Size _____ Qty. _____ Is system filtered at unit? Yes No

Ref. Lines Suction Size _____ Liquid Size _____ Est.Length _____ Ft. Any underground pipe? Yes No
 # of els _____ Is condensing unit above or below the evaporator? Above Below Net Vert. Rise _____ ft.

Customer Questionnaire

When your system is operating properly, does it adequately heat and cool your home? Yes No
 When operating properly, do you have any hot or cold spots in your home? Yes No
 Have you made any major improvements to your home? (additions, windows, insulation) Yes No
 Is the humidity too low in your home during heating or too high in cooling? Yes No
 Does anyone in your family have allergies or a higher than normal problem with dust? Yes No
 Do you want the old unit(s) or have us dispose of them as per local requirements? Yes No
 Will the new system(s) be financed and would you like us to offer some options? Yes No
 Would you like to hear about the benefits of a service agreement or extended warranty? Yes No

High voltage Electrical

Are equipment disconnects installed per local codes and in good condition? Yes No
 Are both indoor and outdoor units properly grounded? Yes No
 Elec. Panel Brand? _____ Does elec panel have room for more circuits? Yes No
 What breakers are installed in the elec panel for outdoor (1) _____ Amps (2) _____ Amps
 indoor? (1) _____ Amps (2) _____ Amps
 What wire size is installed for the outdoor unit? _____ Awg Copper Alum.
 What wire size is installed for the indoor unit? _____ Awg Copper Alum.

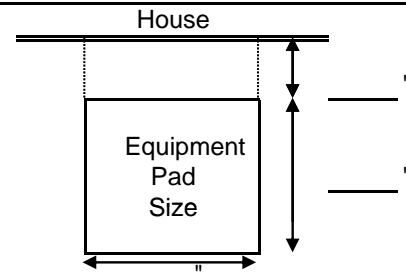
Low voltage Electrical

How many conductors are in existing cable, from stat to indoor? _____ From indoor to outdoor? _____
 Existing thermostat type: Mechanical Digital (Non-Programmable) Digital (Programmable)

NOTES:

Equipment & Pad

Pad type Concrete Preformed
 Is existing pad in good condition? Yes No
 Does pad connect to house? Yes No
 Will landscaping be affected? Yes No
 Is unit accessible with truck? Yes No
 Is humidifier installed? Yes No



For attic installations, what is the size of the attic access? _____ Width _____ Length _____
 Are clearances for serviceability maintained? Yes No
 Are clearances for condenser intake & discharge air maintained? Yes No
 Is direct salt spray a possibility for the condensing unit? Yes No



Existing Duct Estimating Table

Based on a .08 FR Velocity on Round Duct - Not intended for sizing new ducts

Duct Height					Equivalent Round Size	CFM/FPM	
4"	6"	8"	10"	12"		FLEX	METAL
6 x 4					5	40/320	60/440
6 x 4					6	70/360	95/500
8 x 4	6 x 6				6.2	70/360	100/500
10 x 4	6 x 6				7	105/400	145/540
10 x 4	8 x 6				6.8	95/380	130/520
12 x 4	8 x 6				8	150/420	205/590
	10 x 6				8.5	175/450	240/620
	12 x 6				9	200/460	280/640
	12 x 6	8 x 8			9.2	210/420	290/640
	14 x 6	10 x 8			10	270/500	360/680
	18 x 6	12 x 8	10 x 10		11	340/520	480/740
	20 x 6	14 x 8	12 x 10		12	440/580	600/780
	24 x 6	16 x 8	13 x 10	11 x 12	12.4	460/580	640/800
	26 x 6	18 x 8	14 x 10	12 x 12	13	540/580	750/820
		20 x 8	16 x 10	12 x 12	13.5	600/600	850/850
		22 x 8	16 x 10	14 x 12	14	640/620	900/850
		24 x 8	18 x 10	16 x 12	14.6	740/640	1000/880
		26 x 8	20 x 10	16 x 12	15	760/640	1080/900
		28 x 8	20 x 10	18 x 12	15.8	900/680	1250/950
		30 x 8	24 x 10	18 x 12	16	950/700	1300/960
			26 x 10	20 x 12	17	1100/710	1500/970
			28 x 10	22 x 12	17.5	1200/720	1650/1000
			30 x 10	24 x 12	18	1300/740	1800/1050
				30 x 12	20	1700/780	2250/1060

If flex run exceeds 15' reduce CFM by 15%

If flex run exceeds 25' reduce CFM by 25%

If ducts are internally lined, use net dimensions and FLEX values to estimate CFM

Recommended Velocities

Duct Designation	Supply Side (FPM)				Return Side (FPM)			
	Recommended		Maximum		Recommended		Maximum	
	Rigid	Flex	Rigid	Flex	Rigid	Flex	Rigid	Flex
Main Plenum	700	700	900	900	600	600	700	700
Branch Ducts	600	700	900	900	500	600	700	700

The velocities above are taken from ACCA Manual D. The Velocities below are estimates, use OEM data if available

Termination Devices	500	750	400	600
Filer Grill Face	-	-	300	300

** IMPORTANT NOTES **

400 CFM per ton of cooling is nominal for residential, but follow manufacturer's guidelines for any specific equipment match.

If the estimated CFM flowing through all returns and/or supply ducts off the plenum is less than required, duct modifications should be recommended to the consumer.

If the application will use twinned furnaces, the combined CFM will be at least 10% less than rated value

Exceeding velocity recommendations may result in noise and poor performance of termination devices (registers, diffusers, grills).

