Residential Air Flow Evaluation Form

Complete this form in full before submission

Distributor Name:		Case Number:		
Servicer Name:		Installation Date:		
Technician Name:		Fail Date:		
Report date:				
Model Info	Model #	Serial #	Electrical information	
Indoor cased coil:				
Outdoor/ SPP Unit:			Control Voltage	
Indoor unit:			Line Voltage	
Electronic/ Media Air Cleaner:			1 Phase Voltage / line to line	
Thermostat:			L1 to Ground	
ERV/HRV			L2 to Ground	
Humidifier				

$$CFM = \frac{(Volts)(Amps)(3.413)}{1.08(\Delta T)}$$

CFM = _____

Volts = _____, Amps = _____

Supply Temp Dry Bulb = _____ °F

Return Temp dry Bulb = _____ °F

This method requires the use of External Static Pressure readings taken and used to identify CFM from Product data for that indoor unit. Note: furnace installations with attached indoor cooling coils will need to have the ESP adjusted for the pressure drop of the indoor coil.

Indoor coil (Cooling mode)		Total Capacity using CFM and Wet Bulb Temperatures	
Wet Bulb Temperature	Entering	Leaving	Difference
Enthalpy of air	°F	°F	°F
BTU/LB	BTU/LB	BTU/LB	BTU/LB

Temperature Versus Enthalpy

EVAPORATOR CAPACITY using Total Heat Calculation

BTUH = 4.5 x cfm x Δh (Total Heat Calculation using enthalpy)

BTUH = 1.10 x Cfm x Δh (Sensible heat Calculation)

Wet-Bulb (F)	Btu/LB	Wet-Bulb (F)	Btu/LB	Wet-Bulb (F)	Btu/LB	Wet-Bulb (F)	Btu/LB	Wet-Bulb	Btu/LB	Wet-Bulb (F)	Btu/LB
40	15.23	48	19.21	56	23.84	64	29.31	72	35.83	80	43.69
41	15.7	49	19.75	57	24.48	65	30.06	73	36.74	81	44.78
42	16.17	50	20.3	58	25.12	66	30.83	74	37.66	82	45.9
43	16.66	51	20.86	59	25.78	67	31.62	75	38.61	83	47.04
44	17.15	52	21.44	60	26.46	68	32.42	76	39.57	84	48.22
45	17.65	53	22.02	61	27.15	69	33.25	77	40.57	85	49.43
46	18.16	54	22.62	62	27.85	70	34.09	78	41.58		
47	18.68	55	23.22	63	28.57	71	34.95	79	42.62		

Due to varying field conditions, a tolerance of 10% must be expected when comparing test data to actual performance.

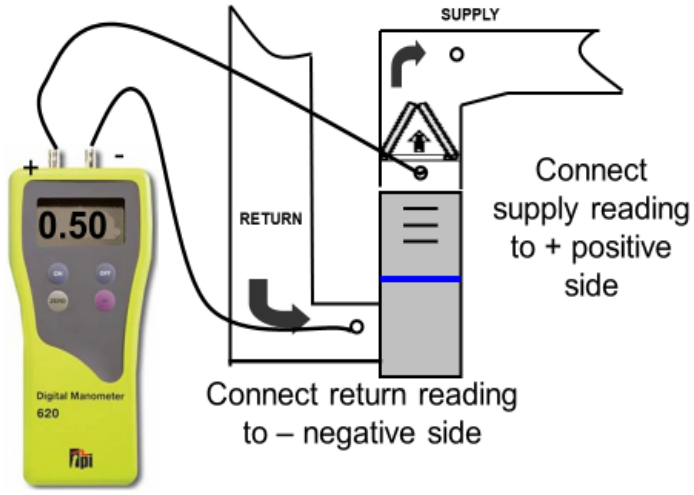
Total External Method

Ret. Static + Sup. Static = Total External Static

Use the Total External Static in conjunction with the "Blower Performance" data in the Product Specification Sheets or the unit's "Tech Label". **NOTE: 350-400 CFM PER TON**

Supply ESP Reading	Inches of WC	Return ESP Reading	Inches of WC
Supply +Return =	Inches of WC		

Desired Total ESP



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Typical Furnace Blower Performance Chart

Speed Tap		HI		MED H		MED L		LO	
External Static Pressure (in wc/Pa)	in wc	Pa	CFM	L/s	CFM	L/s	CFM	L/s	CFM	L/s
	0.1	25	1478	697	1204	568	901	425	703	332
	0.2	50	1418	669	1154	545	864	408	649	306
	0.3	75	1350	637	1103	521	818	386	588	277
	0.4	100	1280	604	1053	497	765	361	538	254
	0.5	125	1201	567	993	469	720	340	488	230
	0.6	149	1116	527	924	436	672	317	459	217
	0.7	174	1023	483	846	399	620	293	408	193
	0.8	199	931	439	764	361	558	263	365	172
	0.9	224	825	389	683	322	489	231	317	150
	1	249	730	345	590	278	428	202	233	110

Data Based on Bottom Only or One Side return.
Gray area is above maximum temperature rise range.

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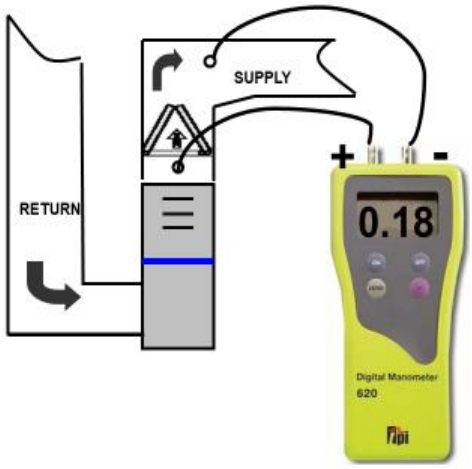
STATIC PRESSURE DROP ACROSS COIL AT A GIVEN CFM			
		Static Pressure Drop Across Coil (Inches Water Column)	
Coil Size	CFM Across Coil	Dry	Wet
24 2 tons	700	0.182	0.214
	800	0.233	0.269
	900	0.290	0.336
36 3 tons	1000	0.189	0.236
	1100	0.221	0.276
	1200	0.259	0.315
	1300	0.299	0.361
	1400	0.341	0.413
48 4 tons	1400	0.322	0.348
	1500	0.366	0.396
	1600	0.413	0.446
	1700	*	*
	1800	*	*

* Excessive pressure drop, application not recommended.

Application Pressure Drop Across the Evaporator Coil



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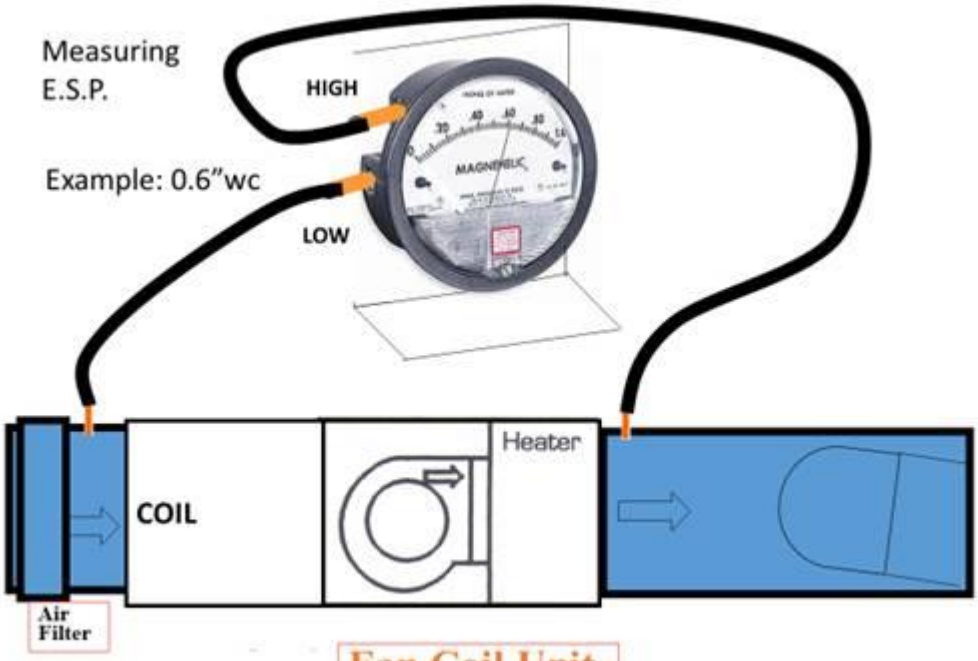

Fan Coil Unit

AIRFLOW PERFORMANCE TABLES

R-410a Fan Coil Model

FY4A SIZE	BLOWER SPEED	TOTAL EXTERNAL STATIC PRESSURE					
		0.10	0.20	0.30	0.40	0.50	0.60
018	High	816	795	753	690	607	504
	Low	633	620	588	538	468	380
024	High	1055	991	926	860	793	724
	Low	934	878	818	754	686	614
030	High	1070	1032	978	908	822	721
	Low	910	888	849	791	715	621
036	High	1352	1316	1273	1223	1167	1103
	Low	1137	1112	1081	1043	998	946
042	High	1720	1668	1602	1521	1426	1316
	Medium	1576	1540	1488	1421	1338	1239
	Low	1388	1367	1330	1278	1209	1124
048	High	1902	1824	1743	1659	1571	1479
	Medium	1830	1763	1690	1611	1527	1436
	Low	1625	1584	1531	1465	1387	1296
060	High	2128	2050	1965	1875	1778	1674
	Medium	1959	1898	1829	1750	1663	1566
	Low	1748	1709	1659	1598	1525	1442

Fan Coil Unit

Airflow based upon dry coil at 230v with factory--approved filter and electric heater (2 element heater sizes 018 through 036, 3 element heater sizes 042 through 060).