

Homework #8 – Air Distribution Systems Design - ACCA Manual D

**Show all work for full credit.**

Due: 9/20

20 points

Name: \_\_\_\_\_

1. The values shown in Table 1 are for the Blower System installed in the home used in HW#5.

Blower	Heating (iwc)	Cooling (IWC)
Total External Static Pressure	0.50	0.50
Pressure Losses in the System:		
Coil	0	0.05
Heat Exchanger	0.03	0.03
Supply Diffusers	0.03	0.03
Return Grilles	0.03	0.03
Filter	0.15	0.15
Balancing Damper	0.03	0.03
Total Pressure Loss in the System	0.27	0.32

Table 1

A. Determine the Available Static Pressure for Heating

B. Determine the Available Static pressure for Cooling

2. The values shown Table 2 are for the Trunk and Branch Duct System installed in the home used in HW#5.

Trunk and Branch Duct System	Supply (ft)	Return (ft)
Measured Length of Run-Out	12	7
Measured length of trunk	60	0
Equivalent length of fitting	60	30
Total length	132	37

Table 2

A. Determine the Total Effective Length (TEL) = \_\_\_\_\_

B. Determine the Friction Rate for Heating (in/100 ft)

C. Determine the Friction Rate for Cooling (in/100 ft)

3. Using the Flexible Duct chart shown and HW#7, complete the table below:

Trunk Duct	FR (iwc/100ft)	CFM	Duct Size (in)	FPM
SA1				
SA2				
Return				

**CHART NO. 3 Thermaflex M-KC, S-LP-10, S-TL**  
**FLEXIBLE DUCT - STRAIGHT RUN**  
**FRICTION LOSS PER 100 FT.**

