



Friction Rate Work Sheet

Step 1) Manufacturer's Blower Data

External static pressure (ESP) = .70 IWC CFM = 1000

Step 2) Device Pressure Losses

Direct expansion refrigerant coil	<u>.28</u>	
Electric resistance heating coil	_____	
Hot water coil	_____	
Heat exchanger	_____	
Low efficiency filter	_____	
High or mid efficiency filter	<u>.08</u>	
Electronic filter	_____	
Humidifier	<u>.03</u>	
Supply outlet	<u>.03</u>	
Return grille	<u>.03</u>	
Balancing damper	_____	
Other device	_____	
Total device losses (DPL)	<u>.45</u>	IWC

Step 3) Available Static Pressure

ASP = (ESP - DPL) = (.70 - .45) = .25 IWC

Step 4) Total Effective Length (TEL)

Supply-Side TEL + Return-Side TEL = (244 + 86) = 330 FEET

Step 5) Friction Rate Design Value (FR)

FR value from friction rate chart = .075 IWC/100

Friction Rate Chart

