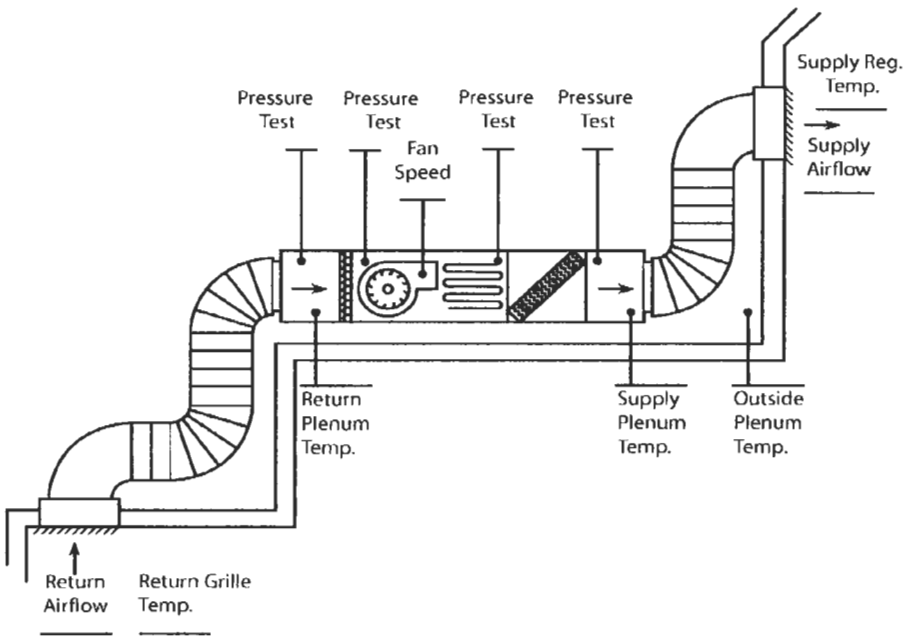
AIR DIAGNOSTIC WORKSHEET



DATE

CUSTOMER

ADDRESS

SYSTEM

READINGS BY

CONTRACTOR

AIR HANDLER	TEST RESULTS	DESIGN	ACTUAL	VARIANCE
MFG	Fan CFM			
MODEL	Supply Airflow			
TYPE	Return Airflow			
SIZE	SYSTEM PRESSURES			
TONS	Static Pressure +			
SERIAL	Static Pressure -			
CONDENSING UNIT	Total Static Pressure			
MFG	Coil Pressure Drop			
MODEL	Filter Pressure Drop			
TONS	TEMPERATURES		DESIGN	ACTUAL
SERIAL	Supply Duct Temperature Loss			
TYPE	Return Duct Temperature Loss			
INDOOR COIL	Equipment Temp. Rise/Drop			
MFG	System Temperature Rose/Drop			
MODEL	Equipment Sensible BTU Delivery			
TONS	System Sensible BTU Delivery			
SERIAL	System % of SBTU Delivery			

SYSTEM FINDINGS

SYSTEM RECOMMENDATIONS

HVAC SYSTEM AIR DIAGNOSTIC WORKSHEET PROCEDURE

- ❑ Greet the customer or contractor and gather first hand comfort and system performance opinions and any available test data. Inspect the equipment and record model and serial numbers and other data.
- ❑ Take the airflow, pressure, fan speed and temperature readings. Fill in the blanks on the system schematic of the *Air Diagnostic Worksheet.*
- ❑ Next, perform the calculations and complete the *Design* and *Actual Test Results* values as follows:
- ❑ To determine the **Fan CFM,** calculate **Total External Static Pressure** by adding actual Positive and Negative Static Pressure. Read and record the Fan CFM from the manufacturer's published data. Air conditioning design CFM is 400 CFM per ton.
- ❑ Calculate the **Supply Duct Loss** by subtracting the total of the supply registers from the Fan CFM (If readings are available).
- ❑ Calculate the **Return Duct Loss** by subtracting the total of the return grilles from the Fan CFM (If readings are available).
- ❑ Next, calculate the **Filter Pressure Drop**. This is done by subtracting the difference between the pressure in the return air plenum from the pressure in the blower compartment. (Some systems will not have a filter near the unit as shown in this schematic.)
- ❑ Then, calculate the **Coil Pressure Drop**. This is done by subtracting the difference between the static pressure in the supply plenum from the static pressure near the discharge of the air handler.
- ❑ Determine the **Supply Duct Temperature Loss** by subtracting the difference between the Supply Plenum and the average Supply Register.
- ❑ Determine the **Return Duct Temperature Loss** by subtracting the difference between the Return Plenum and the average Return Grille.
- ❑ Calculate the **Equipment Temperature Rise or Drop** by subtracting the difference between the supply and return plenums.
- ❑ Calculate the **System Temperature Rise or Drop** by subtracting the difference between the average supply register and the average return grille.
- ❑ Identify the **Equipment Sensible BTU Delivery** by plotting it from the equipment performance charts found in the engineering data under current ambient conditions.
- ❑ Identify the **System Sensible BTU Delivery** by multiplying the Supply CFM (If available, use the total CFM of all the supply register airflows) by the System Temperature Rise or Drop times 1.08.
- ❑ Calculate the Actual **Percent of Sensible BTU Delivery** diving the System Sensible BTU's by the Equipment Sensible BTU's.
- ❑ Study the numbers, and write out your **Air Diagnostic Conclusions** and **Correction Recommendations**. Keeping in mir

DATE

PROJECT

LOCATION