



Cooling System Verify Test

Contractor Detailed Report ()

Customer Information

[Redacted]
[Redacted]
Plano, TX 75023

Main Phone: [Redacted]
Mobile Phone: [Redacted]
Email Address: [Redacted]

Testing Organization Information

Wise Energy Efficiency Solutions
P.O Box 864101
Plano, TX 75023

Phone: 214-228-7283

Location Information

Location Name: [Redacted] Contact Name: [Redacted]
Address: [Redacted] Contact Phone: [Redacted]
Plano, TX 75023

Test Information and Conditions

Technician: [Redacted] Outdoor Temp: 62.0°F
Start: Jan 30, 2017 10:00 AM Altitude: 500 ft.
Finish: Jan 30, 2017 12:00 PM Test ID: T:4912:6804

System Information

System Name: Home
System Type: Packaged Heat Pump w/Direct Drive Fan
Area Served: Entire house (2074 sq.ft.)

Packaged Heat Pump Unit

Year Manufactured	2016
Serial Number	2940-659-000007-7735030401
SEER Rating	
Model Number	SM036-1VTN-SLTATA-CHG
Manufacturer	BOSCH
HSPF Rating	
Nominal Capacity	3.0 Tons
EER Rating	21.5
COP Rating	5.5
CFM Per Ton	400 CFM

Air Filter

Air Filter Location	At or Before the Equipment
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Fan

Motor Rated Horsepower	0.75 HP
Fan Type	Constant Speed
Fan Speed Setting	High
Fan Capacity	3.0 Tons
Fan Rated Static Pressure	0.6 in. w.c.
Fan Condition	Good

Temperatures

Equipment

Equipment Entering DB	Equipment Exiting DB	DB Temperature Change
66.7°F DB	42.9°F DB	23.8°F DB
Equipment Entering WB	Equipment Exiting WB	WB Temperature Change
50.0°F WB	39.9°F WB	10.1°F WB
Equipment Entering Enthalpy	Equipment Exiting Enthalpy	Equipment Enthalpy Change
20.3	15.17	5.13

Return Duct System

Average Return Grille DB	Equipment Entering DB	DB Temperature Change
65.4°F DB	66.7°F DB	1.3°F DB
Average Return Grille WB	Equipment Entering WB	WB Temperature Change
54.9°F WB	50.0°F WB	4.9°F WB

Supply Duct System

Equipment Exiting DB	Average Supply Register DB	DB Temperature Change
42.9°F DB	46.3°F DB	3.4°F DB
Equipment Exiting WB	Average Supply Register WB	WB Temperature Change
39.9°F WB	43.1°F WB	3.2°F WB

Static Pressures

Total External Static Pressure

Entering Pressure	Exiting Pressure	Total External Static Pressure	Rated Total External Static Pressure	Percent of Rated
0.13 in. w.c.	0.38 in. w.c.	0.51 in. w.c.	0.6 in. w.c.	85%

Air Filter

Entering Pressure	Exiting Pressure	Pressure Drop	Pressure Budget	Percent of Budget
0.13 in. w.c.	0.18 in. w.c.	0.05 in. w.c.	0.12 in. w.c.	42%

Coil

Entering Pressure	Exiting Pressure	Pressure Drop	Pressure Budget	Percent of Budget
0.18 in. w.c.	0.3 in. w.c.	0.12 in. w.c.	0.18 in. w.c.	67 %

Return Duct System

Return Duct Pressure	Pressure Budget	Percent of Budget
0.13 in. w.c.	0.3 in. w.c.	43%

Supply Duct System

Supply Duct Pressure	Pressure Budget	Percent of Budget
0.38 in. w.c.	0.3 in. w.c.	127%

Airflow

Fan Airflow

Required Fan Airflow	Measured or Plotted Fan Airflow	Percent of Required Fan Airflow
1200 CFM	1200 CFM	100%

Return Duct Airflow

Total Return Grille Airflow	Measured or Plotted Fan Airflow	Return Duct Leakage	Percent Leakage
1024 CFM	1200 CFM	176 CFM	15%

Supply Duct Airflow

Measured or Plotted Fan Airflow	Total Supply Register Airflow	Supply Duct Leakage	Percent Leakage
1200 CFM	1174 CFM	26 CFM	2%

System Performance

Equipment Performance

Equipment Rated BTU/hr	Equipment Delivered BTU/hr	Equipment Field Measured Efficiency
36674 BTU/hr	27702 BTU/hr	76%

Return Duct System Performance

Return Duct Loss	Equipment Delivered BTU/hr	Percent BTU Loss Thru Return Duct
2265 BTU/hr	27702 BTU/hr	8%

Supply Duct System Performance

Supply Duct Loss	Equipment Delivered BTU/hr	Percent BTU Loss Thru Supply Duct
179 BTU/hr	27702 BTU/hr	1%

Cooling System Performance

Equipment Rated BTU/hr	System Delivered BTU/hr	Cooling System Field Measured Efficiency
36674 BTU/hr	34128 BTU/hr	93%

Registers and Grilles

Supply Registers

Design Airflow	Measured Airflow	Dry Bulb Temperature	Wet Bulb Temperature
Living Room - Supply Register 1			
95 CFM	55 CFM	---	---
Living Room - Supply Register 2			
95 CFM	46 CFM	---	---
Master bedroom - Supply Register 1			
74 CFM	65 CFM	---	---
Master bedroom - Supply Register 1			
74 CFM	80 CFM	---	---
Master bath - Supply Register 1			
27 CFM	71 CFM	---	---
Kitchen - Supply Register 1			
82 CFM	117 CFM	---	---
Kitchen - Supply Register 2			
82 CFM	74 CFM	---	---
bath 2 - Supply Register 1			
25 CFM	44 CFM	---	---
bath 2 - Supply Register 2			
25 CFM	38 CFM	---	---

bath1 - Supply Register 1			
25 CFM	44 CFM	---	---
dining - Supply Register 1			
36 CFM	44 CFM	46.3°F DB	43.08°F WB
Office - Supply Register 1			
137 CFM	146 CFM	---	---
Entry - Supply Register 1			
32 CFM	24 CFM	---	---
Bedroom 4 - Supply Register 1			
84 CFM	89 CFM	---	---
bedroom 3 - Supply Register 1			
99 CFM	112 CFM	---	---
bedroom 2 - Supply Register 1			
89 CFM	125 CFM	---	---
Total 1174 CFM		Average 46.3°F DB	Average 43.1°F WB

Return Grilles

Design Airflow	Measured Airflow	Dry Bulb Temperature	Wet Bulb Temperature
Master bedroom - Return Grille 1			
140 CFM	91 CFM	---	---
dining - Return Grille 1			
400 CFM	486 CFM	65.43°F DB	54.88°F WB
Office - Return Grille 1			
140 CFM	131 CFM	---	---
Bedroom 4 - Return Grille 1			
140 CFM	117 CFM	---	---
bedroom 3 - Return Grille 1			
140 CFM	106 CFM	---	---
bedroom 2 - Return Grille 1			
140 CFM	93 CFM	---	---
Total 1024 CFM		Average 65.4°F DB	Average 54.9°F WB