Certificate of Product Ratings

AHRI Certified Reference Number : 209842208 Date : 03-15-2024 Model Status : Active

AHRI Type : HRCU-A-CB (Split System: Heat Pump with Remote Outdoor Unit-Air-Source)

Outdoor Unit Brand Name : TRANE

Outdoor Unit Model Number (Condenser or Single Package) : 4TWR4018N1

Indoor Unit Model Number (Evaporator and/or Air Handler) : TEM4A0B31M31+TDR

The manufacturer of this TRANE product is responsible for the rating of this system combination.

Rated as follows in accordance with the latest edition of AHRI 210/240 – 2023, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A_{Full}) – Single or High Stage (95F), btuh : 19300

SEER2 : 14.30

EER2 (A_{Full}) – Single or High Stage (95F) : 11.70

Heating Capacity ($H1_{Full}$) – Single or High Stage (47F), btuh : 19300

HSPF2 (Region IV) : 7.50

†"Active" Model Status are those that an AHRI Certification Program Participant is currently producing AND selling or offering for sale; OR new models that are being marketed but are not yet being produced."Production Stopped" Model Status are those that an AHRI Certification Program Participant is no longer producing BUT is still selling or offering for sale.

Ratings that are accompanied by WAS indicate an involuntary re-rate. The new published rating is shown along with the previous (i.e. WAS) rating.

The Department of Energy has published updated energy efficiency metrics for central air conditioners and heat pumps. This publication reflects both the 1987 metric (SEER) and the 2023 metric (SEER2). Efficiency requirements are published at 10 C.F.R. 430.32(c). Please refer to www.AHRInet.org for more information about updated energy efficiency metrics.

AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE

we make life better™

CERTIFICATE NO.: 133549853299737843

2023 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA-TABLE 402.4.1.1[a]

Project Name:	Lee & Denise Harrell	Builder Name:	Reed McDaniel Construction
Street:	1402 S.W. Tommy Lites Street	Permit Office:	Columbia
City, State, Zip:	Ft White, FL, 32038	Permit Number:	
Owner:	Touchstone Heating & Air, Inc.	Jurisdiction:	221000
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA	CHECK
General requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material.	
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.	
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.	
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.		
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.	
Floors (including above-garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.	
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawlspace walls.	
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.		
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity spaces.	
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.		
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the finished surface.	Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated.	
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.	
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.	
Electrical, communication, and other equipment boxes, housings, and enclosures	Boxes, housings, and enclosures that penetrate the air barrier shall be caulked, taped, gasketed, or otherwise sealed to the air barrier element being penetrated. All concealed openings into the box, housing, or enclosure shall be sealed. The continuity of the air barrier shall be maintained around boxes, housings, and enclosures that penetrate the air barrier. Alternatively, air-sealed boxes shall be installed in accordance with R402.4.6	Boxes, housings, and enclosures shall be buried in or surrounded by tightly fitted insulation.	
HVAC register boots	HVAC supply and return register boots that penetrate building thermal envelope shall be sealed to the sub-floor, wall covering or ceiling penetrated by the boot.		
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids voids between fire sprinkler cover plates and walls or ceilings.		

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC-400.

FORM R405-2023

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Lee & Denise Harrell	Builder Name:	Reed McDaniel Construction
Street:	1402 S.W. Tommy Lites Street	Permit Office:	Columbia
City, State, Zip:	Ft White, FL, 32038	Permit Number:	
Owner:	Touchstone Heating & Air, Inc.	Jurisdiction:	221000
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Detached
3. Number of units, if multiple family	1
4. Number of Bedrooms	1
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	725
Conditioned floor area below grade (ft²)	0

7. Windows(110.7 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.47	84.00 ft²
SHGC:	SHGC=0.31	
b. U-Factor:	Dbl, U=0.49	20.00 ft²
SHGC:	SHGC=0.32	
c. U-Factor:	Dbl, U=0.45	6.67 ft²
SHGC:	SHGC=0.36	
Area Weighted Average Overhang Depth:		1.333 ft
Area Weighted Average SHGC:		0.315

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	724.60 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(652.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	652.00 ft²
b. N/A		
c. N/A		
d. N/A		

11. Ceiling Types(725.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	725.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	764 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: Mud Room	6	69
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	19.3	SEER2:14.30

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	19.3	HSPF2:7.50

16. Hot Water Systems
a.

b. Conservation features

17. Credits CF, Pstat

Glass/Floor Area: 0.153

Total Proposed Modified Loads: 19.38
Total Baseline Loads: 22.61

PASS

NOTE: Proposed residence must have annual total normalized Modified Loads that are less than or equal to 95 percent of the annual total loads of the standard reference design in order to comply.

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: __John Pirkl_____

DATE: __03/15/2024_____

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.
- Default duct leakage does not require a Duct Leakage Test Report.
- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 4.11 ACH50 (R402.4.1.2).

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Lee & Denise Harrell			Address type:	Street Address
Building Type:	User	Bedrooms:	1	Lot #:	---
Owner:	Touchstone Heating & Air, Inc.	Conditioned Area:	725	Block/SubDivision:	---
Builder Home ID:		Total Stories:	1	PlatBook:	---
Builder Name:	Reed McDaniel Construction	Worst Case:	No	Street:	1402 S.W. Tommy Lites Street
Permit Office:	Columbia	Rotate Angle:	0	County:	Columbia
Jurisdiction:	221000	Cross Ventilation:	No	City, State, Zip:	Ft White,
Family Type:	Detached	Whole House Fan:	No		FL, 32038
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:	2024	Shielding:	Suburban		
Comment:					

CLIMATE

√	Design Location	Tmy Site	Design Temp 97.5%	Design Temp 2.5%	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily temp Range
___	FL, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

√	Number	Name	Area	Volume
___	1	Entire House	725	5800 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	Tlt	29	232	No	0		Yes	Yes	Yes
___	2	Mstr Bathrm	173	1384	No	0		Yes	Yes	Yes
___	3	Mstr Bedroom	263	2104	No	2	1	Yes	Yes	Yes
___	4	Mstr WIC	98	784	No	0		Yes	Yes	Yes
___	5	Mud Room	162	1296	No	0		Yes	Yes	Yes

FLOORS (Total Exposed Area = 725 sq.ft.)

√	#	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim.	R-Value Joist	U-Factor	Slab Insul. Vert/Horiz	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	Tlt	11	29.3 sqft	0	---	0.473	2 (ft)/0 (ft)	0.00	1.00	0.00
___	2	Slab-On-Grade Edge Ins	Mstr Bathrm	27	173.3 sqft	0	---	0.473	2 (ft)/0 (ft)	0.00	1.00	0.00
___	3	Slab-On-Grade Edge Ins	Mstr Bedroom	17.5	262.5 sqft	0	---	0.473	2 (ft)/0 (ft)	0.00	1.00	0.00
___	4	Slab-On-Grade Edge Ins	Mstr WIC	6.5	97.5 sqft	0	---	0.473	2 (ft)/0 (ft)	0.00	1.00	0.00
___	5	Slab-On-Grade Edge Ins	Mud Room	19.5	162 sqft	0	---	0.473	2 (ft)/0 (ft)	0.00	1.00	0.00

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Gable or Shed	Composition shingles	764 ft²	120 ft²	Medium	N	0.9	No	0.9	No	0	18.43

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
	1	Full attic	Vented	150	725 ft²	N	N

CEILING (Total Exposed Area = 725 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
	1	Flat ceiling under attic(Vented)	Tlt	38.0	Blown	29.0ft²	0.049	0.10	Wood
	2	Flat ceiling under attic(Vented)	Mstr Bathrm	38.0	Blown	173.0ft²	0.049	0.10	Wood
	3	Flat ceiling under attic(Vented)	Mstr Bedroom	38.0	Blown	263.0ft²	0.049	0.10	Wood
	4	Flat ceiling under attic(Vented)	Mstr WIC	38.0	Blown	98.0ft²	0.049	0.10	Wood
	5	Flat ceiling under attic(Vented)	Mud Room	38.0	Blown	162.0ft²	0.049	0.10	Wood

WALLS (Total Exposed Area = 652 sq.ft.)

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
	1	N	Exterior	Frame - Wood	Tlt	13.0	6.0	6	8.0	0	52.0	0.095	0	0.25	0.23	0 %
	2	W	Exterior	Frame - Wood	Tlt	13.0	4.0	6	8.0	0	36.0	0.095	0	0.25	0.23	0 %
	3	S	Exterior	Frame - Wood	Mstr Bathrm	13.0	10.0	6	8.0	0	84.0	0.095	0	0.25	0.23	0 %
	4	W	Exterior	Frame - Wood	Mstr Bathrm	13.0	16.0	6	8.0	0	132.0	0.095	0	0.25	0.23	0 %
	5	S	Exterior	Frame - Wood	Mstr Bedroom	13.0	17.0	6	8.0	0	140.0	0.095	0	0.25	0.23	0 %
	6	S	Exterior	Frame - Wood	Mstr WIC	13.0	6.0	6	8.0	0	52.0	0.095	0	0.25	0.23	0 %
	7	N	Exterior	Frame - Wood	Mud Room	13.0	19.0	6	8.0	0	156.0	0.095	0	0.25	0.23	0 %

DOORS (Total Exposed Area = 0 sq.ft.)

√	#	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
	1	N(Front)	Exterior	Wood	Tlt	None	0.20	0.10	0	0.10	0	0.1ft²

WINDOWS (Total Exposed Area = 111 sq.ft.)

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	Sep. (ft)	Interior Shade	Screen
	1	W	2	Vinyl	Low-E Double	Y	0.47	0.31	N	N	4.0	1	2.00	2.00	1.3	1.3	Drapes/blinds	Ex. 50%
	2	S	3	Vinyl	Low-E Double	Y	0.45	0.36	N	N	6.7	1	5.00	1.33	1.3	1.3	None	None
	3	W	4	Vinyl	Low-E Double	Y	0.47	0.31	N	N	8.0	1	2.00	4.00	1.3	1.3	Drapes/blinds	Ex. 50%
	4	S	5	Vinyl	Low-E Double	Y	0.47	0.31	N	N	60.0	4	3.00	5.00	1.3	1.3	Drapes/blinds	Ex. 50%
	5	N	7	Vinyl	Low-E Double	Y	0.49	0.32	N	N	20.0	1	3.00	6.67	1.3	1.3	None	None
	6	N	7	Vinyl	Low-E Double	Y	0.47	0.31	N	N	12.0	1	3.00	4.00	1.3	1.3	Drapes/blinds	Ex. 50%

INFILTRATION

√	#	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
	1	Wholehouse	Proposed ACH(50)	0.00021	397	21.80	40.92	0.0805	4.1	All	5800 cu ft

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

MASS

✓	#	Mass Type	Area	Thickness	Furniture Fraction	Space
___	1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Tlt
___	2	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Mstr Bathrm
___	3	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Mstr Bedroom
___	4	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Mstr WIC
___	5	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Mud Room

HEATING SYSTEM

✓	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___	1	Electric Heat Pump	Split/Single		HSPF2: 7.50	19.3		0.00	0.00	0.00	sys#1	1

COOLING SYSTEM

✓	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___	1	Central Unit	Split/Single		SEER2:14.3	19.3	600	0.70	sys#1	1

HOT WATER SYSTEM

✓	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length

Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits

DUCTS

✓	Duct #	Supply Location	Supply R-Value	Supply Area	Return Location	Return R-Value	Return Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN OUT	RLF	HVAC # Heat	HVAC # Cool
___	1	Attic	6.0	69 ft²	Attic	6.0	18 ft²	Default Leakage	Mud Room	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

Cooling	[ ] Jan	[ ] Feb	[ ] Mar	[ ] Apr	[ ] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[ ] Oct	[ ] Nov	[ ] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[ ] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[ ] Oct	[X] Nov	[X] Dec
Venting	[ ] Jan	[ ] Feb	[X] Mar	[X] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[X] Oct	[X] Nov	[ ] Dec

✓	Thermostat Schedule: HERS 2006 Reference Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
___	Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
		PM	80	80	78	78	78	78	78	78	78	78	78	78
___	Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
		PM	78	78	78	78	78	78	78	78	78	78	78	78
___	Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
		PM	68	68	68	68	68	68	68	68	68	68	66	66
___	Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
		PM	68	68	68	68	68	68	68	68	68	68	66	66

FORM R405-2023

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 86

The lower the EnergyPerformance Index, the more efficient the home.

1402 S.W. Tommy Lites Street,Ft White,FL,32038

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Detached
3. Number of units, if multiple family		1
4. Number of Bedrooms		1
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		725
Conditioned floor area below grade (ft²)		0
7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.47	84.00 ft²
SHGC:	SHGC=0.31	
b. U-Factor:	Dbl, U=0.49	20.00 ft²
SHGC:	SHGC=0.32	
c. U-Factor:	Dbl, U=0.45	6.67 ft²
SHGC:	SHGC=0.36	
Area Weighted Average Overhang Depth:		1.333 ft
Area Weighted Average SHGC:		0.315
8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	724.60 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(652.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	652.00 ft²
b. N/A		
c. N/A		
d. N/A		

11. Ceiling Types(725.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	725.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	764 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: Mud Room	6	69
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	19.3	SEER2:14.30

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	19.3	HSPF2:7.50

16. Hot Water Systems
a.

b. Conservation features

17. Credits CF, Pstat

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: 1402 S.W. Tommy Lites Street City/FL Zip: Ft White,FL,32038

*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Load Short Form
Entire House

New Age Dimensions, LLC.

Job: Lee & Denise Harrell
Date: 03/15/2024
By: John Pirkl
Plan: Manual J and D

14080 S.E. 122nd Lane Road, Ocklawaha, FL 32179 Phone: (352) 288 - 0686 Fax: (352) 288 - 0684 Email: john.newage@gmail.com

Project Information

For: Touchstone Heating & Air, Inc.
490 S.E. 3rd Avenue, Lake Butler, FL 32054
Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

Design Information

	Htg	Clg
Outside db (°F)	33	92
Inside db (°F)	68	75
Design TD (°F)	35	17
Daily range	-	M
Inside humidity (%)	50	50
Moisture difference (gr/lb)	29	47

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

HEATING EQUIPMENT

Make	Trane
Trade	TRANE
Model	4TWR4018N1
AHRI ref	209842208

Efficiency	7.5 HSPF2	
Heating input		
Heating output	19300	Btuh @ 47°F
Temperature rise	29	°F
Actual air flow	600	cfm
Air flow factor	0.049	cfm/Btuh
Static pressure	0.51	in H2O
Space thermostat		

Capacity balance point = 17 °F

Backup:
Input = 3 kW, Output = 11015 Btuh, 100 AFUE

COOLING EQUIPMENT

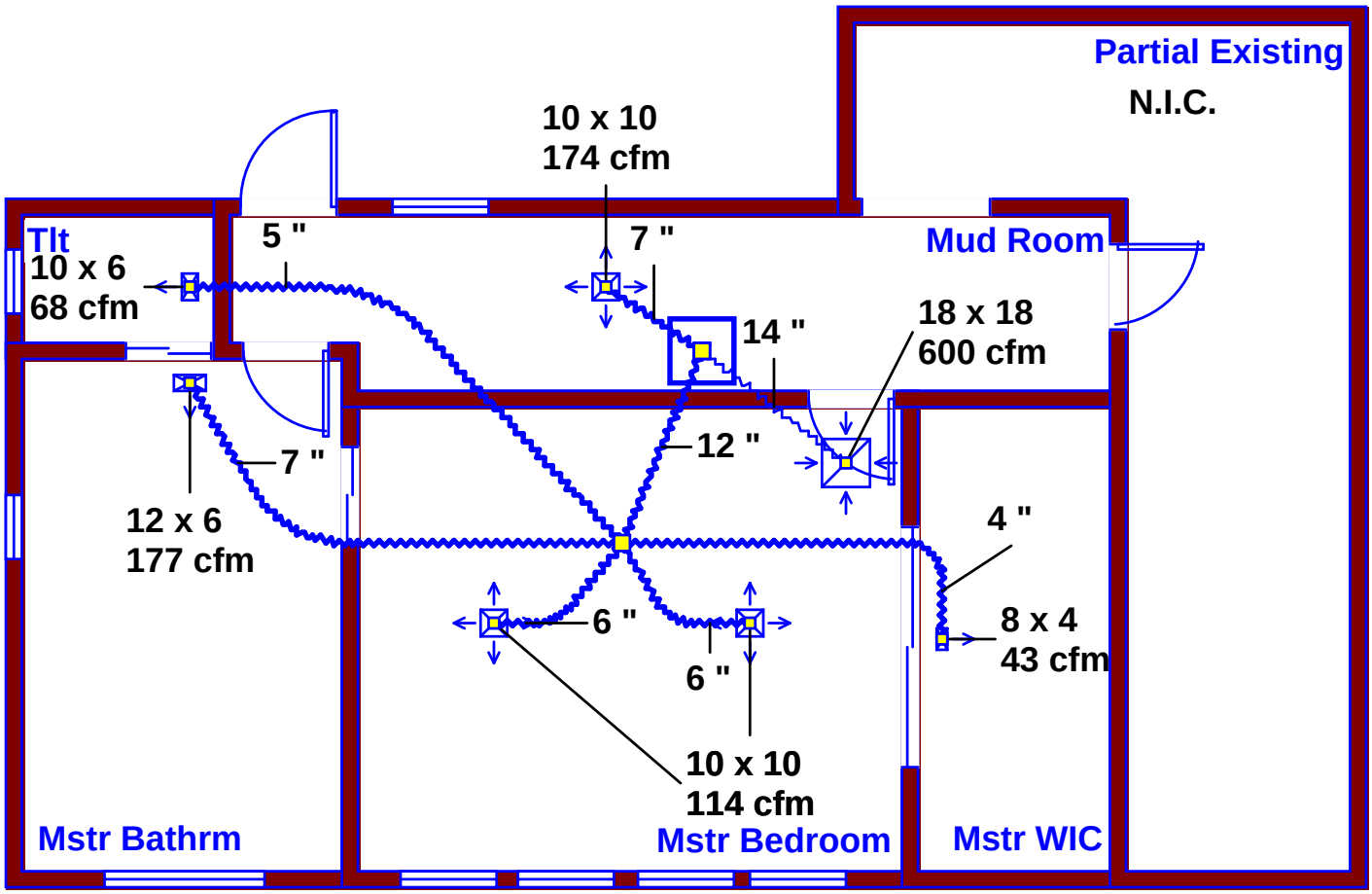
Make	Trane
Trade	TRANE
Cond	4TWR4018N1
Coil	TEM4A0B31M31++TDR
AHRI ref	209842208

Efficiency	11.7 EER2,14.3 SEER2	
Sensible cooling	13510	Btuh
Latent cooling	5790	Btuh
Total cooling	19300	Btuh
Actual air flow	600	cfm
Air flow factor	0.064	cfm/Btuh
Static pressure	0.51	in H2O
Load sensible heat ratio	0.85	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Tlt	29	1382	726	68	46
Mstr Bathrm	173	3579	1966	177	125
Mstr Bedroom	263	3319	3587	164	228
Mstr WIC	98	868	428	43	27
Mud Room	162	2998	2735	148	174
Entire House	725	12146	9442	600	600
Other equip loads		0	1707		
Equip. @ 0.97 RSM			10814		
Latent cooling			2034		
TOTALS	725	12146	12848	600	600

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Sheet 1



Job #: Lee & Denise Harrell
Performed by John Pirkl for:
Touchstone Heating & Air, Inc.
490 S.E. 3rd Avenue
Lake Butler, FL 32054
Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

New Age Dimensions, LLC.
14080 S.E. 122nd Lane Road
Ocklawaha, FL 32179
Phone: (352) 288 - 0686 Fax: (352) 288 - 0684
john.newage@gmail.com

Scale: 1 : 70

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Manual S Compliance Report

Entire House

New Age Dimensions, LLC.

Job: Lee & Denise Harrell
Date: 03/15/2024
By: John Pirkl
Plan: Manual J and D

14080 S.E. 122nd Lane Road, Ocklawaha, FL 32179 Phone: (352) 288 - 0686 Fax: (352) 288 - 0684 Email: john.newage@gmail.com

Project Information

For: Touchstone Heating & Air, Inc.
490 S.E. 3rd Avenue, Lake Butler, FL 32054
Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	11148	Btuh	Entering coil DB:	79.5°F
Outdoor design WB:	76.3°F	Latent gain:	2034	Btuh	Entering coil WB:	64.3°F
Indoor design DB:	75.0°F	Total gain:	13182	Btuh		
Indoor RH:	50%	Estimated airflow:	600	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane		Model:	4TWR4018N1+TEM4A0B31M31++TDR	
Actual airflow:	600	cfm			
Sensible capacity:	13510	Btuh	121% of load		
Latent capacity:	5790	Btuh	285% of load		
Total capacity:	19300	Btuh	146% of load	SHR:	70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.4°F	Heat loss:	12146	Btuh	Entering coil DB:	67.2°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP						
Manufacturer:	Trane		Model:	4TWR4018N1+TEM4A0B31M31++TDR			
Actual airflow:	600	cfm					
Output capacity:	19300	Btuh	159% of load		Capacity balance:	17	°F
Supplemental heat required:	0	Btuh			Economic balance:	-99	°F

Backup equipment type:	Elec strip						
Manufacturer:			Model:				
Actual airflow:	600	cfm					
Output capacity:	3.2	kW	91% of load	Temp. rise:	50	°F	

Meets all requirements of ACCA Manual S.

Duct System Summary
Entire House

New Age Dimensions, LLC.

Job: Lee & Denise Harrell
Date: 03/15/2024
By: John Pirkl
Plan: Manual J and D

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Project Information

For: Touchstone Heating & Air, Inc.
490 S.E. 3rd Avenue, Lake Butler, FL 32054
Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

	Heating	Cooling
External static pressure	0.51 in H2O	0.51 in H2O
Pressure losses	0.18 in H2O	0.18 in H2O
Available static pressure	0.33 in H2O	0.33 in H2O
Supply / return available pressure	0.226 / 0.104 in H2O	0.226 / 0.104 in H2O
Lowest friction rate	0.880 in/100ft	0.880 in/100ft
Actual air flow	600 cfm	600 cfm
Total effective length (TEL)	209 ft	

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Mstr Bathrm	h	3579	177	125	0.880	7.0	0x 0	VlFx	22.8	120.0	st1
Mstr Bedroom	c	1793	82	114	0.880	6.0	0x 0	VlFx	11.7	120.0	st1
Mstr Bedroom-A	c	1793	82	114	0.880	6.0	0x 0	VlFx	11.9	120.0	st1
Mstr WIC	h	868	43	27	0.880	4.0	0x 0	VlFx	19.5	120.0	st1
Mud Room	c	2735	148	174	0.880	7.0	0x 0	VlFx	3.6	95.0	
Tlt	h	1382	68	46	0.880	5.0	0x 0	VlFx	23.5	120.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	452	426	0.880	575	12.0	0 x 0	VinlFlx	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	18x 15	600	600	65.7	0.880	561	14.0	0x 0		VlFx	