wrightsoft

Manual S Compliance Report

Entire House

Air Ducks Heating & Air, Inc.

Job: (31)
Date: Dec 07, 2020
By:

2601 NW 76th Ave, Gainesville, Fla 32653 Phone: 352-215-4624 Email: Airducksac@gmail.com Web: Airducksac.com

Project Information

For: DWC Construction
Thornwood Lot 21, Fla

Cooling Equipment

Design Conditions

Outdoor design DB:	91.9°F	Sensible gain:	28035	Btuh	Entering coil DB:	78.0°F
Outdoor design WB:	76.2°F	Latent gain:	4835	Btuh	Entering coil WB:	63.9°F
Indoor design DB:	75.0°F	Total gain:	32870	Btuh		
Indoor RH:	50%	Estimated airflow:	1220	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane		Model:	4TWR4036G1+TEM3A0C36S41++TDR	
Actual airflow:	1220	cfm			
Sensible capacity:	29280	Btuh	104% of load		
Latent capacity:	7320	Btuh	151% of load		
Total capacity:	36600	Btuh	111% of load	SHR:	80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.0°F	Heat loss:	33629	Btuh	Entering coil DB:	66.6°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP					
Manufacturer:	Trane		Model:	4TWR4036G1+TEM3A0C36S41++TDR		
Actual airflow:	1220	cfm				
Output capacity:	34200	Btuh	102% of load		Capacity balance:	33 °F
Supplemental heat required:	0	Btuh			Economic balance:	-99 °F

Backup equipment type:	Elec strip					
Manufacturer:	n/a		Model:			
Actual airflow:	1220	cfm				
Output capacity:	6.6	kW	67% of load	Temp. rise:	25	°F

Meets all requirements of ACCA Manual S.

Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form RPER 1 15 Mar 09

ACCA Air Conditioning Contractors of America

Header Information

Contractor: Air Ducks Heating & Air, Inc.

Mechanical license:

Building plan #:

Home address (Street or Lot#, Block, Subdivision): Thornwood Lot 21, Entire House

REQUIRED ATTACHMENTS	ATTACHED
Manual J1 Form (and supporting worksheets):	Yes ☐ No ☐
or MJ1AE Form* (and supporting worksheets):	Yes ☐ No ☐
OEM performance data (heating, cooling, blower):	Yes ☐ No ☐
Manual D Friction Rate Worksheet:	Yes ☐ No ☐
Duct distribution sketch:	Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature:	33	°F
Indoor temperature:	68	°F
Total heat loss:	33629	Btuh

Summer Design Conditions

Outdoor temperature:	92	°F
Indoor temperature:	75	°F
Grains difference:	47 gr/lb @ 50% RH	
Sensible heat gain:	28932	Btuh
Latent heat gain:	4990	Btuh
Total heat gain:	33922	Btuh

Building Construction Information

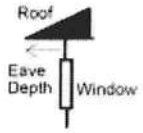
Building

Orientation: Front Door faces North
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms:	0	
Conditioned floor area:	1843	ft²
Number of occupants:	5	

Windows

Eave overhang depth:	0	ft
Internal shade: (Blinds, drapes, etc.)	blinds	
Number of skylights:	0	



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: Split ASHP (Furnace, Heat pump, Boiler, etc.)

Model: Trane 4TWR4036G1+TEM3A0C36S41++TDR

Heating output capacity: 0 Btuh (Heat pumps - capacity at winter design outdoor conditions)

Aux. heating output capacity: 22460 Btuh

Cooling Equipment Data

Equipment type: Split ASHP (Air Conditioner, Heat pump, etc.)

Model: Trane 4TWR4036G1+TEM3A0C36S41++TDR

Total cooling capacity:	0	Btuh
Sensible cooling capacity:	0	Btuh
Latent cooling capacity:	0	Btuh

Blower Data

Heating cfm:	1220
Cooling cfm:	1220
Static pressure:	0.50 in H2O

Fan's rated external static pressure for design airflow

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow:	1220	cfm	Longest supply duct:	418	ft	Duct Materials Used	
Equipment design ESP:	0.50	in H2O	Longest return duct:	97	ft	Trunk duct:	Fiberglass board
Total device pressure losses:	0	in H2O	**Total effective length (TEL):**	515	ft		
Available static pressure (ASP):	0.50	in H2O	**Friction rate:** (Friction Rate = ASP ÷ (TEL x 100))	0.097	in/100ft	Branch duct:	Round flex vinyl

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: _____

Contractor's signature: _____ Date: _____

Reserved for County, Town Municipality or Authority having jurisdiction use.

*Home qualifies for MJ1AE Form based on Abridged Edition Checklist

wrightsoft

Load Short Form
Entire House

Air Ducks Heating & Air, Inc.

Job:
Date: Dec 07, 2020
By:

2601 NW 76th Ave, Gainesville, Fla 32653 Phone: 352-215-4624 Email: Airducksac@gmail.com Web: Airducksac.com

Project Information

For: DWC Construction
Thornwood Lot 21, Fla

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	4TWR4036G1
AHRI ref	10344969

Efficiency	8.5 HSPF	
Heating input		
Heating output	34200	Btuh @ 47°F
Temperature rise	26	°F
Actual air flow	1220	cfm
Air flow factor	0.036	cfm/Btuh
Static pressure	0.50	in H2O
Space thermostat		

Capacity balance point = 33 °F

Backup: n/a
Input = 7 kW, Output = 22460 Btuh, 100 AFUE

COOLING EQUIPMENT

Make	Trane
Trade	TRANE
Cond	4TWR4036G1
Coil	TEM3A0C36S41++TDR
AHRI ref	10344969

Efficiency	11.5 EER, 14 SEER	
Sensible cooling	29280	Btuh
Latent cooling	7320	Btuh
Total cooling	36600	Btuh
Actual air flow	1220	cfm
Air flow factor	0.044	cfm/Btuh
Static pressure	0.50	in H2O
Load sensible heat ratio	0.85	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Master	316	7873	6299	286	274
Wic 1	48	927	415	34	18
wc	40	58	100	2	4
Master bath	215	4005	2036	145	89
living	449	7161	8031	260	349
kitchen/dining	243	2168	3508	79	153
bed 2	156	4573	2161	166	94
bath	54	1346	1682	49	73
bed 3	168	2149	937	78	41
hall	18	0	0	0	0
wic	42	1751	1689	64	74
Pantry	42	0	0	0	0
laundry	70	1617	1176	59	51

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

Entire House	d	1861	33629	28035	1220	1220
Other equip loads			0	0		
Equip. @ 0.97 RSM				27166		
Latent cooling				4835		
TOTALS		1861	33629	32001	1220	1220

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

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Project Summary
Entire House
Air Ducks Heating & Air, Inc.

Job:
Date: Dec 07, 2020
By:

2601 NW 76th Ave, Gainesville, Fla 32653 Phone: 352-215-4624 Email: Airducksac@gmail.com Web: Airducksac.com

Project Information

For: DWC Construction
Thornwood Lot 21, Fla

Notes:

Design Information

Weather: Gainesville Rgnl, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	47 gr/lb

Heating Summary

Structure	25863 Btuh
Ducts	7766 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	33629 Btuh

Sensible Cooling Equipment Load Sizing

Structure	17962 Btuh
Ducts	10073 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	27166 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	1843	1843
Volume (ft³)	16207	16207
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	103	54

Latent Cooling Equipment Load Sizing

Structure	2713 Btuh
Ducts	2122 Btuh
Central vent (0 cfm) (none)	0 Btuh
Equipment latent load	4835 Btuh
Equipment Total Load (Sen+Lat)	32001 Btuh
Req. total capacity at 0.80 SHR	2.8 ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR4036G1
AHRI ref	10344969
Efficiency	8.5 HSPF
Heating input	
Heating output	34200 Btuh @ 47°F
Temperature rise	26 °F
Actual air flow	1220 cfm
Air flow factor	0.036 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	

Capacity balance point = 33 °F

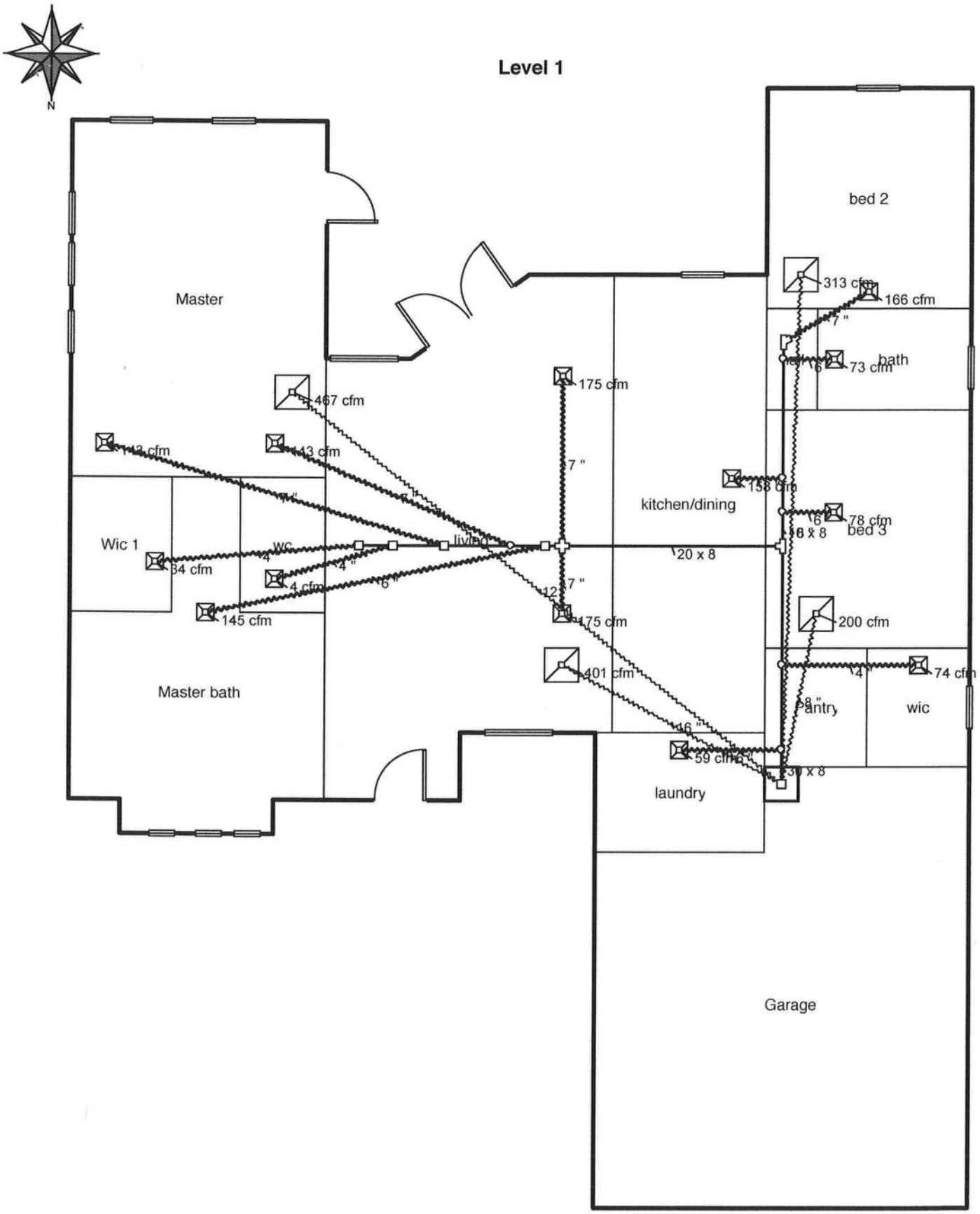
Backup: n/a
Input = 7 kW, Output = 22460 Btuh, 100 AFUE

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR4036G1
Coil	TEM3A0C36S41++TDR
AHRI ref	10344969
Efficiency	11.5 EER, 14 SEER
Sensible cooling	29280 Btuh
Latent cooling	7320 Btuh
Total cooling	36600 Btuh
Actual air flow	1220 cfm
Air flow factor	0.044 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.85

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

Level 1



Job #: **Performed for:** DWC Construction Thornwood Lot 21 Fla	**Air Ducks Heating & Air, Inc.** 2601 NW 76th Ave Gainesville, Fla 32653 Phone: 352-215-4624 Airducksac.com Airducksac@gmail.com	Scale: 1 : 96 Page 1 Right-Suite® Universal 2019 19.0.21 RSU23127 2021-Apr-21 12:59:44 ... HVAC\DWC lot 25 thorne wood.ru

Duct System Summary
Entire House

Air Ducks Heating & Air, Inc.

Job:
Date: Dec 07, 2020
By:

2601 NW 76th Ave, Gainesville, Fla 32653 Phone: 352-215-4624 Email: Airducksac@gmail.com Web: Airducksac.com

Project Information

For: DWC Construction
Thornwood Lot 21, Fla

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.50 in H2O	0.50 in H2O
Supply / return available pressure	0.406 / 0.094 in H2O	0.406 / 0.094 in H2O
Lowest friction rate	0.097 in/100ft	0.097 in/100ft
Actual air flow	1220 cfm	1220 cfm
Total effective length (TEL)	515 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
Master	h	3937	143	137	0.099	7.0	0x 0	VIFx	45.2	365.0	st3
Master bath	h	4005	145	89	0.097	6.0	0x 0	VIFx	48.4	370.0	st3
Master-A	h	3937	143	137	0.099	7.0	0x 0	VIFx	54.9	355.0	st3
Wic 1	h	927	34	18	0.105	4.0	0x 0	VIFx	51.0	335.0	st3
bath	c	1682	49	73	0.154	6.0	0x 0	VIFx	28.0	235.0	st2
bed 2	h	4573	166	94	0.201	7.0	0x 0	VIFx	31.8	170.0	st2
bed 3	h	2149	78	41	0.148	6.0	0x 0	VIFx	19.0	255.0	st2
kitchen/dining	c	3508	79	153	0.153	8.0	0x 0	VIFx	21.0	245.0	st2
laundry	h	1617	59	51	0.191	6.0	0x 0	VIFx	8.0	205.0	st1
living	c	4015	130	175	0.135	7.0	0x 0	VIFx	31.0	270.0	st3
living-A	c	4015	130	175	0.132	7.0	0x 0	VIFx	37.0	270.0	st3
wc	c	100	2	4	0.104	4.0	0x 0	VIFx	44.3	345.0	st3
wic	c	1689	64	74	0.184	4.0	0x 0	VIFx	15.0	205.0	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	1220	1220	0.097	732	15.7	8 x 30	RectFbg	
st3	Peak AVF	726	735	0.097	661	13.0	8 x 20	RectFbg	st1
st2	Peak AVF	371	361	0.148	668	9.3	8 x 10	RectFbg	st1

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
rb3	0x 0	200	165	70.2	0.134	573	8.0	0x 0		VlFx	
rb4	0x 0	313	187	90.0	0.105	898	8.0	0x 0		VlFx	
rb2	0x 0	257	401	74.8	0.126	287	16.0	0x 0		VlFx	
rb1	0x 0	449	467	97.0	0.097	595	12.0	0x 0		VlFx	

AHRI CERTIFIED®
www.ahridirectory.org

Certificate of Product Ratings

AHRI Certified Reference Number : 201763659 Date : 12-07-2020 Model Status : Active

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

Series : XR14

Outdoor Unit Brand Name : TRANE

Outdoor Unit Model Number (Condenser or Single Package) : 4TWR4036G1

Indoor Unit Model Number (Evaporator and/or Air Handler) : TEM4A0B36S31+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 with Addendum 1, 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 (A2) - Single or High Stage (95F), btuh : 35000

SEER : 14.00

EER (A2) - Single or High Stage (95F) : 11.50

Heating Capacity (H12) - Single or High Stage (47F) : 34400

HSPF (Region IV) : 8.20

†"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.

AHRI
AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE
we make life better™

CERTIFICATE NO.: 132518520519674749

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Project Information

For: DWC Construction
Thornwood Lot 21, Fla

Cooling Equipment

Design Conditions

Outdoor design DB:	91.9°F	Sensible gain:	28035	Btuh	Entering coil DB:	78.0°F
Outdoor design WB:	76.2°F	Latent gain:	4835	Btuh	Entering coil WB:	63.9°F
Indoor design DB:	75.0°F	Total gain:	32870	Btuh		
Indoor RH:	50%	Estimated airflow:	1220	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
Manufacturer: Trane Model: 4TWR4036G1+TEM3A0C36S41++TDR

Actual airflow:	1220	cfm		
Sensible capacity:	29280	Btuh	104% of load	
Latent capacity:	7320	Btuh	151% of load	
Total capacity:	36600	Btuh	111% of load	SHR: 80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.0°F	Heat loss:	33629	Btuh	Entering coil DB:	66.6°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
Manufacturer: Trane Model: 4TWR4036G1+TEM3A0C36S41++TDR

Actual airflow:	1220	cfm			
Output capacity:	34200	Btuh	102% of load	Capacity balance:	33 °F
Supplemental heat required:	0	Btuh		Economic balance:	-99 °F

Backup equipment type: Elec strip
Manufacturer: n/a Model:

Actual airflow:	1220	cfm			
Output capacity:	6.6	kW	67% of load	Temp. rise:	25 °F

Meets all requirements of ACCA Manual S.

Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form RPER 1 15 Mar 09

Header Information

Contractor: Air Ducks Heating & Air, Inc.

Mechanical license:

Building plan #:

Home address (Street or Lot#, Block, Subdivision): Thornwood Lot 21, Entire House

REQUIRED ATTACHMENTS	ATTACHED
Manual J1 Form (and supporting worksheets):	Yes ☐ No ☐
or MJ1AE Form* (and supporting worksheets):	Yes ☐ No ☐
OEM performance data (heating, cooling, blower):	Yes ☐ No ☐
Manual D Friction Rate Worksheet:	Yes ☐ No ☐
Duct distribution sketch:	Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature:	33 °F
Indoor temperature:	68 °F
Total heat loss:	33629 Btuh

Summer Design Conditions

Outdoor temperature:	92 °F
Indoor temperature:	75 °F
Grains difference:	47 gr/lb @50% RH
Sensible heat gain:	28932 Btuh
Latent heat gain:	4990 Btuh
Total heat gain:	33922 Btuh

Building Construction Information

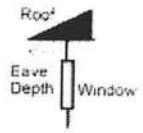
Building

Orientation: Front Door faces North
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms:	0
Conditioned floor area:	1843 ft²
Number of occupants:	5

Windows

Eave overhang depth:	0 ft
Internal shade: (Blinds, drapes, etc.)	blinds
Number of skylights:	0



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: (Furnace, Heat pump, Boiler, etc.)	Split ASHP
Model:	Trane 4TWR4036G1+TEM3A0C36S41++TDR
Heating output capacity: (Heat pumps - capacity at winter design outdoor conditions)	0 Btuh
Aux. heating output capacity:	22460 Btuh

Cooling Equipment Data

Equipment type: (Air Conditioner, Heat pump, etc.)	Split ASHP
Model:	Trane 4TWR4036G1+TEM3A0C36S41++TDR
Total cooling capacity:	0 Btuh
Sensible cooling capacity:	0 Btuh
Latent cooling capacity:	0 Btuh

Blower Data

Heating cfm:	1220
Cooling cfm:	1220
Static pressure: (Fan's rated external static pressure for design airflow)	0.50 in H2O

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow:	1220 cfm
Equipment design ESP:	0.50 in H2O
Total device pressure losses:	0 in H2O
Available static pressure (ASP):	0.50 in H2O

Longest supply duct:	418 ft
Longest return duct:	97 ft
Total effective length (TEL):	515 ft
Friction rate: (Friction Rate = ASP ÷ (TEL x 100))	0.097 in/100ft

Duct Materials Used

Trunk duct:	Fiberglass board
Branch duct:	Round flex vinyl

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: _____

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Moisture difference (gr/lb)	29	47

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

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Make	Trane
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Model	4TWR4036G1
AHRI ref	10344969

Efficiency	8.5 HSPF	
Heating input		
Heating output	34200	Btuh @ 47°F
Temperature rise	26	°F
Actual air flow	1220	cfm
Air flow factor	0.036	cfm/Btuh
Static pressure	0.50	in H2O
Space thermostat		

Capacity balance point = 33 °F

Backup: n/a
Input = 7 kW, Output = 22460 Btuh, 100 AFUE

COOLING EQUIPMENT

Make	Trane
Trade	TRANE
Cond	4TWR4036G1
Coil	TEM3A0C36S41++TDR
AHRI ref	10344969

Efficiency	11.5 EER, 14 SEER	
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Actual air flow	1220	cfm
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Static pressure	0.50	in H2O
Load sensible heat ratio	0.85	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Master	316	7873	6299	286	274
Wic 1	48	927	415	34	18
wc	40	58	100	2	4
Master bath	215	4005	2036	145	89
living	449	7161	8031	260	349
kitchen/dining	243	2168	3508	79	153
bed 2	156	4573	2161	166	94
bath	54	1346	1682	49	73
bed 3	168	2149	937	78	41
hall	18	0	0	0	0
wic	42	1751	1689	64	74
Pantry	42	0	0	0	0
laundry	70	1617	1176	59	51

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

Entire House Other equip loads Equip. @ 0.97 RSM Latent cooling	d	1861	33629 0	28035 0 27166 4835	1220	1220
TOTALS		1861	33629	32001	1220	1220

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

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Entire House
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By:

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Project Information

For: DWC Construction
Thornwood Lot 21, Fla

Notes:

Design Information

Weather: Gainesville Rgnl, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	47 gr/lb

Heating Summary

Structure	25863 Btuh
Ducts	7766 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	33629 Btuh

Sensible Cooling Equipment Load Sizing

Structure	17962 Btuh
Ducts	10073 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	27166 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	1843	1843
Volume (ft³)	16207	16207
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	103	54

Latent Cooling Equipment Load Sizing

Structure	2713 Btuh
Ducts	2122 Btuh
Central vent (0 cfm) (none)	0 Btuh
Equipment latent load	4835 Btuh
Equipment Total Load (Sen+Lat)	32001 Btuh
Req. total capacity at 0.80 SHR	2.8 ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR4036G1
AHRI ref	10344969

Efficiency	8.5 HSPF
Heating input	
Heating output	34200 Btuh @ 47°F
Temperature rise	26 °F
Actual air flow	1220 cfm
Air flow factor	0.036 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	

Capacity balance point = 33 °F

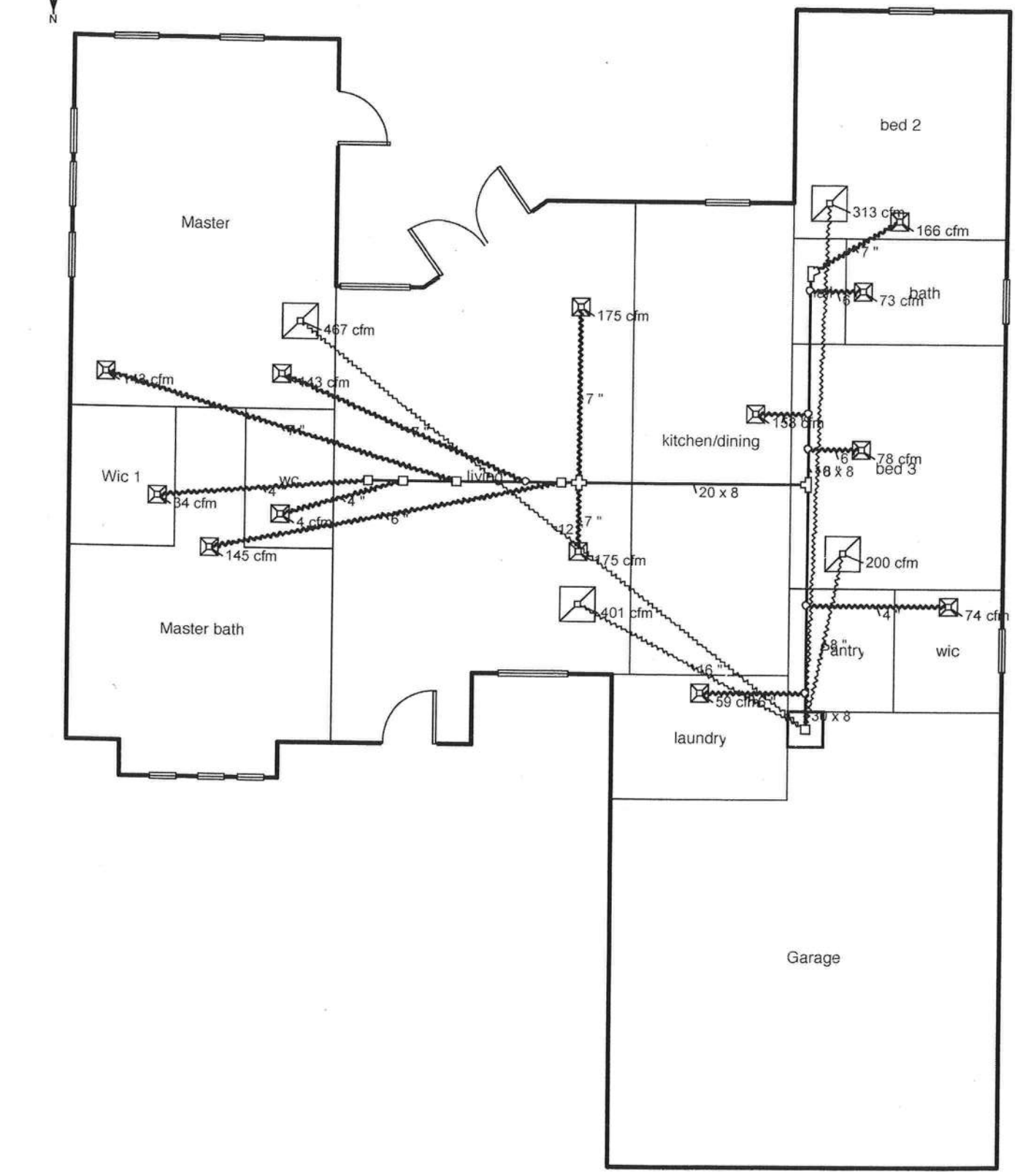
Backup: n/a
Input = 7 kW, Output = 22460 Btuh, 100 AFUE

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR4036G1
Coil	TEM3A0C36S41++TDR
AHRI ref	10344969
Efficiency	11.5 EER, 14 SEER
Sensible cooling	29280 Btuh
Latent cooling	7320 Btuh
Total cooling	36600 Btuh
Actual air flow	1220 cfm
Air flow factor	0.044 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.85

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

Level 1



Job #: **Performed for:** DWC Construction Thornwood Lot 21 Fla	**Air Ducks Heating & Air, Inc.** 2601 NW 76th Ave Gainesville, Fla 32653 Phone: 352-215-4624 Airducksac.com Airducksac@gmail.com	Scale: 1 : 96 Page 1 Right-Suite® Universal 2019 19.0.21 RSU23127 2021-Apr-21 12:59:44 ... HVAC\DWC lot 25 thorne wood.ru

wrightsoft

Duct System Summary

Entire House

Air Ducks Heating & Air, Inc.

Job:
Date: Dec 07, 2020
By:

2601 NW 76th Ave, Gainesville, Fla 32653 Phone: 352-215-4624 Email: Airducksac@gmail.com Web: Airducksac.com

Project Information

For: DWC Construction
Thornwood Lot 21, Fla

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.50 in H2O	0.50 in H2O
Supply / return available pressure	0.406 / 0.094 in H2O	0.406 / 0.094 in H2O
Lowest friction rate	0.097 in/100ft	0.097 in/100ft
Actual air flow	1220 cfm	1220 cfm
Total effective length (TEL)	515 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
Master	h	3937	143	137	0.099	7.0	0x 0	VlFx	45.2	365.0	st3
Master bath	h	4005	145	89	0.097	6.0	0x 0	VlFx	48.4	370.0	st3
Master-A	h	3937	143	137	0.099	7.0	0x 0	VlFx	54.9	355.0	st3
Wic 1	h	927	34	18	0.105	4.0	0x 0	VlFx	51.0	335.0	st3
bath	c	1682	49	73	0.154	6.0	0x 0	VlFx	28.0	235.0	st2
bed 2	h	4573	166	94	0.201	7.0	0x 0	VlFx	31.8	170.0	st2
bed 3	h	2149	78	41	0.148	6.0	0x 0	VlFx	19.0	255.0	st2
kitchen/dining	c	3508	79	153	0.153	8.0	0x 0	VlFx	21.0	245.0	st2
laundry	h	1617	59	51	0.191	6.0	0x 0	VlFx	8.0	205.0	st1
living	c	4015	130	175	0.135	7.0	0x 0	VlFx	31.0	270.0	st3
living-A	c	4015	130	175	0.132	7.0	0x 0	VlFx	37.0	270.0	st3
wc	c	100	2	4	0.104	4.0	0x 0	VlFx	44.3	345.0	st3
wic	c	1689	64	74	0.184	4.0	0x 0	VlFx	15.0	205.0	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	1220	1220	0.097	732	15.7	8 x 30	RectFbg	
st3	Peak AVF	726	735	0.097	661	13.0	8 x 20	RectFbg	st1
st2	Peak AVF	371	361	0.148	668	9.3	8 x 10	RectFbg	st1

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
rb3	0x 0	200	165	70.2	0.134	573	8.0	0x 0		VlFx	
rb4	0x 0	313	187	90.0	0.105	898	8.0	0x 0		VlFx	
rb2	0x 0	257	401	74.8	0.126	287	16.0	0x 0		VlFx	
rb1	0x 0	449	467	97.0	0.097	595	12.0	0x 0		VlFx	

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Certificate of Product Ratings

AHRI Certified Reference Number : 201763659 Date : 12-07-2020 Model Status : Active

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

Series : XR14

Outdoor Unit Brand Name : TRANE

Outdoor Unit Model Number (Condenser or Single Package) : 4TWR4036G1

Indoor Unit Model Number (Evaporator and/or Air Handler) : TEM4A0B36S31+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 with Addendum 1, 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 (A2) - Single or High Stage (95F), btuh : 35000

SEER : 14.00

EER (A2) - Single or High Stage (95F) : 11.50

Heating Capacity (H12) - Single or High Stage (47F) : 34400

HSPF (Region IV) : 8.20

†"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.

CERTIFICATE VERIFICATION
The information for the model cited on this certificate can be verified at www.ahridirectory.org, click on "Verify Certificate" link and enter the AHRI Certified Reference Number and the date on which the certificate was issued, which is listed above, and the Certificate No., which is listed at bottom right.

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