

wrightsoft Project Summary Entire House Crystal Air & Water, Inc

Aug 27, 2024

6424 NW 18th Drive, Geinesville, FL 32653 Phone: 352-333 0460 Fax 352-378 7867 Ernalt info@orystatainwatercom Web: www.acpenguin.com License: CMC124554

Project Information

For:

Joyce Collins & William Braun, Owner Builder 471 SW Stewart Loop, Lake City, Fl 32024

Notes:



Design Information

Weather: Gainesville Rgnl, FL, US

Winter Design Conditions

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

Heating Summary

Structure	18336	Btuh
Ducts (R-6.0)	7470	Bluh
Central vent (0 cfm) (none)	0	Bluh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	25805	Btuh

Infiltration

Method Construction quality Fireplaces		Simplified Average 0
Area (ft²) Volume (ft³) Air changes/hour Equiv. AVF (cfm)	Heating 1860 16758 0.38 106	Cooling 1860 16758 0.20 56

Heating Equipment Summary

Make Trade Model AHRI ref	Trane TRANE 4TWR6036N1 209068075		
Efficiency Heating inp		7.5 H	ISPF2
Heating ou Temperatu Actual air flo Air flow fac Static press	tput re rise ow tor sure	35200 28 1153 0.045 0	Btuh @ 47°F °F cfm cfm/Btuh in H2O

Space thermostat Capacity balance point = 26 °F

Backup: Input = 7 kW, Output = 24328 Btuh, 100 AFUE

Summer Design Conditions

	92	°F
	75	°F
	17	°F
12.7	M	
	50	%
	47	gr/lb

Sensible Cooling Equipment Load Sizing

Structure Ducts (R-6.0)	13852 9744	
Central vent (0 cfm) (none)	0	Btuh
Blower	0	Btuh

Use manufacturer's data	r	1
Rate/swing multiplier	0.97	
Equipment sensible load	22864	Btuh

Latent Cooling Equipment Load Sizing

Laterit Cooling Equipme	IIL LUAU	SIZIII
Structure Ducts Central vent (0 cfm)	3572 2052 0	
(none) Equipment latent load	5624	Btuh
Equipment Total Load (Sen+Lat) Reg. total capacity at 0.75 SHR	28488 2.5	Btuh ton

Cooling Equipment Summary

iviake	Trane			
Trade	TRANE			
Cond	4TWR603	36N1		
Coil	TEM6A0B	30H21++TDR		
AHRI ref	20906807	5		
Efficiency		12.0 EER2, 16	SEER2	
Sensible co	olina		25950	Bluh
Latent cooli	na Č		8650	Btuh
Total cooling	1		34600	Btuh
Actual air flo	w		1153	cfm
Air flow fact			0.049	cfm/Btuh
Static press			0	in H2O
	ole heat ratio		0.81	7.55.77

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

Maka



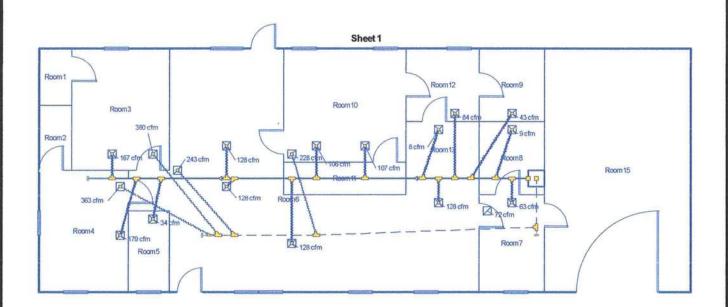
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Page 1





Job #: Performed for:

Joyce Collins & William Braun 471 SW Stewart Loop Lake City, FI 32024

Crystal Air & Water, Inc

6424 NW 18th Drive Gainesville, FL 32653 Phone: 352-333-0460 Fax: 352-378-7867 License: CMC1.. www.acpenguin.com info@crystalairwater.com Scale: 1: 138

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Manual S Compliance Report

Entire House

Crystal Air & Water, Inc.

Job:

Date: Aug 27, 2024

By:

6424 NW 18th Drive, Gainesville, FL 32663 Phone: 352-333-0460 Fax: 352-378-7867 Emait info@crystalairwatercom Web; www.acpenguin.com Liberse: CMC1249884

Project Information

For:

Joyce Collins & William Braun, Owner Builder 471 SW Stewart Loop, Lake City, Fl 32024

Cooling Equipment

Design Conditions

Outdoor design DB:	91.9°F	Sensible gain:	23596	Btuh	Entering coil DB:
Outdoor design WB:	76.2°F	Latent gain:	5624	Btuh	Entering coil WB:
Indoor design DB:	75.0°F	Total gain:	29220	Btuh	
Indoor RH:	50%	Estimated airflow:	1153	cfm	

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:

Split ASHP

Manufacturer:

Trane

Model: 4TVVR6036N1+TEM6A0B30H21++TDR

Actual airflow:

Total capacity:

1153 cfm

Sensible capacity: Latent capacity:

25950 Bluh

8650

110% of load Bluh 154% of load

34600 Btuh 118% of load SHR: 75%

Heating Equipment

Design Conditions

Outdoor design DB: Indoor design DB:

33.4°F 68.0°F Heat loss:

25805

Bluh

Entering coil DB:

66.6°F

78.0°F

64.0°F

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:

Split ASHP

Manufacturer:

Trane

Model: 4TWR6036N1+TEM6A0B30H21++TDR

Actual airflow:

1153 cfm

35200 Btuh

136% of load

26 °F

°F

Output capacity: Supplemental heat required:

Bluh 0

Economic balance: -99

Capacity balance:

Backup equipment type:

Elec strip

Manufacturer: Actual airflow:

Output capacity:

1153

7.1

cfm

kW 94% of load

Model:

Temp. rise:

50 °F

Meets all requirements of ACCA Manual S.

+ wrightsoft® ACCA R:\Wightsofttackleboxpaul.rup Cab = MJ8 Front Doorfaces: N

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2024 Sep-16 08:55:57

Page 1



wrightsoft Duct System Summary **Entire House**

Crystal Air & Water, Inc

Job:

Date: Aug 27, 2024

By:

6424 NW 18th Drive, Gainesville, FL 32653 Phone: 352-333-0460 Fax 352-378-7867 Email info@crystalaiwatercom Web: www.acpenguin.com License: CMC1249384

Project Information

For:

Joyce Collins & William Braun, Owner Builder 471 SW Stewart Loop, Lake City, FI 32024

External static pressure Pressure losses Available static pressure Supply / return available pressure Lowest friction rate Actual air flow Total effective length (TEL)

Heating 0 in H2O 0 in H2O 0 in H2O 0.000 / 0.000 in H2O 0 in/100ft 1153 cfm

Cooling 0 in H2O 0 in H2O 0 in H2O 0.000/0.000 in H2O 0 in/100ft 1153 cfm

1413 ft

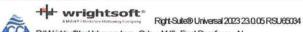
Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	HxW (in)	Duct Matl	Actual Ln (ft)	Ptg.Eqv Ln (ft)	Trunk
Room10	С	2179	64	107	0	0	0x 0	VIFx	24.0	570.0	st1A
Room10A	C	2179	64	106	0	0	0x 0	VIFx	30.0	635.0	st1A
Room12	C	1721	55	84	0	0	0x 0	VIFx	17.0	355.0	st1
Room13	С	167	8	8	0	0	0x 0	VIFx	19.3	485.0	st1
Room3	h	1817	167	89	0	0	0x 0	VIFx	54.0	1045	st1B
Room4	h	3377	179	165	0	0	0x 0	VIFx	55.3	980.0	st1B
Room5	h	362	34	18	0	0	0x 0	VIFx	50.1	915.0	st1B
Room6	C	2628	117	128	0	0	0x 0	VIFx	37.4	765.0	st1A
Room6A	C	2628	117	128	0	0	0x 0	VIFx	41.0	830.0	st1A
Room6B	С	2628	117	128	0	0	0x 0	VIFx	37.0	700.0	st1A
Room6-C	C	2628	117	128	0	0	0x 0	VIFx	14.0	420.0	st1
Room7	h	783	63	38	0	0	0x 0	VIFx	5.0	160.0	st1
Room8	C	182	9	9	0	0	0x 0	VIFx	10.3	225.0	st1
Room9	h	317	43	15	0	0	0x 0	VIFx	16.4	290.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	HxW (in)	Duct Material	Trunk
st1B	Peak AVF	380	272	0	0	0	12 x 0	RectFbg	st1A
st1A	Peak AVF	858	870	0	0	0	12 x 0	RectFbg	st1
st1	Peak AVF	1153	1153	0	0	0	12 x 0	RectFbg	

Bold/italic values have been manually overridden



Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	HxV (in)	I	Stud/Joist Opening (in)	Duct Matl	Trunk
rb4	0x 0	297	363	313.5	0	0	0	0x	0		VIFx	rt2
rb6	0x 0	188	243	218.6	0	0	0	0x	0		VIFx	rt2
rb1	0x 0	380	272	247.8	0	0	0	0x	0		VIFx	rt2
rb8	0x 0	215	228	198.5	0	0	0	Ox	0		VIFx	rt2
rb7	0x 0	72	47	0	0	0	0	0x	0		VIFx	DELTE:

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	HxW (in)	Duct Material	Trunk
rt2 rt1	Peak AVF Peak AVF	1081 1081	1106 1106	0	0	0	12 x 0 12 x 0	RectFbg RectFbg	rt1



ENERGY STAR Single-Family New Homes National HVAC Design Report, Version 3 / 3.1 /3.2 (Rev. 12)

Complete elevation different Obtain elevation e	lesigner Responsibilities: e one National HVAC Design Report for each n, option, orientation, & county) of the home to l elevations, options, and/or orientations). Visit fficiency features (e.g., window performance, the completed National HVAC Design Report	be certified or for a p www.energystar.go insulation levels, a	plan that is i whewhome nd infiltration	intended to be buil eshvacdesign and in rate) from the bu	t with differ I see Footn uilder or Ra	ent configuration ote 2 for more in ter. ³	ns (i.e.,				
1. Desig	n Overview		21 0719								
1.3 Name 1.4 Area th 1.5 Is cool 1.6 House	which party you are providing these design so of company you are providing these design so nat system serves: Whole-hous ing system for a temporary occupant load?	ervices to (if differe e	nt than Item er-level eck boxto ir	signer company. Builder 1.1.1): Lowe Yes Indicate whether the	r-level ■ No ne system o	Air & Water, Indoor Owner Builder Otho design is site-sponging	Cred r er secific or par		Date: Aug: AC contractor	27, 2024	
	ing Unit Mechanical Ventilation System									Designer Verified	
Airflow:						NO MARKETAN			Wall grade		
	21 Ventilation airflow design rate & run-time	e meet the requirem	ents of AS	HRAE 622-2010	or later						
	22 Ventilation airflow rate required by 622 f		tem:	0	CFM					-	
	23 Design for this system: Vent. airflow rate): 	CFM R	tun-time per cycle		0 minutes	Cycletin	ne:	0 minutes	-	
System 7	Type & Controls:		saleton of						PER COLUMN		
		upply Exh	aust	■ Balanced							
	25 Specified control location:					(e.g., Ma	aster bath, ut	ilityroom)			
	26 Specified controls allow the system to o	The same of the sa	-			T 11671 6 P					
2.7 Specified controls include a readily-accessible ventilation override and a label has also been specified if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment).											
2.8 For any outdoor air inlet designed to connect to a ducted return of the HVAC system, specified control sautomatically restrict airflow using a motorized damper during ventilation off-cycle and occupant override.											
Sound:	29 The fan of the specified system is rated	≤3 sones if intermi	ttent and≤1	1 sone if continuo	us, or exem	pted					
Efficiency											
	2.10 If Vent System controller operates the I 4.7 is ECM/ICM or the controls will reduce	-IVAC fan, then HV the run-time by acc	AC fan ope ounting for	eration is intermitte HVAC system he	ent and eith eating or co	er the fan type ir oling hours.	n Item				
_	2.11 If bathroom fans are specified as part of										
Air Inlet L										□ N/A	
	2.12 Inlet pulls ventilation air directly from ou										
	213 Inlet is ≥ 2 ft. above grade or roof deck; stack, vent, exhaust, vehicles) not exiting the					ion sources (e.	g., 				
3. Room	n-by-Room Heating & Cooling Load										
		UnabridgedACC/			013ASHR	AE Fundamen	tals	☐ Other	perAHJ		
	design temperatures used in loads are 70°F f										
	or design temperatures used in loads: (See Fo	ootnote 17 and ener Alachua, FL	gystar.gov/r			92°F	Llastina		33°F	•	
	ounly & State, or US Territory, selected: er of occupants used in loads:	9		Cooling sea	ASOTI.	32 F	Heating:	season.	30.1		
	ioned floor area used in loads:	3			1860 Sq.	F#					
	warea used in loads:				172 Sq.						
	minant window SHGC used in loads:	0.57			THE OQ.						
	on rate used in loads:	Summer: 0.2	20			Winter:	0.38			-	
3.9 Mechanical ventilation rate used in loads: 0.20 VVIII.e. 0.30											
Loads At Design Conditions (kBtuh) N NE E SE S SW W NW											
	3.10 Sensible heat gain (By orientation)	229	25.9	26.7	25.7	229	25.2	26.0	25.4	15 .	
Cooling	3.11 Latent heat gain (Not by orientation)	5.6								-	
00011189	3.12 Total heat gain (By orientation)	28.5	31.6	324	31.4	28.5	30.8	31.6	31.1	-	
	3.13 Maximum-minimum total heat gain (the		entations =		3.9	kBtuh	Vari	iation is≤6k	Bluh		
Heating	3.14 Total heat loss (Not by orientation)	25.8								-	



ENERGY STAR Single-Family New Homes National HVAC Design Report, Version 3 / 3.1 / 3.2 (Rev. 12)

All Equipment develop praCACA Minusur Signer Forbriale 25 & 29).	4. F	leating & Cooling Equip	ment Selection		LANGERO KON LEMBOR DE LO							Designer Verified
Alt Conditioner / Heat Pump Complete if ar conditioner or next pump will be installed, otherwise check: NUA?) NA	4.1 E	quipment selected perACCA	A Manual S (see Footno	te 25 & 2	6).							
Cooling on Hospital Cooling on Having Cooling on Having Hard Further Cooling & Healing Heating Heati	7770000					oe install	ed: otherwise	e chec	("N/A")			□ N/A
4-3 Condenser remulationer & model: Traine-of-WR0020N1	_										T	-
44-Bappentor/finacell municidature & mode:												-
ASAHER listed efficiency 12	-			Tran	eTEM6A0B30H21++TDR							
46AHTR Best efficiency 12 16 EER/SEER Air source heat pump; 75 HSPF Ground-source heat pump; COP -47Exeparator frainger; PSC ECM/IOM Coherance Comparison Comparison Coherance											\neg	-
47 Exponents familype:				/SEED	Air course heat ou man	75	Hebe (mund e	ou mo hoat r	name. C	OP	
48 Compressor type:							HOFF C	NOUI KE	source riear	Allip. C	,OF	
49 Jack capacity at design conditions, from CEM expanded performance date:							coard				-	-
410 Sensible capacity at design conditions, from OEM expanded performance date: 411 Total capacity at design conditions, from OEM expanded performance date: 412 All includes purpopage pick A17 FE; 22 kBuh A147 F; 352 kBuh DNA						J variable	-speed			O LDL 6	-	
411 Table capacity at design conditions, from CEM expanded performance date:												
412Air Source heat pump capacity											-	
4.13 Cooling sizing % = Total capacity (tern 4.11) divided by maximum total heat gain (tern 3.12): 4.14 Corongete this term from the formation is Climate will be used to select sizing limit in tern 4.15 Otherwise, check "TWA": # 1.41 Corongete this term from the control of Climate will be used to select sizing limit in tern 4.15 Otherwise, check "TWA": # 1.41 Corongete this term from the control of the c						2012						-
4.14 Complete this item! Condition B Climate will be used to select sizing limit in tem 4.15 Otherwise, check "NA": 4.14.11 Load sensibility heat ratio = Max sensible heat gain (tem 3.10). Max both heat gain (tem 3.12) = 63% - 4.14.21.00 / COD ratio (vibility cheen guestrough-woodsgirptemps to determine this value for the design location) = 0.2 - 4.15 Check back applicable cooling sizing limit from chart below. Eq. (tem 4.12) & Compressor Type (Per Item 4.2) & Compressor Type (Per Item 4					7112 112 1		7°F: 352			□NA		
4.14 Load sensible heat ratio = Max sensible heat gain (lemn 3.10) / Max bold heat gain (lemn 3.12)	_							0	%			-
412-HDD / CDD ratio (Visit energy-stargouth-accessing temps to determine this value for the design location)	4.14	Complete this Item if Conditio	n B Climate will be used	ito selec	t sizing limit in Item 4.15. Othe	erwise, ch	eck "N/A":			N/A		_
A SC Check box of applicable cooling sizing limit from chart below. Compressor Type (Per Item 48)		4.14.1 Load sensible heat ra	atio = Max. sensible hea	tgain (Ite	m 3.10)/Max total heat gain ((Item 3.12)	1		=	83%		-
415Check bax of applicable cooling sizing limit from chart below. Compressor Type (Per liem 42) & Compressor Type (Per liem 42) & Two Speed Variable Speed			CONTRACTOR OF THE PARTY OF THE		Name and Address of the Owner, where the Owner, which is the Owner, which				=	0.2		
Equipment Type (Per Item 42) 8 Single-Speed Two-Speed Variable-Speed Variable-Spe	4.15											-
Climate Condition (Per tiem 414)						Co	moressor Type	(Per Ite	m48)			
Recommended: 90—130% Recommended: 90—130% Recommended: 90—130% Allowed: 90—160%					Single-Speed	T				Varia	ble-Spe	ed
For Cooling Mode of Heat Pump in Condition Ad Climate 20 – 140% Allowed 50 – 140% power 50 – 140% Allowed 50 – 140% power 50 – 140	-					1					-	Carlotte Communication
Contribin A Climate				Re								
For Cooling Mode of Heat Pumpin			" -		Allowed: 90-130%	-	Allowe	t:90-1	40%	All	owed: 9	0-160%
### AFLOS Colling sizing % (4.13) is within cooling sizing limit (4.15)	For	Cooling Mode of Heat Pumpi	n	90	% - 100%, plus 15 kBtuh		90% - 100%	6, plus	15kBtuh	□ 90%-	100%, p	olus 15 kBtuh
Name	1000000	HERT AND CHANGE HOLD	hin cooling cizing limit //	115				-				
A17Furnace manufacturer & model:				_	LL (A LIA II)		me free to the	rus en	NAME OF STREET		5555	THE RESERVE THE PERSON NAMED IN
AFUE			the state of the s	otnerwi	se check "N/A")							III N/A
4.19 Total capacity.			DEI:				-					-
420 Heating sizing % = Total capacity (Item 4.19) divided by total heat loss (Item 3.14);						上						
421 Check box of applicable heating sizing limit from chart below: When Used for Heating Only		ACTION AND DESCRIPTION AND DES										
When Used for Heating Only					at loss (Item 3.14):		0%					
100-140%	421			t below:								-
### A22Heating sizing % (420) is within heating sizing limit (421) 5. Duct Design (Complete if heating or cooling equipment will be installed with ducts; otherwise check "N/A") N/A 5.1 Duct system designed for the equipment selected in Section 4, per ACCA Manual D 5.2 Design HV/AC fan airflow: Cooling mode 1153 CFM Heating mode Medium -		When Used for	or Heating Only				When	Paired	With Coolin	g		
5. Duct Design (Complete if heating or cooling equipment will be installed with ducts; otherwise check "N/A") □ N/A 5.1 Duct system designed for the equipment selected in Section 4, per ACCA Manual D □ N/A 5.2 Design HVAC fan airflow. Cooling mode 1153 CFM Heating mode 1153 CFM 5.4 Design Int/AC fan speed setting (e.g., low, medium, high): Cooling mode Medium Heating mode Medium - 5.4 Design Int/AC fan speed setting (e.g., low, medium, high): Cooling mode Medium Heating mode Medium - 5.4 Design Int/AC fan speed setting (e.g., low, medium, high): Cooling mode Medium Heating mode Medium - 5.4 Design Airflow (corresponding to the mode with the higher airflow in Item 52): 0 IVC - - 5.5 Room-by-room design airflows obcumented below (which must sum to the mode with the higher airflow in Item 52): Room Name Design Airflow (CFM) Room Name Design Airflow (CFM) COFM) Room Name Design Airflow (CFM) COFM) COFM) COFM) Posign Airflow (CFM) COFM) COFM) COFM) COFM) COFM) COFM) COFM) COFM) COFM)		□ 10	0-140%		1		Recommend	ed: 100-	-140% Allow	wed: 100-400%		
5.1 Duct system designed for the equipment selected in Section 4, per ACCA Manual D 5.2 Design HVAC fan airflow:	422	Heating sizing % (4.20) is with	hin heating sizing limit (4	1.21)								
5.1 Duct system designed for the equipment selected in Section 4, per ACCA Manual D 5.2 Design HVAC fan airflow:	5. D	ouct Design (Complete	e if heating or coolin	g equip	ment will be installed with	n ducts;	otherwise ch	eck "N	/A")			□ N/A
S2 Design HVAC fan airflow: Cooling mode 1153 CFM Heating mode Medium S2 Design total external static pressure (corresponding to the mode with the higher airflow in Item 52): UNC S5 Room-by-room design airflows documented below (which must sum to the mode with the higher airflow in Item 52): UNC S5 Room Name Design Airflow (CFM) Room Name Design Airflow (CFM) Page 1	5.1 [Ouct system designed for the e	equipment selected in S	ection 4,	perACCA Manual D							
S3 Design HVAC fan speed setting (e.g., low, medium, high): Cooling mode Medium Heating mode Medium -						xde	1153 CFM	1	Heating mod	le 1153 CFM	ı İ	-
5.4 Design total external static pressure (corresponding to the mode with the higher airflow in Item 5.2): 5.5 Room-by-room design airflows documented below (which must sum to the mode with the higher airflow in Item 5.2): Room Name DesignAirflow (CFM) Room Name DesignAirflow (CFM			na (e.a., low, medium hid	ah):								
S5 Room-by-room design airflows documented below (which must sum to the mode with the higher airflow in Item 52) Room Name		•			77.			=9			ł	-
Room Name DesignAirflow (CFM) Room Name DesignAirflow (CFM) Room Name DesignAirflow (CFM) 1 Room1 0 12 Room8 9 23 2 Room10 213 13 Room9 15 24 3 Room11 0 14 25 4 Room12 84 15 26 5 Room13 8 16 27 6 Room2 0 17 28 7 Room3 89 18 29 8 Room4 165 19 30 9 Room6 514 21 32							vin Item 52)		31		ŀ	
1 Room1 0 12 Room8 9 23 2 Room10 213 13 Room9 15 24 3 Room11 0 14 25 4 Room12 84 15 26 5 Room13 8 16 27 6 Room2 0 17 28 7 Room3 89 18 29 8 Room4 165 19 30 9 Room6 514 21 32			DesignAirflow			Desi	ignAirflow	Roc	m Name		De	esignAirflow
2 Room10 213 13 Room9 15 24 3 Room11 0 14 25 4 Room12 84 15 26 5 Room13 8 16 27 6 Room2 0 17 28 7 Room3 89 18 29 8 Room4 165 19 30 9 Room5 18 20 31 10 Room6 514 21 32	1	Room1		12	Room8	 '		23	Ι			(OI IVI)
3 Room11 0 14 25 4 Room12 84 15 26 5 Room13 8 16 27 6 Room2 0 17 28 7 Room3 89 18 29 8 Room4 165 19 30 9 Room5 18 20 31 10 Room6 514 21 32					350.00			-				
4 Room12 84 15 26 5 Room13 8 16 27 6 Room2 0 17 28 7 Room3 89 18 29 8 Room4 165 19 30 9 Room5 18 20 31 10 Room6 514 21 32		A STATE OF THE STA		_	TOOTIO	-	13					
5 Room13 8 16 27 6 Room2 0 17 28 7 Room3 89 18 29 8 Room4 165 19 30 9 Room5 18 20 31 10 Room6 514 21 32				_		-						
6 Room2 0 17 28 28 7 Room3 89 18 29 8 Room4 165 19 30 9 Room5 18 20 31 10 Room6 514 21 32	_											
7 Room3 89 18 29 8 Room4 165 19 30 9 Room5 18 20 31 10 Room6 514 21 32				_								
8 Room4 165 19 30 9 Room5 18 20 31 10 Room6 514 21 32				_				_				
9 Room5 18 20 31 10 Room6 514 21 32	_	1 11 11 11 11 11 11 11 11 11 11 11 11 1	Character and the second secon									
10 Room6 514 21 32	8			_				_				
	9	Room5	18	20				31				
11 Room7 38 22 Total for all rooms 1153	10	Room6	514	21				32				
	11	Room7	38	22					Total for al	rooms		1153



ENERGY STAR Single-Family New Homes National HVAC Design Report, Version 3 / 3.1 /3.2 (Rev. 12)

Complete elevation differente Obtain e Provide f	Designer Responsibilities: e one National HVAC Design Report for ea n, option, orientation, & county) of the home relevations, options, and/or orientations). Vi fficiency features (e.g., window performan the completed National HVAC Design Rep	to be certified or sit www.energys ce, insulation lev	for a planth star.gov/newl vels, and infit	at is intende nomeshvac tration rate)	ed to be bui design and from the b	t with different I see Footno uilder or Rat	ent configuration de 2 for more in er. ³	ns (i.e.,			
1. Desig	n Overview		over meet								Verificati(ee) De
1.3 Name 1.4Area th 1.5 Is cool 1.6 House	twhich party you are providing these design of company you are providing these design nat system serves: IN Whole-ho ling system for a temporary occupant load?	n services to (if course) modeled:	3 Upper-leve	iltem 1.1):		r-level No ne system d	Air & Water, in or Owner Builder Oth esign is site-sponfiguration mo	□ Cred r er pecific or par		Date: Aug: AC contractor	27, 2024
	ing Unit Mechanical Ventilation Sys	tem Design ("Vent Svs	tem") & I	nlets in R	etum Duc	1				Designer Verified
Airflow:	and other moon and an amount of	aoin Deoign	voin 0 yo	will jai	now arriv	Cullingua					VOI BROOK
	2.1 Ventilation airflow design rate & run-ti	me meet the rec	uirements o	f ASHRAE	622-2010	orlater					
	22 Ventilation airflow rate required by 62					CFM					
	2.3 Design for this system: Vent. airflow r		CFM	Run-tim	e per cycle		0 minutes	Cycleti	me:	0 minutes	-
System	Type & Controls:					EN VENEZA EN LA			an Zhavay		
		Supply [] Exhaust		Balanced						-
	25 Specified control location:						(e.g., M	aster bath, u	tility room)		-
	26 Specified controls allow the system to	operate autom	atically, witho	outoccupan	nt intervention	n.					
	27 Specified controls include a readily-a	ccessible ventila	ation override	and a labe	has also l	peen specifi	ied if its functio	nisnot			
	obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment).										
	28 For any outdoor air inlet designed to c						olsautomatica	lly			
	restrict airflow using a motorized damper										1.565-15
Sound:	29 The fan of the specified system is rat	ed≤3sones if ii	ntermittent ar	nd≤1 sone	if continuo	us, or exemp	pted	green and the same			
Efficiency	2.10 If Vent System controller operates the 4.7 is ECM/ICM or the controls will redu							n Item			
	2.11 If bathroom fans are specified as pa	rt of the system,	then they are	ENERGY	STARce	rtified					
Air Inlet L	ocation: (Complete this section if sys	stem has a spec	ified air inlet	location; of	herwise ch	eck "N/A")					□ N/A
	2.12 Inlet pulls ventilation air directly from	outdoors and no	ot from attic, o	crawlspace	, garage, o	adjacent di	welling unit			T	
	213 Inlet is ≥2 ft. above grade or roof dec stack, vent, exhaust, vehicles) not exiting t						on sources (e.	g.,			
3. Roon	n-by-Room Heating & Cooling Loa	ads									
3.1 Room-	by-room loads calculated using:	Unabridged.	ACCA Manu	ual Jv8		013ASHR	AE Fundamen	tals	□ Other	perAHJ	
3.2 Indoor	design temperatures used in loads are 70°	F for heating an	d 75°F for co	poling							
Co	or design temperatures used in loads: (See ounty & State, or US Territory, selected:	Alachu		•	signtemps Cooling sea	•	92°F	Heating	season;	33°F	-
3.4 Number	er of occupants used in loads:	9									-
	ioned floor area used in loads:					1860 Sq. F					-
	w area used in loads:					172 Sq.F	-t				· -
	minant window SHGC used in loads:	0.57									
	ion rate used in loads:	Summer	: 0.20				Winter:	0.38			-
	nical ventilation rate used in loads:				- T	0 CFN		112200 H	galason.		•
Loads At	Design Conditions (kBtuh)			NE CO	E	SE	S	SW	W	NW	
	3.10 Sensible heat gain (By orientation)		29 2	5.9	26.7	25.7	229	25.2	26.0	25.4	
Cooling	3.11 Latent heat gain (Not by orientation)	5.6	(F A	10	20.4	04.3		000	0/2		•
	3.12 Total heat gain (By orientation)			1.6	324	31.4	28.5	30.8	31.6	31.1	
11-c	3.13 Maximum – minimum total heat gain		ss orientatio	ns=		3.9	kBluh	Var	iation is≤6k	Bluh	
Heating	3.14 Total heat loss (Not by orientation)	25.8									-



ENERGY STAR Single-Family New Homes National HVAC Design Report, Version 3 / 3.1 / 3.2 (Rev. 12)

4.1	leating & Cooling Equip	ment Selection									Designer Verified
	Equipment selected per ACC/		25&2	16).		-					
100000	Conditioner / Heat Pum	CONTRACTOR OF STREET OF ST		tioner or heat pump will t	ne install	ed otherwise	ched	("N/A")		ALVER ME	□ N/A
	Equipment type:			nly air conditioner or		oling & heating					-
	Condenser manufacturer & m			e 4TWR6036N1		9		7			-
	Evaporator/fan coil manufact		Tran	eTEM6A0B30H21++TDR						_	-
_		68075			-					_	
_		12 / 16 EER	SEER	Air-source heat pump	7.5	HSPF C	munds	source heat p	umo: Co	OP	-
	Evaporator fan type:	□PSC			Other:	11011	100101	out ou i i comp	unp.		-
	Compressor type:	Single-speed] Variable	usneed	-				-
	atent capacity at design condi				- VOI IOLOIG	ороса			0 kBtuh		-
	Sensible capacity at design of								0 kBtuh		
	Total capacity at design condi								0 kBtuh	_	
	Air-source heat pump capaci		22		At 4	7°F: 352	kBtu	h	□ N/A	_	
_	Cooling sizing % = Total capa	A		7100 100 1		1. 002	0		LIVA	_	
	Complete this Item if Condition					ock "N/A",	-	70	■ N/A	_	
7.1				m 3.10)/Max total heat gain (83%	_	
_				ips to determine this value for	-		-		0.2	_	
440			_	ps to determine this value for	u ie desigi	nocatori)			0.2	_	
_	Check box of applicable cool	ing sizing limit from chan	below:			*	(D	400			-
	ipment Type (Per Item 4.2) & nate Condition (Per Item 4.14)			Cindo Consul	Co	mpressor Type		m 4.8)	17.51		
_				Single-Speed	-	Two-Sp	eea		Vanab	le-Speed	
For	Cooling-Only Equipment or Cooling Mode of Heat Pump i ditionA Climate	n 🗀	R	ecommended: 90-115% Allowed: 90-130%	Recommended: 90-120% Allowed: 90-140%			The second secon	9% Recommender Allowed: 9		
For	Cooling Mode of Heat Pump indition B Climate	n 🗆	90	% - 100%, plus 15 kBtuh		90% - 100%	6, plus 1	5kBtuh	□ 90%-1¢	00%, plus 1	5kBtuh
416	Cooling sizing % (4.13) is with	hin cooling sizing limit (4	15)								
-	nace (Complete if fuma			se check "N/A")	EE (25)	Algebra 7		SALVE STATE	Jan Harris Avida das	710000	■ N/A
_	Furnace manufacturer & mod		IL ICI VVI	se dieck IVA)							- IVA
	Listed efficiency:			AFL	IC						
_	Total capacity.			kBtuh	<i></i>						- -
_	Heating sizing % = Total capa	noity/floon 410) divided by	rintal ha	27.250.250.7		0%					
_	Check box of applicable heati		-	atioss (Re113.14).		076				_	
4.21	When Used for	THE RESIDENCE OF THE PARTY OF T	Delow.	7		\A/bon	Doired	With Cooling			
_		0-140%	_								
422	Heating sizing % (4.20) is with		241			Recommend	XI. 100-	- 140% Allow	red: 100-400%		
_											
	Ouct Design (Complete				ducts;	otherwise ch	eck "N	A*)			J NA
	Ouct system designed for the e	equipment selected in Se	ction 4,		20		7/2	10 12427 772			
	Design HVAC fan airflow:			Cooling mo		1153 CFM		Heating mode			•
	Design HVAC fan speed settir	57.0 17.0 DAG W 57.0	100	Cooling mo		dium		-leating mode			-
	Design total external static pres	50 B C C C		~				0 M	VC		-
	Room-by-room design airflows	The second contract of	T								
3253	m Name	DesignAirflow (CFM)		m Name		gnAirflow CFM)	7,000,000	m Name			Airflow FM)
1	Room1	0	12	Room8		9	23				
2	Room10	213	13	Room9		15	24				
3	Room11	0	14				25				
4	Room12	84	15				26				
5	Room13	8	16				27				
6	Room2	0	17				28				
7	Room3	89	18				29				
8	Room4	165	19				30				
9	Room5	18	20				31				-
10	Room6	514	21				32				
11	Room7	38	22			37/		Total for all	rooms		1153
		the second of the last second of the second of the second									