

Load Short Form

Entire House

New Age Dimensions, LLC.

Job: Janak Patel Addition
 Date: 7/20/2022
 By: Dakota Cross
 Plan: Manual J & 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	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	68	75	Construction quality	Average
Design TD (°F)	35	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	29	47		

HEATING EQUIPMENT

Make Trane
 Trade TRANE
 Model 4TWR6030H1
 AHRI ref 10153752

Efficiency 9 HSPF
 Heating input
 Heating output 27800 Btuh @ 47°F
 Temperature rise 25 °F
 Actual air flow 1000 cfm
 Air flow factor 0.046 cfm/Btuh
 Static pressure 0.51 in H2O
 Space thermostat
 Capacity balance point = 27 °F

Backup:

Input = 8 kW, Output = 27297 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Trane
 Trade TRANE
 Cond 4TWR6030H1
 Coil TEM8A0B30V31++TDR
 AHRI ref 10153752

Efficiency 13.0 EER, 16 SEER
 Sensible cooling 20020 Btuh
 Latent cooling 8580 Btuh
 Total cooling 28600 Btuh
 Actual air flow 1000 cfm
 Air flow factor 0.053 cfm/Btuh
 Static pressure 0.51 in H2O
 Load sensible heat ratio 0.77

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
1/2 Bath	29	763	258	35	14
Family Room	551	10020	9320	465	490
Mstr Bedroom	399	4898	6078	227	320
Mstr WIC	160	1894	1474	88	78
Tlt	26	1337	542	62	28
Mstr Bathrm	117	2618	1337	122	70

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



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...htsoft HVAC\Touchstone\Janak Patel Addition.rup Calc = MJ8 House Front faces: W

Entire House	1281	21531	19009	1000	1000
Other equip loads		0	1707		
Equip. @ 0.97 RSM			20094		
Latent cooling			6108		
TOTALS	1281	21531	26202	1000	1000

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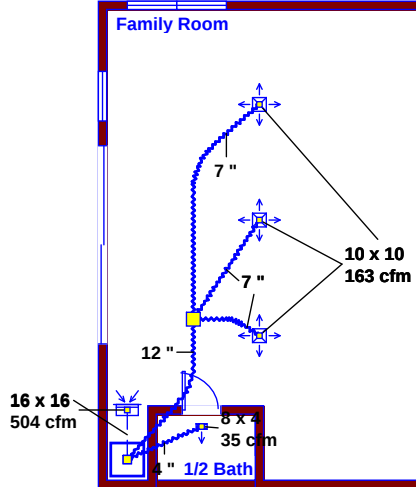
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Sheet 1

Existing
N.I.C.



**Job #: Janak Patel Addition
Performed by Dakota Cross for:**

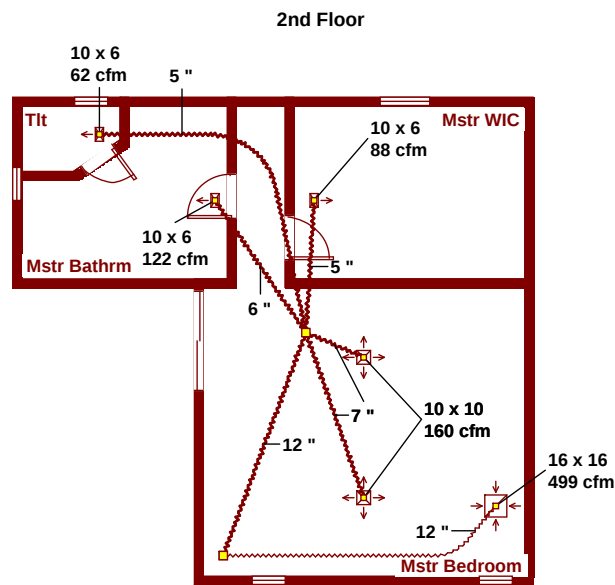
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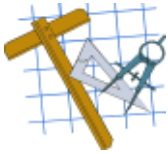
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Manual S Compliance Report

Entire House

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	20715	Btuh	Entering coil DB:	78.6°F
Outdoor design WB:	76.3°F	Latent gain:	6108	Btuh	Entering coil WB:	64.0°F
Indoor design DB:	75.0°F	Total gain:	26823	Btuh		
Indoor RH:	50%	Estimated airflow:	1000	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR6030H1+TEM8A0B30V31++TDR
Actual airflow:	1000	cfm	
Sensible capacity:	20020	Btuh	97% of load
Latent capacity:	8580	Btuh	140% of load
Total capacity:	28600	Btuh	107% of load SHR: 70%

Heating Equipment

Design Conditions

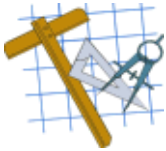
Outdoor design DB:	33.4°F	Heat loss:	21531	Btuh	Entering coil DB:	67.1°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR6030H1+TEM8A0B30V31++TDR
Actual airflow:	1000	cfm	
Output capacity:	27800	Btuh	129% of load
Supplemental heat required:	0	Btuh	
			Capacity balance: 27 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1000	cfm	
Output capacity:	8.0	kW	127% of load Temp. rise: 25 °F

Meets all requirements of ACCA Manual S.



Duct System Summary

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	Heating	Cooling
External static pressure	0.51 in H ₂ O	0.51 in H ₂ O
Pressure losses	0.18 in H ₂ O	0.18 in H ₂ O
Available static pressure	0.33 in H ₂ O	0.33 in H ₂ O
Supply / return available pressure	0.232 / 0.098 in H ₂ O	0.232 / 0.098 in H ₂ O
Lowest friction rate	0.880 in/100ft	0.880 in/100ft
Actual air flow	1000 cfm	1000 cfm
Total effective length (TEL)	280 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
1/2 Bath	h 763	35	14	0.880	4.0	0x0	VIFx	4.9	95.0	
Family Room	c 3107	155	163	0.880	7.0	0x0	VIFx	24.8	165.0	st1
Family Room-A	c 3106	155	163	0.880	7.0	0x0	VIFx	17.2	160.0	st1
Family Room-B	c 3106	155	163	0.880	7.0	0x0	VIFx	14.3	165.0	st1
Mstr Bathrm	h 2618	122	70	0.880	6.0	0x0	VIFx	24.1	155.0	st2
Mstr Bedroom	c 3039	114	160	0.880	7.0	0x0	VIFx	25.0	155.0	st2
Mstr Bedroom-A	c 3039	114	160	0.880	7.0	0x0	VIFx	18.2	155.0	st2
Mstr WIC	h 1894	88	78	0.880	5.0	0x0	VIFx	22.4	155.0	st2
Tlt	h 1337	62	28	0.880	5.0	0x0	VIFx	36.7	160.0	st2

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	465	490	0.880	624	12.0	0 x 0	VinIFlx	
st2	Peak AVF	499	496	0.880	636	12.0	0 x 0	VinIFlx	



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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
rb2	16x 14	499	496	82.9	0.880	636	12.0	0x 0		VIFx	
rb1	16x 15	501	504	63.0	0.880	283	12.0	16x 16		RtFg	