

Project Information

For: Mueller
232 Cedarwood Glen, Lake City, FL 32024

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	33	93	Method	Average
Inside db (°F)	70	75	Construction quality	
Design TD (°F)	37	18	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	32	46		

HEATING EQUIPMENT

Make Goodman Mfg.
Trade GOODMAN
Model GSZ140491K
AHRI ref 201680223

Efficiency 8.5 HSPF

Heating input
Heating output 46000 Btuh @ 47°F
Temperature rise 0 °F
Actual air flow 0 cfm
Air flow factor 0 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 27 °F

COOLING EQUIPMENT

Make Goodman Mfg.
Trade GOODMAN
Cond GSZ140491K
Coil ARUF49D14A
AHRI ref 201680223

Efficiency 11.5 EER, 14 SEER

Sensible cooling 30800 Btuh
Latent cooling 13200 Btuh
Total cooling 44000 Btuh
Actual air flow 1467 cfm
Air flow factor 0.042 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.87

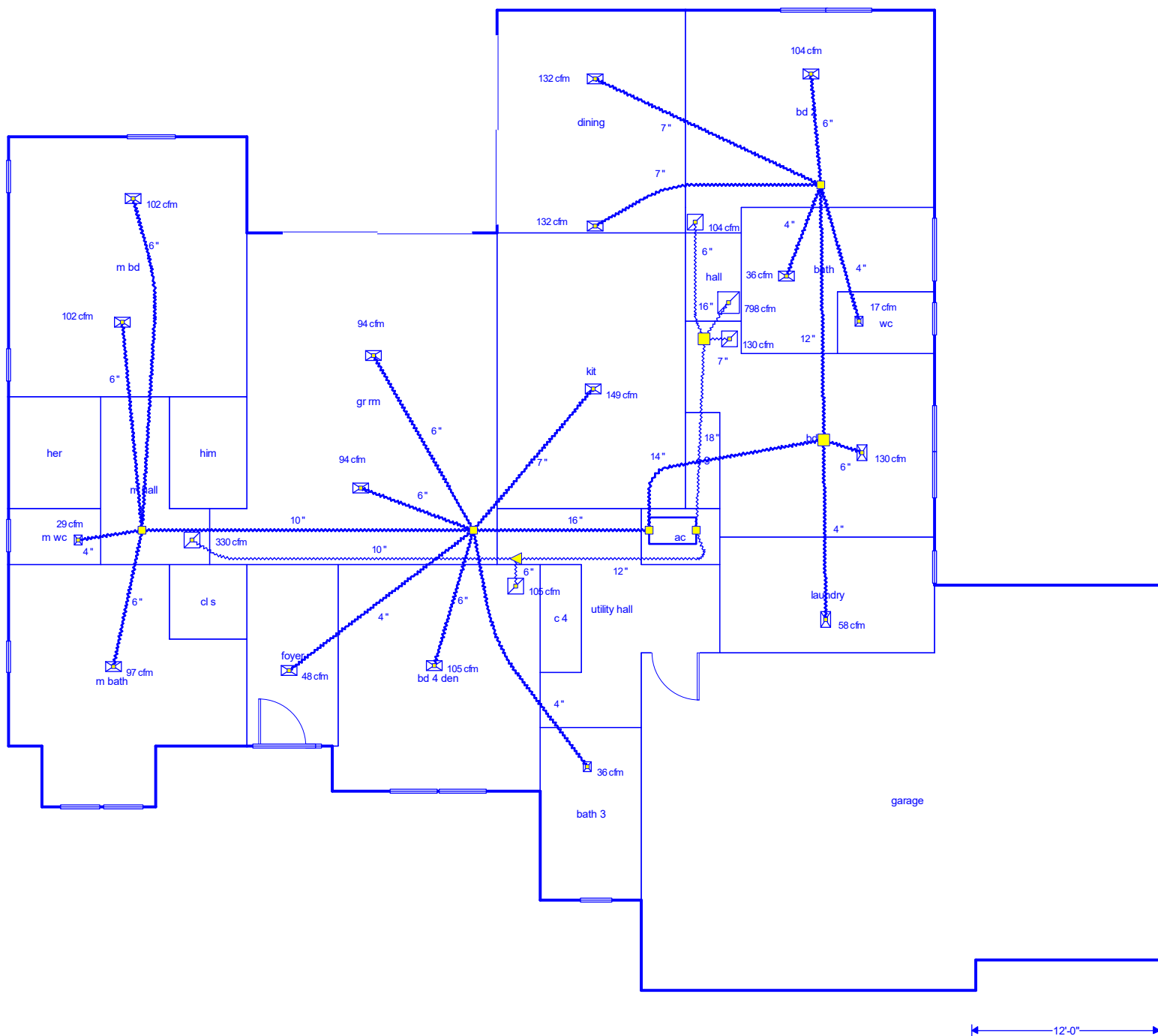
ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
foyer	67	1410	1142	0	48
bd 4 den	187	2662	2475	0	105
c 4	18	0	0	0	0
cl s	23	0	0	0	0
m bath	180	4493	2280	0	97
m wc	21	930	692	0	29
her	42	0	0	0	0
him	35	0	0	0	0
m bd	252	5860	4805	0	204
gr rm	345	3750	4432	0	188
dining	170	4508	6225	0	264
bd 2	205	3964	2445	0	104
bath	90	776	859	0	36
wc	24	533	404	0	17

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

kit	211	400	3517	0	149
bd 3	176	2035	3068	0	130
c 3	13	0	0	0	0
ac	18	0	0	0	0
laundry	101	611	1359	0	58
hall	20	0	0	0	0
m hall	56	0	0	0	0
bath 3	71	1753	844	0	36
utility hall	110	0	0	0	0
Entire House	2436	33685	34548	0	1467
Other equip loads		0	0		
Equip. @ 1.00 RSM			34548		
Latent cooling			5158		
TOTALS	2436	33685	39706	0	1467

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





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Cooling Equipment

Design Conditions

Outdoor design DB:	93.4°F	Sensible gain:	34548	Btuh	Entering coil DB:	77.6°F
Outdoor design WB:	76.4°F	Latent gain:	5158	Btuh	Entering coil WB:	63.7°F
Indoor design DB:	75.0°F	Total gain:	39706	Btuh		
Indoor RH:	50%	Estimated airflow:	1467	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Goodman Mfg.	Model:	GSZ140491K+ARUF49D14A		
Actual airflow:	1467	cfm			
Sensible capacity:	36540	Btuh	106%	of load	
Latent capacity:	6773	Btuh	131%	of load	
Total capacity:	43313	Btuh	109%	SHR:	84%

Heating Equipment

Design Conditions

Outdoor design DB:	33.4°F	Heat loss:	33685	Btuh	Entering coil DB:	70.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Goodman Mfg.	Model:	GSZ140491K+ARUF49D14A		
Actual airflow:	0	cfm			
Output capacity:	46000	Btuh	137%	of load	
Supplemental heat required:	0	Btuh			
Capacity balance:			27	°F	
Economic balance:			-99	°F	

Meets all requirements of ACCA Manual S.



Duct System Summary

Entire House

Job:
Date: 05/03/2021
By: Donna Brackeen

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	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0.18 in H ₂ O	0.18 in H ₂ O
Available static pressure	0.32 in H ₂ O	0.32 in H ₂ O
Supply / return available pressure	0.205 / 0.115 in H ₂ O	0.205 / 0.115 in H ₂ O
Lowest friction rate	0.121 in/100ft	0.121 in/100ft
Actual air flow	0 cfm	1467 cfm
Total effective length (TEL)	264 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
bath	c 859	0	36	0.134	4.0	0x0	VIFx	37.6	115.0	st3
bath 3	c 844	0	36	0.166	4.0	0x0	VIFx	28.4	95.0	st2
bd 2	c 2445	0	104	0.133	6.0	0x0	VIFx	38.4	115.0	st3
bd 3	c 3068	0	130	0.182	6.0	0x0	VIFx	17.7	95.0	st1
bd 4 den	c 2475	0	105	0.186	6.0	0x0	VIFx	20.2	90.0	st2
dining	c 3113	0	132	0.123	7.0	0x0	VIFx	46.4	120.0	st3
dining-A	c 3113	0	132	0.126	7.0	0x0	VIFx	47.2	115.0	st3
foyer	c 1142	0	48	0.176	4.0	0x0	VIFx	26.0	90.0	st2
gr rm	c 2216	0	94	0.179	6.0	0x0	VIFx	24.0	90.0	st2
gr rm-A	c 2216	0	94	0.188	6.0	0x0	VIFx	18.9	90.0	st2
kit	c 3517	0	149	0.181	7.0	0x0	VIFx	23.0	90.0	st2
laundry	c 1359	0	58	0.168	4.0	0x0	VIFx	26.5	95.0	st1
m bath	c 2280	0	97	0.135	6.0	0x0	VIFx	41.2	110.0	st4
m bd	c 2403	0	102	0.131	6.0	0x0	VIFx	45.6	110.0	st4
m bd-A	c 2403	0	102	0.121	6.0	0x0	VIFx	53.7	115.0	st4
m wc	c 692	0	29	0.140	4.0	0x0	VIFx	36.4	110.0	st4
wc	c 404	0	17	0.132	4.0	0x0	VIFx	40.4	115.0	st3



Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	0	422	0.123	537	12.0	0 x 0	VinIFlx	st1
st1	Peak AVF	0	610	0.123	570	14.0	0 x 0	VinIFlx	st2
st4	Peak AVF	0	330	0.121	606	10.0	0 x 0	VinIFlx	
st2	Peak AVF	0	857	0.121	614	16.0	0 x 0	VinIFlx	

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	0x 0	0	330	95.1	0.121	606	10.0	0x 0		VIFx	rt1
rb5	0x 0	0	105	70.9	0.163	535	6.0	0x 0		VIFx	rt1
rb3	0x 0	0	130	63.8	0.181	488	7.0	0x 0		VIFx	rt2
rb4	0x 0	0	104	79.8	0.145	529	6.0	0x 0		VIFx	rt2
rb1	0x 0	0	798	65.0	0.178	571	16.0	0x 0		VIFx	rt2

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	0	435	0.121	554	12.0	0 x 0	VinIFlx	
rt2	Peak AVF	0	1032	0.145	584	18.0	0 x 0	VinIFlx	