

**Project Summary**  
*Entire House*  
**Yates Heating**

Job:  
 Date: Mar 05, 2020  
 By:

OH 45385

**Project Information**

For: **Mcintire**  
 [REDACTED] Xenia, OH 45385

Notes: Frame Walls 2x6 R-23 Vinyl Siding, Ceiling R-60, Half Basement R-12, Crawlspace condition

**Design Information**

Weather: Dayton/James M Cox, OH, US

**Winter Design Conditions**

Outside db 1 °F  
 Inside db 74 °F  
 Design TD 73 °F

**Summer Design Conditions**

Outside db 89 °F  
 Inside db 70 °F  
 Design TD 19 °F  
 Daily range M  
 Relative humidity 50 %  
 Moisture difference 43 gr/lb

**Heating Summary**

Structure 28756 Btuh  
 Ducts 0 Btuh  
 Central vent (SER=50% 133 cfm) 5147 Btuh  
 Energy recovery  
 Humidification 0 Btuh  
 Piping 0 Btuh  
 Equipment load 33904 Btuh

**Sensible Cooling Equipment Load Sizing**

Structure 13042 Btuh  
 Ducts 0 Btuh  
 Central vent (SER=50% 133 cfm) 1340 Btuh  
 Energy recovery  
 Blower 0 Btuh  
 Use manufacturer's data n  
 Rate/swing multiplier 0.94  
 Equipment sensible load 13519 Btuh

**Infiltration**

Method Simplified  
 Construction quality Semi-tight  
 Fireplaces 0

**Latent Cooling Equipment Load Sizing**

Structure 1868 Btuh  
 Ducts 0 Btuh  
 Central vent (LER=50% 133 cfm) 1896 Btuh  
 Energy recovery  
 Equipment latent load 3764 Btuh  
 Equipment total load 17283 Btuh  
 Req. total capacity at 0.70 SHR 1.6 ton

	Heating	Cooling
Area (ft <sup>2</sup> )	3182	3182
Volume (ft <sup>3</sup> )	18263	18263
Air changes/hour	0.19	0.10
Equiv. AVF (cfm)	58	30

**Heating Equipment Summary**

Make  
 Trade  
 Model  
 AHRI ref  
 Efficiency 95 AFUE  
 Heating input 0 Btuh  
 Heating output 0 Btuh  
 Temperature rise 0 °F  
 Actual air flow 820 cfm  
 Air flow factor 0.029 cfm/Btuh  
 Static pressure 0 in H2O  
 Space thermostat

**Cooling Equipment Summary**

Make  
 Trade  
 Cond  
 Coil  
 AHRI ref  
 Efficiency 0 SEER  
 Sensible cooling 0 Btuh  
 Latent cooling 0 Btuh  
 Total cooling 0 Btuh  
 Actual air flow 820 cfm  
 Air flow factor 0.063 cfm/Btuh  
 Static pressure 0 in H2O  
 Load sensible heat ratio 0.79

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

**Load Short Form**  
*Entire House*  
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**Design Information**

	Htg	Clg	Infiltration	
Outside db (°F)	1	89	Method	Simplified
Inside db (°F)	74	70	Construction quality	Semi-tight
Design TD (°F)	73	19	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	60	43		

**HEATING EQUIPMENT**

**COOLING EQUIPMENT**

Make		Make	
Trade		Trade	
Model		Cond	
AHRI ref		Coil	
Efficiency	95 AFUE	AHRI ref	0 SEER
Heating input	0 Btuh	Efficiency	0 Btuh
Heating output	0 Btuh	Sensible cooling	0 Btuh
Temperature rise	0 °F	Latent cooling	0 Btuh
Actual air flow	820 cfm	Total cooling	0 Btuh
Air flow factor	0.029 cfm/Btuh	Actual air flow	820 cfm
Static pressure	0 in H2O	Air flow factor	0.063 cfm/Btuh
Space thermostat		Static pressure	0 in H2O
		Load sensible heat ratio	0.79

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
KITCHEN	185	2222	2266	63	142
BEDROOM 2	175	2626	1603	75	101
BEDROOM 1	162	1359	1012	39	64
MASTER BDRM	212	4029	2065	115	130
MASTER BATH	103	1075	331	31	21
BATH	41	83	59	2	4
LAUNDRY	52	83	59	2	4
HALL	91	0	0	0	0
LIVING ROOM	406	4622	1938	132	122
STEPS	34	0	0	0	0
PANTRY	22	268	77	8	5
DINING	140	4018	2606	115	164
OFFICE	100	829	364	24	23
UTILTY	96	185	0	5	0

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FIN BASEMENT	518	3267	310	93	20
UP	36	0	0	0	0
CRAWL 2	405	2045	183	58	11
CRAWL 1	405	2045	169	58	11
Entire House	3182	28756	13042	820	820
Other equip loads		5147	1340		
Equip. @ 0.94 RSM			13519		
Latent cooling			3764		
TOTALS	3182	33904	17283	820	820

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