

Design Temperature and Fuel Type Inputs						
Title	Dave Home, Zip Code 16365, Warren, Pa.					
Design outdoor Temperature	5	Degrees F	Coldest temperature expected in a "normal" year <a href="#">more...</a>			
Heating Degree Days	7060	Degree F - day	Heating Degree Days <a href="#">more...</a>			
<input checked="" type="radio"/> Natural Gas <input type="radio"/> Fuel Oil <input type="radio"/> Propane <input type="radio"/> Electricity	1.00	\$'s Per Therm	93	Furnace Efficiency (%) <a href="#">more...</a>		
Area and Rvalue Inputs						
<b>Ceilings</b>	Ceilings --- Enter the area and R value for each ceiling area in the house that is exposed to outside temperatures. <a href="#">Help on R values ...</a>					
	Area (sqft)	Rvalue	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
	Ceiling 1	2250	30	75	4875	12.7
	Ceiling 2	0	0	0	0	0
	Ceiling 3	0	0	0	0	0
Ceiling 4	0	0	0	0	0	
<b>Walls</b>	Enter the area and R value for each wall area in the house that is exposed to outside temperatures. Do not include window and door area.					
	Area (sqft)	Rvalue	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
	wall 1	1980	25	79.2	5148	13.4
	wall 2	594	15.8	37.6	2444	6.4
	wall 3	1386	18	77	5005	13
wall 4	0	0	0	0	0	
<b>Windows &amp; Doors</b>	Enter the area and R value for each group of windows or doors having the same R value. (U = 1/R, so a window listed with a U of 0.33 has an R value of 3)					
	Area (sqft)	Rvalue	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
	Group 1	139	3	46.3	3012	7.9
	Group 2	0	0	0	0	0
	Group 3	0	0	0	0	0
Group 4	0	0	0	0	0	
<b>Floors</b>	Floors - Wood Joist Type --- Enter the area and R value for each floor area in the house that is exposed to outside temperatures. <a href="#">Estimating R Value for crawl spaces ...</a>					
	Area (sqft)	Rvalue	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
	Floor 1	0	0	0	0	0
	Floor 2	0	0	0	0	0
	Floor 3	0	0	0	0	0
Floor 4	0	0	0	0	0	
<b>Slabs</b>	Slab on Grade Floors --- Heat loss from slab on grade floors is primarily dependent on the length of the perimeter and not the area of the floor. "Rvalue" here is the effective R value per foot of perimeter. <a href="#">Estimating effective R Value for slabs ...</a>					
	Perimeter (ft)	Rvalue per ft of perimeter (1)	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
Full Slab	220	7	31	2043	5.3	
<b>Infiltration</b>	House Volume is the total volume of the heated space of the house cubic feet (floor area times the ceiling height) Typical Air Changes Per Hour: 0.33 -- very tight -- minimum for health 0.5 -- tight -- new, careful construction 1.0 -- leaky -- typical existing construction??					
	House Volume (cubic ft)	Air Changes per hour	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
Whole House	40500	.1575	115	7463	19.5	

<b>Internal Heat Gains</b>	These are heat gains from warm bodies, lights, appliances, ...				
	This is heat that your furnace does not need to provide.				
	If you don't want to account for internal heat gains, enter 0 for the number of occupants				
	Number of Occupants		Internal Gains (BTU/hr)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)
	2		2189	-2189	-19.2

Summary Outputs (see table above for detail outputs)						
<b>Calculate</b>		Click to update Heat Loss results.				
Item	UA (BTU/hr-F)	Design Loss (BTU/hr)	Year Loss (Million BTU/yr)	Fuel Cost (US dollars)	Ten Year Cost 10% infla \$'s	Greenhouse Gas (lb CO2)
Ceiling Loss	75	4875	12.7	137	2177	1640
Wall Loss	194	12597	32.8	353	5625	4237
Window Loss	46	3012	7.9	84	1345	1013
Floor Loss	0	0	0	0	0	0
Slab Loss	31	2043	5.3	57	912	687
Infiltration	115	7463	19.5	209	3332	2510
Totals	461	29989	78.2	841	13391	10087
Internal Gains	Internal heat gains (warm bodies, lights, ...) supply some of the heat listed above -- the line below shows approximately the contribution of internal heat gains -- this is heat that your furnace does NOT have to supply.					
		-2189	-19.2	-206	-3285	

Design Temperature and Fuel Type Inputs						
Title	Dave Garage, Zip Code 16365, Warren, Pa.					
Design outdoor Temperature	5	Degrees F	Coldest temperature expected in a "normal" year <a href="#">more...</a>			
Heating Degree Days	7060	Degree F - day	Heating Degree Days <a href="#">more...</a>			
<input checked="" type="radio"/> Natural Gas <input type="radio"/> Fuel Oil <input type="radio"/> Propane <input type="radio"/> Electricity	1.00	\$'s Per Therm	93	Furnace Efficiency (%) <a href="#">more...</a>		
Area and Rvalue Inputs						
<b>Ceilings</b>	Ceilings --- Enter the area and R value for each ceiling area in the house that is exposed to outside temperatures. <a href="#">Help on R values ...</a>					
	Area (sqft)	Rvalue	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
	Ceiling 1	980	35	28	1820	4.7
	Ceiling 2	0	0	0	0	0
	Ceiling 3	0	0	0	0	0
Ceiling 4	0	0	0	0	0	
<b>Walls</b>	Enter the area and R value for each wall area in the house that is exposed to outside temperatures. Do not include window and door area.					
	Area (sqft)	Rvalue	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
	wall 1	669	25	26.8	1739	4.5
	wall 2	0	0	0	0	0
	wall 3	0	0	0	0	0
wall 4	0	0	0	0	0	
<b>Windows &amp; Doors</b>	Enter the area and R value for each group of windows or doors having the same R value. (U = 1/R, so a window listed with a U of 0.33 has an R value of 3)					
	Area (sqft)	Rvalue	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
	Group 1	240	7	34.3	2229	5.8
	Group 2	42	3	14	910	2.4
	Group 3	24	3	8	520	1.4
Group 4	0	0	0	0	0	
<b>Floors</b>	Floors - Wood Joist Type --- Enter the area and R value for each floor area in the house that is exposed to outside temperatures. <a href="#">Estimating R Value for crawl spaces ...</a>					
	Area (sqft)	Rvalue	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
	Floor 1	0	0	0	0	0
	Floor 2	0	0	0	0	0
	Floor 3	0	0	0	0	0
Floor 4	0	0	0	0	0	
<b>Slabs</b>	Slab on Grade Floors --- Heat loss from slab on grade floors is primarily dependent on the length of the perimeter and not the area of the floor. "Rvalue" here is the effective R value per foot of perimeter. <a href="#">Estimating effective R Value for slabs ...</a>					
	Perimeter (ft)	Rvalue per ft of perimeter (1)	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
Full Slab	97.5	7	14	905	2.4	
<b>Infiltration</b>	House Volume is the total volume of the heated space of the house cubic feet (floor area times the ceiling height) Typical Air Changes Per Hour: 0.33 -- very tight -- minimum for health 0.5 -- tight -- new, careful construction 1.0 -- leaky -- typical existing construction??					
	House Volume (cubic ft)	Air Changes per hour	UA (BTU/hr-F)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)	
Whole House	9800	.7	123	8026	20.9	

<b>Internal Heat Gains</b>	These are heat gains from warm bodies, lights, appliances, ...				
	This is heat that your furnace does not need to provide.				
	If you don't want to account for internal heat gains, enter 0 for the number of occupants				
	Number of Occupants		Internal Gains (BTU/hr)	Design Loss (BTU/hr)	Yearly Heat Loss (million BTU/yr)
	0		0	0	0

Summary Outputs (see table above for detail outputs)

<b>Calculate</b>	Click to update Heat Loss results.					
Item	UA (BTU/hr-F)	Design Loss (BTU/hr)	Year Loss (Million BTU/yr)	Fuel Cost (US dollars)	Ten Year Cost 10% infla \$'s	Greenhouse Gas (lb CO2)
Ceiling Loss	28	1820	4.7	51	813	612
Wall Loss	27	1739	4.5	49	777	585
Window Loss	56	3659	9.5	103	1634	1231
Floor Loss	0	0	0	0	0	0
Slab Loss	14	905	2.4	25	404	305
Infiltration	123	8026	20.9	225	3584	2700
Totals	248	16150	42.1	453	7211	5432
Internal Gains	Internal heat gains (warm bodies, lights, ...) supply some of the heat listed above -- the line below shows approximately the contribution of internal heat gains -- this is heat that your furnace does NOT have to supply.					
		0	0	0	0	

**Notes:**  
 Infiltration for Garage is an estimate.

**Total Heat Loss for House and Garage = 46139**