

**Project Information**

For:

**Design Information**

	Htg	Clg	Infiltration	
Outside db (°F)	17	93	Method	Simplified
Inside db (°F)	70	72	Construction quality	Average
Design TD (°F)	53	21	Fireplaces	1 (Average)
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	23	19		

**HEATING EQUIPMENT**

Make	Generic
Trade	
Model	SEER 18.0, HSPF 9.1
AHRI ref	
Efficiency	9.1 HSPF
Heating input	
Heating output	17154 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	575 cfm
Air flow factor	0.026 cfm/Btuh
Static pressure	0.80 in H2O
Space thermostat	
Capacity balance point = 26 °F	

**COOLING EQUIPMENT**

Make	Generic
Trade	
Cond	SEER 18.0, HSPF 9.1
Coil	
AHRI ref	
Efficiency	14.7 EER, 18 SEER
Sensible cooling	12068 Btuh
Latent cooling	5172 Btuh
Total cooling	17239 Btuh
Actual air flow	575 cfm
Air flow factor	0.048 cfm/Btuh
Static pressure	0.80 in H2O
Load sensible heat ratio	0.96

Backup:

Input = 6 kW, Output = 18869 Btuh, 100 AFUE

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Master	132	2844	1396	75	66
Guest	154	3216	1973	85	94
Den	99	2340	1597	62	76
Bathroom	48	1296	573	34	27
Kitchen	176	3335	1564	88	74
Living RM	238	3654	2643	97	126
Laundry	96	2487	1211	66	58
Family RM	168	2565	1110	68	53

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

Entire House	1111	21736	12068	575	575
Other equip loads		0	0		
Equip. @ 1.00 RSM			12068		
Latent cooling			476		
TOTALS	1111	21736	12543	575	575

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



**Project Information**

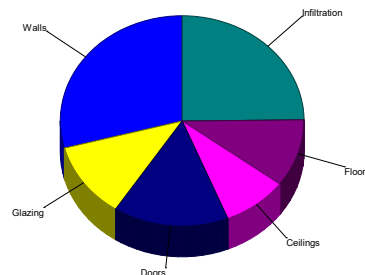
For:

**Design Conditions**

<b>Location:</b> Bremerton Natl, WA, US Elevation: 444 ft Latitude: 47°N		<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)		<b>Heating</b> 70 53 30 22.6	<b>Cooling</b> 72 21 50 18.8
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 17 - - 15.0	<b>Cooling</b> 93 23 ( M ) 71 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Average 1 (Average)	

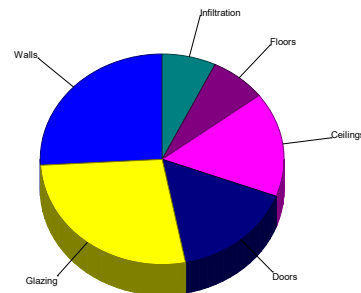
**Heating**

Component	Btuh/ft²	Btuh	% of load
Walls	4.8	6333	29.1
Glazing	30.2	2538	11.7
Doors	20.7	3328	15.3
Ceilings	1.7	1884	8.7
Floors	2.0	2261	10.4
Infiltration	3.5	5393	24.8
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
<b>Total</b>		<b>21736</b>	<b>100.0</b>



**Cooling**

Component	Btuh/ft²	Btuh	% of load
Walls	2.4	3124	25.9
Glazing	39.1	3280	27.2
Doors	12.1	1956	16.2
Ceilings	1.7	1943	16.1
Floors	0.8	900	7.5
Infiltration	0.6	864	7.2
Ducts		0	0
Ventilation		0	0
Internal gains		0	0
Blower		0	0
Adjustments		0	0
<b>Total</b>		<b>12068</b>	<b>100.0</b>



Latent Cooling Load = 476 Btuh  
Overall U-value = 0.085 Btuh/ft²-°F

Data entries checked.

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**Design Conditions**

<b>Location:</b> Bremerton Natl, WA, US Elevation: 444 ft Latitude: 47°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 53 30 22.6	<b>Cooling</b> 72 21 50 18.8
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 17 - - 15.0	<b>Cooling</b> 93 23 ( M ) 71 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Average 1 (Average)	

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
<b>Walls</b>								
12C-0sw: Fm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood fm, 16" o.c. stud	n	457	0.091	13.0	4.82	2204	2.38	1087
	e	193	0.091	13.0	4.82	931	2.38	459
	s	476	0.091	13.0	4.82	2296	2.38	1133
	w	187	0.091	13.0	4.82	902	2.38	445
	all	1313	0.091	13.0	4.82	6333	2.38	3124
<b>Partitions</b> (none)								
<b>Windows</b>								
1D-c2ov: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	28	0.570	0	30.2	846	22.4	627
	s	56	0.570	0	30.2	1692	39.5	2213
	all	84	0.570	0	30.2	2538	33.8	2839
<b>Doors</b>								
11D0: Door, wd sc type	n	70	0.390	0	20.7	1447	12.1	850
	e	21	0.390	0	20.7	434	12.1	255
	s	35	0.390	0	20.7	723	12.1	425
	w	35	0.390	0	20.7	723	12.1	425
	all	161	0.390	0	20.7	3328	12.1	1956
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		1111	0.032	30.0	1.70	1884	1.75	1943
<b>Floors</b>								
19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fnsh, r-19 cav ins, leaky crwl ovr		1111	0.049	19.0	2.04	2261	0.81	900

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<b>Location:</b> Bremerton Natl, WA, US Elevation: 444 ft Latitude: 47°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 53 30 22.6	<b>Cooling</b> 72 21 50 18.8
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 17 - - 15.0	<b>Cooling</b> 93 23 ( M ) 71 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Average 1 (Average)	

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
<b>Walls</b> 12C-0sw: Fm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fsh, 2"x6" wood fm, 16" o.c. stud	n	80	0.091	13.0	4.82	386	2.38	190
	e	88	0.091	13.0	4.82	424	2.38	209
	w	10	0.091	13.0	4.82	48	2.38	24
	all	178	0.091	13.0	4.82	858	2.38	424
<b>Partitions</b> (none)								
<b>Windows</b> 1D-c2ov: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	16	0.570	0	30.2	483	22.4	358
<b>Doors</b> 11D0: Door, wd sc type	w	14	0.390	0	20.7	289	12.1	170
<b>Ceilings</b> 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fsh		132	0.032	30.0	1.70	224	1.75	231
<b>Floors</b> 19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fsh, r-19 cav ins, leaky crwl ovr		132	0.049	19.0	2.04	269	0.81	107

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<b>Location:</b> Bremerton Natl, WA, US Elevation: 444 ft Latitude: 47°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 53 30 22.6	<b>Cooling</b> 72 21 50 18.8
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 17 - - 15.0	<b>Cooling</b> 93 23 ( M ) 71 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Average 1 (Average)	

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
<b>Walls</b> 12C-0sw: Fm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fsh, 2"x6" wood fm, 16" o.c. stud	n e s all	4 99 110 213	0.091 0.091 0.091 0.091	13.0 13.0 13.0 13.0	4.82 4.82 4.82 4.82	19 477 531 1027	2.38 2.38 2.38 2.38	10 236 262 507
<b>Partitions</b> (none)								
<b>Windows</b> 1D-c2ov: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	s	16	0.570	0	30.2	483	39.5	632
<b>Doors</b> 11D0: Door, wd sc type	n	14	0.390	0	20.7	289	12.1	170
<b>Ceilings</b> 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fsh		154	0.032	30.0	1.70	261	1.75	269
<b>Floors</b> 19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fsh, r-19 cav ins, leaky crwl ovr		154	0.049	19.0	2.04	313	0.81	125

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<b>Location:</b> Bremerton Natl, WA, US Elevation: 444 ft Latitude: 47°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 53 30 22.6	<b>Cooling</b> 72 21 50 18.8
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> 17 - - 15.0	<b>Cooling</b> 93 23 ( M ) 71 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Average 1 (Average)	

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
<b>Walls</b> 12C-0sw: Fm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood fm, 16" o.c. stud	n	67	0.091	13.0	4.82	323	2.38	159
	s	65	0.091	13.0	4.82	313	2.38	155
	all	132	0.091	13.0	4.82	637	2.38	314
<b>Partitions</b> (none)								
<b>Windows</b> 1D-c2ov: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	s	16	0.570	0	30.2	483	39.5	632
<b>Doors</b> 11D0: Door, wd sc type	n	14	0.390	0	20.7	289	12.1	170
<b>Ceilings</b> 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		99	0.032	30.0	1.70	168	1.75	173
<b>Floors</b> 19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fnsh, r-19 cav ins, leaky cwl ovr		99	0.049	19.0	2.04	201	0.81	80

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**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Bremerton Natl, WA, US		Indoor temperature (°F)		70	72
Elevation: 444 ft		Design TD (°F)		53	21
Latitude: 47°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.6	18.8
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	17	93	Method	Simplified	
Daily range (°F)	-	23 ( M )	Construction quality	Average	
Wet bulb (°F)	-	71	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

**Construction descriptions**

	Or	Area ft <sup>2</sup>	U-value Btuh/ft <sup>2</sup> °F	Insul R ft <sup>2</sup> °F/Btuh	Htg HTM Btuh/ft <sup>2</sup>	Loss Btuh	Clg HTM Btuh/ft <sup>2</sup>	Gain Btuh
<b>Walls</b>								
12C-0sw: Frm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud								
	n	54	0.091	13.0	4.82	260	2.38	129
	s	40	0.091	13.0	4.82	193	2.38	95
	all	94	0.091	13.0	4.82	453	2.38	224
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b>								
11D0: Door, wd sc type								
	s	14	0.390	0	20.7	289	12.1	170
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh								
		48	0.032	30.0	1.70	81	1.75	84
<b>Floors</b>								
19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fnsh, r-19 cav ins, leaky crnl ovr								
		48	0.049	19.0	2.04	98	0.81	39



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<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Bremerton Natl, WA, US		Indoor temperature (°F)		70	72
Elevation: 444 ft		Design TD (°F)		53	21
Latitude: 47°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.6	18.8
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	17	93	Method	Simplified	
Daily range (°F)	-	23 ( M )	Construction quality	Average	
Wet bulb (°F)	-	71	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
<b>Walls</b>								
12C-0sw: Frm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	156	0.091	13.0	4.82	752	2.38	371
	s	45	0.091	13.0	4.82	217	2.38	107
	all	201	0.091	13.0	4.82	969	2.38	478
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b>								
11D0: Door, wd sc type	n	42	0.390	0	20.7	868	12.1	510
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		176	0.032	30.0	1.70	298	1.75	308
<b>Floors</b>								
19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fnsh, r-19 cav ins, leaky crnl ovr		176	0.049	19.0	2.04	358	0.81	143

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<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Bremerton Natl, WA, US		Indoor temperature (°F)		70	72
Elevation: 444 ft		Design TD (°F)		53	21
Latitude: 47°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.6	18.8
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	17	93	Method	Simplified	
Daily range (°F)	-	23 ( M )	Construction quality	Average	
Wet bulb (°F)	-	71	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
<b>Walls</b>								
12C-0sw: Fm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud								
	e	6	0.091	13.0	4.82	29	2.38	14
	s	108	0.091	13.0	4.82	521	2.38	257
	all	114	0.091	13.0	4.82	550	2.38	271
<b>Partitions</b>								
(none)								
<b>Windows</b>								
1D-c2ov: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht								
	s	24	0.570	0	30.2	725	39.5	948
<b>Doors</b>								
11D0: Door, wd sc type								
	e	21	0.390	0	20.7	434	12.1	255
	s	21	0.390	0	20.7	434	12.1	255
	all	42	0.390	0	20.7	868	12.1	510
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh								
		238	0.032	30.0	1.70	404	1.75	416
<b>Floors</b>								
19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fnsh, r-19 cav ins, leaky crnl ovr								
		238	0.049	19.0	2.04	484	0.81	193

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<b>Location:</b> Bremerton Natl, WA, US Elevation: 444 ft Latitude: 47°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 70 53 30 22.6	<b>Cooling</b> 72 21 50 18.8
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**Construction descriptions**

	Or	Area ft <sup>2</sup>	U-value Btuh/ft <sup>2</sup> °F	Insul R ft <sup>2</sup> °F/Btuh	Htg HTM Btuh/ft <sup>2</sup>	Loss Btuh	Clg HTM Btuh/ft <sup>2</sup>	Gain Btuh
<b>Walls</b>								
12C-0sw: Fm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood fm, 16" o.c. stud	n	96	0.091	13.0	4.82	463	2.38	228
	w	51	0.091	13.0	4.82	246	2.38	121
	all	147	0.091	13.0	4.82	709	2.38	350
<b>Partitions</b> (none)								
<b>Windows</b>								
1D-c2ov: 2 glazing, clr outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	12	0.570	0	30.2	363	22.4	269
<b>Doors</b>								
11D0: Door, wd sc type	w	21	0.390	0	20.7	434	12.1	255
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		96	0.032	30.0	1.70	163	1.75	168
<b>Floors</b>								
19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fnsh, r-19 cav ins, leaky cwl ovr		96	0.049	19.0	2.04	195	0.81	78

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<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
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Elevation: 444 ft		Design TD (°F)		53	21
Latitude: 47°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.6	18.8
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	17	93	Method	Simplified	
Daily range (°F)	-	23 ( M )	Construction quality	Average	
Wet bulb (°F)	-	71	Fireplaces	1 (Average)	
Wind speed (mph)	15.0	7.5			

**Construction descriptions**

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
<b>Walls</b>								
12C-0sw: Fm wall, wd ext, 1/2" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud								
	s	108	0.091	13.0	4.82	521	2.38	257
	w	126	0.091	13.0	4.82	608	2.38	300
	all	234	0.091	13.0	4.82	1129	2.38	557
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b> (none)								
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh								
		168	0.032	30.0	1.70	285	1.75	294
<b>Floors</b>								
19A-19cvcp: Flr floor, frm flr, 8" thkns, carpet flr fnsh, r-19 cav ins, leaky crnl ovr								
		168	0.049	19.0	2.04	342	0.81	136

## Project Information

For:

Notes:

## Design Information

Weather: Bremerton Natl, WA, US

### Winter Design Conditions

Outside db	17 °F
Inside db	70 °F
Design TD	53 °F

### Summer Design Conditions

Outside db	93 °F
Inside db	72 °F
Design TD	21 °F
Daily range	M
Relative humidity	50 %
Moisture difference	19 gr/lb

### Heating Summary

Structure	21736 Btuh
Ducts	0 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	21736 Btuh

### Sensible Cooling Equipment Load Sizing

Structure	12068 Btuh
Ducts	0 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	y
Rate/swing multiplier	1.00
Equipment sensible load	12068 Btuh

### Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	1 (Average)

	Heating	Cooling
Area (ft <sup>2</sup> )	1111	1111
Volume (ft <sup>3</sup> )	9867	9867
Air changes/hour	0.57	0.23
Equiv. AVF (cfm)	94	38

### Latent Cooling Equipment Load Sizing

Structure	476 Btuh
Ducts	0 Btuh
Central vent (0 cfm) (none)	0 Btuh
Equipment latent load	476 Btuh
<b>Equipment Total Load (Sen+Lat)</b>	<b>12543 Btuh</b>
Req. total capacity at 0.70 SHR	1.4 ton

### Heating Equipment Summary

Make	Generic
Trade	
Model	SEER 18.0, HSPF 9.1
AHRI ref	
Efficiency	9.1 HSPF
Heating input	
Heating output	17154 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	575 cfm
Air flow factor	0.026 cfm/Btuh
Static pressure	0.80 in H2O
Space thermostat	
Capacity balance point = 26 °F	
Backup:	
Input = 6 kW, Output = 18869 Btuh, 100 AFUE	

### Cooling Equipment Summary

Make	Generic
Trade	
Cond	SEER 18.0, HSPF 9.1
Coil	
AHRI ref	
Efficiency	14.7 EER, 18 SEER
Sensible cooling	12068 Btuh
Latent cooling	5172 Btuh
Total cooling	17239 Btuh
Actual air flow	575 cfm
Air flow factor	0.048 cfm/Btuh
Static pressure	0.80 in H2O
Load sensible heat ratio	0.96

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

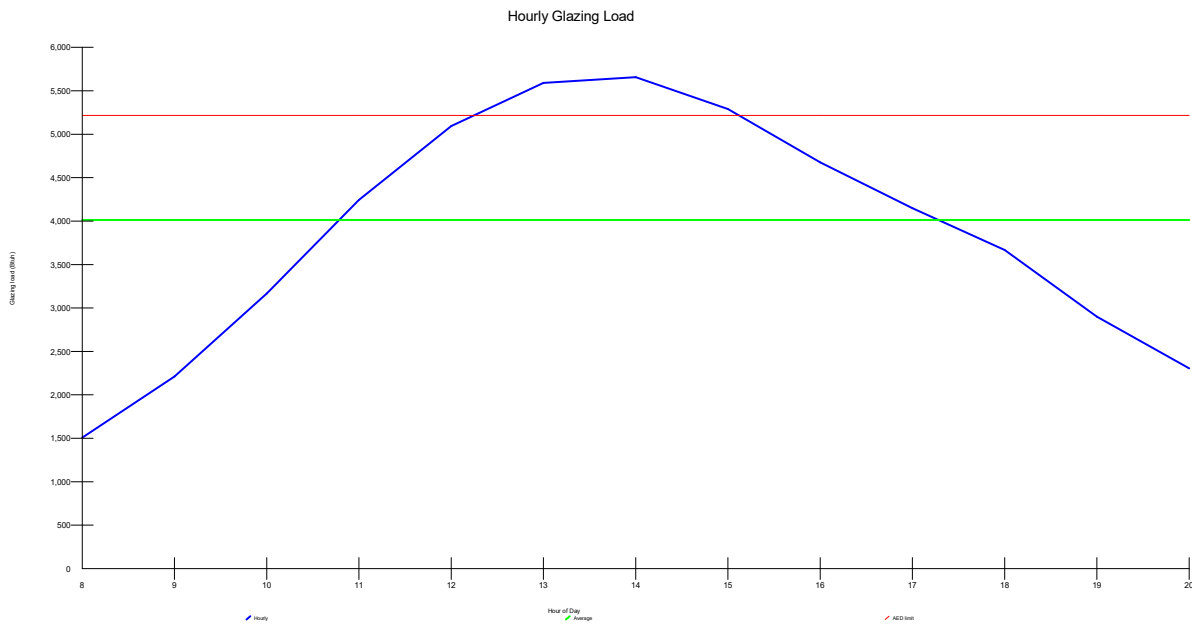
**Project Information**

For:

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Bremerton Natl, WA, US		Indoor temperature (°F)		70	72
Elevation: 444 ft		Design TD (°F)		53	21
Latitude: 47°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.6	18.8
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	17	93			
Daily range (°F)	-	23 ( M )			
Wet bulb (°F)	-	71			
Wind speed (mph)	15.0	7.5			

**Test for Adequate Exposure Diversity**



**Maximum hourly glazing load exceeds average by 41.0%.**

**House does not have adequate exposure diversity (AED), based on AED limit of 30%.**

**AED excursion: 441 Btuh (PFG - 1.3\*AFG)**

**Right-J® Worksheet**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1		Room name		Entire House					Master					
2		Exposed wall		176.0 ft					26.0 ft					
3		Room height		8.9 ft					8.0 ft					
4		Room dimensions		1111.0 ft²					12.0 x 11.0 ft					
5		Room area		1111.0 ft²					132.0 ft²					
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	n	4.82	2.38	555	457	2204	1087	96	80	386	190
	G	1D-c2ov	0.570	n	30.21	22.38	28	0	846	627	16	0	483	358
	D	11D0	0.390	n	20.67	12.15	70	70	1447	850	0	0	0	0
	W	12C-0sw	0.091	e	4.82	2.38	214	193	931	459	88	88	424	209
11	D	11D0	0.390	e	20.67	12.15	21	21	434	255	0	0	0	0
	W	12C-0sw	0.091	s	4.82	2.38	567	476	2296	1133	0	0	0	0
	G	1D-c2ov	0.570	s	30.21	39.51	56	0	1692	2213	0	0	0	0
	D	11D0	0.390	s	20.67	12.15	35	35	723	425	0	0	0	0
	W	12C-0sw	0.091	w	4.82	2.38	222	187	902	445	24	10	48	24
	D	11D0	0.390	w	20.67	12.15	35	35	723	425	14	14	289	170
	C	16B-30ad	0.032	-	1.70	1.75	1111	1111	1884	1943	132	132	224	231
	F	19A-19cvcv	0.049	-	2.04	0.81	1111	1111	2261	900	132	132	269	107
6	c) AED excursion									441				-9
	Envelope loss/gain								16343	11204			2124	1281
12	a) Infiltration								5393	864			720	115
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								21736	12068			2844	1396
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								21736	12068			2844	1396
15	Duct loads						0%	0%	0	0	-0%	0%	0	0
	Total room load								21736	12068			2844	1396
	Air required (cfm)								575	575			75	66

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



**Right-J® Worksheet**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 2 3 4 5	Room name Exposed wall Room height Room dimensions Room area				Guest 27.0 ft 9.0 ft 14.0 x 11.0 ft 154.0 ft <sup>2</sup>				Den 18.0 ft 9.0 ft 9.0 x 11.0 ft 99.0 ft <sup>2</sup>					
	Ty	Construction number	U-value (Btuh/ft <sup>2</sup> ·°F)	Or	HTM (Btuh/ft <sup>2</sup> )		Area (ft <sup>2</sup> ) or perimeter (ft)		Load (Btuh)		Area (ft <sup>2</sup> ) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	n	4.82	2.38	18	4	19	10	81	67	323	159
	G	1D-c2ov	0.570	n	30.21	22.38	0	0	0	0	0	0	0	0
	D	11D0	0.390	n	20.67	12.15	14	14	289	170	14	14	289	170
11	W	12C-0sw	0.091	e	4.82	2.38	99	99	477	236	0	0	0	0
	D	11D0	0.390	e	20.67	12.15	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	s	4.82	2.38	126	110	531	262	81	65	313	155
	G	1D-c2ov	0.570	s	30.21	39.51	16	0	483	632	16	0	483	632
	D	11D0	0.390	s	20.67	12.15	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	w	4.82	2.38	0	0	0	0	0	0	0	0
	D	11D0	0.390	w	20.67	12.15	0	0	0	0	0	0	0	0
	C	16B-30ad	0.032	-	1.70	1.75	154	154	261	269	99	99	168	173
	F	19A-19cvc	0.049	-	2.04	0.81	154	154	313	125	99	99	201	80
6	c) AED excursion									135				137
	Envelope loss/gain								2375	1838			1779	1507
12	a) Infiltration								841	135			561	90
	b) Room ventilation								0	0			0	0
13	Internal gains:				Occupants @ 230		0		0	0	0		0	0
					Appliances/other				0	0			0	0
	Subtotal (lines 6 to 13)								3216	1973			2340	1597
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								3216	1973			2340	1597
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								3216	1973			2340	1597
	Air required (cfm)								85	94			62	76

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





**Right-J® Worksheet**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 Room name				Bathroom 12.0 ft 9.0 ft heat/cool 48.0 ft <sup>2</sup> 6.0 x 8.0 ft				Kitchen 27.0 ft 9.0 ft heat/cool 176.0 ft <sup>2</sup> 22.0 x 8.0 ft						
6	Ty	Construction number	U-value (Btuh/ft <sup>2</sup> ·°F)	Or	HTM (Btuh/ft <sup>2</sup> )		Area (ft <sup>2</sup> ) or perimeter (ft)		Load (Btuh)		Area (ft <sup>2</sup> ) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6 11	W	12C-0sw	0.091	n	4.82	2.38	54	54	260	129	198	156	752	371
	G	1D-c2ov	0.570	n	30.21	22.38	0	0	0	0	0	0	0	0
	D	11D0	0.390	n	20.67	12.15	0	0	0	0	42	42	868	510
	W	12C-0sw	0.091	e	4.82	2.38	0	0	0	0	0	0	0	0
	D	11D0	0.390	e	20.67	12.15	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	s	4.82	2.38	54	40	193	95	45	45	217	107
	G	1D-c2ov	0.570	s	30.21	39.51	0	0	0	0	0	0	0	0
	D	11D0	0.390	s	20.67	12.15	14	14	289	170	0	0	0	0
	W	12C-0sw	0.091	w	4.82	2.38	0	0	0	0	0	0	0	0
	D	11D0	0.390	w	20.67	12.15	0	0	0	0	0	0	0	0
	C	16B-30ad	0.032	-	1.70	1.75	48	48	81	84	176	176	298	308
	F	19A-19cvc	0.049	-	2.04	0.81	48	48	98	39	176	176	358	143
	6	c) AED excursion								-4				-10
		Envelope loss/gain							922	513			2494	1429
12	a) Infiltration							374	60			841	135	
	b) Room ventilation							0	0			0	0	
13	Internal gains:		Occupants @	230	0				0	0			0	
			Appliances/other						0				0	
	Subtotal (lines 6 to 13)							1296	573			3335	1564	
	Less external load							0	0			0	0	
	Less transfer							0	0			0	0	
	Redistribution							0	0			0	0	
14	Subtotal							1296	573			3335	1564	
15	Duct loads						-0%	0%	0	0	-0%	0%	0	
	Total room load							1296	573			3335	1564	
	Air required (cfm)							34	27			88	74	

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



**Right-J® Worksheet**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 Room name				Living RM 20.0 ft 9.0 ft 17.0 x 14.0 ft heat/cool 238.0 ft²				Laundry 20.0 ft 9.0 ft 12.0 x 8.0 ft heat/cool 96.0 ft²							
6	Ty	Construction number	U-value (Btuh/ft²·F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
11	W	12C-0sw	0.091	n	4.82	2.38	0	0	0	0	108	96	463	228	
	G	1D-c2ov	0.570	n	30.21	22.38	0	0	0	0	12	0	363	269	
		D	11D0	0.390	n	20.67	12.15	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	e	4.82	2.38	27	6	29	14	0	0	0	0	
		D	11D0	0.390	e	20.67	12.15	21	21	434	255	0	0	0	0
	W	12C-0sw	0.091	s	4.82	2.38	153	108	521	257	0	0	0	0	
		G	1D-c2ov	0.570	s	30.21	39.51	24	0	725	948	0	0	0	0
		D	11D0	0.390	s	20.67	12.15	21	21	434	255	0	0	0	0
	W	12C-0sw	0.091	w	4.82	2.38	0	0	0	0	72	51	246	121	
		D	11D0	0.390	w	20.67	12.15	0	0	0	0	21	21	434	255
	C	16B-30ad	0.032	-	1.70	1.75	238	238	404	416	96	96	163	168	
F	19A-19cvc	0.049	-	2.04	0.81	238	238	484	193	96	96	195	78		
6	c) AED excursion								205				-8		
	Envelope loss/gain							3031	2544			1864	1112		
12	a) Infiltration							623	100			623	100		
	b) Room ventilation							0	0			0	0		
13	Internal gains:		Occupants @	230		0			0	0			0		
			Appliances/other						0				0		
	Subtotal (lines 6 to 13)							3654	2643			2487	1211		
	Less external load							0	0			0	0		
	Less transfer							0	0			0	0		
	Redistribution							0	0			0	0		
14	Subtotal							3654	2643			2487	1211		
15	Duct loads						-0%	0%	0	0	-0%	0%	0		
	Total room load							3654	2643			2487	1211		
	Air required (cfm)							97	126			66	58		

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



**Right-J® Worksheet**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 Room name					FamilyRM									
2 Exposed wall					26.0 ft									
3 Room height					9.0 ft					heat/cool				
4 Room dimensions					12.0 x 14.0 ft									
5 Room area					168.0 ft²									
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	n	4.82	2.38	0	0	0	0				
	G	1D-c2ov	0.570	n	30.21	22.38	0	0	0	0				
	D	11D0	0.390	n	20.67	12.15	0	0	0	0				
	W	12C-0sw	0.091	e	4.82	2.38	0	0	0	0				
11	D	11D0	0.390	e	20.67	12.15	0	0	0	0				
	W	12C-0sw	0.091	s	4.82	2.38	108	108	521	257				
	G	1D-c2ov	0.570	s	30.21	39.51	0	0	0	0				
	D	11D0	0.390	s	20.67	12.15	0	0	0	0				
	W	12C-0sw	0.091	w	4.82	2.38	126	126	608	300				
	D	11D0	0.390	w	20.67	12.15	0	0	0	0				
	C	16B-30ad	0.032	-	1.70	1.75	168	168	285	294				
	F	19A-19cvcv	0.049	-	2.04	0.81	168	168	342	136				
6	c) AED excursion									-7				
	Envelope loss/gain								1755	980				
12	a) Infiltration								810	130				
	b) Room ventilation								0	0				
13	Internal gains:		Occupants @	230			0			0				
			Appliances/other							0				
	Subtotal (lines 6 to 13)								2565	1110				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								0	0				
14	Subtotal								2565	1110				
15	Duct loads						-0%	0%	0	0				
	Total room load								2565	1110				
	Air required (cfm)								68	53				

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



**Right-J8® Form J1**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 Name of Room				Entire House				Master				
2 Running Feet of Exposed Wall				176.0 ft				26.0 ft				
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)				8.9 ft	3081.1 ft²			8.0 ft	368.0 ft²			
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)				1111.0 ft²				12.0 x 11.0 ft		132.0 ft²		
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)				1111.0 ft²				0 °		132.0 ft²		
Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6 Wall	12C-0sw	n	4.82	2.38	555	2204	1087		96	386	190	
Glaz	1D-c2ov	n	30.21	22.38	28	846	627		16	483	358	
Door	11D0	n	20.67	12.15	70	1447	850		0	0	0	
11 Wall	12C-0sw	e	4.82	2.38	214	931	459		88	424	209	
Door	11D0	e	20.67	12.15	21	434	255		0	0	0	
Wall	12C-0sw	s	4.82	2.38	567	2296	1133		0	0	0	
Glaz	1D-c2ov	s	30.21	39.51	56	1692	2213		0	0	0	
Door	11D0	s	20.67	12.15	35	723	425		0	0	0	
Wall	12C-0sw	w	4.82	2.38	222	902	445		24	48	24	
Door	11D0	w	20.67	12.15	35	723	425		14	289	170	
Ceiling	16B-30ad	-	1.70	1.75	1111	1884	1943		132	224	231	
Floor	19A-19cvcp	-	2.04	0.81	1111	2261	900		132	269	107	
12 Infiltration	Heating Load (Btuh)		Effect ACH		0.57	5393			WAR	720		
	Sensible Load (Btuh)				0.23		864		0.13		115	
	Latent Load (Btuh)							476				
13 Internal	a Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0	0
	b Scenario number					0				0		
	c Default Adjustments											
	d Custom Appliances					0	0			0	0	
	e Plants						0				0	0
14 Subtotals	Sum lines 6 through 12					21736	12068	476		2844	1396	
15 Duct Loads	EHLF & ESGF		0	0		0	0			0	0	
	ELG							0				0
16 Ventilation Loads	Vent Cfm	0	E Cfm	0		0	0	0				
17 Winter Humidification Load	Gal/Day		0			0						
18 Piping Load						0						
19 Blower Heat							0					
20 AED Excursion & Latent Moisture Migration Load							441				-9	
21 Total Load	Sum lines 13 through 19					21736	12068	476		2844	1396	

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

**Right-J8® Form J1**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 Name of Room				Guest				Den				
2 Running Feet of Exposed Wall				27.0 ft				18.0 ft				
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)				9.0 ft 450.0 ft²				9.0 ft 360.0 ft²				
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)				14.0 x 11.0 ft 154.0 ft²				9.0 x 11.0 ft 99.0 ft²				
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)				0° 154.0 ft²				0° 99.0 ft²				
Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6 Wall	12C-0sw	n	4.82	2.38	18	19	10		81	323	159	
Glaz	1D-c2ov	n	30.21	22.38	0	0	0		0	0	0	
Door	11D0	n	20.67	12.15	14	289	170		14	289	170	
11 Wall	12C-0sw	e	4.82	2.38	99	477	236		0	0	0	
Door	11D0	e	20.67	12.15	0	0	0		0	0	0	
Wall	12C-0sw	s	4.82	2.38	126	531	262		81	313	155	
Glaz	1D-c2ov	s	30.21	39.51	16	483	632		16	483	632	
Door	11D0	s	20.67	12.15	0	0	0		0	0	0	
Wall	12C-0sw	w	4.82	2.38	0	0	0		0	0	0	
Door	11D0	w	20.67	12.15	0	0	0		0	0	0	
Ceiling	16B-30ad	-	1.70	1.75	154	261	269		99	168	173	
Floor	19A-19cvcp	-	2.04	0.81	154	313	125		99	201	80	
12 Infiltration	Heating Load (Btuh)		Effect ACH		WAR 0.16	841			WAR 0.10	561		
	Sensible Load (Btuh)		0.23			135				90		
	Latent Load (Btuh)											
13 Internal	a	Occupants at 230 and 200 Btuh				0	0	0	0	0	0	0
	b	Scenario number					0			0		
	c	Default Adjustments										
	d	Custom Appliances					0	0			0	0
	e	Plants						0				0
14 Subtotals	Sum lines 6 through 12						3216	1973		2340	1597	
15 Duct Loads	EHLF & ESGF		0	0		0	0		0	0		
	ELG							0			0	
16 Ventilation Loads	Vent Cfm	0	E Cfm	0								
17 Winter Humidification Load	Gal/Day		0									
18 Piping Load												
19 Blower Heat												
20 AED Excursion & Latent Moisture Migration Load								135			137	
21 Total Load	Sum lines 13 through 19						3216	1973		2340	1597	

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

**Right-J8® Form J1**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 Name of Room				Bathroom				Kitchen				
2 Running Feet of Exposed Wall				12.0 ft				27.0 ft				
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)				9.0 ft		252.0 ft²		9.0 ft		442.0 ft²		
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)				6.0 x 8.0 ft		48.0 ft²		22.0 x 8.0 ft		176.0 ft²		
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)				0 °		48.0 ft²		0 °		176.0 ft²		
Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12C-0sw	n	4.82	2.38	54	260	129		198	752	371
	Glaz	1D-c2ov	n	30.21	22.38	0	0	0		0	0	0
	Door	11D0	n	20.67	12.15	0	0	0		42	868	510
	Wall	12C-0sw	e	4.82	2.38	0	0	0		0	0	0
11	Door	11D0	e	20.67	12.15	0	0	0		0	0	0
	Wall	12C-0sw	s	4.82	2.38	54	193	95		45	217	107
	Glaz	1D-c2ov	s	30.21	39.51	0	0	0		0	0	0
	Door	11D0	s	20.67	12.15	14	289	170		0	0	0
	Wall	12C-0sw	w	4.82	2.38	0	0	0		0	0	0
	Door	11D0	w	20.67	12.15	0	0	0		0	0	0
	Ceiling	16B-30ad	-	1.70	1.75	48	81	84		176	298	308
	Floor	19A-19cvcp	-	2.04	0.81	48	98	39		176	358	143
12	Infiltration	Heating Load (Btuh)		Effect ACH		0.57	WAR	0.07	374	WAR	0.16	841
		Sensible Load (Btuh)										135
		Latent Load (Btuh)										
13	Internal	a Occupants at 230 and 200 Btuh				0			0			0
		b Scenario number							0			0
		c Default Adjustments										
		d Custom Appliances							0			0
		e Plants							0			0
14	Subtotals	Sum lines 6 through 12					1296	573			3335	1564
15	Duct Loads	EHLF & ESGF		0	0		0	0		0	0	
		ELG							0			0
16	Ventilation Loads	Vent Cfm	0	E Cfm	0							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load								-4			-10
21	Total Load	Sum lines 13 through 19					1296	573			3335	1564

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

**Right-J8® Form J1**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 Name of Room			Living RM					Laundry				
2 Running Feet of Exposed Wall			20.0 ft					20.0 ft				
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)			9.0 ft 439.0 ft²					9.0 ft 339.0 ft²				
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)			17.0 x 14.0 ft 238.0 ft²					12.0 x 8.0 ft 96.0 ft²				
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)			0° 238.0 ft²					0° 96.0 ft²				
Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12C-0sw	n	4.82	2.38	0	0	0	108	463	228	
	Glaz	1D-c2ov	n	30.21	22.38	0	0	0	12	363	269	
	Door	11D0	n	20.67	12.15	0	0	0	0	0	0	
	Wall	12C-0sw	e	4.82	2.38	27	29	14	0	0	0	
11	Door	11D0	e	20.67	12.15	21	434	255	0	0	0	
	Wall	12C-0sw	s	4.82	2.38	153	521	257	0	0	0	
	Glaz	1D-c2ov	s	30.21	39.51	24	725	948	0	0	0	
	Door	11D0	s	20.67	12.15	21	434	255	0	0	0	
	Wall	12C-0sw	w	4.82	2.38	0	0	0	72	246	121	
	Door	11D0	w	20.67	12.15	0	0	0	21	434	255	
	Ceiling	16B-30ad	-	1.70	1.75	238	404	416	96	163	168	
	Floor	19A-19cvcp	-	2.04	0.81	238	484	193	96	195	78	
12	Infiltration	Heating Load (Btuh)		Effect ACH		0.57	WAR	623	WAR	623		
		Sensible Load (Btuh)				0.23	0.12	100	0.12	100		
		Latent Load (Btuh)										
13	Internal	a Occupants at 230 and 200 Btuh				0		0	0	0	0	0
		b Scenario number						0			0	
		c Default Adjustments										
		d Custom Appliances						0			0	0
		e Plants									0	0
14	Subtotals	Sum lines 6 through 12						3654	2643		2487	1211
15	Duct Loads	EHLF & ESGF		0	0			0		0	0	
		ELG							0		0	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load							205			-8	
21	Total Load	Sum lines 13 through 19						3654	2643		2487	1211

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

**Right-J8® Form J1**  
**Entire House**  
**Elevation Heating & Cooling**

**Job:**  
**Date:** Nov 16, 2022  
**By:**

1 Name of Room				FamilyRM								
2 Running Feet of Exposed Wall				26.0 ft								
3 Ceiling Ht (Ft) and Gross Wall Area (SqFt)				9.0 ft 426.0 ft²								
4 Room Dimensions (Ft) and Floor Plan Area (SqFt)				12.0 x 14.0 ft 168.0 ft²								
5 Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)				0 ° 168.0 ft²								
Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
			Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12C-0sw	n	4.82	2.38	0	0	0				
	Glaz	1D-c2ov	n	30.21	22.38	0	0	0				
	Door	11D0	n	20.67	12.15	0	0	0				
11	Wall	12C-0sw	e	4.82	2.38	0	0	0				
	Door	11D0	e	20.67	12.15	0	0	0				
	Wall	12C-0sw	s	4.82	2.38	108	521	257				
	Glaz	1D-c2ov	s	30.21	39.51	0	0	0				
	Door	11D0	s	20.67	12.15	0	0	0				
	Wall	12C-0sw	w	4.82	2.38	126	608	300				
	Door	11D0	w	20.67	12.15	0	0	0				
	Ceiling	16B-30ad	-	1.70	1.75	168	285	294				
	Floor	19A-19cvc	-	2.04	0.81	168	342	136				
12	Infiltration	Heating Load (Btuh)		Effect ACH		0.57	WAR	810				
		Sensible Load (Btuh)		0.23		0.15		130				
		Latent Load (Btuh)										
13	Internal	a Occupants at 230 and 200 Btuh				0		0	0			
		b Scenario number						0				
		c Default Adjustments										
		d Custom Appliances						0	0			
		e Plants							0			
14	Subtotals	Sum lines 6 through 12						2565	1110			
15	Duct Loads	EHLF & ESGF		0	0			0	0			
		ELG							0			
16	Ventilation Loads	Vent Cfm	0	E Cfm	0							
17	Winter Humidification Load	Gal/Day		0								
18	Piping Load											
19	Blower Heat											
20	AED Excursion & Latent Moisture Migration Load								-7			
21	Total Load	Sum lines 13 through 19						2565	1110			

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





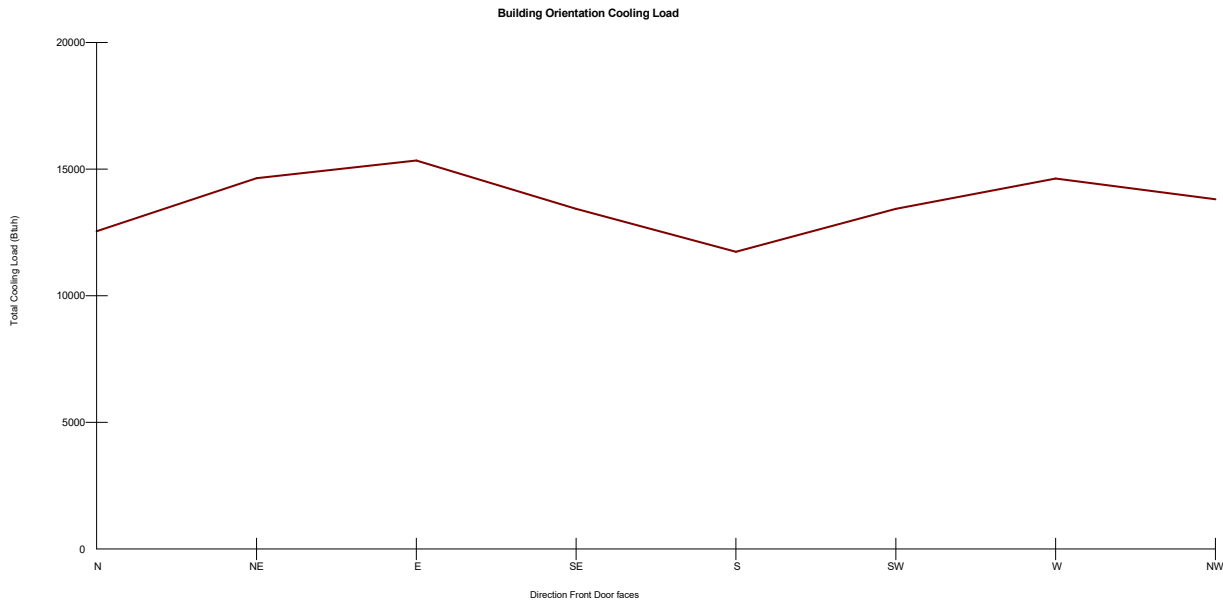
**Project Information**

For:

**Design Conditions**

<b>Location:</b>				<b>Indoor:</b>	<b>Heating</b>	<b>Cooling</b>
Bremerton Natl, WA, US				Indoor temperature (°F)	70	72
Elevation: 444 ft				Design TD (°F)	53	21
Latitude: 47°N				Relative humidity (%)	30	50
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>		Moisture difference (gr/lb)	22.6	18.8
Dry bulb (°F)	17	93		<b>Infiltration:</b>		
Daily range (°F)	-	23 ( M )				
Wet bulb (°F)	-	71				
Wind speed (mph)	15.0	7.5				

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	12068	14163	14861	12955	11255	12955	14149	13332
Latent Load (Btuh)	476	476	476	476	476	476	476	476
Total Load (Btuh)	12543	14638	15337	13430	11731	13430	14624	13808
Heating AVF (cfm)	575	674	708	617	536	617	674	635
Cooling AVF (cfm)	575	674	708	617	536	617	674	635



Current Orientation: Front Door faces North  
 Highest Cooling Load: Front Door faces East

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

<b>Supporting Detail</b>	
Project Name:	Date: Nov 16, 2022
Address:	
Phone:	Job ID:

<b>Worksheet A</b>			
<b>Location and Design Conditions</b>			
Weather Location: Bremerton Natl, WA, US	Elevation = 444	Latitude = 47	
Indoor Conditions, Heating: DB = 70 °F RH = 30 %	Indoor Conditions, Cooling: DB = 72 °F RH = 50 %		
Table 1 Conditions 99% DB = 17 °F 1% DB = 93 °F	Grains Difference = 19 gr/lb	Daily Range = M	
Design Temperature Differences	HTD = 53 °F	CTD = 21 °F	

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