

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.

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Project Information

Townhouse Unit 1, 1726 19th Ave
Seattle, WA 98122
6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type:

All Other Systems

Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT)

46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

2,121

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

17,180

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor	X	Area	=	UA
0.240		695		166.80

Skylights

[Instructions](#)

U-Factor	X	Area	=	UA
0.50		16		8.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor	X	Area	=	UA
No selection				---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor	X	Area	=	UA
0.027		780		21.06

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor	X	Area	=	UA
0.056		2,491		139.50

Floors

[Instructions](#)

R-38

U-Factor	X	Area	=	UA
0.025		615		15.38

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor	X	Area	=	UA
0.028				---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor	X	Length	=	UA
0.303				---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor	X	Length	=	UA
0.360		63		22.68

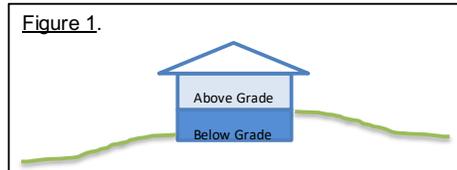
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA	373.41
Envelope Heat Load	17,177 Btu / Hour
<i>Sum of UA x ΔT</i>	
Air Leakage Heat Load	8,535 Btu / Hour
<i>Volume x 0.6 x ΔT x 0.018</i>	
Building Design Heat Load	25,712 Btu / Hour
<i>Air leakage + envelope heat loss</i>	
Building and Duct Heat Load	25,712 Btu / Hour
<i>Ducts in unconditioned space: sum of building heat loss x 1.10</i>	
<i>Ducts in conditioned space: sum of building heat loss x 1</i>	
Maximum Heat Equipment Output	32,140 Btu / Hour
<i>Building and duct heat loss x 1.40 for forced air furnace</i>	
<i>Building and duct heat loss x 1.25 for heat pump</i>	

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Project Information

Townhouse Unit 2, 1726 19th Ave
Seattle, WA 98122
6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type: All Other Systems Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT) 46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

1,993

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

16,143

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor X Area = UA
0.240 X 419 = 100.56

Skylights

[Instructions](#)

U-Factor X Area = UA
0.50 X 8 = 4.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor X Area = UA
No selection X [] = ---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor X Area = UA
0.027 X 513 = 13.85

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor X Area = UA
0.056 X 1,254 = 70.22

Floors

[Instructions](#)

R-38

U-Factor X Area = UA
0.025 X 521 = 13.03

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor X Area = UA
0.028 X [] = ---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor X Length = UA
0.303 X [] = ---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor X Length = UA
0.360 X [] = ---

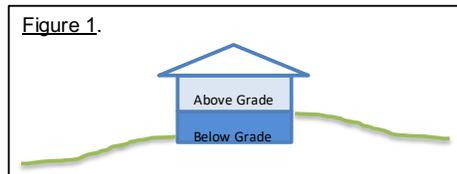
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA	201.66
Envelope Heat Load	9,276 Btu / Hour
<i>Sum of UA x ΔT</i>	
Air Leakage Heat Load	8,020 Btu / Hour
<i>Volume x 0.6 x ΔT x 0.018</i>	
Building Design Heat Load	17,296 Btu / Hour
<i>Air leakage + envelope heat loss</i>	
Building and Duct Heat Load	17,296 Btu / Hour
<i>Ducts in unconditioned space: sum of building heat loss x 1.10</i>	
<i>Ducts in conditioned space: sum of building heat loss x 1</i>	
Maximum Heat Equipment Output	21,620 Btu / Hour
<i>Building and duct heat loss x 1.40 for forced air furnace</i>	
<i>Building and duct heat loss x 1.25 for heat pump</i>	

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Project Information

Townhouse Unit 3, 1726 19th Ave
Seattle, WA 98122
6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type: All Other Systems Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT) 46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

2,140

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

17,334

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor X Area = UA
0.240 X 434 = 104.16

Skylights

[Instructions](#)

U-Factor X Area = UA
0.50 X 8 = 4.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor X Area = UA
No selection X [] = ---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor X Area = UA
0.027 X 515 = 13.91

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor X Area = UA
0.056 X 905 = 50.68

Floors

[Instructions](#)

R-38

U-Factor X Area = UA
0.025 X 523 = 13.08

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor X Area = UA
0.028 X [] = ---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor X Length = UA
0.303 X [] = ---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor X Length = UA
0.360 X [] = ---

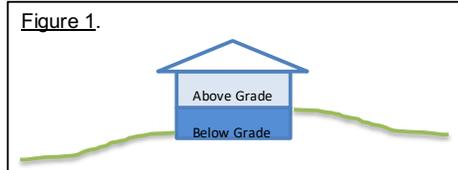
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA 185.82

Envelope Heat Load 8,548 Btu / Hour

Sum of UA x ΔT

Air Leakage Heat Load 8,612 Btu / Hour

Volume x 0.6 x ΔT x 0.018

Building Design Heat Load 17,159 Btu / Hour

Air leakage + envelope heat loss

Building and Duct Heat Load 17,159 Btu / Hour

Ducts in unconditioned space: sum of building heat loss x 1.10

Ducts in conditioned space: sum of building heat loss x 1

Maximum Heat Equipment Output 21,449 Btu / Hour

Building and duct heat loss x 1.40 for forced air furnace

Building and duct heat loss x 1.25 for heat pump

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Project Information

Townhouse Unit 4, 1726 19th Ave
Seattle, WA 98122
6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type: All Other Systems Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT) 46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

2,157

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

17,472

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor X Area = UA
0.240 X 423 = 101.40

Skylights

[Instructions](#)

U-0.50

U-Factor X Area = UA
0.50 X 8 = 4.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor X Area = UA
No selection X [] = ---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor X Area = UA
0.027 X 531 = 14.34

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor X Area = UA
0.056 X 920 = 51.52

Floors

[Instructions](#)

R-38

U-Factor X Area = UA
0.025 X 539 = 13.48

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor X Area = UA
0.028 X [] = ---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor X Length = UA
0.303 X [] = ---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor X Length = UA
0.360 X [] = ---

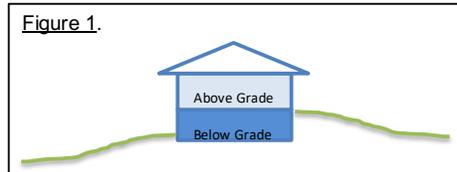
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA 184.73
Envelope Heat Load 8,498 Btu / Hour
Sum of UA x ΔT
Air Leakage Heat Load 8,680 Btu / Hour
Volume x 0.6 x ΔT x 0.018
Building Design Heat Load 17,178 Btu / Hour
Air leakage + envelope heat loss
Building and Duct Heat Load 17,178 Btu / Hour
Ducts in unconditioned space: sum of building heat loss x 1.10
Ducts in conditioned space: sum of building heat loss x 1
Maximum Heat Equipment Output 21,472 Btu / Hour
Building and duct heat loss x 1.40 for forced air furnace
Building and duct heat loss x 1.25 for heat pump

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Project Information

Townhouse Unit 5, 1726 19th Ave
Seattle, WA 98122
6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type:

All Other Systems

Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT)

46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

2,162

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

17,512

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor	X	Area	=	UA
0.240		592		142.08

Skylights

[Instructions](#)

U-Factor	X	Area	=	UA
0.50		8		4.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor	X	Area	=	UA
No selection				---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor	X	Area	=	UA
0.027		532		14.36

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor	X	Area	=	UA
0.056		1,659		92.90

Floors

[Instructions](#)

R-38

U-Factor	X	Area	=	UA
0.025		540		13.50

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor	X	Area	=	UA
0.028				---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor	X	Length	=	UA
0.303				---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor	X	Length	=	UA
0.360				---

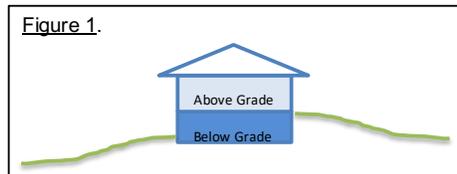
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA	266.85
Envelope Heat Load	12,275 Btu / Hour
<i>Sum of UA x ΔT</i>	
Air Leakage Heat Load	8,700 Btu / Hour
<i>Volume x 0.6 x ΔT x 0.018</i>	
Building Design Heat Load	20,975 Btu / Hour
<i>Air leakage + envelope heat loss</i>	
Building and Duct Heat Load	20,975 Btu / Hour
<i>Ducts in unconditioned space: sum of building heat loss x 1.10</i>	
<i>Ducts in conditioned space: sum of building heat loss x 1</i>	
Maximum Heat Equipment Output	26,219 Btu / Hour
<i>Building and duct heat loss x 1.40 for forced air furnace</i>	
<i>Building and duct heat loss x 1.25 for heat pump</i>	

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Project Information

Townhouse Unit 6, 1726 19th Ave
Seattle, WA 98122
6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type: All Other Systems Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT) 46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

2,162

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

17,512

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor X Area = UA
0.240 X 606 = 145.32

Skylights

[Instructions](#)

U-Factor X Area = UA
0.50 X 8 = 4.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor X Area = UA
No selection X [] = ---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor X Area = UA
0.027 X 538 = 14.53

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor X Area = UA
0.056 X 1,638 = 91.73

Floors

[Instructions](#)

R-38

U-Factor X Area = UA
0.025 X 546 = 13.65

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor X Area = UA
0.028 X [] = ---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor X Length = UA
0.303 X [] = ---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor X Length = UA
0.360 X [] = ---

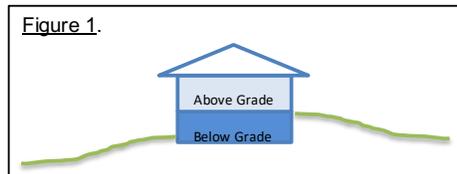
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA	269.22
Envelope Heat Load	12,384 Btu / Hour
<i>Sum of UA x ΔT</i>	
Air Leakage Heat Load	8,700 Btu / Hour
<i>Volume x 0.6 x ΔT x 0.018</i>	
Building Design Heat Load	21,084 Btu / Hour
<i>Air leakage + envelope heat loss</i>	
Building and Duct Heat Load	21,084 Btu / Hour
<i>Ducts in unconditioned space: sum of building heat loss x 1.10</i>	
<i>Ducts in conditioned space: sum of building heat loss x 1</i>	
Maximum Heat Equipment Output	26,355 Btu / Hour
<i>Building and duct heat loss x 1.40 for forced air furnace</i>	
<i>Building and duct heat loss x 1.25 for heat pump</i>	

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Project Information

Townhouse Unit 7, 1726 19th Ave
Seattle, WA 98122
6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type: All Other Systems Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT) 46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

2,156

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

17,464

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor X Area = UA
0.240 X 425 = 102.00

Skylights

[Instructions](#)

U-Factor X Area = UA
0.50 X 8 = 4.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor X Area = UA
No selection X = ---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor X Area = UA
0.027 X 530 = 14.31

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor X Area = UA
0.056 X 903 = 50.57

Floors

[Instructions](#)

R-38

U-Factor X Area = UA
0.025 X 538 = 13.45

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor X Area = UA
0.028 X = ---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor X Length = UA
0.303 X = ---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor X Length = UA
0.360 X = ---

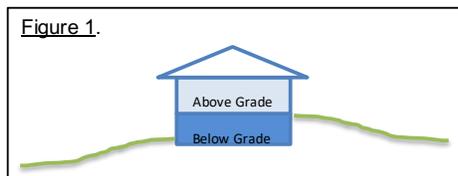
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA 184.33

Envelope Heat Load 8,479 Btu / Hour

Sum of UA x ΔT

Air Leakage Heat Load 8,676 Btu / Hour

Volume x 0.6 x ΔT x 0.018

Building Design Heat Load 17,155 Btu / Hour

Air leakage + envelope heat loss

Building and Duct Heat Load 17,155 Btu / Hour

Ducts in unconditioned space: sum of building heat loss x 1.10

Ducts in conditioned space: sum of building heat loss x 1

Maximum Heat Equipment Output 21,444 Btu / Hour

Building and duct heat loss x 1.40 for forced air furnace

Building and duct heat loss x 1.25 for heat pump

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Project Information

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6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type: All Other Systems Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT) 46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

2,168

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

17,561

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor X Area = UA
0.240 X 443 = 106.32

Skylights

[Instructions](#)

U-Factor X Area = UA
0.50 X 8 = 4.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor X Area = UA
No selection X [] = ---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor X Area = UA
0.027 X 538 = 14.53

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor X Area = UA
0.056 X 883 = 49.45

Floors

[Instructions](#)

R-38

U-Factor X Area = UA
0.025 X 546 = 13.65

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor X Area = UA
0.028 X [] = ---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor X Length = UA
0.303 X [] = ---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor X Length = UA
0.360 X [] = ---

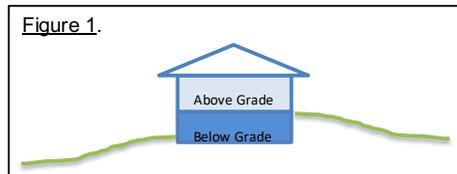
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA 187.94

Envelope Heat Load 8,645 Btu / Hour

Sum of UA x ΔT

Air Leakage Heat Load 8,724 Btu / Hour

Volume x 0.6 x ΔT x 0.018

Building Design Heat Load 17,370 Btu / Hour

Air leakage + envelope heat loss

Building and Duct Heat Load 17,370 Btu / Hour

Ducts in unconditioned space: sum of building heat loss x 1.10

Ducts in conditioned space: sum of building heat loss x 1

Maximum Heat Equipment Output 21,712 Btu / Hour

Building and duct heat loss x 1.40 for forced air furnace

Building and duct heat loss x 1.25 for heat pump

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.

Please complete the green drop-downs and boxes that are applicable to your project. As you make selections in the drop-downs for each section, some values will be calculated for you. If you do not see the selection you need in the drop-down options, please contact the WSU Energy Program at energycode@energy.wsu.edu or (360) 956-2042 for assistance.

Project Information

Townhouse Unit 9, 1726 19th Ave
Seattle, WA 98122
6701530-CN

Contact Information

Brad Khouri, b9 Architects
610 2nd Avenue
Seattle, WA 98104

Heating System Type:

All Other Systems

Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature

[Instructions](#)

Seattle: Sea-Tac AP

Design Temperature Difference (ΔT)

46

$\Delta T = \text{Indoor (70 degrees)} - \text{Outdoor Design Temp}$

Area of Building

Conditioned Floor Area

[Instructions](#)

Conditioned Floor Area (sq ft)

2,144

Average Ceiling Height

[Instructions](#)

Average Ceiling Height (ft)

8.1

Conditioned Volume

17,366

Glazing and Doors

[Instructions](#)

U-0.24

U-Factor	X	Area	=	UA
0.240		610		146.40

Skylights

[Instructions](#)

U-Factor	X	Area	=	UA
0.50		8		4.00

Insulation

Attic

[Instructions](#)

Select R-Value

U-Factor	X	Area	=	UA
No selection				---

Single Rafter or Joist Vaulted Ceilings

[Instructions](#)

R-38 Vented

U-Factor	X	Area	=	UA
0.027		528		14.26

Above Grade Walls (see Figure 1)

[Instructions](#)

R-21 Intermediate

U-Factor	X	Area	=	UA
0.056		1,622		90.83

Floors

[Instructions](#)

R-38

U-Factor	X	Area	=	UA
0.025		536		13.40

Below Grade Walls (see Figure 1)

[Instructions](#)

No Below Grade Walls in th

U-Factor	X	Area	=	UA
0.028				---

Slab Below Grade (see Figure 1)

[Instructions](#)

No Slab Below Grade in th

F-Factor	X	Length	=	UA
0.303				---

Slab on Grade (see Figure 1)

[Instructions](#)

R-10 Fully Insulated

F-Factor	X	Length	=	UA
0.360				---

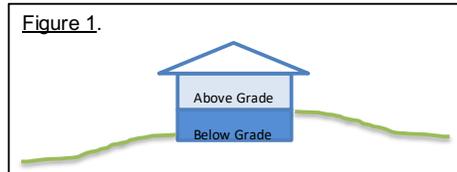
Location of Ducts

[Instructions](#)

Conditioned Space

Duct Leakage Coefficient

1.00



Sum of UA	268.89
Envelope Heat Load	12,369 Btu / Hour
<i>Sum of UA x ΔT</i>	
Air Leakage Heat Load	8,628 Btu / Hour
<i>Volume x 0.6 x ΔT x 0.018</i>	
Building Design Heat Load	20,996 Btu / Hour
<i>Air leakage + envelope heat loss</i>	
Building and Duct Heat Load	20,996 Btu / Hour
<i>Ducts in unconditioned space: sum of building heat loss x 1.10</i>	
<i>Ducts in conditioned space: sum of building heat loss x 1</i>	
Maximum Heat Equipment Output	26,246 Btu / Hour
<i>Building and duct heat loss x 1.40 for forced air furnace</i>	
<i>Building and duct heat loss x 1.25 for heat pump</i>	