

Dview

Visualise and extract values from Dview

Free-running zones maximum/minimum temperature

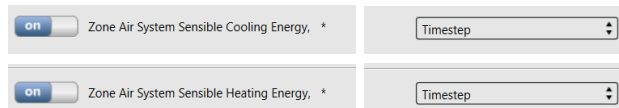
The 'free-running zones maximum/minimum temperature' are the minimum and maximum temperatures that you can observe in the absence of heating and cooling (in OpenStudio, the [Turn On Ideal Air Loads](#) must be deselected). In DView, you can see the time series plot of the air temperature for each zone of your apartment. If you click on Statistics, you can visualise summaries. If you click on 'Zone Air Temperature' and then on the thermal zone of your apartment, you can find the Min and Max temperature (see image below).

| File Help | | | | | | | |
|--|---------|---------|---------|------------|---------|---------------|--|
| Time series Hourly Daily Monthly Heat map Profile Statistics PDF / CDF Duratio | | | | | | | |
| Show Monthly Values <input checked="" type="checkbox"/> | | | | | | | |
| | Mean | Min | Max | Sum | Std Dev | Avg Daily Min | |
| ▼ All | | | | | | | |
| > Site Outdoor Air Drybulb Temperature | | | | | | | |
| > Electricity:Facility | | | | | | | |
| ▼ Zone Air Temperature | | | | | | | |
| > TZ_0-A1.B Run Period Hourly (C) | | | | | | | |
| > TZ_0-A1.LK Run Period Hourly (C) | | | | | | | |
| > TZ_0-A1.W Run Period Hourly (C) | | | | | | | |
| > TZ_0-A2.B Run Period Hourly (C) | | | | | | | |
| > TZ_0-A2.LK Run Period Hourly (C) | | | | | | | |
| > TZ_0-A2.W Run Period Hourly (C) | | | | | | | |
| ▼ TZ_0-H Run Period Hourly (C) | | | | | | | |
| Jan | 10.5105 | 5.6779 | 14.8676 | 7809.331 | 1.9699 | 8.9005 | |
| Feb | 11.699 | 7.7662 | 17.32 | 7861.7022 | 1.6386 | 9.8437 | |
| Mar | 15.0959 | 9.7166 | 22.2854 | 11231.3736 | 2.4297 | 12.3814 | |
| Apr | 17.1296 | 11.0138 | 24.4875 | 12333.3296 | 2.5303 | 14.5152 | |
| May | 20.7792 | 15.4983 | 28.3575 | 15459.7001 | 2.7304 | 18.1157 | |
| Jun | 23.2093 | 15.8635 | 31.407 | 16710.7268 | 2.8444 | 20.3668 | |
| Jul | 25.608 | 20.4248 | 32.2668 | 19052.3572 | 2.5389 | 22.8672 | |
| Aug | 24.7147 | 19.0127 | 31.0467 | 18387.749 | 2.2558 | 22.4183 | |
| Sep | 21.3842 | 15.586 | 28.576 | 15396.6001 | 2.4311 | 18.7495 | |
| Oct | 17.7556 | 12.182 | 23.5049 | 13210.1349 | 1.9402 | 15.8669 | |
| Nov | 13.9798 | 9.6964 | 20.4684 | 10065.4423 | 1.908 | 12.3438 | |
| Dec | 11.448 | 6.9882 | 15.255 | 8517.3038 | 1.6976 | 9.7771 | |
| Total | 17.8135 | 5.6779 | 32.2668 | 156046.377 | 5.5943 | 15.5705 | |
| > TZ_1-A3.B1 Run Period Hourly (C) | | | | | | | |
| > TZ_1-A3.B2 Run Period Hourly (C) | | | | | | | |

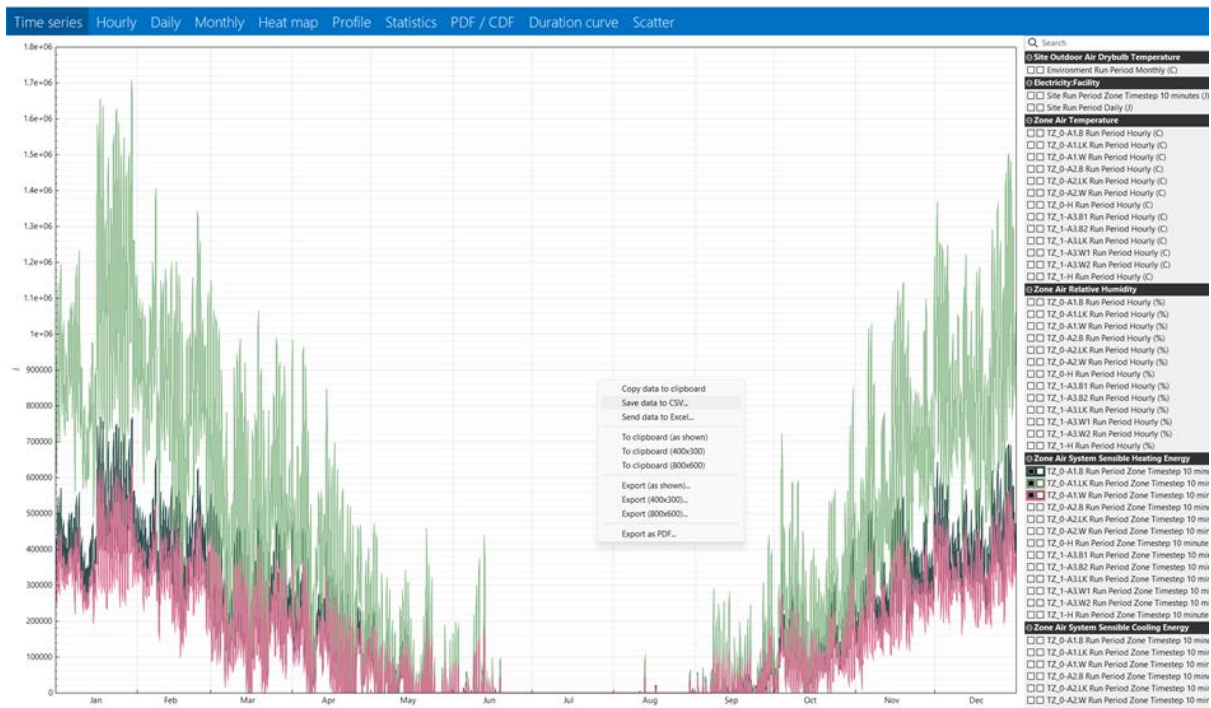
Annual energy needs for space heating and cooling (single apartment)



- 1) Navigate to the **Output Variables** tab
 - a. In **Filter Variables** type 'Zone Air System Sensible'.
 - b. Turn on the toggle **Zone Air System Sensible Heating Energy** for heating, and **Zone Air System Sensible Cooling Energy** for cooling, and select **Timestep**.



- 2) Re-run your model, and navigate the results in the DView application.
 - a. In **Time series** and under 'Zone Air System Sensible Heating Energy' select the thermal zone of your apartment to visualise the data.
 - b. Right-click on the graph, and select 'Save data to CSV...'. This will export all the data that is visualised in the image in a CSV file.



- c. Open the file in Excel. You should visualise something similar to the image below. You need to sum the values in each column (the image is just an excerpt, since each column has 52'560 values).

| | A | B | C | D | E | F | G |
|----|-------------|-----------------|-----------------|-----------------|----------------------------------|-----|-----------|
| 1 | Hours since | Zone Air System | Zone Air System | Zone Air System | Sensible Heating Energy: TZ_0-A1 | | |
| 2 | 0.166667 | 444921 | 983995 | 372164 | | | |
| 3 | 0.333333 | 442448 | 975956 | 369091 | | | |
| 4 | 0.5 | 439828 | 967594 | 365909 | | TOT | =SUM(B:B) |
| 5 | 0.666667 | 437063 | 958986 | 362644 | | | |
| 6 | 0.833333 | 434154 | 950091 | 359282 | | | |
| 7 | 1 | 431100 | 940914 | 355820 | | | |
| 8 | 1.16667 | 431857 | 943892 | 356735 | | | |
| 9 | 1.33333 | 432456 | 944118 | 356841 | | | |
| 10 | 1.5 | 432942 | 944137 | 356873 | | | |
| 11 | 1.66667 | 433323 | 944063 | 356857 | | | |
| 12 | 1.83333 | 433615 | 943937 | 356803 | | | |
| 13 | 2 | 433831 | 943769 | 356718 | | | |
| 14 | 2.16667 | 434355 | 945821 | 357346 | | | |
| 15 | 2.33333 | 434826 | 946585 | 357592 | | | |
| 16 | 2.5 | 435258 | 947285 | 357811 | | | |
| 17 | 2.66667 | 435651 | 947946 | 358009 | | | |
| 18 | 2.83333 | 436016 | 948581 | 358197 | | | |

d. Then sum this new row (see image below).

| | A | B | C | D | E | F | G | H | I | J | K |
|----|-------------|-----------------|-----------------|-----------------|--|-----|------------|----------|----------|---|-------------|
| 1 | Hours since | Zone Air System | Zone Air System | Zone Air System | Sensible Heating Energy: TZ_0-A1.W Run Period Zone Timestep 10 minutes (J) | | | | | | |
| 2 | 0.166667 | 444921 | 983995 | 372164 | | | | | | | |
| 3 | 0.333333 | 442448 | 975956 | 369091 | | | | | | | |
| 4 | 0.5 | 439828 | 967594 | 365909 | | TOT | 9260693613 | 1.94E+10 | 7.48E+09 | | =sum(G4:I4) |
| 5 | 0.666667 | 437063 | 958986 | 362644 | | | | | | | |
| 6 | 0.833333 | 434154 | 950091 | 359282 | | | | | | | |
| 7 | 1 | 431100 | 940914 | 355820 | | | | | | | |
| 8 | 1.16667 | 431857 | 943892 | 356735 | | | | | | | |
| 9 | 1.33333 | 432456 | 944118 | 356841 | | | | | | | |
| 10 | 1.5 | 432942 | 944137 | 356873 | | | | | | | |
| 11 | 1.66667 | 433323 | 944063 | 356857 | | | | | | | |
| 12 | 1.83333 | 433615 | 943937 | 356803 | | | | | | | |
| 13 | 2 | 433831 | 943769 | 356718 | | | | | | | |
| 14 | 2.16667 | 434355 | 945821 | 357346 | | | | | | | |
| 15 | 2.33333 | 434826 | 946585 | 357592 | | | | | | | |
| 16 | 2.5 | 435258 | 947285 | 357811 | | | | | | | |
| 17 | 2.66667 | 435651 | 947946 | 358009 | | | | | | | |
| 18 | 2.83333 | 436016 | 948581 | 358197 | | | | | | | |

e. The value obtained is the annual energy for heating only for your apartment. However, the value is in J and you need it in kWh. To convert it to kWh, multiply it by 0.00000277778 (see image below).

| | A | B | C | D | E | F | G | H | I | J | K |
|---|------------|-------------------------|-------------------------|-----------------|--|-----|------------|----------|----------|---|----------------|
| 1 | Hours sinc | Zone Air S _y | Zone Air S _y | Zone Air System | Sensible Heating Energy: TZ_0-A1.W Run Period Zone Timestep 10 minutes (J) | | | | | | |
| 2 | 0.166667 | 444921 | 983995 | 372164 | | | | | | | |
| 3 | 0.333333 | 442448 | 975956 | 369091 | | | | | | | |
| 4 | 0.5 | 439828 | 967594 | 365909 | | TOT | 9260693613 | 1.94E+10 | 7.48E+09 | | 36183434227 |
| 5 | 0.666667 | 437063 | 958986 | 362644 | | | | | | | |
| 6 | 0.833333 | 434154 | 950091 | 359282 | | | | | | | |
| 7 | 1 | 431100 | 940914 | 355820 | | | | | | | =K4*2.77778e-7 |
| 8 | 1.16667 | 431857 | 943892 | 356735 | | | | | | | |
| 9 | 1.33333 | 432456 | 944118 | 356841 | | | | | | | |

- f. Finally, this value needs to be divided by the area of your apartment to obtain the annual energy need for space heating.
- g. To get the annual energy need for cooling, you need to repeat this process for the 'Zone Air System Sensible Cooling Energy'.

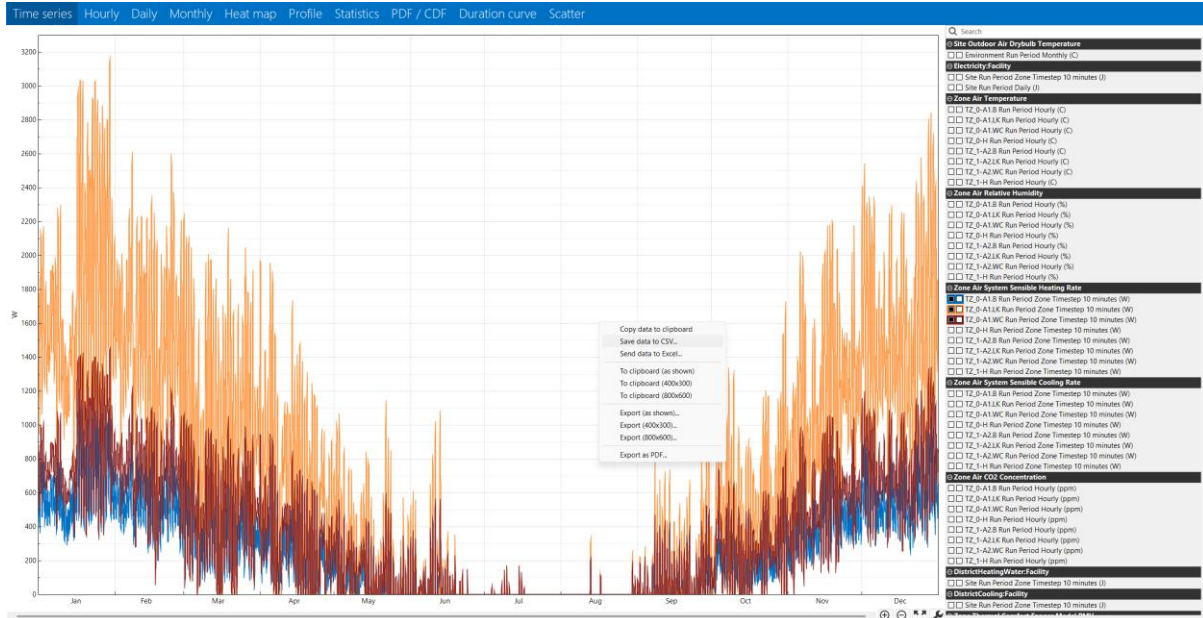
Peak power space heating and cooling (single apartment)



- 1) Navigate to the [Output Variables](#) tab
 - a. In [Filter Variables](#) type 'Zone Air System Sensible'.
 - b. Turn on the toggle [Zone Air System Sensible Heating Rate](#) for heating, and [Zone Air System Sensible Cooling Rate](#) for cooling, and select [Timestep](#).



- 2) Re-run your model, and navigate the results in the DView application.
 - a. In Time series and under 'Zone Air System Sensible Heating Rate' select the thermal zone of your apartment to visualise the data.
 - b. Right-click on the graph, and select 'Save data to CSV...'. This will export all the data visualised in the image to a CSV file.



- c. Open the file in Excel. You should visualise something similar to the image below. You need to sum the values in each row (the image is just an excerpt, since each column has 52'560 values).

| | A | B | C | D | E | F | G | H | I | J | K | L |
|----|------------|------------|------------|------------|--|-------------|---|---|---|---|---|---|
| 1 | Hours sinc | Zone Air S | Zone Air S | Zone Air S | System Sensible Heating Rate: TZ_0-A1.WC Run Period Zone Timestep 10 minutes (W) | | | | | | | |
| 2 | 0.166667 | 661.361 | 1889.32 | 885.286 | | =sum(B2:D2) | | | | | | |
| 3 | 0.333333 | 655.508 | 1865.46 | 872.938 | | | | | | | | |
| 4 | 0.5 | 649.352 | 1840.95 | 860.427 | | | | | | | | |
| 5 | 0.666667 | 642.9 | 1815.95 | 847.806 | | | | | | | | |
| 6 | 0.833333 | 636.151 | 1790.44 | 835.059 | | | | | | | | |
| 7 | 1 | 629.128 | 1764.45 | 822.182 | | | | | | | | |
| 8 | 1.16667 | 629.841 | 1767.99 | 822.688 | | | | | | | | |
| 9 | 1.33333 | 630.251 | 1766.02 | 821.712 | | | | | | | | |
| 10 | 1.5 | 630.445 | 1763.63 | 820.557 | | | | | | | | |
| 11 | 1.66667 | 630.437 | 1761.02 | 819.258 | | | | | | | | |
| 12 | 1.83333 | 630.258 | 1758.27 | 817.838 | | | | | | | | |
| 13 | 2 | 629.935 | 1755.4 | 816.317 | | | | | | | | |
| 14 | 2.16667 | 630.254 | 1757.51 | 816.611 | | | | | | | | |

- d. Then find the max for this new column (see image below). The value obtained is the peak demand for heating only for your apartment. However, the value is in W, and since the requested value is in kW, it needs to be converted.

| | A | B | C | D | E | F | G | H | I | J | K | L |
|----|------------|------------|------------|----------------------|-------------|--|---|-----|-----------|---|---|---|
| 1 | Hours sinc | Zone Air S | Zone Air S | Zone Air System Sens | ble Heating | Rate: TZ_0-A1.WC Run Period Zone Timestep 10 minutes (W) | | | | | | |
| 2 | 0.166667 | 661.361 | 1889.32 | 885.286 | | 3435.967 | | | | | | |
| 3 | 0.333333 | 655.508 | 1865.46 | 872.938 | | 3393.906 | | MAX | =max(F:F) | | | |
| 4 | 0.5 | 649.352 | 1840.95 | 860.427 | | 3350.729 | | | | | | |
| 5 | 0.666667 | 642.9 | 1815.95 | 847.806 | | 3306.656 | | | | | | |
| 6 | 0.833333 | 636.151 | 1790.44 | 835.059 | | 3261.65 | | | | | | |
| 7 | 1 | 629.128 | 1764.45 | 822.182 | | 3215.76 | | | | | | |
| 8 | 1.16667 | 629.841 | 1767.99 | 822.688 | | 3220.519 | | | | | | |
| 9 | 1.33333 | 630.251 | 1766.02 | 821.712 | | 3217.983 | | | | | | |
| 10 | 1.5 | 630.445 | 1763.63 | 820.557 | | 3214.632 | | | | | | |
| 11 | 1.66667 | 630.437 | 1761.02 | 819.258 | | 3210.715 | | | | | | |
| 12 | 1.83333 | 630.258 | 1758.27 | 817.838 | | 3206.366 | | | | | | |
| 13 | 2 | 629.935 | 1755.4 | 816.317 | | 3201.652 | | | | | | |
| 14 | 2.16667 | 630.254 | 1757.51 | 816.611 | | 3204.375 | | | | | | |

e. You can also report the corresponding date. To do so, follow the steps in the images below.

SUM X ✓ fx =MATCH(I3,F:F,0)

| | A | B | C | D | E | F | G | H | I | J | K |
|----|------------|------------|------------|----------------------|-------------|--|---|-----|------------------|---|---|
| 1 | Hours sinc | Zone Air S | Zone Air S | Zone Air System Sens | ble Heating | Rate: TZ_0-A1.WC Run Period Zone Timestep 10 minutes (W) | | | | | |
| 2 | 0.166667 | 661.361 | 1889.32 | 885.286 | | 3435.967 | | | | | |
| 3 | 0.333333 | 655.508 | 1865.46 | 872.938 | | 3393.906 | | MAX | 5709.68 | | |
| 4 | 0.5 | 649.352 | 1840.95 | 860.427 | | 3350.729 | | | =MATCH(I3,F:F,0) | | |
| 5 | 0.666667 | 642.9 | 1815.95 | 847.806 | | 3306.656 | | | | | |
| 6 | 0.833333 | 636.151 | 1790.44 | 835.059 | | 3261.65 | | | | | |
| 7 | 1 | 629.128 | 1764.45 | 822.182 | | 3215.76 | | | | | |
| 8 | 1.16667 | 629.841 | 1767.99 | 822.688 | | 3220.519 | | | | | |
| 9 | 1.33333 | 630.251 | 1766.02 | 821.712 | | 3217.983 | | | | | |
| 10 | 1.5 | 630.445 | 1763.63 | 820.557 | | 3214.632 | | | | | |
| 11 | 1.66667 | 630.437 | 1761.02 | 819.258 | | 3210.715 | | | | | |
| 12 | 1.83333 | 630.258 | 1758.27 | 817.838 | | 3206.366 | | | | | |
| 13 | 2 | 629.935 | 1755.4 | 816.317 | | 3201.652 | | | | | |
| 14 | 2.16667 | 630.254 | 1757.51 | 816.611 | | 3204.375 | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K |
|----|------------|------------|------------|----------------------|-------------|--|---|-----|------------------|---|---|
| 1 | Hours sinc | Zone Air S | Zone Air S | Zone Air System Sens | ble Heating | Rate: TZ_0-A1.WC Run Period Zone Timestep 10 minutes (W) | | | | | |
| 2 | 0.166667 | 661.361 | 1889.32 | 885.286 | | 3435.967 | | | | | |
| 3 | 0.333333 | 655.508 | 1865.46 | 872.938 | | 3393.906 | | MAX | 5709.68 | | |
| 4 | 0.5 | 649.352 | 1840.95 | 860.427 | | 3350.729 | | | 4201 | | |
| 5 | 0.666667 | 642.9 | 1815.95 | 847.806 | | 3306.656 | | | =INDEX(A:F,I4,1) | | |
| 6 | 0.833333 | 636.151 | 1790.44 | 835.059 | | 3261.65 | | | | | |
| 7 | 1 | 629.128 | 1764.45 | 822.182 | | 3215.76 | | | | | |
| 8 | 1.16667 | 629.841 | 1767.99 | 822.688 | | 3220.519 | | | | | |
| 9 | 1.33333 | 630.251 | 1766.02 | 821.712 | | 3217.983 | | | | | |
| 10 | 1.5 | 630.445 | 1763.63 | 820.557 | | 3214.632 | | | | | |
| 11 | 1.66667 | 630.437 | 1761.02 | 819.258 | | 3210.715 | | | | | |
| 12 | 1.83333 | 630.258 | 1758.27 | 817.838 | | 3206.366 | | | | | |
| 13 | 2 | 629.935 | 1755.4 | 816.317 | | 3201.652 | | | | | |
| 14 | 2.16667 | 630.254 | 1757.51 | 816.611 | | 3204.375 | | | | | |
| 15 | 2.33333 | 630.472 | 1757.01 | 816.189 | | 3203.671 | | | | | |

CIVIL-407 | ENERGY AND COMFORT IN BUILDINGS

| | A | B | C | D | E | F | G | H | I | J | K |
|----|------------|-------------------------|-------------------------|---|---|----------|---|------|-----------------|---------|---|
| 1 | Hours sinc | Zone Air S _y | Zone Air S _y | Zone Air System Sensible Heating Rate: TZ_0-A1.WC Run Period Zone Timestep 10 minutes (W) | | | | | | | |
| 2 | 0.166667 | 661.361 | 1889.32 | 885.286 | | 3435.967 | | | | | |
| 3 | 0.333333 | 655.508 | 1865.46 | 872.938 | | 3393.906 | | MAX | | 5709.68 | |
| 4 | 0.5 | 649.352 | 1840.95 | 860.427 | | 3350.729 | | | | 4201 | |
| 5 | 0.666667 | 642.9 | 1815.95 | 847.806 | | 3306.656 | | | | 700 | |
| 6 | 0.833333 | 636.151 | 1790.44 | 835.059 | | 3261.65 | | Date | =15*10*60/86400 | | |
| 7 | 1 | 629.128 | 1764.45 | 822.182 | | 3215.76 | | | | | |
| 8 | 1.16667 | 629.841 | 1767.99 | 822.688 | | 3220.519 | | | | | |
| 9 | 1.33333 | 630.251 | 1766.02 | 821.712 | | 3217.983 | | | | | |
| 10 | 1.5 | 630.445 | 1763.63 | 820.557 | | 3214.632 | | | | | |
| 11 | 1.66667 | 630.437 | 1761.02 | 819.258 | | 3210.715 | | | | | |
| 12 | 1.83333 | 630.258 | 1758.27 | 817.838 | | 3206.366 | | | | | |
| 13 | 2 | 629.935 | 1755.4 | 816.317 | | 3201.652 | | | | | |
| 14 | 2.16667 | 630.254 | 1757.51 | 816.611 | | 3204.375 | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|----|------------|-------------------------|-------------------------|---|---|----------|---|------|-------------|---------|---|---|---|---|
| 1 | Hours sinc | Zone Air S _y | Zone Air S _y | Zone Air System Sensible Heating Rate: TZ_0-A1.WC Run Period Zone Timestep 10 minutes (W) | | | | | | | | | | |
| 2 | 0.166667 | 661.361 | 1889.32 | 885.286 | | 3435.967 | | | | | | | | |
| 3 | 0.333333 | 655.508 | 1865.46 | 872.938 | | 3393.906 | | MAX | | 5709.68 | | | | |
| 4 | 0.5 | 649.352 | 1840.95 | 860.427 | | 3350.729 | | | | 4201 | | | | |
| 5 | 0.666667 | 642.9 | 1815.95 | 847.806 | | 3306.656 | | | | 700 | | | | |
| 6 | 0.833333 | 636.151 | 1790.44 | 835.059 | | 3261.65 | | Date | 4.861111111 | | | | | |
| 7 | 1 | 629.128 | 1764.45 | 822.182 | | 3215.76 | | | | | | | | |
| 8 | 1.16667 | 629.841 | 1767.99 | 822.688 | | 3220.519 | | | | | | | | |
| 9 | 1.33333 | 630.251 | 1766.02 | 821.712 | | 3217.983 | | | | | | | | |
| 10 | 1.5 | 630.445 | 1763.63 | 820.557 | | 3214.632 | | | | | | | | |
| 11 | 1.66667 | 630.437 | 1761.02 | 819.258 | | 3210.715 | | | | | | | | |
| 12 | 1.83333 | 630.258 | 1758.27 | 817.838 | | 3206.366 | | | | | | | | |
| 13 | 2 | 629.935 | 1755.4 | 816.317 | | 3201.652 | | | | | | | | |
| 14 | 2.16667 | 630.254 | 1757.51 | 816.611 | | 3204.375 | | | | | | | | |
| 15 | 2.33333 | 630.472 | 1757.01 | 816.189 | | 3203.671 | | | | | | | | |
| 16 | 2.5 | 630.613 | 1756.39 | 815.698 | | 3202.701 | | | | | | | | |
| 17 | 2.66667 | 630.688 | 1755.71 | 815.157 | | 3201.555 | | | | | | | | |
| 18 | 2.83333 | 630.708 | 1754.97 | 814.577 | | 3200.255 | | | | | | | | |
| 19 | 3 | 630.682 | 1754.2 | 813.966 | | 3198.848 | | | | | | | | |
| 20 | 3.16667 | 631.036 | 1756.05 | 814.337 | | 3201.423 | | | | | | | | |
| 21 | 3.33333 | 631.369 | 1756.63 | 814.371 | | 3202.37 | | | | | | | | |
| 22 | 3.5 | 650.879 | 1785.73 | 824.01 | | 3260.619 | | | | | | | | |
| 23 | 3.66667 | 652.706 | 1788.6 | 824.888 | | 3266.194 | | | | | | | | |
| 24 | 3.83333 | 653.8 | 1790.55 | 825.36 | | 3269.71 | | | | | | | | |
| 25 | 4 | 654.552 | 1792.19 | 825.601 | | 3272.343 | | | | | | | | |
| 26 | 4.16667 | 655.496 | 1773.87 | 820.907 | | 3250.273 | | | | | | | | |
| 27 | 4.33333 | 656.35 | 1776.39 | 821.607 | | 3254.347 | | | | | | | | |

Format Cells

Number Alignment Font Border Fill Protection

Category: Custom

Sample: 04 January

Type: dd mmmm

###0.00;[Red]-##0.00
 E# ##0;-E# ##0
 E# ##0;[Red]-E# ##0
 E# ##0.00;-E# ##0.00
 E# ##0.00;[Red]-E# ##0.00
 0%
 0.00%
 0.00E+00
 ##0.0E+0
 # ?/?
 # ??/??
 dd/mm/yyyy

Delete