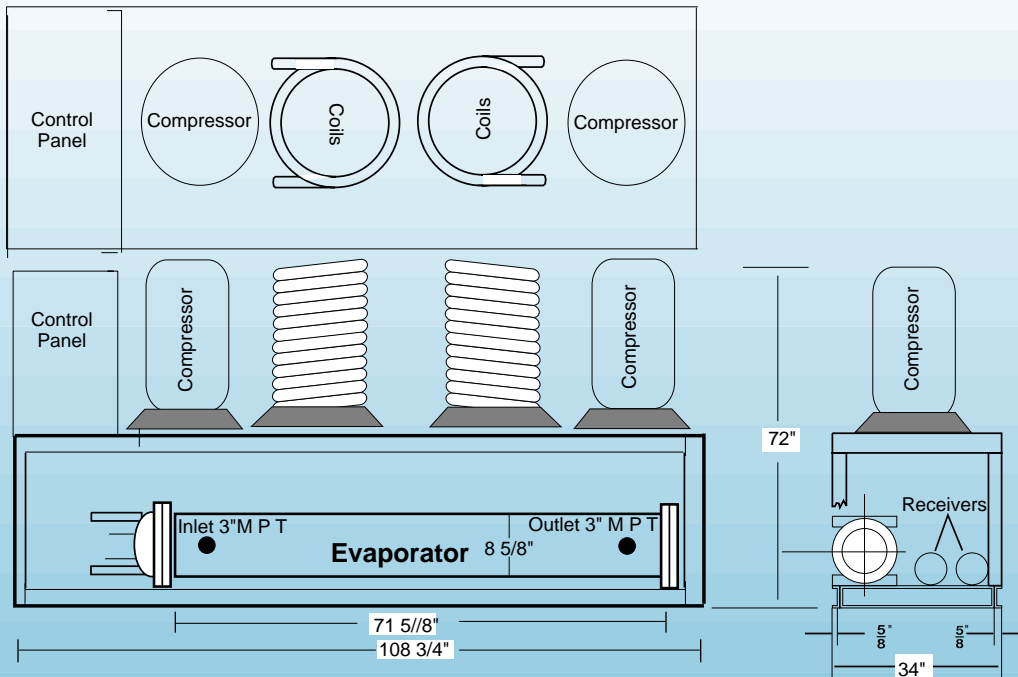


MODEL HPWS 5 DS 590



MODEL HPWS 5 DS 590

| | | | |
|-----------------------|----------------------------|------------------------|--------------------|
| Heating Capacity | 316,979 BTUH | Cooling Capacity | 232,200 BTUH |
| Condenser Water Flow | 60 GPM | Evaporator Water Flow | 50 GPM |
| Pressure Drop (cond.) | 5.2 PSI | Pressure Drop (Evap.) | 2.38 PSI |
| Entering Water Temp. | 120 °F | Entering Water Temp. | 55.0°F |
| Leaving Water Temp. | 130.57° F | Leaving Water Temp. | 45.7° F |
| COP | 3.74 | Cooling EER | 8.48 |
| Compressors | (2) SZ-185 Maneurop Scroll | Condensers | Double Wall Vented |
| Voltage | 208/230/60/3Ø | Cpnd. Construction | Tube-in-Tube |
| RLA/LRA | 43.5/420 ea. | Evaporator | Tube-in-Shell |
| Control Voltage | 24 Volts | Refrigerant Type | R-134A |
| Minimum Circuit Amp. | 50 each compressor | Minimum Unit Amperage. | 100.0 Amp. |

STANDARD FEATURES

| | |
|---|---|
| Liquid Receiver | Liquid Line Dryer |
| Compressors Service Valves | Thermostatic Expansion Valves |
| Liquid Line Sight Glass | Compressor Rotation Control |
| Compressors Adjustable Time Delay Relay | High Side Pressure Control (Mechanical) |
| Single Phase/Voltage Protection | Low Side Pressure Control (Mechanical) |
| Evaporator Flow Switch Relay | Fused Protection on each Compressor |
| Condenser Flow Switch Relay | Hinged Pre-wired Control Panel |

Options

| |
|---|
| Four Year Extended Compressor Warranty |
| Extended Parts/Labor Warranty—Year 2 thru 5 |
| Micro-Processor Based Control System |
| Crank Case Heaters |
| Refrigerant Pump Down Solenoid Valves |
| Condenser Water Circulating Pump for each Refrigerant Circuit |

Note: In view of Continuous Product Improvements, design and specification are subject to change without notice.

Heat Harvester Energy Efficient Products
Manufactured by
Environmentally Engineered Equipment, Inc.

| MODEL HPWS 5 DS 590 | | | | | | | | | | | | | | | |
|---------------------|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 120 GPM, | | | | | | | | | | | | | | |
| 95 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 592,800 | 582,600 | 572,400 | 560,300 | 548,200 | 534,200 | 520,200 | 506,300 | 492,400 | 477,300 | 462,200 | 445,900 | 429,600 | 413,300 | 397,000 |
| HMBTUH | 642,015 | 634,819 | 627,622 | 618,901 | 610,180 | 600,207 | 590,235 | 580,362 | 570,489 | 560,134 | 549,778 | 538,938 | 528,099 | 517,260 | 506,421 |
| WATTS | 14,420 | 15,300 | 16,180 | 17,170 | 18,160 | 19,340 | 20,520 | 21,700 | 22,880 | 24,270 | 25,660 | 27,260 | 28,860 | 30,460 | 32,060 |
| EER | 41.11 | 38.08 | 35.38 | 32.63 | 30.19 | 27.62 | 25.35 | 23.33 | 21.52 | 19.67 | 18.01 | 16.36 | 14.89 | 13.57 | 12.38 |
| COP | 13.04 | 12.16 | 11.37 | 10.56 | 9.84 | 9.09 | 8.43 | 7.84 | 7.31 | 6.76 | 6.28 | 5.79 | 5.36 | 4.98 | 4.63 |
| LV. WTR | 80.7 | 85.58 | 90.46 | 95.32 | 100.17 | 105.01 | 109.84 | 114.68 | 119.51 | 124.34 | 129.17 | 133.99 | 138.81 | 143.62 | 148.44 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 120 GPM, | | | | | | | | | | | | | | |
| 90 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 557,200 | 547,400 | 537,600 | 491,900 | 481,000 | 468,600 | 488,200 | 475,000 | 461,800 | 447,500 | 433,200 | 417,800 | 402,400 | 387,000 | 371,600 |
| HMBTUH | 606,415 | 599,585 | 592,754 | 550,399 | 542,844 | 534,403 | 525,962 | 517,489 | 509,016 | 500,226 | 491,436 | 482,329 | 473,221 | 464,114 | 455,006 |
| WATTS | 14,420 | 15,290 | 16,160 | 17,140 | 18,120 | 19,280 | 20,440 | 21,620 | 22,800 | 24,180 | 25,560 | 27,140 | 28,720 | 30,300 | 31,880 |
| EER | 70 | 35.8 | 33.27 | 28.7 | 26.55 | 24.3 | 23.88 | 21.97 | 20.25 | 18.51 | 16.95 | 15.39 | 14.01 | 12.77 | 11.66 |
| COP | 12.32 | 11.49 | 10.75 | 9.41 | 8.78 | 8.12 | 8 | 7.44 | 6.93 | 6.42 | 5.97 | 5.51 | 5.11 | 4.74 | 4.42 |
| LV. WTR | 80.11 | 85 | 89.88 | 94.18 | 99.05 | 103.91 | 109.3 | 114.15 | 119 | 123.84 | 128.68 | 133.51 | 138.34 | 143.18 | 148.01 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 120 GPM, | | | | | | | | | | | | | | |
| 85 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 521,600 | 512,200 | 502,800 | 491,900 | 481,000 | 468,600 | 456,200 | 443,700 | 431,200 | 417,700 | 404,200 | 389,700 | 375,200 | 360,700 | 346,200 |
| HMBTUH | 570,815 | 564,385 | 557,954 | 550,399 | 542,844 | 534,403 | 525,962 | 517,489 | 509,016 | 500,226 | 491,436 | 482,329 | 473,221 | 464,114 | 455,006 |
| WATTS | 14,420 | 15,290 | 16,160 | 17,140 | 18,120 | 19,280 | 20,440 | 21,620 | 22,800 | 24,180 | 25,560 | 27,140 | 28,720 | 30,300 | 31,880 |
| EER | 70 | 35.8 | 33.27 | 28.7 | 26.55 | 24.3 | 23.88 | 21.97 | 20.25 | 18.51 | 16.95 | 15.39 | 14.01 | 12.77 | 11.66 |
| COP | 12.32 | 11.49 | 10.75 | 9.41 | 8.78 | 8.12 | 8 | 7.44 | 6.93 | 6.42 | 5.97 | 5.51 | 5.11 | 4.74 | 4.42 |
| LV. WTR | 79.52 | 84.41 | 89.3 | 94.18 | 99.05 | 103.91 | 108.77 | 113.63 | 118.49 | 123.34 | 128.19 | 133.04 | 137.89 | 142.74 | 147.59 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 120 GPM, | | | | | | | | | | | | | | |
| 80 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 486,000 | 477,000 | 468,000 | 457,700 | 447,400 | 435,800 | 424,200 | 412,400 | 400,600 | 387,900 | 375,200 | 361,600 | 348,000 | 334,400 | 320,800 |
| HMBTUH | 535,215 | 529,151 | 523,086 | 516,096 | 509,107 | 501,398 | 493,689 | 485,916 | 478,143 | 470,119 | 462,095 | 453,819 | 445,544 | 437,268 | 428,992 |
| WATTS | 14,420 | 15,280 | 16,140 | 17,110 | 18,080 | 19,220 | 20,360 | 21,540 | 22,720 | 24,090 | 25,460 | 27,020 | 28,580 | 30,140 | 31,700 |
| EER | 33.7 | 31.22 | 29 | 26.75 | 24.75 | 22.67 | 20.83 | 19.15 | 17.63 | 16.1 | 14.74 | 13.38 | 12.18 | 11.09 | 10.12 |
| COP | 10.87 | 10.15 | 9.5 | 8.84 | 8.25 | 7.64 | 7.1 | 6.61 | 6.17 | 5.72 | 5.32 | 4.92 | 4.57 | 4.25 | 3.97 |
| LV. WTR | 78.92 | 83.82 | 88.72 | 93.61 | 98.49 | 103.36 | 108.23 | 113.1 | 117.97 | 122.84 | 127.7 | 132.57 | 137.43 | 142.29 | 147.15 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 120 GPM, | | | | | | | | | | | | | | |
| 75 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 450,400 | 441,800 | 433,200 | 423,500 | 413,800 | 403,000 | 392,200 | 381,100 | 370,000 | 358,100 | 346,200 | 333,500 | 320,800 | 308,100 | 295,400 |
| HMBTUH | 499,615 | 493,917 | 488,218 | 481,794 | 475,371 | 468,393 | 461,416 | 454,343 | 447,270 | 440,012 | 432,754 | 425,310 | 417,866 | 410,422 | 402,978 |
| WATTS | 14,420 | 15,270 | 16,120 | 17,080 | 18,040 | 19,160 | 20,280 | 21,460 | 22,640 | 24,000 | 25,360 | 26,900 | 28,440 | 29,980 | 31,520 |
| EER | 31.23 | 28.93 | 26.87 | 24.8 | 22.94 | 21.03 | 19.34 | 17.76 | 16.34 | 14.92 | 13.65 | 12.4 | 11.28 | 10.28 | 9.37 |
| COP | 10.15 | 9.48 | 8.87 | 8.26 | 7.72 | 7.16 | 6.67 | 6.2 | 5.79 | 5.37 | 5 | 4.63 | 4.3 | 4.01 | 3.75 |
| LV. WTR | 78.33 | 83.24 | 88.14 | 93.03 | 97.93 | 102.81 | 107.69 | 112.58 | 117.46 | 122.34 | 127.22 | 132.09 | 136.97 | 141.84 | 146.72 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 120 GPM, | | | | | | | | | | | | | | |
| 70 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 414,800 | 406,600 | 398,400 | 389,300 | 380,200 | 370,200 | 360,200 | 349,800 | 339,400 | 328,300 | 317,200 | 305,400 | 293,600 | 281,800 | 270,000 |
| HMBTUH | 464,015 | 458,682 | 453,349 | 447,492 | 441,634 | 435,388 | 429,143 | 422,770 | 416,397 | 409,905 | 403,412 | 396,800 | 390,188 | 383,576 | 376,963 |
| WATTS | 14,420 | 15,260 | 16,100 | 17,050 | 18,000 | 19,100 | 20,200 | 21,380 | 22,560 | 23,910 | 25,260 | 26,780 | 28,300 | 29,820 | 31,340 |
| EER | 28.77 | 26.64 | 24.75 | 22.83 | 21.12 | 19.38 | 17.83 | 16.36 | 15.04 | 13.73 | 12.56 | 11.4 | 10.37 | 9.45 | 8.62 |
| COP | 9.43 | 8.81 | 8.25 | 7.69 | 7.19 | 6.68 | 6.22 | 5.79 | 5.41 | 5.02 | 4.68 | 4.34 | 4.04 | 3.77 | 3.52 |
| LV. WTR | 77.74 | 82.65 | 87.56 | 92.46 | 97.36 | 102.26 | 107.16 | 112.05 | 116.94 | 121.83 | 126.73 | 131.62 | 136.51 | 141.4 | 146.29 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 60 GPM, | | | | | | | | | | | | | | |
| 65 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 379,200 | 371,400 | 363,600 | 355,100 | 346,600 | 337,400 | 328,200 | 318,500 | 308,800 | 298,500 | 288,200 | 277,300 | 266,400 | 255,500 | 244,600 |
| HMBTUH | 428,415 | 423,414 | 418,413 | 413,087 | 407,761 | 402,179 | 396,597 | 390,924 | 385,251 | 379,490 | 373,730 | 367,881 | 362,032 | 356,184 | 350,335 |
| WATTS | 14,420 | 15,240 | 16,060 | 16,990 | 17,920 | 18,980 | 20,040 | 21,220 | 22,400 | 23,730 | 25,060 | 26,540 | 28,020 | 29,500 | 30,980 |
| EER | 26.3 | 24.37 | 22.64 | 20.9 | 19.34 | 17.78 | 16.38 | 15.01 | 13.79 | 12.58 | 11.5 | 10.45 | 9.51 | 8.66 | 7.9 |
| COP | 8.7 | 8.14 | 7.63 | 7.12 | 6.67 | 6.21 | 5.8 | 5.4 | 5.04 | 4.69 | 4.37 | 4.06 | 3.79 | 3.54 | 3.31 |
| LV. WTR | 84.29 | 89.12 | 93.95 | 98.78 | 103.6 | 108.41 | 113.23 | 118.04 | 122.85 | 127.65 | 132.46 | 137.27 | 142.07 | 146.88 | 151.68 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 60 GPM, | | | | | | | | | | | | | | |
| 60 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 343,600 | 336,200 | 328,800 | 320,900 | 313,000 | 304,600 | 296,200 | 287,200 | 278,200 | 268,700 | 259,200 | 249,200 | 239,200 | 229,200 | 219,200 |
| HMBTUH | 392,815 | 388,180 | 383,545 | 378,784 | 374,024 | 369,174 | 364,323 | 359,351 | 354,378 | 349,383 | 344,388 | 339,371 | 334,354 | 329,337 | 324,320 |
| WATTS | 14,420 | 15,230 | 16,040 | 16,960 | 17,880 | 18,920 | 19,960 | 21,140 | 22,320 | 23,640 | 24,960 | 26,420 | 27,880 | 29,340 | 30,800 |
| EER | 23.83 | 22.07 | 20.5 | 18.92 | 17.51 | 16.1 | 14.84 | 13.59 | 12.46 | 11.37 | 10.38 | 9.43 | 8.58 | 7.81 | 7.12 |
| COP | 7.98 | 7.47 | 7.01 | 6.54 | 6.13 | 5.72 | 5.35 | 4.98 | 4.65 | 4.33 | 4.04 | 3.76 | 3.51 | 3.29 | 3.09 |
| LV. WTR | 83.1 | 87.94 | 92.79 | 97.63 | 102.47 | 107.31 | 112.15 | 116.98 | 121.82 | 126.65 | 131.48 | 136.32 | 141.15 | 145.98 | 150.82 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 60 GPM, | | | | | | | | | | | | | | |
| 55 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 310,000 | 303,300 | 296,600 | 289,300 | 282,000 | 274,200 | 266,400 | 258,100 | 249,800 | 241,000 | 232,200 | 223,000 | 213,800 | 204,600 | 195,400 |
| HMBTUH | 359,079 | 355,109 | 351,140 | 346,980 | 342,820 | 338,535 | 334,250 | 329,944 | 325,637 | 321,308 | 316,979 | 312,728 | 308,477 | 304,225 | 299,974 |
| WATTS | 14,380 | 15,180 | 15,980 | 16,900 | 17,820 | 18,850 | 19,880 | 21,050 | 22,220 | 23,530 | 24,840 | 26,290 | 27,740 | 29,190 | 30,640 |
| EER | 21.56 | 19.98 | 18.56 | 17.12 | 15.82 | 14.55 | 13.4 | 12.26 | 11.24 | 10.24 | 9.35 | 8.48 | 7.71 | 7.01 | 6.38 |
| COP | 7.32 | 6.85 | 6.44 | 6.02 | 5.64 | 5.26 | 4.93 | 4.59 | 4.29 | 4 | 3.74 | 3.49 | 3.26 | 3.05 | 2.87 |
| LV. WTR | 81.97 | 86.84 | 91.71 | 96.57 | 101.43 | 106.29 | 111.15 | 116 | 120.86 | 125.71 | 130.57 | 135.43 | 140.29 | 145.14 | 150 |
| SOURCE | | | | | | | | | | | | | | | |
| EWTEMP | ENTER WATER TEMP. F @ 60 GPM, | | | | | | | | | | | | | | |
| 50 DEG | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | | | | | |