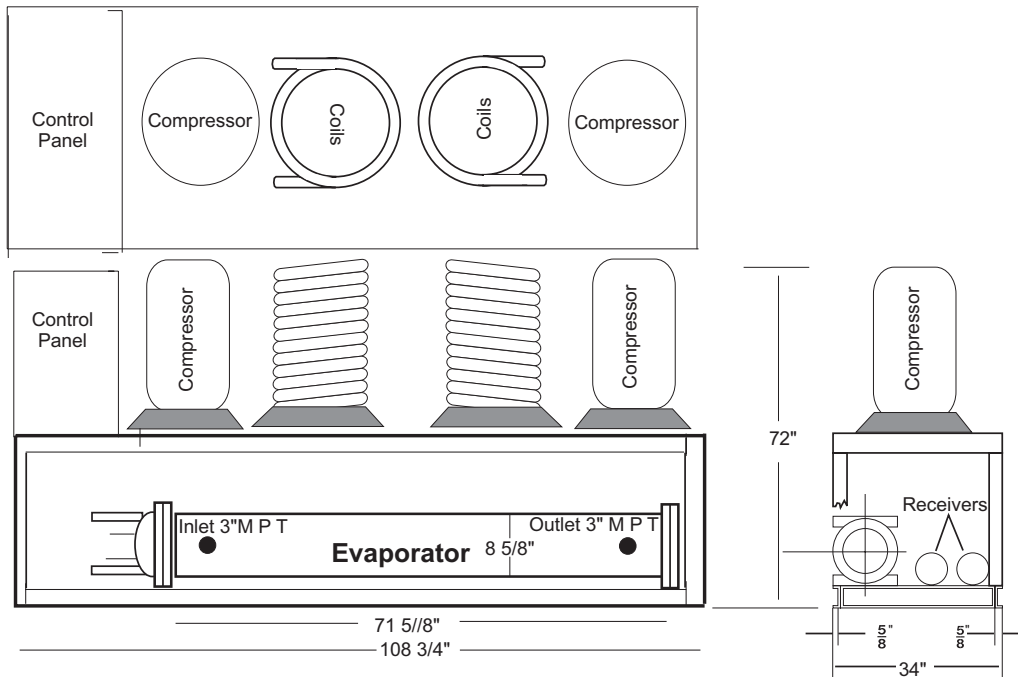


HPWS 5 DS 590



MODEL—HPWS 5 DS 590

Note: In View of Continuous Product Improvements, design and specification are subject to change without Notice

| | | | |
|-----------------------|----------------------------|------------------------|--------------------|
| 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-n-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 | Hinged Control Panel |
| Compressor Adjustable Time Delay Relay | Compressor Rotation Control |
| Single Phase Protection | High Side Pressure Control (Mechanical) |
| Condenser Flow Switch Relay | Low Side Pressure Control (Mechanical) |
| Evaporator Flow Switch Relay | Fused Protection on each compressor |

Options

Four Year Extended Compressor Warranty
 Warranty on all Parts & Labor Year 2 - 5
 Micro-Processor Based Control System
 Condenser Water Circulating Pump for each Refrigerant Circuit
 Refrigerant Pump Down Solenoid Valves
 Crank Case Heater

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 | 557,962 | 548,789 | 539,616 | 530,026 | 520,436 | 510,429 | 500,421 | 490,414 | 480,406 |
| 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 | 36.17 | 33.5 | 31.11 | 28.7 | 26.55 | 24.3 | 22.32 | 20.52 | 18.91 | 17.27 | 15.81 | 14.36 | 13.06 | 11.9 | 10.86 |
| COP | 11.6 | 10.82 | 10.12 | 9.41 | 8.78 | 8.12 | 7.54 | 7.01 | 6.54 | 6.06 | 5.63 | 5.21 | 4.83 | 4.49 | 4.18 |
| 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 | 19.32 | 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 | 120 | 125 | 130 | 135 | 140 |
| CMBTUH | 279,000 | 272,800 | 266,600 | 259,900 | 253,200 | 246,000 | 238,800 | 231,200 | 223,600 | 215,500 | 207,400 | 199,000 | 190,600 | 182,200 | 173,800 |
| HMBTUH | 327,942 | 324,439 | 320,935 | 317,341 | 313,747 | 310,062 | 306,377 | 302,702 | 299,027 | 295,364 | 2 | | | | |

| | | | | | | | | | | | | | | | |
|---------|-------|-------|------|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| COP | 6.7 | 6.28 | 5.91 | 5.52 | 5.18 | 4.84 | 4.53 | 4.23 | 3.96 | 3.7 | 3.46 | 3.23 | 3.02 | 2.84 | 2.67 |
| LV. WTR | 80.94 | 85.82 | 90.7 | 95.58 | 100.46 | 105.34 | 110.22 | 115.09 | 119.97 | 124.85 | 129.73 | 134.61 | 139.5 | 144.38 | 149.27 |