



# Tecumseh

## Performance Data Sheet

### AE4450E-FZ1B

### General Information

|                       |                        |                                 |             |
|-----------------------|------------------------|---------------------------------|-------------|
| <b>Model</b>          | AE4450E-FZ1B           | <b>Refrigerant</b>              | R-22        |
| <b>Test Condition</b> | EN12900                | <b>Performance Test Voltage</b> | 220V ~ 50HZ |
| <b>Return Gas</b>     | 20°C (68°F) RETURN GAS | <b>Motor Type</b>               | CSIR        |

### Performance Information

| Evap<br>Temp (°C) | Condensing Temperature (°C) |      |      |      |      |
|-------------------|-----------------------------|------|------|------|------|
|                   |                             | 30   | 40   | 50   | 60   |
| -15               | Btu/h                       | 2080 | 1830 | 1580 | 1380 |
|                   | Watts (Power)               | 277  | 306  | 332  | 336  |
|                   | Amps                        | 2.29 | 2.36 | 2.43 | 2.43 |
|                   | Lb/h                        | 26.0 | 24.6 | 23.0 | 22.0 |
| -10               | Btu/h                       | 2630 | 2310 | 1980 | 1690 |
|                   | Watts (Power)               | 293  | 329  | 366  | 387  |
|                   | Amps                        | 2.33 | 2.43 | 2.54 | 2.60 |
|                   | Lb/h                        | 32.9 | 31.2 | 29.0 | 27.1 |
| -6.7              | Btu/h                       | 3040 | 2680 | 2300 | 1940 |
|                   | Watts (Power)               | 303  | 343  | 387  | 418  |
|                   | Amps                        | 2.36 | 2.47 | 2.61 | 2.70 |
|                   | Lb/h                        | 38.2 | 36.3 | 33.8 | 31.4 |
| -5                | Btu/h                       | 3270 | 2890 | 2480 | 2090 |
|                   | Watts (Power)               | 308  | 350  | 397  | 433  |
|                   | Amps                        | 2.38 | 2.49 | 2.64 | 2.76 |
|                   | Lb/h                        | 41.2 | 39.2 | 36.5 | 33.9 |
| 0                 | Btu/h                       | 4010 | 3570 | 3070 | 2570 |
|                   | Watts (Power)               | 321  | 368  | 425  | 474  |
|                   | Amps                        | 2.42 | 2.55 | 2.73 | 2.91 |
|                   | Lb/h                        | 50.9 | 48.8 | 45.6 | 42.2 |
| 5                 | Btu/h                       | 4860 | 4340 | 3750 | 3150 |
|                   | Watts (Power)               | 333  | 383  | 448  | 510  |
|                   | Amps                        | 2.46 | 2.60 | 2.82 | 3.05 |
|                   | Lb/h                        | 62.2 | 59.9 | 56.3 | 52.2 |
| 7.2               | Btu/h                       | 5260 | 4710 | 4080 | 3430 |
|                   | Watts (Power)               | 338  | 388  | 456  | 524  |
|                   | Amps                        | 2.48 | 2.62 | 2.85 | 3.10 |
|                   | Lb/h                        | 67.7 | 65.3 | 61.6 | 57.2 |
| 10                | Btu/h                       | 5800 | 5200 | 4520 | 3810 |
|                   | Watts (Power)               | 343  | 394  | 466  | 540  |
|                   | Amps                        | 2.50 | 2.65 | 2.89 | 3.17 |
|                   | Lb/h                        | 75.1 | 72.7 | 68.8 | 64.0 |

|    |               |      |      |      |      |
|----|---------------|------|------|------|------|
| 15 | Btu/h         | 6840 | 6170 | 5390 | 4560 |
|    | Watts (Power) | 350  | 403  | 480  | 563  |
|    | Amps          | 2.52 | 2.68 | 2.95 | 3.27 |
|    | Lb/h          | 89.6 | 87.2 | 83.0 | 77.7 |

| COEFFICIENTS | CAPACITY      | POWER         | CURRENT       | MASS FLOW     |
|--------------|---------------|---------------|---------------|---------------|
| C1           | 4.403900E+03  | 4.308079E+02  | 3.045682E+00  | 4.310118E+01  |
| C2           | 1.812068E+02  | 5.777569E+00  | 2.417536E-02  | 1.865570E+00  |
| C3           | 2.298068E+01  | -1.351230E+01 | -5.934520E-02 | 7.806298E-01  |
| C4           | 2.234544E+00  | 3.788569E-02  | 1.150294E-04  | 2.703165E-02  |
| C5           | -2.488262E-01 | -2.474650E-01 | -1.125574E-03 | 1.609391E-02  |
| C6           | -1.511176E+00 | 4.204211E-01  | 1.620395E-03  | -2.135919E-02 |
| C7           | -5.846842E-04 | -4.085525E-04 | -3.904788E-06 | 9.061931E-05  |
| C8           | -7.790625E-03 | -2.442754E-03 | -6.205079E-06 | 1.146538E-04  |
| C9           | -1.665038E-02 | 4.650257E-03  | 2.007009E-05  | -2.763992E-04 |
| C10          | 1.033104E-02  | -3.052513E-03 | -1.116005E-05 | 1.349583E-04  |

$$\text{Value} = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3$$

Te = Evaporator Temperature

Tc = Condensing Temperature



# Tecumseh

## Performance Data Sheet

### AE4450E-FZ1B

### General Information

|                       |                        |                                 |             |
|-----------------------|------------------------|---------------------------------|-------------|
| <b>Model</b>          | AE4450E-FZ1B           | <b>Refrigerant</b>              | R-22        |
| <b>Test Condition</b> | EN12900                | <b>Performance Test Voltage</b> | 220V ~ 50HZ |
| <b>Return Gas</b>     | 20°C (68°F) RETURN GAS | <b>Motor Type</b>               | CSIR        |

### Performance Information

| Evap Temp (°F) |       | Condensing Temperature (°F) |      |      |      |      |      |      |
|----------------|-------|-----------------------------|------|------|------|------|------|------|
|                |       | 80                          | 90   | 100  | 110  | 120  | 130  | 140  |
| 5              | Btu/h | 2160                        | 2030 | 1890 | 1740 | 1600 | 1480 | 1380 |
|                | Watts | 270                         | 283  | 299  | 316  | 330  | 337  | 336  |
|                | Amps  | 2.28                        | 2.31 | 2.35 | 2.39 | 2.43 | 2.44 | 2.43 |
|                | Lb/h  | 26.3                        | 25.7 | 24.9 | 24.0 | 23.1 | 22.4 | 22.0 |
| 10             | Btu/h | 2450                        | 2310 | 2150 | 1990 | 1820 | 1670 | 1540 |
|                | Watts | 278                         | 292  | 311  | 331  | 348  | 361  | 365  |
|                | Amps  | 2.30                        | 2.33 | 2.38 | 2.43 | 2.48 | 2.52 | 2.52 |
|                | Lb/h  | 30.0                        | 29.4 | 28.5 | 27.4 | 26.4 | 25.4 | 24.7 |
| 15             | Btu/h | 2780                        | 2630 | 2450 | 2260 | 2070 | 1890 | 1730 |
|                | Watts | 286                         | 302  | 322  | 345  | 366  | 383  | 392  |
|                | Amps  | 2.32                        | 2.36 | 2.41 | 2.47 | 2.54 | 2.59 | 2.62 |
|                | Lb/h  | 34.1                        | 33.5 | 32.5 | 31.3 | 30.0 | 28.8 | 27.8 |
| 20             | Btu/h | 3140                        | 2970 | 2770 | 2560 | 2340 | 2130 | 1940 |
|                | Watts | 294                         | 311  | 333  | 358  | 383  | 404  | 418  |
|                | Amps  | 2.35                        | 2.38 | 2.44 | 2.52 | 2.59 | 2.66 | 2.70 |
|                | Lb/h  | 38.6                        | 38.0 | 36.9 | 35.6 | 34.1 | 32.7 | 31.4 |
| 25             | Btu/h | 3540                        | 3340 | 3130 | 2890 | 2650 | 2410 | 2190 |
|                | Watts | 302                         | 319  | 343  | 371  | 399  | 424  | 443  |
|                | Amps  | 2.37                        | 2.41 | 2.47 | 2.56 | 2.64 | 2.73 | 2.79 |
|                | Lb/h  | 43.6                        | 42.9 | 41.8 | 40.3 | 38.7 | 37.1 | 35.6 |
| 30             | Btu/h | 3960                        | 3750 | 3510 | 3250 | 2980 | 2710 | 2460 |
|                | Watts | 309                         | 327  | 352  | 382  | 413  | 442  | 466  |
|                | Amps  | 2.39                        | 2.43 | 2.50 | 2.59 | 2.69 | 2.79 | 2.88 |
|                | Lb/h  | 49.0                        | 48.3 | 47.1 | 45.6 | 43.8 | 42.0 | 40.2 |
| 35             | Btu/h | 4410                        | 4190 | 3920 | 3640 | 3340 | 3050 | 2760 |
|                | Watts | 316                         | 334  | 361  | 392  | 426  | 459  | 487  |
|                | Amps  | 2.42                        | 2.46 | 2.53 | 2.63 | 2.74 | 2.85 | 2.96 |
|                | Lb/h  | 54.9                        | 54.2 | 52.9 | 51.3 | 49.4 | 47.4 | 45.4 |
| 40             | Btu/h | 4900                        | 4650 | 4370 | 4060 | 3730 | 3400 | 3080 |
|                | Watts | 322                         | 341  | 368  | 402  | 438  | 474  | 506  |
|                | Amps  | 2.44                        | 2.48 | 2.56 | 2.66 | 2.79 | 2.91 | 3.03 |
|                | Lb/h  | 61.2                        | 60.5 | 59.3 | 57.5 | 55.5 | 53.3 | 51.0 |

|    |       |      |      |      |      |      |      |      |
|----|-------|------|------|------|------|------|------|------|
| 45 | Btu/h | 5420 | 5150 | 4840 | 4510 | 4150 | 3790 | 3430 |
|    | Watts | 328  | 347  | 375  | 410  | 449  | 488  | 524  |
|    | Amps  | 2.46 | 2.50 | 2.58 | 2.69 | 2.83 | 2.97 | 3.10 |
|    | Lb/h  | 68.0 | 67.4 | 66.1 | 64.3 | 62.1 | 59.7 | 57.3 |
| 50 | Btu/h | 5970 | 5680 | 5350 | 4980 | 4600 | 4210 | 3810 |
|    | Watts | 333  | 352  | 381  | 417  | 458  | 500  | 540  |
|    | Amps  | 2.48 | 2.52 | 2.60 | 2.72 | 2.86 | 3.01 | 3.17 |
|    | Lb/h  | 75.4 | 74.7 | 73.4 | 71.5 | 69.3 | 66.7 | 64.0 |
| 55 | Btu/h | 6550 | 6240 | 5880 | 5490 | 5080 | 4650 | 4220 |
|    | Watts | 338  | 356  | 385  | 423  | 465  | 510  | 554  |
|    | Amps  | 2.50 | 2.53 | 2.62 | 2.74 | 2.89 | 3.06 | 3.23 |
|    | Lb/h  | 83.2 | 82.6 | 81.3 | 79.3 | 77.0 | 74.3 | 71.4 |
| 60 | Btu/h | 7160 | 6820 | 6440 | 6020 | 5580 | 5120 | 4650 |
|    | Watts | 342  | 359  | 389  | 427  | 472  | 519  | 566  |
|    | Amps  | 2.51 | 2.54 | 2.63 | 2.76 | 2.92 | 3.10 | 3.28 |
|    | Lb/h  | 91.5 | 91.0 | 89.7 | 87.7 | 85.2 | 82.4 | 79.3 |

| COEFFICIENTS | CAPACITY      | POWER         | CURRENT       | MASS FLOW     |
|--------------|---------------|---------------|---------------|---------------|
| C1           | 1.006443E+03  | 6.419940E+02  | 3.870408E+00  | 2.578226E+00  |
| C2           | 5.302156E+01  | 4.648990E+00  | 2.156346E-02  | 3.829820E-01  |
| C3           | 4.330189E+01  | -1.377115E+01 | -5.378069E-02 | 6.907993E-01  |
| C4           | 7.420454E-01  | 3.182157E-02  | 1.338263E-04  | 6.222325E-03  |
| C5           | 1.914158E-01  | -1.006031E-01 | -4.995531E-04 | 6.742241E-03  |
| C6           | -5.451104E-01 | 1.544909E-01  | 5.737023E-04  | -7.297284E-03 |
| C7           | -1.002545E-04 | -7.005358E-05 | -6.695452E-07 | 1.553829E-05  |
| C8           | -1.335841E-03 | -4.188535E-04 | -1.063971E-06 | 1.965943E-05  |
| C9           | -2.855003E-03 | 7.973692E-04  | 3.441374E-06  | -4.739355E-05 |
| C10          | 1.771440E-03  | -5.234075E-04 | -1.913588E-06 | 2.314099E-05  |

$$\text{Value} = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3$$

Te = Evaporator Temperature

Tc = Condensing Temperature