

# PRODUCT SPECIFICATION

COMPRESSOR MODEL

**KCE432HAG-BXXX**

BILL OF MATERIALS

**B230, B231**

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L

**Emerson Climate Technologies (India) Limited**  
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Karad - 415 110  
INDIA

Note – Sales compressor drawing number and compressor model name are the same.

|             |            |             |             |             |                                 |                  |
|-------------|------------|-------------|-------------|-------------|---------------------------------|------------------|
|             |            |             |             | 1           | F25-1206-0591<br>Current EN No. | A2<br>16.12.2006 |
| Prepared by | Checked by | Verified by | Approved by | Page<br>No. | F41-0504-0550<br>Last EN No.    | REV. NO.<br>DATE |

**PRODUCT SPECIFICATION****MODEL – KCE432HAG-BXXX****A ) MODEL DESCRIPTION**

|                               |                                       |
|-------------------------------|---------------------------------------|
| <b>Model Name</b>             | <b>KCE432HAG-BXXX</b>                 |
| Compressor Type               | Reciprocating ,Connecting Rod Type    |
| Application Group             | High / Medium temperature (HBP / CBP) |
| Evaporating Temperature Range | -17.8°C To 12.8°C (0° To 55°F)        |
| Refrigerant                   | R-134a                                |
| Rated Voltage                 | 230V, 50Hz, 1Phase                    |
| Compressor Cooling            | FAN : 350 ft <sup>3</sup> / minute    |
| Typical Application           | 7 Case Visicooler                     |
| Certifications & Approvals    | ISI, EN 60335-2-34                    |

**B ) PERFORMANCE SPECIFICATION @ RATED CONDITION**

| Specification  | Unit       | HBP  | CBP  |
|--|------------|------|------|
| Cooling Capacity   | Btu / h    | 2690 | 1330 |
|  | kcal / h   | 678  | 332  |
|  | W          | 788  | 390  |
|  | Nominal HP | 0.27 | 0.20 |
| Input Power  | W          | 375  | 305  |
| Input Current  | A          | 2.8  | 2.5  |
| EER = $\frac{\text{Cooling Capacity}}{\text{Input Power}}$ | Btu / W-h  | 7.17 | 4.36 |
|  | kcal / W-h | 1.81 | 1.09 |
|  | W / W      | 2.10 | 1.29 |

Note – Above performance parameters are nominal values & subject to  $\pm 5\%$  variation

**C ) RATING CONDITIONS**

| Parameter               | Unit      | HBP @<br>ASHRAE-T | CBP @<br>ASHRAE-T |
|-------------------------|-----------|-------------------|-------------------|
| Evaporating Temperature | °C ( °F ) | 7.2 (45)          | -6.7 (20)         |
| Condensing Temperature  | °C ( °F ) | 54.4 (130)        | 54.4 (130)        |
| Ambient Temperature     | °C ( °F ) | 35 (95)           | 35 (95)           |
| Sub cooled Liquid Temp. | °C ( °F ) | 46.1 (115)        | 46.1 (115)        |
| Return Gas Temperature  | °C ( °F ) | 35 (95)           | 35 (95)           |
| Test voltage            | V         | 230               | 230               |

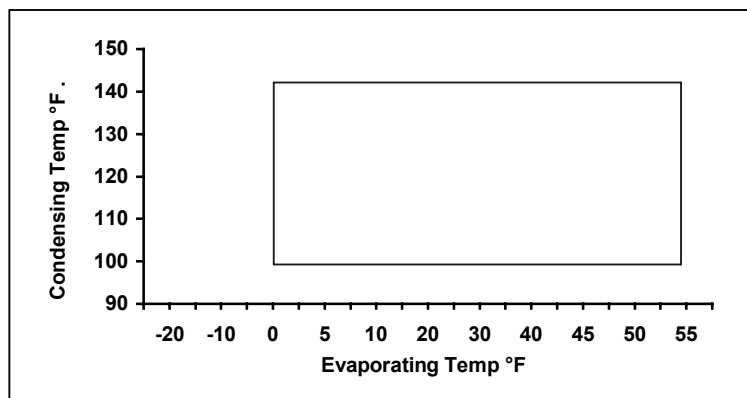
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**PRODUCT SPECIFICATION****MODEL – KCE432HAG-BXXX****D) MECHANICAL SPECIFICATION**

| Parameter                      | Unit  | Value             |
|--------------------------------|---|-------------------|
| Number of Cylinders            | Number (s)                                  | One ( 1 )         |
| Displacement                   | cm <sup>3</sup> ( inch <sup>3</sup> ) / rev | 9.42 (0.575)      |
| Net Weight                     | kg  | 11.8              |
| Approximate Shipping Weight    | kg  | 12.5              |
| Oil Charge                     | cm <sup>3</sup> ( Oz )                      | 310 (10.5)        |
| Oil Type                       | Refrigeration Grade                         | Polyolester (POE) |
| IPRV ( Pressure Differential ) | kg / cm <sup>2</sup> ( psig )               | N / A             |
| Crank Case Heater              | W / V                                       | N / A             |

**E ) ELECTRICAL SPECIFICATION**

| Parameter                          | Unit           | Value                  |
|------------------------------------|----------------|------------------------|
| Operating Voltage Range            | V              | 180 To 260             |
| Motor Circuit                      | ---            | CSIR                   |
| Electrical Accessories             | ---            |                        |
| ➤ Start Capacitor                  | μF @ V AC      | 40-60 @ 275 VAC        |
| ➤ Run Capacitor                    | μF @ V AC      | N / A                  |
| ➤ Relay                            | ---            | KARP4241 or MTRP4241   |
| ➤ Over Load Protector              | ---            | KAT0072/H3 or T0072/H3 |
| Lock Rotor Ampere ( LRA )          | A              | 12.5                   |
| Maximum Continuous Current ( MCC ) | A              | 3.0                    |
| Motor Insulation                   | ---            | B Class                |
| High Potential Test                | (kV/second/mA) | 1.85 / 1 / 5.5         |

**F ) OPERATING ENVELOPE @ 230 V, 50 Hz, 1 Phase**

|             |            |             |             |             |                                 |                  |
|-------------|------------|-------------|-------------|-------------|---------------------------------|------------------|
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**PRODUCT SPECIFICATION****MODEL – KCE432HAG-BXXX****PERFORMANCE TABLES**

|                    |              |                    |                              |
|--------------------|--------------|--------------------|------------------------------|
| Return Gas Temp    | 35°C (95°F)  | Voltage            | 230V, 1Ph, 50Hz              |
| Liquid Sub cooling | 8.3°C (15°F) | Compressor cooling | 350 ft <sup>3</sup> / minute |
| Ambient temp.      | 35°C (95°F)  | -                  | -                            |

**A ) COOLING CAPACITY ( Btu / h )**

| Condensing Temperature |      | Evaporating Temperature |      |       |      |      |      |      |      |      |
|------------------------|------|-------------------------|------|-------|------|------|------|------|------|------|
| °C                     |      | -17.8                   | -15  | -12.2 | -6.7 | -1.1 | 4.4  | 7.2  | 10   | 12.8 |
|                        | (°F) | 0                       | 5    | 10    | 20   | 30   | 40   | 45   | 50   | 55   |
| 37.8                   | 100  | 850                     | 1000 | 1390  | 1910 | 2430 | 2970 | 3570 | 4250 | 5020 |
| 43.3                   | 110  | 725                     | 870  | 1220  | 1700 | 2190 | 2720 | 3300 | 3950 | 4720 |
| 48.9                   | 120  | 610                     | 720  | 1060  | 1530 | 1970 | 2460 | 3000 | 3690 | 4400 |
| 54.4                   | 130  | 470                     | 600  | 910   | 1330 | 1770 | 2210 | 2690 | 3360 | 4040 |
| 60.0                   | 140  | 320                     | 460  | 750   | 1130 | 1530 | 1930 | 2430 | 3050 | 3740 |

**B ) INPUT POWER ( W )**

| Condensing Temperature |      | Evaporating Temperature |       |      |      |     |     |     |      |  |
|------------------------|------|-------------------------|-------|------|------|-----|-----|-----|------|--|
| °C                     |      | -17.8                   | -12.2 | -6.7 | -1.1 | 4.4 | 7.2 | 10  | 12.8 |  |
|                        | (°F) | 0                       | 10    | 20   | 30   | 40  | 45  | 50  | 55   |  |
| 37.8                   | 100  | 258                     | 278   | 288  | 308  | 326 | 339 | 349 | 358  |  |
| 43.3                   | 110  | 253                     | 281   | 293  | 317  | 338 | 352 | 362 | 371  |  |
| 48.9                   | 120  | 250                     | 281   | 299  | 328  | 351 | 365 | 376 | 386  |  |
| 54.4                   | 130  | 346                     | 283   | 305  | 339  | 364 | 375 | 392 | 402  |  |
| 60.0                   | 140  | 239                     | 285   | 312  | 348  | 374 | 392 | 405 | 415  |  |

**C ) INPUT CURRENT ( A )**

| Condensing Temperature |      | Evaporating Temperature |       |      |      |      |      |      |      |  |
|------------------------|------|-------------------------|-------|------|------|------|------|------|------|--|
| °C                     |      | -17.8                   | -12.2 | -6.7 | -1.1 | 4.4  | 7.2  | 10   | 12.8 |  |
|                        | (°F) | 0                       | 10    | 20   | 30   | 40   | 45   | 50   | 55   |  |
| 37.8                   | 100  | 2.49                    | 2.48  | 2.47 | 2.52 | 2.58 | 2.61 | 2.64 | 2.66 |  |
| 43.3                   | 110  | 2.48                    | 2.50  | 2.49 | 2.55 | 2.61 | 2.65 | 2.68 | 2.69 |  |
| 48.9                   | 120  | 2.48                    | 2.52  | 2.52 | 2.59 | 2.65 | 2.68 | 2.71 | 2.73 |  |
| 54.4                   | 130  | 2.48                    | 2.53  | 2.54 | 2.62 | 2.68 | 2.75 | 2.75 | 2.77 |  |
| 60.0                   | 140  | 2.47                    | 2.55  | 2.56 | 2.65 | 2.71 | 2.76 | 2.78 | 2.8  |  |

- Note – 1. Nominal performance values ( $\pm 5\%$ ) based on 24 hours running. Subject to change without notice.  
 2. Compressor is intended to be operated in the range of condensing & evaporating temperature where performance values are specified in above tables.

|             |            |             |             |          |                                 |                  |
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