

# ZP31K5E-TFD

HFC, R-410A, 60 Hz, 3 - Phase, 460 V [. Also Available with Variable Frequency Drives](#)

Air Conditioning

**Production Status:** Available for sale to all U.S. customers. Please check with your local Emerson Climate Technologies Representative for international availability.

## Summary

| Performance                |            |         |
|----------------------------|------------|---------|
| Evaporator Temp. (°F)      | 45         | 50      |
| Condensing Temp. (°F)      | 130        | 100     |
| Return Gas Temp. (°F)      | 65         | 70      |
| Liquid Temp. (°F)          | 115        | 85      |
| Capacity (BTU/hr)          | 31200      | 42600   |
| Power (W):                 | 3060       | 2000    |
| Current (Amps):            | 4.6        | 3.5     |
| EER(BTU/Wh):               | 10.2       | 21.3    |
| Mass Flow (lbs/hr):        | 459        | 525     |
| Sound Data @ 45 / 130      |            |         |
| Sound Power (dBA):         | 69 Avg     | 74 Max  |
| Vibration mils(peak-peak): | 2.0 Avg    | 3.0 Max |
| Record Date:               | 2017-03-01 |         |
| Mechanical                 |            |         |
| Displacement (in^3/Rev):   | 1.80       |         |
| Displacement (ft^3/Hr):    |            |         |
| Overall Length (in):       | 9.56       |         |
| Overall Width (in):        | 9.56       |         |
| Overall Height (in):       | 15.27      |         |
| Mounting Length (in):      | 7.50       |         |
| Mounting Width (in):       | 7.50       |         |

|                                     |            |
|-------------------------------------|------------|
| <b>Mounting Height (in):</b>        | 16.02      |
| <b>Suction Size (in),Type:</b>      | 3 / 4 Stub |
| <b>Discharge Size (in),Type:</b>    | 1 / 2 Stub |
| <b>Initial Oil Charge (oz):</b>     | 25         |
| <b>Oil Recharge (oz):</b>           | 21         |
| <b>Net Weight (lbs):</b>            | 48.4       |
| <b>Internal Free Volume (in^3):</b> | 124.5      |

**Horse Power:**

\*Overall compressor height on Copeland Brand Product's specified mounting grommets.

|  |            |
|--|------------|
| <b>LRA High* (Amps):</b>   | 38.0       |
| <b>LRA Low*(Amps):</b>   |            |
| <b>LRA Half Winding (Amps):</b>  |            |
| <b>MCC (Amps):</b>   | 9          |
| <b>Max Operating Current (Amps):</b>                                   | 6.5        |
| <b>RLA, MCC/1.4(use for contactor selection)(Amps):</b>                | 6.4        |
| <b>RLA, MCC/1.56(use for breaker &amp; wire size selection)(Amps):</b> | 5.8        |
| <b>RPM:</b>  | 3500       |
| <b>Box IP :</b>  | 21         |
| <b>UL File No:</b>   | SA-2337    |
| <b>UL File Date:</b>   | 2003-12-16 |

\*Low and High refer to the low and high nominal voltage ranges for which the motor is approved.

**Capacitors**

| Type                       | Part No | Low MFD | High MFD | Volts | User Description |
|----------------------------|---------|---------|----------|-------|------------------|
| No data available in table |         |         |          |       |                  |

**Alternate Applications**

| Refrigerant | Voltage | Phase | Frequency | Application      |
|-------------|---------|-------|-----------|------------------|
| R-410A HFC  | 380/420 | 3     | 50        | Air Conditioning |

### Service Parts

| Reference | Component   | Quantity | Description                    | Comment                                    |
|-----------|-------------|----------|--------------------------------|--|
| 1         | 918-0052-00 | 1        | CRANKCASE HEATER KIT           | 240V 40W WRAP AROUND                       |
| 1         | 918-0052-01 | 1        | CRANKCASE HEATER KIT           | 120V 40W WRAP AROUND                       |
| 2         | 527-0044-15 | 1        | SPACER - MOUNTING ASSM         |  |
| 7         | 998-0510-38 | 1        | VLV KIT 3/4"SWT/1<br>1/4-12UNC | SUCTION ROTALOCK                           |
| 7         | 998-0510-98 | 1        | VLV KIT 1/2"SWT/1-14UNC        | DISCHARGE ROTALOCK                         |
| 99        | 529-0060-24 | 1        | POWER CABLE-MOLDED<br>PLUG     |  |
| 99        | 998-0034-01 | 1        | ADAP KIT 3/4"SWT / 11/4 RL     | SWEAT TO ROTALOCK ADAPTER KIT SUCTION      |
| 99        | 998-0034-07 | 1        | ADAP KIT 11/4 RL / 3/4"SWT     | ROTALOCK TO SWEAT ADAPTER KIT SUCTION      |
| 99        | 998-0034-15 | 1        | SERV ADAPTOR KIT 1/2<br>STUB   | SWEAT TO ROTALOCK ADAPTER KIT<br>DISCHARGE |
| 99        | 998-0034-18 | 1        | ADAPTER 1-14 TO 1/2 ID         | ROTALOCK TO SWEAT ADAPTER KIT<br>DISCHARGE |

### Accessories

### Accessories

| Category                        | Part Number           | Description  |
|---------------------------------|-----------------------|--|
| (1) Variable<br>Frequency Drive | EVM-3447D6-<br>E20ENN | EVM, 3Ø, 380-480v, Output 380-480v@7.6A, Pro, IP20, Standard, No Options, Frame 1                                  |
| (1) Variable<br>Frequency Drive | EVH-3447D6-<br>R21BDB | EVH, 3Ø, 380-480v, Output 380-480v@7.6A, LCD Keypad, IP21, With 5% DC Link Choke, With Bypass, Frame H1S           |
| (1) Variable<br>Frequency Drive | EVH-3447D6-<br>R54BEN | EVH, 3Ø, 380-480v, Output 380-480v@7.6A, LCD Keypad, IP54, With 5% DC Link Choke + EMI Filter, No Options, Frame 1 |
| (1) Variable<br>Frequency Drive | EVH-3447D6-<br>R54BDN | EVH, 3Ø, 380-480v, Output 380-480v@7.6A, LCD Keypad, IP54, With 5% DC Link Choke, No Options, Frame 1              |
| (1) Variable<br>Frequency Drive | EVH-3447D6-<br>R21BEN | EVH, 3Ø, 380-480v, Output 380-480v@7.6A, LCD Keypad, IP21, With 5% DC Link Choke + EMI Filter, No Options, Frame 1 |
| (1) Variable<br>Frequency Drive | EVH-3447D6-<br>R54BDB | EVH, 3Ø, 380-480v, Output 380-480v@7.6A, LCD Keypad, IP54, With 5% DC Link Choke, With Bypass, Frame H3X           |
| (1) Variable<br>Frequency Drive | EVM-3447D6-<br>E20EFN | EVM, 3Ø, 380-480v, Output 380-480v@7.6A, Pro, IP20, With add on EMI filter, No Options, Frame 1                    |

| Category                     | Part Number       | Description   |
|------------------------------|-------------------|---|
| (1) Variable Frequency Drive | EVM-3447D6-N20MFN | EVM, 3Ø, 380-480v, Output 380-480v@7.6A, Basic, IP20, Standard, No Options, Frame 1               |
| (1) Variable Frequency Drive | EVM-3447D6-N20MFN | EVM, 3Ø, 380-480v, Output 380-480v@7.6A, Basic, IP20, With add on EMI filter, No Options, Frame 1 |

### Electrical Components

| Electrical Components                 |
|---------------------------------------|
| Part No: 071-0572-10                  |
| Usage Description: Internal Protector |
| <u>Vendor Part Number</u>             |
| UP18KY182-770                         |
| <u>Vendor Name</u>                    |
| UBUKATA                               |
| Part No: 071-0572-39                  |
| Usage Description: Internal Protector |
| <u>Vendor Part Number</u>             |
| UP18HY182-88C                         |
| <u>Vendor Name</u>                    |
| UBUKATA                               |

### Nomenclature

|  |
|--|
| ZP31K5E-TFD                            |
| <b>Family Series</b>                   |
| <b>Z:</b> Scroll                       |
| <b>Application Range</b>               |
| <b>P:</b> A/C - R-410A/B               |
| <b>Capacity</b>                        |
| <b>31K:</b> Capacity Multiplier-1000   |
| <b>Oil Type</b>                        |
| <b>E:</b> Polyol Ester                 |
| <b>Motor Type</b>                      |
| <b>T:</b> 3 Phase                      |
| <b>Motor Protection</b>                |
| <b>F:</b> Internal Inherent Protection |
| <b>Voltage</b>                         |

D: 60Hz (460-3) 50Hz (380/420-3)

## Miscellaneous

| Alternate Application       |             |                |           |             |
|-----------------------------|-------------|----------------|-----------|-------------|
| Refrigerant                 | Freq        | Phase          | Voltage   | Application |
| <a href="#">HFC R-410A</a>  | 50          | 3 Ø            | 380/420 V | R1 AC       |
| Nomenclature                |             |                |           |             |
| <a href="#">ZP31K5E-TFD</a> |             |                |           |             |
| Date                        | Data Group  | Field          | Old Data  | New Data    |
| 10-Oct-2005                 | Status      | Status         | P         | A           |
| 22-Jul-2005                 | Sound       | Sound Ave      | 71        | 69          |
| 22-Jul-2005                 | Sound       | Sound Max      | 76        | 74          |
| 01-Jul-2005                 | Sound       | Sound Stop     | 56        | 60          |
| 01-Jul-2005                 | Sound       | Sound Stop Max | 64        | 69          |
| 01-Jun-2007                 | RatingRefNo | RatingRefNo    | 05-1271   | 07-258      |
| 12-Oct-2005                 | RatingRefNo | RatingRefNo    | 05-1335   | 05-1271     |
| 12-Oct-2005                 | RatingRefNo | RatingRefNo    | 05-1271   | 05-1335     |
| 10-Oct-2005                 | RatingRefNo | RatingRefNo    | 05-400    | 05-1271     |
| 10-Oct-2005                 | Rating      | PubCode        |           | Y           |