

# AC Motor Selection – Marathon® Single-Phase Motors

**marathon®**  
Motors

| <b>Marathon® Single-Phase Motor Selection</b>   |   |  |
|---|---|--|
| <b>Single-Phase Characteristic</b>  | <b>Powerwash SXT</b>                                  | <b>JetPump</b>   |
| <b>Electrical Characteristics</b>   |   |  |
| <b>Horsepower range</b>   | 1/2 – 2   | 1/3 – 2  |
| <b>Base speed (# poles)</b>   | 1800 (4)  | 3600 (2)   |
| <b>Standard voltage</b>   | 115/230   | 115/230  |
| <b>Phase / Base frequency (Hz)</b>  | 1 / 60  |  |
| <b>Service factor</b>   | 1.0   | 1.0 / 1.15   |
| <b>Design code (NEMA)</b>   | B   | N/A***   |
| <b>Insulation class</b>   | F   | B  |
| <b>Insulation system</b>  | CR <sup>200</sup> magnet wire                         | N/A***   |
| <b>Duty cycle</b>   | Continuous  |  |
| <b>Thermal protection</b>   | None  | Automatic Reset  |
| <b>Mechanical Characteristics</b>   |   |  |
| <b>Frame size (mounting)</b>  | 56C – 145TC   | 56J  |
| <b>Enclosure</b>  | TEFC, TENV  | TEFC   |
| <b>Frame material</b>   | 300 Series Stainless Steel                            | Rolled Steel   |
| <b>End bracket material</b>   | Stainless Steel                                       | Cast Aluminum, Steel                                   |
| <b>Conduit box material</b>   | Stainless Steel                                       | Steel  |
| <b>Fan guard material</b>   | Stainless Steel                                       | Steel  |
| <b>Fan material</b>   | Polypropylene   | Plastic  |
| <b>Lead termination</b>   | Conduit box   | Conduit box Flying Leads (Jxxx Models)<br>.33HP to 3HP |
| <b>Standard mounting</b>  | C-Face with Rigid Base<br>& C-Face Round Body         | Footless   |
| <b>Drive end shaft slinger</b>  | No  | Yes  |
| <b>Paint</b>  | N/A   | Gray powder-coat                                       |
| <b>Bearings</b>   | Double Sealed   |  |
| <b>Grease</b>   | Exxon Polyrex EM                                      |  |
| <b>Standard conduit box assembly position</b>   | F1  | F1   |
| <b>Performance Characteristics</b>  |   |  |
| <b>Temperature rise</b>   | N/A***  | N/A***   |
| <b>Encoder provisions</b>   | No  | No   |
| <b>Other Characteristics</b>  |   |  |
| <b>Warranty *</b>   | 12 months from Installation. 18 months from Purchase. |  |
| <b>Agency listings **</b>   | UL Recognized, CSA Certified, and CE Mark             |  |
| <p>* See Terms and Conditions for motor warranty explanation.<br/>Marathon warranty service can be arranged through Marathon Electric service centers. See list of service centers on our website at <a href="http://www.automationdirect.com">www.automationdirect.com</a>.</p> <p>** To obtain the most current agency approval information, see the Agency Approval Checklist on the specific part number's web page.</p> <p>*** Data not available from manufacturer.</p> |   |  |

# Jet Pump (Centrifugal), Single-Phase Totally Enclosed Motors

C-Face Footless, 56J



## Features

- Service Factor is 1.0 or 1.5, depending on model
- Double-sealed ball bearings, mechanically locked on shaft end
- Capacitor start/capacitor run design for higher efficiency, as noted
- Automatic reset thermal protector
- 416 stainless steel threaded shaft with slinger (NEMA 56 frame)
- Drip cover not included
- UL Recognized and CSA Certified

## Applications

- Typical uses include: jet pumps and jet pump motor replacements.



### Motor Shipping Schedule \*

|                   |              |               |
|-------------------|--------------|---------------|
| Same or one day * | Up to 7 days | Up to 10 days |
|-------------------|--------------|---------------|

Color indicates shipping lead time in business days. Check stock status online.

\* Certain heavy and oversized items can be shipped only via LTL. Check our website for current shipping method constraints by part number.

### Motor Specifications – Jet Pump (Centrifugal) Single-Phase Totally Enclosed Motors

| Part Number* | Price    | HP  | Base RPM | Volts   | Encl. | NEMA Design | NEMA Frame | Model No.     | Weight (lb)* | Footnotes                               |
|--------------|----------|-----|----------|---------|-------|-------------|------------|---------------|--------------|---|
| <b>C1336</b> | \$219.00 | 1/3 | 3600     | 115/230 | TEFC  | N/A**       | 56J        | 5KC33FN4180X  | 13.5         | None                                    |
| <b>C465</b>  | \$273.00 | 1/2 |          |         |       |             |            | 5KC39QN3218X  | 24.5         | Model on nameplate may be 5KC39QN3218GX |
| <b>C352</b>  | \$313.00 | 1   |          |         |       |             |            | 5KC49NN2135X  | 29           | 15                                      |
| <b>C878</b>  | \$469.00 | 2   |          |         |       |             |            | 5KCR49TN2164T | 38           | ES,1,15                                 |

\* Refer to the Motor Shipping Schedule table for shipping information. Certain heavy and oversized items can be shipped only via LTL. Check our website for current shipping method constraints by part number.

\*\* Data not available from manufacturer.

Footnotes: 1 = Capacitor Start/Capacitor Run design for reduced amperage  
 15 = Fixed CW Rotation, viewing opposite shaft (or lead end) of motor  
 ES = Energy Saver Design

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# Jet Pump (Centrifugal), Single-Phase Totally Enclosed Motors

C-Face Footless, 56J

## Performance Data

| Performance Data Single-Phase 56J Frame Motors (230V/60Hz except as indicated)<br>Jet Pump (Centrifugal) Totally Enclosed Motors |     |          |                            |                    |              |                |              |            |               |                   |                                     |
|--|-----|----------|----------------------------|--------------------|--------------|----------------|--------------|------------|---------------|-------------------|-------------------------------------|
| Part Number  | HP  | F.L. RPM | Current @ 115V/230V (Amps) |                    |              | Torque (lb-ft) |              |            | F.L. Effic. % | F.L. Power Factor | Rotor Inertia (lb-ft <sup>2</sup> ) |
|  |     |          | No Load 230V               | Full Load 115/230V | Locked Rotor | Full Load      | Locked Rotor | Break-down |               |                   |                                     |
| <b>C1336</b>   | 1/3 | 3450     | 2.3                        | 5.6 / 2.8          | 14           | 0.51           | 1.33         | 1.51       | N/A**         | N/A**             | 0.012                               |
| <b>C465</b>  | 1/2 | 3450     | 2.8                        | 7.4 / 3.7          | 20.5         | 0.76           | 1.18         | 2.29       | N/A**         | N/A**             | 0.017                               |
| <b>C352</b>  | 1   | 3450     | 3.6                        | 13.0 / 6.5         | 40.5         | 1.52           | 3.07         | 4.14       | N/A**         | N/A**             | 0.036                               |
| <b>C878</b>  | 2   | 3450     | 1.27                       | 17.8 / 8.9         | 52.8         | 3.04           | 4.60         | 6.12       | N/A**         | N/A**             | 0.055                               |

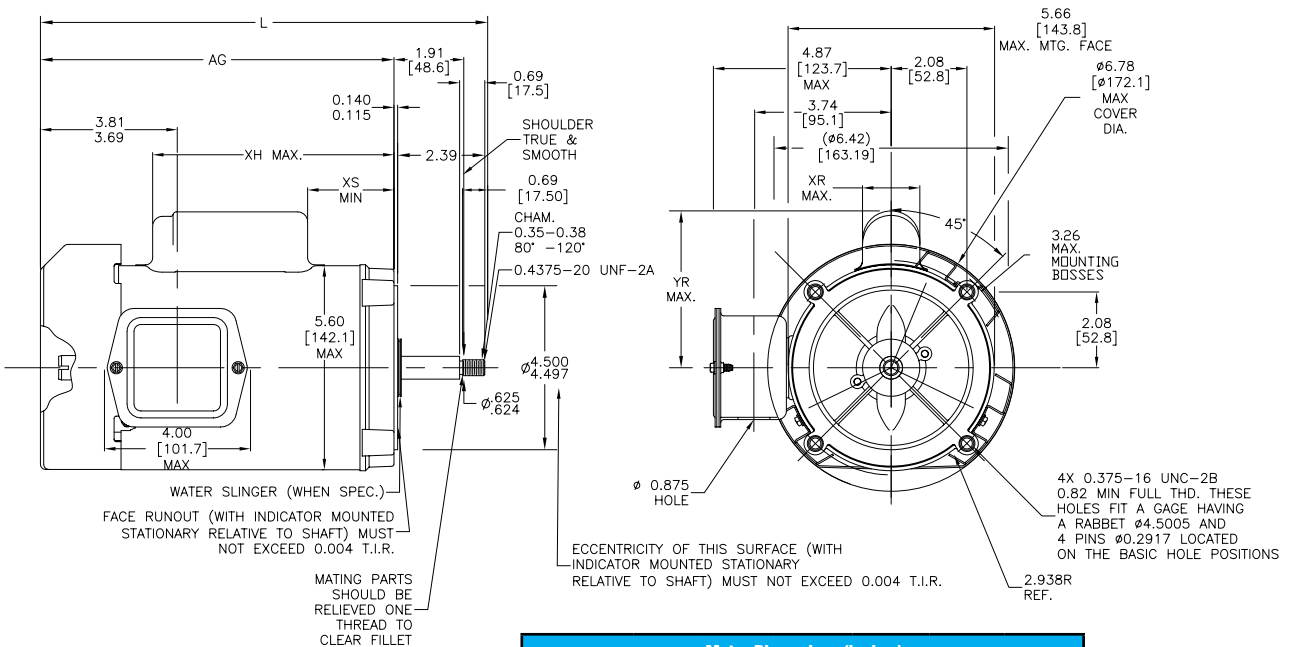
\* Maximum Constant HP RPM is for direct-coupled loads.  
\*\* Data not available from manufacturer

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

## Dimensions

in [mm]

Figure 1 – C1336, C465, C352 Dimensions



| Motor Dimensions (inches) |       |       |      |      |      |      |
|---------------------------|-------|-------|------|------|------|------|
| Part Number               | L     | AG    | XH   | XR   | XS   | YR   |
| <b>C1336</b>              | 11.87 | 9.28  | 6.61 | 1.60 | 1.43 | 4.34 |
| <b>C465</b>               | 11.87 | 9.28  | 6.61 | 1.60 | 1.43 | 4.34 |
| <b>C352</b>               | 12.87 | 10.28 | 7.61 | 1.60 | 2.03 | 4.34 |

# Jet Pump (Centrifugal), 3-Phase Totally Enclosed Motors

## C-Face Footed (Removable Base) 56J

### Features

- Service Factor is 1.15
- Double-sealed ball bearings, mechanically locked on shaft end
- Continuous Duty
- Nameplate 60/50 Hz, 190/380 volts at next lower HP, as noted
- 56J = 416 stainless steel threaded shaft with slinger
- UL Recognized, CSA Certified and CE Mark
- Drip cover kit included
- IP43 Rating

### Applications

- Replaces 90 volt and 180 volt PMDC motors (when used with AC variable frequency drives)
- Typical uses include: jet pumps and jet pump motor replacements, well pumps, and liquid pumping applications.



| Motor Shipping Schedule *  |              |               |
|--|--------------|---------------|
| Same or one day *  | Up to 7 days | Up to 10 days |
| Color indicates shipping lead time in business days. Check stock status online.  |              |               |
| * Certain heavy and oversized items can be shipped only via LTL. Check our website for current shipping method constraints by part number. |              |               |

| Motor Specifications – Jet Pump (Centrifugal) 3-Phase Totally Enclosed Motors   |          |       |          |                       |       |             |            |               |                         |              |   |
|---|----------|-------|----------|-----------------------|-------|-------------|------------|---------------|-------------------------|--------------|---|
| Part Number*  | Price    | HP    | Base RPM | Volts                 | Encl. | NEMA Design | NEMA Frame | Model No.     | F.L. Amps               | Weight (lb)* | Footnotes                                     |
| J061  | \$193.00 | 1/2   | 3600     | 208-230/460 - 190/380 | TEFC  | B           | 56J        | 56T34F5342 D  | 2.0-2.2/1.1 - 1.85/0.92 | 23           | 68  |
| J062  | \$225.00 | 3/4   |          | 208-230/460 - 190/380 |       |             |            | 56T34F5343 D  | 3.0-3.2/1.6 - 3.0/1.5   | 23           |   |
| J063A   | \$273.00 | 1     |          | 230/460 - 190/380     |       |             |            | 56T34F99029 A | 3/0/1.5 - 2.6/1.3       | 25           | Nameplate footnote: Suitable for 208V at 60Hz |
| J064A   | \$338.00 | 1-1/2 |          | 208-230/460 - 190/380 |       |             |            | 56T34F99018 A | 4.2-4.0/2.0 - 3.4/1.7   | 26           | 68  |
| J065A   | \$389.00 | 2     |          | 230/460 - 190/380     |       |             |            | 56T34F15592 A | 5.0/2.5 - 4.6/2.3       | 30           | Nameplate footnote: Suitable for 208V at 60Hz |
| * Refer to the Motor Shipping Schedule table for shipping information. Certain heavy and oversized items can be shipped only via LTL. Check our website for current shipping method constraints by part number.   |          |       |          |                       |       |             |            |               |                         |              |   |
| Footnotes: 68 = Rated 60/50 hertz, 190/380 or 380 volt at next lower horsepower   |          |       |          |                       |       |             |            |               |                         |              |   |
| Note: Please review the AutomationDirect Terms & Conditions for warranty and service on this product. Warranty service can be arranged through numerous Marathon Electric service centers. See list of service centers on our website at <a href="http://www.automationdirect.com">www.automationdirect.com</a> . |          |       |          |                       |       |             |            |               |                         |              |   |

# Jet Pump (Centrifugal), 3-Phase Totally Enclosed Motors

C-Face Footed (Removable Base) 56J

| Performance Data – Jet Pump (Centrifugal) 3-Phase Totally Enclosed Motors |       |          |          |                 |                 |                     |                     |               |               |             |                   |                                     |
|---|-------|----------|----------|-----------------|-----------------|---------------------|---------------------|---------------|---------------|-------------|-------------------|-------------------------------------|
| Part Number   | HP    | F.L. RPM | Min. RPM | F.L. AMPS @460V | N.L. AMPS @460V | F.L. Torque (lb-ft) | B.D. Torque (lb-ft) | Max. CHP RPM* | Max. Safe RPM | F.L. Effic. | F.L. Power Factor | Rotor Inertia (lb-ft <sup>2</sup> ) |
| J061  | 1/2   | 3450     | 345      | 1.1             | 0.7             | 0.76                | 3.8                 | 2700          | 4000          | 66          | 69.7              | 0.02                                |
| J062  | 3/4   |          | 345      | 1.6             | 1.0             | 1.14                | 5.6                 |               |               | 74          | 69.1              | 0.023                               |
| J063A   | 1     |          | 345      | 1.5             | 0.75            | 1.5                 | 4.8                 |               |               | 78.5        | 79.1              | 0.023                               |
| J064A   | 1-1/2 |          | 345      | 2.0             | 0.9             | 2.2                 | 9.6                 |               |               | 84          | 83.5              | 0.045                               |
| J065A   | 2     |          | 345      | 2.5             | 1               | 3.0                 | 12.2                |               |               | 85.5        | 86                | 0.065                               |

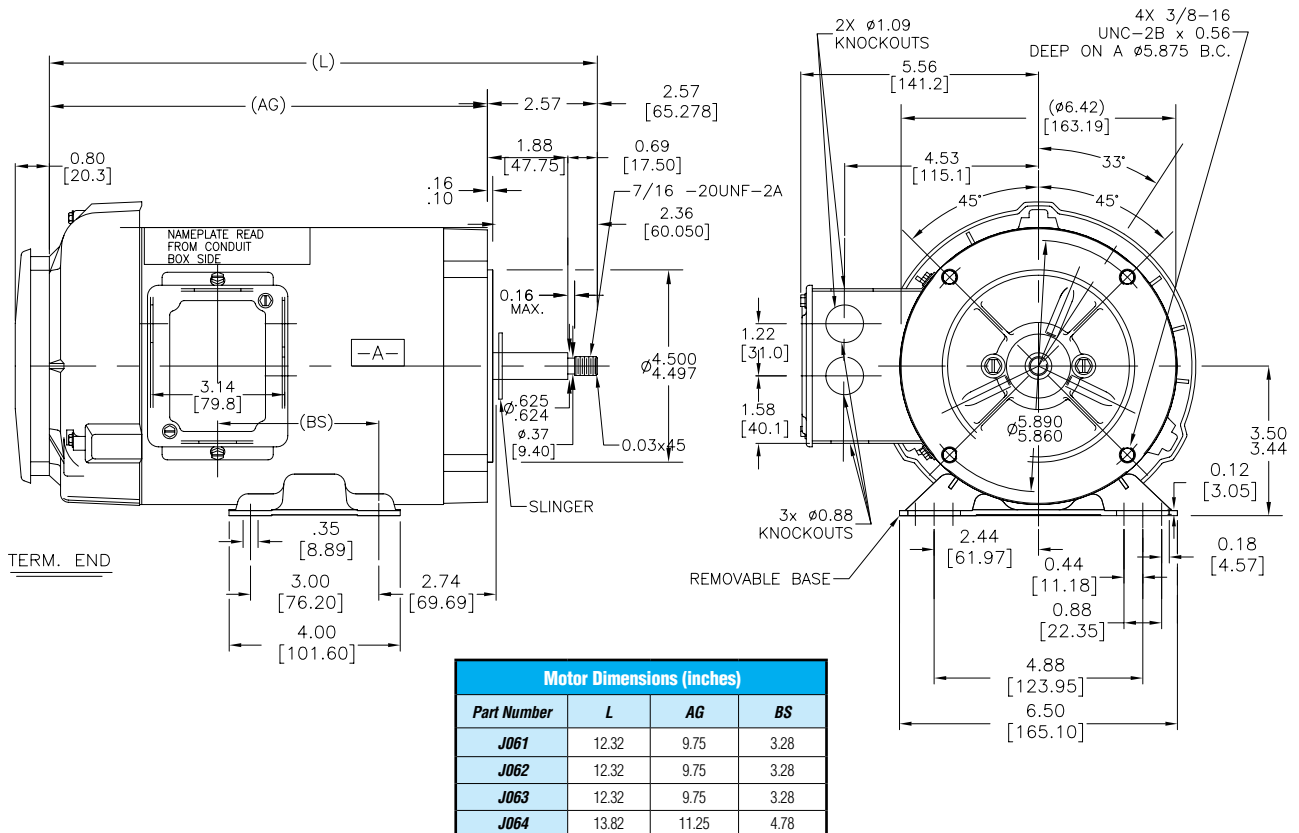
\* Maximum Constant HP RPM is for direct-coupled loads.

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

## Dimensions

in [mm]

Figure 1 – J061, J062, J063, J064 Dimensions



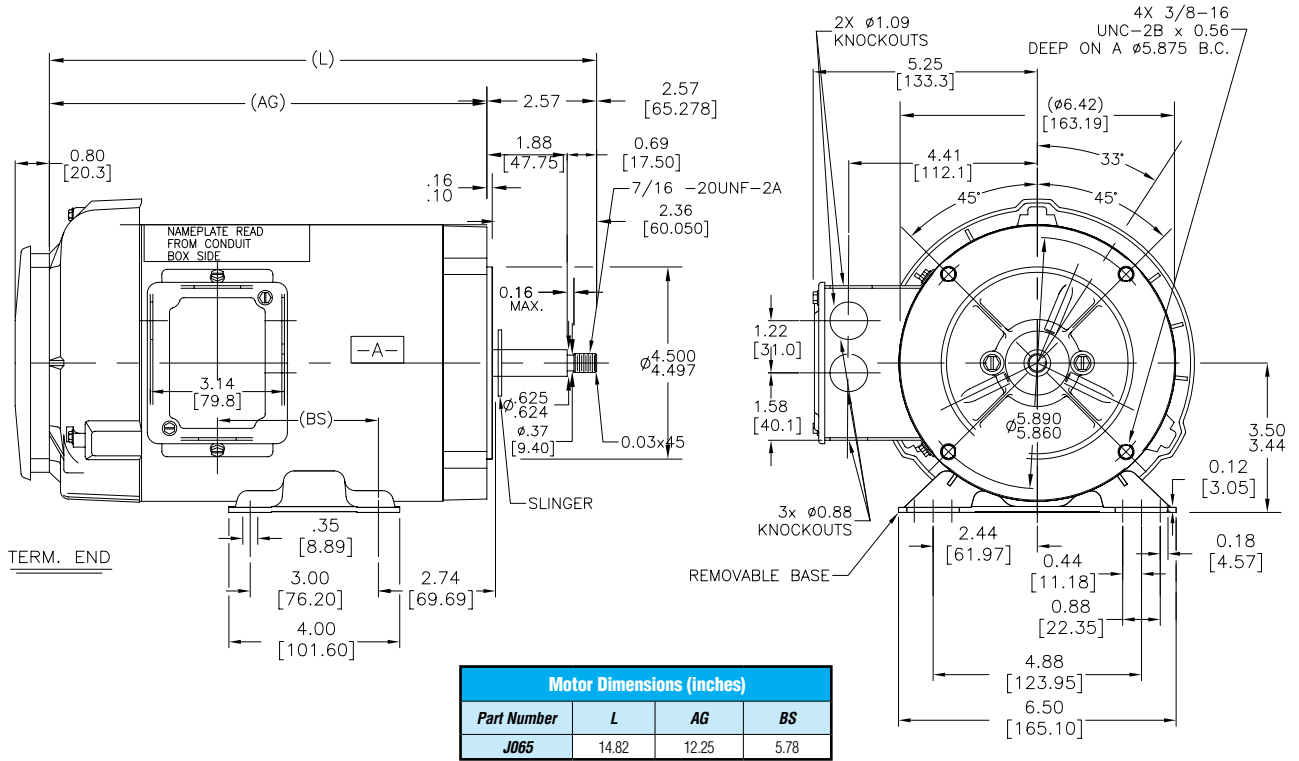
# Jet Pump (Centrifugal), 3-Phase Totally Enclosed Motors

## C-Face Footed (Removable Base) 56J

### Dimensions

in [mm]

Figure 2 – J065 Dimensions



# Jet Pump (Centrifugal), 3-Phase Drip-proof Motors

## C-Face Footed (Rigid Base) 56J/56HJ

### Features

- Service Factor, as noted
- Double-sealed ball bearings, mechanically locked on shaft end
- Continuous Duty
- Nameplate 60/50 Hz, 190/380 volts at next lower HP, as noted
- 56J = 416 stainless steel threaded shaft with slinger
- UL Recognized, CSA Certified and CE Mark
- Drip cover kit included
- IP22 Rating

### Applications

- Typical uses include: jet pumps and jet pump motor replacements, well pumps, and liquid pumping applications



#### Motor Shipping Schedule \*

Same or one day \*    Up to 7 days    Up to 10 days

Color indicates shipping lead time in business days. Check stock status online.

\* Certain heavy and oversized items can be shipped only via LTL. Check our website for current shipping method constraints by part number.

#### Motor Specifications – Jet Pump (Centrifugal) 3-Phase Drip-proof Motors

| Part Number* | Price    | HP    | Base RPM | Volts                 | Encl. | NEMA Design | NEMA Frame   | Model No.             | F.L. Amps               | Weight (lb)* | Footnotes |
|--------------|----------|-------|----------|-----------------------|-------|-------------|--------------|-----------------------|-------------------------|--------------|-----------|
| J047         | \$143.00 | 1/3   | 3600     | 208-230/460 - 190/380 | DP    | B           | 56J          | 56T34D5368 D          | 1.2-1.1/0.55 - 1.1/0.55 | 21           | 68        |
| J048         | \$161.00 | 1/2   |          |                       |       |             |              | 56T34D5367 D          | 1.9-2.2/1.1 - 2.0/1.0   | 21           |           |
| J049         | \$193.00 | 3/4   |          |                       |       |             |              | 56T34D5365 D          | 3.0-3.2/1.6 - 2.8/1.4   | 22           |           |
| J050         | \$219.00 | 1     |          |                       |       |             |              | 56T34D5366 D          | 3.7-3.7/1.85 - 3.4/1.7  | 23           |           |
| J051         | \$265.00 | 1-1/2 |          |                       |       |             |              | 56T34D5369 D          | 5.2-5.0/2.5 - 4.3/2.15  | 23           |           |
| J052         | \$309.00 | 2     |          |                       |       |             | 56HJ         | 56T34D5370 D          | 6.4-6.2/3.1 - 6.0/3.0   | 30           |           |
| J053         | \$347.00 | 3     |          |                       |       |             | 56T34D5371 D | 8.9-8.4/4.2 - 7.0/3.5 | 32                      |              |           |

\* Refer to the Motor Shipping Schedule table for shipping information.

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Footnotes: 68 = Rated 60/50 hertz, 190/380 or 380 volt at next lower horsepower

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# Jet Pump (Centrifugal), 3-Phase Drip-proof Motors

C-Face Footed (Rigid Base) 56J

| Performance Data (460 Volt except as indicated) – Jet Pump (Centrifugal) 3-Phase Drip-proof Motors |       |          |          |                 |                 |                     |                     |               |               |             |                   |                                     |
|--|-------|----------|----------|-----------------|-----------------|---------------------|---------------------|---------------|---------------|-------------|-------------------|-------------------------------------|
| Part Number  | HP    | F.L. RPM | Min. RPM | F.L. AMPS @460V | N.L. AMPS @460V | F.L. Torque (lb-ft) | B.D. Torque (lb-ft) | Max. CHP RPM* | Max. Safe RPM | F.L. Effic. | F.L. Power Factor | Rotor Inertia (lb-ft <sup>2</sup> ) |
| J047   | 1/3   | 3450     | 345      | 0.55            | 0.4             | 0.5                 | 2.1                 | 2700          | 4000          | 67.7        | 84.4              | 0.02                                |
| J048   | 1/2   |          | 345      | 1.1             | 0.7             | 0.76                | 3.8                 |               |               | 66          | 69.7              | 0.022                               |
| J049   | 3/4   |          | 345      | 1.6             | 1.0             | 1.15                | 5.4                 |               |               | 74          | 69                | 0.023                               |
| J050   | 1     |          | 345      | 1.85            | 1.1             | 1.5                 | 7                   |               |               | 74          | 71.3              | 0.03                                |
| J051   | 1-1/2 |          | 345      | 2.5             | 1.5             | 2.3                 | 7.7                 |               |               | 80          | 74.4              | 0.023                               |
| J052   | 2     |          | 345      | 3.1             | 1.7             | 3.0                 | 10                  |               |               | 80          | 78.2              | 0.026                               |
| J053   | 3     |          | 345      | 4.2             | 2.0             | 4.5                 | 15                  |               |               | 84          | 82                | 0.04                                |

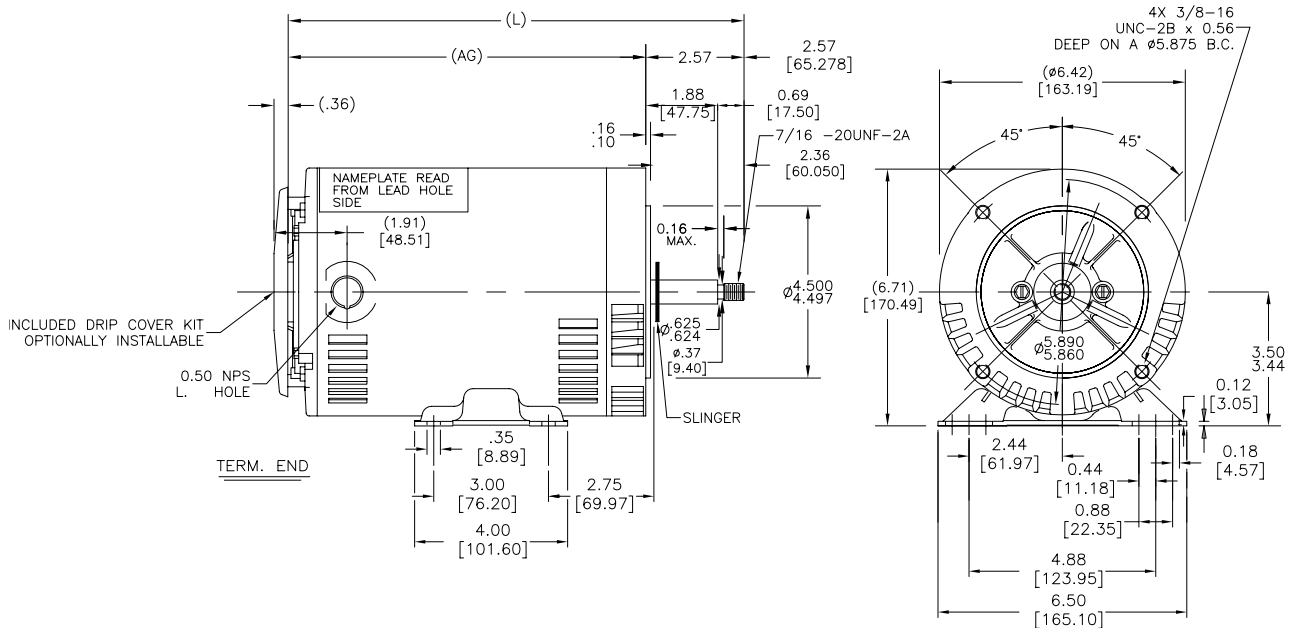
\* Maximum Constant HP RPM is for direct-coupled loads.

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

## Dimensions

in [mm]

Figure 1 – J047, J048, J049, J050, J051 Dimensions



| CAT # | FR.   | L     | AG   |
|-------|-------|-------|------|
| J047  | 56-60 | 10.43 | 7.86 |
| J048  | "-65  | 10.93 | 8.36 |
| J049  | "-65  | 10.93 | 8.36 |
| J050  | "-65  | 10.93 | 8.36 |
| J051  | "-65  | 10.93 | 8.36 |

| Motor Dimensions (inches) |       |      |
|---------------------------|-------|------|
| Part Number               | L     | AG   |
| J047                      | 10.43 | 7.86 |
| J048                      | 10.93 | 8.36 |
| J049                      | 10.93 | 8.36 |
| J050                      | 10.93 | 8.36 |
| J051                      | 10.93 | 8.36 |



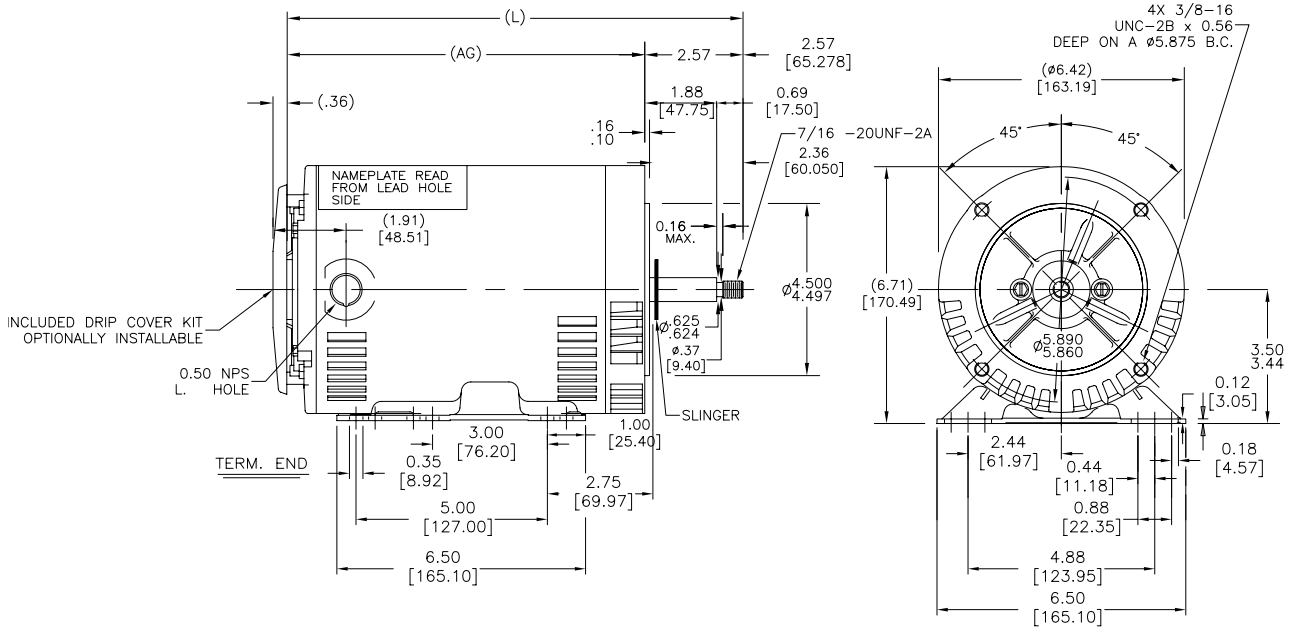
# Jet Pump (Centrifugal), 3-Phase Drip-proof Motors

## Dimensions

## C-Face Footed (Rigid Base) 56J

in [mm]

Figure 2 – J052, J053 Dimensions



| CAT # | FR.  | L     | AG   |
|-------|------|-------|------|
| J052  | "-65 | 10.93 | 8.36 |
| J053  | "-75 | 11.93 | 9.36 |

| Motor Dimensions (inches) |       |      |
|---------------------------|-------|------|
| Part Number               | L     | AG   |
| J052                      | 10.93 | 8.36 |
| J053                      | 11.93 | 9.36 |