



# MTR Centrifugal Jet Pump 1-phase TEFC Motors

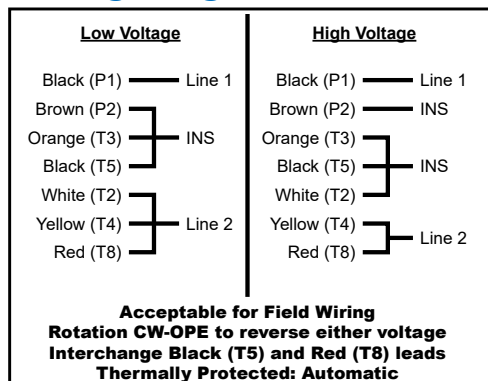
## Features

- 1/3 - 2 HP
- 3600 RPM
- 115/208-230 volt
- Totally Enclosed Fan Cooled (TEFC) Enclosure
- 1.15 SF
- Class F insulation
- C-face with Removable Base
- Capacitor start / induction run (1/3 - 1 HP)
- Capacitor start / capacitor run (1.5 - 2 HP) for reduced amperage and high torque
- Vacuum Pressure Impregnation (VPI) System
- Anti-rust film applied to rotor
- Improved shaft seal on drive-end protects drive-end bearing from moisture and contaminants
- Automatic overload
- 56J - Threaded Shaft
- IP43 Protection

## Applications

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

## Wiring Diagram



**MTRJ-001-1AB36J**

## Motor Specifications – 1-phase

| Part Number                             | Price    | HP    | Base RPM | Volts       | Encl. | NEMA Frame | Service Factor | F.L. Amps  | Sound Power (dB) | Weight (lb) | Drawing Links       |
|-----------------------------------------|----------|-------|----------|-------------|-------|------------|----------------|------------|------------------|-------------|---------------------|
| <b>Removable Rigid Base With C-face</b> |          |       |          |             |       |            |                |            |                  |             |                     |
| <a href="#">MTRJ-P33-1AB36J</a>         | \$05az2: | 1/3   | 3600     | 115/230 VAC | TEFC  | 56J        | 1.15           | 5.0/2.5    | 80 dB(A)         | 19          | <a href="#">PDF</a> |
| <a href="#">MTRJ-P50-1AB36J</a>         | \$05az3: | 1/2   |          |             |       |            |                | 6.6/ 3.3   |                  | 21          | <a href="#">PDF</a> |
| <a href="#">MTRJ-P75-1AB36J</a>         | \$05az4: | 3/4   |          |             |       |            |                | 9.0 / 4.5  |                  | 26          | <a href="#">PDF</a> |
| <a href="#">MTRJ-001-1AB36J</a>         | \$05az5: | 1     |          |             |       |            |                | 11.4/5.7   |                  | 28          | <a href="#">PDF</a> |
| <a href="#">MTRJ-1P5-1AB36J</a>         | \$05az6: | 1 1/2 |          |             |       |            |                | 13.0 / 6.5 | 85 dB(A)         | 31          | <a href="#">PDF</a> |
| <a href="#">MTRJ-002-1AB36J</a>         | \$05az7: | 2     |          |             |       |            |                | 17.2 / 8.6 |                  | 37          | <a href="#">PDF</a> |

## Performance Data - 1-phase

| Part Number                                 | HP    | F.L. RPM | NEMA Design | F.L. Effic. % | Current        |                   |                 | Torque            |                  |           | F.L. Power Factor | Moment of Inertia (lb-ft²) |         |
|---------------------------------------------|-------|----------|-------------|---------------|----------------|-------------------|-----------------|-------------------|------------------|-----------|-------------------|----------------------------|---------|
|                                             |       |          |             |               | Full Load Amps | Locked Rotor Amps | No Load Current | Full Load (lb-ft) | Locked Rotor     | Breakdown |                   |                            | Pull Up |
|                                             |       |          |             |               |                |                   |                 |                   | % of F.L. Torque |           |                   |                            |         |
| Removable Rigid Base With C-face - 3600 RPM |       |          |             |               |                |                   |                 |                   |                  |           |                   |                            |         |
| <a href="#">MTRJ-P33-1AB36J</a>             | 1/3   | 3450     | N           | 55.0          | 5.0/2.5        | 19.51             | 2.64            | 0.51              | 145              | 250       | 95                | 85.00                      | 0.0245  |
| <a href="#">MTRJ-P50-1AB36J</a>             | 1/2   |          |             | 59.5          | 6.6/ 3.3       | 25.22             | 3.19            | 0.76              | 130              | 265       | 90                |                            | 0.0277  |
| <a href="#">MTRJ-P75-1AB36J</a>             | 3/4   |          |             | 66.0          | 9.0 / 4.5      | 47.22             | 4.95            | 1.12              |                  | 220       | 100               |                            | 81.00   |
| <a href="#">MTRJ-001-1AB36J</a>             | 1     |          |             | 70.0          | 11.4/5.7       | 61.78             | 5.97            | 1.53              | 125              | 225       | 75                |                            | 82.00   |
| <a href="#">MTRJ-1P5-1AB36J</a>             | 1 1/2 |          | L           | 78.5          | 13.0 / 6.5     | 82.74             | 8.34            | 2.25              | 115              | 220       | 110               | 94.00                      | 0.0472  |
| <a href="#">MTRJ-002-1AB36J</a>             | 2     |          |             | 80.0          | 17.2 / 8.6     | 116.2             | 8.64            | 3.06              | 140              | 205       | 95                | 95.00                      | 0.0602  |



# AC Motor Selection – IronHorse® General Purpose Motors

| IronHorse® 1-Phase Motor Selection      |                                  |                   |                           |
|-----------------------------------------|----------------------------------|-------------------|---------------------------|
| Motor Series                            | MTR2                             | MTRJ              | MTF2                      |
| Paint Color                             | Black                            | Black             | Green                     |
| Main Characteristics                    | General Purpose<br>Rolled Steel  | Jet Pump          | Farm Duty<br>Rolled Steel |
| Electrical Characteristics              |                                  |                   |                           |
| Horsepower range                        | 1/3 - 2                          | 1/3 - 2           | 2 - 10                    |
| Base speed                              | 1800; 3600                       | 3600              | 1800                      |
| Standard Voltage                        | 115/208–230 VAC; 115/230 VAC     | 115/230 VAC       | 208–230 VAC               |
| Phase / Base Frequency                  | 1-phase / 60 Hz                  |                   |                           |
| Service Factor                          | 1.15                             |                   |                           |
| Design Code (NEMA)                      | L or N (by model)                | L or N (by model) | L                         |
| Insulation Class                        | Class F                          |                   |                           |
| Insulation System                       | Dip and Bake Twice               |                   | Double VPI                |
| Duty Cycle                              | Continuous                       |                   |                           |
| Thermal protection                      | None                             | Automatic         | Manual                    |
| Hazard Classification                   | None                             |                   |                           |
| Mechanical Characteristics              |                                  |                   |                           |
| Frame size                              | 56C or HC                        | 56J               | 182T - 215T               |
| Enclosure                               | TEFC                             | TEFC              | TEFC                      |
| Enclosure Rating                        | IP43                             |                   | IP55                      |
| Frame material                          | Rolled Steel                     |                   |                           |
| End bracket material                    | Aluminum                         |                   |                           |
| Junction box material                   | Steel                            |                   |                           |
| Fan guard material                      | Steel                            |                   |                           |
| Fan material                            | Polypropylene Plastic            | Plastic           |                           |
| Lead termination                        | Junction Box                     |                   |                           |
| Standard mounting                       | C-Face with Removable Rigid Base |                   | Rigid Base                |
| Drive end shaft slinger                 | Yes                              |                   | V-ring seal               |
| Bearings                                | Ball                             |                   |                           |
| Grease                                  | Mobil Polyrex EM                 |                   | NS7 ENS                   |
| Standard junction box assembly position | F1                               |                   |                           |
| Performance Characteristics             |                                  |                   |                           |
| Constant Torque speed range             | N/A                              |                   |                           |
| Variable Torque speed range             | N/A                              |                   |                           |
| Constant Horsepower speed range         | N/A                              |                   |                           |
| Temperature rise                        | B                                |                   |                           |
| Encoder provisions                      | None                             |                   |                           |
| Other Characteristics                   |                                  |                   |                           |
| Warranty*                               | 2 Years                          |                   |                           |
| Agency Approvals **                     | CSA, CE                          |                   | CE, UR                    |

\* See Terms and Conditions for motor warranty explanation.

1) For warranty on IronHorse motors below 50hp, warranty service can be arranged through AutomationDirect.

2) For warranty on IronHorse motors 50hp and above, motors must be inspected by a local EASA motor repair or service center; (see AutomationDirect Terms & Conditions).

\*\* To obtain the most current agency approval information, see the Agency Approval Checklist on the specific part number's web page.

\*\*\* 56HC motors are capable of 56C C-face mounting, and are also compatible with 56, 143T, and 145T foot mounting dimensions.