

## EC / EB Series Electro Clutches and Brakes

### Shaft Mounted Clutches and Brakes

#### Shaft Mounted Clutches

##### EC Series

All the features of an electric clutch in a convenient, preassembled package. Mounts on any through shaft or double shafted motor. Easy-to-assemble with standard sheaves, pulleys, gears and sprockets.

Available in a wide range of bore sizes. Shaft extension makes pulley or sprocket installation easy.

#### Shaft Mounted Brakes

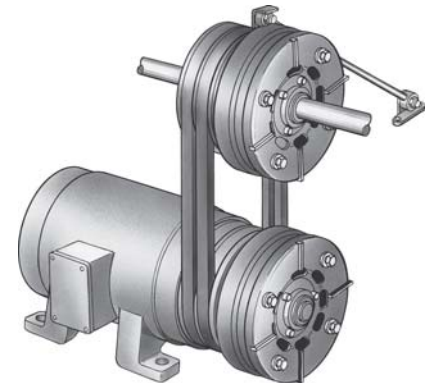
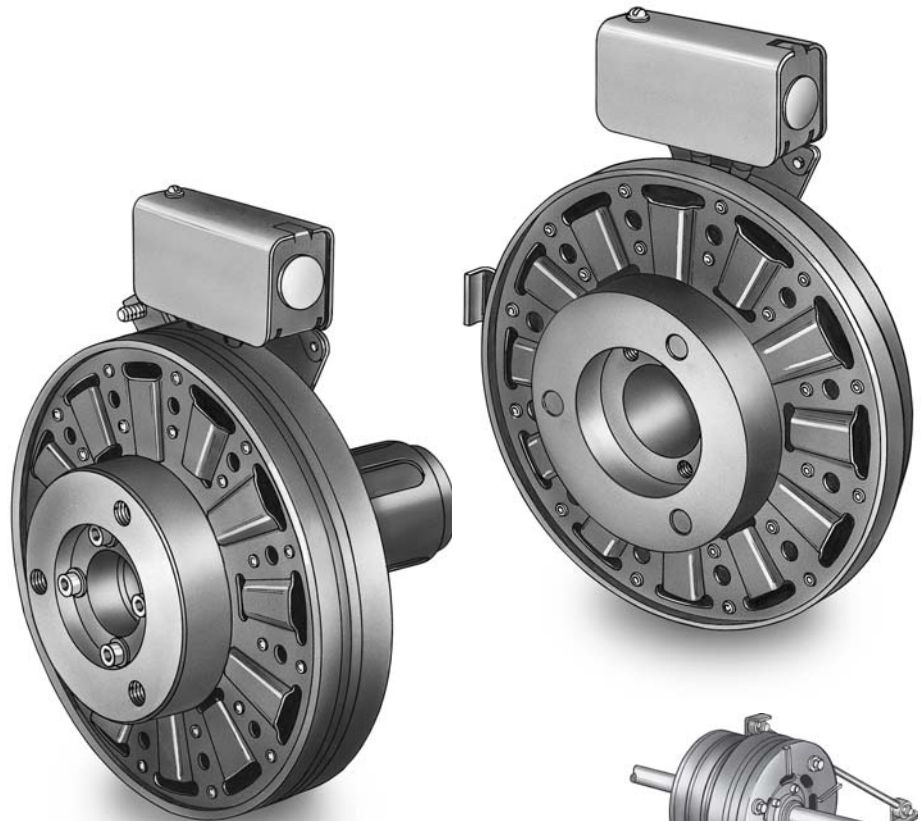
##### EB Series

Electro Brakes mount directly on a motor or through shaft for basic braking functions.

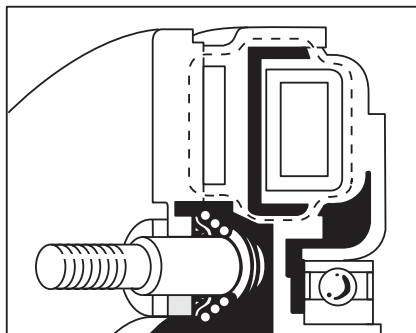
Torque arm feature makes Electro Brakes easy to install on any through shaft or double shaft motor.

Segmented and fluted armature disc provides maximum cooling of friction surfaces.

- Six sizes of clutches and brakes
- 16 lb. ft. to 465 lb. ft. torque range
- Preassembled. Factory aligned.
- Mounting flexibility
- Simple to install

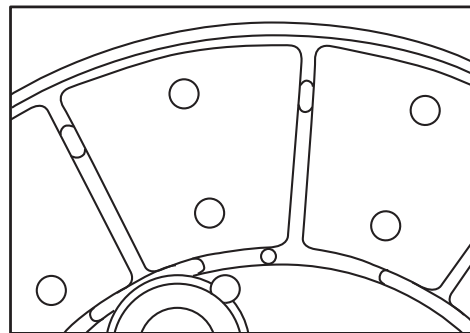


Motor mounted Electro Clutch used in combination with an Electro Brake on a through shaft installation.



##### Brushless Design

Warner Electric designed electromagnetic circuit eliminates brushes.



##### Heat Dissipation

Specially designed segmented armature disc is segmented and fluted to provide maximum cooling of friction surfaces. Automatically adjusts for wear.

## EC Series Electro Clutch

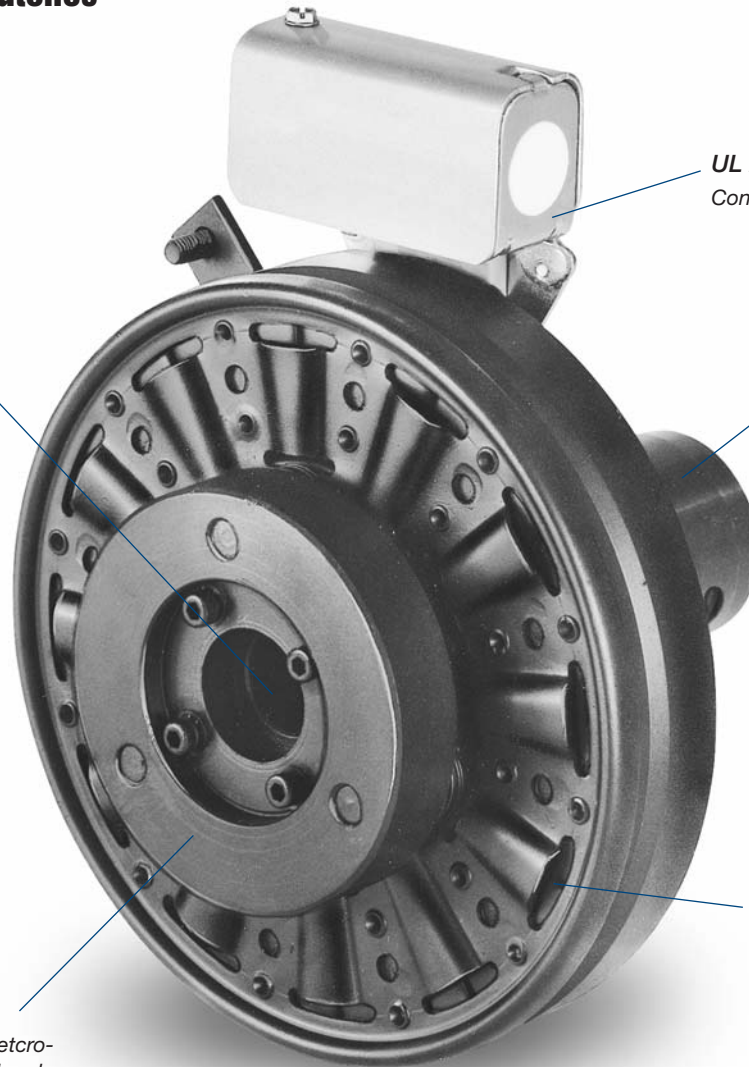
### Shaft Mounted Clutches

#### Mounting flexibility

Standard Electro Clutches are offered in a wide variety of bore sizes.

#### No brushes to wear out

Warner Electric designed electro-magnetic circuit eliminates brushes.



#### UL listed

Conduit box meets industry standards.

#### Simple installation

Easy-to-install a pulley, sprocket, sheave or gear on the Electro Clutch shaft extension.

#### Long life – no maintenance

Specially designed armature disc is segmented and fluted to provide maximum cooling of friction surfaces. Automatically adjusts to wear.

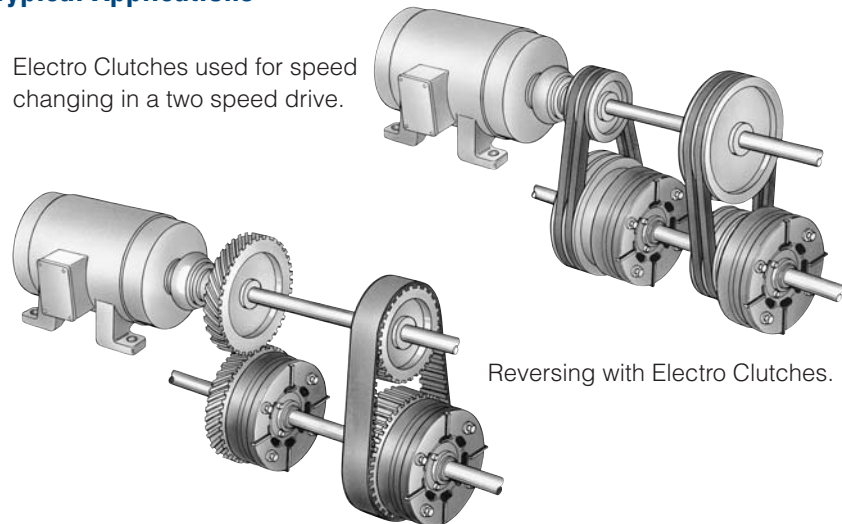
### Packaged Performance

The engineering is built-in. Warner Electric Packaged Performance products are factory aligned and pre-assembled. They have been designed to mate easily with industry standard motors, reducers and other power transmission components. "Bolt-it-down and wire-it-up". . . they're ready to go.

- Hubs mate to standard sheaves, sprockets, gears and pulleys
- Wide torque range from 16 to 465 lb. ft.
- Handle 1 to 20 HP at 1800 RPM

### Typical Applications

Electro Clutches used for speed changing in a two speed drive.



Reversing with Electro Clutches.

# EC Series Electro Clutch

## Selection/Ordering Information

### Selection Procedure

1. Determine the motor horsepower and r.p.m. at the clutch location.
  2. Use the Horsepower vs. Shaft Speed chart to determine the right size Electro Clutch.
  3. When ordering, specify bore size and voltage.
  4. To get maximum performance from your Electro Clutch, use a Warner Electric Control. See the Controls Section.
- Note:**  
Electro Clutches require extended length motor shafts for motor mounting.

### Part Numbers

| Model Size | Bore Size    | Voltage DC | Part No.     |
|------------|--------------|------------|--------------|
| EC-375     | 1/2"         | 6          | 5180-271-006 |
|            |              | 24         | 5180-271-004 |
|            |              | 90         | 5180-271-009 |
| EC-475     | 5/8"         | 6          | 5180-271-002 |
|            |              | 24         | 5180-271-008 |
|            |              | 90         | 5180-271-005 |
| EC-475     | 5/8"         | 6          | 5181-271-033 |
|            |              | 24         | 5181-271-037 |
|            |              | 90         | 5181-271-036 |
|            | 3/4"         | 6          | 5181-271-032 |
|            |              | 24         | 5181-271-038 |
|            |              | 90         | 5181-271-034 |
| EC-650     | 7/8"         | 6          | 5181-271-031 |
|            |              | 24         | 5181-271-039 |
|            |              | 90         | 5181-271-035 |
| EC-650     | 1"           | 6          | 5281-271-004 |
|            |              | 24         | 5281-271-018 |
|            |              | 90         | 5281-271-007 |
|            | 1-1/8"       | 6          | 5281-271-002 |
|            |              | 24         | 5281-271-019 |
|            |              | 90         | 5281-271-005 |
| EC-825     | 1-1/4"       | 6          | 5281-271-009 |
|            |              | 24         | 5281-271-020 |
|            |              | 90         | 5281-271-008 |
| EC-825     | 1-3/8"       | 6          | 5281-271-003 |
|            |              | 24         | 5281-271-016 |
|            |              | 90         | 5281-271-006 |
| EC-825     | 1-1/8"       | 6          | 5282-271-002 |
|            |              | 24         | 5282-271-008 |
|            |              | 90         | 5282-271-011 |
| EC-1000    | 1-1/4"       | 6          | 5282-271-003 |
|            |              | 24         | 5282-271-009 |
|            |              | 90         | 5282-271-012 |
| EC-1000    | 1-3/8"       | 6          | 5282-271-004 |
|            |              | 24         | 5282-271-010 |
|            |              | 90         | 5282-271-013 |
| EC-1000    | 1-3/8"       | 6          | 5283-271-002 |
|            |              | 24         | 5283-271-010 |
|            |              | 90         | 5283-271-003 |
|            | 1-1/2"       | 24         | 5283-271-012 |
|            |              | 90         | 5283-271-013 |
|            |              | 1-5/8"     | 6            |
| 24         | 5283-271-011 |            |              |
| 90         | 5283-271-005 |            |              |
| EC-1225    | 1-5/8"       | 6          | 5284-271-008 |
|            |              | 24         | 5284-271-013 |
|            |              | 90         | 5284-271-010 |
|            | 1-7/8"       | 6          | 5284-271-002 |
|            |              | 24         | 5284-271-014 |
|            |              | 90         | 5284-271-003 |
| EC-1225    | 2-1/8"       | 6          | 5284-271-004 |
|            |              | 24         | 5284-271-015 |
|            |              | 90         | 5284-271-005 |

Note: Metric bores available in some sizes, consult factory.

### Horsepower vs. Shaft Speed

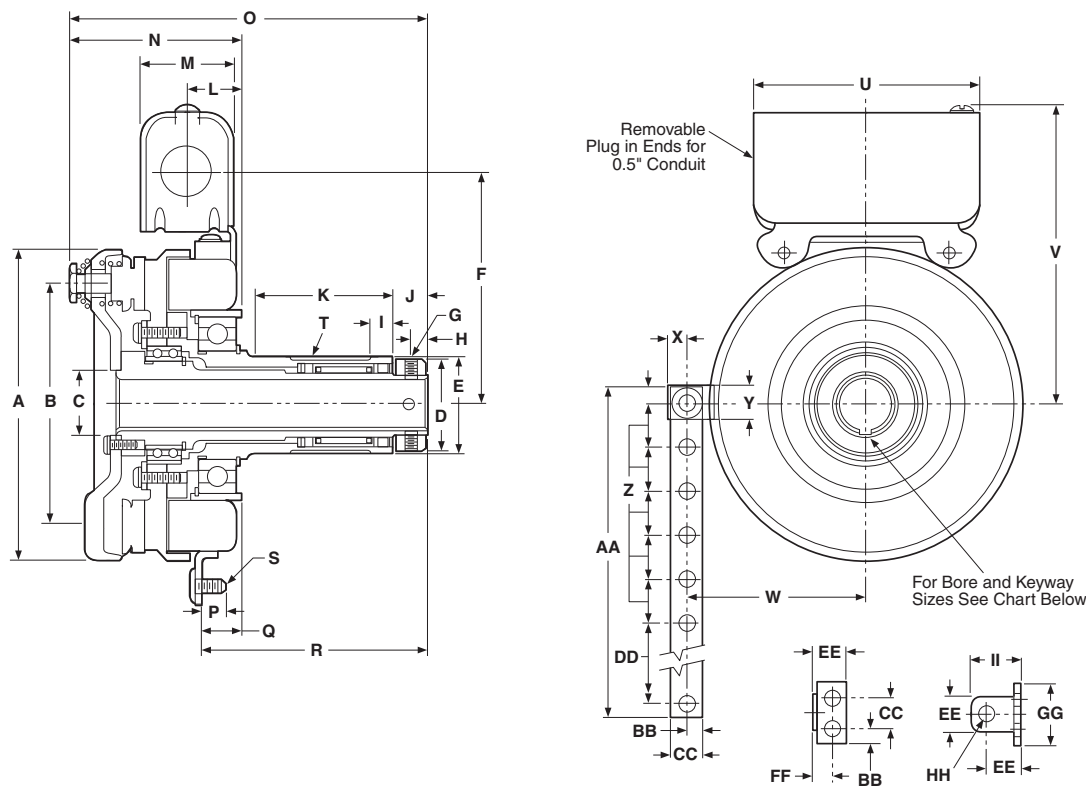
| HP    | SHAFT SPEED AT CLUTCH (IN RPM) |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
|-------|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|--|
|       | 100                            | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1500 | 1800 | 2000 | 2400 | 3000 | 3600 | 4000 | 4500 | 5000 |  |
| 1/50  |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 1/20  |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 1/12  |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 1/8   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 1/6   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 1/4   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 1/2   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 3/4   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 1     |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 1-1/2 |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 2     |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 3     |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 5     |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 7-1/2 |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 10    |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 15    |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 20    |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |  |

### Specifications

| Electro Clutch Size | Static Torque lb. ft. | Max. RPM | Voltage DC  | Total Wt. lbs. |
|---------------------|-----------------------|----------|-------------|----------------|
| EC-375              | 16                    | 5000     | 6, 24 or 90 | 4              |
| EC-475              | 30                    | 4500     | 6, 24 or 90 | 8              |
| EC-650              | 95                    | 3600     | 6, 24 or 90 | 18             |
| EC-825              | 125                   | 3600     | 6, 24 or 90 | 28             |
| EC-1000             | 240                   | 2000     | 6, 24 or 90 | 41             |
| EC-1225             | 465                   | 2000     | 6, 24 or 90 | 85             |

# EC Series Electro Clutch

## EC-375, EC-475, EC-650



### Dimensions

All dimensions are nominal, unless otherwise noted.

| Size | A Max. | B Dia. | C Min. | D Dia. | E Dia. | F     | G          | H    | I    | J    | K Max. | L    | M     |
|------|--------|--------|--------|--------|--------|-------|------------|------|------|------|--------|------|-------|
| 375  | 4.078  | 3.125  | .7505  | 1.313  | 1.375  | 3.344 | 10-24 UNC  | .188 | .375 | .344 | 2.047  | .781 | 1.547 |
|      |        |        |        |        | 1.374  |       | -3A x 5/15 |      |      |      |        |      |       |
| 475  | 5.172  | 4.000  | 1.0625 | 1.563  | 1.625  | 3.922 | 1/4-20 UNC | .281 | .375 | .578 | 2.359  | .875 | 1.547 |
|      |        |        |        |        | 1.624  |       | -3A x 7/16 |      |      |      |        |      |       |
| 650  | 6.578  | 5.125  | 1.625  | 2.375  | 2.5000 | 4.625 | 1/4-20 UNC | .281 | .188 | .563 | 3.047  | .953 | 1.547 |
|      |        |        |        |        | 2.4985 |       | -3A x 1/2  |      |      |      |        |      |       |

### Bore Sizes and Keyways

| Size | Bore Dia. | Keyway       |
|------|-----------|--------------|
| 375  | .625      | *3/16 x 1/16 |
|      | .500      | 1/8 x 1/16   |
| 475  | .750      | 3/16 x 3/32  |
|      | .875      | *3/16 x 1/16 |
|      | .625      | 3/16 x 3/32  |
| 650  | 1.125     | *1/4 x 1/8   |
|      | 1.375     | *5/16 x 3/32 |
|      | 1.000     | 1/4 x 1/8    |
|      | 1.250     | 1/4 x 1/8    |

\*Key Furnished

| Size | N Max. | O Max. | P    | Q Max. | R Min. | S             | T           | U     | V Max. | W     | X    |
|------|--------|--------|------|--------|--------|---------------|-------------|-------|--------|-------|------|
| 375  | 2.484  | 4.984  | .438 | .609   | 3.000  | 1/4-20 UNC-2A | 5/16 x 3/32 | 3.750 | 4.438  | 2.438 | .313 |
| 475  | 3.219  | 6.266  | .422 | .658   | 3.641  | 1/4-20 UNC-2A | 3/8 x 3/32  | 3.750 | 4.984  | 2.984 | .313 |
| 650  | 3.547  | 7.141  | .422 | .722   | 4.359  | 1/4-20 UNC-2A | 5/8 x 3/32  | 3.750 | 5.750  | 3.750 | .313 |

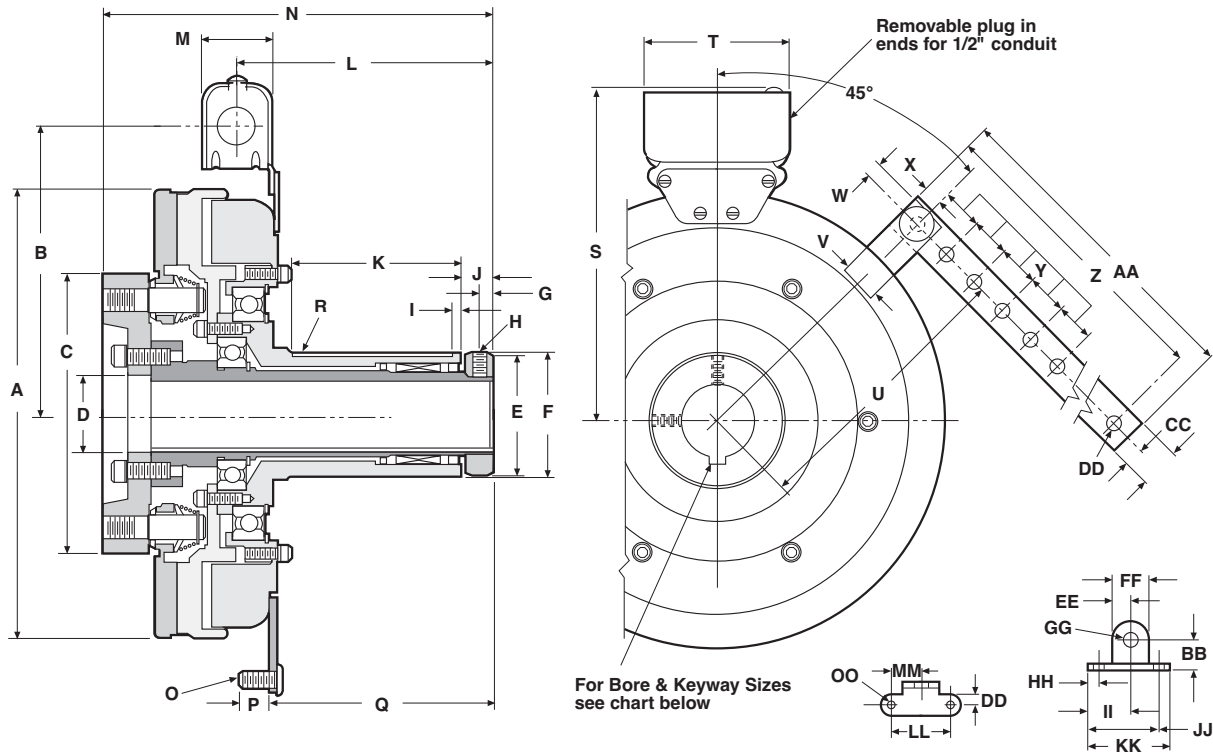
| Size | Y    | Z    | AA     | BB   | CC   | DD    | EE Dia. | FF   | GG    | HH Dia.      | II   |
|------|------|------|--------|------|------|-------|---------|------|-------|--------------|------|
| 375  | .563 | .750 | 5.000  | .250 | .500 | .750  | .563    | .313 | 1.000 | .270<br>.260 | .828 |
| 475  | .578 | .750 | 5.000  | .250 | .500 | .750  | .563    | .313 | 1.000 | .270<br>.260 | .828 |
| 650  | .563 | .750 | 10.000 | .250 | .500 | 5.750 | .563    | .313 | 1.000 | .270<br>.260 | .828 |

### Specifications

| Size   | Average Wt.-lbs. |       |              |              | Inertia-WR <sup>2</sup> (lb.ft. <sup>2</sup> ) |       |              |              |
|--------|------------------|-------|--------------|--------------|--|-------|--------------|--------------|
|        | Arm. & Carrier   | Rotor | Outer Sleeve | Inner Sleeve | Arm. & Carrier                                 | Rotor | Outer Sleeve | Inner Sleeve |
| EC-375 | .60              | .55   | .49          | .60          | .010   | .018  | .001         | .001         |
| EC-475 | 1.13             | 1.12  | .78          | 1.22         | .072   | .033  | .006         | .002         |
| EC-650 | 2.3              | 2.5   | 1.6          | 2.37         | .106   | .202  | .010         | .013         |

# EC Series Electro Clutch

## EC-825



### Dimensions

All dimensions are nominal, unless otherwise noted.

| Size | A Max. | B Dia. | C     | D Min. | E Dia. | F Dia.           | G    | H                       | I    | J    |
|------|--------|--------|-------|--------|--------|------------------|------|-------------------------|------|------|
| 825  | 8.656  | 5.656  | 4.625 | 1.437  | 2.375  | 2.5000<br>2.4985 | .281 | 1/4-20 UNC<br>-3A x 3/8 | .188 | .563 |

| Size | K Max. | L     | M     | N Max. | O              | P     | Q Max. | R*         | S     | T     |
|------|--------|-------|-------|--------|----------------|-------|--------|------------|-------|-------|
| 825  | 3.047  | 5.219 | 1.547 | 8.000  | 5/16-18 UNC-2A | 1.547 | 4.468  | 5/8 x 3/32 | 6.813 | 3.750 |

| Size | U     | V    | W | X    | Y    | Z      | AA | BB   | CC   | DD Dia.      |
|------|-------|------|---|------|------|--------|----|------|------|--------------|
| 825  | 5.063 | .875 | — | .375 | .750 | 16.625 | 17 | .750 | .375 | .330<br>.321 |

| Size | EE   | FF   | GG Dia. | HH   | II    | JJ    | KK    | LL    | MM   | NN   | OO           |
|------|------|------|---------|------|-------|-------|-------|-------|------|------|--------------|
| 825  | .438 | .875 | .313    | .250 | 1.000 | 1.750 | 2.000 | 1.500 | .750 | .250 | .270<br>.260 |

\* Key supplied

### Specifications

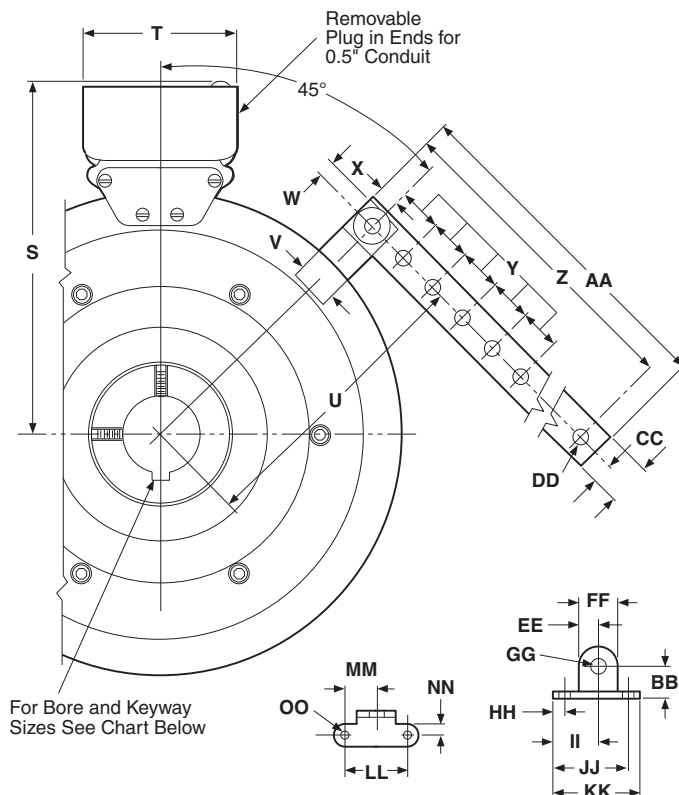
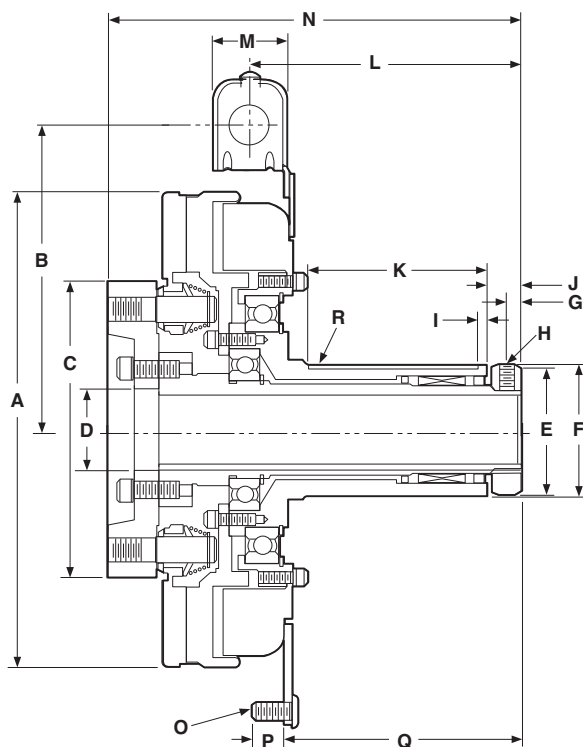
| Model Size | Voltage DC | Inertia-WR <sup>2</sup> (lb. ft <sup>2</sup> ) |                      | Total Weight lbs. | Average Weight-lbs.          |                      |
|------------|------------|--|----------------------|-------------------|------------------------------|----------------------|
|            |            | Armature, Hub & Inner Sleeve                   | Rotor & Outer Sleeve |                   | Armature, Hub & Inner Sleeve | Rotor & Outer Sleeve |
| EC-825     | 6          | .35  | .87                  | 28                | 6.0                          | 18.5                 |
|            | 24         | .35  | .87                  | 28                | 6.0                          | 18.5                 |
|            | 90         | .35  | .87                  | 28                | 6.0                          | 18.5                 |

### Bore Sizes and Keyways

| Size | Bore Dia. | Keyway      |
|------|-----------|-------------|
| 825  | 1.125     | 1/4 x 1/8   |
|      | 1.250     | 1/4 x 1/8   |
|      | 1.375     | 5/16 x 3/32 |

# EC Series Electro Clutch

## EC-1000, EC-1225



### Specifications

| Model Size | Voltage DC | Static Torque (lb. ft.) | Max. Speed RPM | Inertia-WR <sup>2</sup> (lb. ft <sup>2</sup> ) |       |              | Inner Sleeve | Total Weight lbs. |
|------------|------------|-------------------------|----------------|--|-------|--------------|--------------|-------------------|
|            |            |                         |                | Arm. & Hub                                     | Rotor | Outer Sleeve |              |                   |
| EC-1000    | 6          | 240 lb. ft.             | 2000           | .720   | .894  | .129         | .036         | 41                |
|            | 24         | 240 lb. ft.             | 2000           | .720   | .894  | .129         | .036         | 41                |
|            | 90         | 240 lb. ft.             | 2000           | .720   | .894  | .129         | .036         | 41                |
| EC-1225    | 6          | 465 lb. ft.             | 2000           | 1.8  | 2.4   | .129         | .061         | 85                |
|            | 24         | 465 lb. ft.             | 2000           | 1.8  | 2.4   | .129         | .061         | 85                |
|            | 90         | 465 lb. ft.             | 2000           | 1.8  | 2.4   | .129         | .061         | 85                |

# EC Series Electro Clutch

## EC-1000, EC-1225

### Dimensions

All dimensions are nominal, unless otherwise noted.

| Size | A Max. | B Dia. | C     | D Min. | E Dia. | F Dia.           | G    | H                        | I    | J    | K Max. | L     | M     |
|------|--------|--------|-------|--------|--------|------------------|------|--------------------------|------|------|--------|-------|-------|
| 1000 | 10.328 | 6.531  | 6.344 | 1.750  | 2.875  | 2.9375<br>2.9365 | .344 | 5/16-18 UNC<br>-3A x 3/8 | .188 | .750 | 3.969  | 6.000 | 1.547 |
| 1225 | 12.672 | 7.531  | 6.969 | 2.234  | 3.625  | 3.750<br>3.749   | .406 | 5/8-16 UNC<br>-3A x 3/4  | .375 | .859 | 5.219  | 7.781 | 1.547 |

| Size | N Max. | O              | P     | Q Max. | R*        | S     | T     | U     | V    | W    | X    | Y    |
|------|--------|----------------|-------|--------|-----------|-------|-------|-------|------|------|------|------|
| 1000 | 9.031  | 5/16-18 UNC-2A | 1.547 | 5.281  | 3/4 x 1/8 | 7.688 | 3.750 | 6.125 | .875 | .344 | .375 | .750 |
| 1225 | 11.016 | 5/16-18 UNC-2A | 1.547 | 7.047  | 7/8 x 1/8 | 8.688 | 3.750 | 7.000 | .875 | .344 | .375 | .750 |

| Size | Z      | AA | BB   | CC   | DD Dia.      | EE   | FF   | GG Dia. | HH   | II    | JJ    | KK    | LL    | MM   | NN   | OO           |
|------|--------|----|------|------|--------------|------|------|---------|------|-------|-------|-------|-------|------|------|--------------|
| 1000 | 16.625 | 17 | .750 | .375 | .330<br>.321 | .438 | .875 | .313    | .250 | 1.000 | 1.750 | 2.000 | 1.500 | .750 | .250 | .270<br>.260 |
| 1225 | 16.625 | 17 | .750 | .375 | .330<br>.321 | .438 | .875 | .313    | .250 | 1.000 | 1.750 | 2.000 | 1.500 | .750 | .250 | .270<br>.260 |

\* Key supplied

### Bore Sizes and Keyway

| Size | Bore Dia. | Keyway       |
|------|-----------|--------------|
| 1000 | 1.375     | *5/15 x 5/32 |
|      | 1.500     | *3/8 x 11/64 |
|      | 1.625     | *3/8 x 1/8   |
| 1225 | 1.625     | *3/8 x 5/32  |
|      | 1.875     | *1/2 x 1/4   |
|      | 2.125     | *1/2 x 3/16  |

\*Key Furnished