

# Shaft Mounted Clutches

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Warner Electric's packaged stationary field clutches are factory assembled and burnished to deliver the maximum rated torque immediately. In addition, a packaged product assures that all engineering factors regarding the proper alignment of components to one another have been established at the factory. This allows the unit to be 'slid on the shaft' after being shipped to you. The proper alignment of components is critical to achieving maximum torque and assuring long life.

## Features

- No assembly required
- Anti-backlash armatures standard
- Ball bearing mounted field and armature hub
- Four sizes available
  - Size 180 – 15 in. lbs.
  - Size 250 – 70 in. lbs.
  - Size 325 – 125 in. lbs.
  - Size 400 – 270 in. lbs.



## No brushes to wear out

Besides saving valuable assembly and run-in time, the SFP clutches incorporate an original Warner Electric concept. The concept of the stationary field eliminates the need for brushes. Brushes can be a high maintenance item in an electromagnetic clutch because of the mechanical friction seen at the collector ring. There is no mechanical friction with the stationary field design. In sum, all of the best possible features wrapped up into one compact package - **Warner Electric's SFP.**

## Applications

- Packaging equipment
- Film readers
- Conveyors
- Medical equipment
- Sorting/feeding equipment

## Functions

- Controlled, soft starts
- Speed variation
- High cycling

# Shaft Mounted Clutches

## Specifications

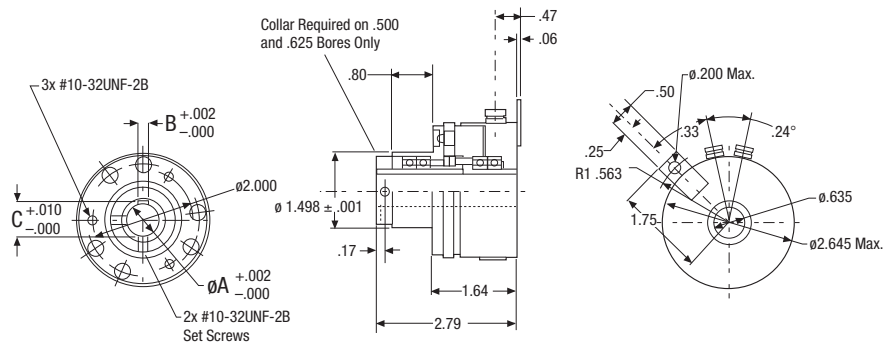
| Model   | Static Torque | Max.RPM |
|---------|---------------|---------|
| SFP-180 | 15 in.lb.     | 5000    |
| SFP-250 | 70 in.lb.     | 7500    |
| SFP-325 | 125 in.lb.    | 5000    |
| SFP-400 | 270 in.lb.    | 5000    |

## How to Order

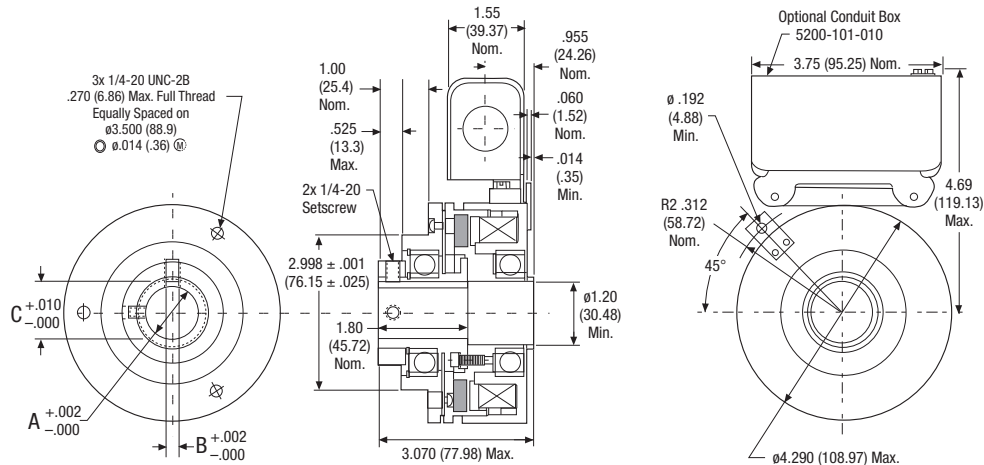
1. Select the proper size from the chart (right).
2. Select the bore size and voltage.
3. Find the corresponding part number from the table below.
4. Select a Warner Electric Control if appropriate.

| 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 | 5000 |
| 1/50  |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 1/20  |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 1/12  |                                |     |     |     |     |     |     |     |     |      |      |      |      |      | 180  |      |      |      |      |      |
| 1/8   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 1/6   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 1/4   |                                |     |     |     |     | 325 |     |     |     | 250  |      |      |      |      |      |      |      |      |      |      |
| 1/3   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 1/2   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 3/4   |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 1     |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 1-1/2 |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
| 2     |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      | 400  |      |
| 3     |                                |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |

## SFP-250



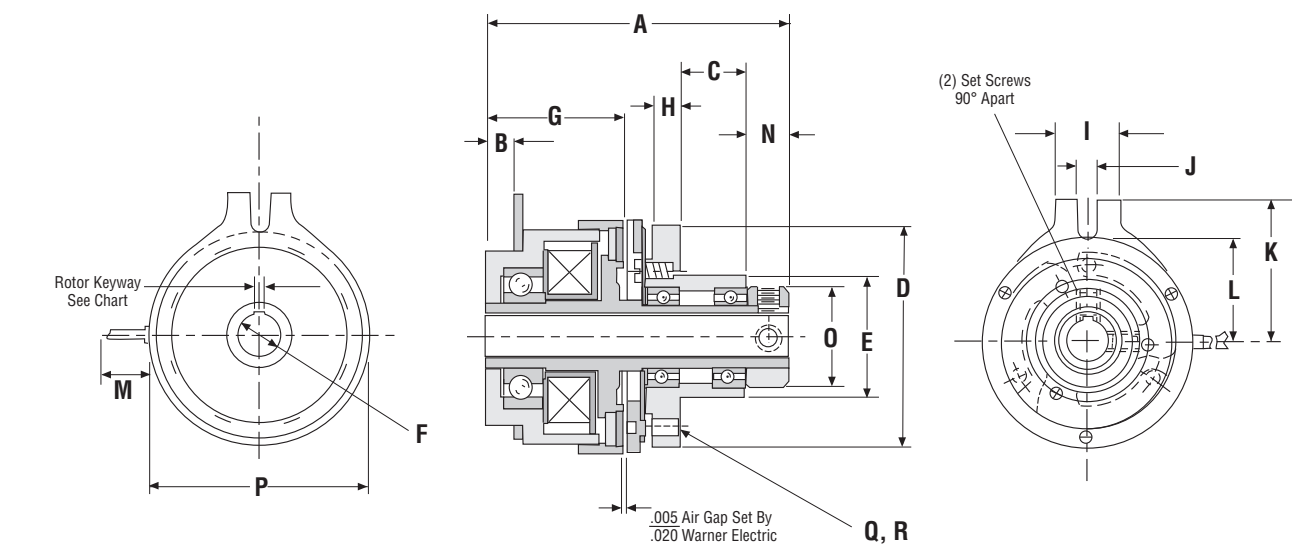
## SFP-400



## Tolerances

| Model No. | A Bore  | Keyway |       | Part Number  |              |              |
|-----------|---------|--------|-------|--------------|--------------|--------------|
|           |         | B      | C     | 6V           | 24V          | 90V          |
| SFP-250   | .375"   | .0948  | .421  | 5103-271-002 | 5103-271-006 | 5103-271-010 |
|           | .438"   | .126   | .479  | 5103-271-003 | 5103-271-007 | 5103-271-011 |
|           | .500"   | .126   | .560  | 5103-271-004 | 5103-271-008 | 5103-271-012 |
|           | .6255   | .1885  | .678  | 5103-271-005 | 5103-271-009 | 5103-271-013 |
| SFP-400   | .5005"  | .125   | .560  | 5104-271-006 | 5104-271-016 | 5104-271-021 |
|           | .6255"  | .1875  | .709  | 5104-271-007 | 5104-271-017 | 5104-271-022 |
|           | .7505"  | .1875  | .837  | 5104-271-008 | 5104-271-018 | 5104-271-023 |
|           | .8755"  | .1875  | .964  | 5104-271-009 | 5104-271-019 | 5104-271-024 |
|           | 1.0005" | .1875  | 1.090 | 5104-271-010 | 5104-271-020 | 5104-271-025 |

Pre-Assembled SF Clutch For Parallel Shafts  
Model 180



Dimensions

| Model No. | A Max. | B Max. | C Nom. | D Max. | E ± .001 | F Nom.                                           | G Nom. | H Nom. | I Max. | J Min. | K Nom. | L Nom. | M ± .500 | N Nom. | O Nom. | P Max | Rotor Keyway |                       |                  |                |
|-----------|--------|--------|--------|--------|----------|--------------------------------------------------|--------|--------|--------|--------|--------|--------|----------|--------|--------|-------|--------------|-----------------------|------------------|----------------|
|           |        |        |        |        |          |                                                  |        |        |        |        |        |        |          |        |        |       | Bore         | Nominal Keyway        | Q B.C.           | R SIZE         |
| 180       | 2.515  | .304   | .500   | 1.755  | .9985    | $\frac{1}{4}$<br>$\frac{5}{16}$<br>$\frac{3}{8}$ | 1.290  | .193   | .505   | .184   | 1.325  | .975   | 12.00    | .315   | .875   | 1.620 | N.A.         | SET<br>SCREWS<br>ONLY | 1.437<br>3-Holes | 8-32<br>UNC-2B |

Mechanical

| Model No. | Static Torque lb. – in. | Inertia lb. – in. <sup>2</sup> |           | Wt. oz. |
|-----------|-------------------------|--------------------------------|-----------|---------|
|           |                         | Rotor                          | Arm & Hub |         |
| 180       | 15                      | .052                           | .095      | 26      |

Electrical

| Model No. | 90 VDC |      | 24 VDC |      |
|-----------|--------|------|--------|------|
|           | Amps   | Ohms | Amps   | Ohms |
| 180       | .066   | 1369 | .289   | 83.1 |

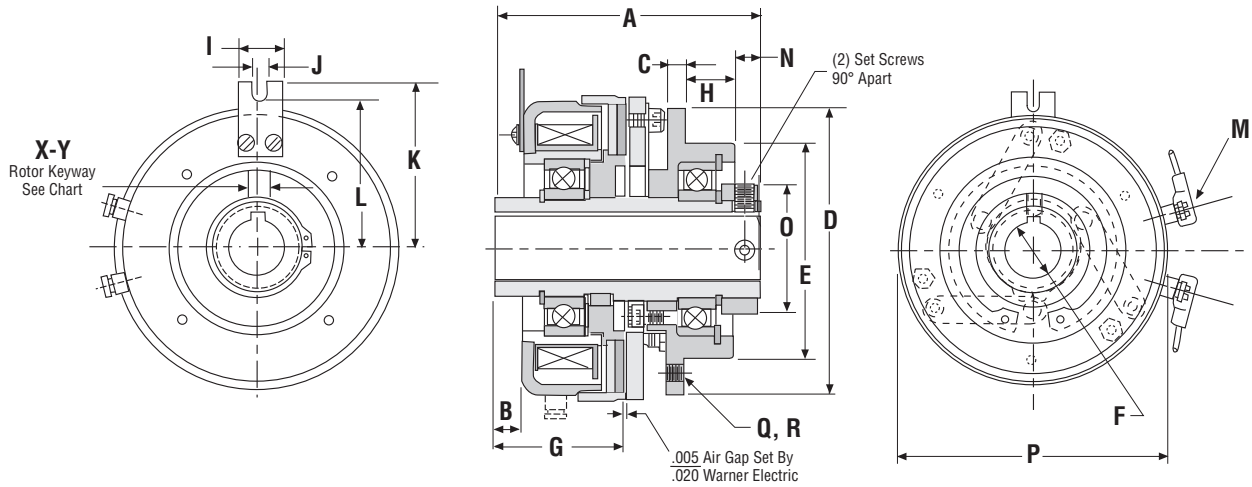
Part Numbers

| Model Size | Bore Size | Voltage DC | Part No.      |
|------------|-----------|------------|---------------|
| 180        | 1/4"      | 24         | SFP180-14-24  |
|            | 5/16"     | 24         | SFP180-516-24 |
|            | 3/8"      | 24         | SFP180-38-24  |
|            | 1/4"      | 90         | SFP180-14-90  |
|            | 5/16"     | 90         | SFP180-516-90 |
|            | 3/8"      | 90         | SFP180-38-90  |

Customer shall maintain:

A loose-fitting pin through the anti-rotation tab to prevent preloading the bearings.

## Pre-Assembled SF Clutch For Parallel Shafts Model 325



### Dimensions

| Model No. | A Max. | B Max. | C Nom. | D Max. | E ± .001 | F Nom. | G Nom. | H Nom. | I Max. | J Min. | K Nom. | L Nom. | M ± .500        | N Nom. | O Nom. | P Max | Rotor Keyway |                         | Q B.C.        | R SIZE      |
|-----------|--------|--------|--------|--------|----------|--------|--------|--------|--------|--------|--------|--------|-----------------|--------|--------|-------|--------------|-------------------------|---------------|-------------|
|           |        |        |        |        |          |        |        |        |        |        |        |        |                 |        |        |       | Bore         | Nominal Keyway X* Y*    |               |             |
| 325       | 2.961  | .140   | .395   | 2.883  | 1.498    | ½      | 1.360  | .500   | .442   | .170   | 2.050  | 1.740  | Screw Terminals | .408   | 1.187  | 3.300 | ½            | .125 – .128 .560 – .567 | 1.790 3-Holes | 6-32 UNC-2B |

\*7/8 and 1 inch bore in rotor only.

### Mechanical

| Model No. | Static Torque lb. - in. | Inertia lb. - in. <sup>2</sup> |           | Wt. oz. |
|-----------|-------------------------|--------------------------------|-----------|---------|
|           |                         | Rotor                          | Arm & Hub |         |
| 325       | 125                     | .560                           | .990      | 54      |

### Electrical

| Model No. | 90 VDC |      | 24 VDC |      |
|-----------|--------|------|--------|------|
|           | Amps   | Ohms | Amps   | Ohms |
| 325       | .091   | 988  | .378   | 65.3 |

Lead wire is UL recognized style 1213, 1015 or 1430, 22 gage. Insulation is .0509 O.D. on 110 units; .0649 or .0959 O.D. on all other units.

### Part Numbers

| Model Size | Bore Size | Voltage DC | Part No.     |
|------------|-----------|------------|--------------|
| 325        | 1/2"      | 24         | SFP325-12-24 |
|            | 1/2"      | 90         | SFP325-12-90 |

### Customer shall maintain:

A loose-fitting pin through the anti-rotation tab to prevent preloading the bearings.