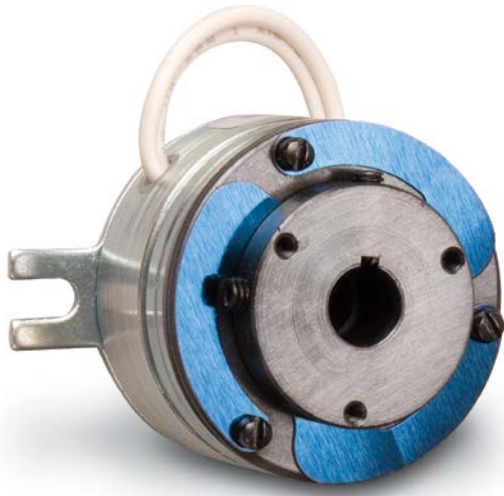


# Electromagnetic Friction Clutches & Brakes

## Shaft Mounted Clutch Couplings – Type SO



### SO SERIES POWER-ON CLUTCH COUPLINGS

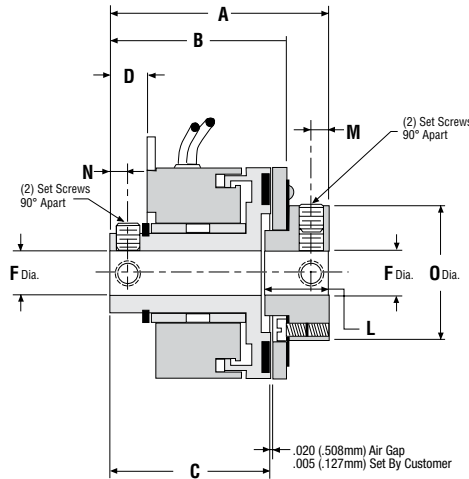
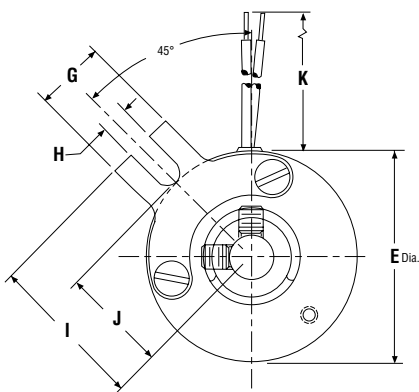
#### Shaft Mounted Clutch Couplings – Type SO

SO series power-on clutch couplings are used to couple two in-line shafts. The armature hub assembly is mounted to the load shaft, and the rotor assembly is mounted on the input shaft. The field assembly is mounted on the input shaft and retained by a loose-fitting pin or bracket through the anti-rotation tab.

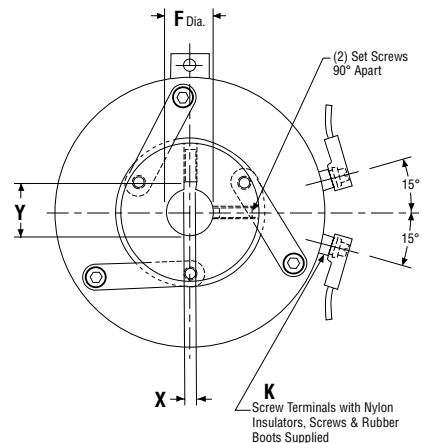
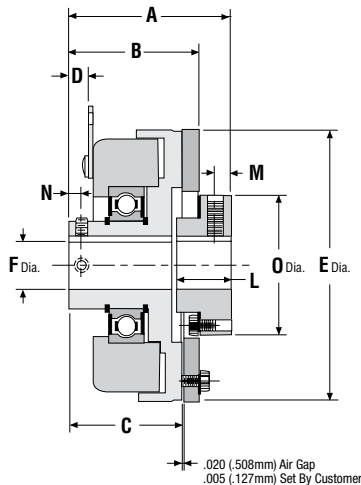
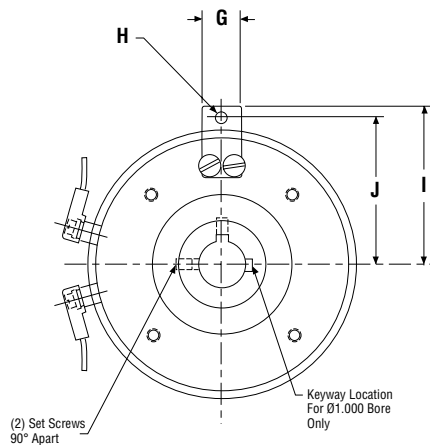
#### Customer Shall Maintain:

A loose-fitting pin through the anti-rotation tab to prevent preloading the bearings; concentricity between the shafts within .005 inch (.127 mm) T.I.R.; initial air gap setting of .005-.020 inches (.127-.508 mm).

#### Model S008 through S026



#### Model S030 and S042



# Electromagnetic Friction Clutches & Brakes

## Shaft Mounted Clutch Couplings – Type SO Imperial

### Mechanical

| MODEL NO. | STATIC TORQUE LB. - IN. | INERTIA LB. - IN. <sup>2</sup> |           | WEIGHT OZ. |
|-----------|-------------------------|--------------------------------|-----------|------------|
|           |                         | ROTOR                          | ARM & HUB |            |
| S008      | 2.5                     | .002                           | .0011     | 2          |
| S011      | 6                       | .0058                          | .0024     | 3.2        |
| S015      | 10                      | .060                           | .026      | 3.8        |
| S017      | 15                      | .061                           | .031      | 11         |
| S019      | 25                      | .082                           | .042      | 12         |
| S022      | 50                      | .215                           | .070      | 20         |
| S026      | 80                      | .362                           | .320      | 28         |
| S030      | 125                     | .610                           | .561      | 45         |
| S042      | 250                     | 2.50                           | 2.30      | 80         |

### Electrical

| MODEL NO. | 90 VDC |      | 24 VDC |      | 12 VDC |       |
|-----------|--------|------|--------|------|--------|-------|
|           | AMPS   | OHMS | AMPS   | OHMS | AMPS   | OHMS  |
| S008      | .046   | 1977 | .117   | 205  | .246   | 48.8  |
| S011      | .047   | 1930 | .198   | 121  | .447   | 26.8  |
| S015      | .042   | 2150 | .183   | 132  | .380   | 31.6  |
| S017      | .066   | 1369 | .289   | 83   | .561   | 21.4  |
| S019      | .074   | 1213 | .322   | 74.4 | .574   | 20.9  |
| S022      | .079   | 1140 | .322   | 74.6 | .628   | 19.1  |
| S026      | .092   | 980  | .374   | 64.2 | .760   | 15.8  |
| S030      | .091   | 988  | .378   | 65.3 | .729   | 16.4  |
| S042      | .124   | 722  | .468   | 51.2 | .934   | 12.84 |

Lead wire is UL recognized style 1213, 1015 or 1430, 22 gage.

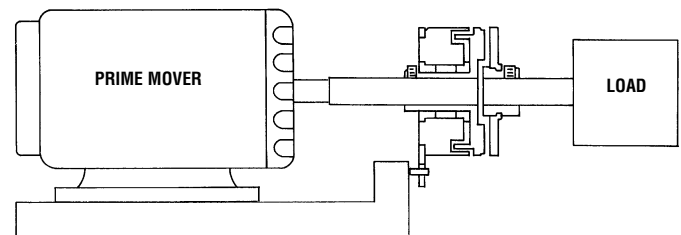
Insulation is .050 O.D. on 08, 11, 15 units; .064 or .095 O.D. on all other units.

### Dimensions

| MODEL NO. | A MAX. | B NOM. | C NOM. | D NOM. | E MAX. | F NOM.                        | G MAX. | H MIN. | I NOM. | J NOM. | K NOM.          | ROTOR KEYWAY                  |   | L NOM.  | M ± .500 | N NOM. | O NOM. |       |
|-----------|--------|--------|--------|--------|--------|-------------------------------|--------|--------|--------|--------|-----------------|-------------------------------|---|---|----------|--------|--------|-------|
|           |        |        |        |        |        |                               |        |        |        |        |                 | BORE                          | KEYWAY  |   |          |        |        |       |
|           |        |        |        |        |        |                               |        |        |        |        |                 |                               | X   |   |          |        |        | Y     |
| S008      | 1.059  | .875   | .763   | .191   | .903   | 1/8<br>3/15<br>1/4            | .305   | .094   | .625   | .445   | 12.00           | N.A.                          | SET SCREWS ONLY   |   | .237     | .070   | .080   | .500  |
| S011      | 1.168  | .933   | .777   | .147   | 1.160  | 3/16<br>1/4<br>5/16           | .380   | .122   | .875   | .585   | 12.00           | N.A.                          | SET SCREWS ONLY   |   | .307     | .093   | 2.032  | .687  |
| S015      | 1.575  | 1.255  | 1.075  | .275   | 1.500  | 1/4<br>5/16<br>3/8            | .520   | .180   | 1.120  | .750   | 12.00           | N.A.                          | SET SCREWS ONLY   |   | .475     | .125   | .125   | .965  |
| S017      | 1.605  | 1.311  | 1.060  | .270   | 1.780  | 1/4<br>5/16<br>3/8            | .505   | .184   | 1.325  | .975   | 12.00           | 1/4<br>5/16<br>3/8            | SET SCREWS ONLY   |   | .460     | .115   | .125   | 1.190 |
| S019      | 1.609  | 1.314  | 1.060  | .270   | 2.000  | 5/16<br>3/8<br>1/2            | .505   | .184   | 1.325  | .975   | 12.00           | 5/16<br>3/8<br>1/2            | .0625 – .0655<br>.094 – .097<br>.125 – .128                                   | .347 – .352<br>.417 – .427<br>.560 – .567                                 | .455     | .115   | .125   | 1.190 |
| S022      | 1.989  | 1.578  | 1.423  | .281   | 2.260  | 3/8<br>1/2                    | .442   | .170   | 1.515  | 1.160  | 18.00           | 3/8<br>1/2                    | .094 – .097<br>.125 – .128  | .417 – .427<br>.560 – .567  | .510     | .115   | .117   | 1.005 |
| S026      | 2.115  | 1.754  | 1.444  | .277   | 2.645  | 3/8<br>1/2<br>5/8             | .510   | .190   | 1.750  | 1.465  | 18.00           | 3/8<br>1/2<br>5/8             | .094 – .097<br>.125 – .128<br>.1885 – .1905                                   | .417 – .427<br>.560 – .567<br>.709 – .716                                 | .610     | .150   | .154   | 1.440 |
| S030      | 2.151  | 1.815  | 1.403  | .265   | 3.268  | 1/2<br>5/8<br>3/4             | .442   | .170   | 2.050  | 1.695  | SCREW TERMINALS | 1/2<br>5/8<br>3/4             | .125 – .128<br>.1885 – .1905<br>.1885 – .1905                                 | .560 – .567<br>.709 – .716<br>.836 – .844                                 | .680     | .150   | .135   | 1.825 |
| S042      | 2.570  | 2.050  | 1.625  | .320   | 4.270  | 1/2<br>5/8<br>3/4<br>7/8<br>1 | .645   | .190   | 2.500  | 2.312  | SCREW TERMINALS | 1/2<br>5/8<br>3/4<br>7/8<br>1 | .125 – .128<br>.1885 – .1905<br>.1885 – .1905<br>.1885 – .1905<br>.251 – .253 | .560 – .567<br>.709 – .716<br>.836 – .844<br>.962 – .970<br>1.113 – 1.121 | .890     | .250   | .187   | 2.195 |

### Notes:

- 30 and 42 units have a single ball bearing between the field and rotor.
- 08 units have set screws 120° apart.
- 08 and 19 units have retaining collar.



See page 4 for Ordering Information

# Electromagnetic Friction Clutches & Brakes

## Shaft Mounted Clutch Couplings – Type S0 Metric

### Mechanical

| MODEL NO. | STATIC TORQUE N-m | INERTIA kg - cm <sup>2</sup> |           | WEIGHT kg |
|-----------|-------------------|------------------------------|-----------|-----------|
|           |                   | ROTOR                        | ARM & HUB |           |
| S008      | 0.28              | 0.006                        | 0.003     | .06       |
| S011      | 0.68              | 0.017                        | 0.007     | .09       |
| S015      | 1.13              | 0.176                        | 0.076     | .11       |
| S017      | 1.70              | 0.179                        | 0.091     | .31       |
| S019      | 2.83              | 0.240                        | 0.123     | .34       |
| S022      | 5.65              | 0.629                        | 0.205     | .57       |
| S026      | 9.04              | 1.059                        | 0.936     | .79       |
| S030      | 14.12             | 1.785                        | 1.642     | 1.28      |
| S042      | 28.24             | 7.316                        | 6.731     | 2.27      |

### Electrical

| MODEL NO. | 90 VDC |      | 24 VDC |      | 12 VDC |       |
|-----------|--------|------|--------|------|--------|-------|
|           | AMPS   | OHMS | AMPS   | OHMS | AMPS   | OHMS  |
| S008      | .046   | 1977 | .117   | 205  | .246   | 48.8  |
| S011      | .047   | 1930 | .198   | 121  | .447   | 26.8  |
| S015      | .042   | 2150 | .183   | 132  | .380   | 31.6  |
| S017      | .066   | 1369 | .289   | 83   | .561   | 21.4  |
| S019      | .074   | 1213 | .322   | 74.4 | .574   | 20.9  |
| S022      | .079   | 1140 | .322   | 74.6 | .628   | 19.1  |
| S026      | .092   | 980  | .374   | 64.2 | .760   | 15.8  |
| S030      | .091   | 988  | .378   | 65.3 | .729   | 16.4  |
| S042      | .124   | 722  | .468   | 51.2 | .934   | 12.84 |

Lead wire is UL recognized style 1213, 1015 or 1430, 22 gage.

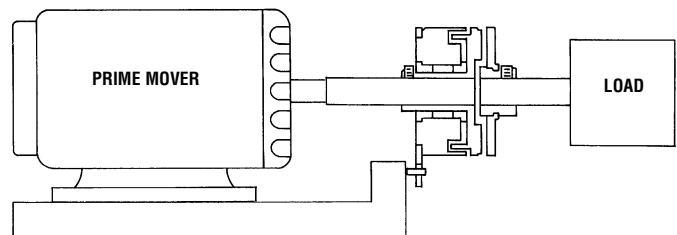
Insulation is 1.27 mm O.D. on 08, 11, 15 units; .163 mm or 2.41 mm O.D. on all other units.

### Dimensions

| MODEL NO. | A MAX. | B NOM. | C NOM. | D NOM. | E MAX.  | F NOM.               | G MAX. | H MIN. | I NOM. | J NOM. | K ± 12.7        | ROTOR KEYWAY         |   | L NOM.                                    | M ±12.7 | N NOM. | O NOM. |        |
|-----------|--------|--------|--------|--------|---------|----------------------|--------|--------|--------|--------|-----------------|----------------------|---|---|---------|--------|--------|--------|
|           |        |        |        |        |         |                      |        |        |        |        |                 | BORE                 | KEYWAY                                    |   |         |        |        |        |
|           |        |        |        |        |         |                      |        |        |        |        |                 |                      | X   |   |         |        |        | Y      |
| S008      | 26.899 | 22.225 | 19.380 | 4.851  | 22.936  | 5H9                  | 7.747  | 2.388  | 15.875 | 11.303 | 304.800         | N.A.                 | SET SCREWS ONLY                           | 6.020                                     | 1.778   | 2.032  | 12.700 |        |
| S011      | 29.667 | 23.698 | 19.736 | 3.734  | 29.464  | 6H9<br>8H9           | 9.652  | 3.099  | 22.225 | 14.859 | 304.800         | N.A.                 | SET SCREWS ONLY                           | 7.798                                     | 2.362   | 51.613 | 17.450 |        |
| S015      | 40.005 | 31.877 | 27.305 | 6.985  | 38.100  | 8H9<br>10H9          | 13.208 | 4.572  | 28.448 | 19.050 | 304.800         | N.A.                 | SET SCREWS ONLY                           | 12.065                                    | 3.175   | 3.175  | 24.511 |        |
| S017      | 40.767 | 33.299 | 26.924 | 6.858  | 45.212  | 8H9<br>10H9          | 12.827 | 4.674  | 33.655 | 24.765 | 304.800         | 8H9<br>10H9          | 1.988-2.060<br>2.988-3.060                | 9.00-9.10<br>11.40-11.50                  | 11.684  | 2.921  | 3.175  | 30.226 |
| S019      | 40.869 | 33.376 | 26.924 | 6.858  | 50.800  | 10H9                 | 12.827 | 4.674  | 33.655 | 24.765 | 304.800         | 10H9                 | 2.988-3.060                               | 11.40-11.50                               | 11.557  | 2.921  | 3.175  | 30.226 |
| S022      | 50.521 | 40.081 | 32.334 | 7.137  | 57.404  | 10H9                 | 11.227 | 4.318  | 38.481 | 29.464 | 457.200         | 10H9                 | 2.988-3.060                               | 11.40-11.50                               | 12.954  | 2.921  | 2.972  | 25.527 |
| S026      | 53.721 | 44.552 | 36.678 | 7.036  | 67.183  | 10H9<br>15H9         | 12.954 | 4.826  | 44.950 | 37.211 | 457.200         | 10H9<br>15H9         | 2.988-3.060<br>4.985-5.078                | 11.40-11.50<br>17.30-17.40                | 15.494  | 3.810  | 3.912  | 36.576 |
| S030      | 54.635 | 46.101 | 35.636 | 6.731  | 83.007  | 15H9                 | 11.227 | 4.318  | 52.070 | 43.053 | SCREW TERMINALS | 15H9                 | 4.985-5.078                               | 17.30-17.40                               | 17.272  | 3.810  | 3.429  | 46.355 |
| S042      | 65.278 | 52.070 | 41.275 | 8.128  | 108.458 | 17H9<br>20H9<br>25H9 | 16.383 | 4.826  | 63.500 | 58.725 | SCREW TERMINALS | 17H9<br>20H9<br>25H9 | 4.985-5.078<br>5.985-6.078<br>7.982-8.098 | 19.30-19.40<br>22.80-22.90<br>28.30-28.50 | 22.606  | 6.350  | 4.750  | 55.753 |

### Notes:

- 30 and 42 units have a single ball bearing between the field and rotor.
- 08 units have set screws 120° apart.
- 08 and 19 units have retaining collar.



See page 4 for Ordering Information