



High-Pressure, Compact Rotary Unions

SE Series

FLOW PASSAGE OPTIONS



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About DSTI

Dynamic Sealing Technologies, Inc. (DSTI) serves a wide range of global industries as a leader in engineered fluid sealing and transfer solutions for rotating applications.

DSTI core business segments are fluid rotary unions, electrical slip rings, and value-added products and services—providing customers with a single-source solution from design and manufacturing through to testing and qualification—all under one roof. Located in North America and Europe with a team of distribution partners and technical support specialists worldwide.

Learn more at www.dsti.com



What is a Rotary Union?

A rotary union (or swivel joint) is a mechanism used to transfer fluid (under pressure or vacuum) from a stationary inlet to a rotating outlet, preserving and isolating the fluid connection.

Rotary unions are engineered to endure a wide range of temperatures and pressures for a variety of conditions and environments. In addition, rotary unions may integrate multiple passages and handle different types of fluid simultaneously.

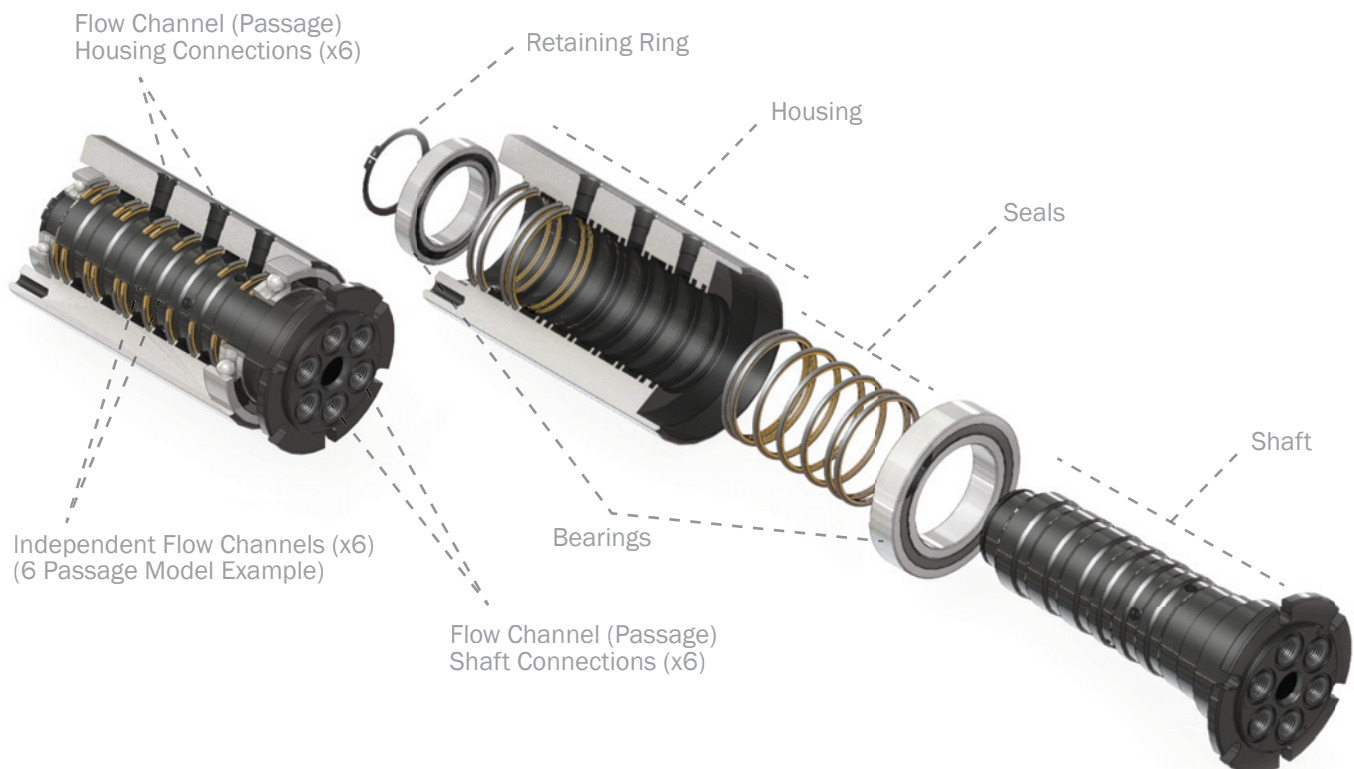
See examples at www.dsti.com/industries

HOW DO I CHOOSE THE BEST ROTARY UNION FOR MY APPLICATION?

Tell us about your requirements so we can make a recommendation:

- 1) Type of media(s) / fluid(s) to be transferred
- 2) Number of independent flow channels (passages)
- 3) Operating pressure
- 4) Operating temperature
- 5) Operating speed
- 6) Shaft & housing connection type
- 7) Flow channel (passage) size
- 8) Torque & load requirements
- 9) Duty cycle*

**Does the temperature, speed or pressure fluctuate or change during operation? If so, please provide the detailed ranges for each parameter and time durations of each condition.*



Overview

- + Compact Design
- + High Pressure Requirements Up To 7500 PSI
- + Vacuum & Bidirectional Sealing
- + #4 SAE-ORB / O-ring Face Seal Connections
- + Exclusive DSTI Sealing Technology
- + Integrated Electrical Slip Ring Options
- + Custom Modifications Available

The SE Series multiple passage rotary unions are available in 2, 4, 6, 8, 12, 16 and 24 passage models. These rotary unions are designed for applications with high pressure and limited space requirements. Features include specialized seals suitable for vacuum and bidirectional pressures up to 7,500 PSI [515 BAR] and independent flow passages capable of transferring different types of media simultaneously.



All SE Series models come standard with threaded connections on the sides of the shaft and housing. Models are also available with optional shaft O-ring glands for face/flush mounting (which must be specified when ordering).

How to Order: Create your Part Number

SE — **1** **1** **2** **1** — **OF** — **ES12A** — **F2** — **C1**

OPTIONS See Next Page

1 With Thru-bore

NOTE

All SE Series rotary unions include thru-bores

2 2 Flow Passages

4 4 Flow Passages

6 6 Flow Passages

8 8 Flow Passages

12 12 Flow Passages

16 16 Flow Passages

24 24 Flow Passages

1 .187" (4.75mm) Passage Size

1 Product Series (SE)

PART NUMBER EXAMPLES

SE-1121

- SE 2-Passage with thru-bore, #4 SAE-ORB Connections

SEM-11121

- SE 12-Passage with thru-bore, G1/8" -28 BSPP Connections

SE-11241

- SE 24-Passage with thru-bore, #4 SAE-ORB Connections



O-RING FACE SEAL GLAND CONNECTIONS

If your application requires flush mounting the rotary union using the face of the shaft, optional O-ring face seal gland connections are available. Please specify "OF" when configuring the part number (see page 6).

SE SE Series (#4 SAE-ORB Connection)

SEM SEM (Metric) Series (BSPP Connection)

How to Order: Choose your Options

SE — 1 — 1 — 2 — 1 — OF — ES12A — F2 — C1

OF

Add "OF" for Optional Shaft O-ring Face Seal Gland Connections

F1

Housing Mounting Flange

F2

Shaft Mounting Flange

OPTIONAL ELECTRICAL SLIP RINGS¹

ES6A

6 Circuit, 120 Volts

ES12A

12 Circuit, 120 Volts

ESx

6 - 56 Circuits
240 Volts

ESEx

8 - 51 Circuits
240 Volts
Ethernet

ESMx

9 - 52 Circuits
240 Volts

NOTE
(F1) Housing
flange required
for slip ring
assembly

C1

Cover For ES6A / ES12A

C2

Cover For All ES, ESE & ESM

PART NUMBER EXAMPLE

SE-1121-ES6A-C1

- SE 4-Passage, #4 SAE-ORB connections, Optional ES6A Electrical Slip Ring with protective cover (C1)



PART NUMBER EXAMPLE

SE-11121-OF-ES36-F1-F2-C2

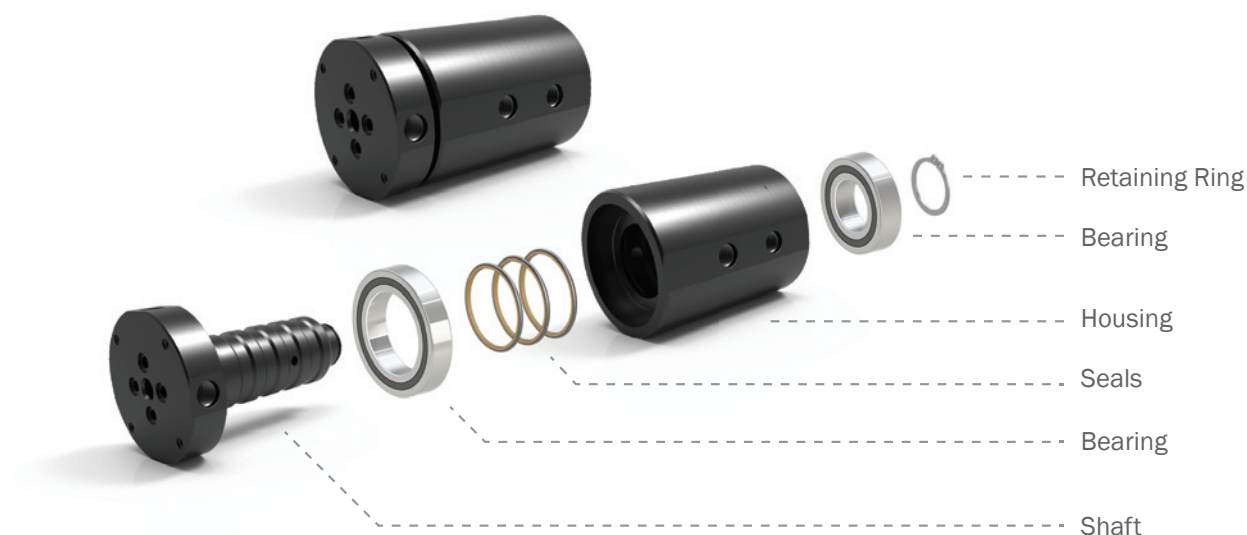
- SE 12-Passage, #4 SAE-ORB Housing Connections, Optional O-ring Face Seal Gland Connections, ES36 Electrical Slip Ring w/ (C2) Cover and Required (F1) Housing Mounting Flange, Additional (F2) Shaft Mounting Flange



¹ See Electrical Slip Ring Options on page 23 for full specs

¹ See Electrical Slip Ring Options on page 23 for full specs

Specifications & Operating Information



| Flow Passage Options | 2 | 4 | 6 | 8 | 12 | 16 | 24 |
|-------------------------|---|---|---|---|----|----|----|
| Media Types | Air/Gas, Coolant ¹ , Oil/Hydraulic ¹ , Water/Glycol ¹ | | | | | | |
| Passage Sizes | 0.187" (4.75mm) | | | | | | |
| Connection Type | #4 SAE- ORB, G1/8"-28 BSPP, or O-Ring Face Seals | | | | | | |
| Max. Operating Pressure | 7500 PSI (515 BAR) ² | | | | | | |
| Max. Vacuum | 30 HG ² | | | | | | |
| Max. Rotational Speed | 300 RPM ³ | | | | | | |
| Operating Temperature | 0° F to 220° F (-18° C to 105° C) ⁴ | | | | | | |
| Body Material Type | Carbon Steel | | | | | | |
| Platings and Coatings | Black Oxide | | | | | | |
| Thru-bore Size | 3/8" (9.5 mm) | | | | | | |
| Slip Ring Options | See Page 24 | | | | | | |
| Mounting Options | Tapped holes are provided on both the housing and shaft for mounting the assembly. | | | | | | |
| Mounting Flange | Optional carbon steel flange can be bolted onto the shaft end of the assembly for O-ring face mounting. Optional carbon steel housing flange is also available. | | | | | | |

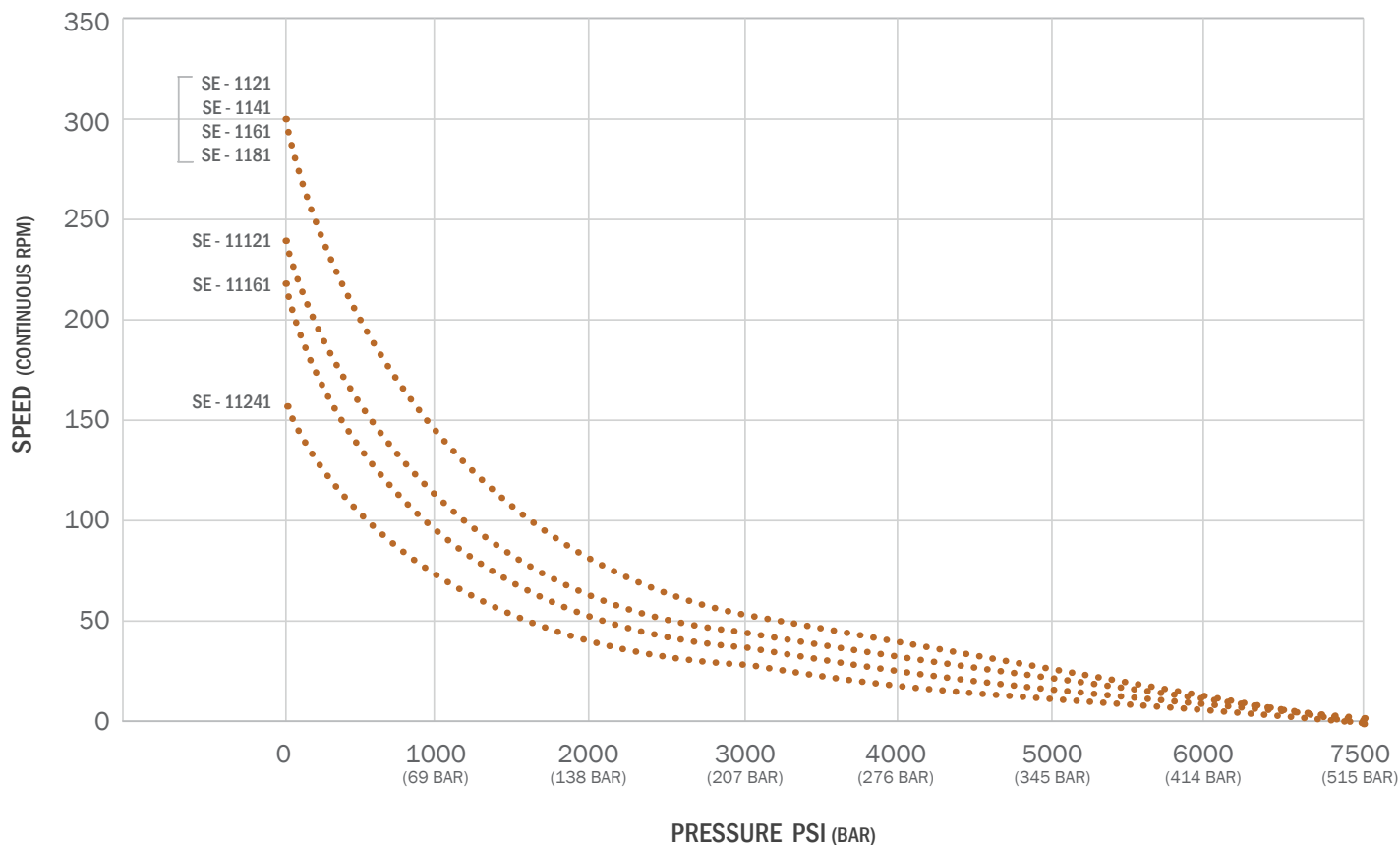
¹ Suitable Water/Glycol or Coolant media must have rust inhibitors present. Oil/Hydraulic media must be petroleum-based. Please consult with DSTI.

² Values are dependent on a combination of all application parameters. Please consult with DSTI.

³ Operational life is dependent upon both rotational speed and duty cycle. Contact DSTI if your application requires operating close to the maximum rotational speed with a continuous duty cycle.

⁴ High temperature applications may require alternative seal materials. Please consult with DSTI.

Performance Data: Pressure vs. Speed (Continuous)



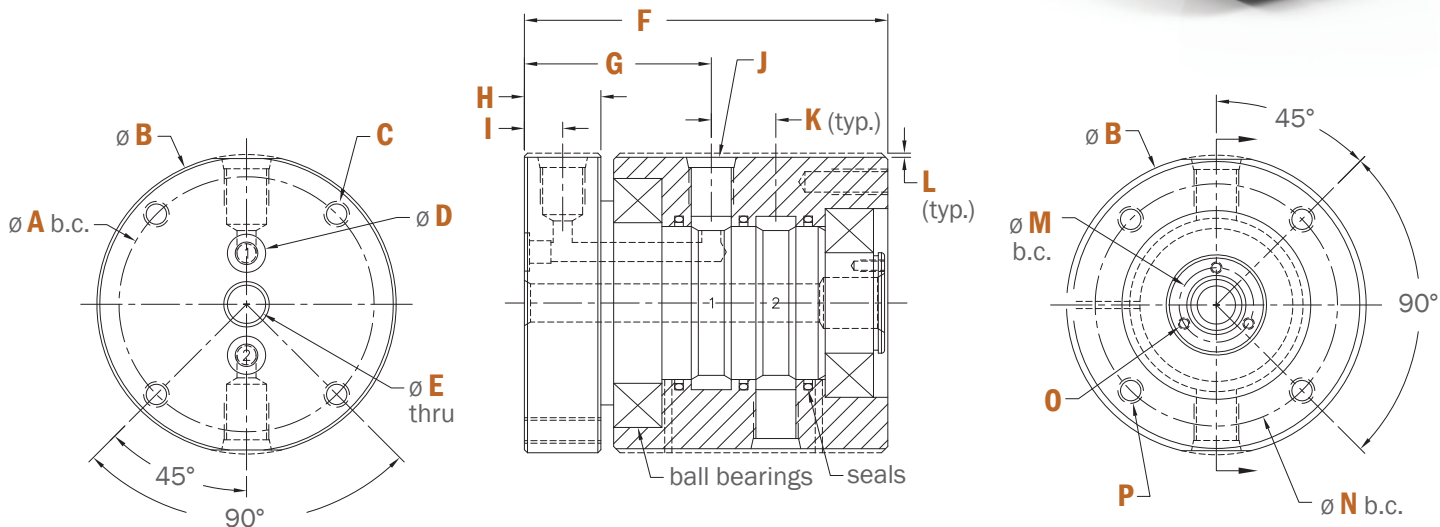
* This data is to be used as a general guideline. Data based on using hydraulic fluid with the product rotating continuously. Please consult DSTI about your specific application.

Performance Data: Pressure vs. Torque

| MODEL | PRESSURE PSI (BAR) | | | | | | | |
|--|--------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 0 | 1000 (69 BAR) | 2000 (138 BAR) | 3000 (207 BAR) | 4000 (276 BAR) | 5000 (345 BAR) | 6000 (414 BAR) | 7500 (515 BAR) |
| SE-1121 | 1.9 [2.6] | 2.9 [3.9] | 3.9 [5.3] | 4.8 [6.5] | 5.8 [7.9] | 6.8 [9.2] | 7.8 [10.6] | 9.2 [12.5] |
| SE-1141 | 3.2 [4.3] | 4.8 [6.5] | 6.5 [8.8] | 8.1 [11.0] | 9.7 [13.2] | 11.3 [15.3] | 12.9 [17.5] | 15.4 [20.9] |
| SE-1161 | 4.5 [6.1] | 6.8 [9.2] | 9.0 [12.2] | 11.3 [15.3] | 13.6 [18.4] | 15.8 [21.4] | 18.1 [24.5] | 21.5 [29.2] |
| SE-1181 | 5.8 [7.9] | 8.7 [11.8] | 11.6 [15.7] | 14.5 [19.7] | 17.5 [23.7] | 20.4 [27.7] | 23.3 [31.6] | 27.7 [37.6] |
| SE-11121 | 11.1 [15.0] | 17.1 [23.2] | 23.1 [31.3] | 29.2 [39.6] | 35.2 [47.7] | 41.2 [55.9] | 47.2 [64.0] | 56.2 [76.2] |
| SE-11161 | 13.8 [18.7] | 23.1 [31.3] | 32.5 [44.1] | 41.9 [56.8] | 51.3 [69.6] | 60.7 [82.3] | 70.0 [94.9] | 84.1 [114.0] |
| SE-11241 | 44.0 [59.7] | 76.4 [103.6] | 108.9 [147.6] | 141.3 [191.6] | 173.8 [235.6] | 206.2 [279.6] | 238.6 [323.5] | 287.3 [389.5] |
| PRESSURIZED TORQUE (POUND FOOT [NEWTON METER]) | | | | | | | | |

* This data is to be used as a general guideline. Torque data represents the minimum torque required to rotate based on all passages (ports) pressurized with oil/hydraulic media. Required torque to rotate may be greater when using other media types or dry running. For specific torque requirements, please contact DSTI to discuss your application.

2 Flow Passage: Dimensions



| PART # | A | B | C | D | E | F | G | H | I |
|-----------------|---------|---------|----------|-------|-------|--------|--------|---------|--------|
| SE-1121 | 2.500" | 2.937" | 1/4"- 20 | .19" | .38" | 3.56" | 1.83" | .750" | .375" |
| SEM-1121 | 63.50mm | 74.60mm | M6x1.0 | 4.8mm | 9.5mm | 90.5mm | 46.5mm | 19.05mm | 9.53mm |

| PART # | J | K | L | M | N | O | P |
|-----------------|---------------|--------|--------|---------|---------|-----------|--------------|
| SE-1121 | #4 SAE-ORB | .63" | .040" | .730" | 2.375" | #4-40 UNC | 1/4"- 20 UNC |
| SEM-1121 | G1/8"-28 BSPP | 16.1mm | 1.02mm | 18.54mm | 60.33mm | M3x0.5 | M6x1.0 |

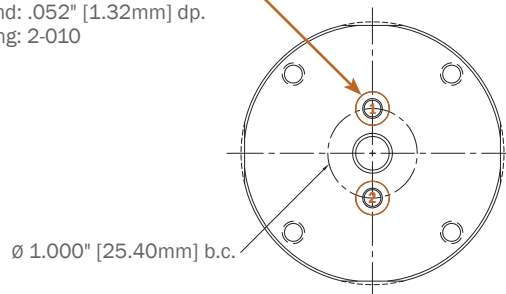
Reference tolerances listed on the PDF Part Drawing.

OPTIONAL O-RING FACE SEAL GLAND CONNECTION



Must specify
when ordering.
Please add
"-OF" to the
Part Number.
(Example:
SE-1121-OF)

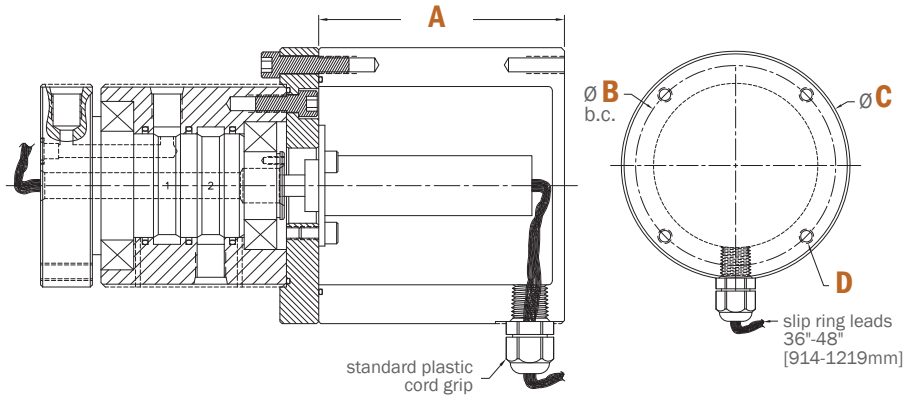
C-bore: \varnothing .375" [9.53mm]
Gland: .052" [1.32mm] dp.
O-ring: 2-010



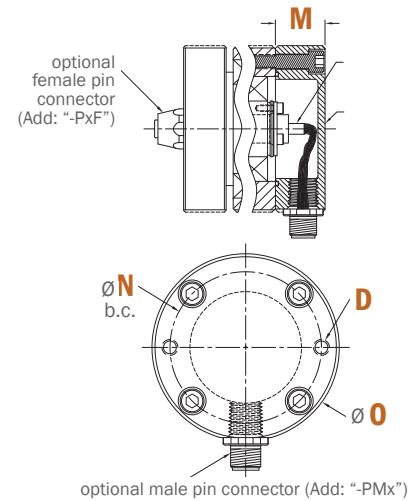
2 Flow Passage: Optional Equipment

OPTIONAL ELECTRICAL SLIP RING COVERS

ES, ESE & ESM COVER (C2) Housing Flange Mount (F1) Required

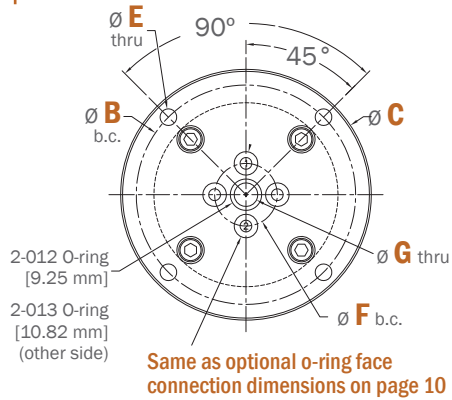


ES6A & ES12A COVER (C1)

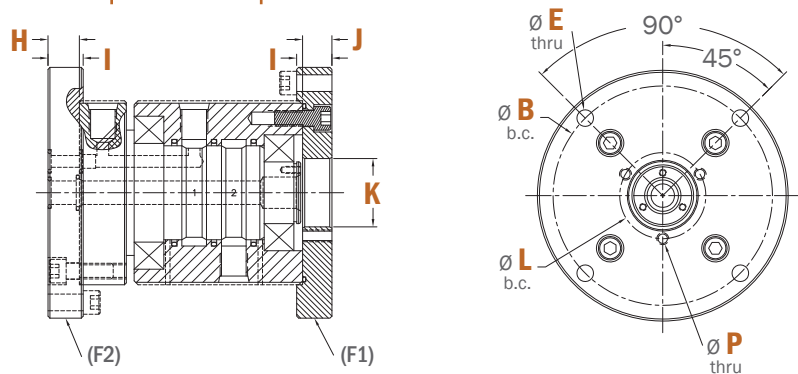


OPTIONAL SHAFT & HOUSING FLANGE MOUNTS

SHAFT FLANGE MOUNT (F2)



HOUSING FLANGE MOUNT (F1)

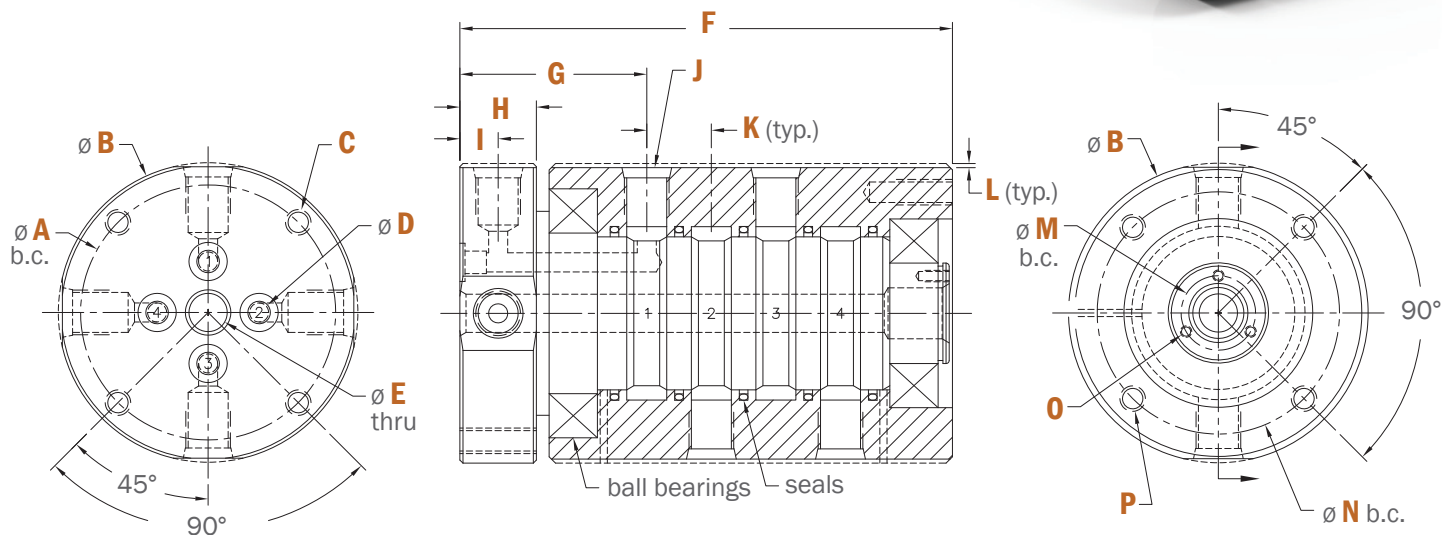


| PART # | A | B | C | D | E | F | G | H | I | J |
|----------|---------|---------|----------|---------|--------|---------|-------|---------|---------|---------|
| SE-1121 | 3.562" | 3.500" | 3.937" | 1/4"-20 | .265" | 1.000" | .38" | .500" | .562" | .468" |
| SEM-1121 | 90.47mm | 88.90mm | 100.00mm | M6x1.0 | 6.73mm | 25.40mm | 9.5mm | 12.70mm | 14.27mm | 11.89mm |

| PART # | K | L | M | N | O | P |
|----------|---------|---------|---------|---------|---------|--------|
| SE-1121 | 1.090" | 1.374" | .875" | 2.375" | 2.937" | #10-24 |
| SEM-1121 | 27.69mm | 34.90mm | 22.23mm | 60.33mm | 74.60mm | M5x0.8 |

Reference tolerances listed on the PDF Part Drawing.

4 Flow Passage: Dimensions



| PART # | A | B | C | D | E | F | G | H | I |
|-----------------|---------|---------|----------|-------|-------|---------|--------|---------|--------|
| SE-1141 | 2.500" | 2.937" | 1/4"- 20 | .19" | .38" | 4.83" | 1.83" | .750" | .375" |
| SEM-1141 | 63.50mm | 74.60mm | M6x1.0 | 4.8mm | 9.5mm | 122.6mm | 46.5mm | 19.05mm | 9.53mm |

| PART # | J | K | L | M | N | O | P |
|-----------------|---------------|--------|--------|---------|---------|-----------|--------------|
| SE-1141 | #4 SAE-ORB | .63" | .040" | .730" | 2.375" | #4-40 UNC | 1/4"- 20 UNC |
| SEM-1141 | G1/8"-28 BSPP | 16.1mm | 1.02mm | 18.54mm | 60.33mm | M3x0.5 | M6x1.0 |

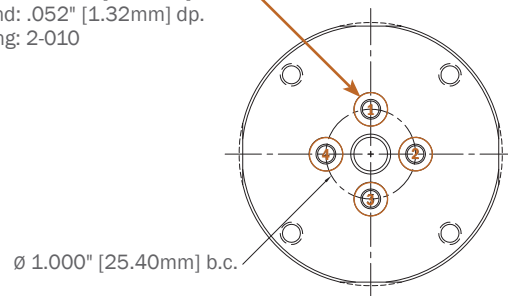
Reference tolerances listed on the PDF Part Drawing.

OPTIONAL O-RING FACE SEAL GLAND CONNECTION



Must specify when ordering. Please add "-OF" to the Part Number. (Example: SE-1141-OF)

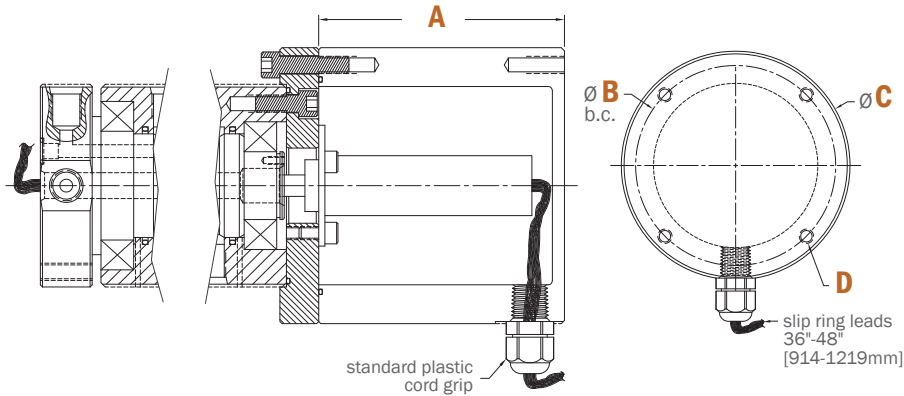
C-bore: \varnothing .375" [9.53mm]
Gland: .052" [1.32mm] dp.
O-ring: 2-010



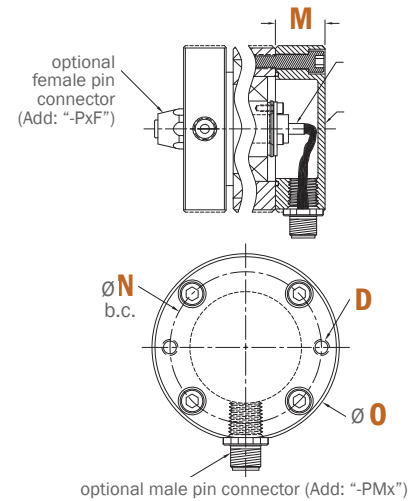
4 Flow Passage: Optional Equipment

OPTIONAL ELECTRICAL SLIP RING COVERS

ES, ESE & ESM COVER (C2) Housing Flange Mount (F1) Required

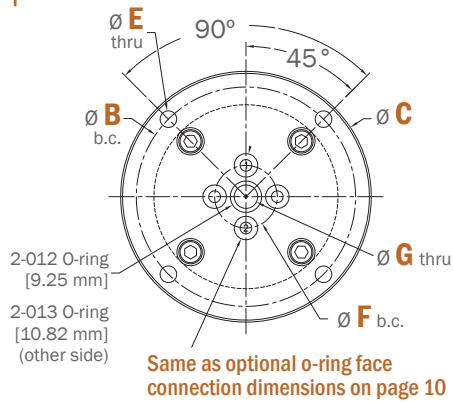


ES6A & ES12A COVER (C1)

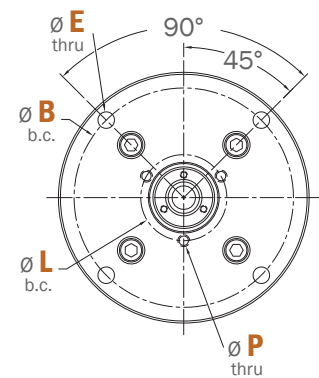


OPTIONAL SHAFT & HOUSING FLANGE MOUNTS

SHAFT FLANGE MOUNT (F2)



HOUSING FLANGE MOUNT (F1)

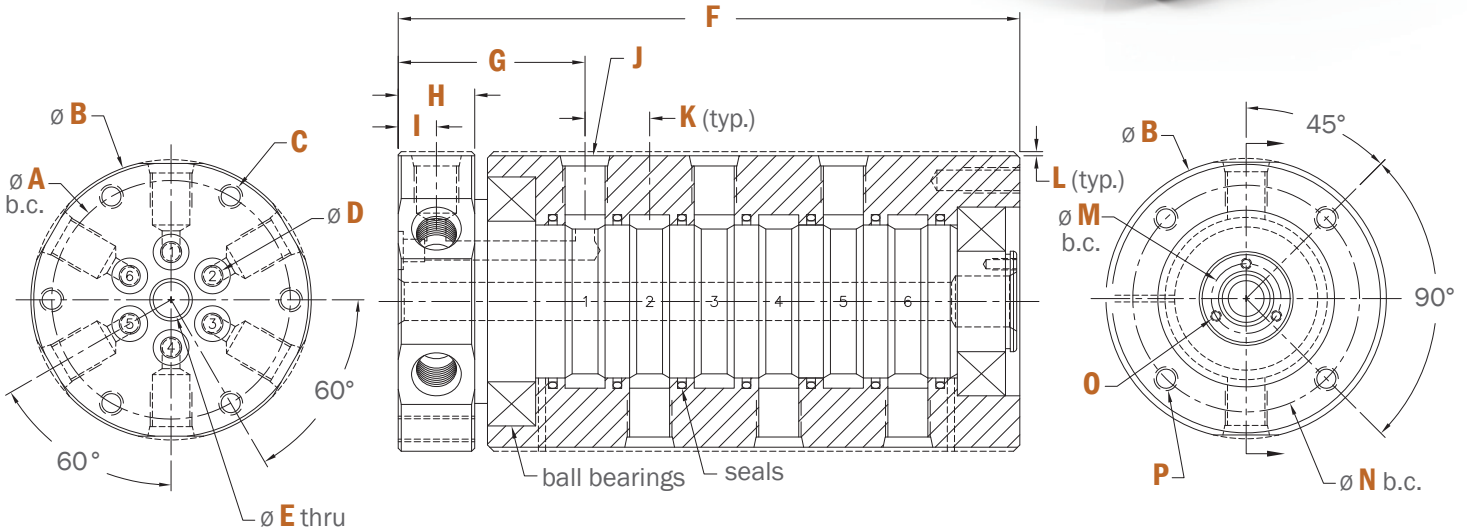


| PART # | A | B | C | D | E | F | G | H | I | J |
|----------|---------|---------|----------|---------|--------|---------|-------|---------|---------|---------|
| SE-1141 | 3.562" | 3.500" | 3.937" | 1/4"-20 | .265" | 1.000" | .38" | .500" | .562" | .468" |
| SEM-1141 | 90.47mm | 88.90mm | 100.00mm | M6x1.0 | 6.73mm | 25.40mm | 9.5mm | 12.70mm | 14.27mm | 11.89mm |

| PART # | K | L | M | N | O | P |
|----------|---------|---------|---------|---------|---------|--------|
| SE-1141 | 1.090" | 1.374" | .875" | 2.375" | 2.937" | #10-24 |
| SEM-1141 | 27.69mm | 34.90mm | 22.23mm | 60.33mm | 74.60mm | M5x0.8 |

Reference tolerances listed on the PDF Part Drawing.

6 Flow Passage: Dimensions



| PART # | A | B | C | D | E | F | G | H | I |
|-----------------|---------|---------|----------|-------|-------|---------|--------|---------|--------|
| SE-1161 | 2.500" | 2.937" | 1/4"- 20 | .19" | .38" | 6.09" | 1.83" | .750" | .375" |
| SEM-1161 | 63.50mm | 74.60mm | M6x1.0 | 4.8mm | 9.5mm | 154.8mm | 46.5mm | 19.05mm | 9.53mm |

| PART # | J | K | L | M | N | O | P |
|-----------------|---------------|--------|--------|---------|---------|-----------|--------------|
| SE-1161 | #4 SAE-ORB | .63" | .040" | .730" | 2.375" | #4-40 UNC | 1/4"- 20 UNC |
| SEM-1161 | G1/8"-28 BSPP | 16.1mm | 1.02mm | 18.54mm | 60.33mm | M3x0.5 | M6x1.0 |

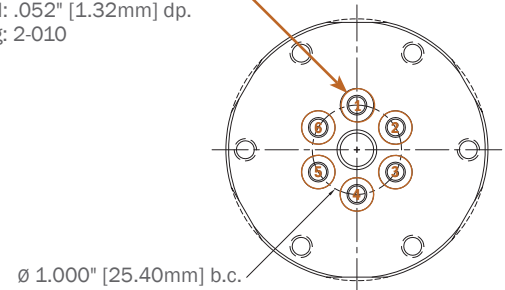
Reference tolerances listed on the PDF Part Drawing.

OPTIONAL O-RING FACE SEAL GLAND CONNECTION



Must specify
when ordering.
Please add
"-OF" to the
Part Number.
(Example:
SE-1161-OF)

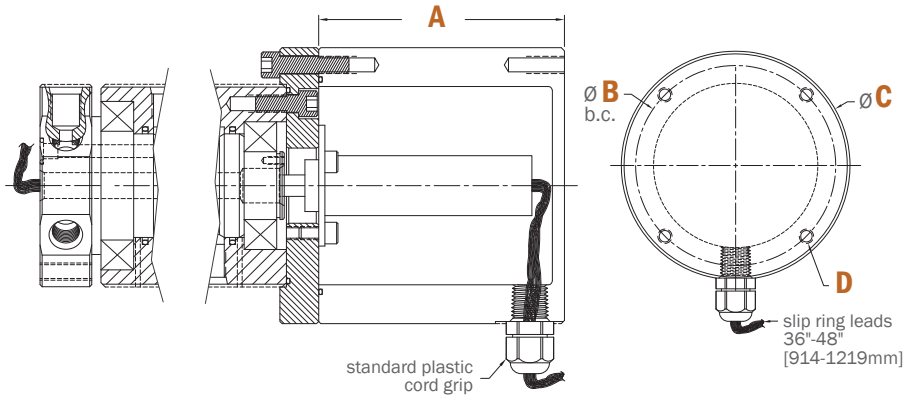
C-bore: \varnothing .375" [9.53mm]
Gland: .052" [1.32mm] dp.
O-ring: 2-010



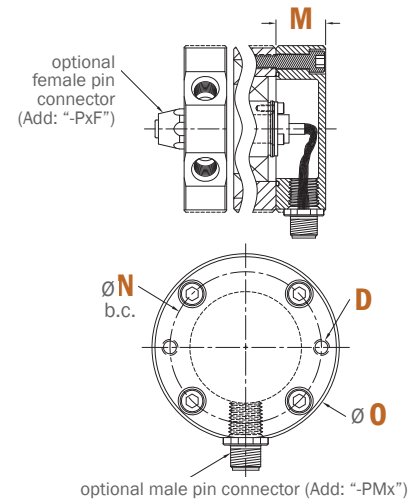
6 Flow Passage: Optional Equipment

OPTIONAL ELECTRICAL SLIP RING COVERS

ES, ESE & ESM COVER (C2) Housing Flange Mount (F1) Required

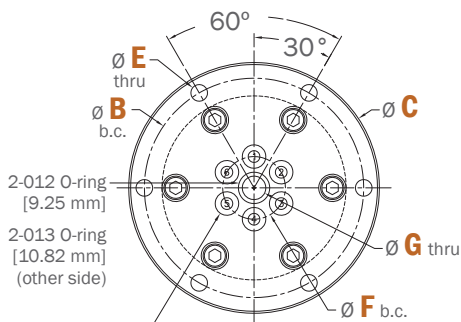


ES6A & ES12A COVER (C1)

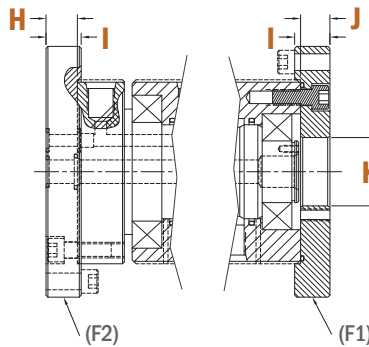


OPTIONAL SHAFT & HOUSING FLANGE MOUNTS

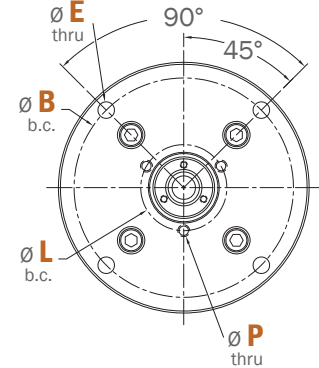
SHAFT FLANGE MOUNT (F2)



Same as optional o-ring face
connection dimensions on page 10



HOUSING FLANGE MOUNT (F1)

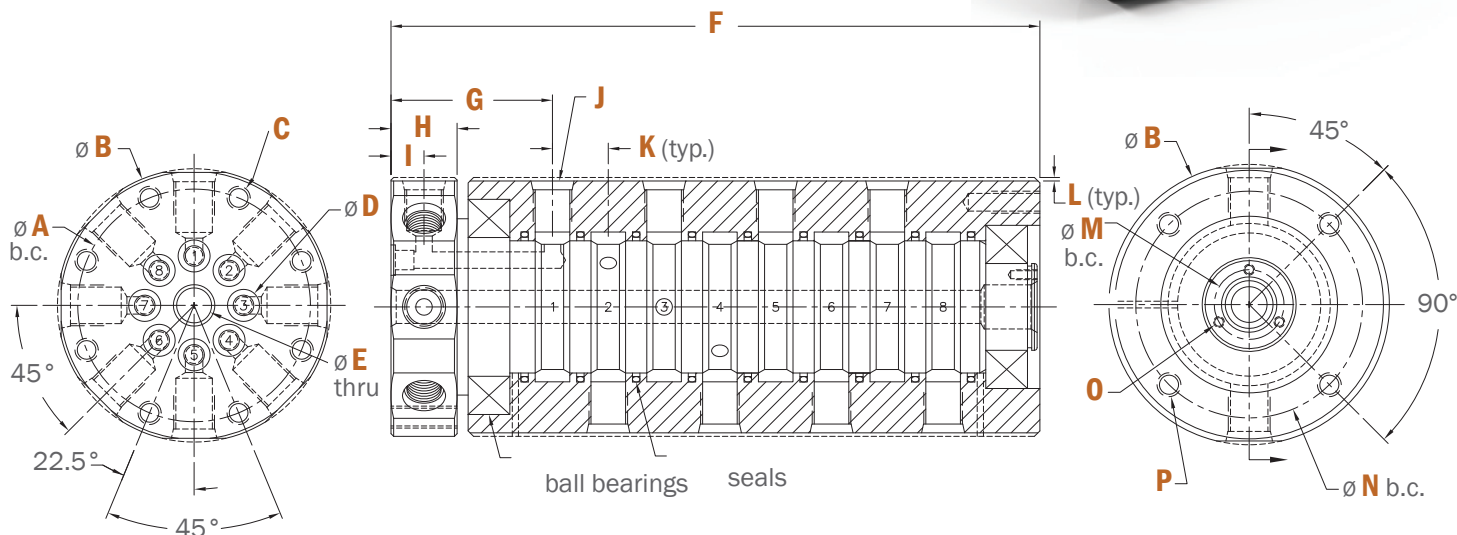


| PART # | A | B | C | D | E | F | G | H | I | J |
|----------|---------|---------|----------|---------|--------|---------|-------|---------|---------|---------|
| SE-1161 | 3.562" | 3.500" | 3.937" | 1/4"-20 | .265" | 1.000" | .38" | .500" | .562" | .468" |
| SEM-1161 | 90.47mm | 88.90mm | 100.00mm | M6x1.0 | 6.73mm | 25.40mm | 9.5mm | 12.70mm | 14.27mm | 11.89mm |

| PART # | K | L | M | N | O | P |
|----------|---------|---------|---------|---------|---------|--------|
| SE-1161 | 1.090" | 1.374" | .875" | 2.375" | 2.937" | #10-24 |
| SEM-1161 | 27.69mm | 34.90mm | 22.23mm | 60.33mm | 74.60mm | M5x0.8 |

Reference tolerances listed on the PDF Part Drawing.

8 Flow Passage: Dimensions



| PART # | A | B | C | D | E | F | G | H | I |
|-----------------|---------|---------|----------|-------|-------|---------|--------|---------|--------|
| SE-1181 | 2.500" | 2.937" | 1/4"- 20 | .19" | .38" | 7.36" | 1.83" | .750" | .375" |
| SEM-1181 | 63.50mm | 74.60mm | M6x1.0 | 4.8mm | 9.5mm | 186.9mm | 46.5mm | 19.05mm | 9.53mm |

| PART # | J | K | L | M | N | O | P |
|-----------------|---------------|--------|--------|---------|---------|-----------|--------------|
| SE-1181 | #4 SAE-ORB | .63" | .040" | .730" | 2.375" | #4-40 UNC | 1/4"- 20 UNC |
| SEM-1181 | G1/8"-28 BSPP | 16.1mm | 1.02mm | 18.54mm | 60.33mm | M3x0.5 | M6x1.0 |

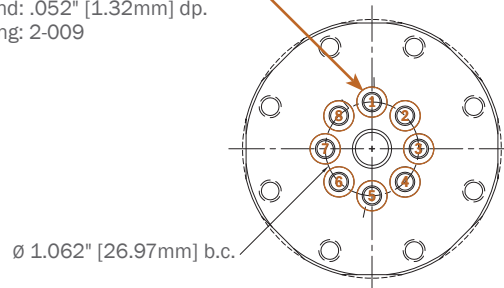
Reference tolerances listed on the PDF Part Drawing.

OPTIONAL O-RING FACE SEAL GLAND CONNECTION



Must specify
when ordering.
Please add
"-OF" to the
Part Number.
(Example:
SE-1181-OF)

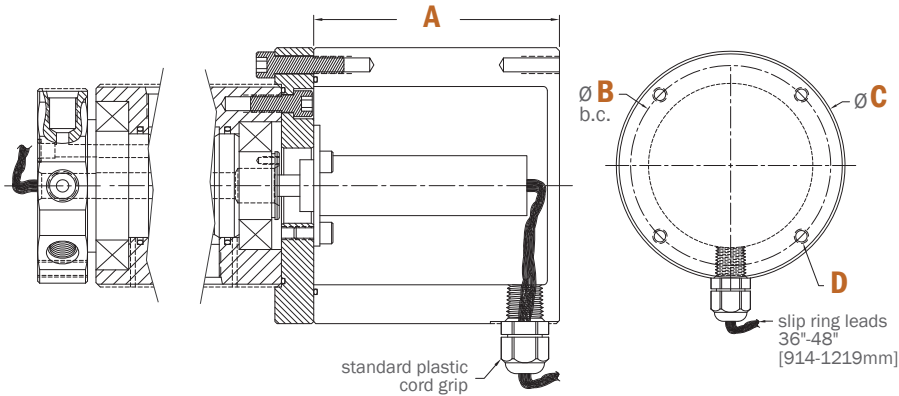
C-bore: Ø .344" [8.74mm]
Gland: .052" [1.32mm] dp.
O-ring: 2-009



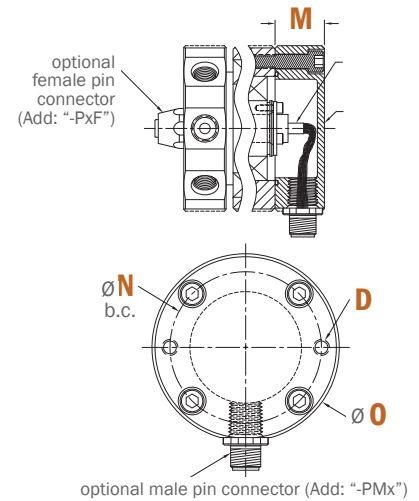
8 Flow Passage: Optional Equipment

OPTIONAL ELECTRICAL SLIP RING COVERS

ES, ESE & ESM COVER (C2) Housing Flange Mount (F1) Required

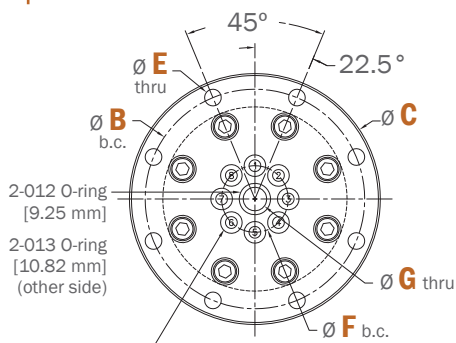


ES6A & ES12A COVER (C1)

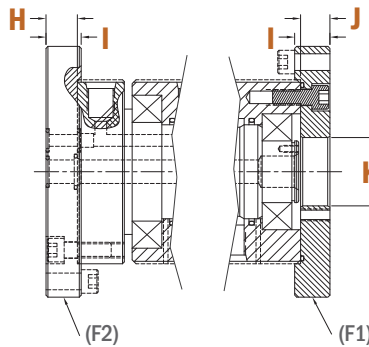


OPTIONAL SHAFT & HOUSING FLANGE MOUNTS

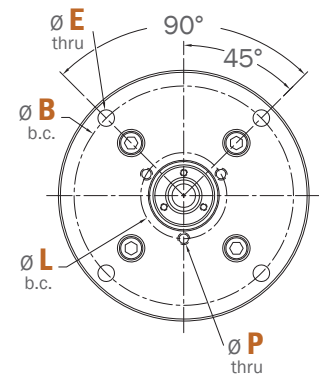
SHAFT FLANGE MOUNT (F2)



Same as optional o-ring face
connection dimensions on page 10



HOUSING FLANGE MOUNT (F1)

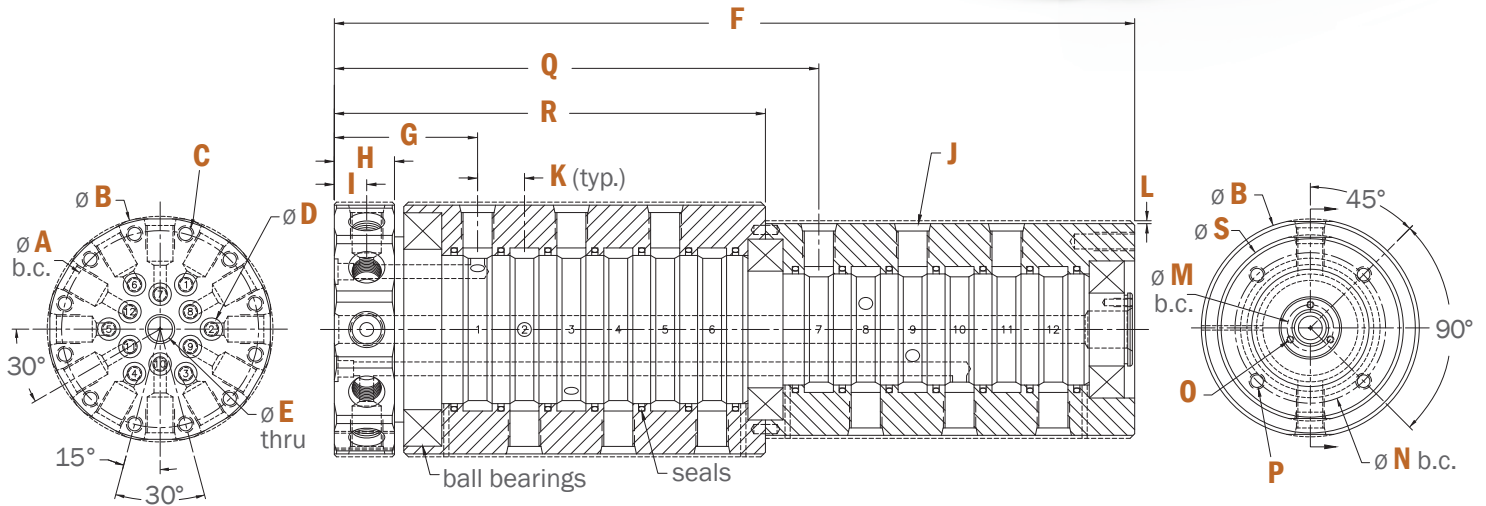
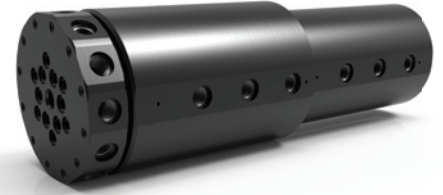


| PART # | A | B | C | D | E | F | G | H | I | J |
|----------|---------|---------|----------|---------|--------|---------|-------|---------|---------|---------|
| SE-1181 | 3.562" | 3.500" | 3.937" | 1/4"-20 | .265" | 1.062" | .38" | .500" | .562" | .468" |
| SEM-1181 | 90.47mm | 88.90mm | 100.00mm | M6x1.0 | 6.73mm | 26.97mm | 9.5mm | 12.70mm | 14.27mm | 11.89mm |

| PART # | K | L | M | N | O | P |
|----------|---------|---------|---------|---------|---------|--------|
| SE-1181 | 1.090" | 1.374" | .875" | 2.375" | 2.937" | #10-24 |
| SEM-1181 | 27.69mm | 34.90mm | 22.23mm | 60.33mm | 74.60mm | M5x0.8 |

Reference tolerances listed on the PDF Part Drawing.

12 Flow Passage: Dimensions



| PART # | A | B | C | D | E | F | G | H | I | J |
|------------------|---------|---------|-----------|-------|-------|---------|--------|---------|---------|---------------|
| SE-11121 | 3.000" | 3.437" | 1/4" - 20 | .19" | .38" | 10.80" | 1.93" | .812" | .437" | #4 SAE-ORB |
| SEM-11121 | 76.20mm | 87.30mm | M6x1.0 | 4.8mm | 9.5mm | 274.3mm | 49.5mm | 20.62mm | 11.10mm | G1/8"-28 BSPP |

| PART # | K | L | M | N | O | P | Q | R | S |
|------------------|--------|--------|---------|---------|-----------|---------------|---------|---------|---------|
| SE-11121 | .63" | .040" | .730" | 2.375" | #4-40 UNC | 1/4" - 20 UNC | 6.54" | 5.82" | 2.937" |
| SEM-11121 | 16.1mm | 1.02mm | 18.54mm | 60.33mm | M3x0.5 | M6x1.0 | 166.1mm | 147.8mm | 74.60mm |

Reference tolerances listed on the PDF Part Drawing.

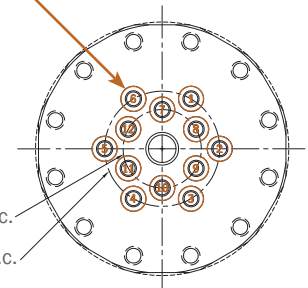
OPTIONAL O-RING FACE SEAL GLAND CONNECTION



Must specify
when ordering.
Please add
"-OF" to the
Part Number.
(Example:
SE-11121-OF)

C-bore: \varnothing .344" [8.74mm]
Gland: .052" [1.32mm] dp.
O-ring: 2-009

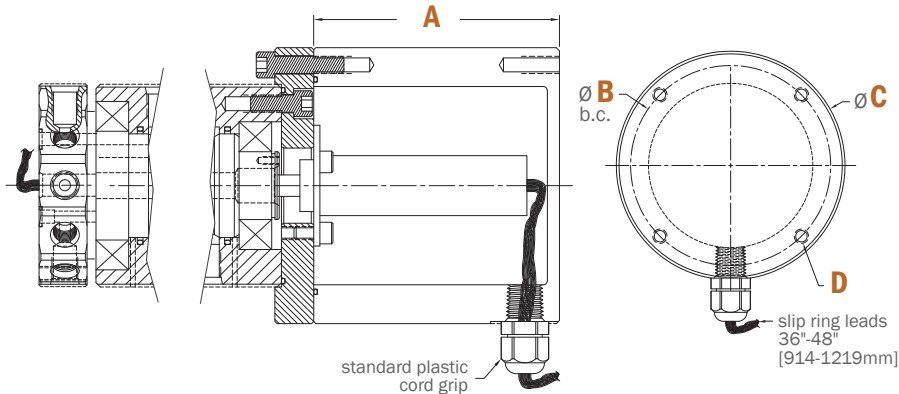
\varnothing 1.062" [26.97mm] b.c.
 \varnothing 1.562" [39.67mm] b.c.



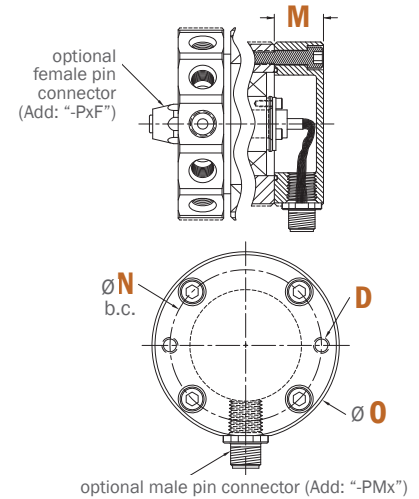
12 Flow Passage: Optional Equipment

OPTIONAL ELECTRICAL SLIP RING COVERS

ES, ESE & ESM COVER (C2) Housing Flange Mount (F1) Required

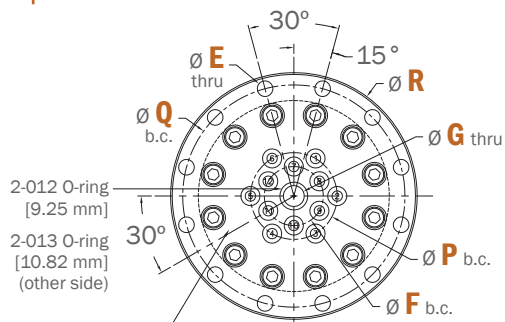


ES6A & ES12A COVER (C1)

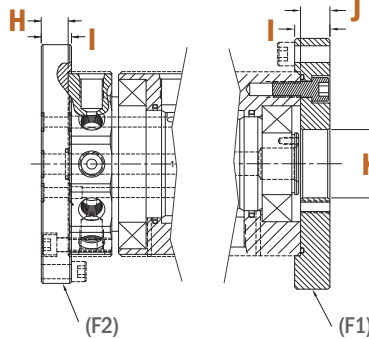


OPTIONAL SHAFT & HOUSING FLANGE MOUNTS

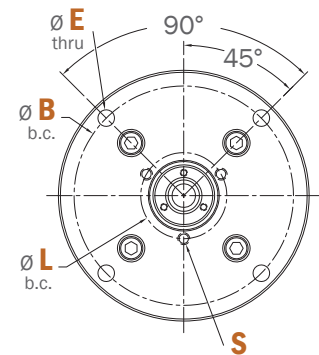
SHAFT FLANGE MOUNT (F2)



Same as optional o-ring face
connection dimensions on page 10



HOUSING FLANGE MOUNT (F1)

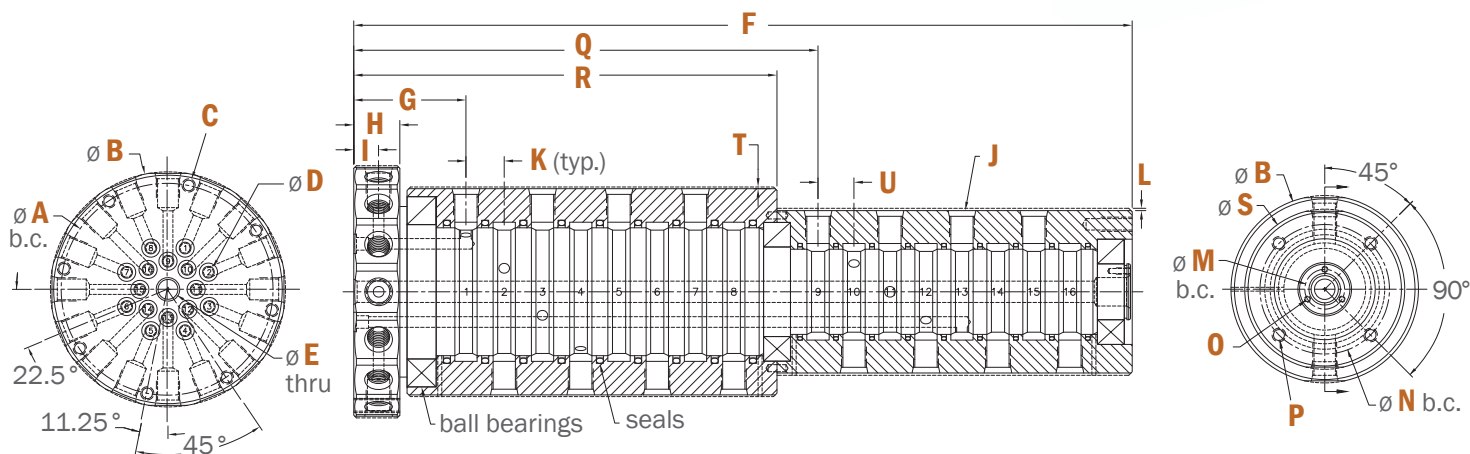


| PART # | A | B | C | D | E | F | G | H | I | J |
|-----------|---------|---------|----------|---------|--------|---------|-------|---------|---------|---------|
| SE-11121 | 3.562" | 3.500" | 3.937" | 1/4"-20 | .265" | 1.062" | .38" | .500" | .562" | .468" |
| SEM-11121 | 90.47mm | 88.90mm | 100.00mm | M6x1.0 | 6.73mm | 26.97mm | 9.5mm | 12.70mm | 14.27mm | 11.89mm |

| PART # | K | L | M | N | O | P | Q | R | S |
|-----------|---------|---------|---------|---------|---------|---------|----------|----------|--------|
| SE-11121 | 1.090" | 1.374" | .875" | 2.375" | 2.937" | 1.562" | 4.000" | 4.437" | #10-24 |
| SEM-11121 | 27.69mm | 34.90mm | 22.23mm | 60.33mm | 74.60mm | 39.67mm | 101.60mm | 112.70mm | M5x0.8 |

Reference tolerances listed on the PDF Part Drawing.

16 Flow Passage: Dimensions



| PART # | A | B | C | D | E | F | G | H | I | J |
|------------------|----------|----------|----------|-------|-------|---------|--------|---------|---------|---------------|
| SE-11161 | 4.000" | 4.437" | 1/4"- 20 | .19" | .38" | 13.70" | 1.97" | .812" | .437" | #4 SAE-ORB |
| SEM-11161 | 101.60mm | 112.70mm | M6x1.0 | 4.8mm | 9.5mm | 347.9mm | 50.1mm | 20.62mm | 11.10mm | G1/8"-28 BSPP |

| PART # | K | L | M | N | O | P | Q | R | S | T | U |
|------------------|--------|--------|---------|---------|-----------|----------|---------|---------|---------|-------|--------|
| SE-11161 | .67" | .040" | .730" | 2.375" | #4-40 UNC | 1/4"- 20 | 8.17" | 7.45" | 2.937" | .030" | .63" |
| SEM-11161 | 17.1mm | 1.02mm | 18.54mm | 60.33mm | M3x0.5 | M6x1.0 | 207.5mm | 189.2mm | 74.60mm | .76mm | 16.1mm |

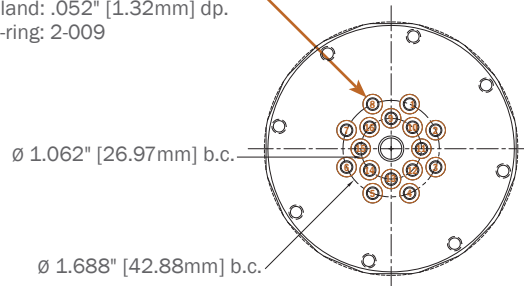
Reference tolerances listed on the PDF Part Drawing.

OPTIONAL O-RING FACE SEAL GLAND CONNECTION



Must specify
when ordering.
Please add
"-OF" to the
Part Number.
(Example:
SE-11161-OF)

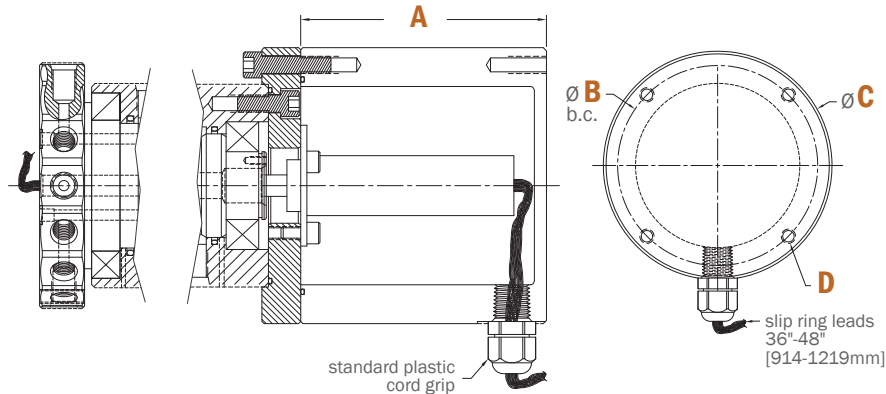
C-bore: \varnothing .344" [8.74mm]
Gland: .052" [1.32mm] dp.
O-ring: 2-009



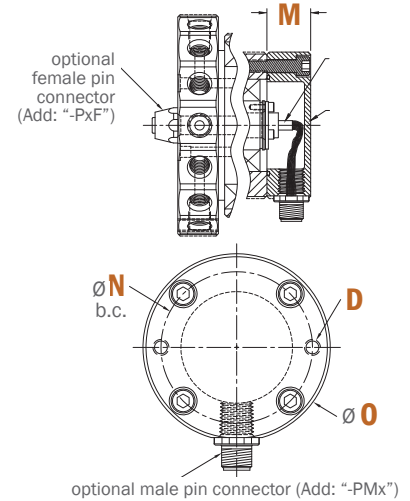
16 Flow Passage: Optional Equipment

OPTIONAL ELECTRICAL SLIP RING COVERS

ES, ESE & ESM COVER (C2) Housing Flange Mount (F1) Required

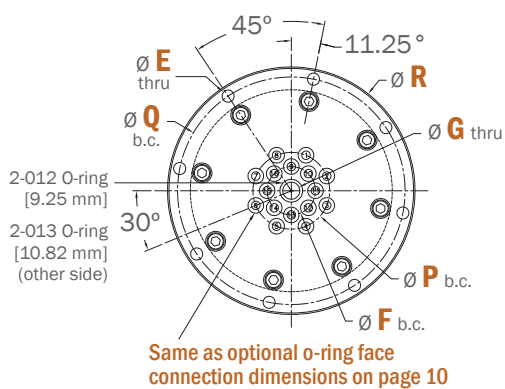


ES6A & ES12A COVER (C1)

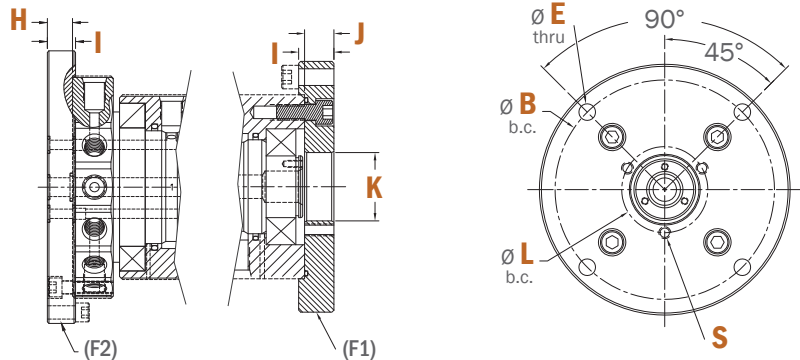


OPTIONAL SHAFT & HOUSING FLANGE MOUNTS

SHAFT FLANGE MOUNT (F2)



HOUSING FLANGE MOUNT (F1)

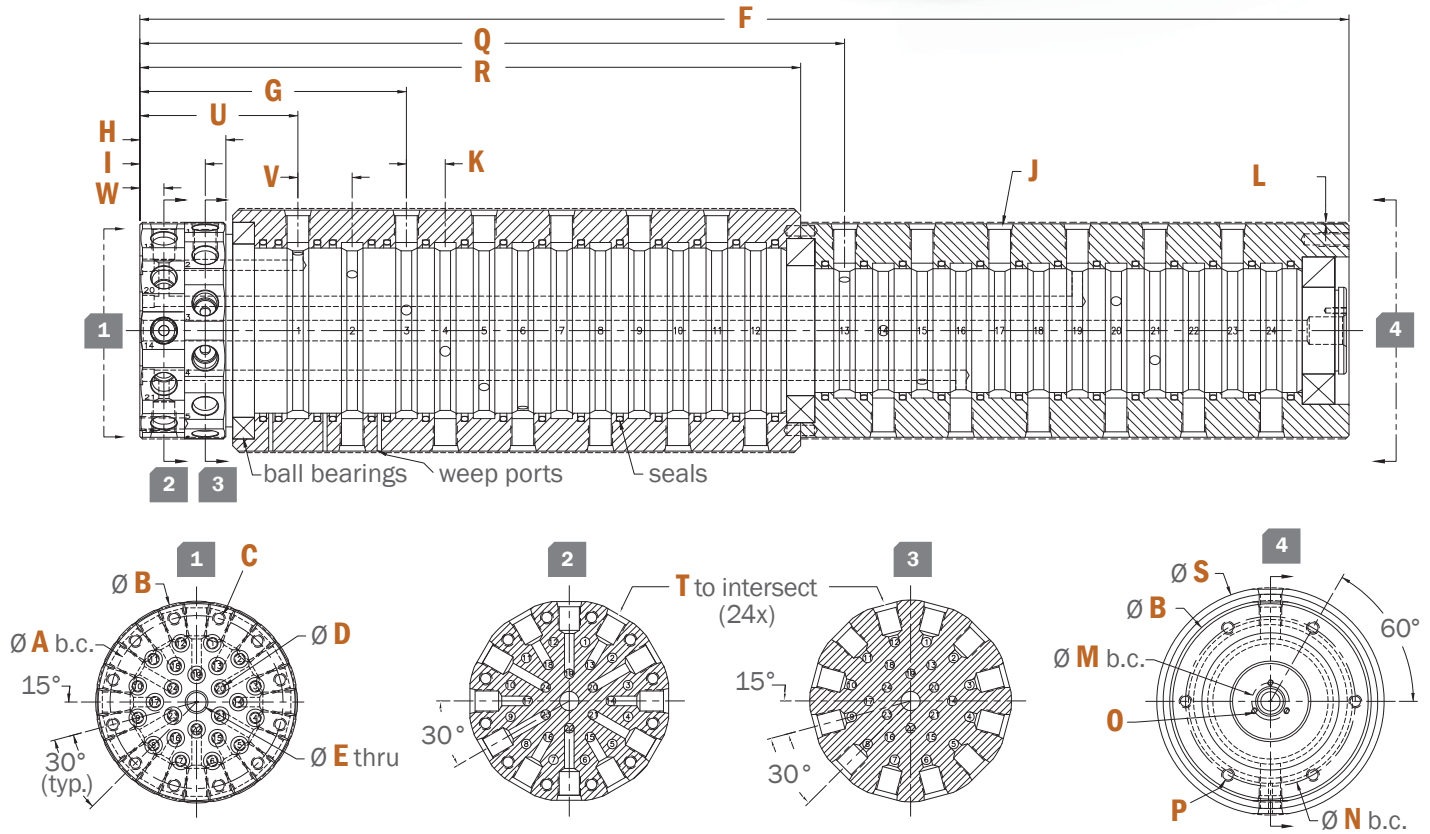


| PART # | A | B | C | D | E | F | G | H | I | J |
|-----------|---------|---------|----------|---------|--------|---------|-------|---------|---------|---------|
| SE-11161 | 3.562" | 3.500" | 3.937" | 1/4"-20 | .265" | 1.062" | .38" | .500" | .562" | .468" |
| SEM-11161 | 90.47mm | 88.90mm | 100.00mm | M6x1.0 | 6.73mm | 26.97mm | 9.5mm | 12.70mm | 14.27mm | 11.89mm |

| PART # | K | L | M | N | O | P | Q | R | S |
|-----------|---------|---------|---------|---------|---------|---------|----------|----------|--------|
| SE-11161 | 1.090" | 1.374" | .875" | 2.375" | 2.937" | 1.688" | 5.000" | 5.437" | #10-24 |
| SEM-11161 | 27.69mm | 34.90mm | 22.23mm | 60.33mm | 74.60mm | 42.88mm | 127.00mm | 138.10mm | M5x0.8 |

Reference tolerances listed on the PDF Part Drawing.

24 Flow Passage: Dimensions



| PART # | A | B | C | D | E | F | G | H | I | J |
|-----------|---------|----------|----------|-------|-------|---------|---------|---------|---------|---------------|
| SE-11241 | 3.375" | 3.937" | 1/4"- 20 | .19" | .38" | 21.97" | 4.84" | 1.562" | 1.187" | #4 SAE-ORB |
| SEM-11241 | 85.73mm | 100.00mm | M6x1.0 | 4.8mm | 9.5mm | 558.0mm | 123.0mm | 39.67mm | 30.15mm | G1/8"-28 BSPP |

| PART # | K | L | M | N | O | P | Q | R | S | T | U |
|-----------|--------|-------|---------|---------|-----------|----------|---------|---------|----------|-------|--------|
| SE-11241 | .71" | .030" | .730" | 3.313" | #4-40 UNC | 1/4"- 20 | 12.80" | 12.01" | 4.437" | .19" | 2.87" |
| SEM-11241 | 17.9mm | .76mm | 18.54mm | 84.15mm | M3x0.5 | M6x1.0 | 325.2mm | 305.0mm | 112.70mm | 4.8mm | 72.9mm |

| PART # | V | W |
|-----------|--------|---------|
| SE-11241 | .99" | .437" |
| SEM-11241 | 25.0mm | 11.10mm |

Reference tolerances listed on the PDF Part Drawing.

OPTIONAL O-RING FACE SEAL GLAND CONNECTION



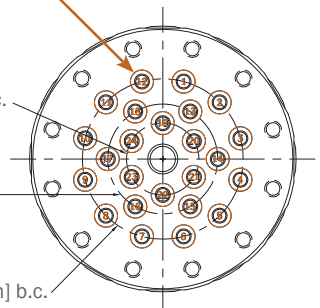
Must specify when ordering. Please add "-OF" to the Part Number. (Example: SE-11241-OF)

C-bore: Ø .344" [8.74mm]
Gland: .052" [1.32mm] dp.
O-ring: 2-009

Ø 1.062" [26.97mm] b.c.

Ø 1.625" [41.28mm] b.c.

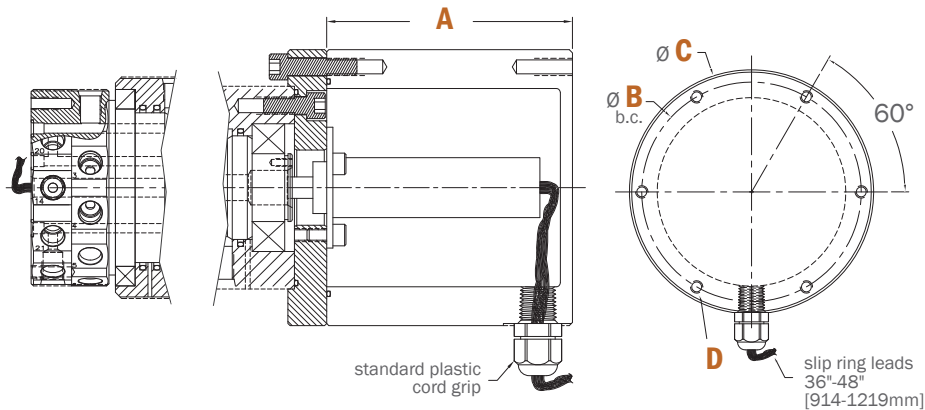
Ø 2.375" [60.33mm] b.c.



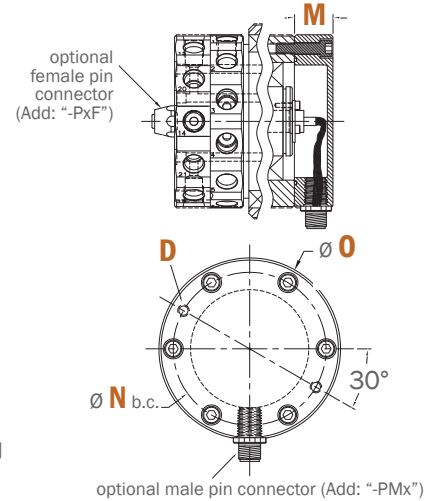
24 Flow Passage: Optional Equipment

OPTIONAL ELECTRICAL SLIP RING COVERS

ES, ESE & ESM COVER (C2) Housing Flange Mount (F1) Required

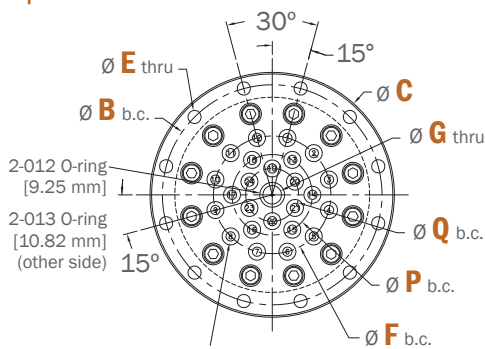


ES6A & ES12A COVER (C1)



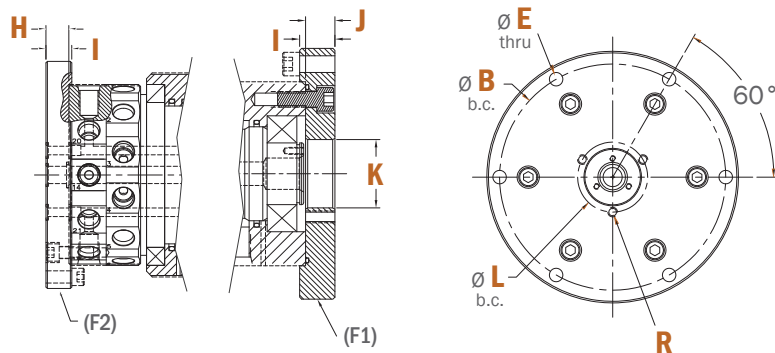
OPTIONAL SHAFT & HOUSING FLANGE MOUNTS

SHAFT FLANGE MOUNT (F2)



Same as optional o-ring face connection dimensions on page 10

HOUSING FLANGE MOUNT (F1)



| PART # | A | B | C | D | E | F | G | H | I |
|-----------|---------|----------|----------|---------|--------|---------|-------|---------|---------|
| SE-111241 | 3.562" | 4.438" | 4.938" | 1/4"-20 | .265" | 2.375" | .38" | .500" | .562" |
| SEM-11241 | 90.47mm | 112.73mm | 125.43mm | M6x1.0 | 6.73mm | 60.33mm | 9.5mm | 12.70mm | 14.27mm |

| PART # | J | K | L | M | N | O | P | Q | R |
|-----------|---------|---------|---------|---------|---------|----------|---------|---------|--------|
| SE-11241 | .468" | 1.090" | 1.374" | .875" | 3.313" | 3.937" | 1.625" | 1.062" | #10-24 |
| SEM-11241 | 11.89mm | 27.69mm | 34.90mm | 22.23mm | 84.15mm | 100.00mm | 41.28mm | 26.97mm | M5x0.8 |

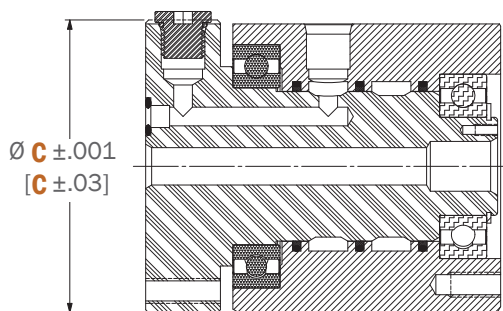
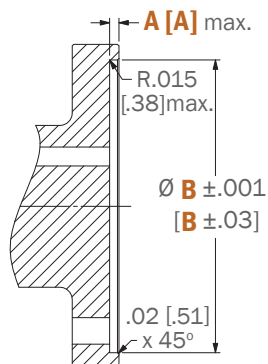
Reference tolerances listed on the PDF Part Drawing.

Customer Interface using O-Ring Seal Connection

CUSTOMER INTERFACE EXAMPLE



SE SERIES ROTARY UNION



| PART # | A | B | C | D (Nx) |
|-------------|----------------|-------------------|-------------------|----------------------|
| SE(M)-1121 | .078" [1.98mm] | 2.940" [74.68mm] | 2.937" [74.60mm] | .375" [9.53mm] (2x) |
| SE(M)-1141 | .078" [1.98mm] | 2.940" [74.68mm] | 2.937" [74.60mm] | .375" [9.53mm] (4x) |
| SE(M)-1161 | .078" [1.98mm] | 2.940" [74.68mm] | 2.937" [74.60mm] | .375" [9.53mm] (6x) |
| SE(M)-1181 | .078" [1.98mm] | 2.940" [74.68mm] | 2.937" [74.60mm] | .344" [8.74mm] (8x) |
| SE(M)-11121 | .141" [3.58mm] | 3.440" [87.38mm] | 3.437" [87.30mm] | .344" [8.74mm] (12x) |
| SE(M)-11161 | .141" [3.58mm] | 4.440" [112.78mm] | 4.437" [112.70mm] | .344" [8.74mm] (16x) |
| SE(M)-11241 | .141" [3.58mm] | 3.940" [100.08mm] | 3.937" [100.00mm] | .344" [8.74mm] (24x) |

Electrical Slip Ring Integration Options

- + Ethernet Slip Rings Available
- + 100 BaseT & 1000 BaseT Ethernet Connections
- + High-Quality, Gold-on-Gold Contacts
- + Capsule & Thru-bore Options
- + Low Electrical Noise
- + Analog/Digital Transfer
- + Cord Sets & Pin Connectors Options
- + Compatible With a Range of Data Bus Protocols



AVAILABLE SLIP RINGS¹

| PART # | # OF CIRCUITS | MAX AMPS/ CIRCUIT | MAX VOLTS | MAX DATA SPEED |
|-----------------------|---------------|-----------------------------|-----------|----------------|
| ES6A ⁴ | 6 | 2 | 120 | Under 50 Mbps |
| ES6 ⁴ | 6 | 2 | 240 | Under 50 Mbps |
| ES12A ⁴ | 12 | 2 | 120 | Under 50 Mbps |
| ES12 ⁴ | 12 | 2 | 240 | Under 50 Mbps |
| ES18 ⁴ | 18 | 2 | 240 | Under 50 Mbps |
| ES24 ⁴ | 24 | 2 | 240 | Under 50 Mbps |
| ES36 ⁴ | 36 | 2 | 240 | Under 50 Mbps |
| ES56 ⁴ | 56 | 2 | 240 | Under 50 Mbps |
| ESE64 ² | 10 | (6x) 2A | 240 | 100 Mbps |
| ESE264 ² | 12 | (2x) 5A, (6x) 2A | 240 | 100 Mbps |
| ESE224 ² | 8 | (2x) 10A, (2x) 2A | 240 | 100 Mbps |
| ESE2124 ² | 18 | (2x) 5A, (12x) 2A | 240 | 100 Mbps |
| ESE284 ² | 14 | (2x) 10A, (8x) 2A | 240 | 100 Mbps |
| ESE438 ³ | 51 | (43x) 2A | 240 | 1 Gbps |
| ESE4358 ³ | 47 | (4x) 5A, (35x) 2A | 240 | 1 Gbps |
| ESE2358 ³ | 45 | (2x) 10A, (35x) 2A | 240 | 1 Gbps |
| ESE8278 ³ | 43 | (8x) 5A, (27x) 2A | 240 | 1 Gbps |
| ESE24278 ³ | 41 | (2x) 10A, (4x) 5A, (27x) 2A | 240 | 1 Gbps |

| PART # | # OF CIRCUITS | MAX AMPS/ CIRCUIT | MAX VOLTS | MAX DATA SPEED |
|---------------------|---------------|----------------------|-----------|----------------|
| ESM36 ⁴ | 9 | (3x) 10A, (6x) 2A | 240 | Under 50 Mbps |
| ESM312 ⁴ | 15 | (3x) 5A, (12x) 2A | 240 | Under 50 Mbps |
| ESM420 ⁴ | 24 | (4x) 10A, (20x) 2A | 240 | Under 50 Mbps |
| ESM428 ⁴ | 32 | (4x) 5A, (28x) 2A | 240 | Under 50 Mbps |
| ESM440 ⁴ | 44 | (4x) 10A, (40x) 2A | 240 | Under 50 Mbps |
| ESM448 ⁴ | 52 | (4x) 5A, (48x) 2A | 240 | Under 50 Mbps |

¹ All slip ring lead wire lengths are 48" (1219mm)

² 100 BaseT Ethernet connections

³ 1000 BaseT Ethernet connections

⁴ In order to successfully transfer digital data signals, a variety of conditions must be met. Please consult with DSTI for approval.

Installation & Mounting

PREPARATION:

Remove the rotary union from the shipping container. Inspect the entire assembly, including all passage connections to make sure that they are clean and no visual damage occurred during transport. If the assembly is a rotary union/electrical slip ring, the electrical slip ring may be packaged separately to protect during shipping. If this is the case, mount the electrical slip ring to the rotating union assembly using the supplied hardware.

RECOMMENDED INSTALLATION PRACTICE:

DSTI does not recommend mounting the rotary union with both the shaft & housing components solidly bolted into place. One of the two components should be mounted in a manner that allows for some movement in the event of misalignment or run-out during rotation. Using only the supply lines or hoses to fix the stationary component in place is also not recommended. An anti-rotation arm that attaches to the stationary part of the rotary union assembly and rests against part of the equipment framework is recommended (see figure 1).

MOUNTING A ROTARY UNION W/ AN ELECTRICAL SLIP RING:

Make sure the electrical wiring is fixed in place and protected from contact with other components or equipment. Care should be taken to make sure the slip ring area remains clean and dry during use.

SHAFT MOUNTING, O-RING FACE SEAL CONNECTIONS:

Make sure the rotary union shaft face & equipment mounting surface is clean and free from dents or chips to insure proper installation. Equipment pilot bore needs to be concentric to the center line of the rotary union shaft to assure proper function. Install face mount O-rings into groove or counter bore in rotating union shaft face. General assembly grease can be used as needed to hold O-rings into place during assembly. Align rotary union shaft with equipment pilot bore and flow passages, then insert into place. Bolt assembly into place using tapped holes on the face of the rotating union shaft or purchase an optional shaft flange (F2) for help mounting the union.

THESE INSTRUCTIONS ARE INTENDED TO BE USED AS A GENERAL GUIDE, PLEASE CONSULT DSTI TO DISCUSS ANY SPECIFIC QUESTIONS RELATED TO YOUR INSTALLATION.

SHAFT MOUNTING, THREADED PORT CONNECTIONS:

When mounting the shaft using threaded connections, make sure all fittings are properly tightened & pipe thread sealant is used as required. Equipment mounting surface needs to be concentric to the center line of the rotary union shaft to assure proper function. After all fittings are in place, bolt assembly into place using tapped holes on the face of the rotating union shaft or purchase an optional shaft flange (F2) for help mounting the union.

HOUSING MOUNTING

If using the housing to secure the union into a piece of equipment, bolt the assembly into place using the tapped holes on the back of the housing or purchase an optional housing flange (F1) for help mounting the union.

INITIAL START-UP:

After rotary union is installed, a dry run is recommended to assure proper mounting of the rotating union assembly. Begin rotation of the equipment, and verify that while rotating at the maximum operating speed there is no visible movement of the rotary union assembly due to misalignment.



- ① SE HOUSING
- ② SE SHAFT
- ③ ANTI-ROTATE DEVICE EXAMPLE
- ④ O-RINGS FOR OPTIONAL FACE SEAL MOUNTING
- ⑤ OPTIONAL FLANGE FOR MOUNTING AND/OR FACE CONNECTION

Warranty

DSTI Warrants, for a period of 2 years from the date of original delivery, its products to be free from defects in material and workmanship. DSTI's obligation under this warranty is limited to repair or replacement at it's factory of any part or parts of said products which shall be returned to DSTI with transportation charges prepaid and which DSTI's examination shall disclose to it's satisfaction to have been defective. Under no circumstances shall DSTI be held liable for loss, damage, cost of repair of consequential damages of any kind in connection with the sale, use or repair of any product purchased from DSTI. Warranty is subject to change.



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Engineered Fluid Solutions

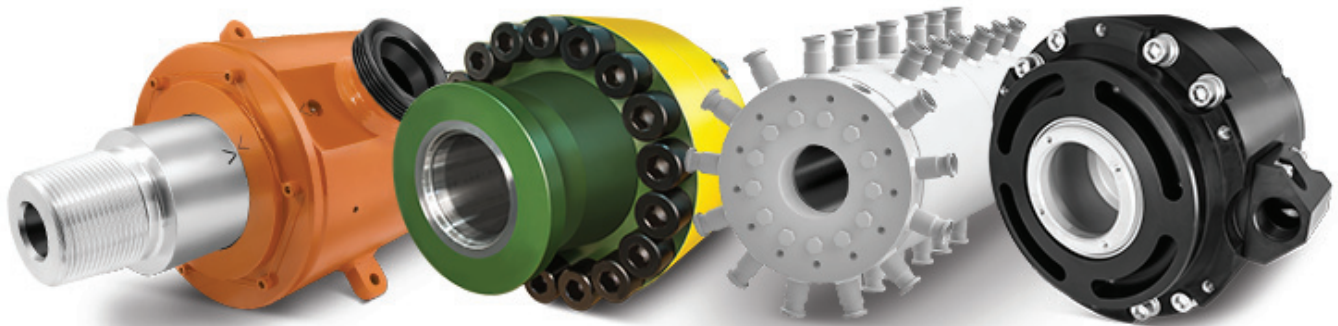
At DSTI, our product solutions are directly influenced by the industries we serve. If an existing product isn't a perfect fit for our customers' applications, we provide specialized design and manufacturing services to meet the needs of their specifications.

To see examples of our customized solutions, please visit: www.dsti.com/industries



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