

Hydraulic Fluid Rotary Union

Model 810

Focal Technologies Corporation, a Moog Inc. company, has over 30 years of expertise in supplying standard and custom marine products for harsh environments and is a leading manufacturer of high performance and high quality fluid rotary unions. Contact Focal for any assistance in selecting the best solution for your requirements.



The Model 810 Fluid Rotary Union (FRU) is designed for industrial and marine applications where multiple fluid passes need to be transferred across a rotational interface. There are various standard designs, depending on the application.

The standard Model 810 FRU is available with two or four threaded passages of size 1/2 or 3/4 inch. A 1/2 inch on-axis wire pass for integration with an electrical slip ring, fiber optic rotary joint or both.

The Model 810 utilizes sealed-for-life rolling element bearings to provide long trouble free service. Filled PTFE based seals run on a hardened surface to provide long service life, minimizing frictional heat generation and operational torque.

For marine applications, the Model 810 is available in hybrid and fully stainless steel versions for added corrosion protection. More variations of port size and channel count available. Please contact factory for further details.

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Features

- Two or four pass configurations
- 1/2 and 3/4 inch port sizes available
- NPT, SAE straight thread or BSPP available (O-Ring option available for shaft)
- 1/2 inch on-axis wire / fiber pass
- Pressure rating up to 6,000 psi [415 bar]
- Continuous 360° rotation at speeds up to 100 rpm
- 5 M revolution life ¹

Benefits

- Can be easily combined with Moog electrical or optical slip rings
- Pass isolation and cross channel flow prevention

Applications

- Winches and cable reels
- Machining centers
- Rotary index tables
- Heavy equipment turrets
- Packaging machines
- Automated handling
- Palletizing machines
- Labeling machines
- Remote sensing

¹ Operational life is dependent on pressure, temperature, rotational speed and duty cycle. Maximum values do not apply concurrently. Please consult the factory for actual value.

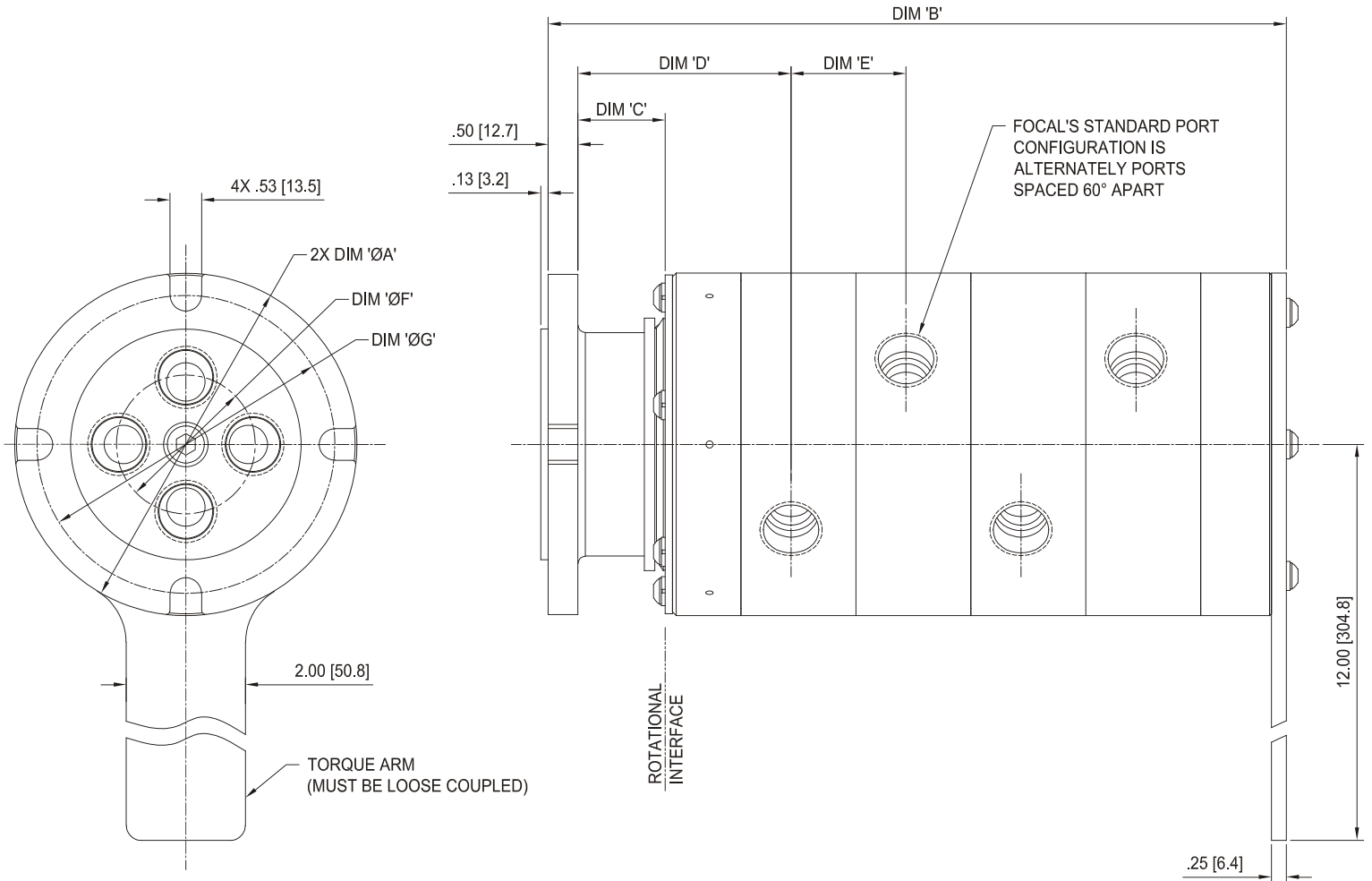
Specifications

| Model 810 Specifications | | | Options |
|---|--|---|---|
| Number of Passes | 2 | 4 | <ul style="list-style-type: none"> Fully stainless steel construction Custom solutions possible, please contact factory |
| Port Sizes | 1/2, 3/4 inches | | |
| Port Types | NPT, SAE straight thread or BSPP (O-Ring option for shaft) | | |
| Maximum Operating Pressure ¹ | 6,000 psi [415 bar] | | |
| Maximum Continuous Speed ¹ | 100 RPM | | |
| Maximum Fluid Temperature ¹ | 176° F [80° C] | | |
| Material | 17-4 PH and 300 - series S.ST. housing assembly. Hardened carbon steel shaft with exposed surfaces coated with electroless nickel. | | |
| Media | Hydraulic fluid is standard. Contact factory for other media. | | |

¹ Operational life is dependent on pressure, temperature, rotational speed and duty cycle. Maximum values do not apply concurrently. Please consult the factory for actual value.

| Model 810 Parameters (See sheet 3 for dimensional details) | | | | |
|--|--------------|--------------|---------------|---------------|
| Number of Passes | 2 | | 4 | |
| Port Size | 1/2 inch | 3/4 inch | 1/2 inch | 3/4 inch |
| Estimated Weight (lb [kg]) | 35 [16] | 50 [23] | 50 [23] | 75 [34] |
| Max. Estimated Torque @ 6000 psi (lb-ft [Nm]) | 120 [165] | 175 [240] | 235 [320] | 340 [460] |
| Max. Estimated Torque @ 3000 psi (lb-ft [Nm]) | 65 [90] | 90 [125] | 120 [165] | 175 [240] |
| DIM A, Housing and Shaft Flange Diameter | 5.00 [127.0] | 5.75 [146.1] | 5.00 [127.0] | 5.75 [146.1] |
| DIM B, Overall Length | 7.88 [200.2] | 8.53 [216.7] | 11.14 [283.0] | 12.39 [314.7] |
| DIM C, Clearance Between Shaft Flange and Housing Assembly | 1.5 [38.1] | 1.46 [37.1] | 1.5 [38.1] | 1.46 [37.1] |
| DIM D, Shaft Flange Mounting Face to First Housing Port | 3.87 [98.3] | 4.08 [103.6] | 3.87 [98.3] | 4.08 [103.6] |
| DIM E, Port to Port | 1.63 [41.4] | 1.93 [49.0] | 1.63 [41.4] | 1.93 [49.0] |
| DIM E, Shaft Port PCD | SAE | 1.92 [48.8] | 2.33 [59.2] | 1.92 [48.8] |
| | NPT | 1.92 [48.8] | 2.25 [57.2] | 1.92 [48.8] |
| | BSPP | 1.92 [48.8] | 2.33 [59.2] | 1.92 [48.8] |
| | O-Ring | 1.68 [42.7] | 2.10 [53.3] | 1.68 [42.7] |
| DIM G, Shaft Flange Clearance Hole PCD | 4.5 [114.3] | 5.00 [127.0] | 4.5 [114.3] | 5.00 [127.0] |

Model 810 Drawings



O-RING GROOVE DETAILS FOR SHAFT O-RING OPTION

