# Model 176

*Slip ring*

## Description

The Model 176 electrical slip rings perform in marine, industrial and defense applications. Comprised of power and signal electrical passes, the Model 176 provides superior performance and reliability in demanding operational environments. The Model 176 can be configured to meet specific customer needs.

## Features

- Stainless steel enclosure for open deck use
- Sealed design tested to IP66 standards
- Accommodation of a variety of wire and cable types
- Hazardous area certification available
- Reliable operation under shock and vibration

## Benefits

- Compliance with the highest quality standards for design, manufacture and test
- Maintenance free operation
- More than 30 years of proven field performance
- Integration with fiber optic rotary joints and fluid rotary unions to provide a complete rotating interface solution

## Typical Applications

- Remote operated vehicles (ROV)
- Winch and TMS applications
- Mine countermeasures
- Towed instrument arrays

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| Electrical | |
|---|---|
| **Voltage** | Maximum 5000 VAC |
| **Current** | Maximum 20 A per pass [1]<br>Maximum 720 A total current [2] |
| [1] Higher current ratings possible by wiring passes in parallel | |
| [2] All current ratings based on a 20°C ambient temperature | |

| Electrical Power Performance | |
|---|---|
| **Contact Resistance** | 20 mΩ nominal |
| **Insulation Resistance** [1] | Minimum 500 MΩ @ 1 kVDC |
| **Short Circuit Rating** | 1.5 kA / 1s, 3.7 kA peak |
| [1] Value dependent on wire type | |

| Electrical Signal Performance | |
|---|---|
| **Contact Resistance** | 20 mΩ nominal |
| **Insulation Resistance** [1] | Minimum 500 MΩ @ 1 kVDC |
| **Insertion Loss (Nominal) RG59 coax** | 1.5 dB maximum up to 30 MHz |
| **Crosstalk (Nominal) RG59 coax** | -15 dB maximum up to 30 MHz |
| [1] Value dependent on wire type | |

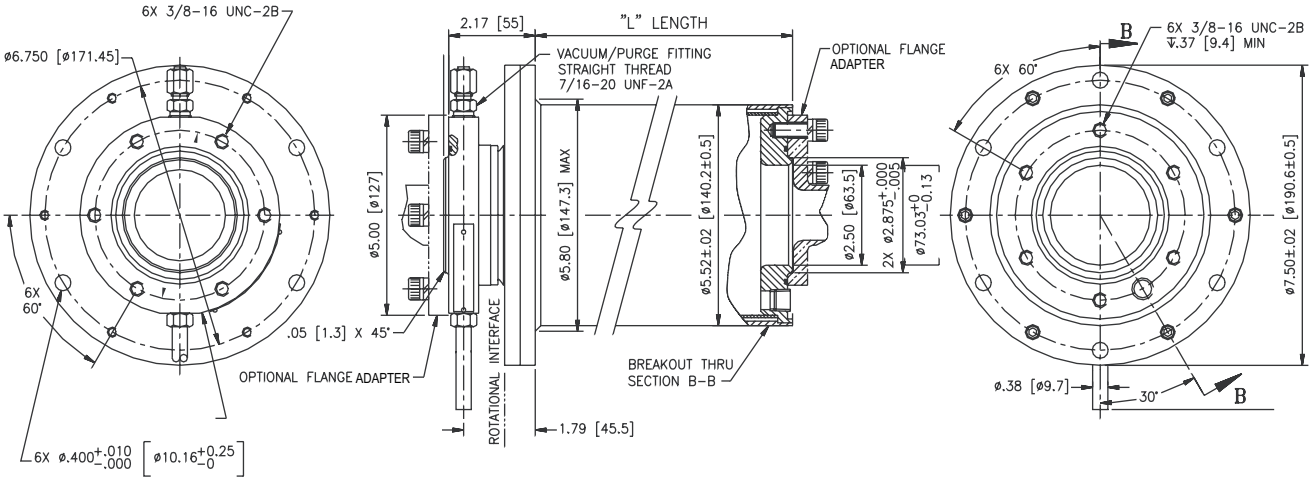
| Mechanical | |
|---|---|
| **Rotation Speed** | Maximum 50 rpm continuous [1] |
| **Protection Class** | IP 66 |
| **Operating Temperature** | -20°C to +55°C [2] |
| **Housing** | Stainless steel (304) |
| **Length "L"** | Varies with number of electrical passes |
| [1] Higher rotational speeds possible. Please consult factory | |
| [2] -20°C to +40°C for CSA certified Model 176-X | |

| Hazardous Area Option: Model 176-X | | |
|---|---|---|
| **Certification** | ETL: | Class I, Division 1, Group C & D, T5<br>Class I, Zone 1, AEx d IIB T5 |
| | CSA: | Class I, Division 1, Group C & D, T5<br>Class I, Zone 1, Ex d IIB T5 |
| | ATEX: | CE 0334 Ex II 2 G Ex d IIB T5 Gb |
| | IECEx: | Ex d IIb T5 Gb |
| Can be supplied with purge fittings for use with a certified purge system | | |

| Terminations | |
|---|---|
| **Standard** | Wire pigtails, 10 ft [3.0 m] in length |
| **Flange and Cable Covers** | Various entry threads and orientations available |
| **Special** [1] | Supply and installation of connectors, terminals, conduit, cable, glands, junction boxes |
| [1] Integration of customer supplied product possible | |

| Additional Options | |
|---|---|
| **Fiber Optics** | Fiber Optic Rotary Joint (FORJ) or optical converter |
| **Covered Pigtails** | Tinned copper braid and heat shrink installed over loose wire pigtails |
| **Fluid Classification** | Fluid Rotary Union (FRU) |
| **Design Certification** | ABS, DNV, BV, LRS |
| **Submersed Applications** | Fluid filling fittings or fluid filled / pressure compensated at factory. Internal pressure compensation Model 176 TMS option. Contact factory for details. |
| **Other Devices** [1] | RF Rotary Joint, shaft encoder, sensors |
| **Ingress Protection** [2] | IP 66, IP 68 to 'x' m |
| **Extended Temperature Range** | |
| [1] Integration of customer supplied product possible | |
| [2] Contact factory for higher ingress protection | |

## Model 176 Dimensions




*Dimensions in inches [millimeters]*