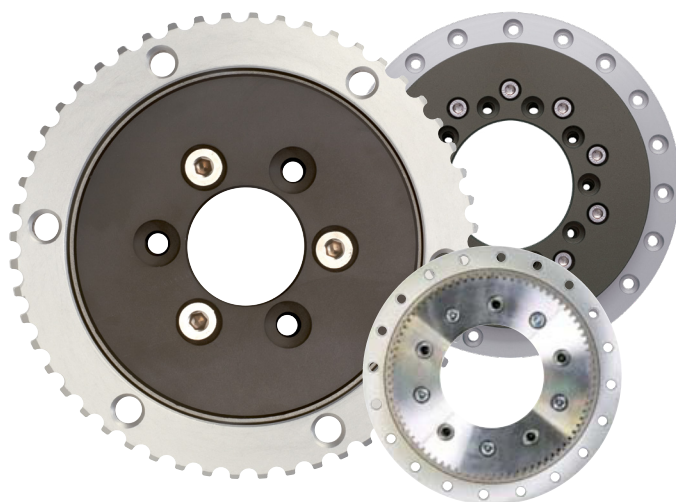


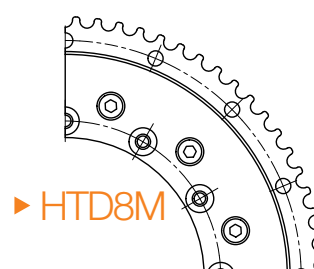
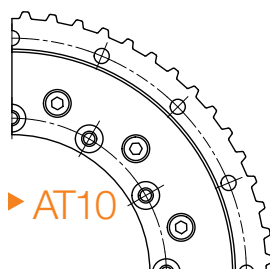
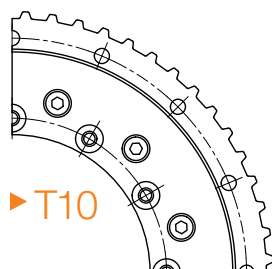
Four Ways to Drive a Slewing Ring Bearing

Slewing ring bearings are used in rotating and turntable applications. Traditionally, slewing ring bearings were designed in a style similar to ball bearings. Today, however, there are many newer and more successful versions on the market, including sliding slewing rings made with an iglide® polymer liner, hard-anodized aluminum rings or stainless-steel rings. The success of slewing ring bearings directly correlates to how the system is driven, therefore, it is important to know what options are available. When working with rotating or turntable applications, the slewing ring bearings can be driven in the following four ways.

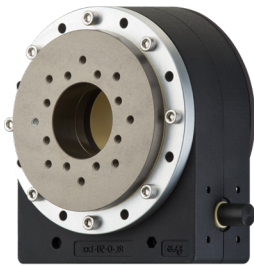


1. External gear: Most slewing ring manufacturers offer a geared option. igus® offers a spur-gear solution, which complies with DIN3967. The mating gear for any slewing ring should be made of a material that is softer than the actual gear itself. For example, a slewing ring that uses a gear made from anodized aluminum would ideally have a mating gear made of POM. Aside from the fact that POM is softer than anodized aluminum, this specific combination would make the system completely dry-running, which is an added bonus. In comparison, a slewing ring that uses both a gear and a mating gear made of aluminum, or any other metal, is ideal for intermittent movements. However, metal gears require constant lubrication, which is costly, time-consuming and messy. If a slewing ring uses a mating gear made from steel, the gear should be made of the same material in order to avoid damaging the slewing ring.

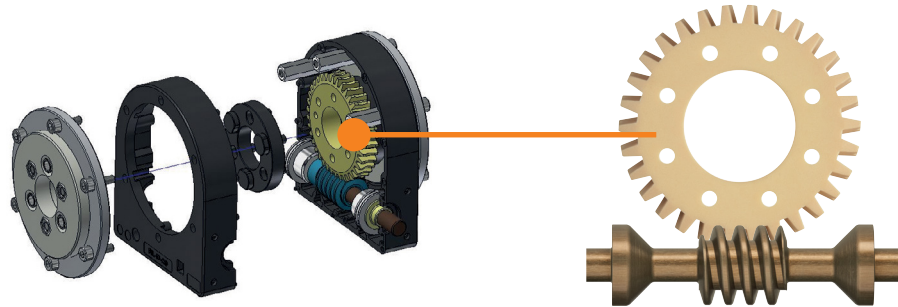
2. External belt: igus® offers three different belt options. T10 is the most cost-effective belt and is available in a variety of widths. It can also handle up to 175 pounds of tension. AT10 is a slightly more expensive option, as it can handle up to 290 pounds of tension. HTD8M is the most expensive of the three options because it offers additional features such as lower clearance and extremely quiet operation. HTD8M can handle up to 85 pounds of tension.



3. Worm gear: The latest drive option from igus® is the robolink D joint, which offers direct drive without the need for additional mating components. Combining standard igus® slewing rings with a worm gear, worm shaft and housing, the unit can be coupled directly to a DC or stepper motor using our motor mount kits for industry standard motor frame sizes. These units can be easily used in both horizontal and vertical configuration, as there are both symmetrical and asymmetrical models. Three sizes are offered in low cost, standard and high-end versions to suit the specific requirements of the application. The joint can be coupled with an INI kit or an output encoder to measure angular position and enhance functionality.



robolink D joint



iglide® A180 worm gear drive and shaft

4. Drive-plate coupling: A drive-plate coupling connects to a motor that is assembled directly to the slewing ring. igus® offers a drive-plate accessory that mounts to the motor without using a gear or belt, making coupling the drive system even easier. The drive plate is available in aluminum for sizes up to 100 millimeters. For sizes larger than 150 millimeters, the drive plate comes in stainless steel so that it can handle the higher amounts of force permissible for these sizes.



igus® drive plate

The screenshot shows the 'Input' tab of the 'Lifetime Calculator' with the following fields:

- Operating mode:** Pivoting (selected), Rotating
- Speed:** Frequency (1/min), Pivot angle β (*), RPMs (1/min)
- Center load:** Axial (lb), Radial (lb)
- Off-center load:** Load (lb), Resulting lever arm (mm)
- Your installation space:** Min. inner diameter (20 mm), Max. outer diameter (450 mm)
- Environment:** Temperature (32 °F), For continuous underwater uses (checkbox)

A 'Calculate' button is located at the bottom right of the input section.

iglide® plastic slewing ring bearings suited for your application



Lifetime Calculator: The online **Expert System** for polymer slewing ring bearings quickly provides the best bearing solution for a given application. By entering the application's requirements for loads, operating mode, speed, installation space and environment, the system calculates which bearings are recommended for use. Bearing prices and expected service lives are also listed.