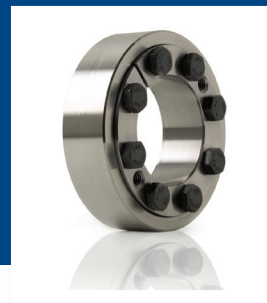
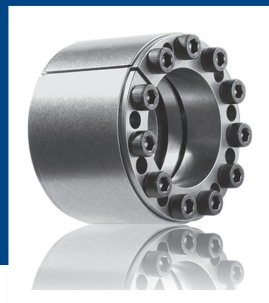


B-LOC

B-LOC KEYLESS LOCKING DEVICES
FOR WINDMILL GENERATORS

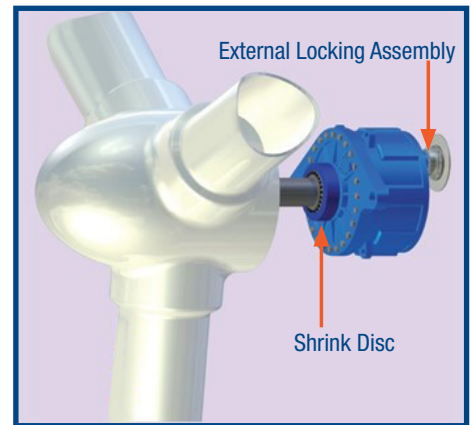


FROM A WORLD LEADER IN KLDS

Fenner is a world leader in keyless locking devices, and B-LOC is acknowledged as the premium brand of multi-screw KLDs in North America, synonymous with world class quality, engineering excellence, and unrivaled customer support. Plus, we know the wind power and power transmission industry and understand the extreme conditions the equipment endures and the challenges of maintaining it.

There are two types of B-LOC Keyless Locking Devices COMMONLY used in windmill generators:

- **Shrink Discs** for connection of rotor shaft to gearbox-output hollow shaft
- **External Locking Assemblies** for connection of brake disc



B-LOC SHRINK DISCS

Fenner manufactures both three-part- and two-part-design B-LOC shrink discs, series SD 10 – SD 20 – SD 30 and series SD 50 – SD 40 – SD 51 – SD 52 – SD 42 respectively, in standard-, light-, and heavy-duty configurations.

The most used types in windmill generators are the two-part design series, standard-duty (40-50), and heavy-duty (42-52).

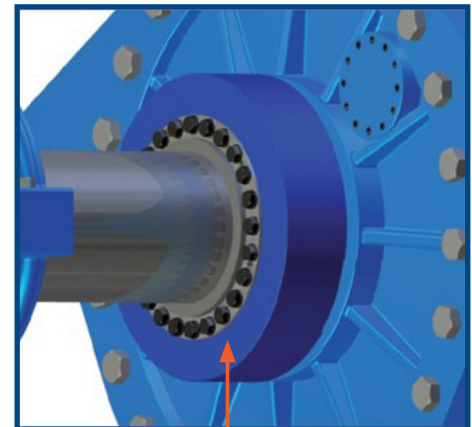
The shrink discs are used to provide a backlash-free frictional connection between the rotor shaft and the hollow output shaft of the gearbox. The most used sizes ranges from 420 to 620 mm inner diameter, for shaft diameters from 340 to 520 mm. Typical applied torques ranges from 900 kNm to 3500 kNm.

Material

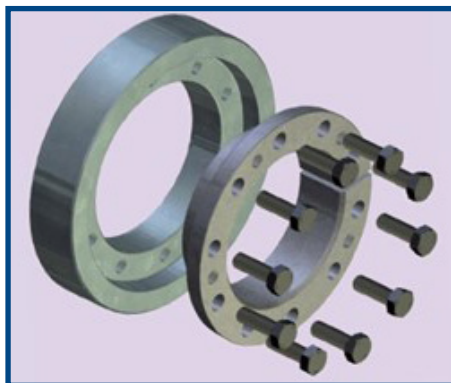
Due to the high stress on the shrink disc thrust collars, they are made of heat-treated alloy steel.

Surface protection

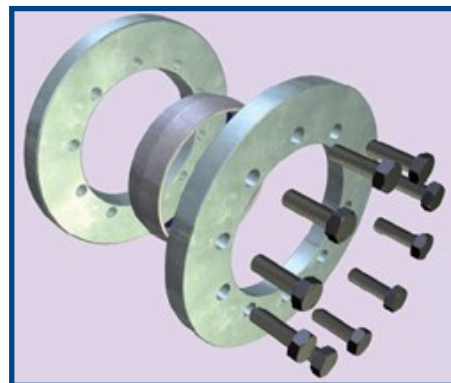
The standard two-part shrink discs features no treatment for surface protection. The standard three-part shrink discs features zinc-plated outer collars. Fenner can provide several types of surface protection upon request. Data of all shrink discs series can be obtained upon request by phone or email.



B-LOC two-part shrink disc



Two-part shrink disc

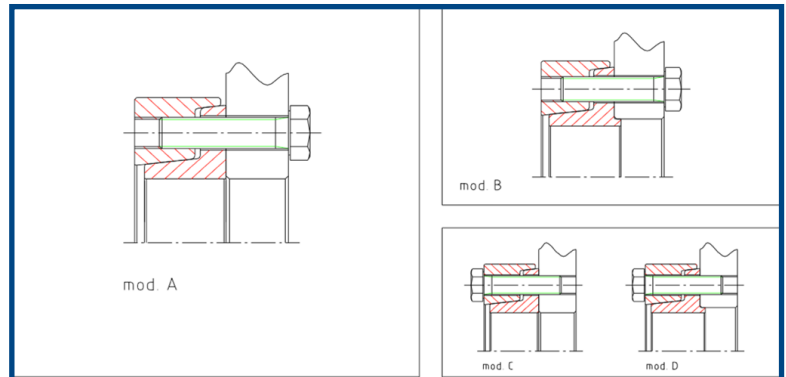
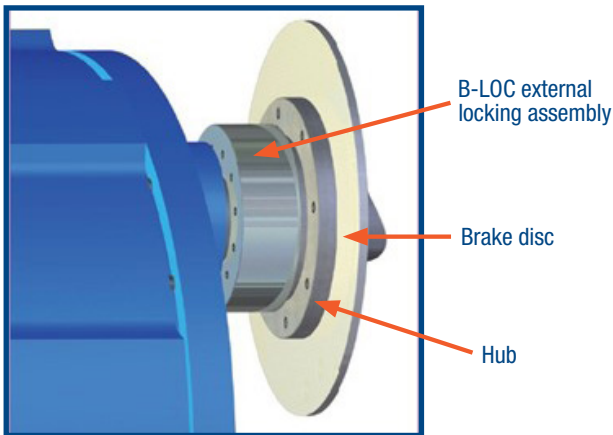


Three-part shrink disc

B-LOC EXTERNAL LOCKING ASSEMBLIES

B-LOC external locking assemblies are designed to provide a backlash-free frictional connection between a shaft and a thin hub, like pinion gears and brake discs. The locking bolts are used to generate the frictional force on the shaft by engaging the tapers of the rings while also mounting the disc brake.

B-LOC external locking assemblies are available in standard-, light-, and heavy-duty configurations, series SD 60 – SD 61 – SD 62, respectively, and in four models A, B, C, D. The brake disc in windmill generators is typically locked with heavy-duty series SD 62.



SD 62 external locking assembly

Material and surface protection

External locking assemblies are made of heat-treated alloy steel. The standard execution features no surface treatment, but Fenner can provide several types of coatings upon request. Data pages of external locking assemblies can be downloaded from our website www.fenner.com/B-LOC or requested directly by phone or fax.

SURFACE PROTECTION

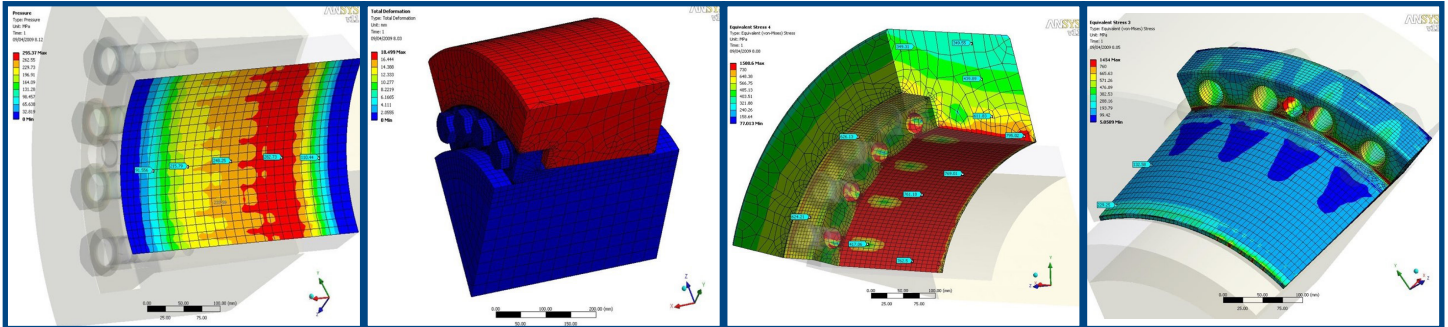
B-LOC Locking Devices can be supplied with several types of surface treatments, such as GALVANIC or CHEMICAL PLATING, or SPECIAL PAINTINGS according to customer's specification. We are also able to provide experimental tests in salty fog.

As example see pictures below of a SD 62 unit, after corrosion test in salty fog for 168 hours according to UNI ISO 9227 with different coating combinations.



CALCULATIONS

Performances and state of stress and strain of B-LOC shrink discs and locking assemblies are calculated with advanced software and, if needed, with finite element analysis (FEA).



FEA of a two-part shrink disc

DOCUMENTS

Fenner is able to provide the technical and manufacturing documentation, usually requested for windmill generators, such as:

- 2D and 3D drawings
- Calculation sheets
- Material quality certificate according to EN 10204
- Process flow diagram
- Product check report
- Assembling report
- Process failure modes and effects analysis

Expert Help at Your Fingertips

We've helped thousands of customers to reduce the Total Cost of Ownership of their equipment with reliable B-LOC Keyless Locking Devices. Our application engineering department has decades of experience and can help you find the right B-LOC KLD for your needs. Contact us today!

Call 1-800-243-3374 or fill out the form on www.fenner.com/contact-us.



At Fenner Precision Polymers, A Michelin Group Company, we are proud to keep your business in motion. As a supplier of critical components and engineered solutions for conveying, motion control and power transmission applications, our trusted brands are recognized globally for providing unique solutions that solve complex problems and build sustainable growth. We strive to partner closely with you so we can always provide expert-level support and powerful results that keep our world moving forward.