



FRICITION RING
KUGELFRIKTION
FRIKSIYON BİLEZİK

Installation, Operation and Maintenance Manual
Installations, Betriebs und Wartungshandbuch
Kurulum, İşletim ve Bakım Kılavuzu

REYMAK

FRICION RING / KUGELFRIKTION / FRIKSIYON BILEZİK

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Tüm hakları saklıdır. Bu yayının hiçbir bölümü, Sthill Converting Equipment'in önceden yazılı izni olmadan hiçbir şekilde ve hiçbir koşulda elektronik, mekanik, optik, manüel veya başka herhangi bir yöntemle bir bilgi erişim sisteminde çoğaltılamaz, iletilemez, kopyalanamaz ve saklanamaz veya herhangi bir dile çevrilemez.

Bu ürün Sthill Converting Equipments tarafından üretilmiştir ve sorumluluğu altında satılmaktadır.

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1. About the Product

1.1. Identification of Product

When the tension in the winding material overcomes the maximum friction force which prevents the friction rings from rotating on the friction shaft body; friction rings move relative to the friction shaft body. By means of this, the friction rings allow for different materials to be wound on friction shafts in different widths but at the same tension.

1.2. Identification of Parts Used in the Product

Synchro Ring
 Cam-Lock Body
 Chromium Ball
 Retaining Ring
 Crossed Cylinder Screw[Bolts]
 Leaf Spring
 Spiral Spring

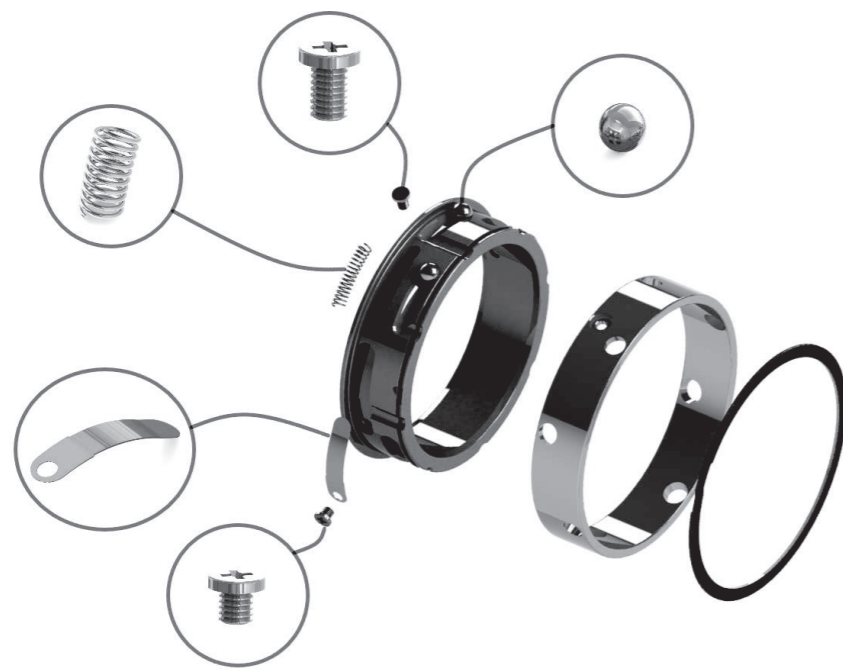


Fig 1 Friction Ring Exploded View

Safety and Health

Wear eye protection when using compressed air and during installation, disassembly, maintenance, repair, cleaning and inspection of this product.

Do not use this product for purposes other than its intended purpose and on a machine that is not compatible.

Product Compatibility and Recommendation

For high efficiency and winding quality, Sthill Converting Equipment recommend the use of friction rings together on friction shafts from their own production.

1.3. Product Assembly and Disassembly Operation

Auxiliary Equipments

During friction ring assembly and disassembly operation, following tools must be handy;

Ph0 Crosshead Screw Driver
 Ph0 Bits
 Cordless Drill
 Anticorit DFW 310

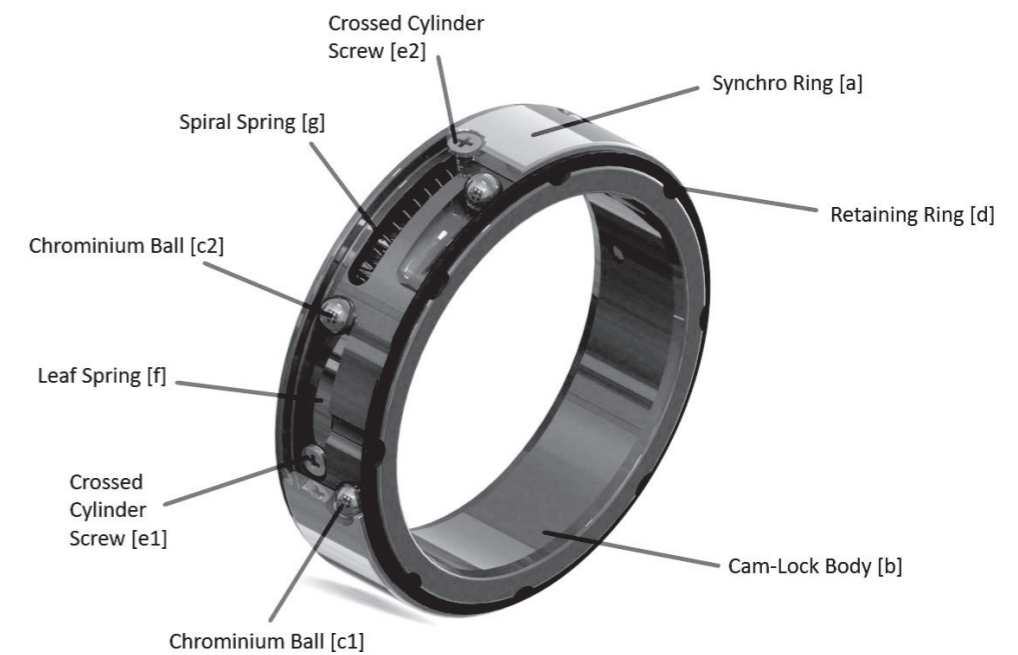


Fig 2 Friction Ring Exploded View

1.3.1. Disassembly of Friction Ring without Spiral Spring

- I. Place your friction ring on your workbench with the retaining ring [d] facing up.
- II. Using a small flat tip screwdriver, carefully remove the retaining ring [d].
- III. Align the upper row balls [c1] with the slot entries on the upper surface of the cam-lock body [b] by turning the synchro ring [a] counterclockwise (see Fig. 3)



Fig 2 Friction Ring Exploded View

- IV. Raise the synchro ring [a] until the upper row balls [c1] are cleared and remove them.
- V. Turn the synchro ring [a] counterclockwise again until the bottom row balls [c2] are cleared from the cam-lock body and remove them.
- VI. Using a small phillips screwdriver, unscrew the screws [e1] holding the leaf spring [f].

1.3.2. Assembly of Friction Rings without Spiral Spring

- I. Insert the leaf springs [f] into the ball grooves on the cam-lock body [b] and tighten the screws [e1] using a small phillips screwdriver. Check the movement of the leaf springs with the screwdriver bit and take care the leaf springs do not contact the side walls of the ball groove (see Fig. 4).

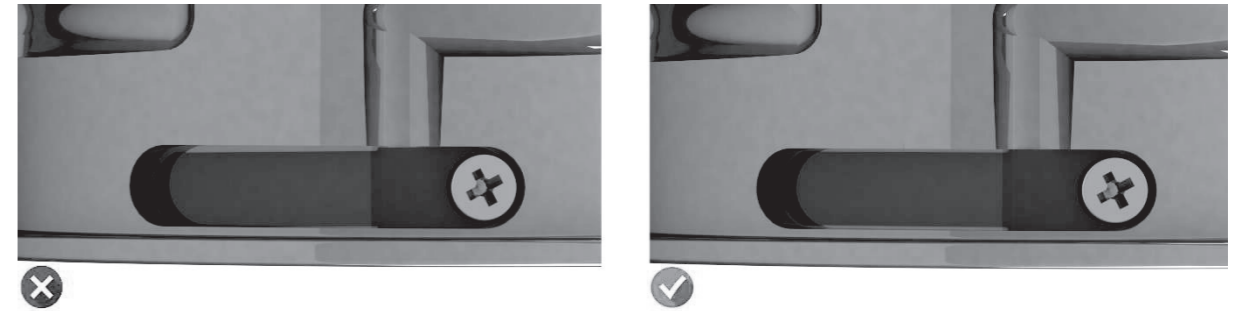


Fig 4 False and True Assemblies of Leaf

- II. Place your cam-lock body [b] on your workbench with the retaining ring groove facing up.
- III. Align the ball holes in the synchro ring [a] with the slot entries on the cam-lock body [b] top surface (see Fig. 5).



Fig 5 Aligning The Ball Holes and The Slot Entries

- IV. Place the bottom row balls [c2] into the ball holes in the synchro ring [a] and slide the synchro ring [a] on the cam-lock body [b].
- V. After turning the synchro ring [a] clockwise, place the upper row balls [c1] and snap it into the cam-lock body [b].
- VI. Install the retaining ring [d].

1.3.1. Disassembly of Friction Ring without Spiral Spring

- I. Place your friction ring on your workbench with the retaining ring [d] facing up.
- II. Using a small phillips screwdriver, unscrew the screws [e2] on the synchro ring [a] that engage the spiral spring [g].
- III. Using a small flat tip screwdriver, carefully remove the retaining ring [d].
- IV. Align the upper row balls [c1] with the slot entries on the upper surface of the cam-lock body [b] by turning the synchro ring [a] counterclockwise (see Fig. 3).

- V. Raise the synchro ring [a] until the upper row balls [c1] are cleared and remove them.
- VI. Turn the synchro ring [a] counterclockwise again until the bottom row balls [c2] are cleared from the cam-lock body and remove them.
- VII. Remove the spiral spring [g] from its slot.
- VIII. Using a small phillips screwdriver, unscrew the screws [e1] holding the leaf spring [f].

1.3.4. Assembly of Friction Ring with Spiral Spring

- I. Insert the leaf springs [f] into the ball grooves on the cam-lock body [b] and tighten the screws [e1] using a small phillips screwdriver. Check the movement of the leaf springs with the screwdriver bit and take care the leaf springs do not contact the side walls of the ball grooves (see Fig. 4).
- II. Place your cam-lock body [b] on your workbench with the retaining ring groove facing up.
- III. Place the spiral spring [g] in its slot.
- IV. Align the ball holes in the synchro ring [a] with the slot entries on the cam-lock body [b] top surface (see Fig. 5).
- V. Place the bottom row balls [c2] into the ball holes in the synchro ring [a] and slide the synchro ring [a] on the cam-lock body [b].
- VI. After turning the synchro ring [a] clockwise, place the upper row balls [c1] and snap it into the cam-lock body [b].
- VII. Install the retaining ring [d].
- VIII. Using a small phillips screwdriver, tighten the screws [e2] on the synchro ring [a] that engage the spiral spring.

1.4. Storage

- The mechanical and dimensional properties of the product may be affected by poor storage conditions.
- +To avoid corrosion and oxidation, keep in mind that the ideal ambient temperature $(20 \pm 2)^{\circ}\text{C}$ and the relative humidity value is $\%(50 \pm 10)$ RH.
 - +Avoid product exposure to direct sunlight.
 - + Store in a cool and dry place.
 - + Keep in a closed box to prevent humidity absorption and contaminated.

1.5. Maintenance, Cleaning and Inspection Information

1.5.1. Before Starting

Friction rings must be disassembled before maintenance – repair, cleaning, inspection etc. See Section 1.3. Product Assembly And Disassembly Operation.

1.5.2. Periodic Maintenance

- Inspect the friction rings for wear and dust build-up, according to your use.
- + Disassembly friction rings.
 - + Remove all dust and foreign particles from the product, with compressed air.
 - + Clean all parts with a small brush using cleaning fluid or alcohol, if it is necessary.

2. Shuttle Service

Stihl Converting Equipment is your solution partner for all your service problems.



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3. Troubleshooting (For Applications with Cores)

3.1. Core Dimensions

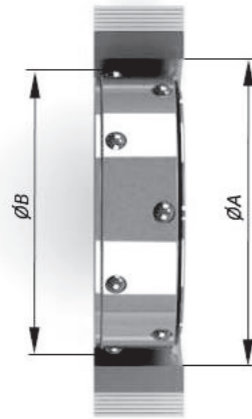


Fig 6 Relations Between The Inner Diameters of Core and The Outer Diameter of Friction Ring

	Minimum Core ID ($\varnothing A_{min}$)	Maximum Core ID ($\varnothing A_{max}$)
For 3" Shaft	76,33 mm	77,22 mm
For 6" Shaft	152,53 mm	153,92 mm

Table 1 The Working Range of Core ID For 3" & 6" Shafts

⚠ WARNING:

Please investigate Figure 6 and Table 1.

- +If the ID of the core ($\varnothing A$) is less than the minimum ID of the core ($\varnothing A_{min}$), it will make it difficult to load the core to the shaft.
- +If the ID of the core ($\varnothing A$) is more than the maximum ID of the core ($\varnothing A_{max}$), the friction rings will have difficulty gripping the core.
- In case of circularity in the ID of the core, there will be a problem if the ID of the core is at the limit value.
- +If the amount of runout in ID of core is greater than 0,05 mm, it will adversely affect the winding quality.
- +If the deviation of the wall thickness of the core is greater than 0.025 mm, it will cause to the vibration at high frequency and eccentric rotation of the winding material.

3.2. Core Quality:

⚠ WARNING:

The roughness of the ID surfaces of the cores adversely affects the winding quality. The coarse burrs on the surfaces of the core makes it difficult to load the core to the shaft.

