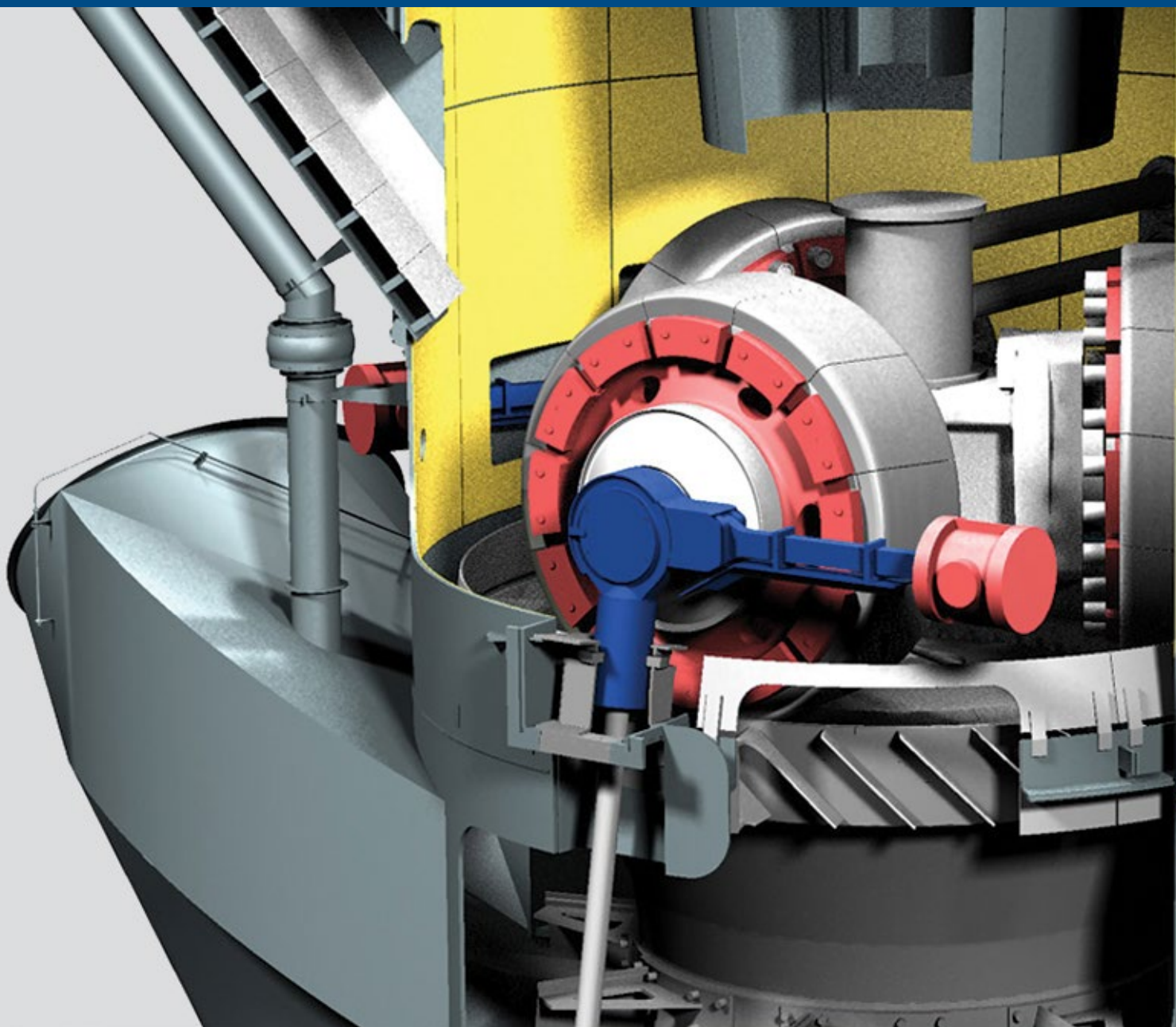


One Source

ATOX[®] mill split oil seal



Split seal conversion kit increases ATOX[®] mill availability

Key benefits

- **Dramatically reduces seal replacement time**
- **Ensures higher ATOX[®] mill availability**
- **Makes seal replacement easier – no need to remove grinding rollers; no special tools needed**
- **Represents a one-time investment in long-term savings**
- **Eliminates a kiln stop and excessive loss of lubrication oil**

As every maintenance manager knows, equipment availability is a high priority. This is especially true when equipment failure or downtime can affect mill and kiln operation. Oil seals for ATOX[®] mill grinding rollers are a case in point. They are vital parts, which contain lubrication oil and act as a barrier against outside contamination of roller bearings.

Standard maintenance involves regular replacement of seals to prevent massive oil spillage. Regular seal maintenance is always planned to occur during a scheduled mill stop – but even the best planning in the world is not fail-safe. Seals can fail unexpectedly during production, creating major leakage of expensive lubrication oil. Replacing inner oil seals requires days of maintenance and unplanned mill downtime due to roller disassembly. This often results in days of kiln downtime, causing costly loss of production.

A valuable one-time investment

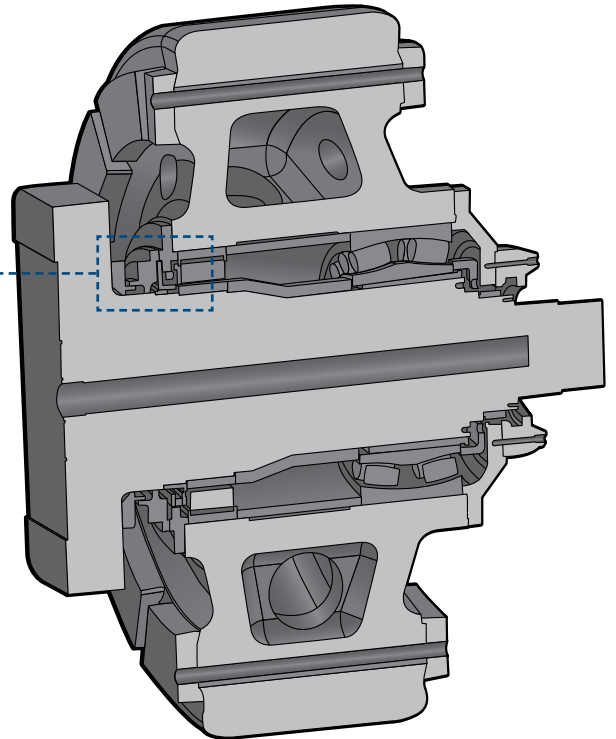
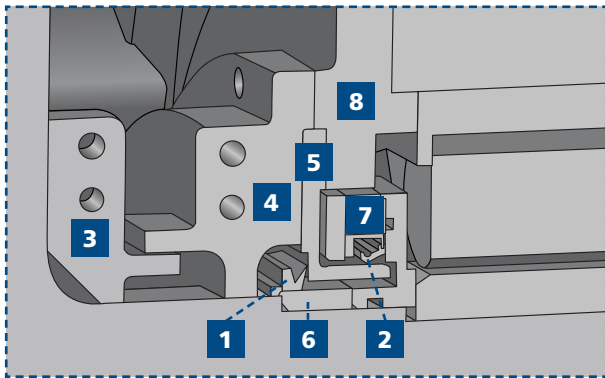
FLSmidth has designed a new split inner oil seal for grinding rollers that dramatically reduces seal replacement downtime and helps ensure higher

ATOX mill availability. The new split seal can be replaced inside the mill, without removing the grinding rollers. New ATOX 27.5 mills and bigger are today as standard equipped with the split seal arrangement. For previously supplied ATOX mills the split seal design has also been introduced. Conversion kits are now available for 27.5 to 52.5 ATOX raw mills. The conversion is a one-time investment: to install the conversion kit, the roller must be disassembled in the workshop.

After converting to split seals, an inner oil seal replacement can be done with only 15 hours of mill downtime. This simplified procedure eliminates a kiln stop and excessive loss of lubrication oil, as well as crane and workshop expenses. The new split seal requires the same frequency of replacement and maintenance as before, but these are now much faster and easier operations, which require no special tools and can be done by maintenance staff on site. An additional benefit is that the new split seals also eliminate removal of rollers when doing maintenance on air-sealing parts.

Innovative design makes seal replacement faster, easier and less expensive

| Replacement requirements | Old inner seal | New split seal |
|--------------------------|----------------|----------------|
| Roller disassembly | Yes | No |
| Use of crane | Yes | No |
| Workshop facilities | Yes | No |
| Mill downtime | 4-5 Days | 15 Hours |



- 1 Split V-seal***
- 2 Split oil seal***
- 3 Split inner air seal**
- 4 Split outer air seal**
- 5 Rotary seal ring**
- 6 Seal ring**
- 7 Seal housing parts**
- 8 Bearing end cover**

*Note: after conversion, only these parts are replaced during maintenance



Project Centre Denmark

FLSmidth A/S
Vigerslev Allé 77
DK-2500 Valby
Copenhagen
Tel: +45 3618 1000
Fax: +45 3630 1820
E-mail: info@flsmidth.com

Project Centre USA

FLSmidth Inc.
2040 Avenue C
Bethlehem, PA 18017-2188
Tel: +1 610-264-6011
Fax: +1 610-264-6170
E-mail: info-us@flsmidth.com

Project Centre India

FLSmidth Private Limited
FLSmidth House
34, Egatoor, Kelambakkam
(Rajiv Gandhi Salai, Chennai)
Tamil Nadu – 603 103
Tel: +91-44-4748 1000
Fax: +91-44-2747 0301
E-mail: indiainfo@flsmidth.com

