

The impact of clean oil in the DGBB honing process

At SKF's factory in Cassino, Italy, we wanted to investigate the impact of clean oil on the honing process of deep groove ball bearings (DGBB).

To test this, we isolated a honing machine from the factory's central lubrication system. We then installed a stand-alone filter system and introduced clean oil into the honing machine.

We anticipated that with clean oil in the honing machine, we would see:

- Lower SLR
- Lower tool consumption and wear
- Lower noise and vibration (Q44)
- Cleaner products and production

The clean oil was circulated in the machine, without manipulation of any other process parameters. We then compared the results with benchmark values.

The results were immediate:

- Increased product quality
- SLR decreased with more than 50%
- Surface parameters improved 25%
- Noise and vibration decreased (H-band and peak)

Conclusion

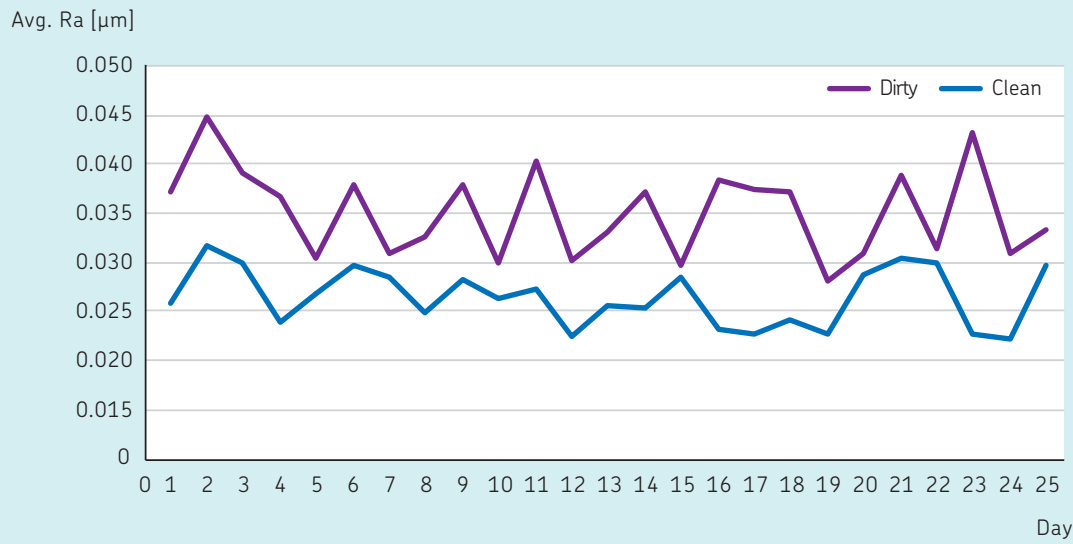
We were anticipating seeing improvements with clean oil in the DGBB honing process, and the results showed that this hypothesis was correct.

Based on these early results, we are now expecting constantly super-clean oil could to have additional quality improvements on our bearing production.

With SKF RecondOil's DST technology, we have access to lubricating oil cleaner than virgin oil. This could potentially improve our production even further and result in bearings with higher tolerances and precision than ever before.



The impact of clean oil in honing



	Dirty	Clean	Change %
Avg. Ra [µm]	0.0351	0.0265	25%

Date	Nr. Pcs	H Band [µm/s]	Peaks [µm/s]	Scrap, H Band [%]	Scrap, Peaks [%]	Scrap, Total [%]	Oil	Note
14-nov	2688	12.7	5.2	1.3	1.2	3.3	Dirty	Standard Steel
14-nov	8253	12.6	5.34	1.2	1.0	1.9	Clean	Standard Steel
26-nov	9801	12.2	4.91	0.8	0.6	1.9	Clean	Standard Steel

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