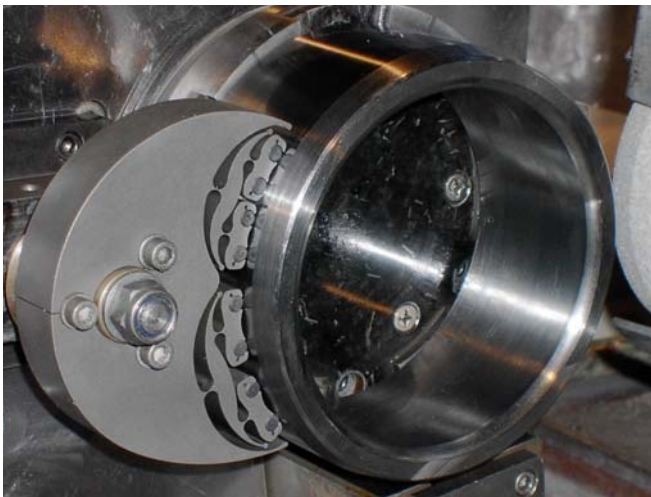




RON-CentricTM the new solution for bearing industry

The shoe-type centerless process is widely used for external grinding of rings. This technology is known as micro-centric. It excludes an influence of the spindle run-out and clamping deformations of the ring. As result it provides the good geometric accuracy of the ground surfaces. But this technology is bound up with some known problems.

The main trouble is high sensitivity to the shoe position and blank ring variations. Even small initial deviations can create growth of some waveforms on the ground surface. The very fine shoe adjusting is necessary often. The other important thing is the reduced stiffness of the ring (for better roundness the side shoe is to be installed not just in opposite position, but lower). In many cases it increases seriously the machining time (for thin rings especially).



RON-CentricTM is the latest generation of the known technology. It combines the best accuracy with higher productivity and easy setup.

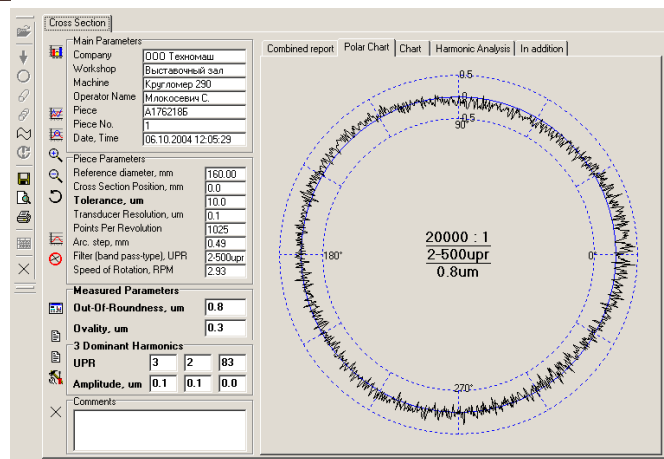
The patented **RON-CentricTM** shoes are based on the unique 'V8' concept of multipoint centering. The mathematically optimized design ensures the sequential suppression of the all waveforms in the bandpass 2 - 500 upr. **Out-of-roundness <0,001mm** is a typical result for this technology.

The monolithic, precision **RON-CentricTM** shoe provides 8 degrees of freedom internally. It is really insensitive to the accuracy of installation and stock allowance variation of the ring.

RON-CentricTM shoe position is opposite to the grinding point. The ring **stiffness is 50% higher**, than with micro-centric.

This tooling system is proved and accepted by the leading bearing companies.

RON-CentricTM is effective any type of rings with **diameters 100...2000mm**. This modern solution is suitable for the very old grinding machines and for the latest ones. Majority of them could be equipped with **RON-CentricTM** in a few minutes. It could be accommodated specially to any loading system.



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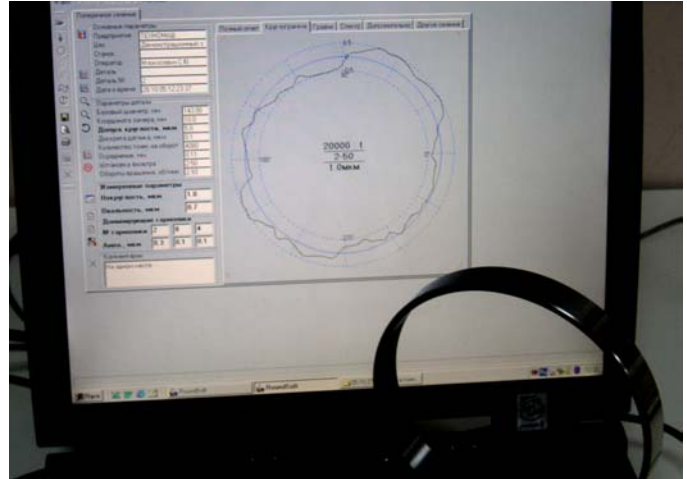


RON-Centric™ diversified applications

RON-Centric-T™ - for thin section rings

This product is developed especially for external grinding of thin section rings. Such rings have the very low natural stiffness (<1000N/mm). It is very difficult to grind them in the closed tolerances using the traditional micro-centric process. Because of low stiffness, the process is very slow and it is critically sensitive to technology variations.

RON-Centric-T™ is a real revolution in this area. This shoe system combines the highest stiffness of the ring ground and the excellent roundness. The mechanical chain 'ring+shoe' has the integral **stiffness 3 times higher** than the ring's own one. The grinding cycle becomes much shorter and much more accurate. **Out-of-roundness <0.001mm** (in band-pass 2-100µr) becomes achievable even for the really thin rings with the own **stiffness 200...2000N/mm**.



RON-Centric-III™ - for internal grinding.

This shoe system is optimised for internal race grinding of outer rings. Traditional grinding process copies roundness errors from the external reference surfaces to the internal races.

RON-Centric-III™ improves the situation dramatically. It depress form errors of the outer surface in the most important low-frequency bandpass. As result the race has **3 times better out-of-roundness** than the reference surface. This solution is suitable for any outer rings with external diameter 60...2000mm.



RON-Centric-A™ - for tapered surfaces

This version is intended for external grinding of the tapered races. It provides the excellent results without labour-intensive set-up and lapping of the shoe.

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