For many years, engineers have specified out-of-roundness and cylindricity tolerances for large, expensive, critically important parts, such as turbine shafts, milling rolls, railway axles, etc. Engineers have to do it because the accuracy of rotation is a keystone of its reliable operation. But there has been few possibilities to inspect these parts correctly because they couldn't be placed on the precision turntables of stationary geometry gages. The well known 2- and 3-point instruments - various calipers and V-blocks, provide very crude assessment of roundness (ISO 4292–1985).

The developed RON-PILOT™ family of instruments open the easy way to measure the true roundness of large and very large parts. The measured parts can be unlimited in length and more than 1000 mm in diameter, because these gages come to the workpiece instead of vice versa.

The RON-PILOT™ instruments are based on the unique ‘V8’ concept of multipoint circular referencing integrated with the state-of-the-art software.

This light-weight instrument can be installed on the lathe or cylindrical grinder in few minutes. Equipped with the notebook PC, the RON-PILOT™ converts any machine tool into the advanced laboratory instrument. In-situ, it provides the full scale of functions such as scaling, waviness filtration, polar and linear graphs, harmonic analysis, comparison with tolerance, file saving, hardcopy printing, etc.

The intuitive, user-friendly interface reduces critically the training period and minimal qualification level of the user. A typical CNC machine operator becomes a QA specialist in few hours thanks to the RON-PILOT™. Such operator will be able to solve the serious technological problems quickly, not waiting for other experts.
RON-PILOT™ advantages:

- True roundness measurements in-situ.
- Measured diameters from 50mm to 2000mm.
- Unlimited length and weight of the workpiece.
- Resolution 0.0005 mm.
- Precalibrated for lifetime.
- Minimal operator influence and human errors.
- Really portable lightweight and robust design.
- High grade materials – stainless steel, titanium and aluminum alloys, carbide ballpoints.
- Quick set up.
- Interchangeable measurement heads.
- Equipped with the standard notebook PC.
- Battery powered measurements.
- User-friendly software with rich possibilities.
- Shortest training time.

RON-PILOT™ software provides:

- Polar and linear roundness charts.
- Numerical and graphic statements.
- Express and advanced measurements.
  - Chart scaling and rotating.
  - 3 dominant waveform evaluation
  - LSC / MCC / MIC reference circles.
  - Digital waviness filtration.
  - Ovality evaluation.
  - Harmonic analysis.
  - Tolerance check up.
- Comparison of two measurements.
  - Saving results in fails.
  - Printing.

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