

# Application Handbook

## Measuring & Testing

### Harmonic Drive LLC

### Optical Measuring Machine Indexing Table

- Precision output bearing
- Special Wave Generator

An innovative method for the quality control of Axis-symmetric parts is now available in the form of non-contact measurement machines. The optical measuring system used in these machines scan the profile of the specimen without the need for a probe that contacts the surface of the part. This procedure can be used for very fast and accurate measurement of many components. The specimen is placed on the indexing table, which rotates the part during the measurement cycle. This indexing table incorporates precision gearbox using a CSF component set. This gearbox must provide a combination of high transmission accuracy. The "S" tooth profile ensures that the gear provides smooth and highly accurate positioning, while the 4-point output bearing provides excellent geometric tolerances. To avoid errors influencing the measurement results, it is essential that the bearing exhibits low run-out as well as high accuracy with respect to parallelism and concentricity.

A stepping motor drives the gear. It is important to note that in this case the Wave Generator does not include an Oldham coupling and also features a special low inertia design.

