

# PROFILABX40



**The PROFILABX40 System is an automatic laser measuring station, useful to check a wide range of ground parts, as**

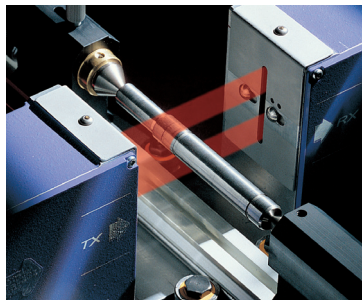
- Motor shafts
- Hard metal blanks
- Drill bits
- Cutting tools

It measures diameters, lengths, roundness, taper and run-out of cylindrical sections, effective cutting diameter of fluted cutting tools and hard metal blanks.

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# The ProfilabX40



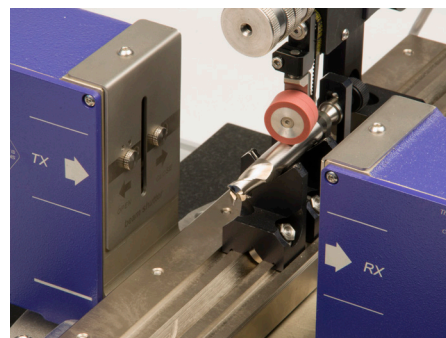
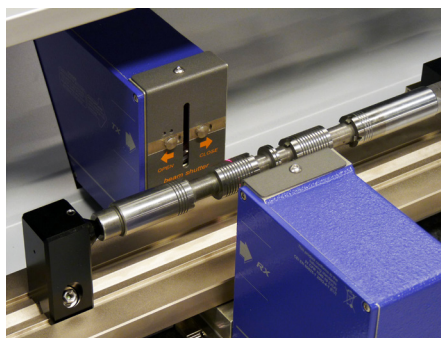
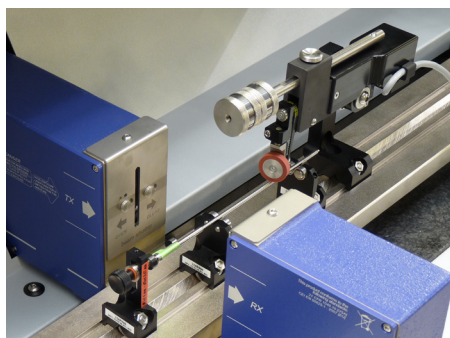
The Profilab systems uses an Xactum high speed, high accuracy Laser Micrometer to measure the diameter and the edge positions of the part, which is mounted on a motor driven slide and moved by a linear motor; the slide is fit with a digital linear scale to read out the longitudinal position of the sample. To assure maximum accuracy and stiffness, the slide is aligned and mounted on a flat granite basement. The part is translated to the measuring positions, following a pre-set "measuring program" stored in the computer memory. It is also possible to rotate the part, in order to get roundness or run-out, at any given position. By using suitable fixtures and by processing the diameter, the edge positions and the longitudinal displacement information it is possible to check several dimensions, on a number of different parts. The measured data are processed by a PC with integrated touch sensitive 19" TFT screen; the Aeroel software provides an extremely friendly user interface. The software is "locked" and self-starting so the operator will have the program running immediately (no starting from Windows!)

- Programming and storing of several "measurement programs"
- Selection of different measurement types and modes, at each measuring position.
- Multi language menu and inch/mm display
- Multiple tolerance check
- Part library for easy set-up and quick part change-over
- On line statistics and report print out
- Data recording and exporting
- Multiple-point user re-mastering capability

## Performance

- Wide measuring field: 40 mm
- Measurable diameters from 0.3 to 30 mm
- Linear range of the slide: 300 mm
- Linearity: diameter  $\pm 0.5 \mu\text{m}$   
length  $\pm 5 \mu\text{m}$
- Repeatability: diameter  $\pm 0.1 \mu\text{m}$   
length  $\pm 3 \mu\text{m}$
- High scan frequency: 1500 Hz
- Longitudinal displacement resolution:  $\pm 1 \mu\text{m}$
- Maximum displacement speed: 500 mm/s
- Permanent self-calibration
- Self compensation of the thermal drift due to changes in the ambient temperature

Several accessories and fixtures are available to hold and position the parts being measured, such as two V blocks, two dead centers or cones, two couples of precision free rollers, motor driven center + live center, etc. all adjustable in position along the slide table and following the specific application requirement.



## Benefits

- **Automatic work and highly reproducible results:** no matter about the operators' skillness.
- **Extremely easy and quick to use:** reduce inspection time and improve measurement capability.
- **Highly flexible:** different components and sizes can be measured without system pre-setting or re-mastering.
- **Ultra accurate:** measure to an accuracy that before you could have got only in a metrology room, using much more expensive equipment and specialized personnel.

Specifications subject to change without notice. For additional details and complete specifications please see the gauge data sheet.

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