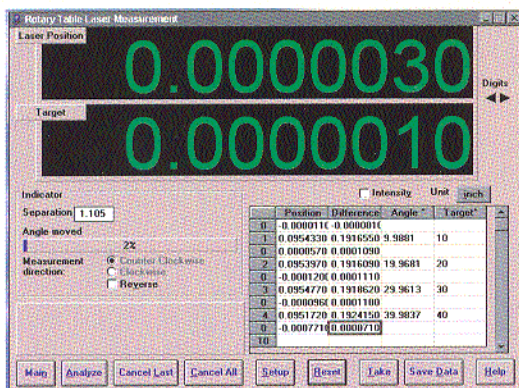
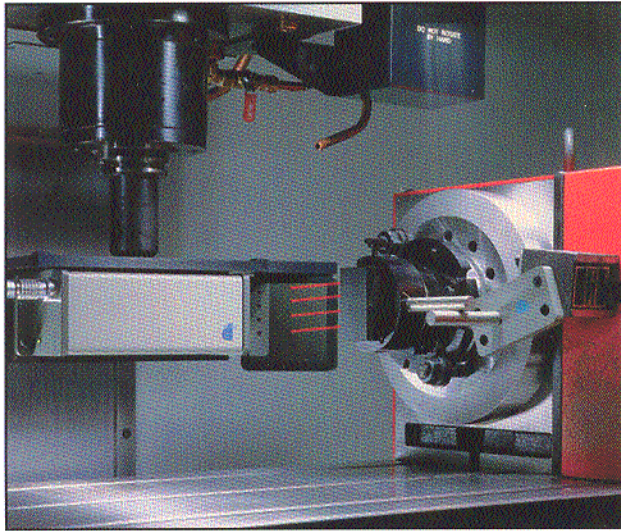


# Laser Doppler Displacement Meter

## RT-100



## Rotary Table Calibration Package



### OPTODYNE

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**OPTODYNE's RT-100 Rotary Table Calibration Package** is an add-on to Optodyne's MCV-2002 Linear and Angular Machine Calibration Instrument (or the enhanced MCV-4000 model). The combined system can be used to calibrate rotary tables or stages with high accuracy. Optodyne's method is different from the conventional comparative approach using a laser interferometer, where the test device is compared to the known inaccuracies in a master rotary calibrator. This comparative approach is both very expensive and difficult to use.

Optodyne's machine calibration instruments are based on our proprietary and patented Laser Doppler Displacement Meter (LDDM) Technology. The dual-beam laser system can be used by itself to measure a rotational angle up to  $\pm 10$  degrees. With the supplied small turntable, the angular measurement range can be extended to 360 degrees in increments up to 10 degrees. Hence, the combinations can be used to calibrate rotary tables or stages.

### MAJOR FEATURES AND BENEFITS

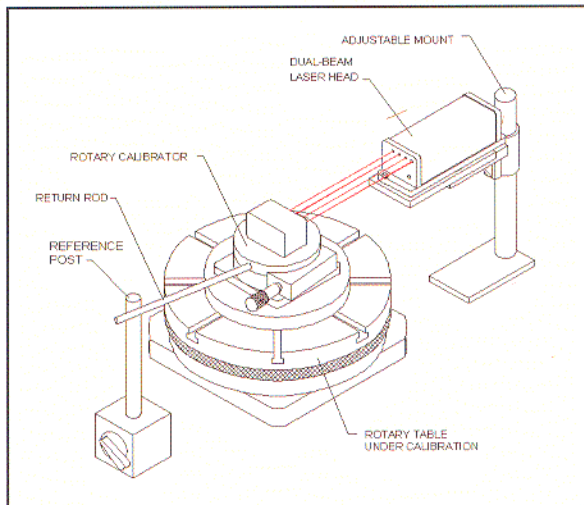
- Uses Optodyne's standard dual-beam laser system.
- High accuracy and repeatability.
- Elimination of the expensive, calibrated indexing table.
- Easy and fast to set up and use.
- True angular measurement (centering, runout, wobble, parallelism, co-axial alignment and other set up inaccuracies not critical).
- Compact and very affordable.

### MAJOR APPLICATIONS

- Calibration of CNC machine tools rotary axis.
- Calibration of rotary tables or stages.
- Quality control maintenance.
- Compensation of rotary position errors.

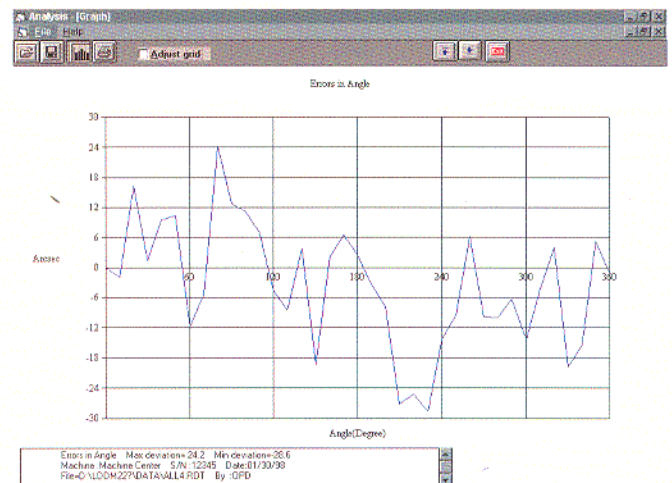
# Specifications

Because of the large alignment tolerance of Optodyne's laser system, angle measurements are not affected by the runout, wobble, parallelism or co-axial alignment of the rotary tables. The setup and alignment is easy and fast. The accuracy of the measurement is determined by the outstanding accuracy of the laser system alone. Under normal setup conditions, this accuracy is better than 1 arcsec.



A typical setup for the Calibration of a Rotary Table.

A typical Rotary Table Calibration error plot.



## RT-100

### Configuration:

Dual-beam laser system (not included)	MCV-2002 or MCV-4000
Dual retroreflector	R-103
Small turntable	LD-52
Adjustable mount	LD-46A
Rotary table calibration accessories	LD-54
Rotary table calibration program	W-105
Notebook PC computer (not included)	

### Capability:

Laser stability	0.1 ppm
System accuracy	$\pm 0.2\%$ of displayed value $\pm 0.2$ arcsec (higher resolution available)
Angular range	$\pm 10$ degrees, 360 degrees with a turntable