



5D/6D Laser Measurement System

The 5D/6D Laser Measurement System was developed for rapid machine tool error assessment by simultaneously measuring all axis errors. Measurement is accomplished in 3 to 4 hours instead of days. The 5D/6D provides fast, accurate measurement of machine positioning capability to allow complete machine assessment with 80% less downtime.

Simultaneous measurement produces a true picture of all axis errors not possible with single parameter systems, and the single setup for each axes is key to dramatically reduced downtime. The patented 6D version is the only laser measurement system to provide "roll" measurement around an axis automatically along with linearity, X & Y straightness, pitch and yaw measurements.

Complete measurement of all 21 error parameters is possible in the entire cutting volume of the machine. Teamed with our exclusive Volumetric Error Compensation (VEC) package, users dramatically reduce bad parts and prolong the useful life of their machining centers.

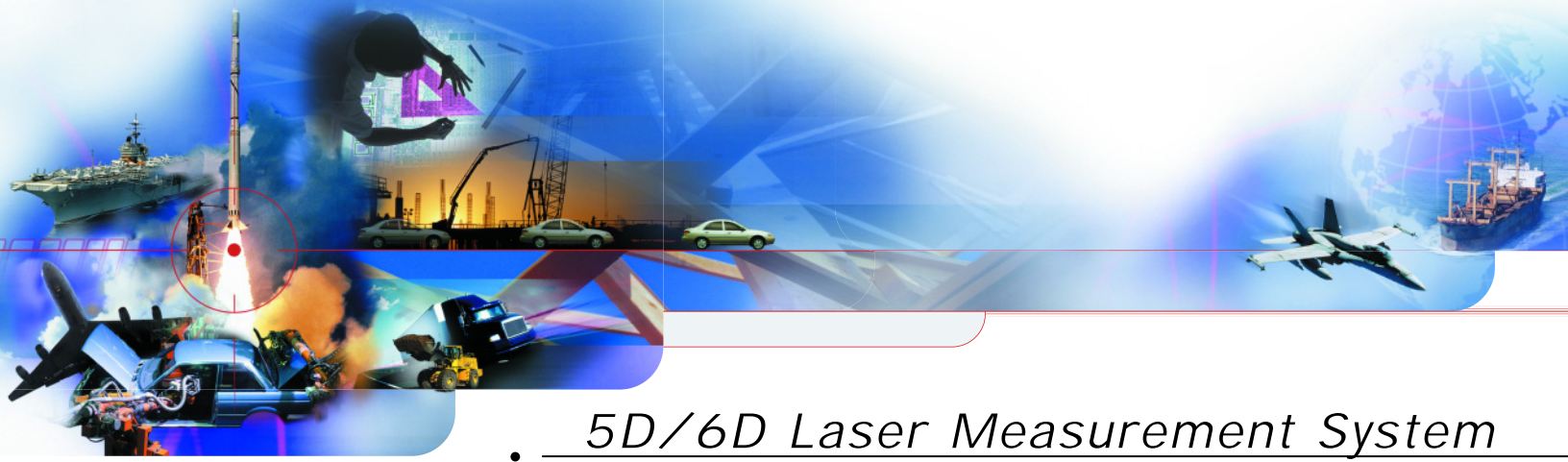
Applications:

- Machine Tool and CNC axis compensation
- CMM and CNC total error mapping and error compensation
- Acceleration & velocity measurement
- Rotary axis measurement (option required)
- Diagonal measurements (option required)
- Squareness measurement (option required)
- Parallelism of machine ways and rails (option required)
- Flatness measurement (option required)



Features:

- Linear Measuring System, 5D System or add roll option for 6D
- 6D simultaneously measures linear displacement, orthogonal straightness (both axis), pitch, yaw and roll angles.,
- Windows YY/ME/NT/XP compatible Winner software displays data graphically in real time during test with graphic and tabular results (ASCII) available for analysis to ANSI, ISO, NMTBA, VDI, JIS standards
- Magnetic mount quick alignment laser fixture mounts compact stable HeNe Laser (2in x 3in x 8in)
- 5/6D Sensor mounting hardware adaptable to most machine tool spindle accessories.
- Turning mirror with fine 2 axis adjustment mount and magnetic base
- Electronic control box interfaces through RS 232 to PC running API Winner SW (No special cards required)



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Standard Accessories:

- ☞ System carrying case
- ☞ Turning Mirror
- ☞ Material temperature probe
- ☞ Air temperature probe
- ☞ Barometric pressure probe
- ☞ All required cables
- ☞ API Winner Measurement Software

Options:

- ☞ Diagonal optics
- ☞ Squareness optics
- ☞ Rotary measurement kit (polygon 12 or 36 face). Infinite motorized unit also available
- ☞ Flatness measurement kit
- ☞ 6D (all 5D features plus "roll")
- ☞ Parallelism measurement kit
- ☞ High speed option

Specifications of the Regular, Precision and High Precision 5D/6D Laser System

Accuracy	Regular	Precision	High Precision
Linear (ppm)	0.5	0.2	0.2
Linear Range (meter)	25	25	consult factory
Pitch & Yaw (arc-second)	± (1.0 + 0.1/m) or 1% display whichever greater	± (0.5 + 0.05/m) or 1% display whichever greater	± (0.2 + 0.02/m)
Roll (arc-second)	+/- 1.0	+/- 0.5	+/- 0.5
Maximum. range (arc-second)	+/- 800	+/- 400	+/- 50
Straightness (µm)	± (1.0 + 0.2/m) or 1% display whichever greater	± (0.5 + 0.1/m) or 1% display whichever greater	± (0.2 + 0.05/m)
Max. range (µm)	+/- 500	+/- 300	+/- 100
Squareness (arc-second)	+/- 1	+/- 0.5	+/- 0.5
Temperature (°C)	0.2	0.1	0.1
Humidity (%)	5	3	3
Pressure (mmHg)	1	0.3	0.3