

Sheffield® Discovery II™ Coordinate Measurement Machines



A Company of
ThyssenKrupp
Technologies

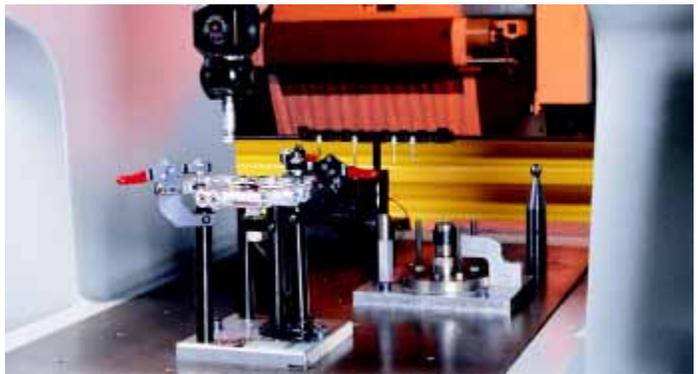
Giddings & Lewis
Controls, Measurement and Sensing



ThyssenKrupp

The Sheffield Discovery II CMM

Works like a machine tool for quality control.



The World's Most Affordable Fully Automatic CMM

Take productivity, economy and reliability to a new level with a Sheffield Discovery II CMM. With proven performance in both small machine shops and big manufacturing plants, Discovery II bridges the gap between low price and high performance. It verifies part quality up to 20 times faster than manual methods, checks machine tool set-ups, and streamlines process control automatically with plug-and-play simplicity.

Shoulder To Shoulder With Machine Tools

Formed from advanced composite materials and riding on hardened machine tool ways, the Discovery II is a natural for the shop floor and manufacturing cells. A roll-around stand lets you move it anywhere you need inspection. Just plug it into a standard 110 volt outlet, connect its computer, and you're ready to run. Automatic temperature compensation is built-in and no shop air is required.

Designed For Machine Tool Operators

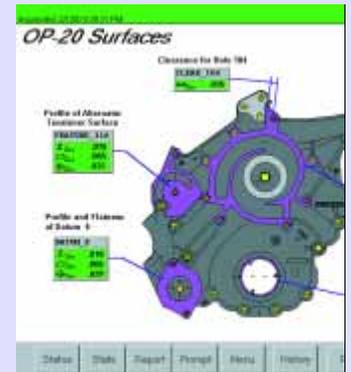
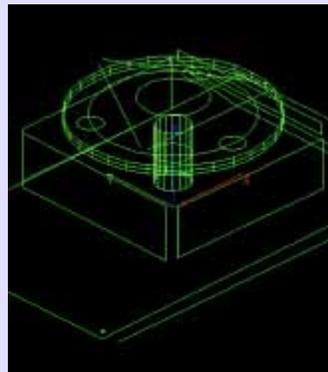
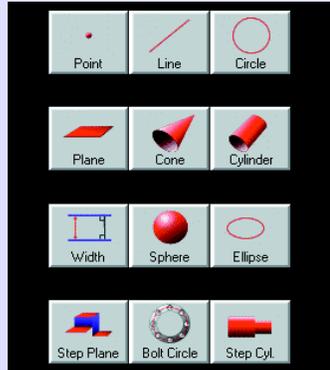
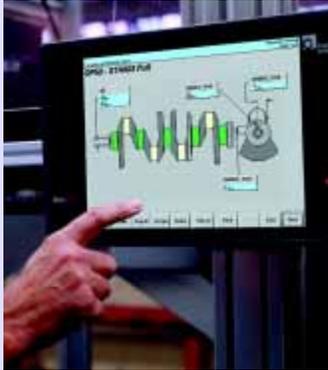
Using the Discovery II is so intuitive for machine tool operators, they can begin inspecting parts with little or no training. It performs all calculations and moves the measurement probe according to programmed instructions. Programming these instructions is handled with a simple interface designed by machinists and fabricators for clarity and effortless operation.

Accurate Under Shop Floor Conditions

The dampening effects of mechanical bearings and advanced composites allow the Discovery II CMM to remain virtually unaffected by shop floor movement. It can maintain up to 2.5 micron repeatability and 3.5 micron accuracy in conditions other CMMs can't handle. With this kind of performance, it's an ideal solution for inspection measurement at the point of production.

MaxLite™ and MeasureMax+™ Software

Industry's easiest-to-use inspection programs.



Easy To Use For Everyone

Anyone familiar with part drawing symbols can use Discovery II's standard inspection software, MaxLite. It provides operational modes for "walk-up" part inspection, running established part programs, and creating new measurement programs by following simple, step-by-step screen prompts. For more advanced applications, Discovery II can use Sheffield's Windows®-based MeasureMax+ software.

Measure Once And Program Automatically

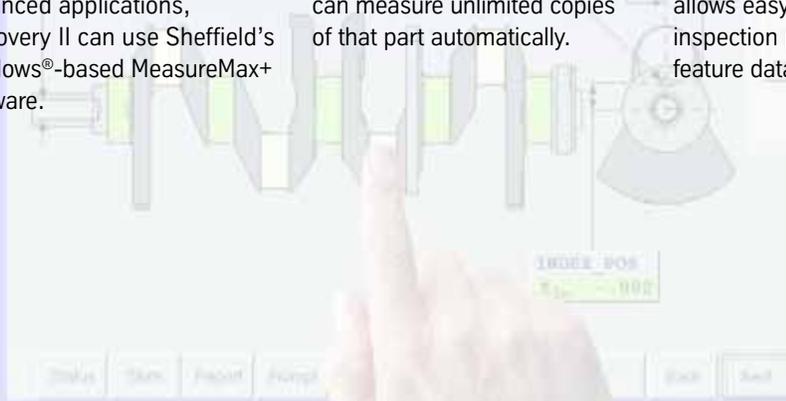
MaxLite inspection software leads you in small steps through the entire inspection process. You measure the first part using a remote control joystick to easily maneuver the CMM's touch probe. Merely guide the probe to touch the part features you want to measure and your Discovery II programs itself. From then on it can measure unlimited copies of that part automatically.

Compatible With Old And New Programs

In addition to being the industry's easiest-to-use inspection software, MaxLite can run programs produced on any Cordax® machine. It is compatible in both directions with MeasureMax+, including programs developed with CADPath automatic inspection programming software. A graphical monitor function allows easy verification of the inspection process and saves feature data in CAD formats.

Versatility At Your Fingertips

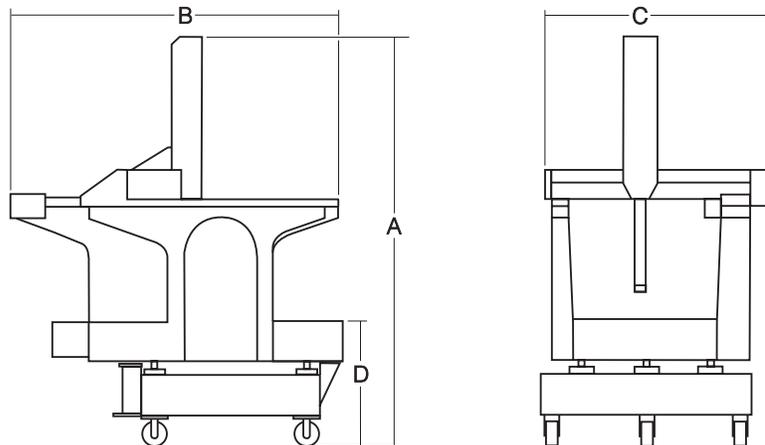
Optional MeasureMax+ inspection software lets your Discovery II do it all. On the shop floor, you can use the Single Touch Interface™ mode to run a part program by touching a picture on the monitor screen. Using the familiar Windows interface, you can perform inspection, process control, statistical analysis, reverse engineering, and part programming through Visual Basic® or from CAD files.



Sheffield Discovery II CMM Performance and Dimensions

Model	D-8	D-12	D-28
X Axis Travel	508mm (20")	508mm (20")	762mm (30")
Y Axis Travel	609mm (24")	914mm (36")	1016mm (40")
Z Axis Travel	406mm (16")	406mm (16")	609mm (24")
Resolution (Displayed)	.0001mm (.000004")		
Repeatability (Range) per B89.4.1 Section 5.3	.0025mm (.00010")	.0025mm (.00010")	.003mm (.00012")
Linear Accuracy (Range Full Travel) per B89.4.1 Section 5.4.3			
X	.004mm (.00016")	.004mm (.00016")	.005mm (.00020")
Y	.0045mm (.00018")	.0065mm (.00026")	.007mm (.00028")
Z	.0035mm (.00014")	.0035mm (.00014")	.004mm (.00016")
Volumetric Accuracy (Range) per B89.4.1 Section 5.5.2	.010mm (.0004")	.012mm (.00047")	.014mm (.00055")
VDI/VDE 2617 Length Measuring Uncertainty U_{95}			
1D in μm	3.5 + 3.5L/1000 μm		
3D in μm	5 + 5L/1000 μm		
Maximum Velocity (Vector)	250mm/s (10"/s)	250mm/s (10"/s)	432mm/s (17"/s)
Maximum Acceleration (Vector)	880mm/s ² (35"/s ²)	880mm/s ² (35"/s ²)	1500mm/s ² (60"/s ²)
Maximum Work Load	112.5kg (250 lbs.)	158kg (350 lbs.)	680kg (1500 lbs.)
Machine Weight (Approx.)	540kg (1200 lbs.)	720kg (1600 lbs.)	1215kg (2700 lbs.)
Temperature Range	15°–40°C (59°–104°F)		
Mean Significant Temp. Change	±2°C (±3.6°F)		
Floor Vibration Frequency Range	.002mm (.00008") P-P, 5 to 50Hz		
Air Requirement	No Air Required		
Power Requirement	90-220V, 15A max.		
Model Dimensions	D-8	D-12	D-28
A	2297mm (90.4")	2297mm (90.4")	2577mm (101.5")
B	1430mm (56.3")	1765mm (69.5")	2070mm (81.5")
C	1078mm (42.4")	1078mm (42.4")	1575mm (62.0")
D	983mm (38.7")	983mm (38.7")	783mm (30.8")

Height shown with basic machine stand.
Specifications may change without
notice. Drawings are for illustration
purposes only.



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