



HEXAGON METROLOGY



Sheffield **Discovery** III

Coordinate Measuring Machines

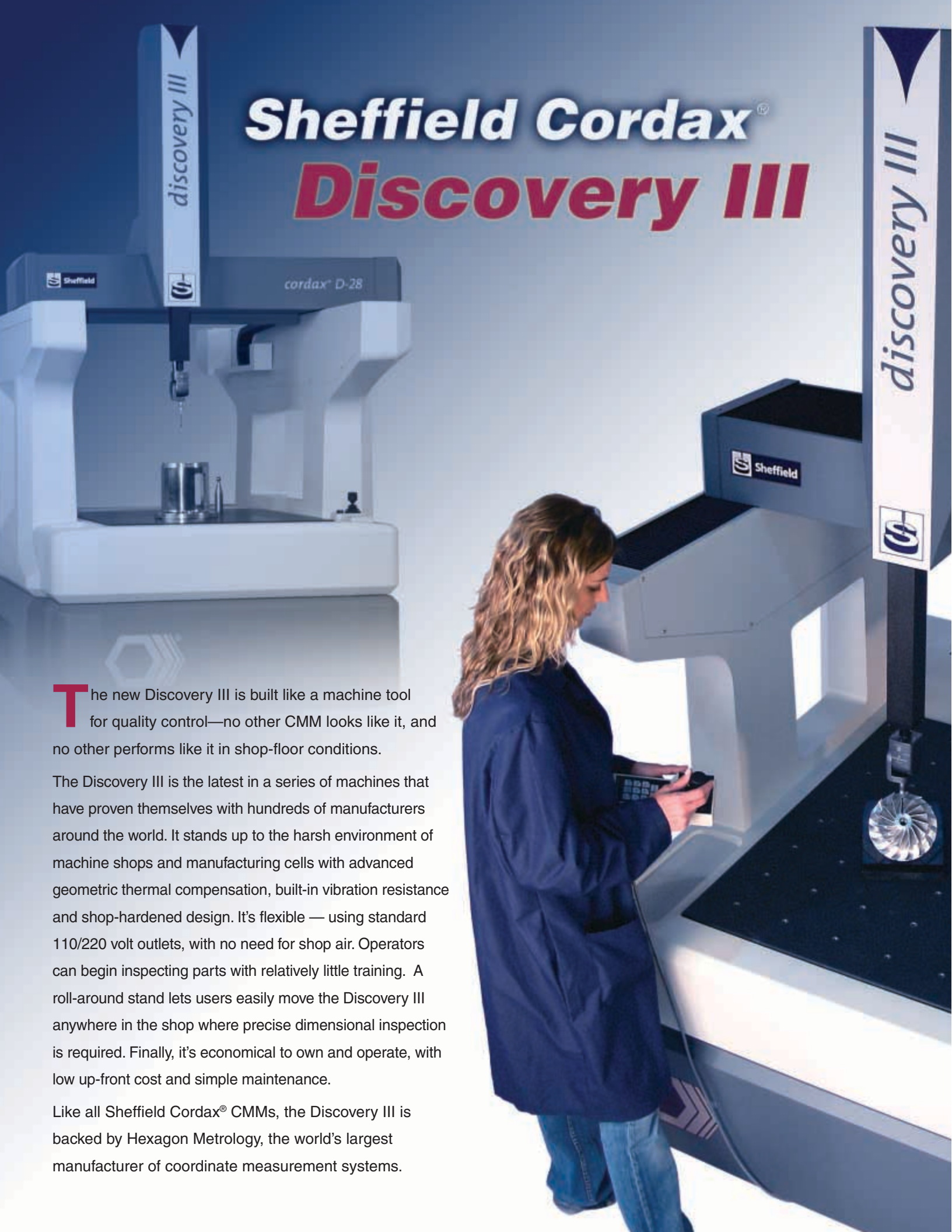


Sheffield Cordax® *Discovery III*

The new Discovery III is built like a machine tool for quality control—no other CMM looks like it, and no other performs like it in shop-floor conditions.

The Discovery III is the latest in a series of machines that have proven themselves with hundreds of manufacturers around the world. It stands up to the harsh environment of machine shops and manufacturing cells with advanced geometric thermal compensation, built-in vibration resistance and shop-hardened design. It's flexible — using standard 110/220 volt outlets, with no need for shop air. Operators can begin inspecting parts with relatively little training. A roll-around stand lets users easily move the Discovery III anywhere in the shop where precise dimensional inspection is required. Finally, it's economical to own and operate, with low up-front cost and simple maintenance.

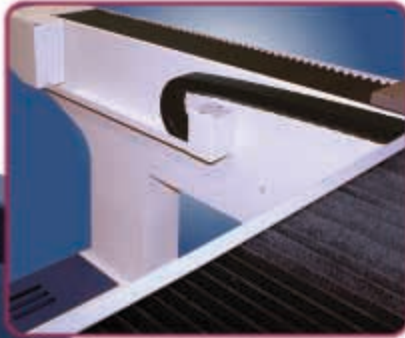
Like all Sheffield Cordax® CMMs, the Discovery III is backed by Hexagon Metrology, the world's largest manufacturer of coordinate measurement systems.



Heidenhain high resolution scales, new on all models, help make the Discovery III the most accurate Discovery series CMM ever.



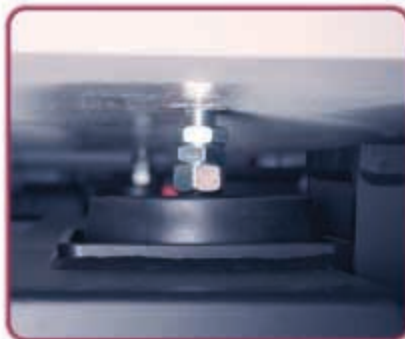
Precision drive systems controlling all three axes, plus hardened linear guides and recirculating bearings, provide long-lived, reliable inspection even in harsh shop-floor conditions.



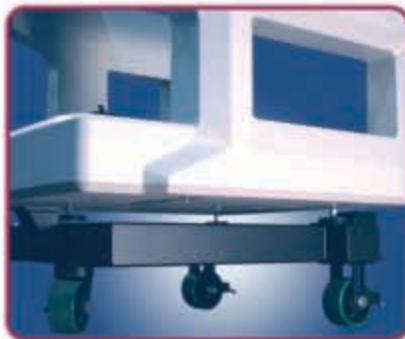
Light-weight bellows and covers protect machine components while minimizing friction for smooth-running, precise performance.



Discovery III's beauty is more than skin deep – the rugged, vibration resistant base is made from a single polymer casting.



Elastomeric dampers further isolate the Discovery III from vibrations caused by machine tools and other heavy equipment.



The roll-around stand makes it easy to move Discovery III where it's needed for maximum shop-floor efficiency. Shown with the optional skirt removed.



TESASTAR probe technology is the perfect match.

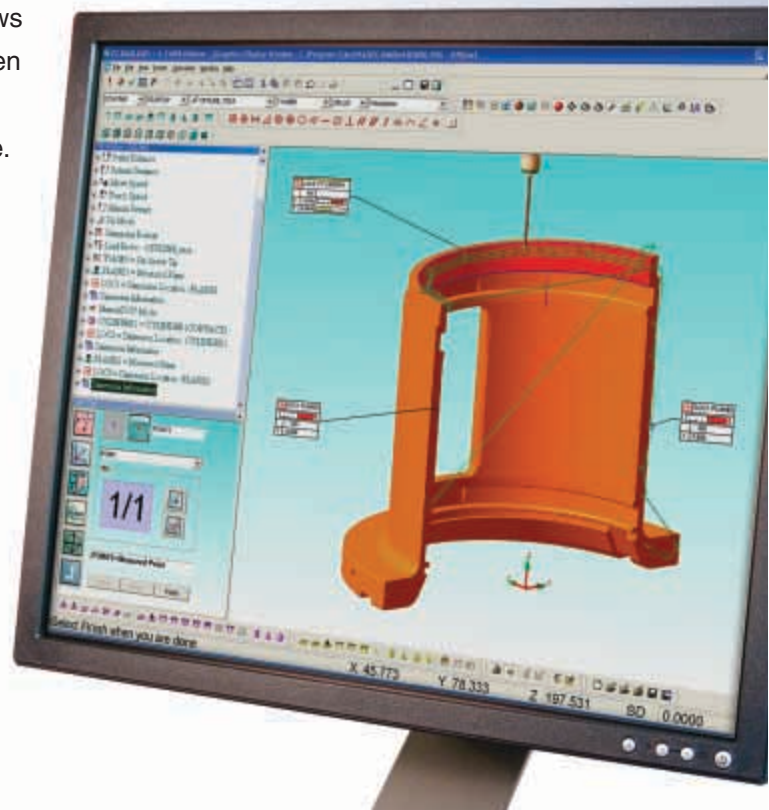
Swiss-made TESASTAR touch probes, probe heads and probe accessories are ideal for the go-anywhere Discovery III. The standard equipment TESASTAR articulated probe head with integrated probe can be manually rotated to an infinite number of angular attitudes, and features adjustable trigger force. Upgrade to a manual probe with repeatable indexing, or the TESASTAR-m motorized probe head with high speed indexing in 5° increments and extension lengths up to 300mm/11.7". Other TESASTAR options include

- A Scan-Ready Package, featuring the high-accuracy TESASTAR-mp probe and TESASTAR-m probe head, that can easily accommodate scanning probes.
- Fully automatic TESASTAR-r and TESASTAR-pr probe racks for changing probes or modules without interruption or set-up changes during an inspection routine. The TESASTAR-r accepts multiple probe types and extensions and is fully modular—buy only the ports you need now, then add one or more ports later. The TESASTAR-pr accepts up to six TESASTAR-mp modules for maximum flexibility.

Discovery III includes the most widely used, easy-to-learn inspection software.

PC-DMIS®, today's most popular and powerful metrology software, features an intuitive graphic user interface that easily guides first-time operators through part programming, setup and inspection. It's ideal for the shop floor—users of all skill levels can measure everything from simple prismatic parts to complex geometries quickly and accurately.

- Single Touch Interface (STI+), an optional PC-DMIS module, allows operators to access inspection programs with simple touch-screen buttons on the CMM's monitor. Operators can be trained in just minutes; easy-to-read inspection results are available in real time.
- With optional off-line programming, you can develop inspection programs while leaving the machine free to measure. PC-DMIS CAD lets you select geometry and define parameters by clicking on a CAD model; with CAD data automatically extracted from the model, you'll save time and eliminate a source of costly errors. PC-DMIS CAD is standard with the Scan-Ready Package.
- To boost productivity even more, PC-DMIS CAD and CAD++ feature Direct CAD Interfaces for most CAD formats.
- PC-DMIS's unique editing tools and customizable menus makes program modification fast and easy. With other software platforms, program changes can be difficult and time consuming, often requiring complete re-writes.



Affordable quality control at the point of production.



Measuring Range

Model	X	Y	Z
D-8	508mm 20.0"	609mm 24.0"	406mm 16.0"
D-12	508mm 20.0"	914mm 36.0"	406mm 16.0"
D-28	762mm 30"	1016mm 40"	609mm 24"

Standard System Package

Shop Floor Metrology Frame with Portable Stand

Sheffield UMP360 Touch Trigger Controller

TESASTAR Manual Probe Head/Probe and Stylus Kit

Computer, Monitor and Printer

PC-DMIS Pro Software

Scan Ready Package

Shop Floor Metrology Frame with Portable Stand

FBII Scan Capable Controller

TESASTAR-m Automatic Indexing Probe Head

TESASTAR-mp Touch Trigger Probe and Stylus Kit

Computer, Monitor and Printer

PC-DMIS CAD Software

Configured to easily accommodate scanning probe upgrades

Touch Probe, Probe Head and Autochange Rack Availability

Touch Probes	TESASTAR-p, TESASTAR-mp, TP20, TP200, SP25M
Probe Heads	TESASTAR-m, TESASTAR-m-m8, PH10T, PH10M
Manual Probe Heads	TESASTAR, TESASTAR-i, TESASTAR-i-m8, MH20i
Autochange Racks	TESASTAR-r, TESASTAR-pr, MCR20, SCR200, FCR25

Optional Inspection Software Packages

PC-DMIS CAD, PC-DMIS CAD++, STI+, DataPage, DataView

Sheffield dimensional measurement products date back to 1906, beginning with the manufacture of thread gages and special measuring devices. The company developed its first comparators in the 1920s, and introduced the world standard Precisionaire® gage in 1938.



In 1965, Sheffield produced the first Cordax® coordinate measuring machines. Today, Sheffield Measurement continues as a world leader in dimensional measurement and inspection systems. The company is also a pioneer in the development of flexible, easy-to-use inspection software.

Factory authorized Service Centers throughout the world support Cordax CMMs with complete training, maintenance, repair, applications assistance and dimensional measurement services.

Hexagon Metrology

The Hexagon Metrology group of Hexagon AB (Sweden) is the world's largest manufacturer of precision dimensional measurement equipment and software, with ten manufacturing facilities on four continents and more than forty sales and support locations worldwide. The group consists of metrology brands Sheffield Measurement®, Brown & Sharpe®, CogniTens, DEA®, Leica Geosystems, Leitz™, PC-DMIS®, ROMER®, and TESA®. Together, the group is the world market share leader in coordinate measurement systems.

Sheffield Measurement, a brand of Hexagon Metrology, Inc.

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