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HEXAGON

Proposal Reference: 2019-461634-01

Description: Global S7017GS

True Die

Wesley Brower

19 November 2019





HEXAGON

19 November 2019

Wesley Brower
True Die
2425 104th Ave.
Zeeland Michigan 49464
United States
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Dear Mr. Brower,

Thank you for your interest in Hexagon and the opportunity to propose a system that will meet your application requirements and provide years of reliable service.

Our commitment to producing accurate and reliable products is recognized around the world. Our installed base encompasses millions of tools and machines, and tens of thousands of seats of software. Hexagon offers products and services for metrology applications in over 200 industry segments. We support our customers with actionable measurement information throughout the complete lifecycle of their products – from development and design to production, assembly and final inspection.

We hope the following proposal will prove favorable to you.

Please do not hesitate to contact Gary Hobart at +1 8473700225 should you have any questions or require any additional information.

We look forward to being your partner in all your measurement needs.

Gary Hobart
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Hexagon Manufacturing Intelligence
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System

- GLOBAL S Chrome 7.10.7 CMM
- Controller, DC800C US 120V
- Extended Temperature Range (16-26 degree)
- Workpiece Standard Thermal Sensor
- Messaging Lights
- PULSE Environmental Monitoring System
- Next Jogbox

Probe Heads & Sensors

- Motorized Head, HH-AS8-T2.5
- HP-S-X1H Scanning Probe
- Styli Clamping, HP-S-X1C/HP-S-X1H
- Standard Styli Kit, HP-S-X1H
- Automatic Styli Changer, HR-X-400, X1, X3
- HR-X1-P-SF Stylus Changer Port, Shop Floor
- Probe Qualification Sphere, Ceramic (M8)



Computer & Software

- PC-DMIS CAD++
- PC-DMIS Tip Changer Software Module
- PC-DMIS Autopath Module
- Computer, Lenovo P520, WIN10-IOT-ENT-LTSB
- Monitor, Dell 22" Flat Panel LCD Monitor or current model
- Operator Workstation
- Operator Workstation Extension




Support & Service

- Classroom Training - CMM PC-DMIS Level 1 (5 Days)
- Classroom Training - CMM PC-DMIS Level 2 - Scanning (5 Days)
- Installation
- Onsite Performance Verification, ISO 10360-2
- Hardware Warranty
- First Year SMA, PC-DMIS DCC CAD++




Quantity	Part Number	Description
1	JB0700100066190	<p>GLOBAL S Chrome 7.10.7 CMM</p> <p>The GLOBAL S CMM is the next evolution of the versatile and scalable GLOBAL range from Hexagon Manufacturing Intelligence. It comes standard with a high performance analog scanning probe, advanced software with CAD and additional capabilities, training and warranty. The GLOBAL S model also includes the highest performance drives of all GLOBAL designs, bringing its top acceleration to 4.3 m/s², for maximum measuring throughput.</p> <p>Gaining speed without compromise. The patent-pending Compass technology is the foundation of GLOBAL S's performance. Compass is an advanced and innovative system which uses physical hardware components and enhanced firmware algorithms to reduce and compensate for the CMM's intrinsic vibrations and any impact on results. Elastic joints between the drive system and the frame prevent the transmission of the machine's vibrations, while advanced firmware algorithms mitigate any residual effects from the machine motion. Users can therefore achieve optimum throughput during scanning measurements, without compromising on accuracy.</p> <p>Although Compass technology was designed to ensure that GLOBAL S maintains optimum accuracy at the highest scanning speeds, its integration also results in improved performance for all kinds of inspection including point-to-point touch trigger measurements.</p> <p>Guiding the CMM through the unknown. Scanning of unknown paths can often be challenging and time-consuming. The advanced firmware algorithms of Scan Pilot offer greater motion control capabilities that ensure robust scanning performance however complex the geometry or abrupt the surface changes.</p> <ul style="list-style-type: none"> • Measuring Range 700mm (27.56") x 1000mm (39.37") x 660mm (25.98") • Fly2 Mode further optimizes machine motion and minimizes idle times so that the machine glides smoothly through its movement trajectories. As a result, program execution times are decreased considerably. • See the GLOBAL S in action.
1	G58003000	Controller, DC800C US 120V
1	G18865100	Extended Temperature Range (16-26 degree)









Quantity	Part Number	Description	
1	80-405-241-2	Workpiece Standard Thermal Sensor	
1	G59680700	Messaging Lights The GLOBAL S messaging light kit provides multi-colored LED alert lights to the CMM column, giving operators visibility into the machine's status even from a distance. This enables users to better manage their time and resources around the workshop, and can also improve procedures for working around automated systems.	
1	G56355201	PULSE Environmental Monitoring System Designed to ensure data integrity while improving safety and security in modern shop-floor inspection conditions, PULSE uses a network of sensors to record variations in temperature, vibration and humidity in the vicinity of your CMM. Also offering equipment status alerts and crash notifications, it creates a central dashboard of information for operators to access at any time.	
1	G59682700	Next Jogbox The Next Jogbox (NJB) is the first manual coordinate measuring machine (CMM) control interface to be designed based on extensive user experience research. Offering ergonomic design coupled with robust construction, it lets you take control of your CMM comfortably – all day, every day. The Next Jogbox was developed for you, the user. A combination of extensive user research, iterative prototyping, extensive knowledge of manufacturing and carefully chosen components led Hexagon Manufacturing Intelligence to create the NJB in an effort to transform the user experience and significantly increase product durability in the field. Most importantly, the NJB can easily be added and installed to most Hexagon CMM systems as an upgrade. Please contact your local service department for a full list of supported machines.	



Quantity	Part Number	Description	
1	03939422	Motorized Head, HH-AS8-T2.5 The HH-A-2.5 range of probe heads feature a number of new innovations including a fully embedded controller, capacitive crash protection and the all new heavy duty kinematic joint. All of the probe heads in the range benefit from a completely redesigned drive system including a Hirth Gear for accurate positioning of the probe. The new design delivers the advantage of a high degree of indexable positions and very high rotational torque. Indexing in steps of 2.5° - 12,240 positions for highest flexibility. The HH-AS8-T2.5 is a ram mounted version of the HH-A-T2.5 and can be fitted to any Hexagon CMM fitted with an 80mm ram. <ul style="list-style-type: none">• Extensions up to 450mm available• Extremely high rotation torque – 1.4 NM• 0.5 µm positioning repeatability at 100mm• 2.5s cycle time (0-90° motion)• 450 mm maximum extension length	
1	M00-114-042-000	HP-S-X1H Scanning Probe HP-S-X1H is a high accuracy 3D scanning probe. Styli extensions up to 225 mm length in vertical orientation and 50 mm in horizontal orientation are possible. The HP-S-X1H supports all standard probing modes like single point probing, self-centering as well as continuous high-speed-scanning for fast and accurate form and profile measurements. Like the other scanning probes, the HP-S-X1H provides simultaneous and unclamped probing in all axes, always orthogonal to the contact surface.	
1	M00-694-209-000	Styli Clamping, HP-S-X1C/HP-S-X1H	



Quantity	Part Number	Description	
1	M00-694-014-000	Standard Styli Kit, HP-S-X1H Includes: <ul style="list-style-type: none">• 1x Stylus holder, M3 Aluminium• 1x Stylus holder HP-S-X1H, rotatable Aluminium/Steel• 2x Stylus O 3 mm, L 20 mm Steel• 1x Stylus O 5 mm, L 20 mm Steel• 1x Stylus O 5 mm, L 50 mm Steel• 1x Stylus O 8 mm, L 75 mm Carbon• 1x Extension L 50 mm Carbon• 1x Extension L 150 mm Carbon• 1x Cube L 13 mm Aluminium• 1x Mounting key• 2x Mounting pin	
1	M00-1087-012-000	Automatic Styli Changer, HR-X-400, X1, X3 The HR-X styli changer rack allows for quick changing of styli configurations within a measuring program. The HR-X is compatible with the X1H and X1C scanning probes and is available in several sizes, ranging from 400mm to 1200mm.	
3	M00-114-167-000	HR-X1-P-SF Stylus Changer Port, Shop Floor Compatible styli changer port for HR-X Styli Changer. The Shop Floor version of this port is designed to excel in hard manufacturing environments, featuring a "hooded" design to prevent the accumulation of dust and particulates.	
1	80-733	Probe Qualification Sphere, Ceramic (M8)	



Quantity	Part Number	Description
1	ROY-CAD++-DCC	<p>PC-DMIS CAD++</p> <p>PC-DMIS CAD++ lets customers create inspection programs and evaluate measurement results taking full advantage of their CAD models. The software provides the tools needed to work with CAD files ranging from simple 2D drawings through complex 3D solid models. PC-DMIS CAD++ also allows the import and export of CAD data in the following formats: IGES/STEP/ DXF/ DWG/STL/VDAFS/XYZIJK/DMIS/DES. Auto Utilities™ include vector point, surface point, angle point, corner point, high point, edge point, circle, cone, cylinder, ellipse, sphere, line, plane, square slot, round slot, notch slot and polygon all with sample touch options to help find features whose actual location vary from part to part. Scanning routines include circle, cylinder, line, axis, open linear, closed linear, patch, section, perimeter, rotary, free form, UV and grid. PC-DMIS CAD++ also includes full scanning support and sheet metal functions. 1-year Software Maintenance Agreement included.</p> <p>The Software Maintenance Agreement includes:</p> <ul style="list-style-type: none"> • Software Upgrades to streamline your inspection process • Unlimited Access to our 24x7 Knowledgebase and Support system • Technical Support by phone, toll-free • Remote Assistance to any CMM with internet access • Customer Relations Representative assigned to you and your company <p>Introducing the latest version of PC-DMIS.</p>
1	ROY-TIPCHNG	<p>PC-DMIS Tip Changer Software Module</p> <p>Required for use of any change rack with a Hexagon CMM</p>
1	ROY-IP-MEAS	<p>PC-DMIS Autopath Module</p> <p>PC-DMIS Autopath is an exciting new measurement software technology that automatically optimizes feature measurement and probe path creation.</p>








Quantity	Part Number	Description
1	CLASS-CMM-PC-DMIS-L1	<p>Classroom Training - CMM PC-DMIS Level 1 (5 Days)</p> <p>This 5-day instructor-led classroom course, held at a Hexagon MI Precision Center, will give first time users of PC-DMIS a basic understanding of the software and measurements necessary to write and execute inspection plans. The course curriculum includes probe calibration, alignments, measurements, dimensioning, manual and DCC modes and using CAD models. Each seat represents 1 student for 5 days at Hexagon Manufacturing Intelligence. Training credits expire 12 months after the system has been delivered. Not to exceed 18 months from ship date.</p>
1	CLASS-CMM-PC-DMIS-L2SCAN	<p>Classroom Training - CMM PC-DMIS Level 2 - Scanning (5 Days)</p> <p>This 5-day instructor-led classroom course, held at a Hexagon MI Precision Center extends the training from the Level 1 courses to include advanced alignments, CAD usage, program control and dimensioning. Students will learn autocalibration and how to include logic commands in their PC-DMIS programs. This course also covers importing several CAD parts into PC-DMIS including the part to be measured, fixtures, and the CMM model. Students will also learn scanning concepts for both Touch Trigger Probe (TTP) and Analog Scanning Probes. Topics include scanning with and without models, using measurement strategies and data filtering. Each seat represents 1 student for 5 days at Hexagon Manufacturing Intelligence. Training credits expire 12 months after the system has been delivered. Not to exceed 18 months from ship date.</p>
1	H00011306	<p>Computer, Lenovo P520, WIN10-IOT-ENT-LTSB</p> <p>Lenovo ThinkStation P520 or current model PROCESSOR: Intel Xeon W-2123 Processor (8.25MB Cache, 3.60GHz) RAM: 16GB DDR4 2666MHz ECC RDIMM HD1: 256GB Solid State Drive, M.2, PCIe, Opal. HD2: 1TB Hard Drive, 7200RPM, 3.5", SATA3 GRAPHICS: Nvidia Quadro P620 2GB (miniDPx4) MOUSE:Lenovo USB Mouse OS: Windows 10 IoT Enterprise 2016 – LTSB LAN:1 Gb Ethernet Adapter Plus 1 Dual-port Gb Ethernet Adapter (PCIe) PORTS:1 Serial Ports</p>





Quantity	Part Number	Description	
1	H011061	Monitor, Dell 22" Flat Panel LCD Monitor or current model	
1	H00008599	Operator Workstation Save valuable floor space with the compact and ergonomic operator workstation. With programmable, adjustable height settings and a locking cabinet to secure all PC and controller peripherals, the workstation is ideal for both the lab and shop floor. <ul style="list-style-type: none">• Weight 113 kg (250 lb)• Workstation Load Limit 890N (90kgf, 200 lb)	
1	H00006101	Operator Workstation Extension If part programming near the CMM is critical, or more desk space is needed for prints, the desk extension attaches securely to the operator workstation while maintaining the motorized adjustable height functionality. <ul style="list-style-type: none">• Desk Extension Weight 32 kg (70 lb) Max.	



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Quantity	Part Number	Description
59	702-6240	<p>Installation</p> <p>Unless explicitly stated otherwise, this summary identifies the key milestones in the GLOBAL S installation process and identifies the appropriate responsible party. It is provided here in order to explain in more detail the scope of this proposal in order to avoid any possible misunderstandings and to facilitate a smooth and timely installation process.</p> <ul style="list-style-type: none"> • Customer: Transportation from Hexagon Manufacturing Intelligence factory to the customer facility • Customer: Rigging, forklift/crane, and labor • Customer*: Place machine in permanent location • Customer*: Uncrate machine, prepare components for installation • Customer*: Conformance to environmental specifications • Customer: Compressed air supply per machine requirements • Customer: Electrical provision per machine requirements • Customer: Vibration evaluation of installation site • Customer: Completion and return of Site Preparation Checklist • Hexagon MI: Machine installation and startup • Hexagon MI: Calibration and verification <p>*To streamline the machine installation process, it is preferred that the CMM is uncrated and moved to final install location prior to a Hexagon service engineer arriving on site. If the customer requires, Hexagon Manufacturing Intelligence can provide this service for an additional fee (see quotation for details).</p>
1	ISO-2-4-5	Onsite Performance Verification, ISO 10360-2
12	1E-1002	<p>Hardware Warranty</p> <p>First year warranty valid for 12 months from date of installation, not to exceed 13 months from date of shipment.</p> <p>For more information, please review the Terms & Conditions section of your quotation. Quoted quantity is in one-month increments.</p>
1	Y1-001	First Year SMA, PC-DMIS DCC CAD++

Total Quote List Price	\$146,937.44
Total Quote Discount	\$21,893.68
Total Quote Ext Price	\$125,043.77



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Terms of Quotation For Global S

Purchase Orders made to:	Hexagon Metrology, Inc. 250 Circuit Drive North Kingstown, RI 02852 Note: As we are in the process of changing our legal name to Hexagon Manufacturing Intelligence, until that process is complete we request that all legal documents continue to use our current legal name Hexagon Metrology, Inc.
Submit PO To:	Hexagon Metrology, Inc. orders.us.mi@hexagon.com Fax: (401) 886-2768 CC:gary.hobart@hexagon.com
Terms & Conditions:	Hexagon Metrology, Inc. Standard Terms & Conditions Apply. Any sale is expressly conditioned on acceptance of such terms. The Standard Terms & Conditions and Third Party Software Terms & Conditions are viewable at : https://go.hexagonmi.com/tos-na
Government Restrictions:	Seller's performance under any contract is subject to the issuance of any required export license or other necessary government authorization.
CAGE CODE:	1WUK4
DUNS #:	02 6146535
Tax Exemption:	If applicable, a Tax Exemption Certificate must be submitted to Hexagon with the Purchase Order.
Tariff Surcharge:	In addition to all other fees, charges, taxes and assessments, Hexagon may charge a Tariff Surcharge for certain products containing components subject to import tariffs. Tariff Surcharges, if any, shall be included on a cost basis and reflected on the applicable invoice as a separate line item.
Payment Terms:	Following Credit Approval: For Orders less than \$50,000 terms are Net 30 Days from date of invoice, OR for Orders greater than \$50,000 terms are 30% Down Payment, 70% Net 30 Days from date of invoice.
Delivery:	3-4 weeks for standard configurations, plus time for shipping (A.R.O) to be confirmed at the time of order placement. Contingent upon receipt of Purchase Order, Credit Approval and Down Payment.
Shipping Terms:	Prices quoted are FCA -- Free Carrier North Kingstown, RI in accordance with the international Chamber of Commerce INCO Terms 2010.
Title Transfer:	Title transfers to Buyer upon shipment from factory of origin including all risks and rewards of ownership
Quotation Validity:	60 Days
Remit To:	Hexagon Metrology, Inc. Lockbox No. 771742 1742 Solutions Center Chicago, IL 60677-100