Multi Sensor
CNC Inspection System

- **VISION**
  - Highest Through Put in Flat
  - Non Contact Measurement.
  - Most Accurate Microscopic
  - Parts Measurements
  - Quick To Capture Even The
  - Smallest Details

- **TOUCH PROBE**
  - Best Solution For
  - 3d Measurements
  - Perfect Solution Non Pliable Parts
  - Applications Includes 3d
  - Measurements Of Metal Processed
  - Parts Like Apertures, Included
  - Angle Etc.

- **LASER**
  - Highest Accuracy Is Depth
  - Measurement
  - Best For Surface Contouring And
  - Surface Scanning
  - Applications Include Complex
  - Contouring Of Mould And
  - Measurement Of Soft And Flexible
  - Components.

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WWW.CMSMETROLOGY.COM.MX
WWW.CONTROLYMEDICION.COM.MX
**Multi Sensor CNC Inspection System**

**SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Model No:</th>
<th>SVI-3D-CNC-20203</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software</td>
<td>IK 5000 / MSU3DPRO</td>
</tr>
<tr>
<td>Measuring Range-Standard</td>
<td>200 X 200 X 300 mm</td>
</tr>
<tr>
<td>Measuring Range-Optional</td>
<td>X-Axis upto 500mm, Y-Axis upto 400mm, Z-Axis upto 300mm</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.005 / 0.001 / 0.00005 / 0.0001mm</td>
</tr>
<tr>
<td>Linear Accuracy</td>
<td>(3+L/200) micron</td>
</tr>
<tr>
<td>Repeatability</td>
<td>+/- (0.002mm)</td>
</tr>
<tr>
<td>Vision</td>
<td>1/3&quot; High Resolution CCD Camera</td>
</tr>
<tr>
<td>Magnification</td>
<td>Optical Magnification0.7X - 4.5X &amp; Magnification on Monitor 35X - 225X</td>
</tr>
<tr>
<td>Video Edge Detection</td>
<td>Standard</td>
</tr>
<tr>
<td>Optional Hardware</td>
<td>PC + 19&quot; TFT Monitor</td>
</tr>
<tr>
<td>Illumination Surface</td>
<td>Fibre Optic / LED</td>
</tr>
<tr>
<td>Illumination Contour</td>
<td>Halogen Lamp / LED</td>
</tr>
<tr>
<td>Operation</td>
<td>Manual with Quick Release Knob &amp; CNC</td>
</tr>
<tr>
<td>Base Platform &amp; Column</td>
<td>Granite</td>
</tr>
<tr>
<td>Platform load capacity</td>
<td>30 kg</td>
</tr>
<tr>
<td>Power Supply</td>
<td>220-240 V +/- 5%, 50/60 Hz</td>
</tr>
<tr>
<td>Motion Control through Joystick</td>
<td>Standard</td>
</tr>
<tr>
<td>Programmable Light Control</td>
<td>Optional</td>
</tr>
<tr>
<td>Non-Linear Error Correction</td>
<td>Optional</td>
</tr>
<tr>
<td>Autofocus</td>
<td>Optional</td>
</tr>
<tr>
<td>Touch Probe</td>
<td>Renishaw MCP/ MH20i</td>
</tr>
<tr>
<td>Probe</td>
<td>Conoprobe</td>
</tr>
</tbody>
</table>

**Options**

- **LENSES SYSTEM**
  - Non Zoom
  - Standard Adapters
  - LED Attachments
  - 0.5X, 1X, 2X

- **Surface Illumination**
  - Fibre Optic
  - L.E.D.
  - Motion Control Through Joystick
  - Touch Probe

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"THE MEASURING SOFTWARE PROVIDES A QUICKER AND EASIER MEASURING METHOD. 3 AXIS GEOMETRICAL MEASURING FUNCTIONS, AUTOMATIC EDGE DETECTION AVOIDS VISION MISTAKES AND TIREDNESS. EXCELLENT GRAPHICS INTERFACE ALLOW TRANSFER TO CAD"
Measuring Software
MSU 3D Pro

Tolerance Setting & Result Display
Supports more than 10 types of Tolerance setting including: gap Tolerancing (Circularity, Concentricity, Perpendicularity, Parallelism etc....) and Result window will display all the results with tolerance values and will give an indication for PASS or FAIL features.

Focus Indicator for accurate 3-D Measurement
This will indicate the best focus value and the corresponding Z value to make sure focus is clear before measurement. A must to do for 3-D Measurement.

Construction capabilities
Select two or more features to create intersections or constructions. This reduces operator effort by eliminating confusing construction menus.

Programming & Navigation
Teach programs with one click and repeat those with the help of navigation Toolbar shown in the above picture. This navigation Toolbar guides you what features are to be measured and where is there exact location — Just press the mouse clicks and complete part will be measured. So just measure one part other similar ones would be measured automatically.

Deviation analysis of point data.
This feature gives you the coordinates of the points taken on the element along with the form tolerance value of each point. This is very useful to analyze the irregularities on the feature. You can choose the type of result you want — Min, Max or Avg. Also you can have a print out of this report.
"THE CONCEPTUAL THE MODEL OF IK 5000 SOFTWARE ORGANIZES THE WORK FLOW TO SUPPORT OPERATOR NEEDS AT EVERY STAGE OF MEASUREMENT PROCESS—MEASURING-RECORDING-ANALYZING-REPORTING AND COMMUNICATING THE DIMENSIONAL DATA."

Software Desktop

Comprehensive Software Desktop with all the measuring functions just a click away. Simultaneously with the measurement you will have the result display and drawing of the measurement in front of you on the software desktop. The core of product is the simple, visual part view window with convenient tool bars that define Quadra -Chek measurement process.

Pattern Finder

The Pattern Finder probe is used to teach and later to find features having regular or irregular patterns. Pattern finding is usually included in programs to minimize operator interaction when a datum is created automatically for each of a series of parts or when some feature locations are not repeatable due to part variations.

Graphical Representation

Graphical Representation in all the possible views—Top, Left, Front, South east etc. The graph is fully interactive for fast constructions and relationships. For example, to measure the distance between two circles, just select the distance function, then click on two circles in part view window. There's your answer. It's that simple.

Worm tool

The worm probe generates a series of scans perpendicular to and across the perimeter of a feature edge in the direction indicated by the probe. Each scan acquires a data point at the edge of the Image.

Overlap Deviation Analysis

The profile feature shown in the Feature Stamp window with form error whiskers that passed tolerance tests in the range of 0 to 50% shown in green, 51 to 100% in yellow. Form errors that fail the tolerance tests are shown in red.

Integrated Statistical Process Control

Integrated Windows - based SPC Analysis capable of forming X Bar Chart, R Bar Chart, Simple Data Chart, Histogram & other pertinent capability & process control data.
Construction capabilities
Select two or more features to create intersections or constructions. Reduces operator effort by eliminating confusing construction menus.

Measurement Toolbar
One click options to measure all types of 2D & 3D features. With patented feature Measure Magic probe any feature, enter points and with a click QC-5000 knows without you telling it whether you are measuring circle, arc, or another shape.

Palletizing function
A palette is a rectangular arrangement of identical parts organized into a consistent matrix of columns and rows. Once a part program is created and tested for a single part, it can be run on each of the identical parts contained in a palette.

Video Edge Detection Tools
A wide variety of video probes is available for measuring regular geometric features such as points, lines, arcs, circles and slots. Video probes are also available for measuring irregular features, features that extend beyond the field of view and entire part profiles. In addition, pass/fail charts can be imported and used to facilitate visual inspections.

Edge teaching algorithms for weak edges
The edge teaching criterion entered by the system is adequate to provide excellent edge recognition for most applications. The criterion for the selected edge algorithm can be changed by entering a new value into the Min Contrast field. This will ensure optimum edge detection even in low contrast surfaces and exact points on the edges will ensure exact results.

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"OPERATORS CAN EASILY ANALYZE & COMMUNICATE MEASUREMENTS THROUGHOUT THE COMPANY & AROUND THE WORLD. THE SOFTWARE INCORPORATE INTUITIVE DRAG AND DROP DATA FIELDS, MACROS & DATA BASE TEMPLATES ALONG WITH PROGRAMMING & AUTOMATION TOOLS."

Data Management - Export & Import

Internal communication tools enable operators to record, store and analyze the measurement data. Operators can also export data to online database for offline analysis by quality control specialists. Export options include .dxf, .csb, .igs, .tdf, MS-Excel, MS-Access & SPC. Import options include .dxf, .igs, .asc, .sec

Auto programming from DXF File

Import CAD files to automatically create part programs. This eliminates the necessity of using the actual workpiece to program and thereby eliminates long teaching sessions for every new part.

Dynamic Data Exchange

Dynamic Data Exchange facilitates real-time data transfer to various applications like Microsoft Excel, MS Access and others making real-time SPC analysis possible.

Error Correction

- Linear Error Correction (LEC)
- Segmented Linear Error Correction (SEL)
- Non Linear Error Correction (NLEC)

Report generation

Fully customizable report format with color coded Pass / Fail for tolerance parts. Confirm to your ISO specifications and send data directly to an ASCII file or any SPC program. Customize results field for special measurement needs and complex calculations by embedding formulas (e.g., automatically calculate area or circumference dimensions with each circle measurement)

Tolerance types

Supports more than 15 types of tolerance settings with display in color coded pass and fail output. If there's a part or feature that doesn't measure up, you will know it immediately. Not only are all out of tolerance features displayed in red, but an audio alert signals if what you are measuring fails to match the specifications.

- LOCATION
  - Bidirectional
  - True position
  - MMC
  - LMC
  - Concentricity
- FORM
  - Straightness
  - Roundness
  - Flatness
  - Cylindrically
- SIZE
  - Length
  - Radius
  - Angle
  - Width
  - Diameter
- ORIENTATION
  - Parallelism
  - Perpendicularity
- RUNOUT
  - Circular

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