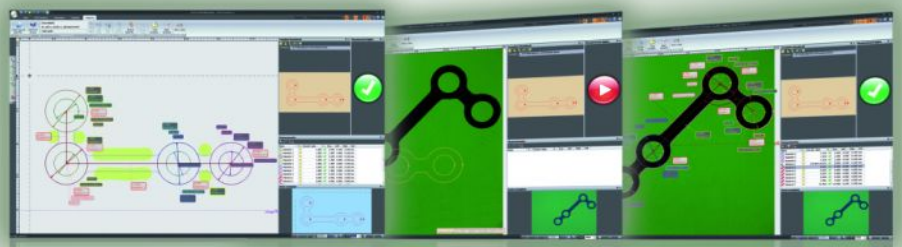
ATOMS Precision V2

www.chosen.co.th/atoms

Save money in Quality Assurance!



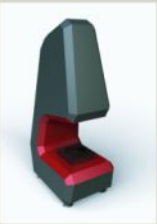
Quick automatic measurement of production parts made easy

The affordable solution for video measurement

การวัดขนาดอัตโนมัติในระบบการผลิต จะไม่ใช่เรื่องใหญ่ เรื่องยุ่งยาก และลงทุนสูงมาก อีกต่อไป

Atoms Precision คือ เครื่องวัดขนาดชิ้นงานอัตโนมัติที่ใช้งานง่ายมาก เพียงวางชิ้นงาน กดปุ่ม และรู้ขนาดได้ทันที

เพียงตั้งโปรแกรมจุดที่ต้องการวัดในชิ้นงานนั้นไว้หลายๆจุดตามต้องการ จากชิ้นงานต้นแบบ หรือจากไฟล์ AutoCAD และตั้งค่า Tolerance ที่ต้องการ เครื่องจะวัดขนาดชิ้นงานและบอกทันที ว่า OK หรือ NG เป็นสีเขียว, เหลือง หรือ แดง



"With an investment of Atoms, we save money on measurement and give our clients added confidence in our products. Excellent."

Benefits at a glance

> Automatic measurement of 2-dimensional production parts

> Low cost solution for Small and Medium sized enterprises

> You can measure small quantities fast and accurate

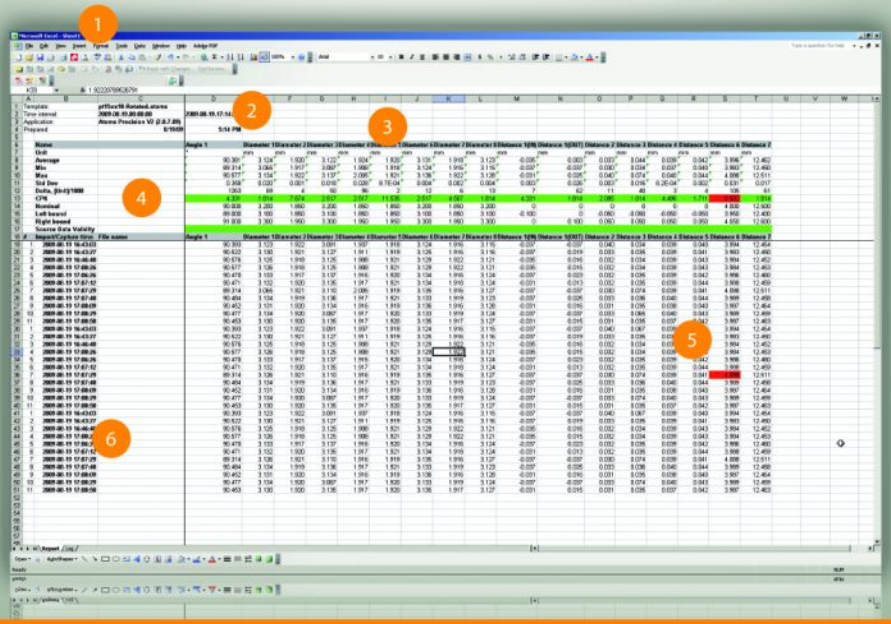
> Templates can be used indefinetely and are created from scratch within minutes

> The software measures all defined dimensions with only "one-click" required

> Import DXF files to create templates from CAD software or export contours into DXF

> You can create measurement reports from every measurement taken to analyse your processes

Reports at a glance...



Measurement reports help you analyse dimensions and process stability easier.

1 Reports can be viewed in MS Excel or PDF format

2 Every report is automatically filed and dated

3 Each measurement is listed according to its name

4 Statistical data such as CPK and Delta are automatically calculated

5 Colour-coding makes it easy to spot errors

6 Measurements are timed allowing you to identify issues easily

Base Reports are created for every part measured and can be later combined into a Multi-Report, giving you the overview of all parts measured in a series.
รายงานออก Excel หรือ PDF ได้ละเอียดทุกจุดทุกชิ้น

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Find more detailed information
on www.chosen.co.th/atoms

Measuring in action...

Measure your parts in seconds with Atoms Precision V2.

1 Measure multiple dimensions at once

2 See manufacturing errors immediately

3 Capture images of faulty parts for analysis

4 All dimensions are displayed for immediate viewing

5 Measurements are automatically saved in a report

6 Easy to recognize symbols facilitate the measurement process

เพียงวางชิ้นงานบนเครื่อง
แล้วกดปุ่ม สามารถรู้ขนาดได้
อัตโนมัติเพียงไม่กี่วินาที
พร้อมแสดงภาพปุ่มสีเขียว,สีแดง
(OK, NG) และรายละเอียดการ
วัดทุกจุดโดยละเอียด

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Work-flow

Start

Initilally you have to import data into Atoms Precision V2, do this by either loading an image or by activating the camera to capture parts.

Calibration

Any hardware setup will have to be calibrated once to ensure accurate measurements with the specifications.

Orientation

At this stage you define the shape of your part for Atoms Precision V2. Now your operator just has to place the part at any orientation under the camera.

Template (Image 1)

Define all geometries and dimensions to be measured by Atoms Precision V2. Once created you can use a template indefinitely.

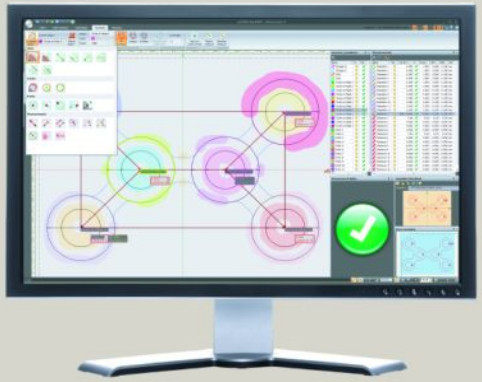
Measure (Image 2)

Only one click is required to validate the dimensions of a part .Your operator simply places the part under the camera and presses the button.

Reports (Image 3)

Since Atoms Precision V2 captures and saves all dimensions you can retrieve them for analysis. This means you can create a report of all measurements created for one template for a defined period of time.

1



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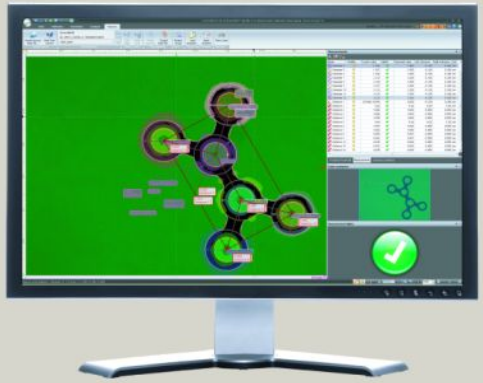

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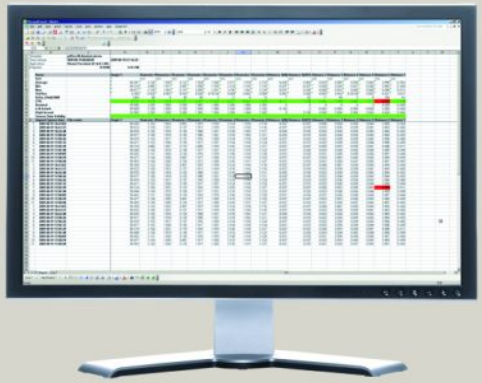

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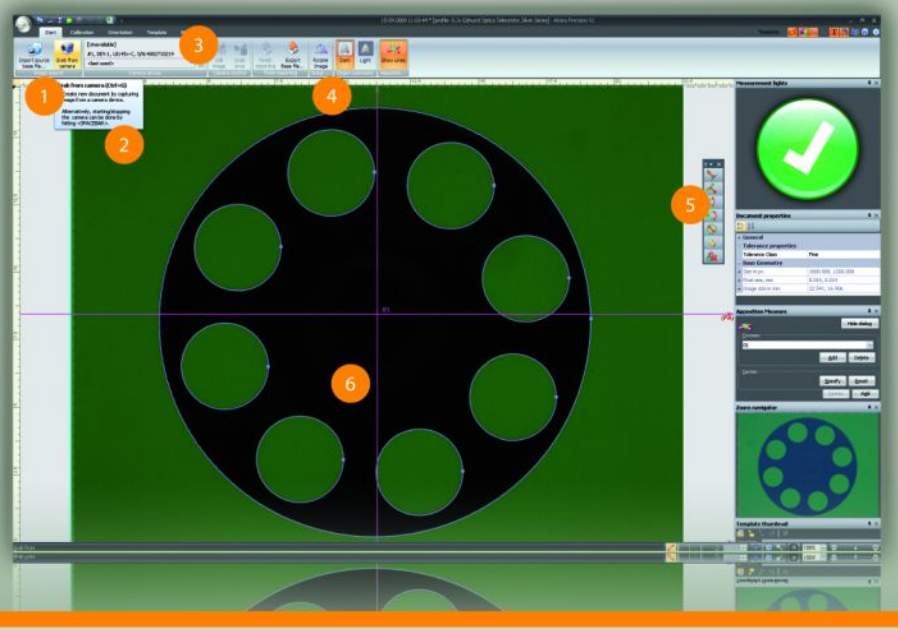
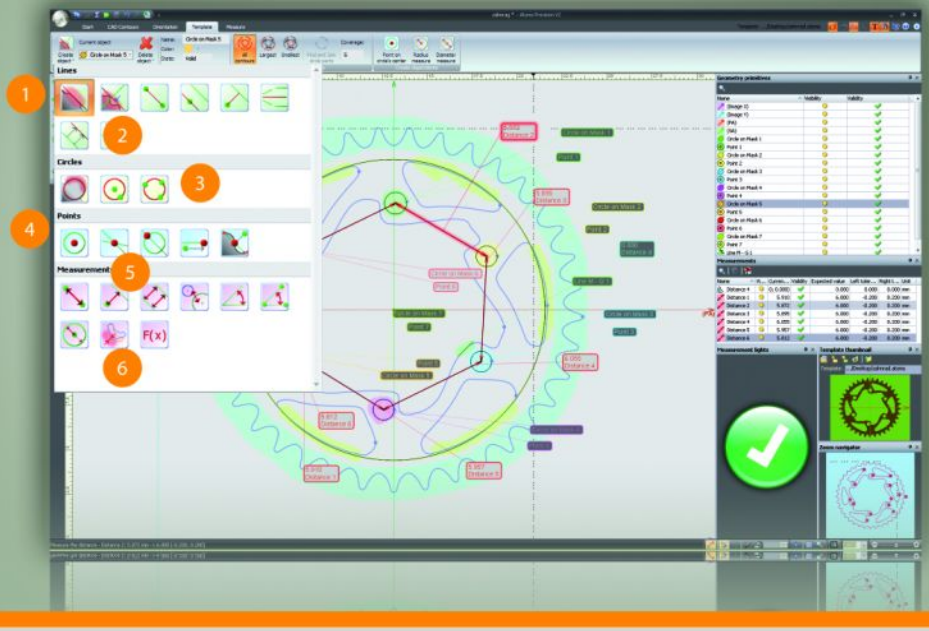
Get free tutorial videos at
www.chosen.co.th/atoms

Capturing explained...



Features overview...



Atoms Precision V2 offers a variety of methods to capture/import an image of your part.

1 Capture images directly from camera (Machine)

2 Import images of your parts captured earlier

3 Work with a wide range of camera (for Bigger or Smaller parts)

4 Export images and DXF files

5 Measure your parts "on-the-spot" with manual tools

6 Inspect the captured contour in real-time

เพียงวางชิ้นงานบนเครื่อง
แล้วกดปุ่ม หรือดึงไฟล์ภาพ
ซึ่งรองรับได้นามสกุลต่างๆ
เช่น JPG, TIFF, หรือ PNG
เพื่อใช้ในการวัด

Atoms Precision V2 offers easy functions for a fast work-flow.

1 Masking makes the process of defining shapes fast and precise

2 Magnetic lines give create precise tangent on several objects

3 Circles can be created from masks or points

4 Points result from geometric objects or can be defined manually

5 Measurements are easily selected from the comprehensive menu

6 An additional "function" button allows you to calculate measurements

The innovative masking function allows you to utilize the algorithm by simply painting over an area to select it.

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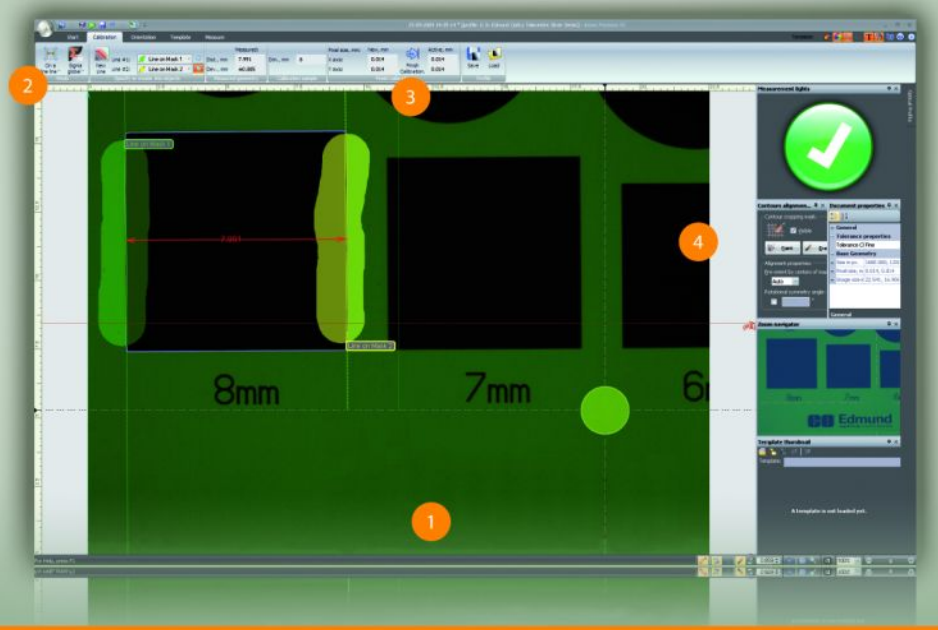
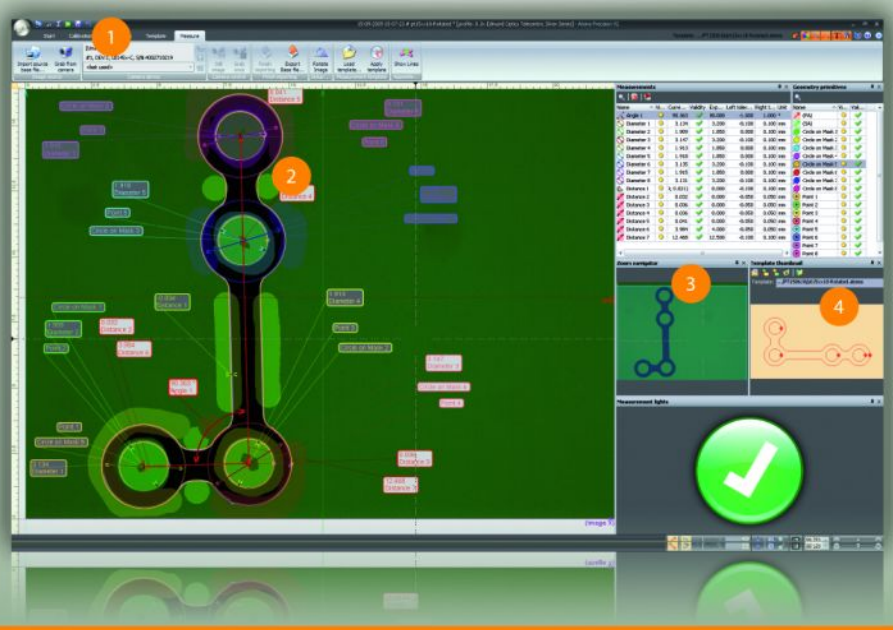
More information about these topics
can be found on www.chosen.co.th/atoms

Calibration in brief...



Orientation in a nutshell...



Atoms Precision V2 can be calibrated easy in Seconds

1 Calibration should be performed on a gauge or plate

2 Any geometric shape can be used for calibration

3 Calibration needs to be performed once and saved

4 Manual calibration allows you to use different components

Calibration can be performed in less than a minute.
คาลิเบรตง่ายและรวดเร็วมาก ท่านสามารถคาลิเบรตเองได้บ่อยเท่าที่ต้องการ เพื่อความเที่ยงตรงสูงสุด

Orientation makes Atoms Precision V2 truly user-friendly, any way you place your part it still gets recognized.

1 Orientation is a part of the template creation process

2 The part can be placed at any angle and still be recognized

3 In the Navigator window you see how the part is placed

4 The template thumbnail displays how the part was setup

Orientation allows your operator to place parts even quicker under the camera since the software recognizes the part much easier.

"วางชิ้นงานกลับหัวอย่างไรก็ได้ ทุกองศา"

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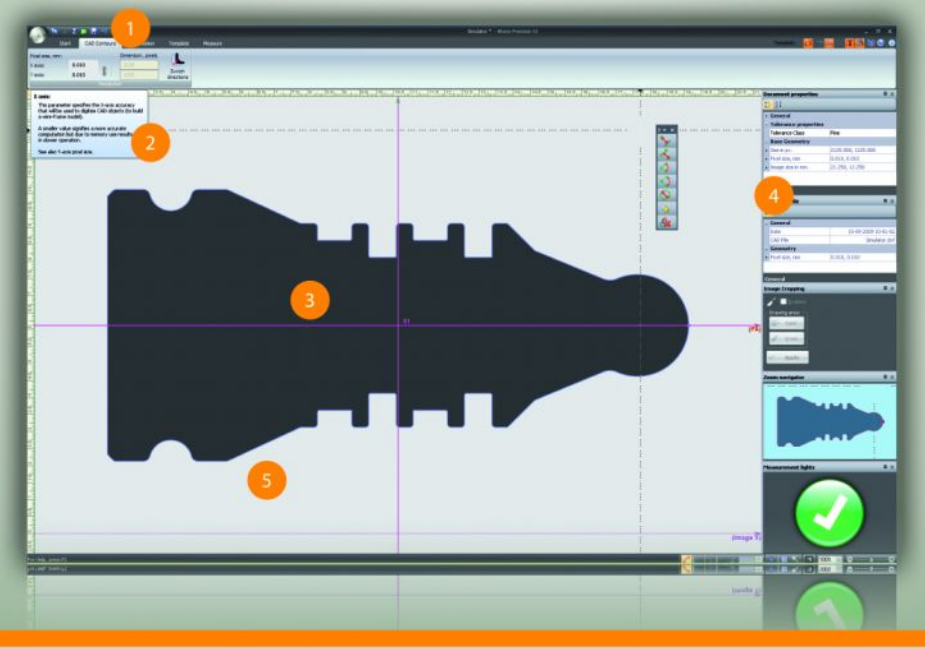
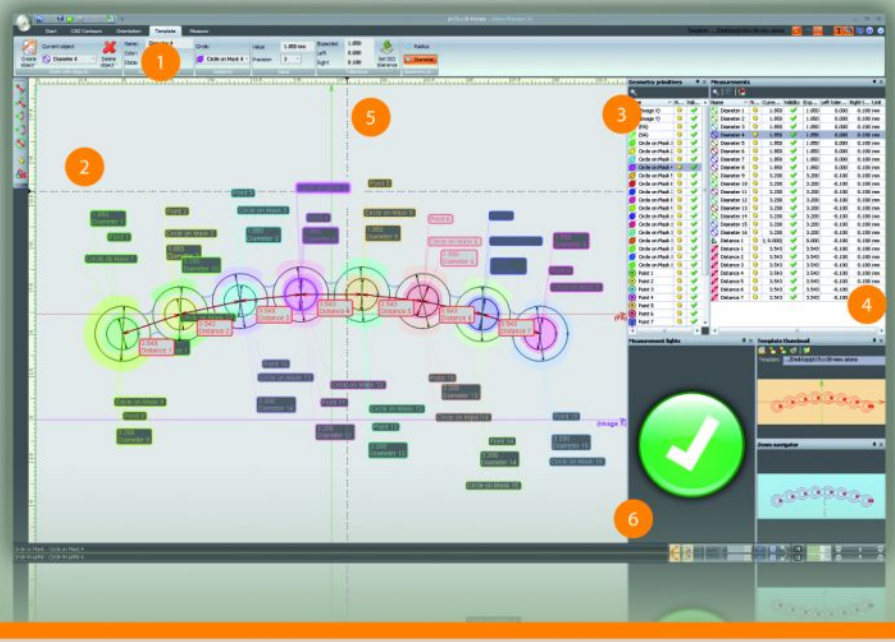
For more information:
www.chosen.co.th/atoms

Intro to DXF files...



Template in detail...



CAD compatibility is achieved through DXF files which can directly be used for measurement.

1 DXF files can be imported directly into the software

2 Pixel size can be adjusted to define the accuracy of the wire-frame

3 The DXF contour defines the shape of the part to be measured

4 Dimensional data is included in DXF files and can be retrieved

5 DXF-contours can be exported from Atoms Precision V2

You can import DXF files into Atoms Precision V2 in order to create templates for your parts. Furthermore you can export DXF files from contours you have captured earlier.

"สามารถนำเข้าและส่งออกไฟล์ Drawing AutoCAD ได้"

The Template is the digital blueprint of your engineering drawing.

1 Create templates in the template tab

2 Templates can be created based on DXF files or images

3 Geometry Objects define the shapes to be measured

4 Measurement Objects define dimensions to be measured

5 Enter ISO tolerances easily with the integrated ISO function

6 Easy to understand symbols guide you through the process

Creating templates takes a few minutes and results in an indefinitely usable digital blueprint for Atoms Precision V2.
สร้างเทมเพลต กำหนดจุดในการวัดง่ายเพียงระบายสี สามารถสร้างแบบพิมพ์เขียวดิจิตอลได้เพียงไม่กี่นาที

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For more information:
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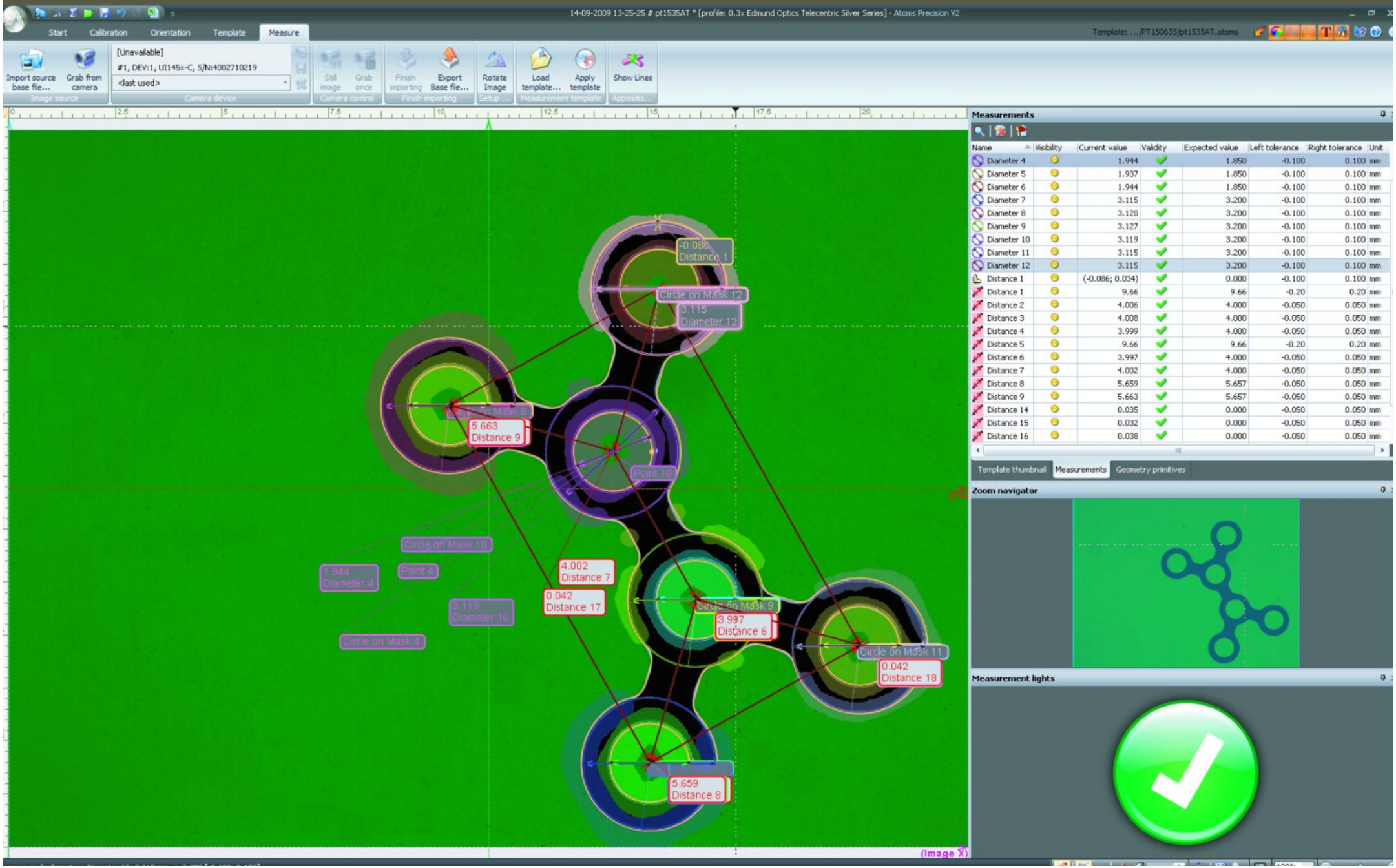

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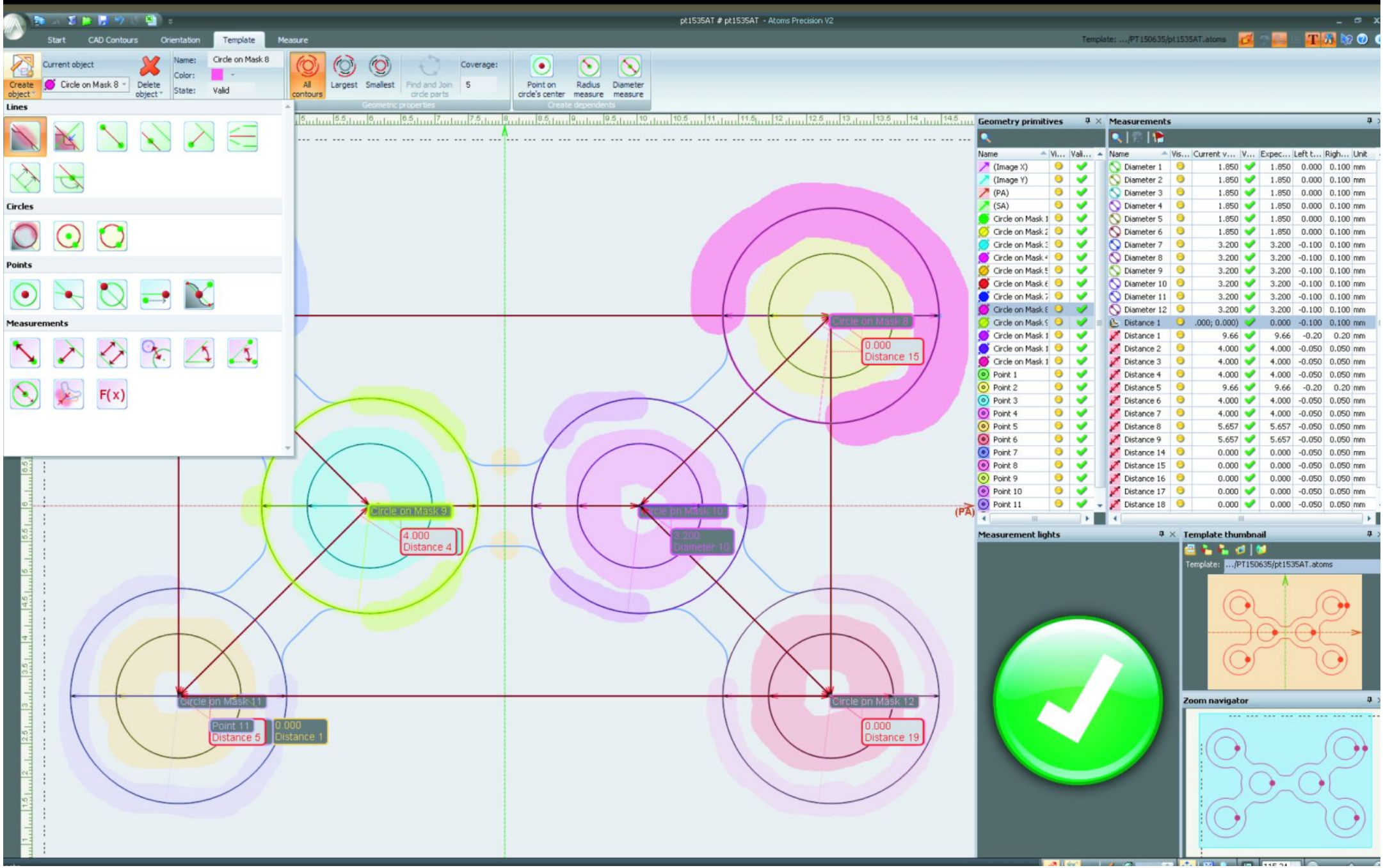

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For more information:
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Microsoft Excel - Sheet1

K33 1.922207695267 91

Template:	pt15xx18-Rotated.atoms	
Time interval:	2009-08-19.00:00:00	2009-08-19.17:14:20
Application:	Atoms Precision V2 (2.0.7.09)	
Prepared:	8/19/09	5:14 PM

	Name	Angle 1	Diameter 1	Diameter 2	Diameter 3	Diameter 4	Diameter 5	Diameter 6	Diameter 7	Diameter 8	Distance 1(IN)	Distance 1(OUT)	Distance 2	Distance 3	Distance 4	Distance 5	Distance 6	Distance 7
	Unit	°	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
	Average	90.381	3.124	1.920	3.122	1.924	1.920	3.131	1.918	3.123	-0.035	0.003	0.033	0.044	0.039	0.042	3.996	12.462
	Min	89.314	3.065	1.917	3.087	1.908	1.918	3.124	1.916	3.115	-0.037	-0.037	0.030	0.034	0.037	0.040	3.983	12.450
	Max	90.577	3.134	1.922	3.137	2.005	1.921	3.136	1.922	3.128	-0.031	0.025	0.040	0.074	0.040	0.044	4.088	12.511
	Std Dev	0.358	0.020	0.001	0.018	0.028	8.7E-04	0.004	0.002	0.004	0.003	0.026	0.003	0.016	8.2E-04	0.002	0.031	0.017
	Delta, [Unit]/1000	1263	69	4	50	96	2	12	6	13	7	62	11	40	3	4	105	61
	CPK	4.331	1.814	7.674	2.517	2.517	11.535	2.517	4.567	1.814	4.331	1.814	2.085	1.814	4.496	1.711	0.502	1.814
	Nominal	90.000	3.200	1.850	3.200	1.850	1.850	3.200	1.850	3.200	0	0	0	0	0	0	4.000	12.500
	Left bound	89.000	3.100	1.850	3.100	1.850	1.850	3.100	1.850	3.100	-0.100	0	-0.050	-0.050	-0.050	-0.050	3.950	12.400
	Right bound	91.000	3.300	1.950	3.300	1.950	1.950	3.300	1.950	3.300	0	0.100	0.050	0.050	0.050	0.050	4.050	12.600
	Source Data Validity																	

#	Import/Capture time	File name	Angle 1	Diameter 1	Diameter 2	Diameter 3	Diameter 4	Diameter 5	Diameter 6	Diameter 7	Diameter 8	Distance 1(IN)	Distance 1(OUT)	Distance 2	Distance 3	Distance 4	Distance 5	Distance 6	Distance 7
1	2009-08-19 16:43:03		90.393	3.123	1.922	3.091	1.937	1.918	3.124	1.916	3.115	-0.037	-0.037	0.040	0.034	0.039	0.040	3.994	12.454
2	2009-08-19 16:43:27		90.522	3.130	1.921	3.127	1.911	1.919	3.125	1.916	3.116	-0.037	0.019	0.033	0.035	0.039	0.041	3.983	12.450
3	2009-08-19 16:46:40		90.576	3.125	1.918	3.125	1.908	1.921	3.129	1.922	3.121	-0.035	0.016	0.032	0.034	0.039	0.043	3.984	12.452
4	2009-08-19 17:00:26		90.577	3.126	1.918	3.125	1.908	1.921	3.129	1.922	3.121	-0.035	0.015	0.032	0.034	0.039	0.043	3.984	12.453
5	2009-08-19 17:06:26		90.470	3.133	1.917	3.137	1.916	1.920	3.134	1.916	3.124	-0.037	0.023	0.032	0.035	0.039	0.042	3.986	12.460
6	2009-08-19 17:07:12		90.471	3.132	1.920	3.135	1.917	1.921	3.134	1.918	3.124	-0.031	0.013	0.032	0.035	0.039	0.044	3.988	12.459
7	2009-08-19 17:07:29		89.314	3.065	1.921	3.110	2.005	1.919	3.135	1.916	3.127	-0.037	-0.037	0.030	0.074	0.039	0.041	4.088	12.511
8	2009-08-19 17:07:48		90.484	3.134	1.919	3.136	1.917	1.921	3.133	1.919	3.123	-0.037	0.025	0.033	0.036	0.040	0.044	3.989	12.458
9	2009-08-19 17:08:09		90.452	3.131	1.920	3.134	1.916	1.919	3.136	1.916	3.128	-0.031	0.016	0.031	0.035	0.038	0.040	3.987	12.464
10	2009-08-19 17:08:29		90.477	3.134	1.920	3.087	1.917	1.920	3.133	1.919	3.124	-0.037	-0.037	0.033	0.065	0.040	0.043	3.989	12.459
11	2009-08-19 17:08:50		90.453	3.130	1.920	3.135	1.917	1.920	3.135	1.917	3.127	-0.031	0.015	0.031	0.035	0.037	0.042	3.987	12.463
1	2009-08-19 16:43:03		90.393	3.123	1.922	3.091	1.937	1.918	3.124	1.916	3.115	-0.037	-0.037	0.040	0.067	0.039	0.040	3.994	12.454
2	2009-08-19 16:43:27		90.522	3.130	1.921	3.127	1.911	1.919	3.125	1.916	3.116	-0.037	0.019	0.033	0.035	0.039	0.041	3.983	12.450
3	2009-08-19 16:46:40		90.576	3.125	1.918	3.125	1.908	1.921	3.129	1.922	3.121	-0.035	0.016	0.032	0.034	0.039	0.043	3.984	12.452
4	2009-08-19 17:00:26		90.577	3.126	1.918	3.125	1.908	1.921	3.129	1.922	3.121	-0.035	0.015	0.032	0.034	0.039	0.043	3.984	12.453
5	2009-08-19 17:06:26		90.470	3.133	1.917	3.137	1.916	1.920	3.134	1.916	3.124	-0.037	0.023	0.032	0.035	0.039	0.042	3.986	12.460
6	2009-08-19 17:07:12		90.471	3.132	1.920	3.135	1.917	1.921	3.134	1.918	3.124	-0.031	0.013	0.032	0.035	0.039	0.044	3.988	12.459
7	2009-08-19 17:07:29		89.314	3.126	1.921	3.110	1.916	1.919	3.135	1.916	3.127	-0.037	-0.037	0.030	0.074	0.039	0.041	4.088	12.511
8	2009-08-19 17:07:48		90.484	3.134	1.919	3.136	1.917	1.921	3.133	1.919	3.123	-0.037	0.025	0.033	0.036	0.040	0.044	3.989	12.458
9	2009-08-19 17:08:09		90.452	3.131	1.920	3.134	1.916	1.919	3.136	1.916	3.128	-0.031	0.016	0.031	0.035	0.038	0.040	3.987	12.464
10	2009-08-19 17:08:29		90.477	3.134	1.920	3.087	1.917	1.920	3.133	1.919	3.124	-0.037	-0.037	0.033	0.074	0.040	0.043	3.989	12.459
11	2009-08-19 17:08:50		90.453	3.130	1.920	3.135	1.917	1.920	3.135	1.917	3.127	-0.031	0.015	0.031	0.035	0.037	0.042	3.987	12.463
1	2009-08-19 16:43:03		90.393	3.123	1.922	3.091	1.937	1.918	3.124	1.916	3.115	-0.037	-0.037	0.040	0.067	0.039	0.040	3.994	12.454
2	2009-08-19 16:43:27		90.522	3.130	1.921	3.127	1.911	1.919	3.125	1.916	3.116	-0.037	0.019	0.033	0.035	0.039	0.041	3.983	12.450
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4	2009-08-19 17:00:26		90.577	3.126	1.918	3.125	1.908	1.921	3.129	1.922	3.121	-0.035	0.015	0.032	0.034	0.039	0.043	3.984	12.453
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7	2009-08-19 17:07:29		89.314	3.126	1.921	3.110	1.916	1.919	3.135	1.916	3.127	-0.037	-0.037	0.030	0.074	0.039	0.041	4.088	12.511
8	2009-08-19 17:07:48		90.484	3.134	1.919	3.136	1.917	1.921	3.133	1.919	3.123	-0.037	0.025	0.033	0.036	0.040	0.044	3.989	12.458
9	2009-08-19 17:08:09		90.452	3.131	1.920	3.134	1.916	1.919	3.136	1.916	3.128	-0.031	0.016	0.031	0.035	0.038	0.040	3.987	12.464
10	2009-08-19 17:08:29		90.477	3.134	1.920	3.087	1.917	1.920	3.133	1.919	3.124	-0.037	-0.037	0.033	0.074	0.040	0.043	3.989	12.459
11	2009-08-19 17:08:50		90.453	3.130	1.920	3.135	1.917	1.920	3.135	1.917	3.127	-0.031	0.015	0.031	0.035	0.037	0.042	3.987	12.463

Report / Log

ATOMS PrecisionV2

มี 2 รุ่น คือ ATOMS Precision A77 (ขนาดชิ้นงาน 30mm) กับ ATOMS Precision OPTO-640 (ขนาดชิ้นงาน 64mm)

For more information:
www.chosen.co.th/atoms

ATOMS - AUTOMATIC IMAGE DIMENSION MEASURING SYSTEM

A77

"The measurement system for quick and easy validation of precision parts"

Validation

1

Step 1: Create a template based on your engineering drawings or from a DXF file

3

Step 3: The earlier created template is automatically fitted to the image of the plate and validates the dimensions

2

Step 2: Your operator simply captures an image of your production part, the software will automatically recognize the shape.

4

Step 4: The engineer can analyse the dimensions and stability of the production process

PLACE.VALIDATE.ANALYZE

With the affordable measurement system you can validate your production parts quickly in a few basic steps.
Save time and money with this innovative device powered by Atoms Precision V2.

ATOMS PrecisionV2

Atoms Precision OPTO-640

Description	Specifications
Image pickup device	1/2" 10 mega pixel monochrome CMOS
Video projection Lens	Double telecentric lens
Field of view	64mm (W) x 46mm(H)
illumination system	Collimated Green LED illumination
Least Count of Measurement	1µm
Repetability	± 3 µ
Interface	USB 2.0
Environmental conditions	
Operating ambient temperature	(+)10 to 35° C
Operating ambient humidity	20% to 80% RH (no condensation)
Z stage	
Movement	30mm
Load Capacity	3kg
Power supply	AC 100-240V 50/60Hz
	180VA max.
Weight	Approx.24kg

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