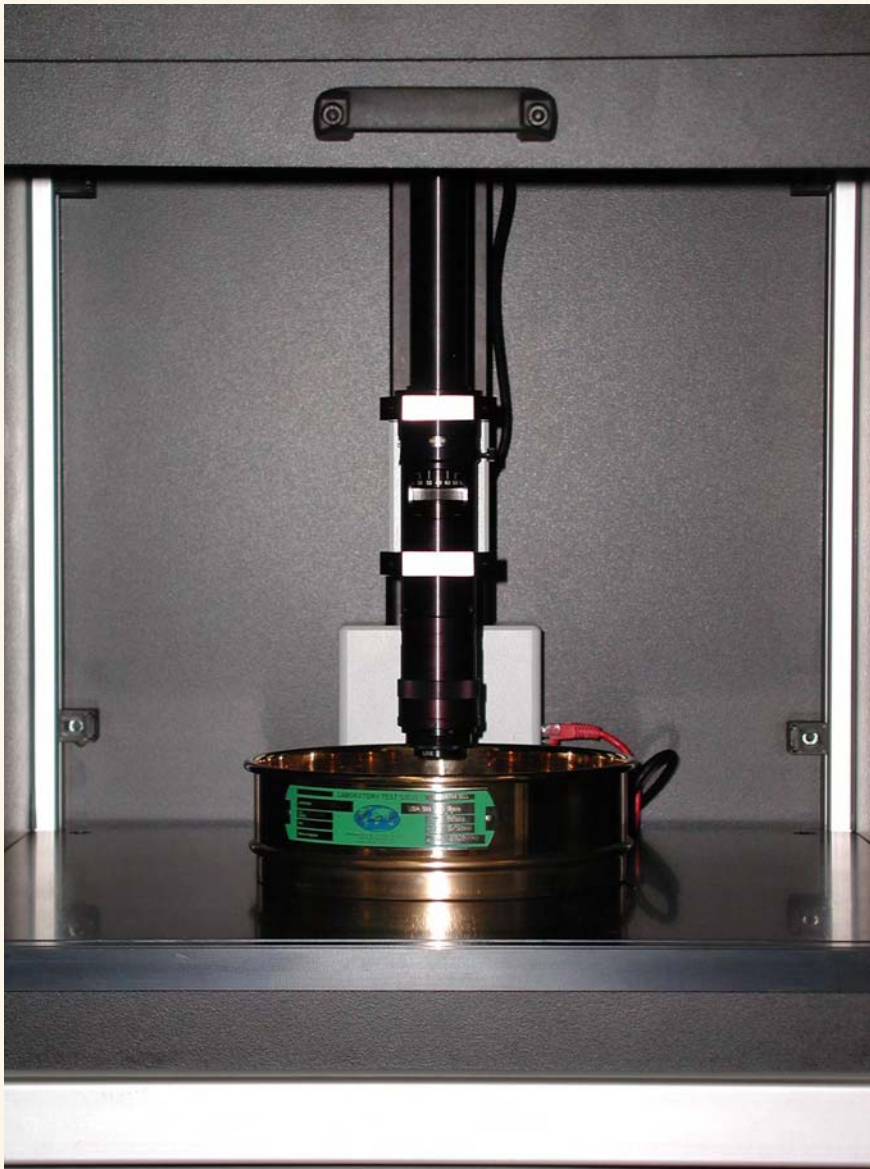


SIEVE CERTIFICATION SYSTEM



QC Automated Sieve Certification System (ASCS) provides fast and accurate measurement of wire mesh sieves with full compliance to the ASTM E11 standard. Fully automated, ASCS is a precision optical instrument that measures openings and wire diameters. Each sieve is scanned for irregularities with state-of-the-art image analysis software, and calibration traceable to the National Institute of Standards and Technology (NIST).

Operation is simple—just place a sieve on the test stand, and a software wizard guides you through the certification process in seconds!



Tabletop enclosure with slide-up access panel

Monochrome 1.4 megapixel Firewire digital camera system

24 inch manual focus optical column with optional motorized focus and joystick controller

Optics zoom assembly with click-stop detents for magnification adjustment

Auxiliary lens mount for 2.0x, 1.5x, 1.0x, 0.5x, and 0.25x lenses

Rugged 20 x 20 inch platform to accommodate 8 inch and 12 inch sieves

Collimated white fluorescent backlight with 10,000 hr bulb life, DC power supply 110V 60Hz

KEY FEATURES

- Ensure compliance to ASTM E11 standard
- Fully non-contact inspection technology
- Self-contained unit with test stand, enclosure, PC, and software
- Fast operation, measure hundreds of openings in just seconds
- Extremely accurate, uses optical scanning and image analysis
- Calibration traceable to National Institute of Standards and Technology (NIST)
- Complete statistical analysis in Excel-compatible spreadsheet
- BONUS: Full version of Image-Pro Plus image analysis software included!
- Units are portable

SPECIFICATIONS

Models

| | |
|------------|--|
| ASCS-200 | Base unit with mechanical focus |
| ASCS-200M | Base unit with motorized focus and joystick controller |
| ASCS-200MD | Base unit with motorized focus, joystick controller, and digital readout |

| Lens type | Video field of view ranges | Free working distance |
|-----------|---------------------------------|-----------------------|
| 0.25x | 47.2 x 59.2 mm to 3.8 x 4.8 mm | 305 mm |
| 0.5x | 23.6 x 29.6 mm to 1.9 x 2.4 mm | 177 mm |
| 1.0x | 11.8 x 14.8 mm to 0.94 x 1.2 mm | 89 mm |
| 1.5x | 7.8 x 9.9 mm to 0.63 x 0.80 mm | 52 mm |
| 2.0x | 6.2 x 7.7 mm to 0.47 x 0.59 mm | 31 mm |

| | |
|--|-----------------------------------|
| Sieve designation: | 20 micron to 12.5 mm |
| Sieve sizes: | 8 inch to 12 inch diameter |
| Sieve certification cycle time: | Less than 2 minutes |

| | |
|------------------------------|---|
| Measurement accuracy: | Meets or exceeds ASTM E11 requirements Resolution: < 0.50 microns Repeatability: 1.0 micron |
|------------------------------|---|

| | |
|---------------------|--|
| Calibration: | NIST traceable, standard included |
|---------------------|--|

| | |
|---------------------------|--|
| System Components: | Integrated measurement unit, PC, and software |
|---------------------------|--|

| | |
|------------------------|---|
| Image Analysis: | Automated sieve measurement software Integrated with: Media Cybernetics Image-Pro Plus 6.2 Full-featured image analysis software package |
|------------------------|---|

| | |
|-----------------------|---|
| Sample Report: | Excel-compatible spreadsheet Full statistical data, with tolerances Complete raw data set included |
|-----------------------|---|



Software Screenshots

Sieve Certification (Step 1 of 7)

Name: Paul Johnson

Test Standard: ASTM (selected), ISO

Sieve Type: 20 micron - No. 635

Lower Meas: 90 micron - No. 170, 106 micron - No. 140, 125 micron - No. 120, 150 micron - No. 100

Output: 150 micron - No. 50, 212 micron - No. 70, 250 micron - No. 60, 300 micron - No. 50

Clear Sheet:

Clear Screen:

Manual Filtering:

Save Image:

Show Calipers:

Single Step:

Next > Cancel Help

Start by selecting the Sieve Type from the drop-down list

Sieve Certification (Step 7 of 7)

Test Site # 1 Completed

8 diagonal openings processed so far

OK

< Back Finish Cancel Help

Per ASTM standard, measurements are always made at the midpoints of each opening. On the right, raw measurement data has been sent to Excel.

| Site # | Opening X | Wire X | Opening Y | Wire Y |
|--------|-----------|--------|-----------|--------|
| 1 | Row 0 | Col 0 | Row 0 | Col 0 |
| 2 | 177.5 | 130.17 | 184.5 | 135.47 |
| 3 | 179.28 | 129.06 | 179.92 | 138.95 |
| 4 | 178.47 | 128.94 | 179.04 | 138.95 |
| 5 | 179.62 | 130.85 | 176.16 | 137.02 |
| 6 | 184.34 | 129.01 | 183.02 | 138.3 |
| 7 | 179.79 | 128.86 | 178.57 | 137.49 |
| 8 | 178.38 | 128.83 | 179.62 | 138.98 |
| 9 | 181.89 | 128.89 | 178.54 | 133.99 |
| 10 | 178.86 | 128.83 | 178.54 | 133.99 |
| 11 | 180 | 128.86 | 186.57 | 134.84 |
| 12 | 177.06 | 128.67 | 178.76 | 139.2 |
| 13 | 179.2 | 129.17 | 181.45 | 137.62 |
| 14 | 179.01 | 128.9 | 183.82 | 137.52 |
| 15 | 180.66 | 129.23 | 185.62 | 137.5 |
| 16 | 184.69 | 129 | 176.04 | 139.16 |
| 17 | 179.24 | 130.63 | 181.55 | 137.89 |
| 18 | 177.12 | 128.62 | 176.53 | 133.95 |
| 19 | 181.48 | 129.31 | 182.18 | 136.14 |
| 20 | 179.63 | 128.46 | 179.64 | 139.08 |
| 21 | 178.76 | 128.98 | 179.43 | 138.85 |
| 22 | 180 | 128.86 | 175.18 | 138.02 |
| 23 | 177.04 | 130.65 | 181.86 | 139.06 |
| 24 | 179.38 | 128.79 | 177.64 | 138.86 |
| 25 | 177.35 | 130.3 | 179.09 | 139.06 |
| 26 | 179.91 | 128.87 | 178.87 | 134.1 |
| 27 | 184.33 | 130.68 | 183.87 | 134.1 |
| 28 | 180.52 | 128.94 | 183.87 | 135.06 |
| 29 | 176.85 | 128.77 | 178.58 | 139.23 |
| 30 | 183.91 | 128.94 | 181.64 | 139.22 |
| 31 | 177.1 | 129.07 | 171.9 | 138.61 |
| 32 | 180.66 | 128.68 | 182.91 | 138.48 |
| 33 | Row 3 | Row 3 | 176.71 | 139.09 |
| 34 | 177.51 | 129.19 | 179.46 | 139.43 |
| 35 | 178.95 | 129 | 176.7 | 134.56 |
| 36 | 178.65 | 129.31 | Col 4 | Col 4 |
| 37 | 179.21 | 130.94 | 180.49 | 135.62 |
| 38 | 184.59 | 129.27 | 179.51 | 139.41 |
| 39 | 178.64 | 129.14 | 181.25 | 137.81 |
| 40 | 178.55 | 128.98 | 174.17 | 138.26 |
| 41 | 181.73 | 129.09 | 181.87 | 139.35 |
| 42 | 179.08 | 128.93 | 177.55 | 138.77 |
| 43 | 179.21 | 128.95 | 178.57 | 139.42 |
| 44 | Row 4 | Row 4 | 177.04 | 134.52 |
| 45 | 176.97 | 129.41 | Col 5 | Col 5 |
| 46 | 180.78 | 128.95 | 183.8 | 134.95 |
| 47 | 176.58 | 130.96 | 178.48 | 139.31 |
| 48 | 179.38 | 128.79 | 181.97 | 139.09 |

Software Screenshots

The screenshot displays the Sieve Certification software interface. On the left, a grayscale image of a sieve is shown. The main window is titled "Sieve Certification (Step 1 of 7)". It contains the following fields and options:

- Name: Paul Johnson
- Test Standard: ASTM (selected), ISO
- Sieve Type: 180 micron - No. 80
- Sieve ID: END-5916672
- Lower Measurement Limit: 2.00
- Clear Screen:
- Output: Excel Sheet Number: 2
- Manual Filtering:
- Auto-increment Sheet Number:
- Save Image:
- Show Calipers:
- Clear Sheet:
- Single Step:

At the bottom right of the software window, a "Calculate" button is visible. Below the software window, a red-bordered box contains the text: "This screen shows the statistical results, indicating that the sieve has passed inspection."

The screenshot shows the complete Excel spreadsheet titled "Sieve Certification System 25 Sheet Template.xls". The spreadsheet is organized into three columns representing different sites (Site # 1, Site # 2, Site # 3). Each site has its own set of statistical summary information and raw measurement data.

| Site # | Opening X | Opening Y | Wire X | Wire Y |
|--------|-----------|-----------|--------|--------|
| 1 | 177.23 | 130.53 | 184.91 | 135.54 |
| 2 | 179.04 | 129.17 | 179.71 | 139 |
| 3 | 177.31 | 128.91 | 179.1 | 139.02 |
| 4 | 180.73 | 129.58 | 174.86 | 138.27 |
| 5 | 185.91 | 129.1 | 182.91 | 138.59 |
| 6 | 179.52 | 128.86 | 177.48 | 138.52 |
| 7 | 178.36 | 128.94 | 179.54 | 139.04 |
| 8 | 181.73 | 128.93 | 178.56 | 133.97 |
| 9 | 178.78 | 128.87 | 178.78 | 128.87 |
| 10 | 179.86 | 128.93 | 186.42 | 134.89 |
| 11 | 176.74 | 128.96 | 178.84 | 139.22 |
| 12 | 179.04 | 129.17 | 180.34 | 138.51 |
| 13 | 179.04 | 129.17 | 173.79 | 137.69 |
| 14 | 179.8 | 129.09 | 194.29 | 136.84 |
| 15 | 180.84 | 129.13 | 176.05 | 139.16 |
| 16 | 184.64 | 129.06 | 181.5 | 137.84 |
| 17 | 179.16 | 130.73 | 176.54 | 134.02 |
| 18 | 176.89 | 128.72 | 176.85 | 128.79 |
| 19 | 181.41 | 129.23 | 182.23 | 136.05 |
| 20 | 179.59 | 128.54 | 179.54 | 139.13 |
| 21 | 178.74 | 128.93 | 179.31 | 138.97 |
| 22 | 175.02 | 138.19 | 175.02 | 138.19 |
| 23 | 176.95 | 129.39 | 181.83 | 139.1 |
| 24 | 180.79 | 128.79 | 178.44 | 139.91 |
| 25 | 177.09 | 128.98 | 179.01 | 139.14 |
| 26 | 181.24 | 128.92 | 177.9 | 134.99 |
| 27 | 184.54 | 128.92 | 183.89 | 134.88 |
| 28 | 180.93 | 128.98 | 176.57 | 139.25 |
| 29 | 176.57 | 128.91 | 181.6 | 138.28 |
| 30 | 177.05 | 128.89 | 172.42 | 138.1 |
| 31 | 181.08 | 128.74 | 183.83 | 138.61 |
| 32 | 176.56 | 139.09 | 176.56 | 139.09 |
| 33 | 177.96 | 129.12 | 179.35 | 139.48 |
| 34 | 181.11 | 136 | 179.16 | 129.77 |
| 35 | 79.35 | 139.41 | 186.01 | 129.27 |
| 36 | 81.14 | 137.64 | 178.66 | 129.06 |
| 37 | 73.93 | 139.63 | 178.66 | 128.94 |
| 38 | 81.72 | 139.36 | 181.66 | 129.06 |
| 39 | 181.7 | 129.09 | 181.66 | 129.06 |
| 40 | 178.99 | 128.93 | 177.55 | 138.83 |
| 41 | 179.21 | 129.04 | 178.7 | 139.27 |
| 42 | 176.82 | 134.48 | 176.82 | 134.48 |
| 43 | 177.92 | 129.44 | 177.89 | 129.41 |
| 44 | 180.94 | 128.92 | 183.85 | 134.93 |
| 45 | 176.59 | 129.3 | 178.42 | 139.39 |
| 46 | 181.03 | 128.8 | 182.99 | 139.18 |
| 47 | 181.11 | 136 | 179.16 | 129.77 |
| 48 | 79.35 | 139.41 | 186.01 | 129.27 |
| 49 | 81.14 | 137.64 | 178.66 | 129.06 |
| 50 | 73.93 | 139.63 | 178.66 | 128.94 |
| 51 | 81.72 | 139.36 | 181.66 | 129.06 |

A red-bordered box at the bottom of the spreadsheet contains the text: "The complete Excel spreadsheet, with statistical summary information and raw measurement data".

Certify your sieves in-house...in minutes!

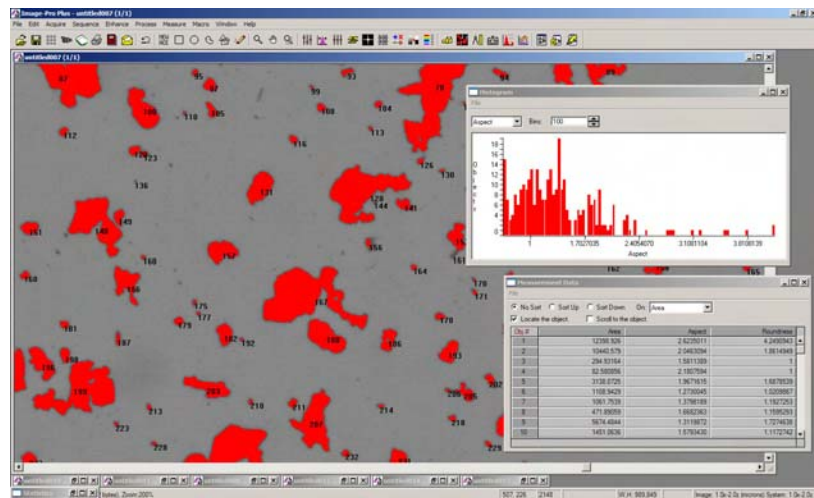
Measurement results are output to an Excel spreadsheet, with full statistical analysis including summary information, compliance with ASTM E11, and raw measurement data. Measurements reported for both openings and wire diameters include:

- Average Size
- Median Size
- Maximum Size
- Minimum Size
- Standard Deviation
- Largest 5%
- Total Measured Openings
- Total Diagonal Openings

For certain attributes, measurement limits are also displayed. Compared against the measurement limits, values displayed in **GREEN** indicate that the sieve has passed inspection, while values displayed in **RED** indicate the sieve has failed inspection for that particular attribute.

In addition, ASCS can optionally save images of each test site for archival purposes. Images are stored in TIF format and are named using the Sieve ID followed by a date and time stamp, so they can be easily correlated with their measurement data.

ASCS software is based upon **Image-Pro Plus**, the market-leading image analysis software package from Media Cybernetics, Inc. So if your work also involves particle analysis, we have a solution that will provide complete particle shape, size, and distribution information. Contact Vision Machines for details.



Save time and money by certifying your sieves in-house, rather than using an independent laboratory. ASCS is the ideal solution for transportation, construction, mining, food, pharmaceutical, chemical, and other industries where test sieve certification is critical for day-to-day operation.

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