



SATT GEMS

Swiss Analytical Testing Tools

a subsidiary of the Swiss Gemmological Institute SSEF

PearlScan®



- | Counting of Pearls
- | Detection of Different Strands
- | Pearl Diameter Measurement
- | Pearl Roundness Factor
- | Detailed Scan Report

PearlScan® | Technology for the pearl industry

Background

PearlScan® is a newly introduced system developed by SSEF that permits to count and measure the dimensions of large quantities of pearls on strands in an efficient manner. Consisting of an A4 scanner, computer and proprietary software this tool offers the pearl industry a new way of documenting pearl necklaces.

Together with the Centre Suisse d'Electronique et de Microtechnique (CSEM), with whom we have been collaborating for a number of years, we have developed the PearlScan® system which enables users to count and measure the dimensions of large quantities of pearls on strands in a relatively short period of time.

Principle

Scan of pearl necklace

The user scans one pearl necklace at a time by placing it on the A4 scanner surface. Both a transmission scan image and a documentation scan image are recorded.

Analysis of scan through PearlScan®

PearlScan® analyses and combines the two scan images to detect pearls and other elements, which can be reviewed by the user for optimisation of output. The length of each strand can be measured based on the selected clasp locations.

User review and detailed report output

The user is provided with a review of measurements, including a summary with 5 representative diameter measurements of each strand, strand lengths, number of pearls and roundness factor of pearls. The detailed scan report (PDF) provides a summary for the tested necklace and detailed information on each single pearl.

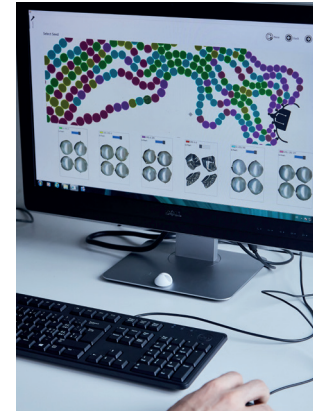
Pearl requirements

Pearl shape: round-roundish

Recommended max. number of strands: 5

Minimum to maximum acceptable diameter: 3.00 mm to 22.00 mm

Surface area: max. A4



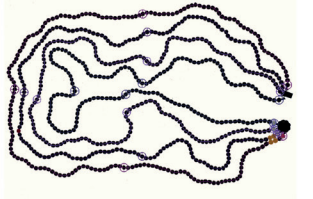
Advantages

PearlScan® is a viable, efficient and cost-effective product for the pearl industry as it offers:

- Ease of use
- Efficient and automated measurement of pearl size (diameter)
- Detailed report of number and diameter of each pearl on each strand
- Documentation image
- Shape roundness factor
- Detailed scan report for documentation

Scan Report

Necklace ID: **Necklace 1** User 1

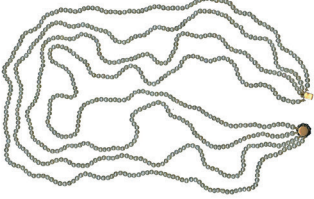


Strand	Diameter 1	Diameter 2	Diameter 3	Diameter 4	Diameter 5	Path Length	Pearls
A	3.65 mm	3.53 mm	3.68 mm	3.38 mm	4.15 mm	658 mm	170
B	4.15 mm	3.39 mm	3.50 mm	3.57 mm	3.78 mm	636 mm	174
C	4.14 mm	3.63 mm	3.47 mm	3.52 mm	3.70 mm	611 mm	168
D	4.06 mm	3.41 mm	3.72 mm	3.51 mm	3.60 mm	579 mm	156

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Necklace ID: **Necklace 1** User 1

Processed Image



Strand: A	Number of Pearls: 170	Path Length: 658 mm			
Pearl ID	Diameter (mm)	X Coord	Y Coord	Pixel Diameter	Pearl Roundness
<input type="checkbox"/> 1	3.65	5841.00	3198.00	87	0.94
<input type="checkbox"/> 2	3.77	8774.00	3252.00	90	0.97
<input type="checkbox"/> 3	4.03	5685.00	3295.00	97	0.99
<input type="checkbox"/> 4	4.03	8591.00	3326.00	97	0.95
<input type="checkbox"/> 5	3.72	5495.00	3364.00	90	0.96
<input checked="" type="checkbox"/> 6	3.72	8417.00	3422.00	90	0.97
<input checked="" type="checkbox"/> 7	3.94	8235.00	3466.00	93	0.95
<input checked="" type="checkbox"/> 8	3.51	8225.00	3485.00	86	0.88
<input checked="" type="checkbox"/> 9	3.87	5143.00	3509.00	94	0.79
<input checked="" type="checkbox"/> 10	3.49	8073.00	3560.00	85	0.98
<input checked="" type="checkbox"/> 11	3.69	5021.00	3632.00	89	0.95
<input checked="" type="checkbox"/> 12	3.69	4997.00	3701.00	89	0.90
<input checked="" type="checkbox"/> 13	3.56	4075.00	3799.00	85	0.87
<input checked="" type="checkbox"/> 14	3.59	4872.00	3860.00	85	0.92
<input checked="" type="checkbox"/> 15	3.53	4666.00	3962.00	84	0.93
<input checked="" type="checkbox"/> 16	3.67	4541.00	4041.00	91	0.91
<input checked="" type="checkbox"/> 17	3.54	4887.00	4093.00	90	0.89
<input checked="" type="checkbox"/> 18	3.39	4505.00	4123.00	88	0.97

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The above figure shows the first two pages of a specimen scan report. The first page summarises important findings, lists the number of strands, length of each strand and number of pearls as well as intermediary diameters. The latter page detail values measured for each pearl including pearl diameter and pearl roundness factor.

Specifications

Electricity: VAC 120/230 V (50/60Hz)

Dimensions (L x W x H): 51 cm x 30.5 cm x 8.7 cm (Scanner), 52.3 x 32.5 x 4.2 cm (PC)

Temperature range: between +15°C and +25°C

PearlScan® was developed and is now being sold to the pearl trade by SSEF in our mission to develop niche technology for the trade and supporting the pearl industry. PearlScan® is sold through SSEF's subsidiary SATT Gems SA. The new system was unveiled at BaselWorld 2017.

Price

PearlScan® | Standard option ⁽¹⁾..... CHF 9'900
Delivery cost..... on request

⁽¹⁾ Includes computer, scanner, software and license keys.

Detailed video of PearlScan® can be viewed on
www.sattgems.com

Contact us

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