

## SQA IIC-P vs. SQA-V Comparison Table

Features	SQA IIC-P	SQA-V
<b>Technology</b>	<p>One direct measurement channel that “reads” electronic signals produced by motile sperm cells.</p> <p>An algorithm converts these electronic signals into semen variables directly (motility parameters) or statistically (concentration parameters).</p>	<p>Two direct measurement channels that “read” electronic signals produced by sperm cells:</p> <p><b>Motility channel:</b> Measures the modulations in the motility channel’s light source caused by motile sperm cells.</p> <p><b>Concentration channel:</b> Measures the amount of the concentration channel’s infrared light that is absorbed by the sperm cells.</p>
<b>Sample Type</b>	Fresh	Fresh, Washed, Frozen, Postvasectomy, Diluted (low volume)
<b>Sample Volume</b>	20 µl	20 µl – Limited report 550 µl and 275 µl (diluted) – Full report
<b>Number of Cells Measured</b>	Tens of thousands of motile cells	Tens of thousands of cells (motility channel) Millions of cells (concentration channel)
<b>Results</b>	Test results are displayed and printed.	<b>Automated</b> test results are archived in the SQA-V database. SQA-V video screen displays sperm samples and allows for easy counting if desired. V-Sperm software allows PC interface and many data management functions such as graphing results, sorting, viewing video clips/pictures from the PC screen, archive management, capturing and saving static and dynamic images, etc.
<b>Average Test Time</b>	<b>45 seconds</b>	<b>75 seconds</b> (two channel system) Low quality samples: ~ 3 minutes Postvasectomy samples: 5 minutes

<b>Precision: Sperm concentration</b>	The <b>coefficient of variation = 10.6%</b>	The <b>coefficient of variation = 3.1%</b> .
<b>Precision: Sperm motility</b>	The <b>coefficient of variation = 6.6%</b>	The <b>coefficient of variation = 5.1%</b> .
<b>Technology Comparison</b>	The SQA IIC-P is a <b>screening tool</b> for distinguishing between normal and low quality semen samples. The SQA IIC-P is a single optical channel instrument. Its algorithm is based on the registering and analysis of the electronic signals reflecting the light disturbances caused by the minute movement of the motile sperm cells	The SQA-V is a <b>high performance analytical</b> medical device that combines state-of-the-art technology in electro-optics, computer algorithms and video microscopy. The SQA-V is a dual optical channel system: One channel reads concentration the other motility. The much higher precision and accuracy of the SQA-V over the SQA IIC-P is the result of the two channel system AND the advanced software and algorithms.

<b>Semen Parameters</b>	<b>Dynamic range of SQA IIC-P</b>	<b>Dynamic Range of SQA-V</b>
Total Sperm Concentration	Full Clinical Range	Full Clinical Range
Motility (grades a+b+c)	N.A.	0-90%
Progressive motility (grades a+b)	Full Clinical Range	0-90%
Non Progressive Motility (grade c)	N.A.	0-90%
Immotility (grade d)	N.A.	0-100%
% Normal Morphology (WHO 3 <sup>rd</sup> )	Full Clinical Range	Full Clinical Range
% Normal Morphology (Kruger)	N.A.	Full Clinical Range
Motile Sperm Concentration	N.A.	0-400 M/ml
Progressively Motile Sperm Concentration	Full Clinical Range	0-400 M/ml
Functional Sperm Concentration	Full Clinical Range	Full Clinical Range
Velocity (Average path velocity – VAP)	N.A.	Full Clinical Range
SMI - Sperm Motility Index	0-450	0-450
Total # Sperm	Full Clinical Range	Full Clinical Range
Total # Motile Sperm	N.A.	Full Clinical Range
Total # Progressively Motile Sperm	Full Clinical Range	Full Clinical Range
Total # Functional sperm	Full Clinical Range	Full Clinical Range

Features	SQA IIC-P	Automated SQA-V
Quality Control	N.A.	Three levels of assayed QwikCheck Latex beads Control material or Stabilized Sperm for CAP Proficiency Challenge (U.S.)
Fresh Samples	Full semen analysis report.	Full semen analysis report..
Washed Samples	Only limited semen analysis results are available: MSC, FSC & SMI.	Full semen analysis report.
Diluted Samples	This mode is not available	Full semen analysis report.
Frozen Samples	Only limited semen analysis results are available: MSC, FSC & SMI.	Motility parameters only: MSC, PMSCa, PMSCb, FSC, SMI, Velocity, Motile Sperm, Prog. Sperm.
Post vasectomy Samples & High Sensitivity Test	A 5 minute high sensitivity test can be run for low quality samples to determine a value for motility.	<p>The Post-vasectomy mode is highly accurate and allows a video capture of the test results for documentation purposes.</p> <p>The post-vasectomy mode detects minute sperm motility. The value is reported as a number of moving sperm cells in the sample.</p> <p>Samples can be double checked visually in the SQA-V visualization system on a PC screen.</p>
Patient Archive	N.A	Archive documentation
Video Microscope Visualization	N.A	Microscope utility X300-X500 magnification
PC / Internet Compatibility	N.A	V-Sperm GOLD software provides database management of patient and quality control records, reports, graphs and ability to archive and attach sperm pictures to reports and save video clips attached to patient records.
Self-calibration and Self-test	The SQA IIC-P performs a series of tests to check calibration and internal operating system	The SQA-V performs a series of tests to check calibration and internal operating system

