




Item	SQA-VISION		SCA® Human	SCA SCOPE
General view				
Technology	Combines technology in optoelectronics and computer algorithms and video microscopy		Image analysis: Video images of sperm cells are captured and analyzed by the software.	Image analysis: Video images of sperm cells are captured and analyzed by the software.
Automation	Fully automated results within the reportable range		Semi-automated system (microscope + computer + software)	<ul style="list-style-type: none"> ○ Automated system with minimal human intervention (all-in-one CASA) ○ The system automatically adjusts the adaptive optics, detects and focusses samples
Accuracy	Sensitivity: Concentration 90% Motility 85%	Specificity: Concentration 85% Motility 80%	Not specified (Problems with accuracy reporting high and low sperm concentration)	Not specified (Problems with accuracy reporting high and low sperm concentration)
Correlation to manual results (level of agreement)	Concentration: > 0.93 Motility: > 0.86 Morphology: 0.71		Not specified	Not specified
Precision and Statistical representation	<ul style="list-style-type: none"> ○ High precision (CV < 6%) due to adequate sample representation ○ High sample representation (500 µl) 		Poor/moderate due to <ul style="list-style-type: none"> ○ Low sample size (several microliters). ○ The subjective nature of instrument calibration and the requirement to adjust the settings 	Poor/moderate due to the small sample size (several microliters).
Sample preparation/ sample Loading	Easy sample preparation: <ul style="list-style-type: none"> ○ Fill the testing capillary ○ Insert into the testing chamber. ○ Testing begins automatically 		<ul style="list-style-type: none"> ○ Highly concentrated semen samples are diluted to avoid sperm cell overlap. ○ Motility and Concentration are assessed using fixed coverslip slides ○ Additional staining step for assessing morphology. 	<ul style="list-style-type: none"> ○ Highly concentrated semen samples are diluted to avoid sperm cell overlap. ○ Motility and Concentration are assessed using fixed coverslip slides ○ Additional staining step for assessing morphology.
Starting test	Testing begins automatically when a testing capillary is inserted into the measurement chamber.		<ul style="list-style-type: none"> ○ Placing the slides on the stage ○ Adjusting Focus ○ Selecting fields Analysis 	<ul style="list-style-type: none"> ○ Placing the slides on the stage ○ Test runs automatically
Testing time	Rapid results under 2 min		<ul style="list-style-type: none"> ○ ~ 5 minutes ○ Operator dependent 	~ 4 minutes
Results	Fully objective standardized automated test results		User adjustable (lack of objectivity)	Objective with Minimal human intervention
Reports	<ul style="list-style-type: none"> ○ Reports show results for tested parameters only (user can designate) ○ Report defaults, logos, contact information (user designated) ○ Captured sperm images can be attached 		User customized reports including letterhead and specified results.	Reports show results for tested parameters only (user can designate)