

FAST IS FINE,
BUT ACCURACY
IS EVERYTHING

A part of



MODULAR

CASA

Shivani Scientific Industries (P) Ltd. is a highly focused company on Assisted Reproductive Technologies (ART) and Biomedical Equipment with a proven track record of over 42 years. We firmly believe that change inspires growth and ignites the passion for learning. If there is anything in the world that is inevitable, it is change, and Shivani is evolving. From being marketing partners to developing our own brands, our legacy has helped pave way for a better tomorrow.

Wondersperm, which has been specifically developed to offer total Andrology solutions, is one of the brands that are a part of this change. With the **Wondersperm Modular CASA**, Shivani is now attempting to change the way that semen analysis is performed.



About Modular CASA - Computer Assisted Sperm Analyzer

Wondersperm Modular CASA is a new generation product which facilitates computer aided semen analysis of sperm parameters as per the criteria established by the WHO (World Health Organization). The combination of the image processing hardware and software, along with the integrated database with customizable report formats, will equip andrologists, embryologists and researchers alike with a user friendly tool which will help simplify semen analysis.

Thanks to the simple user interface, all analyses are quick and easy to perform in a precise, objective manner with reproducible results, something which is not possible in manual semen analysis. The basic

hardware components of the system consist of an optical microscope with phase contrast optics connected to a digital camera and a computer with the **Modular CASA** and **Wondersperm Index** (Database) software installed.

Although the system is computerised, it necessitates some manual intervention, which is the highlight of CASA. The interpretation by the human eye is amply assisted by the computer system to minimize the margin of error. Hence, although not being totally **automated**, this system is an interplay between human and computerised assessment for optimal reporting, hence the name Computer '**Assisted**' Sperm Analyzer.

Core Objectives in Andrology

Optimise Semen Analysis

Constant adherence of good practices to ensure meticulous and timely results so that the needs of the patient are met.

Standardized Interpretation

Minimize intra and inter observer variations through application of established knowledge base, trained and qualified personnel and standardized protocols.

Reliable Diagnosis

Detailed diagnosis of the problem at hand so that steps can be taken towards finding a solution.

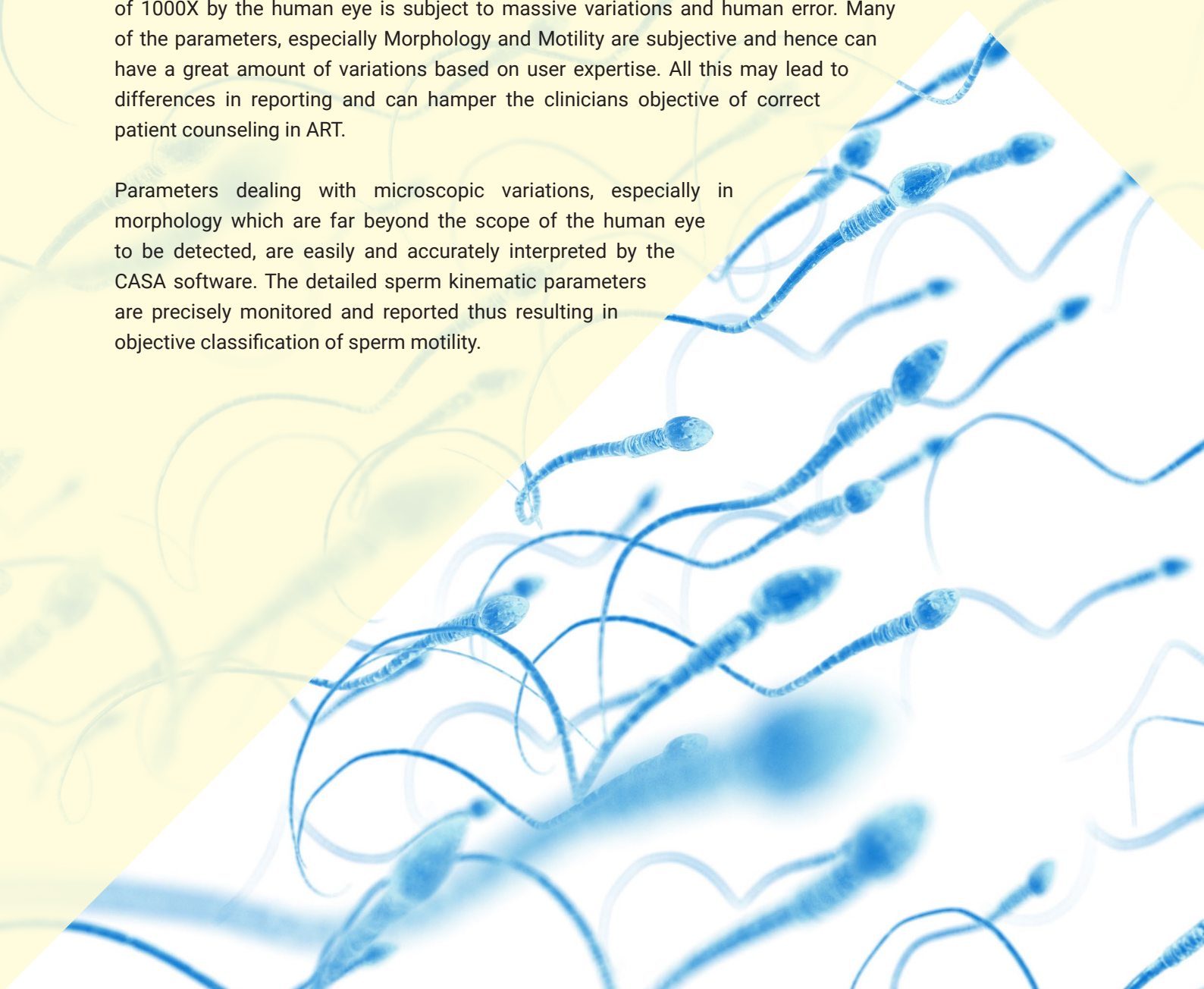
Precise and Prompt Reporting

Generation of precise reports which will help clinicians decide the best course of treatment.

Advantages of CASA over Manual observation

The interpretation done over routine bench microscopes having a maximum magnification of 1000X by the human eye is subject to massive variations and human error. Many of the parameters, especially Morphology and Motility are subjective and hence can have a great amount of variations based on user expertise. All this may lead to differences in reporting and can hamper the clinicians objective of correct patient counseling in ART.

Parameters dealing with microscopic variations, especially in morphology which are far beyond the scope of the human eye to be detected, are easily and accurately interpreted by the CASA software. The detailed sperm kinematic parameters are precisely monitored and reported thus resulting in objective classification of sperm motility.



Analysis Modules

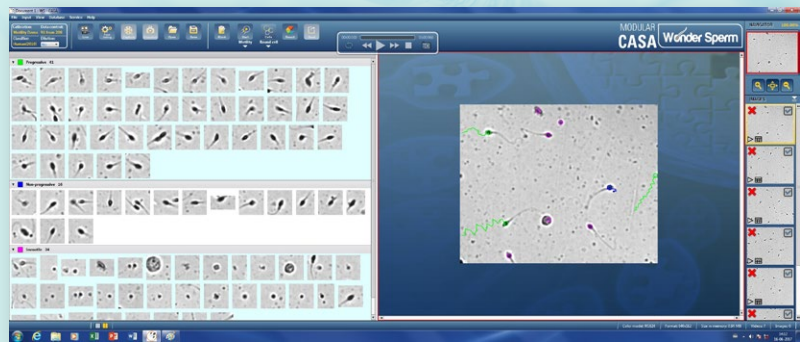
Four independent software modules are available for analysis of different sperm parameters – **Motility, Morphology, Vitality and DNA Fragmentation** from which users can pick and choose any **combination** or even **individual modules** as per their preference.

Motility

Provides semi-automatic assessment of sperm concentration in millions per ml, total motility and WHO motility classification, based on sperm kinematics for each sample, using 10X/20X phase contrast.

The module classifiers work as per guidelines of both the WHO 4th and 5th editions. Option of classifier “learning” is also provided.

Measurement of additional WHO defined sperm motion parameters like VCL, VAP, VSL, STR, LIN, WOB, ALH, BCF, MAD, LinTr and STRLinTr enables assessment of sperm kinematics for each and every sperm.



Modular
Power
Choice

Morphology

Provides semi-automatic assessment of sperm morphology in Diff Quick & Haematoxylin & Eosin stained specimens. Stained spermatozoa in captured fields are analyzed using 50X oil objective under brightfield illumination.

Classification as per Kruger's strict criteria. Calculation of indices of multiple sperm defects like TZI, SDI, MAI is also possible.



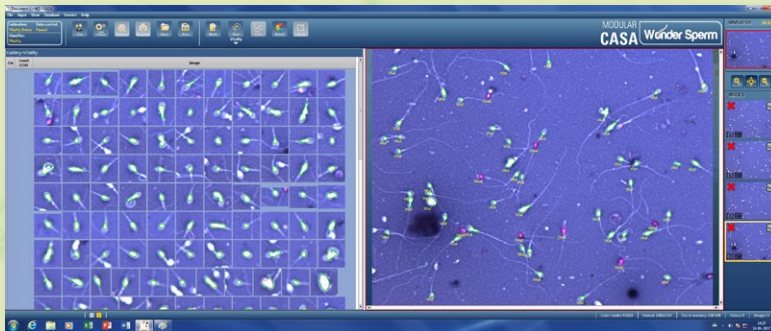
Choice of Modules

DNA
Fragmentation

Motility
Morphology

Motility
Morphology
Vitality
DNA Fragmentation

Vitality

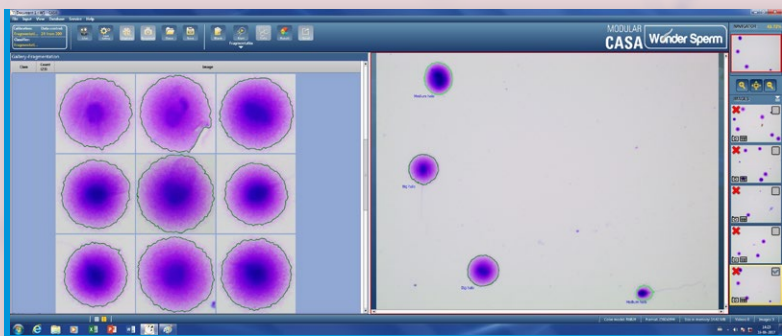


The viability of sperm is another important measurement parameter especially in cases of severe male factor infertility. The Modular CASA Vitality module provides semi-automated assessment of the ratio of live and dead sperm in a semen sample in smears stained using the Eosin Nigrosin method.

Images are captured using a 50X oil objective under brightfield illumination.

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DNA Fragmentation



The Modular CASA DNA Fragmentation module provides semi-automated assessment of percentage of DNA fragmentation in a semen sample based on the Sperm Chromatin Dispersion test. The analysis is done using a 50X oil objective under brightfield illumination.

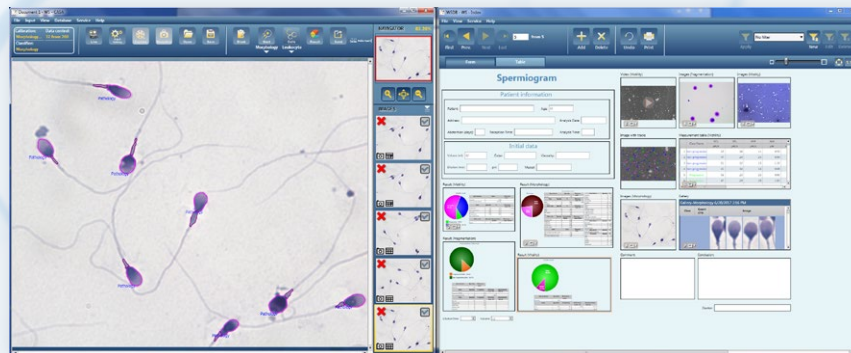
Samples are stained using a DNA fragmentation kit like Haloview and Sperm are classified as either with intact or fragmented DNA based on the size of the halo.

Reporting Module

Wondersperm Index

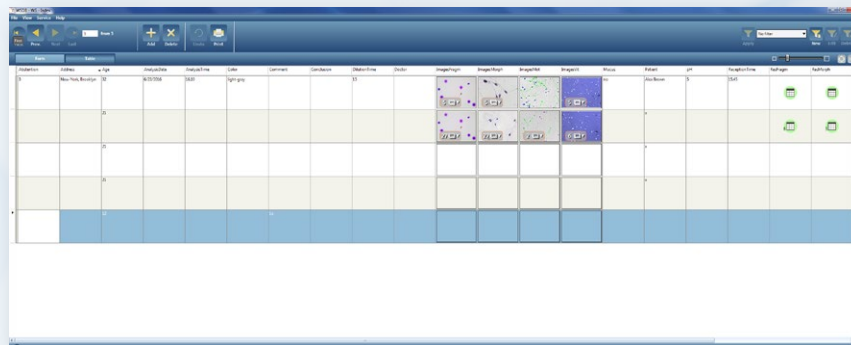
The reporting module i.e. the **Wondersperm Index** functions in tandem with the Analysis Modules to facilitate the storage of all videos, images with tracks, images for morphology, vitality and DNA fragmentation as well as the detailed data tables. It serves as a comprehensive storehouse of all patient data related to semen analysis. Filter and sort function enables easy searching and recall of patient records as per designated fields.

Storage of all patient data



Server and Workgroup Connectivity

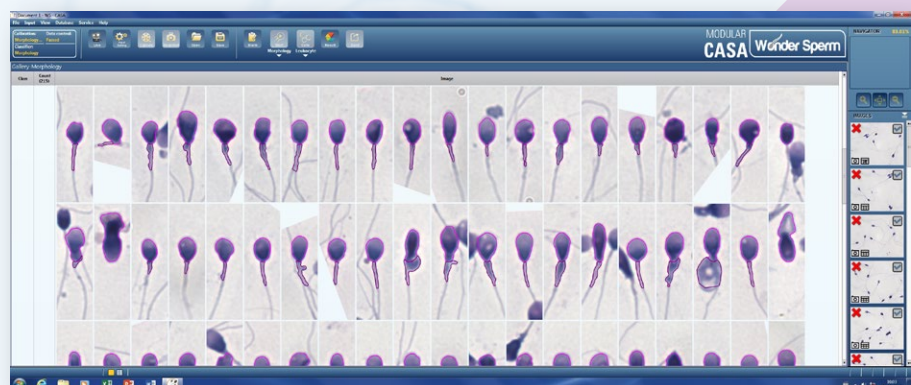
Customizable Blank Reporting Format



















Easy to Use Filtering and Sorting Function

Gallery View

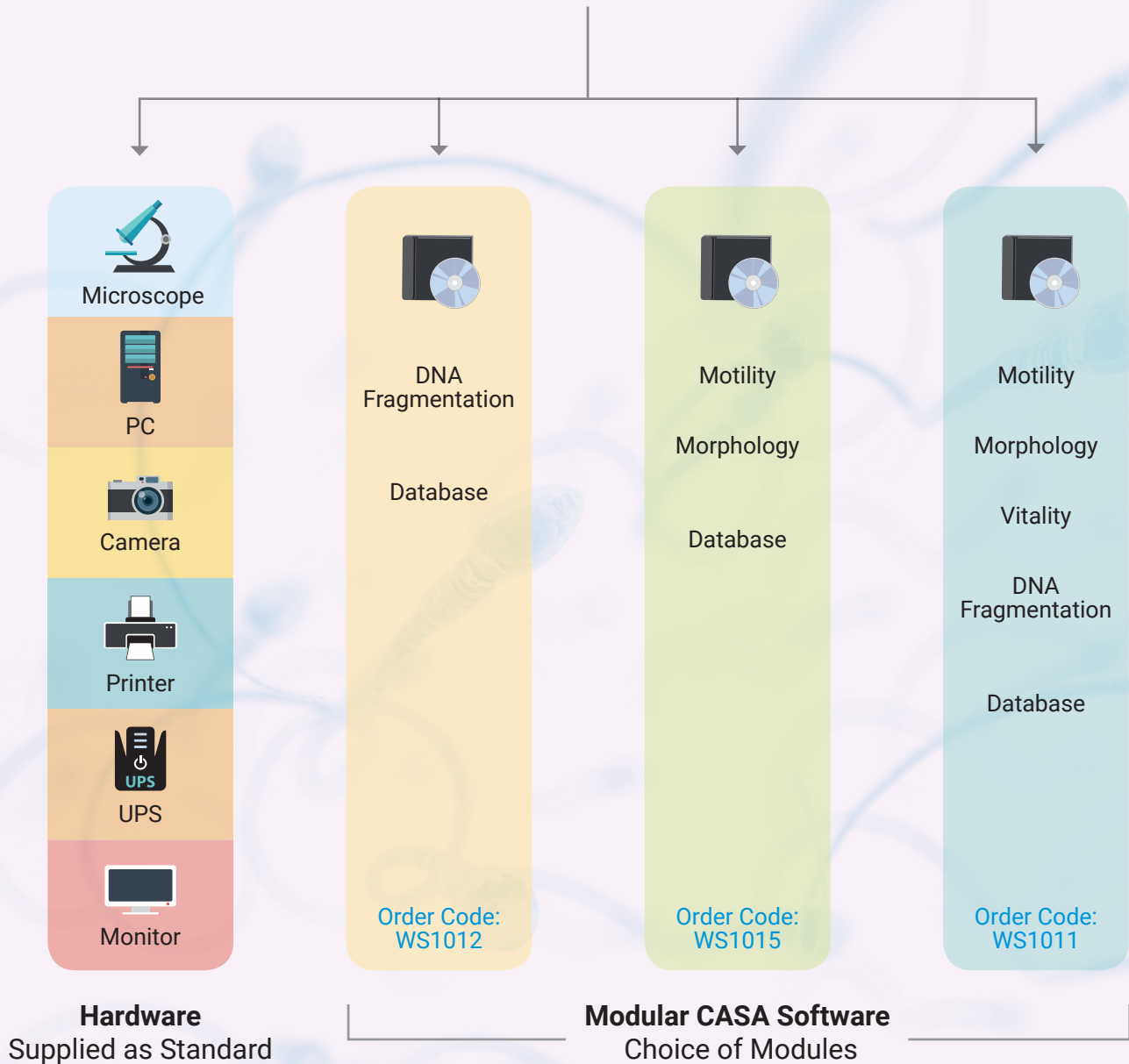
The unique "Gallery View" which is a part of all modules helps in fast sample processing. All this, along with a host of other useful features, makes Modular CASA a reliable and handy tool for rapid, accurate semen analysis.



All Inclusive System Configuration for Optimal Performance

	<p>Nikon E200 with 10X & 20X phase objectives and 50X oil objective as standard.</p>		<p>Ultra easy user interface. Switch between morphology and motility modules with a click of a button.</p>
	<p>3.1 MP Jenoptik German Camera.</p>		<p>4 independent analysis modules which can be chosen based on user requirement.</p>
	<p>Dell Optiplex 9020 with 1 TB HDD and 3 year onsite next business day warranty.</p>		<p>Both WHO 4th and 5th Edition Classifiers incorporated in motility module.</p>
	<p>Ultra wide 29" Monitor with dual screen interface for easy multitasking.</p>		<p>Motorized stage module enabled as default with built in drivers. No extra charges. NOTE: Higher end microscope and motorized stage needs to be purchased by the user.</p>
	<p>Wifi enabled printer featuring low cost ink tank technology which allows you to print up to 6000 pages.</p>		<p>Gallery View for easy and fast working on analyzed spermatozoa. Enables easy manual intervention and faster editing, processing and report generation.</p>
	<p>APC 1500 VA UPS which protects all peripherals and can provide battery backup for almost 50 mins in case of power failure.</p>		<p>User friendly database index (Wondersperm Index).</p>
	<p>Sperm Counting Chamber with 2 coverglass (One with grid and one without grid).</p>		<p>Highly optimized database with filter and sort function. Wide range of parameters to search information in the database (Wondersperm Index).</p>
	<p>Wifi Dongle included in hardware package.</p>		<p>Choose standard report formats or design your own without any programming or technical knowledge.</p>
	<p>1 year warranty as standard.</p>		<p>Remote Support Software preinstalled for easy issue resolution by remote assistance.</p>

The Anatomy of Modular CASA



Shivani
Enabling life through technology

**We Innovate.
We Create.**

ISO 9001 : 2015 | ISO 13485 : 2003 | CE

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