



# IVOS<sup>®</sup> Pro

## Innovative CASA System

**IVOS Pro offers advanced computer-assisted sperm analysis technology for animal reproduction.**



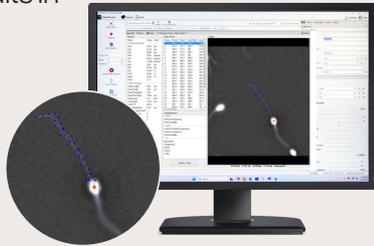
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# IVOS<sup>®</sup> Pro Overview

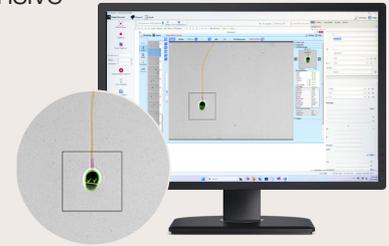
## High-throughput Semen Analysis

IVOS Pro enables analysis of semen samples in seconds and minimal clicks for faster, reliable results in animal reproduction.



## Key Parameters Assessment

The system evaluates sperm motility, concentration, kinematics, and tail morphology to ensure comprehensive quality control.



## Improved Laboratory Productivity

IVOS Pro's automation and speed help laboratories deliver consistent results and increase operational efficiency.



# Key Benefits

## Rapid Analysis Speed

The system enables the capture of more sperm thanks to a high-resolution camera, autofocus mode, and stage movement in the X, Y, and Z directions.

## Automation and Precision

Automation-first design includes autofocus, auto-brightness, and auto-illumination to ensure consistent and accurate results.

## Ergonomic and Clean Design

Compact footprint with aluminum and powder coated paint for easier cleaning.

## Enhanced Workflow and Accuracy

Features support improved workflow, reduce technician variability, and enhance data accuracy by standardizing the method thanks to fixed optics and autofocus feature.

# Automation and Optics



## Advanced Automation Features

IVOS Pro includes autofocus on startup, automatic stage mapping, and auto-brightness control for smooth operation.



## New Sample Loading Light

Greater accuracy when loading the sample in the counting chamber.



## Standardized Internal Optics

Fixed and locked optics ensure consistent image quality and reduce microscope-to-microscope variability.



## User-Friendly design

1. Combined automation of focus, light, and movement with software.
2. Ergonomics for minimal clicks and fastest data output to a database.
3. Ability to multitask and prepare samples while automated analysis is running.



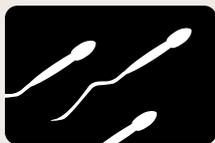
## Advanced Component Protection

IVOS Pro features an internally protected optical path that safeguards against light and temperature changes for consistent operation.



## Reliable Operation and Minimizing Downtime

The design ensures smooth, reliable functioning minimizing operational interruptions in laboratory settings.



## Consistent High-Quality Imaging

Fixed standardized optics with a high-definition camera produce faithful images for reliable performance over time.



## Precision Motorized Stage

Equipped with a rugged motorized stage enabling precise X, Y, and Z movements during analysis.



## Heated Stage Functionality

Heated stage rapidly reaches 37°C +/- 1°C in less than 15 minutes to maintain optimal sample conditions for accurate results.

# Consistent Results Across Technicians

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## **Minimizing Technician Variability**

IVOS Pro self-adjusts focus, illumination, and brightness to reduce technician-related inconsistencies.

## **Fixed Internal Optics**

Fixed internal optics remove variability caused by external microscopes, ensuring uniform imaging.

## **Repeatability in Laboratories**

Standardized imaging promotes repeatability and reliable analysis across different users and locations.

## **Consistent Chamber Depth**

Fixed coverslip slides provide consistent chamber depth, ensuring accurate and repeatable semen sample measurements.

# Optimized User Experience

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## **Streamlined User Interface**

The interface minimizes clicks and rapid automatic output to database. Maximizes automation for an efficient user experience.

## **Higher Resolution Camera**

IVOS Pro allows to capture up to 30% more sperm than IVOS II.

## **Rapid Stage Movement**

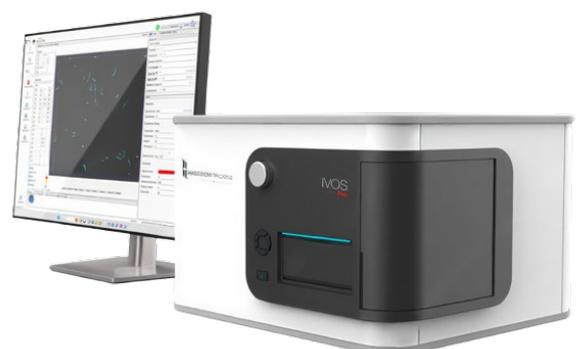
Fast X Y Z axis stage movement allows to perform a better screening of the counting chamber.

## **Enhanced Workflow Efficiency**

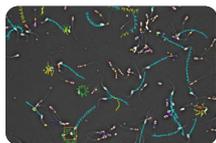
Combined features speed up laboratory processes, increasing productivity and reducing wait times.

## **Fast Autofocus Stability**

Fast autofocus ensures stability during plate movement, eliminating delays from manual adjustments.



# Fertility and Dose Optimization



## Accurate doses calculation

IVOS Pro calculates doses, useful doses in animal breeders, and provides quality control check of doses.

# Technical Specifications

Dimensions	Height in. (mm)	Width in. (mm)	Depth in. (mm)	Weight lb. (kg)
IVOS Pro	10.5 (265)	16.5 (425)	15.3 (390)	40 (18)

## IVOS Pro components | Unit featuring:

- Integrated fixed optics (10x negative phase contrast)
- High speed motorized heated stage with sample light for easy loading, allowing 3 capture modes (Sequential, Manual, Center Area)
- High resolution digital camera (2448 x 2048 pixels) with framerate up to 60fps
- High performance, integrated computer with Windows 11
- High definition 24" Flat Panel Widescreen (1920 x 1080)

## Analysis Output | The intuitive HT CASA software provides quantitative results for the following parameters:

**Counts:** Total, Static, Motile, Progressive, Slow

**Total, Static, Motile, Progressive, Slow:** Choice of billion or million

**Concentrations:** Total, Static, Motile, Progressive, Slow (Choice of billions/ml or millions/ml)

**Percentages:** %Total, %Static, %Motile, %Progressive, %Slow

**Doses:** Extender Volume | Final Volume | Adjusted Concentration | Number of Doses

**Kinematic Measures:** DAP, DSL, DCL, VAP, VSL, VCL, ALH, STR, LIN, BCF, WOB (Average, SD, Median)

**Morph Averages:** Head Length, Head Width | Head Perimeter, Head Area | Tail Length, Tail Straightness | Droplet Distance, Droplet Frame Count | Proximal Droplet, Distal Droplet, Bent Tail, Coiled Tail, DMR (total count, Motile or Progressive %)

## Customized Reports

- Analysis results can be exported via ASCII file output.
- Display sperm analysis results with user-friendly drag and drop report designer.



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