



CASA system
with unmatched
accuracy for
concentration,
motility,
morphology

IVOS Pro

A step forward in productivity
to improve economical gain

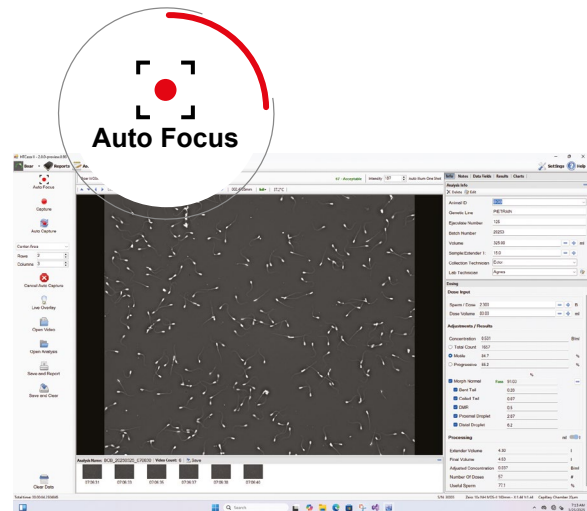


Maximize doses & ensure quality

Standardise semen analysis

IVOS Pro features **autofocus**, **auto-illumination**, and **auto-brightness**, ensuring seamless operation. Regardless of the technician's experience, IVOS Pro self-adjusts, **eliminating technician-related variations** between analyses. This enhances repeatability and ensures consistent, standardized results.

With fixed internal optics, you eliminate the variations of external microscopes, ensuring better standardization and higher image quality.



Maximize economic gains through fertility and dose optimization

When used with Leja slides which ensure a consistent chamber depth, the system's accuracy and repeatability **prevent losses from removing unsellable low concentrated doses or wasted production from overly concentrated samples**.

The precise measurement of motility and morphology, combined with concentration values, ensures optimal dose quality by using the useful concentration, which takes all three parameters into account.



IVOS Pro, an evolution of a globally recognized system

IVOS Pro is the next evolution of the IVOS platform. IVOS is renowned globally for its repeatable and precise analysis.

With over **1 000 IVOS systems** installed across the world, IVOS Pro builds upon the trusted foundation of its predecessor, offering enhanced features and improved capabilities to further elevate your analysis accuracy and efficiency.

Speed up your workflow



IVOS Pro:
Up to
1.8 times faster
than IVOS II,
already well known
for its speed.

Unmatched speed and workflow efficiency

Optimized for performance, IVOS Pro features a streamlined user interface with **minimal clicks, maximum automation, rapid stage movement** and more sperm per field (fewer fields required than IVOS II). Combined with high-speed data acquisition, IVOS Pro significantly enhances workflow for both production and quality control. The **fast autofocus** maintains **stability during plate movement**, eliminating time loss from refocusing or manual adjustments.

With our dedicated **Field Application Team**, we provide hands-on training during system installation and **ensure the standardization of sample preparation**. This process is further optimized when combined with our dilutor. Our team also offers regular updates, annual follow-ups, or on-demand support to maintain optimal process performance.

With its automation and intuitive interface, IVOS Pro enables quick installation and **rapid adoption**, saving valuable time.

Reliability and minimal downtime

Enhanced with advanced components, IVOS Pro ensures smooth operation and minimizes downtime in the lab.

IVOS Pro features fixed, locked, standardized optics that provide **consistent and reliable performance**. The high-definition camera delivers a **high-quality, faithful image**, enhancing the accuracy of analyses. Additionally, the internal optical system is protected from light and temperature, environmental conditions that could impact the analysis, ensuring stable and precise results over time.

Our multidisciplinary team provides fast and efficient troubleshooting, reducing intervention time. On top of that, a **preventive maintenance agreement** offers **peace of mind**, ensuring long-term reliability.



System integration for increased efficiency

IVOS Pro can function as a standalone tool or **integrate seamlessly with your existing lab software**. This integration enhances system speed by automatically transferring data between the two systems, reducing human error and saving time by automating data transmission.

Optimize your stud management with data-driven insights

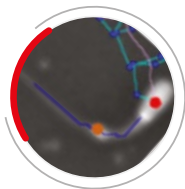
Abnormalities as Indicators of Male Fertility Health

Abnormalities in semen are a **key indicator of spermatogenesis issues** and can signal potential fertility problems. By automatically detecting **5 different abnormalities**, you gain a comprehensive picture of semen quality with each analysis.

For younger animals, you can track the improvement of semen quality, allowing you to determine the optimal time to begin using/selling doses.

In the case of health issues, heat stress, testicular degeneration, IVOS Pro enables quick identification of problems, preventing compromised ejaculate from entering production and causing economic losses.

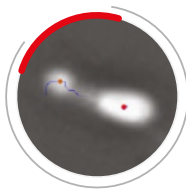
Results obtained from evaluation can be used to make husbandry decisions which may improve sperm output. These may include changes to collection schedules or diet.



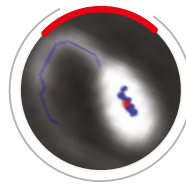
Distal droplets



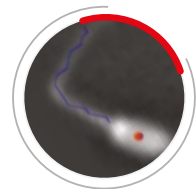
Proximal droplets



Retroverted tails
(DMR)



Coiled tails



Bent tails

Enhance data monitoring and efficiency

IVOS Pro enables **continuous, real-time monitoring of semen morphology quality** by analysing every sample and every field, unlike manual evaluations that are limited and retrospective. Therefore there's no risk in using ejaculates with major morphological issues, as all samples are thoroughly tested.

By analysing five times more spermatozoa than manual counting, IVOS Pro enhances data accuracy, delivering up-to-date and comprehensive results. Automating manual morphology counting process alongside concentration and motility assessments **saves time compared to manual methods**.

All data is securely stored on the system with easy access.

Advanced abnormality analysis on different populations

Abnormalities are analyzed for each sperm population (total, motile, progressive), providing a **more accurate semen quality assessment** compared to analyzing it based solely on the total sperm count. You have the flexibility to use your own definition of useful concentration, and the system automatically calculates the number of doses to produce based on your chosen criteria.

Ensure
accurate
morphological data
based on **your
population of
interest**, not just total
sperm.

IVOS Pro motility validation

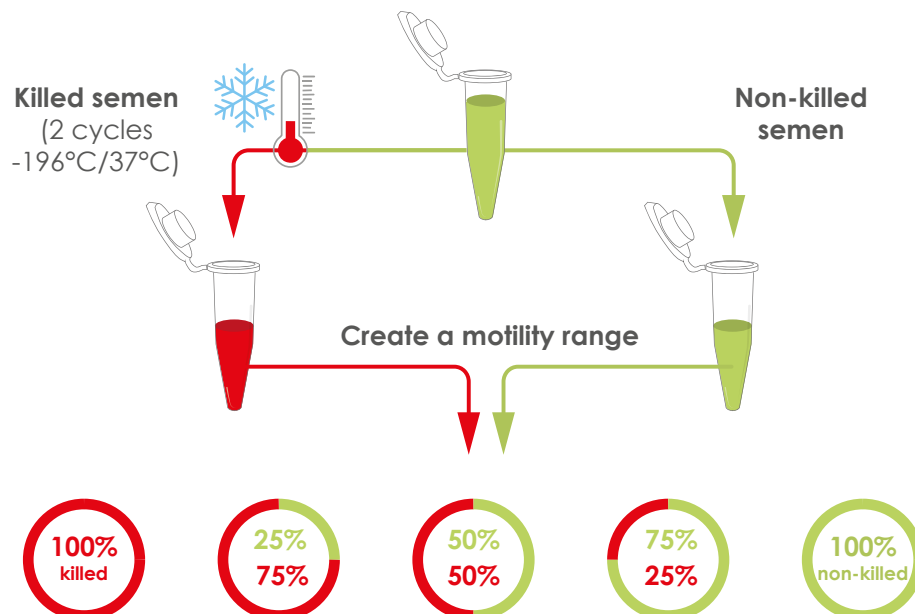
The Motility Ratio Method as our reference standard

The highest sperm motility is not always the true motility, and it is important to have a **reference method** to determine the best solution for your lab.

The economic impact would be to have problem of fertility due to a **surestimated motility evaluation**.

Motility Ratio Method is an innovative technique to validate sperm motility measurements. By **blending motile and non-motile fractions** and comparing theoretical with measured values, this method delivers unmatched accuracy and reliability.

Samples preparation with varying motility ratios, ensuring easy application.



It is an objective **method to validate sperm motility reliability**. Bovine and porcine semen samples were split into two equal fractions. Fraction A was kept alive with a motile population considered at maximum proportion, while Fraction B was killed with 0% motile population. A range of motile/non motile sperm was performed by mixing both fractions.

This groundbreaking approach addresses common biases, offering laboratories and AI centers a **dependable tool for enhancing evaluation protocols**. It redefines semen analysis with precision and reproducibility at its core.

The motility ratio method as a novel approach to qualify semen assessment. (Agnès Camus et al, 2024)

IVOS PRO technical specifications

Data

Total and Progressive Motility, Concentration, Basic morphology (Proximal & Distal Droplets, Bent & Coiled Tails, DMRs), Velocity parameters, Cell morphometry, Volume of media, Number of doses.

Stage

Automated stage with X, Y and Z movement and a sample light for easy loading.

Setup

Bovine, Swine, Equine, Ovine, Caprine, Aqua, Poultry, Rabbit, Canine, Feline, Exotic species, Endangered species... & Customizable setup.

Media compatibility

Clear media, but also skimmed milk and egg yolk media thanks to its particle filter.

Customization

Extensive customization to suit each center's unique characteristics.

Data management

Integrates with eSmile and lab software for seamless data exchange, recording all data and exporting it in ASCII format for Excel analysis.

Videos

Record videos for reanalysis if needed. Possible to save them in AVI format for easy sharing with customers.

Report

Easy to generate in one click. Fully customizable.

Warning

If the CV between two fields is excessively high, such as when an air bubble is present in the chamber, a popup message will alert the technician.

Languages

English, French, Chinese, German, Japanese, Portuguese, Russian, Spanish, Vietnamese.

Objective

10x negative phase contrast.

Temperature Control

Heat from 20°C (Room Temperature + ~0.5°C) to 45°C

Cleaning

Easy to clean: Medical grade surface materials.

Dimensions

H: 265 mm, W: 370 mm, D: 410 mm. Weight: 17 kg.

Image Acquisition

Resolution: 5MP / Frame Rate: 60fps / Field Selection: Automatic or manual

Power Requirements

Input voltage: 110-240 VAC Power: 350 watt (max) Line Frequency: 50/60 Hz

References

Ref 030230	IVOS Pro
Ref 025107	Leja 4 chambers
Ref 026346	Installation and Training

