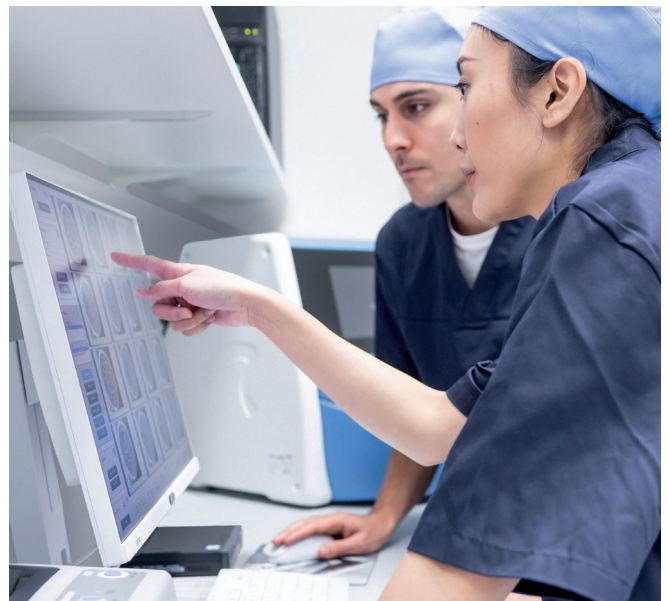


Together. All the way™

Time-lapse by Vitrolife

Making time-lapse a standard of care.



World's leading time-lapse systems

How to observe embryos regularly while being careful not to stress them? The answer is time-lapse technology, which provides continuous observation in an undisturbed culture. Vitrolife has pioneered the development of time-lapse for use in IVF. We have more than 15 years of experience in developing hardware and software to improve embryo culture and evaluation. Thanks to our dedicated team of scientists, engineers, and education and support staff, you can feel confident partnering with us.

Why time-lapse by Vitrolife?



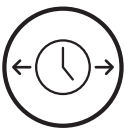
Documented improved embryo development^{1,2,3,4,5,6,7}

Numerous studies document an improvement in quantity and quality of embryos cultured in our time-lapse systems. This may lead to an improved clinical outcome.



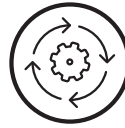
Improved basis for embryo evaluation

We are at the forefront of providing software tools to help medical professionals prioritise embryos for transfer and cryopreservation.



Optimise workflow to distribute daily workload

Our time-lapse systems reduce workload by providing flexibility for timing of evaluation steps.



Optimise use of clinical resources

Less time used on QC checks, extremely low gas consumption and reduced weekend work hours for evaluation checks.



Better patient communication

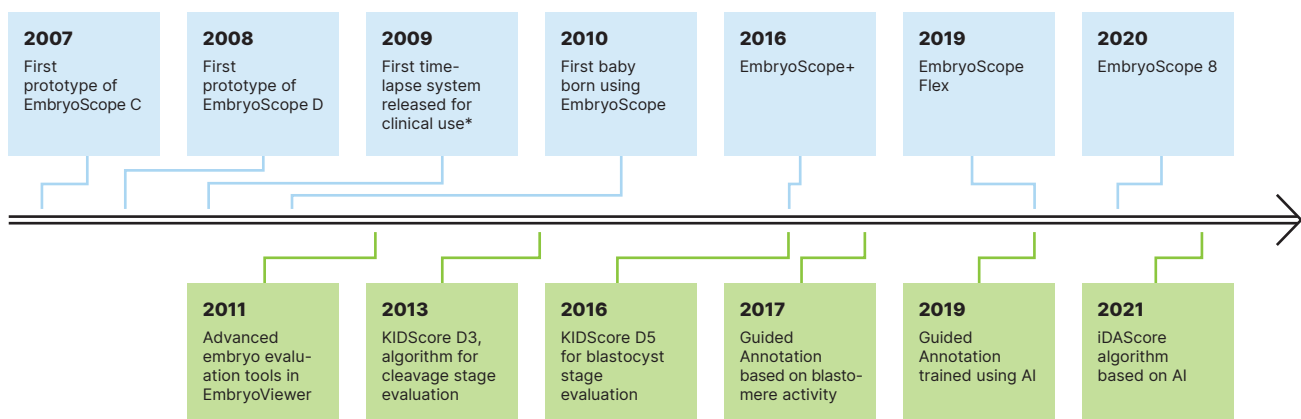
Update patients on the progress of embryo development without disturbing embryos. Full videos of embryo development to explain treatment results to patients.



Better clinic communication and education

Easy platform to discuss cases which require further review, and for training new embryologists.

Constantly innovating since 2007



Flexible solutions

No matter the size or patient profile of your clinic, Vitrolife has the system that suits your IVF laboratory.



EmbryoScope 8

Clinics that require a lower capacity or wish to complement their current set-up with more capacity.

128
embryos

8
culture dish
positions per
incubator



EmbryoScope+

Clinics that wish to provide time-lapse as a standard of care to more patients.

240
embryos

15
culture dish
positions per
incubator



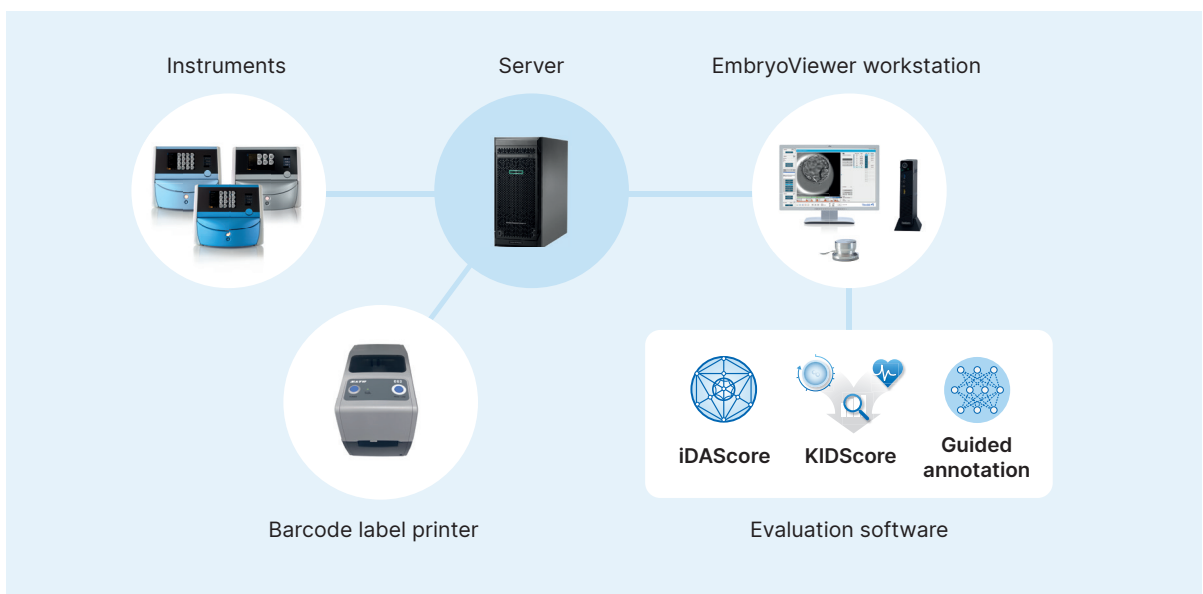
EmbryoScope Flex

Clinics that wish to utilise time-lapse in mild stimulation cycles and for low responder patients.

144
embryos

24
culture dish
positions per
incubator

Setting up time-lapse system solutions for your lab



Unique design features

All of our time-lapse incubators are based on the same single chamber design concept, with the same great benefits.

High capacity, small footprint

All instruments have the same small footprint with capacity from 8-24 patient slides.

Minimal culture disturbance

A small discrete loading chamber means virtually unaltered culture conditions.

Excellent air quality

Non-humidified incubation reduces growth of microorganism and continuous purification via built-in HEPA VOC ensures optimum conditions.

Efficient use of gas

Gas recycling and low volume incubation chamber means extremely low gas consumption no matter how many patients are being cultured.

Integrated gas mixer

Integrated gas mix means reduced gas costs and cost-effective low oxygen culture.



Easy validation procedure

Single chamber design means fewer validation checkpoints. Intuitive menu guides validation and calibration procedures.

Traceability

Barcode entry label for traceability and easy overview of patient location without use of sticky notes or other inefficient systems.

Treatment overview

Overview of patients by culture day visible on instrument interface.

Excellent imaging

Automated detection of embryos and acquisition of high quality images in 11 focal planes.



Advanced embryo evaluation interface

Data from multiple incubators is centralised on a server and accessed via EmbryoViewer workstations. Advanced embryo analysis software tools allow direct comparison of all of a patient's embryos, both fresh and frozen, in a single interface.

EmbryoViewer workstation

Intuitive interface to annotate, review movies and compare development of patient embryos. Full documentation of incubator running conditions are automatically stored with the patient data and can be observed on the EmbryoViewer workstation for quality assurance. It is easy to generate reports and create customised exports.

Improved basis for embryo evaluation



Guided Annotation, developed using AI, streamlines the annotation process and ensures that necessary data is collected.

This works hand in hand with our KIDScore decision support tools to rank embryos and provide scores that reflect implantation likelihood. Both systems have been validated in numerous published studies.^{8,9,10}

iDAScore: based on AI



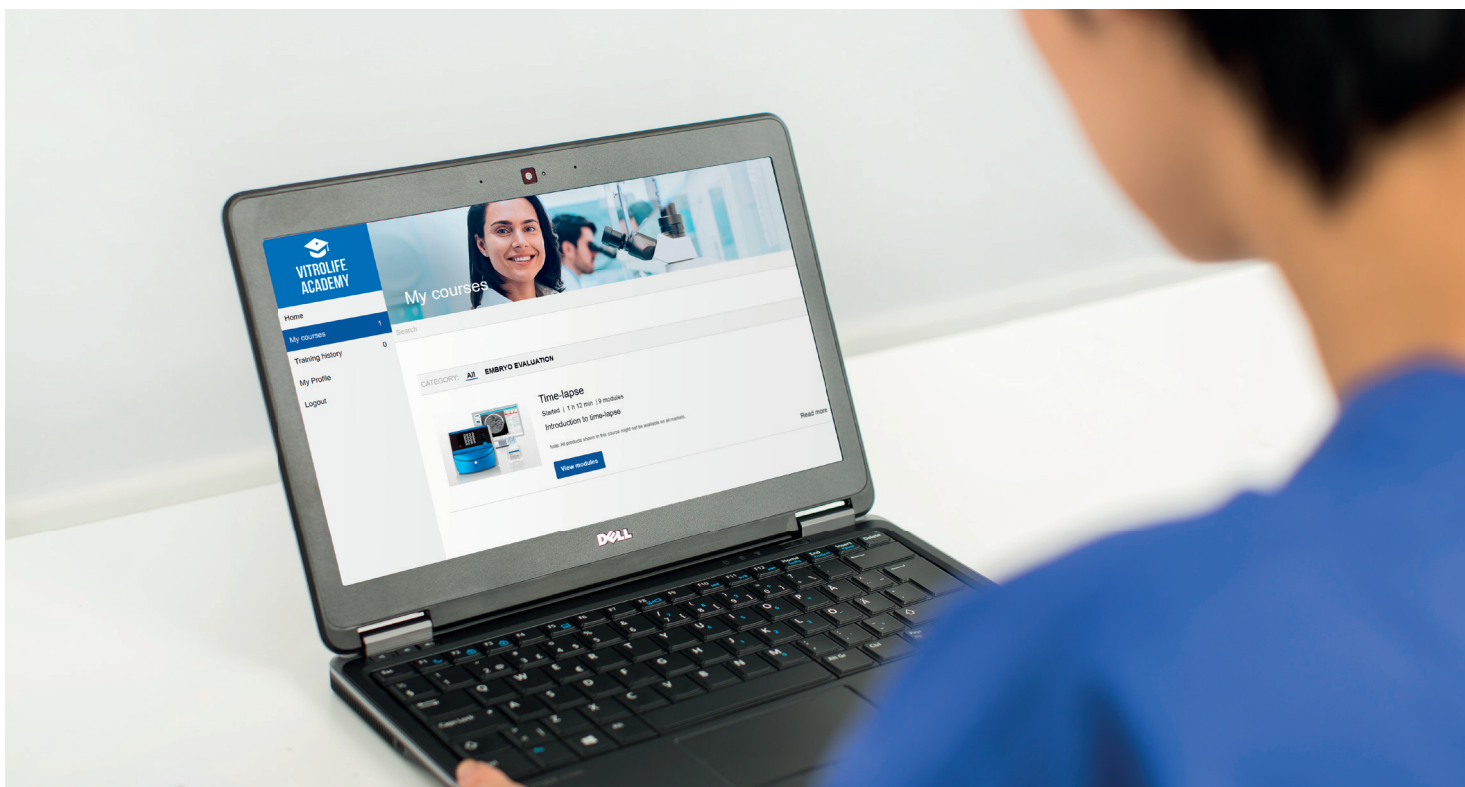
Traditional embryo evaluation methods are prone to subjectivity and inconsistency. iDAScore was developed using AI, and provides an objective ranking based on the likelihood of implantation of each embryo at the touch of a button. iDAScore has been validated as a reliable and objective embryo assessment tool for embryo assessment.^{11,12} iDAScore can be integrated directly with our time-lapse systems.

VTH server

Our powerful server has been specially designed to support direct integration of our AI-based evaluation solutions. Centralised data provides a better opportunity for analysis of treatments and outcomes.



EmbryoViewer facilitates better opportunities for communication, consultation and education.



Extensive training and support

Get the most from your investment. With extensive experience from IVF labs around the world, we can provide you with extensive support and training – to get you started and help you utilise time-lapse to its fullest potential.

Installation by a certified instructor

When you have invested in an EmbryoScope time-lapse system, a Vitrolife-certified instructor will install the system in your clinic. During the installation, we provide a thorough, interactive demonstration of the system and train you to use it to full potential.

Online scientific support

You also have the possibility to advance your time-lapse use with Vitrolife's online scientific support for time-lapse applications. Support focuses on your practical use of time-lapse technology in all parts of your clinic's workflow and on the scientific basis that it is built on. Online sessions are designed to target the issues relevant to your needs and can include information sharing, demonstrations and questions & answers.

24-hour support

Our maintenance agreement ensures optimal performance of all instrument components. Also, a 24-hour technical support is at your disposal via our customer hotline, which responds to all issues relating to your EmbryoScope time-lapse system. Service visits and access to the 24-hour technical support require a maintenance agreement.

Advance your skills

To help IVF labs work in the most optimal way, Vitrolife Academy provides:



**Vitrolife
Academy**

- E-learning
- Physical workshops
- Digital workshops
- Trouble shooting
- Process optimisation
- On-site validation

Request an account at www.vitrolife.com.

EmbryoScope 8, EmbryoScope+, EmbryoScope Flex time-lapse incubators

Instrument

Capacity	EmbryoScope8 Capacity for 8 culture dishes EmbryoScope+ Capacity for 15 culture dishes EmbryoFlex Capacity for 24 culture dishes
Operation	Individual culture dishes may be inserted and removed independently
Patient data	Read automatically from barcode
Dimensions	W x D x H (55 × 60 × 50) cm / (21.7 × 23.6 × 19.7) in
Weight	50 kg / 110 lbs
Input voltage	Versions compatible with different regional voltages available
Power consumption	Max 250 W, typical 95 W
Operating range	20 °C – 28 °C
Alarm system	Monitoring of incubation conditions and subcomponent integrity; audible and visible alerts when incubation conditions are out of range.

Image acquisition

Focal planes	Eleven (11) focal points at each time point
Built-in microscope	Custom designed 16x, NA 0.50, LWD Hoffman modulation contrast objective lens
Camera resolution	2.2 MP, 2.9 pixels per μm , monochrome, 12-bit
Embryo illumination	$\leq 0.020\text{s}$ per image using single red LED (627nm) gives 42 J m^{-2} for image acquisition (5 day culture)
Time between acquisitions	10 min. cycle time for 11 focal planes

Tri-gas incubator, integrated in instrument

Temperature	36 °C to 39 °C ± 0.2 °C
Oxygen	4 % to 8 % ± 0.5 % or ambient
N₂ consumption	Max 5 L/hr, typical 2-3 L/hr
CO₂	3 % to 12 % ± 0.3 %
CO₂ consumption	Max 2 L/hr, typical 0.5 L/hr
Active air circulation	Full purification of gas volume every 6 minutes
Volatile organic compounds	Removed by active carbon filter
Particles	Removed by HEPA filter which retains 99.97% particles $>0.3 \mu\text{m}$

Data acquisition, Intel based fanless embedded PC

Network	1 Gb Ethernet
Operating system	Microsoft Windows Embedded
Data format for images	JPEG
Monitor	10.1" capacitive touch screen

Europe: CE-marked class IIa medical device.

USA: EmbryoScope+ has received FDA 510(k) clearance. EmbryoScope 8, EmbryoScope Flex and EmbryoSlide Flex culture dish are not FDA 510(k) cleared and are not available for sale in the United States of America.

** Design protected

EmbryoSlide+ culture dish and EmbryoSlide+ ic8 dish*

Micro well culture	EmbryoSlide+ culture dish Sixteen (16) numbered wells for discrete culture of embryos in reservoirs. Four (4) wells for rinsing embryos. EmbryoSlide+ ic8 dish Eight (8) numbered wells for culture of embryos in individual wells. Four (4) wells for rinsing embryos.
Microscopy	Fully compatible with standard and inverted microscopes
Size	Dish size (50 × 70 mm)
Packaging	Dishes packed individually with lid in sterile pouch. 2D barcode for batch specification.
Sterilisation method	E-beam sterilised according to ISO 11137 with SAL 10^{-6} . Single use, sterile.
Toxicity test	Embryotoxicity tested with 1-cell mouse embryos – minimum 80% expanded blastocysts after 96 hrs. Cytotoxicity test according to ISO 10993-5.
Labelling	MEA tested barcode labels for automatic patient registration.

Europe: CE-marked class IIa medical device. USA: FDA 510(k) clearance.

EmbryoSlide Flex culture dish*

Micro well culture	Six (6) numbered wells for culture of embryos in individual wells. Two (2) wells for flushing of embryos.
Microscopy	Fully compatible with standard and inverted microscopes
Size	Dish size (32 × 65 mm)
Packaging	Dishes packed individually with lid in sterile pouch. 2D barcode for batch specification.
Sterilisation method	E-beam sterilised according to ISO 11137 with SAL 10^{-6} . Single use, sterile.
Toxicity test	Embryotoxicity tested with 1-cell mouse embryos – minimum 80% expanded blastocysts after 96 hrs. Cytotoxicity test according to ISO 10993-5.
Labelling	MEA tested barcode labels for automatic patient registration.

Europe: CE-marked class IIa medical device.

USA: EmbryoSlide Flex culture dish is not FDA 510(k) cleared and is not available for sale in the United States of America.

EmbryoViewer® workstation

PC	Powerful small form factor PC workstation
Dimensions	W x D x H (3.5 × 18.0 × 18.0) cm / (1.4 × 7.1 × 7.1) in
Display dimensions	W x D x H (58.0 × 21.0 × 42.0) cm / (22.8 × 8.3 × 16.5) in
Weight	1.3 kg / 2.8 lbs
Input voltage	110-240 V AC
Jog wheel	Included for ease of video replay
Data export	Patient and annotation data can be exported to Excel format for further data processing
Image export format	JPEG
Video export format	AVI

Europe: CE-marked class I medical device. USA: FDA 510(k) clearance.

VTH server

Input voltage	AC 120/230 V (50/60 Hz)
Capacity	12 TB

VTH server+

Input voltage	AC 120/230 V (50/60 Hz)
Capacity	36 TB

iDAScore and KIDScore D5 are not FDA 510(k) cleared and are not available for sale in the United States of America.



Time-lapse by Vitrolife – everything you need

Vitrolife has everything your clinic needs to maximise time-lapse culture and evaluation, including time-lapse monitoring systems and a specially formulated culture medium.

Whether you want to implement an integrated time-lapse system with flexible patient capacity, or add capacity to your existing set-up, you can feel confident partnering with us.

Optimise all the way

Optimised for time-lapse technology, G-TL has been developed specifically to support fully undisturbed embryo culture conditions. G-TL was the first single step culture medium specifically designed and validated to support human embryo culture in a time-lapse incubator. Together with our tried and trusted Ovil and Ovil Heavy, you can ensure optimum embryo development.

iDAScore is not FDA 510(k) cleared and is not available for sale in the United States of America.
EmbryoScope 8 is not FDA 510(k) cleared and is not available for sale in the United States of America.
EmbryoScope Flex is not FDA 510(k) cleared and is not available for sale in the United States of America.
KIDScore D5 is not FDA 510(k) cleared and is not available for sale in the United States of America.
EmbryoSlide Flex culture dish is not FDA 510(k) cleared and is not available for sale in the United States of America.

Orders & customer support

Ordering: order@vitrolife.com
Global tech support: support.embryoscope@vitrolife.com
+45 7023 0500 (24-hour hotline outside US), 888-879-9092 (US support)

Vitrolife A/S • Jens Juuls Vej 16 • 8260 Viby J • Denmark • Tel +45 7221 7900 • Fax +45 7221 7901 • order@vitrolife.com • vitrolife.com

REFERENCES 1. Ueno et al. (2019) *Reprod.Biol.* 19(2) 139-144. 2. Nicolliela et al. (2019) *Fertil.Steril.*112(3)S1 e125-e126. 3. Barberet et al. (2018) *Fertil.Steril.* 109(2), 302-309. 4. Sciorio et al. (2018) *JARG* 35(3) 515-522. 5. Alheloua (2018) *Reprod.Biol.* 18(1)40-45. 6. Cimadomo et al. (2018) *JARG* 35(7) 1329-1338. 7. Pribenszky et al: *Reprod Biomed Online* (2017) 35(5): 511-520. 8. Bori et al. (2022) *Hum.Reprod.* 37(6) 1148. 9. Tartia et al. (2022) *RBMonline* <https://doi.org/10.1016/j.rbmo.2022.03.019>. 10. Kato et al. (2021) *Reprod.Biol. Endocrinol.* 19, Article number: 98. 11. Ueno et al. (2021) *Fertil Steril* 116(4) 1172-1180. 12. Berntsen et al. *PLoS One* 17(2) e0262661.

This brochure contains information regarding various tests and clinical trials relating to Vitrolife products. This information on tests and clinical trials relating to Vitrolife products is only a summary provided for information purposes about Vitrolife products. The information is provided "as is" without any warranties, expressed or implied, including but not limited to the implied warranties of suitability or eligibility for a particular purpose and/or success of treatment on an individual basis. Products and information may have changed since the printing of this brochure. For more information see vitrolife.com