



# Animal Reproduction Technology

## Bovine



# MINITUBE INTERNATIONAL

We need detailed knowledge of reproductive physiology in order to ensure that you are successful in the use of artificial insemination. Veterinarians and agro-scientists specialised in this field therefore, are responsible at Minitüb for product development and for consulting with our clients. The technical demands of semen processing and preservation also require knowledge and expertise in other fields, such as electronics, sensorics, mechanics, chemistry, cryobiology and many others. At Minitüb, these demands are met by specially trained engineers and scientists.

For product development, our teams of veterinarians and engineers cooperate closely. Together, they offer all the knowledge and experience necessary to guarantee the best possible results.

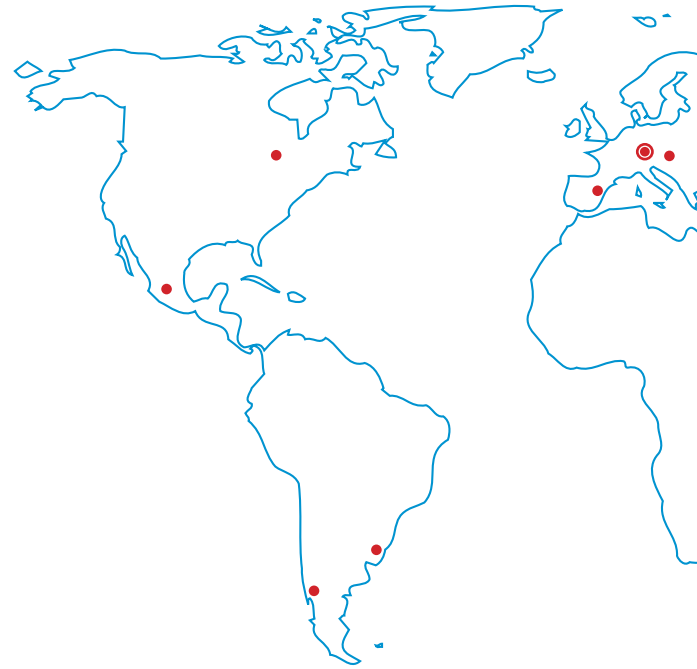
Minitube International offers you specialized training programs, courses and technology transfer. In close cooperation with renowned research institutions we conduct fundamental research concerning assisted reproduction technologies as well as applied research that leads to improved techniques in production, evaluation and conservation of semen and embryos.

Originating in Tiefenbach, Bavaria, Minitüb has established its competence over many years in more than 100 different countries all over the world. With several companies, highly-trained local representatives, and multilingual professionals, we keep in contact with the international AI industry. Innovative ideas, modern production techniques and a keen appreciation of product quality are the basic ingredients of our knowledge and your success.

We thank you for your interest and your confidence placed in us.

**DR. CHRISTIAN SIMMET**

CEO



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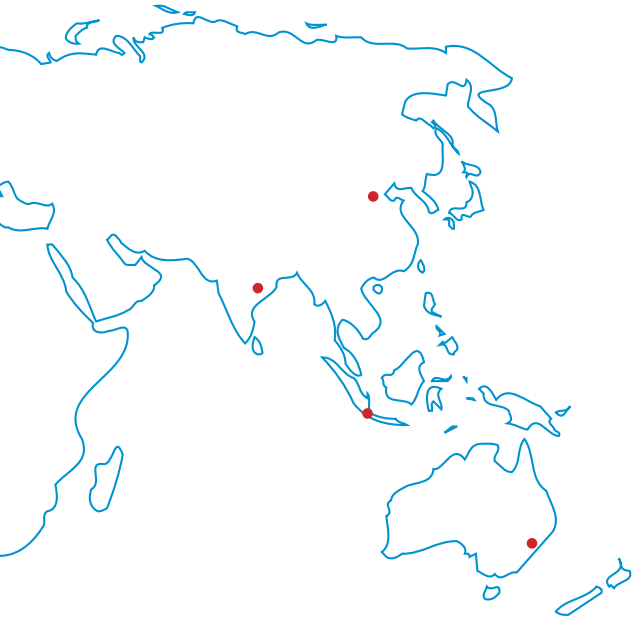
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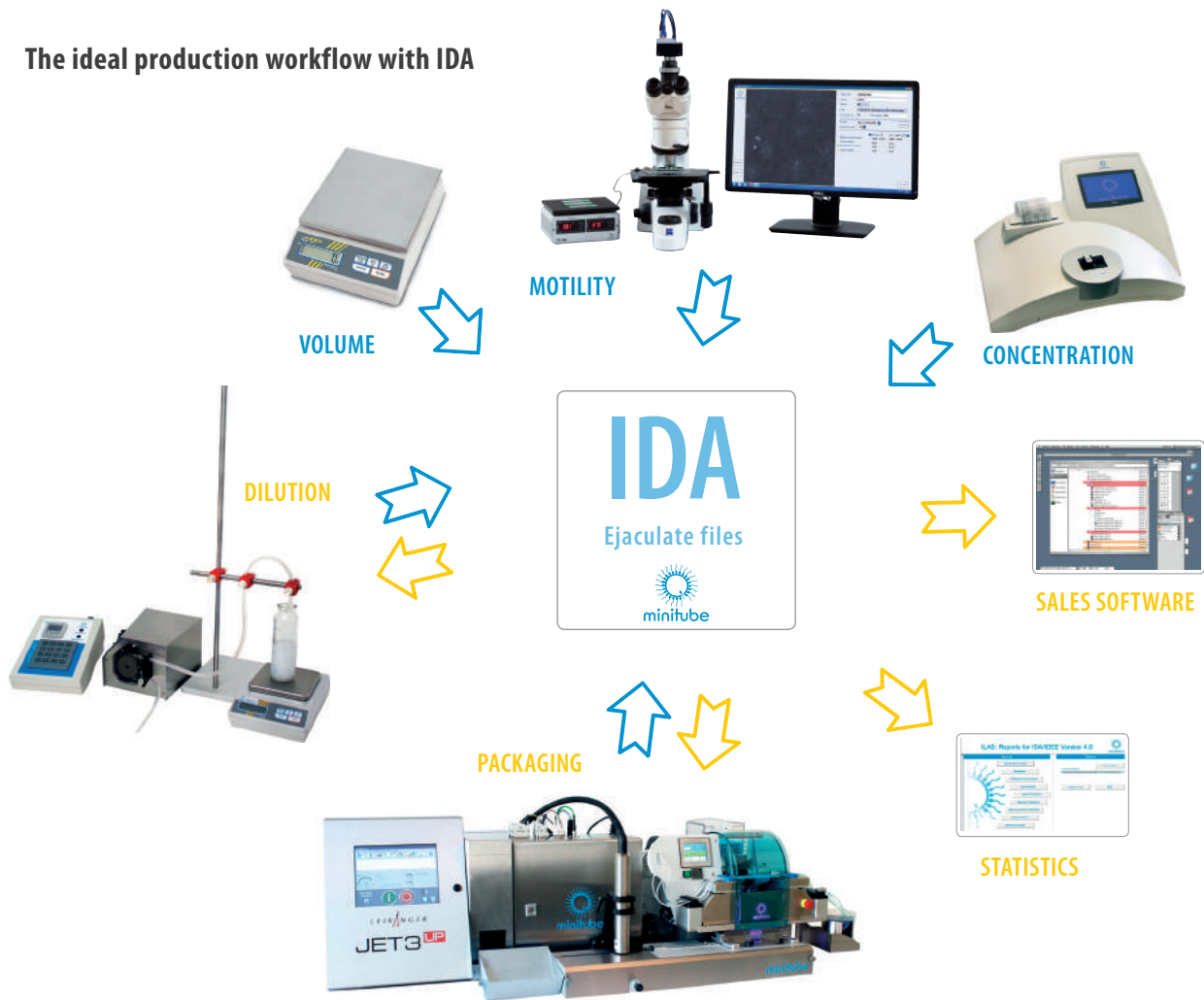
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# Laboratory Management Software

The ideal production workflow with IDA



# IDA: SOFTWARE FOR THE BULL SEMEN LABORATORY

## IDA

The IDA laboratory software integrates all ejaculate data and links all processes from semen collection to production statistics.

IDA is a flexible, multitalented and modular computer program, based on an Access data base. It automates and links ejaculate analysis including record keeping of thawing controls as well as extender dispensing and semen packaging in straws. The identification of each ejaculate can be entered manually, by barcode label or through a transponder. The ejaculate data file guarantees **quick and precise ejaculate data management**.

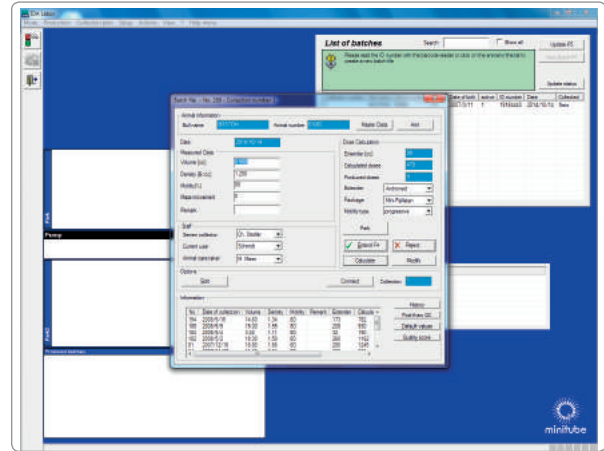
The connected lab equipment like scale, photometer or AndroVision® transfer analysis data quickly and securely to the lab computer. Automatic calculation of extender quantities, automatic semen dilution by means of the Smart Dispenser and the data transfer to the filling machine **greatly rationalize laboratory work**. Production data are provided in real time for administration and sales. Due to the Access data base the connection is carried out comfortably.

A special menu item provides evaluation and administration of bull and ejaculate data.

IDA is available in multiple languages.

IDA

REF. : 18500/0000



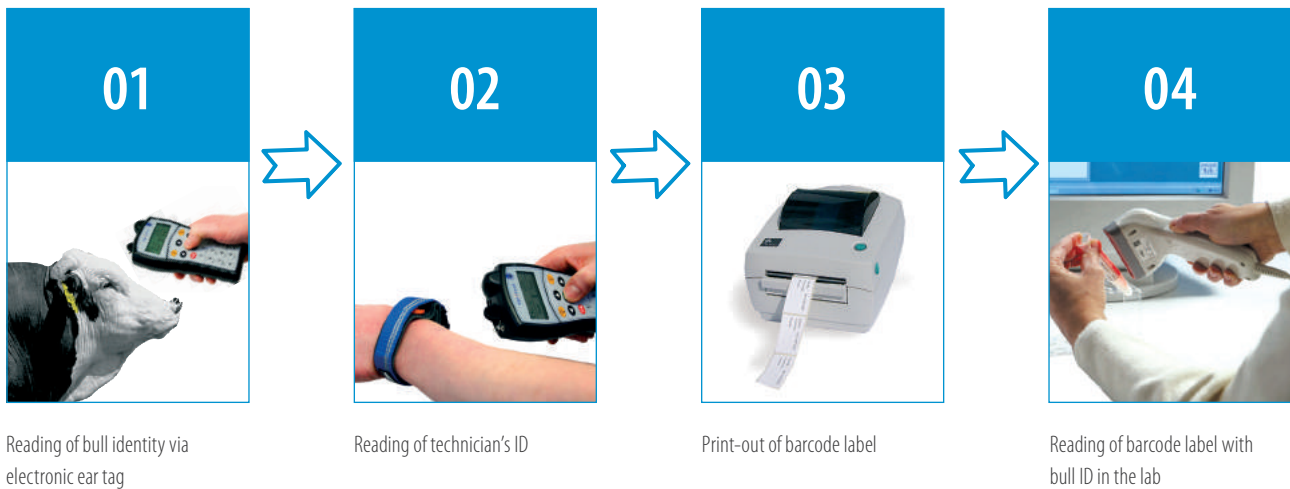
### Your benefits

- Efficiency, safety and traceability
- IDA introduces a high security level in your lab
- The whole process is standardised and optimized
- Automatic integration of ejaculate parameters through interfaced hardware
- Automatic data transmission to and from the straw printing and filling system
- IDA helps to save time and labour
- Every step is documented and verifiable
- Statistical analysis of all relevant production data
- IDA can easily be connected with other software applications
- IDA is a very user friendly software



# IDENT AND IMALE: ELECTRONIC BULL IDENTIFICATION

## Electronic bull identification with IDENT



**IDENT** is available in addition to IDA or as an independent program: The software contains collection planning, the identification of bulls via electronic ear tags, the electronic identification of semen collection staff and the print-out of labels with bull identity, bar code and further information about the semen collection.

**IDENT software** [REF. : 18000/0015](#)

*For IDENT hardware options, please see our product leaflet.*

## Electronic bull identification with iMale

The combination of iMale RFID reader and wireless iMale label printer allows the **reading** of animal ear tags and the **direct printing** of barcode labels. All HDX and FDX-B transponder ear tags can be read. The iMale RFID reader has a reading distance of 30 cm which adds up to the device length of 65 cm.

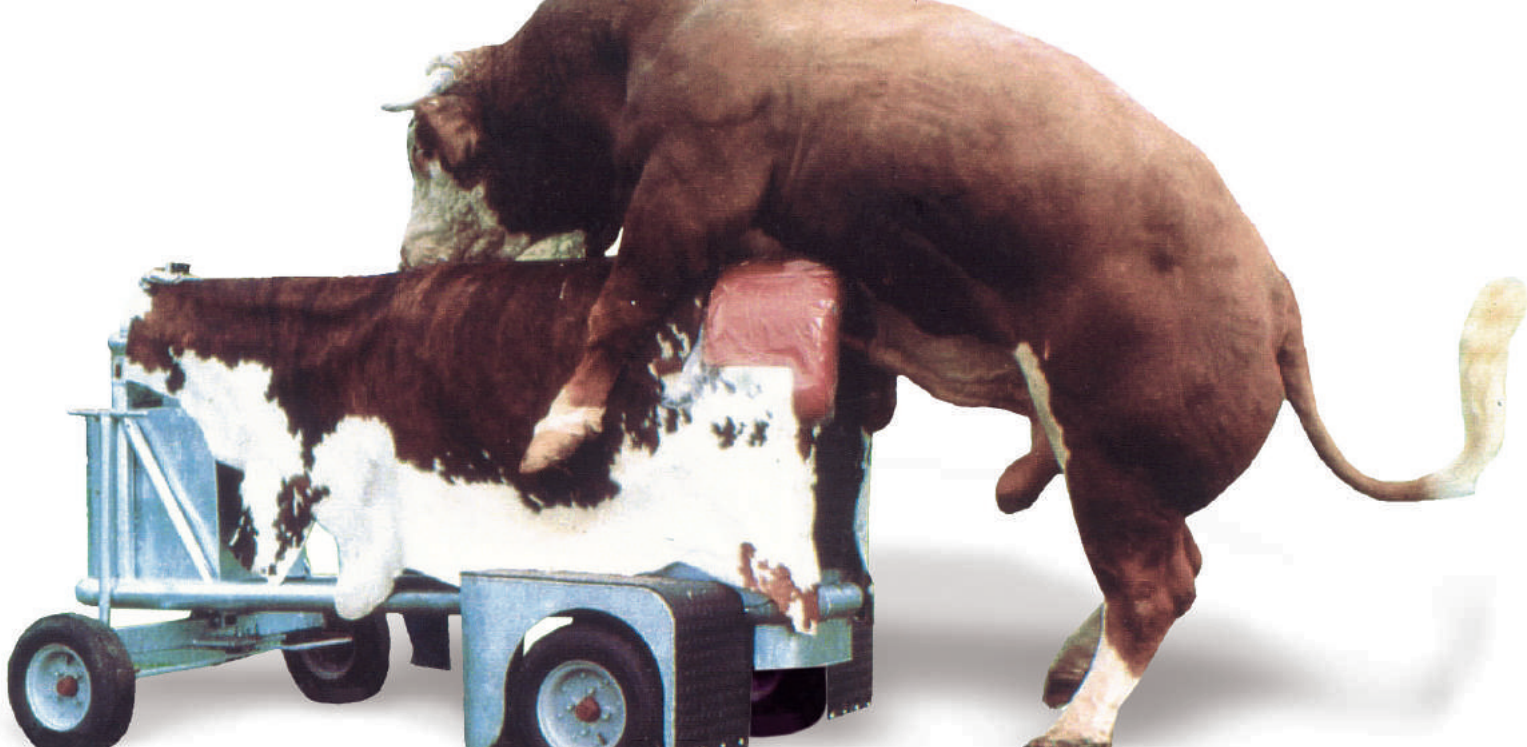
iMale RFID reader comes with built-in quick-charger and external power supply. The maximum distance for transferring the data wireless from the iMale reader to the label printer is about 8 meters.

Once the ear tags are read, barcode labels are immediately printed with the wireless iMale label printer.

**iMale RFID reader** [REF. : 18001/0000](#)

**iMale label printer** [REF. : 18001/0200](#)





# Semen Collection

## Electro ejaculator

**Electro ejaculator set**, consisting of heavy-duty carrying case, control unit, battery and transformer/charger. Digital display and adjustment of the actual value in 0.5 volt steps. Fully portable with remote control.

Semen collection is **made easier**, especially from older bulls that may be difficult to stimulate.

Connecting cables for external battery (12 V)  
Power supply: 115 V/60 Hz or 230 V/50 Hz

**Electro ejaculator** - basic unit with case [REF. : 11900/0000](#)



### Accessories

**Probe 2.5"** [REF. : 11900/0025](#)

**Probe 2"** [REF. : 11900/0022](#)

**Semen collection funnel and holder** [REF. : 11900/0250](#)



# BULL SEMEN COLLECTION

## The mobile dummy cow



### Product features

- Body made of rigid, zinc-coated steel
- High quality padding
- Cover made of reinforced PVC material
- Inside seat for the collector

### Your benefits

- Hydraulic height adjustment for bulls of different sizes
- Safe and easy operation
- Comfortable semen collection for the bull
- Forward and backward movements help to stimulate the bull
- Separated, smooth hindquarters reduce risk of injury to bull's penis
- Optimal hygiene when used with disposable sanitary covers

**Bovine collection dummy, mobile** [REF. : 11000/1000](#)

**Bovine collection dummy, stationary** [REF. : 11000/0500](#)

### Accessories

**Disposable sanitary cover, 100/package** [REF. : 11000/0200](#)

**Plastic cover for dummy cow, with leather belt** [REF. : 11000/0100](#)





# BULL SEMEN COLLECTION

## Bovine artificial vagina

Minitube offers bovine artificial vaginas in **4 different lengths** to suit all kinds and sizes of bulls.

### Casing with valve

20 cm	REF. : 11021/0020
30 cm	REF. : 11021/0033
35 cm	REF. : 11021/0035
41 cm	REF. : 11021/0041

### Inner liner

smooth, 650 mm length	REF. : 11022/0002
rough, 650 mm length	REF. : 11022/0003
rough, 480 mm length	REF. : 11022/0005
disposable, roll 200 m	REF. : 11022/0010

(1) with integrated collection vial (15 ml) and lid, disposable REF. : 11022/0011

Director cone, latex REF. : 11024/0000

(2) Director cone, silicone REF. : 11024/0050

Collection vial, plastic, graduated, with lid, 15 ml REF. : 11023/0018

(3) Warming bag, neoprene, blue, 58 cm REF. : 11025/0058

(4) Warming bag, green  
 18 cm REF. : 11025/0018  
 35 cm REF. : 11025/0035  
 45 cm REF. : 11025/0045

Rubber ring REF. : 11022/0001



Semen Collection



### Accessories

(5) Greasing stick REF. : 11905/0050

(6) ReproJelly, non spermicidal lubricant, 3 l REF. : 11907/3000

(7) Thermometer, unbreakable REF. : 11027/0000

Collection vial, glass, graduated, 15 ml REF. : 11023/0015

Rubber plug for 15 ml vial REF. : 11023/1590

(8) Tulip shape collection glass, 8 ml REF. : 11023/0016

# BULL SEMEN COLLECTION

## Sterivar

**Low pressure steriliser, specially designed for artificial vaginas and accessories.**

Made of stainless steel, double wall with insulation. With pressure safety valve, timer, water drain, protection against overheating and insert for artificial vaginas for bulls.

**Sterivar 230 V** REF. : [11050/0015](#)

**Sterivar 115 V** REF. : [11050/0014](#)

### Technical features

- Capacity: 15 artificial vaginas
- Temperature range: up to +100°C
- Pressure: max. 0.02 bar
- Inside dimensions: 750 x 400 mm
- Power supply: 115 V/60 Hz or 230 V/50 Hz
- Power consumption: 3500 W

### Accessories

**Roller base** for Sterivar REF. : [11051/0000](#)

**Sterivar insert** for 15 latex cones REF. : [11051/1015](#)



## Warming cabinet

### Product features

- Suitable for artificial vaginas and accessories
- Casing and interior made of stainless steel
- Volume: 449 l
- 2 insert racks
- Dimensions (w x h x d)  
Inside: 104 x 72 x 60 cm  
Outside: 122 x 124 x 78 cm
- Forced air ventilation

### Technical features

- Multifunctional PID microprocessor controller
- 2 Pt-100 sensors with two way control
- Digital timer, adjustable from 1 minute to 99 days, 23 hours
- Temperature range: +10°C above ambient up to +300°C
- Power supply: 400 V (± 10 %) / 50-60 Hz
- Power consumption: approx. 5800 W (in heating function)

**Warming cabinet**

REF. : [14135/0400](#)



*We offer many different models and sizes of warming cabinets, also pass-through models.*



# Semen Evaluation

## AndroVision®

This highly precise automated system for computerised semen analysis stands out for the integration of the classic CASA analysis with more **advanced assays for sperm functionality**. Concentration and motility as well as acrosome integrity, viability, mitochondria activity and DNA integrity can be assessed accurately and quickly with up to 1000 cells per field, making AndroVision® the perfect tool for the **objective and complete semen evaluation**.

Its features make AndroVision® the ideal choice for semen assessment in a research and production lab. AndroVision® is intuitive and easy to use: **only 3 clicks from start to result**.



### AndroVision® software

with PC and accessories

REF. : [12500/0000](#)

### AndroVision® camera

high speed colour camera

REF. : [12500/4200](#)

## Optional hardware configurations

### (1) AndroVision® CASA system

portable, with laptop and accessories

REF. : [12500/0010](#)

### (2) AndroVision® CASA system

with touchscreen and barcode scanner

REF. : [12500/0001](#)



## AndroVision® software modules

### Morphology and Morphometry

Interactive system for analysis of sperm morphology and morphometry. Identifies sperm in stained as well as unstained samples and measures length and width of the sperm head, head shape and midpiece asymmetry of each single sperm cell (acc. to Krüger). Results can be classified into a large range of morphologic abnormalities.

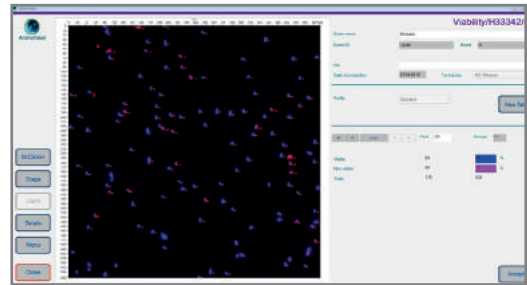
**Module Morphology and Morphometry** REF. : [12500/1300](#)



### Viability

Automated count of the percentage of membrane intact sperm, based on a double stain fluorescence assay.

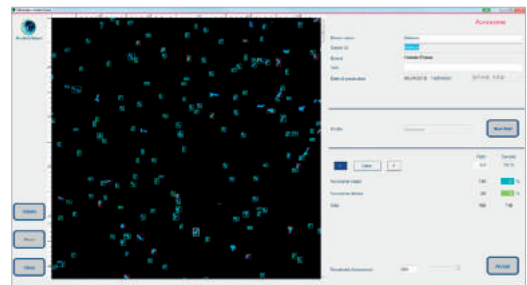
**Module Viability\*** REF. : [12500/1400](#)



### Acrosome Integrity

Automated count of percentage of sperm with damaged acrosome, based on a double stain fluorescence assay.

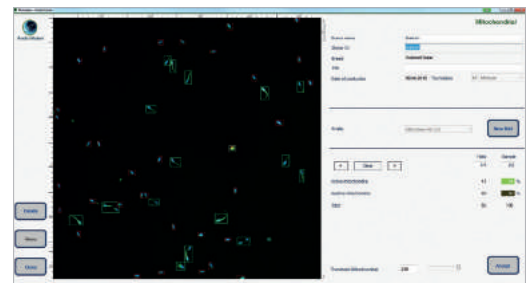
**Module Acrosome Integrity\*** REF. : [12500/1600](#)



### Mitochondrial Activity

Automated count of percentage of sperm with active mitochondria, based on a double stain fluorescence assay.

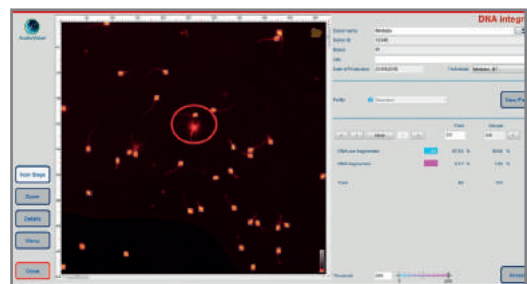
**Module Mitochondrial Activity\*** REF. : [12500/1700](#)



### DNA Integrity

Automated reporting of the percentage of sperm with defective DNA based on the halo-technique combined with fluorescent staining.

**Module DNA Integrity\*** REF. : [12500/1800](#)



\* requires fluorescence microscope

### Accessories

**ScanStage:** The automated microscope stage has an integrated heating system that can be used with a variety of different microscopes. Analysis points within a counting chamber are automatically approached for ever the same path of the microscope stage.

**ScanStage with heating system** REF. : [12048/0000](#)  
**Controller HT 300W** REF. : [12055/0302](#)



# MICROSCOPY

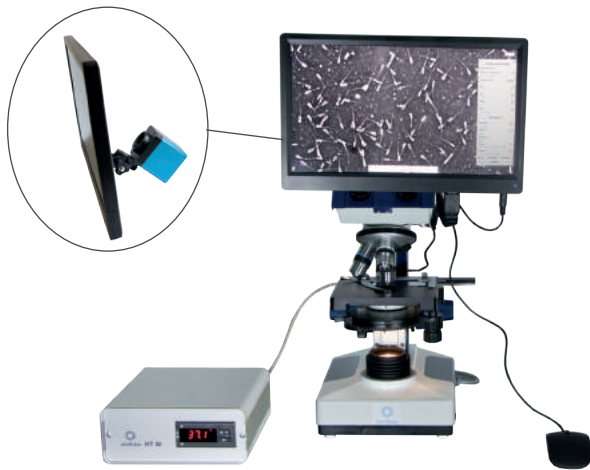
## Phase contrast microscope CX 43

- Phase achromat optics with universal condenser
- Heated original microscope stage with temperature control unit HT 200 with additional warming plate and two digital temperature displays
- Temperature freely selectable
- Ergonomic design
- Phase achromat objectives
- 6 V/30 W halogen light

**With phototube (trinocular)**

with objectives 20x, 40x

REF. : 12005/0041



## Phase contrast microscope MBL

Functional microscope for semen analysis with phase achromat objectives 10x, 40x, 100x, heating system with temperature control unit HT 50 with digital temperature display and freely selectable temperature adjustment.

**Binocular** REF. : 12010/2000

**Binocular, with ocular colour camera and monitor** REF. : 12010/2100

**Trinocular** REF. : 12010/2103

**Trinocular, with colour camera and monitor** REF. : 12010/2101

**Digital colour camera for microscopes,**

with integrated image display software

REF. : 12110/1600

**Monitor 10" with HDMI input,**

for direct mounting on microscope

REF. : 12110/1610

*Wide range of microscopes and accessories available!*

## Semen dyes

**Spermac** for differential staining, also for glycerol containing samples,

consisting of 4 components, 50 ml each

REF. : 15405/0000

**Farely stain** for differential staining, not for glycerol containing samples,

consisting of 3 components, 250 ml each

REF. : 15405/0026

**Eosin G** solution for one-step viability stain,

50 ml

REF. : 15405/0025

**Nigrosin** solution for combination with Eosin in viability stain, provides dark background for better visualisation of sperm cells,

50 ml

REF. : 15405/0029



# PHOTOMETER SDM6

## Photometer SDM6

### Your benefits

- Programs for the determination of sperm concentration and dose calculation of bull, boar, stallion, ram and buck semen
- Automatic calculation of extender volume and number of doses
- Display of semen concentration in  $10^9$  sperm cells/ml
- Large touch screen, easy handling
- Serial and parallel interfaces for data transfer
- Optional: integrated printer for printout of production data per ejaculate

### Technical features

- Spectral range: 340-578 nm
- Filter: 546 nm
- Halogen lamp
- Use of 10 mm macro cuvettes
- Analysis time: 2 seconds/sample
- Power supply: 230 V/50 Hz or 110 V/60 Hz

**Photometer SDM6, with integrated printer** REF. : [12300/0006](#)

**Photometer SDM6, without printer** REF. : [12300/0008](#)



### Accessories

**Automatic diluter-dispenser** for precise sample preparation. Use of disposable capillaries for semen sampling. With touch screen and memory function. Power supply: 110-220 V

REF. : [12421/0504](#)

**Control cuvette set**, 4 pieces

REF. : [12300/0010](#)

**Paper for printer**

REF. : [12300/0311](#)

**Macro cuvette**, 4 ml, 100/package

REF. : [12301/0003](#)

**NaCl solution**, 0.9 %, 1 l

REF. : [12301/4667](#)

**Dispenser** 0.5-5 ml for NaCl solution

REF. : [12428/1815](#)

**Bottle** for dispenser, 500 ml

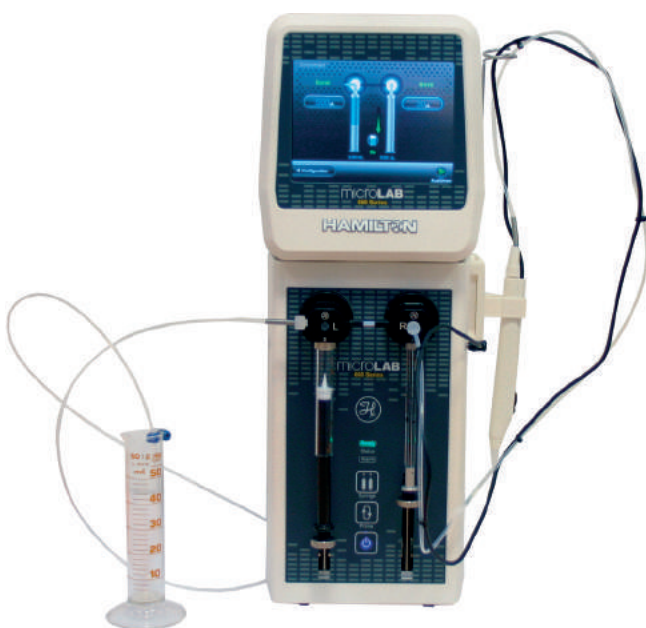
REF. : [12428/1905](#)

**Varipette** 10-100  $\mu$ l, with digital display

REF. : [12425/4810](#)

**Pipette tip yellow**, 1000/package

REF. : [12425/9409](#)





# Semen Dilution

## Water baths

### With temperature control and water circulation

Stainless steel, capacity: 45 l, with insert racks for 20 diluent bottles and 72 semen collection vials  
Inner dimensions (l x w x h): 590 x 350 x 220 mm  
230 V/50-60 Hz, 2800 W

[REF. : 14082/0600](#)

### With temperature control

Stainless steel, capacity: 10 l  
Inner dimensions (l x w x h): 350 x 210 x 140 mm

[230 V/50-60 Hz](#) [REF. : 14079/0001](#)

[115 V/60 Hz](#) [REF. : 14079/0002](#)

*Additional sizes available!*



# BULL SEMEN DILUTION

## Semen extenders

### AndroMed®

- Egg yolk free medium for frozen and liquid bovine semen
- High fertility rates without ingredients of animal origin
- No risk of microbiological contamination
- Easy to prepare, time saving

**AndroMed®** 200 ml, for a total of 1000 ml of extender, with antibiotic formula according to EC requirements [REF. : 13503/0200](#)

**AndroMed® CSS**, One-step 200ml, for a total of 1000 ml of extender [REF. : 13503/1200](#)

### Triladyl®

Since decades one of the most successful extenders for bull semen freezing in the world. Used for one-step semen processing at room temperature, it stands for constantly optimal results of your bull population, even when using highly diluted ejaculates.

**Triladyl®** 250 g, for a total of 1250 g of extender, with antibiotic formula according to EC requirements [REF. : 13500/0250](#)

**Triladyl® CSS**, 200 g, for a total of 1000 g of extender, without antibiotics [REF. : 13500/1200](#)

### Steridyl®

**Steridyl®** 500 ml concentrate, for a total of 1250 ml of extender, sterilised, requires no addition of egg yolk, with antibiotic formula according to EC requirements [REF. : 13500/0260](#)

**Steridyl® CSS**, One-step 500 ml, for a total of 1000 ml of extender [REF. : 13500/0280](#)

**Steridyl® CSS**, Two-step, fraction 1 500 ml, for a total of 1000 ml of extender [REF. : 13500/0290](#)

**Steridyl® CSS**, Two-step, fraction 2 500 ml, for a total of 1000 ml of extender [REF. : 13500/0295](#)

### Biladyl®

The Two-step extender based on the proven Triladyl® formula, according to the CSS-requirements (Certified Semen Services). Consisting of fractions A, B and antibiotic supplement.

**Biladyl®**, fraction A, 49 g, for a total of 500 g extender [REF. : 13500/0004](#)

**Biladyl®**, fraction B, 250 g, for a total of 750 g extender [REF. : 13500/0006](#)

### Bovidyl®

Medium for preservation of liquid semen from ruminants, 270 ml. Needs addition of 30 ml egg yolk. With antibiotic formula according to EC requirements. [REF. : 13501/0150](#)

### Antibiotic supplement for One-step extender

Antibiotic formula in powder according to CSS protocol, contains: 550 mg Gentamicin, 110 mg Tylosin, 330 mg Lincomycin and 660 mg Spectinomycin. [REF. : 13504/9000](#)

### Antibiotic supplement for Two-step extender

Antibiotic formula in powder according to CSS protocol, contains: 300 mg Gentamicin, 60 mg Tylosin, 180 mg Lincomycin, 360 mg Spectinomycin. [REF. : 13500/0005](#)





# BULL SEMEN DILUTION

## Magnetic stirrer

### Without heater

115 V/60 Hz	REF. : 14230/0001
230 V/50 Hz	REF. : 14230/0000

### With heater and connection for contact thermometer, 620 W

115 V/60 Hz	REF. : 14235/0731
230 V/50 Hz	REF. : 14235/0732

## Accessories

### Contact thermometer,

for magnetic stirrer, electronic REF. : 14235/7320

### Support for thermometer

REF. : 14235/7323

### Stirring bars

25 mm	REF. : 14240/7125
30 mm	REF. : 14240/7130
40 mm	REF. : 14240/7140
50 mm	REF. : 14240/7150



## Laboratory scale

### Precision scale for the determination of the ejaculate volume.

Weighing range max. 2000 g, resolution 0.1 g, weighing pan 130 x 130 mm, 100-240 V / 50-60 Hz

REF. : 14295/0444



## SmartDispenser

- The automatic, electronically controlled dispensing system for bull semen extender adds security to your process
- Maximum degree of precision in terms of dispensed extender ( $\pm 1$  g) allows very precise sperm numbers per dose
- Operation as stand-alone unit or interfaced with IDA or other software
- Power supply: 115 V/60 Hz or 230 V/50 Hz

### SmartDispenser

control unit with balance and pump

REF. : 13200/0702



# Straw Processing and Freezing

## Mini straw and Medium straw

For over 25 years, the Minitube 0.25 ml and 0.5 ml semen straws have been used worldwide as a standard for the freezing of semen from bulls, stallions, rams, and many other species.

Minitube's quality control process, production techniques, and material selection ensure for a **reliable product** that consistently exceeds industry standards. Minitube straws are available in a variety of transparent colours.

## EcoStraw

EcoStraws feature a wick with a shorter inner wick section that **absorbs 3 to 4 % fewer sperm** than the corresponding symmetrical wick of standard semen straws.



- Better utilization of available sperm per ejaculate because fewer sperm are lost in the wick
- Yield a larger number of semen straws per ejaculate
- Better use of valuable genetics without adding additional cost
- Ideal for overnight equilibration

## Fresh semen straw

Fresh semen straws are designed to process and store fresh/chilled semen at refrigerated temperatures. The wick has a special powder which does not swell and absorbs less semen.

**Fresh semen straws and EcoStraws are used in exactly the same way as standard semen straws:**

- Identical processes for filling
- Identical processes for sealing
- Identical processes for printing
- Identical processes for insemination

- Especially designed to meet the needs for semen storage at refrigerated temperatures
- Yield a larger number of semen straws per ejaculate
- Better use of valuable genetics without adding additional cost
- Ideal for fresh semen preservation
- Available in six different colours

# MINITUBE SEMEN STRAWS

Colour	Mini straw 0.25 ml	EcoStraw 0.25 ml	Fresh semen straw 0.25ml	Medium straw 0.5 ml	EcoStraw 0.5 ml
Transparent	REF.: 13407/0010	REF.: 13407/3010	REF.: 13407/2010	REF.: 13408/0010	REF.: 13408/3010
Transparent - blue-white wick	REF.: 13407/0011	REF.: ----	REF.: ----	REF.: ----	REF.: ----
Red	REF.: 13407/0040	REF.: 13407/3040	REF.: ----	REF.: ----	REF.: ----
Red - transparent	REF.: 13407/0044	REF.: 13407/3044	REF.: 13407/2044	REF.: 13408/0044	REF.: 13408/3044
Green	REF.: 13407/0050	REF.: 13407/3050	REF.: ----	REF.: ----	REF.: ----
Green - transparent	REF.: 13407/0054	REF.: 13407/3054	REF.: 13407/2054	REF.: 13408/0054	REF.: 13408/3054
Blue - transparent	REF.: 13407/0064	REF.: 13407/3064	REF.: 13407/2064	REF.: 13408/0064	REF.: 13408/3064
Grey	REF.: 13407/0070	REF.: 13407/3070	REF.: ----	REF.: ----	REF.: ----
Grey - transparent	REF.: 13407/0074	REF.: 13407/3074	REF.: ----	REF.: 13408/0074	REF.: 13408/3074
Purple	REF.: 13407/0080	REF.: 13407/3080	REF.: ----	REF.: ----	REF.: ----
Yellow	REF.: 13407/0090	REF.: 13407/3090	REF.: ----	REF.: ----	REF.: ----
Yellow - transparent	REF.: 13407/0094	REF.: 13407/3094	REF.: 13407/2094	REF.: 13408/0094	REF.: 13408/3094
Pink	REF.: 13407/0100	REF.: 13407/3100	REF.: ----	REF.: 13408/0100	REF.: 13408/3100
Turquoise	REF.: 13407/0130	REF.: 13407/3130	REF.: ----	REF.: 13408/0130	REF.: 13408/3130
Orange	REF.: 13407/0140	REF.: 13407/3140	REF.: ----	REF.: 13408/0140	REF.: 13408/3140
Orange - transparent	REF.: 13407/0144	REF.: 13407/3144	REF.: ----	REF.: 13408/0144	REF.: 13408/3144
Salmon	REF.: 13407/0160	REF.: 13407/3160	REF.: ----	REF.: ----	REF.: ----
Beige	REF.: 13407/0180	REF.: 13407/3180	REF.: ----	REF.: ----	REF.: ----
Pistachio green	REF.: 13407/0200	REF.: 13407/3200	REF.: ----	REF.: 13408/0200	REF.: 13408/3200
Pistachio green transparent	REF.: 13407/0204	REF.: 13407/3204	REF.: ----	REF.: 13408/0204	REF.: 13408/3204
White	REF.: ----	REF.: ----	REF.: ----	REF.: 13408/0210	REF.: 13408/3210

# COLD HANDLING CABINETS

## Cold handling cabinet

Spacious cold handling cabinet made of stainless steel for semen processing at +5°C working temperature. Timer for automatic defrosting cycle. Cover made of acrylic glass. Installed on heavy duty rolls.

Available in 2 sizes:

	Working area	Outside dimensions	230 V/50 Hz	115 V/60 Hz
<i>Approx.</i>	<i>(cm - W x D)</i>	<i>(cm - W x D x H)</i>		
Large	200 x 90	216 x 114 x 127	<a href="#">REF. : 14335/0403</a>	<a href="#">REF. : 14335/0400</a>
Standard	200 x 67	216 x 91 x 127	<a href="#">REF. : 14335/0401</a>	<a href="#">REF. : 14335/0398</a>

Shorter, custom made versions are available.

### Technical features

- Height of refrigerated area: 500 mm (340 mm below acrylic cover in the front)
- Optionally with hydraulic height adjustment
- Digital temperature controller
- 4 power sockets in the working area
- Two 50 mm side openings (one on each side) for cables
- Power supply: 115 V/60 Hz or 230 V/50 Hz
- Power consumption: approx. 450 W





# COLD HANDLING CABINETS

## CoolingCastle®

The Cooling Castle® is the ergonomic and space-saving solution for processing semen at +5°C.

The inner chamber (1280 x 650 mm, W x D) provides room for a filling and sealing machine MPP Uno or Quattro and for loading freezing racks. It is equipped with power outlets, a network port, bright LED light and a shelf at the rear panel.

The transparent double-wing flap door allows monitoring the processes inside the cooling chamber all the time.

Even if the door is kept open, the Cooling Castle® guarantees +5°C in the chamber (at room temperature). A curtain of cooled air minimizes air transfer into the inner chamber. UV irradiation of the cooled air flow has a **germ reducing effect**.

Furthermore, the CoolingCastle® has an automatic condensation water evaporation function.

### Technical features

- Outer dimensions: 1400 x 860 / 950 x 1752 mm (W x D x H)
- Electrical condensation water evaporation
- Network compatibility
- Ports and outlets for MPP Uno or MPP Quattro
- LED light
- Power supply: 230 V/50 Hz or 110 V/60 Hz
- Power consumption: approx. 810 W

### Your benefits

- Small footprint (passes ordinary doors) allows use in small labs
- Ergonomic working
- UV irradiation of circulating air for germ reduction
- Easy monitoring of machines due to transparent door
- Separate electronic connection: Even if cooling is switched off, the sockets in the CoolingCastle® can be used

### CoolingCastle®

230 V/50 Hz

REF. : [14335/0422](#)

110 V/60 Hz

REF. : [14335/0421](#)



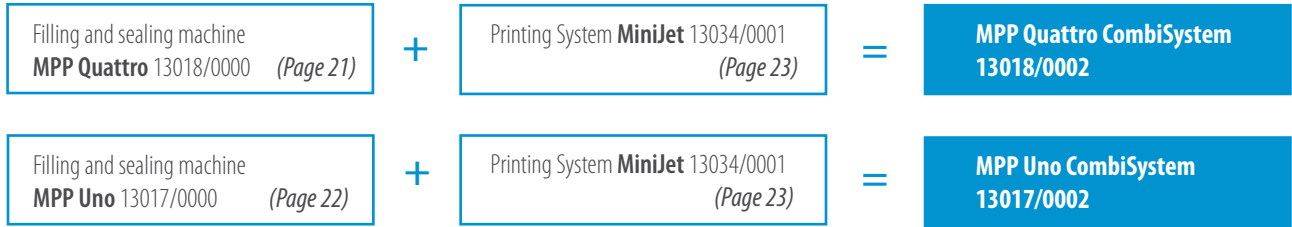
**Intelligent design** allows **ergonomic operation** and offers enough space on a **small footprint**.



## CombiSystem

**For optimal efficiency in the bull semen laboratory:**

the combination of the filling and sealing machine MPP Quattro or MPP Uno with the MiniJet printer.



### Your benefits

- Perfect automatic integration of semen processing: filling, sealing and printing in one system and one step.
- Convertable from 0.5 ml to 0.25 ml straws and vice versa, without changing any part.
- Fully electronic control of all components.
- Semen level control and automatic stop of straw supply at the end of the ejaculate.
- Includes software with bull data files, can be combined with IDA laboratory software (see page 3).
- Requires no extra control unit, only standard PC (included).

**CombiSystem** - composed of **MPP Quattro** and **MiniJet**

Capacity: 15000 straws/hour

110 V/50-60 Hz or 230 V/50-60 Hz

REF. : [13018/0002](#)

**CombiSystem** - composed of **MPP Uno** and **MiniJet**

Capacity: 4000 straws/hour

110 V/50-60 Hz or 230 V/50-60 Hz

REF. : [13017/0002](#)



MPP Quattro and Uno allow very easy exchange of the **complete sealing unit** for securing operation very quickly and reliably in case of service need.



# AUTOMATIC FILLING AND SEALING OF STRAWS

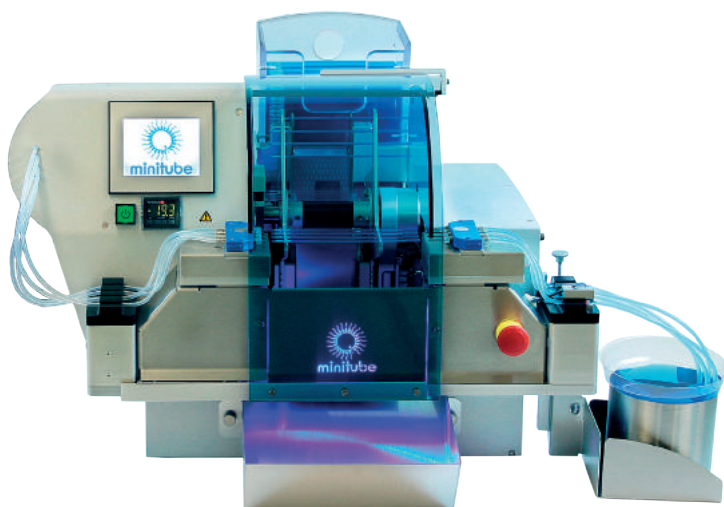
## MPP Quattro

Automatic filling and sealing machine for 0.25 and 0.5 ml semen straws.

### Your benefits

- Filling of 1 to 4 straws at a time – freely selectable by the operator.
- Modern touch-screen monitor for software control and display. Easy to operate, with colour coded display. Continuous display of number of filled straws, machine status, straw size.
- Fast conversion between 0.25 and 0.5 ml straws and vice versa (1-2 minutes), touch-screen guided.
- High hygienic and safety conditions due to completely closed filling and sealing area.
- Optimal control by the operator: processing of 4 straws at a time can easily be observed.
- Quick preparation for a new ejaculate: blocks of filling and suction needle allow very quick exchange of needles.
- Semen-saving option: when ejaculate is almost finished, active filling needles are automatically reduced from 4 to 1 and residual semen from inactive needles runs back into reservoir.
- Machine can be operated in cold room or cabinet or at room temperature as stand-alone or combined with MiniJet printer.
- Compact sealing unit: very **quick and easy exchange of sealing unit** greatly improves service capabilities and options.

**Practically no semen is wasted and the ejaculate is used up to the very last drop.**



### Technical features

- Powerful, long lasting and easy changeable compact ultrasound sealing unit with worldwide service network
- Hopper capacity: 2200 mini straws (0.25 ml) or 1300 medium straws (0.5 ml)
- Capacity: 15000 straws/hour
- Latest PLC microprocessor control technology
- Vacuum unit with integrated reservoir and automatic readjustment function; vacuum level is displayed and can be easily modified via buttons
- Power supply: 110 V/60 Hz or 230 V/50-60 Hz

### Accessories

#### Filling block with 4 nozzles

for 0.25 ml straws [REF. : 13018/0012](#)

for 0.5 ml straws [REF. : 13018/0017](#)

#### Suction block with 4 nozzles

for 0.25 ml straws [REF. : 13018/0022](#)

for 0.5 ml straws [REF. : 13018/0027](#)

#### Staw hopper for MPP Quattro and MPP Uno,

for 0.25 and 0.5 ml straws [REF. : 13018/0006](#)

[Disposable semen cone, 100/bag](#) [REF. : 13018/0100](#)

[MPP Quattro, complete](#) [REF. : 13018/0000](#)

[Fixing unit for filling and suction blocks, stackable, stainless steel](#) [REF. : 13017/0050](#)

[Washer for 0.25 ml and 0.5 ml nozzles, 5000/bag](#) [REF. : 13021/3003](#)

[Filling and suction tubing, 380 mm, sperm friendly material \(silicone\), bevelled edge, 100/aluminum foil bag](#)

[REF. : 13021/3801](#)

# AUTOMATIC FILLING AND SEALING OF STRAWS

## MPP Uno

Automatic filling and sealing machine for 0.25 and 0.5 ml straws.

### Your benefits

- The MPP Uno seals and fills 1 straw per cycle. Therefore the machine is ideal for handling small volumes of valuable ejaculates. The sealing is performed by ultrasound.
- Conversion between 0.25 ml straws and 0.5 ml straws without exchanging any parts within only a few minutes. The exchangeable hoppers hold either 2200 straws of 0.25 ml or about 1300 straws of 0.5 ml.
- A very compact device which requires minor space. The vacuum pump and the pressure controller are integrated in the device. The ultrasonic generator is integrated in an external casing that can be mounted at a distance of up to 2.5 m. ON/OFF switch directly on the machine.
- The filling and sealing area is completely closed: best hygienic and safety conditions are therefore fully guaranteed.
- Optimal control by the user: the filling process is performed right in front of the user, who can easily observe the procedure.

**MPP Uno**, complete [REF. : 13017/0000](#)

### Technical features

- Capacity approx. 4000 straws/hour
- Machine dimensions: 370 x 460 x 320 mm (W x D x H)  
+ ultrasound generator
- Power supply: 110 V/60 Hz or 230 V/50 Hz

### Accessories

**Straw hopper** for MPP Quattro and MPP Uno,  
for 0.25 and 0.5 ml straws [REF. : 13018/0006](#)

**Filling nozzle 0.25 ml** [REF. : 13017/0012](#)

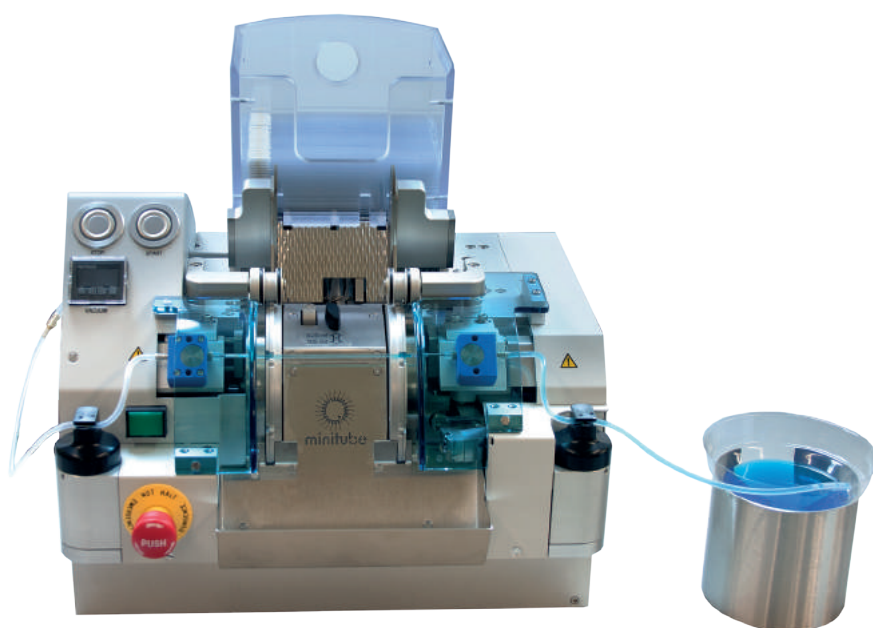
**Suction nozzle 0.25 ml** [REF. : 13017/0022](#)

**Filling nozzle 0.5 ml** [REF. : 13017/0017](#)

**Suction nozzle 0.5 ml** [REF. : 13017/0027](#)

**Washer** for 0.25 ml and 0.5 ml nozzles,  
5000/bag [REF. : 13021/3003](#)

**Filling and suction tubing**, 380 mm, sperm friendly material (silicone),  
bevelled edge, 100/aluminum foil bag [REF. : 13021/3801](#)





# PRINTERS FOR SEMEN STRAWS

## MiniJet

Professional printing system for 0.25 ml and 0.5 ml straws.

### Your benefits

- Combines excellent print quality with high print speed
- Suitable for all types of semen straws
- Minitube software with clear and user-friendly menu navigation
- Exchangeable hopper fits both straw sizes
- Easily adjustable print head position
- Change of the transport belt without tools
- Remote maintenance via teleservice possible
- No gear pump is used for generating the pressure in the ink circuit, therefore no abraded particles are ageing the ink
- The ink nozzle is automatically closed when the printer is switched off, thus avoiding its blockage caused by dried ink. Steady once per day tuning of ink viscosity guarantees optimal start-up conditions
- Low operational cost: the ink tank is only refilled instead of replacing it altogether
- Ink run time is not limited by electronic timer
- The inkjet printer is equipped with a touch screen for direct input of system commands and display for diagnostics
- Microsoft Access Database for easy data conversion to and from customer specific databases
- Interface to IDA laboratory software

### Each system consists of

- Inkjet printing unit Leibinger, state of the art computer with accessories and Minitube software
- Transport unit for straws with exchangeable hopper
- Control unit for electronics and power supply of the transport unit

### Technical features

- Automated nozzle seal (keeps ink in the print head from drying out)
- Capacity: approx. 20000 straws per hour
- Character size 1.4 mm to 5 mm
- Printing of barcodes and logos
- Bold print option
- Immediately non-abrasive print
- Adaptable for the CombiSystem
- Power supply: 110 V/60 Hz or 230 V/50-60 Hz

**MiniJet with Inkjet System Leibinger,**  
complete

REF. : 13034/0001

**Ink, 950 ml**

REF. : 13033/0010

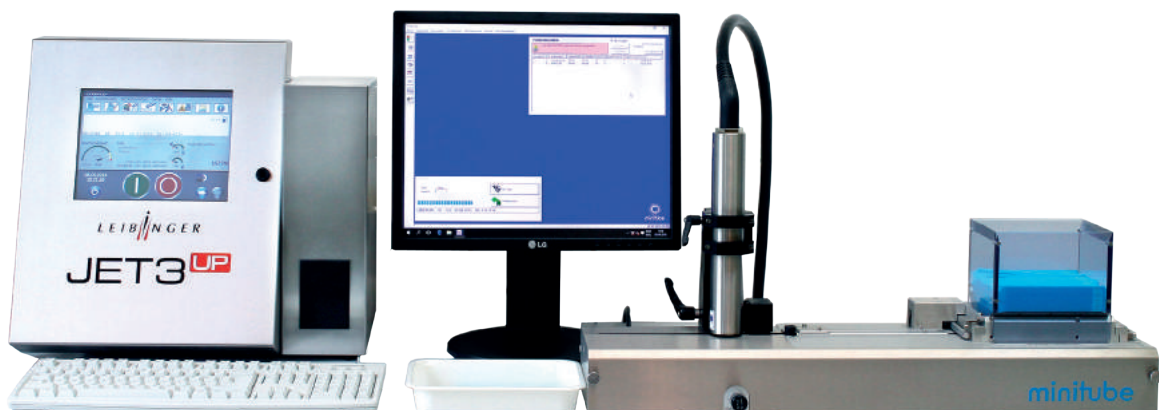
**Solvent, 950 ml**

REF. : 13033/0012

**The MiniJet printer can be combined with the filling and sealing machine MPP Quattro or MPP Uno to a CombiSystem.**



One-of-a-kind technology keeps the ink homogeneous and ensures that **ink does not dry out**, even during lengthy breaks in production.



# PRINTERS FOR SEMEN STRAWS

## EasyCoder

Printing of straws without ink.

### Your benefits

- Unmatched neat and clear printing on 0.5 and 0.25 ml straws
- Up to 3 lines with a total of about 200 characters, even on Ministraws
- Printing of barcode signs, logos and specific characters
- Immediately non-abrasive print
- Control via PC by a clear and user-friendly Minitube software
- Sequential numbers can be printed on straws
- Adjustable character fonts and graduations from micro to macro
- Freely eligible number of lines and of printing positions
- Clean and odourless working without ink and without solvents
- Easy handling, little maintenance required
- Easy and quick conversion between different straw sizes

### Technical features

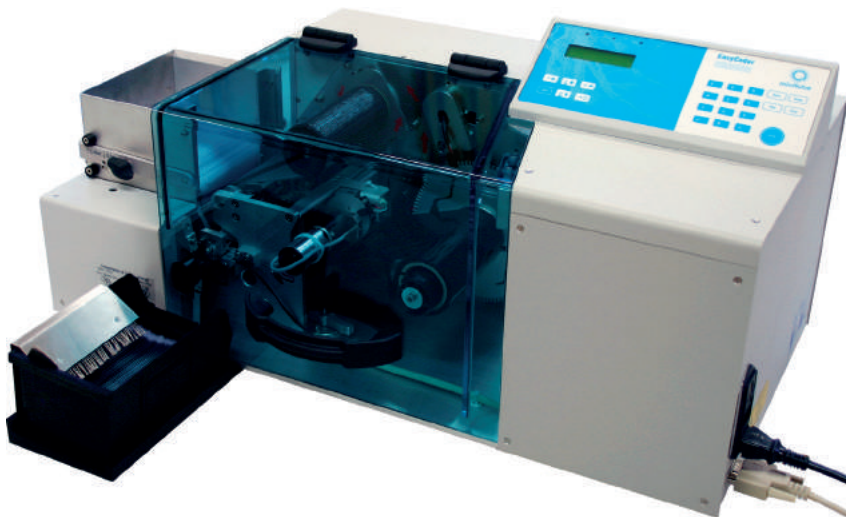
- Thermal transfer printer with automatic straw supply
- Output: 3600 straws per hour
- Windows based Minitüb software with data base for storing names and numbers
- Data transfer by serial port or USB adapter (included)
- Individual composition of printing lines possible, different configurations can be stored in memory
- Dimensions (l x w x h): 660 x 370 x 310 mm (PC not included)
- Power supply: 110 V/50-60 Hz or 230 V/50-60 Hz

**EasyCoder printer**, complete

REF. : [13038/0000](#)

**Colour ribbon**, black

REF. : [13038/0010](#)



# THE MINITUBE SYSTEM

## The Minitube straw

Minitube straws can be used in many ways: for frozen semen preservation as well as for the production of fresh semen. During the last years, the use of fresh semen in the bovine AI industry has increased and become more important, especially as a tool to meet the high demand for top bulls. The original Minitube straw with two sealing balls provides fundamental advantages for both preservation methods:

- Gas-tight and hygienic seal of both straw ends with sealing balls
- No waste of semen due to sperm trapped in the cotton plug
- Reduced number of semen cells per dose
- Maximum use and maximum profit of top bulls

**Minitube straw**, 65 mm/0.3 ml, clear [REF. : 13401/0065](#)



## ASP 65R – Filling & sealing machine for Minitubes

### Technical features

- Fully automatic packaging of bull semen in Minitubes
- Use of only one sterilizable filling nozzle with hose and sinker per ejaculate
- Capacity: approx. 8000 straws per hour
- Power supply: 230 V/50 Hz

**ASP 65R** [REF. : 13001/0165](#)

### Accessories

**Filling nozzle** for ASP,  
with silicone tubing and sinker [REF. : 13001/1010](#)

**Suction nozzle** for ASP [REF. : 13001/1020](#)

**Washer** for ASP filling and suction nozzle,  
1000/package [REF. : 13001/1000](#)

**Nitrogen gas module for liquid semen production.** Flushes each Minitube with nitrogen gas immediately before filling, thus ensuring that the bubble within the filled and sealed semen straw contains only nitrogen. Increases longevity of liquid semen providing anaerobic conditions. [REF. : 13001/2000](#)

**Silicone hose 2 x 1mm,**  
25m/bag [REF. : 5013001/0180](#)

**Sealing ball, glass, light blue**  
diameter 2.70 mm, 50.000/jar [REF. : 13400/0070](#)



# SEMI-AUTOMATIC STRAW PROCESSING

## Semiautomatic system SFS 133

**Semiautomatic filling and sealing machine SFS 133**, with vacuum bottle, filling and suction head

for 0.5 ml straws [REF. : 13133/0133](#)

for 0.25 ml straws [REF. : 13133/0135](#)

**Low density vacuum pump**, 30–60 Hg, with manometer and valve

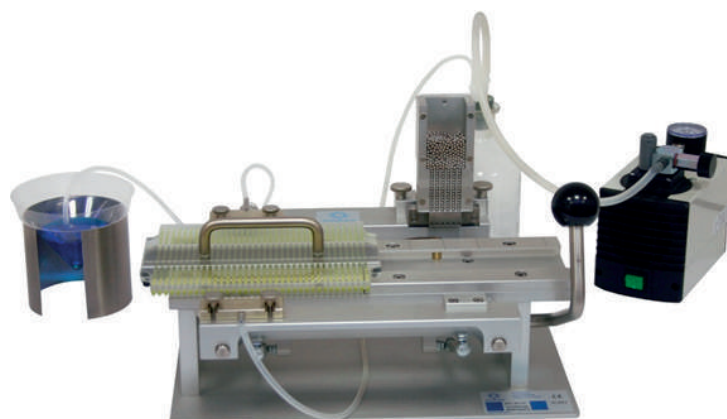
230 V/50 Hz [REF. : 13133/0267](#)

115 V/50 Hz [REF. : 13133/0268](#)

**Cartridge loading device** with loading block and 10 cartridges for 36 straws

0.5 ml [REF. : 13133/0005](#)

0.25 ml [REF. : 13133/0025](#)



### Product features

- Straws are filled and sealed 6 by 6
- Sealing is done securely and hygienically with metal or glass sealing balls
- The glass sealing balls are available in different colours
- An air bubble of 1 cm is automatically produced in each straw
- Capacity: approx. 2000 straws/hour

### Accessories

**Washer** for all filling and suction nozzles, 5000/bag [REF. : 13021/3001](#)

**Silicone tubing for SFS**

transparent, 3 x 1 mm, length 10 m [REF. : 13133/3550](#)

**Filling head** with 6 nozzles for 0.5 and

0.25 ml straws [REF. : 13133/1000](#)

**Suction head** with 6 nozzles for 0.5 and

0.25 ml straws [REF. : 13133/2000](#)

**Metal sealing ball** for 0.25 ml straws

[REF. : 13400/9970](#)

**Glass sealing ball** for 0.25 ml straws,  
available in different colours

[REF. : 13400/9971](#)

## AHDR/HDR printers

For 0.5 or 0.25 ml straws and Minitubes, with counter

Capacity: approx. 5000 straws/hour

**AHDR**, automatic [REF. : 13142/1000](#)

**HDR** (without motor) [REF. : 13140/0000](#)

**Set of alpha-numerical characters**

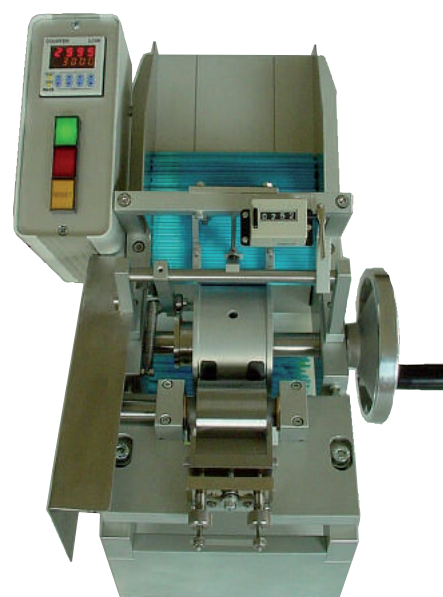
for 0.5 ml straws and Minitubes [REF. : 13052/0000](#)

for 0.25 ml straws [REF. : 13052/0010](#)

**Printing ink ER**, 40 ml, black [REF. : 13056/0033](#)

**Thinner for ER printing ink**, 1000 ml [REF. : 13056/9000](#)

**Doublestick tape** [REF. : 13050/0010](#)





# BULL SEMEN FREEZING

## TurboFreezer L

The innovation in straw freezing technology: unidirectional, horizontal nitrogen vapour flow provides homogeneous and superior freezing results.



The only freezer with unidirectional HORIZONTAL gas flow!

All straws pass through identical freezing curves!



Straw Processing and Freezing

### Your benefits

- Standardised semen freezing curves independent of straw position
- Uniform post-thaw quality of the semen
- User defined freezing programs
- Ergonomic and easy handling of racks and straws in ample freezing chamber
- High throughput provides outstanding economy
- Option to start with temperature +5° from second freezing cycle on, saving time and LN

### Benefits over traditional freezing machines

Semen freezing in conventional freezers suffers from unpredictable cold and warm spots distributed throughout the freezing chamber.

- The aerodynamic design and the unidirectional horizontal gas flow ensure that all straws pass through identical freezing curves.
- The freezing pattern of each single straw is precisely controlled by instant removal of crystallization energy.
- The heat energy produced by each straw during crystallisation is directly removed and does not influence other straws.
- A homogenous gas flow is provided over the complete height and length of the stacks of straw racks.

# BULL SEMEN FREEZING

## Technical features

- Highly insulated body with stainless steel cover
- Quadruple LN<sub>2</sub> injection ports
- Conditioning plenum separated from the freezing chamber
- 2 fan blocks with 4 fans each for homogenous LN<sub>2</sub> dispersion and precision air flow throughout the chamber
- Programmable controller
- 2 temperature sensors (1 chamber sensor, 1 sample sensor)
- Electric connection: 220 V/50 Hz (220 V/60 Hz optional)
- Outer dimensions: 222 x 132 x 86 cm (W x H x D)
- Chamber size: 145 x 41 x 32 cm (W x H x D)
- Required LN<sub>2</sub> pressure: 2.5 bar
- Capacity:
  - 30 racks of 175 0.25 ml straws (total: 5250 straws)
  - 30 racks of 100 0.5 ml straws (total: 3000 straws)

### TurboFreezer L

with 4 goblets, goblet holding device, stainless steel funnel, straw pliers and holding box

REF. : 16811/0000

Pressure container, 189 litre

REF. : 16150/0185

### TurboFreezer M

The smaller version of Minitube's TurboFreezer also provides directional, continuous gas flow throughout the whole chamber and therefore uniquely uniform freezing patterns.

## Technical features

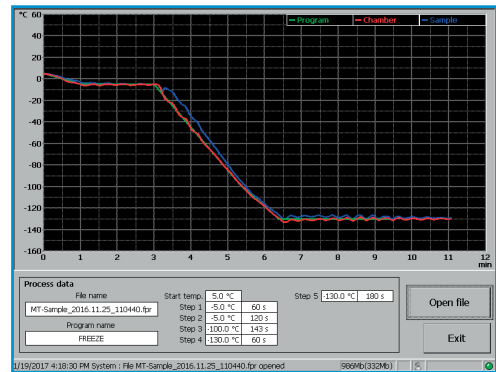
- Straw capacity: 15 racks
  - 1500 straws 0.5 ml
  - 2625 straws 0.25 ml
- Outer dimensions (without monitor and controller): 102 x 103 x 86 cm (W x H x D)
- Chamber - inner dimensions: 78 x 41 x 32 cm (W x H x D)
- Electric connection: 220 V/50 Hz

### TurboFreezer M

REF. : 16810/0000

## Product features

- Dual operation lid: inserted sliding covers for low impact in terms of cold loss when handling straws and racks after freezing. Complete cover opens supported by gas pressure springs.
- Ample space available to unload racks and transfer straws into goblets inside the freezing chamber.
- Subsequent freezing cycles can start immediately after the previous freezing.
- Temperature curves and data of each freezing cycle can be stored, displayed and transferred into Excel for further analysis.



# BULL SEMEN FREEZING

## MT Freezer 2.0

Automatic freezer for bull semen made of stainless steel. Forced air ventilation through fans. Programmable start and end temperature.

### Technical features

- Capacity: 12 racks
- Outer dimensions 112 x 88 x 105 cm (W x H x D)
- Chamber dimensions: 76 x 64 x 30 cm (W x H x D)
- Electronic temperature control, digital temperature display
- Temperature range: +5°C to -140°C
- Freezing time: 8 min (10 min for 0.5 ml straws)
- Ø LN-consumption: approx. 8.5 l per freezing cycle
- Power supply: 110 V/60 Hz or 230 V/50 Hz

### MT Freezer 2.0

for 0.5 bar liquid nitrogen containers [REF. : 16813/0000](#)

for 1.5 bar liquid nitrogen containers [REF. : 16813/0015](#)

### Liquid nitrogen container

pressurized to 0.5 bar, capacity 60 L [REF. : 16820/1900](#)

pressurized to 1.5 bar, capacity 120 L [REF. : 16150/0120](#)

## Accessories for all freezers

### Liquid nitrogen connecting hose

Length 2.0 m [REF. : 16812/0200](#)

Length 1.5 m [REF. : 16812/0150](#)

### Freezing rack Turbo

for 175 x 0.25 ml straws [REF. : 15040/0175](#)

for 100 x 0.5 ml straws [REF. : 15040/0100](#)

### Loading and counting block for freezing rack Turbo

for 175 x 0.25 ml straws [REF. : 15041/0175](#)

for 100 x 0.5 ml straws [REF. : 15041/0100](#)

**Straw pliers** for removal of frozen straws [REF. : 16811/0100](#)

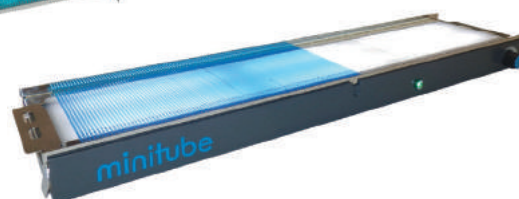
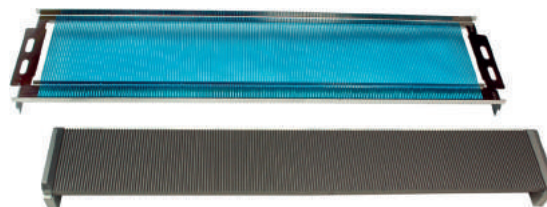
**Stainless steel funnel** for 65 mm goblets [REF. : 15004/0402](#)

(use of straw pliers 16811/0100 is highly recommended)

**Racklight**, LED illuminated box for straw racks, for control of filling level of straws [REF. : 13017/0100](#)

### Your benefits

- Economic: low LN consumption and subsequent freezing cycles can start immediately after the previous freezing cycle
- Superior insulation
- Break- and scratch-resistant lid



# BULL SEMEN FREEZING

## Storage systems for straws

### Goblets

Diameter	Colour	REF.
7.1 mm	White	REF. : 16965/6071
10 mm	White	REF. : 16912/0133
13 mm	White	REF. : 16913/0133
13 mm	Blue	REF. : 16913/1133
13 mm	Red	REF. : 16913/3133
13 mm	Pistachio - green	REF. : 16913/4133
13 mm	Yellow	REF. : 16913/5133
35 mm (1)	White	REF. : 16935/0135
65 mm (2)	White	REF. : 16965/0133

<b>(3) Goblet canes,</b> for 2 x 10 mm Goblets	REF. : 16965/6000
for 2 x 13 mm Goblets	REF. : 16965/6013

**Marking label** for goblet canes, different colours REF. : 13422/00xx

**(4) Divider** for goblets, 100/bag, 12 cm REF. : 16967/0065

**Identification rod**, 140 mm length  
for 0.25 ml straw REF. : 16903/0210  
for 0.5 ml straw REF. : 16903/1210

**(5) Stainless steel funnel** for 65 mm goblets REF. : 15004/0402

**(6) Short and long triangular cassettes**  
for 20/40 Minitubes or 10/20 straws 0.5 ml or 28/56 straws 0.25 ml

**(7) Short and long flat cassettes**  
for 6/12 Minitubes or 3/6 straws 0.5 ml or 6/12 straws 0.25 ml



	Triangular cassette		Flat cassette	
	Long	Short	Long	Short
Green	REF. : 16981/01351	REF. : 16981/01201	REF. : 16980/1201	REF. : 16980/0601
Blue	REF. : 16981/0136	REF. : 16981/0121	REF. : 16980/1202	REF. : 16980/0602
Yellow	REF. : ---	REF. : ---	REF. : 16980/1203	REF. : 16980/0603
Red	REF. : 16981/0138	REF. : 16981/0123	REF. : 16980/1204	REF. : 16980/0604
White	REF. : 16981/0139	REF. : 16981/01241	REF. : 16980/1205	REF. : 16980/0605
Beige	REF. : 16981/0140	REF. : 16981/0125	REF. : 16980/1206	REF. : 16980/0606

### Liquid nitrogen containers

We offer a variety of liquid nitrogen containers, please ask for further information!





# Artificial Insemination and Diagnostics

## Insemination kit

Contains: heavy duty ABS case, electronic thawing unit MT 30/54, QuickLock 2000, 100 Universal sheaths, ReproJelly lubricant, Varikon speculum, 1 box AI gloves, MiniCutter, tweezers and clamp

**Insemination kit** REF. : 17050/0060

Components also available individually:

<b>Insemination case</b>	REF. : 17050/0001
<b>Insemination glove</b> , 100/box	REF. : 17080/0015
<b>Varikon speculum</b>	REF. : 17064/0380
<b>Straw tweezers</b> , angular shape	REF. : 17060/0000
<b>ReproJelly</b> , 100 ml	REF. : 11907/0100
<b>MiniCutter</b>	REF. : 17062/0010
<b>Clamp</b>	REF. : 17063/0000

**Not included in kit:**

**Transformer** for thawing unit  
12 V/ 110 V/ 220V REF. : 17165/1395



# BOVINE ARTIFICIAL INSEMINATION

## QuickLock AI guns

- Easy fixation of sheaths, no ring or twisting needed
- Fast removal of the sheath
- Universal for all types of straws and sheaths (incl. 0.25 and 0.5 ml)
- All parts made of sterilisable plastic or stainless steel
- No loose parts, plunger cannot slide out
- Provide security and accuracy during AI
- Identification with different coloured stylets
- After insemination, the straw is removed from the sheath for better visualisation of the straw information

### QuickLock Classic

Sheath fixation and release very easy by just pressing a knob

white	REF. : 17025/0000
red	REF. : 17025/0003
blue	REF. : 17025/0005
yellow	REF. : 17025/0008
green	REF. : 17025/0009

### QuickLock 2000

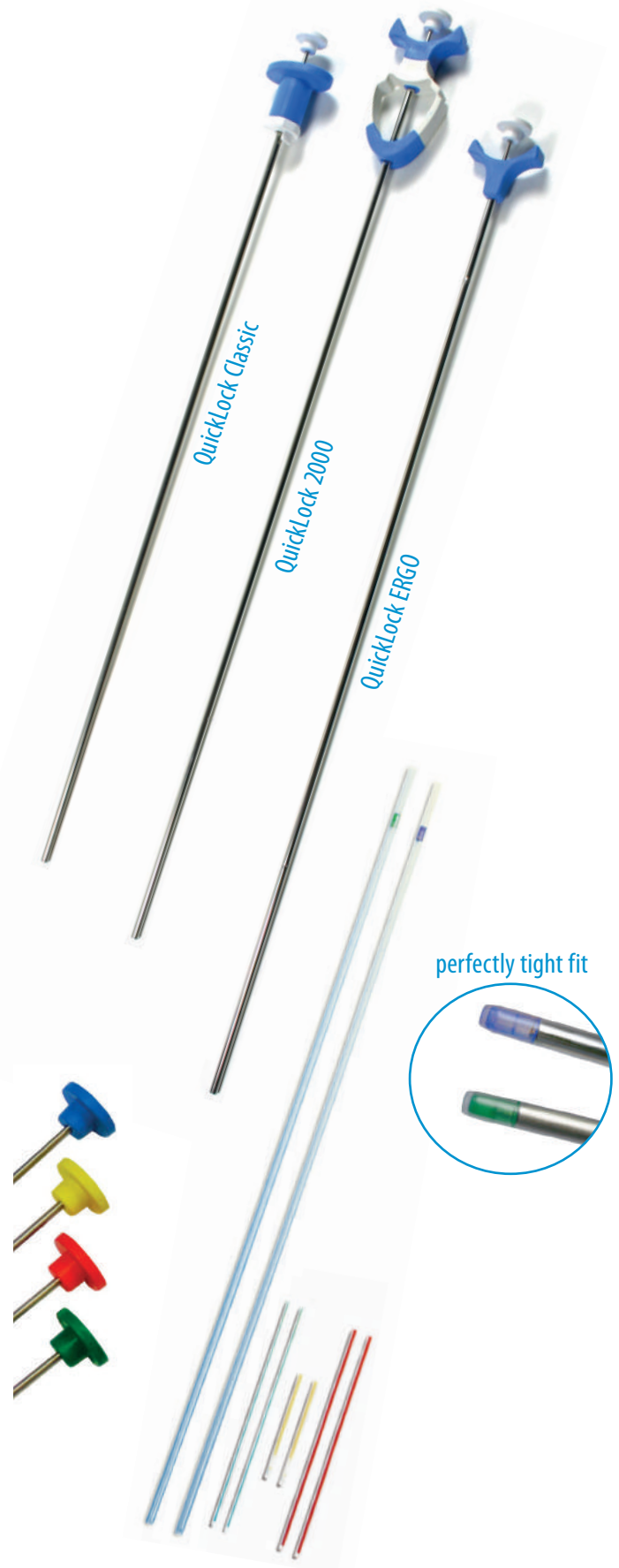
- Ergonomic design
- Only 1 cm of the sheath length is required for fixation

white	REF. : 17026/0000
red	REF. : 17026/0003
blue	REF. : 17026/0005
yellow	REF. : 17026/0008
green	REF. : 17026/0009

### QuickLock ERGO

- Ideal for older cows due to greater usable length
- Smallest ergonomic handle available
- Easiest gun as far as cleaning is concerned

white	REF. : 17024/0000
red	REF. : 17024/0003
blue	REF. : 17024/0005
yellow	REF. : 17024/0008
green	REF. : 17024/0009



# BOVINE ARTIFICIAL INSEMINATION

## Universal sheaths

- Suitable for all types of semen straws
- Absolutely tight fit with all types of straws
- Gentle insemination due to a soft shape of the tip
- 50/bag, 1000/box
- Transparent adapters for better visual control of straw position



**Universal sheath split** (transparent-green) REF. : [17007/0001](#)

**Universal sheath non-split** (transparent-blue) REF. : [17007/0000](#)

**Hygienic sheaths**, roll with 80 units REF. : [17028/0100](#)

## Thawing unit MT 30/54

- Electronic temperature control
- Central, built-in thawing chamber with lift
- Accuracy: 0.2°C
- Power supply: 12 V DC (car battery)

35°C	REF. : <a href="#">17044/0035</a>
37°C	REF. : <a href="#">17044/0037</a>
38°C	REF. : <a href="#">17044/0038</a>
50°C	REF. : <a href="#">17044/0050</a>



### Accessories

**Transformer** for thawing unit 12 V / 220 V REF. : [17165/1395](#)

**Thermometer** for thawing unit REF. : [17049/0000](#)

## MiniCutter

- Ergonomic shape
- Precise cut of 0.25 and 0.5 ml straws
- Easy to keep clean

**MiniCutter for straws** REF. : [17062/0010](#)



# BOVINE ARTIFICIAL INSEMINATION

## Deep I.U. insemination

- Long, flexible sheath and mandrin for insemination deep inside the uterine horn
- Metal tip of the sheath for easy palpation and exact fit with the straw
- Extra introduction mandrin for penetrating the cervix
- Also suitable for embryo transfer

**DIUI bovine inseminator set:** flexible A.I. mandrin, stiff introduction mandrin, finger support and fixation rings

REF. : [17015/0000](#)

**DIUI bovine sheath,** split, for 0.25 ml straws, 10/package

REF. : [17015/0650](#)

## XtremiA and XtremET

XtremiA and XtremET allow depositing semen or embryos up to **25 cm deep into the uterine horn** of cows and heifers. The spermatozoa are brought the closest to the place of fertilisation.

Both, XtremiA and XtremET sheaths are used with the transfer device "XtremGun".

### Your benefits

- Extremely smooth and stable tip for an easy passage of the cervix even in very young animals
- Flexible inner cannula adapts to the female anatomy
- Direct use of 0.25 ml straw content in the device: no risk of losing sperm cells or embryos
- Less manipulation of the genital tract: more welfare for the animal and more comfort for the operator
- Safe and hygienic equipment

### XtremBox

Carry case for transport and storage of XtremiA and XtremET equipment; contains the XtremGun, 2 stylets, 20 XtremiA sheaths and a MiniCutter

REF.: [17016/1000](#)

### XtremiA

Bovine deep intrauterine insemination sheath

REF.: [17016/1500](#)

### XtremET

Bovine deep intrauterine embryo transfer sheath

REF.: [17016/2500](#)

*We highly recommend to get trained on the devices with our specialists. Please contact us for a 2-day training session in France or get a quote for training on site.*





# BOVINE ARTIFICIAL INSEMINATION

## QuickLock heater 2.0

### Your benefits

- AI guns are transported at a constant temperature
- Thawed semen will not lose temperature in pre-warmed QuickLock AI gun
- Very robust material, easy to clean bag can be washed in a washing machine
- Strap allows different ways of carrying the bag
- Rechargeable battery, works for approx. 8 hours
- Temperature setting: +35°C, other values optional

### QuickLock heater 2.0 (+35°C)

Battery operated, with carrying strap [REF. : 17028/0210](#)

### Accessories

#### Charger for recharging of battery set

Charger for wall socket 100-240 VAC, 50/60 Hz [REF.: 17028/0220](#)

Charger for car, 12 V/24 V [REF. : 17028/0221](#)

#### Disposable plastic bag

to protect the inside, 100/bag [REF. : 17028/0201](#)

### Option

Additional rechargeable battery set [REF. : 17028/0219](#)

QuickLock heater 2.0, set to 25°C for ET [REF. : 17028/0225](#)

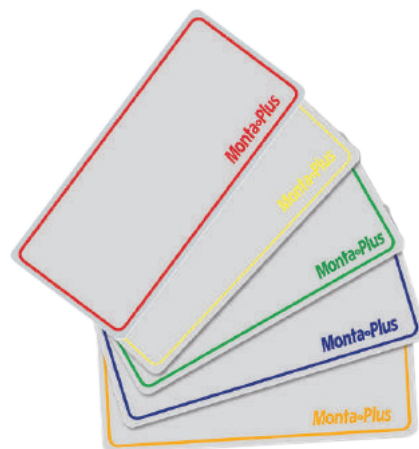
*Not available in the US!*



## MontaPlus - Heat detection patch

MontaPlus is a "rub-off surface" based heat indicator system for cattle. The size of the coloured area of the patch which has been applied to the cattle back indicates the number of times, the cow/heifer has been mounted.

<b>red</b> , 50/bag	<a href="#">REF. : 23300/0002</a>
<b>orange</b> , 50/bag	<a href="#">REF. : 23300/0003</a>
<b>yellow</b> , 50/bag	<a href="#">REF. : 23300/0004</a>
<b>blue</b> , 50/bag	<a href="#">REF. : 23300/0005</a>
<b>green</b> , 50/bag	<a href="#">REF. : 23300/0006</a>



## MiniReader

The MiniReader is an accurate, reliable and affordable device to read and determine the results of Minitube's **ELISA** (= Enzyme Linked Immunosorbent Assay) based progesterone test. It is used with the ELISA test kit.

**MiniReader** [REF. : 21900/0000](#)

### Application

- Verify if cow is in or near heat
- Evaluate signs of false heat or silent heat
- Determine pregnancy status
- General monitoring of cow cycle, e.g. success of synchronization programs
- Evaluation of post partum ovarian status and detection of pathological signs (e.g. ovarian cysts and persisting corpus luteum)

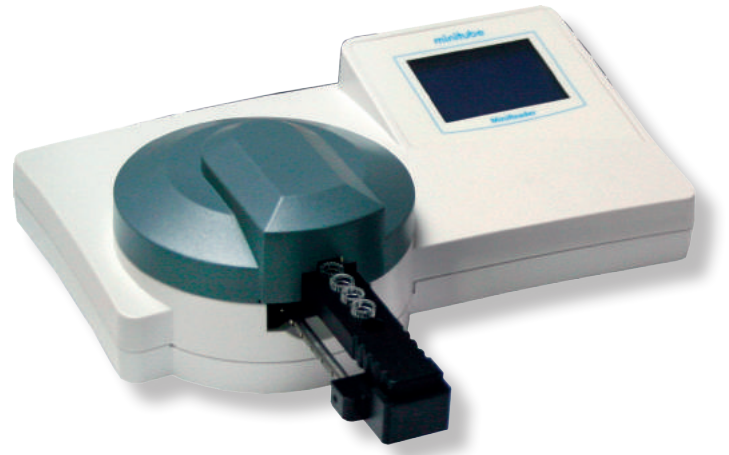
### Your benefits

- Very little material is needed (0.02 ml of blood serum or milk)
- Fast and accurate results in just over half an hour for immediate evaluation of the cow
- Easy handling and maintenance
- Accurate reading as absolute progesterone concentration is shown in ng/ml (not only relative readings of 'high' or 'low' progesterone)

### Test kits

**Test kit for measuring progesterone** in bovine serum,  
for 24-60 samples [REF. : 21900/1310](#)

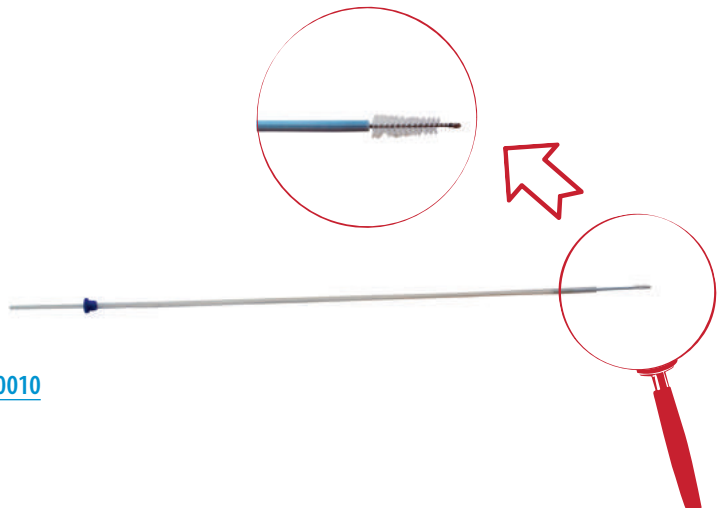
**Test kit for measuring progesterone** in bovine milk,  
for 24-60 samples [REF. : 21900/1320](#)



## Cytology brush

Disposable set for collecting endometrial cells for cytology. Single packed, sterile, single use, delivered with sanitary sheet.

**CytoBrush for bovine** [REF. : 17075/0010](#)



## Ultrasound device Minitube 2.0

**Portable ultrasound scanner for gynaecological examination including pregnancy detection.**

With rechargeable battery, power supply, carry strap, couplant and heavy duty case. Connection of main device to different probes allows examination of different species.

**Ultrasound device Minitube 2.0, 100-240 V** REF. : [23500/1005](#)

### Your benefits

- Compact and light weight
- Portable, very robust, battery operated

### Technical details

- Monitor size: 7" TFT-LCD
- Display modes: B, B+B, B+M, M, 4B
- Image gray scale: 256 levels
- Battery capacity: 3000 mAh/ 7.4 V
- Weight: 900 g
- Overall Size: 216 x 147 x 27 mm (LxWxH)

### Accessory

#### Linear Probe 6.5 MHz

for rectal pregnancy detection in cattle

REF. : [23500/1106](#)



## EndoControl sampler

Effective and early detection of endometritis by evaluation of vaginal mucus. Single packed, sterile, single use, delivered with sanitary sheet.

#### EndoContol Sampler

REF. : [17075/0025](#)





# Embryo Transfer and OPU / IVP

## Media for bovine embryo transfer

- Manufactured under GMP conditions in dedicated clean room
- Gas-tight packaging for longer shelf life
- Convenient package sizes
- Quality control of each batch performed under veterinarian supervision
- Batch certificate available

## Holding medium

A multiple application medium for:

- Holding embryos at room temperature in ambient conditions
- Transporting embryos
- Washing and rinsing embryos
- Loading embryos for transfer to recipient animal

### BoviHold

Solution containing Pyruvate, BSA and antibiotic  
20ml

REF. : 19982/6050

## Recovery media

### BoviFlush

- Solution containing Pyruvate or BSA and antibiotic
- No additives required
- 3-way port configuration

With BSA, 1 l REF. : 19982/6001

With PVA, 1 l REF. : 19982/6011

With BSA, 2 l REF. : 19982/6002

With PVA, 2 l REF. : 19982/6012

## Cryopreservation medium

Ethylen-glycol medium for conventional, slow freezing of embryos and direct transfer after thawing. Contains a solution with D-glucose, Na-pyruvate, BSA and antibiotic.

### BoviFreeze

5 ml

REF. : 19982/6051



# EMBRYO COLLECTION

## Flushing catheters

**Silicone catheters**, 650 mm length (26"), 20-30 ml inflation cuff, high-volume recovery ports, Luer activated valve, sterilised, 1/bag

2 way, Luer Lock

CH 12	REF. : 19005/0100
CH 16	REF. : 19005/0102
CH 18	REF. : 19005/0103
CH 20	REF. : 19005/0104

2 way, Foley end

CH 12	REF. : 19005/0220
CH 16	REF. : 19005/0221
CH 18	REF. : 19005/0222
CH 20	REF. : 19005/0223

3 way, Foley end

CH 16	REF. : 19005/0230
CH 18	REF. : 19005/0231
CH 20	REF. : 19005/0232

**Lampeter stainless steel tip catheter with 8 ports**,

Luer activated valve, 1/bag

CH 12	REF. : 19006/0012
CH 15	REF. : 19006/0015
CH 18	REF. : 19006/0017

**Neustadt Aisch/Rüsch catheter with 4 ports**,

air pressure control bulb, 2/bag

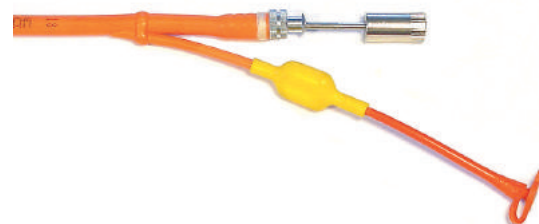
CH 15	REF. : 19004/0015
CH 18	REF. : 19004/0018

**Mandrin for flushing catheter**

CH 12/16 (3-way)	REF. : 19007/0011
CH 14	REF. : 19007/0012
CH 15/16	REF. : 19007/0016
CH 18/20	REF. : 19007/0018

**Cervix dilator**, all stainless steel, fully autoclavable, facilitates introduction of embryo collection catheter

REF. : 19001/1000



# EMBRYO COLLECTION

## Filters for embryo collection

- All-in-one filter and search dish
- Secure fixation of the lid during collection and easy to open after collection
- Integrated search dish engraved with a grid makes it easy to search and find embryos
- Filter mesh cannot get dry as it remains in contact with fluid
- Excess fluid is controlled and removed through outlet tubing with attached thumb clamp
- Connection to all types of Y-tubing is possible

### EmSafe

EmSafe is ideal for both large and small embryos. The filter system automatically holds a minimum level of 60 ml rinsing fluid in the dish. An angled filter mesh provides an optimal flow-through rate and the air vent in the lid is secured by a filter.

**EmSafe filter** [REF. : 19010/6000](#)

### EmGuard

Due to its shallow design, the EmGuard filter system is perfectly suited for use with all microscopes even when the working distance is limited. Embryos are easily found with the aid of the highly visible grid.

**EmGuard filter** [REF. : 19010/1000](#)

### Flushing Tubings

Disposable Y-junction tubing with clamps, to be used in combination with any catheter. Sterilised, 1/bag. Tubing made of very smooth, flexible material. End for filter connection requires no extra adapter.

#### Y-tubing for embryo collection with the EmSafe filter

**Luer end** [REF. : 19011/0100](#)

**Foley end** [REF. : 19011/0200](#)

#### Y-tubing for embryo collection with the EmGuard filter

**Luer end** [REF. : 19011/0300](#)

**Foley end** [REF. : 19011/0400](#)



# LAB EQUIPMENT FOR EMBRYO TRANSFER

## Stereo microscopes

**Stereo zoom microscope**, binocular, mirror for improved visualisation of zona pellucida, total magnification from 10x to 70x, eye-pieces 10x, 115-230V/ 50 - 60Hz

REF. : [12014/0000](#)

**Stereo zoom microscope**, binocular, with LED illumination, mirror for optimized visualisation of zona pellucida, magnification 7.5x to 50x, 2 eye-pieces 10x, 115-230V/50 - 60Hz

REF. : [12007/2000](#)

*Many models are also available as trinocular versions. Please contact us for further information.*



## Temperature control

**Heated stage** for stereo microscope

REF. : [12055/0003](#)

**Control unit HT 50** for heated stage  
110 V / 60 Hz or 230 V / 50 Hz

REF. : [12055/0050](#)



### Bead bath

Temperature controlled incubator for sample tubes or straws of different sizes (up to 15 mm diameter), with steel balls inside for secure fixation. Temperature range between ambient and +55°C. Requires a control unit HT 50 S, HT 300 or HT 400 W. Usable height: 135 mm

**Bead bath**

REF. : [12055/5000](#)

### Controller HT 50 S

110 V/60 Hz or 230 V/50 Hz

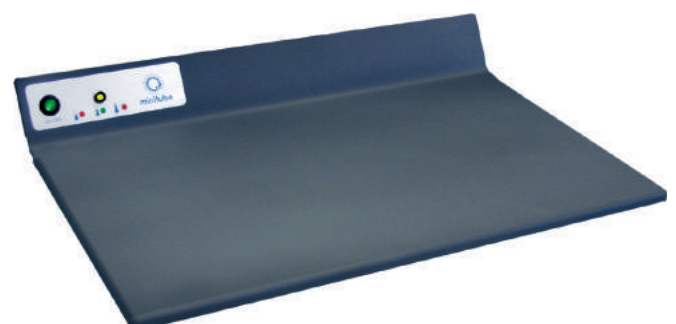
REF. : [12055/0205](#)



### Laboratory heating plate

Heated area: 470 x 260 mm, preset temperature (37°C), with integrated control unit and external power supply

REF. : [12055/0010](#)



# LAB EQUIPMENT FOR EMBRYO TRANSFER

## Freeze Control® embryo freezer

Freeze Control® embryo freezing systems are designed for practitioners. They use liquid nitrogen as cooling medium, and heat control for regulating temperature. Each system consists of a cryobath, a controller and a carry case. Capacity 23 x 0.5 ml or 46 x 0.25 ml straws.

**With controller CL 2200**, 8 preinstalled programs, 1.5 l cryobath, external power supply

REF. : 19406/2200

**With controller CL 5500**, 16 preinstalled programs, 1.5 l cryobath, inbuilt battery power pack

REF. : 19406/5500

**With controller CL 8800**, 16 preinstalled programs, 3.8 l cryobath, external power supply

REF. : 19406/8800

**External power pack for CL 2200/CL 8800**

REF. : 19407/0000



## Vitrification unit

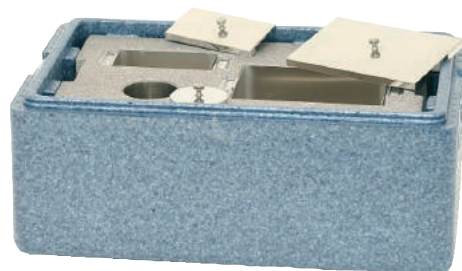
Set for vitrifying embryos or oocytes in OPS (=open pulled straws) or conventional straws.

### Unit consists of:

- Styrofoam box with stainless steel vitrification bath
- Material for vitrification
- DVD with instructions for working with OPS
- Manual with detailed media development description

**Vitrification unit**

REF. : 19500/2000





# EMBRYO HANDLING

## Embryo Handling

**Micropipettor:** easy and precise pipetting by handling wheel, for all sizes of capillary tubes up to 1 ml

Model A REF. : 19022/0000

Model B REF. : 19022/0002

**(1) Steripette** for embryo handling, 55 mm, individually packed, sterilised, 50/package, for use with 1 ml insulin syringe

REF. : 19025/0050

**(2) Glass pipette for embryo handling**, silicone treated (240°C), 100/package

REF. : 19026/0100

**(3) Adapter for glass pipette** for connection with Luer syringe, sterilised

REF. : 19026/1100

**(4) Embryo culture dish** with lid, sterilised, 5 wells, rounded well edges, mouse embryo batch tested

REF. : 19021/0001

**(5) Petri dish**, plastic

diameter 35 mm REF. : 19020/0035

diameter 94 mm REF. : 19020/0094

diameter 145 mm REF. : 19020/0145

**Petri dish**, plastic, with grid

diameter 65 mm REF. : 19020/2065

diameter 94 mm REF. : 19020/2094

**(6) Embryo transport vial**, 5 ml, with snap cap and round bottom, sterilised, single packed, 500/package

REF. : 19180/5006

**(7) 0.25 ml straw**, crystal clear, sterilised, 5/package

REF. : 19039/0005

**(8) 0.25 ml straw**, clear, sterilised, 10/package, without seal

Clear REF. : 19042/0010

Yellow (direct transfer) REF. : 19042/1010

also available with sealing ball REF. : 19041/0010



Embryo Transfer and OPU / IVP

# EMBRYO HANDLING

**0.25 ml straw**, clear, sterilised, 10/package, with ID rod seal

White	REF. : <a href="#">19040/0010</a>
Beige	REF. : <a href="#">19040/0011</a>
Light yellow	REF. : <a href="#">19040/0012</a>
Light blue	REF. : <a href="#">19040/0013</a>
Red	REF. : <a href="#">19040/0014</a>
Pink	REF. : <a href="#">19040/0015</a>
Grey	REF. : <a href="#">19040/0016</a>
Light green	REF. : <a href="#">19040/0018</a>
Dark yellow	REF. : <a href="#">19040/0020</a>



Also available: 0.25 ml straw, yellow-transparent with beige or light yellow ID-rod

**0.25 ml straw 90 mm**, clear, sterilised, 10/package

white, with ID rod, many colours available	REF. : <a href="#">19040/90xx</a>
with sealing ball	REF. : <a href="#">19041/9010</a>



**ET ID rod**, for sealing and identification of 0.25 ml straws, 100/package

White	REF. : <a href="#">19046/0010</a>
Beige	REF. : <a href="#">19046/0015</a>
Light yellow	REF. : <a href="#">19046/0020</a>
Light blue	REF. : <a href="#">19046/0025</a>
Red	REF. : <a href="#">19046/0030</a>
Pink	REF. : <a href="#">19046/0035</a>
Grey	REF. : <a href="#">19046/0040</a>
Light green	REF. : <a href="#">19046/0050</a>
Dark yellow	REF. : <a href="#">19046/0060</a>

**Pen for marking**, very fine, alcohol permanent

Black	REF. : <a href="#">19045/0100</a>
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## Lab equipment

**Manual sealer for straws**, securely seals all kinds of straws by applying heat at the end of the straws. Also seals in liquid nitrogen vapour. Consists of a plier welding head adapted for straws and a control unit for varying heat level.

REF. : [13135/2500](#)



**Straw label printer**, prints labels suitable for 0.25/0.5 ml straws and for ID rods. Battery operated and with optional 110/220V connection. Thermo transfer print, resolution 300 dpi. All-in-one cassette with 140 pcs LN<sub>2</sub>-resistant labels for 0,5 straws or ET ID rod included.

REF. : [13138/0000](#)



## Accessories

**Cassette** with 140 labels for 0.25 ml straws REF. : [13138/0125](#)

**Cassette** with 140 labels for 0.5 ml straws REF. : [13138/0150](#)

# EMBRYO AND OOCYTE TRANSPORT

## CryoSealer

### Manual sealer using ultrasound technology.

Can be used for 0.25, 0.5 ml straws and 0.3 ml CBS™ cryobiostraws. Ultrasound welding facilitates a perfect and uniform seal of each straw. Power supply: 100V-240V/60Hz

**CryoSealer**

REF. : [13135/0000](#)



## Portable incubators

### Product features

- Constant temperature distribution due to the use of metal balls in the device
- Easy and secure fixation of vials and straws
- Absolutely dry and hygienic environment
- Customized temperature setting
- Electronic temperature control
- Temperature precision: +/- 0.5°C
- Power supply: 12 V DC (car battery) or rechargeable dry battery

### Portable ET incubator

with electronic temperature control

REF. : [19180/0001](#)

**Portable incubator** for transport of embryos/oocytes with digital temperature display, temperature range freely selectable between ambient and 40°C

REF. : [19180/0002](#)

### Accessories

**Rechargeable dry battery**, 12 V/7.5 Ah,  
capacity at +25°C: approx. 12 h.

REF. : [19180/1210](#)

**Charger for battery**

REF. : [19180/1200](#)

**Power supply unit for ET transport unit**, 230 V

REF. : [17165/1395](#)

**Plastic vial 5 ml with snap cap**

REF. : [19180/5006](#)



Embryo Transfer and  
OPU / IVP

## Embryo transport kit

### Product features

- Heavy duty box – impact resistant
- Water resistant surfaces
- Pressure relief valve adjusts for rapid altitude changes during flights
- Electrical components isolated in metal enclosure
- Outer dimensions: 43 x 24 x 34 cm
- Capacity of battery: 30 h
- Weight of kit: approx. 10 kg

**Transport box** with dry battery and battery charger for portable incubator, holds temperature for 30 hours during transport

REF. : [19180/2101](#)



# EMBRYO TRANSFER

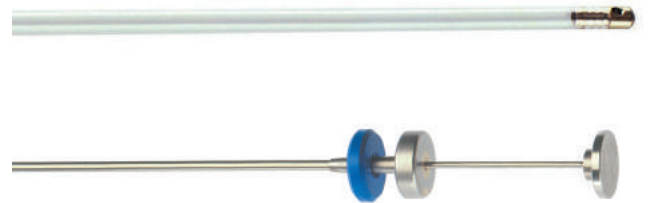
## Transfit sheaths and stylets

**Transfit Lateral**, sheath with metal tip and side opening, to be used with 0.25 ml straws, sterilised, 5/package

REF. : 19240/1005

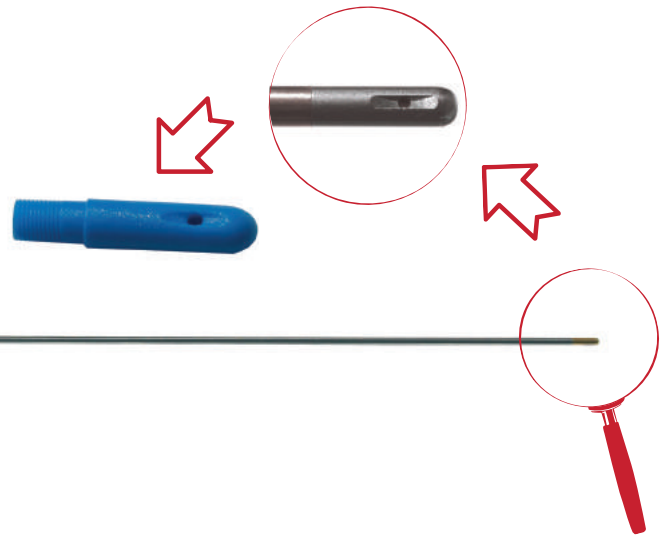
**Transfer stylet** to be used with disposable Transfit Lateral sheath

REF. : 19240/1000



## Stainless steel ET instrument MT

- Best choice for heifers where cervix is hard to pass
- Sterilizable transfer instrument to be used without sheaths, with removable tip made of stainless steel, 1 side outlet, ring for marking opening position
- Disposable tip for transfer instrument MT made of plastic, sterilised, individually wrapped, 100/box



**Transfer instrument**

to be used with 0.25 ml straws

REF. : 19250/0000

**Stainless steel tip**

REF. : 19250/0989

**Disposable tip**

REF. : 19250/0991

## ET devices heater

**ET devices heater V2.0 (+25°C)**

REF. : 17028/0225

Please refer to **page 35** for detailed information.

## Sanitary sheaths

- Hygienic sheath: thin plastic sheath
- Sanisheath: rigid hygienic sheath with perforable cap

**Hygienic sheath**, roll with 80 units

REF. : 19271/0080

**Sanisheath**, 25/package

REF. : 19270/0025





## Laminar flow cabinet

### Technical details

- Vertical air flow
- Noise level below 52 dB(A) at a front opening of 350 mm
- Low air velocity 0.35 m/s +/- 10 %
- Outside dimensions: 1016 x 679 x 1253 mm (W x D x H)
- Inside: 950 x 530 x 646 mm (W x D x H)
- 230 V/50 Hz

### Your benefits

- Appropriate for biotechnology and microbiology
- Equal air distribution due to laminator technology
- Digital controlled triple blower system
- High ease of use and maximum safety

### Laminar flow cabinet

vertical, without stand and accessories

REF. : 19390/1200

#### Eye level control panel

- Gives view of all cabinet functions from both standing or seated position.
- Functions for fan speeds, resettable hour counter, lighting level, UV light timer and air flow alarm indication.
- Service program access via key pad code.

#### Microprocessor control

- Precise, direct fan speed settings, control & measurement giving low noise levels.
- Airflow control for down flow air measurement with precise alarm settings.
- Energy saving reduced speed facility for fast, safe start up and for maintaining cabinet integrity whilst cabinet is unattended.
- Automatic start up/shut down via time setting.

#### Optimal operator comfort

- Angled front window that gives a correct ergonomic working position.
- Side windows and glare free rear wall for ultimate visibility and comfort.
- Diffused laminator allows shadow-free, variable light distribution in the chamber with no shadows.
- Front window options, with fixed 35 cm or 55 cm openings or motorised variable opening.
- Eye level control panel with reduced speed function, hour counter, light and alarm indication.

#### Compact

The cabinet can either be bench or stand mounted, with an overall depth of 679 mm it is easily located in the laboratory and moved without disassembly. The low cabinet height of 2 meters, when on support stand, allows for easy location and positioning.



*Support stand needs to be ordered separately!*

## Ultrasonic device LOGIQ® V2

- Realtime-computer-scanner for linear- and convex sector ultrasound
- Operating modes: B-Mode, M-Mode, Coded Phase Inversion Harmonic imaging, Color M Mode, Color Flow Mode (CFM), Power Doppler Imaging (PDI), Directional PDI, PW Doppler with High PRF
- Dimensions: 12 x 40 x 37 cm (H x L x W)
- Monitor: 15" (381 mm) high-resolution LCD
- 100 - 240 VAC / 50/60 Hz

**Ultrasonic device LOGIQ® V2** REF. : [23360/0000](#)

**Convex sector probe for LOGIQ® V2,**  
6.0 - 10.0 MHz REF. : [23360/0002](#)



## Ultrasound probe holder

- Very light weight and smooth probe holder provides easy handling
- Material warms up to body temperature very quickly
- Slim design enables oocyte aspiration in young animals when combined with small probe
- Optimised needle outlet for recommended needles (23360/1200 and 23360/1250)

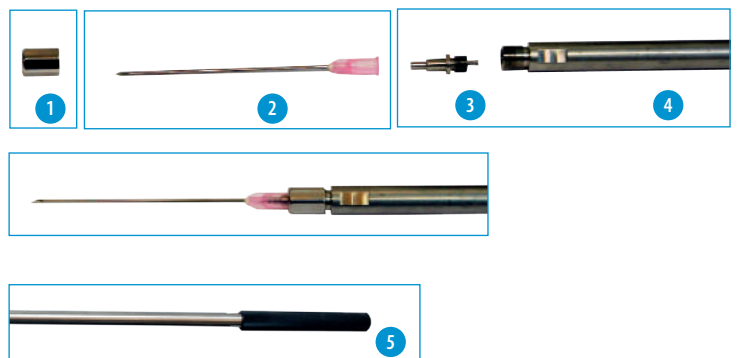
Needle unit is included. The probe holder is available to suit Aloka, BCF, ECM, GE or SonoSite probe.

<b>Aloka</b>	REF. : <a href="#">23360/0600</a>
<b>BCF (Easi-Scan)</b>	REF. : <a href="#">23400/0115</a>
<b>ECM (Exago)</b>	REF. : <a href="#">23400/0413</a>
<b>GE</b>	REF. : <a href="#">23400/0120</a>
<b>SonoSite</b>	REF. : <a href="#">23400/0040</a>

Upon request we offer the device also adapted to other probes.

### The needle unit consists of:

- Clamping nut for the needle (1): provides secure fixation of the needle in its position not allowing any dead space between the needle and the adapter
- Disposable aspiration needle (2)
- Needle adapter (3): connects needle and tube
- Connecting tube made of stainless steel (4)
- Round shaped handle (5): allows variable positioning of bevelled tip of the needle

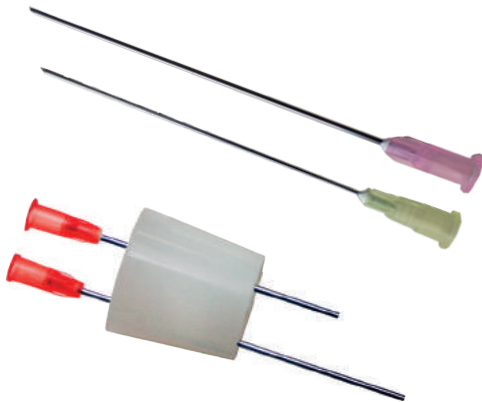


## Tubing set

- Tube made of firm material with a coated surface
- Oocyte-Cumulus-Complexes will not stick to the walls
- With luer-lock fitting for a leak proof connection to the stopper assembly
- Sterilised and individually packaged

**Tubing set**

REF. : 23360/1000



## Disposable oocyte aspiration needle

- Easy and inexpensive to replace
- New needle for each OPU session
- Short and easy to manipulate
- Suited for collecting follicular fluid from individual follicles
- 100 needles/pack

**For cows (1.2 x 75 mm)**

REF. : 23360/1200

**For heifers (0.9 x 70 mm)**

REF. : 23360/1250

## Stopper assembly

Snuggly connects to 50 ml tubes, 1/package

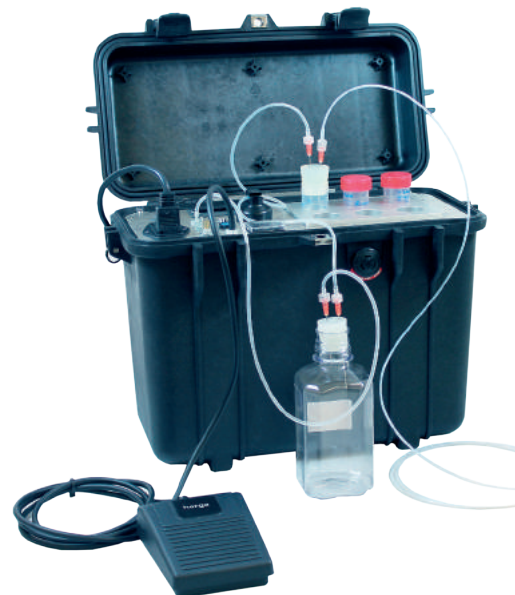
REF. : 23360/1100

## Aspiration pump for OPU

- With media warming block
- Aspiration volume adjustable up to 310 mm Hg
- Warming temperature adjustable up to +50°C
- Available in 120 V or 240 V

**Aspiration pump**

REF. : 23362/0000



## Minitube OPU Media

**OPU Recovery Medium, 250 ml**

REF. : 19990/0080

**OPU Recovery Medium, 500 ml**

REF. : 19990/0081

## Minitube IVP Media

Minitube Media for in vitro production of bovine embryos are stock solutions which are always produced freshly upon demand.

### Your benefits

- Media are produced after standard recipes which have been proven as perfectly suited for in vitro production of embryos in a high number of peer reviewed publications.
- Stock solutions can be stored at +4 to +8°C up to 6 months, working solutions just a few days.

#### TL HEPES, 50 ml

For preparation of holding medium for cumulus oocyte complexes at ambient conditions (pH-stable under room air).

REF. : 19990/0050

#### TCM 199 stock solution for oocyte maturation, 50 ml

For preparation of maturation medium.

REF. : 19990/0010

#### TL stock solution for sperm cell capacitation, 100 ml

For preparation of capacitation medium for sperm cells prior to use in fertilisation.

REF. : 19990/0020

#### TL stock solution for fertilisation, 50 ml

For preparation of fertilisation medium for coincubation of oocytes and sperm cells.

REF. : 19990/0030

#### SOF stock solution, 50 ml

For preparation of culture medium for embryos.

##### Without sodium pyruvate

REF. : 19990/0040

##### With sodium pyruvate

REF. : 19990/0041

Media are prepared with purest water under hygienic conditions using a laminar air flow and sterile filtration.

- Working solutions can be prepared individually depending on requirements.
- Constant high quality of our media provide optimal standards for the in vitro production of embryos in your lab.
- All batches of media are certified for in vitro production based on embryo toxicity tests.



According to medium used, different supplements need to be added for final preparation:

Stock Media	OCCS / FCS	FSH	LH	BSA	Sodium pyruvate	Gentamicin	Heparin	Essential amino acids	Non-essential amino acids
TL HEPES				+					
TCM 199 maturation medium	+	+	+						
TL medium for sperm capacitation				+	+	+			
TL fertilisation medium				+	+		+		
SOF culture medium				+	(+)			+	+



**Anatomically Correct**  
including full reproductive tract  
and rectum

**Viewing Windows**  
for control of trainees' actions

**Temperature Controlled**  
for realistic body temperature

**Barreling Pump**  
for imitation of pneumorectum



**Life Like Tail**  
for learning techniques on  
how to handle the tail

**Padded Pelvis**  
for imitating pelvic fat

**Removable Rump and Tail**  
for easy cleaning

## Training and Education

### Artificial cow "Henryetta"

**With the artificial insemination training cow „Henryetta“, the future of AI training has advanced to a new level.**

The artificial cow provides flexibility around the timing and location of training courses, and also lowers the risk of injury to new trainees or animals.

#### Artificial cow "Henryetta"

Model Holstein Friesian, 230 V	REF. : <a href="#">22400/1040</a>
Model Simmental, 230 V	REF. : <a href="#">22400/1050</a>
Model Holstein Friesian, 115 V	REF. : <a href="#">22400/1041</a>
Model Simmental, 115 V	REF. : <a href="#">22400/1051</a>

#### Accessories

Reproductive tract	REF. : <a href="#">22400/1067</a>
Cervix	REF. : <a href="#">22400/1064</a>
Bowel bag ("rectrum")	REF. : <a href="#">22400/1061</a>

#### Train-the-trainer cattle AI program

Together with our partner LIC we offer an individually designed train-the-trainer program to qualify experts in cattle AI. The course will take place in your country and will be guided by a senior trainer from LIC, New Zealand.

For further information and offers please contact our sales team or visit [www.minitube.com/Products/Training-and-Education/Bovine](http://www.minitube.com/Products/Training-and-Education/Bovine).

It allows for a higher quality of training as the trainer can use the viewing windows to guide the trainees and perfect their technique. So artificial insemination can be practised in safe and convenient environment.

#### Technical data

- Footprint: 1320 x 680 mm
- Height: 1400 mm
- Weight: 53 kg
- Power supply: 230 V/50 Hz or 115 V/60 Hz
- Ambient temperature: +5° C to +45° C



**The most realistic training device in the market!**

**Better quality and more flexibility for your AI training!**

# TRAINING AND EDUCATION

## Minitube International offers specialized product training and educational seminars in assisted reproduction technologies for customers worldwide.

Minitube regularly holds standard seminars for each of our core species providing specialized instruction in artificial insemination, embryo transfer, semen analysis and processing. All seminars blend theoretical knowledge and practical experience and are instructed by well-respected experts in the area of assisted animal reproduction. Seminar participants receive a participant certificate upon completion of the course.

Minitube is committed to accommodating the customers' needs and can provide education and training at Minitube facilities, partner facilities or at the customer site.

Minitüb cooperates closely with leading international bovine centres, universities and research centres. As a participant of one of our workshops, you can profit directly from this knowledge pool. The seminars target lab managers and staff. The main focus is to optimise the work flow during semen processing in the laboratory. Veterinarians and semen technicians gain the necessary know-how for a successful pregnancy after semen and embryo transfer.

With the courses being interactive workshops, presentations, discussions, demonstrations and practical work go hand in hand. Besides the standard seminars mentioned below, Minitube also offers individual seminars upon request. All participants receive valuable seminar documentation and a certificate of participation.

### Semen processing in the laboratory

- Lab equipment
- Semen collection
- Correct handling of ejaculates
- Semen analysis (incl. computer assisted analysis)
- Correct preparation of extender for fresh and deep frozen semen
- Semen processing
- Semen freezing
- Data management

### Embryology / IVF

- Embryo analysis and handling
- Vitrification and cryopreservation
- In vitro production of embryos

### AI and ET

- Heat detection
- Gynaecological examination
- Hormone treatment
- Thawing procedure
- Insemination technique
- Embryo transfer technique
- Liquid nitrogen handling
- Pregnancy detection
- Herd management







Minitüb is an ISO 9001:2015 certified company.