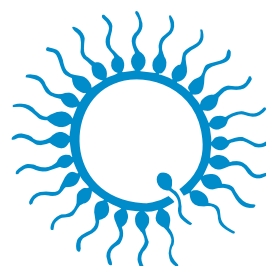




# BOVINE

assisted reproduction technology



**minitube**

our knowledge, your success

# Minitube: proven quality since 1970



*Dear valued customers,*

**Minitube is totally committed to quality** – this is at the core of everything that we do.

For our worldwide client base, we recognize that reliability, functionality and efficiency are key factors for running a stress-free and profitable production system. For over 50 years Minitube has delivered robust, high-performance, quality equipment and consumables to the assisted reproduction market.

As an industry leader, we accept the responsibility of providing products that do not compromise quality or safety. For this reason, all proprietary consumables and semen or embryo preservation media are manufactured in our own dedicated state-of-the-art facilities, supported by extensive in-house and external third-party QA testing you can trust. Minitube quality is not subjective but based on hard facts and decades of a successful track record.

Our total quality approach is underpinned by a long-term partnership strategy with our suppliers and customers. These long-standing relationships help build the trust and understanding required to ensure ongoing quality.

The same is true for our service team who are always striving to provide the best service within the industry. As a customer, the expert knowledge and know-how of Minitube staff is always available to you.

Moving forward we promise to continue researching and developing the best products and providing the best service, just as we have for more than 50 years.

Dr. Christian Simmet  
CEO





Minitube online media library:  
All catalogs digitally available in  
different languages

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# 1 LABORATORY MANAGEMENT



## Electronic bull identification with iMale

The wireless combination of iMale RFID reader and iMale label printer allows **safe reading of animal ear tags** and **direct printing of barcode labels** with the animal ID in the semen collection area. The printed barcode label can be stuck on the semen collection bag/cup and can then be used to securely identify and process ejaculates in the laboratory, i.e./e.g. with Prism10 Bull.

### Product features

- Available as an independent system or in addition to Prism10 Bull
- Operating distance: 30 cm, plus length of device: 65 cm
- Maximum distance for wireless data transfer from the iMale reader to the label printer is about 10 meters
- All HDX and FDX-B transponder ear tags can be read

iMale RFID reader, built-in quick-charger and external power unit included [1]

18001/0000

### Accessories

iMale label printer [2]

18001/0200

Label for iMale printer, 41 x 25 mm, roll with 425 labels [3]

18001/0210



more information

## Prism10 Bull lab software

With its dynamic user interface, the lab software Prism10 Bull offers a **modern process and product-based concept** for controlling bull semen production.

### Product features

- Straightforward ejaculate processing: bull ID, ejaculate volume (scale), concentration (photometer or AndroVision®), motility (AndroVision® or manual), evaluation and collector identification and more
- Data connection to iMale, AndroVision, SmartDispenser 1.0 & 2.0, MPP Quattro & MiniJet printer (CombiSystem)
- Flexible architecture – operation from any connected computer
- Product-centered approach allows for customized mapping of production processes: every ejaculate can be processed into different products, for example with different number of sperm per dose, different packaging, dose volume, extender etc.
- Flexible tool to import and update donor information from MS Excel
- Flags for marking characteristics of ejaculates, collections, and bulls (e.g. reason for discard, quality of jump)
- Adjustable limits and warnings for ejaculate data to help station manager in decision-making during production
- Live data can be accessed remotely, e.g. orders filled, progress of daily production, discarded ejaculates, etc.
- Comprehensive reporting with customizable templates and export function (PDF, MS Excel)
- Donor animal dashboard with graphs: overview of average breeding value, age, weekly available sperm output, barn usage and others
- Production dashboard with graphs: overview of semen quality, produced doses per period, per bull, per process, among others



### Your benefits

- + Newly developed, modern, web-based software
- + Guaranteed long-term support by experienced team of developers
- + Hassle-free connection to Minitube devices
- + Secure and traceable input of all data, entry errors are minimized
- + High production reliability, operation is not dependent on a single device
- + The most important performance parameters at a glance
- + Data is accessible remotely by smartphone
- + Overview of any time frame of production
- + Statistical analysis of all production data

Prism10 lab software subscription

12535/0005



# 2 SEMEN COLLECTION



## Electro-ejaculator

Electro-ejaculator set, consisting of heavy-duty carrying case, control unit, battery, and transformer/charger. Semen collection is **made easier**, especially from older bulls that may be difficult to stimulate.

### Product features

- Digital display and adjustment of the voltage in 0.5 volt steps
- Fully portable with remote control
- Pulse/pause ratio adjustable manually
- Power output with 3 different curves enabling balanced setting according to the animal's size and sensitivity
- Power supply: 115 V/60 Hz or 230 V/50 Hz

Electro-ejaculator [1]

11900/0000

### Accessories

Electro-ejaculator probe

2.5", Ø 7 cm, length: 40 cm [2]

11900/0025

2", Ø 5.6 cm, length: 33 cm [3]

11900/0022

Semen collection set for electro-ejaculator [4]

11900/0250



## Bovine collection dummy

Comfortable semen collection for technician and bull. With hydraulic height adjustment.



more information

### Product features

- Body made of solid, 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
- + Comfortable semen collection for the bull
- + Forward and backward movements to stimulate the bull
- + Separated, smooth hindquarters reduce risk of injury to the bull penis
- + Optimal hygiene when used with disposable sanitary covers



### Bovine collection dummy

mobile [1]	11000/1000
stationary [2]	11000/0500

### Accessories

Disposable sanitary cover, 100/package [3]	11000/0200
Plastic cover for dummy cow, with leather belt	11000/0100



## Bovine artificial vagina

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

Artificial vagina casing with valve [1]	
20 cm	11021/0020
30 cm	11021/0033
35 cm	11021/0035
41 cm	11021/0041
Latex inner liner	
smooth, 650 mm [2]	11022/0002
rough, 650 mm	11022/0003
rough, 480 mm	11022/0005
Disposable inner liner	
roll with 200 m	11022/0010
with integrated collection vial (15 ml) and lid, sterilized [3]	11022/0011
conical form, open end	11022/0012
conical form, closed end	11022/0013
Director cone	
latex	11024/0000
silicone [4]	11024/0050
<b>Warming bag, neoprene, blue, 58 cm [5]</b>	<b>11025/0058</b>
Warming bag, green [6]	
18 cm	11025/0018
35 cm	11025/0035
45 cm	11025/0045
<b>Rubber ring</b>	<b>11022/0001</b>

## Accessories

<b>Greasing stick [7]</b>	<b>11905/0050</b>
<b>ReproJelly, non-spermicidal lubricant, water soluble, 3 l canister, without dispenser [8]</b>	<b>11907/3000</b>
<b>Dispenser for ReproJelly canister</b>	<b>11907/3100</b>
Thermometer for artificial vagina	
Bimetal, non-breakable, up to +100°C	11027/0000
up to +200°C, graduation 0.1°C, red filling [9]	11027/0200
<b>Collection vial, glass, graduated, 15 ml</b>	<b>11023/0015</b>
<b>Collection vial, plastic, graduated, with lid, 15 ml</b>	<b>11023/0018</b>
<b>Rubber plug for 15 ml vial</b>	<b>11023/1590</b>
<b>Semen collection vial, tulip shape, graduated, 8 ml [10]</b>	<b>11023/0016</b>





## Sterivar

Low pressure sterilizer, 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.

### Product 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

#### Sterivar [1]

230 V	11050/0015
115 V	11050/0014

### Accessories

Roller base for Sterivar [2]	11051/0000
Sterivar insert for 15 cones [3]	11051/1015



## Warming cabinet

### Product features

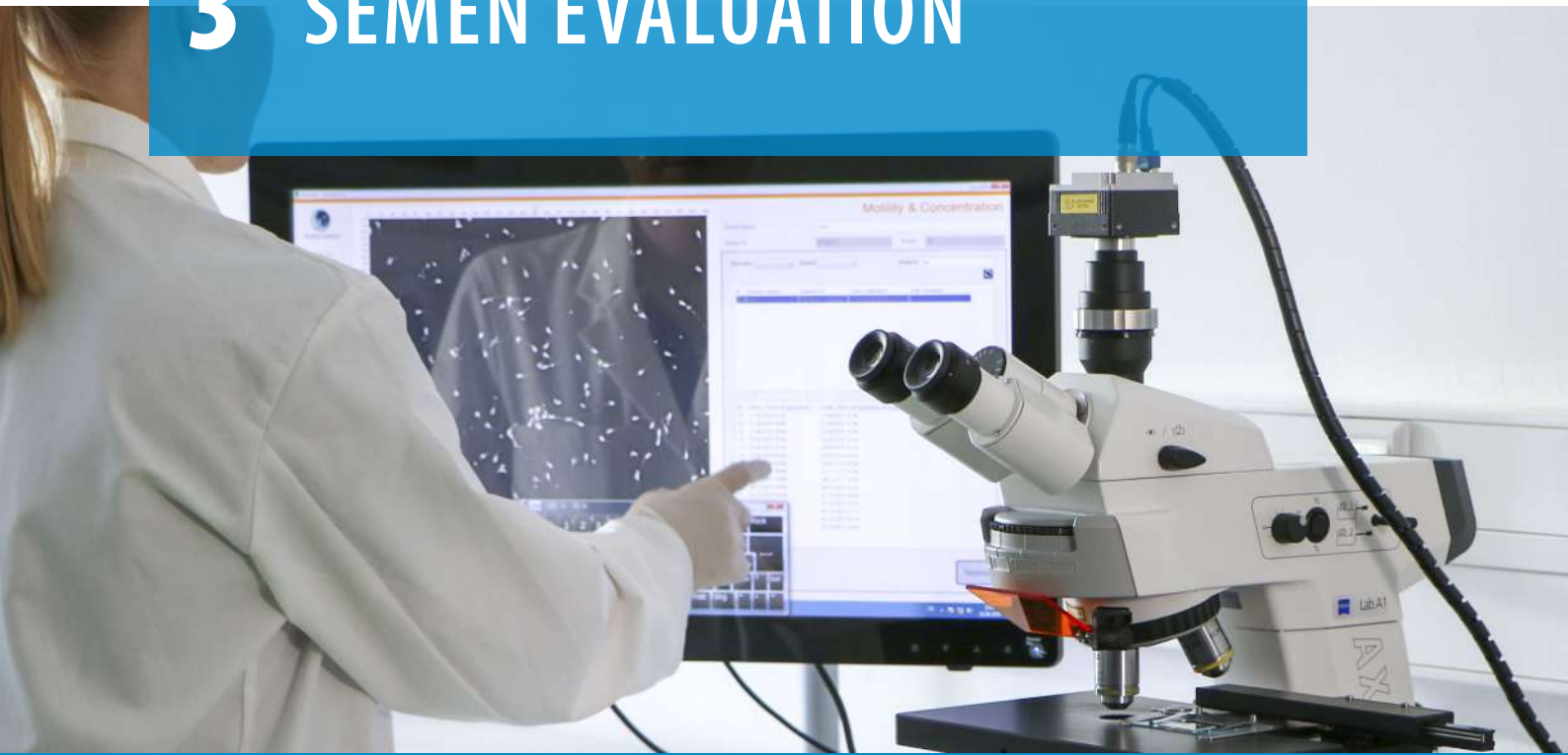
- Suitable for artificial vaginas and accessories
- Casing and interior made of stainless steel
- Volume: 449 l, 2 insert racks
- Inside dimensions: 104 x 72 x 60 cm (W x H x D)
- Outside dimensions: 122 x 124 x 78 cm (W x H x D)
- Forced air ventilation
- Adaptive multifunctional digital PID-microprocessor controller with high-definition TFT-color display
- 2 Pt-100 sensors with two-way control
- Digital timer (adjustable from 1 minute to 99 days)
- 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	14135/0400
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We offer many different models and sizes of warming cabinets, also pass-through models.

# 3 SEMEN EVALUATION



## AndroScope

AndroScope is a **compact mobile CASA system** that is based on AndroVision® and allows the operator to analyze semen motility and concentration of various species at any point in the production, transport, and insemination process.

AndroScope is equipped with a professional high-speed camera and a robust focus adjustment for precise semen analysis. The heating unit in the analysis area of the mobile CASA reaches +37°C within a few seconds, so that semen analysis is performed at optimal temperature conditions. AndroScope works with every PC, laptop, or tablet where MS Windows 10 or newer is installed (USB-3.0 plug is necessary to connect the device).

A practical, robust carry case provides optimal protection for the transport and contains everything you need to perform a semen analysis.

AndroScope [1] incl. transport case and accessories 12500/3000

## Accessories

Disposable counting chamber Minitube, 20 µm, 4 chambers, 25/box 12050/0220

Test tube 2 ml with cap, 250/bag 14602/0904

Disposable capillary tube, 100/bag 15404/0100

Micro fiber rod, length 124 mm, 100/bag 12510/0106

**Option:** Mobile warming unit, for 6 reaction vials and 1 slide [2] 12057/6000



more information

## AndroVision®

This highly precise, automated system for computerized 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, mitochondrial 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**.

AndroVision® can be seamlessly integrated with the Prism10 Bull laboratory processing software. The user interface is straightforward and easy to understand: **only three clicks from start to analysis result**. An optional touch screen interface and barcode scanner enhances the system for even quicker and more efficient application.

AndroVision® software	
with PC and monitor [1]	12500/0000
with PC, touch screen and barcode scanner	12500/0001
with laptop	12500/0010
AndroVision® high speed color camera [2]	12500/4400



## AndroVision® software modules

Module Morphology and Morphometry	12500/1300
Module Viability*	12500/1400
Module Acrosome Integrity*	12500/1600
Module Mitochondrial Activity*	12500/1700
Module DNA Integrity*	12500/1800

\* Requires fluorescence microscope.

## Product features

- Real time analysis of live images and video files
- Analysis of up to 4 fields in 20 seconds
- Highly efficient particle filter for accurate sperm identification
- Analysis profiles for many species
- Adjustable analysis parameters and user created profiles
- Data export to MS Excel and other programs
- Languages: English, German, Spanish, Chinese, Portuguese, Russian, French

## Accessories

Phase contrast microscope Zeiss Axiolab 5* [3]	12008/0020
ScanStage, automated microscope stage with integrated heating system [4]	12048/0031
Controller HTi 200 [5]	12057/0200
Warming plate, 245 x 200 mm [6]	12057/0510

\* Other microscopes from our product portfolio can also be used with AndroVision®. Please contact us for an individual offer.

## Further available modules:

- Dose Calculation – Ref.: 12500/1100
- Quality Control – Ref.: 12500/1200
- Lab Software Link – Ref.: 12500/1910



more information



Wide range of microscopes and accessories available!

## Phase contrast microscope CX 43

### Product features

- Phase achromat optics with universal condenser
- Heated microscope stage with temperature control unit HTi 200 and additional warming plate (180 x 180 mm)
- Integrated LED illumination
- Ergonomic design

Phase contrast microscope CX 43, with phototube (trinocular), objectives 20x, 40x **12005/0042**



## Phase contrast microscope MBL

Functional microscope for semen analysis with heating system and control unit for freely adjustable temperature.

### Phase contrast microscope MBL 2000

binocular, heated stage, HTi 50, objectives 10x, 40x, 100x **12010/3000**

binocular, heated stage, HTi 50, objectives 10x, 40x, 100x, with camera and monitor **12010/3050**

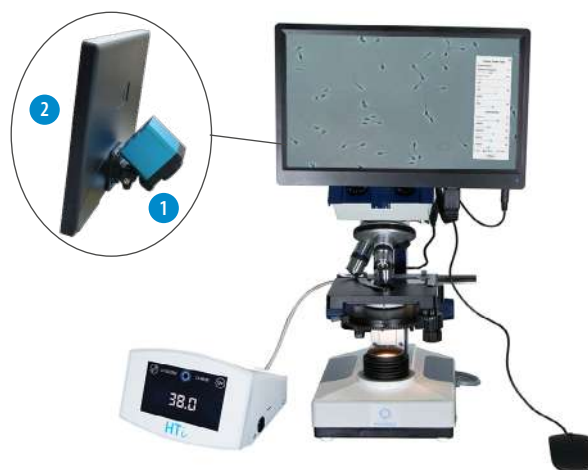
### Phase contrast microscope MBL 2100

trinocular, heated stage, HTi 50, objective 20x **12010/3103**

trinocular, heated stage, HTi 200, objective 20x, with camera and monitor **12010/3101**

Digital color camera for microscopes [1] **12110/1600**  
with integrated image display software

Monitor 11.6" with HDMI input [2] **12110/1610**



## Semen stains

Spermac, stain for morphology analysis, 4 x 50 ml [3] **15405/0000**

Farely stain, for morphology analysis, 3 x 250 ml [4] **15405/0026**

Eosin G, 2% solution for supravital staining, 50 ml [5] **15405/0025**

Nigrosin, 4% solution for supravital staining, 50 ml [6] **15405/0029**



## PROVEN ACCURACY

SMD 6 and SDM 1 are compact, highly precise photometers for measuring sperm concentration. Cleaning is simple, maintenance is minimal.

### Photometer SDM 6

#### Product features

- Determination of sperm concentration and dose calculation of boar, bull, stallion, ram, and buck semen
- Automatic calculation of extender volume and number of doses
- Display of semen concentration in  $10^9$  sperm/ml
- Large touch screen, easy handling
- Serial interface for data transfer

#### Photometer SDM 6

with integrated printer for printout of ejaculate production data [1]	12300/0006
without printer	12300/0008

#### Accessories

Control cuvette set, 4 pieces	12300/0010
Paper for printer	12300/0311
Macrocuvette, 4 ml, 100/package	12301/0003
NaCl solution, 0.9 %, 1 l	12301/4667
Dispenser, 0.5-5 ml for NaCl solution	12428/1815
Bottle for dispenser, 500 ml	12428/1905
Adjustable single channel pipette, yellow, autoclavable, 10-100 $\mu$ l	12425/4810
Pipette tip, 10-100 $\mu$ l, yellow, 1000/bag	12425/9409



### Photometer SDM 1

#### Product features

- Raw semen samples can be used without dilution
- Semen concentration is displayed in  $10^6$  sperm/ml
- Electrical connection: with included mains adapter 100-240 V or batteries

Photometer SDM 1, calibrated for bovine semen [2]	12300/0102
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#### Accessories

Microcuvette for SDM 1, 100/box [3]	12300/1111
Multispecies software for reprogramming to other species	12300/0130



# 4 SEMEN DILUTION



## Water bath

Stainless steel, with angular lid and electronic temperature control.

### Product features

- Working temperature range: minimum 5°C above ambient up to +100°C (depending on ambient pressure)
- Intuitive 3.5" color graphic display with touch screen
- Independent temperature limiter to switch off the heating in case of failure

Water bath, 51 l, 230 V/50-60 Hz

14082/0045



Wide range of different sizes of water baths available!

## Electronic precision scale

### Product features

- Weighing range: 2000 g
- Resolution: 0.1 g
- Weighing pan: 130 x 130 mm

Electronic precision scale up to 2 kg

14295/0444



## Magnetic stirrer

For stirring of semen extender. With connection for contact thermometer.



Also available  
without  
heater!

### Product features

- Heating capacity: 800 W
- Temperature range: +20 to +300°C
- Speed: up to 1400 revolutions per minute
- Maximum load: 20 l
- Footprint Ø: 135/145 mm

<b>Magnetic stirrer with heater</b>	
115 V/60 Hz	14235/0731
230 V/50 Hz	14235/0732
<b>Contact thermometer, electronic</b>	14235/7320
<b>Support for thermometer</b>	14235/7323
<b>Stir bars</b>	
25 mm	14240/7125
30 mm	14240/7130
40 mm	14240/7140
50 mm	14240/7150



## SmartDispenser 2.0

The intelligent combination of pump, balance and control unit guarantees dosage accuracy of extender and an efficient workflow in the semen laboratory.

### Product features

- Automatic, electronically controlled dispensing system for bull semen extender that adds security to your process
- Maximum degree of precision in terms of dispensed extender ( $\pm 2$  g) allows very precise sperm numbers per dose
- Operation as stand-alone unit or interfaced with laboratory software (IDA, Prism10 Bull or other programs)
- Power supply: 115 V/60 Hz or 230 V/50 Hz

SmartDispenser 2.0, scale up to 2 kg,  
pump delivers 0.25 to 1.3 l/min

13200/0802



## AndroMed®

- Perfect biosecurity: no ingredients of animal origin
- Constant, optimal freezing results, and high fertility rates with every dilution ratio
- Increased efficiency of microscopic analysis: extremely clear cell images
- Reduced preparation time

**AndroMed®\*** 13503/0200  
200 ml, for a total of 1000 ml of extender

**AndroMed® CSS, One-step\*\*** 13503/1200  
200 ml, for a total of 1000 ml of extender

**AndroMed® CSS, Two-step\*\***

Fraction 1, 100 ml, for a total of 500 ml of extender	13503/1250
Fraction 2, 200 ml, for a total of 500 ml of extender	13503/1251



Egg-free media for semen freezing

## BoviFree

- Constant, optimal freezing results with all equilibration protocols
- Enhanced post-thaw semen parameters
- Brilliant microscopic images due to low viscosity and homogenous particle-free consistence
- Very easy to prepare

**BoviFree\*** 13501/0200  
200 ml, for a total of 1000 ml of extender

**BoviFree CSS, One-step\*\*** 13501/1200  
200 ml, for a total of 1000 ml of extender

**BoviFree CSS, Two-step\*\***

Fraction 1, 100 ml, for a total of 500 ml of extender	13501/1250
Fraction 2, 200 ml, for a total of 500 ml of extender	13501/1251



Egg-free media for semen freezing

## Steridyl

- Elaborate, proven buffer formula
- Constant, optimal freezing results with every dilution ratio and for most bulls
- Easy to prepare, just add water and save time
- Sterilized, requires no addition of egg yolk

**Steridyl\*** 13500/0260  
500 ml, for a total of 1250 ml of extender

**Steridyl CSS, One-step\*\*** 13500/0280  
500 ml, for a total of 1000 ml of extender

**Steridyl CSS, Two-step\*\***

Fraction 1, 500 ml, for a total of 1000 ml of extender	13500/0290
Fraction 2, 500 ml, for a total of 1000 ml of extender	13500/0295



Media for semen freezing with egg yolk



## Triladyl®

- Internationally established for over 50 years
- Elaborate formula, based on TRIS
- Ready to use after the addition of water and egg yolk
- Reliably optimal and constant post-thaw results with all groups and types of bulls

**Triladyl®\*** 13500/0250  
250 g, for a total of 1250 g of extender

**Triladyl® CSS, One-step\*\*** 13500/1200  
200 g, for a total of 1000 g of extender



Media for semen freezing (One-step)

## Biladyl®

- Based on the proven Triladyl® formula
- Allows first dilution without glycerol
- Used with various freezing protocols

**Biladyl®, Fraction A\*\*** 13500/0004  
49 g, for a total of 500 g of extender

**Biladyl®, Fraction B\*\*** 13500/0006  
250 g, for a total of 750 g of extender



Media for semen freezing (Two-step)

## Antibiotic supplement

- Antibiotic formula in powder according to CSS protocol
- Requires the addition of water

**Antibiotic supplement for One-step extender:** 13504/9000  
550 mg Gentamicin, 110 mg Tylosin, 330 mg Lincomycin, 660 mg Spectinomycin

**Antibiotic supplement for Two-step extender:** 13500/0005  
300 mg Gentamicin, 60 mg Tylosin, 180 mg Lincomycin, 360 mg Spectinomycin



Semen dilution

\* With antibiotic formula.

\*\* Corresponds with the CSS regulations.

## MAXIMUM PRODUCT SECURITY

Made at Minitube's ISO and GMP-certified extender production facility. Highest quality control standards at each production stage and guaranteed use of semen friendly components and materials only.

# 5 STRAW PROCESSING AND FREEZING



## Semen straws

For over 30 years, Minitube straws have been used worldwide as a standard for the freezing of semen. Minitube's quality control process, production techniques, and material selection ensure for a **reliable product** that consistently exceeds industry standards.

## Fresh semen straws and EcoStraws

**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.

**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.



## + Your benefits

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



## FRESH SEMEN STRAWS AND ECOSTRAWS

These are used in the same way as standard semen straws. Identical processes for: filling / sealing / printing / insemination

## Minitube semen straws

	MiniStraw 0.25 ml	EcoStraw 0.25 ml	Fresh semen straw 0.25 ml	Medium straw 0.5 ml	EcoStraw 0.5 ml
transparent	13407/0010	13407/3010	13407/2010	13408/0010	13408/3010
transparent - blue-white wick	13407/0011	---	---	---	---
transparent - red-white wick	---	---	13407/2212	---	---
red - transparent	13407/0044	13407/3044	13407/2044	13408/0044	13408/3044
green - transparent	13407/0054	13407/3054	13407/2054	13408/0054	13408/3054
blue - transparent	13407/0064	13407/3064	13407/2064	13408/0064	13408/3064
grey	13407/0070	---	---	---	---
grey - transparent	13407/0074	13407/3074	---	13408/0074	13408/3074
purple	13407/0080	13407/3080	---	---	---
yellow	13407/0090	13407/3090	---	---	---
yellow - transparent	13407/0094	13407/3094	13407/2094	13408/0094	13408/3094
pink	13407/0100	13407/3100	---	13408/0100	13408/3100
turquoise	13407/0130	13407/3130	---	13408/0130	13408/3130
orange	13407/0140	13407/3140	---	---	---
orange - transparent	13407/0144	13407/3144	13407/2144	13408/0144	13408/3144
salmon	13407/0160	13407/3160	---	---	---
beige	13407/0180	13407/3180	---	---	---
pistachio green	---	13407/3200	---	---	---
pistachio green - transparent	13407/0204	13407/3204	---	13408/0204	13408/3204
white	---	---	---	13408/0210	13408/3210

## Cold handling cabinet

Spacious cold handling cabinet made of stainless steel for semen processing at +5°C working temperature.

### Product features

- Height of refrigerated area: 50 cm (34 cm below acrylic cover in the front)
- Inner surfaces all stainless steel, tiltable faceplate, tiltable plexiglass cover
- Digital temperature controller: temperature programmable from 0°C to ambient
- Even temperature distribution due to a special routing of air flow
- Automatic programmable defrosting function
- Electrical evaporation of condensate
- Interior lighting for optimal working conditions
- Two power sockets in the working area
- Two 50 mm side openings (one on each side) for cables
- Storage capacity underneath the cooling surface
- Mounted on heavy duty rolls
- Power supply: 115 V/60 Hz or 230 V/50 Hz
- Power consumption: approx. 450 W

### Available in two sizes, with or without hydraulic height adjustment

	Working area (cm - W x D)	Outer dimensions (cm - W x D x H)	230 V/50 Hz	115 V/60 Hz
Large	200 x 90	216 x 114 x 127	14335/0403	14335/0400
Large (height adjustable)	200 x 90	216 x 114 x 127	14335/0402	14335/0399
Standard	200 x 67	216 x 91 x 127	14335/0401	14335/0398
Standard (height adjustable)	200 x 67	216 x 91 x 127	14335/0404	14335/0397



## CoolingCastle

### Product features

- Outside dimensions (W x D x H)
  - Including spacers on the back wall: 1420 x 960 x 1752 mm
  - Device only, without spacers: 1420 x 890 x 1752 mm
- Inside dimensions (W x D): 1280 x 650 mm
- Electrical evaporation of condensate
- Network compatibility
- Equipped with power outlets, a network port, bright LED light and a shelf at the rear panel
- Power supply: 230 V/50 Hz or 110 V/60 Hz
- Power consumption: approx. 810 W

### Your benefits

- + Small footprint (passes standard-sized doorways) allows use in small labs
- + Easy monitoring of the processes inside the cooling chamber due to transparent double-wing flap door
- + A curtain of cooled air minimizes air transfer into the inner chamber: even if the door is kept open, the CoolingCastle guarantees +5°C in the chamber (at room temperature)
- + Separate electric connection: even if cooling is switched off, the sockets in the CoolingCastle can be used

#### CoolingCastle

230 V/50 Hz	14335/0422
110 V/60 Hz	14335/0421



Straw processing  
and freezing

## INTELLIGENT DESIGN

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

## MPP Quattro and MPP Uno

### Product features

- Automatic filling and sealing machines for 0.25 and 0.5 ml straws
- Fast, tool-free conversion between 0.25 and 0.5 ml straws and vice versa (1-2 minutes)
- Exchangeable hopper, capacity: 2400 MiniStraws (0.25 ml) or 1200 medium straws (0.5 ml)
- Ultrasonic sealing unit, ultrasonic generator in an external casing that can be installed at a distance of up to 2.5 m (ON/OFF switch directly on the machine)
- Designed to provide ideal conditions for hygiene and safety
- Can be operated in cold room or cabinet or at room temperature as stand-alone or combined with MiniJet printer
- Vacuum unit with integrated reservoir and automatic readjustment function; vacuum level can be easily modified via buttons
- PLC microprocessor control
- Power supply: 110 V/60 Hz or 230 V/50-60 Hz



more  
information

## MPP Quattro

Filling of 1 to 4 straws at a time – freely selectable by the operator.

### Product features

- Capacity: approx. 15000 straws/hour
- Exchangeable compact ultrasonic sealing unit
- Modern touch-screen monitor for software control and display; easy to operate, with color coded display; continuous display of number of filled straws, machine status, straw size
- Quick preparation for a new ejaculate: blocks of 4 filling and suction needles each allow for a very quick reset
- Optimal control by the operator: processing of 4 straws at a time can easily be monitored
- Semen-saving: 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 – practically no semen is wasted, and the ejaculate is used to the very last drop
- Machine dimensions: 650 x 390 x 500 mm (W x H x D) plus ultrasonic generator



MPP Quattro, complete

13018/0000

## OPERATION SECURITY

Very quick and easy exchange of the compact sealing unit reliably secures operation in case of service.

## MPP Uno

Seals and fills 1 straw per cycle – ideal for handling small volumes.



more  
information

### Product features

- Capacity: approx. 4000 straws/hour
- Very compact device which takes up little space
- Machine dimensions: 460 x 350 x 410 mm (W x H x D) plus ultrasonic generator

MPP Uno, complete 13017/0000



### Accessories for MPP Quattro and MPP Uno

Filling block with 4 nozzles for MPP Quattro [1]  
for 0.25 ml straws 13018/0012  
for 0.5 ml straws 13018/0017

Suction block with 4 nozzles for MPP Quattro [2]  
for 0.25 ml straws 13018/0022  
for 0.5 ml straws 13018/0027

Filling nozzle for MPP Uno  
for 0.25 ml straws 13017/0012  
for 0.5 ml straws 13017/0017

Suction nozzle for MPP Uno  
for 0.25 ml straws 13017/0022  
for 0.5 ml straws 13017/0027

Straw hopper, for 0.25 and 0.5 ml straws [3] 13018/0006

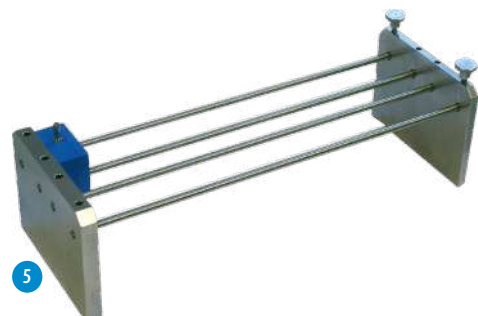
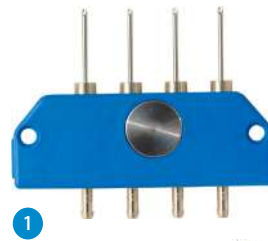
Washer for 0.25 ml and 0.5 ml nozzles, 5000/bag 13021/3001

Filling and suction tubing, 380 mm, sperm friendly material (silicone), angle cut edge, 100/aluminum foil bag 13021/3800

Disposable semen cone, 100/bag [4] 13018/0100

Fixing unit for filling and suction blocks, stackable, stainless steel [5] 13017/0050

Straw seal tester for 10 straws per cycle (0.25 ml / 0.5 ml) 13019/0210



Straw processing  
and freezing

## MiniJet

Professional printing system for 0.25 ml and 0.5 ml straws. Combines excellent print quality with high print speed.

### + Your benefits

- + Immediately abrasion-resistant print (character size 1.4 mm to 5 mm; bold print option; printing of barcodes and logos)
- + Minitube software with clear and user-friendly menu navigation
- + Easily adjustable print head position
- + Change of the transport belt without tools
- + No gear pump is used for generating the pressure in the ink circuit, therefore no abraded particles are ageing the ink
- + Sealtronic print head technology rids clogging and frequent head cleaning: the ink is 100% protected from drying out
- + No drying out of ink in the printhead: ready to print immediately, even after long shut-down periods
- + Windows-based touchscreen display for convenient operation
- + Steady once per day tuning of ink viscosity for optimal start-up conditions
- + Low operational cost: ink tank is only refilled instead of replacing it altogether
- + Data input from customer databases for easy customer specific databases
- + Interface to Minitube lab management software
- + Remote maintenance possible

## ONE-OF-A-KIND TECHNOLOGY

Keeps the ink homogenous and ensures that ink does not dry out, even during lengthy breaks in production.

### Each system consists of:

- Inkjet printer Leibinger Jet3up: 490 x 450 x 290 mm (W x H x D)
- PC with Minitube software
- Straw transport unit with optical sensor and mounted print head with exchangeable hopper: 730 x 500 x 260 mm (W x H x D)
- Control box of the transport unit: 310 x 450 x 130 mm (W x H x D)

### ⚙️ Product features

- Capacity: approx. 20000 straws per hour
- Adaptable for the CombiSystem
- Power supply: 110-230 V / 50-60 Hz

MiniJet with Inkjet System Leibinger	13034/0001
Ink, 950 ml	13033/0010
Solvent, 950 ml	13033/0012



more information



The MiniJet printing system can be combined with the filling and sealing machine MPP Quattro or MPP Uno into a CombiSystem.



more information

## CombiSystem

For highest efficiency in semen laboratories – combine your filling and sealing machine MPP Quattro or MPP Uno with the MiniJet printing system for a perfect automatic integration of semen processing: filling, sealing, and printing of straws in one system and one step.

In addition to the features and benefits offered by the individual devices, the combination of MPP Uno or MPP Quattro with MiniJet provides even more advantages.

CombiSystem, 110 V/50-60 Hz or 230 V/50-60 Hz	
composed of MPP Quattro and MiniJet Capacity: 15000 straws/hour	13018/0002
composed of MPP Uno and MiniJet Capacity: 4000 straws/hour	13017/0002

### + Your benefits

- + Perfect automatic integration of semen processing: filling, sealing, and printing in one system and one step
- + 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 Prism10 Bull laboratory software
- + Requires no extra control unit, only standard PC (included)
- + Diagnostic program for connected devices



Straw processing and freezing



more information

## EasyCoder

Clean and odorless printing of straws without ink and solvent.

### Product features

- Thermal transfer printer with automatic straw supply (output: up to 3600 straws per hour) for immediately abrasion-resistant print
- Unparalleled precise and clear printing on 0.5 and 0.25 ml straws; easy and quick conversion between different straw sizes
- Prints up to 3 lines per straw, including barcodes, logos, and special characters
- Control via PC by a clear and user-friendly Minitube software
- Easy handling, little maintenance required
- 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 13038/0000

Thermal transfer ribbon, black 13038/0010



## MultiCoder

Professionalize your lab process with quick and easy machine-readable labeling of samples.

### Product features

- High resolution inkjet printing
- Print head protection system (avoids drying out of ink)
- Wide variety of product carriers
- No tools needed for change of product carriers
- Pre-designed print layouts
- Loads excel files for printing
- Easy drag & drop editing of print layouts

### Your benefits

- + Very versatile: print system can label most kinds of materials such as plastics, glass, or aluminum
- + Manually moveable slide and a unique, easy-to-use carrier system allow for a speedy work process
- + Easy printing of information on the smallest amount of space, including text, barcode, QR-Code, and logo

MultiCoder printer 13145/0000



## UNIQUE, FLEXIBLE & VERSATILE

Quick and easy print on a whole range of items: semen straws, goblets, cassettes, culture dishes, macrotubes, syringes, cryovials and many more.



more information

## ■ Semiautomatic filling and sealing machine SFS 133

### ⚙️ Product features

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

<b>Semiautomatic filling and sealing machine SFS 133, with vacuum bottle, filling, and suction head</b>	
for 0.5 ml straws	13133/0133
for 0.25 ml straws	13133/0135
<b>Low density vacuum pump, 30–60 Hg, with manometer and valve</b>	
230 V/50 Hz	13133/0267
115 V/50 Hz	13133/0268
<b>Cartridge loading device, with loading block and 10 cartridges for 36 straws</b>	
for 0.5 ml	13133/0005
for 0.25 ml	13133/0025

### ⚙️ Accessories

<b>Filling head with 6 nozzles</b>	13133/1000
<b>Suction head with 6 nozzles</b>	13133/2000
<b>Washer for all filling and suction nozzles, 5000/bag</b>	13021/3001
<b>Silicone tubing for SFS, transparent, 3 x 1 mm, length 10 m</b>	13133/3550
<b>Metal sealing ball</b>	
for 0.25 ml straws	13400/9970
for 0.5 ml straws	13400/9900
<b>Glass sealing ball for 0.25 ml straws, available in different colors</b>	13400/997x



## UNPRECEDENTED EFFICIENCY

Processing speed of up to 100 straws per minute, combined with uninterrupted operation and parallel reloading of goblets.

### GobletPacker

Provides an accurate and reliable solution for filling frozen 0.25 ml straws automatically into goblets in liquid nitrogen/nitrogen vapor.

#### Product features

- Packs up to 100 straws/minute into a wide range of goblets (diameter: 7.1, 9.2, 10, 12, 13, 35, 53 and 65 mm)
- GobletPacker lift allows efficient and easy adjustment to changing LN<sub>2</sub> level within the vat
- Liquid nitrogen vat for the GobletPacker provided with a drain to recover LN<sub>2</sub> after the packaging task
- Acoustic signals alert user of required action
- Determine an unknown number of straws (inventory function) or count a user-defined number
- Easy to control via user-friendly touch display

#### Your benefits

- + Time-consuming packaging task is automated, no more manual labor
- + Less risk by reducing handling of liquid nitrogen, more safety for lab personnel
- + Protects semen quality by processing in liquid nitrogen/nitrogen vapor and ensuring ideal storage temperature without fluctuations
- + Accurate and reliable operation due to intelligent, sensor-based design and specialized materials suitable for use in LN<sub>2</sub>

GobletPacker, 100-240 V **16825/0000**

#### Accessories

GobletPacker kit\*, includes one size goblet cartridge, goblet funnel unit, 2 goblet wheels **16825/002x**

Goblet cartridge\* for one goblet size **16825/004x**

Liquid nitrogen vat for GobletPacker\*\*, volume 150 l, height not adjustable **16826/0010**

Liquid nitrogen vat for GobletPacker\*\*\*, volume 150 l, electrically adjustable height

110 V **16826/0011**

230 V **16826/0023**

Lift for GobletPacker **16825/0005**

\* Available for 7.1, 9.2, 10, 12, 13, 35, 53, or 65 mm goblets.

\*\* Inner dimensions: 58 x 65 x 40 cm (W x D x H), total size: 78 x 100 x 106 cm (W x D x H).

\*\*\* Inner dimensions: 58 x 65 x 40 cm (W x D x H), total size: 78 x 100 x 96-126 cm (W x D x H).



more information

## INNOVATIVE FREEZING TECHNOLOGY

The only freezer with directed horizontal nitrogen gas flow for homogenous and superior freezing results. All straws pass through identical freezing curves!

### TurboFreezer L

#### Product features

- Highly insulated body with stainless steel cover
- 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
- Subsequent freezing cycle can start immediately after the previous one
- Temperature curves and data of each freezing cycle can be stored, displayed, and transferred into MS Excel for further analysis
- Quadruple LN<sub>2</sub> injection ports, required LN<sub>2</sub> pressure: 2.5 bar
- Conditioning plenum separated from the freezing chamber
- 2 fan blocks with 4 fans each for homogenous LN<sub>2</sub> dispersion and precision gas flow throughout the chamber
- Programmable controller for custom curves
- 2 temperature sensors (1 chamber sensor, 1 sample sensor)
- Outside 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)
- Capacity: 30 racks
  - 175 x 0.25 ml straws (total: 5250 straws)
  - 100 x 0.5 ml straws (total: 3000 straws)

TurboFreezer L, 220 V/50 Hz  
(220 V/ 60 Hz optional)

16811/0000

### TurboFreezer M

#### Product features

- Provides a directional, continuous nitrogen gas flow throughout the whole chamber and therefore uniquely uniform freezing patterns
- Straw capacity: 15 racks
  - 175 x 0.25 ml straws (total: 2625 straws)
  - 100 x 0.5 ml straws (total: 1500 straws)
- Outside dimensions (without monitor and controller): 102 x 103 x 86 cm (W x H x D)
- Chamber size: 78 x 41 x 32 cm (W x H x D)

TurboFreezer M, 220 V/50 Hz  
(220 V/ 60 Hz optional)

16810/0000

#### Accessories for TurboFreezer L and M

Pressure container, 189 l

16150/0185

Heating module to shorten heating time between cycles

left side cable outlet

16811/1100

right side cable outlet

16811/1101



#### + Your benefits for TurboFreezer L and M

- + Precise control through user defined freezing programs
- + Ergonomic and easy handling of racks and straws in spacious freezing chamber
- + Outstanding economy due to high throughput
- + Uniform post-thaw quality of ejaculates due to homogenous semen freezing curves, independent of straw position
- + Option to start with temperature +5° C from second freezing cycle on, saving time and LN<sub>2</sub>
- + Both freezers come with 2 holding devices for 4 goblets, straw pliers and holding box for straw pliers and funnel for filling straws into goblets (65 mm)



Straw processing  
and freezing

## ECONOMIC OPERATION

Low LN<sub>2</sub> consumption per freezing cycle. Enables operation of several cycles in sequence.

### MT Freezer 2.0

Automatic freezer for bull semen made of stainless steel.

#### Product features

- Capacity: 12 racks
  - 175 x 0.25 ml straws (total: 2100 straws)
  - 100 x 0.5 ml straws (total: 1200 straws)
- Outside dimensions: 112 x 88 x 105 cm (W x H x D)
- Chamber size: 76 x 64 x 30 cm (W x H x D)
- Electronic temperature control, digital temperature display, programmable start and end temperature
- Forced gas circulation by fans
- Superior insulation
- Break- and scratch-resistant lid
- Temperature range: +5°C to -140°C
- Freezing time: 8 min (10 min for 0.5 ml straws)

#### MT Freezer 2.0, 230 V/50 Hz

for 0.5 bar liquid nitrogen containers	16813/0000
for 1.5 bar liquid nitrogen containers	16813/0015

#### Liquid nitrogen container

pressurized to 0.5 bar, capacity 60 l	16820/1900
pressurized to 1.5 bar, capacity 120 l	16150/0120



#### Accessories for all freezers

Liquid nitrogen connecting hose, length 2.0 m	16812/0200
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#### Freezing rack Turbo [1]

for 175 x 0.25 ml straws	15040/0175
for 100 x 0.5 ml straws	15040/0100

#### Loading and counting block for freezing rack Turbo [2]

for 175 x 0.25 ml straws	15041/0175
for 100 x 0.5 ml straws	15041/0100

Straw pliers for removal of frozen straws [3]	16811/0100
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Stainless steel funnel for 65 mm goblets	15004/0402
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## Goblets

Goblets [1]		
Ø 7.1 mm	white	16907/0071
Ø 10 mm	white*	16910/0010
Ø 13 mm	white*	16913/0133
Ø 35 mm	white	16935/0135
Ø 53 mm	white	16953/0133
Ø 65 mm	white	16965/0133
hexagonal	white	16970/0136

\* Available in different colors.

## Accessories

Goblet canes [2]	
for 2 x 7.1 mm goblets	16965/6171
for 2 x 10 mm goblets	16965/6000
for 2 x 13 mm goblets	16965/6013
<b>Marking label</b> for goblet canes, different colors	13422/00xx
<b>Divider for goblets</b> , 100/bag, 12 x 6,5 cm [3]	16967/0065
<b>Identification rod</b> , 140 mm length	
for 0.25 ml straw	16903/0210
for 0.5 ml straw	16903/1210
<b>Stainless steel funnel</b> for 65 mm goblets [4]	15004/0402



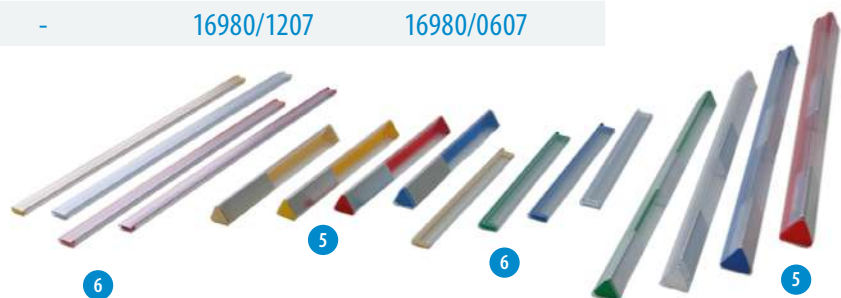
Straw processing and freezing

## Cassettes for straw storage

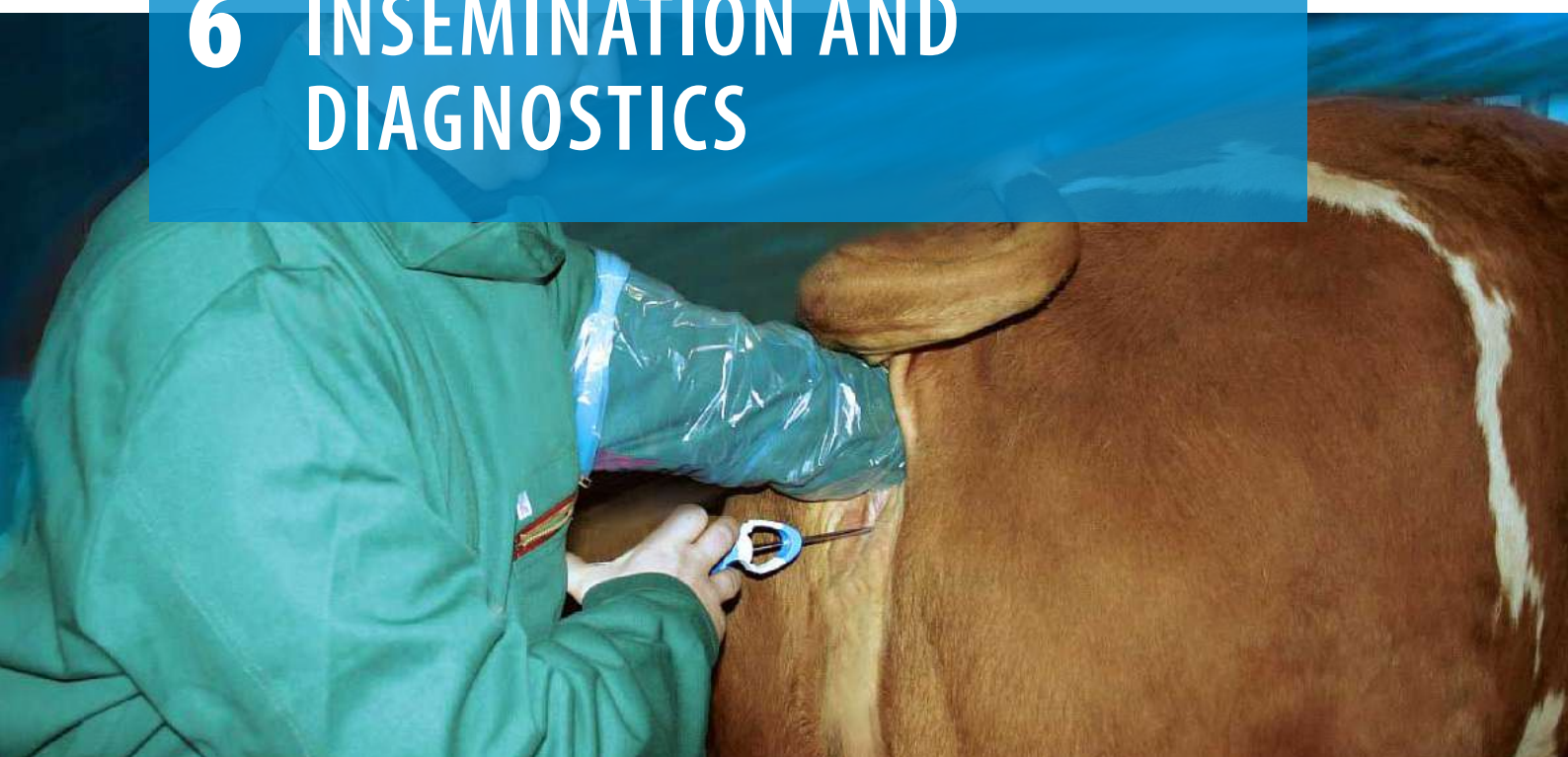
	Triangular cassette [5]*		Flat cassette [6]**	
	long	short	long	short
green	16981/01351	16981/01201	16980/1201	16980/0601
blue	16981/01361	16981/01211	16980/1202	16980/0602
yellow	16981/01371	16981/01221	16980/1203	16980/0603
red	16981/01381	16981/01231	16980/1204	16980/0604
white	16981/01391	16981/01241	16980/1205	16980/0605
beige	16981/01401	16981/01251	16980/1206	16980/0606
orange	-	-	16980/1207	16980/0607

\* For 10/20 straws 0.5 ml or 28/56 straws 0.25 ml.

\*\* For 3/6 straws 0.5 ml or 6/12 straws 0.25 ml.



# 6 INSEMINATION AND DIAGNOSTICS



## Insemination kit

Contains: heavy duty ABS case, MiniThaw, QuickLock 2000, 100 Universal sheaths, 80 hygienic sheaths for AI gun, ReprJelly lubricant, Varikon speculum, 1 box AI gloves, MiniCutter, tweezers and clamp

Insemination kit 17050/0070

## Components also available individually:

Insemination case 17050/0001

MiniThaw thawing unit (page 32) 17048/0000

QuickLock 2000 (page 31) 17026/0000

Universal sheath non-split (page 32) 17007/0000

Hygienic sheath, roll with 80 units (page 46) 17028/0100

ReprJelly, non-spermicidal lubricant, water soluble, 100 ml tube, resealable 11907/0100

Varikon speculum 17064/0380

Insemination glove, sensitive, green, 5 finger, shoulder length, 100/box 17080/0015

MiniCutter (page 32) 17062/0010

Straw tweezers, angular shape 17060/0000

Clamp 17063/0000





## QuickLock AI gun

The AI gun for AI success, security, and accuracy.

### + Your benefits

- + All-purpose gun for all types of straws and sheaths, split or non-split
- + Unique design for safe and centered straw alignment; no waste of semen
- + Stainless steel and sterilizable parts only
- + One hand only sheath fixation and release
- + No loose parts; safety catch prevents the plunger from sliding out
- + Identification with different colored stylets
- + Separate straw release for control of information after AI

**QuickLock Classic**, easy sheath fixation and release at the push of a button [1]

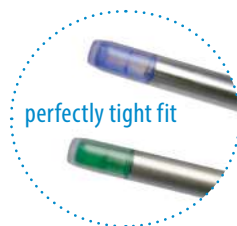
white	17025/0000
red	17025/0003
blue	17025/0005
yellow	17025/0008
green	17025/0009

**QuickLock 2000**, ergonomic design, only 1 cm of the sheath length is required for fixation [2]

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

**QuickLock Ergo**, ideal for older cows due to greater usable length, smallest ergonomic handle available, easiest gun to clean [3]

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



Insemination and diagnostics

## Universal sheaths

### Product features

- Absolutely tight fit with all types of semen straws
- Gentle insemination due to a soft shape of the tip
- Transparent adapters for better visual control of straw position
- Bags with adhesive tape for easy resealing and reopening

Universal sheath split (transparent-green) [1]	
50/bag	17007/0001
with soft hygienic sleeve, 50/bag	17007/0012
individually wrapped, 50/bag	17007/0014
Universal sheath non-split (transparent-blue) [2]	
50/bag	17007/0000
with soft hygienic sleeve, 50/bag	17007/0011
individually wrapped, 50/bag	17007/0013



## MiniThaw thawing unit

### Product features

- Variable temperature setting (ambient to +50°C)
- Digital display of current temperature
- Straw lift has three compartments and allows thawing of up to 10 straws at a time (0.5 ml or 0.25 ml)
- Can be used in the car (12 V/24 V) or plugged into the wall socket (110/230 V)
- Robust and easy to handle

MiniThaw [1]	17048/0000
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### Accessories

Transformer for thawing unit 12 V/110 V/220 V	17165/1395
Base for MiniThaw, metal [2]	17048/0005
Digital timer, magnetic, battery included [3]	17048/0006



## MiniCutter

### Product features

- Precise cutting of 0.25 and 0.5 ml straws
- Facilitates straight cut at exactly the right length, which helps to avoid semen loss
- Ergonomic shape and easy to keep clean

MiniCutter for straws	17062/0010
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## CowScope video endoscope



more  
information

### Product features

- Equipped with full HD (1080p) camera and LED light source
- A smartphone (available as an optional accessory) is required to display the real time video
- The working channel is designed for the QuickLock Ergo
- A hygienic tube is introduced into the working channel and replaced after every insemination
- A hygienic sheath is used to cover the device while introducing it into the vagina
- The CowScope can be rinsed after use and cleaned with the hygienic wipes

CowScope 17065/0000

### Accessories

Speculum front end for CowScope 17065/0007

Hygienic tube for CowScope, 20/bag 17065/0005

Hygienic cover for CowScope, 100/box 17065/0006

Latch for fixing AI instrument (QuickLock Ergo) 17065/0008

Cleaning wipes for CowScope, 70/package 17065/0009

### Your benefits

- + Effective insemination under visual control
- + Visual control makes introduction of AI instrument through cervix easier
- + Slim profile for ergonomic handling and animal welfare, thin shape allows use in heifers
- + Early detection of pathologies and reproductive health issues
- + An app for using the CowScope is available for free on Google Play store
- + Images and videos can be recorded and shared with veterinarian
- + Quick and easy to set up, use, and clean



Insemination and  
diagnostics

## Deep IU insemination

### Product features

- 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

DIUI set for AI and ET in Bovine (using 0.25 ml straws), flexible AI/ET introduction stylet, finger support and two fixation rings 17015/0000

DIUI bovine sheath, split, for 0.25 ml straws, 10/package 17015/0650



## QuickLock Heater 4.0



more information

### + Your benefits

- + AI and ET devices are transported at a constant temperature
- + Keeps semen/embryo at optimal temperature from thawing to insemination/transfer
- + Target temperature inside the bag is freely adjustable
- + Power bank as source of electricity for more flexibility and reliability
- + Very robust and easy to clean bag material
- + Strap allows different ways of carrying the bag

QuickLock Heater 4.0	17028/0400
QuickLock Heater 4.0 with power bank	17028/0401

### ⚙️ Accessories

Power bank for QuickLock Heater 4.0	17028/0410
USB car charger for power bank, to connect to on-board 12-24 V socket	17048/0420
USB mains charger for power bank, 100-240 V	17048/0430
Inner bag for QuickLock Heater, 100/package	17028/0201



## Ultrasound device

Portable scanner with rechargeable battery, power supply carry strap, lubricant ReproJelly and heavy-duty case.

### ⚙️ Product features

- 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
- Overall size: 216 x 147 x 27 mm (L x W x H)

### + Your benefits

- + Compact and lightweight (900 g)
- + Portable, very robust, battery operated
- + Examination of various species with only one device by using different probes

Ultrasound device	23500/1005
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### ⚙️ Accessories

Convex probe, 3.5 MHz	23500/1105
Linear rectal probe, 6.5 MHz	23500/1106
Linear probe, 7.5 MHz	23500/1107



## EASY APPLICATION, ACCURATE RESULTS

Progesterone test for fast and reliable determination of ideal insemination time, heat, cycle activity, pregnancy and more.

### MiniReader

Determining the optimal time for insemination is one of the most critical steps for successful breeding. The MiniReader is an **affordable, accurate and reliable** device to read and provide the results of Minitube's ELISA (enzyme-linked immunosorbent assay) test within 35 minutes. It is used with the ELISA test kit.

### 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, confirming 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)

MiniReader [1]	21900/0000
MiniReader progesterone test kit [2]	
for 10-25 tests	21900/1110
for 24-60 tests	21900/1310



more  
information

### Uterine cytology brush

Disposable set for collecting endometrial cells for cytology.

Single packed and single use, sterilized, with hygienic cover and slide transport box, 10/bag.

Uterine cytology brush	17075/0010
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## AI TRAINING AT A NEW LEVEL

Benefit from the proven advantages for AI training and enhancement of animal welfare!

### Henryetta, bovine AI training model

This **revolutionary training model cow** offers unique training opportunities and provides more flexibility around the timing and location of AI courses.

Trainers can improve the trainees' learning success by viewing and guiding them through the large windows. The reproductive organs are life-like and removable, and can be used for initial demonstrations of anatomy and AI techniques. A difficult or easy cervix can be used among many more options for training variations, and training units can be repeated as often as necessary.

With the pregnancy and palpation model AI PLUS students can train the most important steps of manual pregnancy check and ovarian diagnostics.

#### Product features

- Naturally sized and shaped cow model for AI training
- Body made of fiberglass and acryl glass, reproductive tract made of silicone
- Footprint: 1320 x 680 mm, height: 1400 mm, weight: 53 kg

#### Henryetta, Holstein design

230 V	22400/1040
115 V	22400/1041

#### Henryetta, Simmental design

230 V	22400/1050
115 V	22400/1051

#### Accessories

Uterus	22400/1167
Vaginal tube	22400/1168
Cervix	
small opening for advanced training	22400/1164
wide opening for training start	22400/1163
Rectum bag	22400/1061
Cervix spoon, for easy insertion of cervix	22400/1161



#### Accessories AI PLUS

Pregnancy tract	
pregnancy signs approx. day 42	22400/1171
pregnancy signs approx. day 60	22400/1172
Intestine cushion	22400/1179
Ovaries	
small follicles	22400/1181
large follicle	22400/1182
corpus luteum	22400/1185
cystic	22400/1189

more information



# 7 EMBRYO TRANSFER AND OPU/IVP



## ■ BoviFlush

Ready-to-use medium for bovine embryo recovery. Complete formulation containing buffers, BSA or PVA and antibiotics.

- Available in plastic bottles and infusion bags
- Bottles with tab on the bottom to hang them up and rubber stopper for easy connection of the Y-tubing
- Infusion bags with 3-way port configuration and sealed ports for hygienic fluid removal
- Graduation in steps of 100 ml simplifies dosage and allows monitoring the volume during flushing

### BoviFlush with BSA

1 l, bag	19982/6001
2 l, bag	19982/6002
1 l, bottle	19982/6003

### BoviFlush with PVA

1 l, bag	19982/6011
2 l, bag	19982/6012
1 l, bottle	19982/6009



Recovery medium

## BoviHold

Ready-to-use holding medium for bovine embryos. The solution contains glucose, pyruvate, BSA, amino acids, growth factors and antibiotics.

Applicable for:

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

BoviHold	
3 bottles of 10 ml each	19982/6047
20 ml	19982/6046



**Holding medium**

## BoviFreeze

Medium for conventional slow rate freezing of embryos. The cryopreservation solution contains a buffered solution with D-glucose, Sodium-pyruvate, BSA and antibiotics. With ethylene glycol for conventional freezing and direct transfer after thawing.

BoviFreeze, 3 bottles of 10 ml each	19982/6052
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**Cryopreservation medium**

## BoviPlus Trypsin wash

Pre-freeze enzyme washing medium, satisfying IETS protocol requirements to qualify bovine embryos for export.

BoviPlus 0.25% Trypsin wash, 10 ml	19982/1300
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**Washing medium**



## Flushing catheters

### Product features

- Flushing catheters are reusable and offer a very good price/performance ratio
- Due to their high transparency and good visibility, silicone catheters allow monitoring of the flow during flushing and easy control of cleaning
- Unless otherwise specified, all catheters have 4 ports/openings

<b>Silicone catheter 2-way, Luer Lock, 1/bag [1]</b>	
CH 12	19005/0100
CH 16	19005/0102
CH 18	19005/0103
CH 20	19005/0104
<b>Silicone catheter 2-way, Foley end, 1/bag [2]</b>	
CH 12	19005/0220
CH 16	19005/0221
CH 18	19005/0222
CH 20	19005/0223
<b>Silicone catheter 3-way, Foley end, 1/bag [3]</b>	
CH 16	19005/0230
CH 18	19005/0231
CH 20	19005/0232
<b>Stainless steel tip catheter, CH 12, 6 ports, made from silicone, Luer Lock, 1/bag [4]</b>	19006/0012
<b>Mandrin for flushing catheter</b>	
CH 12/16 (3-way)	19007/0011
CH 14	19007/0012
CH 15/16	19007/0016
CH 18/20	19007/0018
<b>Cervix dilator, stainless steel, fully autoclavable, facilitates the introduction of the embryo collection catheter [5]</b>	19001/1000



## EASY AND SAFE TO USE

All-in-one dual-purpose filters and search dishes that require no attention during flushing procedure. Embryos are recovered directly from the filter dish.

### Filters for embryo collection

#### Product features

- Secure fixation of the lid during collection and easy to open after collection (no screw cap)
- Integrated search dish engraved with a grid makes it easy to search and find embryos (ideal mesh size for all bovine embryo sizes)
- Also suitable for filtering oocytes after OPU
- Filter mesh cannot dry out as it remains in contact with fluid
- Excess fluid is controlled and removed through outlet tubing with attached thumb clamp (entry hole is big enough to ensure the necessary flow speed of the flushing medium)
- Connection to all types of Y-tubing is possible
- Sterilized and absolutely tight

### EmSafe

#### Product features

- Maintains a constant 60 ml of flushing fluid in the dish
- Air vent in the lid and air outlet are provided with a filter which is holding embryos securely in the system

EmSafe filter

19010/6000

### MiniFlush®

#### Product features

- Vertical recovery system with large filter surface area
- Maintains a constant 20 ml volume during the entire flushing procedure
- Due to its shallow design, search dish is perfectly suited for use with all microscopes

MiniFlush® filter

19222/2000

### Flushing tubing

Equipped with white and blue clamps to better distinguish outlet/inlet during the flushing process. Tubing made of very smooth, flexible material. End for filter connection requires no extra adapter. Disposable, sterilized, 1/bag.

Y-tubing for embryo collection with the EmSafe filter

Luer end 19011/0100

Foley end 19011/0200

Y-tubing for embryo collection with the MiniFlush® filter

Luer end 19011/0000

Foley end 19011/0001



## Stereo-zoom microscope

### Product features

- Mirror with LED illumination for improved visualization of zona pellucida
- Total magnification from 10x to 70x
- 2 eyepieces 10x
- 110 V/60 Hz or 230 V/50 Hz

#### Stereo-zoom microscope

binocular	12014/0000
trinocular	12014/1000



Wide range of microscopes and accessories available!

## Temperature control

Control unit HTi 50 for heated stage or bead bath, adjustable temperature, digital display.

Control unit HTi 50 [1] 12057/0100

Heated stage, placed on top of the light base of a stereo microscope, 180 x 180 x 10 mm, requires a control unit.

Heated stage [2] 12057/0600

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. Usable height: 135 mm. Temperature range between ambient and +55°C. Requires a control unit.

Bead bath [3] 12057/5000

Laboratory heating plate, heated area: 470 x 260 mm, preset temperature (+37°C), with integrated control unit and external power supply.

Laboratory heating plate [4] 12055/0010



1



2



3



4

Embryo transfer and OPU/IVP

## 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.

### Product features

- Each system consists of a cryobath, controller and a carry case
- Control range: +20°/-43°
- Capacity: 23 x 0.5 ml or 46 x 0.25 ml straws

#### Freeze Control® embryo freezer

CL 2200, 8 preinstalled programs, 1.5 l cryobath, external power supply [1]

CL 5500, 16 preinstalled programs, 1.5 l cryobath, inbuilt battery power pack [2]

CL 8800, 16 preinstalled programs, 3.8 l cryobath, external power supply [3]

External power pack for CL 2200/CL 8800 19407/0000



1



2



3

## Vitrification unit

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

### Product features

- Styrofoam box with stainless steel vitrification bath
- Material for vitrification
- Manual with detailed description of media preparation

Vitrification unit 19500/2000



## 5-well dish with lid

Embryo culture dish, rounded well edges, mouse embryo batch tested. Produced from material free of Bisphenol A and designed to facilitate pH equilibration of culture media.

5-well dish with lid, sterilized, rounded well edges, 19021/0001  
MEA tested [1]



## Steripette

Steripette for embryo handling, 55 mm, individually packed, sterilized, for use with 1 ml insulin syringe.

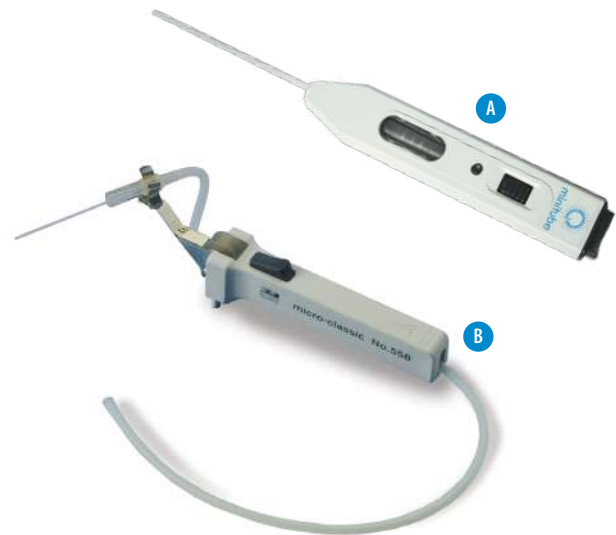
Steripette, 50/package [2] 19025/0050



## Micropipettor

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

Micropipettor	
Model A	19022/0000
Model B	19022/0002



## Petri dish

Plastic, for embryo handling.

Petri dish	
diameter 35 mm	19020/0035
diameter 94 mm	19020/0094
diameter 145 mm	19020/0145
with grid, diameter 65 mm [3]	19020/2065



### MiniStraw, 0.25 ml, 133 mm

MiniStraw, sterilized, 10/package	
transparent [1]	19042/0010
yellow (direct transfer) [2]	19042/1010
transparent with glass sealing ball	19041/0010
MiniStraw, sterilized, transparent, 10/package, with white ID rod seal (other colors available) [3]	
	19040/0010

### MiniStraw, 0.25 ml, 90 mm

MiniStraw, sterilized, transparent, 10/package	
with white ID rod seal (other colors available)	19040/9010
with sealing ball	19041/9010

### ET identification rod

ET identification rod, for sealing of 0.25 ml straws, 100/package, white (other colors available) [4]	19046/0010
Pen for marking, very fine, alcohol permanent, black	19045/0100

### CryoSealer

Manual sealer using ultrasound technology. Can be used for 0.25 and 0.5 ml straws. Ultrasound welding facilitates a perfect and uniform seal of each straw. Power supply: 100-240 V AC / 50-60 Hz.

CryoSealer [5]	13135/0000
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### Manual sealer

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

Manual sealer [6]	13135/2500
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Wide range of MiniStraws in different colors available!



## 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
- Electronic temperature control
- Temperature precision: +/- 0.5°C
- Power supply: On-board 12 V socket or rechargeable dry battery

Portable ET incubator with electronic temperature control, set to +37°C [1] **19180/0001**

Portable incubator for transport of embryos/oocytes, digital temperature display, temperature range freely selectable between ambient and +55°C **19180/0002**

### Accessories

Rechargeable dry battery, 12 V/7.5 Ah, capacity at +25°C: approx. 12 h [2] **19180/1210**

Charger for battery **19180/1200**

Power supply unit for ET transport unit, 230 V **17165/1395**



## Embryo transport kit

### Product features

- Consists of incubator with metal beads, battery and charger in heavy duty box
- Holds temperature for 20 hours during transport (= capacity of battery)
- Outer dimensions: 43 x 24 x 34 cm
- Weight of kit: approx. 10 kg

Embryo transport case, with incubator and battery [1] **19180/2101**

Plastic vial, 5 ml, snap cap, with round bottom, sterilized, 1000/package [2] **19180/5006**



## ET DEVICES HEATER

Please see QuickLock Heater 4.0 on page 34.

### Transfit Lateral sheaths and ET Cannula

Sheath with metal tip and side opening, sterilized, for 0.25 ml straws.

<b>Transfit Lateral</b>	
5/package	19240/1005
1/package, with hygienic sheath	19240/1006
<b>ET Cannula to be used with Transfit Lateral sheath</b>	
Deep Chamber - for uncut straws	19240/1000
Shallow Chamber - for cut straws	19240/1001

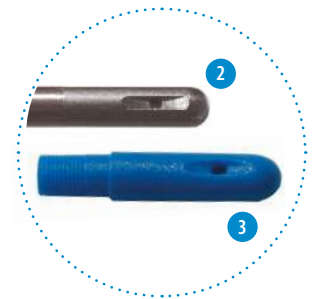


### Stainless steel ET instrument MT

#### Product features

- Best choice for heifers when cervix is hard to pass
- Sterilizable stainless steel device to be used without sheaths
- Detachable tip made of stainless steel with one side outlet
- Finger support ring with a groove marks the position of the outlet at the tip
- Disposable plastic tips are available

<b>Transfer instrument</b> , used with 0.25 ml straws [1]	19250/0000
<b>Stainless steel tip</b> [2]	19250/0989
<b>Disposable tip</b> , sterilized, single packed, 100/package [3]	19250/0991



### Hygienic sheaths

Used during AI and ET to keep the instruments clean while they pass the vagina and until they reach the cervix.

<b>Hygienic sheaths</b>	
length: 46 cm (for AI), 80/box [1]	17028/0100
length: 53 cm (for ET), 80/box [2]	19271/0080
<b>Sanisheath</b> , rigid hygienic sheath with perforable cap, 25/package [3]	19270/0025





## ■ Ultrasound device GE Versana Active

### ⚙️ Product features

- Portable, easy-to-use ultrasound system for linear and convex sector probes
- High quality documentation and data transfer system
- Display modes: B-Mode, M-Mode
- PW Color Doppler with automatic calculation
- Realtime Triplex-Mode
- Coded Harmonic Imaging, CrossXBeam, Speckle Reduction Imaging (SRI-HD) for exceptional image quality
- Connectivity: USB, HDMI, Ethernet
- Monitor: 15.6" high-resolution LCD
- Dimensions: 39 x 5.8 x 36.2 cm (W x H x D)
- Weight: 5 kg with battery
- Electrical connection: 100-240 VAC/50-60 Hz



Ultrasonic device Versana Active	23360/0000
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### ⚙️ Accessories

Convex sector probe, 6.0 - 10.0 MHz	23360/0002
Endorectal linear probe, 3.5 - 10.0 MHz	23360/0003

## ■ Ultrasound probe holder

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

### ⚙️ Product features

- Very lightweight 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
- Optimized needle outlets for recommended needles (Ref. 23360/1200 and Ref. 23360/1250)

Ultrasound probe holder	
GE	23400/0120
SonoSite	23400/0040
Aloka	23360/0600
BCF	23400/0115
ECM	23400/0413
Esaoite	23400/0125
Cover for probe holder, 144/package	23360/1260



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

Embryo transfer and OPU/IVP

## Aspiration pump for OPU

OPU pump for follicle aspiration and oocyte collection in cows and heifers with durable casing.



more information

### Product features

- Includes media warming block
- Pump is operated by foot switch
- Pressure level and hysteresis are programmable by the user
- Aspiration pressure adjustable up to -375 mmHg
- Warming temperature adjustable up to +50°C
- Available in 115 V or 230 V

Aspiration pump [1] [23362/0000](#)

### Accessories

Stopper assembly, snugly connects to 50 ml tubes, 1/package [2] [23360/1100](#)

Tubing set, sterilized, individually packaged [3] [23360/1000](#)

Disposable needle, standard/long bevel, 100/package for cows (1.2 x 75 mm) [4] [23360/1200](#)

for heifers (0.9 x 70 mm) [5] [23360/1250](#)

Disposable needle, short bevel, 100/package for cows (1.2 x 70 mm) [4] [23360/1300](#)

for heifers (0.9 x 70 mm) [5] [23360/1350](#)



## BoviPlus OPU recovery medium

Complete solution, ready-to-use, containing BSA and Heparin to avoid blood coagulation during the OPU procedure.

BoviPlus OPU recovery medium, 500 ml [19982/1281](#)



## BoviPlus washing medium

Ready-to-use medium with BSA for washing of OPU or abattoir derived bovine oocytes following collection.

BoviPlus Oocyte washing medium, 500 ml [19982/1200](#)



## STOCK SOLUTIONS

Prepared with purest water under hygienic conditions using laminar air flow and sterile filtration.  
Produced freshly upon demand.

### Minitube IVP media

#### Product features

- Produced according to standard formulas which provide reliable embryo development success rates, proven in a high number of peer reviewed publications
- Constant high quality of media provides optimal conditions for the in vitro production of bovine embryos in your lab
- Each batch of IVP media is certified for in vitro production of bovine embryos based on third party embryo development and toxicity tests
- Stock solutions can be stored unopened at +4 to +8°C for up to 6 months
- Working solutions are prepared individually depending on requirements and last a few days

**Oocyte holding medium, TL HEPES stock solution, 19990/0050**  
20 ml, for preparation of holding medium for cumulus-oocyte complexes at ambient conditions (pH-stable under room air)

**TCM 199 stock solution for oocyte maturation, 19990/0010**  
20 ml, for preparation of maturation medium

**Sperm preparation medium, TL stock solution for swim-up, 19990/0020**  
20 ml, for preparation of capacitation medium for sperm cells prior to use in fertilization

**Fertilization medium, TL stock solution, 19990/0030**  
20 ml, for preparation of fertilization medium for co-incubation of oocytes and sperm cells

**Culture medium, SOF stock solution, 19990/0040**  
20 ml, for preparation of culture medium for embryos  
without sodium pyruvate  
**19990/0041**  
with sodium pyruvate



Embryo transfer and  
OPU/IVP

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

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



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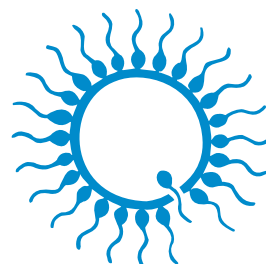
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