



# AndroScope



12500/3000



31250/0300



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## Preface :

AndroScope is a compact, mobile CASA system for computer-assisted sperm analysis. It works with a special version of AndroVision® and connects to a laptop or tablet (not included) running MS Windows 10 (or higher). Sperm motility and concentration of different species can be analyzed within seconds and a PDF report with the results completes the analysis.



**To ensure safe use of AndroScope, you must read and follow this manual and the safety instructions before using the unit and avoid damaging it. Keep the operating instructions in a safe place so that the information is always available to you.**



**Please note the differences depending on the version number, e.g., in chapters 12. and 13. You can find the version number at the bottom of the AndroScope.**



**Scan the QR code below for a how-to video with hints and recommendations on how to correctly perform a semen analysis with the AndroScope.**



<https://qr.minitube-qr.de/p/How-to-use-AndroScope-en>

## 1. Scope of delivery

Quantity	Designation
1	AndroScope, mobile semen analysis unit
1	USB flash drive with software and operating instructions
1	Cable for connecting AndroScope to a laptop or tablet
1	Disposable counting chamber Minitube, 20 µm, 4 counting areas per slide, 25 pcs.
1	Test tube 2.0 ml with lid, 25 pcs./package
1	Disposable capillary tubes, plastic, 100 pcs/pack
10	Micro fibre rod, length 124 mm
1	Case with inlay
1	Quickstartguide "AndroScope"



## 2. Accessories

### 2.1. Necessary accessories

- Tablet or laptop:  
Single-Core-Prozessor with 1 GHz  
512 MB RAM  
64-Bit-Version
- Operating System: Windows 10 or higher
- USB port for AndroScope: USB A or C 3.0

### 2.2. Optional accessories

Name	Ref.
Mobile heating unit for 6 test tubes and 1 slide, 38°C, USB 3.0 connection	12057/6000
Electronic mixing pipette, 100 µl - 1 ml	12050/0516
Tip for electronic pipette for up to 1000 µl, 250/bag, 1000/box	12050/0512
Adjustable single channel, autoclavable pipette, 100 µl - 1000 µl	12427/3132
Pipette tip, 100-1000 µl, transparent, 1000/bag	12427/0275

### 3. Consumables

Designation	Ref.
Disposable counting chamber Minitube, 20 µm, 4 counting areas per slide, 25 pcs./package	12050/0220
Test tube 2.0 ml with lid, 250 pcs./package	14602/0904
Disposable capillary tubes, plastic, 100 pcs./package	15404/0100
Cover glass 18 x 18 mm, 100/box	15401/0990
Microscope slide 76 x 26 mm, 50/box	15400/2400
Micro fibre rod, length 124 mm, 100pcs./package	12510/0106

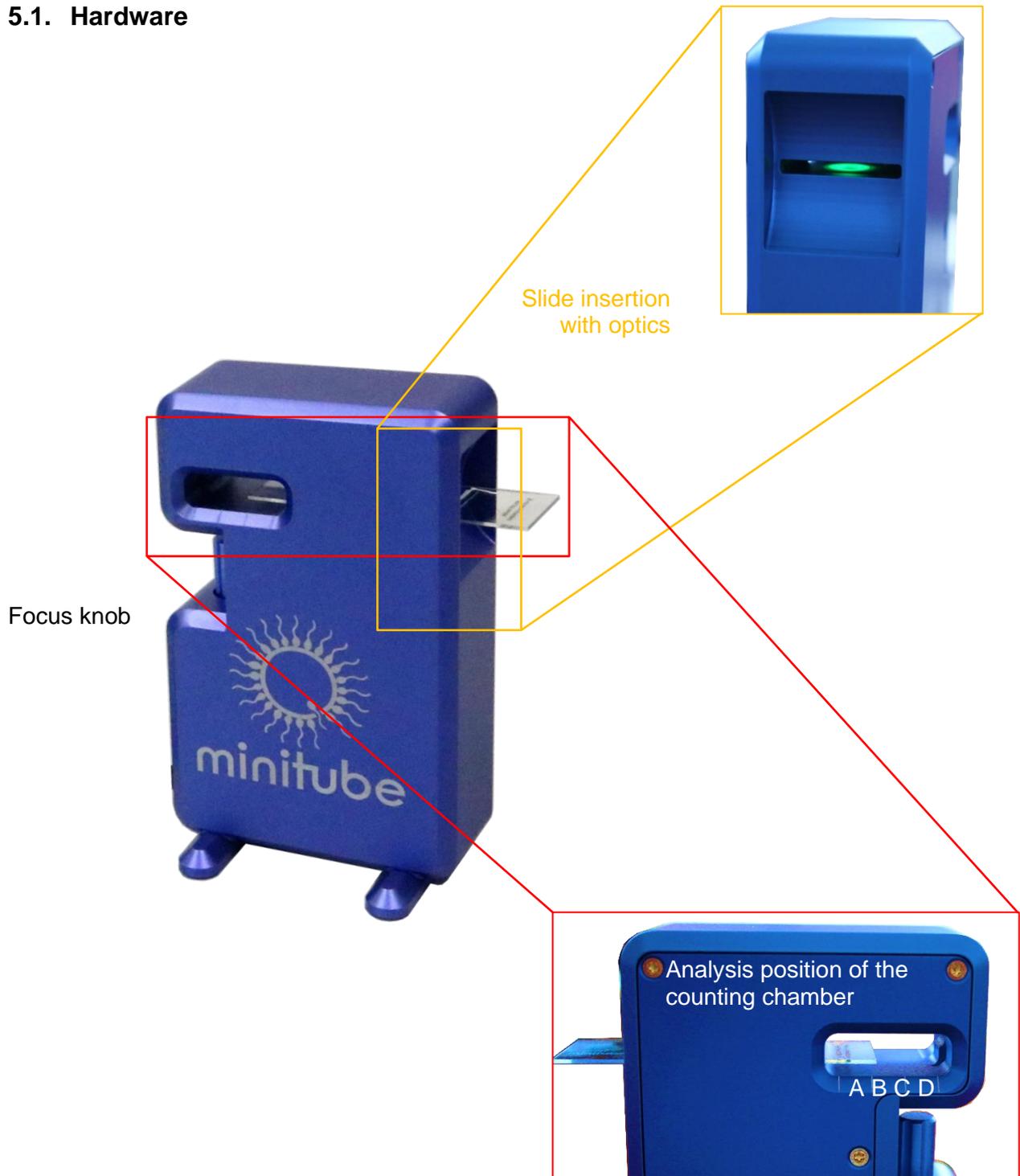
### 4. Technical data

Weight: 0,65 kg  
Dimensions (w x h x d): 85 x 140 x 70 mm  
Power supply: 5 V/ 2 A



## 5. Overview

### 5.1. Hardware







## 5.2. Display

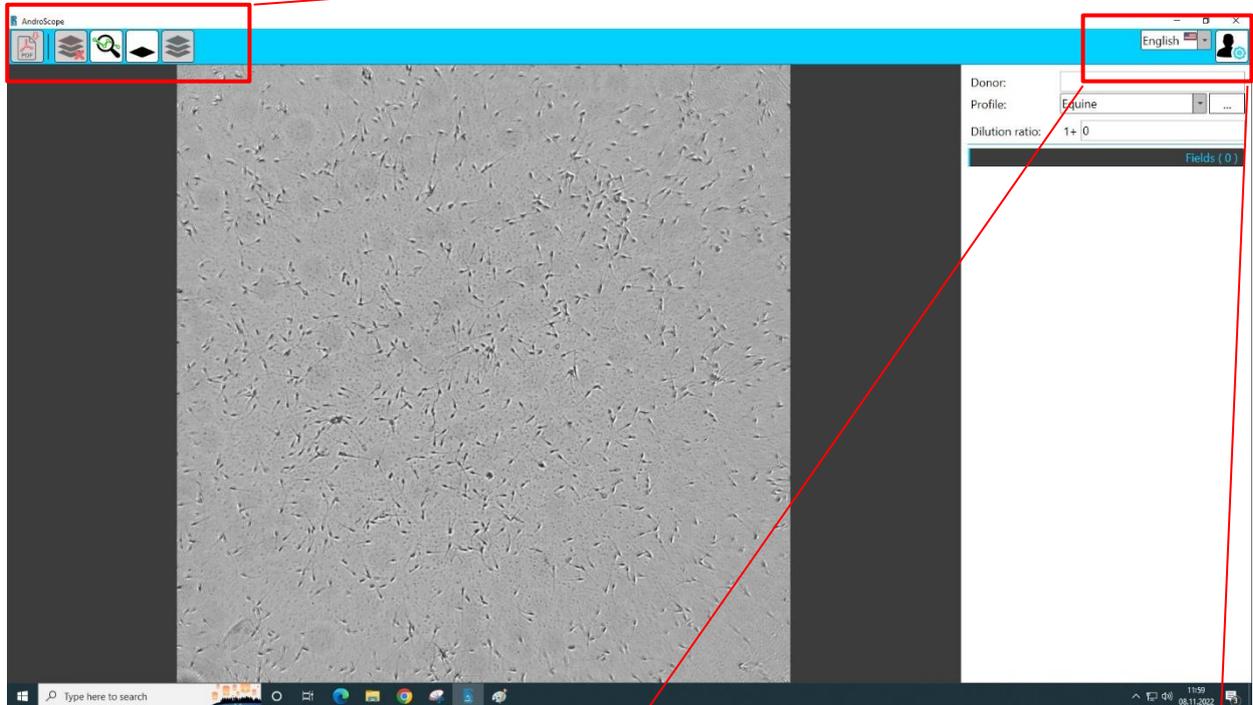
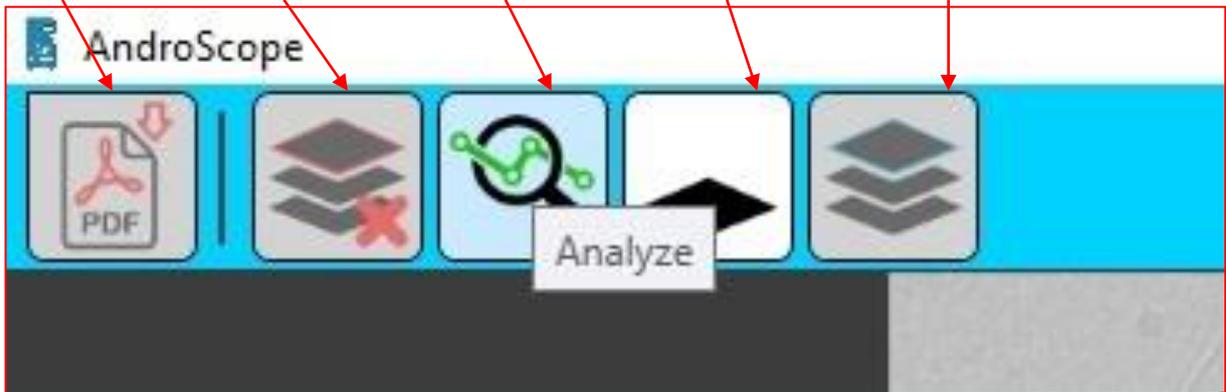
Create PDF

Remove field

Start analysis

New sample

New field



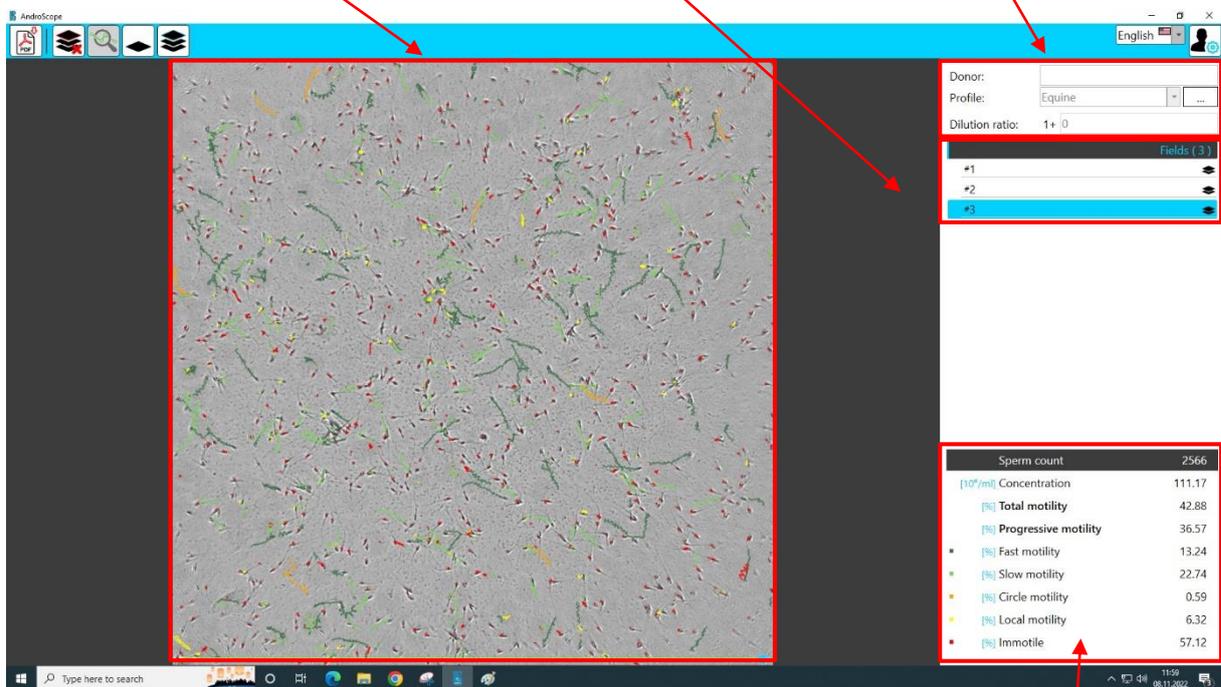
Language selection

Personal data

Analysis Window

List of fields

Animal and analysis data



The screenshot shows the AndroScope software interface. The main window displays a microscopic view of sperm cells, which are color-coded by motility. The interface includes a toolbar at the top left, a list of fields on the right, and a detailed analysis results panel at the bottom right.

**Fields (3)**

Field	Count
#1	2566
#2	0
#3	0

**Sperm count** 2566

Parameter	Value
[10 <sup>6</sup> /ml] Concentration	111.17
(%) Total motility	42.88
(%) Progressive motility	36.57
(%) Fast motility	13.24
(%) Slow motility	22.74
(%) Circle motility	0.59
(%) Local motility	6.32
(%) Immotile	57.12

Analysis results



## 6. Transport, storage and installation

Throughout transport and storage, the AndroScope must be protected from unacceptable stresses (mechanical stress, temperature, humidity, aggressive atmosphere). Place the AndroScope on a stable and level surface.

### 6.1. Transport



**Observe the following safety instructions to ensure safe transportation of the AndroScope:  
Slipping or tipping can damage the AndroScope.  
Only transport the AndroScope in its original packaging.**



**Do not store the AndroScope in cold environments, e.g., overnight in parked vehicles. The warming time of the AndroScope can be greatly extended. Please also note additional information in chapters 6.2 and 6.3.**

### 6.2. Storage

Store the device in a closed and dry room:  
Permissible ambient temperature: -10°C to +55°C  
Permissible ambient humidity: max 90% r. h., non-condensing

### 6.3. Site

Installation of the device in a closed and dry room:  
Permissible ambient temperature: +5°C to +40°C  
Permissible ambient humidity: max 90% r. h., non-condensing



**The AndroScope may only be set up on as flat a surface as possible (max. 10° inclination to the horizontal).**



**If the device is brought to the installation site for commissioning after storage in a cold environment, condensation may occur.  
Wait until the device has reached room temperature and is absolutely dry before switching it on.**

### 6.4. Electrical connection

The power supply is provided by the USB 3.0 port. Make sure that the USB port is sufficiently dimensioned.

## 7. Install program

- Proceed as indicated in the Quick Start Guide (QSG).

## 8. Preparation of the semen sample



Scan the QR code below for a how-to video with hints and recommendations on how to correctly prepare a semen sample for analysis with the AndroVision CASA system. These also apply to analysis with the AndroScope.



<https://qr.minitube-qr.de/p/How-to-use-AndroScope-en>

### 8.1. Native Semen



Dilute your sample to an average of 40 million sperm/ml. This corresponds to approx. 350 sperm per field. In order to carry out a precise and meaningful analysis, please note that a concentration of 120 million sperm/ml must not be exceeded. This corresponds to approx. 1000 sperm per field.

Diluent is required for the analysis of native semen. Diluent and ejaculate must have the same temperature of +37°C.

All equipment used for the preparation of the diluted semen sample must also have a temperature of +37°C.

#### 8.1.1. Dilution with the electronic pipette



The following examples apply to an electronic pipette 1 ml (Ref. 12050/0516).

##### 8.1.1.1. Bull semen

AndroMed® is recommended for dilution of the sample.

Sperm concentration: between 500 million/ml and 1900 million/ml.

Dilution: 1 + 29. The total volume of the diluted sample then contains 25 µl semen + 725 µl diluent.



#### **8.1.1.2. Boar semen**

The usual station diluent is used to dilute the sample.

Sperm concentration: between 200 million/ml and 600 million/ml.

Dilution: 1 + 9. The total volume of the diluted sample then contains 90 µl semen + 810 µl diluent.

#### **8.1.1.3. Stallion semen**

The usual station diluent is used to dilute the sample.

Sperm concentration: between 200 million/ml and 600 million/ml.

Dilution: 1 + 9. The total volume of the diluted sample then contains 90 µl semen + 810 µl diluent.

#### **8.1.1.4. Canine semen**

CanPlus is recommended for dilution of the sample.

Sperm concentration: between 60 million/ml and 300 million/ml.

Dilution: 1 + 4. The total volume of the diluted sample then contains 180 µl semen + 720 µl diluent.

### 8.1.1.5. Electronic Pipette Overview Table

Animal	Semen + Extender	Dilution
Bull	25 µl + 725µl	
		Equivalent to 1 + 29
Boar	90µl + 810µl	
		Equivalent to 1 + 9
Stallion	90 µl + 810µl	
		Equivalent to 1 + 9
Canine	180 µl + 720µl	
		Equivalent to 1 + 4

### 8.1.2. Dilution with adjustable pipette



The following examples apply to an adjustable pipette, 100 µl to 1000 µl (Ref. 12427/3132)

#### 8.1.2.1. Bull semen

AndroMed® is recommended for dilution of the sample.

Sperm concentration: between 500 Mio/ml and 1900 Mio/ml. Dilution: 1 + 29.

In the first step, 100 µl semen is mixed with 500 µl extender. In a second dilution step, 400 µl of diluent are added to the 100 µl from the first dilution.

#### 8.1.2.2. Boar semen

For dilution of the sample, the usual station extender is used.

Sperm concentration: between 200 million/ml and 600 million/ml. Dilution: 1 + 9.

100 µl semen is mixed with 900 µl extender.

#### 8.1.2.3. Stallion semen

For dilution of the sample, the usual station extender is used.

Sperm concentration: between 200 million/ml and 600 million/ml. Dilution: 1 + 9.

100 µl semen is mixed with 900 µl extender.

#### 8.1.2.4. Male semen

CaniPlus is recommended for dilution of the sample.

Sperm concentration: between 60 million/ml and 300 million/ml. Dilution: 1 + 4.

Mix 100 µl semen with 400 µl extender.



### 8.1.2.5. Adjustable pipette - Overview Table

Animal	Semen + Extender		Dilution
Bull	Step 1	100µl + 500µl	Equivalent to 1 + 29
	Step 2	100µl from the first dilution + 400µl	
Boar	100µl + 900µl		Equivalent to 1 + 9
Stallion	100µl + 900µl		Equivalent to 1 + 9
Canine	100µl + 400µl		Equivalent to 1 + 4

### 8.2. Preserved semen / analysis after thawing

Heat the sample to 37°C and measure as described below.  
The procedure applies to all species.



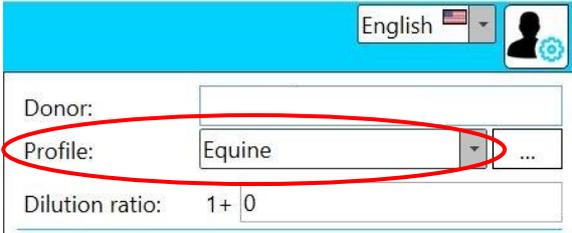
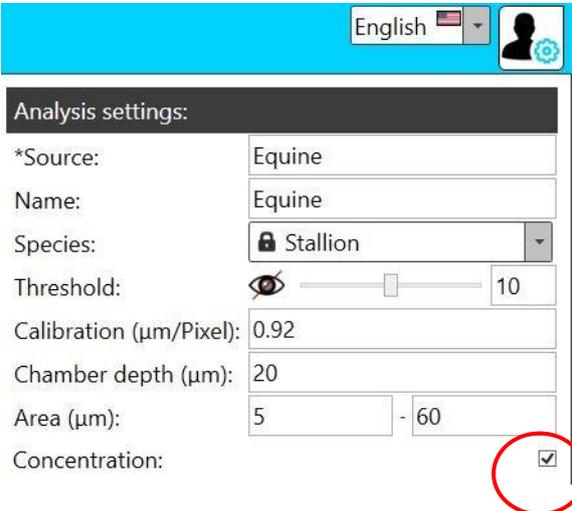
**If the expected concentration of the semen sample is less than 120 million sperm/ml, use it directly for analysis, without dilution. If the concentration is higher, dilute it 1:1 before the analysis, or choose an even higher dilution so that the sample is adjusted to a concentration below 120 Mio. sperm/ml. This corresponds to a maximum of 1000 sperm per field.**

### 8.3. Selection of counting chamber or slide with cover slip



**Note that no concentration can be measured when using slides with cover slips. We recommend the use of counting chambers. If no counting chamber is used, the concentration cannot be displayed correctly.**

#### 8.3.1. Settings when using slides

	<ul style="list-style-type: none"> <li>➤ Select the appropriate profile for the sample.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Press the button next to the profile (...).</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Deactivate the concentration measurement under Analysis settings.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Confirm the entries with </li> <li>➤ Exit the screen without making any changes by pressing  .</li> </ul>



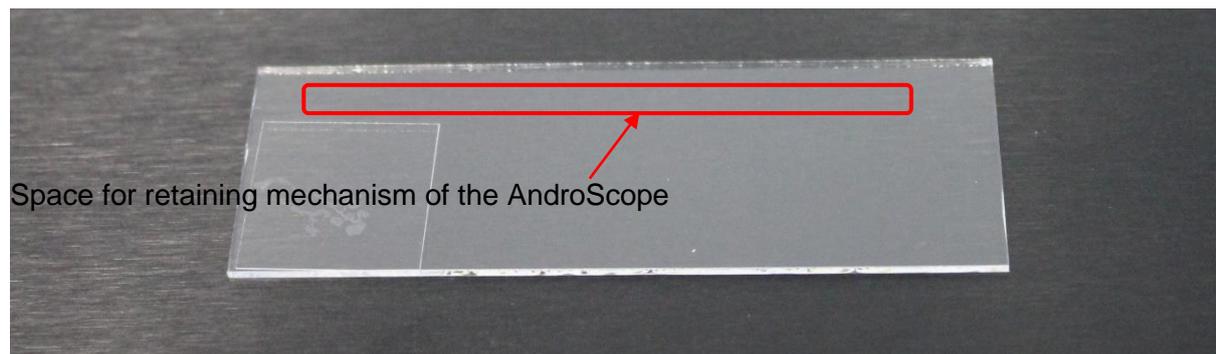
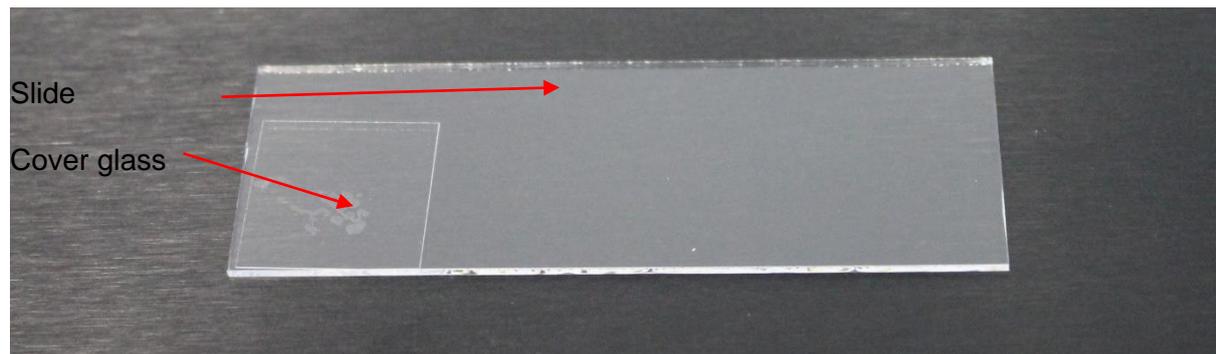
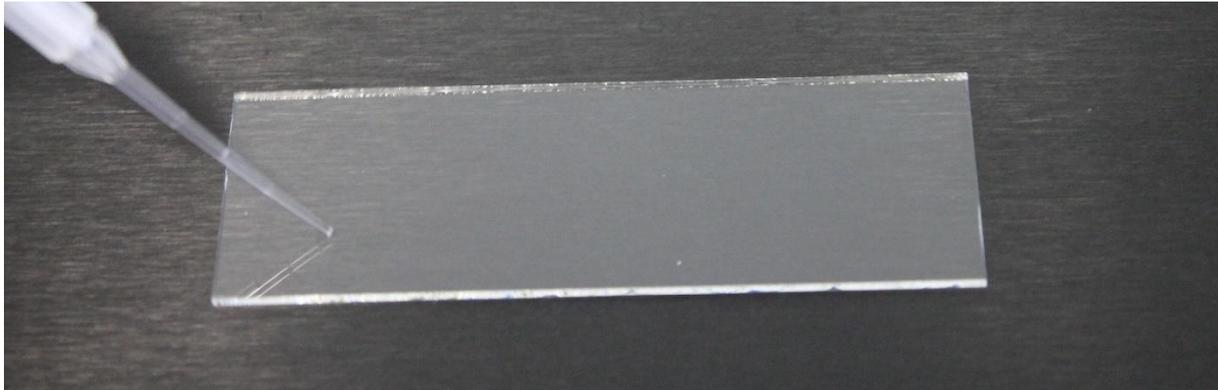
### 8.3.2. Instructions for pipetting and placing the cover slip

When using slides with cover slips, make sure that the cover slip is placed slightly off-center. Otherwise, the cover glass may be displaced in the AndroScope.

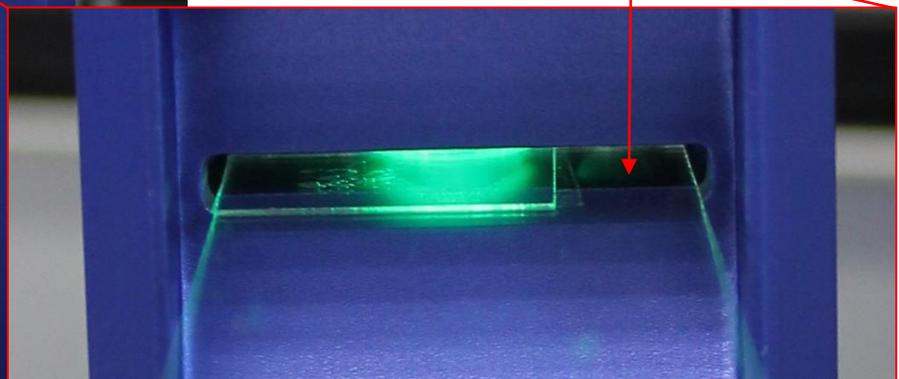
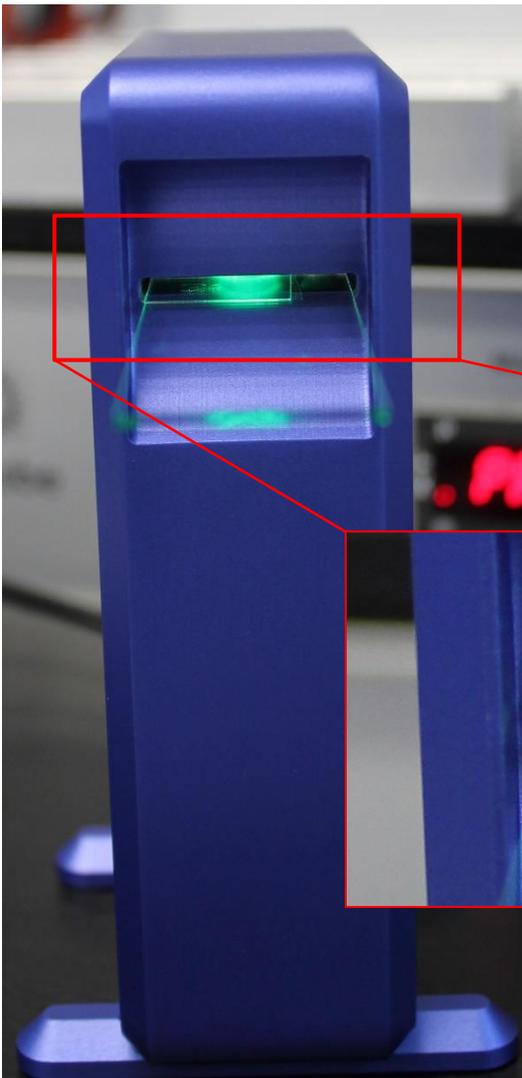
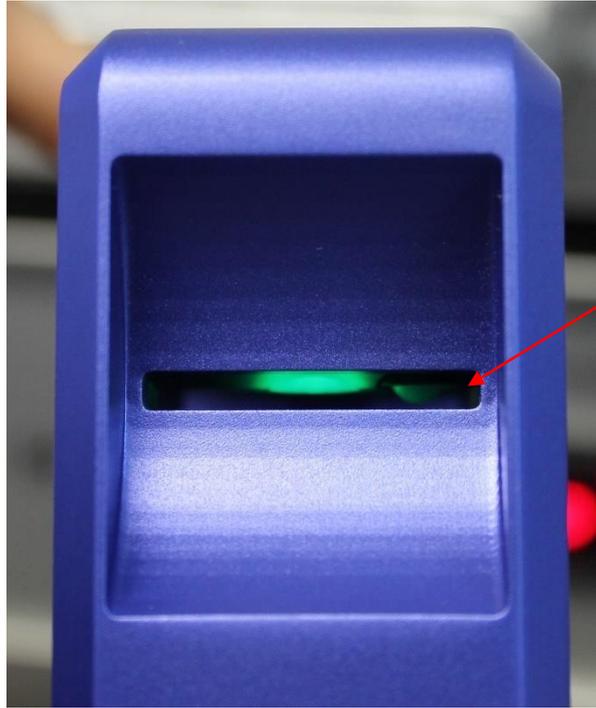


**We recommend the use of a cover glass of 18x18 mm (Ref. 15401/0990) and a drop volume of 3-4  $\mu$ l.**

Sketch:



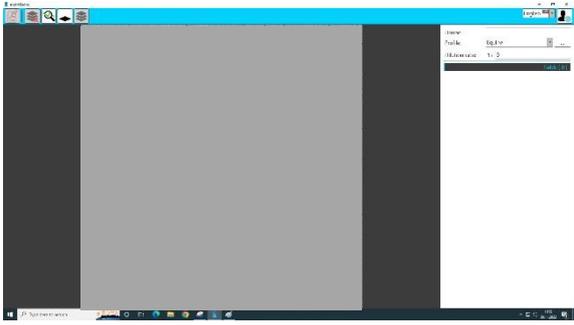
Retaining mechanism





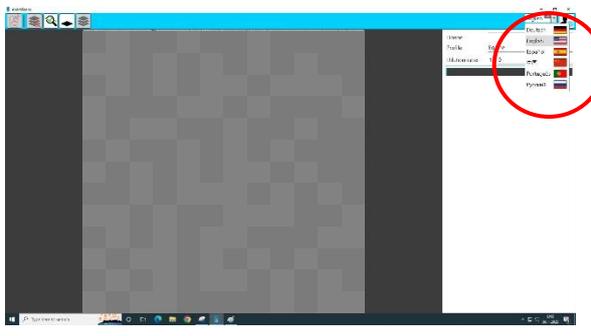
## 9. Start

### 9.1. Launch AndroScope

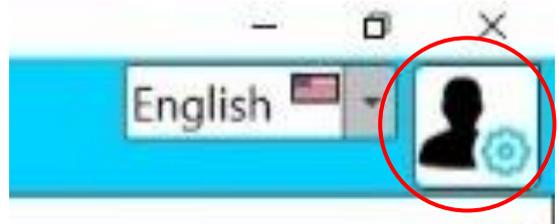
	<ul style="list-style-type: none"><li>➤ Connect the AndroScope to a laptop or tablet.</li><li>➤ Start the application by double-clicking on the icon.</li></ul>
	<ul style="list-style-type: none"><li>➤ The welcome screen appears.</li></ul>
	<ul style="list-style-type: none"><li>➤ After a few seconds the start screen appears.</li></ul>

## 9.2. General settings

### 9.2.1. Settings - Select language

	<p>➤ Select the desired language.</p> 
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### 9.2.2. Settings - Personal data

	<p>➤ Press the "Personal data" button.</p>
--	--

	<ul style="list-style-type: none"> <li>• The User data screen appears.</li> </ul>
---	---

➤ Enter the data that you want to appear as a header in your PDF report.



**Please note that the data format of the logo must be \*.BMP;\*.JPG;\*.JPEG;\*.PNG.**

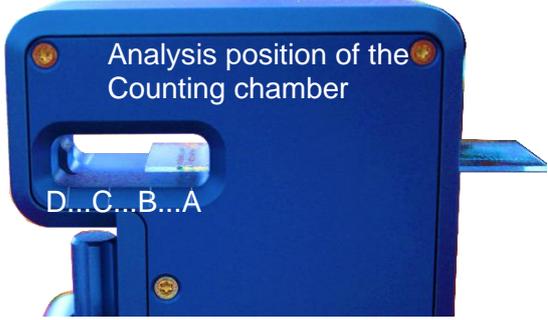
➤ Confirm the entries with  .

➤ Exit the screen without making any changes by pressing  .

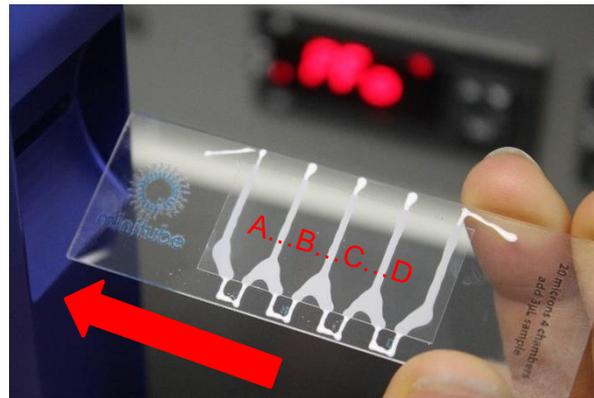
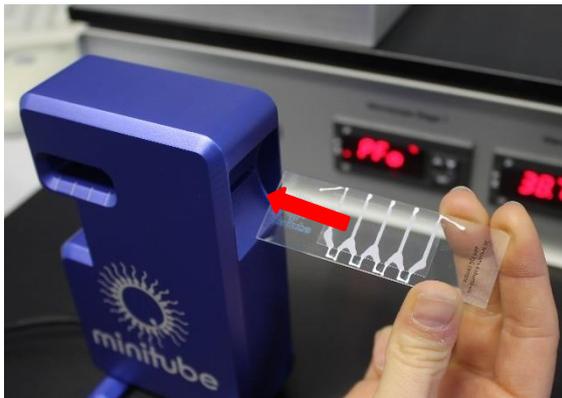


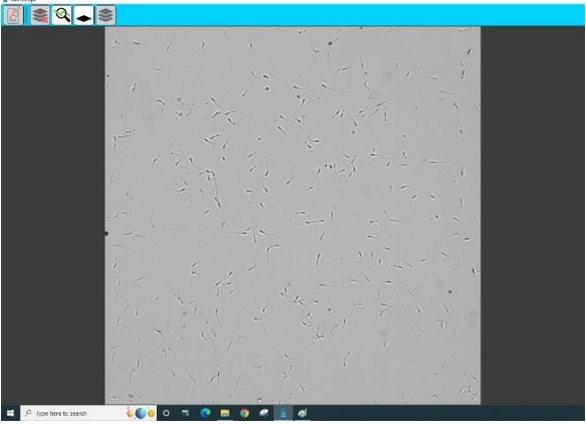
### 9.3. Procedure for initial commissioning

#### 9.3.1. Load AndroScope

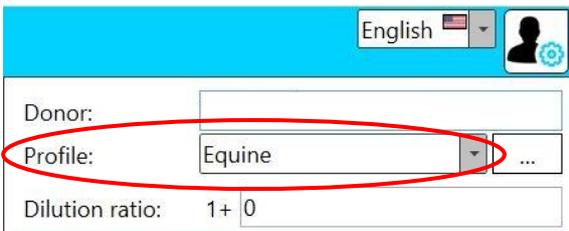
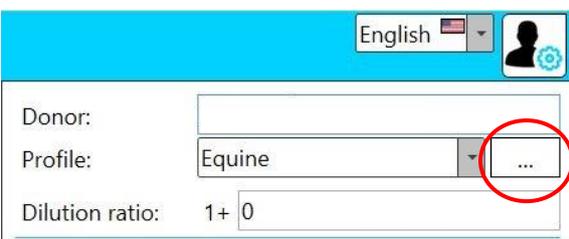
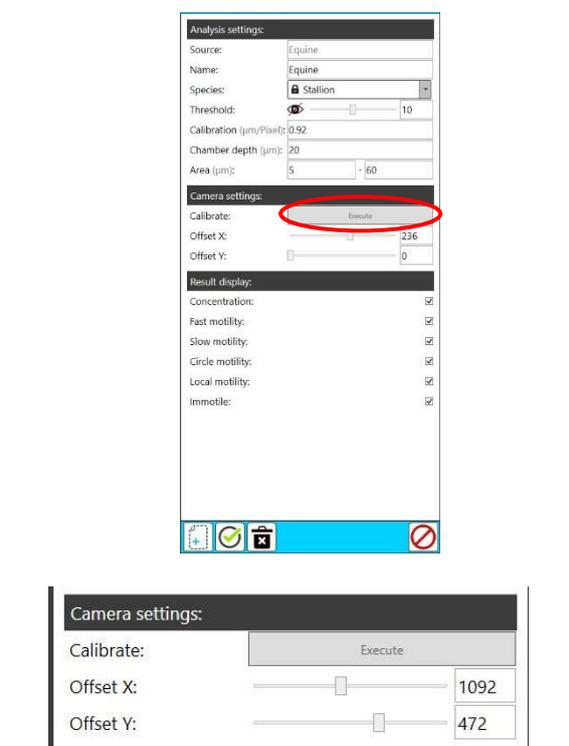
	<ul style="list-style-type: none"><li>➤ Fill a counting chamber with a prepared sample.</li><li>➤ Push the counting chamber forward into the slide insertion of the device up to the marking of the filled chamber.</li></ul> 
---	--

We recommend the loading direction as shown below.



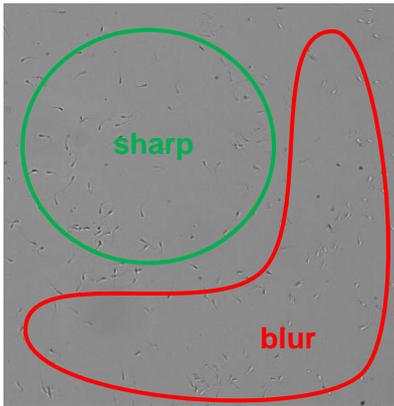
	<ul style="list-style-type: none"><li>➤ The live image is displayed.</li><li>➤ Wait until the analysis temperature is reached. During the waiting time, the analysis window flashes on the screen.</li><li>➤ Focus the entire image using the focus knob.</li></ul>
---	---

### 9.3.2. Set offset x and y

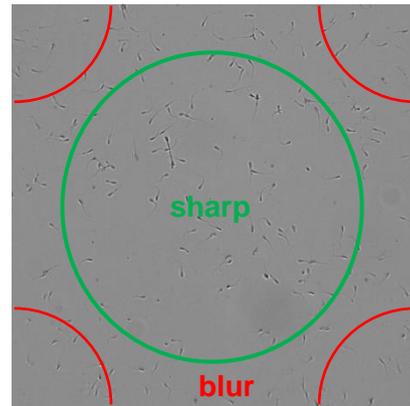
	<ul style="list-style-type: none"> <li>➤ Select the appropriate profile for the sample.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Press the button next to the profile (...).</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Press the "Execute" button.</li> <li>• The offset x and y is automatically adjusted.</li> <li>➤ Optimize the values so that the center of focus is in the center of the live image.</li> <li>➤ Then focus the live image with the focus screw.</li> </ul> <div style="display: flex; align-items: center; margin-top: 20px;">  <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p><b>Note that the corners remain blurred.</b></p> </div> </div>



Wrong setting:

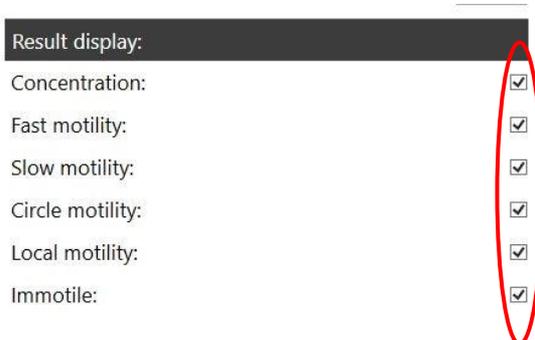
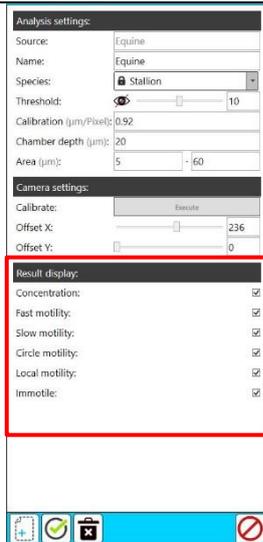


Correctly adjusted:

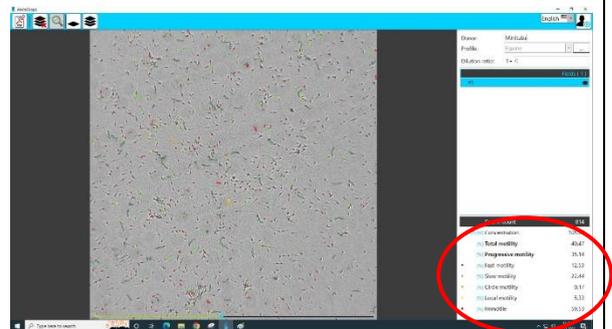


- Confirm the entries with
- Exit the screen without making any changes by pressing

### 9.3.3. Selection of the Result display



- Select the motility classes that you want to display on the analysis screen.



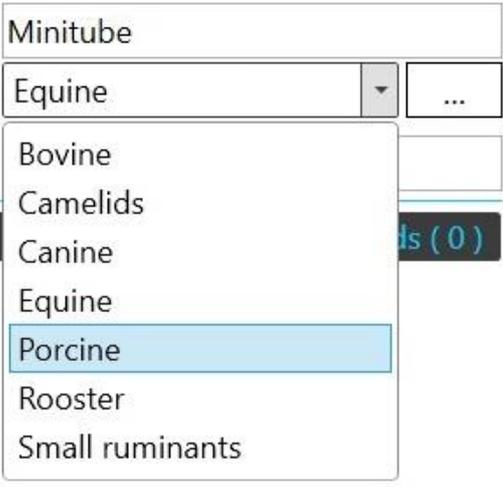
- This selection is also displayed in the report. See chapter 11.
- The selection can be made individually for each profile.

## 9.4. Settings for analysis

### 9.4.1. Load AndroScope

- Load the AndroScope as described in section 9.3.1.

### 9.4.2. Select profile

	<ul style="list-style-type: none"> <li>➤ Select the profile that matches the sample.</li> <li>• Preset profiles:             <ul style="list-style-type: none"> <li>○ Bovine</li> <li>○ Camelids</li> <li>○ Canine</li> <li>○ Equine</li> <li>○ Porcine</li> <li>○ Rooster</li> <li>○ Small ruminants</li> <li>○ Cat, Feline</li> </ul> </li> </ul>
---	---

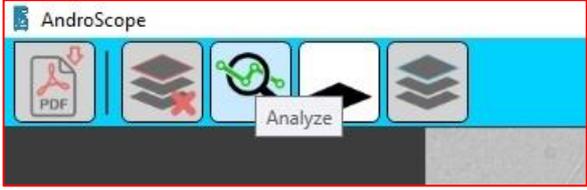
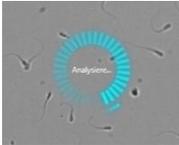
### 9.4.3. Enter data

	<ul style="list-style-type: none"> <li>➤ Enter the animal name.</li> <li>➤ Enter the dilution applied for sample preparation.</li> </ul>
---	--



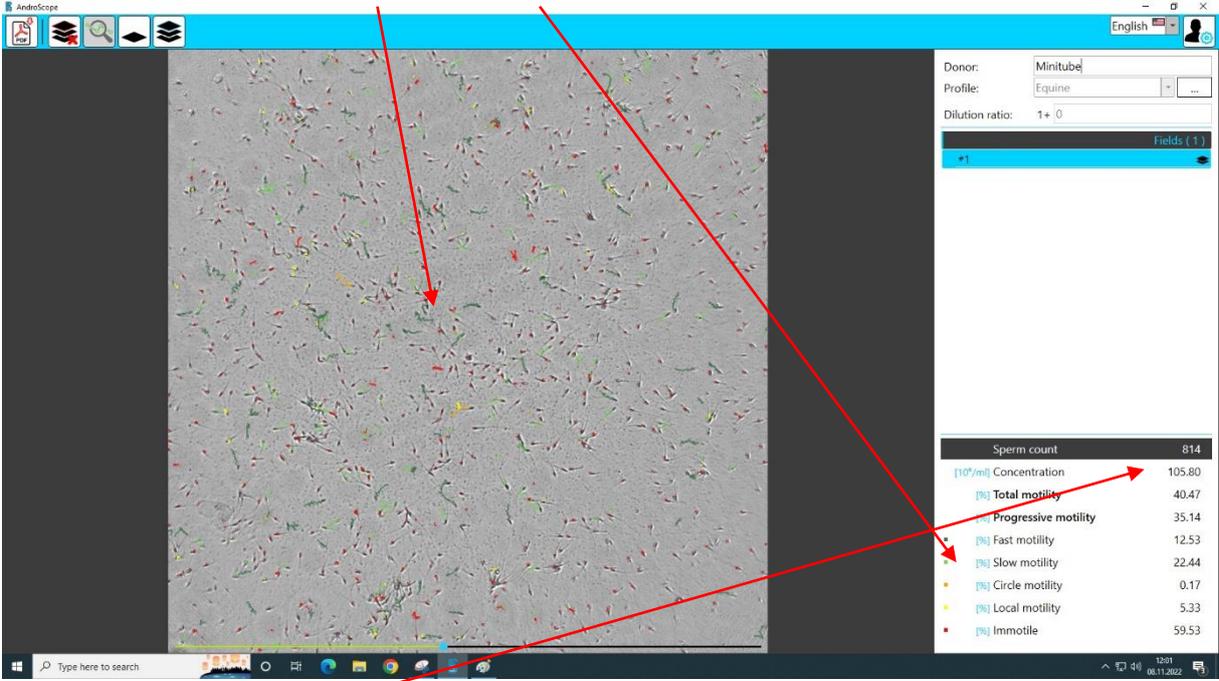
# 10. Analysis

## 10.1. Start

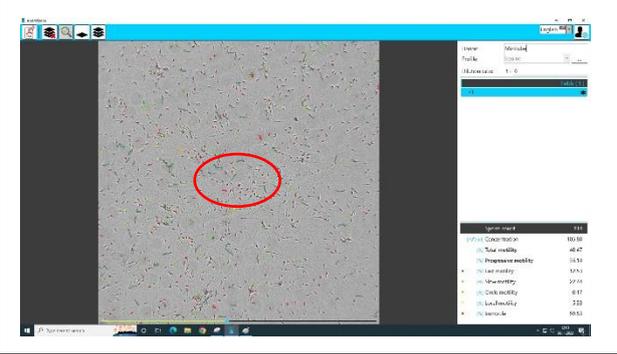
	<ul style="list-style-type: none"> <li>➤ Check the focus of the live image and adjust focus if necessary.</li> <li>➤ Start the analysis by touching the live image</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>➤ Press the "Analyze" button .</li> </ul> 
	<ul style="list-style-type: none"> <li>• The sample is analyzed.</li> </ul>

## 10.2. Results

### 10.2.1. First field of analysis

<ul style="list-style-type: none"> <li>• The analysis results are displayed.</li> <li>• Motility is indicated visually and nominally.</li> </ul> 
<ul style="list-style-type: none"> <li>• If a counting chamber is used, the concentration is displayed. See chapter 8.3.</li> </ul>

### 10.2.2. Play analysis video



- Press the "Play" button in the analysis window to play the video of the analysis.
- No analysis is performed and no values are calculated.

### 10.2.3. Optimize camera settings

If there is an unstable camera connection, disable the hardware rendering feature. To do this, press the "Rendering" button in the upper left corner of the screen.



Disable "Hardware Rendering".



## 10.3. Multiple fields per analysis

### 10.3.1. New field

Basics:

For a meaningful measurement, we recommend analyzing at least 1000 sperm. In case the first measurement did not reach this number, another field of the same sample can be analyzed.

Sperm count	156
[10 <sup>6</sup> /ml] Concentration	20.26
[%] Total motility	84.55
[%] Progressive motility	82.40
[%] Fast motility	66.53

In practice, up to 5 fields per chamber can be analyzed.

For further analyses we recommend to load another chamber with the sample to be analysed.

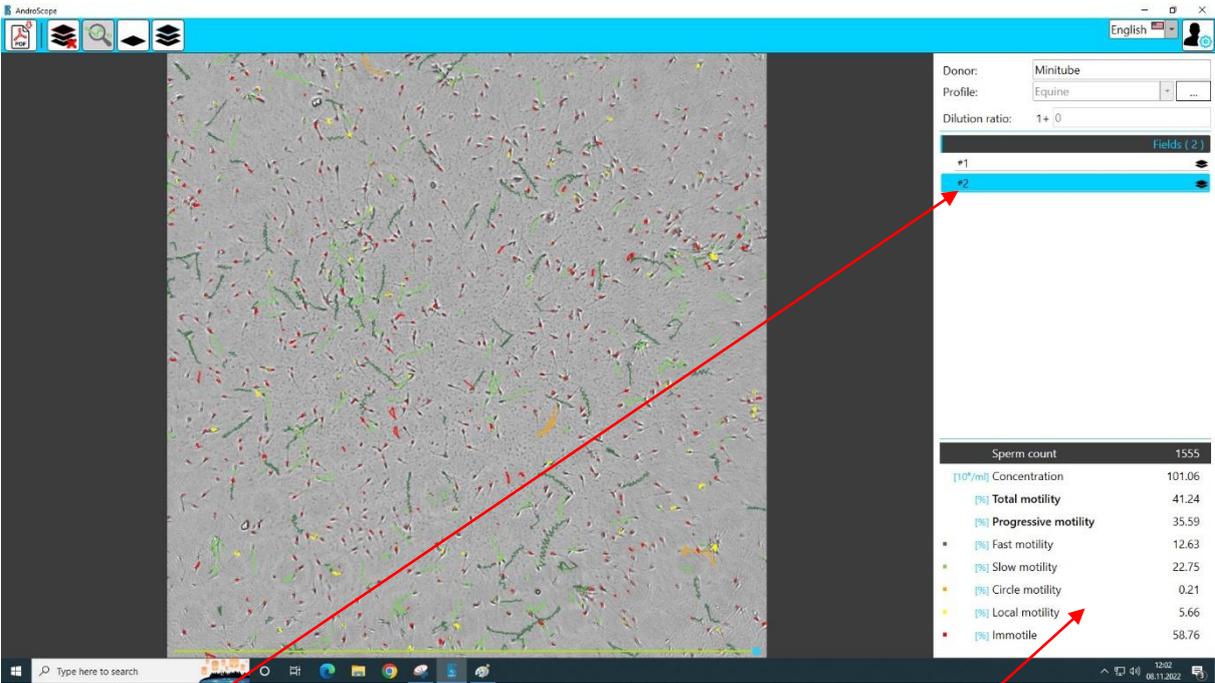
Proceed as described below.



➤ Click the “New field” button.

- Move the sample carefully and minimally in the longitudinal direction in the AndroScope.
- Be sure to continue analyzing the same sample but at a different sample section.

- Start the analysis by touching the live image or 
- Press the “Analyze” button
- The sample is analysed again.



Donor: Minitube  
Profile: Equine  
Dilution ratio: 1+ 0

Fields (2)

- #1
- #2

Sperm count		1555
[10 <sup>6</sup> /ml] Concentration		101.06
(%) Total motility		41.24
(%) Progressive motility		35.59
▪ (%) Fast motility		12.63
▪ (%) Slow motility		22.75
▪ (%) Circle motility		0.21
▪ (%) Local motility		5.66
▪ (%) Immotile		58.76

- The number of fields analyzed is displayed.
- The displayed values form the cross number of the measurement results.

### 10.3.2. Remove field

#### Basics:

You have the option to remove fields with too low sperm count or impurities.

	<ul style="list-style-type: none"> <li>➤ Select the field to be removed based on the analysis image or video.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Press the "Remove field" button.</li> <li>• The analysis values are deleted from the mean value calculation.</li> </ul>

### 10.4. New sample

<ul style="list-style-type: none"> <li>➤ Move the sample to the next position.</li> </ul>	
	<ul style="list-style-type: none"> <li>➤ Press the "New sample" button.</li> </ul>
<ul style="list-style-type: none"> <li>➤ Proceed as described above.</li> </ul>	



## 11. Create report



Note that when a report is created, the analysis must be complete and no additional analysis fields can be added.

AndroScope

➤ Select the "Export as .pdf" button.



Export as .pdf

Donor information

ID: 84184

Name: - Optional -  
Minitube

Species: Stallion

Breed: - Optional -  
WB

Additional information: - Optional -

English - US  
Date format

- Complete Donor information.
- Compelling:  
ID
- Optional:  
Name and breed



Donor information

ID: 84184

Name: Minitube - Optional -

Species: Stallion

Breed: WB - Optional -

Additional information: - Optional -

English - GB

- Deutsch
- English - US
- English - GB
- English - AU
- Español
- French
- 中国
- Português
- Русский

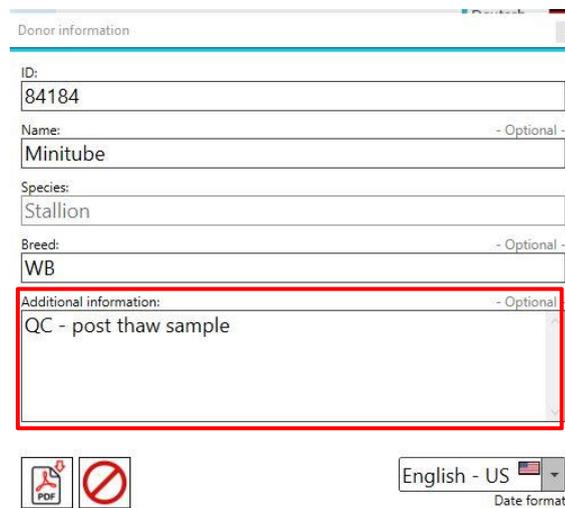
- Select the desired country-specific date format for the report. This does not change the language selection.  
Example:

**Date of analysis:** 28.03.2024

or

**Date of analysis:** 3/28/2024

- Optionally, add additional information.



Donor information

ID: 84184

Name: Minitube - Optional -

Species: Stallion

Breed: WB - Optional -

Additional information: QC - post thaw sample - Optional -

English - US  
Date format



- Create the report with  .
- or
- Exit the screen with  .

- The following message is displayed during the process.



Example:



**Minitube International**

Deutschland

Phone: +49 8709 9229 0  
 Fax: +49 8709 9229 39  
 Email: minitube@minitube.de  
 Homepage: www.minitube.com

---

**Donor:** Minitube  
**ID:** 84184

**Species:** Stallion  
**Breed:** WB

---

### Motility & Concentration



**Sample analysis**

**Date of analysis:** 28/03/2024

**Total number of sperm analyzed:** 611

**Number of fields:** 4

**Dilution ratio:** 1+ 0

**Concentration:** [10<sup>6</sup>/ml] 18.13

**Total motility:** [%] 80.81

**Progressive motility:** [%] 58.84

- **Fast motility:** [%] 36.62
- **Slow motility:** [%] 21.30
- **Circle motility:** [%] 0.92
- **Local motility:** [%] 21.98
- **Immotile:** [%] 19.19

Average kinematic	VCL	VSL	VAP	DCL	DSL	DAP	ALH	BCF	HAC	LIN	STR
	[µm/s]	[µm/s]	[µm/s]	[µm]	[µm]	[µm]	[µm]	[Hz]	[rad]	[VSL/VCL]	[VSL/VAP]
<b>Total motility</b> [=]	52.47	57.00	71.07	56.15	21.20	26.64	1.70	19.75	0.52	0.40	0.80
[σ]	95.75	38.23	43.59	35.87	14.54	17.48	1.08	13.54	0.27	0.23	0.32
<b>Progressive motility</b> [=]	46.53	63.66	72.43	53.40	23.35	26.77	1.59	20.37	0.50	0.46	0.88
[σ]	99.78	43.57	47.99	36.10	16.23	18.45	1.09	14.77	0.28	0.26	0.37
<b>Fast motility</b> [=]	81.68	75.02	86.62	64.64	26.77	31.25	1.94	23.69	0.59	0.43	0.87
[σ]	51.45	24.03	24.97	24.12	9.97	11.84	0.79	9.05	0.18	0.12	0.11
<b>Slow motility</b> [=]	75.97	40.18	43.45	30.37	16.18	17.51	0.87	13.41	0.34	0.53	0.91
[σ]	80.35	20.85	21.53	14.60	9.60	10.05	0.32	9.22	0.21	0.17	0.06
<b>Circle motility</b> [=]	209.90	98.46	108.40	83.79	36.28	40.59	2.19	32.97	0.68	0.47	0.90
[σ]	72.99	64.89	60.78	36.29	4.72	4.85	1.11	12.35	0.13	0.20	0.08
<b>Local motility</b> [=]	168.55	38.98	67.39	63.58	15.37	26.29	2.00	18.07	0.56	0.24	0.58
[σ]	74.26	20.62	30.50	31.21	9.70	14.67	0.88	10.20	0.22	0.10	0.16

**Additional information:**  
 OC - post thaw sample

Display of kinematic data according to the "Result display" selection. See chapter 9.3.3.

[=] Average  
 [σ] Standard deviation

---

AndroScope sample report - minitube.com

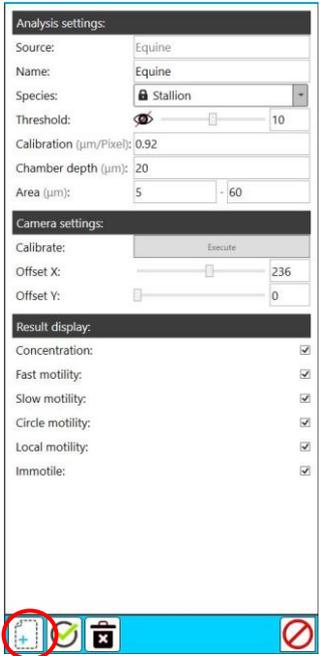
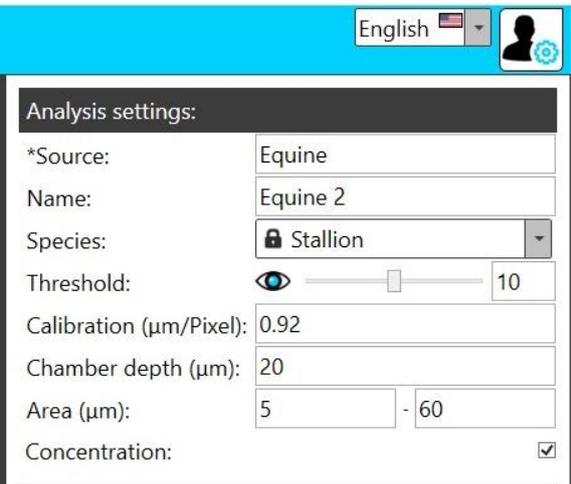


## 12. Create new profile/Delete profile

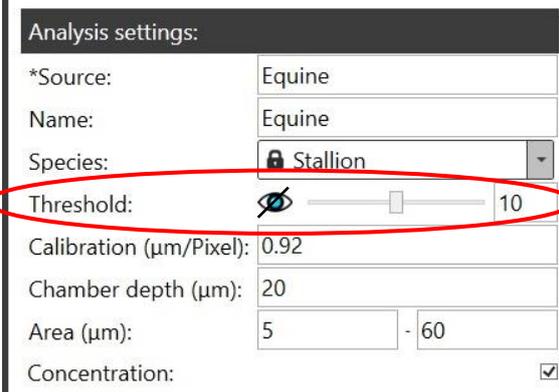
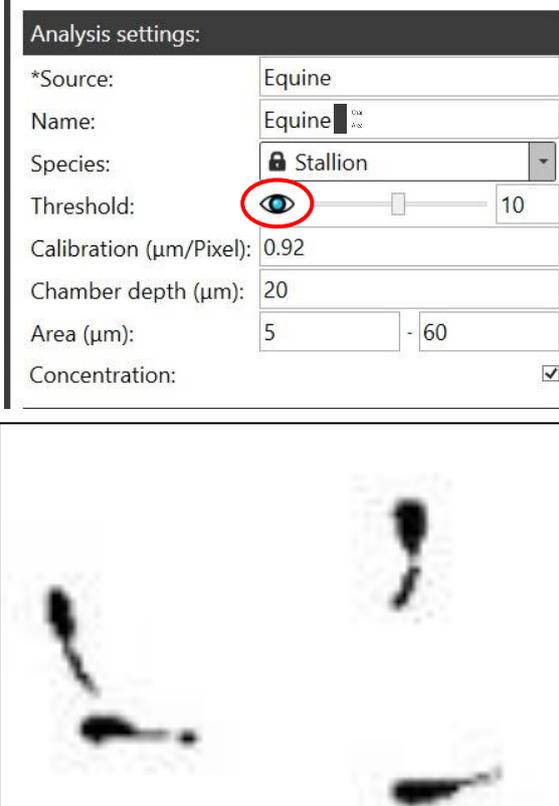
### 12.1. New profile

Basics:

It is possible to create a custom profile. Proceed as follows.

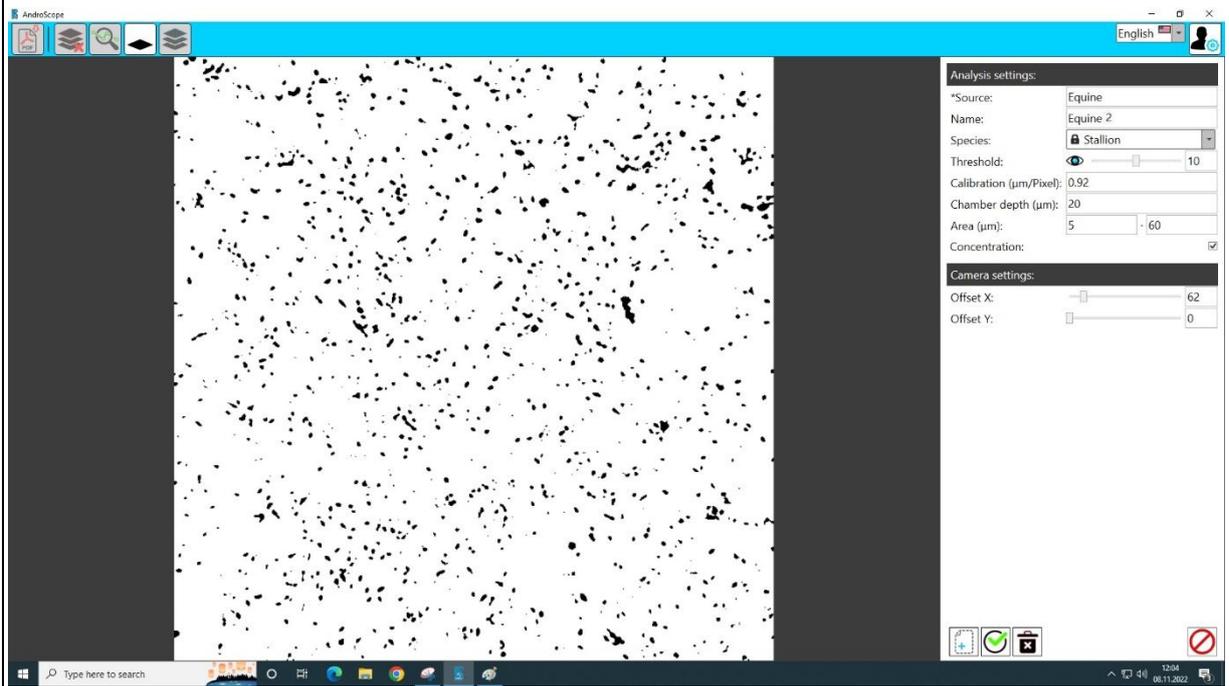
<p>➤ Prepare the appropriate sample and load it into the AndroScope.</p>	
	<ul style="list-style-type: none"> <li>➤ Choose a similar profile.</li> <li>➤ Select the button next to the selected profile.</li> </ul>
	<ul style="list-style-type: none"> <li>• The analysis settings are displayed.</li> <li>➤ Select the "New profile" button.</li> </ul>
	<ul style="list-style-type: none"> <li>○ Change the values and labels below.</li> <li>○ Source - unchangeable</li> <li>○ Name</li> <li>○ Species - if not present, contact Minitube International</li> <li>○ Threshold - see next chapter</li> <li>○ Calibration: <ul style="list-style-type: none"> <li>○ up to V1.1. 0,92 µm/pixel</li> <li>○ from V1.2. 0,55 µm/pixel</li> </ul> </li> <li>○ Chamber depth: 20 µm (recommended)</li> <li>○ Area - sperm head area (min/max)</li> </ul>

### 12.1.1. Set threshold value

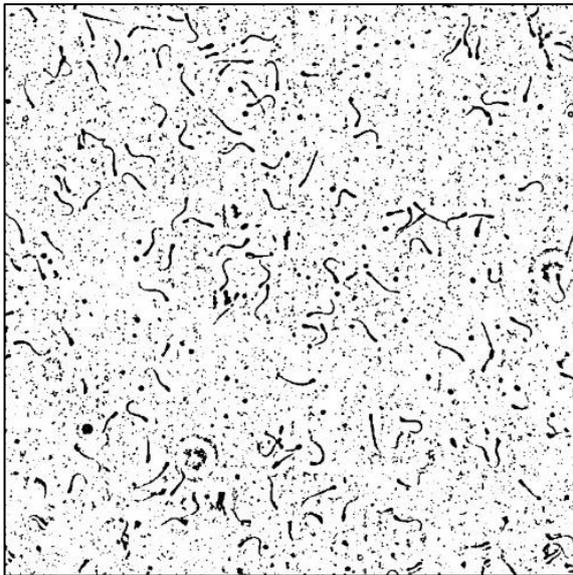
	<ul style="list-style-type: none"> <li>➤ The threshold is automatically preset depending on the version number: <ul style="list-style-type: none"> <li>○ up to V1.1. 10</li> <li>○ from V1.2. 17</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>➤ If necessary, proceed as described below to manually adjust the threshold value.</li> <li>➤ Press the "Eye" button to generate a binary image in the display.</li> <li>➤ The eye is no longer crossed out.</li>   <li>➤ Change the threshold until the binary display shows the sperm with head and tail attachment  Recommendation: <ul style="list-style-type: none"> <li>○ up to V1.1. 10</li> <li>○ from V1.2. 17</li> </ul> </li> <li>➤ Press the "Eye" button again: <ul style="list-style-type: none"> <li>• The eye is crossed out again.</li> </ul> </li> </ul>



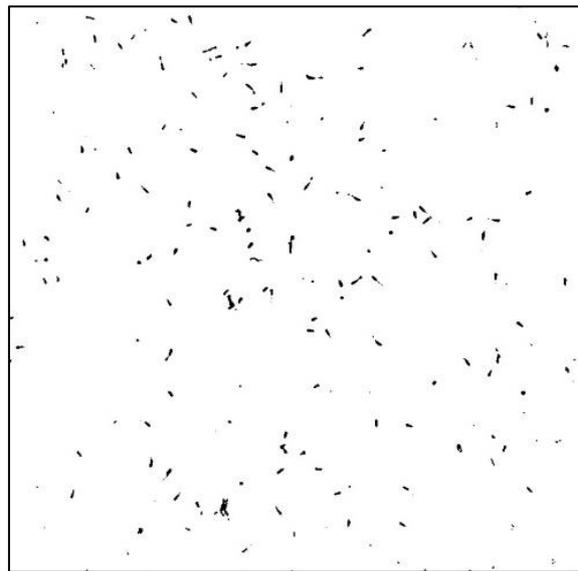
### Example:



### Example for value too low:



### Example for value too high:

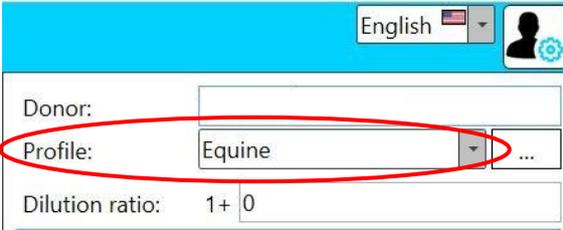


- Confirm the entries with
- Exit the screen without making any changes by pressing .

## 12.2. Delete profile



**Note that only custom profiles can be deleted. Preset profiles cannot be deleted.**

	<ul style="list-style-type: none"><li>➤ Select the desired profile.</li></ul>
	<ul style="list-style-type: none"><li>➤ Delete the profile with the "garbage can".</li></ul>



### 13. Cleaning and maintenance

Always ensure an optimal working environment. Maintain and clean the device when necessary (e.g. spilled materials) and according to the following instructions.

#### 13.1. Cleaning - General

In order to keep the appliance in good condition, as well as to ensure optimal hygienic conditions, it is recommended to clean it thoroughly at regular intervals. This includes the visible surfaces and hidden deposits of dirt. For antibacterial treatment, you can use a mixture of isopropyl alcohol and water or use appropriate disinfection products. For cleaning, use only lint-free cloths with a soft texture, which you can moisten with water and a little washing-up liquid.



**Do not use aggressive cleaning agents! Aggressive cleaning agents can attack the surfaces of the device.**



**Never pour water over the device. There is a risk of electric shock. Only wipe the surfaces with a damp cloth.**

#### 13.2. Cleaning the optics

##### 13.2.1. Version number V1.0 – 1.2

	<ul style="list-style-type: none"> <li>➤ Loosen and remove the marked screw with a suitable tool.</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Blow into the screw hole with clean compressed air.</li> </ul> <div data-bbox="837 1641 963 1765" style="float: left; margin-right: 10px;"></div> <div data-bbox="975 1648 1406 1760" style="border: 1px solid black; padding: 5px; display: inline-block;"> <p><b>Use only clean compressed air suitable for optics.</b></p> </div> <ul style="list-style-type: none"> <li>➤ Turn and tilt the compressed air attachment to blow in all directions.</li> <li>➤ Repeat this procedure until the visible dust particles in the analysis window have disappeared.</li> </ul>

- Screw the screw back into the AndroScope. To do this, first turn it in the opposite direction to the direction of rotation until the screw can be felt to slide into the screw thread. Then tighten the screw sensitively.

### 13.2.2. Version number V1.3. and higher



- In device versions V1.3, the screw hole for cleaning with compressed air is not available.



**Please also note the serial number on the bottom of the AndroScope.**



Serial numbers: 30370912 to 30371053

- In device versions V1.3 of the above specified serial numbers, it is not possible for the user to clean the optics.
- In case of contamination in the live image, contact Minitube International.

From serial number: 30371054

- For device versions V1.3 from the above specified serial number and following versions, it is possible for the user to clean the optics in case of contamination.
- Follow the steps below.



**To locate the contamination in the AndroScope, tilt the AndroScope from left to right as shown below and observe the camera image. If the dirt moves along with the camera image, it is on the objective. If it does not move, then the camera sensor is dirty. Observe the relevant instructions as described below.**



- Loosen and remove the four screws with a suitable tool.



- Remove the front panel.

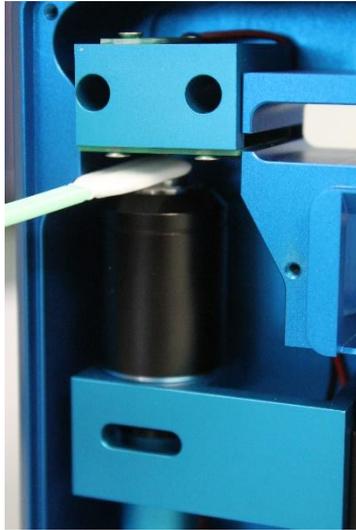
- Wet a microfiber stick supplied with ultrapure alcohol.



- There are two places accessible for cleaning.
  1. Objective
  2. Camera sensor



## 1. Objective



- Clean the lens with the prepared microfiber stick.

## 2. Camera sensor



- Turn the focus screw up as far as possible.
- Note the scale.



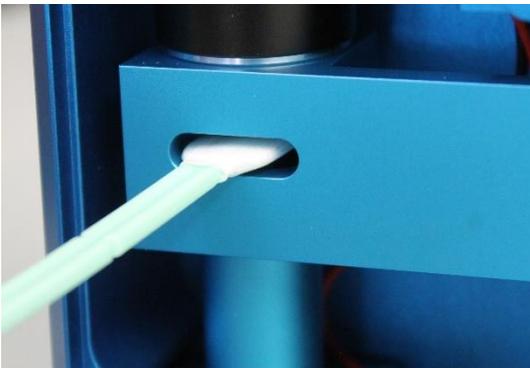
- The camera sensor becomes accessible.



correct



wrong



- Clean the camera sensor with the prepared microfiber stick.
- Remove the microfiber rod.



- Turn the focus screw down until the scale shows approx. -2.

- Attach the front panel and secure it with the screws.



### **13.3. Maintenance**

To keep the AndroScope in good condition and to achieve optimum results, it is recommended that the instrument is visually inspected for damage on a regular basis. When used as intended, the instrument is virtually maintenance free. Contact Minitube International if necessary.

## 14. Disposal

### 14.1. Decommissioning

- Remove the USB cable.

### 14.2. Disposal of the device in EU countries



**Minitüb equipment is classified for commercial use only in accordance with EU Directive 2012/19/EU of the European Parliament and of the Council on Waste Electrical and Electronic Equipment (WEEE) and must NOT be disposed of with unsorted municipal waste. The device bears the symbol of the crossed-out wheeled bin to identify electrical and electronic equipment that must be disposed of separately in accordance with EU Directive 2012/19/EU (WEEE) on waste electrical and electronic equipment.**

When you have finished using the device, notify the dealer from whom you purchased it so that they can take it back and dispose of it in accordance with EU Directive 2012/19/EU of 4 July 2012 on waste electrical and electronic equipment.

Old devices are dismantled into pure materials by certified companies for recycling in accordance with EU Directive 2012/19/EU. In order to exclude health hazards for the employees of the disposal companies, the devices must be free of toxic, infectious or radioactive material.

### 14.3. Disposal of the device in non-EU countries

Observe the relevant national disposal regulations when disposing of the device in order to protect the environment.

## 15. Spare parts

Name	Ref.
Cable for AndroScope, USB 3.0 cable, 1.2 m, black, A to Micro-B	5012009/0003



# 16. Declaration of Conformity

Experts. Passion. GaN.



## EC Declaration of Conformity

Product name **AndroScope**  
 Type „standard“ (includes camera and an internal heating)  
 Variants Housing blue anodized, V1.0 and above  
 Valid from 01.04.2022

Picture ISO view Side view Front view



The subject of the manufacturer's declaration described above complies with the relevant Union harmonization legislation:

- 2006/42/EG Machinery Directive
- 2011/65/EU RoHS Directive
- 2014/30/EU EMC Directive

When using the product, particular attention must be paid to the following:

- The product is *not* a medical device and therefore does not fall under the Medical Devices Regulation (EU) 2017/745.

Authorized for the compilation of technical documentation		Name / signature of the authorized person	
Name	Dr.-Ing. Heiko Brüning	Name	Dr.-Ing. Heiko Brüning
Title	CEO	Title	CEO
Place, date	Braunschweig, 01.04.2022	Place, date	Braunschweig, 01.04.2022
Signature		Signature	



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 38100 Braunschweig

Sitz der Gesellschaft: Braunschweig  
 Registergericht: Amtsgericht Braunschweig, HRB 207929  
 Geschäftsführer: Dr.-Ing. Heiko Brüning, M.Sc. Jan Güllink



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All brand product names are trademarks or registered trademarks of the respective title holder.

Errors and technical alterations excepted.

Use product only in perfect condition and in compliance with the manual. Keep safe for future consulting (according to EN ISO 12100).

Translated from German.

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