AI-100Vet

Multifunctional
Morphological Analyzer
Operator's Manual

Thank you for purchasing the AI-100Vet Multifunctional Morphological Analyzer

Prior to operating the product, it is imperative to thoroughly review this manual to ensure correct usage. Retain this manual in a secure location for future reference as needed.

Product Name: Multifunctional Morphological Analyzer

Product model: AI-100Vet

Service Company

Company name: Shenzhen Anlv Medical Technology Co., Ltd.

Address: 1401,14th Floor, Building A, Hongpeng Center,Xi'xiang Street, Bao'an District, Shenzhen, China

Postal code: 518000

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Manual History Vision

Vision	Revised content	Date
V8.0	1. Change the content of updated UI interface. 2. Modify operation descriptions based on the updated UI interface. 3. Add information related to ascites detection (optional item). 4. Add descriptions for Edit mode, New user guide mode, light source calibration, and focal plane calibration features.	24.10.30

Contents

ChapterI Manual Overview

1.1. Overview

This section provides a comprehensive explanation of the AI-100Vet multifunctional morphological analyzer, covering its purpose, structure, function, and operational procedures. It is essential to thoroughly read and comprehend the details of this manual prior to using the instrument. Correct understanding and application of the instructions will optimize the performance of the AI-100Vet and ensure the safety of the operator.

1.2. Scope of Application

This product is designed for the automatic analysis of animal blood, feces, urine, ascites and other biological samples. The manual for the multifunctional morphological analyzer is specifically intended for veterinary medical laboratory professionals, trained veterinarians, veterinary nurses, or laboratory technicians. It is crucial that only qualified personnel operate this equipment to ensure accurate results and maintain safety standards.

1.3. Guide to the Manual

This manual contains eight chapters, which the operator finds according to the required information.

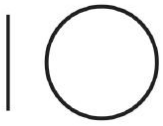
Required information	**Chapters**
Comprehending the Function and Measurement Parameters of the AI-100Vet Multifunctional Morphological Analyzer.	Chapter II System Overview
Grasping the Components, User Interface, and Software Functionality of the AI-100Vet Multifunctional Morphological Analyzer.	Chapter II System Overview

Understand the measurement principle and process of the AI-100Vet multifunctional morphological analyzer.	Chapter III Principle
Understanding the Installation Requirements for the AI-100Vet Multifunctional Morphological Analyzer.	Chapter IV Installation
Understanding Sample Collection and Preparation Techniques.	Chapter V Testing and Report Management
Operation of AI-100Vet multifunctional morphological analyzer.	Chapter V Testing and Report Management
Analyzing the Results of Sample Testing.	Chapter V Testing and Report Management
Configuring Hospital and Doctor Information and Other Settings.	Chapter VI Setting
Maintenance for the AI-100Vet Multifunctional Morphological Analyzer.	Chapter VII Services
Troubleshooting the AI-100Vet Multifunctional Morphological Analyzer.	Chapter VIII Troubleshooting

1.4. Manual Conventions

The illustrations included in this manual are provided solely for reference purposes and should not be utilized for any other application. Please note that the graphics, settings, or data depicted in these illustrations may not precisely correspond to what is displayed on the actual AI-100Vet Multifunctional Morphological Analyzer.

1.5. Symbol Instructions

Symbols	Significance
安侣 awalife	Registered Trademark
	Date of Manufacture
	Manufacturer
	Serial Number
	AC
	Biological Risks
	Caution
	CE
	ON (power) OFF (power)
	Standby Power / Standby

	QR Code for the Company
	Correct Disposal of This Product Statement: Contact the local authorities to determine the proper method of disposal of and protected against spraying water

ChapterII System Overview

2.1. Overview

This chapter details the test parameters, key components, operating interface, and associated reagents used with the AI-100Vet multifunctional morphological analyzer.

2.2. Parameters

This instrument is designed for use as a clinical examination screening tool; however, it should not serve as the sole basis for clinical diagnosis. Clinicians are advised to consider additional clinical examination results or other experimental outcomes when making a diagnosis.

The instrument currently supports the testing of blood, urine, feces and ascites samples(Optional item). Those samples are tested by double-channel chip(left, right) according to the actual sample dispensed., it is carefully to note that the sample to be tested must be selected correct channel type.

2.2.1. Type of Blood Sample Double channel Chip (Left and Right)

2.2.1.1. Blood sample for dog, cat and others mini mammals

The instrument generates 46 report parameters, including one histogram (RBC-PLT CV), two scatter plots (CH-CV, CHC-CV), and one clinical diagnostic hint.

The specific details of the 46 blood reporting parameters are presented in the table below:

Parameter system	English abbreviation	English name
WBC System (18 items)	1. WBC	White Blood Cell Count
	1-1. NEU#	Neutrophils Number
	1-2. NST#	Neutrophil Stab Granulocyte

	1-3. NSG#	Neutrophil Segmented Granulocyte
	1-4. NSH#	Hypersegmented neutrophils number
	1-5. LYM#	Lymphocytes Number
	1-6. MON#	Monocytes Number
	1-7. EOS#	Eosinophils Number
	1-8. BAS#	Basophils Number
	1-9. NEU%	Neutrophils Percentage
	1-10. NST/WBC%	Neutrophil Stab Granulocyte Percentage
	1-11. NSG%	Neutrophil Segmented Granulocyte Percentage
	1-12. NHG/WBC%	Neutrophil Hypersegmented Granulocyte Percentage
	1-13. LYM%	Lymphocytes Percentage
	1-14. MON%	Monocytes Percentage
	1-15. EOS%	Eosinophils Percentage
	1-16. BAS%	Basophils Percentage
	1-17. NST/NEU%	Neutrophil Stab Granulocyte Percentage
	1-18. NSH/NEU%	Hypersegmented neutrophils percentage
Red blood cell system (18items)	2. RBC	Red Blood Cell count
	2-1. HGB	Hemoglobin Concentration
	2-2. HCT	Hematocrit
	2-3. MCV	Mean Corpuscular Volume

	2-4. MCH	Mean Corpuscular Hemoglobin
	2-5.MCHC	Mean Corpuscular Hemoglobin Concentration
	2-6.RDW-SD	Red Blood Cell Distribution Width - Standard Deviation
	2-7.RDW-CV	Red Blood Cell Distribution Width - Coefficient of Variation
	2-8.HDW-SD	Hemoglobin Concentration Distribution Width - Standard Deviation
	2-9.HDW-CV	Hemoglobin Concentration Distribution Width - Coefficient of Variation
	2-10. RET#	Reticulocyte Number
	2-11. RET%	Reticulocyte Percentage
	2-12. NRBC#	Nucleated Red Blood Cell Count
	2-13. NRBC/WBC%	Nucleated Red Blood Cell Percentage
	2-14. ETG#	Erythrocyte Ghost
	2-15.ETG%	Erythrocyte Ghost Percentage
	2-16. SPH#	Spherocyte
	2-17. SPH%	Spherocyte Percentage
	2-18. AGG#	Agglutinate Erythrocytes

Platelet System (7 Items)	3. PLT	Platelet Count
	3-1. PCT	Plateletcrit
	3-2. MPV	Mean Platelet Volume
	3-3. LPLT#	Large Platelet number
	3-4. P-LCR	Platelet Large Cell Ratio
	3-5. APLT#	Agglutinate Platelet number
	3-6. PDW-SD	Platelet Distribution Width - Standard Deviation
	3-7. PDW-CV	Platelet Distribution Width - Coefficient of Variation

2.2.1.2. Blood sample for rabbit

The instrument generates 36 report parameters for rabbit blood sample, including one histogram (RBC-PLT CV), two scatter plots (CH-CV, CHC-CV), and one clinical diagnostic hint.

The specific details of the 36 blood reporting parameters are presented in the table below:

Parameter system	English abbreviation	English name
WBC System (8 items)	1.WBC	White Blood Cell Count
	1-1.HET#	Heterophil number
	1-2.LYM #	Lymphocytes number
	1-3.MON#	Monocytes number
	1-4.BAS#	Basophils number
	1-5.HET%	Heterophil percentage
	1-6.LYM%	Lymphocytes percentage

	1-7.MON%	Monocytes percentage
	1-8.BAS%	Basophils percentage
RBC System (18 items)	2.RBC	Red Blood Cell count
	2-1.HGB	Hemoglobin Concentration
	2-2.HCT	Hematocrit
	2-3.MCV	Mean Corpuscular Volume
	2-4.MCH	Mean Corpuscular Hemoglobin
	2-5.MCHC	Mean Corpuscular Hemoglobin Concentration
	2-6.RDW-SD	Red Blood Cell Distribution Width - Standard Deviation
	2-7.RDW-CV	Red Blood Cell Distribution Width - Coefficient of Variation
	2-8.HDW-SD	Hemoglobin Concentration Distribution Width - Standard Deviation
	2-9.HDW-CV	Hemoglobin Concentration Distribution Width - Coefficient of Variation
	2-10.RET#	Reticulocyte number
	2-11.RET%	Reticulocyte percentage
	2-12.NRBC#	Nucleated red blood cell number
	2-13.NRBC/WBC%	Nucleated red blood cell percentage
	2-14.ETG#	Erythrocyte Ghost number
	2-15.ETG%	Erythrocyte Ghost percentage
	2-16.SPH#	Spherocyte

	2-17.SPH%	Spherocyte percentage
	2-18.AGG#	Agglutinate erythrocytes
Platelet System(7 items)	3.PLT	Platelet count
	3-1.PCT	Plateletcrit
	3-2.MPV	Mean Platelet Volume
	3-3.LPLT#	Large Platelet number
	3-4.P-LCR	Platelet Large Cell Ratio
	3-5.APLT#	Agglutinate Platelet number
	3-6.PDW-SD	Platelet Distribution Width - Standard Deviation
	3-7.PDW-CV	Platelet Distribution Width - Coefficient of Variation

2.2.1.3. Blood sample for Reptiles

The instrument generates 26 report parameters for reptiles blood sample, including one histogram (RBC-PLT CV), two scatter plots (CH-CV, CHC-CV), and one clinical diagnostic hint.

The specific details of the 26 blood reporting parameters are presented in the table below:

Parameter system	English abbreviation	English name
WBC System (8 items)	1.WBC	White Blood Cell count
	1-1.HET&EOS#	Heterophil and eosinophil number
	1-2.LYM#	Lymphocytes number
	1-3.MON#	Monocytes number
	1-4.BAS#	Basophils number

	1-5.HET&EOS%	Heterophil and eosinophil percentage
	1-6.LYM%	Lymphocytes percentage
	1-7.MON%	Monocytes percentage
	1-8.BAS%	Basophils percentage
RBC System (11 items)	2.RBC	Red Blood Cell count
	2-1.HGB	Hemoglobin Concentration
	2-2.HCT	Hematocrit
	2-3.MCV	Mean Corpuscular Volume
	2-4.MCH	Mean Corpuscular Hemoglobin
	2-5.MCHC	Mean Corpuscular Hemoglobin Concentration
	2-6.RDW-SD	Red Blood Cell Distribution Width - Standard Deviation
	2-7.RDW-CV	Red Blood Cell Distribution Width - Coefficient of Variation
	2-8.IRBC#	Juvenile erythrocyte number
	2-9.IRBC%	Juvenile erythrocyte percentage
	2-10.ETG#	Erythrocyte Ghost number
	2-11.ETG%	Erythrocyte Ghost percentage
Thrombocyte system(2 items)	3.TC	Thrombocyte count
	3-1.CTC#	Coagulated Thrombocyte Count
	3-2.CTC%	Coagulated Thrombocyte Count
Blood parasite	4.Blood parasite	Blood parasite
	4-1.HAE#	Hepatozoon

system(1 item)		

2.2.2. Feces Sample Type Double Channel Chip (Left and Right)

The instrument provides 32 report parameters, one clinical diagnosis hint, and one flora distribution map.

The specific details of the 32 blood reporting parameters are presented in the table below:

Number	Abbreviations	English name
1	Parasite egg	
1-1	ALE#	Ascaris
1-2	ANE#	Hookworm
1-3	CEE#	Tapeworm
1-4	DIP#	Dipylidium caninum
1-5	SPI#	Spirometra
1-6	TRE#	Alaria alata
2	Intestinal protozoa.	
2-1	TRI#	Trichomonas
2-2	GIA#	Giardia
2-3	GIAT#	Giardia Trophozoite
2-4	GIAC#	Giardia Cyst
2-5	COD#	Isosporium coccidia
2-6	COD0#	Isosporium coccidia 0
2-7	COD1#	Isosporium coccidia 1
2-8	COD2#	Isosporium coccidia 2
3	Germ	
3-1	COS#	Cocci

3-2	BACI#	Rods
3-3	SBAC#	Brevibacterium
3-4	CBAC#	Crude bacilli
3-5	TBAC#	Thin bacilli
3-6	C/B	Cocci/Rods
3-7	CAM#	Campylobacter
3-8	BAC#	Bacillus
3-9	SS1#	Serpentine spirochetes
3-10	SS2#	Helicobacter
3-11	YEA#	Yeast
4	Cells	
4-1	RBC#	Red Blood Cell
4-2	WBC#	White Blood Cell
4-3	EPC#	Epithelial cells
5	Digestive function	
5-1	STA#	Starch granule
5-2	LFAT#	Lipid drop
5-3	PLA#	Plant fiber
5-4	AF#	Muscle fiber

Note：Giardia refers to both the Giardia trophozoite and the Giardia cyst

2.2.3. Urine Sample Type Double Channel Chip (left and right)

The instrument generates 21 reporting parameters, provides one clinical diagnosis hint, and includes a urine sediment distribution photo.

The specific details of the 21 blood reporting parameters are presented in the table below:

Number	Abbreviations	Inspection items
1	Cast	

1-1	HYA#	Hyaline Cast
1-2	CEC#	Cellular Cast
1-3	GRA#	Granule Cast
1-4	WAC#	Waxy Cast
2	Crystal	
2-1	MAP#	Struvite#
2-2	COMC#	Calcium oxalate monohydrate#
2-3	COD#	Calcium oxalate dihydrate#
2-4	CP#	Calcium phosphate#
2-5	UAC#	Uric acid
2-6	CYSC#	Cystine
3	Cells	
3-1	RBC#	Red Blood Cells
3-2	WBC#	White Blood Cells
3-3	RTE#	Renal tubular epithelial cell
3-4	SEC#	Squamous epithelial cell
3-5	TEC#	Transitional epithelial cell
3-6	SPE#	Sperm
4	Germ	
4-1	COS#	Cocci
4-2	BAC#	Bacillus
4-3	YEA#	Yeast
5	Others	
5-1	FAT#	Lipid drop
5-2	PHL#	MUCUS

2.2.4. Ascites Sample Type Double Channel Chip (left and right)(Optional item)

The instrument provides 19 report parameters, one clinical diagnosis hint

The specific details of the 19 blood reporting parameters are presented in the table below:

Number	Abbreviations	Inspection items
1	Nucleated cell	
1-1	TNCC#	Total Nucleated Cell Count
1-2	INC#	Inflamatory Cell Count
1-3	GRL#	Total Nucleated Cell Count
1-4	NEU#	Neutrophils
1-5	HYD#	Degenerative neutrophil count(D-NEU#)
1-6	NEU%	Neutrophils
1-7	HYD%	Degenerative neutrophil count (D-NEU%)
1-8	LYM#	Lymphocytes
1-9	MAPC#	Macrophage(Mϕ#)
1-10	GRL#/TNCC#	Granulocyte percentage
1-11	LYM#/TNCC#	Lymphocytes percentage
1-12	(MAPC#/TNCC#	Macrophage percentage(Mϕ#/TNCC#)
1-13	MEC#	Mesothelial cell count(MCs#)
1-14	PHC#	Phagocytic cell
1-15	UCC#	Unclassified nucleated cells
2	Erythrocytes	
2-1	RBC#	Red Blood Cells
2-2	PCV%	Pack Cell Volume
3	Microorganisms	
3-1	BAC#	Rods

3-2	COS#	Cocci

2.3. Product Description

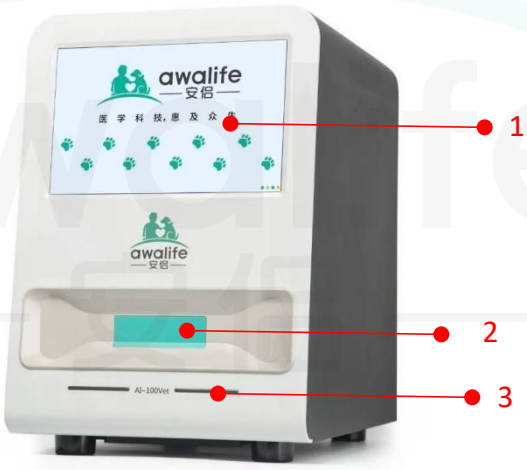
Composition and Physical Specifications of the AI-100Vet Multifunctional Morphological Analyzer**

The AI-100Vet multifunctional morphological analyzer is primarily composed of display and touch components, micrograph components, sample components, AI analysis components, and power components.

Physical Dimensions and Appearance:

- Width: 335 mm
- Length: 500 mm
- Height: 500 mm
- Weight: 30 kg

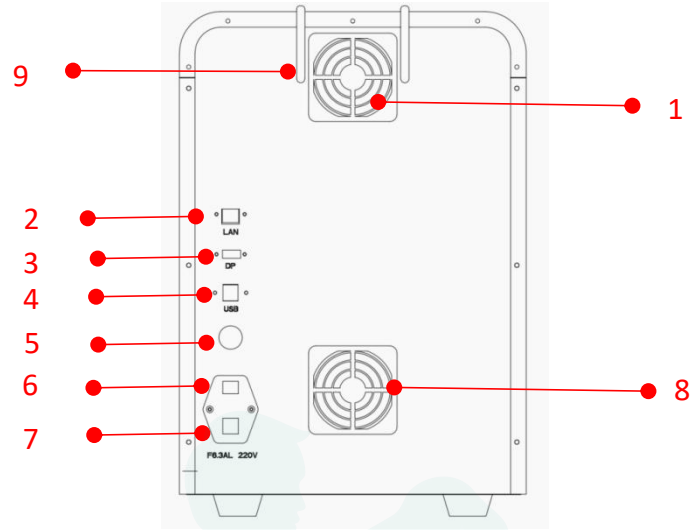
The product's front's appearance is designed to be compact and efficient, facilitating ease of use in various laboratory settings.



1) Display and Touchscreen
2) Chip Placement Port
3) Power Indicator

The rear view of the AI-100Vet multifunctional morphological analyzer is depicted below, showcasing the arrangement and accessibility of various ports and

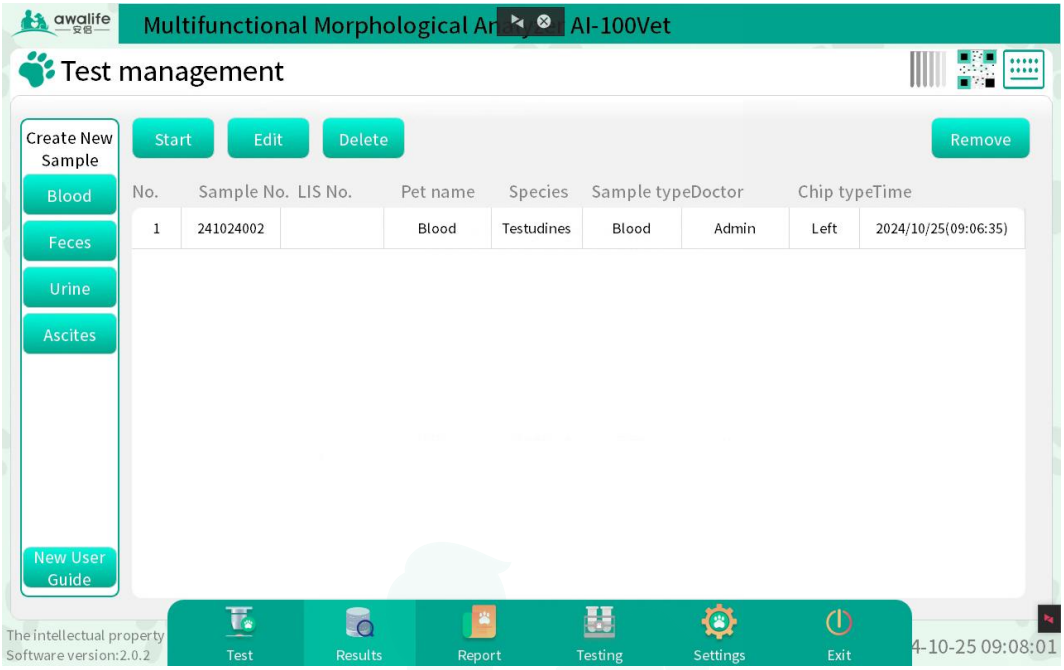
components essential for its operation. This layout is specifically designed to facilitate easy connections and maintenance.



1) Intake Vent
2) Network Port(LAN)
3) Display Port(DP)
4) USB3.0 Interface x2
5) Power Button
6) Power Switch
7) Power Supply Connector
8) Exhaust Vent
9) Wi-Fi Antenna

2.4. Main Menu

To display the menu navigation bar, tap the lower center of the touch screen. The navigation bar will appear as illustrated in the image below. From left to right at the top right corner of the main interface: Turbidity Card icon, QR Code for the company's official website, and Keyboard icon for system.



2.5. Reagent

Stain reagent

Stain Reagent Usage Guidelines

To stain various species and sample types, consult the specific reagent instructions or the operation guide image on the new sample interface of the software for specific procedures and the required volume of the original sample prior to staining

Important Note:Do not mix staining reagents intended for different species or sample types.

Chip

Procedure for Testing Stained Samples

Once samples have been stained, they should be loaded onto the appropriate chip. This chip is then inserted into the machine for analysis. For the precise volume of sample to be mixed after staining, refer to the guidelines provided in the corresponding reagent instructions.

Important Note:Chips designated for different sample types must not be mixed.

ChapterIII Operation Mechanics

3.1. Overview

The AI-100VET utilizes advanced liquid staining technology, microscopic imaging technology, and AI recognition technology to analyze and detect morphological characteristics in blood, feces, and urine samples.

3.2. Blood Testing

Blood Sample Preparation and Analysis Procedure

1. Using a pipette gun, collect 10μL of fresh blood and combine fully it with the stain reagent to prepare the sample mixture.
2. Aspirate 150μL the prepared sample mixture and transfer it into the designated chip.
3. Insert the chip into the analyzer and initiate the test. The machine will automatically focus and capture images.
4. The integrated AI algorithm processes the images, recognizes key features, and calculates blood test parameters based on the data captured.

Important Note: The procedure outlined is illustrative. For sample preparation, please consult the operation guideline in the "Create New Sample" interface of the software, and suggest to use the New User Guide Mode for the specific steps of the test operation.

3.3. Feces Testing

Feces Sample Preparation and Analysis Procedure

1. Determine the appropriate volume of fresh feces to use based on the turbidimetric card specifications.
2. Using a pipette gun, extract the specified amount of the original feces sample and mix fully it with the staining reagent.

3. Leave the lid open for 1min and wait for the test material to settle.

4. Aspirate 150μL of the sample mixture from the bottom of tube and deposit it onto the designated chip.

5. Insert the chip into the analyzer and commence the test. The machine will automatically adjust focus and capture images.

6. The AI algorithm processes these images, identifies relevant features, and computes the feces testing parameters accordingly.

Note: The procedure outlined is illustrative. For sample preparation, please consult the operation guideline in the "Create New Sample" interface of the software, and suggest to use the New User Guide Mode for the specific steps of the test operation.

3.4. Urine Testing

Urine Sample Preparation and Analysis Procedure

1. Use a pipette gun to extract 500μL of the original urine sample from the bottom of tube and combine fully it with the dye solution.

2. Aspirate 150μL of the resulting sample mixture and deposit it onto the appropriate chip.

3. Initiate the test by inserting the chip into the analyzer, which will then automatically adjust focus and capture images.

4. The AI algorithm processes these images, identifies relevant features, and calculates the urine testing parameters.

Important Note: The procedure outlined is illustrative. For sample preparation, please consult the operation guideline in the "Create New Sample" interface of the software, and suggest to use the New User Guide Mode for the specific steps of the test operation.

3.5. Ascites Testing (Optional item)

Ascites Sample Preparation and Analysis Procedure

1. Determine the appropriate volume of fresh ascites to use based on the turbidimetric card specifications.

2. Using a pipette gun, extract the specified amount of the original ascites sample and mix fully it with the staining reagent.

3. Aspirate 150μL of the sample mixture and deposit it onto the designated chip.

4. Insert the chip into the analyzer and commence the test. The machine will automatically adjust focus and capture images.

5. The AI algorithm processes these images, identifies relevant features, and computes the ascites testing parameters accordingly.

Note: The procedure outlined is illustrative. For sample preparation, please consult the operation guideline in the "Create New Sample" interface of the software, and suggest to use the New User Guide Mode for the specific steps of the test operation.

ChapterIV Installation

4.1. Overview

System Handling and Installation Guidelines

Authorized Personnel Requirement: Only personnel authorized and trained by Shenzhen Anlv Medical Technology Co., Ltd. should unpack, or install the system. Unauthorized handling may lead to personal injury or damage to the analyzer. Do not open the box or proceed with installation without the presence of an authorized representative.

Software Management: Installation, verification, upgrades, and modifications to the software supporting the multifunctional morphological analyzer must be executed solely by authorized personnel from Shenzhen Anlv Medical Technology Co., Ltd.

System Integration Safety: If the device is integrated as part of a larger system, the system builder is responsible for the safety of the entire setup.

Product Integrity Check: Upon opening the packaging, verify the product's integrity against the packing list. Contact the Anlv Medical service department or your local agent immediately if any parts are missing.

XY Platform Precautions: Do not power on the XY platform before removing the hand screw as this could damage the machine. Before transporting the machine a second time, re-install the XY platform hand screw to prevent damage during transport due to movement of the platform.

Shipping and Handling: The analyzer undergoes rigorous testing and is carefully packaged prior to shipment to ensure it is protected from impact. Upon receipt, inspect the packaging for any physical damage. Report any damages immediately to the service department of Shenzhen Anlv Medical Technology Co., Ltd. or your local agent or distributor.

4.2. Installation Requirements

4.2.1. Handling and Installation Methods

Authorized Personnel Only: Unpacking or installation must be performed by personnel authorized and trained by Shenzhen Anlv Medical Technology Co., Ltd. Unauthorized handling may cause personal injury or damage to the host.
Do not open the box or install the host without the presence of authorized personnel.
Transportation Precautions: During transportation, the operating components are secured with hand screws to avoid damage to the moving parts.
Before powering on the instrument, remove the hand screws and fix the components as per the Installation Guide.
Installation Procedures: The analyzer must be carried and installed by authorized personnel of Shenzhen Anlv Medical Technology Co., Ltd.
Do not handle or install the analyzer without contacting the service department of Shenzhen Anlv Medical Technology Co., Ltd. or the local agent.

4.2.2. Method for Disassembly and Assembly of Components Before Power-on

Before powering on the instrument, it is necessary to remove the hand-tightening screws that fix the XY platform and install them in the designated position, as well as install the external antenna. Please follow the instructions in the "Installation Guide" for disassembly and installation.
Disassembly Steps for the Moving Component Hand-Tightening Screws:
No Power-On: Do not power on the instrument before disassembling the XY platform's fixing screws.
Remove left panel: After hand-removing the three hand-tightening step screws from the left panel, slide the left panel off from the locking position on the cover of the main unit. (As shown in Figure 1)

Unscrew the screw: Unscrew the fixing screws counterclockwise (As shown in Figure 2).

Install the screws: Install the removed hand-tightening screws in the designated position (as shown in Figure 3).

Install the left panel: Slide the left panel back into the locking position on the instrument's cover and tighten it with the three hand-tightening step screws.

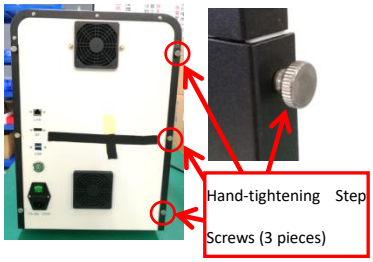


Figure 1

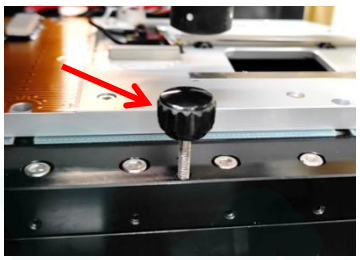
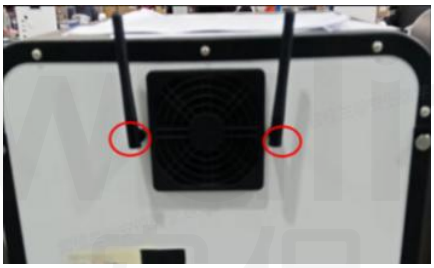


Figure 2

Figure 3

Steps for Installing the External Antenna:

Secure the two external antennas included with the device by tightening them clockwise.



Note: The positions of the fixing screws may vary between different batches of products. Please refer to the installation guide document that comes with the machine for details.

4.2.3. Space Requirements for Installation

To ensure proper repair, maintenance, and operation of the instrument, consider the following space requirements for installation:

Placement Height: Choose a suitable height for the host placement to facilitate easy access and maintenance.

Side Clearance: Maintain a minimum clearance of 50 cm between the left and right sides of the host and any doors or walls to accommodate opening and access.

Rear Clearance: Ensure at least 20 cm of space between the rear panel of the main engine and any wall to allow for adequate heat dissipation and cable connections.

Support Capacity: The mounting table or floor should be capable of supporting at least 50 kg to accommodate the weight of the host.

4.2.4. Power Requirements

Grounding Conditions: Ensure the host is used under proper grounding conditions.

Input Voltage: Verify that the input voltage meets the device requirements before starting the machine.

Installation Position: Do not install the device in a position where it is difficult to operate the disconnect device. Choose an installation location close to an electrical outlet to avoid additional electrical interference and potential faulty analysis results.

Plugboard Usage: Place the console in a location where a plugboard is not needed.

Power Cord Usage: Use only the power cord provided by the manufacturer, as it matches the power supply of the device. Using other power cords may damage the analyzer or cause false analysis results.

Power Cord Inspection: Check the power cord for bends before turning on the device.

Table 4-1 Power supply

	Voltage	Input Power	Frequency
AI-100Vet	100-240V AC	650VA	50/60HZ

4.2.5. Environmental Requirements

Operating Conditions	Temperature Range: 5 ℃ ~ 30 ℃ Humidity Range: 20% ~ 85%
Storage Conditions	Temperature Range: -40℃ ~ 40℃

Atmospheric Pressure	Range: 70.0kPa ~ 106.0kPa Altitude: -400m ~ 2000m
Usage	Indoor Use Only

Environmental Factors

Dust-Free Environment: Ensure the environment is as dust-free as possible.

Mechanical Vibration: Avoid locations with mechanical vibration.

Pollution-Free: The environment should be free from pollution.

Noise Sources: Avoid areas with large noise sources.

Power Interference: Ensure there is no power interference.

Electromagnetic Environment: Evaluate the electromagnetic environment of the laboratory before running the equipment. Keep the equipment away from strong electromagnetic interference sources to ensure normal operation.

Sunlight and Heat Sources: Avoid direct sunlight and locations in front of heat and wind sources.

Ventilation: Choose a well-ventilated location.

Placement: Do not place the machine on a bevel.

Grounding: Ensure a good grounding environment.

4.3. Precautions for Use

Dusty Environments: Prolonged exposure to a dusty environment may cause the performance of the instrument to decline.

Cleaning and Disinfection: Clean and disinfect the outer surface of the instrument regularly. It is recommended to use 75% alcohol for wiping.

Chip Sample Preparation: Prepare chip samples according to the prescribed method. Using an abnormal sampling process may cause harm.

Abnormal Noise or Stutter: If there is abnormal noise or stuttering of moving parts during use, stop using the instrument immediately and contact user service personnel for inspection or replacement.

Use of Designated Reagents: Use only the matching reagents designated by Shenzhen Anlv Medical Technology Co., Ltd. Using other reagents will lead to unreliable test results and may cause damage to the instrument.

Chip Validity: Pay attention to the validity period of the supporting chip. Do not use expired chips as extended use will lead to unreliable test results.

Fuse Specification: Fuse Specification: F6.3AL250V

ChapterV Testing and Reports Management

5.1. Chapter Outline

Daily Operation Process from Start-Up to Shutdown.

This chapter details the complete daily operational procedure of the analyzer, from powering on the device to shutting it down, with a focus on the specific operational processes for different sample test types.

Daily Operation Sequence:

1. Preparation Before Operation: Ensure all preparations are complete before starting the analyzer.
2. Startup: Power on the analyzer.
3. Sample Preparation: Prepare samples according to the type being analyzed.
4. Sample Analysis: Conduct the analysis using the prepared samples.
5. Shutdown: Properly shut down the analyzer after testing is completed.

Biohazard Precautions:

All materials (samples, reagents, waste liquids) and surfaces that encounter these substances may pose bio infectious hazards. Operators must adhere to laboratory safety protocols while handling such materials and surfaces. It is essential to wear personal protective equipment, including laboratory protective clothing, gloves, and goggles, to ensure safety during operations.

Safety Warnings and Precautions：

Handling Samples: Always avoid direct contact with blood specimens.

Waste Disposal Compliance: Operators must adhere to regional and national regulations for the disposal of expired reagents, waste liquids, waste samples, and consumables.

Reagent Safety: Reagents may irritate the eyes, skin, and mucous membranes. Operators should practice laboratory safety protocols when handling reagents, including wearing personal protective equipment such as laboratory protective clothing, gloves, and goggles.

Skin Contact: In the event of skin contact with reagents, rinse the area thoroughly with water. Seek medical attention if irritation persists.

Eye Contact: If reagents encounter the eyes, rinse immediately with plenty of water and seek medical attention without delay.

Safety Around Moving Parts: Maintain a safe distance from moving parts of the equipment to avoid injury. Keep clothing, hair, and hands clear of these areas.

Disposable Items: Do not reuse disposable items. They are intended for single use to ensure safety and prevent contamination.

5.2. Preparation before operation

Pre-Power Activation Checklist

Prior to activating the power supply of the host, operators must conduct the following checks to ensure system readiness:

Power Connection: Verify that the power plug of the host is securely connected to a suitable power outlet.

Reagent Validity: Ensure that the reagent being used has not exceeded its expiration date.5.3 Power on and user login.

5.3. Starting the Instrument Power Supply

1. **Activate Main Power**: Locate the "O/I" power switch at the back of the instrument and set it to "I" to turn on the main power supply.

2. **Power on the Machine**: Press the power button located at the rear of the instrument. Once activated, the power indicator on the rear of the machine will illuminate, signaling that the instrument is powered on. The instrument will then automatically perform a self-test and initiate the startup sequence.

3. **Version Information**: Located at the bottom left of the startup interface, this area shows the main program version number, MCU version number, FPGA version number, AI version number, and UI interface version number.

4. **Connection Status**: The lower right section of the interface indicates the status of connections, including the computer connection, AI model connection, camera connection, and the status of the mechanical reset.

No.	Description	Remarks
1	Self-check timeout (TCP)	Yellow indicates detection in progress. Green indicates self-check success.
2	Self-check (AI)	
3	Self-check (Camera)	
4	Self-check (mechanical reset)	

Note： All four squares turning green indicates that the device self-check are successful. If any square has not turned green, please follow the corresponding prompt to process. If you can not process, please contact agent or Anlv engineer.

Default Login Credentials and Access Procedure

Credentials: The default login account is "**admin**" and the password is "**123456**".

Logging In: To access the software interface, enter the correct username and password in the login dialog box and click

"Login".

5.4. New User Guide

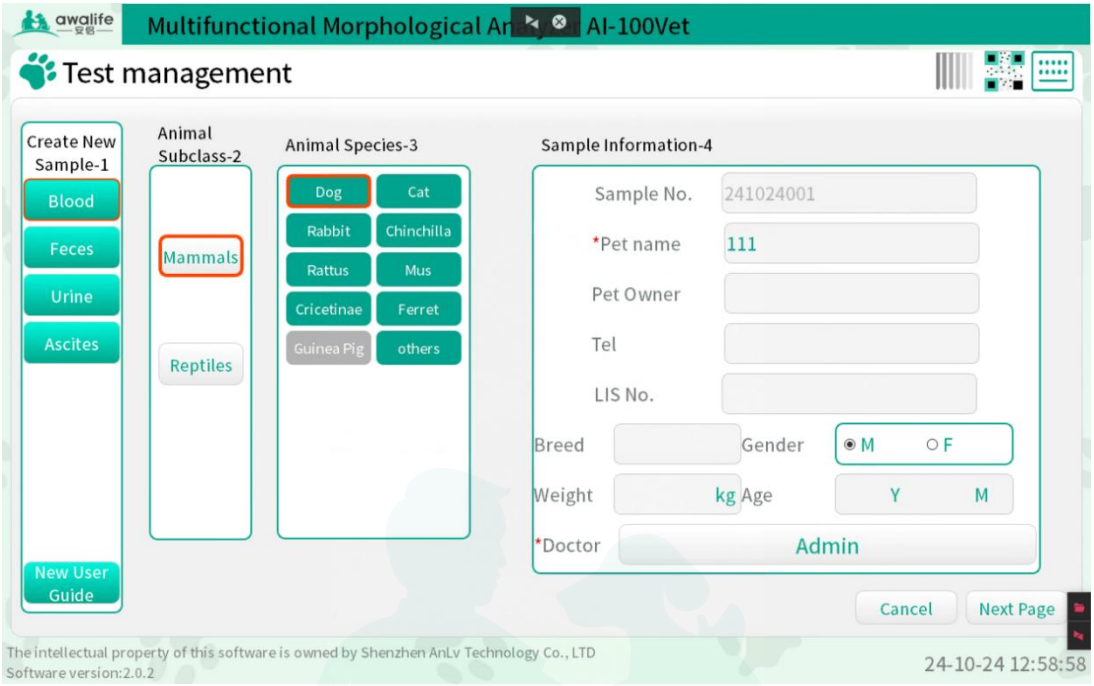
Click the "**New User Guide**" button of the left corner of the "**Test**" interface will enter the **New User Guide Mode** and user can follow the detail steps of creating new sample until starting to test. Additionally, users can enable the "**New User Guide**"switch in the system settings interface, the system will automatically enter the new user guide mode after starting the software.

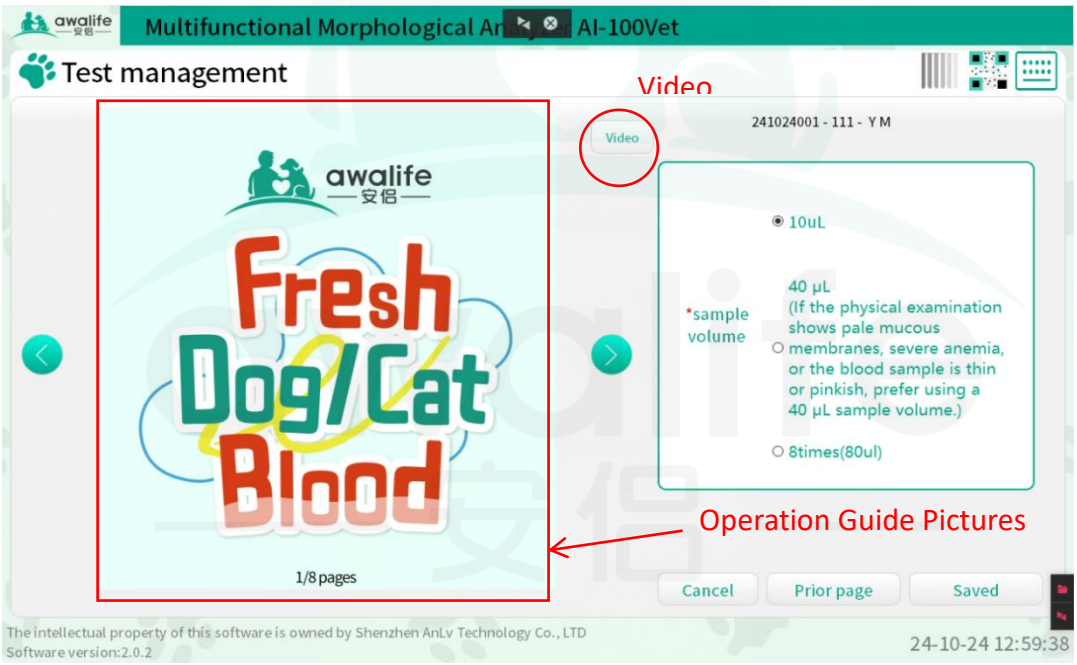
5.5. Operation Guide

The system provides comprehensive support for accessing resources that facilitate usage:

Resource Access:To display operation guide of pictures and video, tap the type of sample on the menu navigation bar of **Create New sample** and after inputting the

information of sample.





5.6. Sample Analysis

5.6.1. Blood sample analysis

Sample Preparation -- Input Information -- Add Sample to the Stain -- Chip Filling Pool -- Start Test -- Picture Review -- Diagnostic Tips -- Edit -- Print.

5.6.1.1. Sample preparation

Blood Sample Testing Capabilities and Guidelines

The instrument is equipped to conduct blood sample tests across multiple species, with additional species compatibility to be added in future software updates. For a comprehensive list of supported species, refer to the software testing interface.

Types of Blood Samples Tested:

Whole Blood Sample:

Description: Venous blood collected in a tube containing EDTA-K2、 EDTA-K3(Cat, dog and other mini mammals) or Heparin Lithium(Reptiles) as an anticoagulant according to different animal species.

Procedure: Ensure that the blood is thoroughly mixed with the anticoagulant to prevent clotting.

Peripheral Whole Blood Sample

Description: Blood collected using a sampling tube designed to capture peripheral whole blood.

Procedure: If the tube contains an anticoagulant, mix thoroughly to integrate the blood with the anticoagulant. If no anticoagulant is present, process the sample immediately to avoid agglutination and ensure the sample remains viable for testing.

5.6.1.2. Inputting Sample Information

To input sample information, follow these steps:

1. **Access Sample Input:** Click "Blood" below the menu of "**Create New Sample**" within the "**Test**" interface. A sample information input interface will appear.

2. **Input Details:**

Select the type of "**Animal Subclass**" and "**Animal Species**".

Enter the necessary "**Sample Information**".

Click "**Select the doctor**" to select doctor then click "**Next Page**".

Choose the "**Sample Volume**"(optional 10μL,40μL) as required.

3. **Saving Information:** After all selections have been made, click "**Save**" to store the sample details.

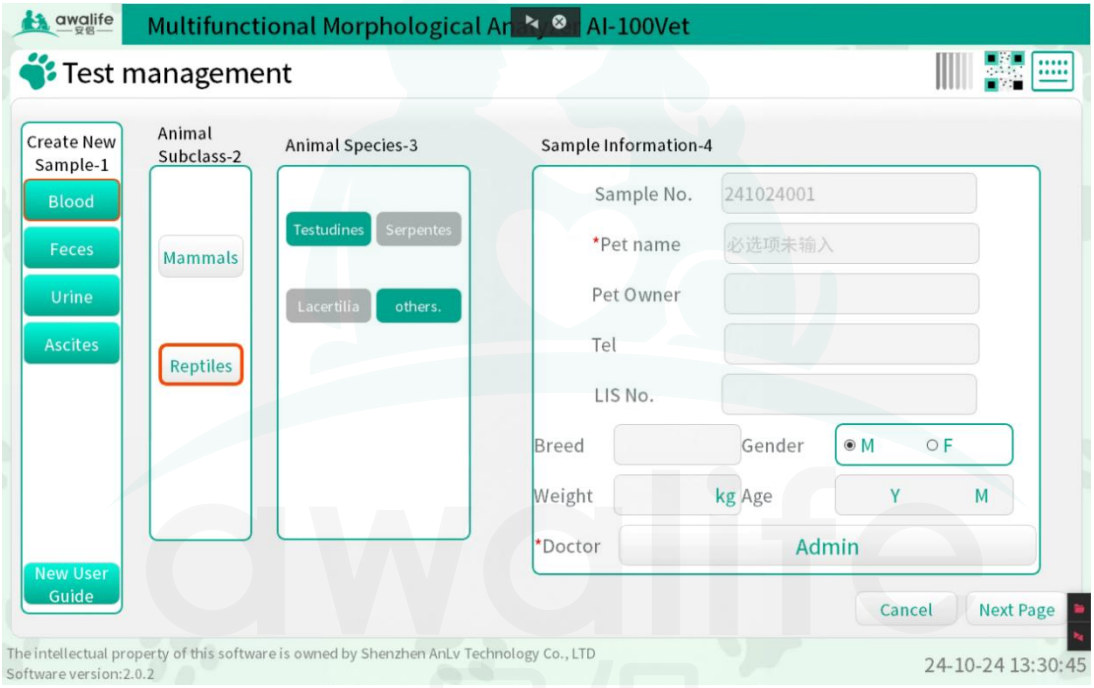
4. **Start test:** Select the sample to be test then click the "**Start**" button.

Required Inputs: Fields marked with an asterisk ("*") are mandatory and must be completed.

Blood Test Animal Subclass and Species:

Mammal: Includes dogs, cats, rabbits, chinchillas, rattus, mus, , Cricetinae,ferret and other mammals.

Reptile: Contains species such as turtles, and other reptiles.



5.6.1.3. Adding Sample to the Stain

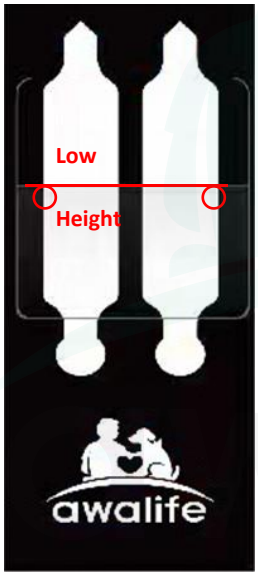
1. **Prepare Stain**: Utilize a single staining reagent designed for blood samples.

2. **Sample Preparation**: Using a pipette, take 10µL of the mixed blood sample and add it to the staining reagent. Mix thoroughly to ensure even staining.

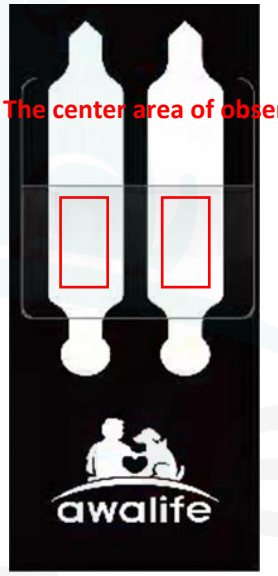
5.6.1.4. Chip Filling Pool

1. **Filling the Chip**: Carefully transfer 150μL of the stained sample mixture into the chip.

2. **Check for Bubbles**: If there are noticeable bubbles (diameter > 2mm) on both sides of the junction of the high and low channels, it will affect the detection and the cell needs to be refilled; if there are any bubbles in the central area of the observation, it will also affect the detection and the cell needs to be refilled; if there are no bubbles, it will not affect the detection, meaning that the cell filling is complete.



High and low channel junction



The center area of observation

5.6.1.5. Starting the Test Procedure

1. **Select Sample**: Identify and select the sample that needs to be tested within the system.

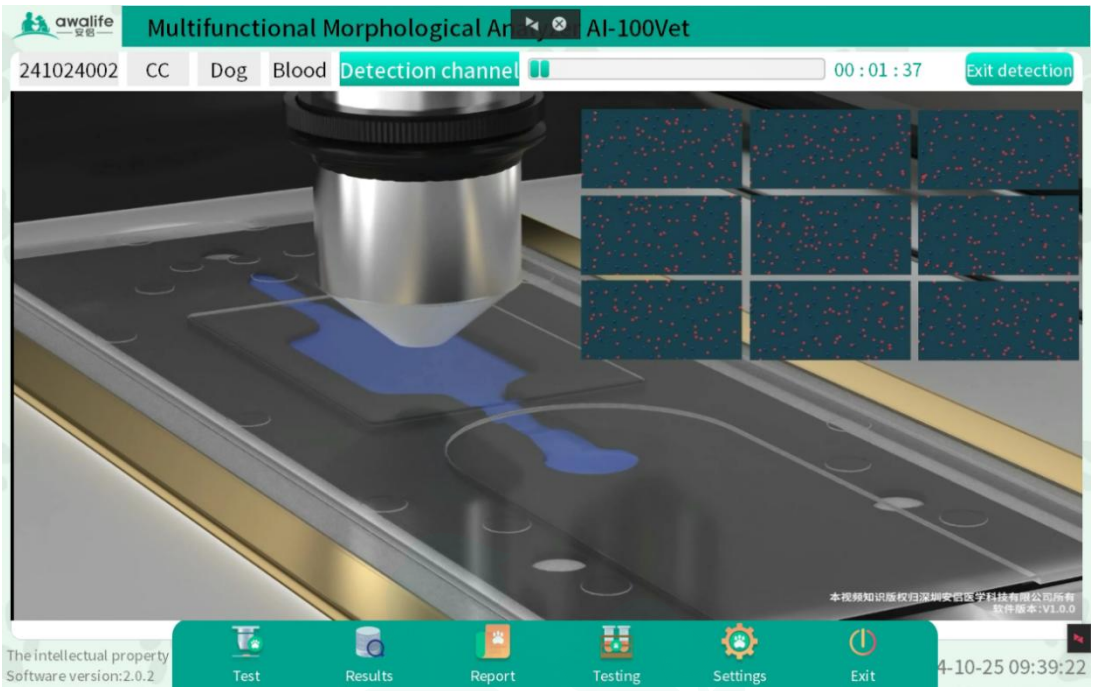
2. **Initiate Test**:Click on "**Start**" button then "***Chip channel selection**" popup will appears. After selecting channel type, the instrument will automatically perform a system reset and the chip holder will be presented.

3. **Inserting the Chip**: If no disruptive or obvious bubbles are present, insert the chip into the chip holder. Once properly placed, the chip holder will automatically retract.

4. **Automatic Recovery**: If no chip is placed within the 5-minute window, the chip holder will automatically retract back into the instrument.

5. **Testing Process**: The system will transition to the testing interface, displaying an animation of the testing process and real-time images.

6. **Result Display**: Upon completion of the test, the results will automatically be displayed on the interface.



5.6.1.6. Picture Review

1. **Accessing Picture Review**: After completing the test, click the "**Picture review**" button located in the upper right corner of the screen to open the picture review interface.

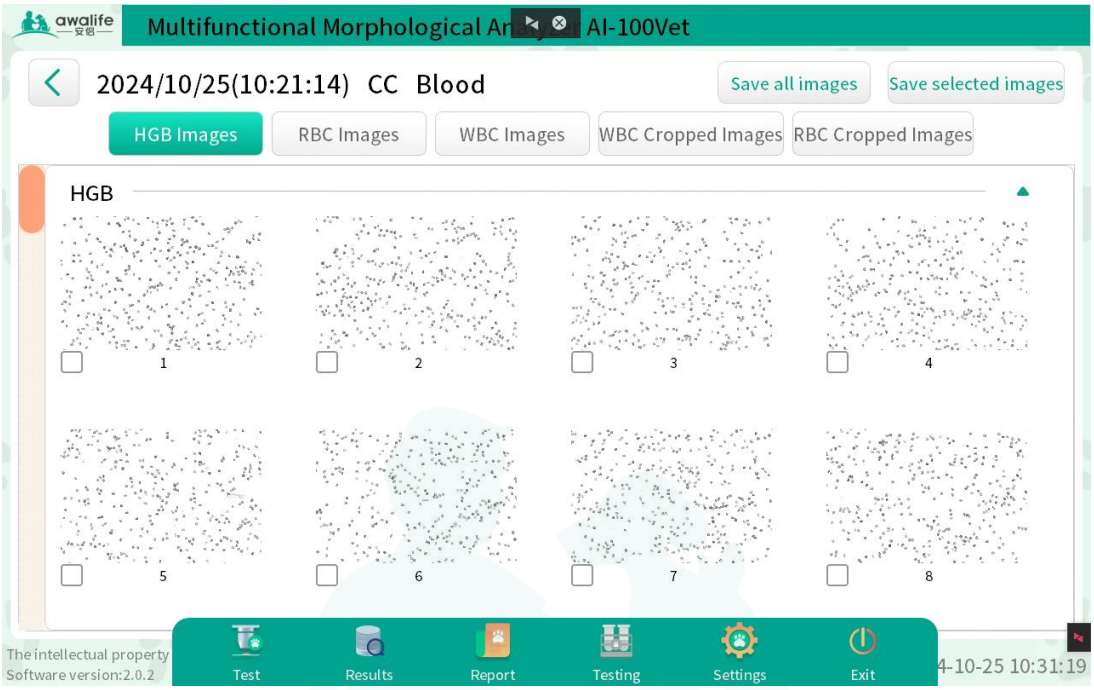
2. **Interface Layout**: The interface is organized into different sections for easier navigation, including:

- HGB Image
- RBC Image
- WBC Image
- WBC Cropped Image
- RBC Cropped Image

2. **Saving Options**: In the upper right corner of the interface, you have the option to "**Save All Images**"(check images via E:\anlv_image) or "**Save selected images**"(check images via E:\anlv_image) after manually selecting the desired images.

Note: Storing too many images will cause the hard drive (E drive) to become overly full, which may affect detection. If you need to store images, please regularly check if there is still available space on the hard drive (E drive); when the available space on

the hard drive is less than 20GB, you can delete previously stored images to free up space.



5.6.1.7. Diagnostic Tips

1. **Accessing Diagnostic Tips**: Click on "**Diagnosis Tips**" located in the upper right corner of the report display interface.

2. **Tip Levels**: The diagnostic tips are organized into three levels of detail:

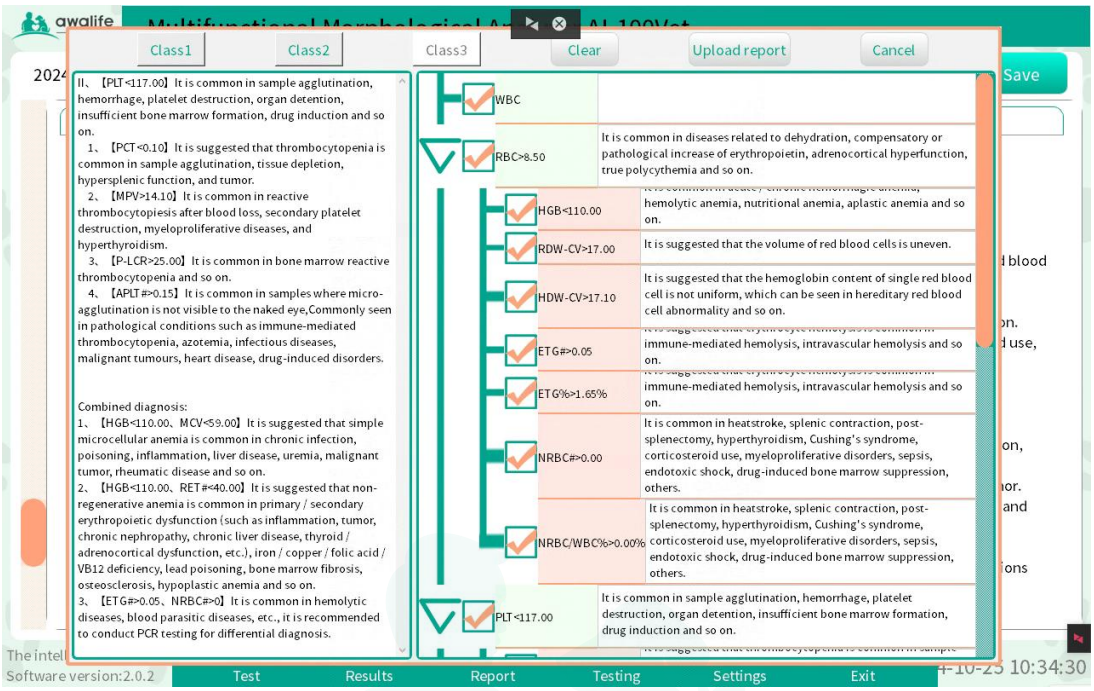
-Level 1

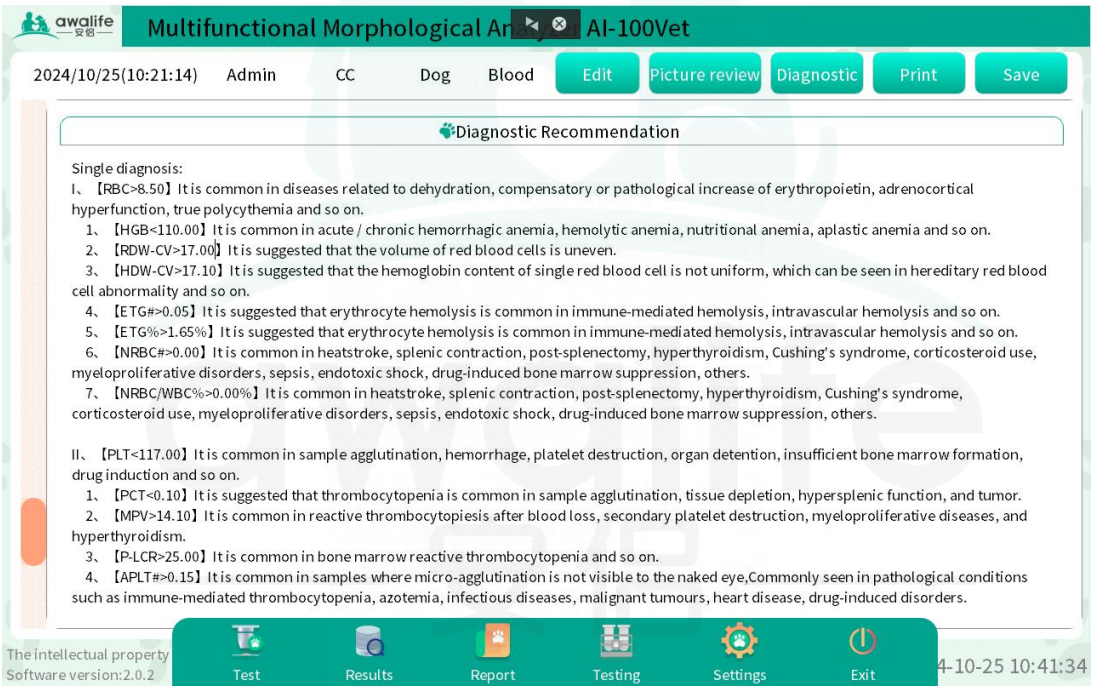
-Level 2

-Level 3

3. **Importing Tips into Report**: After reviewing the tips, click "**Upload report**" to include the selected clinical diagnosis tips directly in the report.

4. **Editing Diagnostic Tips**: You have the option to edit the "**Diagnostic tips**" through the report review function for any historical report, allowing for updates or corrections as necessary.





5.6.1.8. Editing the Report

"Edit" supports edit the information of report title.

1. **Accessing Edit Mode**: Click on "**Edit**" located at the upper corner of the report display interface to enter editing mode.

2. **Editing information:** Click on the report header information area to pop up the header information interface. After completing the information modification, click on "Save" to finalize the changes.

5.6.1.9. Saved the Report

After completing the "Edit" procedure, click on "Save Report" to save the edited report results.

5.6.1.10. Printing the Report

1. **Connection Check**: Ensure the instrument is properly connected to a printer.
2. **Accessing Print Options**: Click on "**Print preview**" located in the upper right corner of the report display interface to open the print preview interface.
3. **Printer Selection**: From the print preview interface, select the appropriate printer.
4. **Printing the Report**: After selecting the printer, click "**OK**" to begin printing the report. Ensure that the printer settings and paper are correctly configured for optimal print quality.

5.6.2. Feces Sample Testing

Sample Preparation -- Input Information -- Add Sample to the Stain -- Chip Filling Pool -- Start Test -- Picture Review -- Diagnostic Tips -- Edit -- Print.

5.6.2.1. Sample Preparation for Fecal Testing

1. **Scope of Testing**: The instrument currently supports fecal testing for dogs and cats. Additional species will be included as software updates are released. For a detailed list of supported species, refer to the content available through the software testing interface.
2. **Pre-treatment Methods**: The pre-treatment approach for feces samples depends on the method of collection:

Rectal Lavage: Feces samples obtained through rectal lavage with saline can be used directly for testing.

Natural Defecation: Samples collected via natural defecation must be diluted with an appropriate amount of normal saline prior to testing.

3. **Collection Recommendations**: It is not recommended to obtain fecal samples using anal swabs due to potential complications and suboptimal sample quality.

Note:For the specific operational steps of sample pre-treatment, please refer to the operational guide of pictures and video available on the “Creating New Sample”interface within the software.

5.6.2.2. Inputting Information for Fecal Testing

To input sample information, follow these steps:

1. Access Sample Input: Click "**Feces**" below the menu of "**Create New Sample**" within the "**Test**" interface. A sample information input interface will appear.

2. Input Details:

Select the type of "**Animal Subclass**" and "**Animal Species**"

Enter the necessary "**Sample Information**"

Click "**Select the doctor**" to select then click "**Next Page**"

"**Sample Vlolume**" fixed volume 150μL

Select test mode optional "**Standard mode(approximately 9 mins)**" and "**Enhanced mode(approximately 18 mins)**"

Select feces property "**Texture**","**Smell**", "**Color**"

3. **Saving Information**: After all selections have been made, click "**Saved**" to store the sample details.

Required Inputs: Fields marked with an asterisk ("*****") are mandatory and must be completed.

Feces Test Animal Subclass and Species:

Mammal: Includes dogs, cats, and other mammals.

Reptile: Contains species such as other reptiles.

Avians: Contains species such as other birds.

Note①: Fecal sample testing utilizes AI models specifically designed for dogs and cats for recognition and calculation. Due to the difference in intestinal environments between exotic pets and dogs/cats, fecal testing for exotic pets is only used to determine the presence of parasite eggs in the feces. Other test indicators are for reference only and it is recommended to combine the results with manual microscopic examination.

Note②: The enhanced mode significantly increases the number of images taken compared to the standard mode to improve the detection rate of parasite eggs, extending the detection time from approximately 9 mins to 18 mins.

5.6.2.3. Adding Sample to the Stain

1. **Selecting the Staining Reagent**: Use the single staining reagent designed for feces samples.

2. **Turbidity Measurement**: Click on the "turbidity control card" icon located in the upper right corner of the screen to compare the turbidity of the fecal sample.

3. **Adding the Sample**: Based on the measured turbidity, add 150μL of fecal sample to the staining reagent that sample concentration falls within the range between the highest and lowest acceptable concentrations.

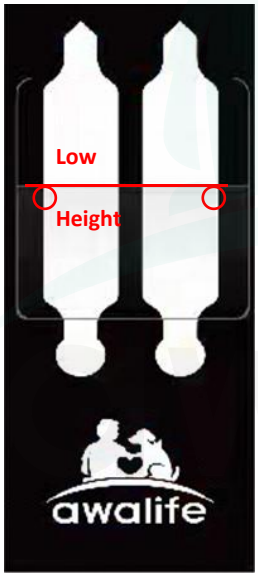
4. **Mixing the Reagent**: Thoroughly mix the sample with the staining reagent to ensure consistent staining across the sample.

Note: If the feces are too watery or too concentrated, please centrifuge or dilute the sample before adding it for staining. For specific operation steps of centrifuging or diluting, please refer to the operation guide of picture and video on the “Creating New Sample” interface of the software.

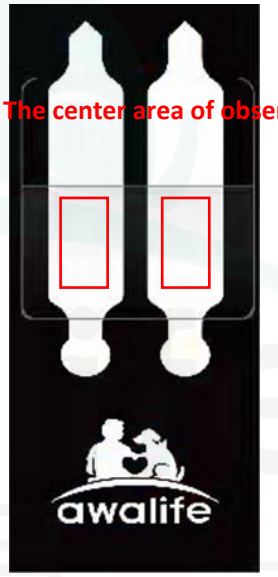
5.6.2.4. Chip Filling Pool

1. **Filling the Chip**: Leave the mixed solution uncovered and let it stand for 1 minute to allow the test substance to settle. Then, take 150 µL from the bottom and load it into the chip.

2. **Check for Bubbles**: If there are noticeable bubbles (diameter > 2mm) on both sides of the junction of the high and low channels, it will affect the detection and the cell needs to be refilled; if there are any bubbles in the central area of the observation, it will also affect the detection and the cell needs to be refilled; if there are no bubbles, it will not affect the detection, meaning that the cell filling is complete.



High and low channel junction



The center area of observation

5.6.2.5. Starting the Test Procedure

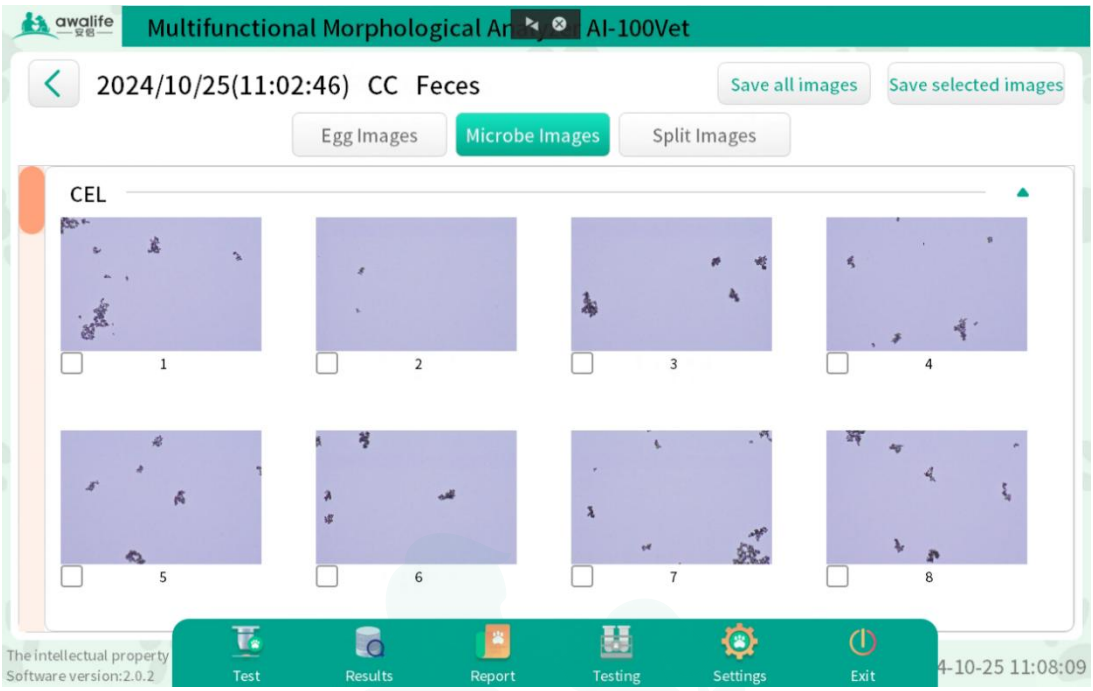
1. **Select Sample**: Identify and select the sample that needs to be tested within the system.

2. **Initiate Test**: Click "**Start**" button then "***Chip channel selection**", popup will appears. After selecting channel type, the instrument will automatically perform a system reset and the chip holder will be presented.

3. **Inserting the Chip**: If no disruptive or obvious bubbles are present, insert the chip into the chip holder. Once properly placed, the chip holder will automatically retract.
4. **Automatic Recovery**: If no chip is placed within the 5-minute window, the chip holder will automatically retract back into the instrument.
5. **Testing Process:** The system will transition to the testing interface, displaying an animation of the testing process and real-time images.
6. **Result Display:** Upon completion of the test, the results will automatically be displayed on the interface

5.6.2.6. Picture Review

1. **Accessing Picture Review**: After completing the test, click the "**Picture review**" button located in the upper right corner of the screen to open the picture review interface.
2. **Interface Layout**: The interface is organized into different galleries for easier navigation, including:
    - Egg Images
    - Microbial Images
    - Split Images
3. **Saving Options**: In the upper right corner of the interface, you have the option to "**Save All Images**" (check images via E:\anlv_image) or "**Save selected images**" (check images via E:\anlv_image) after manually selecting the desired images.
4. **Automatic Saving**: The system automatically saves the pictures from the last 20 tests to ensure data is preserved for further analysis or future reference.
Note: Storing too many images will cause the hard drive (E drive) to become overly full, which may affect detection. If you need to store images, please regularly check if there is still available space on the hard drive (E drive); when the available space on the hard drive is less than 20GB, you can delete previously stored images to free up space.

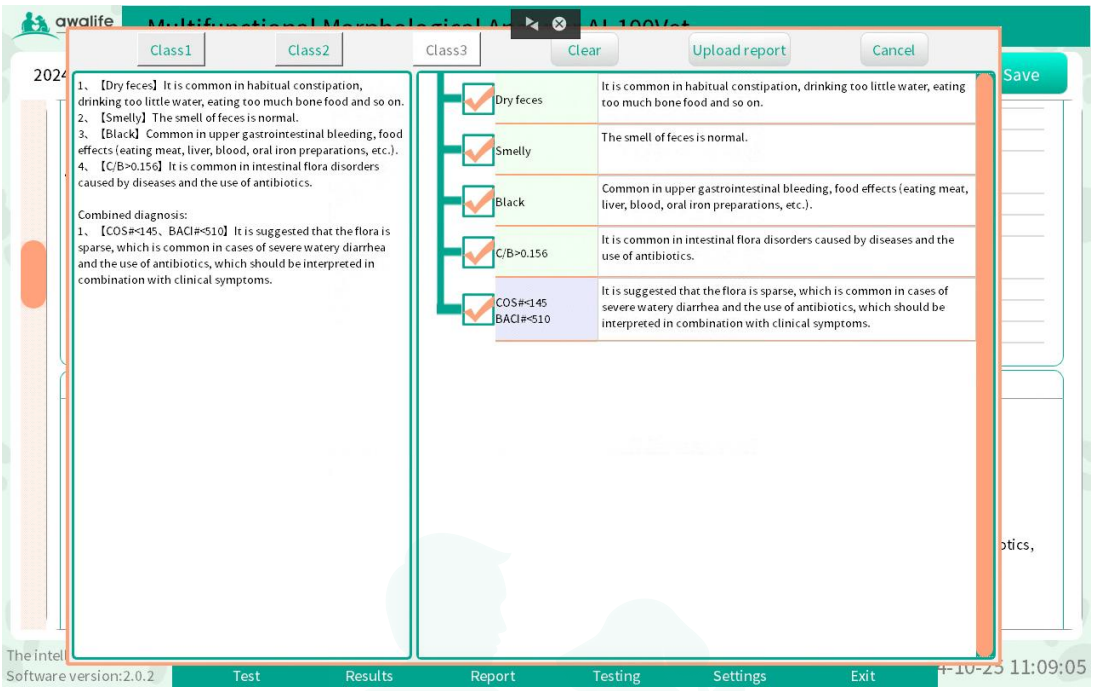


5.6.2.7. Diagnostic Tips for Feces Analysis

1. **Accessing Diagnostic Tips:** Click on "**Diagnosis tips**" located in the upper right corner of the report display interface. Unlike other tests, feces diagnosis tips are not categorized into levels.

2. **Importing Tips into Report:** After reviewing the available tips, click "**Import report**" to include the chosen clinical diagnosis tips in the final report. This allows for tailored advice based on the specific findings of the feces analysis.

3. **Editing Tips:** You have the option to revisit and modify the "**diagnostic tips**" through the report review function for any previously generated report. This feature facilitates updates or corrections to enhance the accuracy and relevance of diagnostic guidance in historical data.



5.6.2.8. Editing the Report

"Edit" supports edit the information of report title,and report parameter results, as well as the deletion of parameter values and images.

1. **Accessing Edit Mode**: Click on "**Edit**" located at the upper corner of the report display interface to enter editing mode.
2. **Editing report header information:** Click on the report header information area to pop up the header information interface. After completing the information modification, click on "Save" to finalize the changes.
3. **Editing parameter:** By clicking on a parameter indicator, the custom parameter box will pop up, allowing you to edit the parameter value.(If the parameter value is edited to 0, the corresponding cell morphology thumbnail will be automatically cleared.)
4. **Images deletion: L**ong-press on a cell morphology thumbnail to delete a single image or an entire row of images. (After deleting an entire row of images, the corresponding parameter values will automatically display as 0.)

5.6.2.9. Saved the Report

After completing the "Edit" procedure, click on "Save" to save the edited report results.

5.6.2.10. Printing the Report

1. **Connection Check**: Ensure the instrument is properly connected to a printer.
2. **Accessing Print Options**: Click on "**Print preview**" located in the upper right corner of the report display interface to open the print preview interface.
3. **Printer Selection**: From the print preview interface, select the appropriate printer.
4. **Printing the Report**: After selecting the printer, click "**OK**" to begin printing the report. Ensure that the printer settings and paper are correctly configured for optimal print quality.

5.6.3. Urine Sample Testing

Sample Preparation -- Input Information -- Add Sample to the Stain -- Chip Filling Pool -- Start Test -- Picture Review -- Diagnostic Tips -- Edit -- Print.

5.6.3.1. Sample Preparation

The instrument is equipped to conduct urine sample tests across multiple species, with additional species compatibility to be added in future software updates. For a comprehensive list of supported species, refer to the software testing interface.

Urine Testing Animal Subclass and Species:

Mammal: This category includes dogs, cats, and other mammals.

5.6.3.2. Input Information

To input sample information, follow these steps:

1. Access Sample Input:Click on "**Urine**" below the menu of "**Create New Sample**" within the "**Test**" interface. A sample information input interface will appear.

2. Input Details:

Select the type of "**Animal Subclass**" and "**Animal Species**"

Enter the necessary "**Sample Information.**"

Click "**Select the doctor**" then click "**Next Page**"

"**Sample Vlolume**" fixed volume 500μL

Select "**Dilution ratio**" type

Select urine property "**Clarity**","**Color**"

3. **Saving Information**: After all selections have been made, click "**Saved**" to store the sample details.

Required Inputs: Fields marked with an asterisk ("*") are mandatory and must be completed.

Note: For high concentration samples (such as jaundice urine, highly concentrated turbid urine, or hematuria), manual microscopy is recommended. If instrument testing is required, please refer to the operation guide pictures in the "**Create New Sample**" interface of the urine for specific steps.

5.6.3.3. Adding and Staining the Urine Sample

1. **Stain Preparation**: The urine stain used is in dry powder form.

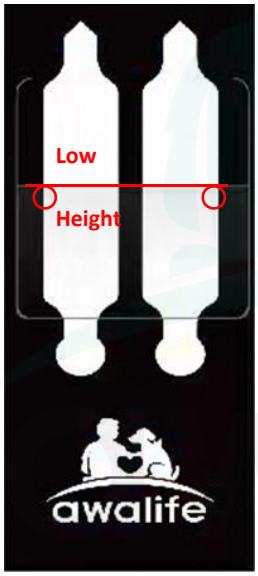
2. **Sample Addition**: Directly add 500μL of raw urine to the test tube containing the dry powder stain.

3. **Mixing Procedure**: Thoroughly mix the urine with the stain until the mixture is homogeneous and no visible dye sediment remains in the test tube. This ensures consistent staining across the sample for accurate analysis.

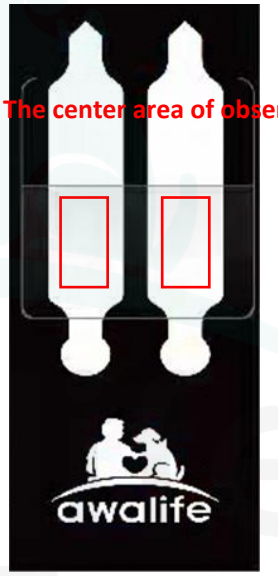
5.6.3.4. Chip Filling Pool

1. **Filling the Chip**: Carefully transfer 150μL of the stained sample from the bottom of tube mixture into the chip.

2. **Check for Bubbles**: If there are noticeable bubbles (diameter > 2mm) on both sides of the junction of the high and low channels, it will affect the detection and the cell needs to be refilled; if there are any bubbles in the central area of the observation, it will also affect the detection and the cell needs to be refilled; if there are no bubbles, it will not affect the detection, meaning that the cell filling is complete.



High and low channel junction



The center area of observation

5.6.3.5. Starting the Test Procedure

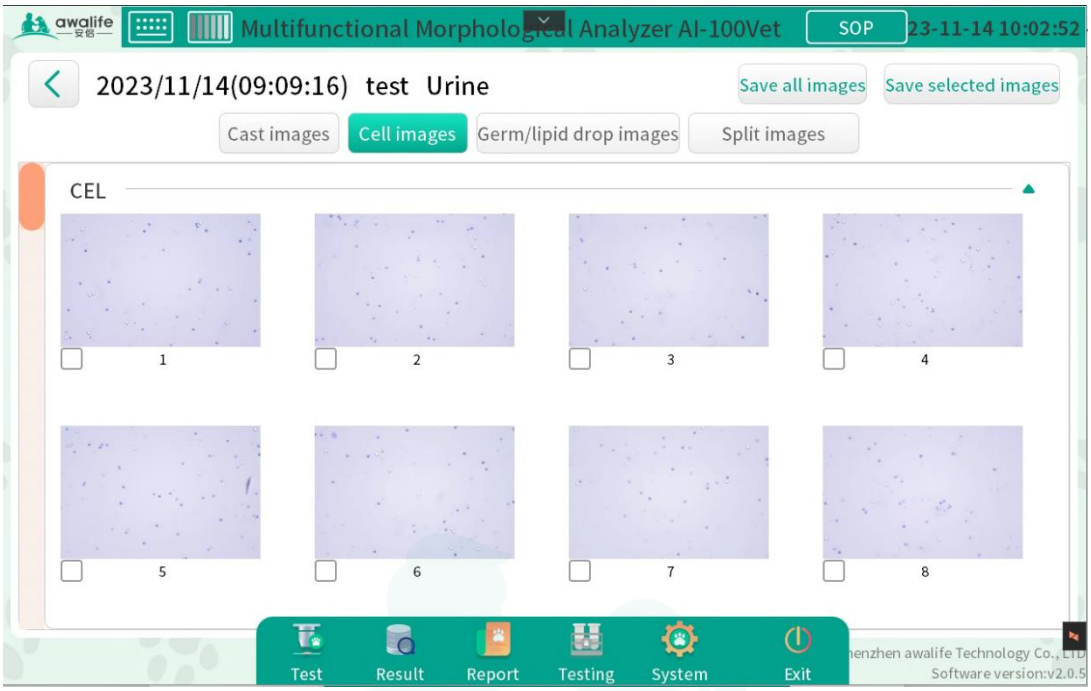
1. **Select Sample**: Identify and select the sample that needs to be tested within the system.

2. **Initiate Test**: Click "**Start**" button then "***Chip channel selection**"popup will appears. After selecting channel type, the instrument will automatically perform a system reset and the chip holder will be presented..

3. **Inserting the Chip**: If no disruptive or obvious bubbles are present, insert the chip into the chip holder. Once properly placed, the chip holder will automatically retract.
4. **Automatic Recovery**: If no chip is placed within the 5-minute window, the chip holder will automatically retract back into the instrument.
5. **Testing Process**: The system will transition to the testing interface, displaying an animation of the testing process and real-time images.
6. **Result Display**: Upon completion of the test, the results will automatically be displayed on the interface

5.6.3.6. Picture Review

1. **Accessing Picture Review**: After completing the test, click the "**Picture review**" button located in the upper right corner of the screen to open the picture review interface.
2. **Interface Layout**: The interface is organized into different galleries for easier navigation, including:
    - Cast Images
    - Cell Images
    - Germ/lipid droplets images
    - Split Images
3. **Saving Options**: In the upper right corner of the interface, you have the option to "S**ave All Images**" (check images via E:\anlv_image) or "**Save selected Images**" (check images via E:\anlv_image) after manually selecting the desired images.
4. **Automatic Saving**: The system automatically saves the pictures from the last 20 tests to ensure data is preserved for further analysis or future reference.
Note: Storing too many images will cause the hard drive (E drive) to become overly full, which may affect detection. If you need to store images, please regularly check if there is still available space on the hard drive (E drive); when the available space on the hard drive is less than 20GB, you can delete previously stored images to free up space.

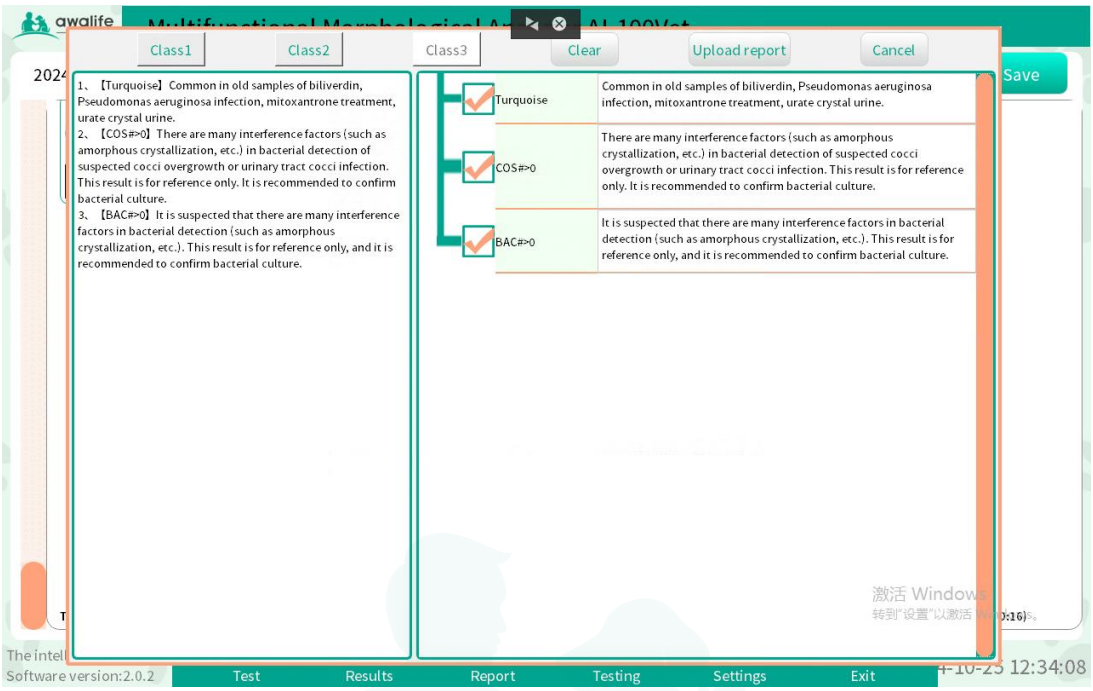


5.6.3.7. Diagnostic Tips for Urine Analysis

1. **Accessing Diagnostic Tips:** Click on "**Diagnosis tips**" located in the upper right corner of the report display interface. Unlike other tests, urine diagnosis tips are not categorized into levels.

2. **Importing Tips into Report:** After reviewing the available tips, click "**Import report**" to include the chosen clinical diagnosis tips in the final report. This allows for tailored advice based on the specific findings of the urine analysis.

3. **Editing Tips:** You have the option to revisit and modify the "**diagnostic tips**" through the report review function for any previously generated report. This feature facilitates updates or corrections to enhance the accuracy and relevance of diagnostic guidance in historical data.



5.6.3.8. Editing the Report

"Edit" supports edit the information of report title,and report parameter results, as well as the deletion of parameter values and images.

1. **Accessing Edit Mode**: Click on "**Edit**" located at the upper corner of the report display interface to enter editing mode.
2. **Editing report header information:** Click on the report header information area to pop up the header information interface. After completing the information modification, click on "Save" to finalize the changes.
3. **Editing parameter:** By clicking on a parameter indicator, the custom parameter box will pop up, allowing you to edit the parameter value.(If the parameter value is edited to 0, the corresponding cell morphology thumbnail will be automatically cleared.)
4. **Images deletion: L**ong-press on a cell morphology thumbnail to delete a single image or an entire row of images. (After deleting an entire row of images, the corresponding parameter values will automatically display as 0.)

5.6.3.9. Saved the Report

After completing the "Edit" procedure, click on "Save" to save the edited report results.

5.6.3.10. Printing the Report

1. **Connection Check**: Ensure the instrument is properly connected to a printer.
2. **Accessing Print Options**: Click on "**Print preview**" located in the upper right corner of the report display interface to open the print preview interface.
3. **Printer Selection**: From the print preview interface, select the appropriate printer.
4. **Printing the Report**: After selecting the printer, click "**OK**" to begin printing the report. Ensure that the printer settings and paper are correctly configured for optimal print quality.

5.6.4. Ascites Sample Testing (Optional item)

Sample Preparation -- Input Information -- Add Sample to the Stain -- Chip Filling Pool -- Start Test -- Picture Review -- Diagnostic Tips -- Edit -- Print.

5.6.4.1. Sample Preparation for Ascites Testing

1. **Scope of Testing**: The instrument currently supports ascites testing for dogs and cats. Additional species will be included as software updates are released. For a detailed list of supported species, refer to the content available through the software testing interface.

5.6.4.2. Inputting Information for Fecal Testing

To input sample information, follow these steps:

1. **Access Sample Input:** Click "**Ascites**" below the menu of "**Create New Sample**" within the "**Test**" interface. A sample information input interface will appear.

2. **Input Details:**

Select the type of "**Animal Subclass**" and "**Animal Species**".

Enter the necessary "**Sample Information**".

Click "**Select the doctor**" to select doctor then click "**Next Page**"

Select ascites property "**Clarity**", "**Color**", "**Protein concentration**", "**Smell**"

Select "**Sample Vlolume**" (optional 10μL, 150μL, the volume of before centrifugation)

3. **Saving Information**: After all selections have been made, click "**Saved**" to store the sample details.

Required Inputs: Fields marked with an asterisk ("*****") are mandatory and must be completed.

Ascites Test Animal Subclass and Species:

Mammal: Includes dogs and cats.

5.6.4.3. Adding Sample to the Stain

1. **Selecting the Staining Reagent**: Use the single staining reagent designed for ascites samples.

2. **Turbidity Measurement**: Click on the "**turbidity control card**" icon located in the upper right corner of the screen to compare the turbidity of the ascites sample.

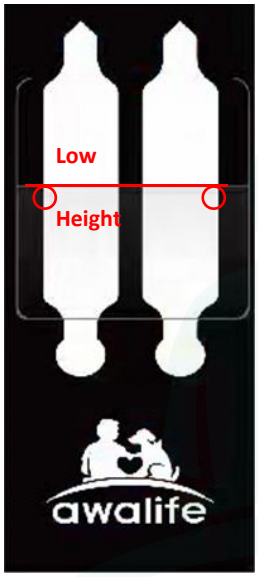
3. **Adding the Sample**: Based on the measured turbidity, add the ascites sample to the staining reagent that corresponds to the turbidity level.

4. **Mixing the Reagent**: Thoroughly mix the sample with the staining reagent to ensure consistent staining across the sample.

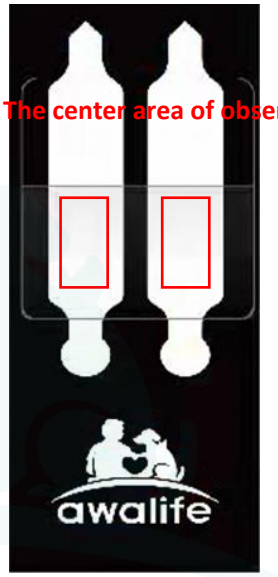
5.6.4.4. Chip Filling Pool

1. **Filling the Chip**: Carefully transfer 10uL, 150uL,the volume of before centrifugation (different sample volume depend on sample clarity) of the stained sample mixture into the chip.

2. **Check for Bubbles**: If there are noticeable bubbles (diameter > 2mm) on both sides of the junction of the high and low channels, it will affect the detection and the cell needs to be refilled; if there are any bubbles in the central area of the observation, it will also affect the detection and the cell needs to be refilled; if there are no bubbles, it will not affect the detection, meaning that the cell filling is complete.



High and low channel junction



The center area of observation

5.6.4.5. Starting the Test Procedure

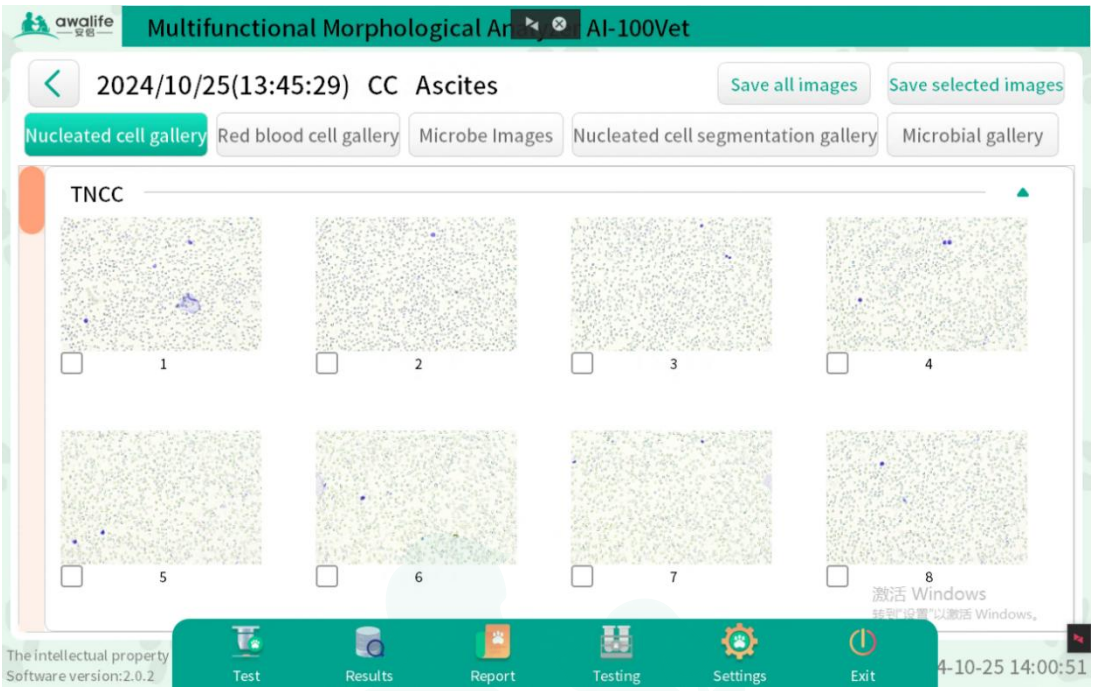
1. **Select Sample**: Identify and select the sample that needs to be tested within the system.
2. **Initiate Test**: Click "**Start**" button then "***Chip channel selection**"popup will appears. After selecting channel type, the instrument will automatically perform a system reset and the chip holder will be presented.
3. **Inserting the Chip**: If no disruptive or obvious bubbles are present, insert the chip into the chip holder. Once properly placed, the chip holder will automatically retract.
4. **Automatic Recovery**: If no chip is placed within the 5-minute window, the chip holder will automatically retract back into the instrument.

5. **Testing Process**: The system will transition to the testing interface, displaying an animation of the testing process and real-time images.
6. **Result Display**: Upon completion of the test, the results will automatically be displayed on the interface.

5.6.4.6. Picture Review

1. **Accessing Picture Review**: After completing the test, click the "**Picture review**" button located in the upper right corner of the screen to open the picture review interface.
2. **Interface Layout**: The interface is organized into different galleries for easier navigation, including:
    - Nucleated cell gallery Images
    - Red blood cell gallery Images
    - Microbe Images
    - Nucleated cell segmentation gallery Images
    - Microbial gallery Images
3. **Saving Options**: In the upper right corner of the interface, you have the option to "**Save All Images**" pictures or "**Save selected pictures**" after manually selecting the desired images.
4. **Automatic Saving**: The system automatically saves the pictures from the last 20 tests to ensure data is preserved for further analysis or future reference.

Note: Storing too many images will cause the hard drive (E drive) to become overly full, which may affect detection. If you need to store images, please regularly check if there is still available space on the hard drive (E drive); when the available space on the hard drive is less than 20GB, you can delete previously stored images to free up space.

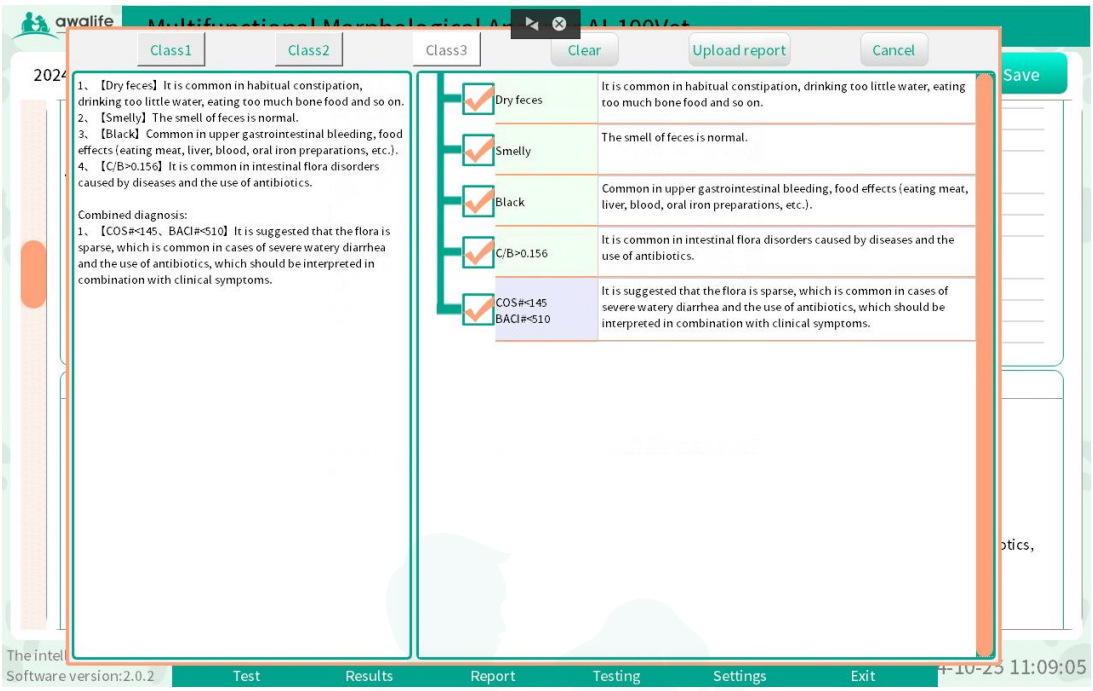


5.6.4.7. Diagnostic Tips for Ascites Analysis

1. Accessing Diagnostic Tips: Click on "**Diagnosis tips**" located in the upper right corner of the report display interface. Unlike other tests, ascites diagnosis tips are not categorized into levels.

2. Importing Tips into Report: After reviewing the available tips, click "**Import report**" to include the chosen clinical diagnosis tips in the final report. This allows for tailored advice based on the specific findings of the ascites analysis.

3. Editing Tips: You have the option to revisit and modify the "**Diagnostic tips**" through the report review function for any previously generated report. This feature facilitates updates or corrections to enhance the accuracy and relevance of diagnostic guidance in historical data.



5.6.4.8. Editing the Report

"Edit" supports edit the information of report title,report parameter results, sample property(color ,smell,clarity and protein concentration), as well as the deletion of parameter values and images.

1. **Accessing Edit Mode**: Click on "**Edit**" located at the upper corner of the report display interface to enter editing mode.
2. **Editing report header information:** Click on the report header information area to pop up the header information interface. After completing the information modification, click on "Save" to finalize the changes.
3. **Editing parameter:** By clicking on a parameter indicator, the custom parameter box will pop up, allowing you to edit the parameter value.(If the parameter value is edited to 0, the corresponding cell morphology thumbnail will be automatically cleared.)
4. **Images deletion: L**ong-press on a cell morphology thumbnail to delete a single image or an entire row of images. (After deleting an entire row of images, the corresponding parameter values will automatically display as 0.)

5.6.4.9. Saved the Report

After completing the "Edit" procedure, click on "Save" to save the edited report results.

5.6.4.10. Printing the Report

1. **Connection Check**: Ensure the instrument is properly connected to a printer.
2. **Accessing Print Options**: Click on "Print preview" located in the upper right corner of the report display interface to open the print preview interface.
3. **Printer Selection**: From the print preview interface, select the appropriate printer.
4. **Printing the Report**: After selecting the printer, click "OK" to begin printing the report. Ensure that the printer settings and paper are correctly configured for optimal print quality.

5.7. Results Management

5.7.1. Sample Restest

1. **Access Results Management Interface:** Navigate to the results management section within the system.
2. **Select Sample Record:** Choose the sample record you wish to retest from the list of historical entries.
3. **Sample Retest:** Click "Retest" located above the sample records to access the interface of creating new sample.
4. **Check or edit Details:** Check or edit sample information
5. **Saving Information:** After all selections have been check, click "Saved" to store the sample details. Then the sample to be retested will appear in the list of test to be detected.
6. **Start Test:** Select the sample to be retested then click "Start"

5.7.2. Send via LIS

1. **Access Results Interface:** Navigate to the results interface within the system.

2. **Select Sample Record:** Choose the sample record you wish to send via lis.

5.7.3. Report review

1. **Access Results Interface**: Navigate to the results interface within the system.

2. **Select Sample Record**: Choose the sample record you wish to review from the list of historical entries.

3. **Review Report**: Click on "Report Review" located above the sample records to access the report display interface.

4. **View Test Results**: In the report display interface, you can examine the test results for the selected sample, providing a detailed overview of the analysis conducted.

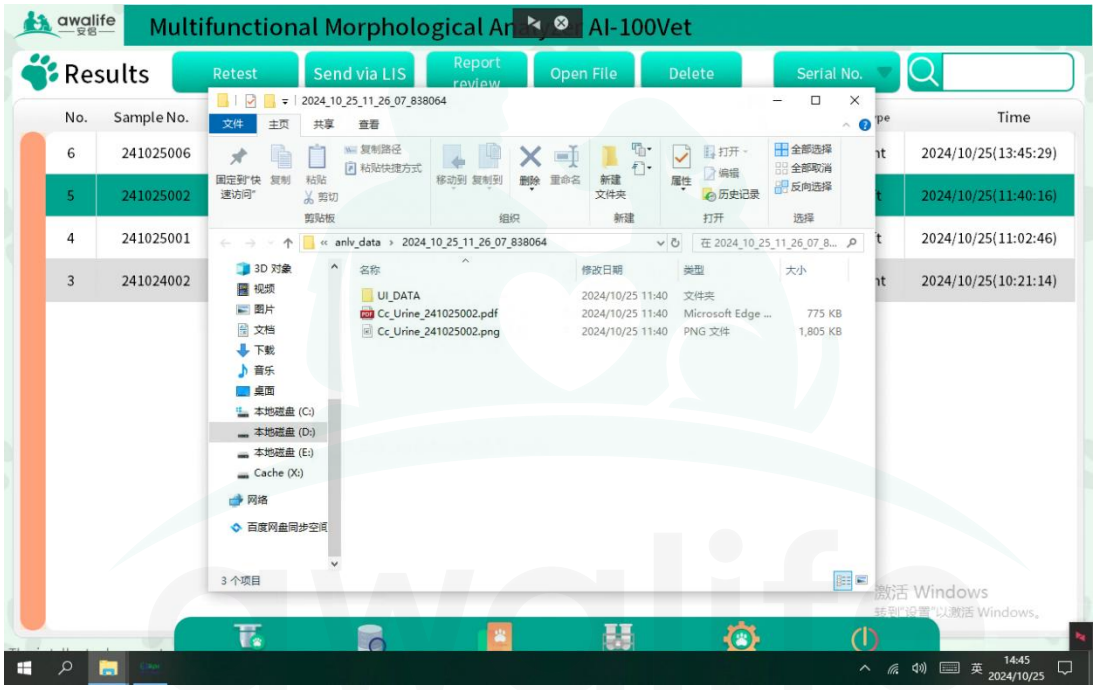
5.7.4. Opening the File

1. **Navigate to Results Interface**: Access the result interface within the system to locate the example reports.

2. **Select Sample Record**: Choose the specific sample record you want to view from the listed entries.

3. **Open File**: Click on "Open file" located at the top of the interface. This action will redirect you to the directory "D:\Awalife_data\XXX".

4. **View Report Files**: In this directory, you can view both PDF and PNG versions of the report, as well as the original images that correspond to the thumbnail pictures displayed within the report. This provides a comprehensive view of the test results and associated imagery.



5.7.5. Deleting a Sample Record

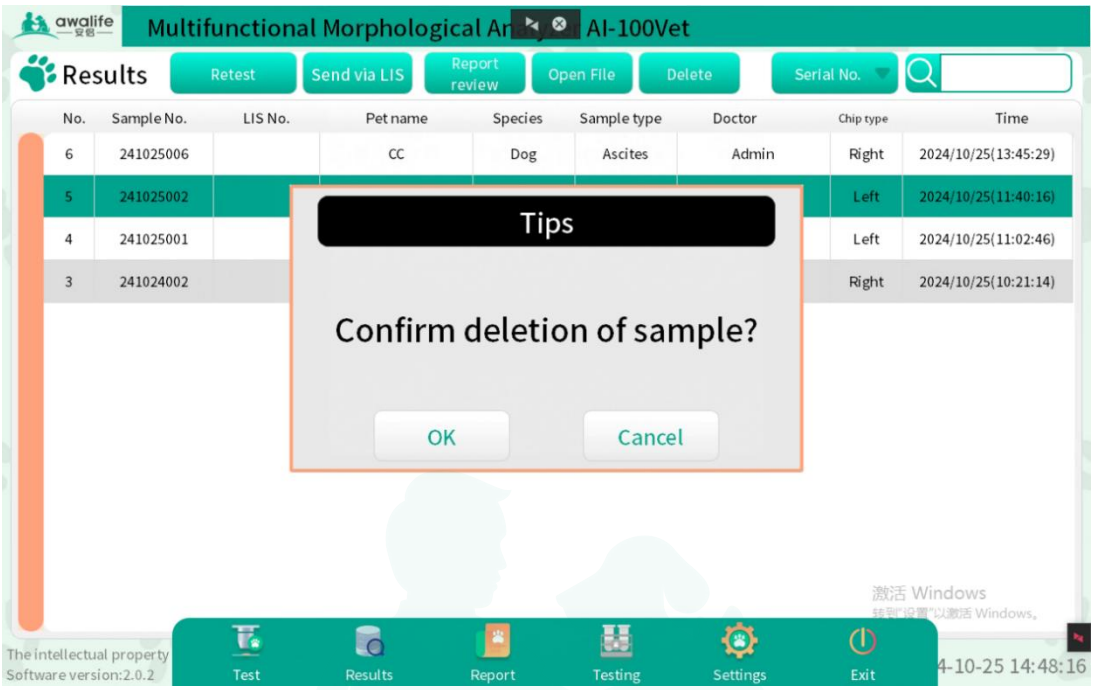
1. **Access Results Interface**: Open the results interface within the system where sample records are displayed.

2. **Select Sample Record**: Identify and select the sample record you wish to delete.

3. **Initiate Deletion**: Click on "Delete". A confirmation prompt will appear asking, "Are you sure to delete the sample?"

4. **Confirm Deletion**: Click "OK" in the prompt window to confirm and permanently delete the selected sample record from the

system.



5.7.6. Sorting Function

In the results interface, utilize the sorting feature located in the upper right corner to organize sample records. The sorting options include:

- **Serial Number Sorting**: Click once to sort the records by serial number. Clicking again will reverse the order, allowing for flashback sorting based on serial number.
- **Sample Sorting**: This option sorts the records based on the sample details. A second click reverses the order.
- **Time Sorting**: Organize records chronologically. Clicking again will toggle the sorting between ascending and descending order.

5.7.7. Search Function

To locate specific records or information within the results interface:

-**Keyword Search**: Enter a keyword into the search box located in the upper right corner of the page. The system will display records that contain the entered keyword, facilitating quick and efficient retrieval of relevant

data.

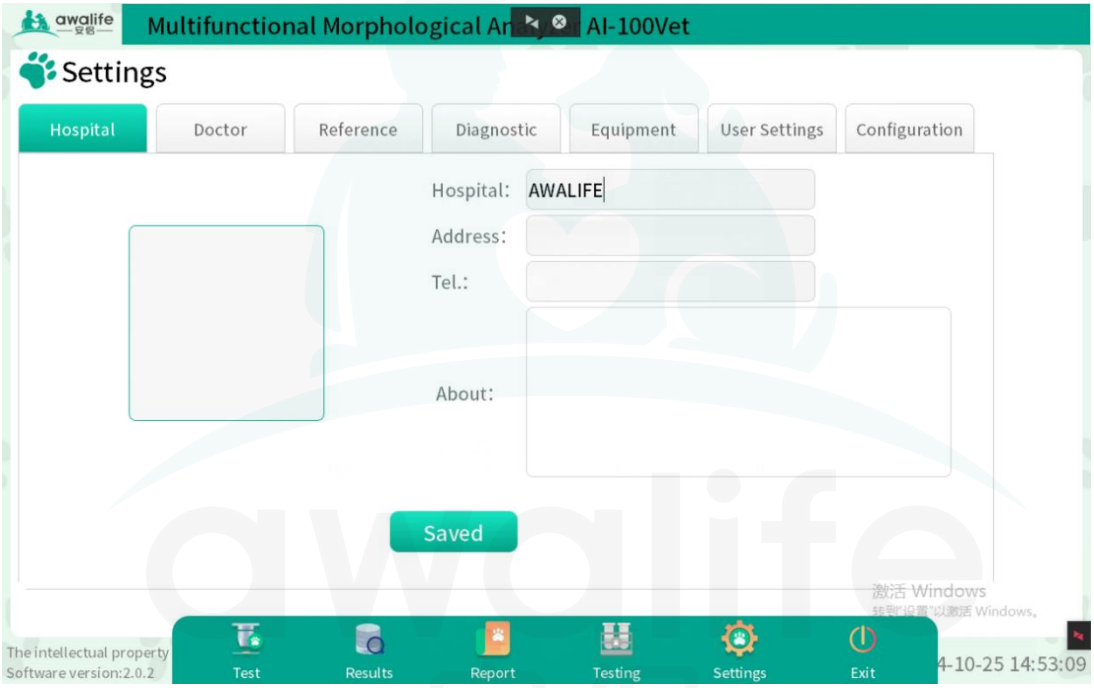

awalife
Multifunctional Morphological Ar AI-100Vet
Results
Retest
Send via LIS
Report review
Open File
Delete
Serial No.
c
No. Sample No. LIS No. Pet name Species Sample type Doctor Chip type Time
6 241025006 CC Dog Ascites Admin Right 2024/10/25(13:45:29)
5 241025002 Cc Dog Urine Admin Left 2024/10/25(11:40:16)
4 241025001 CC Dog Feces Admin Left 2024/10/25(11:02:46)
激活 Windows
The intellectual property
Software version:2.0.2
Test
Results
Report
Testing
Settings
Exit
4-10-25 14:50:06

ChapterVI Settings

6.1. Overview of Initial Setup and Configuration

The product is fully initialized prior to delivery. Upon first startup, the user will be presented with the default interface. To accommodate various practical applications, the settings of the tangible composition analyzer can be adjusted. The configuration options available in the setting menu

include:



6.2. Hospital Information Settings

In the hospital information settings menu, as depicted in the accompanying picture, users have the capability to customize various aspects of the hospital profile that will appear in the final inspection reports. The settings include:

- **Hospital Logo**: Upload or update the hospital logo picture.
- **Hospital Name**: Enter or edit the name of the hospital.
- **Hospital Address**: Specify the hospital's location.
- **Hospital Phone Number**: Provide a contact number for the hospital.

- **Hospital Profile**: Add a brief description or profile of the hospital.

The hospital logo picture and hospital name are prominently featured in the final inspection report to ensure clear identification.

6.3. Doctor Information Settings

In the doctor information settings, as shown in the subsequent picture, users can manage information related to medical personnel. The options available include:

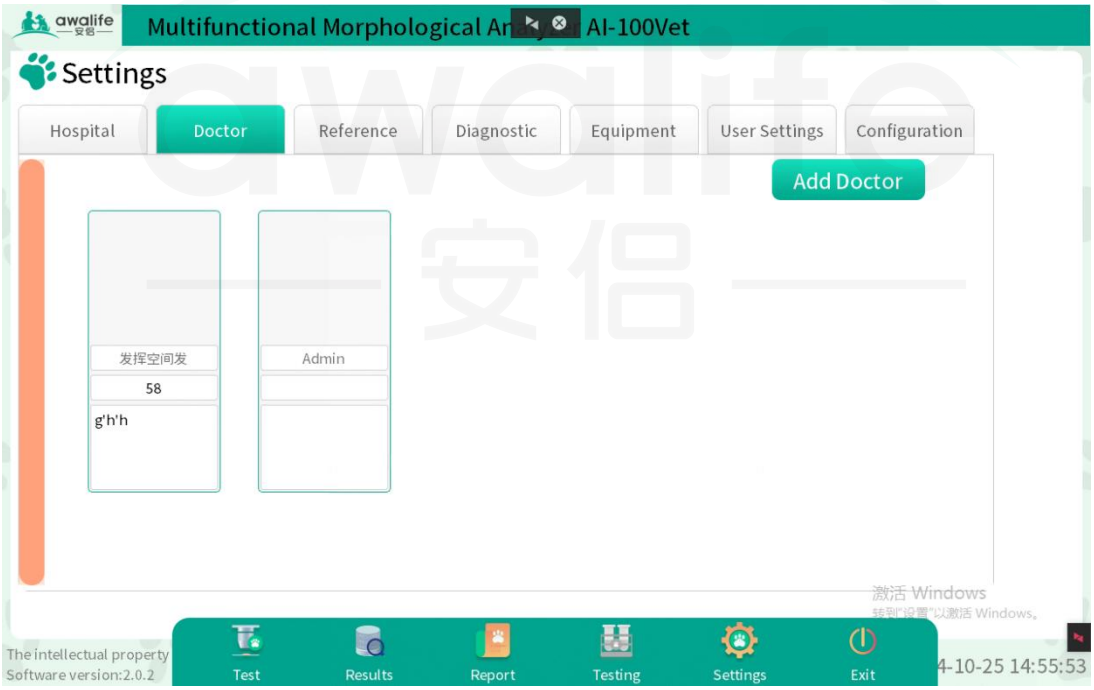
- **Adding a Doctor**: Users can add new doctors by entering their details into the system.

- **Doctor's Name**: Input the name of the doctor.

- **Doctor's Phone Number**: Provide a contact number for the doctor.

- **Doctor's Introduction**: Include a brief introduction or professional summary of the doctor.

When entering a new sample into the system, it is necessary to select the doctor associated with that sample. The selected doctor's information will then be displayed in the final test report, linking the medical analysis to the overseeing physician.



6.4. Reference Range Settings

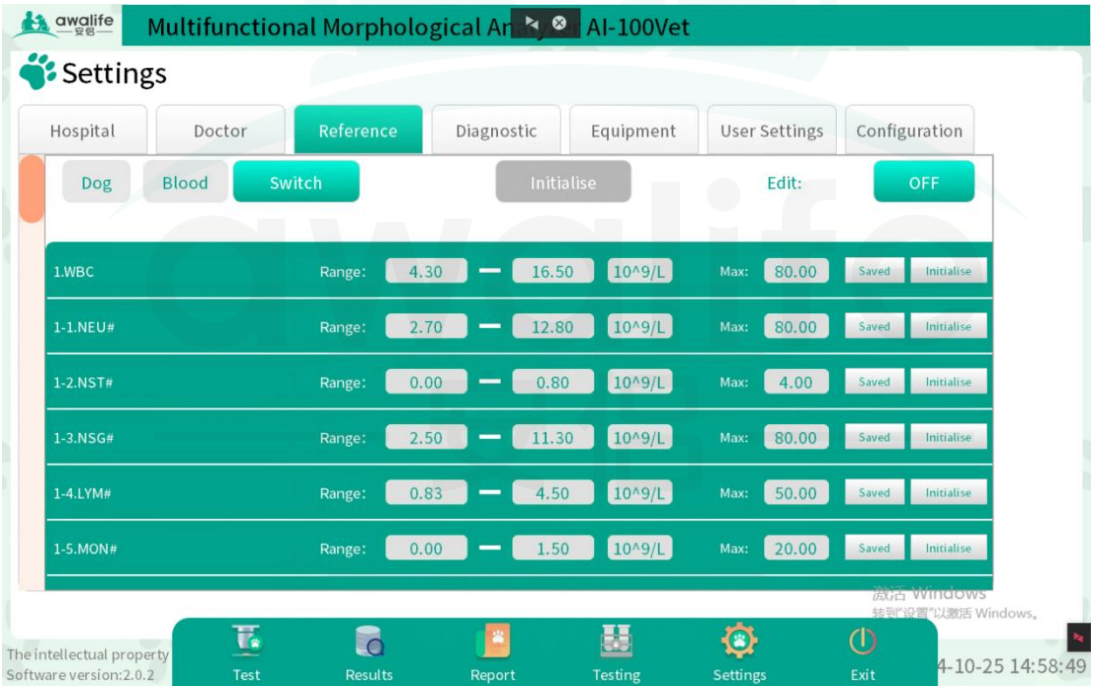
As indicated in the figure below, users can adjust the reference ranges for different species and sample types through the Reference Range menu item. This allows for customized diagnostic references tailored to specific testing needs.

Safety and Accuracy Features:

- **Edit Mode**: To prevent accidental modifications, the edit mode is disabled by default.

- **Activating Edit Mode**: Users must enable the edit mode explicitly before they can make changes to the reference ranges.When entering edit mode, you will be prompted to enter the password "admin." After entering the password, edit mode can be activated.

This design ensures that reference range adjustments are made deliberately, maintaining the integrity and reliability of test results.



6.5. Diagnostic Tips Settings

As illustrated in the provided figure, the Diagnostic Tips menu allows users to customize the diagnostic prompt information specific to various species and sample

types. This feature enhances the relevance and utility of diagnostic outputs.

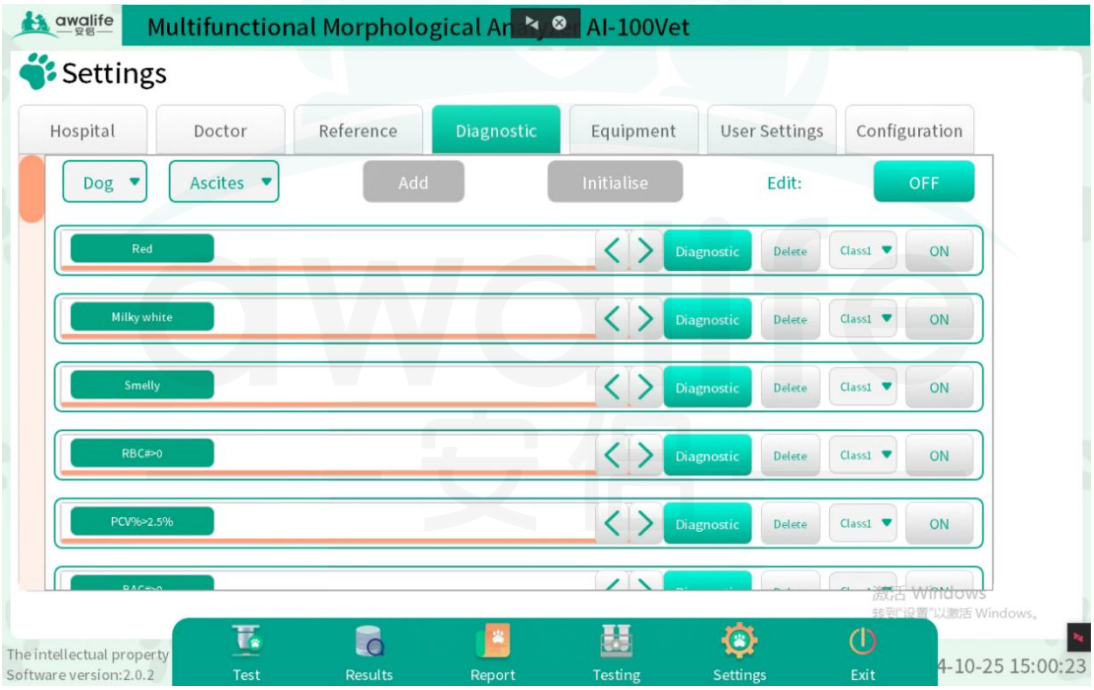
Functionality and Controls:

- **Enable/Disable Tips**: Users have the flexibility to activate or deactivate individual diagnostic tips based on relevance and necessity.

- **Modify Tips:** Add new diagnostic prompts or delete existing ones to tailor the guidance provided by the system.

- **Edit Mode:** To safeguard against accidental changes, the edit mode is deactivated by default.

Activating Edit Mode: Users must actively enable the edit mode before they can make any modifications to the diagnostic prompts. This precaution helps to prevent unintended alterations and ensures that all edits are intentional and considered. When entering edit mode, you will be prompted to enter the password "**admin**" After entering the password, edit mode can be activated.



6.6. Device Information Settings

As detailed in the accompanying figure, the Device Information section provides comprehensive insights into the product. This section is designed to help users easily

access and review essential information about the device, ensuring they are fully informed about the specifications and support details.

Included Information:

- **Device Specifications:** Details about the physical and operational specifications of the device.
- **System Specifications:** Information about the software
- **Brand Support:** Insight into the brand's support options, including warranty and customer service contacts.
- **Version Support:** Information on the current version of the device’s software, including any available updates or compatibility notes.

This section serves as a central resource for all pertinent device information, aiding users in managing and maintaining their equipment effectively.

6.7. User Settings

6.7.1. Diagnostic Prompt Settings

This setting allows users to manage how diagnostic prompts are displayed and selected:

- **Selection Modes**: Users have the option to either select all or none of the diagnostic prompts.
- **Default Selection**: By default, when entering the diagnostic prompt screen, all diagnostic prompts are automatically selected. Upon completing the test, the diagnostic prompts automatically appear on the report.
- **Unselect All**: If not all diagnostic tips are required, users can choose to display the diagnostic tips screen with none selected by default.Upon completing the test, the diagnostic prompts do not appear on the report.

These settings streamline the user's interaction with diagnostic prompts, enhancing the efficiency of customizing diagnostic outputs.

6.7.2. Report Title Settings

This section supports customization of the report titles based on the type of test being reported:

- **Supported Titles**: Users can select from four types of report headers corresponding to the type of sample tested: blood, feces, urine, and ascites.
- Default Title: The default report header automatically displays the test type followed by "Report" (e.g., "Blood Report").
- **Customization**: Users can customize the report header by entering their desired text in the input box provided. After saving, this customized header will appear on the corresponding reports.

By allowing customization of report titles, users can tailor the output to better fit the presentation and documentation standards required by their practice or laboratory.

6.7.3. Language Switching Settings

This setting facilitates language customization within the system:

- **Language Options**: Users can switch between Chinese and English via a dropdown menu.

- **Default Language**: The default system language is set to Chinese. Switching to English via the dropdown will change the system language accordingly.

6.7.4. AI Sensitivity Settings

AI sensitivity can be adjusted to suit different analysis needs:

- **Sensitivity Levels**: Options available in the dropdown box include High, Medium, and Low.

- **Default Setting:** The default sensitivity setting is Medium, balancing accuracy and processing time.

Increasing sensitivity leads to a higher detection rate but reduces accuracy, while decreasing sensitivity lowers the detection rate but improves accuracy.

6.7.5. Keyboard Options

Keyboard options support System Keyboard and UI Keyboard. By default, the instrument is set to the Windows System Keyboard. After switching to the UI Keyboard mode, restart the device to use the selected keyboard.

6.7.6. Calibration Settings

Calibration Settings support light source calibration and focal plane calibration. Follow the pop-up prompts during calibration.

Light Source Calibration Conditions: Perform manual light source calibration to improve image quality when experiencing abnormal image color, such as yellowish or reddish hues.

Focal Plane Calibration Conditions: Perform manual focal plane calibration when image quality issues arise, such as unclear or blurry images.

Note: The system is programmed to conduct light source and focal plane calibration every 2 months. When the scheduled calibration time arrives, light source calibration will automatically occur upon software startup if there is no chip in the instrument chip compartment. Focal plane calibration requires a blood sample chip inside the

instrument. If blood testing coincides with the scheduled focal plane calibration, the system will automatically combine the calibration with the blood test, extending the testing time to approximately 12 minutes.

6.7.7. New UserGuide Settings

When the new user guide button is "ON", the system will automatically enter guide mode the next time the software is startup. If you don’t want the software to start in guide mode, simply disable the setting.

6.7.8. Feces Eggs Miss Detected Warning

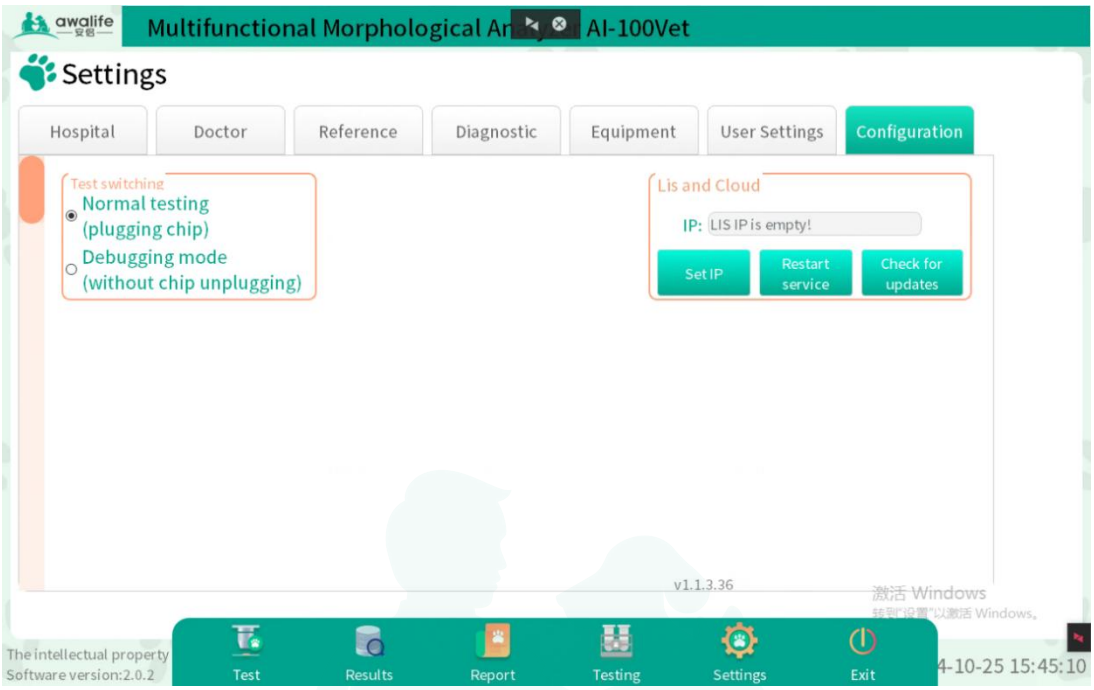
This setting addresses the potential for missed detections in feces egg analysis:
- **Default Text**: The default warning text states: Due to the influence of various factors such as different stages of parasite infection, different parasite sites, and different methods, operations, and sites of specimen collection, eggs and worms may be missed. It is recommended to review feces samples at different sites and different times 3 times to improve the testing rate. -- 《Laboratory Test Methods for Parasites》.Custom modifications are supported by the content.
- **Report Integration**: This warning is automatically included in feces report tests under Diagnostic Tips after testing, enhancing report comprehensiveness.

6.8. Configuration Settings

6.8.1. Test Switching settings

Test switching supports normal testing (plugging chip) and debugging mode (without chip unplugging).
Normal testing: For regular use, users typically perform normal testing, where the system prompts the insertion and removal of the chip during sample testing.
Debugging mode: Debugging testing, primarily for engineers during testing and validation, allows the chip to automatically eject and retract in without requiring manual insertion or

removal.



6.8.2. Cloud platform settings

The cloud platform is used to enable the LIS function. Enter the IP address of the LIS receiving computer in the IP input field, click "Set," and then click "Restart Service" to activate the instrument's LIS function.

6.9. Device Information and Other Settings

Manufacturer Settings: Certain device information, reference range settings and diagnostic tips settings are preset by the manufacturer and are typically not meant for user modification, ensuring stability and compliance with technical specifications.

ChapterVII Services

7.1. Overview of Routine Maintenance

To maintain the accuracy and effectiveness of the analyzer, it is essential for operators to conduct routine maintenance as outlined in this chapter. Adhering to

these maintenance guidelines ensures the analyzer operates optimally and extends its service life.

7.2. Maintenance Warnings

- Replacement Parts: Use only parts provided by Shenzhen Anlv Medical Technology Co., Ltd. for maintaining the analyzer. This ensures compatibility and reliability.
- Accessories: To maintain equipment performance and safety, use only accessories designated by Shenzhen Anlv Medical Technology Co., Ltd. For further information, please contact the Customer Service Department or your local sales representative.
- Damaged Parts: Immediately report any damaged parts to Shenzhen Anlv Medical Technology Co., Ltd. or your local agent to prevent further issues or unsafe conditions.
- Post-Maintenance Checks: After completing maintenance tasks, thoroughly check the instrument's status to confirm it is operating accurately and effectively before it is returned to service.

7.3. Biological Hazards

When operating and maintaining the analyzer, it is important to be aware of potential biological hazards and take the necessary safety precautions:
- **Infectious Potential:** The surface and chips of the analyzer may carry infectious agents. Exercise caution and employ safety measures during both operation and maintenance tasks.
- **Reagent Handling:** Reagents used with the analyzer can cause irritation to the eyes, skin, and mucous membranes. To minimize exposure risks:
- Adhere strictly to laboratory safety regulations.
- Wear appropriate personal protective equipment, such as laboratory coats, gloves, and safety goggles, when handling reagents.

Immediate Actions for Exposure:

- Skin Contact: If reagents contact the skin, rinse the affected area immediately with plenty of water. If irritation persists, seek medical treatment.

- Eye Contact: In the event of eye exposure, flush the eyes immediately with ample water and seek medical treatment promptly to prevent serious injury.

7.4. Cautions for Maintenance

When maintaining the analyzer, adherence to proper procedures is crucial to avoid causing damage. Please consider the following precautions:

-Maintenance Guidance: Always follow the maintenance instructions provided in the manual carefully. Improper maintenance practices can lead to equipment damage.

- Professional Support: If the instruction manual does not address a specific issue, contact the after-sales service department of Shenzhen Anlv Medical Technology Co., Ltd. Professionals designated by the company will provide maintenance recommendations.

- Reporting Damage: If any damaged parts are discovered, promptly inform the after-sales service department or local agents of Shenzhen Anlv Medical Technology Co., Ltd.

- Cleaning the Instrument: Regular cleaning of the instrument's shell is necessary:

1. Avoid using strong acidic or basic cleaning agents, as these can damage the instrument.

2.The company will not provide warranties for damage or accidents caused using unauthorized cleaning materials.

- Chemical Effectiveness: The reagents, chemicals, or cleaning products mentioned above in this manual should not be used for the disinfection and control of infection sources. For methods on disinfection and infection source control, please consult the hospital's infection prevention department or other relevant infection control authorities.

7.5. Tools

Serial number	Tools
1	Hex Head Screwdriver

7.6. Maintenance Overview

Maintenance tasks for the analyzer include both surface cleaning and heat dissipation vent maintenance to ensure optimal performance and safety.

7.6.1. Surface Cleaning and Heat Dissipation Vent Maintenance

- Surface and Display Cleaning: Use 75% alcohol wipes to clean any stains on the analyzer's surface and display. This ensures that the device remains clean and functional without damaging sensitive areas.

- Heat Dissipation Vent Cleaning: Use a soft brush to remove pet hair and other debris from the heat dissipation vents. Keeping these vents clear is crucial for maintaining proper airflow and preventing the device from overheating.

By regularly performing these maintenance tasks, you can help extend the life of the analyzer and ensure it operates efficiently.

7.7. Version Information Access

To view the current version information of the instrument, follow these steps:

1. **Navigate to Version Info:** Go to the lower left corner of the software interface.
2. **Access the Display:** On the displayed screen, you will find the version information section.

This area of the interface allows users to quickly and easily check the instrument’s firmware and software version details, ensuring they are up to date with the latest updates and features.

ChapterVIII Troubleshooting

8.1. Overview

This chapter is dedicated to outlining the potential fault information for the analyzer and offering appropriate troubleshooting methods.

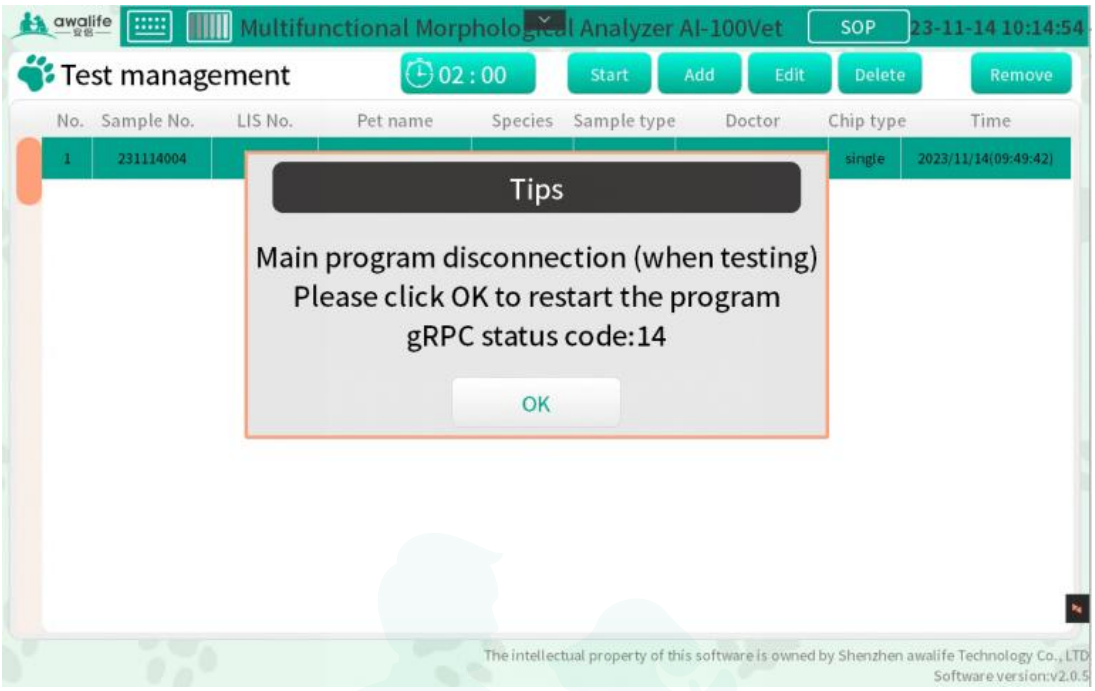
Note: This manual is not intended as a comprehensive maintenance guide. Instead, it focuses on the initial actions an operator should take when faced with a fault alarm from the analyzer.

8.2. Error Information and Treatment

8.2.1. Error Information Prompt

- **Error Identification**: During operation, if an error occurs within the analyzer, a pop-up window will appear on the software interface.
- **Fault Display**: This window will display the fault information along with a summary of the error details to assist in rapid identification and resolution.

These features are designed to provide operators with immediate and actionable information to manage and rectify issues efficiently, ensuring minimal downtime and maintaining the reliability of the analyzer



8.2.2. Error and Solution

The table below provides a comprehensive list of potential faults that may occur with the analyzer, along with corresponding troubleshooting steps or help information to address these issues: