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› VTSYIQI Intelligent Water Activity Tester Model VD-90P User Manual

## VTSYIQI VD-90P

# VTSYIQI Intelligent Water Activity Tester Model VD-90P User Manual

## 1. INTRODUCTION

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Water activity ( $a_w$ ) is a critical parameter indicating the free water content in a substance, directly influencing microbial growth and product stability. The VTSYIQI Intelligent Water Activity Tester Model VD-90P is designed for precise measurement of water activity in various materials, including paste, dough, and other food products. This instrument features a high-precision WSC-4 sensor, a mini printer for data recording, and an intuitive LCD display for ease of use. This manual provides detailed instructions for the proper setup, operation, and maintenance of your VD-90P water activity meter.

## 2. PRODUCT OVERVIEW

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### 2.1 Components

The VTSYIQI Intelligent Water Activity Tester Model VD-90P package typically includes the following components:

- Main Host Unit (VD-90P)
- WSC-4 Water Activity Sensor
- Mini Printer
- Power Cables
- User Manual
- Calibration Salts (Sodium Chloride, Magnesium Chloride)
- Sample Dishes
- Adjustable Bracket

**Fast measurement speed - as fast as 10 minutes**  
**Measurements can be taken continuously from sample to sample without the need to recalibrate or leave the sensor in place for minutes.**

- Automatic compensation
- Environmental parameters
- English menu
- Easy to operate
- Printout
- Save data
- Efficient measurement
- High accuracy

**Fast measurement speed - as fast as 10 minutes**



Figure 1: Complete VD-90P Water Activity Tester Kit



Figure 2: VD-90P Main Unit with LCD and Adjustable Bracket

## 2.2 Key Features

- **Measurement Range:** 0-0.980aw (non-condensing environment)
- **Measurement Accuracy:** ±0.015aw (@25°C)
- **Temperature Range:** 0-50°C
- **Temperature Accuracy:** ±0.5°C
- **Repeatability:** ≤0.015
- **Temperature Coefficient:** ≤0.0005/°C
- **Measurement Points:** 1
- **Quick Measurement:** Results in approximately 10 minutes
- Integrated Mini Printer for convenient data recording
- High Brightness LCD Display for intuitive operation
- Automatic Compensation for Environmental Parameters
- English Menu for user-friendly navigation
- Versatile application for solid, liquid, lump, and powder samples



Figure 3: Key Features of the VD-90P

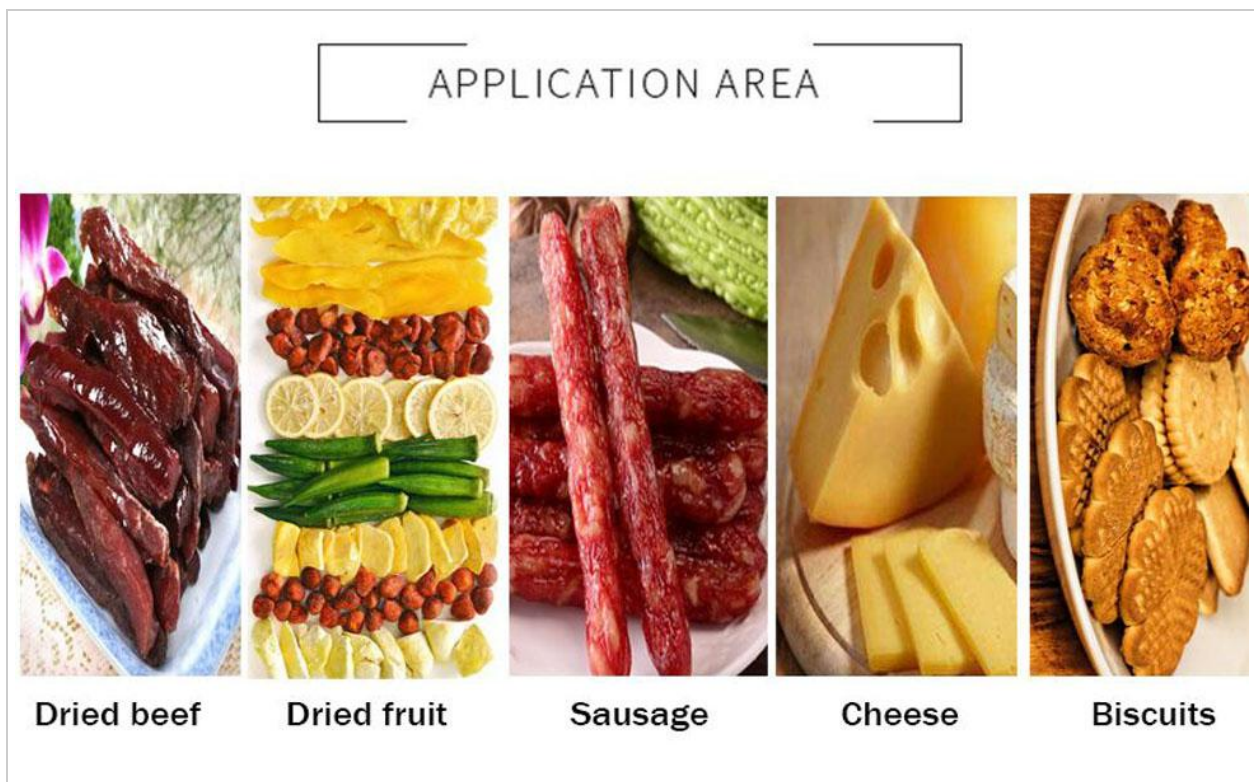


Figure 4: Applicable Sample Types

### 3. SETUP

1. **Unpack Components:** Carefully remove all components from the packaging. Verify that all listed items in Section 2.1 are present and undamaged.
2. **Placement:** Place the main host unit on a stable, level, and vibration-free surface, away from direct sunlight, heat sources, and strong electromagnetic fields.
3. **Connect Sensor:** Connect the WSC-4 water activity sensor cable to the designated sensor port on the

main unit. Ensure a secure connection.

4. **Connect Printer:** Connect the mini printer to the main unit using the provided cable.
5. **Power Connection:** Connect the power cable to the main unit and then to a suitable power outlet (110V AC or 220V AC, depending on your model and region).



Figure 5: Rear Panel Connections

## 4. OPERATION

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1. **Power On:** Press the power switch to turn on the device. The LCD display will illuminate.
2. **Menu Navigation:** Use the "Selection" buttons (up/down arrows) to navigate through the menu options and the "Confirmation" button to select an option.
3. **Prepare Sample:** Place your sample into a clean, dry sample dish. Ensure the sample fills the dish adequately without overflowing.
4. **Insert Sample:** Carefully place the sample dish into the sensor chamber of the WSC-4 sensor. Close the sensor lid securely to create a sealed environment.
5. **Start Measurement:** From the main menu, select "Measurement" and confirm. The device will begin the measurement process, which typically takes about 10 minutes.
6. **Read Results:** Once the measurement is complete, the water activity ( $A_w$ ) and temperature (T) will be displayed on the LCD screen.
7. **Print Data:** If desired, use the integrated mini printer to print the measurement results. Refer to the printer's specific instructions for paper loading and operation.

### 4.1 Operational Video Guide

Your browser does not support the video tag.

Video 1: This video demonstrates the basic operation and calibration process of the VTSYIQI VD-90P Water Activity Meter, including sample placement and menu navigation.

## 5. CALIBRATION

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The VTSYIQI VD-90P Water Activity Tester is factory-calibrated for immediate use. Regular recalibration is recommended approximately every 5 months to ensure continued accuracy. For calibration, you will need pure Sodium Chloride (NaCl) and Magnesium Chloride ( $MgCl_2$ ) solutions, which can be purchased locally as liquid

powders are restricted for air transport.

1. **Access Calibration Menu:** From the main menu, select "Calibration" and confirm.
2. **Select Calibration Standard:** The display will show options for calibration standards (e.g., NaCl, MgCl<sub>2</sub>). Select the appropriate standard you are using.
3. **Prepare Calibration Sample:** Place the chosen calibration solution into a clean sample dish.
4. **Insert Calibration Sample:** Place the sample dish into the sensor chamber and close the lid.
5. **Start Calibration:** Follow the on-screen prompts to initiate the calibration process. The device will measure the standard and adjust its readings accordingly.
6. **Confirm Calibration:** Once calibration is complete, the device will indicate success. Repeat the process for other calibration standards if necessary.

## 6. MAINTENANCE

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- **Cleaning the Sensor:** Regularly clean the WSC-4 sensor and sample chamber with a soft, dry cloth. Avoid using abrasive cleaners or solvents that could damage the sensor.
- **Storage:** Store the VD-90P unit in a clean, dry, and temperature-stable environment when not in use. Keep it away from dust and corrosive substances.
- **Printer Maintenance:** Ensure the mini printer has sufficient paper. Replace paper rolls as needed, following the printer's specific instructions.
- **Power Off:** Always turn off the device using the power switch when not in operation.

## 7. TROUBLESHOOTING

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If you encounter issues with your VTSYIQI VD-90P Water Activity Tester, consider the following common troubleshooting steps:

- **Device Not Powering On:** Check the power cable connection to both the unit and the power outlet. Ensure the power switch is in the 'On' position.
- **Inaccurate Readings:** Verify that the sensor is clean and properly connected. Ensure the sample dish is correctly seated and the sensor lid is closed tightly. Consider performing a calibration as described in Section 5.
- **Printer Not Working:** Check the printer cable connection to the main unit. Ensure the printer has paper and is powered on. Refer to the mini printer's manual for specific troubleshooting.
- **"No Condensing" Error:** This indicates that the environmental conditions might be outside the recommended operating range. Ensure the testing environment is stable and non-condensing.

For persistent issues or error messages not covered here, please refer to the comprehensive user manual included with your device or contact VTSYIQI customer support.

## 8. SPECIFICATIONS

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Parameter	Value
Model	VD-90P
Measuring Range (Water Activity)	0-0.980aw (no condensing)
Measurement Accuracy (Water Activity)	±0.015aw (@25°C)
Temperature Range	0-50°C
Temperature Accuracy	±0.5°C
Repeatability	≤0.015
Temperature Coefficient	≤0.0005/°C
Measurement Points	1
Display	Large-screen LCD 128×64DOTS
Output Mode	Micro printer
Supply Voltage	110V AC±10% / 220V AC±10% (Optional)
Power Consumption	≤15 W
Item Weight	26.4 pounds (approx. 12 kg)
Product Dimensions (L x W x H)	15.75 x 3.94 x 9.84 inches (approx. 40 x 10 x 25 cm)
Material	Plastic
Included Components	Main Host, WSC-4 Water Activity Sensor, Mini Printer, Power Cables, User Manual, Calibration Salts, Sample Dishes

## 9. WARRANTY AND SUPPORT

The VTSYIQI Intelligent Water Activity Tester Model VD-90P comes with warranty protection. For specific warranty terms and conditions, please refer to the warranty card included with your product or contact VTSYIQI customer service. For technical support, inquiries, or service requests, please reach out to VTSYIQI directly through their official channels.