VELP Scientifica F202A0280

VELP Scientifica ZX4 Digital Vortex Mixer F202A0280 Instruction Manual

1. Introduction

This manual provides instructions for the safe and efficient operation of the VELP Scientifica ZX4 Digital Vortex Mixer, model F202A0280. The ZX4 is designed for rapid and uniform mixing of samples in various tubes and containers within laboratory settings. It features an infrared (IR) sensor mode for automatic activation and precise electronic speed control.

2. Safety Information

Observe the following safety precautions to prevent injury and damage to the instrument:

- Always operate the device on a stable, level, and non-slip surface.
- Ensure the power supply voltage matches the device's requirements (100-240V/50-60 Hz).
- Do not immerse the device in water or any other liquid.
- Avoid contact with moving parts during operation.
- Disconnect the power cord before cleaning or maintenance.
- Do not operate the device if it is damaged or malfunctioning.
- Refer to local safety regulations and guidelines for laboratory equipment usage.

3. Product Overview

The VELP Scientifica ZX4 Digital Vortex Mixer is constructed with a technopolymer casing for chemical resistance and a zinc alloy base for stability. Its design incorporates an infrared sensor for hands-free operation.

3.1 Components



This image displays the VELP Scientifica ZX4 Digital Vortex Mixer. The front panel features an ON/OFF rocker switch, a red 'Sensor Mode' indicator light, a 'SENSOR/CONT.' button to toggle between sensor and continuous operation, and a blue rotary knob for speed control (0-3000 RPM). A black mixing cup head is visible on top of the unit. The device is white with a grey base.

- **ON/OFF Switch:** Powers the unit on or off.
- **Sensor Mode Indicator:** Red LED illuminates when the IR sensor mode is active.
- **SENSOR/CONT. Button:** Toggles between infrared sensor mode and continuous operation mode.
- **Speed Control Knob:** Adjusts the mixing speed from 0 to 3000 RPM.
- **Mixing Cup Head:** Standard accessory for vortexing single test tubes.

3.2 Key Features

- Vibration activates automatically when a tube is detected by the infrared (IR) sensor, eliminating the need for manual pressure.
- Variable speed operation, electronically controlled up to 3000 RPM.
- Constructed with a technopolymer casing for chemical resistance and a zinc alloy base for stability.
- The ZX4 is compatible with various platforms and accessories, enhancing its versatility.

4. Setup

1. **Unpacking:** Carefully remove the vortex mixer and all accessories from the packaging. Retain packaging for future transport or storage.
2. **Placement:** Place the unit on a clean, stable, and level laboratory bench away from direct sunlight or heat sources. Ensure adequate ventilation around the device.
3. **Accessory Installation:** Attach the mixing cup head or any other desired platform/accessory firmly onto the vibrating shaft.
4. **Power Connection:** Connect the provided power supply to the instrument's power input and then plug it into a grounded electrical outlet.

5. Operation

5.1 Powering On/Off

- To turn the unit **ON**, flip the rocker switch to the 'ON' position.
- To turn the unit **OFF**, flip the rocker switch to the 'OFF' position.

5.2 Selecting Operating Mode

The ZX4 offers two operating modes: Sensor Mode and Continuous Mode.

- **Sensor Mode:** Press the 'SENSOR/CONT.' button until the red 'Sensor Mode' indicator light illuminates. In this mode, the mixer will automatically start vibrating when a test tube is placed onto the mixing cup head and stop when removed.
- **Continuous Mode:** Press the 'SENSOR/CONT.' button until the red 'Sensor Mode' indicator light is off. In this mode, the mixer will vibrate continuously at the set speed until the unit is turned off or the mode is changed.

5.3 Adjusting Speed

Rotate the blue speed control knob clockwise to increase the mixing speed and counter-clockwise to decrease it. The speed can be adjusted from 0 to 3000 RPM.

5.4 Vortexing Samples

1. Ensure the appropriate mixing accessory is installed.
2. Select either Sensor Mode or Continuous Mode.
3. Set the desired mixing speed using the speed control knob.
4. If in Sensor Mode, gently press the bottom of the test tube onto the mixing cup head. The mixer will start automatically.
5. If in Continuous Mode, the mixer will vibrate constantly. Carefully bring the test tube into contact with the mixing cup head.
6. Mix the sample for the required duration.
7. Remove the test tube. If in Sensor Mode, the mixer will stop automatically.

6. Maintenance

6.1 Cleaning

- Always disconnect the power supply before cleaning.
- Wipe the exterior surfaces of the device with a soft, damp cloth.
- For stubborn stains, a mild detergent can be used. Avoid abrasive cleaners or solvents.
- Ensure no liquid enters the internal components of the device.
- Allow the device to dry completely before reconnecting to power.

6.2 General Care

- Store the device in a clean, dry environment when not in use.
- Regularly inspect the power cord for any signs of damage.
- Ensure accessories are clean and properly installed before each use.

7. Troubleshooting

This section addresses common issues. For problems not listed here, contact customer support.

Problem	Possible Cause	Solution
Device does not power on.	Power cord not connected; Power switch is OFF; No power from outlet.	Check power cord connection; Ensure power switch is ON; Test outlet with another device.
Mixer does not vibrate in Sensor Mode.	Tube not properly positioned; Sensor obstructed; Speed knob set to 0.	Ensure tube makes full contact with mixing head; Check for obstructions around sensor; Increase speed setting.
Inconsistent mixing speed.	Unstable surface; Overloaded sample.	Place device on a stable surface; Reduce sample volume or weight.

8. Specifications

- **Model:** F202A0280 (ZX4)
- **Orbital Diameter:** 4.5 mm
- **Speed Range:** Electronically regulated, up to 3000 RPM
- **Operating Modes:** IR Sensor Mode, Continuous Mode
- **Power Supply:** 100-240V / 50-60 Hz
- **Dimensions (W x H x D):** 5.9 x 5.1 x 6.5 inches (150 x 130 x 165 mm)
- **Construction:** Technopolymer casing, Zinc alloy base
- **Weight:** Approximately 6.5 lbs (2.95 kg)

9. Warranty and Support

The VELP Scientifica ZX4 Digital Vortex Mixer is covered by a**2-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use.

For technical assistance, service, or warranty claims, please contact VELP Scientifica customer support. Please have your model number (F202A0280) and purchase date available when contacting support.

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