

## BrandTech 1194T34EA

# VACUUBRAND RZ2.5 Two-Stage Rotary Vane Vacuum Pump

## USER MANUAL

### 1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your BRANDTECH SCIENTIFIC VACUUBRAND RZ2.5 Two-Stage Rotary Vane Vacuum Pump. Please read this manual thoroughly before operating the pump and keep it for future reference.

#### 1.1 Safety Information

Always observe the following safety precautions to prevent injury and damage to the equipment:

- Ensure the pump is connected to a properly grounded electrical outlet.
- Do not operate the pump in environments with explosive or flammable gases.
- Always wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, when handling the pump or its components.
- Allow the pump to cool down before performing any maintenance or handling, as surfaces may become hot during operation.
- Only use genuine VACUUBRAND spare parts and accessories.
- Disconnect the power supply before any service or repair work.

### 2. Product Description

The VACUUBRAND RZ2.5 is a robust and reliable two-stage rotary vane vacuum pump designed for a wide range of laboratory applications. It is part of the VACUUBRAND XS series, engineered for optimal performance in demanding scientific environments. This pump is particularly well-suited for applications requiring deep vacuum, such as small freeze dryers, centrifugal concentrators for low-temperature evaporations of high boiling point solvents, and molecular distillations.

#### 2.1 Key Features

- **Small and Energy Efficient:** Designed for compact spaces and reduced power consumption.
- **Rugged & Low Maintenance:** Built for durability and minimal upkeep.
- **Great Value:** Offers excellent performance and reliability for its class.

### 3. Components and Controls



Figure 1: VACUUBRAND RZ2.5 Two-Stage Rotary Vane Vacuum Pump. This image displays the compact grey body of the pump, featuring a blue handle for portability, an electrical connection port, and a clear oil level window on the side. The ribbed design on the pump body aids in heat dissipation.

The VACUUBRAND RZ2.5 pump consists of several key components:

- **Vacuum Inlet:** Connection point for the vacuum system.
- **Oil Level Window:** Allows visual inspection of the oil level.
- **Oil Drain Plug:** For draining used pump oil.
- **Power Switch:** On/Off control for the pump.
- **Power Inlet:** Connection for the power cord.

- **Gas Ballast Valve:** Used to introduce a small amount of air into the pump to prevent condensation of vapors.

## 4. Setup

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### 4.1 Unpacking

Carefully remove the pump from its packaging. Inspect the pump for any visible damage that may have occurred during transit. Retain the original packaging for future transport or storage.

### 4.2 Placement

Place the pump on a stable, level surface in a well-ventilated area. Ensure there is sufficient space around the pump for air circulation and access for maintenance. Avoid placing the pump near heat sources or in direct sunlight.

### 4.3 Electrical Connection

Connect the pump to a grounded electrical outlet using the provided power cord. Verify that the voltage and frequency of your power supply match the specifications listed on the pump's rating plate (120V/230V). Do not use extension cords unless absolutely necessary, and ensure they are rated for the pump's power requirements.

### 4.4 Initial Checks

Before first use, check the oil level through the oil level window. The oil level should be between the MIN and MAX marks. If necessary, add appropriate vacuum pump oil through the oil fill port.

## 5. Operating Instructions

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### 5.1 Basic Operation

1. Ensure all connections to the vacuum system are secure.
2. Verify the oil level is correct.
3. Switch the pump ON using the power switch. The pump will begin to evacuate the connected system.
4. Monitor the vacuum level using a suitable vacuum gauge (not included).
5. If processing vapors, consider using the gas ballast valve to prevent condensation within the pump. Consult specific application guidelines for optimal use of the gas ballast.

### 5.2 Shutting Down

1. Isolate the pump from the vacuum system by closing any valves.
2. Switch the pump OFF using the power switch.
3. Allow the pump to cool down before disconnecting any lines or performing maintenance.

## 6. Maintenance

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Regular maintenance is crucial for the longevity and optimal performance of your VACUUBRAND RZ2.5 pump.

### 6.1 Routine Checks

- **Oil Level:** Check daily before operation. Maintain oil level between MIN and MAX marks.
- **Oil Quality:** Inspect oil for discoloration or cloudiness, which indicates contamination.
- **Connections:** Periodically check all vacuum and electrical connections for leaks or damage.
- **Cleanliness:** Keep the pump exterior clean and free of dust to ensure proper cooling.

### 6.2 Oil Change Procedure

Change the pump oil regularly, typically every 500-1000 operating hours or when the oil appears contaminated. Use

only VACUUBRAND approved vacuum pump oil.

1. Ensure the pump is switched OFF and disconnected from the power supply.
2. Place a suitable container under the oil drain plug.
3. Remove the oil drain plug and allow all old oil to drain completely.
4. Replace the oil drain plug securely.
5. Remove the oil fill cap and slowly pour new vacuum pump oil until the level reaches the MAX mark in the oil level window.
6. Replace the oil fill cap.
7. Dispose of used oil according to local environmental regulations.

### 6.3 Cleaning

Clean the exterior of the pump with a damp cloth. Do not use abrasive cleaners or solvents that could damage the pump's finish or internal components. Ensure ventilation fins are clear of debris.

## 7. Troubleshooting

This section provides solutions to common issues you may encounter with your vacuum pump. For problems not listed here, please contact customer support.

Problem	Possible Cause	Solution
Pump does not start	No power supply; Faulty power cord; Overload protection tripped	Check power connection and outlet; Replace power cord; Reset overload protection (if applicable)
Poor vacuum performance	System leak; Contaminated or low oil level; Worn pump components	Check all connections for leaks; Change or add oil; Contact service for inspection
Excessive noise or vibration	Pump not level; Contaminated oil; Internal mechanical issue	Ensure pump is on a level surface; Change oil; Contact service for inspection
Oil mist at exhaust	No or clogged oil mist filter; Overfilled oil	Install or replace oil mist filter; Drain excess oil to correct level

## 8. Technical Specifications

Specification	Value
Model Number	1194T34EA
ASIN	B01JCYPMX4
Manufacturer	BrandTech Scientific Inc.
First Available Date	July 30, 2016
Pump Type	Two-Stage Rotary Vane
Voltage	120V/230V (US Plug)

## 9. Warranty and Support

## 9.1 Warranty Information

BRANDTECH SCIENTIFIC products are manufactured to the highest quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official BrandTech Scientific website. Keep your proof of purchase for warranty claims.

## 9.2 Customer Support

If you require technical assistance, spare parts, or service, please contact BrandTech Scientific customer support. Have your pump's model number (RZ2.5) and serial number ready when contacting support to ensure efficient service.

For the most current contact information, please visit the official BrandTech Scientific website or refer to your product documentation.