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Yellow Jacket 93870

Yellow Jacket Bullet DC Vacuum Pump

MODEL: 93870 (7 CFM)

1. Introduction

This manual provides essential instructions for the safe and efficient operation, setup, and maintenance of your Yellow Jacket 93870 Bullet DC Vacuum Pump. This 7 CFM model is designed for various residential and commercial applications, offering high performance and reliability. Please read this manual thoroughly before using the pump to ensure proper function and to prevent damage or injury.

2. Safety Information

Always observe the following safety precautions to reduce the risk of injury or damage to the equipment:

- **Electrical Safety:** Ensure the power source matches the pump's requirements. The pump features a non-sparking switch and a locking low-profile IEC connector for A2L compliance. Always connect to a grounded outlet.
- **Personal Protective Equipment (PPE):** Wear appropriate safety glasses and gloves when handling refrigerants or vacuum pump oil.
- **Ventilation:** Operate the pump in a well-ventilated area. The wide mouth oil reservoir port can be threaded to attach a garden hose for exhausting to a remote location if needed.
- **Hot Surfaces:** The pump may become hot during operation. Avoid direct contact with hot surfaces.
- **Oil Handling:** Use only recommended vacuum pump oil. Dispose of used oil responsibly according to local regulations.
- **System Compatibility:** This pump is designed for use with A2L systems. Ensure compatibility with your specific application.
- **Water Exposure:** The pump has an IPX4 rating, meaning it is resistant to water splashes from any direction. However, avoid submerging the unit or exposing it to heavy rain.

3. Product Overview and Components

The Yellow Jacket 93870 Bullet DC Vacuum Pump is a high-performance, two-stage rotary vane pump featuring a brushless DC motor. Key components and features include:

- **Brushless DC Motor:** 1/2 HP motor providing high torque and efficiency.
- **Intake Fittings:** Multiple intake fittings (1/4in x 3/8in x 1/2in) for versatile connections.
- **Oil Sight Glass:** Elongated for easier monitoring of oil level and condition.
- **Oil Reservoir Port:** Wide mouth for easy filling and doubles as an exhaust port.
- **Oil Drain:** Large brass drain for convenient oil changes.
- **Internal Intake Check Valve:** Prevents oil backup into the system during power interruptions.
- **Intake Filter Screen:** Protects the pump from damaging particles.
- **Cooling Fins:** Built-in for optimal pump cooling and increased performance.
- **Heavy Duty Handle:** Steel handle for easy transport.
- **Mount Points:** Built-in for an optional shoulder strap.



Figure 1: Yellow Jacket 93870 Bullet DC Vacuum Pump. This image shows the overall design of the vacuum pump, highlighting its compact form factor and robust construction.

4. Setup

1. **Unpacking:** Carefully remove the vacuum pump from its packaging. Inspect for any shipping damage.

2. **Oil Filling:** Locate the wide mouth oil reservoir port. Remove the cap and slowly fill the pump with Yellow Jacket SuperEvac™ Vacuum Pump Oil (or equivalent high-quality vacuum pump oil) until the oil level is visible in the middle of the elongated oil sight glass. Do not overfill.
3. **Power Connection:** Connect the provided 9ft 10in (3 meter) power cord to the locking low-profile IEC connector on the pump and then to a suitable grounded electrical outlet. Ensure the connection is secure.
4. **Intake Connection:** Select the appropriate intake fitting (1/4in, 3/8in, or 1/2in) for your system and connect your vacuum hose. Ensure all connections are tight to prevent leaks.
5. **Placement:** Place the pump on a stable, level surface in a well-ventilated area.

5. Operating Instructions

1. **Pre-Operation Check:** Verify the oil level is correct in the sight glass. Ensure all hose connections are secure.
2. **Start the Pump:** Turn the power switch to the 'ON' position. The pump will begin to operate.
3. **Evacuation Process:** Allow the pump to run until the desired vacuum level is achieved. The Bullet DC Vacuum Pump is field rated to 25 microns, effectively removing contaminants and non-condensable gases from the system.
4. **Monitor Oil:** Periodically check the oil sight glass during operation. If the oil appears cloudy or discolored, it may need to be changed.
5. **Shut Down:** Once evacuation is complete, close the valve on your manifold or system to isolate the vacuum pump. Turn the pump's power switch to the 'OFF' position.
6. **Disconnect:** Carefully disconnect the vacuum hoses from the pump.

6. Maintenance

Regular maintenance ensures optimal performance and extends the life of your vacuum pump.

- **Oil Changes:** Change the vacuum pump oil frequently, especially after each use or if the oil appears cloudy, discolored, or contaminated. The small oil bath requires less oil, making changes quicker.
- **Oil Drain:** To change oil, place a suitable container under the large brass oil drain. Open the drain plug to allow the old oil to flow out. Close the drain plug once empty.
- **Refilling Oil:** Refill with fresh vacuum pump oil through the wide mouth oil reservoir port, observing the oil sight glass.
- **Intake Filter Screen:** Periodically inspect and clean the intake filter screen to prevent damaging particles from entering the pump.
- **General Cleaning:** Keep the exterior of the pump clean and free of debris. Ensure cooling fins are clear for efficient heat dissipation.

7. Troubleshooting

Problem	Possible Cause	Solution
Pump does not start	No power, faulty switch, motor issue	Check power cord connection and outlet. Ensure switch is 'ON'. If problem persists, contact support.

Problem	Possible Cause	Solution
Pump not pulling adequate vacuum	Leaking connections, contaminated oil, clogged intake filter, worn components	Check all hose connections for leaks. Change oil. Clean intake filter screen. If problem persists, contact support.
Oil backing up into system	Internal intake check valve issue (unlikely with proper function)	Ensure pump is shut off and isolated from the system before disconnecting. If oil backup occurs frequently, contact support.
Excessive noise or vibration	Low oil level, contaminated oil, foreign object, worn bearings	Check and add oil. Change oil. Inspect intake for foreign objects. If noise persists, contact support.

8. Specifications

Feature	Detail
Model Number	93870
Flow Rate	7 Cubic Feet Per Minute (CFM)
Motor	Brushless DC 1/2 HP
Stages	Two-stage rotary vane
Field Rating	25 Microns
Intake Fittings	1/4in x 3/8in x 1/2in
Power Source	Battery Powered (DC) - <i>Note: Refers to DC motor type, unit requires external power.</i>
Material	Stainless Steel
Product Dimensions (L x W x H)	17.5" x 6" x 11.99"
Item Weight	32.5 pounds
Special Features	Lightweight, Non-sparking switch, Locking IEC connector, PX4 Rating
UPC	686800938707

9. Warranty and Support

The Yellow Jacket 93870 Bullet DC Vacuum Pump comes with a **24 Month Warranty** from the date of purchase.

This warranty covers defects in materials and workmanship under normal use.

For warranty claims, technical assistance, or to purchase replacement parts, please contact Yellow Jacket customer support. Keep your proof of purchase for warranty validation.

Note: Unauthorized repairs or modifications will void the warranty.

