

Huanyu GM-0.5A

Huanyu GM-0.5A Oilless Diaphragm Vacuum Pump User Manual

Model: GM-0.5A

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of the Huanyu GM-0.5A Oilless Diaphragm Vacuum Pump. Please read this manual thoroughly before installation and use to ensure proper function and longevity of the device. This pump is designed for laboratory applications requiring vacuum filtration, distillation, adsorption, solvent filtration, solid-phase extraction, degassing, compression, and gas conversion.

2. SAFETY INFORMATION

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

- Ensure the pump is placed on a stable, level surface to prevent tipping during operation.
- Operate the pump in a well-ventilated area to prevent heat buildup and ensure proper air circulation.
- Verify the power supply voltage matches the pump's requirements (110V) before plugging in.
- Do not block the ventilation openings on the pump.
- Avoid operating the pump in environments with flammable or explosive gases unless specifically designed for such conditions.
- In case of overheating, the pump's temperature protector will automatically shut off power. Allow the unit to cool down before restarting.
- Disconnect power before performing any maintenance or cleaning.
- Keep hands and loose clothing away from moving parts during operation.

3. PRODUCT OVERVIEW AND FEATURES

The Huanyu GM-0.5A is an oilless diaphragm vacuum pump designed for reliable and clean laboratory vacuum applications. Key features include:

- **Oil-Free Operation:** This pump requires no oil, eliminating oil mist pollution and ensuring a clean working environment. The gas exchange chamber includes filtering materials for air purity.
- **Continuous Operation:** Equipped with a CE-certified motor and an automatic cooling ventilation system, the pump is designed for 24-hour continuous operation without motor damage.
- **Overheat Protection:** A built-in temperature protector automatically shuts off the pump if the motor temperature reaches 130°C (266°F), preventing damage.
- **High Efficiency:** Features frictionless film movement, minimizing heat generation and frictional loss. Rubber diaphragms offer corrosion resistance for extended lifespan.
- **Compact and Portable Design:** Small footprint and lightweight construction make it easy to move and save laboratory space. Bottom suction cups provide stability during use.
- **Low Noise:** Operates at less than 60dB, making it suitable for laboratory environments.



Image: Huanyu Oilless Diaphragm Vacuum Pump highlighting its key features like oil-free operation, 24-hour continuous use, overheat protection, and portability.

Product Structure



Image: Detailed diagram showing the components of the Huanyu GM-0.5A Vacuum Pump, including pressure gauge, pressure regulating valve, handle, vacuum tube interface, vent, and stable suction cups.

4. SETUP INSTRUCTIONS

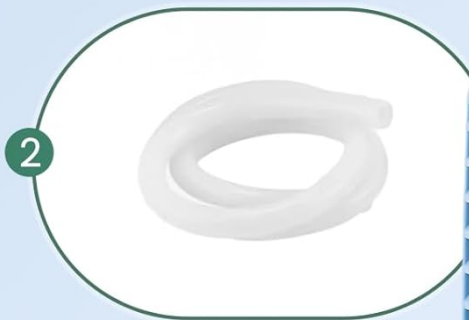
Follow these steps to set up your Huanyu GM-0.5A vacuum pump:

1. **Unpacking:** Carefully remove the pump and all accessories from the packaging. Verify that all components listed in the packing list are present.
2. **Placement:** Place the pump on a flat, stable, and dry surface. Ensure there is adequate space around the pump for ventilation. The bottom suction cups will help secure the pump.
3. **Connect Tubing:** Connect the appropriate vacuum tubing (plastic tube included) to the vacuum tube interface on the pump. Ensure connections are secure to prevent leaks.
4. **Power Connection:** Connect the power cable to the pump's power inlet, then plug the other end into a grounded 110V AC power outlet.
5. **Initial Check:** Before turning on, ensure all connections are tight and there are no obstructions to the air vents.

Packing List



Power Cable



Plastic Tube



Service Card & Manual



Image: Packing list showing the included power cable, plastic tube, and service card/manual for the Huanyu GM-0.5A Vacuum Pump.

5. OPERATING INSTRUCTIONS

Once the pump is set up, follow these steps for operation:

1. **Power On:** Flip the power switch located on the side of the pump to the "ON" position. The pump will begin to operate.
2. **Monitor Vacuum:** Observe the pressure gauge to monitor the vacuum level. The GM-0.5A model can achieve an ultimate vacuum of 200mbar.
3. **Pressure Regulation:** If your application requires a specific vacuum level, use the pressure regulating valve to adjust the vacuum as needed.
4. **Continuous Operation:** The pump is designed for continuous operation. The automatic cooling system will manage internal temperatures.
5. **Power Off:** When finished, flip the power switch to the "OFF" position. Disconnect the power cable from the outlet if the pump will not be used for an extended period.

Applications: This pump is suitable for various laboratory tasks including vacuum filtering, distillation, adsorption, solvent filtration, solid-phase extraction, degassing, compression, and gas conversion.



Image: The Huanyu GM-0.5A Vacuum Pump shown in a multi-application context, illustrating its use in fine chemicals, biological research, food inspections, and criminal investigation labs.

6. MAINTENANCE

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

- **Cleaning:** Periodically wipe the exterior of the pump with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure no liquids enter the internal components.
- **Filter Inspection:** The gas exchange chamber is equipped with filtering materials. Regularly inspect these filters for any signs of clogging or wear. Replace them as necessary to maintain air purity and pump efficiency. Refer to the detailed service manual for specific filter replacement procedures.
- **Ventilation:** Ensure the ventilation grilles are free from dust and debris to allow for proper cooling.
- **Storage:** When not in use for extended periods, store the pump in a clean, dry environment, away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

If you encounter issues with your Huanyu GM-0.5A vacuum pump, refer to the table below for common problems and solutions.

Problem	Possible Cause	Solution
Pump does not start	No power supply; Power switch off; Overheat protection activated.	Check power cable connection and outlet; Ensure power switch is ON; Allow pump to cool down if it was recently running and shut off.
Low vacuum performance	Loose tubing connections; Clogged filter; Damaged diaphragm.	Check and secure all tubing connections; Inspect and replace filter if clogged; Contact customer support for diaphragm replacement.
Unusual noise during operation	Pump not on a stable surface; Internal component issue.	Ensure pump is on a stable surface and suction cups are engaged; If noise persists, discontinue use and contact customer support.
Pump overheats and shuts off	Blocked ventilation; Prolonged operation in high ambient temperature.	Clear any obstructions from vents; Ensure adequate room ventilation; Allow pump to cool before restarting.

8. SPECIFICATIONS

Technical specifications for the Huanyu GM-0.5A Oilless Diaphragm Vacuum Pump:

Feature	Specification (GM-0.5A)
Brand	Huanyu
Model	GM-0.5A
Voltage	AC 110V
Rated Power	160W
Maximum Flow Rate	30 Liters Per Minute
Ultimate Vacuum	200mbar
Noise Level	<60 dB
Working Environment Temperature	7-40°C (44.6-104°F)
Pump Body Temperature	<40°C (104°F)
Positive Pressure	≥30psi
Inlet and Outlet (mm)	φ6
Pump Heads	1
Product Dimensions	8.27 x 6.3 x 9.25 inches
Item Weight	18.46 pounds

Feature	Specification (GM-0.5A)
Special Features	Oilless
Included Components	Filter, Power Cable, Plastic Tube, Manual

Product Specifications

	GM-0.5A	GM-0.5B	GM-1.0A
Voltage:	AC 110V		
Rated Power:	160W		
Noise:	<60 dB		
Working Environment Temperature:	7-40°C (44.6-104°F)		
Pump Body Temperature:	<40°C (104°F)		
Positive Pressure:	≥30psi	/	≥30psi
Inlet and Outlet(mm):	φ 6	Silencer	φ 6
Pump Heads:	1	2	2
Pumping Speed(L/min):	30	30	60
Ultimate Vacuum:	200mbar	50mbar	200mbar
Dimension(in):	9.05*6.69*10.24	13.78*5.12*8.46	12.20*7.48*8.46
Weight(pounds):	15.43	19.84	19.84

Image: Table detailing product specifications for various Huanyu diaphragm vacuum pump models, including GM-0.5A, GM-0.5B, and GM-1.0A, covering voltage, power, noise, temperature, vacuum, and dimensions.

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the service card included with your product or contact Huanyu customer service. Keep your purchase receipt for warranty claims.

Contact Information: Please refer to the contact details provided in your product packaging or visit the official Huanyu website for the most up-to-date support information.

