

# Vacuum Pump

## User Manual

Read Carefully Before Use

Keep for Future Reference



**OMT**  
Orion Motor Tech

# Disclaimer

Read this disclaimer completely and carefully before proceeding with the rest of the manual content.

## 1. Product Modifications

Any modifications or alterations to Orion Motor Tech (OMT) products void any warranties and may result in damage or injury. OMT shall not be liable for any damages resulting from such modifications or alterations.

## 2. Compliance with Laws

Customers shall be liable for ensuring that the use of OMT products complies with all applicable laws and regulations in their respective jurisdictions. OMT shall not be responsible for any violations of laws or regulations resulting from the use of OMT products.

## 3. Correct Use

Always use OMT products only as directed in the accompanying manuals. Failure to follow instructions may result in injury or damage.

Always ensure the assembly, installation, operation, maintenance, or repair of OMT products is carried out by a competent person.

Regular maintenance should be performed throughout the lifecycle of OMT products. You are responsible for ensuring the products operate as intended.

Always wear appropriate protective gear.

## 4. Third-Party Products

OMT shall not be liable for any damages or losses resulting from the use of third-party products in conjunction with OMT products. Customers shall refer to the third-party's guidelines and/or warranties (if any) for any third-party products used.

## 5. Limitation of Liability

OMT shall not be liable for any direct, indirect, punitive, incidental, special, or consequential damages to property or life, whatsoever arising out of or connected with the use or misuse of OMT products. In no event shall OMT's liability exceed the value of the products sold.

## 6. Warranty

Refer to the sales page for warranty information.

This disclaimer states the entire obligation of OMT with respect to OMT products. If any part of this disclaimer is determined to be void, invalid, unenforceable, or illegal, including but not limited to the warranty disclaimers, liability disclaimers, and liability limitations set forth above, the invalid or unenforceable provision will be deemed superseded by a valid and enforceable provision that most closely matches the intent of the original provision and the remainder of the agreement shall remain in full force and effect.

# Contact Us

Thank you for choosing our products! If you have any questions or comments, contact us and we'll address your issues ASAP!

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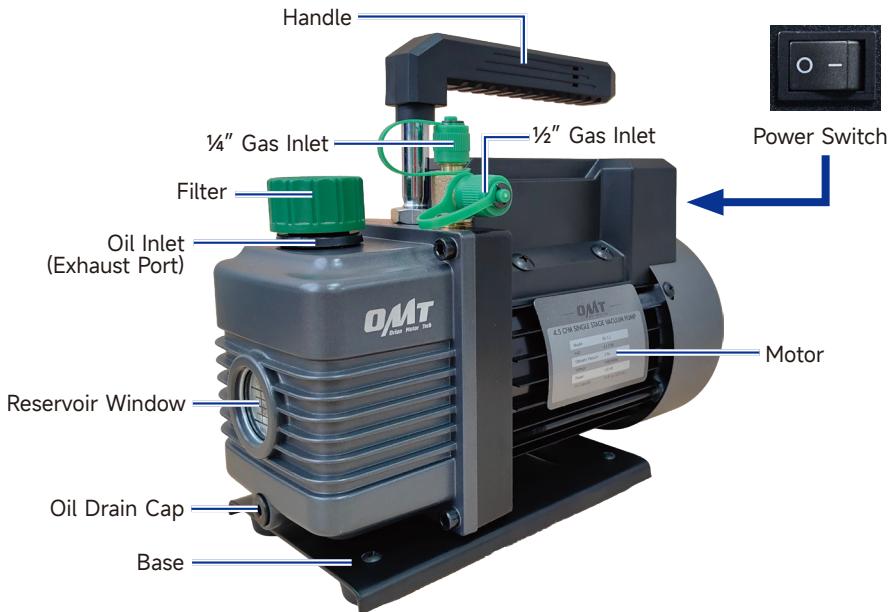


# Safety Information

## Danger

- Read **ALL** these instructions carefully before use and keep them for future reference.  
Provide these instructions to anyone who will use this device.  
Provide these instructions with this device if it is ever given or sold to a third party.  
Failure to do so may lead to property damage and personal injury.
- This device was designed to remove gas molecules from a sealed volume to create a partial or complete vacuum.  
Any other use **NOT** specified herein could potentially pose risks and void **ALL** warranties stated or implied.
- These instructions are **ONLY** an introduction to this device.  
For specifics on particular tasks, be sure to have the required knowledge and seek appropriate training as needed.
- **DO NOT** use this device while you are tired or under the influence of drugs, alcohol, or strong medication.
- **DO NOT** allow use by children under the age of **18**, anyone **WITHOUT** specialized training, persons unfamiliar with this device, or people whose physical or mental impairment precludes safe use.
- **ALWAYS** keep children, bystanders, and pets away during use.  
Restrict access to your work area as needed.
- **ALWAYS** ensure that your work area is clean, bright, well-ventilated, and free of explosives or heat sources, especially when working on systems that contain refrigerants or other substances that pose the risks of fire, explosion, carbon monoxide poisoning, etc.
- Wear appropriate personal protective equipment (PPE) as needed.  
Breathing, eye, and hand protection **ARE** required when you use this device for systems that contain refrigerants or other substances capable of generating harmful gases or causing burns, scalds, frostbite, etc.
- **DO NOT** operate this device if any component is damaged or shows any sign of malfunction.  
Repair or replace problematic components before further use.  
**NEVER** replace any components with nonidentical or unauthorized ones.
- For HVAC systems, **ALWAYS** turn it off **BEFORE** performing evacuation with this device.
- **ALWAYS** check that this device's power cord is undamaged **BEFORE** use.  
**NEVER** operate electrical devices with **ANY** problematic power cords.  
**NEVER** attempt to remove **ANY** permanently preconnected power cords.
- **DO NOT** move this device by pulling on its power cord or modify its power plug.
- **ONLY** use this device with stable, compatible, and well-grounded power sources.  
**DO NOT** use 3-to-2 prong adapters, ungrounded extension cords, or extension cords of insufficient gauge for this device's expected electrical load.
- In case of power loss during operation, unplug this device **IMMEDIATELY** until power is restored.
- **DO NOT** get this device wet or operate it with wet hands or in highly humid environments.  
**DO NOT** rinse the entire device with tap water, immerse it completely in water, or expose it to rain.  
In the event of any signs indicating that any electrical component accidentally becomes wet, disconnect this device from power **IMMEDIATELY** and wait for it to completely dry **BEFORE** resuming use.
- **ALWAYS** avoid **ALL** direct contact with the vacuum pump oil.  
If contact accidentally occurs with the skin, remove contaminated clothing and flush with copious amounts of water.  
If contact accidentally occurs with the eyes, **IMMEDIATELY** flush them with copious amounts of water for at least 15 minutes while seeking medical attention.  
**NEVER** swallow the oil, which may cause **FATAL** problems.
- **DO NOT** run this device **WITHOUT** the provided vacuum pump oil or with its oil inlet left open.  
**ALWAYS** maintain the oil level between the **MIN** and **MAX** height marks on the reservoir window during use.
- Stay alert, watch what you are doing, and use common sense when using this device.
- If you begin to develop symptoms such as headaches, dizziness, or nausea during use, stop work and get fresh air **IMMEDIATELY**.  
**DO NOT** continue work until better ventilation is provided for your work area.  
This is especially important when you work on HVAC systems.
- **DO NOT** leave this device unattended during use.
- When working on refrigerant systems, use **EXTREME** caution when disconnecting hoses after use.  
They may still contain some refrigerant under pressure.
- **DO NOT** maintain this device with harsh abrasives or caustic chemicals.
- **NEVER** disassemble this device.  
**NEVER** modify its internal components **WITHOUT** professional guidance.

# Product Diagram



## Package List

No.	Part	Qty.
1	Vacuum Pump	1
2	Vacuum Pump Oil	1
3	1/4" to 3/8" Adapter	1
4	Work Gloves	2
5	Tape	1

### Not Included but Helpful:

- Micron Gauge
- 4 mm Hex Wrench

# Specifications

Region	North America	EU, UK, & AU
Input Voltage	110–120 V AC	220–240 V AC
Frequency	60 Hz	50 Hz
Rated Power	1/3 HP	245 W
Evacuation Speed	4.5 cfm	0.13 m <sup>3</sup> /min.
Oil Capacity	7.6 fl. oz.	225 ml
Dimensions	10.6 × 4.3 × 8.5 in.	27 × 11 × 21.5 cm
Power Cord Length	4.5 ft.	1.4 m
Net Weight	11 lb.	5 kg

## Operation

### Warning

- Make sure your surroundings **ARE** safe for using this device.  
Avoid operating in crowded, dark, or cluttered areas.  
Ensure **NO** explosives or ignition sources nearby.
- Be sure that **ALL** connections **ARE** tightly secured.
- For optimal safety and performance, we recommend you take training **BEFORE** operating this device.  
Injury and failure could happen due to a lack of training.
- If working on an HVAC system, check that it has been turned off **BEFORE** starting work.

1. Put on your dust mask, goggles, work gloves, and any other PPE necessary for your work area.
2. Place the vacuum pump on a firm level surface and make sure the oil drain is tightly closed by screwing its cap into place with a 4 mm hex wrench (not included).
3. Unscrew the pump's filter by hand, exposing its oil inlet. Add the provided oil until the reservoir window is covered between its **MIN** and **MAX** height marks. Replace this filter, screwing it into place.

4. Connect the  $\frac{1}{4}$ " or  $\frac{1}{2}$ " gas inlet with the object for evacuation using an appropriate hose and a quick coupler (not included) if needed. If your hose does not match the pump's gas inlets, attach the  $\frac{1}{4}$ " to  $\frac{3}{8}$ " adapter or your own appropriate one to your hose. To measure the vacuum degree, equip your hose with a vacuum gauge (not included). For best results, apply some tape to any joints.
5. Connect the pump to a stable, compatible, and grounded power source. Turn on the pump by flipping its power switch to **I** and evacuation should begin.

 **Warning**

**DO NOT** leave the pump unattended while it is in operation.

6. When your micron gauge reads less than 500 microns, evacuation is completed. Turn off the pump by flipping its power switch to **O**.
7. Carefully disconnect the pump from the object for evacuation.

## Maintenance

- Disconnect the pump from power between uses and before undertaking any cleaning, maintenance, or repair.
- The exterior of the pump can be cleaned with a soft damp cloth. Do not use harsh abrasives or caustic chemicals. Do not allow any electrical component to become wet or damp.
- When the oil turns turbid or its level falls below the "MIN" height mark of the reservoir window, replace it using the following procedure:
  1. Make sure the remaining oil is warm. If you are unsure of your oil's temperature, plug in and turn on your pump, running it for about 10 minutes to heat the oil sufficiently. Turn off the pump and unplug it before continuing.
  2. Remove the oil drain cap using your 4 mm hex wrench. Grip the handle of the pump and tilt it down to drain the remaining oil into a suitable container.
  3. Screw the cap into place and start filling it as instructed above. Once the initial oil can has been used up, only use oil of equivalent weight (ISO 100 or SAE 30) as a replacement.
- **NEVER** drop the pump on hard or rough surfaces.
- If any part of the pump is damaged, worn, or shows signs of malfunction, repair or replace it with a new identical one before further use.
- If the pump will not be used for an extended period of time, store it and its accessories in a cool, dry, and clean place away from direct sunlight and inaccessible to children.

# Troubleshooting

Problems	Possible Solutions
The vacuum pump cannot be turned on.	Check your power supply and the pump's power cord. Correct any problems as needed.
	Move the pump to a warmer location, wait a while, and activate your pump.
The vacuum pump turns off automatically during use.	The thermal protector will deactivate your pump if its motor reaches 160 °F (70 °C). Wait about 15 minutes to let it cool down and restart your pump.



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