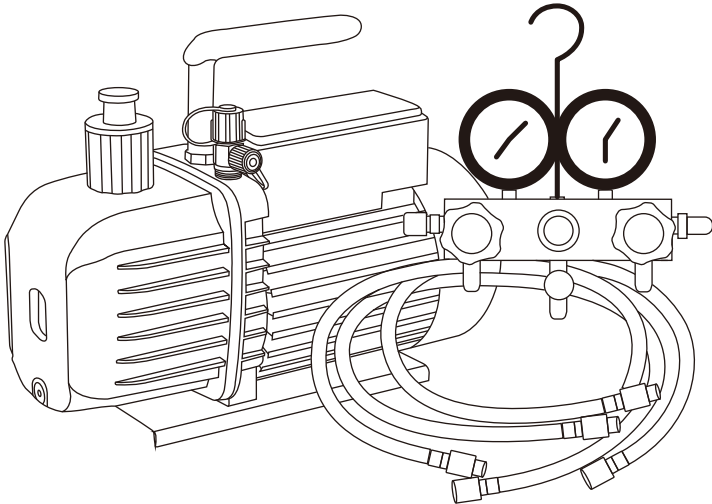


# **TURBRO**

## **Vacuum Pump and Manifold Gauge Set**

**Model: VP30**

## **USER MANUAL**



Please read the manual carefully before use and keep it for future reference

## Contents

Safety Precautions	01
Specifications	03
Parts List	03
Parts Description	05
Air Evacuation	06
Maintenance	07
Troubleshooting	08
Warranty Information	09

# Safety Precautions

## General Safety

1. **DO NOT use this appliance until you have read the safety warnings and operating instructions.** Risk of fire, malfunction, property damage, electric shock, serious injury, or even death may result if warnings and instructions are not adhered to.
2. The manufacturer declines all responsibility for personal injury or damage to animals or objects caused by inappropriate use of the appliance according to the warnings for installation, use, and maintenance described in this instruction manual.
3. This appliance is not to be used or have maintenance performed by persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge unless they have been given strict supervision or instruction concerning the use of the appliance by a person responsible for their safety.
4. DO NOT use it for any purpose other than that for which it was designed.
5. This product is not intended for commercial use.
6. Keep the appliance out of reach of children and pets.
7. DO NOT alter or modify this appliance in any manner.
8. NEVER attempt to operate this appliance if it is damaged, malfunctioning, disassembled, or has missing or broken parts.
9. If the product is damaged or is not functioning properly, stop using it and contact Customer Support immediately.
10. Wear safety goggles when working with refrigerants.
11. Use the pump with a grounding socket where the operating voltage is rated  $\pm 10\%$ .
12. Incorrect use of electrical connections may cause electrical shock. All associated devices must be correctly grounded before energizing circuits.
13. DO NOT use the vacuum pump as a compression pump or conveyor pump.
14. DO NOT touch the pump's hot surface during operation.
15. DO NOT operate without oil.
16. DO NOT use a damaged plug or outlet.
17. DO NOT pull out, insert the power plug, or turn on the power switch where flammable gases may be present.

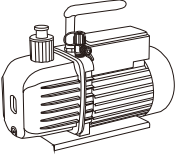
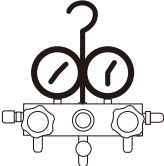
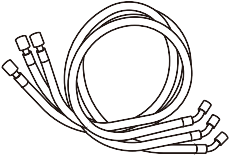
## Electrical Safety

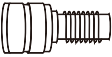
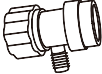
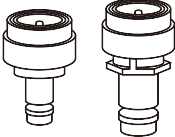
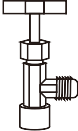
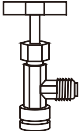

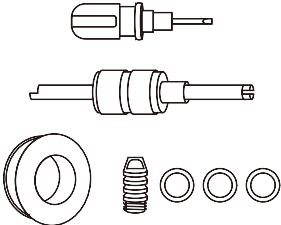
1. Installation must be carried out by a certified electrician in line with all applicable local, state, and national codes.
2. Check the power cord and plug carefully before use to ensure that they are not damaged.
3. The power cord should not be scratched, damaged, knotted, pressed against heavy objects, clamped, or processed. Otherwise, it may increase the risk of electric shock, short circuit, or fire.
4. Make sure the operating voltage is the same as the parametric label.
5. Ensure that the plug fits into a proper socket.
6. Push the power plug all the way into the wall outlet so that it will not loosen.
7. This unit should be plugged directly into a power outlet. Power outlets should be properly rated, protected, and sized to avoid electrical overload.
8. DO NOT cut or remove the third (ground) prong from the power cord.
9. DO NOT use an extension cord or power strip with this product, as using those may increase the risk of fire.
10. DO NOT handle the power cord, plug or unplug with wet hands. Keep the plug and power cord away from liquids.
11. If the power cord is damaged, it must be replaced by the manufacturer, its certified service agent, or similarly qualified persons to avoid a hazard.
12. To disconnect the appliance, turn the unit off, then remove the plug from the outlet. Always grip the plug firmly and pull it straight out from the outlet when taking it out. DO NOT unplug by pulling on the cord.

## Specifications

Product Name	Vacuum Pump
Model	VP30
Voltage	AC 120 V / 60 Hz
Free Air Displacement	4 CFM
Stages	1
Motor	1/3 HP
Oil Capacity	11.2 oz (330 ml)
Intake Port	1/4" SAE, 1/2" ACME
Applicable Refrigerant	R134a, R22, R410a, R32 and R1234YF
Work Ambient Temperature	41-104°F (5-40°C)

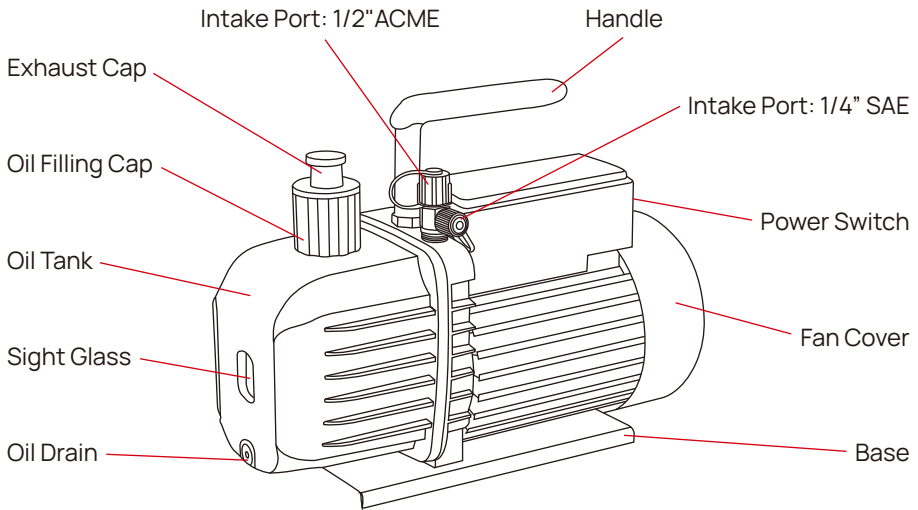
## Parts List

Parts	Parts Name	Quantity
	Vacuum Pump	1
	Manifold Gauge	1
	Hose	3

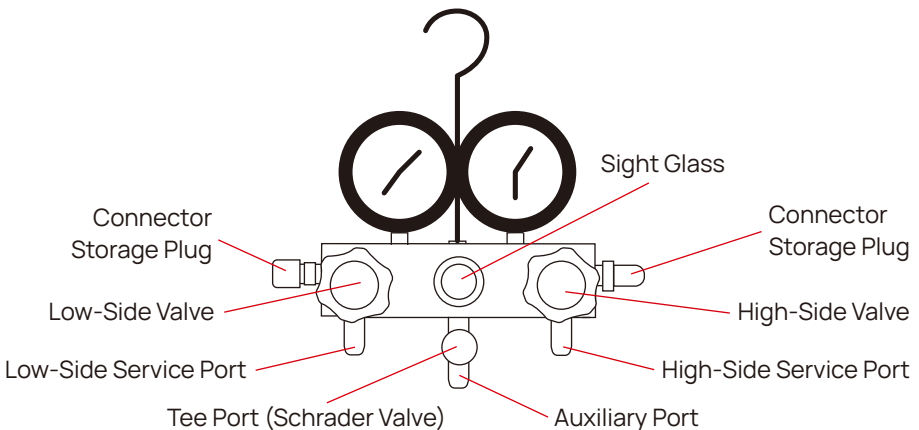
Parts	Parts Name	Quantity
	1/4" SAE to 5/16" SAE Adapter	2
	R134a Quick Connector	2
	R1234YF Adapters	1 Set
	R134a Can Tap	1
	R1234YF Can Tap	1
	Vacuum Pump Oil (11.2 oz)	1
	Tool Pack	1

## Parts Description

### Vacuum Pump



### Manifold Gauge



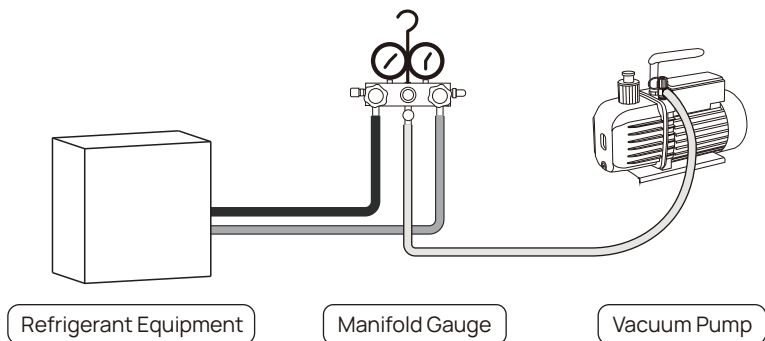
The blue hose without the valve core connects to the low-side service port.

The yellow hose without the valve core connects to the auxiliary port.

The red hose without the valve core connects to the high-side service port.

You can attach the R134a quick connectors to the connector storage plug for storage.

## Air Evacuation



1. In all cases, motors are designed for operating voltages  $\pm 10\%$  of the normal rating. Single voltage motors are supplied fully connected and ready to operate.
2. Remove refrigerant from the system using an approved recovery unit before connecting your vacuum pump. The pump may be damaged if evacuation starts while the system is under high pressure.
3. Ensure the power switch is in the OFF position before plugging into an outlet.
4. Remove the oil filling cap and fill it with the recommended vacuum pump oil (46-Viscosity). Check the oil level before use to ensure it's not lower than the minimum line. The approximate oil capacity is 8.8-10 oz. Do not use the pump with a low oil level.
5. Place the oil filling cap back into position. According to the above picture, connect the red/blue hose of the manifold gauge to the refrigerant equipment and the yellow hose to the 1/4" or 1/2" intake port of the vacuum pump. If evacuating AC units, connect one hose to the low-side service port.

**Note: When using the R1234YF, adjust the adjustable knob of the R134a quick connector to the maximum closed position, then insert the R1234YF adapters into the R134a quick connector.**

6. Remove the exhaust cap. Plug in the power supply and turn on the switch. The pump will start to work. After the pump runs for 1 minute, check the oil level which should be even with the sight glass oil level line. Add oil if necessary.

**Note: Insufficient oil will result in poor vacuum performance and excessive oil can result in oil blowing from the exhaust port. It is normal that an oil mist appears when the pump works at the beginning.**

7. After use, close the valves of the equipment requiring vacuuming and then turn off the pump. Place back the exhaust cap. Unplug the vacuum pump and remove the connecting hoses. Cover the intake cap to prevent any contamination or loose particles from entering the port.



## Maintenance

Cleaning and user maintenance should not be made by persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge unless they have been given strict supervision or instruction concerning the use of the appliance by a person responsible for their safety.

Ensure the machine is powered off and the power supply is shut off for at least 5 minutes before performing cleaning and maintenance of the appliance, and prevent it from being reconnected by accident.

1. It is recommended to use High Vacuum Pump Oil (46-Viscosity). This oil has been specifically blended to maintain maximum viscosity at normal running temperatures and to improve cold weather starts.
2. Keep the oil clean. If the oil becomes dirty, or water or other volatile substances get in, it will affect the performance of the pump and the oil should be replaced.

### How to replace the oil

- 1) Ensure the pump is warmed up by running it for a while.
  - 2) Remove the oil drain cap. Drain contaminated oil into a suitable container and dispose of it properly. Oil can be forced from the pump by opening the intake cap and partially blocking the oil-filling hole with a cloth while the pump is running. **Do not operate the pump for more than 20 seconds in this method.**
  - 3) When the flow of oil has stopped, tilt the pump forward to drain residual oil.
  - 4) Reinstall the oil drain cap. Remove the oil filling cap and fill the reservoir with new vacuum pump oil until the oil just shows at the bottom of the sight glass.
  - 5) Be sure the intake port is capped then turn on the pump to run for 1 minute then check the oil level. If the oil is below the sight glass minimum line, add oil slowly with the pump running until the oil reaches the line. Place back the oil filling cap and ensure the intake port is capped and the drain cap is tight.
  - 6) Repeat this procedure if the oil is heavily contaminated until the contamination is removed.
3. When not in use for long periods, cover the exhaust cap and intake cap and store them in a dry place.

## Troubleshooting

Issue	Possible Cause	Solution
Low vacuum	<ol style="list-style-type: none"> <li>1. The spare inlet port is not sealed.</li> <li>2. Oil shortage.</li> <li>3. Pump oil is emulsified and not clean.</li> <li>4. The oil tank is blocked.</li> <li>5. The connecting pipes or container leaks.</li> <li>6. The pump model is not proper.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten the spare intake port cap and replace the inner rubber ring if lost.</li> <li>2. Ensure the oil is at the proper level. Fill oil to the center line of the oil tank.</li> <li>3. Replace with new oil.</li> <li>4. Replace with new oil.</li> <li>5. Ensure all connections are in good condition and leak-free.</li> <li>6. Choose a powerful pump.</li> </ol>
Oil leakage	The oil tank is loosely connected or damaged.	Tighten the screws of the oil tank and oil drain port or adjust the O-ring inside.
Oil comes out from the exhaust port	<ol style="list-style-type: none"> <li>1. Too much oil inside the pump.</li> <li>2. The inlet pressure remains high for a long time.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust oil to the middle line on the oil sight glass.</li> <li>2. Choose a powerful pump.</li> </ol>
The pump is difficult to work	<ol style="list-style-type: none"> <li>1. The temperature is too low.</li> <li>2. Foreign matters fall in the pump.</li> <li>3. The voltage is low.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn on the pump several times.</li> <li>2. Check and clear the impurities.</li> <li>3. Check the voltage. The pump needs to operate at <math>\pm 10\%</math> rated voltage.</li> </ol>
Oil flows back	There are foreign matters in the pump and gaps.	Use pipes with ball valve or remove the connection before shutting down the pump.

## Warranty Information

This 1-year limited warranty is extended to the original purchaser of this product and warrants against any defect in materials and workmanship under normal use and conditions, for a period of one year from the date of the original purchase, subject to the conditions and limitations outlined below.

This warranty is non-transferable to any subsequent owner of the product regardless of whether the product is transferred during the specified term of the warranty.

THIS LIMITED WARRANTY IS GIVEN TO THE PURCHASER IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE.

### What is covered?

- TURBRO's warranty extends only to products purchased from authorized sellers that are subject to TURBRO's quality controls and have agreed to follow its quality controls.
- This warranty is limited to the repair or replacement of part(s) proved to be defective in material or workmanship after said defect is confirmed by the manufacturer's inspection.
- The manufacturer may, at its discretion, fully discharge all obligations with respect to this warranty by refunding the wholesale price of the defective part(s).

UPON THE EXPIRATION OF THIS WARRANTY, ALL SUCH LIABILITY WILL TERMINATE. NO OTHER WARRANTIES ARE EXPRESSED OR IMPLIED ANYMORE.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

### What is not covered?

- Damage or losses caused by any alterations or unauthorized repair made to the product by the owner.
- Damage or losses caused by accident, neglectful operation, misuse, abuse, or use contrary to the user manual and safety guidelines.
- Damage or losses occurring during commercial use, rental use, or any use for which the product is not intended.
- Damage or losses caused by improper or inadequate maintenance.
- Failure to perform general maintenance (including cleaning).
- Use of non-standard parts or accessories.
- Natural depreciation and normal wear and tear.

TURBRO SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW.

Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you.

## How to request warranty services?

To obtain the benefit of this warranty please leave a message online ([www.turbro.com/contact](http://www.turbro.com/contact)), or send an email to [support@turbro.com](mailto:support@turbro.com).

To express our gratitude to you for choosing us, we are giving you a 1-year warranty extension to the original 1-year manufacturer's limited warranty, extending the coverage period to two years in total.

- Complete the registration of your new product at <https://www.turbro.com/warranty> within 90 days from the date of package delivery (inclusive of the 90th day).
- Any registration beyond this stipulated period will be deemed invalid.
- The ultimate interpretation of the terms and conditions related to the extended warranty service rests solely with TURBRO.

If you discover that your product is defective within the specified warranty period, please contact our Customer Support via [support@turbro.com](mailto:support@turbro.com).

- Order ID and invoice, or bill of sale should be provided. Such payment records must be kept to verify the purchase date and establish a warranty period.
- Model and issue description should be provided in detail, preferably with pictures and videos.
- DO NOT dispose of your product before contacting us.
- DO NOT return the product unless instructed by our customer service.
- The original carton should be kept in case of warranty return of the unit.

## What will TURBRO do?

- Replace certain parts.
- Replace the item.
- Refund the item under certain circumstances.

In no event shall liability exceed the purchase price paid by the original purchaser of the product.

Any instructions or warranty included in this manual may be subject to change without notice. For the most up-to-date instructions and warranty information, please contact us via [support@turbro.com](mailto:support@turbro.com).

# TURBRO



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