

# INSTRUCTION MANUAL

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## Rotary Vane Vacuum Pump

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### **Model No.**

Tanker 130

Tanker 150

Tanker 215

Tanker 230



# **ROCKER**

Please read this instruction manual before using this product.

## Important Notice

This instrument is designed for laboratory usage only. Please read this manual carefully before installing and operating. The instrument shall not be modified in any way. Any modification will void the warranty and may result in potential hazard. We are not responsible for any injury or damage caused by any non-intended purposes and modifying the instrument without authorization.

1. Check the voltage specified on the name plate and ensure it matches the line voltage in your location.
2. Install the instrument in a clean, dust-less and ventilated area under 40°C.
3. Never use the instrument with any corrosive, organic, chemical, flammable gas or toxic material.
4. The instrument is not designed to start against applied vacuum. To prevent damage, verify that the inlet of pump is at atmospheric pressure before each start.
5. Please always prevent liquid and particles from being drawn into the pump which may cause severe damage. In case of such condition, please stop the operation immediately and contact us for assistance.
6. Do not pump hot gas that exceed 80°C; otherwise, install a cooling device in front of pump inlet.
7. This instrument has a thermal protection device that automatically shuts-off when it becomes overheated.
8. Use only Tanker SC Lubricant, other lubricants/oils may damage the pump and cause danger. It shall not fall within warranty scope if any damage caused by using other lubricants.
9. The temperature of the pump surface is very high after use or during work, please don't touch it to avoid being burnt.
10. If the supply cord is damaged, please contact the manufacturer or your service agent for replacement to avoid hazard.
11. Operating condition
  - (a) Ambient temperature: 5~40°C
  - (b) Relative humidity: 80% RH Max.
  - (c) Power supply: 100-120V~, 50/60Hz or 200-240V~, 50/60Hz
  - (d) Altitude: up to 2000 m
  - (e) Pollution degree: II
  - (f) Indoor use

# Unpacking

Please check if the package is complete without any damage before unpacking. When unpacking, please make sure you have all accessories that indicated on the list. If there is any problem, please keep the serial number along with packing case and contact your local distributor immediately for assistance.

# Main Part Diagram



(Optional) Exhaust filter

| Position | Designation  | Position | Designation            |
|----------|--------------|----------|------------------------|
| 1        | Power Switch | 4        | Cap for Exhaust Filter |
| 2        | Air Inlet    | 5        | Oil Level Window       |
| 3        | Oil Inlet    | 6        | Drain Valve            |

# Operation

## Filling and Refilling of Lubricant

**NOTE. The pump is delivered without lubricant, please fill lubricant before first use.**

- A. Remove cap of oil inlet (3) and fill in Tanker SC lubricant (187100-05) slowly to "Max" mark by watching on oil level window (5).
  - Do NOT exceed the Max. liquid level; otherwise, the amount of oil mist will spray out during operation.
- B. Fix and tighten cap of oil inlet (3) after filling the lubricant.

## Installation of Exhaust Filter or Oil Mist Outlet

- A. Remove cap for exhaust filter (4) and screw the exhaust filter or oil mist outlet on it.
  - Optional exhaust filter (187100-30) is used to adsorb the oil mist from pump to reduce air pollution and keep environment clean.
  - Exhaust filter is consumable and should be changed periodically while it is overloading (the oil mist starts spraying).
  - Optional oil mist outlet (187100-25) is used to exhaust the oil mist out of room by connecting an optional hose barb (Thread 1/8 PT) and a proper tube.

## Operation

- A. Check whether you have finished the filling of lubricant and installation of exhaust filter or oil mist outlet by following the above-mentioned steps.
- B. Turn on the power switch (1) and run for 1 min to check if the oil level is between marks of Max. and Min before each start.
  - Please refill Tanker SC lubricant (187100-05) if oil level is less than Min. mark. The step please refer to "Filling and Refilling of Lubricant"
  - Check the state of lubricant every time. If it should be changed, please refer to "How to change lubricant" in Maintenance section.
- C. Connect air inlet (2) and target item with a high-pressure tube and check if all the connections are tightly sealed and without air leakage.
  - The length between target item and pump should be as short as possible.
  - Never block the gas outlet to ensure a free discharge of gas.

- D. Press power switch (1) to activate the pump after making sure all tubing are well connected.
- Lubricant may higher than Max. mark when operation because the temperature will inflate the volume of lubricant.
  - Make sure to shut air inlet (2) before starting the pump.
- E. Press power switch (1) to turn off the pump after operation is finished.
- Please remove the power plug from power source if not in use promptly to save power.

**\* *Warning: Please make sure to release the vacuum before turning off the pump to prevent lubricant being sucked reversely.***

## Maintenance

1. Please replace the lubricant to maintain pumping efficiency when it is aging (Turns into yellow color, strange smell or turbid).
2. Dispose of the drained lubricant in compliance with local regulations.
3. The vacuum pump is not autoclavable. Please clean the surface by pure water or 75% ethanol.

### How to change lubricant

1. Turn on the pump and run for 30 mins to reduce oil viscosity then turn off the pump.
  - Please make sure the air inlet (2) is at atmosphere before changing lubricant.
2. Remove the drain valve (6) to drain the used lubricant.
  - Place an appropriate container below the drain valve to catch the used lubricant.
3. Remove the cap of air inlet (2) and run the pump for 1-2 mins to eliminate the remaining oil in pump, then plug the drain valve (6) back.
4. Remove the cap of oil inlet (3), refill new Tanker SC lubricant to proper level then install the cap (3) back.
  - Do NOT exceed the Max. liquid level; otherwise, the amount of oil mist will spray out during operation.

## Troubleshooting

| Problem                | Reason and Solution                                                                                                                                                                                                                                                                                                                          |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Failed to start</b> | <ul style="list-style-type: none"> <li>• Loose plug → Reconnect plug to power supply.</li> <li>• Improper input voltage → Connect to right power supply.</li> <li>• Switch is broken → Contact distributor for assistance.</li> </ul>                                                                                                        |
| <b>Poor vacuum</b>     | <ul style="list-style-type: none"> <li>• Aging lubricant → Change the new lubricant by following “How to change lubricant.</li> <li>• Improper oil level → Drain or fill the lubricant till the level is between marks of Max. and Min.</li> <li>• Connection is not sealed → Reconnect to ensure connections are tightly sealed.</li> </ul> |
| <b>Oil leakage</b>     | <ul style="list-style-type: none"> <li>• Drip of residual oil → Clean the residual oil and screw the valve tightly.</li> <li>• Loose drain valve (6) → Replace a new one or wrap the seal tape on it.</li> <li>• Aging parts of oil tank → Replace new O-ring or washer.</li> </ul>                                                          |

## Ordering Information

|               |                                                     |
|---------------|-----------------------------------------------------|
| 187130-11(22) | Tanker 130, Vacuum Pump, AC110V, 60Hz (AC220V,50Hz) |
| 187150-11(22) | Tanker 150, Vacuum Pump, AC110V, 60Hz (AC220V,50Hz) |
| 187215-11(22) | Tanker 215, Vacuum Pump, AC110V, 60Hz (AC220V,50Hz) |
| 187230-11(22) | Tanker 230, Vacuum Pump, AC110V, 60Hz (AC220V,50Hz) |
| 187100-05     | Tanker SC lubricant, 500 mL/pk                      |
| 187100-30     | Exhaust filter                                      |
| 187100-25     | Oil mist outlet                                     |
| 187100-33     | Check valve for Tanker series pump                  |
| 187100-31     | Hose barb, 1/4 SAE (9.5 mm), 3/8 in                 |
| 187100-32     | Hose barb, 1/4 SAE (12.7 mm), 1/2 in.               |
| 187100-34     | Hose barb, 1/4 SAE (6.4 mm), 1/4 in.                |
| 180300-68     | Silicone tube, Ø 8 x 14 mm, 2 m                     |

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