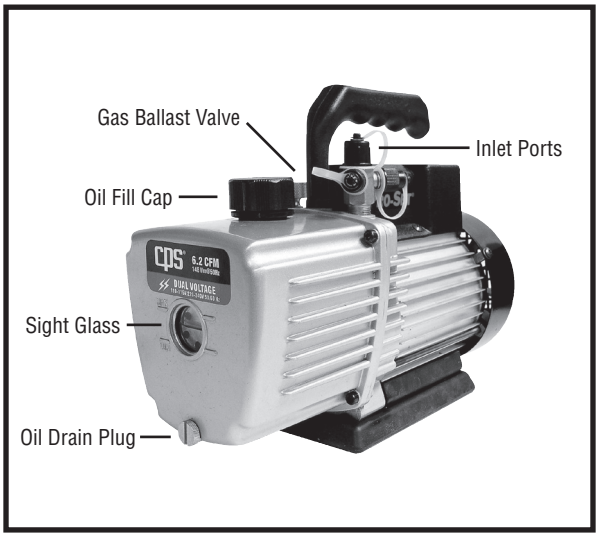
VACUUM PUMP
MAINTENANCE & PERFORMANCE CHECK

The objective of this document is to describe a simple and quick method to check the overall vacuum pump performance and maintain it in good operating condition. Following the steps below will guide you through the operations recommended to accurately perform the proper performance checks and maintainence to your vacuum pump. In order to complete these operations you will need; a vacuum gauge (digital preferably) and a container with a minimum capacity of 500ml to drain the waste oil. We recommend using CPS vacuum pump oil which can be purchased from a wholesaler and is an excellent performing oil in all brands of vacuum pumps.

** Please ensure that your vacuum pump is in sound electrical and mechanical condition prior to operating.*

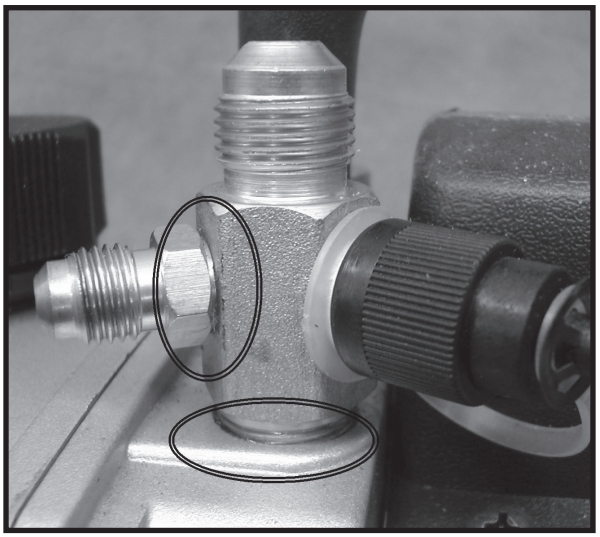


1. Procedure to confirm the pumps operation and basic performance check.

- Check the oil level in the sight glass is between the minimum and maximum level indicators.
- Ensure your pump's 1/4" flare inlet port is clean and dry.
- Attach your vacuum gauge directly to the inlet port. In some cases you may require a 'T' adaptor to allow the vacuum gauge to clear the oil fill cap, if so you will also need to cap the extra adaptor inlet.
- Check that the unused pump inlet ports are capped and nipped up and the gas ballast valve is shut.
- Start the pump and allow to run for at least 5 minutes before recording a vacuum reading. Best practice is to leave the pump running until you have removed your vacuum gauge. This reduces the chance of oil migrating into the gauge's delicate sensor assembly prior to stopping your pump.
- Prepare the oil collection container beneath the oil drain plug.
- Remove the vacuum gauge and oil fill cap to drain the oil reservoir via the pumps oil drain.
- Monitor the draining oil carefully for impurities and debris, which can be a good indicator of what is going on internally. Moisture will look like clear bubbles at the bottom of the collection container.
- Hopefully the drained oil was reasonably clear of impurities, debris and moisture.
- Ensure the 'O' ring on the oil drain plug is present and refit the drain plug.
- Refill the pump to the correct level with new vacuum oil and refit the oil fill cap.
- Refit your vacuum gauge to the pumps inlet port.
- Ensure all unused pump inlet ports are capped and start the pump.
- Allow the pump to run for at least 5 minutes before taking a vacuum reading.
- Compare this latest reading to the earlier one taken with the old oil.
- If the reading is above 400 microns your pump could be internally worn or have an air leak. If this is the case you should consider the pumps age, use and overall condition to determine the best course of action. Replacement may be the best option.

Continue to the next procedure which will assist in resolving any issues as a result of an air leak.

2. Procedure to troubleshoot inlet ports



- An inlet air leak will usually result in high levels of oil mist emanating from the oil fill cap.
- If you suspect this may be the case replace all caps on the unused inlet ports with quality CPS brass caps (AVCVAC). **Do not over tighten any fittings as this may deform the rubber gaskets.**
- Re-run the test, allow the pump to run for at least 5 minutes before taking a vacuum reading.
- If the vacuum reading is still poor, place a drop of oil around the threads on the access port fittings where they are fitted to the pump and or the inlet assembly tree to check for any leaking through the threads.
- Re-run the test, allow the pump to run for at least 5 minutes before taking a vacuum reading.
- If the oil is drawn into the thread, there is a leak. Remove the port fitting, clean the thread with a wire brush and ensure it is dry and free of any oil. Re-fit and seal using a smear of suitable gas tight thread sealent (ie. Loctite 567) on the first 6 threads.
- Re-run the test, allow the pump to run for at least 5 minutes before taking a vacuum reading.
- If the vacuum reading is still poor, the pump could be returned to CPS Australia to investigate further.

Model	VP2DA	VP3DA	VP6DA	VP8D	VP10D	VP12D
Free Air Displacement	45 LPM	75 LPM	148 LPM	186 LPM	236 LPM	278 LPM
Ultimate Vacuum	15 Microns	15 Microns	15 Microns	15 Microns	15 Microns	15 Microns
Intake Ports (all male)	1/4" SAE 3/8" SAE 1/2" ACME	1/4" SAE 3/8" SAE 1/2" ACME	1/4" SAE 3/8" SAE 1/2" ACME	1/4" SAE 3/8" SAE 1/2" SAE	1/4" SAE 3/8" SAE 1/2" SAE	1/4" SAE 3/8" SAE 1/2" SAE
Oil Capacity	350 ml	450 ml	450 ml	400 ml	425 ml	450 ml
Dimensions	35 x 17 x 28.6 cm	39 x 18 x 28 cm	39 x 18 x 28 cm	39 x 18 x 28 cm	39 x 18 x 28 cm	39 x 18 x 28 cm
Weight	9.8 Kg	11.5 Kg	11.5 Kg	14.5 Kg	15.5 Kg	16.5 Kg