## OIL CARRYOVER

**Issue: Vmax system has oil carryover.**

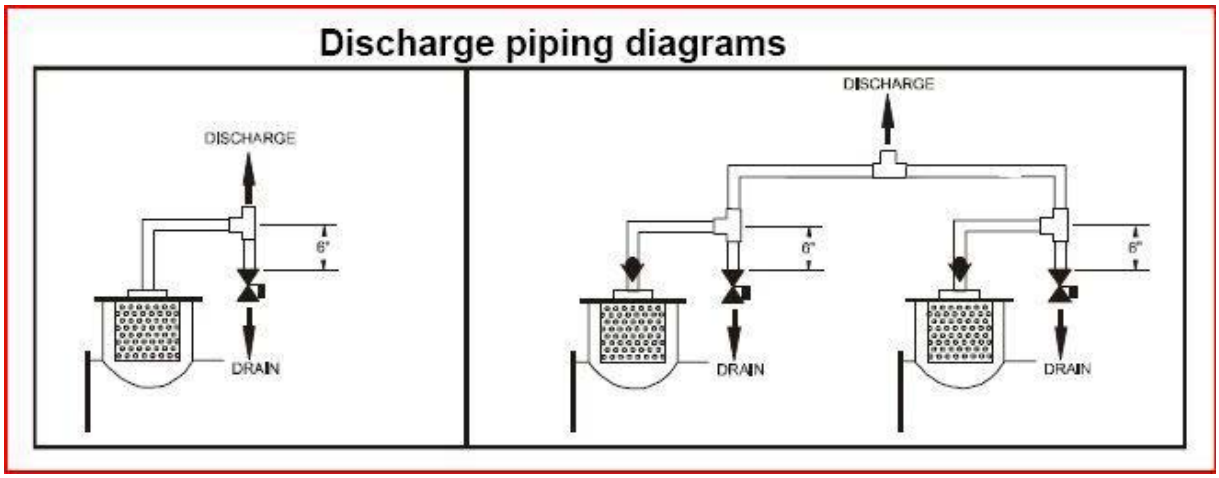
Each Vmax system is tested and checked at the factory prior to shipment to ensure trouble-free operation. In the unlikely event you encounter a problem, we recommend that you consult with your local distributor for parts/service. Remember, when calling for service, parts or system information, always have the pump or system model number and serial number ready.

Click here to find your local authorized distributor.

**WARNING!** Before attempting any repairs, disconnect all power from the system by switching off power at the main breaker or disconnect switch. Always use appropriate Lock Out – Tag Out procedures.

Vmax and Vmax$^{LT}$ systems offered by DEKKER Vacuum Technologies are the result of years of research and experience in the design, operation and application of this type of system, with thousands of successful installations in the field. DEKKER's patented DX-5 and DX-7 air/oil separators virtually eliminate oil carryover concerns and ensure the cleanest environment.

If the system begins to use excessive oil or produce an oil mist from the system discharge, the operator should check the following items:




Make sure the system is installed with proper discharge piping, including a drip leg.
Refer to Installation, Operations, and Maintenance Manual for more information on proper discharge piping.

Check the oil-return lines (often referred to as scavenge lines). The scavenge lines are small, clear plastic lines that run from the separator tank back to the inlet side of the vacuum pump. The purpose of these lines is to remove oil buildup from inside the separator and separator element. Ensure there is no blockage and that oil flows from the separator back to the vacuum pump.

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On Vmax systems, check the metal tube that runs from the top of the stack on the separator tank where the plastic scavenge line connects. Ensure there is no blockage in this tube (located inside the stack of the separator tank). Also make sure the bottom of the steel tube is cut at a 45° angle and reaches the bottom of the separator element.

Check your maintenance log to determine when the separator element was last changed. Recommended change frequency is every 10,000 hours or once per year.

Check the backpressure gauge on the side of the separator tank. If the backpressure is greater than 4 psig, replace the separator element. High backpressure is the result of dirt buildup on the separator element due to oil varnish or contaminated inlet gas stream.

Because there is a condensing effect that takes place within the separator tank to assist in removing any oil mist from the airstream, temperature can also play a role in the amount of oil misting that occurs. If the vacuum system continuously runs hot (>200° F as measured by the temperature gauge located on the vacuum pump discharge manifold), excessive oil misting may be seen. See related article "Vmax Overheating Problems". Ambient temperatures over 110° F may also contribute to oil carryover.

Sometimes, process conditions can affect the amount of oil mist produced by the vacuum system. Operating the vacuum system at low vacuum (below 15" HgV) for extended periods of time can cause enough mass flow to allow oil mist to be seen at the system discharge. If the process requires the system to consistently run at low vacuum levels, a secondary mist eliminator (sometimes referred to as a polishing filter) can be added to the discharge piping.

Excessive amounts of water vapor carried over from the process can also contribute to oil misting or oil carryover. Knockout tanks installed upstream of the vacuum system can reduce this issue. Many knockout tanks contain a stainless steel mesh called a demister pad to further reduce the amount of water vapor carried over from the process. In extreme cases, a condenser may need to be added to "drop out" any condensables from the inlet air stream.