

Fluid Handling Where Reliability Begins

The best health care for extending the life cycle of production machinery is oil maintenance. It also delivers the best ROI for every dollar spent.

OILMISER™ Technology, has developed a unique family of tools & accessories that bring all the benefits of true 24/7 Off-Line Filtration to most industrial gearboxes and hydraulic reservoirs in a matter of minutes.

To add independent Off-Line Filtration to any gearbox or hydraulic system, there are three prerequisites:



1	A high quality <u>air filter</u> to vent the air space above the oil, and to stop airborne contamination from entering the machine.
2	An <u>oil outlet</u> near the bottom of the gearbox or hydraulic reservoir and below the oil level, for a suction line to the kidney-loop filtration machine.
3	An <u>oil inlet</u> on top of the reservoir or gearbox and above the oil level, for the continuous return of clean polished oil, back to the machine.

Hydraulic Reservoirs & Kidney-Loop Filtration

The OILMISER™ Off-Line Filtration Kit delivers all three prerequisites to most hydraulic reservoirs in one trouble-free component, that is quick and easy to install on-site.

Oil quality is essential for the overall reliability of hydraulic systems. High pressures, high speeds, close mechanical tolerances, and high operating temperatures, means that contamination free oil is critical element in the continuous operation of hydraulic components.

The tank mounted OILMISER™ Off-Line Filtration Kit, adds kidney-loop filtration to most hydraulic reservoirs operating today, even while in operation.

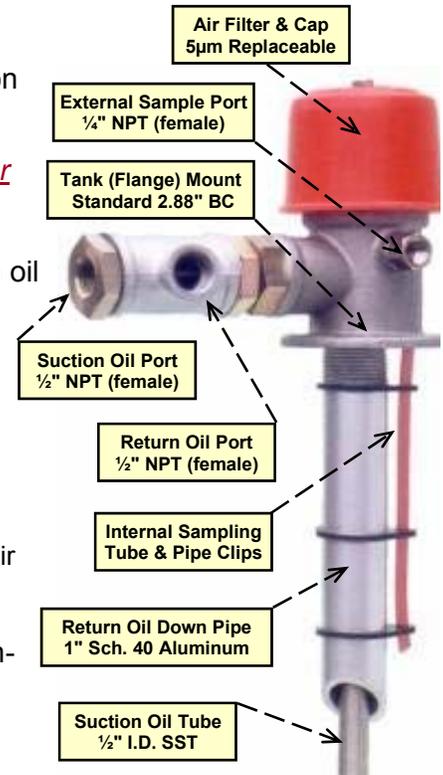
Without any tank modifications, the existing filler/breather and basket strainer are removed, exposing the 2" Ø opening. The Off-Line Filtration Kit, which is shipped fully assembled is then inserted into the reservoir and screwed into place. The standard OILMISER™ OLF-1310 has a 10" return oil pipe, a return oil deflector, and an 18" suction tube. Other lengths can be supplied to suit the customers application.

A pipe mounted version of the OILMISER™ Off-Line Filtration Kit is available in two models:

- Part Number: OLF-1310-M200 has a 2" NPT male pipe thread.
- Part number: OLF-1310-F200 has a 2" NPT female pipe thread.

The standard OILMISER™ Off-Line Filtration Kits comes with a 5µm replaceable air filter and a high visibility molded cap.

A variety of options include an external oil sampling port with an internal sampling tube. Optional top end couplers can accommodate spin-on (oil) filters and desiccant air breathers.



Gearboxes & 24/7 Kidney-Loop Filtration

Industrial gearboxes come in all shapes and sizes, but *the three prerequisites remain the same.*



All OILMISER™ *Gearbox Top Breathers* have *two independent internal passageways*. This exclusive feature, meets two of the three prerequisites for Kidney-Loop filtration.

A *separate airway* with a high quality air filter to eliminate air borne contamination from the air space above the oil.

A *dedicated oil passageway* for the continuous return of oil from the kidney-loop filtration unit back into the gearbox.

The OILMISER™ *Gearbox Top Breather (GTB)* threads directly into the *vent* port on the gearbox. It includes the *coupling half* of a ½" Quick Disconnect and a Dust Cover.

Mounting configurations for the OILMISER™ GTB include a wide range of common industrial thread sizes, male pipe from ¾" NPT to 1¼" NPT, British Strait Parallel Pipe (BSPP), and some Metric sizes.

The *top port* on the GTB is also available in a wide range of male and female thread sizes to accommodate most commercial air filters and desiccant air breathers. The OILMISER™ *GTB-4075-FE05M-QC51* pictured below, features the OILMISER™ 5 micron replaceable air filter and high visibility molded cap, a ½" female *Quick Coupling & Dust Cover*, a 6" SST return tube, and a ¾" NPT male pipe mount

The Third Prerequisite

An *oil outlet* from the bottom of the gearbox for a suction line to the kidney-loop filtration unit.

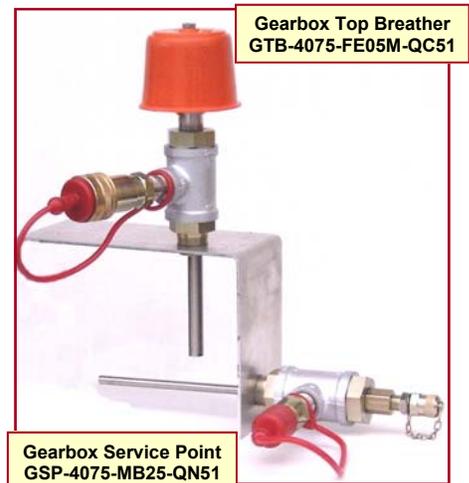
The OILMISER™ *Gearbox Service Point (GSP)* mounts directly into the *drain port* of the gearbox. The GSP offers a wide range of male and female mounting configurations.

To increase efficiency and productivity in the workplace, the OILMISER™ *Gearbox Service Point*, includes the exclusive OILMISER™ *3 piece sampling tube* our *large bore* 12" long SST pitot tube and an *oil sampling valve*.

The OILMISER™ *GSP-4075-MB25-QN51* pictured right is shipped fully assembled, with a Minimes Series B sampling valve *SV-MB25* and the male half of a ½" *Quick Disconnect & Dust Cover*

For heavier gear oils, the *GSP* can be ordered with our *high viscosity-high flow* sampling valve *SV-HF25*.

The OILMISER™ *GTB* with the *GSP* *closes the loop* for kidney-loop filtration on gearboxes.



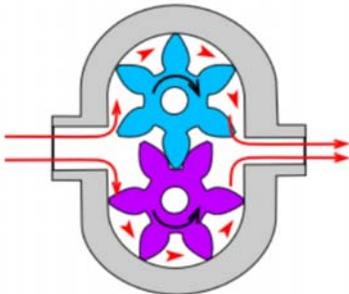
The Fundamentals of Kidney-Loop Filtration

The heart of kidney-Loop Filtration is the oil pump, and the pumps rotating group. Selecting the right pump for the job becomes an important decision.

A fluid can only flow down hill or move to fill a vacuum. When the rotating group is turned, it creates a partial vacuum on the suction side of the pump. Youngsters may not of heard of Sir Isaac Newton, but they understand fluid dynamics. They will choose the big straw over the skinny straw every time.

It's the vacuum created by the speed of the rotating group that carries the lube oil from the gearbox, to the inlet of the pump. Keep the suction hose as large and as short as possible.

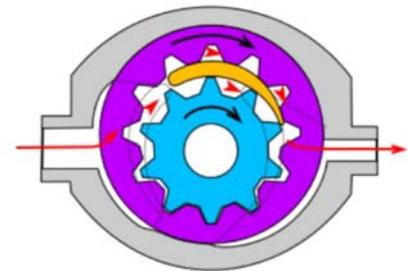
The rotating group transfers the oil from the inlet side to the pressure side of the pump and forces it through the filter, then through the return hose and back into the gearbox.



The most common pump is the gear pump. It works well with hydraulic oils, but has a limited range for higher viscosity oils, and cold weather conditions.

Small cavities, close tolerances, a knife edge gear tooth, and a fixed outer gear housing, all combine to limit efficiency in an off-line application.

A gearotor pump, with larger and fewer cavities and rounded corners is better suited for higher viscosity oils and colder operating conditions.



The internal gearotor driving the external gearotor, creates larger cavities that open and close more smoothly. This rolling action reduces the shearing of the oil in the pump, which means less noise, less aeration, less cavitation and a near ripple free oil flow. A ripple free oil flow puts less stress on the filter media and increases the dirt holding capacity of the filter.

The speed of the rotating group is also an important factor in the overall efficiency of an off-line filtration system. This is of particular importance with higher viscosity oils, and cold weather conditions

This leaves four important factors we can control when considering a kidney-loop filtration system.

1. The inside diameter of the suction hose.
2. The length of the suction hose and number of connections in it.
3. The type and volume of the pumps rotating group.
4. The speed of the motor that turns the rotating group.

Cleanliness levels are generally set by the equipment manufacturer. The oil type and viscosity is generally determined by the operating conditions. In the final analysis, it's the experience of the end user and the expertise of the oil supplier that determines the value of a Kidney-Loop Filtration system.

OILMISER™ Sampling Tubes and Accessories

Oil sampling and oil analysis, has long been recognized as the gold standard for Condition Based Maintenance and a snap shot of the operating condition and reliability of lubricated machinery.

Most manufacturers of gearboxes, and hydraulic components specify acceptable oil cleanliness levels in their warranty, but few provide the tools needed to draw a reliable oil sample.

The OILMISER™ Answer

The defining feature of OILMISER™ Sampling Tubes is our exclusive 3 piece design. This gives the end user unparalleled flexibility, adding the benefits of oil sampling to most industrial gearboxes in a matter of minutes.

- First we feature a removable stainless steel pitot tube, with the largest inside diameter offered in the industry.
- Next we designed a series of gland bushings, that could fit into any available access port from ¼" NPT to 2" NPT, or into SAE O'ring ports from Dash-12 to Dash-32.
- And finally we added a universal sealed tube retainer with a ¼" NPT port for our Low-Viscosity sampling valve for lighter oils, or our Hi-Viscosity sampling valves for the heavier gear oils.



OST-02512-MB25

OILMISER™ Sampling Tubes Technology beyond the Conventional

The stainless steel pitot tube has an inside diameter over ¼ inch, significantly reducing the time and effort when drawing oil samples. Being removable, and available in any length, it can be checked for mechanical interference inside the gearbox, cut it to length, and installed with full confidence.



A full range of steel gland bushing means that it can be installed directly into the gearbox, without pipe bushings generally required with conventional pitot tubes. This reduces installation time and the potential oil leaks from a stack of pipe bushings.

Metal to metal contact between all the mating parts and the sampling valve ensures proper realignment whenever disassembly and reassembly is necessary.



OST-07512

The optional 90 degree by 360° swivel adds flexibility to the final orientation of the sampling valve whenever the safety and convenience of the service technician comes into question.



OST-07512-S90

OILMISER™ 3 Piece Sampling Tubes

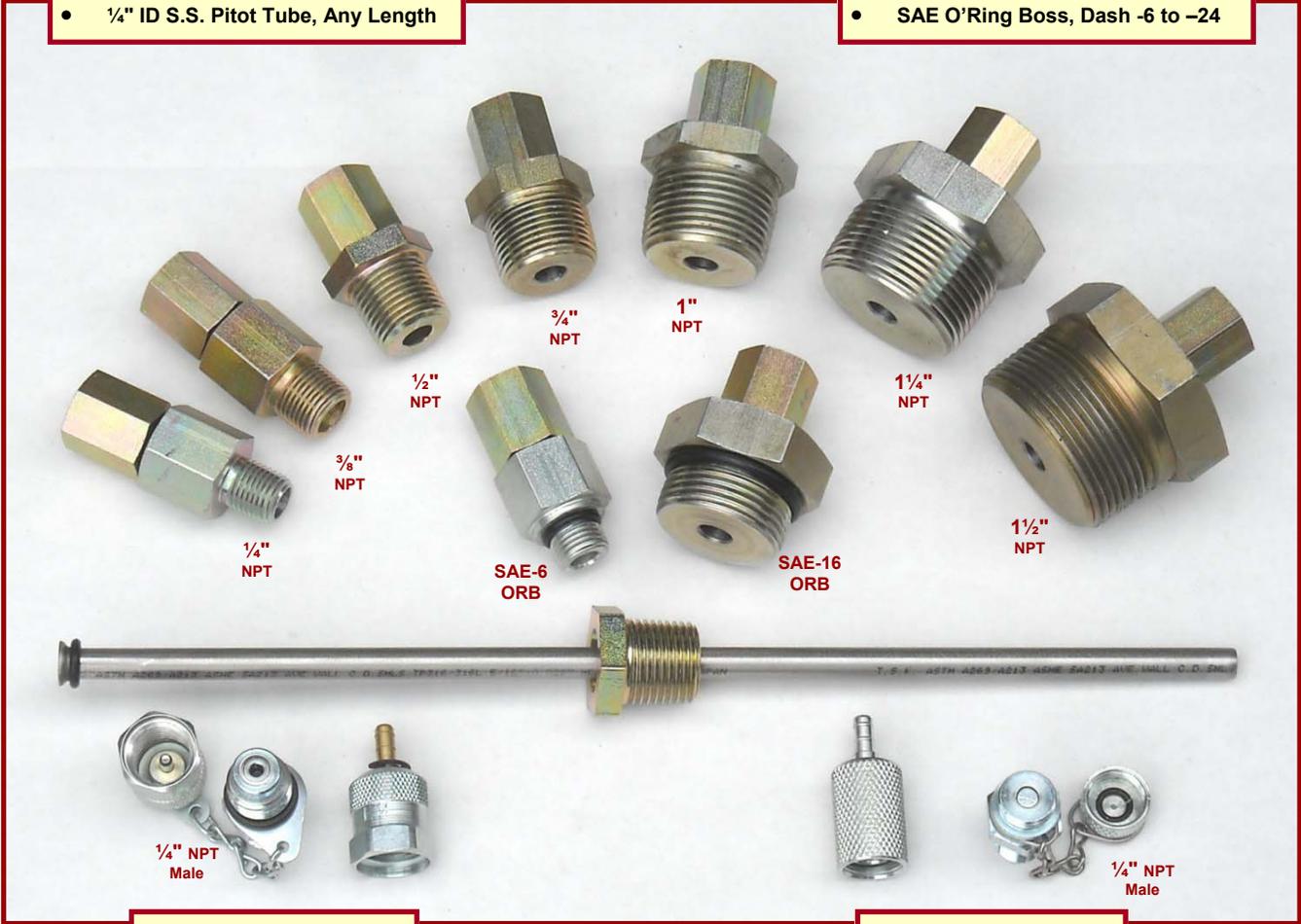
- More Choice
- More Flexibility
- More Standardization

OILMISER™ 3 Piece Sampling Tubes

- No bushings, fewer leak points
- 1/4" ID S.S. Pitot Tube, Any Length

OILMISER™ 3 Piece Sampling Tubes

- Standard Pipe, 1/4" NPT to 1 1/2" NPT
- SAE O'Ring Boss, Dash -6 to -24



Hi Pressure / Lo-Viscosity
OIL Sampling
SV-MB25 / SP-MB25

Hi-Flow / Hi Viscosity
(Gearbox) OIL Sampling
SP-HF25 / SV-HF25

