UNDERSTANDING YOUR OIL ANALYSIS

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 oil sealed liquid ring vacuum systems are shipped with our specially formulated Vmaxol seal fluid. These fluids are specifically designed to provide low viscosity, excellent water separating qualities, antifoaming characteristics and low oxidation. When using our standard Vmaxol products, it is recommended that the seal fluid (oil) be changed every 10,000 hours of operation. When using Synthetic Food Grade Vmaxol, seal fluid may be changed every 15,000 hours of operation. Extreme operating conditions may require more frequent changes.

DuraVane rotary vane vacuum systems are shipped with our specially formulated Duratex oil. These fluids are specifically designed to provide ultimate performance for your DuraVane vacuum pump or system. The specially formulated Duratex oils are high quality vacuum pump oils that provide better lubrication at high operating temperatures and prolong the life of the unit and the exhaust filters.

When using our standard Duratex products, it is recommended that the oil be changed every 6 months or 1,000 hours of operation. When using Duratex Synthetic Long-Life oil, the oil may be changed every 6 months or 2,000 hours of operation. Extreme operating conditions may require more frequent changes.

To determine if your oil requires changing, DEKKER offers free oil analysis to our customers.

The **Product Analysis Report** will have a summary in the top right hand corner of the report that will indicate what, if any, action is required.

Below the action bar will be the basic report information that includes basic information such as type of oil, number of hours on the oil, etc. as well as machine and customer information.

The analysis results are shown for the last 3 oil samples evaluated on that particular machine serial number.

Physical Properties Results

Water - As measured in ppm using the Karl Fischer method. Water content should not exceed 300 ppm.
Viscosity - As measured in centistokes (cSt) at 40° C
Total Acid Number - ASTM D794 Acid number is a number expressed in milligrams (mg) of potassium hydroxide needed to neutralize the acid in one gram of oil. TAN should be less than 1.0
ISO Code - Using ISO 4406:99 cleanliness codes. This standard allows you to quantify current particulate cleanliness levels and set targets for cleanup. The standard provides a 3 part code to represent the number of particles per milliliter (mL) of fluid greater than or equal to 4 microns, 6 microns and 14 microns, respectively.

DEKKER™
VACUUM TECHNOLOGIES, INC.

UNDERSTANDING YOUR OIL ANALYSIS

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For example, an ISO code of 22/20/13 would indicate 20,000 to 40,000 particles greater than or equal to 4 microns, 5,000 to 10,000 particles greater than or equal to 6 microns, and 40 to 80 particles greater than or equal to 14 microns.

ISO 4406 Cleanliness Standards (number of particles per 100 mL)*		
Range No.	**More Than**	**Up to and Including**
24	8,000,000	18,000,000
23	4,000,000	8,000,000
22	2,000,000	4,000,000
21	1,000,000	2,000,000
20	500,000	1,000,000
19	250,000	500,000
18	130,000	250,000
17	64,000	130,000
16	32,000	64,000
15	16,000	32,000
14	8,000	16,000
13	4,000	8,000
12	2,000	4,000
11	1,000	2,000
10	500	1,000
9	250	500
8	130	250
7	64	130
6	32	64
5	16	32
4	8	16
3	4	8
2	2	4
1	1	2

Click here to see related article, TECH TALK, Understanding ISO Cleanliness Codes, Donaldson Filtration Solutions.

Spectrochemical Analysis includes the analysis of both wear metals and additive metals. Metals are measured in ppm.