

Oil for Rotary Vacuum Pumps **YL VAC Series**

Although R-95, R-96, and R-97 oil have excellent incombustibility, decomposition reactions due to catalytic effects must be carefully monitored.



Features

- **Oxidation resistance**
The oil is incombustible and will not ignite or start a fire.
- **Solvent resistance**
The oil is almost completely insolvent in fats, oil, water, and organic solvents, excluding fluorine based solvents. However, although the oil does not dissolve, dispersion in a colloidal form is possible.
- **Chemical resistance**
The oil is stable relative to nearly all chemicals, including strong acids, strong bases, and halogens.
- **Effect on other materials**
Since the oil is inactive, it will not corrode metals or cause rubber and plastic materials to swell, deteriorate, or dissolve.
- **Thermal resistance**
The oil is stable up to approximately 350 °C in an inactive atmosphere (N₂) and approximately 300 °C in air.

Specifications

Item		Model	Fluorine based synthetic oil			Test method
			YL VAC 06/6	YL VAC 14/6	YL VAC 25/6	
Ultimate pressure		Pa	$<7 \times 10^{-1}$	$<7 \times 10^{-1}$	$<7 \times 10^{-1}$	Internal ULVAC evaluation method
Characteristics	Color		Colorless, transparent	Colorless, transparent	Colorless, transparent	Visual evaluation
	Kinematic viscosity	40°C mm ² /s	(20 °C) 62±6	(20 °C) 140±20	(20 °C) 270±20	JIS K 2283
		100°C mm ² /s	—	—	—	JIS K 2283
	Viscosity index		—	—	—	JIS K 2283
	Water content %		<0.01	<0.01	<0.01	JIS K 2275
	Total acid number mg KOH/g		<0.05	<0.05	<0.05	JIS K 2501
	Density g/cm ³		1.90	1.89	1.88	JIS K 2249
	Ignition point °C		Incombustible	Incombustible	Incombustible	JIS K 2265
Pour point °C		-50	-45	-35	JIS K 2269	
Features		Incombustible, low viscosity	Incombustible, medium viscosity	Incombustible, high viscosity	—	
Main applications		Roots pump, active gas pumping, high vacuum semiconductor processes	Oil rotary vacuum pump	Active gas pumping, Dry pump	—	
Container		L	0.5	0.5	0.5	—

- Low vapor pressure
On the order of 10^{-4} Pa at 20 °C
- Nontoxic
The oil is nontoxic and will not accumulate in the body.
- Lubricating properties
The best lubricating properties among any synthetic oil.
- Specific gravity
Approx. twice the specific gravity of normal oil.
- Electronic insulation
Excellent insulation properties with no water absorption characteristics.

Technical Data

YL VAC oil, having narrow molecular weight distributions and low vapor pressures, were developed as lubricating oil for vacuum pumps. These oil are primarily used in vacuum pumps in semiconductor production equipment and at chemical plants.

Grade selection

Application	YL-VAC06/6	YL-VAC14/6	YL-VAC25/6
Oil-sealed rotary vacuum pump	●	●	
Mechanical booster pump	●	●	
Dry vacuum pump			●

YL VAC Vapor Pressures

