

PRODUCT INFORMATION

LION DIFFUSION PUMP OIL

Requirement of high vacuum or ultra high vacuum conditions are increasing in many fields and to meet with this demand development of high quality and economical diffusion pump oil has been urgently required.

After intensive study, **LION** have succeeded to launch new breed alkyl naphthalene base diffusion oil.

Characteristics

1. Ultimate pressure :
Lion S 5×10^{-9} Torr
Lion A 5×10^{-7} Torr
2. Evaluation speed and oil backstreaming rates are comparable that of silicon base one.
3. Wide operation temperature and chemical stability provide an easy operation.

Physical properties

	Lion S	Lion A
Appearance (25 °C)	Pale yellow liquid	Pale yellow liquid
Color (G/H)	4 max.	4 max.
Specific gravity (15/4 °C)	0.903 – 0.905	0.907 – 0.914
Viscosity (40 °C)	35 – 39	27 - 31
Flash point (°C)	220 min.	210 min.
Pour point (°C)	-5 max.	-25 max.
Acid value	0.1 max.	0.1 max.
Carbon residue (%)	0.03 max.	0.03 max.
Refractive index (30 °C)	1.5139 – 1.5172	1.5200 – 1.5220

Packing

1 liter in tin can X 10 pcs per corrugated box

<Attention> Please see our MSDS when you're handling.

LION CORPORATION

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Performance of **LION DIFFUSION PUMP OIL**

1-1 Co-relationship between Ultimate pressure – Temperature

(1) Pressure – Temperature relationship of **LION DIFFUSION PUMP OIL A**

Method: Measure Max. and Min. temperature and ultimate pressure by general method at following system (Figure 1) which using diameter 60mm Hichman type pump (Diffusion pump).

Figure 1

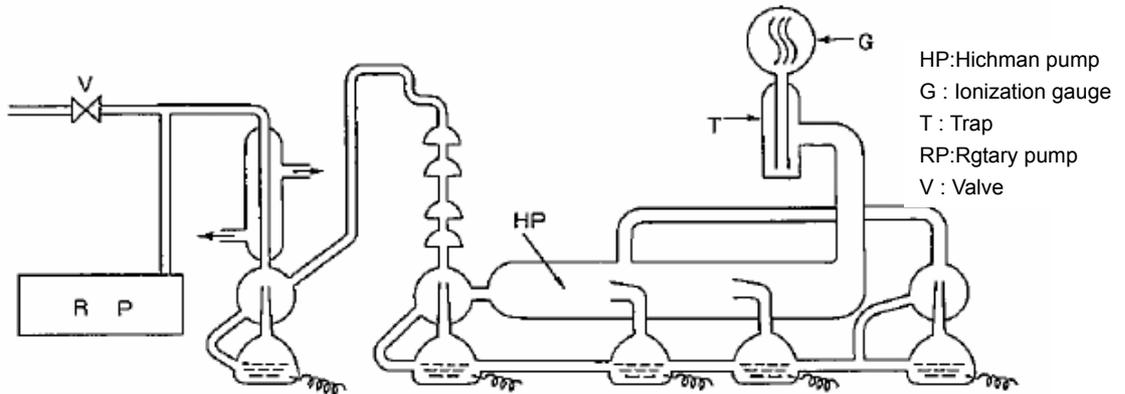
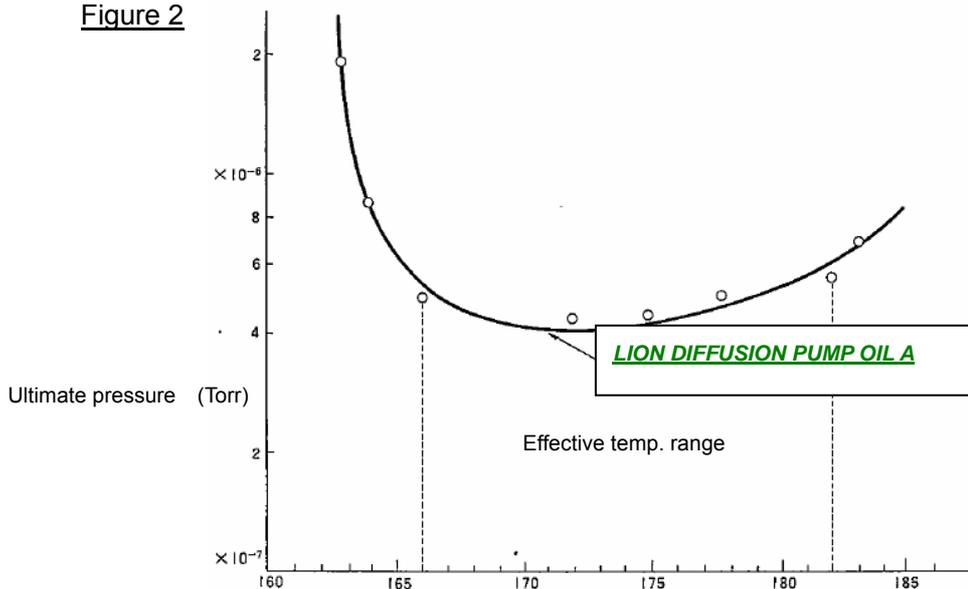


Figure 2



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(2) Co-relationship between heating electric power and pressure of **LION DIFFUSION PUMP OIL S**

Method: Measure the electric power by following system (Figure 3)

Figure 3

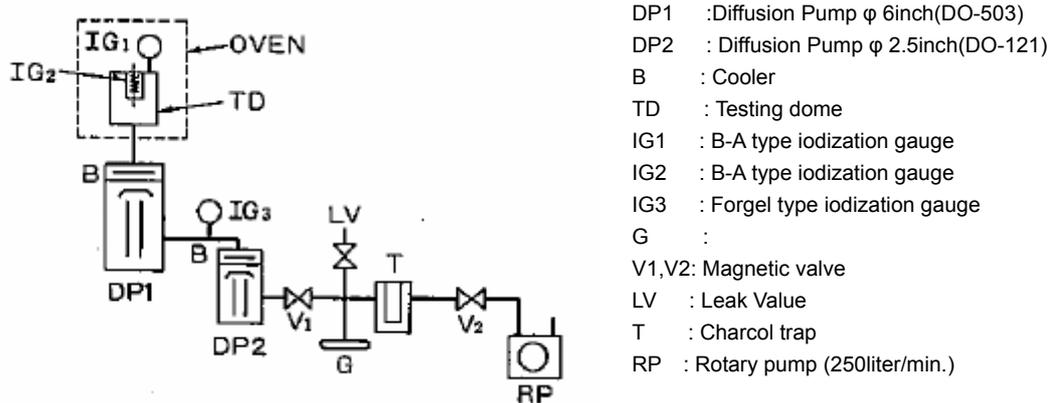
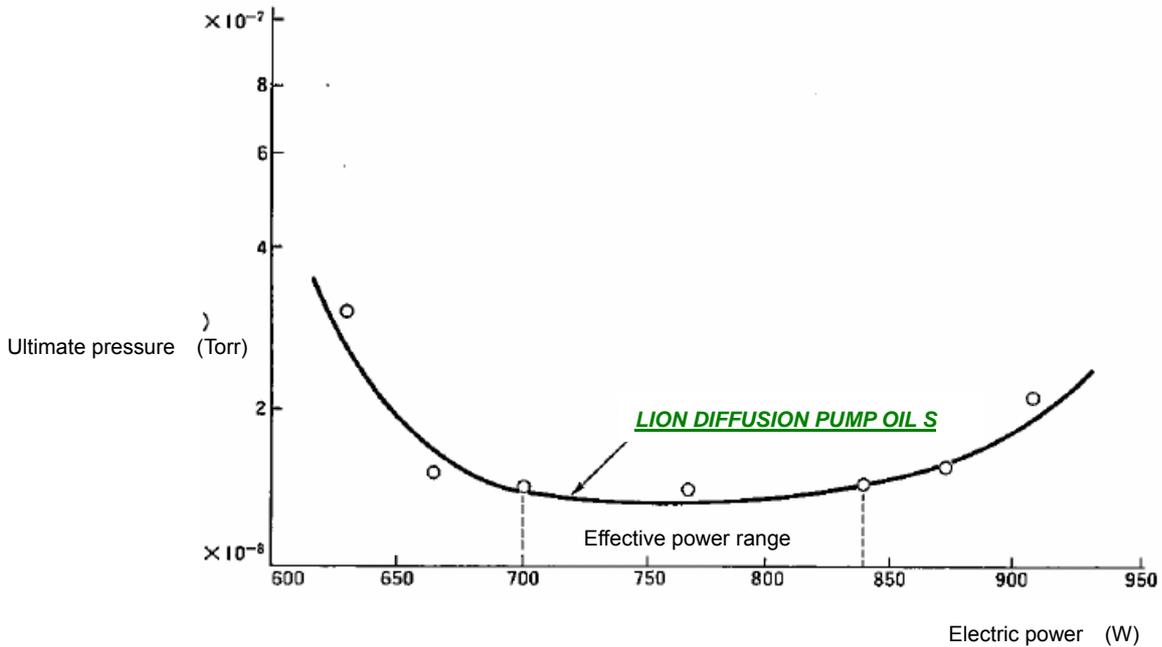


Figure 4



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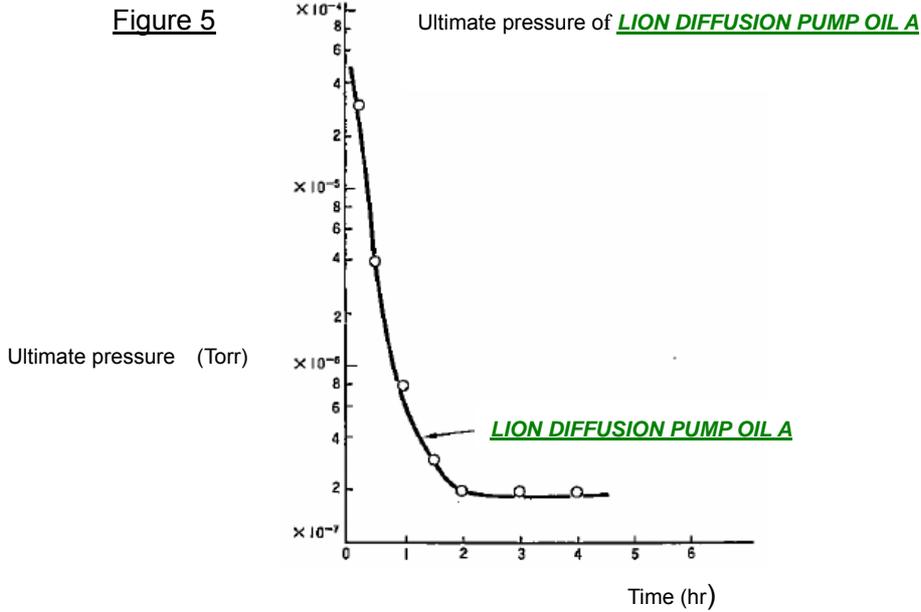
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2-1 Ultimate pressure and stability against oxidation

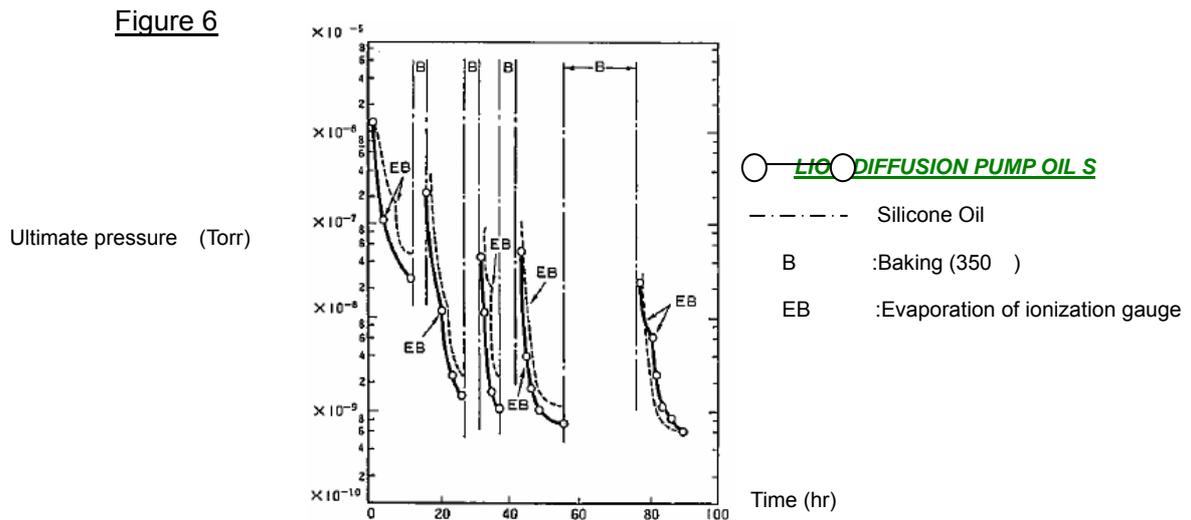
(1) Ultimate pressure of **LION DIFFUSION PUMP OIL A**

Method: Ultimate pressure was measured by the system indicated in Figure-1.



(2) Ultimate pressure of **LION DIFFUSION PUMP OIL S**

Method: Ultimate pressure was measured by the system indicated in Figure 3.



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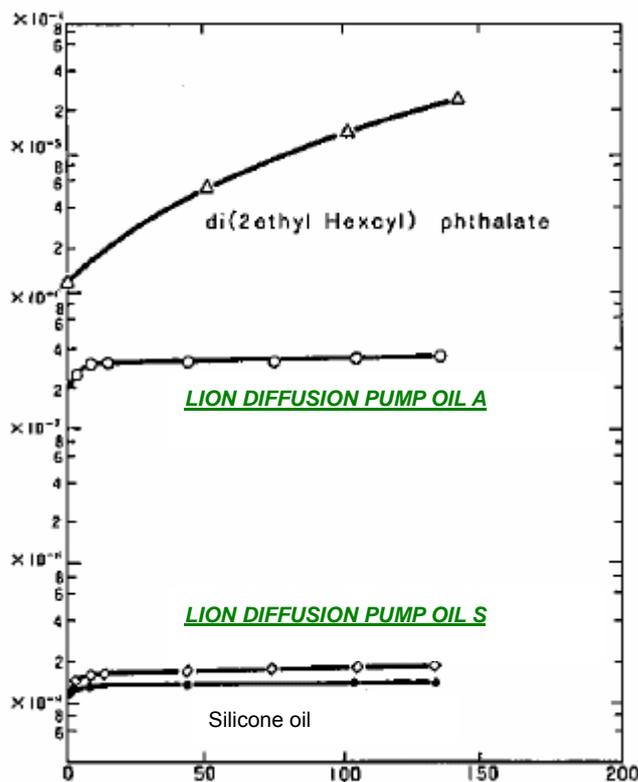
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(3) Stability of LION DIFFUSION PUMP OIL against oxidation

Method : After reached ultimate pressure in the system indicated in Figure-3, open the system and inhale the air into system during the heating and left 5min. After this process, close the system and evaporate the system. Recycle above mentioned process for 3 times and measure the each time evaporated ultimated pressure and prot on figure-7. After this, evaporate again and inhale by same method left 30 min. and evaporate. Recycle 30 min. inhalation and evaporate 4 times and measure the pressure and prot on figure-7.

Figure 7



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