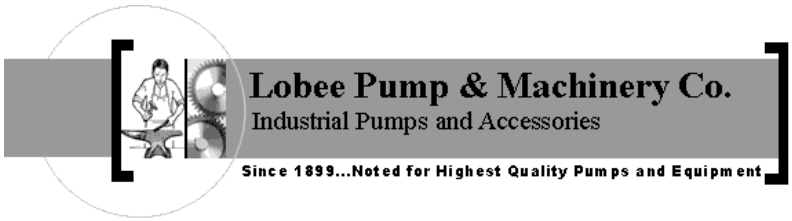

General Engineering Data

"Viscosity Measures a Liquid's Resistance to Flow"

VISCOSITY CONVERSION TABLE							
SAYBOLT UNIVERSAL SSU	STOKES	CENTISTOKES	POISES *	CENTI-POISES*	ENGLER SECONDS	REDWOOD NO. 1 SECONDS	TYPICAL LIQUIDS AT 70 DEG F
31	0.010	1.00	0.008	0.80	54	29.00	WATER
35	0.025	2.56	0.020	2.05	59	32.10	KEROSENE
50	0.074	7.40	0.059	5.92	80	44.30	NO.2 FUEL OIL
80	0.157	15.70	0.126	12.60	125	69.20	NO.4 FUELOIL
100	0.202	20.20	0.162	16.20	150	85.60	TRANSFORMER OIL
200	0.432	43.20	0.346	34.60	295	170.00	HYDRAULIC OIL
300	0.654	65.40	0.522	52.20	470	254.00	SAE IOW OIL
500	1.10	110	0.88	88.00	760	423.00	SAE 10 OIL
1,000	2.16	220	1.73	173.00	1,500	896.00	SAE 20 OIL
2,000	4.40	440	3.52	352.00	3,000	1,690	SAE 30 OIL
5,000	10.80	1,080	8.80	880.00	7,500	4,230	SAE 50 OIL
10,000	21.60	2,160	17	1,760	15,000	8,460	SAE 60-70 OIL
50,000	108	10,800	88	8,800	75,000	43,660	MOLASSES B
100,000	216	21,600	173	17,300	150,000	88,160	MOLASSES C

* Poises and centipoises are given for oil of .8 specific gravity. Relationship: centistokes X specific gravity = centipoises.

TABLE NO. 1 - SPEED REDUCTION

Viscosity in SSU	Recommended Speed (RPM)
50	1,725
500	1,500
1,000	1,300
5,000	1,000
10,000	600
50,000	400
100,000	200

TABLE NO. 2 - % INCREASE IN HORSEPOWER

	Viscosity in SSU						
Pressure/PSI	30	500	1000	5000	10,000	50,000	100,000
2	—	30	60	120	200	300	400
20	—	25	50	100	160	260	350
40	—	20	40	80	120	220	300
60	—	15	30	60	105	180	250
80	—	12	25	50	90	150	200
100	—	10	20	40	80	120	150

Gear Pumps are well suited for pumping of viscous liquids if the following rules are observed:

1. Pump speed (RPM) must be reduced. Use Table No. 1 as a guide.

2. Suction and discharge lines must be increased by at least one, or better, two pipe sizes over the size of the pump ports.

3. Horsepower of the motor must be increased over whatever power would be required for pumping water under the same pressure and flow. Use Table No. 2 which gives the percentage increase in horsepower for various pressures and viscosities.