

### R&O TURBINE/HYDRAULIC OILS ISO 32, 46, 68, 100, 150, 220

Fleetline R&O Turbine/Hydraulic Oils are superior performance, rust and oxidation (R&O) inhibited lubricating oils, formulated from high-quality base oils and a proven additive system. These products can be used as turbine oils, non-antiwear hydraulic oils, compressor oils, and non-EP gear oils. These premium oils provide outstanding demulsibility to minimize emulsions when coming into contact with high water content, dirt and other contaminants.

These quality multi-purpose oils provide:

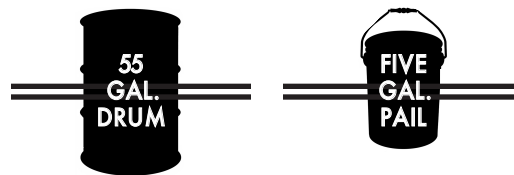
- Superior rust and corrosion protection in the most severe operating conditions
- Excellent anti-foam protection
- Outstanding demulsibility characteristics
- Resistance to oxidative sludge and varnish

Fleetline R&O Turbine/Hydraulic Oils are recommended for a variety of industrial applications including steam and gas turbines, air compressors, and electric motors. These oils can also be used with gear reducers, machine tools, sleeve bearings, heat transfer operations, and hydraulic circulating systems.

Fleetline R&O Turbine/Hydraulic Oils also meet the following performance requirements in the appropriate viscosity grades (refer to product specifications chart):

- US Steel 126
- Denison HF-1
- MIL-L-17672D
- DIN 51524, Part 1
- AFNOR NFE 48-600 HL
- Cincinnati Machine
- . . . and many others

#### PACKAGING:



ISO 32	Part No. FLE 7501	Part No. FLE 7502
ISO 46	Part No. FLE 7511	Part No. FLE 7512
ISO 68	Part No. FLE 7521	Part No. FLE 7522
ISO 100	Part No. FLE 7601	Part No. FLE 7602
ISO 150	Part No. FLE 7611	Part No. FLE 7612
ISO 220	Part No. FLE 7621	Part No. FLE 7622

Always refer to the equipment's manual regarding correct viscosity grade and performance level requirements.

## Superior Performance

### R&O TURBINE/HYDRAULIC OILS ISO 32, 46, 68, 100, 150, 220

TEST DESCRIPTION	ASTM METHOD	TYPICAL ANALYSIS					
		32	46	68	100	150	220
ISO Viscosity Grade	–	32	46	68	100	150	220
API Gravity at 15.6°C (60°F)	D 1298	32.1	29.9	28.8	27.5	26.6	28.3
Viscosity, cSt at 40°C (104°F)	D 445	32.0	46.0	68.0	100.0	149.5	220.0
Viscosity, cSt at 100°C (212°F)	D 445	5.3	6.7	8.5	11.4	14.3	18.6
Viscosity, SUS at 38°C (100°F)	D 2161	165	238	353	521	787	1,165
Viscosity, SUS at 99°C (210°F)	D 2161	44.0	48.7	54.8	65.4	76.9	95.1
Viscosity Index	D 2270	95	95	95	95	95	95
Flash Point (COC), °C (°F)	D 92	204° (400°)	210° (410°)	220° (430°)	226° (440°)	236° (460°)	248° (480°)
Pour Point, °C (°F)	D 97	-33° (-30°)	-18° (-5°)	-15° (0°)	-21° (-10°)	-12° (10°)	-9° (15°)
Foam Test, Sequence I, ml.	D 982	10/0	10/0	10/0	10/0	10/0	10/0
Foam Test, Sequence II, ml.	D 982	20/0	20/0	20/0	20/0	20/0	20/0
Foam Test, Sequence III, ml.	D 982	10/0	10/0	10/0	10/0	10/0	10/0
Demulsibility, 20 min. @ 54°C (130°F)	D 1401	40-37-3	40-37-3	40-37-3	–	–	–
Demulsibility, 60 min. @ 82°C (180°F)	D 1401	–	–	–	40-37-3	40-37-3	40-37-3
Total Acid Number, mg. KOH/gm.	D 664	0.15	0.15	0.15	0.15	0.15	0.15
Rust Preventing, Tests A & B	D 665	Pass	Pass	Pass	Pass	Pass	Pass
Oxidation Stability, hrs.	D 943	2,500+	2,500+	2,500+	2,000+	2,000+	1,000+
US Steel 126	–	✓	✓	✓	✓	✓	N/A
Denison HF-1	–	✓	✓	✓	✓	✓	✓
MIL-L-17672D	–	✓	✓	✓	N/A	N/A	N/A
DIN 51524, Part 1	–	✓	✓	✓	✓	N/A	N/A
AFNOR NFE 48-600 HL	–	✓	✓	✓	✓	✓	N/A
Cincinnati Machine	–	P-38	P-55	P-54	N/A	P-57	N/A
Color	D 1500	1.0	1.5	1.5	1.5	4.0	4.5

Date Approved: 1/15/08 (Specification valid only if dated)

Typical test data are average values only. Minor variations which do not affect performance may occur.

#### KEEP AMERICA ENERGY EFFICIENT

Improper disposal of used oil poses serious hazards to human health and the environment and depletes a valuable non-renewable resource. Return used oil for proper disposal and recycling.



#### CAUTION

Continuous contact with USED oil has caused skin cancer in laboratory mice. Protect your skin by washing with soap and water.