

# Formula 600 Series

## Refrigeration Compressor Fluids



JBT FoodTech Formula 600 Series Refrigeration Compressor Fluids are 100% fully synthetic lubricants formulated especially for use in the low temperature conditions found in the operation of Frigoscandia and Northfield Freezing Equipment. As the demands of today's modern food processors continues to strive to pull more efficiency out of each piece of equipment, the reality of needing high-quality, top-performing lubricants especially in the critical areas of compressor operation becomes more apparent. A few degrees colder in a freezer can have an exponentially positive effect on production volumes, just as the need to shut down a freezer due to compressor failure would have a negative effect.

Formula 600 Series fluids are designed to exceed demands and out-perform conventional refrigeration compressor oils particularly in low temperature applications.

Formula 646 is a food grade oil for compressors and vacuum pumps requiring a product that could have incidental contact with food or beverage. It is made from shear- stable USDA H1 authorized synthetic base oils designed to provide long life through reduced component wear, corrosion protection, water resistance and lubricant breakdown resistance. The high viscosity index and low pour point, low volatility and prolonged thermal stability allow use at a wide temperature range. Additionally, the minimized carbon depositing, low frictional characteristics and anti-foaming agents provide reduced energy consumption and lower operating temperatures. Formula 646 is designed to reach beyond 8,000 hours as long as discharge temperatures remain below 200°F (90°C). Monitoring at 500 hour intervals is recommended using JBT FoodTech oil analysis kits (part number 356231A).

**Formula 668** is a highly refined 100% synthetic Ammonia Compressor oil designed to replace conventional refrigeration compressor oils in the excessively demanding, super low temperature applications of JBT FoodTech Freezers. Our freezers are stretching down to temperatures unheard of only a few short years ago and the right fluid must be able to flow freely without sacrificing lubricity which can cause premature failures. Formula 668 is a suitable replacement for mineral or even other synthetic compressor oils. It can extend equipment life and drain intervals with the added benefit of reducing energy costs.

**Features**

- Antiwear and Anti-Foam Protection
- Rust and Oxidation Inhibited
- Recommended for Use in Rotary Screw, Centrifugal, Vane & Reciprocating Compressors
- Excellent Demulsification Characteristics
- Very Good Compatibility to Most Compressor Components

**Formula 646 is compatible with petroleum oils, most synthetic oils (not silicon or polyglycol fluids) as well as most seals, paints and gaskets found in most compressors.**

**Formula 668 also has excellent demulsifying properties and will keep water separated for easy draining while eliminating oil carry over to the cold side of the system.**

**Benefits**

- Reduces Energy Draw
- Excellent Oxidative Stability
- Readily Separates from Water
- Reduced Oil Consumption and Volatility
- Will not Congeal to Refrigerator Coils
- Provides Extended Drain Intervals

Typical Properties	646	668	Method
Viscosity @ 100°C, cSt	7.6	9.7	ASTM D 445
Viscosity @ 40°C, cSt	46.9	67.5	ASTM D 445
ISO Viscosity Grade	46	68	ASTM D 2422
Viscosity Index	128	124	ASTM D 2270
SAE Viscosity Grade	10	20	SAE J300
Specific Gravity	0.8378	0.8373	ASTM D 1298
Pour Point,°F	-44	-54	ASTM D 97
Pour Point,°C	-42	-48	ASTM D 97
Flash Point,°F	464	518	ASTM D 92
Flash Point,°C	240	270	ASTM D 92
Fire Point,°F	504	576	ASTM D 92
Fire Point,°C	262	302	ASTM D 92
Copper Strip Corrosion	1a	n/a	ASTM D 130
Rust Test A Distilled Water	pass	n/a	ASTM D 665
Rust Test B Synthetic Sea Water	pass	n/a	ASTM D 665
Four-Ball Wear, mm	0.45	n/a	ASTM D 4172
Meets Requirements for	H1	H2	



**Part Numbers:**

- Formula 646**  
**356283A** 5 Gallon Round Plastic Pail  
**356283B** 16 Gallon Steel Keg  
**353283C** 55 Gallon Steel Drum
- Formula 668**  
**356173B** 5 Gallon Plastic Pail  
**356173A** 55 Gallon Steel Drum

**To place an order or receive additional information call:  
 Order Entry Department 507-645-9546, 800-408-7788 option 3,  
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