

*25 YEARS OF ENERGY  
SAVINGS*

**FRIGI-TECH**

**FOR AIR CONDITIONING AND REFRIGERATION COMPRESSORS**

**LUBRICATION ENHANCEMENT SYSTEM**

# **MAIN BENEFITS**

**CONSERVES** energy

**REDUCES** friction of moving compressor parts during operation as well as start-up.

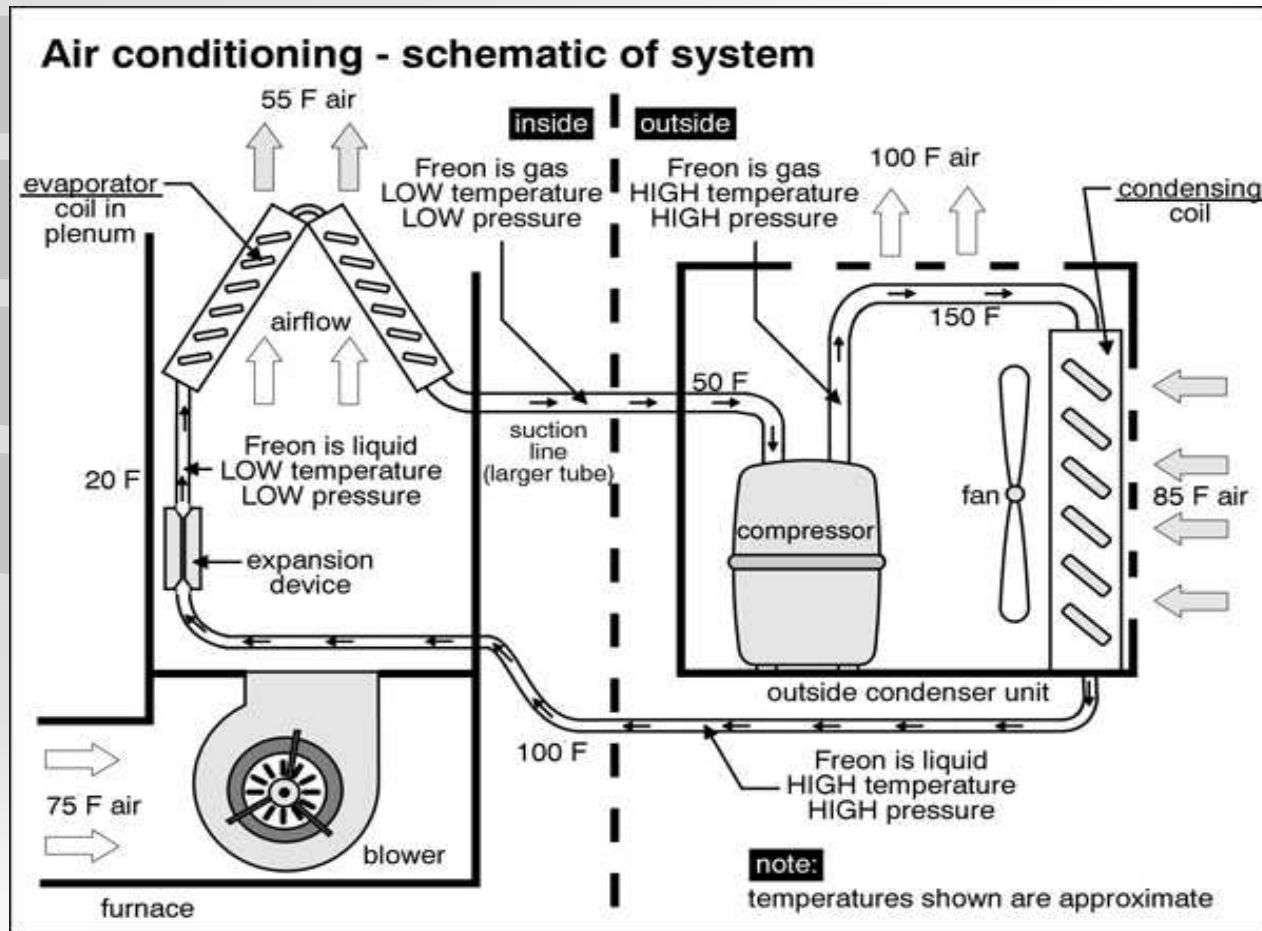
**QUIETS** the decibel level during operation.

**PROVIDES** relief from service issues.

**RESTORES** heat exchange by eliminating oil fouling.

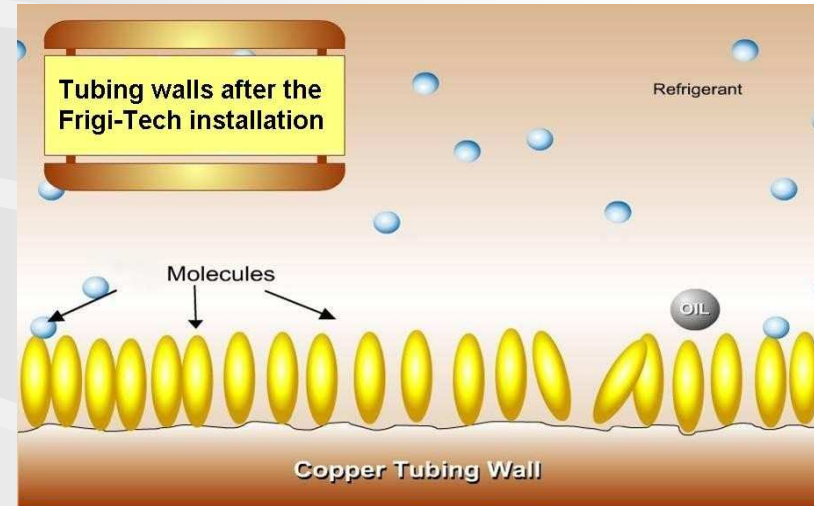
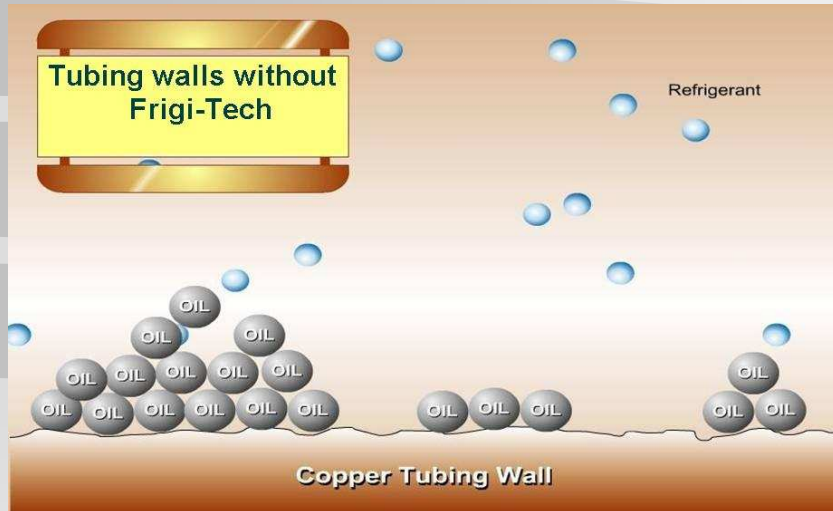
**SAVES** time and money spent on repairs and downtime with payback times almost always less than 24 months.

# REFRIGERATION CYCLE



# How Frigi-Tech Works

Frigi-Tech's polarized molecules bond to the metal inside the system, preventing the insulating build-up of oil which occurs over time due to oil fouling.



Frigi-Tech will cause the insulating layer of oil to return to the compressor where it belongs and no longer builds up on heat transfer surfaces.

**Frigi-Tech will restore the efficiency in the condenser and evaporator coils by restoring the heat exchange.**



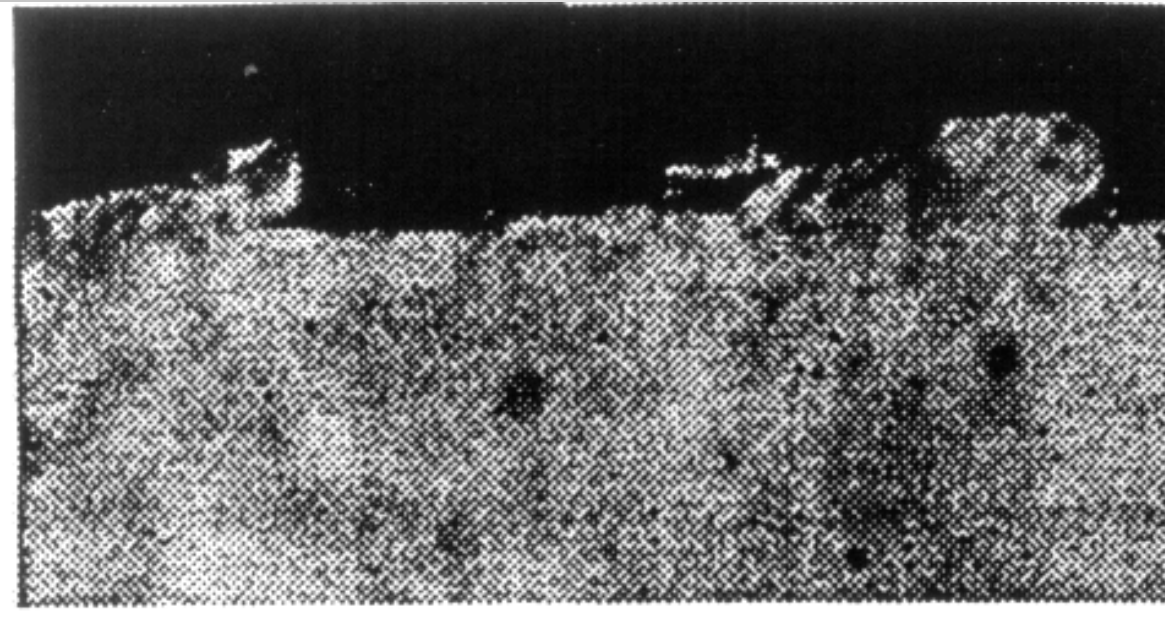
# Treatment Times

**Frigi-Tech** is a one-time treatment. The only time additional **Frigi-Tech** is required is if and when a compressor is replaced or an oil change on a chiller.

# FEATURES & BENEFITS

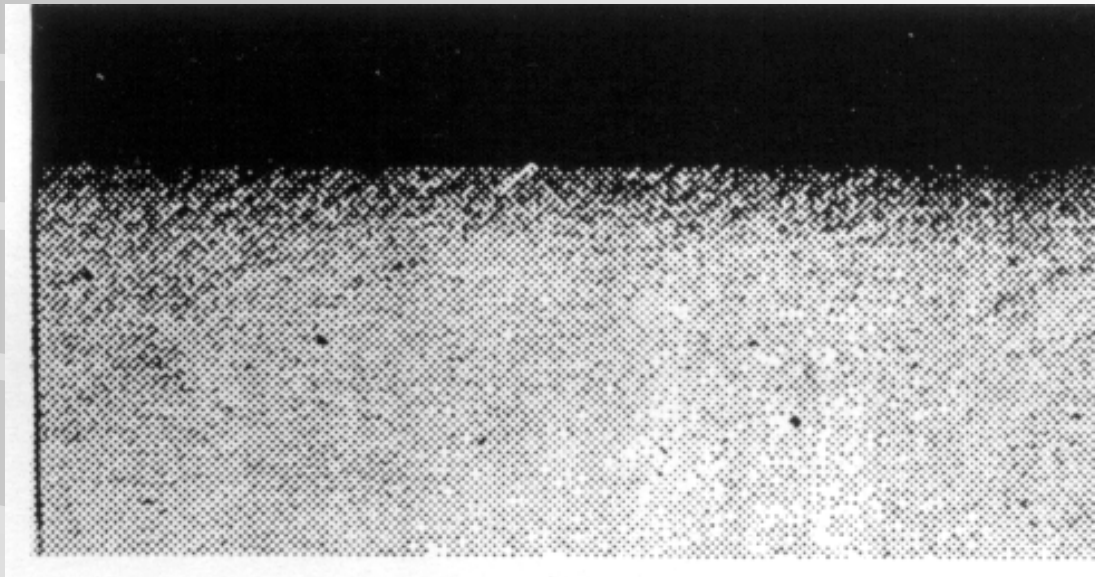
FEATURES	BENEFITS
<b>Increased heat transfer in the evaporator and condenser up to 25%</b>	<b>Improved cooling with shorter cycle times, equating to less run time and energy used</b>
<b>Reduction of friction</b>	<b>Lower amp draw and reduced start amps</b>
<b>Reduced noise and vibration</b>	<b>Comfort of the mechanical rooms</b>
<b>Lower operating temperatures of the oil and the compressor</b>	<b>For every 10 degrees Celsius a motor runs hotter, it reduces its life by 50%</b>
<b>Improved energy efficiency</b>	<b>Payback time realized in months and then all further savings go towards the bottom line.</b>

# TYPICAL BEARING WEAR



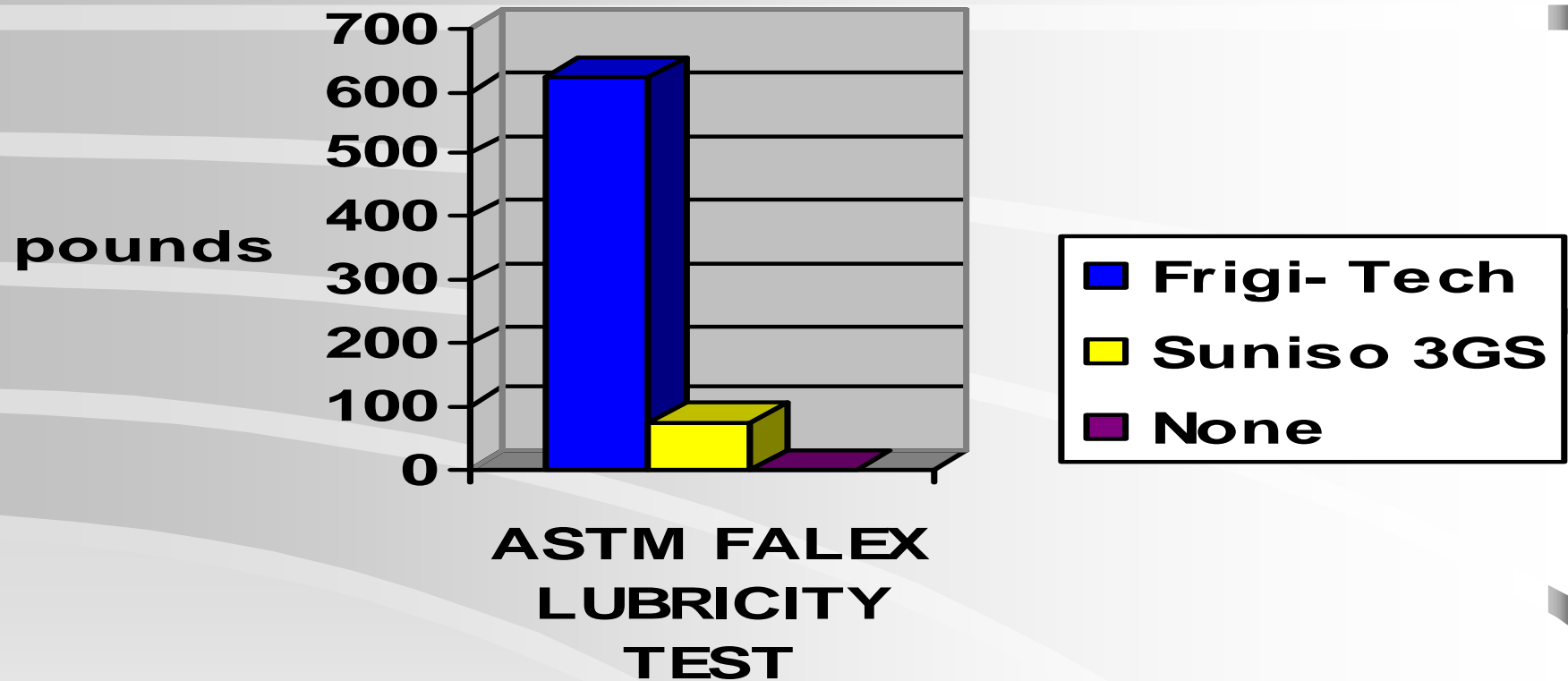
**This is a photograph of a worn bearing magnetized a 1000 times**

# CONDITIONED BEARING AFTER Frigi-Tech



**This is the same bearing showing how Frigi-Tech conditioned the metal surfaces. This demonstrates how Frigi-Tech will reduce noise and vibration as well as reduce friction.**

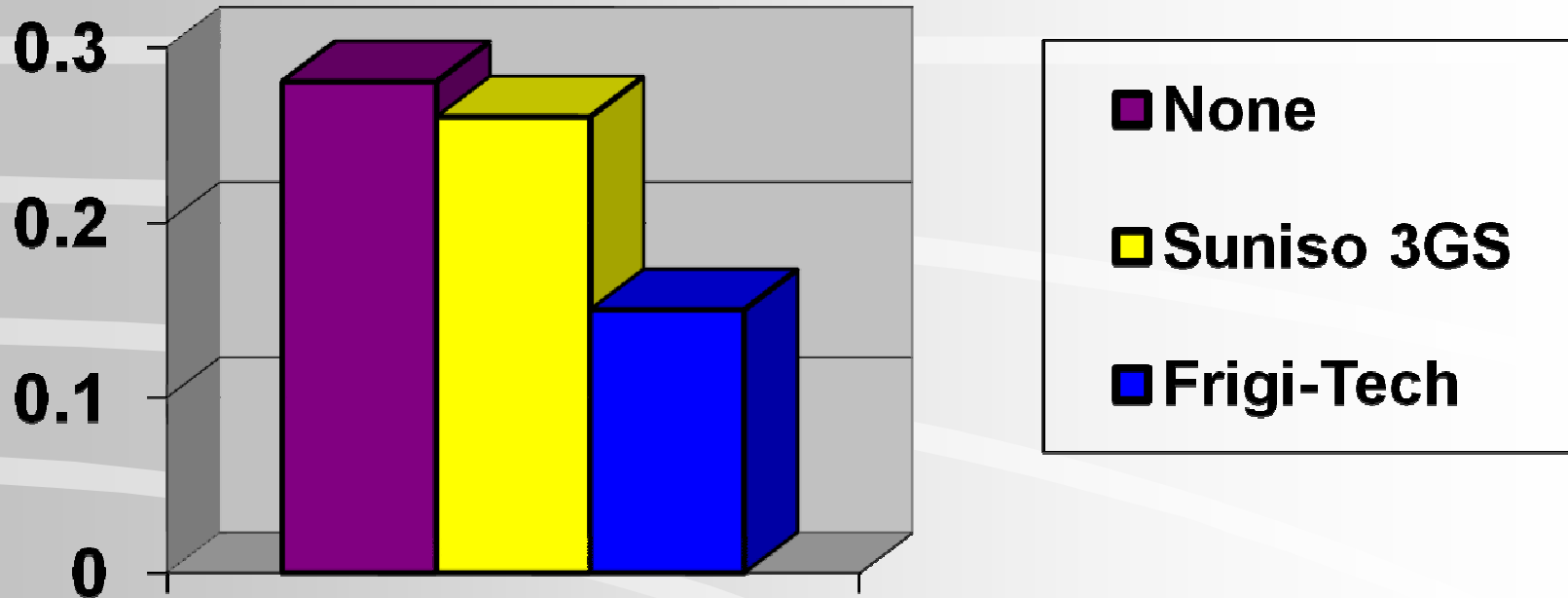
**FIG 4: BRAKING FORCE (lbs)**



**This is the first slide of three test performed in a laboratory. This test represents the breaking force. We applied pressure to see at what point the lubrication broke down and caused the motor to lock up.**

# BEARING WEAR (INCHES)

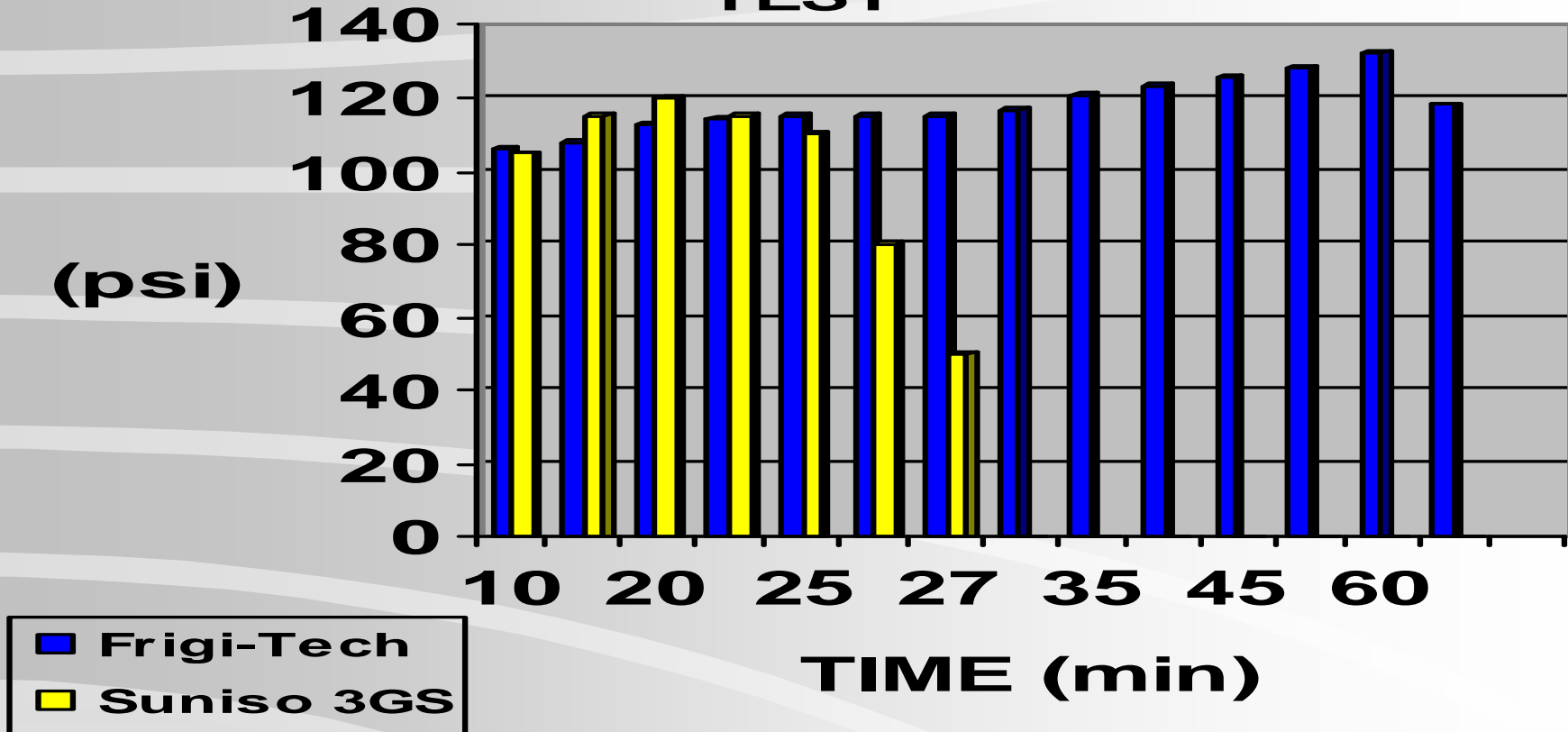
## ASTM FALEX LUBRICITY TEST



In this test we are applying the same amount of pressure with the same amount of time to measure the bearing wear in inches.

This is where we have the ability to say that we should double the remaining life of the compressor at the time Frigi-Tech is installed.

**FIG 7: ASTM ROTATING BOMB TEST**



What this slide represents is the #1 enemy to an HVAC&R system, moisture. Moisture creates oxidation creating hydrochloric and hydroflouric acid. You can see when Frigi-Tech was introduced we show 3 times the oxidation and corrosion protection over the standard refrigerant oil. This won't save you on energy but will save you on maintenance issues.

# DO WE VOID MANUFACTURER'S WARRANTY ?

## FRIGI-TECH MEETS AND THEN EXCEEDS

After the introduction of Frigi-Tech there was a **1,500% improvement** in the mixture lubricating ability. The modified Falex test was used to determine lubricity. **Frigi-Tech exceeded the 582 pound limits of the test.**

# SYNTHETIC COMPARISON

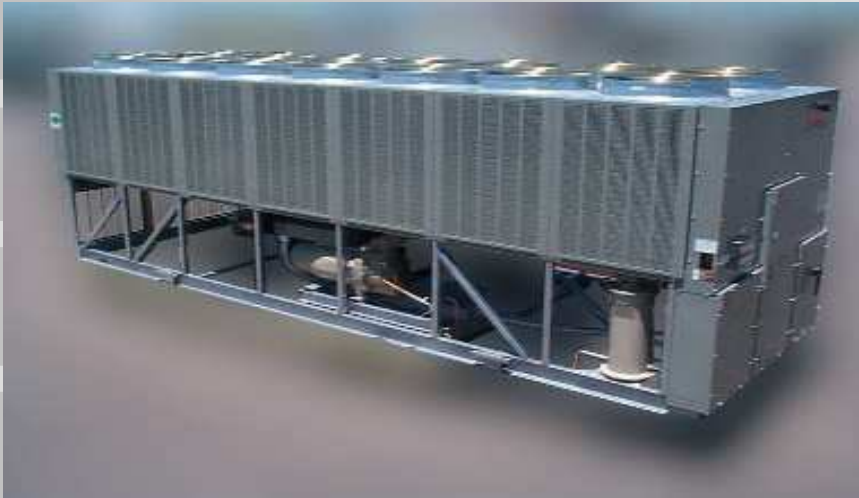
## P.O.E. Oil VS. Frigi-Tech P.O.E. Blend

<u>TYPICAL DATA</u>	<u>ASTM TEST</u>	<u>EMKARATE RL 68H</u>	<u>FRIGI-TECH P.O.E.</u>
VISCOSITY cSt/100°	D 445-88	63.0-73.0	66.9
VISCOSITY cSt/212°	D 445	8.80-9.80	9.6
VISCOSITY INDEX	D 2270	?	124
POUR POINT °F	D 97	-20°	-40°
FLASH POINT °F	D 92	170°	518°
ANILINE POINT °F	D 611	?	N/R
DIELECTRIC STRENGTH KV	D 877	?	39
COPPER STRIP CORROSION	D 130	1	1
SEALED CHAMBER DISCOLORATION	D 1500	(1.0) CLEAR	(0) CLEAR
CHLORIDES PPM	D 808	<5	<5
FALEX MODIFIED WEAR TEST	LUBRICITY RATING, LBS OF FORCE APPLIED	19	582.22*

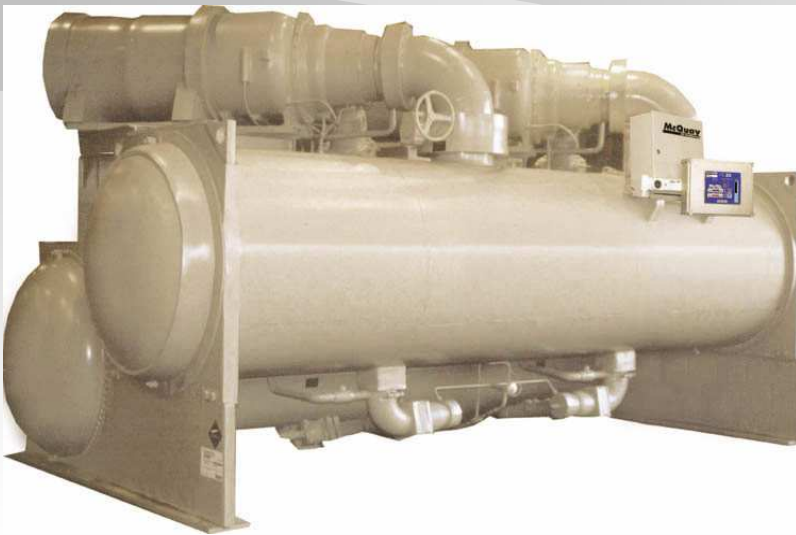
# WHY USE SUNISO 3GS AS A BENCHMARK

In the field of comparison testing, we have used Suniso 3GS® as a benchmark product. Suniso is a certified refrigerant oil recommended by numerous major manufactures of air conditioning compressors.

# SYSTEM COMPATABILITY



Frigi-Tech is compatible with any hermetically or semi-hermetically sealed system regardless of tonnage size and refrigerant.



# REFRIGERANT COMPATIBILITY

Frigi-Tech is compatible with both new and old refrigerants.

Frigi-Tech has tremendous results with ammonia and all low temperature applications.

Frigi-Tech blends to meet all manufacturer's specifications to ensure warranty compliance.

# MAJOR BENEFITS

- Reduction in amperage and total kWh
- Shortens cycle time by restoring the heat exchange
- Conditions metal and reduces friction
- Provides protection of the internal seals
- Frigi-Tech is a one time application

# ADDITIONAL BENEFITS

- Maintains volumetric capacity
- Reduces excessive heat generation
- Decibel level reduction
- Major reduction in mechanical failures
- Provides oxidation and corrosion protection

# SUMMARY

- Increases System Performance
- Increases Cooling Efficiency
- Environmentally Friendly
- Improves Net Profit due to Reducing kWh and Decreasing Mechanical Failures
- Payback times almost always less than 24 months.

# Contact Information



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**or**

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