

---

## The Unprecedented 10-Year Warranty

An advanced compressed air system so special, it is the only one in the industry to carry a 10-year Warranty... and has for over 25 years.

While the operational life of a 24KT compressor system is incalculable, Sullair assures its trouble-free performance for the first ten years, as follows: The Sullair 24KT air end, if continuously charged with 24KT fluid, and used in accordance with manufacturer's instructions, is warranted for 10 YEARS against defects in materials and workmanship.

The 10-Year Warranty extends only to the Sullair compressor air end. The driver, whether engine, electric motor or turbine, is covered by the original manufacturer's warranty. All other parts are warranted by Sullair for 12 months against defects in workmanship and materials.

Warranty is transferable by notifying Sullair and stating the new owner, address, and serial number.

Any other expressed or implied warranties are excluded. This warranty does not apply to any unit damaged by accident, misuse or negligence. This warranty does not include liability for consequential or liquidated damages.



Member of:



*Sullair Corporation  
is a member of the  
Compressed Air Challenge,  
sponsored by the United States  
Department of Energy.*



Sullair is committed to a program of continuous improvement. Features and specifications may change without notice. Consult your Sullair representative or authorized Sullair distributor.

[www.sullair.com](http://www.sullair.com)

SULLAIR CORPORATION, A Sundstrand Company, 3700 E. Michigan Blvd., Michigan City, IN 46360 Telephone: 1-800-367-6737  
IPS-9020 Specifications subject to change without notice. © Copyright 1999 Sullair Corporation. All rights reserved. EA/1/99/7



Printed on recycled paper.

# 24KT™



---

## The Compressor and Compressor Fluid that Last.

---

**The Sullair Compressor and 24KT** Sullair Corporation revolutionized the industry in 1965 when it introduced the first full line of rotary screw air compressors. These machines offered dramatic advantages over conventional air compressors. Advantages such as reduced maintenance costs. A virtual end to compressor-caused downtime. Far greater dependability. And amazing wear-free durability.

Recognizing that the key to long life in a rotary screw mechanism is the fluid that lubricates it, Sullair took the next logical step. Working together, Sullair and Dow Corning Corporation developed the fluid that revolutionized the compressor—24KT. This silicon-based semi-organic fluid reduces maintenance so drastically that the 24KT compressors specially designed for it are warranted for ten years against defects in materials and workmanship, and against loss of capacity due to wear.

**Highly Engineered Simplicity: The Sullair Rotary Screw** Key to the amazing dependability of a Sullair rotary screw compressor is simplicity of design. It has only two major moving parts—the rotors. The drive rotor (male) does the compressing. The driven rotor (female) is an idler. They rotate at conservative speeds in a fluid bath that cools, seals and lubricates. The parts touch only on a lubricated pitch line. No friction. No wear. Simple.

Little wonder that today Sullair rotary screws are recognized as the most dependable and reliable compressors in the world.

Lubricating fluid is essential to the operation of any rotary screw compressor. However, hydrocarbon and other organic oils ( even synthetics) can present difficulties, especially in the presence of dense oxygen or high ambient temperatures. Under excessive heat or poor maintenance, petroleum based oils and some synthetics oxidize and turn into sludge and varnish.

When oil-change schedules are not strictly maintained (for example, during full-shift operation), sludge and varnish build up and can cause premature bearing failure in an air compressor.

That's why Sullair, in addition to improving its superior rotary screw compressors, also improved the fluid in its compressors. Enter 24KT.



# The 24KT System: Technical Information

## 24KT: Compressor Protection

By eliminating the problems of varnish sludge and carbon deposits, 24KT protects the compressor from the effects of ordinary compressor fluid. Developed and patented by Sullair and Dow Corning Corporation, 24KT is a semi-organic, silicone-based compressor fluid with matchless properties.

## Chemically inert

Because of its semi-organic silicone structure, there's no breakdown at normal operating temperatures. No sludge. 24KT remains incredibly clear. In fact, at Sullair's recommended operating pressures and temperatures, there's no foreseeable end to the useful life of 24KT.

## Works cleaner

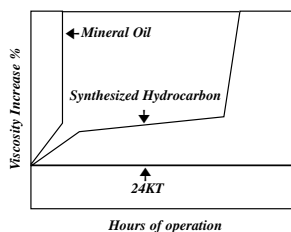
All parts of the 24KT compressor system remain clean. Filters, separators and coolers don't plug. With less frequent separator changes and longer bearing life, compressor down-time is minimized and maintenance costs are drastically reduced—so overall operating costs are significantly lower.

## Corrosion protection

24KT coats and penetrates all internal parts of the compressor system, protecting against rust and corrosion.

## Excellent stability

As used in Sullair's 24KT compressor, 24KT fluid is a better extended-life lubricant than mineral oil. The chart below illustrates viscosity stability far beyond mineral oil or synthesized hydrocarbons.



## Constant viscosity

The viscosity of 24KT will not change significantly within a wide range of ambient or operating temperatures. Your 24KT compressor will operate at peak performance at all

times, in all temperatures.

Maintaining higher viscosities at operating temperatures, 24KT insures excellent lubrication and longer bearing life.

## Effective separation

The 24KT separation system employs direct interception, inertial impaction, and diffusion. Highly efficient separators with larger surface areas are used in both single-stage and two-stage nested configurations

## Does not emulsify

While oil and water mix and form an emulsion, 24KT fluid does not emulsify and does not retain water.

## Low volatility

24KT's low vapor pressure combined with 24KT compressor separator technology results in significantly reduced fluid loss, compared to mineral oils.

## The 24KT System:

### Only from Sullair

Sullair engineering combines the most dependable compressor and the most reliable compressor fluid in a system that lasts. The 24KT System consists of 24KT, a proprietary fluid, and a 24KT rotary screw air compressor specially designed to use the fluid. The compressors range from 5 to 600 hp, and are available in air- or watercooled models.

## Typical Properties of 24KT\*

Appearance	Transparent Fluid
Viscosity:	
@ -40°C (-40°F)	225 cSt
@ -17°C (0°F)	95 cSt
@ 25°C (77°F)	28 cSt
@ 40°C	21 cSt
@ 100°C	9 cSt
Viscosity Index: (ASTM D2270)	420
Specific Gravity @ 25°C	0.97 g/ml
Pour Point	-54°C (-65°F)
Flash Point	204.4°C (400°F)
Fire Point	257°C (495°F)
Auto-ignition Temperature	354°C (682°F)
Corrosion Resist.	Excellent
Lubricity: boundary/steel	1.25 mm Good
Spec. Heat @ 25°C (77°F)	-0.36 BTU/lb °F or cal/g °C
BTU/lb °F @ 100°C (212°F)	-0.38 BTU/lb °F or cal/g °C
Ther. Conduct. @ 25°C (77°F)	-0.082 BTU/lb °F or cal/g °C
BTU/Hr-Ft-°F @ 100°C (212°F)	-0.078 BTU/lb °F or cal/g °C

24KT is based on silicone fluid (polydimethylsiloxane—PDMS), which poses no known hazard to the environment. PDMS is not classified as a hazardous waste and has demonstrated no adverse effects on animal or plant life.



#### **Trouble-free performance**

Since there is no measurable wear in the compressor unit, a 24KT compressor operates at original capacity for life. By contrast, wear on valves rings, packing and other parts in a reciprocating compressor leads to rapid loss of efficiency. Continual maintenance and frequent rebuilding are required to keep original efficiency.

#### **Power-saving operation**

With axial inlet port, asymmetrical lobe profile rotors and minimum no-load horsepower, the 24KT compressor is inherently efficient. And it stays efficient.

Sullair's two-stage tandem and spiral valve option (on larger models) further improve your opportunity to save energy with the 24KT system.

#### **Compact design**

All components are mounted on a simple frame that requires minimum space. With a 24KT rotary screw, you have greater flexibility in choosing and changing compressor location.

#### **Contaminant-free air\***

The addition of our contaminant-removal package delivers dry air that is far cleaner than the air you breathe. And this package, designed to match 24KT compressor capacities, costs less to buy, install, operate and maintain than any other available today.

\* Particulate and aerosols down to 0.01 micron. Will not remove carbon monoxide or other toxic gases.

---

## **The 24KT System: Benefits**

### **24KT Fluid**

#### **Chemically inert**

Semi-organic structure means no breakdown, no sludge, longer life.

#### **Works cleaner**

Filters, separators and coolers don't plug; bearings last longer; maintenance costs are lower.

#### **Excellent lubricity**

As used in a 24KT compressor, 24KT fluid is a better extended-life lubricant than petroleum oil.

#### **Constant viscosity**

24KT maintains its consistency, so your 24KT compressor operates at peak performance in the widest range of all temperatures; ensuring excellent lubrication and longer bearing life.

#### **Does not emulsify**

Unlike oil, 24KT does not emulsify or retain water, so corrosion is reduced and fluid life is lengthened.

#### **Corrosion protection**

24KT penetrates internal parts of compressor system to protect against rust and corrosion.

#### **Low volatility**

24KT's low volatility and low vapor pressure result in reduced fluid loss.

### **The Rotary Screw**

#### **Two moving parts**

Two asymmetrical lobe profile rotors are the only major moving parts. This design simplicity means fewer parts to break down, greater dependability.

#### **Negligible wear**

Rotors touch only on a lubricated pitch line, providing wear-free durability.

#### **Bearings**

Tapered roller thrust bearings designed to provide maximum load-carrying capabilities for longer life.

#### **Low maintenance**

Since only routine maintenance is needed, down-time is virtually eliminated, resulting in lower operating costs.

### **The 24KT System**

#### **Sullair's leadership**

Sullair's wide experience, more than 30 years in rotor design, engineering and manufacturing, and over 25 years with the 24KT system, assures quality and reliability of product.

#### **Ten-year warranty**

Sullair's 24KT air compressor unit, if continuously charged with 24KT fluid, and used in accordance with manufacturer's instructions, is warranted for 10 years against defects in materials and workmanship.

#### **Air/fluid separation system**

Fluid and compressed air are separated by direct interception, inertial impaction and diffusion. High surface area pleated separators increase retention time and result in extremely low fluid carry-over.