



Chemical Laboratory

Oil, absorption and refrigerant analysis



Trane Chemical Laboratory has been serving the HVAC industry for over 50 years.

Routine analysis of the fluids in your HVAC equipment is essential to the proper maintenance and operation of the entire system. The Trane chemical analysis service is a cost-effective method of trending the condition of your system.

We provide testing on:

- System lubricants
- Absorption solutions
- System refrigerants

All results are provided with recommendations and trending over equipment life.

The Trane Chemical Laboratory has the experience to analyze a variety of HVAC makes and models.

HVAC specialized

Our scientists are experts in testing and analyzing within the HVAC industry. While other labs may test across industries, we focus solely on HVAC. Though the tests may be routine, the interpretation is vastly different. At the Trane Chemical Laboratory, we know through research and experience the acceptable parameters for each make and model of HVAC equipment — not just Trane.

Recommendations

The Trane Chemical Laboratory provides an interpretation of the results with each test. If any problems are detected, we provide maintenance recommendations as well as suggest the next sample schedule.

Trending equipment history

By maintaining a database of all past results from a specific machine, subtle changes in the solution's composition can be detected and addressed. This database becomes a valuable source of information when interpreting test results of future samples.

HVAC equipment manufacturer

As a manufacturer of HVAC equipment, we have access to HVAC expertise and industry data and research. These resources ensure accurate interpretation of your test results. And when equipment is introduced and revised, the lab has immediate access to new information.

Lubricant oil analysis

When problems develop inside a compressor, the lubricant oil moisture, acidity, and metal concentration levels can indicate the problem. Trane recommends a lubricant sample be taken once a year. This provides you with information on the normal operating trends of your compressor's wear metals and oil. Regular lubricant evaluation can be used to determine proper change intervals as well as predict major problems.

The Trane Chemical Laboratory can analyze lubricant oil from almost any compressor make and type. In addition to the standard lubricant analysis test, we can perform viscosity, aniline point, and solid residue tests.

Refrigerant analysis

Today, with more stringent EPA regulations, the use of recycled and reclaimed refrigerant is becoming more common. Refrigerant charges are also being used longer. The chances of using or buying contaminated refrigerant are on the rise. Refrigerant analyses can help ensure that your refrigerant is free from contaminants.

The Trane Chemical Laboratory provides two types of analyses: reclaimed refrigerant to ARI 700-93 standards, which evaluates reclaimed refrigerants for resale; and suitability for continued use tests, where refrigerant is analyzed to determine contamination levels. When contaminant levels fall outside acceptable ranges, corrective actions are recommended.

Glycol analysis

There are two different types of glycol analyses. One ensures the correct percentage of glycol is present in your system, and the other checks for stray glycol in your oil. Both of these factors can shorten the life of the unit.

Absorption solution analysis (lithium bromide)

An absorption chiller is designed to run with specific amounts of inhibitors within a lithium bromide solution. This solution may become unbalanced, causing performance problems and allowing harmful chemical reactions to take place inside the chiller. We will alert you to potential problems (air leaking into the machine, excessive corrosion), and calculate the amount of each chemical needed to bring the system back into balance.

A routine assessment tests the general appearance, suspended solids, specific gravity and concentrations of lithium bromide, alkalinity, inhibitor and ammonia, if applicable. We provide several different analysis levels so you can choose the one that will best suit your needs.

Gearbox oil analysis

The most common reason for draining oil is contamination (water ingress, foreign solid material, liquid contamination). Lubricant changes can temporarily solve these problems, however, they do not fix the underlying cause. Complete gearbox oil evaluation trends your lubricant to identify potential problems such as wear from debris or sliding gears.

Analysis results

After an analysis is completed, the results, including comments and recommendations, are posted securely on Trane.com, accessible only with a password and account identification code. Typical turn around time is 48 hours or less. Paper copies, if required, are provided in a timely manner. For access privileges, or any other information contact the Trane Chemical Laboratory (1-877-632-9192) or your local Trane office.



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