



Introducing Onformant's Internal HVAC Catalyst

ClearFlow Catalyst

A scientifically engineered synthetic catalyst that restores lost efficiencies in any type of HVAC and refrigeration equipment.

ClearFlow allows a system to produce colder supply air resulting in reduced compressor run times, lower energy consumption, less maintenance, and longer equipment life.



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Restores Cooling Efficiency and Protects Equipment

Can reduce your HVAC energy consumption by 20% or more*

Delivers colder vent air faster

Reduces equipment maintenance costs

Reduces compressor noise

Reduces equipment maintenance costs.

Extends equipment life, because the equipment runs less.

Lasts for the life of the cooling system's compressor.

The most cost-effective way to restore lost system SEER (seasonal energy efficient ratio) performance



Achieve and maintain a high level of system performance.

The actual savings mechanism includes not only the reduction of amperes that the compressor's electric motor uses while running, but also with the removal of oil fouling. This produces a more efficient refrigerant absorption rate and lubricity increases which makes the system more efficient and creates colder supply air (or faster chiller water cool down) resulting in the equipment running 10% to 20+% less on average.

How Does ClearFlow Work?

ClearFlow removes oil-fouling, thus improving coil heat transfer and delivering colder air faster. It also delivers up to 54% higher lubricity to compressor oil.

What is Oil-Fouling?

Oil Fouling of the heat transfer surfaces of air conditioning and refrigeration systems, will cause a loss of efficiency that will continue to accumulate.

ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) confirms that over time performance is degraded by 30% due to the build-up of lubricants on internal surfaces. Higher percentages up to 40% have been observed in systems 20 years old or older.*

In all air conditioning and refrigeration systems, 0.5% to 8% of the compressor's lubricating oil circulates with the refrigerant. This oil attaches to the inner walls of the refrigeration tubing and acts as an effective insulator to heat exchange. It is these oil deposits that ultimately block heat transfer and reduce your system efficiency.

Equipment suppliers may state that in a particular system, migrating oil concentration has been reduced to only 1%. This 1% being referred to is 1% of the total oil volume. If a compressor holds four quarts, or 128 ounces of oil, then at 1%, 1.28 ounces is flowing through the system at any given time. In a capillary tube, the oil pressure switch or expansion valve can be fouled with a few milligrams of oil, and when 1% of any oil charge is flowing constantly through the system, the system will become oil-fouled.



The Solution

The heat transfer efficiency loss due to oil-fouling is restored to near new equipment levels by using the ClearFlow synthetic catalyst to break the surface tension forces between the oil globules and the walls of the refrigeration tubing. The absence of oil-fouling restores the loss of 20% to 30% heat transfer efficiency. An added benefit is that the capillary tubes, expansion valves and heat pump's 4-way valves are also cleaned and will not oil-foul again.

Fully Tested and Proven

- Tested to show that ClearFlow is compatible with all modern compressor oils.
- Tested to show ClearFlow compatibility with compressor parts including metals, rubber seals, and gasket materials found in compressors. The accelerated test to show the effects from the use of ClearFlow over a long period of time showed no significant change in any of the materials exposed to ClearFlow. In addition, wear test conducted, which resulted in a 50% reduction in wear and friction after the use of ClearFlow.
- Independent third party performance testing on ClearFlow in refrigerated trucks. The performance testing was conducted in a completely controlled environment, and results showed a 15% reduction in diesel fuel consumption, and a 15% faster cool down inside refrigerated trailers.
- In independent testing focused on data-center energy reduction, ClearFlow delivered measurable and substantial efficiency gains and energy reduction in data center cooling equipment
- In a 5 year study of 6 locations, ClearFlow demonstrated an average energy increase of 20% for the duration of the study

Techniques used by manufacturers to control migrating oil using mechanical devices are not efficient enough to remove all of the unwanted oil - they do not resolve the boundary layer oil fouling over time.



The heat transfer efficiency loss due to oil-fouling is restored to near new equipment levels by using ClearFlow's synthetic catalyst to break the Van der Waals (surface tension) forces between the oil globules and the walls of the refrigeration tubing. The absence of oil-fouling restores the loss of 20% to 30% heat transfer efficiency. An added benefit is that the capillary tubes, expansion valves and heat pump's 4-way valves are also cleaned and will not oil-foul again.

Visit www.onformant.com
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