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## Glanris Case Study: Modine

Modine Manufacturing (NYSE: MOD) is a US thermal management company established in 1916. With the global headquarters in Racine, Wisconsin, and manufacturing facilities around the US, Modine is a core manufacturer and producer of many integrated heating and cooling solutions for the HVAC industry.



### THE PROCESS

At their Mississippi facility, Modine manufactures compressor coils for their HVAC systems. Once they complete a compressor coil, they test it for leaks. The method used is to seal one end of the compressor and pressurize the other end. Upon lowering the coil into a large tank of water the presence of bubbles indicates a leak.

### THE PROBLEM

The test water quickly clouds and is fouled with the oils, solvents, and lubricants used in the coil manufacturing. High-clarity water is mandatory to the QA process to guarantee leak-free coils. In addition to dirt, oils and solvents, the leaching of copper and other metals into the water contributes second-hand clarity problems to the process by adding color and enhancing the formation of oil-metal-dirt curd on the surface of the water. It also contributes to an accumulation of debris on the bottom of the pools which requires regular cleaning.

Modine explored treating these challenges with other technologies without success and previously resorted to manual tank cleaning. This involved draining the tank, scrubbing the tank with caustic chemicals and then refilling the tank. This was expensive and time consuming.



## THE SOLUTION

Glanris, in partnership with a regional water services company, designed a the GESO 29 mobile skid filtration system that skimmed the contaminants off the water surface, and then passed them through exchange tanks containing Glanris 901x media. The media did not foul in the presence of the dirt, oils and solvents contaminants. Within a few minutes, the clarity of the water began to improve and within two hours, the water surface was clear and virtually free of visible debris. Over the course of daily operation, the accumulation of debris on the bottom of the tank was also eliminated. The portable design of the skid allows it to be used on multiple pools within the plant.

*“The Glanris Filtration Skid has provided clear water, facilitated a more efficient QA process, minimized Maintenance costs and allows us to reuse, instead of dumping our wastewater.”*

### MODINE TANK FILTRATION RESULTS

Contaminant	Before Glanris Treatment	After Glanris Treatment
TSS	25 – 85 mg/l	5 - 10 mg/l
TDS	400 mg/l TDS	325 mg/l TDS
Copper	2.3 mg/l	0.2 mg/l
Oil and Grease (Visual)	Widespread Floating Debris	No Visible Debris
Clarity/Turbidity	35 - 70 NTU	2-5 NTU

In addition to the process improvements the implementation of Glanris technology eliminated the need of 20 man-hours per month to clean and refill the test ponds. It also eliminated the discarding of 5,000 gallons of water to drain. These were the savings for 1 pond. The customer uses this unit on multiple ponds.

According to Michael Franklin, Facility Manager, Modine Manufacturing Company, “The Glanris Filtration Skid has provided clear water, facilitated a more efficient QA process, minimized maintenance costs and allows us to reuse, instead of dumping our wastewater.”