

## H.B. Fuller Solves Important Problems on a Hot N- Methylpyrrolidone Solvent Application

H. B. Fuller solves important safety problems, environmental problems and downtime problems on a hot N-Methylpyrrolidone solvent application. In addition, they save \$2,448 per pump in yearly maintenance costs.

### Challenge

HB Fuller adhesives manufacturing plant sought to improve the reliability of a difficult continuous duty transfer service. They had high maintenance and reliability, environmental and downtime costs.

The pump moved dirty solvent, N-Methylpyrrolidone, at 240°F and at 150 psi differential pressure. Because the solvent was used to wash out a tank, it carried hard particles of cured urethane polymer. The combination of the fluid being non-lubricating and somewhat abrasive resulted in premature wear of carbon graphite bearings and pumping components. The wear problems were further compounded by insufficient support of the pumping elements.

A magnetically driven centrifugal pump was used in the service. Due to the premature wear of the pumping components, the pump often lost flow and did not create enough discharge pressure to wash out the tank properly. Such pump failures happened three to four times a year. Frequent pump failures disrupted the production process, and each maintenance incident cost \$650 in parts and labor.

The faulty pump was also a source of work safety and environmental concerns as the pumped solvent is a health hazard and an environmental pollutant.

### Solution

In order to dramatically improve the reliability of the service, EnviroGear Pump proposed to select and install the EnviroGear S1-4-SS seal-less positive displacement pump with a robust between-the-bearing support system of the pumping elements. That was the first trial of EnviroGear pumps in this facility. EnviroGear Pump offered technical support 24/7 and guaranteed immediate response in case of pump problems.

### Result

The EnviroGear pump has been in service for four years without a decrease in performance. The robust EnviroGear design has eliminated maintenance costs associated with premature wear and resulting pump failures. Since the installation, the rotor and idler bushings of the EnviroGear pump have been replaced twice as part of preventive maintenance.

The payback period for the pump was immediate. The customer now saves \$2,448 per year in maintenance costs. There have been no production process disruptions due to the pump. And, the EnviroGear seal-less design has eliminated all environmental and safety concerns.

Based on the success of that first trial pump, the customer has placed multiple subsequent orders and has offered to serve as a reference for other customers considering EnviroGear pumps.

***“EnviroGear Pump is an outstanding supplier partner. I rate their EnviroGear pump performance, their delivery and their technical support 5 Stars.”***

– **Shane Roach, Plant Engineer**

***“Now we have a pump [EnviroGear] that is more reliable, allowing us to spend more time to improve processes instead of dealing with emergency repairs.”***

– **Maintenance Mechanic**