

Absolute Zero Delivers On Its Mission

"Our goal is to deliver on our mission of absolute zero down time," says Hector Villarreal, president of Absolute Zero, a company established for the primary purpose of repairing cryogenic equipment.

Eliminating down time for most companies is critical, yet surprisingly, many don't worry about their cryogenic pump until there is a problem with their cryogenic pump. "Then it is an emergency," says Villarreal, "and they're calling around to find anyone who can do the maintenance, usually waiting for someone to come and fix it." The result? Down time.

Down time for any business can be a serious threat to its livelihood, and while cryogenic pumps can be repaired, there is a better way...eliminate the down time altogether.

AUTOMATED MONITORING

To find a solution, Absolute Zero did not have far to look. Sister company Weldcoa already had the technology in-house with its extensive fill plant automation systems.

Weldcoa had three proven technologies that set Absolute Zero apart from all other Cryogenic Maintenance companies. The most basic of which is AZ's Watch Dog Pump Protection. The system monitors a distributor's cryogenic pump 24/7 in order to assure that the pump does not destroy itself

from neglect. When the system senses an issue, it safely shuts down the pump and alerts the staff of the issue.

The next level of automated pump protection is AZ's Pump Controls. The Pump Controls offer a much more sophisticated level of protection and customer service. The system monitors pump activity 24/7 and when the system detects something working outside of preset parameters, it notifies the staff at Absolute Zero through an email.

The staff then can remotely view, in real time, what is occurring with the pump and make remote adjustments on the fly or, in the case of a mechanical issue, the system will send one of AZ's highly trained technicians to the site to make the repair. In either case, the system notifies Absolute Zero first and then Absolute Zero notifies the client that either they fixed the issue or that they are coming out to perform a repair. Both scenarios save the client time and money.

Another exclusive innovation is the Remote Pump Stations from Absolute Zero. They provide Distributors with a new revenue stream. Distributors can now offer their manufacturing customers an onsite cryogenic pumping system that is remotely monitored by Absolute Zero, assuring the end-user a steady supply of product for their manufacturing needs. Says Villarreal, "The Distributor can do what they do best—supply the molecules, and we can do what we do best and provide the maintenance and constant monitoring of the remote pump station. It's a big deal to be able to support the end-user customer this way. It's a game changer for smaller, independent distributors."

If a problem arises, a troubleshooting technician at Absolute Zero can easily connect to the control box via VPN connection and review the problem. If it's an electronic issue, the technician can fix it remotely. If it's a mechanical issue, a technician is sent to the site and makes the repair. Often the problem is fixed before the end-user knows something went wrong. This is a much different—and faster—process from the end-user having to call and request service once they figure out there's a problem. Now it's no waiting for the technician to arrive. No waiting for a fixed pump. No down time. Absolute Zero down time.



Bud Klotz, vice president (left) and Mark Daniels, west coast sales engineer, install a remote pump station for a distributor's end-user customer.

CRYOGENIC TECHNOLOGY MANAGEMENT

Absolute Zero technicians service and repair almost any cryogenic pump, either reciprocating or centrifugal, using only OEM parts. Every completed repair meets all current factory specifications and is given a serial number for traceability, as well as a 100 percent warranty on parts and labor.

What sets Absolute Zero technicians apart from “pump repair guys” is that they don’t just repair pumps. They implement solutions to minimize future repairs. It’s a well-known fact that repair bills will always cost more in parts, labor and down time than a planned maintenance program. Absolute Zero takes over the responsibility of keeping the cryogenic equipment in running order.

COLD EXCHANGE

An exchange program is offered for reciprocating and centrifugal pumps. A recommended, planned program of exchange helps eliminate the possibility of pump failure and remove unnecessary schedule disruption. Absolute Zero maintains an inventory of the most frequently used pump sub-assemblies (drive and cold ends) and other components, enabling the company to provide like-new-condition units for exchange. After installing the provided sub-assembly, the used unit is shipped back to Absolute Zero for repair. Swapping out complete sub-assemblies minimizes repair time.

While its primary business is the repair of cryogenic equipment, Absolute Zero also refurbishes and sells equipment, and is an authorized dealer and repair center for Cryostar.

SKILLED AND EXPERIENCED

Finding skilled technicians in the gases and welding industry is not easy. The good ones have satisfying jobs, and new hires are not easy to come by. Villarreal considered military mechanics, especially those leaving the Navy who have experience working on a variety of pumps. To find technicians for the company, he met with a recruiter who specializes in job placement for those leaving the military. At a military job fair, he struck gold.

At the job fair, Villarreal found a Naval Machinist Mate who did maintenance aboard a nuclear submarine. It goes without saying that keeping a nuclear sub running requires



Joe Price served five years on a nuclear submarine as Machinist Mate, repairing hydraulics, pneumatics, valves, pumping, air compressors, diesel generators, oxygen generators and systems, atmosphere control systems (CO₂ scrubbers, CO/H₂ burners) and refrigeration systems. He is a certified oxygen clean worker, Phase 3 EPA refrigeration worker, Fairbanks-Morse diesel repairman/operator, Tredwell 6L16 Oxygen generator repairman/operator.

Melissa Vargas joined the Navy in 2008. Among many honors, she received service medals for National Defense and the Global War on Terror. She came to Absolute Zero with training in shipboard aircraft fire-fighting, petty officer leadership, fundamentals of aircraft service and maintenance. She holds an aviation support equipment operator's license and served as a primary branch training petty officer, ALRE collateral duty inspector and physical readiness test coordinator.

strong mechanical skills and experience. He had been trained on multiple pumps, including reciprocating, centrifugal, sliding vane, rotary screw, pneumatic and hydraulic driven. Learning cryogenic pumps would not be a stretch. Joe Price was Absolute Zero's first hire.

The experience was so positive that Villarreal attended another military job fair. This time, he moved from under the sea to above the sea, hiring Melissa Vargas whose military service included being in charge of maintenance on an aircraft carrier.

Working with young people finishing their military career has been a wonderful experience. Says Villarreal, “These men and women are highly skilled with a strong can-do attitude.” Both Price and Vargas earned much recognition and many honors while in the Navy and bring that readiness and ability to their daily work.

In technical terms, “absolute zero” is the coldest temperature possible, defined as -273.15 degrees on the Celsius scale and -459.67 degrees on the Fahrenheit scale. With its ultimate goal of establishing Absolute Zero down time on customers' cryogenic equipment by leveraging automatic monitoring, technology and a highly skilled staff, Absolute Zero is one very hot company in the gases and welding industry. 