Industry-Leading Test Solutions

Market Application Case Study:

HELIUM RECOVERY FOR HARD VACUUM HELIUM TEST SYSTEM

Market driver:

Manufactures lose helium on every test when using Hard Vacuum Helium Leak Test Systems. The amount of helium used and lost in the test is proportional to the part size, test pressure, and quantity of the parts manufactured. In the last few years the price of helium gas has increased as much as 500% due to shortages and transportation. The higher cost of helium gas makes a CTS Helium Recovery System a better fit for a broader range of applications for environmental issues, improve manufacturing efficiencies, and help reduce manufacturing test costs.

CTS Helium Reclaim System recycling test helium from a line of Custom Hard Vacuum Helium Test Machines

Test requirements:

In a hard vacuum helium system the part is placed in a sealed chamber, secured, and a vacuum pump removes atmosphere from the chamber and part to remove remnant gases. The chamber and the part cavity are not connected. The vacuum process removes atmosphere and remnant gases from the sealed chamber and part cavity to maximize the concentration of helium used to find the leak.

A mass spectrometer monitors helium in the chamber. When the part is charged escaping helium gas is detected by the mass spec and the part fails its test. At the conclusion of the test the helium is vented to atmosphere. The process repeats for all parts tested; each time the test is run it begins by a vacuum purge and recharging the part with helium from the helium source tank (not recycled).

CTS solution:

Helium does not need to be a consumable product. Helium Recovery is a CTS standard system that will improve the efficiencies of your manufacturing process by recycling helium gas. By connecting the helium reclaim system to the test system exhaust the helium gas is vented to the CTS Reclaim System, filtered, analyzed for helium concentration, and if necessary enriched to test specification concentration, re-pressurized, and stored awaiting reuse.

A CTS Helium Gas Recovery System is a self-contained product that integrates easily to new and existing leak test systems. Standard designs are available for single machine, multiple machines, and plant-wide applications. CTS customers report that 75-90% of their helium gas is recovered after its use. The percentage of helium reclaimed varies by the application, but why waste money venting your helium gas back to the atmosphere when you can recover it and reuse it. A CTS Helium Reclaim System can pay for itself quickly by money saved using reclaimed helium gas.