VTech 75 Case Study:

Coil Specialist Inc. Upgrades to State-of-the-Art Technology

The Gilmer, TX coil manufacturer Coil Specialist, has recently gotten "out of the water" and into a VTech 75 Leak Detection System featuring pressure decay and a Hydrogen Tracer Gas sniffer leak locator. The equipment is supplied with a barcode reader and is interfaced with a personal computer running VTech's data logging software. This enables tracking the serial numbers of the coils for inventory and quality purposes.

CSI started producing coils in January 2000. "After our first year we had total of 9 people on payroll," says Gerry Averett, President. "With a top line growth of 62% and 21 people, CSI had begun a growth pattern of +50% year after year since. In 2005 CSI has 55 full-time and 6 part-time employees.

CSI has invested capital dollars in top-of-the-line equipment and employee development to reach for our future. As owner, I have hand-picked our top line staff; excluding me, they average under 26 years old. These men and women will take CSI to all new levels over the coming years. Our staff is one that, as time can only show, will have a great impact on this industry, from customer service to use of new technology such as yours."

VTech is proud to play an important role in Coil Specialist's success and continued growth in the future.

Underwater testing: The skinny on dipping

Many coil manufacturers are in fact still using underwater testing to detect leaks in their coils. This method has many disadvantages, such as being highly operator dependent, time consuming and scarcely accurate. A large drying oven must also be used to remove the excess water. The VTech 75 machine eliminates these steps and automates the process, first by testing for gross leaks using a pressure decay test and then, if the unit passes, charging or back-filling with a mixture of 5% Hydrogen and 95% nitrogen. A sniffer probe is then used to check all the brazed joints for leaks.

VTech 75 Multifunction Leak Detection System

Overall, the VTech 75 speeds up the leak testing process by cutting down on handling of the coils and at the same time detecting leaks that would be either undetectable or would take a long time to create a bubble underwater (see the table below).

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refrigerant leakage in ounces/year.	Time required for one 2mm bubble to form (dunk test).	Equivalent helium leak. in std. atm. cc/sec. or mbar l/s.
10.00	13.3 sec.	1.8×10^{-3}
3.00	40.0 sec.	5.4×10^{-4}
1.00	145.0 sec.	1.8×10^{-4}
.50	290.0 sec.	9.0×10^{-5}
.10	24.0 min.	1.8×10^{-5}
.01	240.0 min.	1.8×10^{-6}
.00006	667.0 hrs.	1.0×10^{-8}

As of 2008, Coil Specialist Inc. has three VTech 75 machines installed at their Gilmer, TX facility.

Vacuum Leak Testing

The company integrated pressure decay leak testing with a hydrogen tracer gas sniffer leak locator to create the VTech 75. Parts to be tested are first checked for gross leaks with a pressure decay system, then evacuated and backfilled with a mixture of 95 percent nitrogen and 5 percent hydrogen. Using the sniffer probe, fine leaks (around 0.10 ounce per year of R-134a) can be located and then repaired. The unit is applicable for the refrigeration and air-conditioning industries, as well as coil manufacturing. **VTech, *www.vtechonline.com***

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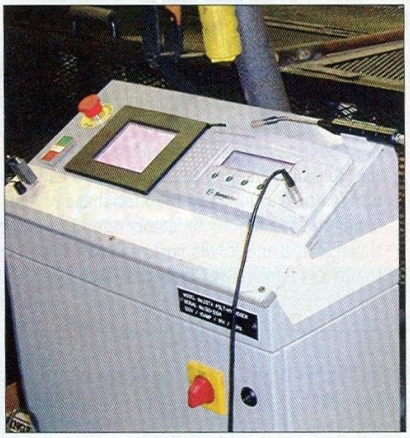

VTech 75 featured in an *Appliance Magazine* article on leak testing technology

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