

# HENRY TECHNOLOGIES

## Pressure to compete leads to fabricating updates

**H**enry Technologies has been manufacturing in Brantford, Ont. as Chil-Con since February 1967. During the past 40-plus years the business has changed from being a manufacturer of flooded chillers and condensers to a fabricator of pressure vessels and heat exchangers. They handle everything from flooded chillers for

But management changed processes before the new equipment came in. The investment was in answer to very challenging market conditions.

“Refrigeration is a very big business, but the margins aren’t very large for companies, like ours, that don’t build the “packages”.

until all the material is on hand and we can push it through the shop.

“We realized that material prep was a department that we hadn’t given as much consideration to as others in our organization. Once we gave the right amount of attention to that department, it became a major force in our



*Operator sets up inch and a half thick pipe on the company’s Maruhide 6-axis plasma pipe cutting machine.*

arenas to gas compression for the oil and gas industry now.

The last six years has seen the company make substantial changes on their shop floor – a change process that saw them replace all of their machinery, except for some of their welding equipment. Owner Hendricks Holdings asked the managers on the ground what they needed to improve their production times and reduce costs. This led to an investment of \$3.5 million. The company hasn’t looked back since.

We needed to figure out how to reduce our production times to stay competitive,” explains Jennifer Church, Operations Manager at Henry Technologies’ Chil-Con Products facility.

The key change the company made was to focus manufacturing on making production a “push to welding”, as Church describes it. “The approach formerly was to flood the floor with work to keep everyone as busy as possible at all times,” she says. “This made it more difficult to maintain a proper inventory of product. Now, no job goes out to the floor

production process. With that set, a job can move more rapidly through the facility. Now, a normal rink chiller will take us two weeks to assemble, at most. Previously, it could take at least twice that time.”

The other change made on the shop floor was to change the titles of the lead hands on the floor to “supervisors”. It may seem a small distinction, but with the change came more responsibilities and more accountability for those people in those positions. Henry now has a machine shop supervisor, a material

prep supervisor, an assembly/manufacturing supervisor, and two welding supervisors.

"We now have a common drive as a team," says Church. "And any person can go out on the floor at any time and know exactly where a particular unit is, how far it is along in production. The supervisors keep everyone in the loop on how production is proceeding."

Sorting through these operational challenges helped Chil-Con determine its equipment needs also. The company designs and fabricates carbon steel, stainless steel, duplex stainless steel, Incoloy, Inconel, NiCrMo steel, titanium, and copper-nickel pressure vessels and heat exchangers for the most demanding markets and arduous of operating conditions, so having machinery that can handle the varied requirements of these materials was essential.

The investment included three CNC machines, a rolling machine, and two plasma pipe cutting machines. The company now ships as much as it did in its peak year of 2008, but their overhead costs have decreased substantially. This is not true we don't ship as much as we did in 2008, but we make more money on the bottom line than we did back then.

For instance, the purchase of a DAVI rolling machine from Italy allowed the company to produce its own vessel shells.

"We had previously had these supplied," says Church, "but they were constantly late. We also discovered that the company was putting a substantial mark-up on the product. By getting the DAVI, a large bottleneck was removed."

Chil-Con also took delivery of the first and second Maruhide 6-axis chuck-driven layout and cut plasma pipe cutting machines in Canada. The first machine purchased can cut a pipe with an outside diameter of 20 inches and can cut material of up to an inch and a half thick. The second Maruhide

delivered can cut pipe with an outside diameter of 66 inches, and material that is one and a half inches thick. Both can bevel as they cut. When I visited the shop floor, the smaller Maruhide was cutting a six-inch pipe with a 30 degree bevel. Both are programmable units, so the operator just has to program the cuts required and then just let them run.

The larger system is also equipped with a sensor, known as a follower, that scans the surface of the pipe prior to cutting. It stores that information so that the plasma cutter can maintain a 4 mm distance from the surface at all times, giving the pipe a consistent cutting profile.

"The equipment we used previously would



*Sample of pressure vessels manufactured by Henry Technologies.*

require us to take an hour and a half to cut holes in these pipes," says Church. "Now, it takes two minutes and bevels as it cuts. It saves a tremendous amount of time."

The Maruhides have attracted plenty of attention from other companies without such pipe cutting capabilities, such that doing contract cutting jobs for other shops has become a valuable, if small, addition to the company's business.

There are many other reasons the company has attracted attention. They aim to offer the fastest response time and earliest delivery date to replace a failed or faulty shell and tube heat exchanger in the industry. Having much of their production needs in house assists in this, as does its pneumatic test bunker that allows Chil-Con to pressure test up

to 20,000 psi in house. TSSA maintains an office in the facility so that such tests can be certified.

Chil-Con is certified to ISO 9001:2008 standard and is now going for its accreditation so that it can work for the nuclear industry.

"Because there is so much competition in the refrigeration business, and the oil and gas industry is such a tough nut to crack, it makes sense to expand our customer base this way," notes Church.

The ownership the company gives its team on the shop floor is delivering results as well.

Not only are they able to compete effectively in their market, but staff are adapting their work processes to get the most out of the equipment on hand. For instance, the machining supervisor has essentially used all the tools at his disposal to increase the efficiency of their machining efforts – from tooling to cutting profiles, he has increased the efficiency of their cutting processes such that the next step in any improvement efforts will likely be a new machine.

The company is seeing this sort of improvement across the shop floor.

"It used to be that a typical pressure vessel unit would take us six weeks to produce," says Church. "Now we can put one through the shop in between two and three weeks."

The biggest challenge the company faces now is the shortage of welding talent available in the market. Although they have trained up their own people to meet their needs, it is an issue that they, like many others, still face.

For more about Henry Technologies and their many divisions, visit [www.henrytech.ca](http://www.henrytech.ca) or contact the Maruhide Canadian distributor, Fabricating Machinery Solutions by visiting [www.fmscanada.ca](http://www.fmscanada.ca)



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