SEC Triples Capacity At Its Houston Complex >

New buildings provide space for more packaging, vessel manufacturing

BY PATRICK CROW

Photo by Patrick Crow, CT2

■ SEC employees work on an Ariel/Caterpillar package at the Houston fabrication shop.

SEC Energy Products & Services is completing an expansion that will transform it from a traditional packager to a "one stop shop" for the entire chain of compression needs, from design and fabrication to engineering, spare parts and ongoing maintenance.

The expansion includes 212,000 sq.ft. (19,700 m²) of building space and triples the manufacturing capability at the company's Northwest Houston compression packaging facility. That investment, along with its 10 warehouse locations across the nation, will give SEC a presence in the key oil and gas producing plays.

Construction at SEC's 46 acre (18.6 ha) Houston complex began in January and will be fully finished in October. The five-building construction project includes skid assembly, vessel fabrication, engine overhaul, warehouse and office buildings.

SEC provides compression equipment, parts and services to all industry segments. It designs and makes gas-, electric- and dual drive-driven equipment from 50 to 8000 hp (35 to 6000 kW) to meet specific operating requirements.

The company now also provides engineering services, overhaul revamp facilities, truck-based service technicians, OEM parts and power generation equipment.

Frank Northup, director of sales and marketing, said the centerpiece of the Houston expansion is the 63,000 sq.ft. (5880 m²) assembly building. The 12 new bays are each deeper and wider than those in the current shop.

According to Northup, the most exciting addition to the assembly building will be the installation of a dynamometer. Once operational, SEC will be one of the few compression providers with the capability to test the power of each compressor on site.

The new facilities also will allow SEC to build its compressor skids in-house rather than outsourcing them or purchasing kits for assembly.

Northup said the packaging shop has operated at capacity for 2.5 years and currently has a six-month backlog. "We've had to turn away some business, due to our delivery schedules. Now we will be able to take on all that work," he said.

Another key addition is a 53,000 sq.ft. (4900 m²) vessel fabrication shop. Until now, SEC has lacked the space to build all the vessels and tanks that it needed, especially the larger ones, and has had to purchase some from third parties.

Northup observed that U.S. oil and gas producers, in response to strong prices for hydrocarbon liquids and relatively low prices for dry natural gas

Photo by Patrick Crow, CT2

■ Another skid at SEC's Houston shop also is based on an Ariel compressor.

prices, have shifted their focus to drilling wells that produce oil and/or wet gas.

That, in turn, has required more liquids-handling capability on compressor skids such as vessels for separators and dehydrators. It also has created demand for skid-mounted equipment to strip the lease gas enough for use in an engine.

"The vessel shop brings all of that capability in-house and helps us capture more of the value stream," Northup said. "It also responds to customer demand and helps us broaden our business."

The company's new 40,000 sq.ft. (3700 m²) engine rebuild facility will help it meet strong demand to revamp units that have been operating in the field for several years.

Also nearing completion are the final elements of the expansion: a 32,000 sq.ft. (3000 m²) warehouse and a 22,000 sq.ft. (2300 m²) office building.

SEC has packaged more than 2.5 million hp (1860 MW) since its startup in 2003, which includes Energy Transfer Technology's dual drive compressor that offers both an electric motor and a natural gas engine on one skid.

Northup said a noticeable trend in SEC's overall packaging business has been the growing use of electric motor drives, although they still total less than half of its new packaging orders.

"One reason is federal regulations that limit air emissions in ozone non-attainment areas," Northup said. "That's what makes the dual drive so attractive. Another reason is that vapor recovery units seem to match better with electric motors."

While SEC serves all geographic markets, Northup said most of its packages have gone to the Mid-Continent area and the eastern U.S.

"We got started with the Barnett in North Texas and followed the shale plays to Arkansas and Louisiana," Northup said. "We've put a lot of equipment in the Eagle Ford shale in South Texas. We're also in Ohio, West Virginia and Pennsylvania now."

SEC has 300 employees nationwide and is expecting that number to increase in the next year. Like other companies in the compression industry, it is enduring a competitive market for experienced engineers and fabricators.

"It's a good time to be a veteran employee looking for work in this business," Northup said. "We try to keep our workers happy. We lose some of them periodically, but we steal good mechanics from other companies too." CT2

■ Compressor Elements occupies over 8 acres (0.08 ha) and includes over 30,000 sq.ft. (2787 m^2) of shop and office space.

COMPRESSOR ELEMENTS CELEBRATES 30 YEARS

Facility Expansion and Increased Capacity Highlight Anniversary Year

By Brent Haight

Compressor Elements began as a one-man compressor valve repair shop in Monahans, Texas, U.S.A. Thirty years later, the company is a world player in the compressor machining and repair services marketplace, with 25 employees and 30,000 sq.ft. (2787 m^2) under roof for manufacturing, storage and office space.

"When we started the business, our focus was repair," said Steve Swarb, president of Compressor Elements. "For the first three or four years, that was 100% of our business. We bought our first CNC machines in 1980 and have been adding machinery ever since. Now we are doing about 70% new manufactured items and 30% repair."

Compressor Elements manufactures new compressor pistons, rods, valves, valve chairs and other internal parts. It also repairs connecting rods and crossheads and rebuilds compressor cylinders to like-new condition.

"We have standardized our machinery over the years and are now able to manufacture more products with fewer machines," said Swarb. "We have six CNC machines in our shop right now. One of the latest machines we purchased and put into service in September 2007 is a Mazak QTN 450M. It's a three-axis milling and turning center with live tooling. This machine will turn over 30 in. (76.2 cm) diameter and 120 in. (259 cm) centers. We use that machine to manufacture compressor pistons, rods and some of the other larger items. New compressor cylinder variable heads are a product line that we started a few years back and this new machine helps enormously with this type of manufacturing.

According to Swarb, capacity in his shop has few limitations. "Our machining restrictions are 40 in. (101.6 cm) diameter and 120 in. (259 cm) in length. Maximum diameter on compressor cylinder relining is approximately 26 in. (66 cm). We are able to manufacture any compressor rod, including in-house thread rolling. We have no size restrictions that I can think of on compressor rods or on compressor valves. We are actually manufacturing some compressor valves in our shop right now that are 14.5 in. (36.83 cm) outside diameter. If we have a drawing or a sample, we can do it. We have programmers on staff and if we can program it into the machine, we can manufacture it."

Compressor Elements has a dedicated 10,000 sq.ft. (929 m^2) storage warehouse for rebuilt and new parts. The company maintains an inventory of pistons, rods, packing gland assemblies and compressor valve assemblies, as well as OEM-type critical components such as main bearings, connecting rod bearings, connecting rod bushings and gasket sets. Recently, the company purchased an adjoining 3 acre (0.03 ha) lot, which has been prepped and secured and converted into an outdoor storage area. The company is planning a 10,000 sq.ft. (929 m^2) compressor rebuild shop to be built on this site in the second quarter of 2008 to further expand its services to its customers.

"The entire mode of business has accelerated and it keeps getting faster and faster," said Swarb, "which makes parts more and more difficult to find. Our customers are demanding easy availability of parts and quick turnaround times. Fifteen years ago, customers had what we call spare horsepower or spare compression. We'd go into a compressor station with 10 units and two would be sitting idle. Going down for a major overhaul wasn't as big of an issue. You could shut a unit down and take all the time you need because you kicked on one of the spares and you would still be operating where you needed to be. That went away. Today everything is being utilized and quite often companies are seriously short when it comes to compression horsepower.

"Most of the time when we receive a compressor valve order we are able to pull it from our inventory and ship it right away," said Swarb. "That's when our large inventory pays off. We can often ship an order the same day."

According to Swarb, Compressor Elements customizes its inventory to meet the needs of its customers. "We inventory items to meet the needs of what is out there running based on types and quantity of certain compressors," said Swarb. "Whether it is a Dresser-Rand, Worthington, Ariel or a Gemini, we are going to adjust our inventory according to the number of units out in the field."

On the repair side of the business, Compressor Elements is equipped to handle a complete line of compressor parts. "It's almost misleading to call it repair," said Swarb, "because we are bringing them back to as-new condition. Sometimes this calls for replacing

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■ This Gemini Compressor Cylinder has been completely reconditioned to OEM specifications.

■ (Left) Compressor Elements can reline cylinders up to 26 in. (66 cm) diameter. Compressor Elements has just added this new "State-of-the-Art" Mazak QTN-450M to its list of CNC machines (right).