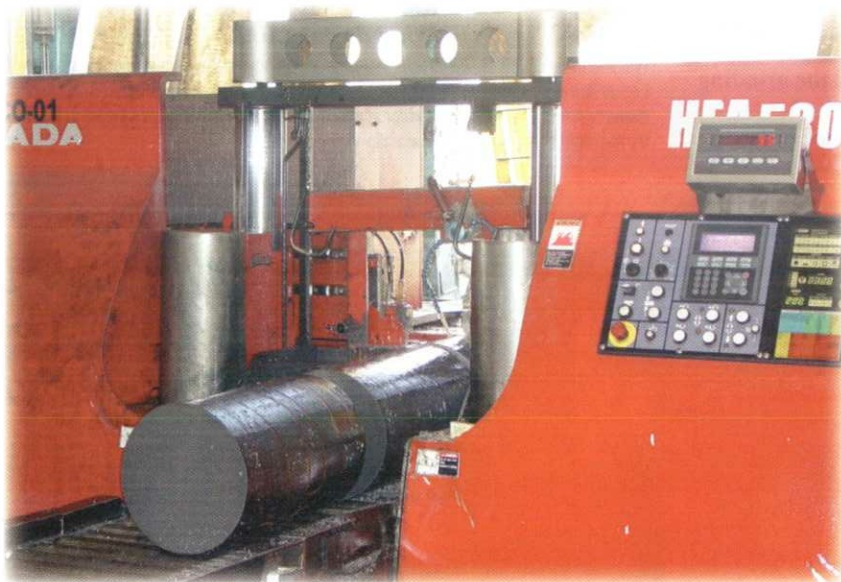


Less Is More When It Comes to Sawing Equipment for a Mexico Shop

North or south of the border, it pays to stay on the cutting edge of sawing equipment. Two new saws replaced three older models.

By Pat Ropchok, Assistant Editor



Increased production demands at Frisa Forjados SA de CV, a shop located in Mexico, meant new band saws to meet the demands as well as handle some of the exotic-metal stock used in production of rolled rings for a variety of manufacturers

When it comes to quality and productivity for customers like General Electric, Rolls Royce, and Caterpillar, a shop can't scrimp on its equipment. Located in Mexico, a manufacturer of rolled rings saw the need for better cutting and found a band saw that fit its requirements.

Frisa Forjados SA de CV, in Santa Catarina, Mexico, about 10 miles southwest of Monterrey, Mexico's third largest city, makes rolled rings for clients such as Timken, Siemens, Westinghouse, and Caterpillar. The rings are used in industries such as oil and gas, transportation, power generation, and mining.

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Expanded Requirements

The firm expanded into aerospace in 2003 by creating the Frisa Aerospace subsidiary, which manufactures super-alloy rolled rings for jet engine manufacturers such as General Electric and Rolls Royce. It is ISO-9002 certified and has Lloyd's Register certification for the European market.

The first step in ring production is cutting the metal stock in Frisa's cutting department. Stock can range from high-carbon steel to super alloys and stainless steel. Efficient and accurate cutting was a necessity since the band saws and other saws in cutting department were the first step in rolled ring production. The stock cut by the saws then goes to open-batch furnaces for heating and forging, followed by heat treatment to improve the materials' mechanical properties. Machining takes place after the materials are prepared.

A 30 Percent Production Jump

Production at Frisa increased about 30 percent last year, so stepped-up productivity and improved quality was needed. Horacio Rodríguez Goujon, vice president of materials and logistics, said it was time for Frisa to find improved band saws.

Frisa had a history, since the 1990s, of using sawing equipment from Amada Cutting Technologies, Inc., La Mirada, CA, so Goujon first turned to the trusted supplier. Frisa had started with an Amada HFA400 and built its inventory to 10 Amada saws, including the HFA700, the H1300II, and the H1600II. The saws cut material that ranged from as small as 8" in diameter to pieces with diameters as large as 53".

Equipment Challenge

Frisa had to find the right equipment to

meet its needs.

"We faced the challenge of increasing productivity while maintaining a good blade life," Goujon said.

But, purchasing the new equipment wasn't as simple as finding a band saw in a catalog and placing an order. To be sure the new cutting equipment would fit Frisa's production and quality demands, the company worked with Amada to find the best fit. Frisa sent samples of the kinds of stock it would be cutting to Amada for testing in La Mirada. After working with the alloys provided by Frisa, Amada's staff was able to determine which saws best suited Frisa's needs.

From Amada's recommendations, Frisa selected two automatic HFA530 band saws. The HFA530s replaced three older saws.

"They are the quality we demand. The new saws offer the high-speed we need for expanded production and provide improved blade life for increased efficiency," Goujon said.



Frisa benefited from the installation of two HFA530 band saws' increased efficiency, but also from the saws' smaller footprint

Workhorse of a Different Color

The replacements doubled productivity and became the workhorses of their department. They adroitly handle the challenging grades of metal Frisa uses.

The HFA530s have the capacity to cut round and square ma-

terial up to 21". The saws' blades are 21' 10" x 0.063" x 2.625" and operate up to 394 ft/min. The blade has a 10-hp motor and automated tracking guide that brings support close to the material.

"The HFA530s have become the cutting department workhorses," Goujon said. The HFA530s perform about 40 percent of the approximately 17,000 cuts made every month by the company.

The saws are more efficient than the saws they replaced. Each saw does double the amount of work compared to the previous machines, Goujon said.

Another, unexpected, benefit accruing from the upgrade was more available floor space, always an important factor in a shop. Not only did the two HFA530s replace three other pieces of cutting equipment, each of the new saws had a smaller footprint than each of the saws they replaced. Each HFA530 measures 118.7" x 73.4" x 77.4". Their relatively compact size, compared to Frisa's previous saws, means the issue of floor space demand is lessened for the near future.

An Unexpected Side-Effect

The efficiency of the new saws was expected, but had a surprising effect: Frisa's method of chip disposal didn't match the saws' production. Because the new saws run faster than the older saws, Goujon said, workers sometimes are unable to keep up with removing the chips. While the HFA530s have double-wire brushes that automatically adjust to keep the blade clear, manual removal of the chips sometimes lags. Goujon said Frisa is investigating the installation of a conveyor system to remove chips faster than the manual method. *Amada*

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