

newsletter



FAGOR AUTOMATION



8070 CNC
High-end
features



Fully compatible
absolute encoders



Innova
TrueVision

The best DRO
in the world

EDITORIAL

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The economic and financial news appearing on the front page of the newspapers these days point out that the economy is cooling, slowing down and even suffering a crisis, emphasizing more or less depending on they psychological reaction they are looking for from the readers.

It is true that liquidity tensions in practically the whole world caused by the “happy” loans of US banks is slowing down the growth in some sectors like real estate and oil price has reached historic maximums; but, it is also true that the engines of world economy are, for several years now, the so-called emerging countries where there is still a lot to be done. Let’s think, for example, about the fact that machine tool consumption per capita in India is US\$ 1 and almost US\$ 10 in China, compared to US\$ 60 in advanced European countries.

FAGOR AUTOMATION has been able to take advantage of the locomotive effort of emerging countries decidedly focusing on internationalization which has made our exports represent 80% of our turnover.

That is why we face 2008 as a year of tough challenges, but with an optimistic outlook; the same that in the last five years has crushed the figures of FAGOR AUTOMATION year after year.

Regardless of the moment of economic growth, this has not happened by chance; it is thanks to FAGOR AUTOMATION’s innovating strategy together with our service policy and our commitment to quality.

In 2008, besides the normal R&D projects, we are going into the third year of the Genit project for machine tool called eEe and we are leading the line for the intelligent machine in it. Therefore and in spite of the considerable sales growth, we will exceed the 10% ratio of R&D expense over sales while maintaining a number of researchers that represent 22% of all our employees.

We will be able to see the fruit of this strategy in the products

that we will present at this edition of this exhibition.

The Feedback Systems business presents the absolute linear encoders with the most standard communications protocols on the machine tool market. They also present a new DRO with the most modern electronic technology and a TFT screen.

“We will reinforce our world presence in more than 40 countries.”

The CNC business presents new software features on 8055 and 8070 platforms besides new axis and spindle motors further completing the existing families. The new features are aimed to optimizing specific machines for the wind power and railroad sectors.

Likewise in 2008 and to guarantee a better and closer technical support for our customers, we will reinforce our world presence in more than 40 countries opening new sales and service offices in India, Russia and in the Czech republic.

I hereby cordially invite you to visit our booth where, besides verifying the reality mentioned earlier, you may request information from our staff in the booth while enjoying a glass of good wine.

Mr. Julen Busturia
General manager of FAGOR AUTOMATION

OUR CUSTOMERS GIVE THEIR OPINIONS

TALLERES ARATZ



Mr. Karlos Balsategui
Production manager of TALLERES ARATZ

In 1975, three partners founded Talleres ARATZ in Vitoria-Gasteiz (Spain). It is a family business dedicated to special machining with two generations working today.

Mr. Karlos Balsategui, production manager, mentions as distinguishing factor of ARATZ: *“The confidentiality, versatility, high technological level of the technical resources and a team of highly experienced professionals immersed in a continuous learning and improving process”.*

Talleres ARATZ export 70% of their production to countries like USA, Australia, Norway and China among others, working in the fields of:

- Manufacturing tools and prototypes for the aerospace sector
- Manufacturing turbines, large shells, injectors, etc. for the Hydroelectric sector
- Manufacturing of special machinery
- Special machining service.

“They presently have 22 machines, 90% of which are equipped with FAGOR CNC’s.”

It is worth pointing out the cooperation between ARATZ and FAGOR in order to achieve a high technological level on the CNC machines. They presently have 22 machines, 90% of which are equipped with FAGOR CNC’s.

Likewise, Mr. Karlos Balsategui comments: *“The last 4 machines that we have acquired have been equipped with the 8070 CNC, that is based on Windows and excels in its great versatility to adapt the machine to our particular needs and in its reliability and fast technical support provided by FAGOR; all this allows us successfully tackle the current machining technological challenges.”*



TALLERES DE MECANIZADO VICAN



Mr. Víctor Antoñanzas
General manager of
TALLERES DE MECANIZADO VICAN

Company located in the Rioja community in Spain, more specifically in Calahorra. It was founded in January 2006 and, now, 2 years later, has become an important reference in part machining and has grown considerably in terms of human and technical resources.

Fruit of this company's dynamic spirit are the two new pavilions they have inaugurated in January 2008 with a surface of 2400 m² equipped with the most modern facilities.

The most important sector VICAN is betting on is the Renewable Energies (Wind power, sun power -photovoltaic-, etc.).

They also excel in the machining of parts for the railroad sector.

VICAN now has 12 CNC machines such as milling machines, machining centers, lathes and grinders, all of them with FAGOR 8055 CNC.

Mr. Víctor Antoñanzas' opinion clearly shows how satisfied they are with FAGOR CNC's. *"We haven't had a single part, no matter how complicated it was, that we could not make with these CNC's and with excellent machining quality."*

"Regarding FAGOR CNC's, I would emphasize their easy and intuitive operation as well as the possibility to customize their screens optimizing the operator's job."

Likewise, Mr. José Miguel Martínez, production manager of "Talleres de Mecanizado VICAN" comments that: *"About FAGOR CNC's, I would also point out their numerous programming assistance resources, their easy and intuitive operation as well as the possibility to customize their screens optimizing the operator's job; all that provides the company with higher production efficiency because the operators get familiarized quickly with the CNC machines"*.



Mr. Antón Sagasta
CNC business manager of
FAGOR AUTOMATION

Machine tools have greatly evolved in the 35 years that FAGOR AUTOMATION has been automating them with our CNC systems, motors and servo drives. But we have always had it clear in our minds that only those manufacturers capable of providing automation solutions for the most complex machines will survive.

That's why we at FAGOR AUTOMATION invest more than 11% of our sales in **R&D+i** and are involved in several international technological cooperation projects to maintain our catalog at the demanded level.

A clear example of our effort to innovate is our FAGOR 8070 CNC that integrates all the state-of-the-art technologies and our 35-year experience making it reliable, robust, easy to operate and with all the features needed for milling machines, lathes or dual-purpose (mill-lathe) machines no matter how complex they may be.

We believe that a CNC that requires a team of engineers to create and execute good programs will never be a competitive machine. In this regard, FAGOR AUTOMATION is the maximum reference worldwide in easy-to-operate CNC's with our conversational FAGOR 8055 CNC models as the prime example of this philosophy.

At FAGOR AUTOMATION, we offer the widest range of CNC's, motors, digital drives and accessories as well as specialized technical personnel to meet the requirements to automate the most complex machine tools.

FAGOR 8070 CNC

State-of-the-art CNC

The FAGOR 8070 is a state-of-the-art CNC that offers high-tech features with maximum operation ease.

HIGHLY ROBUST AND RELIABLE

The FAGOR 8070 CNC is in constant evolution. The result is a remodeled CNC, highly robust and most reliable. The FAGOR 8070 CNC, has a more solid hardware and an operating system on solid state disk ensuring maximum reliability to work in industrial environments, under high vibrations, etc. This operating system has the FBWF (File Based Write Filter) feature, protected disk access, that protects the FAGOR 8070 CNC against viruses, wrong shut-downs and wrong software installations.

MAXIMUM VERSATILITY AND SOLID GRAPHICS

Thanks to great versatility, it may be adapted to the machine and control simple milling machines and lathes as well as more technologically complex ones such as vertical lathes, multi-spindle lathes and dual-purpose machines where milling and turning operations may be performed on the same machine. Also, the 8070 CNC offers new 3D solid graphics with more realistic shapes and textures that support 5-axis machining on a milling machine, C axis on a lathe and simulate the whole machine.



“The FAGOR 8070 CNC ensures maximum reliability to work in industrial environments, under high vibrations, etc.”

HIGH SPEED MACHINING

In order to meet the machining demands of the market, the FAGOR 8070 CNC offers specific algorithms for high speed machining. These high speed algorithms optimize machining by obtaining higher cutting speed, smoother contours, better part surface finish, greater accuracy and better matching of the programmed surface. The cumbersome machining of incline planes, that required loosening the part and wedging it, is now a simple operation with the FAGOR 8070 CNC. Simply orient the tool either manually or automatically and after defining the incline plane, carry out all kinds of machining operations, (pockets, rotations, etc) without having to wedge the part. Hence saving time and increasing productivity.



MATCHLESS PART FINISH

When machining spherical surfaces, the RTCP (Rotation Tool Center Point) function improves part finish because the tool orientation changes to keep it perpendicular to the machining surface at all times.

“Its 3D solid graphics support 5-axis machining, C axis and simulate the whole machine.”

DINDIST: DYNAMIC DISTRIBUTION OF MACHINING OPERATIONS

The DINDIST feature of the FAGOR 8070 CNC makes it possible to distribute the machining operations among the execution channels on multi-spindle lathes. Just program the machining operations for a single turret. Then, once the DINDIST function is activated, the machining operations are automatically distributed among the turrets without extra calculations, hence making it possible to optimize and minimize machining time considerably.





Mr. Pedro Ruiz de Aguirre
DRO-Feedback business manager
of FAGOR AUTOMATION

By recently inaugurating its new production plants for our feedback business (one for glass engraving and the other for manufacturing feedback systems), at FAGOR AUTOMATION, we confirm worldwide leadership in linear and rotary feedback systems for machine tools.

The glass engraving process is the basis for the measuring quality of an encoder. That's why FAGOR AUTOMATION has built their glass engraving facilities within the reach of very few companies in the whole world. As far as the feedback systems production plant is concerned, it is important to keep in mind that the better the encoders mounted on the moving parts of the machine are, the more accurate the measurement and control will be and, consequently, also the parts made with that machine.

At FAGOR AUTOMATION, the opto-electronic technology has been present in their measuring systems for more than 30 years. Mastering this technology allows us to manufacture encoders with highly stable and high quality signals even under most hostile work conditions (speed, vibration, hits, sealing, etc.).

Encoder S 90000/1024-D90

Two encoders in one

FAGOR angular encoders

FAGOR angular encoders offer ideal solutions in applications where controlling the high angular precision is crucial. FAGOR AUTOMATION offers two series of angular encoders, the D90 and the D170. Each one offers many features offering solutions for a great variety of applications. All this with accuracy levels from ± 5 arc-seconds to ± 1 arc-second and mechanical designs that offer various mounting options and tolerances.

One of the latest novelties is the renewed "S 90000/1024-D90" encoder with double engraved track and a design considerably better than before. It is mainly meant to be applied on Lathes, for C axis feedback plus spindle feedback; in other words, two encoders in one.

*"A renewed encoder
with dual track."*

Among their many improvements, we could point out:

- Higher mechanical speed.
- Higher pulse counting (feedback reading) frequency.
- Improved sealing.
- Connectors integrated into the encoder (hence easier installation and maintenance).
- Incremental and distance-coded reference marks.

Other pulse configurations also available upon request.





"TrueVision" DRO



Fagor absolute linear encoder

*"The best DRO
on the market."*

FAGOR AUTOMATION presents in this edition, as an exclusive product, the Innova 40i "TrueVision" DRO that, thanks to its design and features, is **the best Digital Readout on the market.**

It is easy to operate and absolutely reliable; it represents a new technological breakthrough in measuring and control systems for the machine tool. With its exclusive color TFT screen, it is possible to simulate the programmed part in 3D, with an unmatched view from any angle; a considerable advance from the LCD screens on the market today.

The Innova 40i DRO, with the technology FAGOR uses on their CNC's, may be set by parameter to adapt to milling machines, boring mills, lathes, grinders and general purpose applications to show the help graphics and the features for the selected application.



FAGOR absolute linear encoders GS/GSA provide an accurate, fast and direct way to obtain the axis position, immediately and without the need for machine references. This position data is generated using two different engravings on the glass of the encoder, one with distance-coded lines (bar codes) and the other with incremental lines. FAGOR absolute encoders may be used to control the axis position instantly on machine power-up. As a result, the operations are more efficient and eliminates the need for any home switches and travel limit switches on the machines.

*"Compatible with main CNC
manufacturers."*

NEW PROTOCOLS

FAGOR AUTOMATION offers several protocols (encoder-controller communication languages) to transmit position data back and forth; the standard one like the SSI (SERIAL SYNCHRONOUS INTERFACE) or FAGOR's FeeDat (FEEDBACK DATA) which is an open protocol and, therefore, adaptable to the OEM's particular needs.

These protocols have been further complemented with others that are compatible with the main CNC manufacturers worldwide; which means that FAGOR absolute encoders may be connected directly to most of them.

Discover what FAGOR AUTOMATION can offer you to renew your machine



If you wish to replace your old CNC with one that is a state-of-the-art or if you wish to install a CNC on your manual machine, FAGOR AUTOMATION offers you an ample range of CNC's, with the highest level of quality and reliability so you can choose the one that best meets your requirements.

WHY CHOOSE A FAGOR SYSTEM?

Because they are intelligent electronic systems with the maximum features on the market and help improve machine productivity and make the most of their performance.

“Complete solutions for enjoying features similar to those of a new one.”

TAILORED PRODUCTS

- CNC systems with analog outputs when you wish to keep servo drive systems (axes or spindle) and analog inputs when you need to process external data (probes or motor consumption sensors, etc.)
- Servo drive systems for axes and spindles, motors and servo drives that provide you with the most modern technology and help you obtain better performance.
- Complete solutions that allow you to use a digital CNC package system providing your machine with electrical features similar to those of a new one.
- Digital and analog servo drives simultaneous on the same machine.



PROGRAMMING RIGHT FROM YOUR SHOP

If you have a Fagor CNC, you will be able to program right from your office because Fagor CNC's let you communicate with an external PC via Ethernet.

EXCELLENT AFTER-SALE SERVICE

When you retrofit a manual machine, FAGOR offers you CNC's with clearly differentiated work modes.

- Single parts: It offers an assisted programming mode (self-teaching) that does not require ISO programming knowledge and allows you to work in jog mode, semi-automatic or fully automatic modes
- Batches of parts: Using the same CNC and simply switching the work mode, you can also program in ISO code.



"eFe- Advanced technologies for manufacturing equipment and processes in 2015" project

Fagor Automation presents itself as one of the leaders of the project

- FAGOR AUTOMATION excels by its active participation in various projects, many of them international. They recently concluded their collaboration in the AGILE project and is already immersed in an ambitious project together with more than 20 companies and several first class universities and technological centers.

The name of this project is "eFe- Advanced technologies for manufacturing equipment and processes of 2015" (created within the CENIT program and managed by the Center for Spanish Industrial Technical Development (CDTI)).

With an investment of 30 million Euros for 3 years (2006-2009) and in an unprecedented collaboration framework, it will tackle 4 lines of research:

- 1. The Eco-machine:** focused on productive systems respectful to the environment.
- 2. The e-machine:** with the goal of making the "intelligent machine tool of 2015" possible.
- 3. New processes:** to obtain multi-functional and flexible machines.
- 4. Higher precision and higher productivity** so the machine of the future can respond to the needs of the market.

FAGOR AUTOMATION is in charge of leading the second line of research with an investment of more than 3 million Euros. We can say, without a doubt, that FAGOR AUTOMATION is the engine of the future automation of the machine tool in Spain.

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subsidiary distributor



Worldwide reliability

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