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FAGOR AUTOMATION



Booth No. E-5136

INTERVIEW WITH HARSH BIBRA GENERAL MANAGER OF FAGOR AUTOMATION NORTH AMERICA

“Value, Flexibility, Advanced yet simple solutions and Commitment to deliver drives our business in the United States”



Once again Fagor Automation's customers gather at IMTS 2010, one of the most important machine tool show in North America. The ability of Fagor Automation to develop and deliver Innovative, yet flexible products has been well received around the world for over 30 years now... And despite volatile economic conditions, we will continue to offer unique solutions and business opportunities to its customers regardless.

We interview the Chicago based general manager of Fagor Automation's North American operations, to get us closer to the reality of the North American market.

It is vital for the technical team of Fagor Automation to possess the ability to provide quality service while maintaining the capability to adapt to a customer's ever changing needs. Tell us about your operations and the type of market base your core customer's reside in?

Fagor Automation's North American operations consist of seven locations: Chicago, New Jersey, Tampa, Houston, Los Angeles, Toronto and Montreal. Our large team of technical sales experts and applications engineers having between 12 to 25 years of experience are essential for identifying the needs of our customers and offering them a value based innovative solution.

The commitment and vast experience of this team has helped us gain many

new customers in the recent years primarily in Aerospace, Energy, Medical, Metrology and Retrofit industry.

The IMTS show attracts the most important manufacturers in the world to present their latest developments in technology and services. How has the machine tool sector evolved over the years?

Productivity driven solutions combined with intuitive user interface dominate the market. Over the last decade large advances have been made in the aerospace, energy, medical and automotive sector. As a result our customers are machining more complex parts requiring higher precision. The advancements in energy sector requires machining of large parts and as a result we

have executed many large projects for new and retrofit machines with up to 30 meters travel with many of them using a complete solution provided by Fagor Automation.

The IMTS show provides an important platform to stay in touch with your many customers. What do your customers value the most?

The key is to harness the latest advances in technology and integrate with it the needs and requirements of our customers and presenting them with a simple and intuitive solution. Our customers have continual access to all levels of our organization whether it is R & D, application engineering or after sales support. The flexibility and quick adaptability of our organization is extremely important to our customer base.

One of the great values of our products, such as our new 8065 CNC, is the combination of Advanced capability coupled with operating ease. Do you feel the 8065 CNC will be well received at IMTS? What other products will be featured at IMTS?

Everything we are presenting at the IMTS is the result of what our customer's need today while keeping in mind the future trends. The new design of CNC 8065 combining technological advances with interactive and intuitive operator platform is a unique solution for both complex machine parts and shop floor programming requirements.

In feedback systems we present the absolute angular encoders and the longest steel tape absolute linear encoder in the world with a measuring length of up to 30 meters. Also on display will be complete line of next generation exposed linear encoders for the Metrology and other related industries.

To meet demands of big machines requiring large axis and spindle motor solutions we introduce all new FM9 spindle motor solution up to 130 KW S1 and axis motors of up to 115 Nm.

Having the confidence of working with Fagor Automation, who is a part of the Mondragon Group, the largest worker-owner Cooperative in the world with manufacturing facilities outside of Europe, plus various offices around the globe. How do you foresee the future of your business?

The "world is flat" as we realized years ago and with that the emerging markets in Asia and the remaining BRIC countries have become the fastest growing destinations for our products. To meet the demand of our North American customer base we continue to evolve with new products to improve productivity, precision and machining solutions for complex and large parts. With this focus we continue to gain new customers at an unprecedented pace and our brand image has reached a new pinnacle. ■

Welcome to our booth at the IMTS 2010

Coming to Chicago is always special for me as it brings back the fond memories of the years I worked here in the past and I am looking forward to renewing my connections with many of you and also make new ones.

Over the years landscape of manufacturing has changed however we have evolved together with your support, collaborating on new solutions, finding new avenues of excellence and developing products complimentary to your ever changing business requirements.

This is a special year for our organization as we have launched so many new products. I am sure many of these products will help you improve your current processes and also meet your requirements for the future.

You are the sole reason why we are here today and the way we have advanced over the years working together sharing our thoughts and ideas.

It is a pleasure to be among you again! ■



Pedro Ruiz de Aguirre
 General Manager

Integral solutions for large machines and complex parts using advanced and progressive features

With over 30 years of experience Fagor Automation has provided solutions for all types of machines from simple to the most complex utilizing flexible and customizable platform for the most demanding production environments.



Booth No. E-5136



“The new 8065 offers advance features like Volumetric compensation and Adaptive control etc...”

During the IMTS exhibition Fagor Automation will present their latest advances in controls and measurement systems showing a qualitative leap in the technology used to provide integral solutions to high-end machines. There are 3 new main product categories:

8065 CNC: Friendly as always; more powerful than ever

The new 8065 CNC combines the operating and programming experience of the 8055 and the technological advancements of the 8070.

With CNC 8065 it is easy to set up any type of machine tool. It offers various tools to integrate any type of kinematics, standard as well as customized used by machine manufacturers to adapt to the innovative machinery designs to meet ever increasing need for productivity and precision.

It also offers 3 D volumetric compensation which has become a common requirement for high accuracy machining. While machining, it allows detection and correction in 3D of any minor mechanical imperfections that the machine may have and obtain high-precision parts.

Another new feature of CNC 8065 is the adaptive control that detects the machining conditions of the tool such as consumed power, temperature of the tool tip, how fast the tool is wearing and part surface finish. All this data is processed and both the axis feed rate and the spindle speed are adapted for machining under the best conditions in order to achieve maximum productivity and longest useful life of the tools. CNC 8065 also offers touch screen interface.

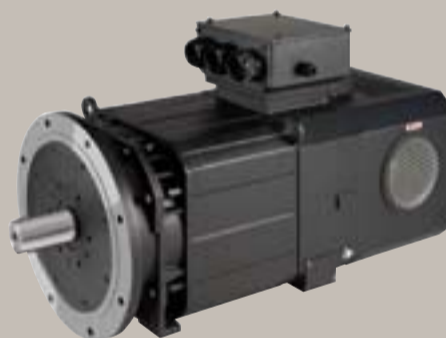
Measuring systems: The longest linear encoder on the market

Since its inception Fagor Automation has manufactured linear and rotary optical encoders for the machine-tool sector.

Optical technology has always been preferred over other technologies due to its inherent high quality, accuracy and optimum performance. Throughout the years, Fagor Automation has enhanced several aspects of their linear encoders design to offer, today, one of the highest-quality linear encoders on the market. This opinion is shared by all our customers after conducting independent tests using both incremental and absolute technologies.



IMTS visitors will be able to enjoy the presentation of the new absolute encoder LA, with a measuring length of up to 30 m, the longest on the market. It has been designed and manufactured by Fagor Automation to provide solutions to the machine-tool world. This new linear encoder will keep the same features as its predecessor offering a resolution of 0.1 micron along its 30 m (98 Feet). There is no other encoder on the market today which offers such characteristics and features. Also on display, for the first time in North America, absolute angular encoder that integrates our existing absolute technologies with new platforms to deliver a product with absolute performance covering a wide spectrum of position feedback requirements for machine tools and precision industry.



Servo systems: High power motors

Fagor is expanding the range of Spindle & axis Servo motors solution for large machine tools and introducing a complete new line of RPS- Regenerative Power Supplies. The new FM9 series will offer Spindle motors up to 100 kW (30 KW in S1) and new FKM-9 series of Axis motors will be extended to include motors up to 115 Nm.

Hence starting with the CNC, continuing with servo drives and ending with the measuring systems, Fagor Automation offers an integrated solution for all types of machine tools. Fagor solution allows you to have single source supplier for all your machine tool needs resulting in ease of integration, better reliability and value for your customers. ■



america's technical team

- 1_Edward Galzin Sales Manager - Feedback
- 2_Artur Gugulski CNC Sales Manager - Mid West
- 3_Randy Gowland DRO Sales Manager - Midwest & Eastern Canada
- 4_Wayne Nelson CNC Sales Manager - East Coast
- 5_Joel Kasnick DRO Sales Manager - East Coast
- 6_Todd Drane CNC & DRO Sales Manager - Texas
- 7_Jeffrey Lei CNC & DRO Sales Manager - West Coast
- 8_Grant Pierson National Service Manager
- 9_Waiky Lau Customer Service Manager
- 10_Yarek Gugulski Senior Application Engineer
- 11_Farzad Ahmadpour Senior Application Engineer
- 12_Alex Escamilla Technical sales
- 13_Mark Frontier Application -Feedback

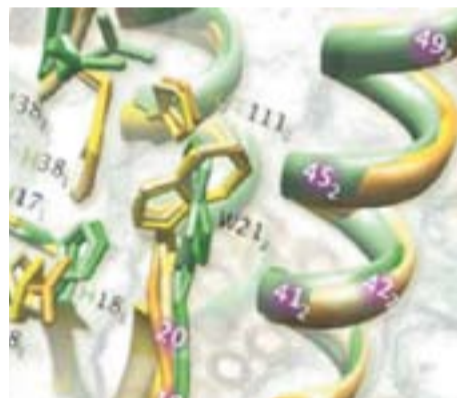
NEWS.

The APS, at Argonne National Laboratory in Illinois and the Stanford University, California rely on the precision and reliability of Fagor encoders.

Both organizations are affiliated to US Department of Energy.



The Linear Accelerator centre at Stanford University is a research laboratory for astrophysics, photon science and particle physics. Home to one of the longest accelerator ring (2 miles long), pioneer in international research and is visited by over 3,000 researchers every year from around the world. This facility uses 20, SA-3 type high accuracy absolute linear encoders from Fagor Automation.



The Stanford Linear Accelerator Center is a pioneer research facility in the field of astrophysics, photovoltaic science, molecule accelerator and research on physical particles. This center is affiliated to US department of Energy and is the headquarter for 2 mile-diameter accelerator ring, one of the largest in the world.

The SSRL (Stanford Synchrotron Radiation Lightsource) is located inside this facility.

This facility uses 20, high accuracy absolute linear encoders from Fagor Automation.

This lab is supplier of synchrotron radiation i.e. X rays produced by the electrons that circulate through a ring at near-light speed. This beam of X-rays is used to investigate the behavior of the molecules and atoms of materials with extraordinary properties. This is a very important activity for our society because the basis of new technologies today is the creation of new materials that may have considerable impact in areas like environment, future technologies, health or education.

Repeatability and flexibility granted by programmable resolution are of utmost importance in X-Ray crystallography used in this center. To ensure this many SA type high accuracy absolute linear encoders supplied by Fagor Automation are used.

X-ray crystallography is a method of determining the arrangement of atoms within a crystal, in which a beam of X-rays strikes a crystal and diffracts into many specific directions. From the angles and intensities of these diffracted beams, a crystallographer can produce a three-dimensional picture of the density of electrons within the crystal. From this electron density, the mean positions of the atoms in the crystal can be determined, as well as their chemical bonds, disorder, etc.

Using X-ray crystallography, the scientists of this center can determine the molecular structure of biological proteins and Dr. Roger David Kornberg was awarded the Nobel Prize in Chemistry in 2006 for his studies of the process by which genetic information from DNA is copied to RNA.

This lab uses 5 different operating systems that utilize Fagor Automation's high resolution linear encoders and they anticipate building more of them in the near future.

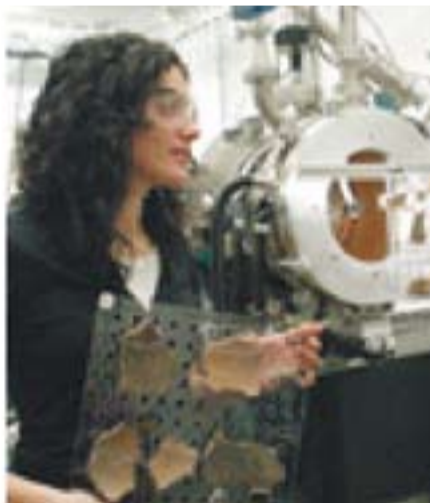
These operating systems have 10 axes with various functions. The axes control is called the collimator, they must move in a horizontal manner to provide the highest crystal diffraction quality. The speed and accuracy of this movement is extremely important for SLAC researchers.

In neutron, X-ray and gamma ray optics, a collimator is a device that filters a stream of rays so that only those traveling parallel to a specified direction are allowed to pass through.

Collimators are used in neutron, X-ray, and gamma-ray optics because it is not possible to focus radiation with such short wavelengths into an image through the use of lenses as is routinely done with electromagnetic radiation at optical or near-optical wavelengths. Collimators are also used with radiation detectors in nuclear power stations for monitoring sources of radioactivity.

Another type of axes control is called the Kappa Goniostat, micro-diffractometer where the crystal is mounted to detect the X-rays.

The Goniostat allows an accurate positioning of the sample centered in a wide range of positions. ■



The "Advanced Photon Source" uses Fagor Automation's encoders in one of the most technologically complex and demanding machines in the world. The linear encoders are used in an X-ray accelerator ring, which is a radioactive environment. Fagor linear encoders are used to control the position of the beam between the ring and the electrodes.

The "Advanced Photon Source (APS)" at Argonne National Laboratory, located in Chicago (Illinois) is funded by Office of Science & Basic Energy from the U.S. Department of Energy.



At Argonne, they conduct various experiments with X-ray beams from radioactive particles that bounce between magnets. Fagor Linear encoders are used to control the position of the two end magnets, which in turn ensure that the beam remains centered between the ring and the electrodes.

This premier national research facility provides the brightest X-ray beams in the Western Hemisphere. It is visited by over 5,000 scientists from around the world including universities, medical schools, research centers, industries and all types of institutions.

These scientists or researchers bring ideas for new discoveries in nearly every scientific disciplines; from materials science to biology, chemistry, environmental and planetary science and fundamental physics to APS because these X-ray beams allow them to collect data in unprecedented detail and in amazingly short time frames.



This also allows their pioneer research to have an immediate positive impact on technologies including health sciences and fundamental understanding of the materials which make up our everyday world.

The magnets used in APS to align the radioactive beam must be positioned very accurately and the Argonne Laboratory is currently replacing older linear encoders with Fagor linear scales. The X-rays are a very destructive radioactive environment for electronics & optics, etc. hence all experiments are conducted in a very controlled environment. Exposure and testing started 9 months ago and is still in process, the scientists have already started to make replacements.

The Fagor Automation linear encoders are connected to a motion controller (developed in house by Argonne) which controls the two servo motors, which in turn control the positioning of the two magnets.



Argonne accelerator ring is active in 24-hour shifts, seven days a week and shuts down only 3 times a year and this is the time when scales are installed.

Till date, Argonne has purchased and installed 22 units of Fagor 170-3 SA- linear encoders and the complete Project involves replacement of about 300 units in total. ■

customer's experience

Barrie Welding & Machines



Adam Smith • Barrie Welding, Operations supervisor

“Our customers expect our capability to have very few boundaries.... its because of this, we are always expanding our horizons in both technology & capability”

Barrie Welding, as it is known in short by those in the industry, has always been a service-based one stop jobbing company, and as such the owners were committed to develop the service capability available to their customers. In a program of “Continuous growth and development”, Barrie Welding not only improved and enlarged its base services of welding and machining, but also branched out into new areas. As stated by Adam Smith “Our customers expect our capability to have very few boundaries...its because of this, we are always expanding our horizons in both technology & capability.” Hence, the Barrie Welding - Fagor Automation relationship was born.

After over 30 years, they believe they have assembled an exceptional talent level with over 200 employees consisting of highly trained machinists, millwrights, welder/fitters, electricians, PLC programmers and designers all working in a modern 200,000 square foot facility. The second part of their strategy enlisted the CNC System products & services of Fagor Automation.

To date, Barrie Welding has integrated several complete solutions from Fagor consisting of CNC 8055 and CNC 8070TT dual channel turning CNC, Digital Drives and Linear and Rotary feedback systems. Some of these very large retrofitted machines include Warner & Swasey, Berthiez, Farrel, Swedturn, American and Tacchella grinder etc. Both CNC platforms are designed to handle virtually any application and machining requirements and just as importantly, allow for easy integration into their current process.

Adam Smith mentioned “The Fagor Automation CNC controls have proven to be reliable, user friendly and very flexible due to the Open Architecture design, thus allowing the CNC to adapt to what we are doing, versus forcing our people to adapt to the CNC. This technology advantage has been a big part of the success story of Barrie Welding.”

Over time Barrie Welding has grown into one of the largest shops in Ontario and developed quality driven customers all around the world, including the USA, Mexico & Europe.

For more information on Barrie Welding & Machine services, please visit www.barriewelding.com ■



Barrie Welding
Farrel VTL with CNC 8070 TT

MAG Industrial Automation Systems



Artur Gugulski • Fagor Automation, Sales

“What was old is new again, and more productive, with Fagor Automation CNC retrofit solution for MAG”

MAG makes available Pre-engineered retrofit kits for MAG's legacy brand lathes, HBM's, and milling machines. Fadal retrofit to be exhibited at this year's IMTS.

A new CNC retrofit program from MAG allows older equipment to enter a new realm of productivity, often exceeding original specifications, and extending the life of some of the most durable, well-known machine tools from MAG legacy brands, including Giddings & Lewis, Cincinnati Milacron and Fadal.

The retrofit program is designed to get machines upgraded and back into production quickly, with pre-engineered application software and mechanicals that reduce installation and run-off time. At the MAG Services booth (W-1546) at this year's IMTS, the company will exhibit a Fadal 3016FX milling machine retrofitted with a Fagor 8070 control and Fagor Digital Sercos Drives. “A retrofit of this type saves about 50 to 75 percent of the cost of a new machine, while providing a significant boost to productivity and accuracy,” said Jeff Ahlstrom, Vice President, MAG Regional Services.

MAG has pre-engineered retrofit kits available for G&L vertical turning lathes and horizontal boring mills, Cincinnati Cinturn lathes and Arrow, Sabre and Lancer vertical mills. A retrofit kit is also available for MAG aerospace profilers. The retrofit program features proven, state-of-the-art controls from Fagor Automation offering better NC block performance, more program storage, high reliability and additional features not available with the original machine control.

The retrofit program is designed to be modular, offering control-only, control and servos, or control, servo and spindle options. Customers can also purchase a control-only retrofit kit and add new drives and motors later.

MAG Services covers all aspects of aftermarket support including tooling and coolants, retrofits and rebuilds, application engineering and field service.

For additional information on MAG Industrial Automation Systems, visit www.mag-ias.com ■



MAG
Fadal VMC with CNC 8070 M

PARLEC



Chris Nuccitelli • Parlec, VP Sales & Marketing

“With the Fagor Open Linear Encoders, we were able to lower our costs, meet all of our requirements for micron-level accuracy, and utilize a product that matches our presettlers track record for reliability and longevity”

With some customers, you know the second you walk in their door that you have to be prepared to provide the entire package” states Fagor Automation Feedback National Sales Mgr Ed Galzin. “With Parlec, there was no question that they required the best of what we had to offer. But, it makes sense, when you are trying to develop a business relationship with a company that has had its doors open since 1948 providing the highest quality innovative manufacturing solutions for the industry, you are simply not getting out of the lobby by offering a 2nd best solution...”

Occupying over 100,000 square feet of manufacturing and distribution space, their 6 major product lines consist of more than 8,000 individual products, most of which are manufactured at their facility in Fairport, New York, just outside of Rochester. Parlec has developed a global network of sales comprising of more than 750 distributors throughout the world.

Building a powerful, robust and simple to use Presetter is not an accident. Parlec scrutinizes every decision and when it came time to make a decision on the precision feedback systems to utilize on their Presettlers, VP of Sales & Marketing, Chris Nuccitelli stated “We required a Linear Encoder that offered exceptional performance to meet our very tight specifications and yet maintain a competitive cost coupled with availability ease.”

Chris continued “With the Fagor Open Linear Encoders, we were able to meet all of our requirements and utilize a product that matched our presettlers track record for reliability and longevity. Our assembly personnel found the product easy to install and our technicians in the field find them easy to maintain with no service issues.”

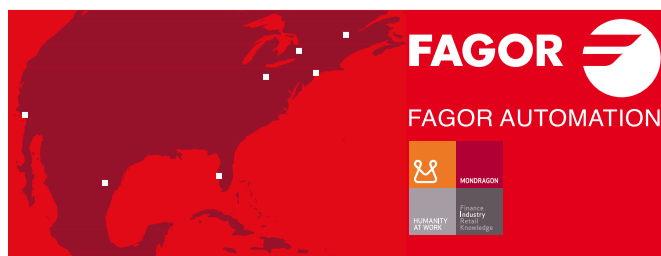
Fagor personal adds “At the end of the day, with a company so well focused on quality like Parlec, having a product that meets and exceeds all of their expectations is still not good enough. We also have to provide a level of support & technical assistance to ensure the customer is never hindered or delayed by lack of an answer.”

As stated by Chris “The level of support and technical advise allowed us to choose the Fagor Open Linear Encoders with confidence and minimal disruption of our manufacturing and inventory processes.”

For more information on Parlec's manufacturing solutions, please visit www.parlec.com ■



PARLEC
Presetter with EXG exposed linear encoders



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