

FAMA®

FAMA Services

#shaping
transformation.



Delivers reliability, quality, and trust across a range of industries.

Vitro was founded in 1909, operates four business units that produce high-quality, innovative products and solutions that exceed our customers' expectations: Glass Containers (Cosmetic and Pharmaceutical), Architectural Glass, Automotive Glass, and Diverse Industries (Machinery & Equipment, Automation, Foundry and Chemicals).

Our business units serve various markets and industries, from food and beverages to automobiles to commercial construction. Further, our commitment to sustainability in our operations, manufacturing processes, and product applications enable our customers and us to meet increasingly demanding environmental responsibility and performance goals.



FAMA[®]: a Vitro[®] subsidiary

FAMA[®], born in 1943 as Vitro's subsidiary for In-house machinery manufacturing has a proven Track record of creating forward and innovate Industrial technology.

Nowadays, we have increased our products and services Offer to the market, in order to provide solutions for several Industries.

Supporting by 80 years of experience Manufacturing high technology specialized machines and with eyes set on the future, we have extended to other industries besides Vitro to integrate projects that require a high technological capacity and infrastructure.





Transforming together



1909

Vitro starts operations.



1943

FAMA® is born as the 'technological arm' of Vitro to provide machinery and equipment for the affiliate companies.



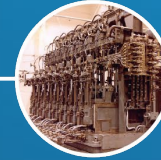
1944

The first foundry was built using a cupola furnace.



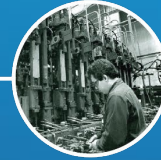
1946

The first two-section IS machine is produced to create new and more efficient machinery for the glass industry.



1950

Mold and machinery exports begin.



1970

Fabricación de Máquinas S.A. starts international operations.



1980

FAMA® joins the globalization process by becoming an exporting company.



2015

FAMA® expands its products and services globally, offering integral solutions for the glass industry.



2017

We expand our product and service portfolio into the market to offer integrated automation solutions in diverse industries.



2018

With 75 years of experience and the sight set on the future, FAMA® reaches out to other industries in the manufacturing sector.



2021

FAMA® expands its automation capabilities with the acquisition of Grupo Gersa Monterrey.



2023

FAMA® keeps growing and being a strategic partner offering machinery and services for the glass industry, metalworking and automation solutions.

We at FAMA® transform the productivity of our customers to outstanding levels by gathering state-of-the-art technology and a highly committed workforce that allows us to form strategic alliances to provide integral solutions for diverse industries.



Competitive Advantages



Infrastructure

Our facilities allow us to be vertically integrated with areas that range from design & iron casting to machining.

Transformation Culture

Highly qualified staff at every level of the organization constantly oriented to maintain a culture of transformation.

Quality + Innovation

Wide range portfolio of products and services that revolve around innovation; with competitive prices, high quality standards and optimal lead times.

We produce in Mexico, operate in America.

From our plant located in Monterrey, Mexico, we provide essential technical services and the necessary tools for various industries throughout the Americas.

Our offices and workshops:

■ Mexico ■ *Colombia ■ *United States

*Coming in 2025



Services

Machinery services

01

IS machine
Audits

02

Installation of
Modular Sections

03

IS Machine
Rehabilitation

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Installation &
Deinstallation
of IS Machines

05

Maintenance &
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Simulations

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Training

IS Machine Audits

Audit service to assess the condition of IS machines.

- **Expert Inspection:** Specialized personnel conduct a mechanical and electronic inspection of the current conditions of the IS machine.
- **Precise Analysis:** To perform the analysis, it is necessary to stop a modular section of the machine.
- **Detailed Report:** A detailed report is prepared on the condition of the main mechanisms, suggesting necessary changes or repairs.

Premium service for the disassembly and installation of modular sections for IS machines.

- **Expertise in Action:** Specialized personnel remove the current modular sections and/or install new or repaired modular sections, ensuring optimal performance.
- **Advanced Upgrades:** During the process, we can integrate new mechanisms into the sections to enhance efficiency and functionality.
- **Total Versatility:** This service is applicable to machines of any technology, providing a comprehensive solution for all your needs.

Installation of Modular Sections

IS Machine Rehabilitation

Specialized service for restoring IS machines, extending their lifespan and improving their performance.

- **Thorough Inspection:** We conduct a detailed evaluation of the current conditions of the machine.
- **Precise Diagnosis:** We identify the mechanisms that need to be replaced and those that require repair.
- **Quality Guarantee:** We offer an operational guarantee for a specified period, ensuring maximum reliability and efficiency of the machine.

Experts in the glass industry, we offer specialized installation and deinstallation services for IS machines, adapting to the specific needs of each customer.

- **Versatility in Technology:** We handle the installation and deinstallation of FAMA machines or any other technology, ensuring adaptability and expertise.
- **Turnkey Projects:** We offer turnkey projects, ensuring that every phase of the project, from planning to execution, is managed with the utmost precision and care.
- **Specialized Personnel:** We have highly qualified and specialized personnel.

Installation & Deinstallation of IS Machines

Maintenance & Conversions

Comprehensive maintenance service and installation of major and minor kits for IS machines, as well as advanced conversions.

- **Flexibility in Supplies:** Original spare parts kits or equivalent components can be purchased by the customer or supplied directly by FAMA.
- **Complete Service:** We handle the installation of these kits and offer on-site mechanism repairs, as well as tailored maintenance services.
- **Specialized Conversions:** We provide conversions for single, double, triple, and quadruple drop configurations, as well as process changes to Blow-Blow, Press-Blow, and Press-Blow-Narrow Neck.

Repair of mechanisms from various technologies according to customer preferences.

- **Variety of Repairs:** We repair a range of mechanisms, including blades, shutoff valves, blow heads, inverters, drop distributors, among others.
- **Detailed Assessment:** We conduct a thorough review of the mechanism to determine the scope and cost of the repair.
- **Quality Inspection:** All parts undergo rigorous quality control to ensure that no component is reused if it does not meet specifications.
- **Part Supply:** We manufacture equivalent parts or acquire kits from the original manufacturer.
- **Kanban System:** We implement a Kanban system to reduce shipping costs and deliver repaired mechanisms quickly.

Mechanism Repair

Experts in Different Technologies

We offer specialized personnel services for training and troubleshooting on equipment of various technologies*.

- **International Coverage:** Our specialized personnel can work in other countries, including the United States.
- **Specialized Team:** All our services are provided by a minimum of 2 specialists per visit.
- **Quick Response:** We guarantee a faster response time compared to other specialists in these technologies.

*BDF, Emhart, Bottero, Heye, GPS, and more.

We create synergy between FAMA and local industrial service providers related to IS machines, managed and supervised by FAMA.

- **Effective Collaboration:** In collaboration with a local contractor and the expertise of FAMA personnel, we offer reliable solutions for projects such as:
 - IS machine installations
 - Electronic projects
 - Mechanical projects
 - Civil projects
- **Expert Management:** Project management is carried out by FAMA's expert personnel, ensuring maximum efficiency and quality.

Project Management

Maintenance Policy

We offer service policies for the diagnosis, supervision, maintenance, and/or repair of IS machines.

- **Total Adaptability:** We customize an hourly package according to your semi-annual or annual needs.
- **Exclusive Benefits:** Enjoy preferential rates for our mechanics' and supervisors' fees.
- **Global Coverage:** Our expert team is trained to operate in multiple countries, including the United States.
- **Priority Response:** We guarantee quick and preferential availability of mechanical and electronic personnel, surpassing other providers.

We offer our customers the advantage of having a strategic inventory of high-turnover parts directly at our facilities.

- **Reduced Delivery Times:** We guarantee minimal times for obtaining critical parts.
- **Process Simplification:** We avoid complex import and export procedures.
- **Ease of Acquisition:** Allows our customers to make quick and efficient purchases at the national level.
- **Inventory Optimization:** We improve inventory management and reduce operational costs.

Strategic Inventory of High-Turnover Parts

Remote Monitoring

We offer advanced remote production monitoring from our facilities, allowing customers to oversee real-time critical variables of their IS machines.

- **Full Customization:** Our system allows monitoring of specific production variables that the customer wishes to control.
- **Global Access:** Data can be viewed from any internet-enabled device, providing flexibility and convenience.
- **Proactive Alerts:** Automatic alarms are sent upon detecting parameter deviations, ensuring immediate response to any eventuality.

We employ advanced machinery engineering techniques and specialized software for 3D modeling systems.

- **Specialized Analysis and Simulations:** We conduct analysis and simulations in kinematics of mechanisms (CAE), fluid flow (CFD), and thermal structural mechanics (CAE).
- **Simulation Capabilities:** We can simulate preform thermoforming, predict thickness, and perform complex structural analyses.
- **Detailed Analysis:** We offer thermal and fluid analysis, structural analysis, 3D simulation, and internal pressure analysis.

Analysis & Simulations

Engineering Services


We develop customized engineering solutions to address the unique challenges of our customers.

- **Electrical Services:** We provide advanced electrical engineering solutions to optimize the efficiency and safety of your systems.
- **Mechanical Services:** We offer specialized mechanical engineering to enhance the performance and reliability of your equipment.
- **Glass Industry Expertise:** We have bilingual engineers with extensive experience in the glass industry, ensuring effective communication and precise solutions.

We offer training programs to enhance skills and knowledge about IS machines, optimizing their performance and extending their lifespan.

- **Training Modalities:** We conduct training sessions at our facilities or on the customer's site, according to their convenience.
- **Training Levels:** We offer basic, advanced, and maintenance courses, tailored to the specific needs of each machine.
- **Expert Instructors:** Our training is delivered by a highly skilled team with many years of experience in the industry and knowledge of third-party technologies.

Training



Cases studies

Field Services

Engineering, scopes, tenders, schedules and supervision for: Installation of furnace services, IS machine installations, beam bed, machine services and peripherals.

PORTFOLIO

VCH4 QUASAR.

- Installation of furnace and feeder services
- Installation of feeder dosers
- Installation of machines, services and peripherals
- Installation of hardeners and services



2018 Technical assistance Ab Inbev Grupo Modelo

- Service Staff FAMA

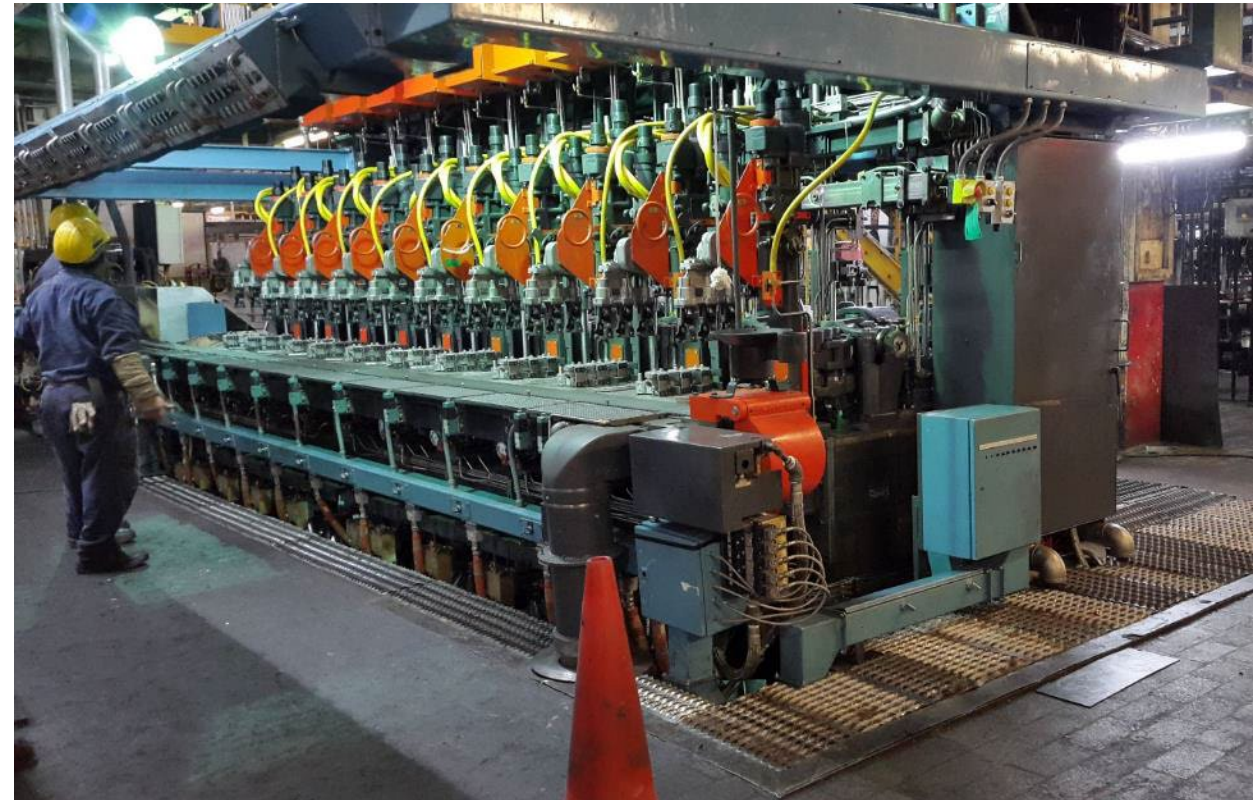


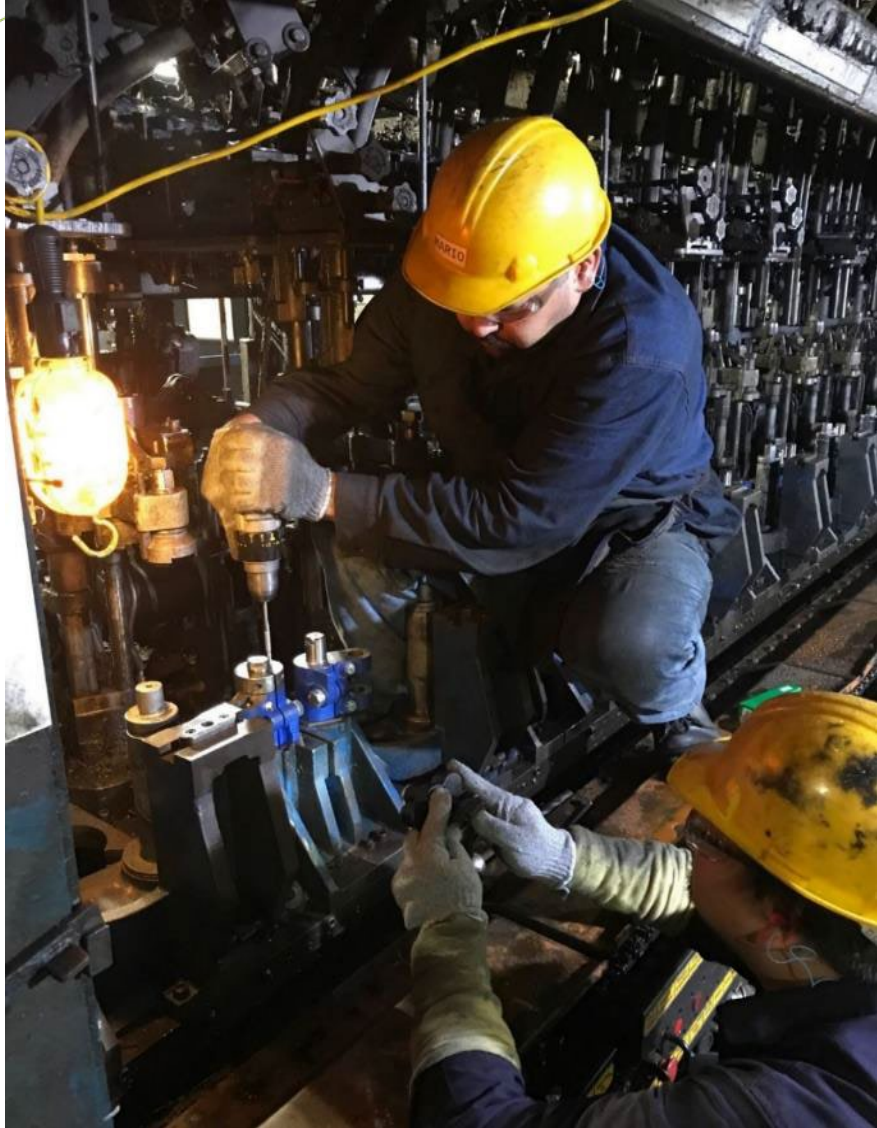
2018 Technical assistance Anchor Glass Jacksonville

- IS Machine Blank & Mould side Linkages exchange

2018 FANAL machine 33

- Surveys and Engineering for machine and peripherals installation
- Removal of existing machines and peripherals
- Modification of beam bed, machine, peripherals and services





2018 Technical assistance

Cristal Chile Conversion B2 line

- IS Machine Mold Side Linkage

2019 Section change

COSMOS 8 modular



2019 Machine installation

Vitro COSMOS 35 F.S.

- Surveys and engineering for machine and peripherals installation
- Removal of existing machines and peripherals
- Installation of beam bed, machine, peripherals and services

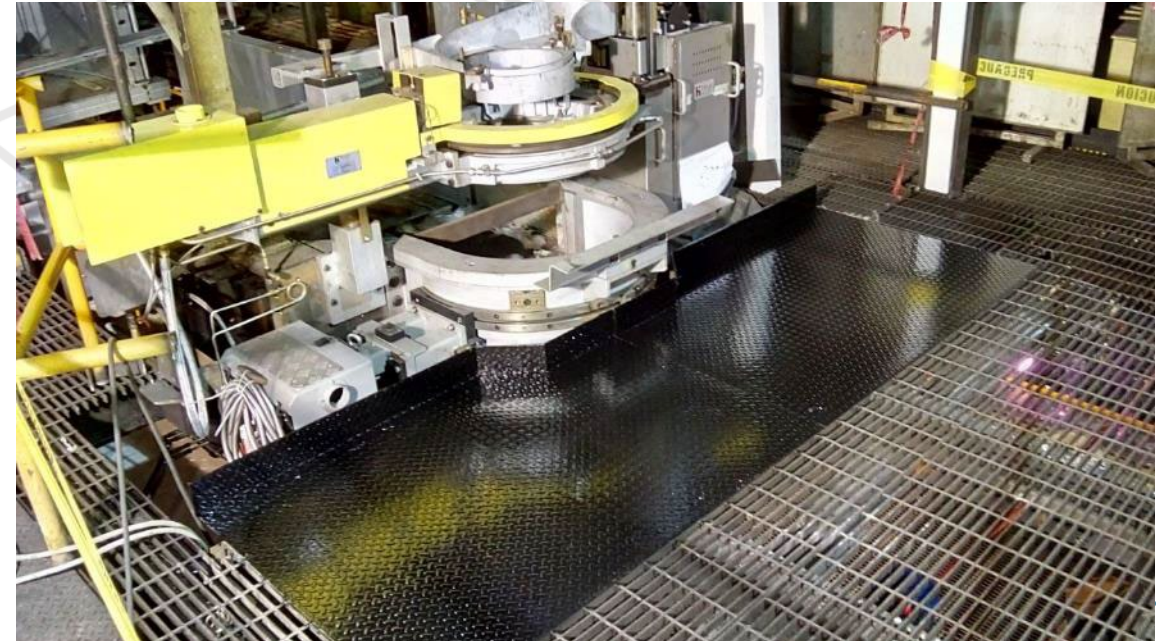




2020 Change mach.

SIVESA tandem B0

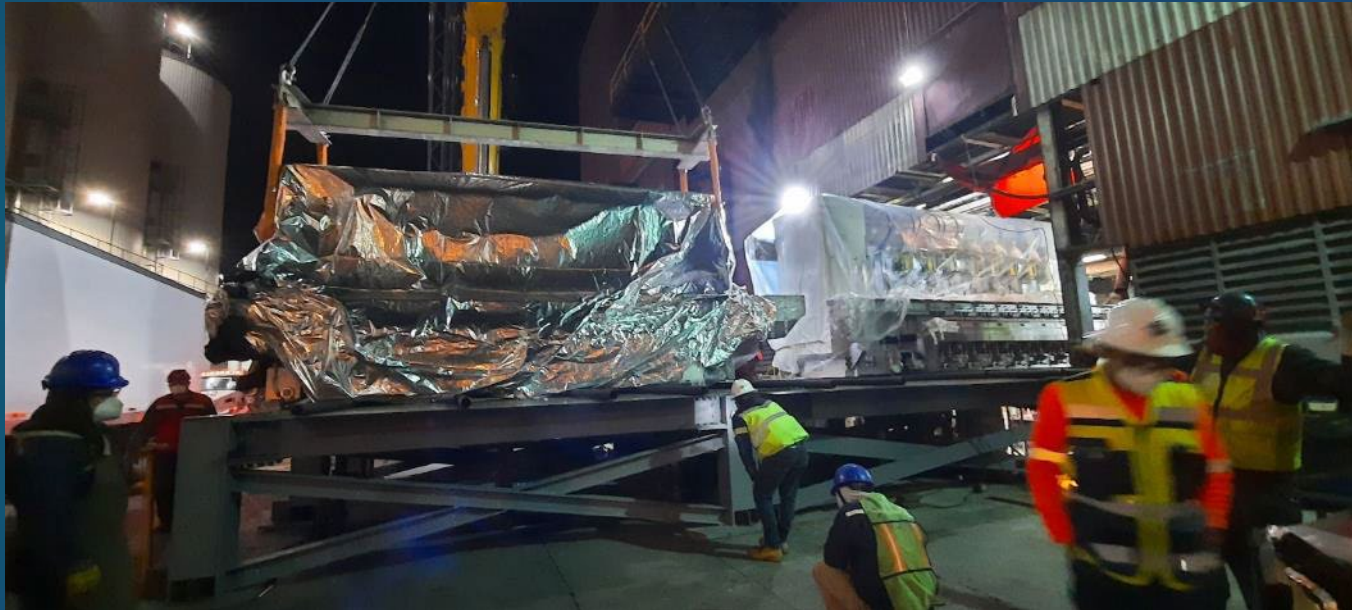
- Removal of existing tandem machines and peripherals
- Installation of new tandem machines in position on base plate
- Installation of dispensers on feeders



2020 Change mach.

SIVESA tandem D4

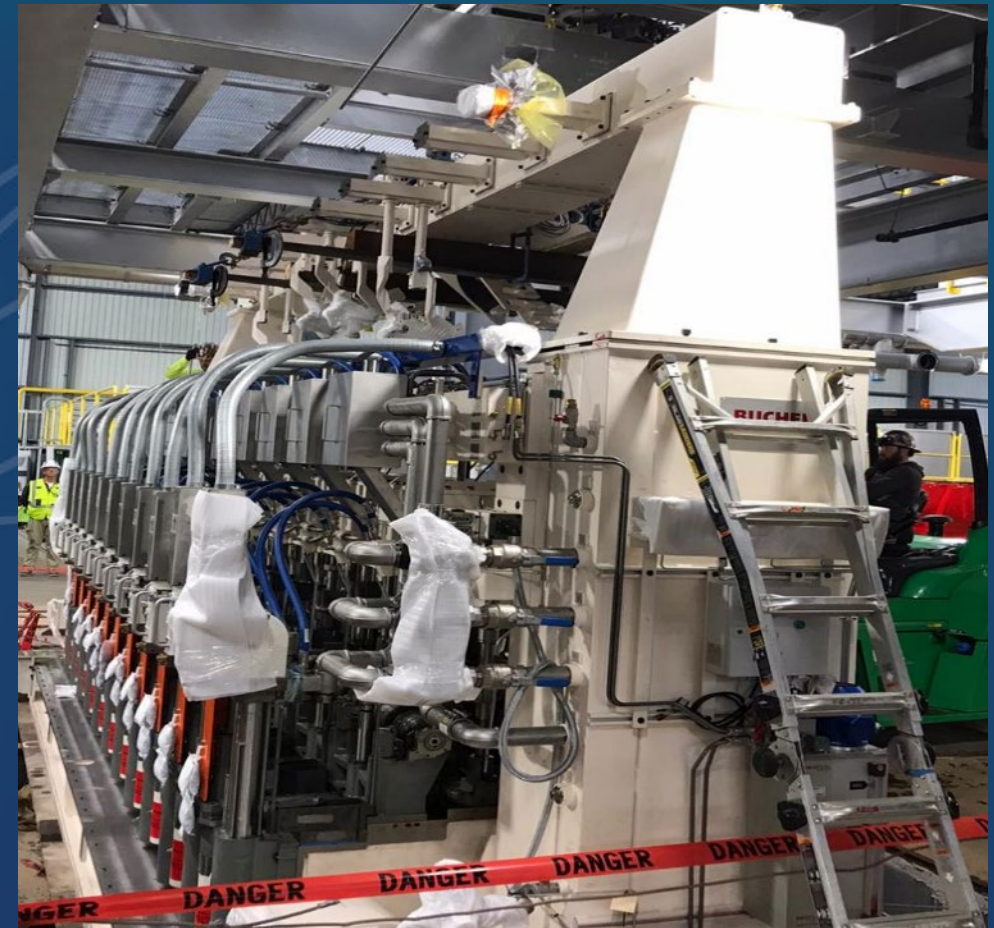
- Removal of existing machines and peripherals
- Installation of new tandem machines in position on base plate
- Installation of dosing in feeders



2020 Service installation

Emhart machines Arglass Valdosta GA plant

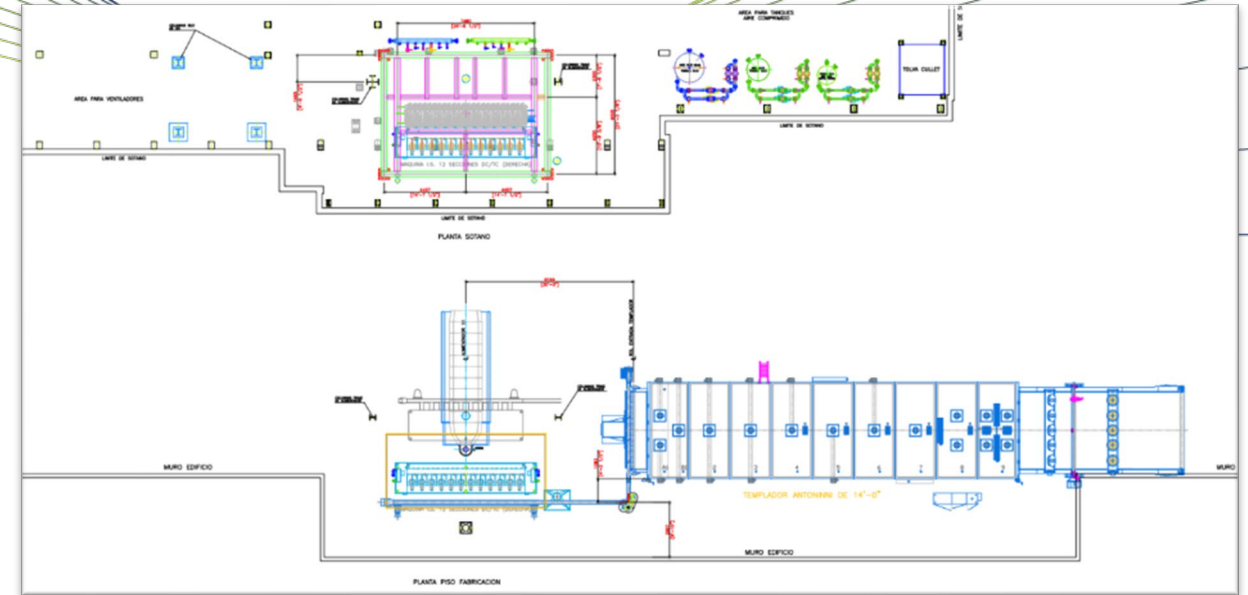
- Installation of 3 Machines AIS



2021 Change machine

VIGUA machine 11

- Survey of existing installations
- Engineering lay-out for 12 Sec machine installation
- Compressed air and cooling arrangement machine engineering



2022 VF2 Casa Mezclas

- Change of dosing equipment in the mixing house.
- Change of transmissions, pulleys and bearings of conveyors to the furnace
- Repair of raw material silo unloading cones
- Change of raw material scales



Cosmos Machine

- IS Machine General Repair



Before



After

O-I Machine

- IS Machine General Repair



Before



After

2021 Technical assistance

Anchor Glass Warner Robins

- Linkage of Blank Side and Mold Side, conversion to Blow - Blow

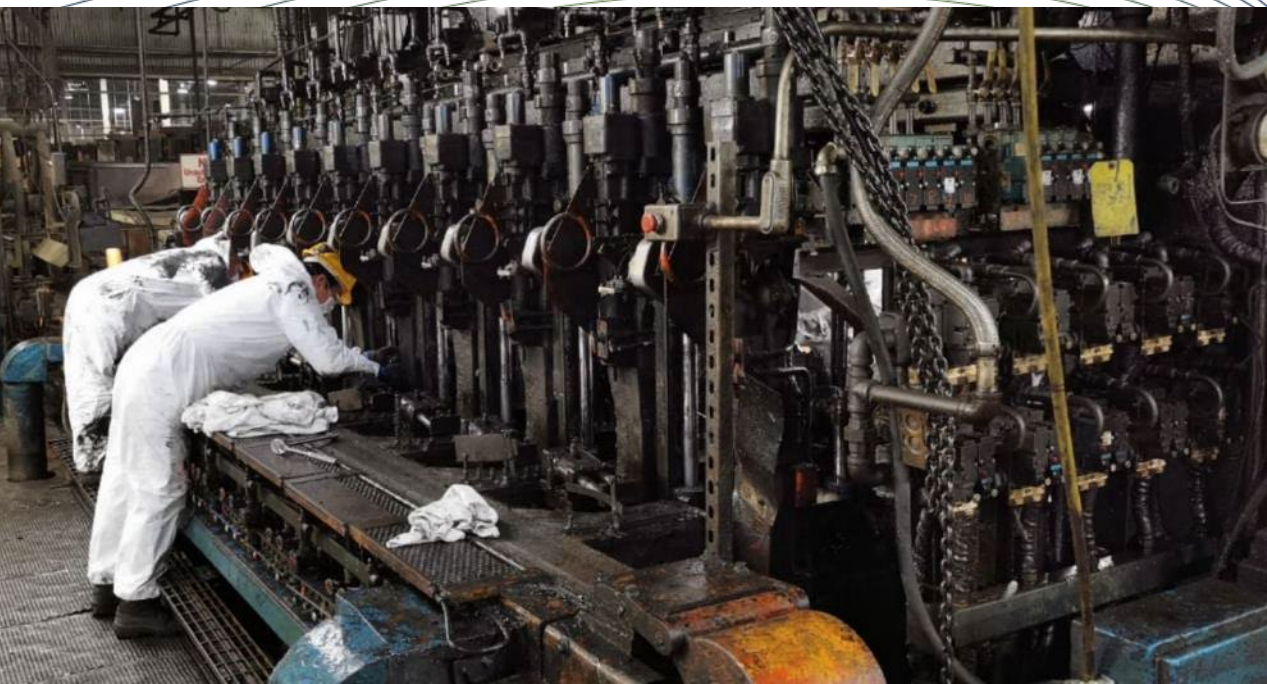


2021 Technical assistance

O-I Monterrey

- IS Major Machine Maintenance





2021 Technical assistance Anchor Glass Warner Robins

- Blank Side Linkage on 2 IS Machines, on another one Replacement and Repair of Plunger and plunger plates



2021 Technical assistance

Anchor Glass Jacksonville

- Blank & Mould side Linkages exchange



2021 Technical assistance

Ardagh Houston Tx

- Heye Tandem Machine Maintenance Support



2021 Technical assistance Anchor Glass Jacksonville

- Double Gob Conversion



2021 Technical assistance

O-I Monterrey

- Major Maintenance Lines 51 and 52



2021 Technical assistance

Anchor Glass Jacksonville

- Minor Maintenance IS Machine



2022 Technical assistance

Vidriera Guatemalteca

- Installation and Machine Start-Up



2022 Technical assistance

O-I Toluca

- Major maintenance for 2 IS machines

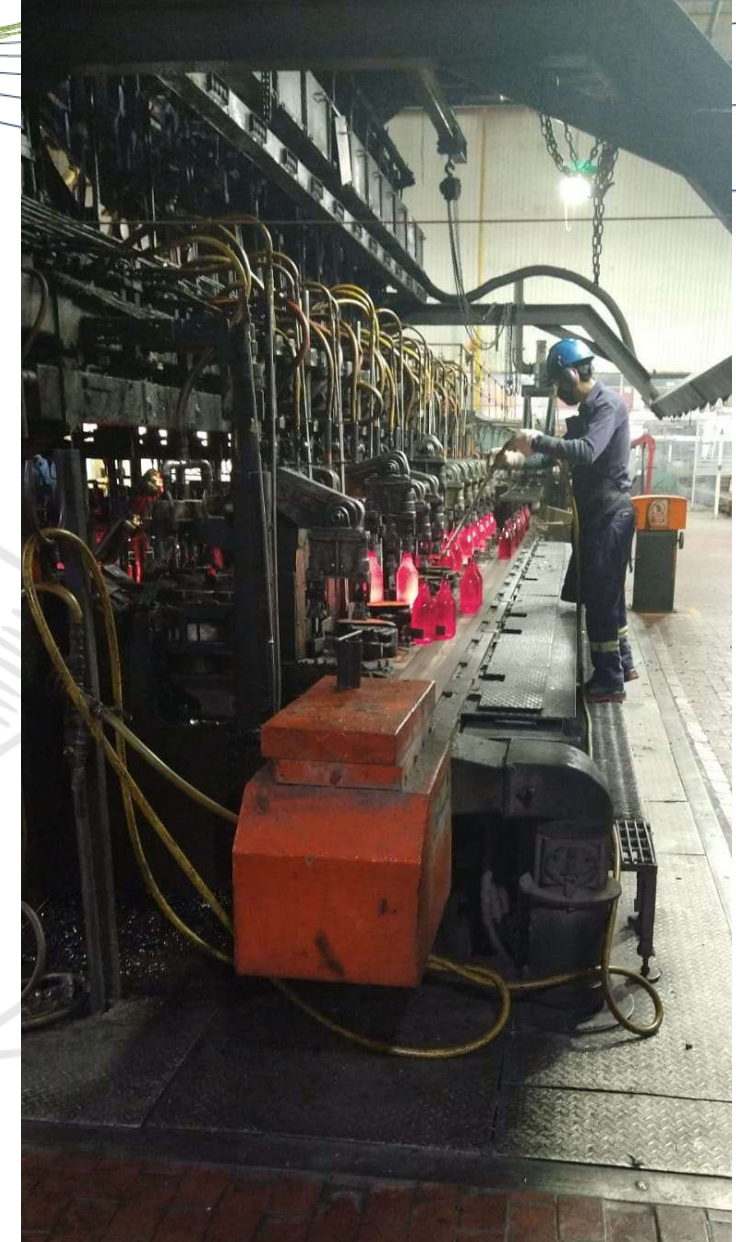




2023 Technical assistance

O-I Monterrey

- TG to DG Conversion



2023 Technical assistance

Vitro COSMOS

- New machine installation with CEIS



2023 Technical assistance

O-I Monterrey

- Mold side closing force measurement



FUERZA DE CIERRE



MAQUINA I.S. 8 SECCIONES, EN DOBLE CAVIDAD

ORDEN:

FECHA:
16-MAR-23

LADO BOMBILLO (LIBRAS)

CAVIDAD	SEC-1	SEC-2	SEC-3	SEC-4	SEC-5	SEC-6	SEC-7	SEC-8	SEC-9	SEC-10	SEC-11	SEC-12	META
1	684	750	628	747	826	700	692	735					
2	611	686	513	653	716	585	577	640					1640 a 34 psi
SUMA	1295	1436	1141	1400	1542	1285	1269	1375					
% CUMP.	78.96	87.56	69.57	85.37	94.02	78.35	77.38	83.84					

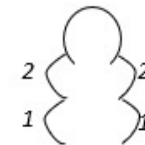
LADO MOLDE (LIBRAS)

CAVIDAD	SEC-1	SEC-2	SEC-3	SEC-4	SEC-5	SEC-6	SEC-7	SEC-8	SEC-9	SEC-10	SEC-11	SEC-12	META
1													
2													1388 a 34 psi
SUMA													
% CUMP.													

BISAGRA: D.C Ø4 5/8

PRESIÓN: 34 PSI.

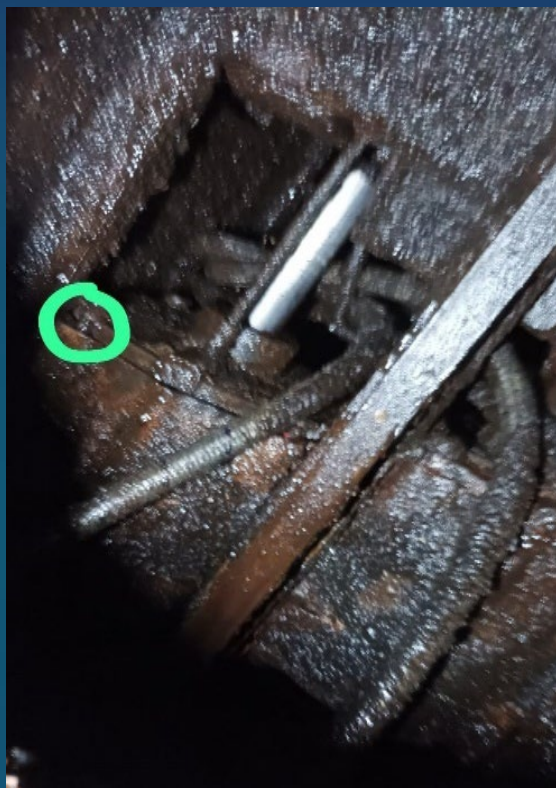
ESLABON: ESTÁNDAR 2.4



2023 Technical assistance

O-I Monterrey

- Open/Close Cylinder Repair in plant



Capped screw



Broken cover



Corrected installed cover

2023 Technical assistance

O-I Guadalajara

Supervise during machine shutdown
the activities of:

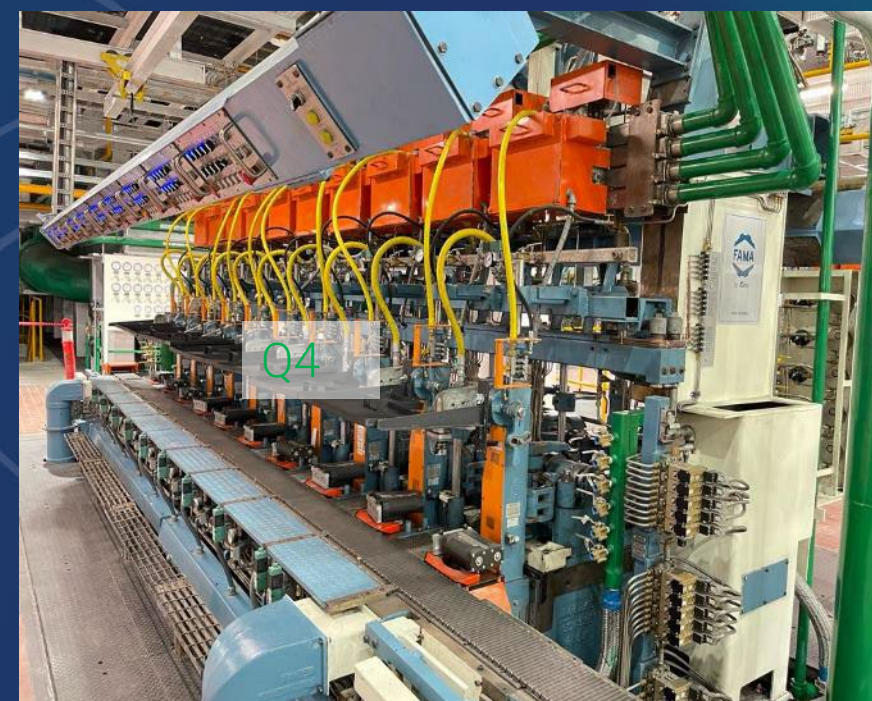
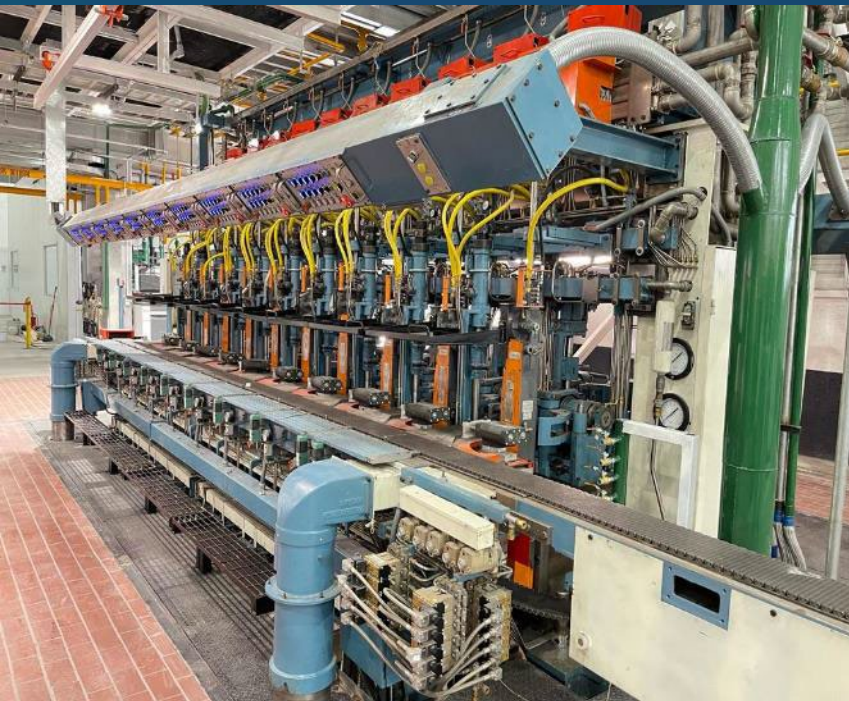
- Installation of self-supported control BDF Servo Take Out.
- Interconnection with SIMI Machine Control
- Complete change of internal machine wiring for extra signals (cable and connectors), reconnection of these signals on side boards with the contractor.





2023 Technical assistance Vitro COSMOS

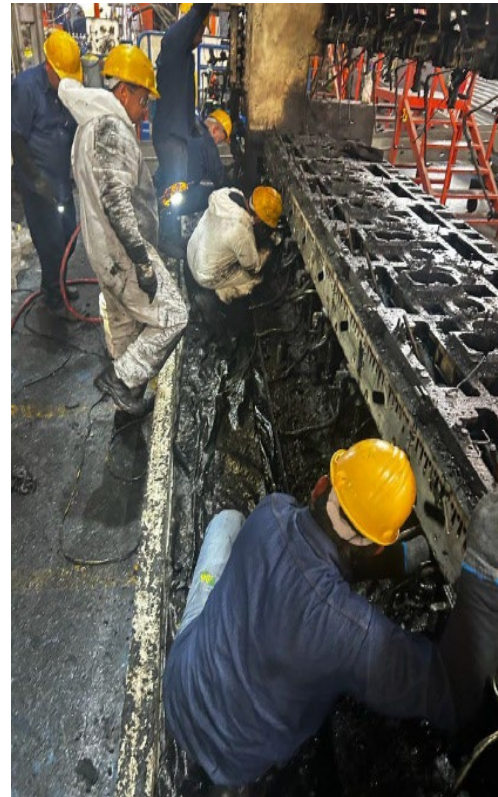
- Installation of 4 IS machine in new furnace



2023 Technical assistance

VICAL VIGUA

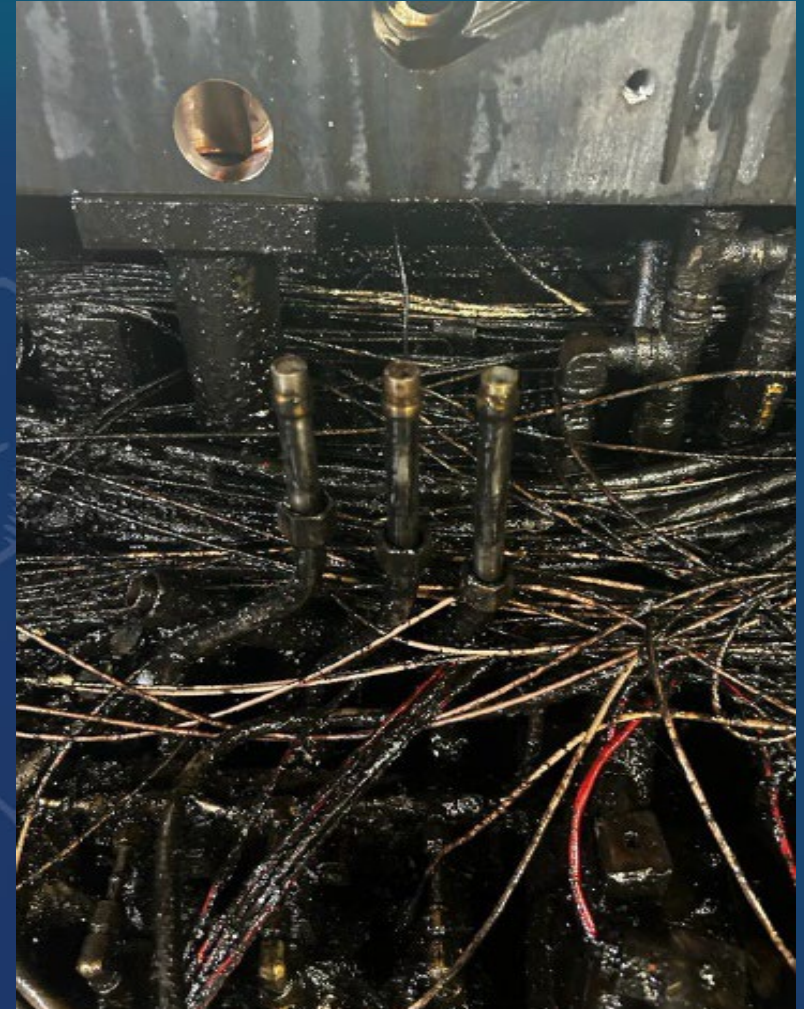
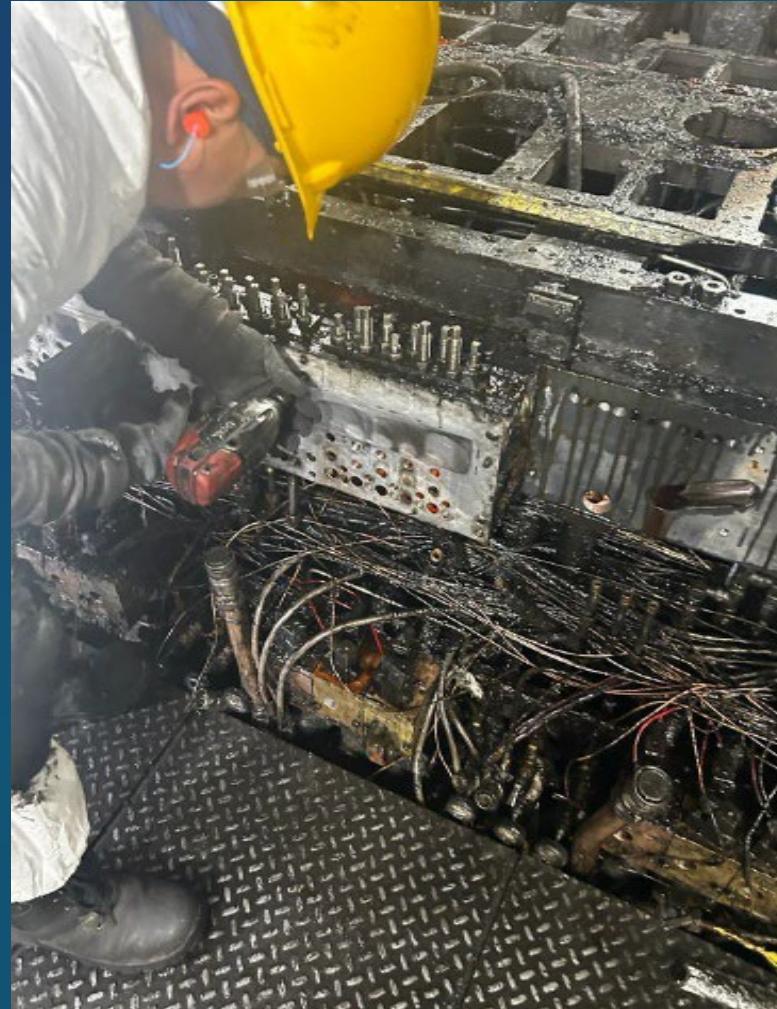
- IS Machine major maintenance



2023 Technical assistance

O-I Queretaro

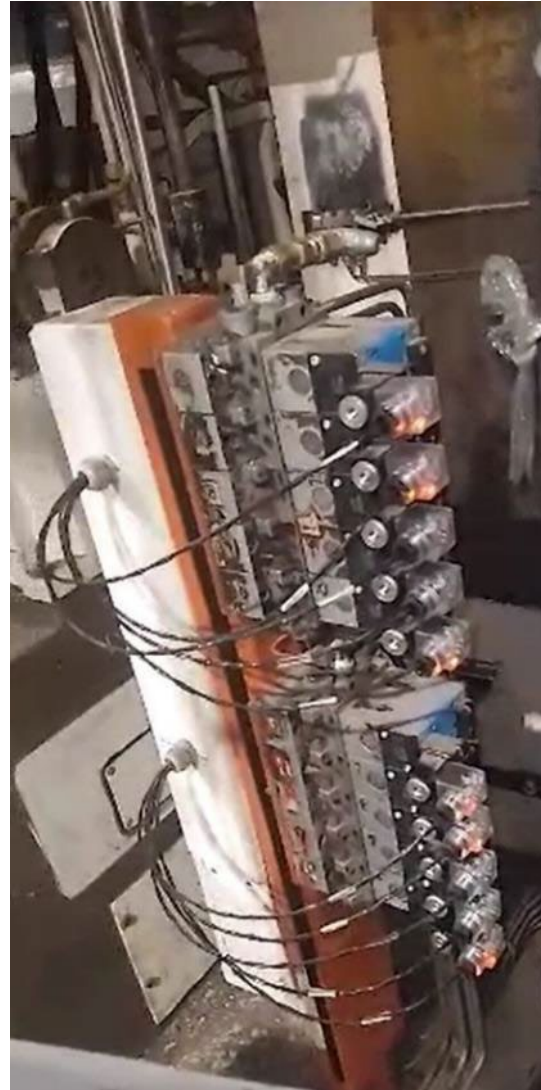
- IS Machine major maintenance



2023 Technical assistance VICAL VICESA

Supervision of BDF
electronic equipment
installation in IS Machine

- Plant request help with the service of 2 electronics, an assistance in the disassembly of a machine and the installation of new equipment.





2023 Technical assistance

O-I Monterrey

IS Machine Diagnosis Service

- A visual and manual inspection was carried out, finding 100% wear in several mechanisms of both Machines
 - **RECOMMENDATION:** The IS machines require major maintenance to ensure proper operation, as there is a lot of wear and tear on the mechanisms. With the maintenance performed on the machines, their operation would be acceptable.

Example: 100% wear on open and close mechanisms Blank side

2023 Technical assistance

O-I Queretaro

- Replacement / installation of piping at furnace machines #3



Panel is installed where indicated by plant



Hoses and pipes are installed



Air By-Passes are installed and connected

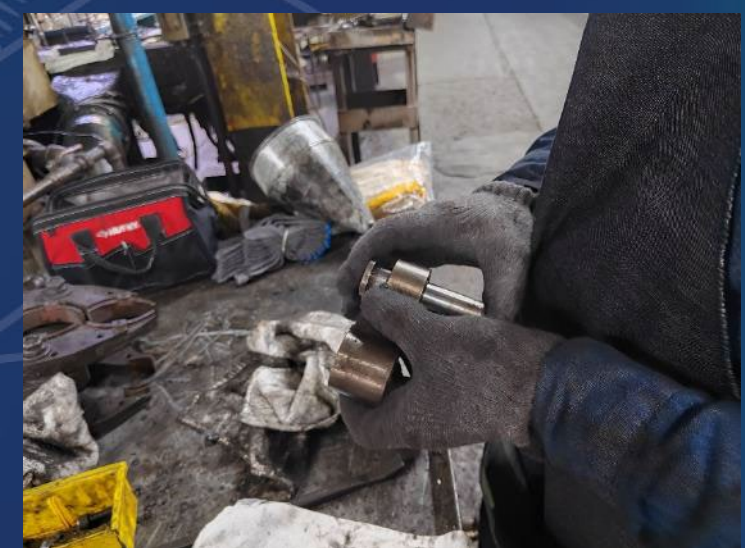
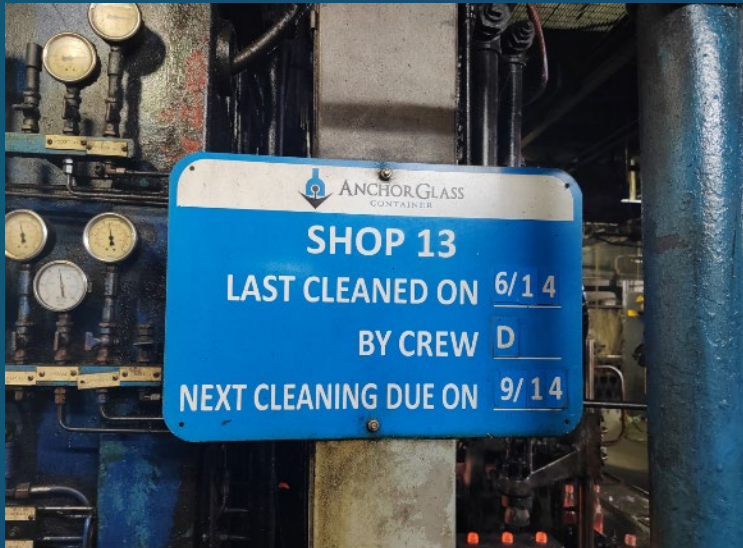


Air regulators are installed

2023 Anchor Glass Audit

Warner Robins

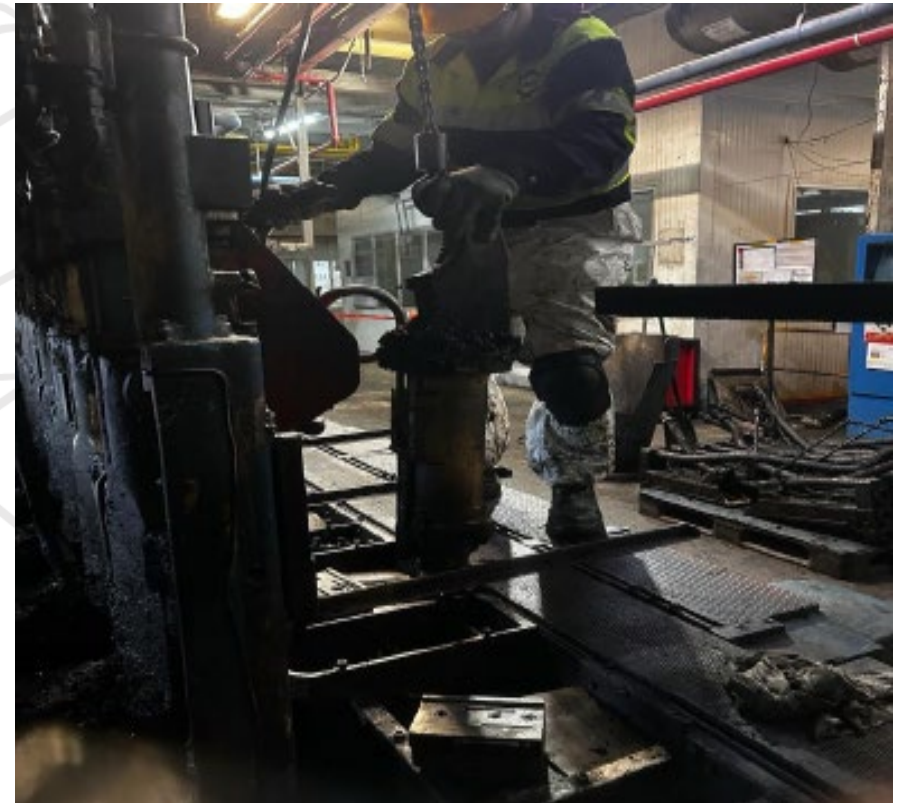
- Audit on IS machines of lines 11, 13 and 14



2023 Technical assistance O-I

Nueva Fanal L43

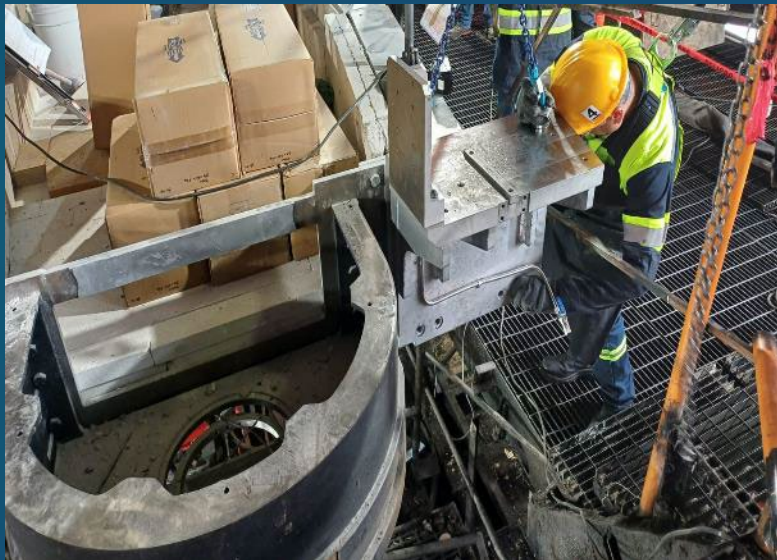
- Mayor maintenance IS machine 12 sections



2023 Technical assistance

O-I Los Reyes

- Installation of mechanisms 03 and 04



2024 Technical assistance Gallo Glass

- Mantenimiento mecánico de 2 máquinas
Emhart: línea 41 y 42



2024 Audit IS machines AGC Warner Robins

- Lines 11, 13 y 14

2024 Technical assistance AGC Elmira

- L23



2024 Technical assistance Ardagh Bridgeton

- L23 Stacker





2024 Mayor maintenance Vimosa

- IS machine mayor maintenance



Our Offerings

The image features a dark blue background with a series of thin, curved lines in a light yellow-green color that sweep across the right side. In the center-left, the words "Our Offerings" are written in a large, bold, white sans-serif font. The overall aesthetic is clean and modern.

We offer...

- IS machine condition audits service, through an annual program of scheduled audits.
- Conversion service to single, double, triple and quadruple, and change of processes (PS, SS, PSBA), adjusting to the machine downtime scheduled by the customer.
- Our experience integrating other technologies to our machines allows us to have specialized personnel for training and troubleshooting of equipment of other technologies such as BDF (Electronic Control), Heye (Simotion, Gob Monitor,) Emhart (dispenser), XPAR (Lubrication Robot), etc.
- Theoretical and practical training in machine operation and OI mechanisms for operating personnel and supervisors.
- Our Remote Monitoring service of IS machine production indicators allows the customer to access this information from anywhere and at any time, receiving alerts when there is a drastic change in the KPI's.
- For all services provided by FAMA Services personnel, we can offer annual service policies with preferential prices.
- We perform synergy between FAMA and Industrial Service Providers in different regions on issues related to electrical and mechanical installations of IS machines, supervised by FAMA personnel.

We offer...

- Repair of both OI technology mechanisms and other technologies, customizing the repair needs according to each customer (Cost and Warranty): light repair, medium repair or a reconstruction of the mechanism.
- Manage a stock of repaired mechanisms that allows an agile supply of newly repaired mechanisms to customers when required.
- Maintenance and installation service of major and minor kits of different technologies, with the option for the customer to supply the kits or FAMA to purchase the parts.
- Deinstallation of existing modular sections and installation of new ones, offering an inventory of modular sections in our facilities ready to be shipped to customers.
- Restoration of IS machines, making a previous evaluation of their conditions, supplying new original spare parts and repairing mechanisms and equipment where there is not so much wear and tear.
- Inventory of high rotation parts, according to the needs of the customers, to reduce delivery times of the most used parts.



by  Vitro.

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Quality Policy

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