metalquimia

N°6 Year 2022 From 14 to 19 May





QDSBake® & QDSCook'r®
ALT-PRO Cook&Bake&Dry
Solutions



NEW FACILITYNew Assembly Facility inaugurated



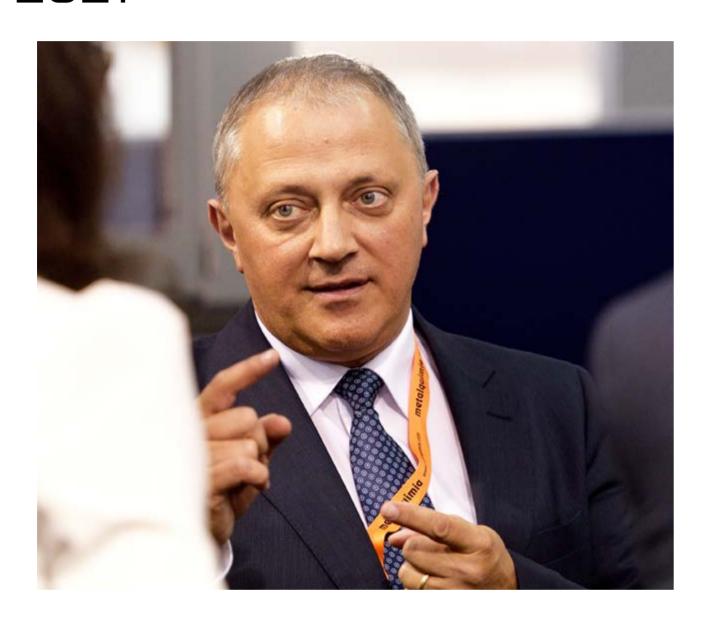
MOVIMAX ZEROThe "Zero Carbon" Injector



editorial

FROM TRADITION TO DISRUPTION

1971 - 2021



Just three years ago, on the occasion of IFFA 2019 and in this same publication, I reflected on the vertiginous events that were taking place in the global meat ecosystem, configuring three major sources of change: Digital Transformation, Ecological Transformation and Protein Transformation as the pillars of the technological and economic disruption that our sector glimpsed. Few could have imagined that, just a few months later, the Coronavirus pandemic outbreak would question our reason for being and existing as we had known it until then. With unforeseen and unexpected characteristics of improbability and impact, the pandemic crisis has made us realize our vulnerability and fragility as a species and as individuals.

Without a doubt, we are facing a transcendent time that will draw a new scenario in which only a few, the most disruptive, will be able to meet the challenge. Because to overcome disruption, we need to be more disruptive than the disruption itself!

In this new scenario and the celebration of the 50th anniversary of the founding of METALQUIMIA (1971 – 2021), we remember with nostalgia those first years when artisanship, harmony and tradition

marked the beat of our sector. Today, within this new reality, with a renewed mentality and embracing said disruption, all of us who make up the METALQUIMIA great family, want to continue transforming the way the world processes meat to contribute to the sustainability of the planet and the future of the meat sector.

It is not foreseeable whether this crisis will last several years, as in previous disruptions in history. And we do not know exactly if, as a species, we will have learned something (since the human being often forgets very easily). But now, more than ever, what is certain is that we still have many IFFAs to celebrate. IFFA fairs where we will show you the most groundbreaking ideas and will introduce the technologies to solve these exciting challenges...

Without a doubt, we WILL PASS all this. So, let's celebrate together our 50th anniversary, let's celebrate IFFA and let us show you THE NEXT that awaits us (MEAT THE "50" NEXT). Good IFFA to all!

Josep Lagares

Executive President, METALQUIMIA, S.A.U.

50 YEARS GROWING WITH IFFA



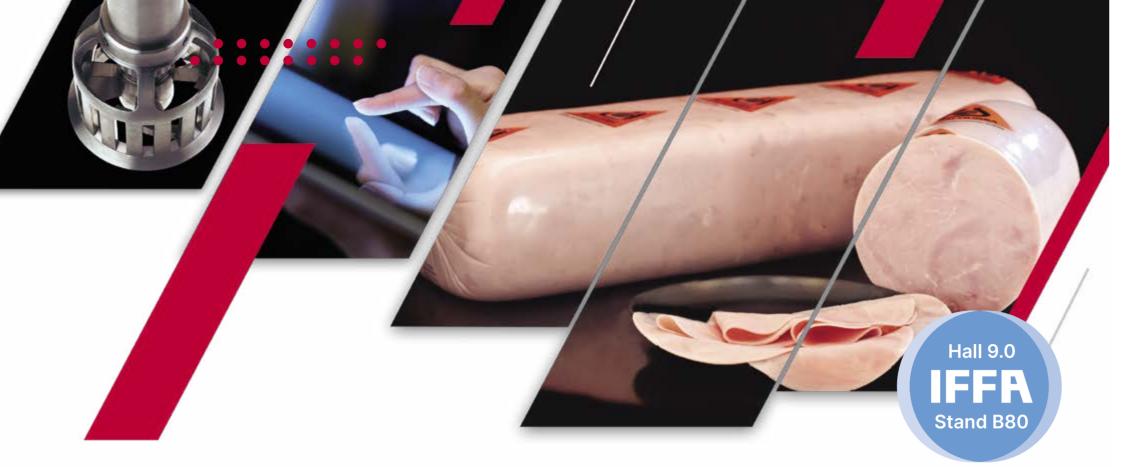








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COOKED-E NEW RANGE

Boosting Ecological Transition

MOVIMAX "ZERO"

The "Zero Carbon" Injector

Today, sustainability in production processes is a key and non-negotiable factor in cooked meat product lines. As part of this strategy, and to facilitate the ecological transition to meat processors, **METALQUIMIA** introduces at IFFA 2022 its new **COOKED-E** range for the sustainable process of cooked meat products, made up of **MOVIMAX ZERO** injectors, **THERMOMAT-E** Massage Reactors and the **TWINVAC** *Signature* automatic whole muscle stuffers.

The **MOVIMAX ZERO 5500** meat injector.... Without a doubt, the injector with the lowest "Carbon Footprint" in the world meat market.





With two heads and 3,312 spray injection points, the double volumetric servo-piston pump provides maximum energy efficiency, plus injection precision and reduced emission temperatures without competition.

Likewise, a complete redesign of the entire injection and filtering system minimizes the amount of excess brine after each injection batch (Zero Residue).

The high recyclability and life cycle of its components, together with a very compact final design (built-in filter and minimum installation footprint), combined with increased productivity and high injection rates close the Tetrahedron of Sustainability (Minimum Energy, Minimum Residue, Maximum Productivity, High Recyclability)

In addition to this, the MOVIMAX ZERO injection head technology provides brine distribution and color uniformity without competition in the world market, thus responding to the demanding exponential challenges of tomorrow's meat industry.

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METALQUIMIA

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MOVIPLUS CLEAN LABEL

CLEAN LABEL INJECTION, THE NEXT



- "CLEAN LABEL" Injector: Designed for injection of "CLEAN LABEL" products
- "CLEAN LABEL" Injector:
 Designed for special brines
 of difficult distribution
- SPRAYPLUS® Technology: Spectacular Distribution of brine at low injection
- Automatic Injection Control:
 By means of DYNAMIC INJECT CONTROL platform
- Total Connectivity 4.0:
 The Injection of the Future



COOKED-E NEW RANGE



Boosting Ecological Transition

NEW THERMOMAT-E

Massaging Sustainable Solutions



METALQUIMIA introduces at IFFA 2022 its new range of **THERMOMAT-E** massaging reactors, the definitive commitment to sustainable meat massage... Its unique fully electric drive system, combined with the technological simplicity of all its components, offer the meat processor maximum energy efficiency, very high productivity (reduction of processing time), full recyclability of all its components with minimum maintenance.

The new **THERMOMAT-E** automatic vacuum massaging reactors incorporates a 4.0 highly versatile operation (with total control of the processing parameters), which leads to higher quality and final yield in any type of meat product (without matter the animal species involved), including a programmable maceration system by impact and massage, from very soft to energetic (or a combination of both), with a variable drum rotation speed between 3 and 14 rpm. In addition to this, its exclusive system of maximum drum inclination facilitates rapid unloading, which is essential to obtain a product with a high degree of vacuum (without foam) and superior quality.

NEW RollerPress TENDERIZER

"Clean Label" Cut & Press Roller

The growing demand for CLEAN LABEL cooked meat products, and especially products with reduced phosphate levels, require new process strategies if you want to improve texture, to increase intermuscular binding and to maintain/increase the Water Holding Capacity of finished products, compared to their analogs with added phosphates.

It's in this context that **METALQUIMIA** introduces at IFFA 2022 the **ROLLERPRESS** tenderizer, the Cut & Press technology specially designed for CLEAN LABEL products processing. Includes a double set of active rollers which interact with the meat, causing a simultaneous tenderizing/pressing effect on the meat muscle fibers, significantly increasing myofibrillar proteins extraction surface, by first producing a multitude of cuts in the meat muscle (double tenderizer roller with spikes and prongs), to continue with a pressing action (pressure roller against belt) that causes stretching of the meat and a significant increase in the interfibrillar spaces, which allows a very rapid and better fixation of the brine in said spaces during the first phases of the massage. The **ROLLERPRESS** action results in a significant reduction in the processing time, an increase in the tenderness of the meat, an increase in the cooking yield and a higher binding and slicing yield.



At the same time, the **ROLLERPRESS** tenderizer offers the possibility of automatically adjusting the cutting depth (from -20 mm to 50 mm) and pressing pressure, thus allowing the tenderizing effect to be adapted to each specific product. The **ROLLERPRESS** tenderizer has an ergonomic system, unique in its category, for roller extraction, washing and maintenance.

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METALQUIMIA

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tradition



D-ICER & D-BREAKER:

Optimizing thawing process



The use of the METALQUIMIA's **D-ICER** Thawing Technology combined with the **D-BREAKER** press optimizes the thawing process, offering significant advantages: it facilitates the loading process in the thawing reactor, speeds up the thawing process, provides greater homogeneity of the thawed meat, optimizes the space occupied, provides high productivity, food safety and absolute control of any of the phases that make up the defrosting process: its variables, parameters and management of the product's internal and external temperature.

The **D-ICER & D-BREAKER** process is the most competitive alternative to other thawing systems on the market.



Defrosting Line D-ICER & D-BREAKER with Automatic Loading / Unloading



D-Breaker Press Detail

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"SIGNATURE" 4.0 LINE

World best design awarded









TWINVAC 4.0

STUFFING, THE NEXT



999

Twinvac* 4.0



- · Intelligent Control: **Unrivalled Weight Precision and Stuffing** Speed
- · Compactation Pressure: **Unbeatable Slicing Yields**
- · Large Diameters: **Unsurpassed Whole Muscle Definition**
- · Smart & Hygienic Design





It is an absolute pleasure to inform the Global Meat Sector that METALQUIMIA, specifically the new "METALQUIMIA Signature" line comprising the MOVIPLUS 4.0 injector, the TURBOMEAT 4.0 massaging reactor and the TWINVAC 4.0 automatic whole muscle stuffer, has won the most prestigious Global Awards for the Best

Specifically, the "Signature" line has been recognized with the 2019 RED DOT DESIGN AWARD (see https://www.red-dot.org/), the most prestigious award in international design that gives recognition not only to a breakthrough design but also to maximum excellence, quality, features, and ergonomics.

In addition to this, the jury of the 2020 DELTA AWARDS (see: https://www.adifad.org/premis/es/delta-awards/) has decided to award the "METALQUIMIA Signature" line with the 2020 GOLD **DELTA AWARD** in the Digital Category. This recognition celebrates excellence in design and highlights its importance as a privileged tool to generate added value in an industrial economy and its fundamental role as an expression of our social and cultural values.

"METALQUIMIA Signature" line has also been recognized with the 2021 iF DESIGN AWARD, in the Industry/Products category, awarded by the iF International Forum Design GmbH (see https:// ifdesign.com/en/), a German entity that periodically organizes one of the most prestigious and valued Design Awards in the world, internationally recognized as a symbol of design excellence.

According to Josep Lagares, Executive President of METALQUIMIA: "it is very important to reflect on the importance and transcendence of these awards for THE BEST INDUSTRIAL DESIGN... the "METALQUIMIA Signature" line is defined by a clean, simple and operative geometry, being a reference example in the optimization of the design of machinery for the food industry. Without a doubt, this represents a turning point in the conception of new equipment and machinery for the meat industry, thereby providing an additional Added Value to all our customers and users."

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COOKLINE 4.0







- **Shapes and Towers** · Increased Productivity by Production Optimization
- · Reduced Energy and Production Costs





NEW MANUFACTURING PLANT INAUGURATED



Last Wednesday, April 20, METALQUIMIA inaugurated its third Machinery Assembly Center in Palol de Revardit (Girona - Spain), equipped with the most modern Assembly and Production technologies... The new production facilities are adjacent to the company's current manufacturing buildings and occupy a total space of 5,000 m².

The event was chaired by the Honorable Mr Jordi Puigneró, Vice President of the Government of Catalonia, who during his visit to the new facilities highlighted that: "Metalquimia is a company with a long family tradition, within a traditional sector, with roots in Girona, with very creative, innovative mentality, present throughout the world and that transforms the way the world processes meat".

For her part, the mayor of Girona, Ms Marta Madrenas, also expressed gratitude for the "commitment of the Lagares family to the city of Girona" and remarked that "Girona is promoting the transformation of the global meat industry."

Josep Lagares, Executive President of METALQUIMIA, stressed that: "with this third Production Assembly Plant, Metalquimia will be able to respond to the growing demand for machinery and technology for meat processing with a special emphasis on the fields of Alternative Protein and Alternative Meat... where METALQUIMIA has already developed facilities and technology to develop new protein formats which will undoubtedly play a role in the growing

global demand for food. Likewise, this new Production Center, born from the ideas, passion, collaboration, and perseverance of so many people, will speed up the manufacture of integral 4.0 facilities, especially in a key time, when the growing demand for digitised process technologies makes capacity growth absolutely necessary if connectivity and climate transition challenges are to be met."

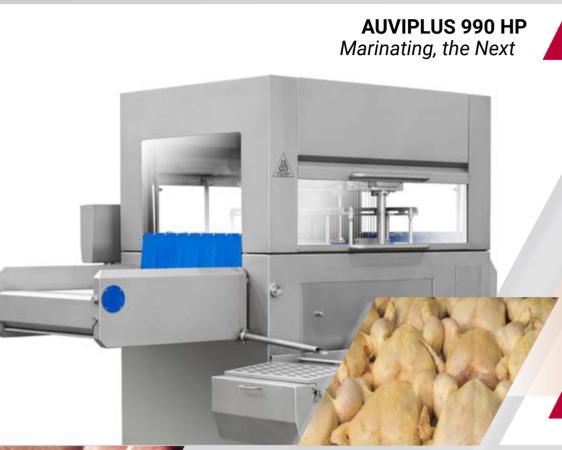


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FROM TRADITION TO DISRUPTION MEAT THE "50" NEXT







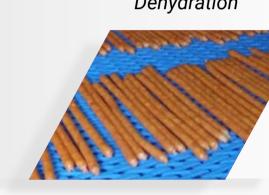




MOVIMAX ZERO The "Zero Carbon" Injector

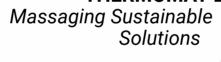












THERMOMAT-E









QDSBake®







SMART MIXER Hybrid 4.0 cooked meat plant













QDSnacks® ECO COMPACT

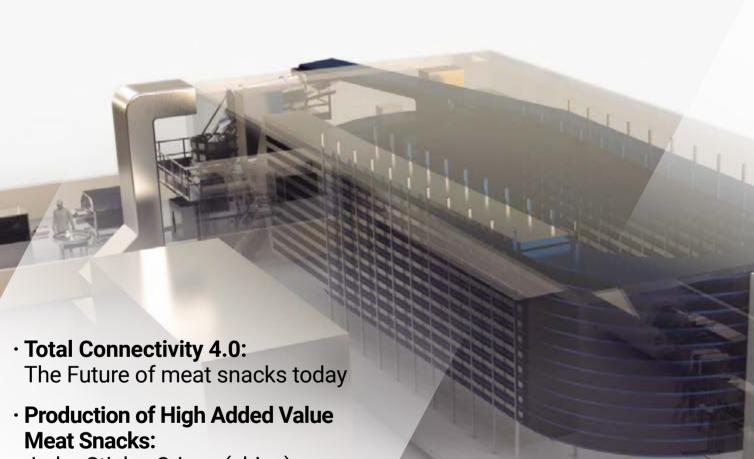
Breakthrough in Laminar Flow Dehydration

METALQUIMIA introduces at IFFA 2022 the QDS ECO COMPACT[®], a superb breakthrough in laminar flow dehydration ... the new system launched by METALQUIMIA allows for the manufacturing of Innovative Protein Snacks, Meat Snacks (jerky, salami sticks, meat bars, chips...), ALT-MEAT meals, Vegetable drying and Pet treats...

The new system offers the Global Protein Market an optimized Compact Design (size and volume) and is offered Fully equipped (Plug and Play, with no need of extra utilities), with a straightforward installation and start-up and an unrivalled Ecological operation (Energy Management System software)







- Jerky, Sticks, Crisps (chips)
- Accelerated Production Time: From days to hours
- · Productivity at choice: 1 or 2 spiral options
- · Significant reduction in man-power, production and financing costs
- · Less Space Required: Lower investment in assets
- Exponential R&D Process: Accelerated design of alt-meat, alt-protein and new snack products



✓ Laminar Flow Dehydration with extremely homogeneous air distribution

- √ The only system with 2-way air treatment: unbeatable product homogeneity
- ✓ Identical drying airspeed for each tray: unsurpassable product homogeneity
- ✓ One only air outlet for each tray: maximum drying effectiveness
- √ Continuous weight loss control, constant optimal result, batch after batch
- √ Heat-Pump COMPACT design, for maximum energy efficiency and minimal environmental impact

4.0 SMART Dehydration:

- √ Energy Management System module
- ✓ Integrated SCADA solution
- ✓ Total data tracking and registering
- ✓ Remote access



Combines Heat-Pump technology with cooking oven pasteurising:

- ✓ Extra steam injection and electrical Resistance heating
- Electrical powered for minimum Carbon Footprint

Massive range of new technical possibilities:

- Dehydrating at low and high temperatures
- ✓ Cooking capacity (wet and dry) pasteurizing up to 90° C
- ✓ Natural smoking option



Low-Pressure "sticks" Extruder

Complete list of accessories for tray automatic loading:

- √ Low-Pressure Extrusion
- √ Tray Loader
- √ Slicing, Forming, Hanging and Depositing
- √ Sticks cutting

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ALT-MEAT QDS SOLUTIONS

NEW QDSBake®.....



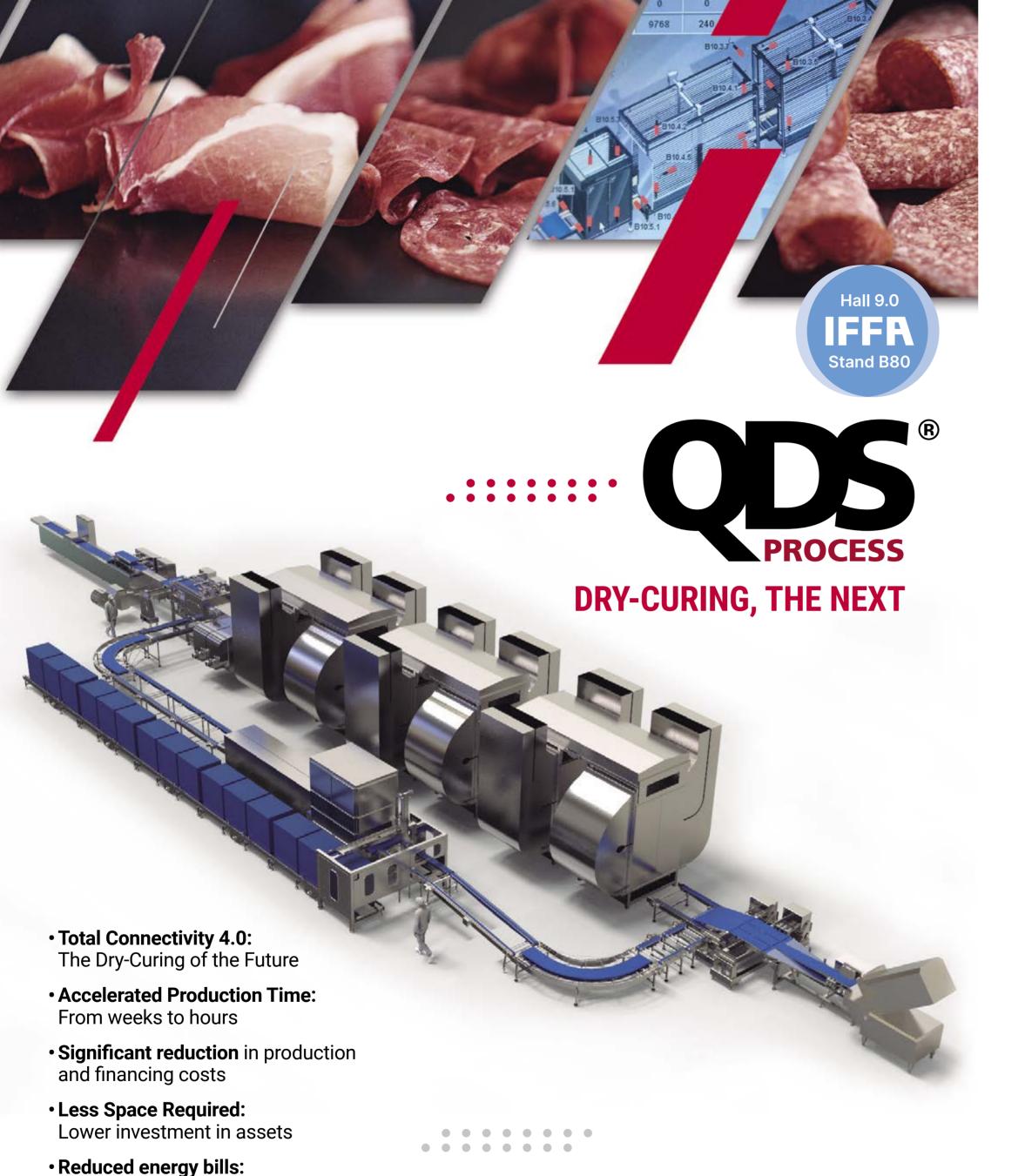


METALQUIMIA introduces at IFFA 2022 the **QDSBake**©, a forced air convection cooking, baking and dehydrating new technology, all-in-one, based on a continuous moving spiral belt designed to evenly receive the exact amount of air on each level with its own homogenous laminar flow and thermodynamic conditions, delivering an unbeatable result thanks to independent control of the air treatment areas. The duplicated CIP system and the open design allows a 24/7 continuous operation for a faster investment return.

QDSBake[©] technology can be used for developing, cooking and baking Ready-To-Eat products (up to 240°C), cooking and drying shelf-stable meat snacks (with losses over 60%) or combining both applications to develop all kinds of new Alt-Protein ALT-PRO products, including ALT-MEAT products and pet food and pet treats.

Lower power requirements, when compared to similar output cooking applications, because of the independent laminar flow on each level, together with the capacity to dry any kind of product, despite the weight loss and required operating conditions, turn the QDSBake® new technology in the most flexible and productive system in the world market. This new technology can be equipped with different belt widths and lengths depending on the output requirements and available space.

The 4.0 Integrated Control System tracks and registers all the data during the process - from air conditions to power consumption - and generates visual reports to optimize the line productivity, product yield and energy optimization.



Up to 40%

Accelerated R&D Process:

Design of new dry-cured meat products



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METALQUIMIA

1971-2021



ALT-MEAT QDS SOLUTIONS







METALQUIMIA launches at IFFA 2022 the QDSCook'r®, a linear belt forced air convection cooker, that can be used both as a steamer for fast and even pasteurising with high moisture air or for a dry heat process when the product requires a specific water loss during the cooking.

As texture development is one of the significant challenges in the Alt Meat applications, QDSCook'r® technology can precisely cook and moist TVP (textured Vegetable Protein) and other alt-proteins in the product in a matter of seconds, optimizing textures and minimizing flavor loss. The **QDSCook'r**® can also be used as a previous cooking process for meat snacks and pet treats, sealing and stabilizing the product before any further process.

Thanks to an innovative, dynamic air pressure elimination plenum system and a centralized air handling unit, all the cooking areas in the QDSCook'r® receive the same airflow and thermodynamic conditions, ensuring a consistent result whatever the product geometry or product belt load, together with total control of the dwell time using a servo-driven belt.

The QDSCook'r® modular construction easily adapts to any belt length to reach the required output for each processing time, and it can be connected to any other attached piece of equipment to communicate via PLC for centralized control of the production, minimizing operators' mistakes and centralizing the data capture in a single system.



EVOLOADER

SAUSAGE LOADING, THE NEXT



· Up to 50% Reduction of loading space: Shorter packaging unit

· Loading multiple layers in a single stroke: Placement Precision

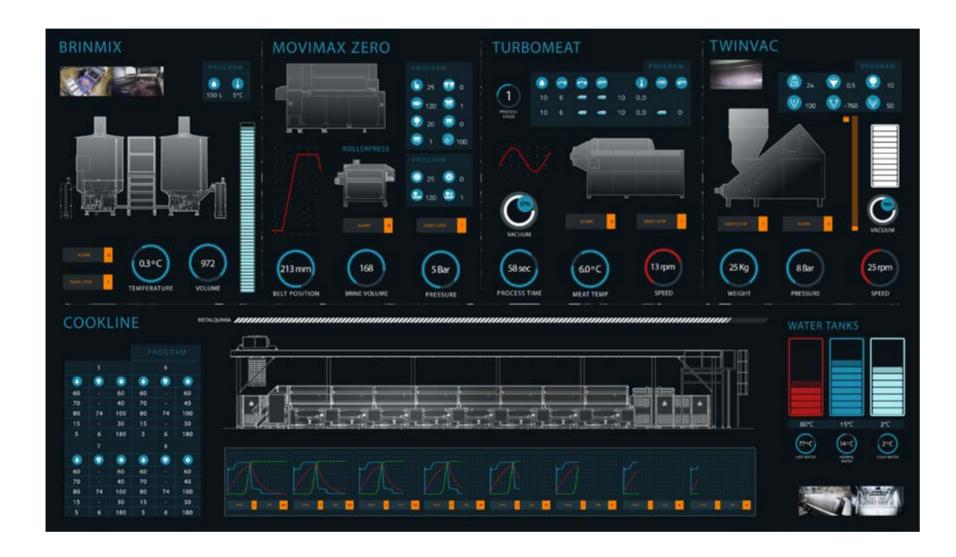
- · Loading in line and 90 degrees: Improved flexibilty
- Maximization of packaging unit capacity: Increased Productivity
- · No product recirculation Improved Food Safety
- · Gentle fall through slice door Gentle product treatment



metalquimia **NEWS**

MQConnect Connectivity Unleashed

Meat Processing Digital Transition



The COVID-19 pandemic has accelerated digital transformation in all aspects, and the meat processing industry is not an exception... specifically, cooked and marinated meat product lines have undergone a major transformation in recent years. The automation of complete lines first... and now, in a changing and exponentially interconnected world, the implementation of digital technologies in existing processes is transforming automatic manufacturing plants for cooked and marinated meat products.

At IFFA 2022, METALQUIMIA presents its **MQConnect** System, which offers the global meat processor manufacturing plants "limitless" connectivity and will undoubtedly revolutionize the way meat processing equipment and people interact.

Thanks to its smart connectivity system, the new **MQConnect** Digital Platform opens a broad arena in the interpretation and management of "Big Data" in meat processing, offering global meat companies a complete set of digital tools for improving their processes and products, as well as catapulting their sustainability, efficiency and global competitiveness.

Management of data on a large scale (or Big Data), predictive intelligence and process improvement, machine self-regulation,

machine learning, online visualization of the products flow, traceability control, management of formulas and recipes, incidence intelligence, and Augmented Reality digital service are some of the key features introduced in the state-of-the-art **MQConnect Connectivity System**. Visit the METALQUIMIA stand at IFFA to discover the Digital Transition in Meat Processing.



Digital Processing Plant: 2021 Shuanghui Gufen nº III – Luohe (Henan – China)

Hybrid 4.0 cooked meat plant



METALQUIMIA presents at IFFA 2022 the double paddle mixer with independent drive **SMART MIXER**, specially designed for its implementation in hybrid 4.0 cooked meat plant (low, medium and very high yield products at the same time).

Likewise, the **SMART MIXER** can process a wide variety of meat products (minced and/or emulsified meat for meatballs, hamburgers, sausages, etc.) and alternative protein mixes. Its different rotation options, combined with its different rotation speeds, offer the global meat processor endless process variables, adapting each and every one of the parameters to the specific characteristics of each final product.

Its mirror-polished interior finish, together with a high-precision design and a minimum clearance between the drum and the mixing blades, facilitate rapid unloading, essential to obtain a product with a high degree of vacuum (without foam), as well as a minimum product change downtime and maximum ease of cleaning and sanitization.

The **SMART MIXER** can be equipped with an innovative CO₂ or liquid Nitrogen cooling system for maximum energy efficiency and optimum quality of the finished product.



4.0 Hybrid Plant: Smart Mixer & Turbomeat

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metalquimia NEWS

SPANISH MEAT SECTOR AWARDS METALQUIMIA



METALQUIMIA has received the **ANICE Award for Innovation** for its strategy in technological innovation. The prize awarded by ANICE (National Association of Meat Industries of Spain) is a recognition for those personalities, companies and institutions that have opted for R+D+i as a necessary tool to promote the competitiveness of the meat sector. And also to those who have developed new products, technologies or processes, notably influencing the industry's disruption, with their implementation in their companies and in the markets. On behalf of METALQUIMIA, Mr José Ramón Velasco, General Director of EUROCARNE magazine, received the award.

UNIVERSITIES AND RESEARCH MINISTER VISITS METALQUIMIA

On November 25, 2021, the Universities and Research Minister of the Government of Catalonia, the Honorable Mrs Gemma Geis, visited Meat Technology Center at METALQUIMIA Central Facilities in Girona (Spain). The visit was held together with the General Director of Knowledge Transfer Mr Xavier Aldeguer. The Minister's visit was mainly focused on knowing first-hand the innovative methodology of Creativation Management developed by METALQUIMIA, as well as the latest developments of its Technological Departments around Alternative Protein/Meat, as well as the possibilities of collaboration with Catalan Universities and the creation of Spin-Offs arising from these same Universities.



PLANT PROTEIN ALLIANCE



METALQUIMIA has joined forces with the University of Lleida and the companies *Zyrcular Foods, Semillas Batlle* and *Elian* to promote the cultivation of proximity plant protein. The project is part of the EU Next Generation Fund Plan of the Catalan Government led by the Minister of Climate Action, Food and Rural Agenda of the Catalan Government, the Honorable Mrs Teresa Jordà.

This project aims "to structure a value chain that promotes the cultivation of plant proteins typical of the Mediterranean and the Ebro Valley". The initiative will promote the local production of plant protein with a fully integrated production chain in southern Europe. Among the objectives of the plan are the diversification of the rural economy, the reduction of the carbon footprint and the dependence on raw materials from other regions, innovation in the cultivation of local legumes or the adaptation of plant protein to the Mediterranean diet. In Josep Lagares' words, Executive President of METALQUIMIA: "Catalonia is a global leader in the technology and processing of animal protein; now we have the opportunity to also be global leaders in the technology and treatment of plant protein, we cannot waste a minute."

TECHNOLOGY BOOK SIXTH EDITION

At IFFA 2022, METALQUIMIA presents the sixth edition of the BOOK OF TECHNOLOGY ARTICLES, a true Technological Treatise, widely used at Universities and Training Centers... a compendium of the different processing and manufacturing technologies METALQUIMIA has to offer for improving the competitiveness and positioning of meat processors worldwide, a work that compiles the most advanced processes for the manufacture of cooked meat products, with special emphasis on the stages of additives and brine preparation, thawing, injection, massage, stuffing and cooking, as well as spray marination of fresh meats and the latest developments in technology, such as the QDS Process® accelerated drying and curing system, the innovative QDSnacks® technology and the 4.0 automation and connectivity solutions applied to production lines.

The new edition includes two new articles, with a special focus on Alternative Protein, plus a complete selection of the latest advances and developments carried out by the METALQUIMIA's Technology Department, in conjunction with their strategic partners, which undoubtedly contribute to improving and updating the technical training and technological know-how of specialists in the worldwide meat sector.



PRODUCT SHOWCASE

METALQUIMIA's technology team presents at IFFA a showcase of meat products, with the aim of showing a wide variety of first-class products: cooked, smoked, cured, marinated, snacks and

alternative protein products. METALQUIMIA's technology showcase at IFFA constitutes an authentic sample of the trends and evolution currently taking place in the global meat market.



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metalquimia **NEWS**

METALQUIMIA FOUNDATION NEWS

BEST MUSIC AWARD



The music project "Thrill with the SCCC" by the Cobla and String Symphony Orchestra of Catalonia SCCC, the Symphony Orchestra promoted by the METALQUIMIA Foundation, has won the Enderrock Award for BEST **CLASSICAL MUSIC RECORDING** by popular vote of the year 2021. Likewise, on the 1st January 2022, the SCCC, along with Manu Guix, Elena Gadel, Miki Núñez, Paula Giberga and the Puig-reig Polyphony, could be seen in "prime time" on New Year's Catalonia Television concert, recorded in June 2021 at the Girona Auditorium, to celebrate 25 years of the prestigious record label Música Global.

"THE (IM)POSSIBLE COUPLE" DOCUMENTARY FILM

On January 1st 2022, channel 33 of Catalonia Television broadcast the documentary "La parella (im)possible" - the (im)possible Couple the documentary film by the Visual13 movie company, with a script by the prestigious journalist Teresa Turiera, about the Cobla and String Symphony Orchestra of Catalonia SCCC, the Symphony Orchestra promoted by the METALQUIMIA Foundation. The documentary traces the successful trajectory of the SCCC, from its origins and its social/educational work to its impressive achievements and recognitions.



FIGHT AGAINST CORONAVIRUS



The Metalquimia Foundation has sealed a Collaboration Agreement with the Catalan Health Organization by signing a commitment with the Josep Trueta Hospital (Girona - Spain) for which a contribution of 100,000 € (one hundred thousand euros) has been made for the purchase of 5 state-of-theart artificial respirators to fight against the Covid-19 Pandemic.



Fundació Metalquimia

Culture, **Education and** Creativation®

for a better world



www.fundaciometalquimia.org



Breakthrough Technologies for an Exponential Protein Demand

