

Columbia

FEED DRAWER

Columbia Machine's Informational Publication

2021

**STOWELL CONCRETE
COMMISSIONS A STATE
OF THE ART COLUMBIA
CPM+60 CONCRETE
PRODUCTS PLANT**

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NAVIGATING COVID-19

As a critical infrastructure operation

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300th SPM20

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**EVERYTHING
WE DO
ALWAYS
FROM THE EYES
OF OUR
CUSTOMERS**

Columbia

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VISION

Design, build and support the highest valued, most innovative, safe and trusted automation and production solutions in the world.

MISSION

We are committed to recognized leadership in the markets we target to serve.

We will always see our business through the eyes of our customers and provide them with superior solutions through innovation, quality, reliability and continuous improvement.

We will leverage the expertise, product knowledge and technology of our business units to better serve our current and future customers.

We will use our design rules to guide all product development.

We value safety, integrity, trust, fairness, professionalism and collaboration in relationships with our customers, employees, business partners, suppliers and shareholders.

We respect our legacy and reputation within our communities and global markets.

We strongly encourage diversity, personal growth and the involvement of all employees in achieving Company goals.

We will secure our future through strategic investments and growth.

Columbia

Columbia

FEED DRAWER

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Some of the equipment pictured in this publication may have guarding removed for demonstration purposes.

Columbia Machine, Inc. recommends that equipment never be operated without all guarding in place and in good working order.

ON THE COVER ▼

Stowell Concrete commissions new state-of-the-art CPM+60 plant in Somerset, UK.

Let's Talk

A MESSAGE FROM THE PRESIDENT

2020 will be a year to remember. While much of the country struggled with COVID-19, we were very fortunate that our industry remained strong. As a leading supplier of equipment for the concrete industry, and in the face of many challenges, Columbia Machine remained open to support our customers. The safety of our employees and customers is, and always will be, our top priority. Columbia has taken every measure possible to provide a safe environment for our employees, visitors and partners. We have adapted to telecommuting, video conferencing, TEAMS, and new ways to accomplish our work while maintaining social distancing.

Our Vancouver manufacturing operation continued to pursue a journey to operational excellence to support our growth in the industry. We redesigned our production process from order entry to shipping by connecting the flow of every part throughout the factory. Our make-to-demand model is balanced by a strategic stocking program of parts, molds and popular machines.

We continue to invest in new manufacturing technologies. Advancements include: new paint process, a 5-axis horizontal mill, the latest fiber laser cutting and brake press system, and collaborative robot welding to supplement our automatic welding systems. We are maximizing our equipment capabilities to manufacture competitively in the USA, and we globally source the most competitive components from our own manufacturing factories on four continents.

To provide industry leading quality and lead-times, Columbia has made significant investment in molds to support our customers. This includes an additional sales representative, increased manufacturing capacity, engineering support and integration of our worldwide manufacturing capabilities. Molds are at the top of our strategic growth plan, and you can expect to see more from Columbia as a mold supplier.

Product development in 2020 included a new Clamp Cuber, advancements in robotic cubing, high capacity Pallet Transporter System, recirculating pallet that allows strapping in multiple directions, void course, multi-directional splitting, and expanding our bagging product line. As product mix changes in the industry, Columbia is committed to providing solutions to manufacturing, handling, secondary processing, and finishing cubes.

What can you expect in 2021? With Automatic Safe Mold Change, Pallet Handling Systems, Mixing/Batching, Molds Robotic Palletizing, Automatic Bag Placers and everything in between, Columbia is a total solution provider. We are increasing our mold capacity to become your preferred mold supplier. We are pushing ahead with product development, new innovations, and will continue to provide equipment solutions that offer high value. We are looking forward to being able to travel again so we can spend time with our customers and hope to see you soon in the New Year.



Kevin Brown
President, Concrete Products Division

FEED DRAWER

Volume 64 Issue 1

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GET CONNECTED

WITH

Columbia[®]

WHERE WE ARE

CHECK OUT OUR ONLINE PARTS ORDERING!

Our system provides access to a fully customized parts ordering experience. Your personalized store will offer a quick and intuitive way to order the parts you need to keep your plant up and running.

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OUR BLOGS

Concrete Products
columbiemachine.com/blog

Palletizing
palletizing.com/blog

Columbia/Okura
columbiaokura.com/blog



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Be sure to keep an eye on our social media outlets for regular updates on company culture, Division specific articles and other news.

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BROWSE AND ORDER PARTS ONLINE USING OUR NEW E-COMMERCE PLATFORM. SEARCH BASED ON THE EQUIPMENT YOU OWN, AND EASILY ORDER THE PARTS YOU NEED.

*Columbia*SAFE

NAVIGATING COVID-19 AS A CRITICAL INFRASTRUCTURE OPERATION

WORK TOGETHER & STAY SAFE

Like most companies, Columbia Machine, Inc. and Columbia/Okura LLC were affected by the COVID-19 pandemic this past year, which meant rising to overcome a host of unexpected workplace challenges. As always, safety remains a top priority at Columbia. When the health crisis skyrocketed in March 2020, immediate action was crucial to protecting customers and employees from exposure to the virus.

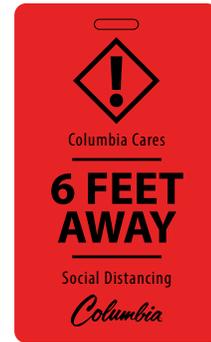
Rising to the occasion, Columbia implemented safety measures per the USA State Department, Congress, CDC, and Washington State Government regulations and guidance. As an Essential Critical Infrastructure business, company doors stayed open, leading to the creation of Columbia's Emergency Response Team (ERT). Normal operations continued, and Columbia monitored the pandemic's evolution, updating customers and employees as new developments arose.

Company travel was restricted to emergency field service calls and critical project start-ups. Columbia put daily employee screening into effect, and those who could work remotely began telecommuting. The company announced new social distancing policies and hygiene measures to keep the workplace virus free and provided masks to those who needed them. Even the company's standard first greeting protocol adapted to the times.

All onsite employees have been conscientious about keeping their workspaces clean and following Columbia's hygiene protocols. The HR Team has been working closely with employees that meet the criteria to participate in Emergency Paid Sick Leave (PSL) or the Emergency Family Medical Leave Act (FMLA).

To brighten the workplace, the HR Team hosted a mask decorating contest. Employees got creative and submitted photos of their personalized masks for the chance to win prizes. The HR department later shared pictures of the entries and announced four winners.

With these safety changes and constant vigilance, Columbia has been able to continue serving customers seamlessly. As the pandemic continues to affect businesses and their communities, the company remains diligent in promoting safety and health. Upholding the policies and guidelines established to help keep the workplace COVID-19 free continues to be the priority of all Columbia employees.



RECORD-BREAKING WILDFIRES RAVAGE THE WESTERN UNITED STATES IN ITS WORST FIRE SEASON IN 70 YEARS

Wildfire season across the United States West Coast poses a deadly threat to wildlife, families, and businesses every year and is likely to become more active and deadly in years to come. According to the American Association for the Advancement of Science (AAAS), 2020 has seen its most imperiled fire season in 70 years, suffering damage to three million hectares of land and counting. The New York Times reports that it's been the West Coast's most active fire year on record.

Environmental disasters on this scale have far-reaching impacts, capable even of sparking a financial crisis in U.S. markets. A recent report from the Commodity Futures Trading Commission (CFTC) noted the wildfires' threat to economic growth, expressing that preparedness is crucial to combatting fire-related losses. As business owners and community members, it is essential to remain vigilante and prepared to maximize safety.

CONCRETE MASONRY: RUGGED, DEPENDABLE, & SECURE

Investing in concrete masonry supports local producers in your community and may even protect your business. This cost-effective building solution is energy efficient, durable, and modular, allowing for design flexibility. More concrete masonry benefits include increased fire safety and high thermal mass, which may lessen the impact of natural and man-made disasters. Check out www.ncma.org to read more about the advantages of concrete masonry.

VANCOUVER, WASHINGTON

In mid-September smoke from California carried up the coast, and wildfires north of Columbia's headquarters added to the already hazardous conditions. With air quality steadily worsening, Columbia took measures to address the fire's impacts, including providing employees with N95 masks and installing improved air filters in the HVAC systems. Between taking precautions against COVID-19 and dealing with hazardous air quality, Mid-September monitoring employee safety at Columbia was exceedingly crucial.

AIR QUALITY

AQI Report During the 2020 West Coast Wildfires (at the smoke's peak)

- California Air Quality: 300+
- Washington Air Quality: 200-300+
- Vancouver, WA Air Quality: 395
- Good Air Quality: 0-50





CUSTOMER PROFILE

STOWELL

CONCRETE LIMITED

STOWELL CONCRETE COMMISSIONS 'STATE OF THE ART' COLUMBIA CPM+60 CONCRETE PRODUCTS PLANT AT THEIR YATTON HQ IN SOMERSET, UK

Situated on the edge of Yatton, right in the heart of stunning North Somerset, in the South West of the United Kingdom, Stowell Concrete is an outstanding, fully independent, family-run business specialising in the manufacture of an extensive range of quality concrete products.

With over 60 years of hands-on experience, delivering across the UK, they have carved out a leading position in the industry and continue to grow. Stowell Concrete has earned a very proud and well-deserved reputation for dependable, dedicated service with a careful and uncompromising focus on quality.

A BRIEF HISTORY OF STOWELL CONCRETE

Roger Stowell, who was born in 1939, began what became Stowell Concrete in September 1959, in a field behind the family farmhouse in the village of Kenn, near Clevedon. He was the youngest of four children, unlikely to inherit the farm, so he explored agricultural contracting. He also bought a small block machine with a capacity of five blocks to use when the business was quiet.

Concrete blocks took off, Roger continued investing in his block making equipment rather than his agricultural equipment and when he was confident in his ability at block making, he bought his first land at Yatton in 1968 and moved the block production there. He installed hydraulic wet presses to produce commercial slabs in the yard at Kenn.



Roger Stowell in the workshop at Kenn (1970) with a mixer being refurbished.

Roger met Margaret Gillard on Clevedon Pier on Easter Monday in 1960, and they were married in 1964. By 1968, they had three children and lived in the old farmhouse with the concrete works behind.

The Holcombe yard was purchased from receivers in 1979 to expand hydraulic wet pressing further, adding kerbs, edgings, channels and T-beams to the product range. The former owners, Bristol Stone and Concrete, had specialised in bespoke concrete products, where Stowell Concrete has always made standard products for stock.

Land adjoining the Yatton works was purchased at every opportunity so that a total of 30 acres is now under their ownership and this has allowed Stowell Concrete to expand the yard five more times over the years. The small Kenn operation, including the head office, was incorporated into the Yatton yard in June 1996.



Roger Stowell, standing in the new head office's foundations at Yatton (1995) before moving from Kenn.

In January 1997, Roger died suddenly after developing a heart condition. With the help of a long term and loyal workforce, Margaret and her eldest son Vince, who had been working in the business full time from the age of 17, were able to continue. Vince was promptly appointed as Managing Director.

A small block yard was purchased in Weston-Super-Mare from a competitor in 2001, and 2 years later, an opportunity came up to lease land within Callow Rock Quarry, one of the quarries that still supplies Stowell Concrete with aggregate, so the block production was moved from Weston-Super-Mare.



Stowell Concrete: Yatton Head Office & main manufacturing site

THE BEGINNINGS OF A LONG-TERM PARTNERSHIP WITH COLUMBIA

Early in 2019 Vince's daughter Beth, the eldest of the 3rd Stowell Concrete generation, accompanied her father with senior engineer, Dave Devine and Columbia's UK sales representative, Stephen Wilson, on a fact-finding trip around North America to look at Columbia production plant versatility, meet the Columbia team and see block machines being made at factory HQ in Vancouver WA.

A Columbia CPM+60 block machine was chosen and soon on order along with all associated batching and mixing plant with handling equipment. Despite the challenges of the COVID-19 pandemic, construction kept on track, and the plant is now up and running, finally utilising all of the available Yatton land.



Vince Stowell (Managing Director of Stowell Concrete), with his eldest daughter Beth during the installation of their new Columbia CPM+60 plant (2020).

AN ULTRA-MODERN 'STATE OF THE ART' CPM+60 CONCRETE PRODUCTS PLANT.

Stowell Concrete opted for two independent sets of 4 x 40 cubic metre aggregate storage bins with feed to the bins from ground shovel dump hoppers and incline belts to a rotary conveyor. The driver selects a bin from a remote control in the shovel cab, to feed the aggregates to the bins which have high/low-level light indicators. Designed and constructed by Concrete Batching Systems Ltd in Ireland and using weighing and control automation by another Irish firm, Pneutrol International Ltd, each concrete batch is metered onto a weigh belt and conveyed to any one of three dry aggregate holding hoppers over the relative mixers.



Plant mixer station by Concrete Batching Systems, Ireland

The moisture quality check of material feeding the Columbia CPM+60 uses the latest Hydronix moisture system with real-time microwave moisture measurement sensors at the exit of all eight aggregate bins and in each mixer to sense moisture variation and compensate accordingly. With concrete cored brick, concrete coloured tumbled walling and coloured concrete block paving in mind, a Wurschum 4 "big bag" colour pigment dosing system was fitted. This allows pigment to be blended and blown to any one of the three Teka mixers, supplied by Conspare with a full set of concrete dosing hoppers and metering belts, delivering an extensive range of colour permutations along the feed belt to Columbia machine's feed drawer. Three vertical cement silos were also erected local to the mixer station to convey cementitious materials to three independent weigh vessels above each mixer, to complete the batching and mixing scope.



Columbia CPM+60 Concrete Products Machine for Steel Pallet 1400mm x 700mm x 15mm

At the very heart of the new Stowell Concrete plant, the Columbia CPM+60 machine has a flat steel production pallet size of 1400x700x15mm, chosen primarily due to the unique Columbia Vibration Technology (CVT) that provides controlled mould vibration, accurately guided in a completely vertical motion. The CVT results in longer mould life, uniform distribution of aggregates, reduced

cement usage, precise product heights and product versatility. Columbia's patented CVT combines over 80 years of innovative engineering and field-proven capability to enable the highest quality and most comprehensive range of products in the world. The CPM+60 is an easy to operate machine with user-friendly HMI/ Compact Logix control and machine adjustments made from the HMI and full menu screens for quick machine set up. In changing from product to product (including any mould change requiring a height change), the machine makes the change automatically. Product change-over is recipe driven with a push-button control and tool-less agitator and strike-off plate removal.

The machine also features forced oil lubrication, a laser probe to control the feed drawer material level, full isolation between rear feed drawer section and machine centre section vibration, hydraulic linear agitation, remote valve stand, electronic product height control, product reject control and automatic mass control.



Twin Cassette Fully Automatic Mould Change Inside a Generous CDS Sound Room with 2.5 Tonne Overhead Crane and Targeted Dust Extraction.

Vince Stowell was meticulous in his plant design to include a generous sound room with separate hydraulic pump room around the CPM+60 machine. The sound room is separate from a dual-level, air-conditioned operator control room raised at first floor to 2.5 metres from the factory floor and again to a second floor at 5 metres. The operators have a fantastic view of the machine from side and front through deep panes of full height acoustic glass. An automatic dust extraction facility is included in the sound room to target the natural dust plume generated during tamping and vibration. The sound room and operator control room were designed and supplied by CDS Group.

“We believe our machine operators are the most important part of the potential 24-hour factory shift operation. We aim to raise our working conditions to the very best possible standard by minimising noise and increasing machine visibility and light to a maximum. We have also eliminated manual handling during mould changes, including easy feed drawer agitator changes by overhead crane.” explained Vince Stowell.

The 4 Tonne, Automatic Mould Change facility, was purchased with

dual cassettes which run on a floor supported overhead monorail system. The first of the two cassettes is used to extract the mould from the machine while the second cassette offers a new mould. A mould change is very simply done from a menu-driven touch panel for different products and heights, and a complete mould change is performed in less than 4 minutes for products that are the same height.

Designed into the new factory building there is a dedicated mould workshop for the rebuild of genuine Columbia moulds, fully fitted out with a 3.5 Tonne overhead crane, a precision machined surface table and a specialist mould alignment fixture to allow off-line alignment of mould shoes with die cavities. Moulds are routinely inspected, oiled and stored after use and overhauled in the new workshop.

After a brush and air blast to remove debris from the fresh product, as part of a stringent quality control policy, Stowell Concrete has installed a pallet and product weight and height check facility on the green side of the plant. Every pallet of product is checked on the run for mass and height before entering the curing chamber, and a visible alarm is wired back to the control room to alert of out-of-tolerance.

The green product is gently conveyed along smooth urethane belt conveyors to a stacker where two pallets of product per shelf are elevated to 18 shelves high and a maximum combined pallet and product payload of 18 tonnes. The load is then collected by the PTS up-car and brought onto the lo-car for turntable rotation and transport to the correct location in the fully automatic curing chamber sequence. The precise, galvanised mild steel curing chamber holds 7,000 production pallets and was supplied by CDS Group with production pallets supplied by Clarkes of Stillington. DIN standard S30 lo-car and up-car rails were carefully mitred and then staggered to ensure a smooth and gentle transition of the car wheels throughout the curing chamber.

A single atmosphere, fully temperature and humidity controlled chamber with all-round air circulation was designed and built by CDS Group, to ensure completely even curing conditions and no colour variation of those products that contain pigment. The main factory building was constructed by Rose Engineering, to an exacting standard. Local firms were used where possible with GAR contracted to complete the shed and yard foundations and Wesco Systems supplying the electrics for the site.



Columbia 18 Tonne PTS with Turntable, Green Side Stacker, 2 x Buffers, 2 x Dry Side Unstackers + CDS Chamber Racking System for 7,000 Pallet Capacity.



Terry Santo, Stowell Factory Manager, operating the local PTS controls from the guarded and interlocked viewing area within the temperature and humidity controlled curing chamber.

The carefully regulated single atmosphere environment in the curing chamber allows for 24-hour operation of the plant. Products can exit the chamber on two separate dry side lines, an outer line for routine fast cycle production and a second inner line for slower cure / slower cycle aged products. Not yet installed, an in-line, two-way split and "true tumble" secondary processing line is currently on order with Columbia and will be integrated into their production in autumn 2021 to increase the Stowell product range further.



Twin Dry Side Pallet Return, Lift Blade Push-Offs, Brush, Grinding and Pallet Turn-Over To Robotic Buffer Accumulation of 510 Pallets.

Upon exiting the curing chamber on the outer dry side conveyor line, the product is removed from the production pallet by a dual set of lift-blade push-off machines.

The empty pallet is then conveyed to brushing to remove any fine debris before being turned over to even out the vibration through the production pallet on the next machine cycle.

" WE BELIEVE OUR MACHINE OPERATORS ARE THE MOST IMPORTANT PART OF THE POTENTIAL 24-HOUR FACTORY SHIFT OPERATION."



Robotic Buffer Accumulation of up to 510 Pallets.

To facilitate a degree of independent operation between the plant's dry and green sides, a robotic pallet accumulation buffer is included on the dry side, immediately after the pallet turnover. If the CPM+60 is calling for a pallet, it is conveyed straight to the block machine. However, if it is not called for, the pallet is automatically lifted by the robot vacuum to a storage buffer until the machine signals it. Similarly, if the plant's cubing side is stopped (perhaps for changes of strap), the block machine can continue by consuming the buffer stock via the vacuum robot. The steel pallet is finally coated with oil before re-entry to the block machine.



Vacuum Product Cubing Robot with Columbia Slave Pallet Strapping and Hooding Circuit.

Product is pushed from the production pallet and travels along powered midget roll conveyors to a robotic cubing system with two-row forming in-feed lines. A Yaskawa MPL robotic arm with vacuum end effector and dedicated foam surface pick pan is used to lift from both pick points and place each tier of product in the final cube.



Yaskawa robotic arm cuber, vacuum end effector and dedicated foam surface pick pan.

Each cube of product is built onto a specialist metal slave pallet, designed to allow vertical straps to be threaded through the metal pallet on the underside of the cube in two directions. The conveyor loop system contains approximately 30 slave pallets which circulate

continuously and can work with or without a wooden transport pallet as required and depending on customer preference. The full cubing slave circuit consists of two vertical and two horizontal OMS strappers; an OMS stretch plastic film hooding machine and two gantry style wood pallet dispensers.

The foundation and building infrastructure are already in place for a second phase CPM+60 plant and another Columbia 18 Tonne PTS system.

"We would like to extend our sincere thanks to the entire Stowell team for investing in a long-term partnership with Columbia and for their support throughout the Phase 1 project. We wish the business continued rapid growth with their exciting new product range, and we very much look forward to Phase 2 and the installation of our splitting and ageing equipment in 2021," said Kevin Brown, Columbia Machine Division President.



First cubes of UK concrete coursing brick passing through the strapping line.



A cube of voided UK concrete coursing brick (with horizontal and two side vertical strapping) leaves the Stowell strapping line on a slave strapping pallet.



The first of two sets of horizontal and vertical OMS strapping machines.



The second of two horizontal and vertical OMS strapping machines in the Columbia automatic cube strapping and stretch plastic film hooding line.



A strapped cube of UK concrete coursing brick ready to receive a plastic stretch film cover.



First run of UK concrete coursing brick leaving the Stowell CPM+60 machine.



Stretch hooding machinery automatically fits a plastic stretch film cover over final cube.



COLUMBIA MACHINE ENGINEERING (I) PVT. LTD REACHES 300TH SPM 20 MACHINE MILESTONE

In 2008, Columbia Machine, Inc. (Vancouver, WA, USA) set up a joint venture company in Gujarat, India with a local partner and started technology transfer and manufacturing activities in line with Columbia's vision and mission to be a preferred supplier of Concrete Production and consumer palletizing equipment. Our production facility was set up in Vadodara, Gujarat, India and our Sales & Marketing offices in Mumbai, India. Our joint venture partnership ended in 2014, and Columbia Machine Engineering (I) Pvt. Ltd. (CME) became a 100% subsidiary of Columbia Machine, Inc.

The flagship concrete machine Model SPM20 underwent many engineering evaluations and field testing to ensure it met Columbia's standards. Upgrades included auto-lubrication system, increase in size of base plate and front plate, modification in shaker shaft, hydraulic pump conversion, upsize on motors as well as newly specified fittings and hydraulic hoses. With these improvements, Columbia's SPM20 is known throughout India as a solid top quality machine. In September of 2020, CME rolled out our 300th SPM20 machine which was dispatched to another valued customer in Assam, India.

Our Management Team, under the leadership of our USA Director, Ms. Michelle Blancaflor, our President & Director, Mr. Ramesh Babbar, and our Sales & Marketing Head, Mr. Vasudev Deshpande, are driving our mission of taking Columbia to new horizons ever achieved. Our team is committed not only to provide with the very best equipment to all markets domestically and internationally, but also consistently upgrading the technology to keep the machines up and running for years to come. As we strive for improvements in all areas of our operations, our team has brought more manufacturing in-house to control quality and delivery times to support our customers better.

With continued efforts, CME is striving with steady pace in all horizons of our business. Despite the raging pandemic that gripped the entire world, customers continue to keep their trust in CME's team from sales to after market service and support. Columbia has grown leaps and bounds over the last 12 years. CME has built a high reputation with a strong base of over 200 customers for the equipment reliability, longevity and the ever-dedicated customer support and will continue doing so. "Everything we do... always from the eyes of our customers."

We invite you to visit our newly updated website to see our new equipment offerings from larger concrete block machines, to product handling, cubing and palletizing equipment. We also have full service mold manufacturing and can provide molds for our equipment or others by utilizing our manufacturing facilities, or those of our sister companies in USA, Brazil and Poland.



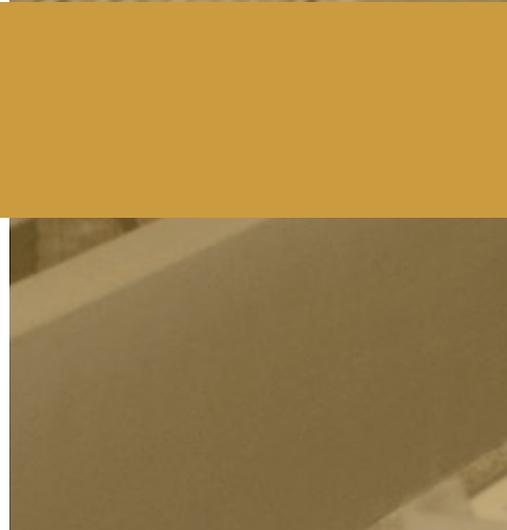
OPEN MOUTH BAGGING LINE

As an industry leader across markets, Columbia Machine, Inc.'s sights are perpetually set on growth and product line development. When it comes to bagging equipment, this standard rings true. Columbia's success with valve bag packaging equipment paved the way for its full line of open mouth bagging filling and handling equipment capable of packaging a wide variety of materials, including wet materials, larger decorative rock, and gravel.

Columbia applied the same design philosophy used across its other systems to the open mouth bagging equipment. The line boasts rugged features engineered and built to last, allowing the systems to thrive in harsh environments. Durability and user experience are key to Columbia's formula and elevate the equipment compared to competitors' systems.

Advantageous features include a body built with heavy gauge steel, less complicated filling spouts, slide gate features that control material flow into the weigh batcher, and gate and clamp assemblies with fewer wear parts, which reduce maintenance costs. Exchanging spouts is simple and supports the line's ability to handle multiple bag types: poly, poly woven, paper, gusseted, and non-gusseted. Individual product tube outlets allow for further system customization, such as small diameter for tube sand or wider openings for large decorative aggregates.

From raw materials to stacked bags, Columbia is a one-stop supplier with a wide range of complete bag line solutions and industry-leading expertise.





- + BUILT WITH HEAVY GAUGE STEEL
- + LESS COMPLICATED FILLING SPOUTS
- + PRECISION MATERIAL FLOW INTO THE WEIGH BATCHER
- + GATE AND CLAMP ASSEMBLIES WITH FEWER WEAR PARTS

CUSTOMER PROFILE

PM PAVERS

Located between Gujarat's and Maharashtra's borders, PM Pavers satisfies western India's need for superior concrete products. Specializing in aggregates and sand, the company has served the construction industry for over two decades.

In 2016, Mr. Ankit Faldu brought PM Pavers into the concrete paving industry. He worked closely with his family to produce and market quality building materials, which helped sow the seeds for PM Paver's growth. As a result, Ankit's home ground no longer provided large enough facilities to keep up with booming demand.

Ankit's focus has been on producing value-adding products that stand against the existing market, and there was no doubt in his mind that a Columbia machine would offer the best-in-class quality products. He wasted no time making a decision and bought his first Columbia Model SPM20 four years ago.

Shortly after, PM Pavers started producing a wide variety of pavers and blocks: industrial, decorative, textured, shot blasted, colored chip, hollow & solid blocks, and kerbstones. Manufacturing gained momentum. Projects started coming in, and PM Pavers started gaining its customers' trust and confidence. In no time, the brand established a reputation for managing and executing projects in a professional and timely manner, securing relationships with big corporate names like Godrej, L&T, Bajaj, Kalpataru, Omkar, and Jio.

Expansion became inevitable to fulfill ever-increasing market demands. After seeing the operation and analyzing the first machine's capabilities, Ankit Faldu was confident that he wanted another Columbia machine, which would sustain the quality and production PM Pavers' brand stood for. Earlier this year, he doubled his production capacity by adding a second Columbia machine.

PM Pavers is one of the fastest-growing paver companies in the country now. The brand is known for its unmatched product range in the concrete paving industry, uncompromising quality, and dedicated service, which stands at the epitome of its success. There is no looking back for the company.

Despite his success, Ankit Faldu never fails to acknowledge Columbia Machine's role in PM Pavers' growth. He says, "Pavers are the best available choice for paving roads for their better durability, appearance, quick installation, and effective cost. And we proudly say that we have been catering to this niche market, year and year again, enjoying the premium thanks to Columbia Machine."

He adds, "Columbia Machine has been our strength. They've always been only one phone call away. Their prompt service and well-trained staff are ever-ready at your disposal. We have, time and time again, appreciated the services and quality of Columbia Machine. One could even say they are the backbone of this company."



"Columbia Machine has been our strength. They've always been only one phone call away. Their prompt service and well-trained staff are ever-ready at your disposal. We have, time and time again, appreciated the services and quality of Columbia Machine. One could even say they are the backbone of this company."

Ankit Faldu

Columbia Machine advertisement, printed in the 1970's.
"Right Now! You can add automation... without interrupting production!"

RIGHT NOW! *You can add automation...*

Without interrupting production!



Columbia Machine's Rack Stripper substitutes machinery for muscles—giving you greater production at lessened overhead. Feed your stripped blocks to a Columbia one-man Cubing Machine and let it do the work—faster, better, cheaper.

Both these machines can be installed—now—in your production line without slowing down its present pace. Then . . . just push buttons and watch your profits soar!

Interested?
Ask your Columbia man,
or write
our home office.





Columbia MACHINE

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Branches: Mattoon, Ill. • Burbank, Cal. • Orlando, Fla.
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Manufacturers and world wide distributors of a complete line of plant equipment for production of concrete products

CUSTOMER PROFILE



ROBOTIC PALLETIZERS PRESERVE TRADITION AND TASTE

While many health food producers have used the phrase, “quality over quantity,” far too few of these producers actually embody this sentiment. Thankfully, Bob’s Red Mill is not such a producer. Based out of Milwaukie, Oregon, Bob’s Red Mill provides whole grain food products such as almond flour, granola, and oatmeal, primarily distributing across the US and Canada, but have expanded to include international markets like South Korea and Japan.

Established in 1978 by Bob and Charlee Moore, the goal was to provide a product with the nutrients that many competitors leave out. Utilizing traditional quartz millstones to grind whole grains at a slow speed and cool temperature, not only preserves the nutrients but also preserves the fresh taste. Through the integration of this historic technology and modern packaging solutions, Bob’s Red Mill has taken a stance that says, “quality and quantity.”

Rather than the corporate approach to expansion, Bob’s Red Mill has always catered toward local and smaller markets, while still maintaining relationships with larger distributors like Fred Meyer (Kroger). This sentiment culminated in 2008 when they relocated from their 130,000 square foot facility to their current 325,000 square foot facility. While this had obvious benefits such as increasing production space, the driving force behind the change was to expand on their gluten-free product production.

While they were one of the early adopters of gluten-free products in the early 80’s, it was with this shift in 2008 that allowed their gluten-free product production to flourish. With their new 58,200 square foot gluten-free facility came the responsibility of keeping the two types of products separate. This required the development of an incredibly stringent testing facility, which ensures that gluten-free means gluten-free.

But how do you keep up with a rapidly expanding market when your production process requires time and patience to meet the quality Bob’s Red Mill is known for? While the milling process is based on historic tradition, their packaging and product handling take the opposite approach. When it comes to filling, handling, and palletizing, Bob’s Red Mill is immersed in the world of high tech automation. One such connection in this world was found in Curt Garrett of Garrett Packaging Systems, who provides an array of peripheral equipment such as metal detectors, check weighers, and palletizing solutions. Through this relationship, Garrett Packaging Systems introduced Bob’s Red Mill to Columbia/Okura LLC, expanding their reach into the world of automation.

When asked about how they utilize modern technology, Bob’s Red Mill plant and operations engineer Nick Chow explained, “having that [an automated palletizing system] allows us to grow as a company, to produce more, but without sacrificing food quality and safety of the operator”. This openness to adopt modern technology is what enables Bob’s Red Mill to use traditional methods while remaining as flexible as possible.

This is what has led them partner with Columbia/Okura as their “go-to” palletizing solution provider.

Their first purchase in 2017 was a relatively simple system, with a few complications that only Columbia/Okura was able to tackle. Their palletized load required a hollow center where another case is placed to maximize load capacity. Bob’s Red Mill also wanted a system to increase throughput on their 18 lb. cases of flour. Columbia/Okura’s solution provided a custom, pivoting, vacuum end effector with their A1600 system. This custom end effector allows the product to be rotated 90 degrees from the direction of travel, providing a clever solution for their specific needs.

They purchased their second system in 2019 which was intended to take over a hand stacked 40 lb. flour case line. With heavier product and two lines to manage, the system was designed with Columbia/Okura’s highest performing robot, the Ai1800. When first seeing their new system in action, Chow explains, “we realized just how fast this thing can go.” Another key change was swapping to a pressure regulated fork style end effector, which applies only the necessary pressure to the top of the case. However, what really set this system apart from their prior systems, was the integration of two lines and the expansion of peripheral equipment.

The second line did two things: reduced strain caused by hand stacking pallets and increased throughput. Where hand stacked loads took an hour and fifteen minutes to build, this new system built loads in forty-five minutes. However, what Chow was more impressed with was the system’s functionality, explaining that, “the system as a whole is just more robust; it’s well thought-out, it’s well-laid out, it’s got better components, the pallet magazine hasn’t really failed us on either of the robots and that’s a huge plus.”

For Nick Lux, Bob’s Red Mill Plant Foreman, “The biggest thing was the simplicity and theory of operation,” that ties system components together. When speaking about the “lockout, tag out” system, Chow remarked, “You just pull the key out of the main panel, walk over wherever you need to open the gate, lock it in and it opens. It’s a lot easier from a safety standpoint because you know it’s down.” However, what Chow cites as the biggest benefit of Columbia/Okura systems, is the flexibility. “Flexibility is such a huge thing because we have so many different products. We have a variety of cases, so having built-in flexibility is a huge plus for us.”

In the early months of the COVID-19 pandemic, Bob’s Red Mill ordered another two-line system, recognizing an increase in demand for their products. According to Lux, “Demand is up across the board . . . you have this weird split where snack foods are way up and health food is way up.” While keeping up with the necessary output has been a lot of work, maintaining social distance guidelines on Columbia/Okura systems has been much more manageable. “Having one and a half people per line is easier for COVID [control], because now we can spread people out. If we were smaller and things were more condensed, it would be really difficult because we would have to shut down lines,” Chow explained.

Their new system, which will be virtually identical to their current two-line system, is set for installation in early 2021 and will be palletizing granular products, opposed to the powder products currently being palletized by their two-line system. According to Chow, this system will integrate a new case packing technology that increases the speed bags are put in cases for palletizing. This will not only greatly increase throughput and system efficiency, but will also relieve the physical strain of hand-packing and loading product. This reduces the chance of injury and ensures the best possible conditions for the employee-owners.

While 2020 has been a struggle for many people, Bob's Red Mill has tried to relieve some of that stress. As of April this year, Bob's Red Mill became 100% employee owned, reinforcing the principles Bob's Red Mill were founded upon. They have also continued to give back to the community by partnering with a number of community oriented programs such as No Kid Hungry. They've continued to donate large quantities of food to the Oregon Food Bank as they've done for decades. They were also the presenting sponsor for KGW's Great Food Drive, which provided food for local families struggling to get the food they need. All this goes to show, that Bob's Red Mill truly embodies their principle of "People Over Profit."

"Flexibility is such a huge thing because we have so many different products. We have a variety of cases, so having built-in flexibility is a huge plus for us."

Nick Chow
Bob's Red Mill Plant and Operations Engineer



COLUMBIA MACHINE PALLETIZING DIVISION CONTINUOUS INNOVATION



STRATEGIC



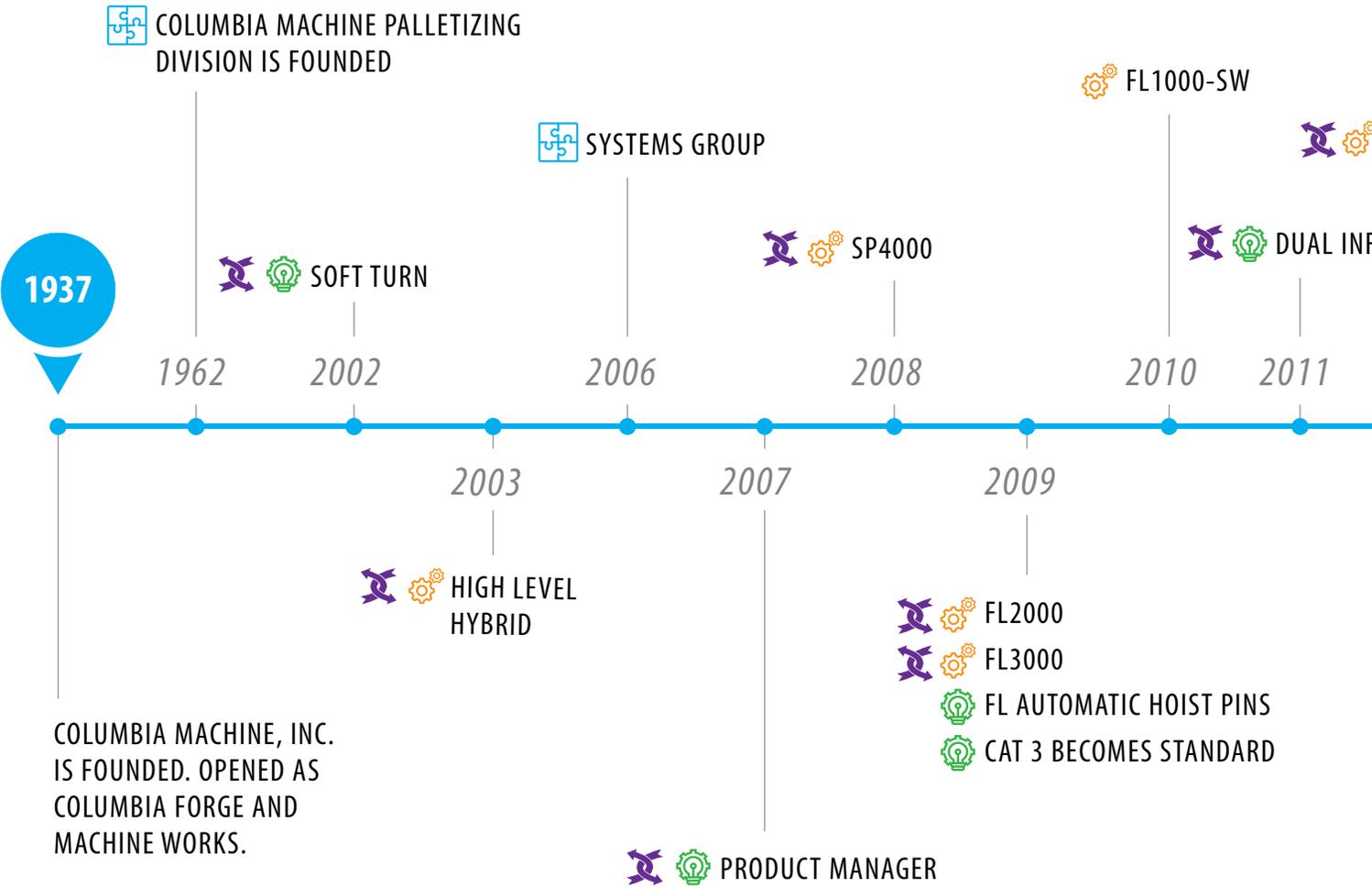
INNOVATIONS

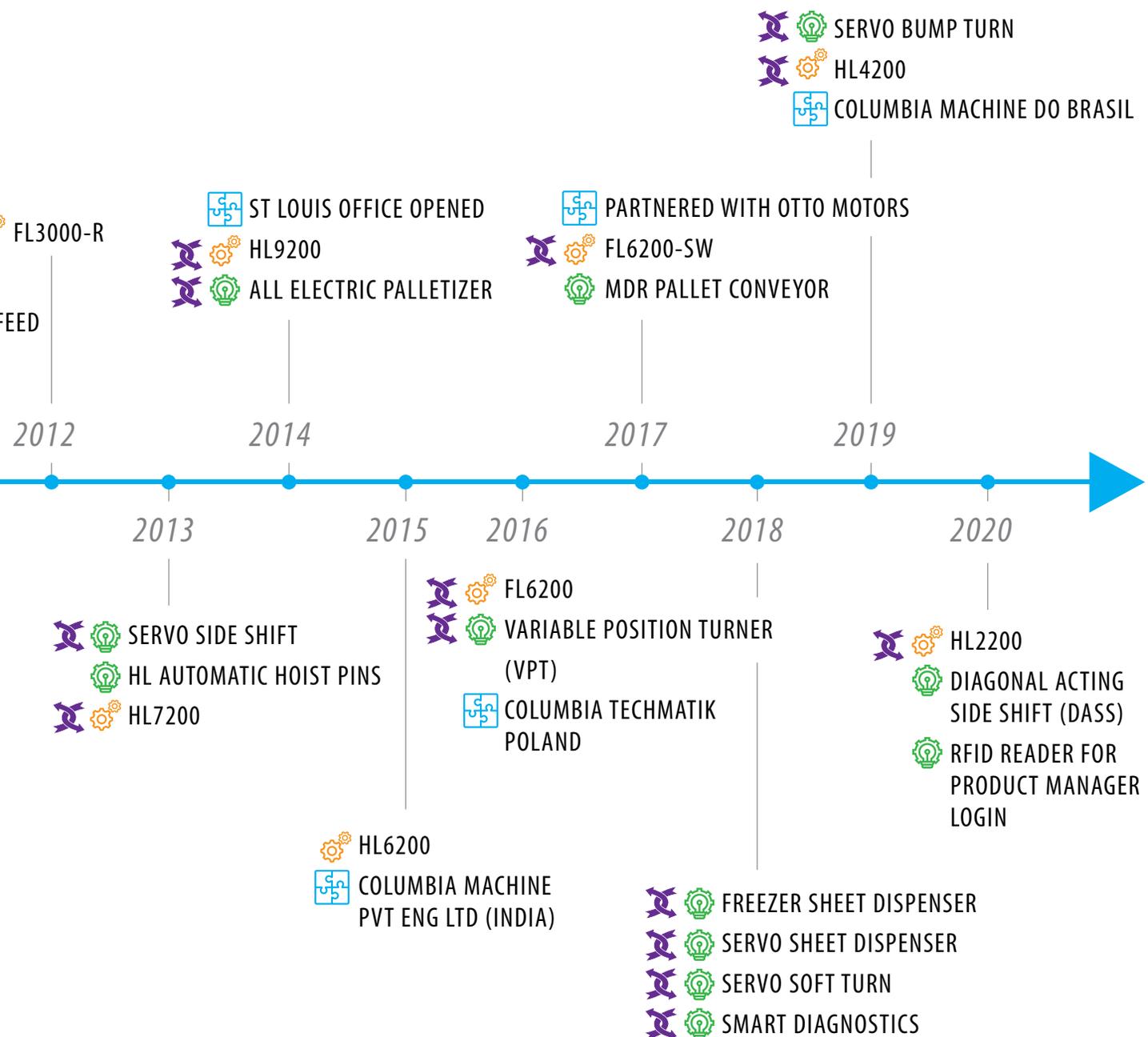


NEW MACHINES



FLEXIBILITY





PALLETIZER DIVISION NEWS

Take a look at the Palletizer Division's new Innovation Timeline and you will see that we have been very busy developing industry leading machines and accessories. Our innovative designs have been driven by safety, flexibility and performance since we started building palletizers back in the early 60s. Through our numerous creative and innovative solutions, it's easy to see why Columbia is now the industry leader in conventional palletizers.

A few exciting developments over the last couple of years include the Variable Position Turner (VPT) and the Diagonal Acting Side Shift (DASS).

VPT

Columbia's patented VPT technology maximizes speed and flexibility for inline high-speed palletizing. With Columbia's VPT technology, servos are used to dynamically position the center turners laterally on an inline palletizer while the layer is being formed. Also, these units are simply programmed from the HMI.



DASS

▲ The DASS design allows cases to be diverted from the product flow without changing the gapping between packages and form two rows of product when needed. The gaps between packages and the forward speed of each package remains constant. This allows for higher throughput and greater pattern forming flexibility than the previous designs.

COLUMBIA MACHINE DO BRASIL UPDATE

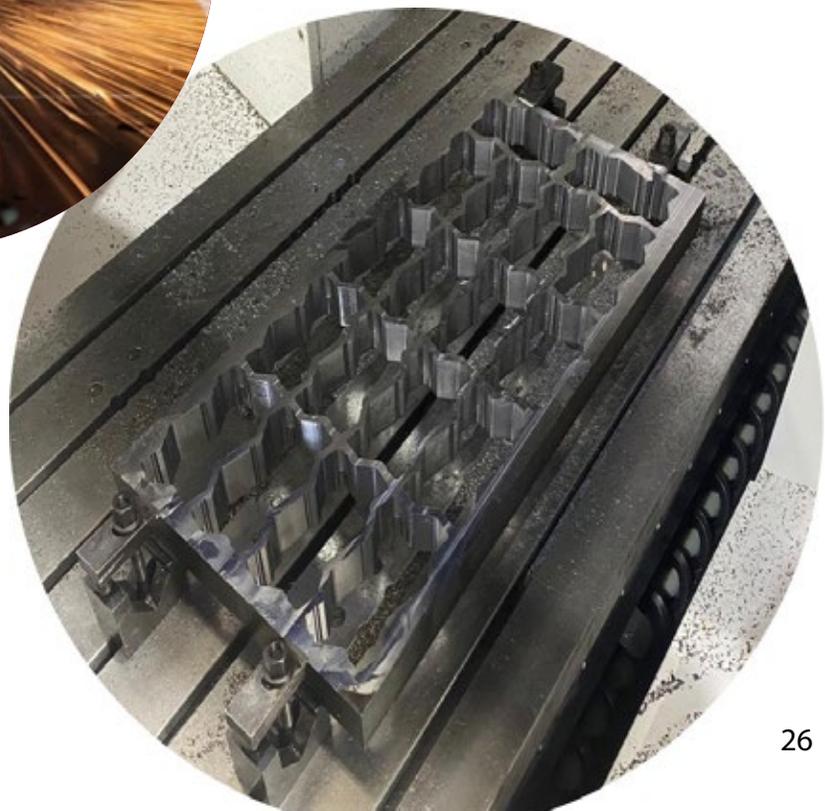


COLUMBIA MACHINE DO BRASIL EXPANDS PRODUCTION CAPACITY WITH WORLD-CLASS MANUFACTURING ASSETS ACQUISITION.

Always striving to ensure unmatched product quality and customer satisfaction, Columbia Machine do Brasil has consistently invested in upgrading its industrial base since its founding in 2019.

According to Columbia Machine do Brasil's president, Fabio de Andrade Rosa, "Continuous investments in new technology and upgrades allow our facility and equipment to stay up to date. With this in mind, we invested in two large machines that will speed up delivery and maintain a high level of quality for our customer's products, preempting strong growth in Brazil." Investments include a new CNC machining portal and a 6000 W Laser cutter. These machines will bring new solutions to our customers and allow for high precision cuts of carbon steel (up to 20 mm), stainless steel (up to 10 mm), Aluminum (up to 5 mm), Brass (up to 3 mm), and Copper (up to 2 mm).

CONTACT US FOR A QUOTE TODAY!



CUSTOMER PROFILE

Columbia
COLUMBIA MACHINE DO BRASIL

CUSTOMER: NOVABRITA

LOCATION: NOVASERRANA, BRAZIL

EQUIPMENT: MODEL 1600, UL-37, PSC200 CUBER



To meet increased market demand, Novabrita has invested in Columbia Machine equipment, allowing them to produce superior quality pavers and blocks that were not possible on their previous machinery.

Novabrita's new plant design required the use of existing buildings and batching and mixing equipment. Thus, the Model 1600, a proven workhorse, was selected, along with automatic product handling and a cubing system. Addressing Novabrita's challenges was possible through mutually invested collaboration and effective communication between both companies, which allowed the project's production to start in October 2020.

Within two weeks of initial start-up, pavers and block were in full production, and plans for a second plant were initiated during a visit from Novabrita's directors. Columbia's Service Team handled the installation, start-up, and training. Control panels and all human-machine interfaces are configured for Portuguese to improve user experience.

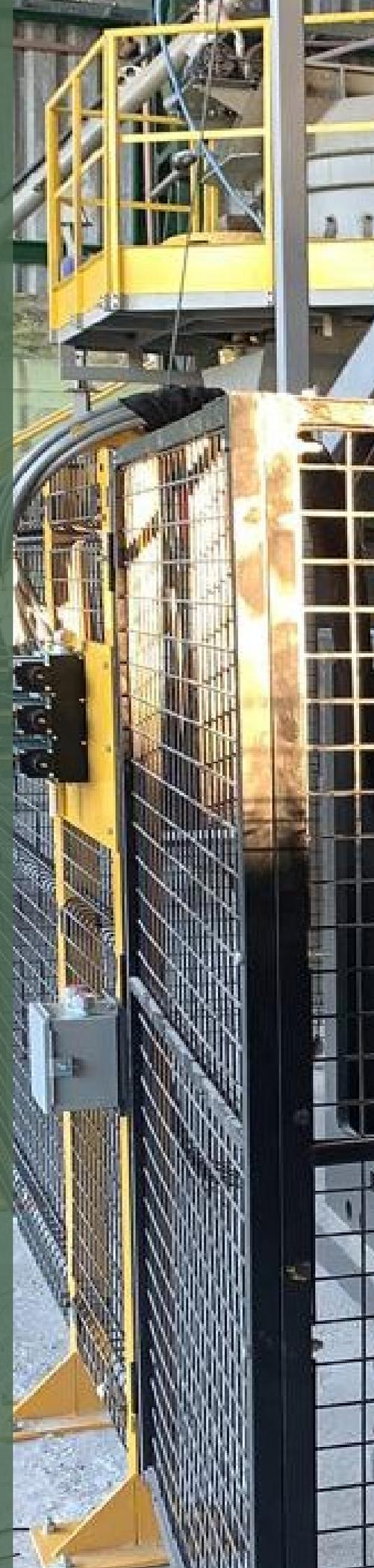
Novabrita is part of Grupo MBL, one of the largest and more efficient companies dedicated to crushing and mining, concrete forms, and real-estate operations in Minas Gerais, Brazil. Columbia is proud to call them a valuable customer.

Columbia Machine do Brazil now produces molds and parts for Brazilian customers in our new site in Campinas.

"After two years of working with blocks and pavers, we realized we needed to find reliable equipment that could achieve high production and excellent product quality. We spent two years researching for this and contacted many Columbia customers. Each expressed an immense level of satisfaction with both production, equipment reliability, and product quality," says Mr Otavio Pereira, Operations Manager MBL-Novabrita.

"We just recently began working with Columbia, but we can already say we are very happy. Columbia's pricing is higher than Brazilian equipment; however, its cost-benefit outweighs other equipment considerably."

"After a short time working with Columbia equipment, it was possible to observe its high productivity. Columbia arrived and soon surpassed our previous production numbers with its easy-to-operate equipment. We are learning more and fast, which will allow us to achieve better numbers. I have seen the robustness and quality of the equipment's manufacture up close."





COLUMBIA MACHINE, INC. CONCRETE PRODUCT DIVISION ANNOUNCES NEW MOLDS GENERAL MANAGER

VANCOUVER, WA (USA) – December 14, 2020 – Kevin Brown, President – The Concrete Products Division is pleased to announce Grady Jurrens as the new General Manager for its Concrete Molds business. Grady comes to Columbia with over 20 years of hands-on manufacturing and leadership experience. “I’m excited to join such a great company. Columbia Machine has an impressive history and is positioned to extend its growth in this important market,” said Jurrens. “One thing in particular that attracted me to Columbia is its commitment to industry leadership. The measures it’s taking to preserve employee health and well-being during the COVID-19 crisis demonstrates its commitment to Columbia’s customers and brand.”

As the leading global concrete mold supplier, Columbia continues to innovate through new designs and advance its manufacturing capabilities. “Columbia has made extensive investments in manufacturing around the world, in manufacturing, technology, and distribution to support its customers. We are a leader in concrete molds and are growing. I look forward to having Grady on the team,” said Brown. Columbia is dedicated to improving its products, providing customers with superior service, and becoming the preferred full-cycle mold partner.



Grady Jurrens *General Manager of Molds*

MOLD ON THE MOVE

NEWS FROM THE COLUMBIA MOLD DEPARTMENT

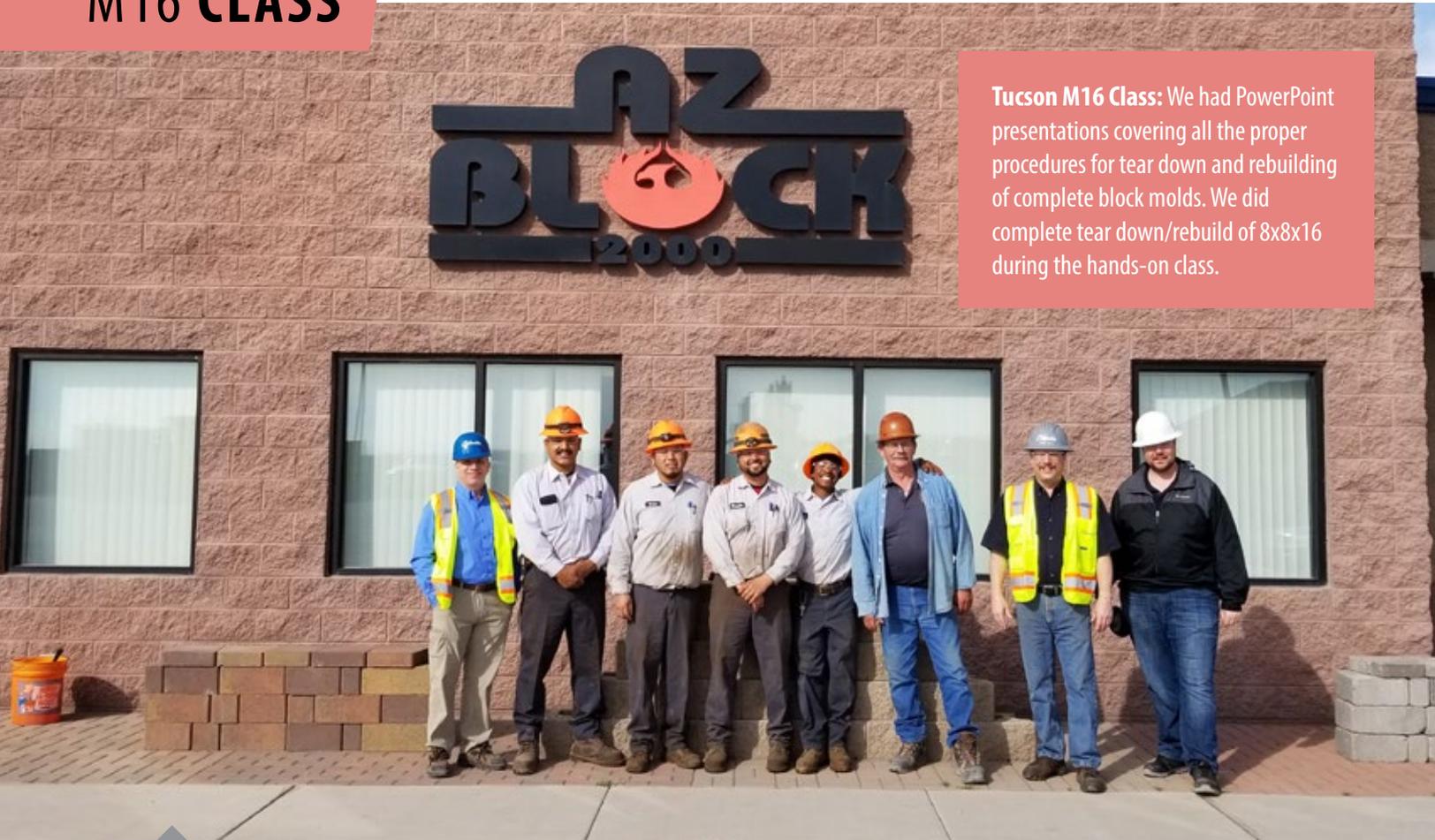
MOLD TRAINING CLASS

M16 CLASS

AZ BEST BLOCK TUSCON & COOLIDGE



Tucson M16 Class: We had PowerPoint presentations covering all the proper procedures for tear down and rebuilding of complete block molds. We did complete tear down/rebuild of 8x8x16 during the hands-on class.



LEFT TO RIGHT

Bill Harper - Columbia, Wily P Valerianes, Carlos A Vindiola, Arnulfo Soto, Eugene Oberholtzer, Andres Huntley, Tom Bailey - Columbia, Josh Danielson

CPM40 CLASS



Coolidge CPM40 Class: We had a PowerPoint presentation covering all the proper procedures for tear down and rebuilding of complete block & paver molds. During a hands on class we walked through the proper alignment of heated head and grid assembly, tore open heated head and went over proper maintenance and wiring techniques of cast aluminum heaters. Did a complete tear down/rebuild of 8x8x16 pilaster block mold.



LEFT TO RIGHT

Bill Harper - Columbia, Stephen Vallecillo, Joseph McEvoy, Brett Morgan,
Michael Robinson, Krachell Vanzalen, Tom Bailey - Columbia



UPDATE

MANSFIELD SAND COMPANY – BRICK DIVISION

Columbia Brick Mould – manufactured Dec 17, 2017

Retired from production December 2020 at **796,000 cycles**

Bauma Display 2019 at **332,000 cycles**



IN-PLANT MOLD TRAINING

Learn how to operate and maintain your concrete molds for optimal performance with a Columbia Molds Training session.

- Learn the anatomy of a quality mold
- Proper setup, handling, and operation
- Troubleshooting
- How to maintain and store your molds

Schedule in-plant mold training today! The time and money you save from improved efficiency will more than pay for this visit by our skilled mold assembly technician.

TECHMATIK MULTI 1200

As the analysis of production in most enterprises Multi 1200 PRO – technology makes a big difference.

Manufactured by Techmatik S.A., the MULTI 1200 PRO concrete block making machine is one of the most modern commercially available machines of this type. The technically advanced level of design guarantees the possibility to make products as high as 1200 mm, a high productivity, production repeatability and a high product quality.

The innovative MULTI 1200 PRO concrete block making machine manufactured by Techmatik is a novelty on the global market. First of all, it is a mobile machine designed for making high units with heights from 100 mm to 1200 mm. The innovative solutions employed in the machine allow for extending a product range to include extremely high concrete units, precasts, high street and garden architecture elements such as palisades, kerbs, edges, fence elements, pipes, culverts etc.

The MULTI 1200 PRO concrete block making machine does not require a full process line for the manufacture of concrete products, thus it is possible to launch production on the machine promptly with low capital and infrastructure expenditures. A number of new design solutions are used in the construction of the machine - employed by Techmatik design engineers in such machines for the first time .

- Guiding of the stamp and die on linear bearings
- Feeding boxes driven by hydraulic motors
- An electrical drive of the machine allows for smooth travel and accurate positioning of the machine
- Hydraulic interlocking and a brake
- Vibrator system on the mould
- Mobile vibration table system

The high production efficiency is ensured by design solutions which have been tested by one of the first customers who has bought the machine under manufacturing conditions.

Drive of the feeding box – Transfer of the torque from hydraulic motors via gears of a special design to toothed bars. The use of gears improves the dynamics of the box operation. The composition of various materials reduces the noise and prevents excessive wear of the box mechanisms.

Linear bearings – Accurate guiding and positioning of the mating die and tamper head elements reduces the wear of moulds for making concrete products.

Machine drive – A frequency converter-controlled electrical system based on a gearmotor and belt transmission allows for the smooth travel of the machine.

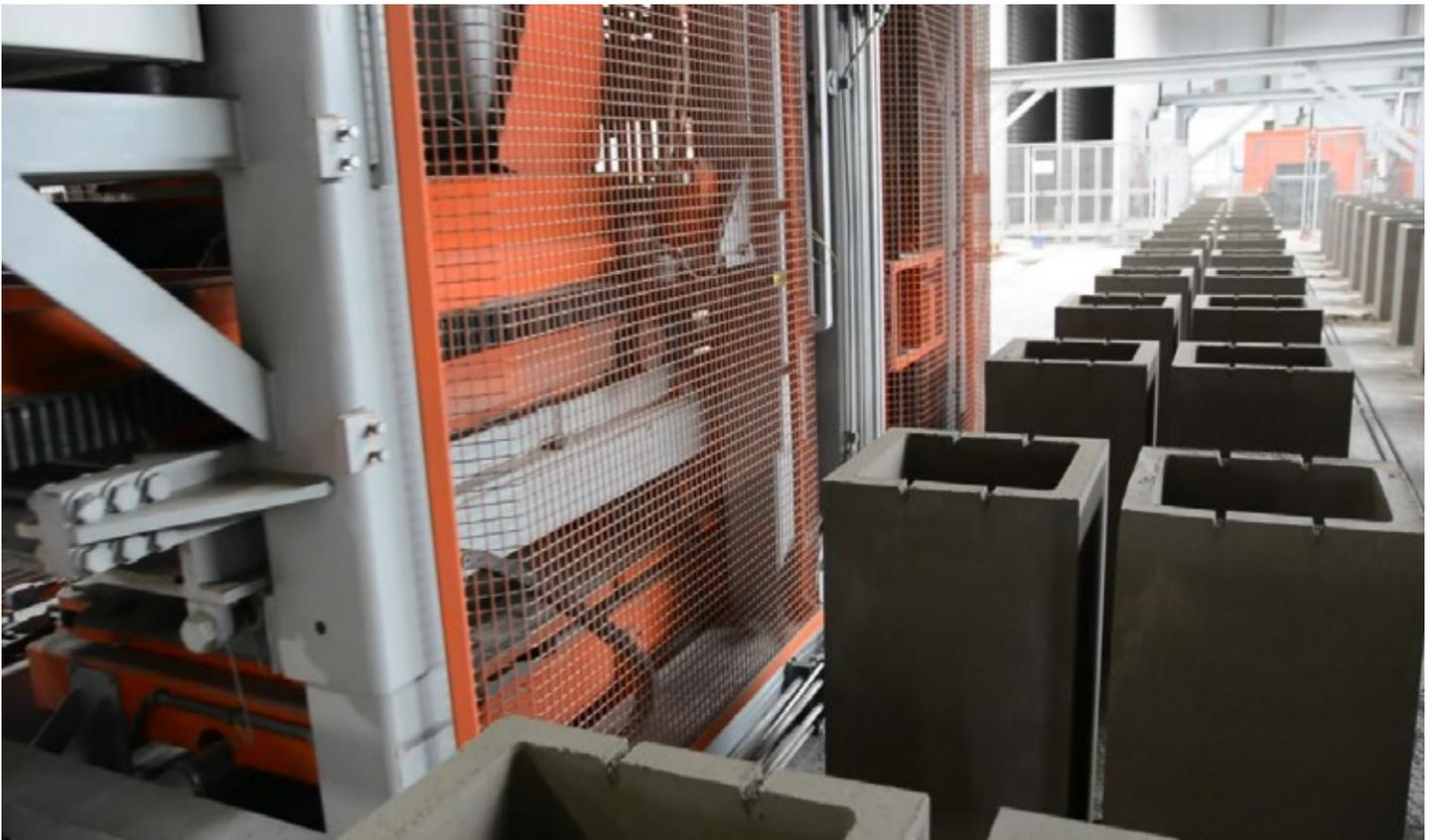
Drive of the cross-bar (stamp) and mould boxes (die) – The system is achieved with a set of hydraulic cylinders and bearing-supported shafts and seated in housings of a special design supported on the machine body.

Hydraulic interlocking - Hydraulic interlocking of the BWK mobile frame allows for shorter maintenance of the machine.

Hydraulic brake – The track-based braking system of the machine allows for the stabilization of the machine during its operation.

Vibrator system on the mould - ensures uniform compaction of the extremely high products

All the design solutions are perfectly compatible and provide a 21st century product. An excellent choice for the customers who would like to include a new range of high products in their portfolio without the need to use a full process line. Maintaining unique and innovative top-quality products is crucial in gaining lead on the market.



LATIN AMERICA

CUSTOMER FEATURE



IMHABLOCK

LOCATION: Mexico

EQUIPMENT: Three complete Model 1600s, UL-37, PSC200

Initially founded to manufacture agricultural implements, Grupo IMHASA established itself in 1975 in Aguascalientes, Mexico. In 1992, the company's business line shifted to focus on the automotive sector to meet the construction and mining industry's needs.

IMHASA identified the many well-established producers around them and found they did not satisfy the construction market's exponential growth. As a result, they decided that 2011 would mark the start of their search for a reliable concrete block and paver machine capable of high-quality products. The goal was to prioritize meeting market needs and find a preferred equipment supplier.

In 2012, IMHASA acquired a new Columbia model 1600 plant and was able to debut in the market while meeting its aims of being a reliable producer of high-quality products, better serving its customers. The equipment from this first plant has continued to work for IMHABLOCK since 2013.

Fast and constant local demand urged IMHABLOCK to expand in 2014. Its superior quality products and permanent commitment to customers' needs made the acquisition of their second plant possible. Again, they turned to Columbia's proven solutions, installing another 1600 plant.

After five years with their second 1600 plant, IMHABLOCK ordered a third Columbia model 1600 plant in 2019. The reasons for this decision were the same as in 2013 and 2015. In late September of 2020, Grupo IMHASA received the much-needed new 1600, which is now very close to being installed and commissioned.

Columbia thanks IMHABLOCK for their trust and promises that the companies will continue to increase commercial relations together in years to come.

HOSTED BY GUSA

Gusa's new 1600 plant in Tijuana has been the host for two technical schools in Mexico. Demand for our highly recognized training sessions made us split school, due to large number of participants in two groups in order to accommodate close to 50 participants.

On November 2019, customers from Mexico, Costa Rica, Guatemala, Peru and Panama were updated on diagnostics and maintenance of Columbia equipment with detailed coverage of critical process and equipment such as batching, mixing, operation sequence, working pressure, VFD, wear parts, maintenance principles, temperatures as well as production problems solutions, complemented with quality control of block and pavers.

For this purpose, all-new training material was prepared by the LATAM Team. School teaching was Edgar Perez and Roberto Rodríguez responsibility.



SESSION 1

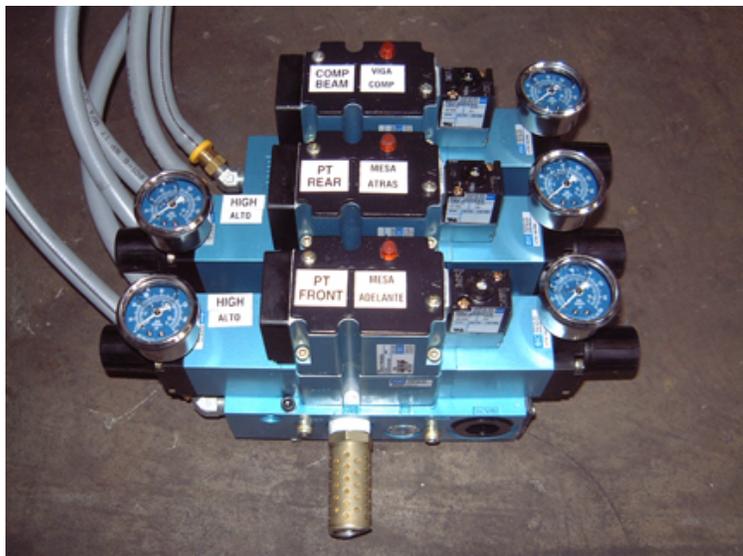
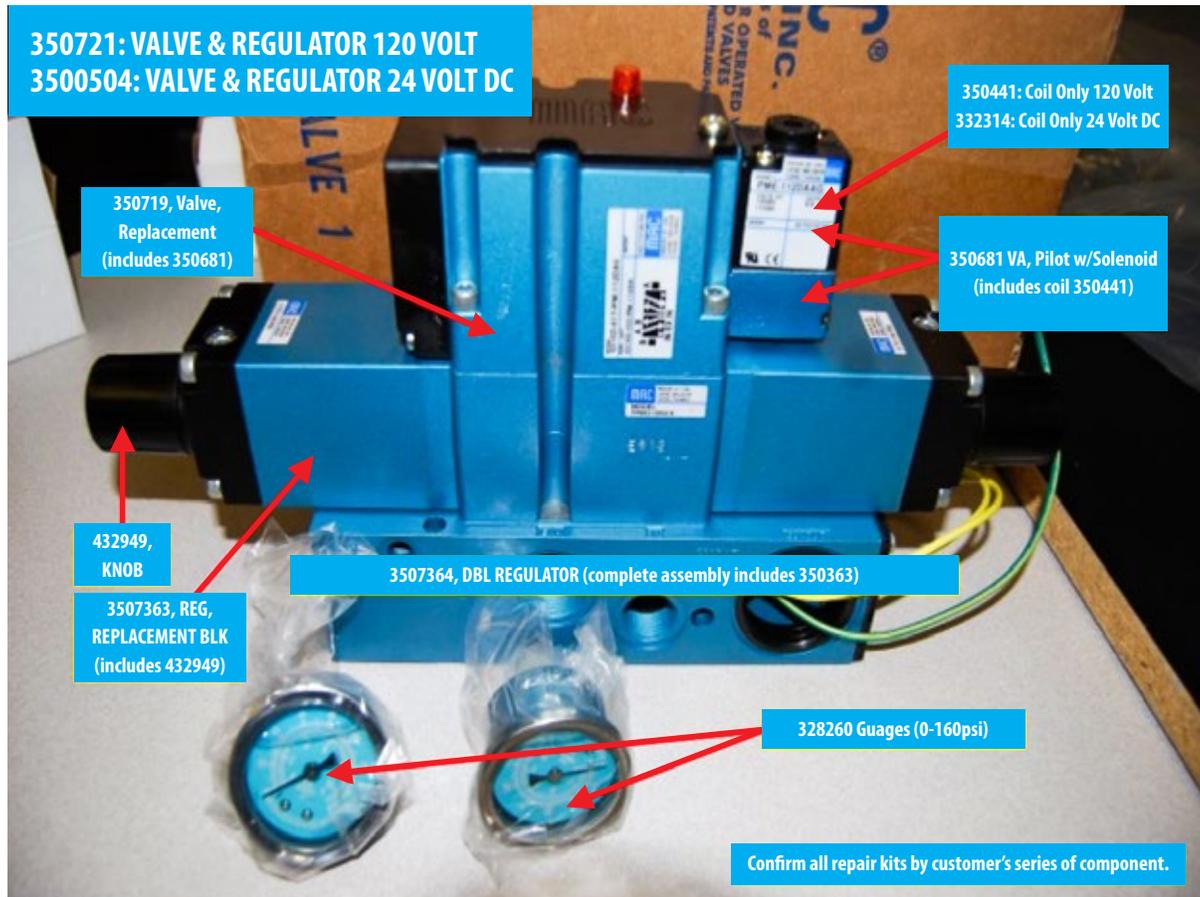
Company Nombre	Name
VillaGomez	Ricardo Alday
VillaGomez	Victor Vite
SuperBlock J	ose Lopez
SuperBlock J	ose Cabrera
Mats de Tijuana	TBD
Bloquera Moderna	Pedro Moreno
Bloquera Moderna	Rafael Rojano
Bloquera Moderna	Jesús Guerrero
Bloquera Moderna	Dionisio Reyes
Mapco	Melchor Figueroa
Mapco	Julio Cesar Acosta
GUSA	Arnoldo Becerra
GUSA	Esteban Aviña
Heras / Agreco	Neo Díaz
Heras / Agreco	Teodoro Moroyoqui
Comercializadora	Samuel Manrique
Solid Block	Jesus García
Solid Block	Manuel Mejía
Comercializadora	Irving Moreno
Comercializadora	Jorge Montes

SESSION 2

Company Nombre	Name
GIC	Pedro Sánchez
GIC	Francisco Córdoba
GIC	Porfirio Gallardo
Bloques Titan	Nelson Rodríguez
Maso	Carlos Becerra
Procreto	Wagner Hernández
IBM	Rigoberto Juarez
Pref. Sta Justa	Juan Gastelum
Pref. Sta Justa	Ramon Tamayo
Pref. Sta Justa	Sergio Tapia
BlockMex- Dynamic	Nestor Rodríguez
BlockMex- Dynamic	Magdiel Perez
BlockMex- Dynamic	Izhael Quezada
BlockMex- Dynamic	Alejandro Perez
Unacem	Ysaac García
Unacem	Ronald Quiquipuca
Unacem	Jorge Baños
Unacem	Daniel Rivera
PrecsoBlock	Bernardo Hernandez
PrecsoBlock	Luis Miranda
PrecsoBlock	Marco Antonio Hernandez
PrecsoBlock	Omar Martinez
GUSA	Cruz Castro
DuraBlock	Javier Leon
DuraBlock	Ernesto Talamantes

AIR SYSTEM MAINTENANCE AND INSPECTIONS

For air systems from 1993 and newer, how to bring your older system up to today's standard.



Mac valves with regulators

3/4 Silencer part #362041

388.2.18

AIR SILENCERS & MUFFLERS

Silencers are used to diffuse the air as it escapes the system under pressure. Failure to have good clean working silencers will affect the air system from releasing air and getting ready for the next cycle. Missing silencers are troubling and a direct violation of OSHA rules. We have used different designs shown below.

SILENCERS NEEDING REPLACEMENT IN DIFFERENT MODES OF FAILURE

Flow control design **NOT** recommended for general use



Clogged or falling apart

1/2 Silencer part #350516



6 Inline dump valves



Another way to install 6 dumps. Make sure they are installed as shown as the direction of flow matters.

EXHAUST VALVES & DIAPHRAGMS

OLDER DESIGNS



Worn area of seats



Broken diaphragm



Cracked diaphragm

These photos show the older design exhaust valve and different diaphragm designs. The older valve body is slightly bigger than the new design. The older diaphragm is rubber and they tried a few design changes, seen in these photos. Inspect for worn seat area on both sides, cracked or broken diaphragms will allow air leakage through main control valves.

NEWER DESIGNS

The new design exhaust dump valves. These have a smaller body and urethane Diaphragm for longer life.

Diaphragm Repair Kit Part #433032



Cap side of diaphragm Body side of diaphragm



Diaphragm:
with failed edge

- 1. COMPLETE PARKER VALVE PART #350283**
- 2. REPAIR KIT PART #350592**



1

Old Parker design exhaust dump valves. These are Die-cast aluminum and have a flat rubber Disc. Machines using these have only three exhaust dumps, this can be problematic, as the air will NOT dump quickly. Adding three more dumps will fix the quick exhausting issue. These can be mixed if needed.



2

PNEUMATIC QUICK EXHAUST DUMP VALVE

Quick exhaust valves Series

Quick exhaust valves are commonly used to increase the speed of cylinders or for rapid depressurisation of tanks containing compressed air.

We recommend that a silencer be mounted on the outlet.

Materials used:

- OT58 (brass) body (nickel-plated)
- Desmopan seal (Polyurethane)

1/8 Qn = P → A 650 NI/min
A → R 1000 NI/min

Minimum operating pressure = 0.5 bar

1/4 Qn = P → A 1100 NI/min
A → R 1900 NI/min

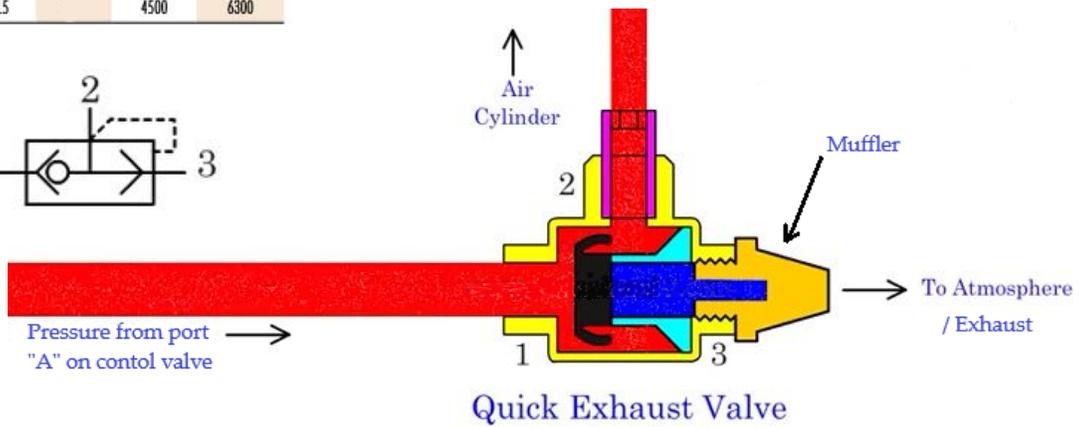
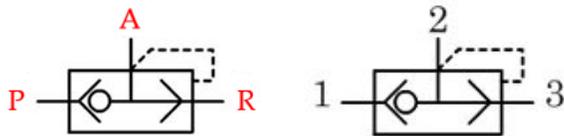
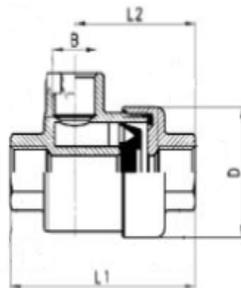
Minimum operating pressure = 0.3 bar

1/2 Qn = P → A 4500 NI/min
A → R 6300 NI/min

Minimum operating pressure = 0.2 bar

* Qn = determined with 6 bar and Dp = 1 bar

DIMENSIONS (MM)						
Mod.	B	D	L1	L2	(SDFM) QN P → A	(SDFM) QN A → R
1/8	G1/8	28	36.5	25	650	1000
1/4	G1/4	33	42	28.5	1100	1900
1/2	G1/2	43	57.5	39.5	4500	6300



NOTE:

- #1 / P Cap end of valve is pressure
- #2 / A Port is attached to actuator / work
- #3 / R Port is exhausting port

WHEN THE AIR SYSTEM IS NOT WORKING WITHOUT LEAKS HERE ARE SOME EFFECTS THAT WILL OCCUR:

- Head air bags NOT helping compression beam compact materials or hold height pin together during stripping
- Pallet table settings, damage to bolts, bushings and possible table top damage/failure
- Quality of produces from cracks, low spots popcorn look or poor splits after curing.
- Air systems should NOT leak, if they do fix them.

COMPANY EVENTS



NATIONAL MANUFACTURING DAY



SHARE HOUSE DRIVE





See us at trade shows in 2021

WORLD OF CONCRETE **CP**
Las Vegas, NV | 8 - 10 June

ICON +365 **CP**
VIRTUAL | 2021

UK CONCRETE SHOW **CP**
Birmingham, UK | 8 - 9 Sept

CONCRETE SHOW SOUTH AMERICA **CMB**
São Paulo, Brazil | 30 Aug - 31 Sept

CRAFT BREWERS **PD**
Denver, CO | 9 - 12 Sept

EXPO PACK **PD**
VIRTUAL | 8 - 9 June

FISPAL **PD**
São Paulo, Brazil | 22 - 25 June

PACK EXPO LAS VEGAS **PD COLLC**
Las Vegas, NV | 27 - 29 Sept

iPBS **COLLC**
Rosemont, IL | 24 - 26 August

IAOM ANNUAL CONFERENCE **COLLC**
Little Rock, AK | 29 Aug - 2 Sept

PET FOOD FORUM **COLLC**
Kansas City, KS | 21 - 23 Sept

Columbia[®]

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Vancouver, WA 98668-8950

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