

# Columbia

# FEED DRAWER

Columbia Machine's Informational Publication

2018

CELEBRATING 80 YEARS  
OF INNOVATION  
1937-2017

## OUR HISTORY

*Timeline and message from our CEO*

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## LADRILLERÍA SAN PABLO

*A Buried Machine*

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## TECH TIP

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Continuing Our  
Tradition of Innovation

INTRODUCING  
**CPM+120**

pg.21



# VISION

We will be the preferred supplier of engineered product solutions in the targeted markets we serve. We will provide exceptional customer value through strategic marketing, innovative product development and unparalleled customer service.

# MISSION

We are committed to recognized leadership in serving targeted segments of the Concrete Products, Material Handling and Manufacturing Services Industries.

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.

Our core competencies will be Marketing, Product Development, Manufacturing Technology and Customer Service.

We value safety, integrity, trust, fairness, professionalism and teamwork 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 personal growth and the involvement of all employees in achieving Company goals.

We will secure our future through strategic investments and profitable growth.







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

*Columbia*

ENGINEERED SOLUTIONS // [WWW.COLMAC.COM](http://WWW.COLMAC.COM)

# Columbia

## FEED DRAWER

Published by

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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:

Columbia Machine  
Acquires Techmatik S.A.

# Let's Talk

## A MESSAGE FROM THE PRESIDENT

Columbia Machine celebrated our 80th anniversary this past August. We used the occasion to bring together our employees and key vendors. Columbia Machine CEO, Rick Goode, reaffirmed our dedication to our employees, customers, industry leading product innovation and worldwide presence.

At Columbia, we put our employees and customers first. Training and development of our workforce is important to us as an industry leader. Customer satisfaction is key. We run monthly surveys to determine how we are doing and where we can improve. Columbia's message remains the same from Fred Neth's time to today – first take care of your employees and your customers.

We had a busy product development year in batching, concrete products equipment, bagging and molds. In batching, we re-introduced our Batchmatic G2. We added many features that allow customers to easily create recipes. The graphical user interface was redesigned from the ground up to give intuitive information on the process. In concrete products equipment, our flagship CPM+ provides many new features such as automatic recipe batch control and hands-off mold change. Currently, we have successful installations on three continents. We broadened our product line to offer complete bagging plants including drying, batching, bagging and palletizing. Columbia Machine is proud to be a one-stop shop for all your bagging needs.

Molds are a large part of Columbia's business, especially with the significant growth from this past year. Techmatik is one of the leading mold manufacturers particularly for big board molds. The use of Techmatik molds is expanding throughout North America as well as their traditional market in Europe. Techmatik's expertise in large board mold grids and Vancouver's expertise in bolt-together, replaceable mold parts, drives much of this business.

In 2017, we concentrated on integrating our Polish operation, Techmatik, and our Indian operation, Columbia Machine Engineering (I) Pvt.Ltd. (CME), with worldwide sales, support and manufacturing. Techmatik has a leading line of equipment for big board paver machines with a large install base throughout Europe and the Middle East. Columbia is bringing this technology to North America, Latin America, Asia, Australia and New Zealand using the sales, parts and service network set up through decades of customer support in these markets. In addition, CME in India continues to build Columbia Machine small board machines for that market. CME has over 200 installations throughout India and East Africa.

Columbia's international business continues to grow. 2017 was a busy year for Latin American business with full plant projects in Colombia, Peru, Guatemala, Mexico and the Caribbean. Columbia provided the equipment for a full plant in New Zealand this year starting up dual CPM+50 lines. In the UK, Columbia remains busy with a new handling line for an existing customer and a CPM+60 for another customer.

We continue to invest in our manufacturing base with a new CNC Kinetic precision plasma cutter, CNC laser cutter and new CNC brake. A five-sided CNC mill will be added at year-end to the Vancouver operation, and a new five-axis machine is currently in test mode at our Radom, Poland location. This added capacity allows us to increase our efficiencies in manufacturing of our machine base as well as our mold business.

Columbia continues to grow and innovate alongside our customers. We look forward to another year of growth, and we look forward to servicing you, our customers.



Richard Armstrong  
President, Concrete Products Division

# FEED DRAWER

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# GET CONNECTED WITH *Columbia*<sup>®</sup>

## WHERE WE ARE

### CHECK OUT OUR NEW WEBSITES!

We are excited to announce that we have launched new websites for our Concrete Products, Palletizing and Columbia/Okura divisions. Be sure to click around to see all of the new features. We also launched an online parts ordering store that will allow our customers to order the parts they need in an easy to use and efficient way.



#### OUR BLOGS

**Concrete Products**  
[columbiamachine.com/blog](http://columbiamachine.com/blog)

**Palletizing**  
[palletizing.com/blog](http://palletizing.com/blog)

**Columbia/Okura**  
[columbiaokura.com/blog](http://columbiaokura.com/blog)



#### INSTAGRAM

[@colmac\\_inc](https://www.instagram.com/colmac_inc)



#### YOUTUBE

**Concrete Products**  
[youtube.com/columbiamachineinc](http://youtube.com/columbiamachineinc)

**Palletizing**  
[youtube.com/columbiamachine](http://youtube.com/columbiamachine)

**Columbia/Okura**  
[youtube.com/columbiaokura](http://youtube.com/columbiaokura)



#### FACEBOOK

[facebook.com/columbiamachineinc](http://facebook.com/columbiamachineinc)



#### TWITTER

[@colmac\\_inc](https://twitter.com/colmac_inc)



#### LINKEDIN

[linkedin.com/company/columbia-machine-inc](http://linkedin.com/company/columbia-machine-inc)

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

# IN MEMORY OF

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## **Jerry Cook**

It is with great sadness we let you know Jerry Cook passed away November 19, 2017 at 78 years old. He had been ailing for a couple of weeks.

Jerry was a legend at Columbia Machine. For 50 years, he traveled the world taking care of Columbia's customers. He made service calls for Columbia up to about four years ago. Even when he stopped traveling, he took customer service calls throughout the day. All our customers had Jerry's home number.

After a tour in the US Navy, Jerry joined Mix Mizer in 1967. Shortly after that, Columbia acquired Mix Mizer and Jerry's 50 year career with Columbia began. Jerry was a master of electronics and controls. As our industry advanced, Jerry played a critical role in the development and installation of our control systems. Jerry traveled wherever Columbia sent him, often spending several months away from home not willing to come home until the project was complete. Jerry was the "go to guy" for the biggest of our problems. The relationships he built and the problems he solved made him a true legend in our industry.

Jerry was a mentor to many of our service and controls people. All of them have Jerry Cook stories. If you were willing to listen, Jerry had all the time in world for you. He was the face of Columbia to countless customers, a mentor to many, a friend to all and an important person in the Columbia family. He will be greatly missed.



# FACES OF COLUMBIA







# THE HISTORY OF COLUMBIA MACHINE, INC.



**1937**

Columbia Machine, Inc. is founded. Opened as Columbia Forge and Machine Works

**1937**

**1945**

**1945**

Introduced the world's first hydraulic block machine



**1950**

**1951**

Original Pontiac Sedan Delivery used to market Columbia's equipment across the country



**1952**

Columbia incorporates and moves to Grand Blvd. location

**1960**

**1954**

Model 8ab, the world's first automatic block machine

**1962**

Columbia introduces the first floor level palletizer for a local brewery



**1964**

Model 16 3-block machine

**1965**

**1970**

**1970**

Columbia Concrete Block Machine PTY. LTD. (CCBM) opens in South Melbourne, Australia

**1975**

**1976**

Introduced the first PTS (finger car) in North America

**1980**

**1980**

1st high-level palletizer

**1984**

Floor Level 1600 4-block machine

**1986**

Columbia establishes Columbia/Contech

**1985**

**1989**

Model 180 large pallet machine

**1990**

**1987**

Celebrated 50 Years in Business



**1990**



**1995**  
CPM Series with patented mold alignment feature

**1997**  
Columbia Machine Model 15E sold in India

**2000**  
Entry-level Model 21 plant package

**1995**  
**2000**

**1996**  
Sold first robot

**1995**  
Developed a joint venture with Okura Yusoki, Japan's leading robotics manufacturer to establish Columbia/Okura LLC

**2001**  
Sold 100th Robot

**2002**  
Acquired Brudi Automation's load transfer product line

**2003**  
Columbia unveils COLMAC as a symbol of renewed commitment to customer service

**2003**  
Columbia expands batching & mixing capabilities with Turmac

**2005**

**2005**  
Sold 200th robot

**2005**  
Expanded product handling capabilities with addition of Paco equipment

**2006**  
Columbia/Okura 10th anniversary

**2007**  
Established partnership with Techmatik of Poland to supply big board molds

**2007**  
Columbia Advanced Automation

**2009**  
Columbia Manufacturing Services (CMSD)

**2010**



**2008**  
Installed Salesforce.com

**2008**  
Columbia Machine establishes joint venture in India



**2011**  
Columbia/Okura 15th anniversary

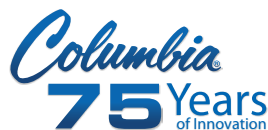
**2011**  
Sold 500th robot



**2010**  
Received P&G's Supplier of the Year award

**2012**

**2012**



**2015**  
Columbia Machine Engineering (I) Pvt. Ltd. (India)

**2015**

**2015**  
Introduction of the revolutionary CPM+ series of production machines

**80 YEARS**  
OF INNOVATION

**2017**  
Columbia celebrates 80 years of innovation

**2017**



**2016**  
Columbia Machine acquires Techmatik

**2016**  
Columbia/Okura 20th Anniversary





# CELEBRATING 80 YEARS *OF INNOVATION*



## 80 YEARS OF CUSTOMER DRIVEN INNOVATION

This summer, we looked back on another five successful years and celebrated our 80th anniversary. During the celebration, two recurrent themes appeared. First, seeing things through the eyes of our customers continues to drive our daily work. Second, much of our product lines have advanced and grown based on the ever-changing needs of our customers. We are by nature a curious, innovative and tremendously customer focused company. Looking back, our most important innovations are almost always customer driven.



On August 12th, over 1,000 employees, retirees and family members joined the celebration at our Vancouver Campus. We enjoyed food carts, caught up with retired employees, met each others' families and played a number of different games. The mechanical bull was a favorite. Throughout the day, talk of our newest designs surfaced repeatedly. People could be heard saying, "Wow, it's amazing how many new designs we have on the floor." This has been a common theme over the last five to ten years. It did not matter if you walked by a concrete production machine, pallet handing system, batching system, cuber, bagging system, palletizer, robot or a mold, you could see new designs and innovation everywhere. Employees had opportunities to see some of our equipment in action. It was exciting to see our design teams talk about the new features they have incorporated based on the current needs of our customers.



**WE ARE BY NATURE  
A CURIOUS,  
INNOVATIVE AND  
TREMENDOUSLY  
CUSTOMER  
FOCUSED  
COMPANY.**



During our significant anniversaries, we enjoy reflecting on our history. We do this in publications like this, on our social media, on our YouTube channel, on our website and through internal communication tools like HR News and Shop Talk. We see the same theme when looking back at the evolution of our product designs as they advance to meet the needs of our customers in over 100 countries around the world, in hundreds of different industries. In looking back, it is clear the many different sizes, shapes, colors, materials, densities, weights, configurations, patterns and speeds have kept us busy over the last 80 years.

We are excited to meet the future needs of our customers and to see a bright future for our employees and company. We will continue to innovate and design the safest and most advance factory automation and production solutions in the world. Thank You.

*Rick*

Rick Goode, CEO

## CUSTOMER PROFILE

# BLOQUES TITAN

*A NEW FACE TO FOLLOW IN CENTRAL AMERICA*

With a desire to increase production and product quality, Bloques Titan developed a plan to purchase and install a fully automated concrete production plant within their existing facility. After detailed consideration of project bids from both European and US based equipment providers, Bloques Titan decided to award the project to Columbia Machine. The decision to go with Columbia was based on proven equipment reliability, customer care experiences and overall project management.

The new fully automated plant, which included a Model 1600 production machine and PTS-II pallet handling system, was installed and started up without delay. The customer attributes the short start up to the equipment reliability and exceptional training to their people provided by Columbia. Within weeks, Bloques Titan was producing over 3,200 pallets per shift and placed an order for additional pallets to take full advantage of the increases in production efficiency created by their new plant.

The successful partnership created between Bloques Titan and Columbia Machine not only produced a highly efficient production plant but is a working relationship that insures a positive future for both companies. Bloques Titan is no doubt a company to look for in the Costa Rican markets.





## CUSTOMER PROFILE

# CONCRETE PRODUCTS

NEWFOUNDLAND, CANADA

For over 70 years, Concrete Products has been on the leading edge of concrete technology. Located in Newfoundland, Canada, CP is an integral division of NC Newcrete Investments. Through a series of acquisitions, consolidations and partnerships, NC has smartly positioned itself for the future. Quarry operations, Ready Mix, Precast, Hardscape products and CMU are part of what NC offers.

Concrete Products is the only manufacturer of Keystone retaining wall units in Eastern Canada. They are also the only producer of RisiStone retaining wall systems in Newfoundland.

With the core of its market based in standard CMUs, CP decided to move to allow for increased productivity while maintaining quality. Two machines were no longer enough to manufacture their entire product line.

With such a diverse product line, moving was no small feat. Joe Blundon, General Manager, tackled this problem in 2010. He asserted that taking an engineered approach and combining efforts with Columbia Machine would provide the best results, allowing demanding quality standards and the need to increase the volume of output to be met.

“THE SET UP  
SCREENS ARE  
A BREEZE



He removed a 2ATT block machine and CP's dedicated paving machine, combining them into one high quality, high volume machine - the Columbia Model 1600. While streamlining the pallet handling to Columbia's Transfer Car system, Joe moved to the latest cubing option, a PSC300 cuber with proportionally controlled hydraulic valves and encoder positioning.

To ensure that the highest quality mix was maintained, Joe upgraded CP's batching controls to Columbia's Batchmatic System for concrete blending. He knew the key to continued success is not only in the quality of the mix but the color blends that are now in demand.

Terry Upshall, Plant Manager, commented that one of the best aspects of the Columbia equipment was that it was, "Easy to learn," with the interactive HMI screens. The screens, "Easily follow the sequence of the machine." Overall, he was pleased to note, "The set up screens are a breeze in comparison to what we used to have to do."

Working together with Columbia, CP was able to smoothly transition. As a result, CP has been able to continue to meet the needs of their customers and market.

## CUSTOMER PROFILE

# Ladrillería San Pablo

LADRILLERÍA SAN PABLO, S. A. was established in 1955 in Managua, Nicaragua, starting as a brick company for floors and concrete tubes. Its founder, Mr. Pablo Emilio Ortega Martinez (1925-2013), was 30 years old at that time.

Mr. Pablo Ortega was a modest, hardworking man. Working in the construction field, he gained increasing knowledge of concrete products. As a result of his labors, he was promoted to Manager of Construction for one of the most important buildings in Managua at age 28.

In 1975, the company was able to get financial assistance in purchasing a Columbia Model 22. After extensive research of different countries and companies, Mr. Pablo Ortega discovered Columbia Machine, Inc. He travelled to Vancouver, WA to see the plant directly. Never having been to the Pacific Northwest, he assumed the weather would be the same as in his warm hometown, so he did not bring a sweater or jacket to protect himself from the rain and cold temperatures. Along with his truck driver, Mr. Pablo Ortega had to buy warm clothing that would never be worn again after arriving back in Nicaragua.







The Model 22 made its way by truck through Mexico and Central America, using two trucks purchased in Portland, OR. After five weeks of travel, the machine made it to Managua, Nicaragua where it was installed by Mr. David Garcia, who still works for Ladrillería San Pablo. Mr. Ortega was there to take care of every detail.

In 1979, political conditions changed the Nicaraguan economy for the worse, and many private properties were confiscated by the former government during its socialistic and communist regime. Mr. Pablo Ortega and his company wanted to avoid this confiscation. The Model 22 was an important investment, and they did not want to risk losing it. To protect the machine from Sandinista guerrillas, the Model 22 was buried underground for eleven years. It remained underground until new elections changed the political map in Nicaragua for the better. Finally, the machine was put back in operation.



To date, this Model 22 is fully operational and has produced 32 million (32,000,000) concrete blocks without issue. The Columbia Machine Service Department is always promptly there to help with any questions or requests from Ladrillería San Pablo, and our customer satisfaction is 100% in favor of the company and people.

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# MOLD ON THE MOVE

NEWS FROM THE COLUMBIA MOLD DEPARTMENT

## COMPETITIVE MOLDS IN THE CPM+ SERIES

Besser-style standard block molds can be easily adapted for production in a Columbia CPM+ series machine.



Utilizing the vibrator mounting holes of the Besser-style mold, a Columbia CPM+ mounting bracket can be attached to the front and back bars of the existing mold box.



Next, simply attach a wear/spacer bar across the front of the existing Besser-style mold pan. The mold box is now ready to be run in the CPM+ machine.



Finally, the stripper head assembly of the Besser-style mold is attached to a Columbia head spacer, allowing for the full capabilities for the CPM+ machine.



The completed adaption is now ready for production to best utilize the automatic mold change feature of the CPM+ machine.



# IN-PLANT MOLD TRAINING

Are you having?

- Product quality issues
- Trouble getting the mold to line up in the machine
- Premature wear of your mold in certain areas
- Breakage of mold or machine parts during operation

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These could all be signs of an improperly built (or) aligned mold. You may have new employees or simply want more life out of your molds. Give us a call, and we can schedule an on-site training session for you and your crew. Standard service rates would apply, but the time and money you will save from improved efficiency will more than pay for this one or two day visit by our skilled mold assembly technician.



# MSD

## MATERIALS SYSTEMS DIVISION // UPDATE



Columbia Machine's Material Systems Division (MSD) continues to innovate and expand product offerings. With an aggressive R&D and productive development schedule, we have made strides in bagging and precast solutions as well as batching controls.

Columbia has long been known as a complete bag line supplier for valve bag systems. We are an industry leader and one of the only companies that can be a single source supplier. As our customers started to expand their production needs, we knew we needed to grow with them. Two areas we identified as growth opportunities were with open-mouth bags and bulk bag filling.

Having a family of open mouth bag fillers allows us to assist in handling non-dried products like landscape rock and playground sand. We added these fillers in late 2017 and are currently

promoting their capability. Grupo Industrial Canal in Panama City purchased our first complete system. Our full range of bulk bag fillers is near completion and testing will be completed in early 2018. Once ready, we will roll out a full marketing campaign to highlight the benefits of this Columbia-supplied solution.

Another new MSD product ready for release is the new High Speed Bag Placing System. This system will be a valuable solution to have when our current robotic bag placing solution does not meet the speed requirements of the customer. Mechanical by design, we are able to have a single placer for a single bag-filling spout, which reduces the distance the empty bag has to travel and drastically increases the overall speed. We are introducing the new system to the concrete industry at the ICON Expo 2018 in Indianapolis, IN and anticipate that we will be installing to bag plants all over the world shortly after.



We are continually increasing our efforts to service the Precast market. With 15 new systems installed, we know our redesigned Batchmatic G2 batching controls are the base to build a successful precast plant. Along with the controls, we are importing the first Techmatik planetary mixer to display at the upcoming Precast Show in Denver, CO. The 2250L mixer with dual discharge doors has a rugged design and multiple options at a competitive price.

Coming off of another productive year in 2017, we look forward to continued success in 2018. We are excited to continue to serve our customers' needs – always through the eyes of our customers.



We added a bagging expert, Philip Riecks, to the MSD team. Relocating from Texas, Phil joined the Columbia team in 2017 as our new Bag System Engineer and brings over 10 years of knowledge about bag filling and complete plant integration. Phil takes the lead on bagging R&D as well as reviewing all engineering on the bag plants we sell. We are thrilled to have Phil as a team member and know he will be successful at Columbia.





# INTRODUCING THE CPM+120

Columbia Machine is excited to introduce the CPM+120, the newest addition to the CPM+ family. Based on the proven CPM+ series in three through six-at-a-time sizes and the experience from two previous generations of large pallet machines, the 12-at-a-time CPM+120 will set the new standard for fully automatic mold change machines. The CPM+120 is configured with a base production pallet size of 1400mm x 1100mm. Production pallets can be steel or composite. Designed in common with the family of Columbia production machines, the CPM+120 incorporates proven Columbia fill technology and CVT (Columbia Vibration Technology). The unique Columbia technology within this machine provides the ability to hold height tolerances and density across the entire pallet for both pavers and tall products in a full board format.


CVT has three main features. It has control over the time of vibration, vibration frequency, and pallet table air settings. We can change the forces in the mold, influencing all factors of product forming. Additionally, we can control mold fill and the amount of dampening the pallet table has against the mold with the adjustable air bags on the pallet table. This causes the pallet to move away from the bottom of the mold as the vibrator cycles up and down, allowing the air to escape and the material to fill. With this process, the material begins to compact during the fill cycle creating a dense product and reducing the compression time. In conjunction, we have true vertical mold vibration that keep the mold shoes perfectly aligned which assists in the automatic mold change and mold improved mold life with CVT.

As with all Columbia Concrete Products Machines, accurate height control is based on a unique integration of a fixed mechanical system and CVT. The Columbia mold is constructed as an integrated, accurately machined assembly which is reference held to its bottom surface. This generates a consistent position to control height. Variations in pallet thickness, wear on the vibration system or pallet perch have no effect on height control.

During the design phase of the CPM+120, our goal was to solve industry problems related to safety, cleanliness and operation. At the push of a button, our fully Automatic Mold Change exchanges molds in the machine and re-sets the mold recipe being run. These adjustments also include height change. When Columbia says 10-minute mold change, we mean product to product, not simply a mold exchange. This is the safest and fastest mold change available on the market. The CPM+120 will change the way you run your plant and schedule production. There is no need to empty out the material in the mixer for a mold change, and there is no need for extra inventory. The CPM+120 offers improved color consistency by running the same batch during a mold change. With many producers doing six to eight mold changes per day, a true 10-minute mold change earns back valuable production time.

In addition to industry leading cycle times, versatility is the best way to describe the CPM+120. With full recipe driven controls, all functions of the machine can be adjusted from the control panel with no need to enter



A large industrial machine, the Columbia CPM+, is shown in a factory setting. The machine is primarily blue and grey. In the foreground, a conveyor belt carries several rows of freshly made concrete pavers. The pavers are rectangular with a grid-like pattern of recessed lines. The machine's components, including a large blue hopper and various mechanical parts, are visible in the background.

the guarded perimeters or secured machine enclosures. With access to all machine functions, the operator has optimum control over his production needs. Once they are optimized, the settings can be saved and are automatically adjusted from the recipe during a mold change.

Controls are the heart of ETO (easy-to-operate) machines. Columbia offers this with intuitive graphics, sequential logic that is easy to understand as well as diagnostic and troubleshooting from the HMI that does not require schematics, program listings, or connection to a computer. Machine set up, troubleshooting and training have never been easier with Columbia's fully integrated rugged industrial controls, familiar to your Operators and Production Staff.

The CPM+120 is still, at heart, a Columbia machine. There has been no sacrifice on production versatility, or highly accurate production of architectural, landscape, and paver products. This is not just a paver machine that can make a passable structural block. It is a machine for all products. There are good paver machines and good block machines, but only Columbia with CVT offers the best versatility in the same machine. For producers who have a diverse product line, need the best height control and superior quality available, seek uniform density, and require the highest flexibility to make all products, the CPM+ series is the best choice.

### AGGREGATE INDUSTRIES RETIRES THEIR WORKHORSE MODEL 60 AND COMMISSIONS THEIR FIRST ALL NEW CPM+60 AT CALLOW ROCK QUARRY IN THE UNITED KINGDOM AFTER 27 YEARS

Hidden in the outstanding countryside of the West Mendip Hills, only 30 minutes from the center of the major city of Bristol in South West England, sits Callow Rock quarry in the stunning Shiphams Gorge. The quarry is now owned by Aggregate Industries, a leading player in the construction industry and a member of the LafargeHolcim Group ([www.aggregate.com](http://www.aggregate.com)).

In 1919, the Callow Rock Lime Co. Ltd. was created to manufacture high purity white lime from Burrington Oolite limestone. Herman and Francis C. Tiarks, a London banking family whose altruistic aim was to create employment for returning troops from WWI established Callow Rock. At the beginning, the quarry face and a small vertical kiln were both worked and filled by hand, with the help of a small tramway which carried stone to the kiln top. The lime was of excellent quality, and their reputation grew.

In 1922, two additional large kilns and a larger replacement plant to make hydrated lime were added. By 1926, it was selling 500 tons of lime a week and a further, more efficient kiln was erected in 1936. In the 1930s, the lime was delivered to customers or to Cheddar Station by steam powered lorries.

In 1946, the company diversified to produce lime-based coloured textured wall rendering material.



In 1951, 110,000 tons of limestone was extracted annually. Expanding their services to include water treatment, gas purification and sand-lime brick making, they were able to export as far as the East and West Indies. In 1951, lime from Callow Rock was supplied as plaster for the Royal Festival Hall, and the quarry was taken over by English China Clay (ECC) Quarries who ramped up aggregate production by 1961. In 1969, the high purity stone reserves were diminishing, and the kilns were becoming quite old. At this time, lime burning ceased.

1989 saw the installation of the deep pallet Columbia Model 60 block plant to handle most of the quarry output. This has continued to date, and Callow has a capacity of 1.3 million (1,300,000) tons of carboniferous limestone a year, operating above the water table and with enough reserves to continue quarrying until 2075.



For 27 years, the Model 60 at Callow has earned retirement as one of the highest output block machines in the world, having consumed over six million (6,000,000) tons of aggregate.

Having decided to replace the Model 60, Aggregate Industries had absolutely no doubt that the Columbia CPM+60 was the correct choice. Their key requirement was a safe mechanical method for changing molds.

"When we went out to market for a replacement Callow machine, history had proven that Columbia could deliver an ideal replacement. Our primary objective had to be safe mold changes. We travelled eight time zones to Vancouver to see the Columbia CPM+ automatic mold change demonstration first hand. We wanted safe, fast and fully automatic mold changes, and that is exactly what Columbia was able to demonstrate. The machine automatically disconnected and presented the mold in less than two minutes. Callow Operators found the addition of the latest Command View display and diagnostics to be a big step forward. The new CPM+60 machine arrived as planned and was commissioned on time and on budget," said Regional Factory Manager, Neil Spratt.

Stephen Wilson, Columbia's UK territory sales representative added, "Three shifts a day for 27 years is an amazing production accomplishment. The CPM+60 machine at Callow takes the place of a simple, hardworking, old Columbia Model 60 favourite. We listened to the needs of Neil, along with many, many other producers, large and small. Safe, fast, fully automatic mold changes were very much top of the list of features asked for in the CPM+ design. We are delighted to see the plus machine up and running at Callow."

Columbia wishes Aggregate Industries, Neil and his shift crews, every success for the next 27 years of production and beyond.





CUSTOMER  
PROFILE

# PARTNERS IN PRECAST

COLUMBIA PRECAST PRODUCTS, LLC.





Ron Sparks, President of Columbia Precast Products, LLC, had a number of choices to make during the planning of their new production facility in Woodland, Washington. After procuring European-supplied equipment for batching & mixing, they needed to be able to control the system with the latest automation technology. Partnering with Columbia Machine, Inc. was the right choice for their needs.

Columbia Machine's latest Batchmatic G2 control system with SQL database and improved user interface coupled with Columbia being an American company using components that are readily available in the United States were huge selling points for Sparks. Columbia Machine also designs and manufactures motor control panels in their UL508C shop, allowing them to remain in house. The Columbia Machine line offers a pre-fabricated, heated & air-conditioned control room with all panels mounted and prewired, except for the field wiring, as well as fully pre-assembled pneumatic valve panels. Columbia Machine's parts and service availability 24/7 and year round made the partnership all the more appealing.

The plant has been running since March of 2017 with great success. This plant is one of the biggest, most modern precast facilities in the Pacific Northwest.

**ACCORDING TO RON SPARKS, "WHEN WE WERE SOURCING EQUIPMENT FOR OUR NEW FACILITY, COLUMBIA MACHINE WAS OUR FIRST CHOICE FOR A CONTROL SYSTEM. THEIR ADVANCED TECHNOLOGY AND EXPERIENCED STAFF WERE KEY FACTORS IN OUR DECISION MAKING PROCESS."**

Columbia Machine is proud to have been selected by Columbia Precast Products to be an integral part of this project.

# PALLETIZER DIVISION UPDATE



## COLUMBIA MACHINE PARTNERS WITH OTTO MOTORS

Columbia Machine's Palletizer Division has recently partnered with OTTO™ Motors. As a Certified OTTO Motors Integration Partner, Columbia Machine is able to incorporate the OTTO 1500 Self Driving Vehicle (SDV) into current and future applications. The OTTO 1500 is a heavy duty self-driving vehicle that is designed to move pallet loads that weight up to 3,400 pounds through dynamic working environments.





"Columbia is excited to now have a SDV to integrate into the palletizing solutions that Columbia provides. With more companies implementing multiple pack lines, yet having fewer workers available, the SDVs offer a more flexible means to transport loads throughout a manufacturing process," states Ted Yeigh, Sales Director. "Previously, unless they were using operators with pallet jacks, companies had to install a transfer cart on rails that was guarded to protect operators, or a full load conveyor with 90-degree transfers."

The SDVs create free, open access to the discharge point, as well as to other equipment in the area, such as case erectors. Additionally, they navigate autonomously, independent of sensors embedded in the floor or laser reflectors on the walls. Instead, the vehicles use LIDAR and encoder wheels to determine their location based on a map stored onboard the vehicle. The SDVs are directed by OTTO M, the software used for managing and optimizing the

day-to-day operation of your fleet. OTTO M also provides real-time monitoring, remote back-ups and cloud access. Workers can interface with OTTO via an optional tablet interface, allowing requests to be sent to the SDV fleet. Each vehicle can operate 24/7 by using opportunity charging technology to autonomously visit its charger.

To announce the partnership, Columbia incorporated the OTTO 1500 into their booth at Pack Expo as part of a FL6200SW demonstration. During the show, the SDV was used as a full load discharge conveyor. Once the pallet load was on the SDV, it navigated the booth (without guides) moving the pallet load to the case conveyor where the pallet was unloaded and cases ran through the FL6200SW palletizer. The OTTO 1500 drew a lot of attention at Pack Expo. Columbia is excited to see this partnership grow.

# COLUMBIA/OKURA



Zeek Szidon, Superintendent, Mechanical-Electrical Operations at Bob's Red Mill, calls their new robotic palletizer system, "A labor saver," as they no longer need to worry about their employees stacking the product. They now have time to focus on ensuring the best product goes out the door.

For over three decades, Bob's Red Mill has been committed to providing customers everywhere with the best quality foods available. The company currently has over 600 employees and 125 temporary employees to keep up with their heavy production requirements.

"Finding the right automation to fit our product lines is key as we continue to grow," Szidon stated during a conversation about the recent installation of Columbia/Okura's robotic palletizer. We can almost, "Set it and forget it!" We are now able to stack 30-50 pallets a day compared to the previous 5-10 pallets. The employees have been empowered by learning how to make the robotic system work.

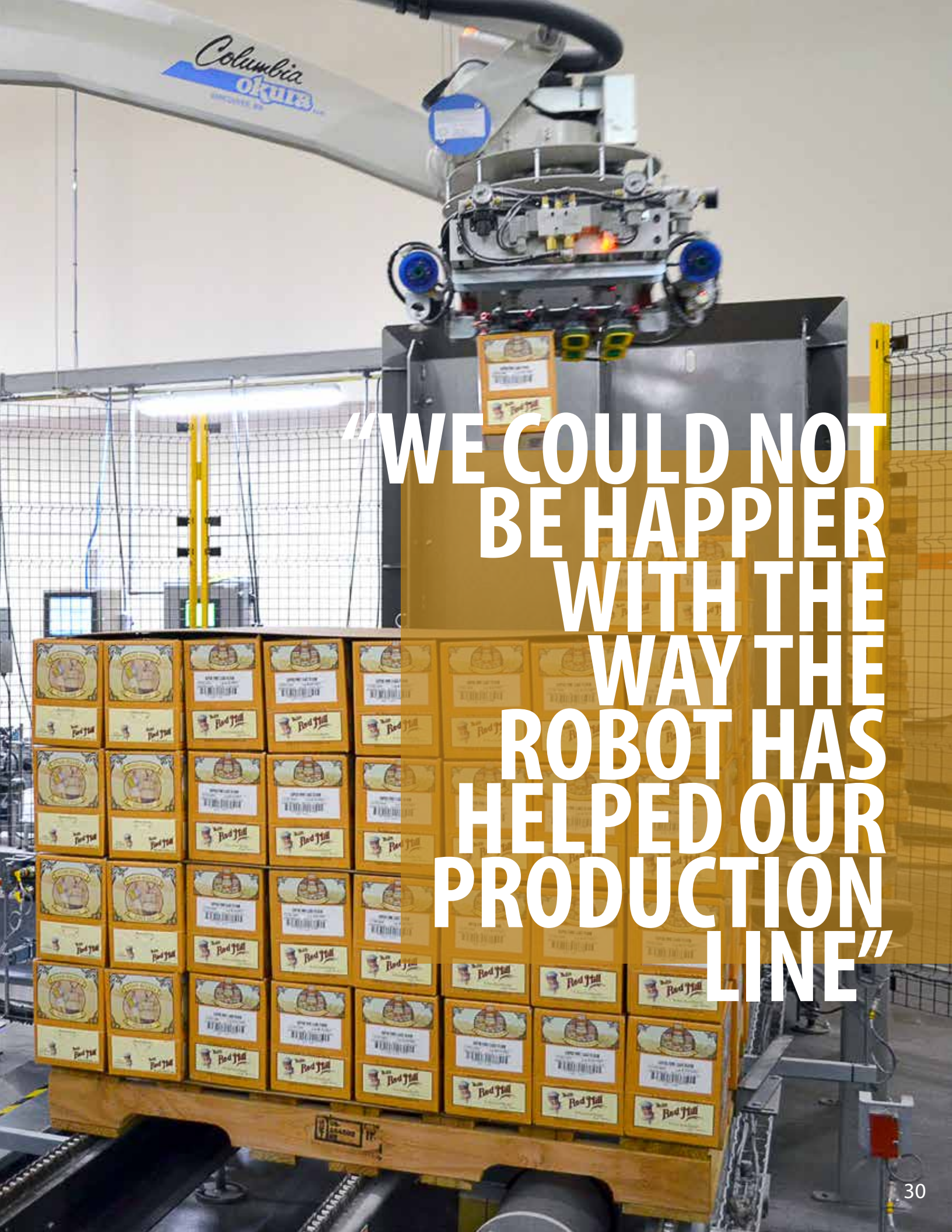
Columbia/Okura's staff worked with Szidon to develop a new end effector that would meet their specific requirements for stacking their product. Two types of product go down their production line on any given day. Szidon enjoys how simple the system is to operate and the flexibility of the program and system.

The robot uses a venturi vacuum generator with a vacuum style end effector to grasp and lift two cases at once. The A1600, with a payload capacity of 310 lbs., easily handles the weight of Bob's Red Mill cases.

"We could not be happier with the way the robot has helped our production line," Szidon stated with a smile while watching the product come down the conveyor.







**“WE COULD NOT  
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PRODUCTION  
LINE”**



## CUSTOMER PROFILE

# SAVITRI FLY ASH BRICKS

*Installed at Malkangiri in Odisha*

Columbia Machine Engineering was awarded its single largest project this year when Savitri Fly Ash Bricks confirmed their order for the first SPM 30 with Automated Pallet Handling and Concrete Batching Plant. This SPM30 was successfully installed at Malkangiri in Odisha.

Malkangiri is the district head quarter for one of the most economically remote districts in the state of Odisha. Currently, it is one of the most Naxalite-affected areas of the state and part of the Red Corridor. Being in the most remote region of India, installation and basic commuting is a major problem in this area.

For Columbia's team, this order was a dream come true. We were aware of the challenges in delivering a world-class product as well as potential challenges during installation. Mr. Srinibas is the owner of Savitri Fly Ash Bricks and a self-made businessman. He started his career with a small 16"x9" Jaw Crusher (10TPH) and presently owns a fully Automatic crushing plant which has the combined capacity of a 350TPA. Due to the shortage of local laborers, Mr. Srinibas wanted a fully automatic plant.

Mr. JR Mohanty, Columbia's East India Representative, ventured to persuade Mr. Srinibas to consider Columbia's fully automatic Rack Loader and Unloader for automation of Pallet and Rack Handling systems as there were none working in India or Asia. Mr. Srinibas put his trust in Mr. Mohanty, inspired by the presence of two SPM 20s at M/s Omkar Infracon in West Bengal that has been producing more than 120,000 bricks per day since 2012. His confidence was further strengthened after our erstwhile Director visited him, closing the order.

Columbia acknowledges and appreciates Mr. Srinibas's decision to order a fully automatic plant for such a remote location and making a SPM30 plant a reality.



**Columbia**  
MACHINE ENGINEERING (I) PVT. LTD.



A man in a blue shirt is seen from behind, operating a control panel with a digital display and various buttons. The background shows a factory environment with industrial equipment and a fire extinguisher on a table.

# MANUFACTURING SERVICES DIVISION

Columbia Manufacturing Services Division (CMSD) is in its tenth year and continues to succeed in our quest to be the supplier of choice for local and regional OEMs that are seeking additional manufacturing capability and/or capacity. We have developed strong partnerships over the years with key accounts that provide us with high volumes of repetitive part orders, frequently shipped to them from our inventory, through our Vendor Managed Inventory program. The VMI program allows Columbia some flexibility in production, while providing our customers with excellent product availability support. We are on track for our highest sales and factory utilization for CMSD.

In addition to growth from within the key partnerships of CMSD, we are developing opportunities with new customers. We are frequently introduced to new and exciting opportunities from a diverse collection of industrial business segments. These efforts allow us to secure work from business segments never before served: we are a manufacturing partner of a national overhead crane manufacturer, we manufacture tubular frames used in the automation and tooling industry, we manufacture parts and components for customers in the metal working industry, and we manufacture machined weldments for a major supplier in the Oil and Gas Industry. Columbia Machine has enjoyed this additional diversification in our business mix.

We enjoy leveraging our manufacturing assets and areas of competency to the benefit of others in our region. We value all of our customers, and appreciate your consideration of Columbia Machine as a solution provider and partner in manufacturing excellence.

**TOOLS NEEDED FOR SEAL KIT INSTALLATION:** Magnetic drill, drill bits, counter sink bit, hand wrenches, tape measure, square, hammer & center punch, see prints for drill sizes.

1. Inspect parts kit for damage. Using the assembly prints, check for missing parts or hardware.
2. Place the feed drawer section in a suitable position for feed drawer removal.
3. Turn off pumps, and follow lockout/tagout procedures.
4. Disconnect the two (2) agitator hydraulic hoses and probe wires. Using approved lifting chains or straps, remove the feed drawer from rear section.
5. Place feed drawer on adequate work stands/supports. Remove the old style side and rear seals along with mounting brackets.
6. Using supplied installation prints, layout feed drawer for new hole locations on both sides. Drill all holes, counter sink as needed for flat head fasteners.
7. Dry fit the rear blade as some feed drawers may need the inside welds ground flat. Ends of blade may need trimming as well.
8. For ease of installation, preload the springs by installing and tightening center tension nut and bolt to compress.
9. Mount springs. Install rear blade and dirt guard, and install side wear bars.
10. With all parts mounted, remove the spring tension nut and bolt from all six (6) positions.
11. Install a new bottom wear plate on top plate.  
NOTE: Do not reinstall the side pan angles. These are not needed.
12. Reinstall the feed drawer. Be sure to connect hydraulic hoses and probe wire.
13. Unlock and start pump.
14. With machine in slow operation, move feed drawer section back into running position over mold.
15. Using selector switch, move the feed drawer forward and back three to four times. Check for any clearance problems, and correct as needed.

**FOR FURTHER INFORMATION**

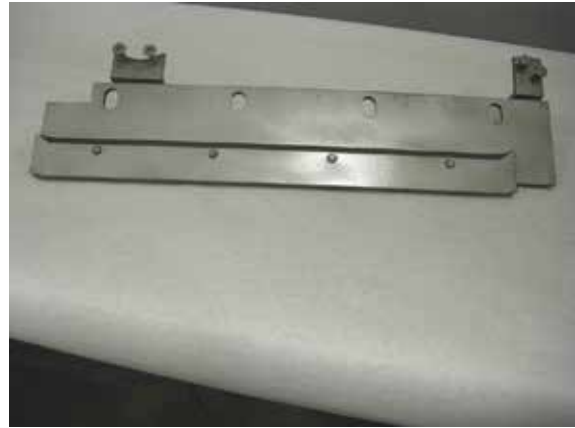
Please contact Columbia Machine Service Department at 800-628-4065 or 360-694-1501.



# CPM FEED DRAWER SEAL KIT (SELF-ADJUSTING)



*Side plate seals.*



*Back of side plate.*



*Rear seal plate.*



*Rear seal plate covers.*

*Side seal installed.*



*Rear spring side seal.*



*Front spring side seal.*



# CPM FEED DRAWER SEAL KIT (SELF-ADJUSTING)



*Rear seal installed.*



*Rear seal spring mount.*



*Rear seal spring mount.*



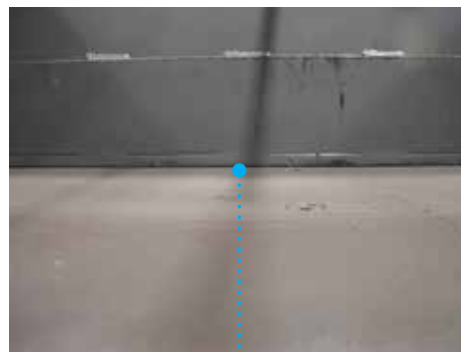
*Side and rear seals installed.*



*Side seal with  
side pan removed.*



*Self-adjusting seals with  
feed drawer installed.*



*Rear seal installed and  
bottom wear plate.*

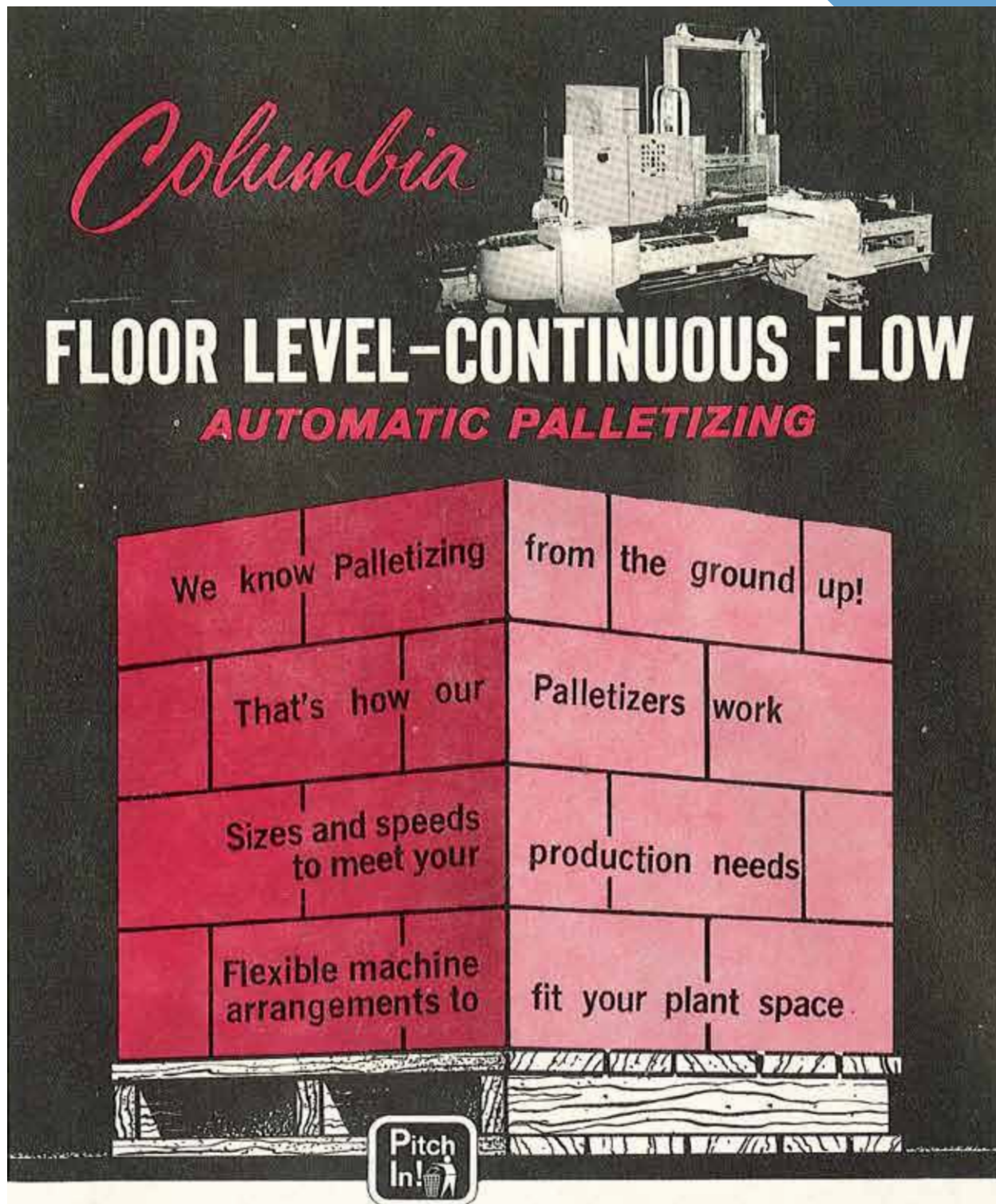


### Floor Level-Continuous Flow

Columbia Machine advertisement, printed in the 1970s.

"We know palletizing from the ground up!"

COLUMBIA  
ARCHIVES



The advertisement features a black and white photograph of a Columbia Floor Level-Continuous Flow Automatic Palletizer machine in the upper right. Below the machine, the word "Columbia" is written in a large, red, cursive script. The main headline, "FLOOR LEVEL-CONTINUOUS FLOW", is in large, bold, white capital letters, followed by "AUTOMATIC PALLETIZING" in red, italicized capital letters. Below this, a graphic of a brick wall is composed of red bricks with black outlines. The bricks contain the following text in a white, sans-serif font:

We know Palletizing	from the ground up!
That's how our	Palletizers work
Sizes and speeds to meet your	production needs
Flexible machine arrangements to	fit your plant space

At the bottom of the brick wall graphic is a small, square logo with the text "Pitch In!" and a small icon of a person throwing a brick.

We offer more standard models than any other palletizer manufacturer. Those models, plus our line of accessories, enable us to handle jobs that others turn down. If we have never made the accessory to handle your specific requirements, our engineering department will design one for you and the cost will be worth your investment. That's how we have become the world's leading manufacturer of standard palletizers to handle special jobs.



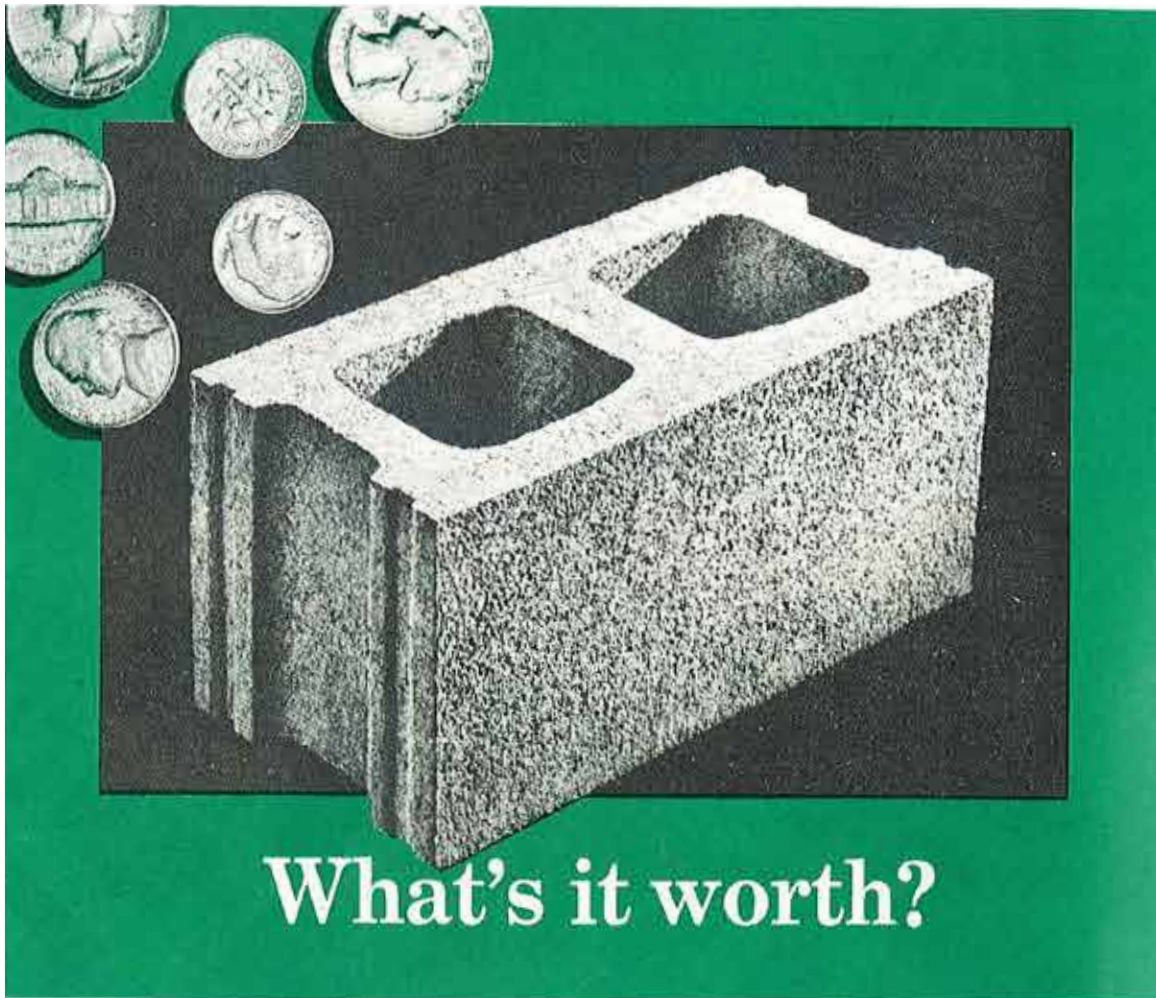
107 Grand Boulevard, Vancouver, Washington



### What's it Worth?

Columbia Machine advertisement, printed in the 1970s.

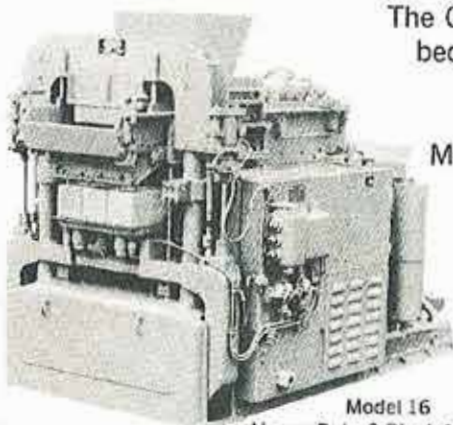
"It is essential to own a reliable block machine - one that is capable of tremendous production on top of quality blocks."



## What's it worth?

In the block-making industry, profit is at the end of the shift. The major part of any day's production must be sold just to pay overhead . . . *your profit is in the remainder.* That's why it is essential to own a reliable block machine—one that is capable of tremendous production of top quality blocks. One that is rugged, fast, versatile.

The Columbia Model 16 qualifies on all counts. Not just because we say so, but because of proven performance in plants throughout the world. But see for yourself! Ask your Columbia man to show you a Model 16 in operation. You'll be favorably impressed.



Model 16  
Heavy Duty 3-Block Machine  
Mattoon, Illinois



BRANCHES IN  
Burbank, California    Orlando, Florida    Mississauga, Ontario

Manufacturers and world-wide distributors of a complete line of plant equipment for production of concrete products.



## Columbia Model 8

Columbia Machine advertisement, printed in the 1960s.

"Columbia Model 8 Makes a Greater Variety of Precision Blocks at Low Cost!"

# *Columbia* **MODEL 8** MAKES A GREATER VARIETY OF PRECISION BLOCKS *at Low Cost!*

## THESE MODEL 8 FEATURES KEEP COSTS DOWN—PROFITS HIGH!

### ELECTRONICALLY CONTROLLED HYDRAULIC POWER

The simple, yet positive action of Oil Hydraulics and the easy-to-operate Electronic Unit, give the operator complete control of the Model 8, and enables him to change the action of the machine at any point in the cycle, simply by turning a dial.

### BALANCED VIBRATION

The Model 8's controlled direct vertical vibration—balanced vibration—in the mold box, not in the machine, assures longer mold life, and many other advantages not found in unidirectional vibration.

### HEAVY WELDED CONSTRUCTION

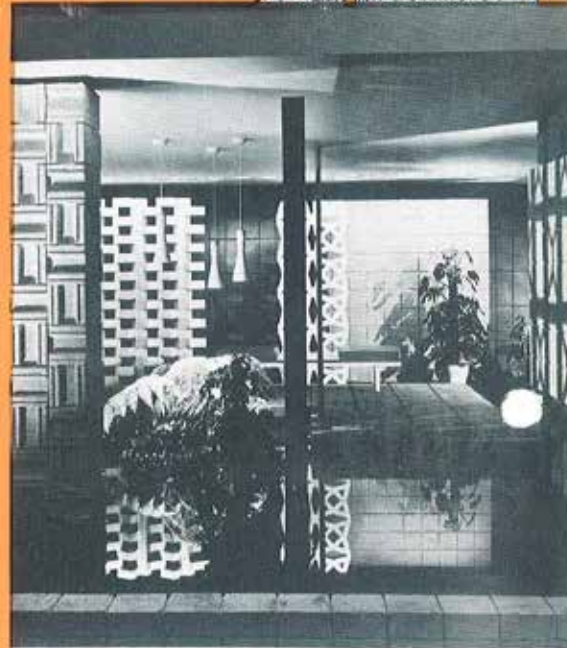
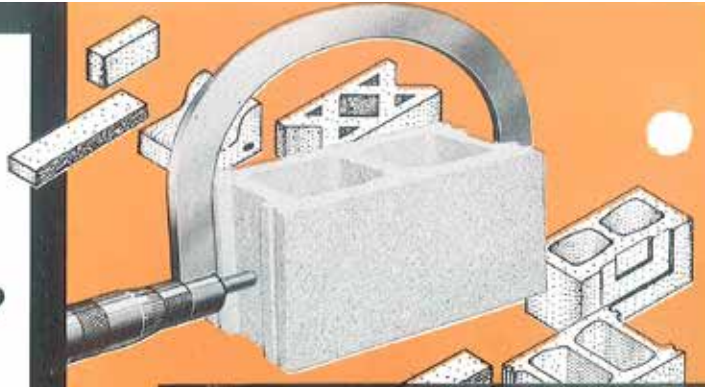
The frame of the Model 8 is built of solid, heavy-welded plate.

### STREAMLINED FOR EASY CLEAN-UP AND SAFETY

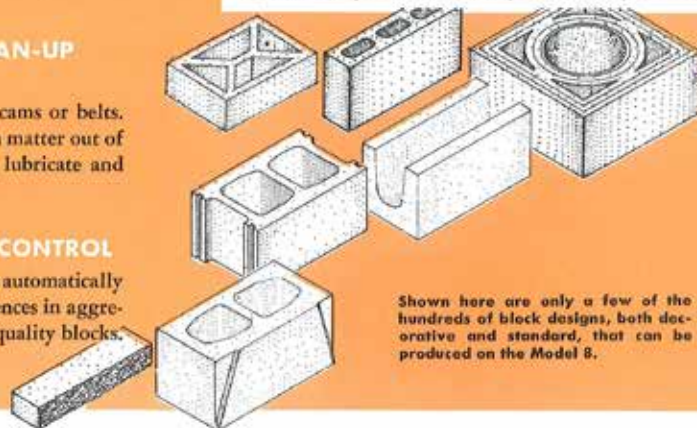
Columbia's Model 8 has no exposed gears, cams or belts. All wearing parts are covered to keep foreign matter out of bearing surfaces. The machine is simple to lubricate and clean, taking only a few minutes a day.

### FULLY AUTOMATIC DENSITY CONTROL

A small electronically controlled device that automatically adjusts the feed to wet or dry mix and differences in aggregate, to obtain density necessary to produce quality blocks.



Entrance to NCMA Pavilion, Cleveland, showing five unusual examples of concrete masonry walls. Coordinated by Little & Dalton, Associates, Cleveland.



Shown here are only a few of the hundreds of block designs, both decorative and standard, that can be produced on the Model 8.

*Columbia* **MACHINE** • 107 GRAND BLVD., VANCOUVER, WASHINGTON  
Factory Branch and Warehouse: Mattoon, Illinois • Parts Depot and Office: Burbank, California

# COLUMBIA CUSTOMER CARE

Your Aftermarket Support.



## PARTS | MOLDS | SERVICE

At Columbia Machine, we are not only committed to providing you with the best concrete products machines but also with upgrading our technology to keep your machines running for years.

### CONVERSIONS & PARTS:

From new controls to upgrades in technology, Columbia has conversions and upgrades for all of your Columbia equipment.

- It has been your workhorse for years.
- Contact your regional representative or call us today.
- We will show you how to keep your workhorse up to date with our latest technology.

In addition to our equipment upgrades, there is no exception to the fit and quality of genuine Columbia parts. With our large inventories and strategically located depots, Columbia parts are just a phone call away.

Get the most uptime and highest quality parts from Columbia.

### MOLDS:

Columbia Machine is a world leader in the design and manufacturing of concrete products molds for Columbia and Besser production machines. With state of the art CNC machines, in-house hardening processes, 3D CAD systems, and prototyping / scanning, we have got you covered. Columbia's experienced sales staff and engineers are here to assist you with the continuing changes in products and demands as well as your replacement molds needs. With new mold technology from dual actuating heads to advancements in concrete paving slabs, Columbia can support all of your mold needs.

Call us today for all of your aftermarket needs.



**Columbia Machine, Inc.**  
107 Grand Blvd.  
Vancouver, WA 98661

+1 360 694 1501  
[www.columbiemachine.com](http://www.columbiemachine.com)





# IN-HOUSE TECHNICAL TRAINING

Classroom Education // Troubleshooting // In-Depth Instruction // Industry Expertise // Maintenance

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meet our staff,  
see our operations.



2018

Classes Offered



## Basic Electrical/Allen Bradley Controls

Basic Electrical/Allen Bradley Controls Class: During the five (5) day course, the first two day hands-on course will help you understand electrical symbols, read electrical schematics, be able to use a test meter properly, quickly recognize areas at fault, and help you reduce your down time. The next three day course covers I/O components, input, output, analog, remote I/O, and flex I/O modules.

## Basic Mechanical 22/16/1600


Basic Mechanical 22/16/1600 Class: This five (5) day course covers instruction on general hydraulics, pneumatics, and preventative maintenance. Students will get training on making machine adjustments, hydraulic and pneumatic settings, and more in-depth instruction on hydraulic circuitry and valve technologies. This one week class is a must for all machine operators, plant maintenance personnel, and plant production managers.

## Columbia Machine, Inc.

We manufacture machines for every aspect of concrete products production. Ruggedly built, precisely engineered, adaptable to any environment, our machines work as hard as you do to create valuable, profit-driven products year after year. It's how we've set the standard for over 80 years.

## Contact

Columbia Machine, Inc.  
107 Grand Blvd.  
Vancouver, WA 98661  
+1 360 694 1501

 columbiamachineinc

 @colmac\_inc

[www.columbiamachine.com](http://www.columbiamachine.com)

## REGISTER NOW FOR 2018 CLASSES

### Basic Electrical & AB - \$995

.....

Feb. 5 - 9, 2018

### Basic Mechanical 22 / 16 / 1600 - \$995

.....

Feb. 12 - 16, 2018

### \*General Registration Information

Airline tickets should specify Portland International Airport (PDX) as your destination. Airfare, hotel, and transportation (between the airport and hotel) is at the registrants expense and is not included in the class cost. The hotel will provide a shuttle service between the hotel and the classes at Columbia Machine headquarters each day. Shuttle departs at 7:30am from the hotel lobby each morning of the scheduled class.

### TO REGISTER, SEND COMPLETED FORM

By Mail ..... Columbia Machine, Inc.  
P.O. Box 8950  
Vancouver, WA 98668-8950 Attn: Jon Kraft

By Fax ..... +1 360 906 5728 Attn: Jon Kraft

By Email ..... jonkra@colmac.com

### \*Hotel Accomodations Contact Information

Homewood Suites by Hilton  
701 SE Columbia Shores Blvd.  
Vancouver, WA 98661  
Phone: (360) 750-1100  
Fax: (360) 750-4899

.....▶ Airfare, hotel, and transportation (between the airport and hotel) is at the registrants expense and is not included in the class cost. ◀.....

Dept 407-6940

### Applicant Information

Name: \_\_\_\_\_ Job Title: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State/Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email Address: \_\_\_\_\_

### Company Information

Company Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State/Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Company Email Address: \_\_\_\_\_

### Payment Information

Method of Payment      Check      Visa      Mastercard      Discover

Company Name: \_\_\_\_\_ Contact Name: \_\_\_\_\_

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Name on Card: \_\_\_\_\_ Signature: \_\_\_\_\_

### Terms, Cancellations, Deadlines, Travel Plans:

Registration deadline is 30 days before the first day of class. Any class may be canceled if student enrollment is below minimum of six (6) students. If class is canceled, a notification will be sent three (3) weeks prior to class start along with a full refund. If you must cancel, please contact CP Service at (360) 694-1501, a refund will only be issued through the Thursday prior to the beginning of the class. All cancellations will be subject to a \$100 administrative fee. It is advised to not purchase a non-refundable or non-transferable ticket, as classes may be canceled or rescheduled. Columbia Machine is not responsible for any airfare charges incurred as a result of a class cancellation.



# See us at trade shows in 2018

WORLD OF CONCRETE

Las Vegas, NV | 23 - 26 January, 2018

ICON EXPO

Indianapolis, IN | 9 - 10 February, 2018

THE PRECAST SHOW

Denver, CO | 22 - 24 February, 2018

THE UK CONCRETE SHOW

Birmingham, UK | 21 - 22 March, 2018



## CONGRATULATIONS NCMA

Columbia Machine, Inc. would like to congratulate the National Concrete Masonry Association on reaching their 100th year milestone. Since 1918, the NCMA has been a leader in the promotion of the concrete products, bringing producers and associates together with a common goal to advance our industry forward.



**Columbia Machine, Inc.**

PO Box 8950

107 Grand Blvd.

Vancouver, WA 98668-8950

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