

EVERYTHING ALWAYS FROM THE EYES CUSTOMERS



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.





FEED DRAWER

Published by

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www.colmac.com

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.



Columbia turns 85 years old this year and continues to be a leader in supplying equipment for the concrete industry worldwide.

I mentioned last year our commitment to new manufacturing technologies, and this year was no exception. We have increased our investments in capital equipment and people to improve our capacity and reduce our lead times. With the worldwide demand for our products, Columbia is well-positioned to serve our customers with manufacturing in four continents and an additional six parts depots strategically located. 2021 was an active year at Columbia Molds. Customers worldwide have demanded increasingly sophisticated designs, and we have been busy keeping up. We increased our staff across all facets of the business and have implemented multiple capital expansions at our global facilities. In particular, our Techmatik factory in Radom, Poland, has been undergoing regular capacity expansions. Our Smithsburg, Maryland facility is busy updating its technical capabilities and has become our hub for mold repair, from simple to complex. Our engineering center in Vancouver, Washington has added years of molds expertise, as well as some young talent. We are excited about bringing these evolving capabilities to bear on the challenges that you, the customer, face in your markets. Though the market is constantly changing, you can always expect comprehensive and professional support from our Sales and Engineering staff, which is the best in the industry.

Columbia has expanded with the acquisition of Packaging Systems International, Inc. (PSI)'s assets. Located in Denver, CO, PSI is a recognized leader in factory automation solutions, designing, manufacturing, and supporting bag fillers, bulk bag packaging systems, conveying systems, and robotic and mechanical palletizing systems. The new entity, Columbia PSI, LLC, hired PSI employees, allowing the business to carry on without missing a day of operation or sacrificing customer commitment. Columbia Machine will combine its current bagging product lines, which provide reliable solutions to diverse customers, with PSI's extensive line of equipment solutions. The addition of the PSI auger valve bag fillers, a full range of conventional bag palletizers, and bulk bag systems will make PSI, A Columbia Machine, Inc. Company, an industry leader.

Product development continued in 2021 focusing on "doing more with less." As our industry evolves, Columbia is committed to providing innovative solutions to our customers' needs. From controls and upgrades, replacing existing equipment, or new plant designs, we are looking at ways to give our customers an advantage by requiring less equipment and a smaller footprint. In addition, we continue to advance our controls and customer interface to make our equipment intuitive and the easiest to operate and troubleshoot.

As you probably know, business levels in 2021 were exceptional, and we expect 2022 to follow. Even with the supply chain shortage and low labor force participation, Columbia is finding ways to grow and support our manufacturing demands. We understand the impact this is has on your business and are committed to your success. We are wishing everyone a safe and prosperous 2022!

Kevin Brown

President, Concrete Products Division

FEED DRAWER Volume 65 Issue 1

Table of Contents

Message from the President	3
Table of Contents	4
Customer Profile: RCP Block & Brick	7
Columbia Molds Journey	11
Customer Profile: Kundu Infracom PVT. LTD.	13
CPM Feed Drawer Cylinder Cushioning System	15
Latin America Update	17
Columbia 85 Year Timeline	19
Techmatik Technology Update	21
Customer Profile: Kaleesuwari Refinery PVT. LTD.	23
Palletizer Division News	25
Columbia/Okura Customer Profile: Barrett Petfood Innovations	27
Columbia/Okura miniPAL	30
Tech Tip: Maintaining Your Columbia Mixer	31
Tech Tip: Mixer Rebuild Kit Installation	34
Columbia Expands Bagging Capabilities	35
Upcoming Trade Shows	37

GOOD YEAR

85 YEARS
OF INNOVATION



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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WHERE WE ARE



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ORDER PARTS ONLINE



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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.

CUSTOMER **PROFILE**

A BRIEF HISTORY OF RCP BLOCK & BRICK

In 1947, Marvin Finch and a couple of fellow veterans founded RCP Company in San Diego, California, shortly following his return from WWII. The company began under the name Revolutionized Concrete Products and was later shortened for the sake of brevity. Seeing a demand for essential building blocks as the post-war era boom was underway, Marvin invested \$400 he had saved up during his time overseas. After a few years in operation, Marvin bought out his partners, and by the early 1950s, he was the sole proprietor.

During that same era, another local company in La Mesa, California named La Mesa Block established a strong foothold in the San Diego market, which was started by the Chubb Family (Harry, Jane, and their sons, Wayne and Gene) in 1948. As time passed and the company prospered, La Mesa Block had established retail stores in La Mesa, Lemon Grove, and Santee, where they built a new modern block plant.

In 1966 La Mesa Block and RCP Company merged to become RCP Block & Brick and have been instrumental in growing San Diego's infrastructure by supplying high-quality concrete products to the construction industry. They started out making CMUs, and over the years have expanded their product line to include SRWs and pavers as the emergence of hardscape products has grown exponentially.



MARV FINCH RCP FOUNDER



RCP Block & Brick has long been known as the primary supplier of quality concrete products to the San Diego market, and since 1955 they have been making their products on Columbia Machines.

RCP'S THRIVING PARTNERSHIP WITH COLUMBIA

RCP Block & Brick has long been known as the primary supplier of quality concrete products to the San Diego market, and since 1955 they have been making their products on Columbia machines. They have supplied products for such landmark projects as Petco Park, the new San Diego State football stadium and many more. Through the years the company has seen continuous incremental growth and has reinvested back into the company by upgrading its equipment when needed.

RCP has always strived to remain at the forefront of technological advancements in manufacturing equipment. In 1969 at the Santee location, the company upgraded to a Model 16 Block Machine, UL26 Loader/Unloader, and Cuber as they ushered in a new era of technology. In 1979 RCP replaced the original machine from 1955. Upgrading to a Model 16 Block Machine, a UL26 Loader/Unloader, Columbia 54cu.ft. Mixer and Cuber. In the mid-1980's they upgraded to floor level Model 16s, and then in 1985 a third plant was added, also a Model 16. In 1999 a fourth Model 16 plant was added as they continued to grow.

In 2004 the company wanted to further expand with sights on the future, so they purchased 18 acres in Otay Mesa, located in the south section of San Diego County near the border of Mexico. They bought their first Columbia Model 1600 four-at-atime block machine and built plant number five during that time.



CPM+30 W/ SINGLE CARTRIDGE, FULLY AUTO-MATIC MOLD AND HIGHT CHANGE

In 2006 RCP further expanded by purchasing a CPM40, which operates in the same building as the Model 1600. Both plants have a UL26 Automatic Pallet Handling system, Trac-A-Rac automatic rack handling, and Columbia batching systems, with Spectrumatic color blending capabilities, which allows them to produce products with variegated color using a controlled process for repeatability. In 2009 they built a second building on the property at Otay Mesa and moved the 1999 Model 16 from there to Santee, adding a Columbia Trac-A-Rac system. With the closing of the Santee location on January 26, 2016, the old equipment was sold off, and new investments were made at Otay Mesa.

RCP has always strived to remain at the forefront of technological advancements in manufacturing equipment.

In 2021, RCP upgraded the 1999 Model 16 to a new CPM+30 with a single cartridge, fully automatic mold and height change. They also decided to upgrade their batching system with a new Haarup 1500L Planetary Mixer, Batchmatic G2 batching controls, Spectrumatic color blending, a new UL26 Loader/Unloader, upgrades to the Trac-A-Rac, and a new PSC200 Cuber.

When asked about why they decided to upgrade now, Mike Finch, Co-Owner and CEO, commented, "It was time to upgrade to the latest technology, plus we wanted a machine that could allow us to become more efficient. With the CPM+ automatic mold change and height change, we feel that this will allow us to produce more products with less change over time."

LOOKING FORWARD

As the industry evolves, modern producers find that automation is the way to stay relevant and maintain a competitive advantage in a market with a diminishing labor pool. Mike Finch said, "Some of our most experienced and talented employees like Carlos Chavez and Dick Finch are nearing retirement, so we wanted to take advantage of their expertise in helping us install the new equipment and get it running while we have the opportunity."

By investing in Columbia's state-of-the-art automation in the CPM+ and updated equipment controls, fewer manual adjustments will be required. Now all machine adjustments and diagnostics are performed from the HMI screen, with the added benefit of remote technical support. Columbia's service technicians will dial into the machine controls and assist with troubleshooting online. Also, all new Columbia equipment comes standard with safety advancements, which has become one of the most critical factors in a manufacturing plant. By removing employees from the equipment while running, employers can create a safer environment with happier employees.

Today, RCP has 225+ employees, many of whom have been with the company for several decades, three fully automated production lines at the Otay Mesa manufacturing plant, and six retail locations. The company is still owned and operated by the Finch family in its second and third generations, with a few fourth generations coming in from time to time. RCP continues to strive for excellence and has found that by investing in new equipment, they are also investing in their employees by making their jobs easier and safer. RCP continues to operate as one of the few independent producers in Southern California, which focuses on bringing value to their customers, vendors and employees by improving the world in creating high-quality products - one block at a time.





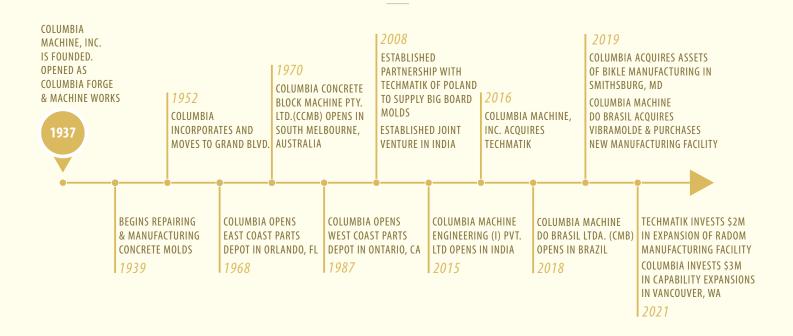






COLUMBIA MACHINE

MOLDS JOURNEY



A MESSAGE FROM COLUMBIA MOLDS - GM

With five industrial sites in North America, Columbia Molds is here to meet your molds, mold parts, and mold repair needs. Through strategic investments Columbia Molds has become a world leader in the mold industry and we invite our customers to take full advantage of our assets. Our facilities are staffed with molds experts. From shop floor personnel to your sales representative, you'll find we have the deepest experience in the industry. We value our customers above all else and take pride in our responsiveness and ease of doing business. Our team is ready to assist you with high quality molds and provide exceptional service.

Grady Jurrens General Manager – Columbia Molds





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

Visit our website or call to 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.

CUSTOMER **PROFILE**



CUSTOMER: KUNDU INFRACOM PVT. LTD.

LOCATION: EAST INDIA

EQUIPMENT: MODEL SPM26, UL-26, PSC 200

Mr. Sayantan Kundu is a native of West Bengal who doesn't believe in standing still. He is the founder and owner of Kundu Infracom Pvt. Ltd. With his technical skills, expertise, and dedicated management, Sayantan led his skilled and motivated team of employees to exceed annual production targets repeatedly.

A Mechanical Engineer by profession, Sayantan did not hurry to start his venture. After graduation, he believed in getting some corporate experience before putting his hands on his dream business. He went to France for his post-graduation, came back in 2012, gained handson experience in a high corporate job, and four years later set up his manufacturing firm, Kundu Infracom. Though his family was traditionally into trading building material, he wanted to do something different. He started manufacturing flyash bricks and hand-made pavers. As the business grew, he kept adding lines but soon exhausted his capacity. This led him to venture into value-added products like high-strength pavers, kerbstones, etc. The need for a solid concrete block machinery with an automatic handling system soon became the need of the hour for him.

Mr. Kundu evaluated many options and realized that Columbia would meet his requirements to produce value-added products with an automatic handling system. Also, given the conditions in India and the current pandemic, labor movement and its scarcity became a significant issue, especially in East India. Sayantan traveled to the interiors of Orissa to experience the working of an automated Columbia plant. He was overwhelmed to see Columbia machines running smoothly in the remotest area without breakdown. Seeing it in operation and analyzing its characteristics and capabilities convinced him that it would be a good investment. He zeroed in on a Columbia Model SPM26 Concrete Block Machine with Model UL 26 Automatic Rack Loader and Unloader System and Plate Style Cuber Model PSC 200 with turntable, the first of its kind in India. After a successful installation and system startup, Sayantan was more than pleased with the block machine and automatic handling system, which has increased the operational efficiency and safety with minimal staff management and labor problems.

Only six months into the business, Sayantan proudly owns one of the biggest manufacturing plants in this part of India, manufacturing high-strength pavers, colored pavers, kerbstones, and flyash bricks. They will soon start more value-added products and heavy-duty blocks. Columbia is proud to be associated with this young entrepreneur to fulfill his vision and is confident of growing bigger with each passing year.





CPM FEED DRAWER CYLINDER CUSHIONING SYSTEM

Columbia Machine has developed a conversion kit designed to enhance the cylinder cushions well beyond what the cylinder cushions can do, for end of stroke ONLY.

Kit Contents:

- Special Rotary valve and control arm
- Special profile and adjustable cam bar.
- Mounting brackets.
- Mounting hardware.
- Return springs and guide rod.
- Guide rod support.
- Assembly prints for basic direction.

Not Included:

 Hose from manifold to rotary valve and rotary valve to cylinder

Benefits of installing feed drawer rotary valve kit are as follows:

- Increased cylinder life.
- Feed drawer section stability.
- Feed drawer frame life.
- Cycle speed improvement.
- Decreased down time.
- Minimized expensive part repairs or replacements.





LATIN AMERICA CUSTOMER FEATURES

PROCRETO, GUATEMALA

Great companies maintain constant growth. Procreto invested in their first Columbia 1600 plant three years ago. Now they are about to receive a second 1600 plant. Product diversification, high quality, new products, and attention to detail are the trade-mark of the Zuniga family.

Procreto serves Guatemala with load-bearing blocks, face mix pavers, concrete roof tile, septic tanks, and several other products based on superior market evolution and needs. We are looking forward to continuing our relationship with them and collaborating in future business.







GUSA, MEXICO

Long time Columbia customer, GUSA, located in Baja California, México with three different locations, commissioned their 4th production facility in Tijuana, with a complete M1600 plant. While plant commission was being completed, GUSA decided to invest in a fifth plant. It's expected to be shipped by October 2022.

With a higher market vision, GUSA is a significant player. A dynamic company with excellent management, we can expect to see more from them in the future.





MASTER BLOCK AND PAVER, PUERTO RICO

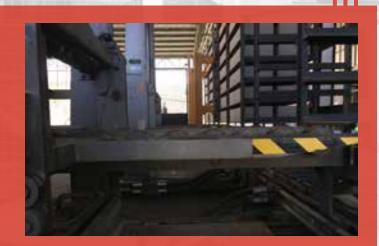
Operating in a very competitive market, Master Block and Paver decided to create new demand for color blending products. This plant resulted in a new M1600 plant with Techmatik 4 door planetary mixer and color blending hoppers. Columbia's state-of-the-art Batchmatic system controls all mixing and batching systems.

Color blending, combining two or more different colors in one piece, creates new markets with fewer competitors and higher margins. To master production using this technology, Columbia provides technical support with our highly experienced service personnel. It will follow Master Block and pavers path to success.









THE HISTORY OF

Columbia



COLUMBIA MACHINE, INC. IS FOUNDED. OPENED AS COLUMBIA FORGE AND MACHINE WORKS. INTRODUCED THE WORLD'S FIRST HYDRAULIC BLOCK MACHINE **1945**

ORIGINAL PONTIAC
SEDAN DELIVERY
USED TO MARKET
COLUMBIA'S
EQUIPMENT ACROSS
THE COUNTRY
1951

COLUMBIA
INCORPORATES
AND MOVES TO GRAND
BLVD. LOCATION
1952

MODEL 8AB, THE
WORLD'S FIRST
AUTOMATIC BLOCK
MACHINE
1954

COLUMBIA
INTRODUCES
FIRST "FLOOR
PALLETIZER F
LOCAL BREW
1962

2011COLUMBIA/OKURA
CELEBRATES 15TH
ANNIVERSARY AND
SOLD 500TH ROBOT

2009 COLUMBIA MANUFACTURING SERVICES (CMSD)

ESTABLISHED PARTNERSHIP
WITH TECHMATIK OF
POLAND TO SUPPLY
BIG BOARD MOLDS

COLUMBIA ADVANCED

2007

COLUMBIA ADVANCED AUTOMATION

INSTALLED

SALESFORCE.COM

COLUMBIA MACHINE

ENGINEERING (I) PVT.

LTD. (CME INDIA)

ESTABLISHED

2005
SOLD 200TH ROBOT
EXPANDED
PRODUCT HANDLING
CAPABILITIES WITH
ADDITION OF

PACO EQUIPMENT

AQUIRED BRUDI AUTOMATION'S LOAD TRANSFER PRODUCT LINE

PLANI

EN^T

CME INDIA SELLS
100TH MACHINE

RECEIVED P&G'S
"SUPPLIER OF
THE YEAR" AWARD
2010

COLUMBIA INTRODUCES CONTRACT MANUFACTURING SERVICES DIVISION (CMS) 2008

COLUMBIA/OKURA 10TH ANNIVERSARY

2006

COLUMBIA EXPANDS
BATCHING & MIXING
CAPABILITIES WITH

TURMAC **2003**

COLUMBIA/OKURA
SELLS 100TH ROBOT
2001

2015

3000TH PALLETIZER SOLD

CME INDIA SELLS 200TH MACHINE

INDUSTRY LEADING CPM+ INTRODUCED

TECHMATIK

2016

COLUMBIA MACHINE AQUIRES TECHMATIK

COLUMBIA/OKURA 20TH ANNIVERSARY **2017**CELEBRATED
80 YEARS IN
BUSINESS

2012CELEBRATED 75 YEARS IN BUSINESS

ARS COLUMB ESTABLI

COLUMBIA ESTABLISHES ST. LOUIS ENGINEERING OFFICE



As we look back, we want to thank all of our employees, partners and customers for their amazing support in helping us reach this historic milestone.

As we look ahead, we are excited to meet the future needs of our customers and to see a bright future for our employees and company.

-Rick Goode, Chairman and CEO



THE MACHINE LEVEL" OR A 1964

ERY

2000

RY-LEVEL

MODEL 21

PACKAGE

MODEL16 3-BLOCK

COLUMBIA CONCRETE BLOCK MACHINE PTY. LTD. (CCBM) OPENS IN SOUTH MELBOURNE, 1976 **AUSTRALIA**

INTRODUCED THE FIRST PTS (FINGER CAR) IN NORTH AMERICA

FIRST "HIGH-LEVEL" **PALLETIZER** 1980

4-BLOCK MACHINE 1984

"FLOOR LEVEL" 1600

1995 **DEVELOPED A JOINT**

1970

VENTURE WITH OKURA YUSOKI, JAPAN'S LEADING ROBOTIC PALLETIZER MANUFACTURER TO ESTABLISH COLUMBIA/OKURA LLC

1997 **COLUMBIA**

MACHINE MODEL 15E SOLD IN INDIA

1987 **CELEBRATED 50** YEARS IN BUSINESS

1985 1000TH PALLETIZER SOLD

CPM SERIES WITH PATENTED MOLD **ALIGNMENT FEATURE**

2000TH PALLETIZER **SOLD** 1999 COLUMBIA/OKURA **SOLD FIRST ROBOT**

1996

MODEL180 LARGE PALLET MACHINE

1989

COLUMBIA ESTABLISHES COLUMBIA/CONTECH

1986



COLUMBIA ESTABLISHES COLUMBIA MACHINE DO BRASIL

COLUMBIA AQUIRES VIBRAMOLDE A MARKET FOR MOLDS **IN BRAZIL**

2019 **COLUMBIA AQUIRES BIKLE MANUFACTURING AND OPENS SMITHSBURG** OPERATION

2020 **CME INDIA SELLS 300TH MACHINE**



2021 **COLUMBIA AQUIRES**

PACKAGING SYSTEMS INTERNATIONAL INC.

COLUMBIA/OKURA SELLS 1000TH ROBOT

ACQUISITION OF CONTROL DESIGN & MANUFACTURING INC. DENVER, CO

2022

85 YEARS





TECHNOLOGY UPDATES

MONOLITH

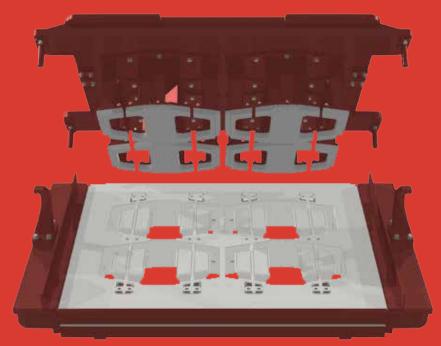
The Monolith (monoblock) molds are used interchangeably with the welded technology. This technology has a homogeneous structure where the forming elements together with the frame are made of one material (monoblock).

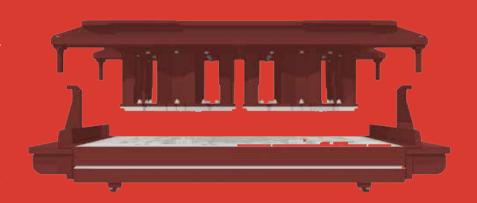
The technology allows for a standardized production thanks to repeatable processes.

Monolithic molds have only 5% of welds which significantly lower the risk of stress concentration and potential cracks.

The homogeneous wall thickness and proper layout improves the quality and mold lifetime. The advantage of this technology allows for a quick replacement of the top plates in case of excessive wear. The mounting brackets are reusable.

It allows to reduce design process time and lower the number of components towards standardization that has a great impact on a variety of parts in our purchasing process and its costs. The mold weight is optimized which has a positive effect on the vibration process with reduced required energy.





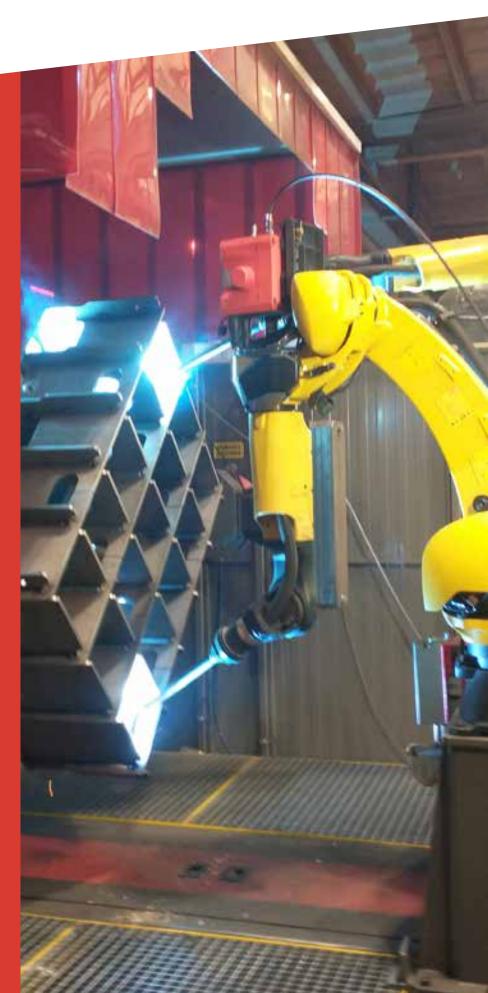
WELDING ROBOT

In 2021 Techmatik has developed welding robot technology. This is a first fully robotized welding station that allows for a very efficient and quick welding process. It's primarily allocated for the tamper heads welding process, but it may also be programmed for any other welding needs like plungers, side bars, etc..

The welding robot consists of two welding arms, operating independently. The tamper head is secured on the 5-axis positioner that rotates on the steel platform.

The welding cycle rate is 0,4m/minute (15,75 inch) for each welding arm. To load another tamper head after each cycle takes up to 4 minutes and is set up while the welding process is operating on the other side of the station. It allows for continued process, without unnecessary interruptions like set-up.

Thanks to its very efficient welding cycle, the welding process has been significantly reduced, from about **13** hours per tamper head (manual welding) to ~ **3 hours** (welding robot).



CUSTOMER **PROFILE**

CUSTOMER: KALEESUWARI REFINERY PVT. LTD.

LOCATION: SOUTH INDIA EQUIPMENT: FL150, FL3000



Kaleesuwari started its illustrious journey back in 1973 to deliver "Health and Happiness" to all households in India. The array of products is manufactured explicitly with one sole objective - helming their narrative, to elevate one's holistic health.

Since its inception in 1973, KRPL has been synonymous with great products. The launch of Gold Winner was a watershed moment in the edible oil industry. Consistency and quality became cornerstones on which Kaleesuwari built a diverse portfolio comprising food, personal care and home care products that bring health and happiness to consumers. Kaleesuwari has set its sights on international markets like the USA, Canada, UK, France, Australia, UAE, Kuwait, Qatar, Singapore, Malaysia, Hongkong, Myanmar and Sri Lanka.

Headquartered in Chennai, India and an office in Singapore, Kaleesuwari has factories in four South Indian cities and 2,000 solid and skilled technicians. These production units can handle multiple SKU formats like sachets, pillow pouches, stand-up pouches, PET bottles, HDPE jars, and tins.

Since the inception and launch of their first palletizer, Columbia has always wanted to be associated with a big name like Kaleesuwari. The breakthrough for Columbia's Palletizing Division occurred in 2007 when it sold its first Palletizer Model FL150 to Kaleesuwari Refinery Pvt. Ltd., the reputed player within the Oil Industry in India. Their primary product movement for KRPL is in the Edible Oil Segment under the brand, "Gold Winner." It was for this brand which had heavy line speeds of approx. 30 CPM per line for which they were deploying seven individuals for a manual palletizing process, hampering their process efficiency. They were looking for a solution to automate this process and came across Columbia as a leading solution provider for automatic palletization.

Kaleesuwari imparts, "End of the line was always in question due to less workforce and low cost, but integrations of a high-speed line and matching up the speeds were the concerns. Then we found a partner who not only helped us to integrate lines but also guided us to increase the layers on the pallet so that more products can move to the market and reduced the labor work."

For max and min line speeds, layer patterns, and layer stacking, Columbia recommended the FL150 as the ideal palletizer for their requirement once they did the application study. Kaleesuwari supplied an order for the first FL150 in 2007. The installation proved to be highly beneficial as they could redeploy the workforce at a more desirable location.

After a successful installation and system startup, KRPL was completely satisfied with the performance of the equipment, which has provided a reliable end-of-line solution that increases their operational safety and efficiency. It perfectly catered to their line speeds and continuous operation as per their production schedules. This success led to them placing an order for another palletizer in 2015, the FL3000, an upgraded version of the FL150. Two Columbia palletizers have proven to be the workhorses for KRPL, which runs operations in multiple shifts throughout the day.

Currently, KRPL is looking to consolidate all its packaging operations under one roof, which means that all the line outputs will be in one shed, further supplying the palletized loads to their ASRS systems in the warehouse. This action translates into a requirement for a palletizer/s that will handle speeds of at least two times higher than current speeds. We are in discussion with them to either relocate the existing palletizers to the new shed or cater to this requirement with the existing palletizers or go ahead with new palletizers.



PALLETIZER DIVISION NEWS

Columbia R&D introduces the Star Wheel Turner (SWT), Load Double Stacker (LDS), and heavy-duty CDLR conveyor.

THE NEW REDESIGNED HL2200

The recent release of the HL2200 completes the redesign of our entire High Level (HL) palletizer product line. One of the design objectives when we set out to update the HL series was to embrace the use of configurable standards by developing all five models as a "family of machines." For example, the number of common pieces, weldments, and purchased parts used across all models was streamlined dramatically. The reduction in the variety and sizes of fasteners and materials used was also part of the design criteria.

In the roughly nine years since we launched the first of the new HL series, Columbia has booked 165 new High-Level Infeed Palletizers. A testament to the plan's successful execution to continuously improve what we do and how we do it!



We are very pleased and excited about the development of these three product line enhancements. A special thanks to the Mechanical and Electrical Engineering Teams for their part and the entire Manufacturing, Warehouse, and Assembly Teams for making these new items such a success.

Historically, Columbia has always purchased load double stackers, used to place one completed load on another for more efficient finished goods handling and truck loading. Our team essentially took some of the known parameters from our existing fork style pallet dispenser, modified and strengthened as needed, and launched a new product for the Palletizing Division. To date, there are two units installed and in operation, with another two currently on order.

Similarly, Columbia has always purchased Chain Driven Live Roller Conveyor from a few select suppliers. The challenge of scheduling, inbound transportation, and in a few instances QC, led us to design a heavier duty version of what we had previously used.

The Star Wheel Turner is ideally suited to handle packages that are very small, narrow, and have a high center of gravity, which are difficult to manage with traditional methods. Three of these units have shipped over the past few months.

CUSTOMER **PROFILE**



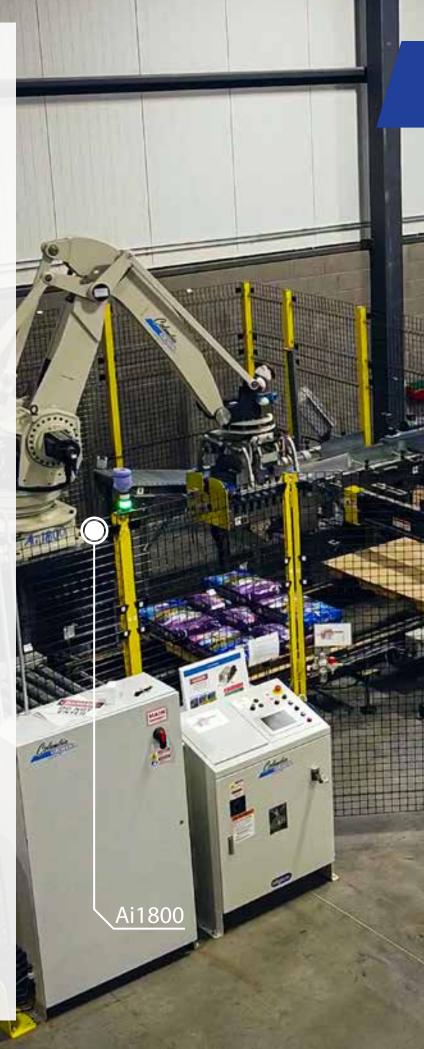
THE MARKET'S NEED FOR AUTOMATION

In 2020, Americans spent over \$103B on their pets, and this figure continues to grow year on year. Pet supply production facilities have increasingly used automation to meet product demand without sacrificing product quality or limiting jobs within their businesses. Columbia/Okura has provided integrated bagging line solutions to the pet food industry in recent years to help manufacturers meet this growth. These integrated lines are great for free-flowing materials such as pet food and include automatic bagging machines, conveyors, and robotic palletizers. This industry growth drove the need to automate for Columbia/Okura customer, Barrett Pet Food Innovations (BPI). In 2022, BPI installed a new Columbia/Okura integrated bagging line at their Little Falls, Minnesota facility.

ABOUT BPI

With 19 years of experience, BPI produces 150+ types of pet food, distributed both locally and to customers globally. Employing 425 people across their three facilities, a storage warehouse and the original facility in Brainerd, Minnesota, and an additional production/packaging plant in Little Falls, the company remains family-owned and operated. Ingredients are sourced from local producers to ensure freshness, and the meat is processed through state-of-the-art extruders, ensuring safety and cleanliness; the team of animal lovers truly care about their customers' pets. BPI is a modern company focused on progressing the art of pet food manufacturing, emphasized by its co-packing abilities, which allows customers to utilize BPI's inhouse milling, mixing, packaging, and expertise in handling pet food.





CUSTOMER: BARRETT PET FOOD INNOVATIONS (BPI) **LOCATION:** LITTLE FALLS, MINNESOTA **EQUIPMENT:** Ai1800, STATEC BINDER PRINCIPAC BAGGING MACHINE







BPI'S NEW INTEGRATED BAGGING LINE

BPI's newly installed integrated bagging line from Columbia/Okura includes an Ai1800 Robotic Palletizer and the Statec Binder Principac Bagging Machine. The Principac automates the bagging process, increasing production capacity and eliminating time-consuming and physically strenuous processes. The machine automatically fills the product bags and moves them onto a conveyor that feeds into the robotic palletizing cell. This process creates a fully automated production line, from bag filling to stretch wrapping. Chuck Raskin, Packaging Manager for BPI, has said that since installing the Principac they have reached "up to a 66% increase in productivity" when bagging pet food; other products bagged at the facility also saw 15% to 30% increases. Components like the kicker, used for moving bags onto the conveyor, and bag flattener have helped prevent bag handling and stacking issues.

Raskin puts it best when he says, "I'm not a professional robot guy, but Columbia/Okura makes you feel like one." The Ai1800 is Columbia/Okura's top-of-the-line robotic palletizer and runs at full speed to keep up with BPI's demands. While speed is essential, Raskin wanted a system that would be easy to use, "I've used three or four other kinds of robots, and it's so easy," referring to the Columbia/Okura robot. "Programming it is a lot easier Touching up points is a lot easier. Even the simple things like turning up the speed is easy." OXPA is the software used to run the robot; its simplicity ensures that training employees is easy, as well as day-to-day use and setup after installation.

66% INCREASE IN PRODUCTIVITY



THE BENEFITS OF AUTOMATION

With substantial automation entering the BPI facilities, Raskin confided, "people thought they would lose their jobs," however, Chuck explained that he still needed people to run the lines. Employees weren't laid-off but instead retrained to run the new equipment. As a result, employees were no longer required to physically exert themselves or expose themselves to the risk of injury, and they recognized their quality-of-life improvements gained from the facility's automation. This shift in job roles is a remarkable example of how automation doesn't mean eliminating jobs; instead, it can allow a business more freedom to run their company and meet industry growth. In this case, it has enabled BPI to modernize a key production line while retaining the family-oriented nature of its business.

"I'm not a professional robot guy, but Columbia/Okura makes you feel like one." -Chuck Raskin

Packaging Manager for BPI



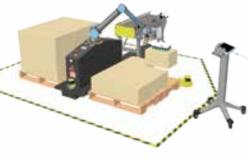


WHO WE ARE

Columbia/Okura LLC is a robotic palletizing integrator with over 25 years of experience and capabilities that have lead us into hundreds of product packaging and palletizing applications in countries all over the world. Our goal is to always evolve our product offerings to meet growing customer needs for safe, reliable, and economical systems. Columbia/Okura is ready to assist in providing the best automated solutions for our clients' needs.

miniPAL® FEATURES

- Quick Payback
- Flexible Deployment
- Easy Operation
- No Guarding Required
- Easy Setup
- Easy to Move



Our latest miniPAL® collaborative palletizing robot features the UR10e robot with a narrower frame and cover than our previous version. Its even more compact design includes a lifting column for tall loads, dual stacking locations for continuous load building, area scanners for safety instead of safety mats, built-in fork pockets for easy mobility, and intuitive pattern building software. Additionally, sheet placement and product double-picking options are available.

Utilizing the Pally software by Rocketfarm, the miniPAL® is flexible and intuitive to use.

SPECIFICATIONS

ROBOT PAYLOAD: 12.5kg / 27.6lbs

LIFTING CAPACITY: 10.4kg / 22.9lbs (robot payload less end effector)

END EFFECTOR: Schmalz Vacuum Gripper with cups

CASES: 5-8 picks/min (pattern dependent)

ROBOT REACH: 1300mm/51in **LOAD HEIGHT**: 2130mm/84in

PALLET BUILD LOCATIONS: two (2) - 40" x 48" max pallet size **INFEED CONVEYOR**: Hytrol E24 – 4' with product guides

SAFETY COMPONENTS: Datalogic area scanners

POWER: 110V single phase outlet





DAILY MAINTENANCE

- 1. Perform lock out/ tag out procedure before inspecting the mixer. Read all safety information pertaining to the mixer.
- 2. Perform a routine cleaning of the mixer.
- 3. Inspect the following mixer parts for wear or damage:

surface area of the liners should Liners:

not be lower than the plow bolts

Blades: replace if the blades cannot adjust

to between 3/16" to 1/4" from the liner panels

replace if the arms show denting Arms:

(from the thinning of the arm walls), or holes (exhibited from wear-through to the hollow core

of the arm)

We've written this article to provide tips on how you can maintain your Columbia Mixer in good operating condition. We'll start by describing a daily, weekly, monthly, and biannual maintenance routine. Finally, we'll describe how to perform a rebuild of your mixer's liner panels, mixer blades, and mixer arms.

Shaft: replace if the shaft exhibits more

> than 1" of wear between the arms, or more than 1/16" wear near the

seal area

should not be cracked or leak Shaft seals:

excess grease

Wear or damage to the liners, blades, or arms may require installing a mixer rebuild kit, available from Columbia Machine. Wear or damage to the shaft or shaft seals may also require installing a mixer shaft rebuild kit, also available from Columbia Machine. We will describe how to install either kit later in this article.

DAILY MAINTENANCE ON COLUMBIA MIXER MODELS 30, 54, 81, 108,135



4. Inspect the mixer probe for wear. Determine if the spacing from the mixer blade to the liner panels measures between 3/16" to 1/4". Adjust as necessary. In some cases, you will discover significant wear to the mixer blade, preventing you from correctly adjusting the distance between the probe and mixer blade. In these cases, replace the mixer blade as described below in "install a mixer rebuild kit".



- Concrete build-up around the door, preventing the door from closing properly. Remove excess material built up around the door.
- Alignment of the discharge door. Adjust the door as necessary.
- 6. After cleaning and inspecting the mixer tub, apply a release agent to aid in cleanup (typically 4 parts diesel oil to 1 part form oil) to the liners, blades, arms, and interior of the discharge door.
- 7. Use a grease gun to pump grease into the main shaft bearing grease point once daily with Mobilux EP-1 grease or comparable grease until new grease emerges from the grease relief plug.
- 8. When you install a new belt, use the following guidelines to inspect the belt tension, and retension as necessary:

First inspection: after 8 hours of operation
Second inspection: after 24 hours of operation
Third inspection: after 100 hours of operation
All following inspections: every 6 months of operation











WEEKLY/MONTHLY/BI-ANNUAL MAINTENANCE COLUMBIA MIXER MODELS 30, 54, 81, 108,135

WEEKLY MAINTENANCE

- Service the air system by removing water accumulated in the moisture filter. Remove water by opening the pitcock on the air filter.
- Check the lube oil level by viewing the sight glass. Maintain a minimum oil level (1/2 full), and refill with Mobile DTE Light Circulating Oil or an equivalent, as needed.
- Grease the shaft seals (located between the main shaft bearings and the outside of the tub end) weekly, using Mobilux EP-1 grease. Stop pumping grease when new grease emerges from the grease relief plug located on the bottom of the shaft seal assembly.



Clean or replace the air filter.

BI-ANNUAL MAINTENANCE

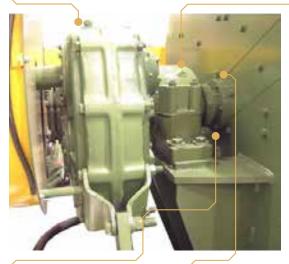
- Grease the electric drive motors every six months using a Dow Corning #44 lubricant
- Service the gearbox every 6 months or 2500
 operating hours (whichever comes first) by draining
 the gearbox and refilling using Mobil DTE heavy
 circulating oil or its equivalent.

Refill using the following steps:

- 1. Begin by placing a receptacle under the lowest plug.
- Remove the lowest plug, the highest oil level plug*, and the receptacle.
- 3. Replace the lowest plug.
- 4. Fill oil through the breather plug opening until oil reaches the level of the highest oil level plug.
- 5. Replace the highest breather plug and highest oil level plug.
- 6. The oil change is now complete.







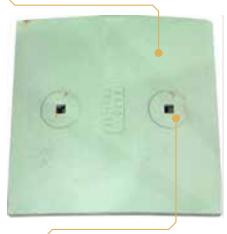
GREASE RELIEF PLUG

SHAFT GREASE POINT



HOW TO INSTALLMIXER REBUILD KIT

BACKSIDE OF LINER PANEL



RAISED FLAT SURFACE AREA

MIXER REBUILD KIT

A complete mixer rebuild kit is available from Columbia Machine.

Have your mixer model number and serial number before calling to ensure that you give accurate information when ordering the kit.

The Mixer Rebuild Kit includes mixer tub liners, mixer blades, mixer arms, and the required nuts and bolts.

SHOP.COLMAC.COM

MIXER REBUILD KIT INSTALLATION

When you receive your rebuild kit, perform the following steps:

- 1. Check the liners to ensure that the raised areas on the back are flat.
- 2. Install the liners and tighten the bolts using an air impact wrench.
- 3. Install the arms, and hand-screw the bolts in to a snug level of tightness, allowing for later adjustment of the arms. Apply Loctite #242 to the exposed threads of the bolts.
- 4. Install the blades, and hand-screw the bolts in to a snug level of tightness, allowing for later adjustment of the blades. Apply Loctite #242 to the exposed threads of the bolts.
- 5. Adjust the blades so that they are between 1/4" and 3/8" from the tub liners.
- 6. Rotate the shaft to check clearances between the blades and liners. When clearances are correct, tighten bolts in the following order:
 - a) Center arm bolts
 - b) Inside blade bolts
 - c) Outsidebladebolts
 - d) Outsidearmbolts
- 7. Recheck clearances by rotating the shaft.
- 8. Torque all bolts to specifications as directed in your mixer manual.
- 9. Reinstall all safety guards.
- 10. Grout the liners before running aggregate and cement through the mixer. Grouting the liners strengthens the bond between liners and the tub shell. Make a grouting mixture by:
 - a) Adding 200lbs. of sand with 200lbs. of cement in the mixer tub
 - b) Operate the mixer for 30 to 45 minutes
 - c) Hand trowel this mixture onto the upper liners and remove the excess mixture from the mixer tub
 - d) Allow the grout to harden for 24 hours before using the mixer

COLUMBIA EXPANDS BAGGING CAPABILITIES

BAGGING ACQUISITION PRESS RELEASES

A MESSAGE FROM COLUMBIA PSI GM

It has been over 14 years since Columbia Machine, Inc. acquired Foster Packaging and gained the capability to provide a complete bagging line, from raw materials to finished products. Since then, we have continued to grow our bagging product line by adding technical experts, increasing sales channels, and investing in product development. Launching new products like automatic bag placing and a unique dry mix planetary mixer solution provides customers with a diverse range of solutions. Our efforts to grow the bagging product line have not slowed, and we continue to expand and look for ways to reach new customers with bagging needs.

As part of this expansion, on August 1, 2021, Columbia Machine, Inc. acquired Packaging Systems International, Inc., located in Denver, CO. Columbia had a longstanding relationship with PSI, purchasing bag line accessories and working together on bag palletizing solutions. When the opportunity developed to acquire PSI, we worked to make it happen. We evaluated relocating the PSI product line to Vancouver. Still, we quickly realized the advantages of operating out of the existing space in Denver, CO. Retaining the experience of the PSI employees, an extensive talent pool of packaging candidates, and potential for growth in the PSI building added value to bagging plans. As a result, we decided to integrate our CMI bagging products and form a new Denver-based company, Columbia PSI, LLC.

During the due diligence period for PSI, we were introduced to Dale Kintgen, Owner of Control Design & Manufacturing. Dale's company, supported by a strong team of employees, supplies factory automation to a wide range of customers and offers products that fill voids in the Columbia PSI bagging product line. As we talked with Dale, it became clear that Columbia PSI was an excellent fit to continue CD&M as Dale looked to retire in 2022. Both companies share common core values, put our customers first, and are interested in future success. Therefore, on March 31, 2022, Columbia PSI acquired CD&M. Similar to the PSI acquisition, Columbia PSI retained all CD&M employees and will continue operations in Colorado.

I am excited to apply my understanding of our bagging capabilities as the General Manager of Columbia PSI. We have made good strides to onboard the PSI employees, identify areas of improvement, and establish the start of a long-term strategy for growth in Denver, CO. Each Columbia PSI employee plays a role in our success. I am confident we have the team in place to reach our goals. Feel free to reach out with any questions.

Thank you.

Tim Goode General Manager – Columbia PSI, LLC.



Columbia Machine Inc. Expands Bagging Product Line Capabilities with the Acquisition of Packaging Systems International, Inc.

VANCOUVER, WA (USA) – July 30, 2021 – Rick Goode, Chairman and CEO of Columbia Machine Inc., announced the acquisition of Packaging Systems International, Inc. (PSI)'s assets today. Located in Denver, CO, PSI is a recognized leader in factory automation solutions, designing, manufacturing and supporting bag fillers, bulk bag packaging systems, conveying systems and robotic and mechanical palletizing systems. The new entity, Columbia PSI, LLC, hired PSI employees, allowing the business to carry on without missing a day of operation or sacrificing customer commitment.

Columbia Machine will combine its current bagging product lines, which provide reliable solutions to diverse customers, with PSI's extensive line of equipment solutions. The addition of the PSI auger valve bag fillers, a full range of conventional bag palletizers, and bulk bag systems will make PSI, A Columbia Machine, Inc. Company an industry leader.

"Expanding our bagging product line is something we have focused on for several years," said Tim Goode, General Manager of PSI, A Columbia Machine, Inc. Company. "PSI has a strong reputation that we can build on, and we are excited for the opportunity to supply customers with complete bagging solutions. Our highest priorities moving forward are to take care of our customers with increased parts availability, knowledgeable sales and service support, and to provide new and innovative solutions."

"This is a great opportunity for PSI to continue serving our customers," said Michael Lott, President of Packaging Systems International, Inc. "PSI has been in business for over 60 years, and knowing that it will continue for another 60 years is reassuring. I am confident the company is in good hands with Columbia and look forward to helping with the transition as I work towards retirement."

"After partnering with PSI off and on for over 20 years, I am excited to formally add them to the Columbia Group," said Rick Goode, Chairman and CEO of Columbia. "Michael has been talking to us about how important it is for him to keep his Team together and continue the high level of support PSI customers are accustomed to, preferably based in Denver, as he retires after over 40 years. The combination of our existing Bagging Team, the PSI Team and Tim's leadership going forward, positions us well for continued growth."

The acquisition of PSI continues Columbia's strategic vision to grow its bagging product line and offer industry-leading factory automation solutions. PSI, A Columbia Machine, Inc. Company will operate out of PSI's existing location, 4900 Acoma St., Suite 1, Denver, CO 80216, under a new long-term lease. In addition to entering a new long-term lease, Columbia will be making significant investments in PSI to upgrade the current facilities, advancing design and manufacturing capabilities, improving efficiencies, increasing capacity, and increasing parts inventories. The Denver, CO location gives Columbia increased manufacturing capabilities and additional space dedicated to bagging and packaging equipment. This new Denver facility complements Columbia's other North American manufacturing, service and parts centers in Vancouver, WA, Ontario, CA, Orlando, FL, Smithsburg, MA and Mississauga, Canada.

Columbia PSI, LLC. continues to invest and grow its Denver operations with Control Design and Manufacturing acquisition.

VANCOUVER, WA (USA) – April 11, 2022 – Rick Goode, Chairman and CEO of Columbia Machine Inc., announced the acquisition of Control Design & Manufacturing (CD&M) assets on March 31, 2022. Located in Englewood, CO, CD&M is a recognized leader in factory automation solutions, designing, manufacturing, and supporting conventional bag palletizing systems, bag handling equipment, box forming and filling solutions and controls. CD&M will become part of Columbia PSI, LLC and all employees have been hired, allowing the business to carry on without missing a day of operation or sacrificing customer commitment.

Columbia PSI, LLC. will join its extensive bagging product lines with CD&M's wide range of equipment solutions. The addition of the CD&M palletizing solutions, accessory conveyors, controls, box forming equipment, and years of experience will further grow Columbia PSI as an innovative, industry leader.

"Adding Control Design & Manufacturing to Columbia PSI, LLC. is a great opportunity to expand our bagging solutions and allows us to grow our Denver-based team. We have a long-term strategy for our Denver operation and CD&M builds on that vision. In addition, the CD&M employees bring valuable experience and product knowledge," said Tim Goode, General Manager of PSI, A Columbia Machine, Inc. Company. "CD&M offers new equipment to Columbia PSI, opens new markets, and broadens our potential customer base. Columbia PSI plans to continue the same exceptional service and support that CD&M has been known for over the last 30 years of business and is excited to carry on the company and its employees as we integrate the two companies."

"As I look to retire, I wanted to ensure that CD&M would continue to supply reliable equipment and offer the same customer support that our customers are used to receiving for the last 30 years," said Dale Kintgen, President/Owner of Control Design & Manufacturing. "Columbia PSI will carry on that vision while keeping the business in Denver and providing ongoing employment opportunities for my staff. I wish I were 20 years younger so I could be part of what the future holds."

"It has been great to get to know Dale and his company over the last nine months. CD&M has been a very head down, highly technical, customer focused company since inception. The more we have been exposed to the extensive list of factory automation solutions they have designed, manufactured, integrated, installed and supported over the years, the more impressed we have become." said Rick Goode. "We are excited to integrate the CD&M Team into Columbia PSI, our Bagging and Packaging Business Unit, and look forward to offering CD&M solutions to our customers in over 100 countries around the world."

The acquisition of CD&M continues Columbia PSI's strategic vision to grow its bagging product line and offer industry-leading factory automation solutions. Columbia PSI will operate CD&M out of the existing location at 2624 S. Zuni St., Englewood, CO 80110, until the facilities upgrades are complete at the Columbia PSI headquarters. Merging the two companies in the Denver, CO area gives Columbia PSI increased manufacturing capabilities and additional space dedicated to bagging and packaging equipment. Expanding our Denver facility complements Columbia's other North American manufacturing, service and parts centers in Vancouver, WA, Ontario, CA, Orlando, FL, Smithsburg, MA and Mississauga, Canada

UPCOMING TRADE SHOWS

CONCRETE PRODUCTS

BAUMA

Munich, Germany | 24-30 Oct 2022

WORLD OF CONCRETE

Las Vegas, NV | 17-19 Jan 2023

PRECAST SHOW/ICON

Columbus, OH | 23-25 Feb 2023

THE UK CONCRETE SHOW

Birmingham, UK | 15-16 Mar 2023

COLUMBIA MACHINE ENGINEERING (INDIA) PVT. LTD.

AUTOMATION EXPO

Mumbai | 16-19 Aug 2022

INDIA WAREHOUSING

Delhi | 19-21 Aug 2022

WORLD OF CONCRETE

Mumbai | 13-15 Oct 2022

BUILDEXPO ETHIOPIA

Addis Adaba, Ethiopia | 18-20 Oct 2022

BANGLADESH BUILDCON

Dhaka, Bangladesh | 24-26 Nov 2022

PACKMACH ASIA/ DRINK TECHNOLOGY INDIA

Mumbai | 7-9 Dec 2022

BAUMA

Noida | 31-3 Jan 2023

COLUMBIA MACHINE BRASIL

CONCRETE SHOW SOUTH AMERICA

São Paulo, Brazil | 9-11 Aug 2022

PALLETIZING DIVISION

UNIFIED WINE & GRAPE SYMPOSIUM

Sacramento, CA | 25-26 Jan 2023

CRAFT BREWERS CONFERENCE

TBA | 8-10 May 2023

EXPO PACK

Guadalajara, Mexico | 13-15 June 2023

PACK EXPO

Las Vegas, NV | 11-13 Sep 2023

COLUMBIA/OKURA LLC

PACK EXPO

Chicago, IL | 23-26 Oct 2022

NWFPS

Portland, OR | 4-6 April 2023

IAOM

Minneapolis, MN | 17-21 April 2023

PET FOOD FORUM

Kansas City, MI | 2023

RMA

TBA | 2023

PACK EXPO

Las Vegas, NV | 11-13 Sep 2023



TECHMATIK

CONSTRUCT SOUTHERN AFRICAJohannesburg, RPA | 7-9 June 2022

INNOVATIVE CONCRETE DESIGN & APPLICATION SUMMIT Berlin, Germany | 9-10 June 2022

ICCX KONGRESS

Warsaw, Poland | 14-15 June 2022

BIG 5 CONSTRUCT

Cairo, Egypt | 25-27 June 2022

BAUMA

Munich, Germany | 24-30 Oct 2022

BIG 5 CONSTRUCT NORTH AFRICA

Casablanca, Morocco | 5-8 Dec 2022

ICCX NORTH AFRICA

Casablanca, Morocco | 15-16 Dec 2022



Columbia Machine is an Equal Opportunity Employer and prides itself on a strong global perspective and commitment to creating a diverse workforce. For employment opportunities, please view our website at www.columbiamachine.com