

UPtimes

SENEBOGEN®

Vol 1 • Issue 1 • 2014

...news and innovations from the world's leader in materials handling



IN THIS ISSUE

SCRAP/RECYCLING



The changing face of scrap handling..... p. 8

PORTS



Teaming up for turnkey solutions..... p. 16

FORESTRY



Branching out into multiple applications..... p. 18

Factory Tour..... p. 6

The New 875E..... p. 12

Training..... p. 22

From Where I Sit



INNOVATION has always been the driving force for SENNEBOGEN. Our family follows a German saying: “Stillstand Ist Rückschritt” which means, in essence, “*Standing still is stepping backward!*”

With that in mind, I’m very proud of the progress our company has made over the past year:

- **A 50,000 sq. ft. expansion of our North American head office...**
In doubling the size of the warehouse in North Carolina, we have shown our **commitment to the Americas** with a facility that truly mirrors the service capabilities and parts availability of the SENNEBOGEN factory.
- **New additions to our model line-up...**
Our new E-Series models are an important step forward in environmental responsibility and low total cost of ownership.
- **Valuable advances in material handler technology...**
The “green hybrid” cylinder, first seen in our new 875 models, offers our customers new opportunities to **save costs on every lift**.

Our success with continuous innovation is the result of the insights brought to us by our customers, person to person. If you want to understand where an industry is going or what **future needs** are emerging, there is no substitute for personal relationships with the people who live in that industry every day.

This is why I enjoy my trips to industry conferences every year, and the regular road trips that take me onsite at customer facilities. **Getting to know people** I met on my first visit to America – has been instrumental to the development of new services and improved products to enhance your productivity.

Recognizing the needs of people we know personally also helps us to keep our **focus on what we do best**. In our family, we are keenly aware that our own name is written on the side of every SENNEBOGEN machine. We take pride in its quality, but we always know we can do better. We are never standing still!

With this focus, we are able to make the kind of decisions that help customers most. When we see opportunities to increase machine productivity, improve uptime, respond flexibly to special requirements – we are able to **act quickly and deliver** on our promises.

Family held and family run, SENNEBOGEN has become a worldwide family of customers, distributors and suppliers who now join us in celebrating **62 years of innovation**. ■

Erich Sennebogen

Erich Sennebogen

Owner and Managing Director
SENNEBOGEN Maschinenfabrik GmbH



Contents

2 From Where I Sit

*Message From
Erich Sennebogen*

3 Contents

4 In Conversation With Constantino Lannes

6 Factory Tour

Made To Order

Purpose-built machines from
purpose-built factories

8 Scrap/Recycling

*Scrap Handling And
Recycling Solutions*

Many innovators find that
SENNEBOGEN gives them
the tools to succeed

12 The New 875E

*High Capacity Performance,
Cost Efficient Productivity*

The latest development in
hybrid technology delivers
green results

14 Balance Cranes

*Equilibrium Cranes /
Counterbalance Cranes*

The perfect balance between
engineering and application

16 Ports

Speed On The Docks

Understanding the challenges leads
to purpose-built solutions designed
to increase productivity while
reducing costs

18 Logging

Loaded Up For Logging

SENNEBOGEN's extensive line-up
offers everyone the right-sized
unit for their application

20 The Mill Yard

*Taking On The
Heavy Weights*

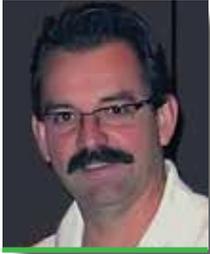
The 830 M-T is engineered
to do the heavy lifting and
pulling

22 Training To Be The Best

*Factory Training Center
Builds Coast-To-Coast
Support Network*



In Conversation With Constantino Lannes



President
SENNEBOGEN LLC

You have been leading SENNEBOGEN LLC for 10 years now – have you achieved the goals you originally set out for the company?

We are getting there, but it is a moving target. I wanted to differentiate us by trying to be as close to the customer with our dealers as possible. At the end of the day, we appreciate that our machines are the way our customers make a living. Understanding their requirements allows us to build a better machine, the type of machine they need. The closer we are to them, the better we hear them.

Putting together a dealer network in the Americas is a task you never finish. However, we are a long way from where we started.

If you are continually building the dealer network, what are the factors you look for in a new SENNEBOGEN dealer?

You have to understand the role of the dealer in SENNEBOGEN's eyes – they have to be an extension of the company, with the ability to provide all the support that the customer needs. You are looking for a company that has a strong service department, with people that can react quickly to customers' needs. That means they are willing to send people to our Training Center, and they are willing to stock

parts. A willingness to assign and train a material handling sales specialist is incredibly important. Finally, they must be able to stock units to demonstrate to customers.

Many other OEMs serve their market without the expense of putting Regional Sales Managers into the field – how do your RSMs add value to the customer?

We give the customer a more efficient purchase process. Everyone has far more to do today than they have time for. Scrap yards can't afford to spend hours and hours with a salesman who has to go back to head office to get answers. The manufacturer who has personnel who can meet the customer and talk to them - not just about the technical aspects, but the operational aspects and the safety aspects of the machine – will save time for the customer and give the customer all the details to make his decision in just one visit.

It takes cooperation between the dealer sales representative and our Regional Sales Manager to provide the customer with this level of information. Most of our dealers have SENNEBOGEN product specialists. They work with our Regional Sales Managers, who are application specialists. Together they provide the customer with all the information they need to show how the SENNEBOGEN fits into their application.



Constantino Lannes together with Erich Sennebogen (L) and Walter Sennebogen (R), Managing Directors of SENNEBOGEN Maschinenfabrik GmbH



What do you do to keep in touch personally with customers and their needs?

I travel a lot – almost 150 days a year and I always make a point of being with customers as well as dealers. I try to meet with operators, with maintenance personnel so I can get feedback at different levels. If you only talk to management and supervisory personnel, you don't always get the details that can really help us with product development.

I recall one occasion where Erich Sennebogen and I were meeting with a group of mechanics and I asked them to tell me at least one thing they didn't like about the machine. Finally, one mechanic said, "Why do I have to get up on top of the machine to see the levels for the hydraulic oil?" And Erich looked at him and said, "You're right! That's simple to fix! We can move the indicator glass to the side of the tank and you'll see it as soon as you open the engine cover." It will save time, save money and it's safer.

Erich Sennebogen can make a decision like that because his family owns the company – do customers see a difference in their relationship with SENNEBOGEN as a family-owned business?

Customers recognize that they are not buying an anonymous machine produced by a corporation. They see that there are people behind it – people

who care how the machine operates and how it will meet the customer's production requirements. Customers know that they can suggest an idea on how to improve the machine and their idea could appear in the next generation of equipment, or even the current generation!

How do you actually provide feedback to the factory for product development?

I have a conference call with Erich every week where we discuss products and product development. Erich is very hands-on, so whatever he hears from us, he brings it to engineering almost immediately.

Our product support group is also in very close contact with the product support group at the factory. We report any specific issues, of course, along with anything else we see and any ideas we have as a result of being in the field.

You have invested significantly in the Training Center at the North American head office – has it paid off for customers and dealers?

The Center has had a tremendous impact on both. We are among very few manufacturers who offer free technical training. Our equipment is a very important part of our customers' processes. Having their own mechanics trained to solve problems will reduce the cost of repairs. Since the Training Center opened, we have seen many



Constantino and the team cut the ribbon to open the newly expanded facility.

customer mechanics getting trained, and we get comments from customers saying it's a great initiative because it allows them to reduce any downtime.

The same applies to dealers. The better trained their mechanics are, the faster they can solve problems and enhance the efficiency of the customers' operations.

The best way to reduce downtime and to reduce problems is to have a good preventative maintenance program. That's something we teach in the classroom. Preventative maintenance makes investment on a continuous basis, but you save far more in the maintenance long term.

Sustaining growth will be harder now that you are #1 in your market - how do you see SENNEBOGEN continuing to grow in the future?

It's through our Regional Sales Managers working with the dealers and showing them new applications and new possibilities. This work is supported by our application specialists and our factory engineer. They also travel with the dealers to do port surveys or meet with customers to develop unique purpose-built application solutions. All of this is to help the dealer's SENNEBOGEN specialist increase his knowledge in new areas.

Our RSMs provide this expertise without adding overhead for the dealer. Our team approach lets us be close to the customer and understand the customer needs. This makes a huge difference, because it puts us in a position to design machines that support customers and give them the results they need – that's the best way for us to stay ahead of the competition. ■



SENNEBOGEN dealers and staff during the yearly ISRI conference.

Factory Tour MADE TO ORDER

The built-in value of SENNEBOGEN equipment begins with the “purpose-built” design of our manufacturing facilities.

SENNEBOGEN is able to deliver purpose-built machines competitively because our engineering and manufacturing processes are designed to respond flexibly to customer requests. We use common components across many products and build up finished products as needed.

Established more than 60 years ago, the family firm now employs over 1,100 people in Germany, Hungary, USA, UAE, Russia and Asia. These factories have produced more than 45,000 machines in the past 35 years alone. ■



Straubing I

Our corporate headquarters was built in 1959 on an 11 acre/ 4.45 hectare site on the Danube river in southern Germany. Office & production space here totals 172,000 sq. ft./ 16,000 m² and provides employment for approximately 200 workers. Manufacturing activities focus on the assembly of base carriers and the fabrication of steel components.

Straubing II

A major expansion in 2008 more than doubled SENNEBOGEN's physical plant space in Straubing. Located on 30 acres/12 hectares near the original plant, our second facility in Straubing is home to SENNEBOGEN research & development and final assembly of large machines.



In the Quality Assurance area, our Quality Team goes over each machine before it leaves the factory.



Each model in the green line can be built to basic specifications, then mounted on the customer's choice of mobile or stationary platforms.



SENNEBOGEN material handlers begin with a wide range of common components that streamline customization and also simplify aftersale parts and service.



Balatonfüred

Best known as a lake resort, this town in the west of Hungary also provides an important link in the SENNEBOGEN manufacturing process. The 235,000 sq. ft./22,000 m² facility was integrated into the group in 1996. Its 300 employees are responsible for the fabricating of steel components as well as the machining of steel structures.



Wackersdorf

SENNEBOGEN built its second factory in 1991, located one hour north of the corporate head office. As our resources have grown, the Wackersdorf plant has been designated as the main site for final assembly of *green line* material handlers. The 270,000 sq. ft./25,000 m² office and production facility is staffed by 200 employees.

Scrap Handling Evolves Into Recycling Solutions

Traditional scrap processing has been moving out of the yard and into a greater role in the recovery of valuable resources. Many innovators in the industry find that SENNEBOGEN equipment gives them the right tools to help new ideas succeed.



The 821 feeds a pair of grinders as part of maximizing the revenues from every demolition project.

Meticulous Material Handling Is Key To **MAXIMIZING REVENUES** For Dismantling Specialist

Dan Costello takes the recycling potential of the demolition business very seriously. He is a past board member of the National Demolition Association and he serves on its Environmental Committee. He also chairs the product specification committee of the Construction Materials Recycling Association (CMRA).

In addition to meeting environmental standards, Costello's methods generate additional revenue streams which then allow the company to bid more competitively on large complex jobs. "Whether through revenue generation or reduction in costs, it works out to be pretty much the same in that there's a positive value towards

the project," he says. "It's very common for us to recycle over 90% of the material."

The heart of Costello's dismantling operation is an inventory of equipment carefully chosen to sort and process materials right on the project site. He recently acquired a fleet of mobile shredders to convert wood waste into graded fuel products. The shredders led him to the purchase of a new SENNEBOGEN 821 material handler to feed the grinders with a mag-grab.

Costello's 50 full-time employees complete over 100 deconstruction projects each year.

In the demolition of the 800,000 sq. ft. Quaker Fabrics textile mill in Fall River, MA, Costello's expert crew salvaged

a treasure trove of southern yellow pine timber, massive granite blocks, concrete, bricks and metal. Of its 100,000 tons of mixed material, less than 2,000 tons were sent for disposal. The rest was recycled, reused, or applied onsite to offset fill costs.

"We look very carefully at each job to identify those materials that are most easily handled and recyclable; the highest and best use opportunities for each type of material," says Costello. "We have tailored our equipment fleet and our personnel training to be disciplined between the different markets for materials."

"The thing we learned early on was the need to meticulously manage the infeed," Costello explains. "That mainly involves picking out any heavy metals before the load goes into the shredder. This will minimize damage and minimize downtime on that side of

the operation. The mag grapple gives us the capability to pull steel out of the wood, then load the wood into the grinder with the same grapple.”

“The SENNEBOGEN does a nice job of handling timbers so we don’t damage them in sorting and loading,” he continues. “It handles the wood

delicately and efficiently. We’re always looking for wood, carpeting, gypsum wallboards... it all requires a lot of very careful handling and the SENNEBOGEN gives us those handling characteristics that we appreciate.”

Costello reports that the 821 worked

so well in the feeding application that he also sent it out on a demolition job to sort through mixed material and separate the iron. It separates clean concrete from wood material and gives us more economical options by keeping the waste streams separate. It does that job very well; it gives you good control over the sorting.” ■

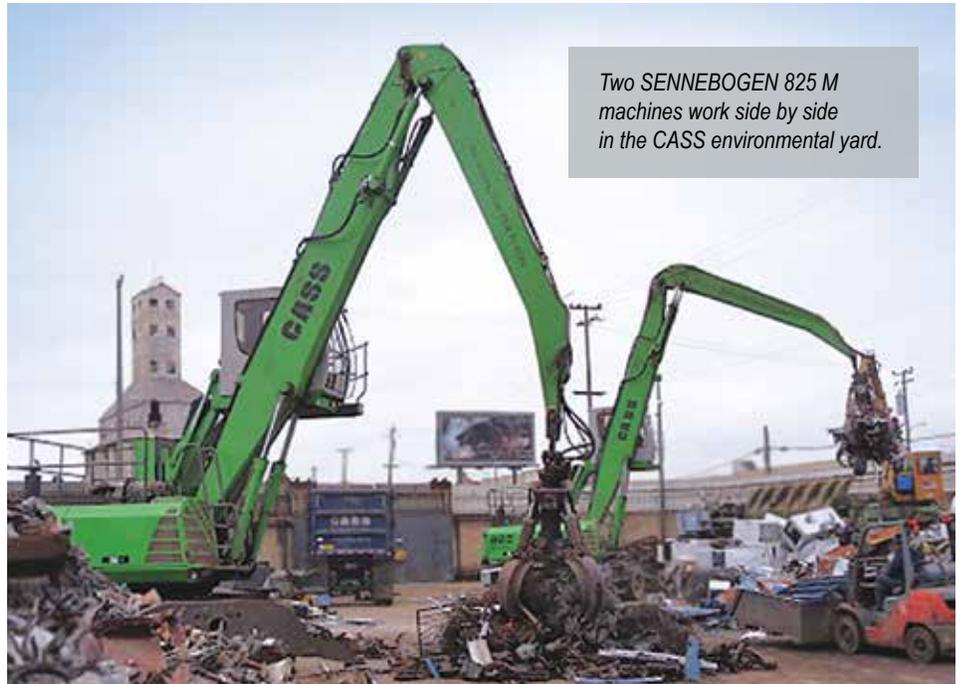
Investment In **SERVICE** Inspires **CONFIDENCE** For New Steel Processing Business

CASS (Custom Alloy Scrap Sales, Inc.), based in Oakland, CA, is recognized as a leader in the production of secondary aluminum. An acre of its facility is dedicated to a newer operation, preparing scrap steel for international markets with a Sierra T-500 shear baler.

“Due to the small footprint of our steel yard and volume of material being turned, we have no choice but to process material in real time,” explains CEO Edward Kangeter. “We can’t afford to have equipment down. We run our steel operation 2 shifts a day, 6 days a week and expect our equipment to be up and running. We cannot tolerate it down, ever.”



A SENNEBOGEN 825 M D Series with high rise cab gives the CASS operator a clear view.



Two SENNEBOGEN 825 M machines work side by side in the CASS environmental yard.

“Talking with Constantino Lannes gave me confidence (in SENNEBOGEN). Anyone can talk about what they’re going to do, but actions speak louder than words and making a significant capital investment into the US market, demonstrates they’re committed to the market for the long run.”

CASS placed the order with the region’s SENNEBOGEN distributor, Bejac Corporation, for its first green machine in early 2010: an 825 M rubber-tired scrap handler.

“Having Bejac on board gave me confidence we would receive superior service combined with SENNEBOGEN’s vision & investment in the US market, I could focus on maximizing production and profitability!”

Kangeter had the service and support solution required to move his business to the next level.

The 825 M weighs in at 64,250 lbs. and is powered by a 173 HP Cummins engine. The CASS machine was equipped with SENNEBOGEN’s latest D Series maXCab operator’s station, including hydraulic elevation to a height of 19 ft. above ground level. In its first year on the CASS site, the 825 M logged more than 4000 hours.

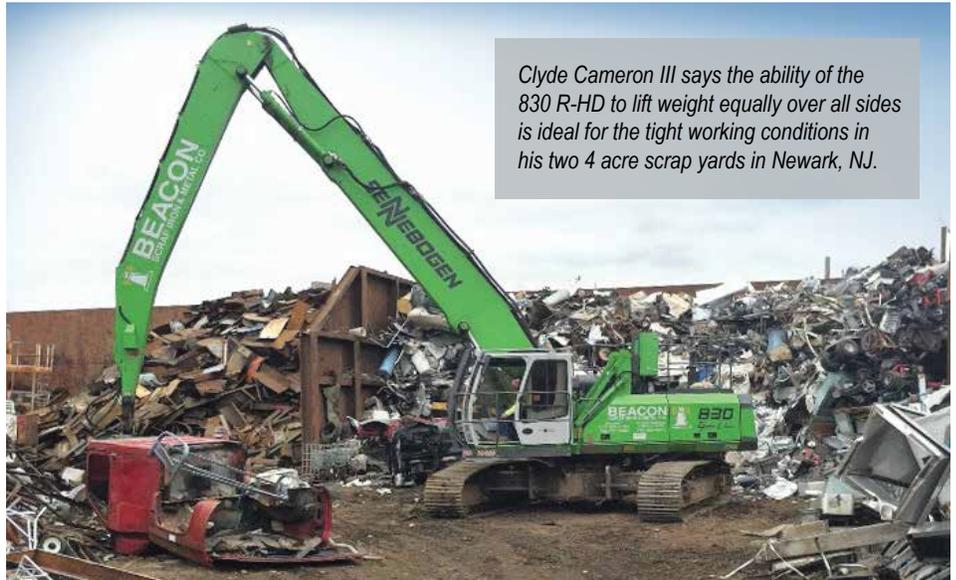
“The launch has been incredibly successful,” says Kangeter – successful enough that he recently purchased a second 825 M for his yard. “We did look at getting a larger model for the second unit, but in this small site, it’s advantageous for us to have the largest piece of equipment we can while keeping the footprint as small as possible.” ■

NJ Recycler Produces MORE FOR LESS With New SENNEBOGEN 830

A quick scan around the recycling yard in South Amboy, NJ, tells you that Clyde Cameron III is a value-conscious equipment buyer.

Clyde takes the lead in equipment purchases for his family's 40-year old business. He explains, "It seems the only thing you can't buy used these days is a good material handler on tracks. When we compared the cost of a new SENNEBOGEN, it really split the difference between a used machine and the new cost from other manufacturers."

"When you convert an excavator into a material handler, even at the factory, there's an added expense.



Clyde Cameron III says the ability of the 830 R-HD to lift weight equally over all sides is ideal for the tight working conditions in his two 4 acre scrap yards in Newark, NJ.

It's expensive to begin with and then it's expensive in fuel. SENNEBOGEN machines are made for this job. You aren't paying for a dirt machine, then paying to make it do something else. All the same size class machines that I

saw were around 20% higher in cost," he reports, "and they still couldn't do the same job. It's a 90,000 lb. machine that outlifts, outreaches and moves faster than the 120,000 lb. machines they replaced!" ■



**Joel Denbo
On SAFETY**

"During my time as ISRI's (Institute of Scrap Recycling Industries) Chairman, I became known as the "Safety" Chairman. I felt like the machinery manufacturers were not listening to what we needed versus what they wanted to sell. I made the initial [SENNEBOGEN] purchase and I saw something I thought could be done better. I discussed it with Walter and Erich Sennebogen. They listened. In subsequent machines, they made the alterations that I thought were imperative to the scrap industry.

I like the fact that you can talk to the owners and the designers of the machinery and that, if you have a legitimate issue, you don't have to wait a long time before it starts showing up in the product line. Access to owners of the company is something that, as an owner of machinery, I like - and the fact that they will listen to you, too." ■

Joel Denbo, Tennessee Valley Recycling LLC, Decatur, AL



**John Sacco
On QUALITY**

"We set out to buy several handlers three years ago, and our culture and approach is to shop for quality first.

We have found that, two and three years later, they're still running and running strong. You don't feel like you're running a tired old piece of iron. Our employees have really seen that we have provided them with top-notch, quality equipment. It ties into our profit-sharing program and other parts of our company culture that our employees appreciate these machines and treat them well, because they want to protect these investments.

Our experience with the first two machines we bought was so positive that we had little hesitation in buying two more SENNEBOGEN material handlers about a year later. It was important to us that the machines lived up to their billing as tough and durable - to handle a very rugged set of tasks. And they have." ■

John Sacco, Sierra Iron & Metal Co. Inc., Bakersfield, CA

Demolition Expert Takes SENNEBOGEN's Lead For **EQUIPMENT SAFETY**

MCM Management Corp, listed as one of the Top Ten demolition contractors in America, had not expected to make a change in its choice of hydraulic material handlers.

But when the firm's preferred model was discontinued by its OEM, MCM's Fleet Manager, Dan Perry, found that his search for a suitable replacement also took his operations a step forward in safety.

"There are so many hazards in this field of work; SENNEBOGEN recognizes it and we're looking at our equipment the same way."

"The 825 gives us an unparalleled level of safety to protect the operator and maintenance crews," Perry continues. "The operators' input to us was that they really liked having these cameras and they feel that it provides them with an extra level of safety. SENNEBOGEN does a great job with their catwalks and cameras, so we took that and adapted it and where possible customized our other machinery as well."

With up to a mile to travel between work zones at the 350 acre Sparrows Point demolition site, SENNEBOGEN's wheeled material handlers move quickly to keep material flowing.

Along with the guarding that SENNEBOGEN includes as standard equipment, Perry notes that the machines' auto-lube feature also makes them safer, as operators and technicians now spend less time walking on and around them for servicing. MCM's large fleet of heavy equipment has been getting retrofitted with similar handrailings, including their demolition excavators up to 250,000 lbs., large dozers and water trucks.

MCM specializes in large scale demolition projects: auto manufacturing plants, stamping plants and steel mills. Perry and the owners of his company, Rob and Dave Mardigan, agreed to put their first SENNEBOGEN 825 to the test at the former GM Stamping plant in Grand Rapids, Michigan. The men were all pleased with its ability to move in and out of the press plant to perform various clean-up tasks.

On large sites where a crawler-based machine could take all morning to move from one job to the next, the wheeled machines make the trip in just 5 or 10 minutes. Simply getting the machines to the project site was also a major factor in MCM's decision to go with SENNEBOGEN equipment.



The SENNEBOGEN 850's standard design with guarded catwalks, railings and safety cameras inspired MCM to retrofit its entire equipment fleet to an equal standard.

"The fold-up transport mode of this machine (the 825 M) was a big, big thing for us – it was a key factor in Michigan. You just drive it onto the heavy hauler and drive it off. With our previous machine, you had to remove the stick and reassemble it at the job. I estimated any transport as at least a day."

Equipped for major projects

Since MCM acquired its first 825 M wheeled material handler, its SENNEBOGEN fleet has expanded. Today, most of the green machines are at work on one of the nation's largest-ever demolition projects: decommissioning the 350-acre site of the former Sparrows Point steel mill in Maryland. Halfway into an estimated 3-year undertaking, the operation will dismantle 20,000,000 sq. ft. of roofed mill facilities in 75 structures. MCM will recycle 98% of the recovered material, with only the asbestos and other regulated wastes going for secure disposal.

While the 64,000 lb., 825 M models take on a wide variety of clean-up and pick & carry duties, MCM has also added a few larger SENNEBOGEN machines, including the 120,000 lb., 840 M and the 130,000 lb., 850 M. "The 850 is your superstar," say Dan Perry. "We use it to load ships and barges, and load quarry trucks as well, while the 840 is pretty much dedicated to rail." ■



With up to a mile to travel between work zones at the 350-acre Sparrow's Point demolition site, SENNEBOGEN 850 wheeled material handlers move quickly to keep material flowing.

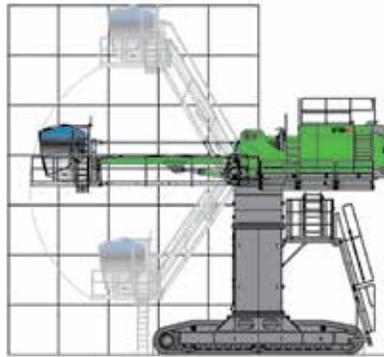
MONEYMAKER!

The New 875E Material Handler Combines HIGH-CAPACITY PRODUCTION With The Industry's New Standard For COST-EFFICIENT PERFORMANCE

SENNEBOGEN has introduced today's most advanced technology for efficient material handling with the newest model in the *green line* series.

The new 875E material handler is equipped with the innovative GreenHybrid cylinder and accumulators which recapture latent energy in the hydraulic lift system. GreenHybrid technology reduces the energy cost of lifting loads by up to 30%. ■

Operating Weight	310,000 - 365,000 lbs/140 - 165 tonnes
Engine	Cummins QSX 15 C525
Power (Diesel -Tier 4i)	525 HP (391 kW) @ 1800 rpm
Max. Reach	59 ft - 88 ft / 18 m - 27 m



MasterCab

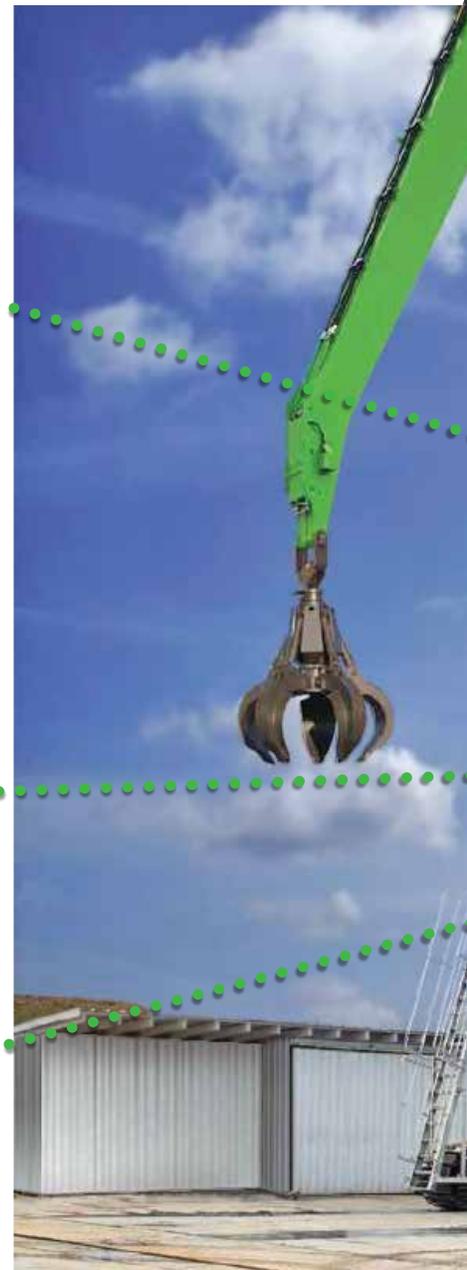
- Hydraulic elevating
- Improved loading accuracy and speed
- Improved safety for crews, customers and equipment
- Comfort cab reduces fatigue, increases productivity

eGREEN

- Optional electric drive reduces energy costs by 50%
- Longer life for hydraulic components
- Lower cost for maintenance and service parts
- No downtime for fueling

Focus on Safety

- Complete guarding package standard
- Sliding door cab entry
- Ground-level servicing
- Back-up cameras: no blind spots

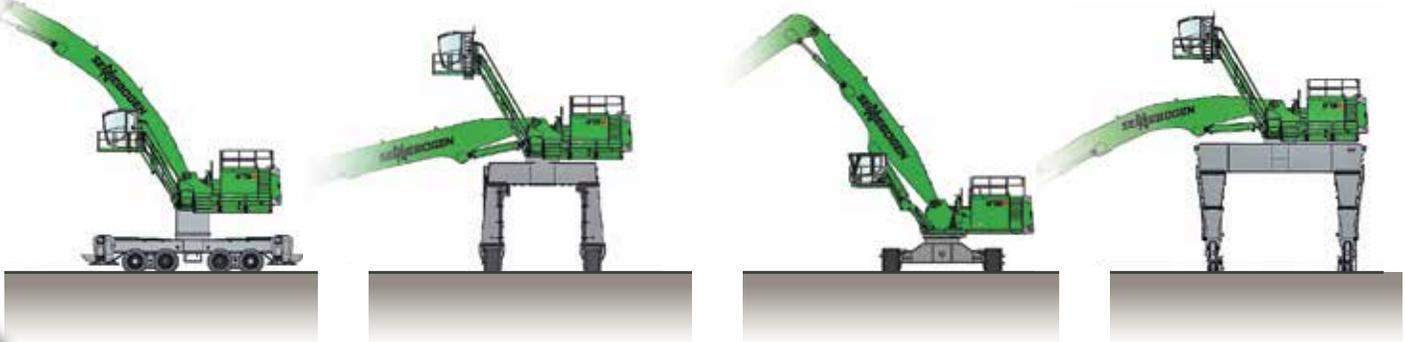


4-Axle Wheeled Undercarriage

Crawler Gantry Undercarriage

Crawler Undercarriage

Railway Gantry Undercarriage



SENEBOGEN
GreenHybrid

- Accumulators capture potential energy generated by vertical boom movements
- Recover up to 30% of lifting energy from the boom
- Engineered with standard hydraulic components
- Guarantees high productivity, fast cycle times combined with high lift capacities



- Optimized engine settings
- Automatic idle / engine stop control
- ECO mode matches power to load demand



The GreenHybrid cylinder is engineered with standard hydraulic components and positioned between the two boom cylinders for easy servicing.



The effective rear-mounted system is well protected minimizing possible damage.

Balance Cranes

New EQ Cranes Balance **POWER** With **ENERGY SAVINGS**

Building on the success of the original 880 EQ material handler, SENNEBOGEN has improved the development of the balance crane concept with a new series of EQ cranes.

The EQ system is based on the lever principle, which builders have used to handle large loads since ancient times. EQ, for “equilibrium”, reduces the crane’s expenditure of energy by offsetting the weight of the lifting load with a counterbalancing system. Pivot points in the balancing system shift the counterbalance weight to maintain a constant equilibrium with the position of the load.

This design allows the new series of cranes to extend their reach further than traditional material handlers and handle more weight throughout their lifting envelope, while reducing energy and operating costs by as much as 75%.

Balanced Design = Lower Total Cost of Ownership (TCO)

EQ cranes are controlled using just two cylinders. A beam running parallel to the boom connects the stick to a rear counterweight, providing a direct transmission of power from the load to the counterweight. With every movement of the boom and stick, the beam holds the counterweight in balance through use of the classic lever principle. In this way, the balance system consistently offsets the weight of the machine itself – almost no energy at all is needed to move the boom and stick. Additional power is required only to lift and swing the attached loads, achieving an enormous saving of effort and energy. This energy saving alone can reduce operating costs by as much as 50%.

The EQ cranes save even more energy when driven by electrohydraulic power. With electric drive, the largest of the three machines, the 8160 EQ, uses just 25% of the energy consumed by its diesel-powered version.

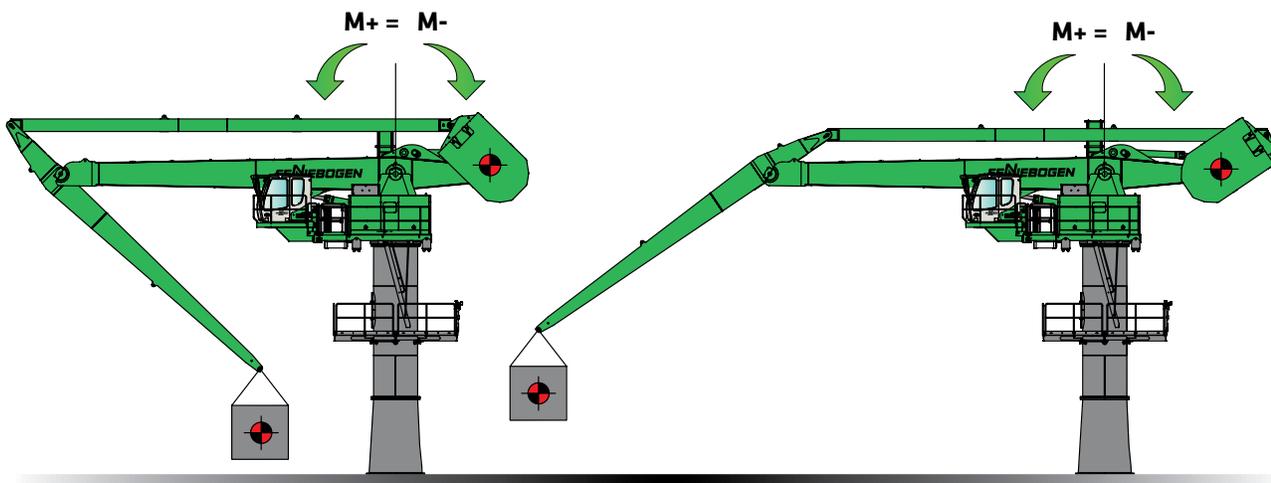


The 8130 EQ machine is equipped with a compact walk-in powerpack that provides easy access to all maintenance check points, all using standard SENNEBOGEN components



The EQ counterbalance uses a simple lever mechanism to automatically adjust to the movement of the load on the boom.

The EQ System - Always In Balance

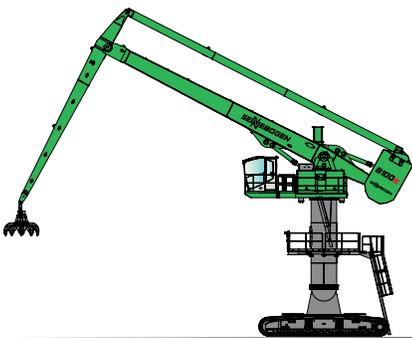
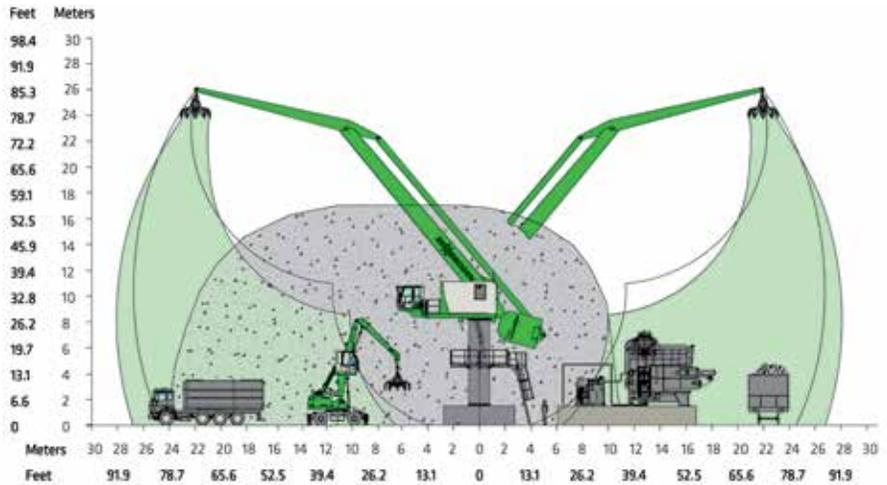




The Green Solution

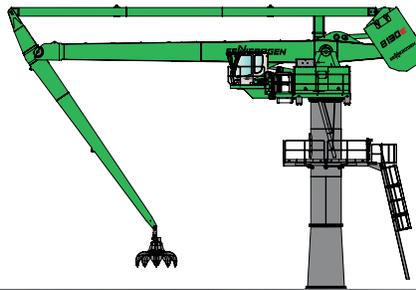
In ports or in scrap recycling yards, the new EQ cranes are the right solution for moving large volumes of material for the lowest cost and with the least environmental impact.

The three models are all offered in a full range of versatile mounting options including pedestal, portal, foundation, rails, pontoon and crawler platform with diesel or electric power. ■



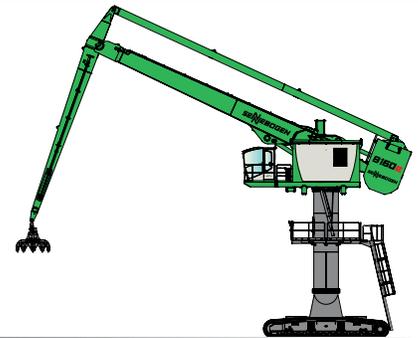
8100 EQ*

K21: 11,100 lb / 5.0 t @ 69' / 21 m
 K23: 9,920 lb / 4.5 t @ 75' / 23 m



8130 EQ*

K21: 13,230 lb / 6.0 t @ 69' / 21 m
 K23: 12,125 lb / 5.5 t @ 75' / 23 m
 K25: 11,464 lb / 5.2 t @ 82' / 25 m



8160 EQ*

K27: 13,230 lb / 6.0 t @ 88' / 27 m
 K30: 12,125 lb / 5.5 t @ 98' / 30 m

* MAXIMUM REACH @ LIFT CAPACITY



Redpath's 880 EQ crane is equipped with a Rotobec 11 yard clamshell and traverses the length of the dock on four 5-wheel races. The gantry tracks are offset in height, with the races next to the factory wall elevated to maximize dock space at ground level.

Turnkey Services Provide Engineered Solutions For Port Facilities

Redpath Sugar Is **CLEARING** The Dock **FASTER** With A SENNEBOGEN Equilibrium Crane

Located right on the north shore of Lake Ontario, the Redpath Sugar factory in Toronto, Canada, relies on ships plying the St. Lawrence Seaway to bring raw sugar from South America and the Caribbean to the inland factory. As a winter port where temperatures can dip to -20°C , shipping can be a challenge through a large part of the year.

After more than 50 years of service on the harbor, two older rope cranes

were becoming costly to maintain and the demand for throughput was rising. The goal for the upgrade project was to deploy a single unloader that would increase the transfer rate by at least 50% over the combined production of the two rope cranes.

Along with the new crane, Redpath's Manager of Engineering Projects, Jonathan Dunn, called for installation of the complete transloading system.

"We were looking for a total turnkey solution - to be able to just walk out the door to the dock, turn it on and go," Dunn said. The project included a new 20 ft. square hopper and conveyors to deliver sugar to the existing conveyors in the storage shed. The whole system would also have to conform to the load limits of the existing dock, located in the downtown area of Toronto. Despite these difficulties, SENNEBOGEN and their distributor, Top Lift Enterprises had the project on track by the time Toronto's shipping season reopened, with construction on the dock completed and the 880 EQ operational. ■

SENNEBOGEN ACCELERATES TURNAROUND, REDUCES COSTS In Charleston Port With Supersized Electric Drive Scrap Handler

When SENNEBOGEN approached Kinder Morgan with the concept of a 370,000 lb. 880 R-HD material handler, discussion focused on faster turnaround for a fleet of 100 ton haulers and reducing the impact of rising fuel costs.

After commissioning the largest electric drive scrap handler in the country, the Kinder Morgan Energy Partners barge facility in the Port of Charleston, reduced its truck use by 25% while still keeping pace with demand for deliveries.

“We move between 1.5 and 3.5 million tons of material out of port here every year,” says Terminal Manager Daryle Wall. He says the facility has experience using “every kind of material handler, crane or excavator you can name” but was already looking for a new alternative when SENNEBOGEN presented the idea for the 880 scrap handler. Since the new machine went into operation, diesel deliveries are down more than 20%, saving the facility significant costs on a monthly basis. ■



This SENNEBOGEN 880 R-HD electric drive scrap handler in Charleston is moving more material with its 10 yard grapple than the facility's former rope crane produced with a grapple twice the size.



The Kinder Morgan terminal in Amory, MS, sits on 24 acres of land and operates one continuous dock to handle commodities such as bulk ores, petcoke, steel, lumber and rock coming

Mississippi Terminal REDUCES OFFLOADING TIMES With SENNEBOGEN

from cargo barges in the Tenn-Tom Waterway.

Jim Strawn, the Amory Terminal Manager, reports that the facility is operating an 870 M equipped with a 6 yard clamshell bucket and a generator package. “In the future, we are looking at doing a few more things with it like attach a magnet and grapple to give us a little more versatility.”

“From a serviceability standpoint, it can't get any simpler,” he continues. “It utilizes smart and simple engineering

without relying on complex electronic instruments to ensure the machine starts up and works all the time.”

While simple to maintain, it is the performance that counts and Strawn says he had a pleasant surprise when the 870 M first went through its paces. “I was looking for a machine that can offload a barge in six to six and a half hours. So far, if the conveyors are working alright, the SENNEBOGEN unit can unload a standard 35' x 200' river barge in about four and a half to five hours – 25% faster than anticipated!” ■

870 R-HD Is '100 TIMES BETTER' For Busy Ohio River Barge Service

The addition of a SENNEBOGEN 870 R-HD material handler has become a “curse and blessing” for Mt. Vernon Barge Service, a busy Ohio River stevedoring company. Wayne McDonald, Chief Operating Officer, explains, “Customers see we can empty a barge in four hours now instead of eight, and they ask, ‘How come I can't have it?’ Everybody wants it. For the customer, this is a big deal; it gets them in and out so much faster. When the barge comes in, we get three

free days to load it or offload it. After that, we pay a barge line daily penalty. That's incentive.”

At 204,400 lbs., the multi-purpose SENNEBOGEN 870 R-HD offers reach up to 66 ft. It handles magnets as large as 84" and grapples up to 4 cu. yds. for traditional scrap handling applications. “I've been doing this for 30 years, and this machine is great,” says machine operator Jim Clayton. “It's 100 times better than our lattice boom cranes”. ■



Loaded Up For LOGGING

With a starting line-up of ten basic models, SENNEBOGEN offers today's logging industry's widest choice of purpose-built log handlers.



830 M-T

This range, from 44,000 to 89,000 lbs. is expanded even further when you account for the choice of mobility platforms and optional boom & stick configurations. SENNEBOGEN's modular engineering and manufacturing concept makes it easy for customers to have their loaders built to suit any application or log yard without the extra cost of custom building.

The **830 M-T** was the first green machine specifically engineered for log loading applications in mill yards. The M-T model is a versatile lift & load machine built on a heavy-duty undercarriage redesigned for extra towing stresses. Its drive train is specially geared to pull trailer loads of up to 100,000 lbs., even over difficult

terrain. With the highest drawbar pull of any machine in its class, the 830 M-T is able to move large loads from distant stockpiles to the feed deck quickly, with no rehandling required.

The 830 M-T is powered by a Cummins 206 HP engine. Its standard configuration provides a reach of 50'3" for high stacking and efficient loading at the mill.

The M-T undercarriage is unique among SENNEBOGEN material handlers, with two transmissions providing final drive power separately to its two axles. This arrangement provides optimum trailer-pulling power for moving through wet, soft yard conditions, while minimizing stress on the drive train. ■



830 M-T



830 M-HD S

360° of lift ▼

SENNEBOGEN log loaders can lift their maximum load limits through their entire 360° of swing. Able to pick full loads from any direction, operators can complete tasks with minimal maneuvering between or around stockpiles in congested yards.



821 M

The **830 M-HD S**, like the 830 M-T, ▲ is built on that same undercarriage concept, providing a more durable, more powerful platform for challenging yard conditions. Also available with pneumatic tires, the 830 M-HD S combines excellent floatation and traction with the strength to pull loads up to 80,000 lbs.



825 M

Built for tight spaces ▲

Compact purpose-built log loaders like SENNEBOGEN's **821 M** and **825 M** machines squeeze into tight congested yards, such as feed deck areas, with the maneuverability and rapid cycle times to achieve efficient throughput for the mill.



735 M-HD

Pick & carry ◀

SENNEBOGEN's pick & carry machines, such as the **735 M-HD**, deliver rapid cycle times with low operating costs for transloading trucks and decks.

Mount up! ▶

While SENNEBOGEN "M" machines provide high-speed wheeled mobility for large mill yards, the full model range is also offered on R-HD tracked crawler platforms, recommended for yards

where heavy mud is a challenge. The same basic units are also available on stationary pylons, gantry mounts or fitted onto rail cars.



830 R-HD

The Specialist: 830 M-T PULLS ITS WEIGHT In Every LOG HANDLING Task

While every SENNEBOGEN material handler is designed to serve multiple lifting and carrying jobs, the 830 M-T is uniquely engineered to take on an additional role: as a heavy-duty trailer puller.

The 830 M-T features an undercarriage designed specifically to provide the extra strength and rim pull to pull loads up to 100,000 lbs. in log yards. The most obvious difference from other SENNEBOGEN machines is in its front and back axles, each equipped with its own transmission. The dual transmissions share the load stresses, ensuring longer service life, and provide true all-wheel drive to pull through the most difficult yard conditions.

The 830 M-T is equipped to complete the entire duty cycle from stacking and sorting to feeding the hardwood mill at Ward Timber, in Texas, without requiring other machines to feed it or pull its loads.

In a yard that varies from a hardpan surface to heavy mud as the seasons change, the green machine's dual transmissions provide the durability to maintain the maximum uptime year-round.

At the Port Hawkesbury paper mill in Nova Scotia, Woodlands Supervisor Dennis Boulet says, "We purchased the 830 M-T because it's a material handler as well as a trailer puller."



With its cab elevating to about 20 ft., the 830 M-T helps operators to work with the mill's new infeed deck, which runs from 18 ft. to 26 ft. in height. "Our loaders didn't have the height, and the material handlers didn't have the trailer pulling capacity. Once our operators and mechanics saw what this machine could do, that pretty much told us that this was the machine that could do the job."

From June to early Spring each year, Services Forestiers R.G.T. runs its

loading operations about 100 hours per week in a remote northern Quebec location. The camp relies on its 830 M-T to keep moving wood with minimal downtime for service or repairs. The camp's Manager, Luc Gauthier reports, "The results have been good: the fuel economy, its stability on the rubber tires. Its lifting ability is excellent; you don't feel the weight of the wood. The capacity is good and the pulling power is very strong." ■



SIMPLE ENGINEERING And 360° LOAD CAPACITY Make 830 R-HD The Only Choice For West Point Chips

Chad Cowart ordered the SENNEBOGEN log loader for Virginia's West Point Chips in 2006. That machine ran for almost 17,000 hours in its first four years. When Cowart was ready to order another log handler, he knew exactly what he wanted – the latest model of the same machine.

Cowart special-ordered an 830 R-HD fitted with a Rotobec 8610 grapple

and running on flat tracks – a feature that lets the machine negotiate over logs and uneven areas of the dirt yard, without scraping up the paved sections outside the loading area. The tracks extend out to 14'9" and provide an exceptionally stable lifting base. "You can lift and move as much out the side of the machine as you can to the front or the rear. No other machine we've

This 830 R-HD works 18 hour shifts every day to help West Point Chips process 300 truckloads of wood into pulp chips.



seen can match its 360° capacity." The 830 R-HD spends about 18 hours of each day unloading short wood, stockpiling and loading the conveyor to the chipper. ■

The new 821 M log loader at Scotia Atlantic Biomass runs seven 12 hour shifts a week feeding a CBI 6400 T chipper.



DEPENDABILITY And Simplicity Go Together For COST SAVINGS

When Miles Wright needed a new log loader for the Scotia Atlantic Biomass pelleting mill he manages, he looked outside the industries he already knew. "As our other loaders were getting older, I got concerned about their electronics. They were very computerized and not easy to troubleshoot. I got to know some scrap people in the area when I was overseeing a large demolition project.

They had nothing but good things to say about their SENNEBOGEN equipment."

Impressed by the green machines' dependability, Wright's facility, located on the Atlantic shore of Nova Scotia in Canada, recently took possession of a SENNEBOGEN 821 M. "I liked SENNEBOGEN's idea of simplicity for low long-term cost of maintenance. The 821 is perfect for us," says Wright. "It's compact, maneuverable and it's good on fuel. Our chipper is remote controlled and runs on a track, with the control in the cab of the SENNEBOGEN. This makes it a one-man operation." ■

PRECISE PICKING Gets Mill Out Of A Jam

For years, clearing cross-ups from the infeed deck has been a recurring, and costly, fact of life at the Swanson Group's dimensional lumber mill in Glendale, Oregon. Its high-speed scanning and production equipment are state-of-the-art, but the mill found that it needed a log loader to pick out jammed logs on the path from the debarker toward the mill's infeed.

Giving the job to an 825 M material handler solved multiple problems for the yard co-ordinator, Mike Lawless. With traditional loaders in his fleet, the operator could not actually see the

jammed logs. Even with an extra worker from the mill "spotting" for the operator, the loader with a grapple bucket regularly damaged the equipment, resulting in days of downtime and expensive conveyor repairs.

With the elevating SENNEBOGEN cab, the operator can now see the jam clearly to pick the logs precisely and safely and the operation can be completed by just one person, instead of two. Lawless also found that the 825 M is a versatile tool for additional loading and high-decking applications throughout the yard. ■



Being able to see into the infeed deck eliminated damage to the conveyor system and lost production.

FACTORY TRAINING

Builds Coast-to-Coast SUPPORT NETWORK For SENNEBOGEN Customers



When SENNEBOGEN LLC opened its new headquarters in Stanley, NC, in 2009, the facility was equipped with one of America's premier OEM Training Centers for heavy equipment.

Since then, over 1,000 technicians have attended the hands-on courses in material handler maintenance and troubleshooting. The Training Center has also provided specialized instruction to dealer sales representatives, and now offers courses for machine operators and parts specialists. As a result, SENNEBOGEN customers everywhere are supported by one of the industry's most knowledgeable and accessible service support networks.

The Training Center was an integral part of the original design for the new head office and warehouse, which recently expanded to 100,000 sq. ft. under one roof. The actual Center is a wholly self-contained facility at the rear of the building, complete with a separate entrance and its own kitchen. This design was chosen specifically to "firewall" attendees from office and warehouse operations, and minimize their distraction from training activities. Meeting rooms and classrooms are all equipped with the computer networking and projection technology required for today's interactive instruction methods. The Center is built on two levels, including an upper viewing gallery that

overlooks a large machine bay. This 3-tiered bay allows SENNEBOGEN trainers to bring almost any SENNEBOGEN machine indoors, including the 200,000 lb. 870 model.

New courses, free for the taking!

The Operator Machine Familiarization and Parts Training Programs are the latest additions to the SENNEBOGEN curriculum. Like the original technician and sales programs, the Operator Familiarization and Parts courses are open to all SENNEBOGEN dealer staff and customers without charge. Attendees are responsible only for their own transportation, hotel and evening meals. Course schedules are updated and distributed to dealers and regional sales managers throughout the year.

The Operator Machine Familiarization Program provides a full 2-day course on the controls and best practices for working with SENNEBOGEN machines. Along with orientation to features within the operator station, attendees are instructed in morning walkaround inspections, safety guidelines and proper loading procedures to prevent damage to magnets and grapples.

Parts training focuses on identifying and ordering parts more efficiently using SENNEBOGEN manuals and schematics. According to

SENNEBOGEN's long-time Service Manager, Jim Westlake, many attendees still search their parts books like old-school paper catalogues. This course shows them how to use digital search methods and electronic drawings to save time and improve accuracy.

As Westlake points out, taking the time to attend these courses is a great investment. "You don't have to commit to a long series of courses to support the SENNEBOGEN product line," he explains. "The high level of commonality of systems across our whole model range adds a lot of value to the training you get here. When you learn one machine, you learn them all!"

What's new...

Four years after the Center's opening, Westlake reports that the facilities and courses have required little change. He credits the attention given to the program in the early stages for its ongoing success. "When we started up, Constantino (Lannes, President of SENNEBOGEN LLC) would come into classes in session and talk to the guys to see what's working well, what's not," he says. "We were continually upgrading our methods and content then. We still do follow-ups with attendees to make sure that we are still on track."

Course content is updated regularly to keep current with product changes. The Center recently added working component models to simulate specific troubleshooting situations in the





SENNEBOGEN Service Training

SENNEBOGEN > LEVEL 1

- Time:* 5 days
Students: Minimum 6 / Maximum 10 per class
Required: Basic Technical Knowledge
Content: Machine Safety, Operation & Functions
 Preventive Maintenance
 Read & Understand Hydraulic Schematics
 Read & Understand Electric Schematics
 Basic Trouble Shooting
- Magnet System
 - Hydraulics
 - Electrics

SENNEBOGEN > LEVEL 2

- Time:* 5 days
Students: Minimum 4 / Maximum 6 per class
Required: Completion of Level 1 Class
Content: Remote Trouble Shooting
 Component Training & Repair
 Failure Analysis
 In Depth Trouble Shooting
- Magnet System
 - Hydraulics
 - Electrics

The Level 2 classes are smaller and more intensive and build on Level 1.

Courses available from SENNEBOGEN

- Level 1 D-Series
- Level 2 D-Series
- Level 1 E-Series
- Level 2 E-Series
- Parts Training
- Operator Familiarization
- Sales Training

For more information: Phone: +1 (704) 347-4910
 Email: bplummer@sennbogenllc.com

classroom, so technicians can experience faults and solutions at the component level before they work on a real machine. The Service Training courses have been expanded from 4 days to 5 days, allowing more time for hands-on practice. As well, the Service Training courses now have Spanish-language programs.

Making a difference

Jim Westlake believes that the most valuable feature of the Training Center is the distance it puts between trainees and their everyday workplace.

“We have seen a definite difference,” Westlake claims. “We have been training technicians at our dealer branches for years. Since we started bringing them into our facility, the type of calls we get from the shops have changed – we don’t get questions about issues that have already been covered in class. It works for us, and it works for our customers.”

The Center’s Chief Trainer, Roger Hardin, concurs with Westlake’s appraisal. “When technicians come here, there are no distractions. They are not being pulled away from class to answer other questions and needs in the shop. This is no holiday camp, either. We always maintain a high level of professionalism throughout the time they are with us.”

Hardin says he is enjoying the program because it gives him the chance to, “Give them the kind of training I wanted.” Hardin has had 41 years of practical experience as a service mechanic and equipment technician, and has been a Trainer for 15 of those years. Westlake also spent years as a Crane Service Mechanic, then as a Shop Foreman before coming to SENNEBOGEN LLC as the company’s first Customer Service Representative in America. As Hardin says, “It takes a mechanic to teach a mechanic,” and both men place a high value on hands-on instruction. ■



Our Commitment

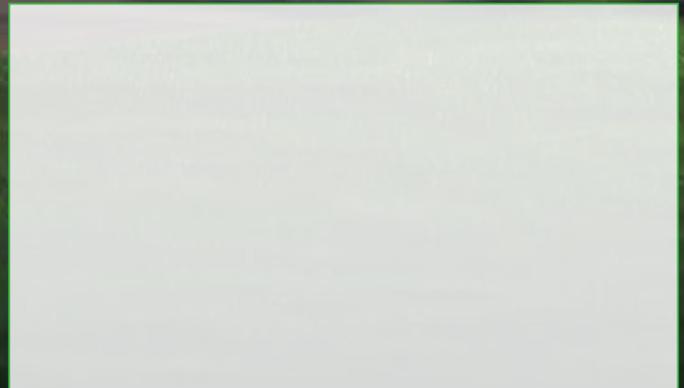
Every year SENNEBOGEN continues to invest in our facilities, staff, inventories and services – because we believe in the strength of our distributors and their customers.



The warehouse stocks complete inventories of service and repair parts for every model.



The SENNEBOGEN 100,000 sq. ft. (9300 m²) facility in Stanley, North Carolina is built on a 33 acre / 13.4 hectare site and includes the offices, Training Center and warehouse.



SENNEBOGEN LLC | 1957 Sennebogen Trail | Stanley | NC | USA | 28164 | +1-704-347-4910

SENN CM/E 0314/18

GO FOR GREEN
www.sennebogen-na.com

