# DELIVERING AUTOMATION

## CUSTOMISED SOLUTIONS + EXPERT ADVICE

YOUR PARTNER IN THE TRUSS & FRAME INDUSTRY.

AUSTRALIAN MADE®

VEKTA

ADVANCED AUTOMATION

# CUSTOMISED SOLUTIONS

## What are you trying to achieve by automating?

A basic question but it is the first question Vekta Automation will ask you.

Increased efficiency?

Higher volumes?

Less waste?

Improved redundancy?

Safety?

Budget?

**Each answer will be unique to your Truss and Frame plant. With Vekta the solution will also be unique.**

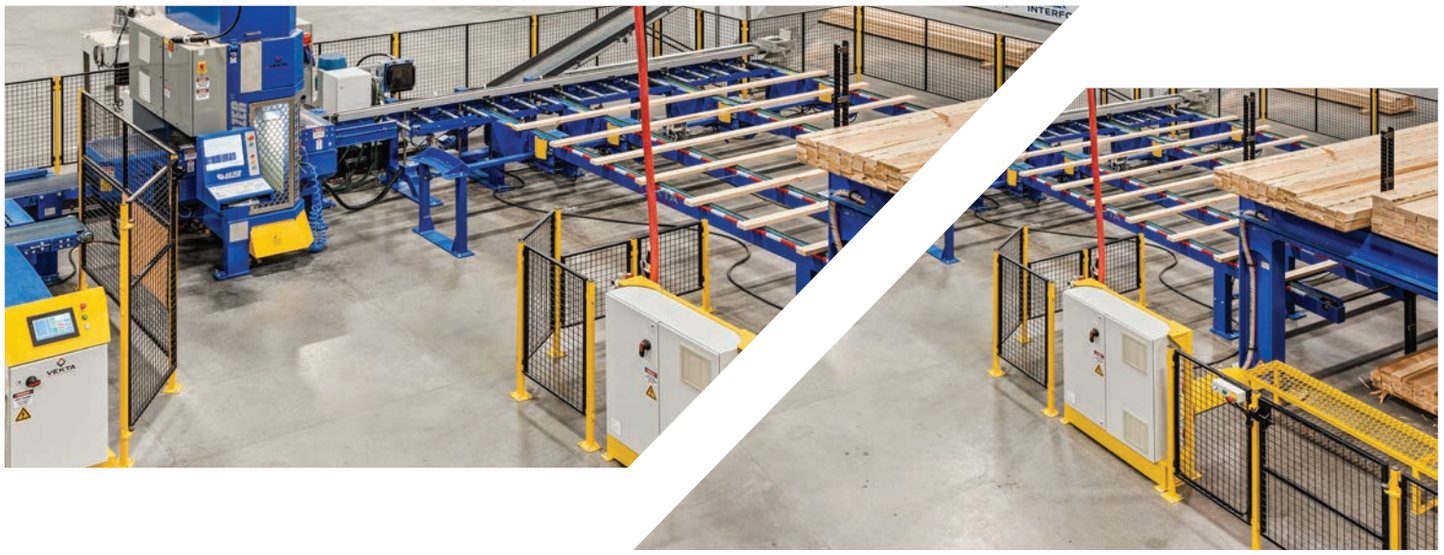
## EXPERT SUPPORT

Automated infeed, cutting, material handling- but what happens when something stops?

Vekta understands the complexity of issues that can arise in automation and we know what it can cost you when machines break down or start to show signs of wear. That's why Vekta has a 24/7 support network!

You can always find an experienced engineer eager to help you fix an issue, optimise your workflows or adjust your production priorities either by phone, email or in person.

Vekta prides itself on having the highest standard of service and support in the Frame and Truss industry. For Vekta, customer service and technical support are the highest priority- everything else comes second.




## YOUR PARTNER IN AUTOMATION

At Vekta we firmly believe that by combining our customised automation with expert support we are able to build a partnership with our customers.

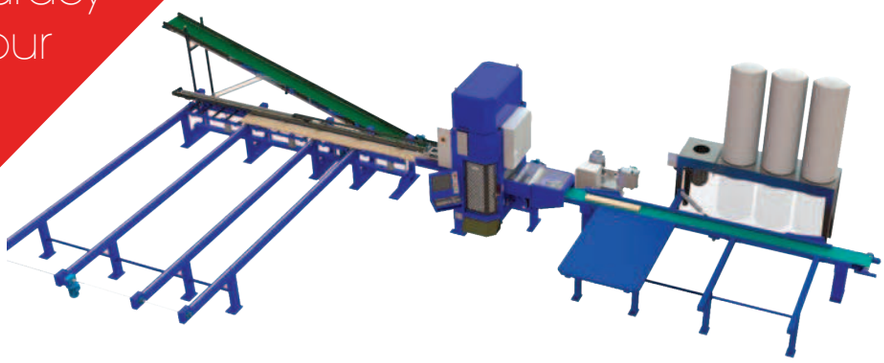
- As partners, we listen and take the time to understand your business, your objectives and your ideas.
- As partners, we work with you to ensure your objectives are not only being meet but exceeded.
- As partners, the relationship lasts well beyond the sales and warranty period.
- As partners, we have your back with our expert support.
- As partners, your individual needs and circumstances are always thoughtfully considered and the highest priority.
- As partners, we want you to be as passionate about automation and Vekta machinery as we are.


> “The team at Vekta was instrumental in the design of this system and were able to open our eyes to possibilities we didn’t know even existed. The finished product has not only met, but exceeded our expectations. With the minimal footprint of the PackFeeder, the accuracy, speed and reliability of the Razer V5, the speed and efficiency of the Material Conveyor system, and the overall support by this team we are extremely pleased with the outcome.”
>
> *Josh Wright*
> *V.P. of Manufacturing*
> *The Truss Company, USA*

AUSTRALIAN MADE®

# VEKTA RAZER

With maximum safety, improved production, greater accuracy and the flexibility to suit your space requirements, the Vekta Razer is your cutting solution.




Be it the Vekta Razer V5 or the Razer S5- no other linear saw offers you a cutting solution that can be completely customised to suit your factory, processes, achieve your objectives and is within your budget.

The Razer V5 is the full-featured version of the Razer saw, designed to have maximum flexibility and capability. The V5 can perform trench cuts, drilling, miter cuts at various angles, courtesy cuts (shallow cuts on the underside of wall bottom plates on either side of door openings) zero-overcut birdsmouth cuts and several other functions.

Vekta recognises that many truss plants do not require a number of these abilities. Therefore, the S5 was developed to suit a plant that was primarily interested in cutting common roof truss components and basic, non-raking wall frames. By replacing some of the servo-driven movements with pneumatic actuators and the hydraulic motor with a high power density servo motor for the saw blade itself, the result is a linear saw that is 25% less expensive and features tailored specifically to truss plants- Why should you pay for features which you will never use?

## WHICH VEKTA RAZER IS RIGHT FOR YOU?

The answer to that question will depend on the objectives and outcomes of your business.

If your production is based on standard cuts and you are looking for speed and accuracy then the Razer S5 would be an ideal choice.

If you require the flexibility and control of bevel cutting, trenching and drilling the V5 would be your solution.

**No matter what your current or future cutting capacity is, Vekta will work with you to create a customised solution that suits your factory, processes, achieves your objectives and is within your budget.**

| Saw model | Razer Saw V5 | Razer Saw S5 |
|---|---|---|
| Height | 2870mm (3180mm with top cover open) | |
| Depth - Saw chamber | 1400mm | |
| Depth - with dust funnel & conveyor guard | 1930mm | |
| Width - Saw chamber | 1580mm | |
| Width - including infeed & outfeed chutes | 3150mm | |
| Width - with P3 Printer and infeed chute | 2990mm | |
| Power Requirements | 3ph, 415/480 VAC +/- 10%, 50 Amp , 50/60 Hz | |
| Air Supply | 340 l/min at 690 kPa (12 cfm at 100 psi) | 400 l/min at 690 kPa (14 cfm at 100 psi) |
| Saw blade drive | Hydraulic motor driven from dedicated power pack | 4 kW Servo motor |
| Saw Blade details | 350mm diameter, 54 teeth, Kerf thickness 3.6mm. Plate thickness 2.5mm | |
| Blade cutting Speed | Nominal 5000 rpm (Max 5500 rpm) | |
| Throughput - Trusses | 300 - 350 typical truss components per hour | |
| Throughput - Frames | 450 -550 typical frame components per hour | |
| **Cut specifications:** | | |
| Cutting width - Maximum | 350mm | |
| Cutting depth - Maximum | 90mm (single or double stack) | |
| Cutting length - Maximum | Unlimited | |
| Timber length - Minimum | 800mm | |
| Member length - Minimum | 0mm | |
| Main cut angle | 0 to 180 deg | |
| Bevel cut angle | 0 to 67 deg (0 to 45 deg with trenching attachment) | 45 deg |
| Cut types | Straight, Single/ compound bevel, Taper, Birdsmouth (zero overcut), Trenching (3 sides), Rip, Bevel rip, Notch, Drill. | Straight, Single/ compound bevel, Birdsmouth (under/ overcut), Rip, Bevel rip |
| Number of cuts per member | Unlimited | |
| Cut accuracy | Frame components cut within +-0.5mm, standard truss components +-1mm | |


## Features

- The Razer V5 and S5 are both compatible with ALL NAIL PLATE SOFTWARE! The Razer does not care who supplies the nail plates or even if you regularly change your supplier. Vekta software works with them all!
- Be it the V5 or the S5- they both have the industries smallest footprint.
- Both Razers can be customised to suit your factory processes- with the option of left-to-right or right-to-left material flow with the ability to use a 'U' or even 'Z' shaped infeed and kickoff setups.
- Automatic infeed, manual infeed or even a PackFeeder- the level of infeed automation can be customised to suit your business, processes and budget.
- Manual outfeed, direct delivery system, kick off tables- again the level of automation on the outfeed can be customised.

# PACKFEEDER

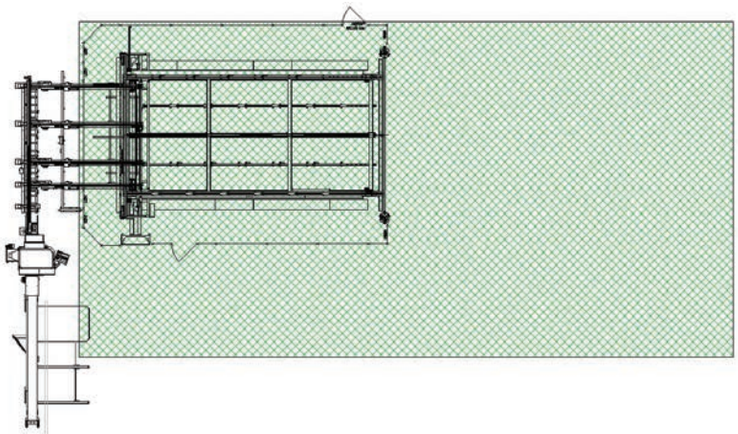
Get the most from your saw with the least amount of labour! The Vekta PackFeeder has the smallest footprint (by far), fastest pick rates, and is highly configurable!

The most common cause of downtime for an automated saw is a lack of timber on the infeed conveyors. Feeding a linear saw can be a very labour intensive process. Operators will fatigue and naturally slow down over the day and loading mistakes can cost a plant significantly in lost productivity. Vekta's PackFeeding solution addresses these issues in an extremely compact, clever manner- making it a viable option for both new and existing plants.

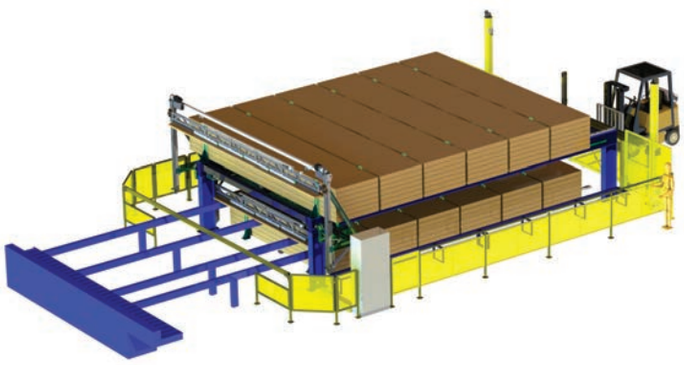
Packs of timber are loaded onto light-weight racks. Racks with longer timber are loaded on an upper row while those with shorter timber are loaded on a lower row. A vacuum head gantry then scans the location of each rack and the profiles of the timber in those racks. When called, a piece of timber of the correct length and grade is picked up with the vacuum head and delivered to the saw.

When a pack in the middle of the system is empty, the PackFeeder is placed into a safe mode while the saw continues to cut. The operator then manually removes the empty racks and loads a new rack of timber on the end. All of the subsequent racks are then shuffled forward to fill the gap created by the empty rack. Finally, the gantry rescans the new locations of the racks and starts picking timber from where it left off.

The PackFeeder can pickup up to two boards at a time and is designed to pick far faster than the typical requirements of a saw- allowing it to pick for multiple saws. When combined with a Stak-n-Gap, the system can automatically flip boards for bow and stack timber on top of one another. When combined with a Razer saw, even greater benefits are realised with seamless, product specific software to really take full advantage of this amazing product!



Size does matter! The image left highlights the difference between a Vekta PackFeeder and that of our competitors. The shaded area represents the amount of floor space that would be required for an equivalent size bunkfeeder.



| | |
|---|---|
| **Minimum number of packs** | 2 |
| **Maximum number of packs** | 25 |
| **Typical pick cycle time (up to two boards at a time)** | 15 seconds |
| **Standard Packfeeder Sizes (Number of Bunks)** | 8 and 12 |
| **Supported Lumber Sizes** | 70x35 x 3m lengths<br>To 300 x 45 x 6m lengths |
| **Power Requirements** | 32A @ 415VAC |

## Features

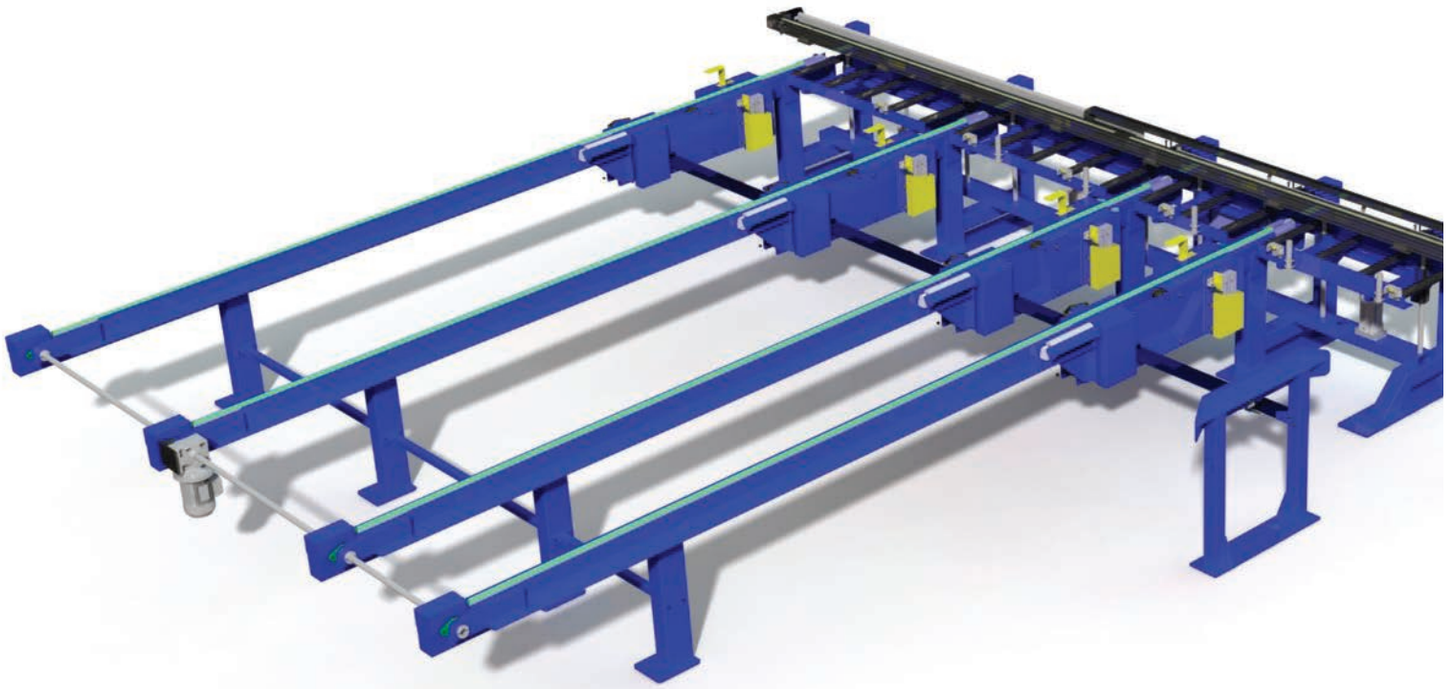
- Requires nearly **75% less space** than any other system
- Fastest pick rate available
- Options to automatically flip boards for bow, stack timber, and feed multiple saws
- Can be used with ANY saw
- In size to suit factory requirements
- Unlimited options for mini-magazines- re-configurable as required on site by the customer.




# INFEED AUTOMATION

Vekta's Automatic Infeed Table is an easy option for automating the infeed side of your Razer. Simply load timber onto the AIT and the system takes care of the rest.

| | |
|---|---|
| **Height - Overall** | 1280mm |
| **Height - Conveyor bed** | 850mm |
| **Depth** | 960mm |
| **Length** | 6210mm |
| **Timber length - Maximum** | 6000mm |
| **Timber width - Maximum** | 350mm |
| **Timber thickness - Maximum** | 90mm (single or double stack) |



# STAK-N-GAP

Keeping up with a Razer is hard work - Especially when an operator or a loader is checking and flipping timber for bow and also stacking boards on top of one another. The Stak-n-Gap upgrade option is designed to easily clamp onto your existing automatic infeed side transfer legs. It allows boards to be loaded onto the side transfers in a single row with or without gaps between the boards. The boards are then separated and scanned for bow. Based on what members will be cut from that particular stick of timber, the Razer will automatically let the Stak-n-Gap system know whether or not the board needs to be flipped. If needed, the board is automatically flipped before being stacked as required.

This clever upgrade option can be installed on any Razer with an automated infeed system. It is also a great option for a Razer system that has a PackFeeder installed!

Get more from your Razer with less effort! The Stak-n-Gap on an AIT provides an easy upgrade option to automatically orientate and stack timber to help achieve peak productivity with minimal labour.

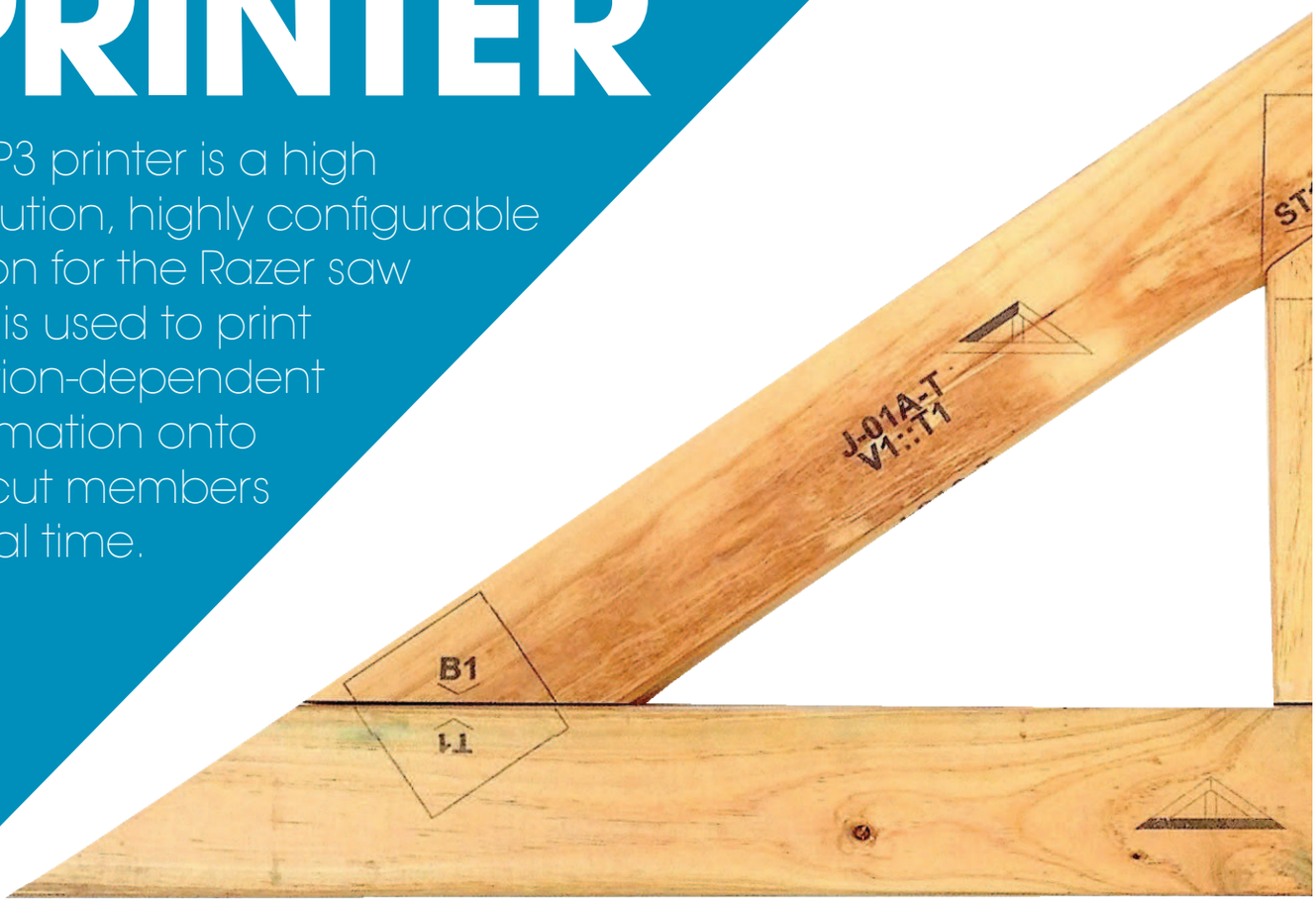
| | |
|---|---|
| **Stacking cycle time** | 15 sec |
| **Timber sizes** | 70 x 35 x 1.5m lengths<br>To 300 x 45 x 6m lengths |

## Features

- Reduces mistakes and labour on the infeed side of a Vekta Razer
- Specifically designed to be easily added to existing systems
- Integrates seamlessly with the saw's software
- Stacking and fair ending (justifying) the timber comes standard
- Option to flip for bow

# THE P3 PRINTER

The P3 printer is a high resolution, highly configurable option for the Razer saw and is used to print position-dependent information onto the cut members in real time.




The P3 Printer helped make the Vekta Razer one of the most successful saws in the Australian and New Zealand markets! To answer the demands from customers for a more capable, less messy print system, Vekta became OEM partners with Hewlett Packard and developed a brand new print system for our industry! Despite the best efforts of many, no other saw manufacturer has been able to match the quality and the range of information achievable with the P3 printer!

The P3 printer is a high resolution, highly configurable option for the Razer saw and is used to print position-dependent information onto the cut members in real time. Stud marks, adjoining panels, fastener types, nail plate outlines, assembly information, logos (yours or your customers'), quality control checklists, bracket detail, opening sizes and such much more (far too much to list here) can be printed. Simply turn on and off the features you want to print! You can even control what information and what labels are printed on members based on the member type and length.

The P3 Printer opens up a whole new world of possibilities for Vekta customers. It was designed in such a way as to let the range of printable information easily expand over time as our customers ask for more details. Every year, Vekta adds more options as to what can be printed in real time and with millimetre accuracy on the timber- one of the main reasons why our competitors haven't been able to catch up!

The printer incorporates 16 individual, disposable print heads and prints on two faces of the timber. It automatically adjusts for different thickness material and self-checks to ensure the printer is in the correct position to avoid a crash. As with all of the options for Vekta saws, existing Razer systems can be easily upgraded to include a P3 Printer.

## Features

- 300dpi (photo quality) printing to millimeter level accuracy
- Highly configurable - print what you want, when you want it, and nothing more
- Low cost replacement parts
- Ever expanding list of printable features


Want to use printing to make the assembly of trusses and wall panels more efficient? Maybe add some printing to help your builder at the construction site - you know they'll love you for it! The P3 Printer is a must!

| | |
|---|---|
| **Print resolution** | 300dpi |
| **Positional accuracy** | 1-2mm typical |
| **Printable faces** | 2 (top and side) |
| **Grey scale photo printing (dithering)** | Yes |
| **Smallest printable member length** | 0mm |
| **Longest printable member length** | 10m |
| **Print speed max** | 1400mm/sec |

# VEKTA OUTFEED

Vekta's outfeed solutions ensure that post cutting does not become your bottleneck.

From a standard manual outfeed to an outfeed with multiple kick off stations or even a rotator, with Vekta you have options for the post cutting treatment of members.

Vekta's Multiple Kick Off Station outfeed allows jobs to be sorted as they are cut.

- Flexible rules for kickoff location allows the saw to be configured to fit the best workflow for your factory.
- Multiple kick off locations allows jobs to be sorted as they are cut. They can be sorted so that members that are used together are grouped in the outfeed station. For example, if cutting multiple jobs simultaneously, you can send different jobs to different kick off locations.
- Reduce timber waste - by allowing multiple jobs to be cut simultaneously, acheiving better optimisation than if each job was individually cut.

| | Standard Outfeed kick off | Standard Outfeed with multiple kick offs |
|---|---|---|
| Kick off positions | 1 and one location running off the end (standard components) | 4 including running off the end (any component) |
| Width - Including kickoff table | 3000mm | 3000mm |
| Height - Overall from floor | 910mm | 910mm |
| Length - Overall conveyor length | 5930mm | 5930mm |
| Timber length to destack | From 500 to 6100mm | From 500 to 6100mm |
| Cycle time | 3 seconds | 3 seconds |

## VEKTA ROTATOR

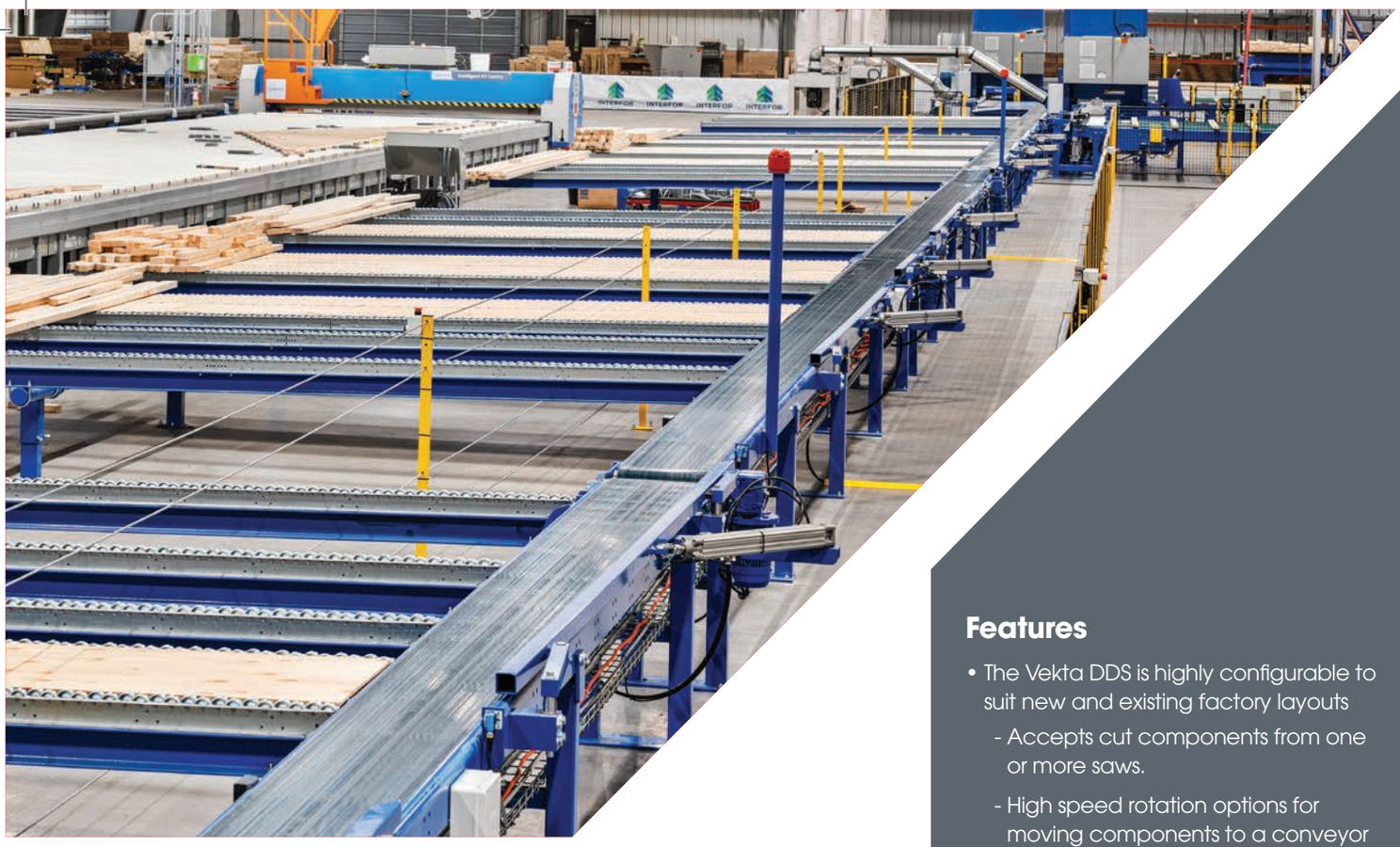
The Vekta Rotator is an option to be used with the Multiple Kick Off Station Outfeed.

The Razer outputs the members and then, depending on where they are needed the Rotator can either allow the member to pass straight through or rotate it 90 degrees to travel upwards to the correct Kick Off station.

Information for the final destination of each member is tracked along the system ensuring they get to the right location. This means that all your team needs to do is be at the Kick Off location ready to start the assembly process.

# VEKTA DDS

Keeping the staff you have, in the areas where they will provide the most value is vital. The Vekta DDS - Direct Delivery System can remove one of the most labour intensive, least efficient steps in your plant- getting cut components from the saws to where they are needed at the jig for assembly.



The Vekta DDS- Direct Delivery System is highly configurable and is customised to suit each and every factory precisely. Unlike other systems on the market, the equipment itself is basic, easily maintained and repaired. You do not need to hire engineers to maintain the equipment!

So how does it work?  Much of the logic takes place within the saws themselves - optimizing, orientation, order, and kickoff location considerations for example. The cut components are then handed over to the Direct Delivery System with the appropriate information. The DDS then handles conveying the cut components, tracking them along the way, and kicking them off at the correct final location. The aim is to deliver the components as close as possible to the jigs/assembly areas- in the correct orientation and order.

| | |
|---|---|
| **Power** | 415/480 VAC @ 32A |
| **Air** | 15 CFM @ 100psi |
| **Minimum number of kickoff locations** | 1 |
| **Maximum number of kickoff locations** | 99 |
| **Layout of conveyor line** | Customised |

## Features

- The Vekta DDS is highly configurable to suit new and existing factory layouts
  - Accepts cut components from one or more saws.
  - High speed rotation options for moving components to a conveyor line that is 90 degrees to the first conveyor
  - Ability to split the conveyor into multiple lines feeding in different directions
  - Dual and single direction kickoff mechanisms that can be positioned anywhere along the conveyor lines.
  - All cut components can be justified at the kickoff locations to best suit the factory layout - leading edge, trailing edge or centre justified. Printing locations on each member based on how the member will be justified at the kickoff location.
  - Kickoff components based on configurable rules (type of member, location in truss/frame, dimensions, etc)
- Streamline your factory by sending a job to your saw and knowing that moments later assembly can begin with the first components being available at the jigs almost instantly - no need to cut all or most of a job before assembly can begin.
- Maximum safety with minimal labour.
- Simple, reliable solutions that are easy to maintain and repair
- Operation and safety solutions are customised for each and every installation - not a one-size-fits-all.
- Scalable - add more conveyors and/or kickoffs in future as needed

# ROLL, STACK AND LOAD

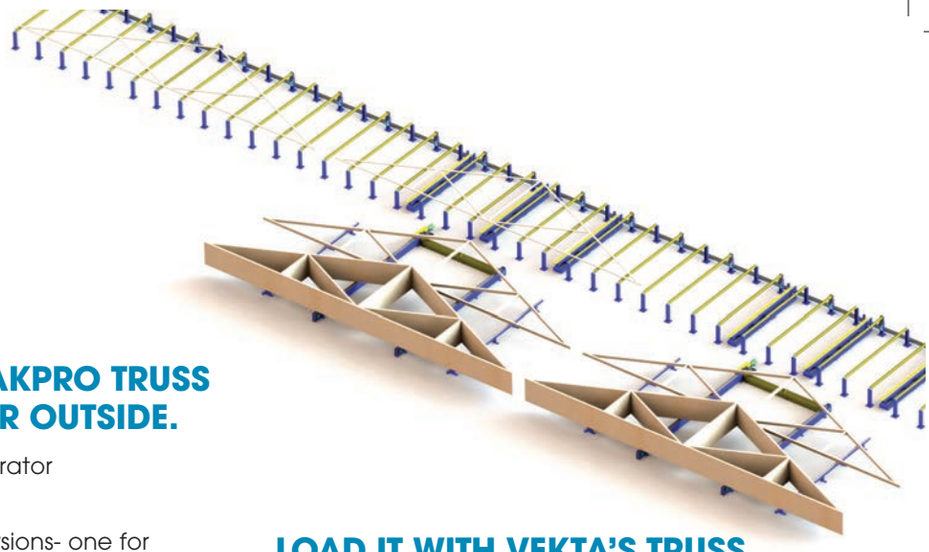
Your timber is cut, frames and trusses assembled, nailing complete… It's time to Stack and Load!

Vekta offers a variety of automation solutions to make the stacking and loading of your finished product safer, easier and more efficient.

## Roll it with the Vekta Smart Roller Conveyor- A roller line with added intelligence.

The SRC is a conveyor system that automatically moves your frames or trusses to the centre of the required bay for stacking. When integrated with upstream systems, the conveyor knows exactly which bay each truss needs to be delivered to. The use of a handheld pendant allows the operator to perfect positioning and handle stacking at multiple bays making the process safer, easier and more efficient.


| | |
|---|---|
| **Width - Roller length (Truss can be wider)** | 4000mm |
| **Height - Ground to top of roller** | 845mm (typical) |
| **Length - Roller conveyor line** | To suit layout - Roller conveyors typically spaced at 1200mm |
| **Roller drive arrangement** | Every second roller is driven by its own motor |
| **Automation sensors** | Mounted on roller conveyor legs fully guarded |
| **Automation** | Fully customisable via single control panel and wireless pendant |



## STACK THEM WITH VEKTA'S STAKPRO TRUSS OR STAKPRO FRAME- INSIDE OR OUTSIDE.

Why have many hands lifting when one operator can do the job?

The Vekta StakPro comes in two different versions- one for Trusses and one for Frames. They are an ejection and stacking system that allows one operator to safely stack any size truss or frame. The Truss version can be fitted to regular pedestal jigs or the Vekta SRC. The Frame verison is placed at the end of a framing line and has two arms that lift the assembled frames and stack them- all at the touch of a button.

| StakPro Frame | Standard version | Heavy duty version |
|---|---|---|
| Safe working load (SWL) | 100 kg | 680 kg |
| Width - Maximum footprint | 2510 mm | 2530 mm |
| Width - Static infeed conveyor spacing | 2150 mm | 2150 mm |
| Height - Static infeed conveyor | 925 mm | 755 mm |
| Height - Maximum lift from floor | 1570 mm | 1690 mm |
| Length - Fully retracted | 8410 mm | 8770 mm |
| Length - At full extension | 14445 mm | 14850 mm |
| Extension Stroke | 6035 mm | 6035 mm |
| Spacing between extension beams | 1750 mm | 1750 mm |
| Complete cycle time | 1.5 min | 1.5 min |
| Inclusions | Hydraulic power unit & wireless controller | Hydraulic power unit & wireless controller |

## LOAD IT WITH VEKTA'S TRUSS TRANSFER

In a high volume, efficient facility, the last thing you want is for a stack of trusses to hold up production- even for just a moment. Vekta's Truss Transfer is a surprisingly simple product that takes the time pressure off your forklift drivers. And… It's built like a tank! (We know how forklift drivers can be…)

Vekta's Truss Transfers are a heavy-duty chain conveyance system designed to move full stacks of trusses. When a stack of trusses is complete, the Truss Transfers move the stack out of the way immediately. While a new stack is underway, the last stack can be strapped and fork lifted away as time allows. This eliminates a bottleneck at the stacking station or a rush to get a stack moved.

The Truss Transfers are controlled with a remote control. When combined with a StakPro Truss stacking system, or the Smart Roller Conveyor system, the Truss Transfer is controlled by the same remote control as the rest of the system.

**Eliminate the bottlenecks in your yard! With Vekta equipment you can roll, stack and load with the touch of a button!**

| StakPro Truss | StakPro - Interior | StakPro - Exterior |
|---|---|---|
| Safe working load (SWL) of each boom | 80 kg | 80 kg |
| Width | 775mm | 775mm |
| Height - Overall | From 670mm | From 700mm |
| Height - Working height | From 520mm | From 700mm |
| Length - Fully retracted | 4350mm | 4250mm |
| Length - Fully extended | 10100mm | 10100mm |
| Extension Stroke | 5860mm | 5860mm |
| Safe working load (SWL) of each boom | 80 kg | 80 kg |
| Spacing between each boom | Variable - Rail mounted | 3600mm (Typical) |
| Cycle time | 45 seconds | 45 seconds |
| Inclusions | Hydraulic power units & wireless controller | Hydraulic power units & wireless controller |

| | |
|---|---|
| **Safe working load (SWL)** | 2500 kg |
| **Width - Overall across two transfer chain beams** | 4380mm (Typical) |
| **Width - Overall across two transfer chain beams & two skid beams** | 9330mm (Typical) |
| **Width - Transfer chain beam spacing** | 4000mm (Typical) |
| **Height - Ground to top of chain** | 350mm |
| **Length - Overall** | 7700mm |
| **Length - Transfer chain stacking zone** | 6440mm |
| **Transfer speed** | 0.3 m/s |

# SUPPORT

Vekta understands that automated machinery in a Truss and Frame plant can become your best team member. If your saw is down- production, deadlines and reputation can also suffer. At Vekta, nothing takes a higher priority than a customer with a technical problem- NOTHING.

## VEKTA PRIDES ITSELF ON HAVING THE HIGHEST STANDARD OF SERVICE AND SUPPORT WITHIN THE INDUSTRY.

Including

- Spare parts held in Perth, Melbourne, Auckland and Minnesota
- Parts can be dispatched on the same day as ordered
- Login and phone remote support available 24/7 no matter where you are located
- Dedicated customer support team
- Follow-up visit after install to ensure you are getting the most out of your equipment
- Technicians and Engineers who receive extensive training on all Vekta equipment
- Growing list of areas being covered by support staff including Brisbane, Sydney and Christchurch

## VEKTA RESCUE - YOUR ONLINE GUIDE FOR VEKTA MACHINERY.

Including-

- Step by step information for problems with software, cutting issues, optimisation, printing
- FAQ's
- Maintenance procedures- daily, weekly, monthly
- Training checklists
- New information is continuously being added to support all Vekta products


# SOFTWARE

At Vekta, we understand that an automated machine is ineffective unless the user-face software is robust, flexible and easy to use.  In other words- 'Simple', the Razer software.

Simple is rich in features and options that can be customised to the specific needs of your truss plant. With a dedicated software team, Simple is always evolving and improving with new features being released every 6 months.

- Simple has highly flexible optimising algorithms that processes thousands of different combinations of members to find the best way to cut a job- instantly! The program automatically runs through various scenarios, picking the best combination for your cutting requirements- be it truss by truss cutting, batch cutting or even a combination.
- There isn't a one-shoe-fits-all approach to optimising and systems must be configured to suit the individual needs of your truss plant. When your Razer is installed, an Engineer who understands your processes, set-up and needs will customise the software and provide training, ensuring you are confident in the software and your optimisation.
- Vekta is continuously investing in improving Simple. The regular updates ensure that Simple will  meet the changing and growing needs of the truss and frame industry.

## Features

- Extremely easy to use with various levels of access and functionality
- Integrates with factory management systems for all nail plate suppliers
- Detailed reporting on production rates, waste percentage and timber usage
- Continuously being updated and new features added

VEKTA
ADVANCED AUTOMATION

**ED SERRANO**

Ed Serrano is the Managing Director of Vekta Automation in Australia and Vekta USA in North America. Born in the USA, he moved to Australia to study Mechatronic Engineering at Curtin University, graduating with Honours in 2004. Ed's career with automation began with the Razer Linear Saw at PFP Technologies. In 2009, he purchased the IP and rights to the Razer saw and formed Vekta Automation.

To develop his business skills, Ed completed the Curtin Owners Growth Program focusing on strategic, critical and analytical thinking. Ed has over 18 years' experience with industrial automation projects specifically for the timber Truss and Frame industry. With a solid understanding of the conditions and needs of truss plants and his experience in industrial automation, he has helped many plants improve their production and business through automation.

Ed's success in combining his abilities as an Engineer and a Business Director was officially recognised when he was named the 2018 Winner for the Medium Business Category- 40under40 in the West Australian Business News Awards. Vekta Automation has been recognised through a number of award programs in WA and Australia.

# WHAT YOU WILL ACHIEVE BY AUTOMATING WITH VEKTA

Increased efficiency! Higher volumes! Less waste!
Improved redundancy! Safety! Budget!

## VEKTA - YOUR AUTOMATION PARTNER

AUSTRALIAN MADE®

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