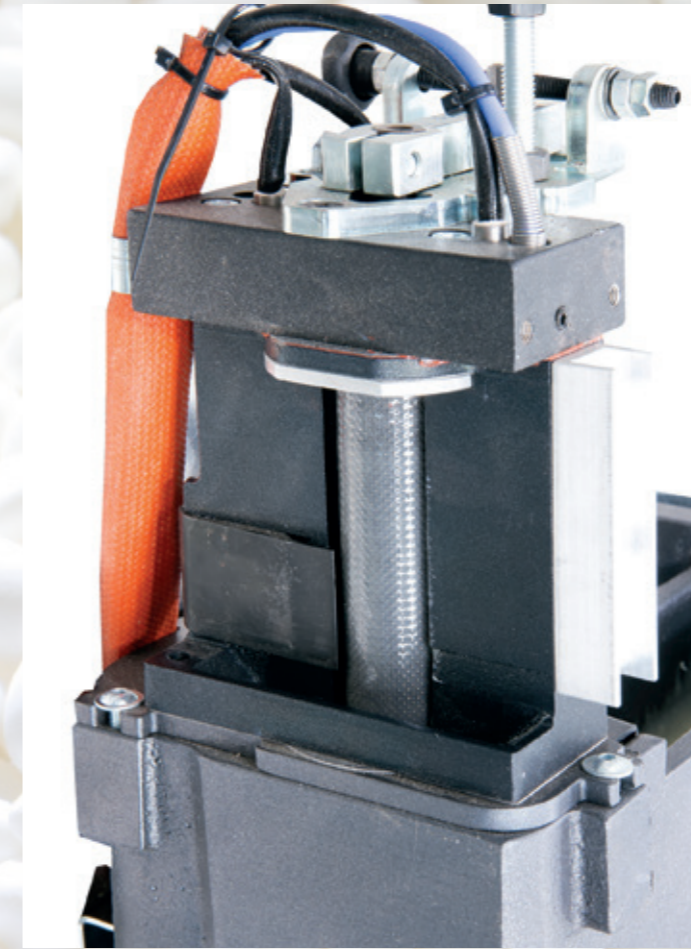


Earlier generation heads were fitted with a copying shoe to guide the tape past the glue roller (on the left of this image) and a return plate (on the right of this image) on which excess glue could possibly build up.

The glue roller on Biesse's hybrid glue head is the end of the block – there's no return plate to the left of the roller – so any glue residue is fed around the roller as it rotates anticlockwise, scraped off and fed back to the glue pot via a drain hole.



Making the switch

Thinner glue lines, easier colour and adhesive changes, reduced adhesive consumption and less maintenance are just some of the benefits of Biesse's hybrid glue head.

If you've got an older edgebander in your workshop, it's almost guaranteed your operator's least favourite job will be changing colours, changing from EVA to PUR and the unpleasant job of cleaning down that goes with both. It might not be the best solution for your product quality but such problems are often used as a good reason to change adhesives as infrequently as possible.

There's a pretty good chance his next most disliked task will be cleaning the glue roller when build up from chipboard processing starts to impact on the quality of the edge. No one wants the heavy glueline or

the excess glue that can get left on panel edges. Unfortunately, sorting the problem can often result in other issues emerging further down the line, especially if the operator resorts to tweaking the amount of glue that's being applied by the roller in an attempt to reduce the thickness of the glue line, or reduce the excess being squeezed out. If it gets beyond the point of easy rectification, downtime and a service callout are only just around the corner and no one wants that if it can be avoided either.

So how do you get around these issues? A couple of years ago, the Italian

woodworking machinery specialist Biesse came up with an ingenious development that solved all of these problems – and a few more – and so effective is it that most new edgebanders from Biesse are now being sold with this remarkable invention. It's called the hybrid glue head and if your edgebander hasn't got one, here are a few reasons you might want to consider making the switch to hybrid.

Malcolm Storey, Biesse UK's brand manager for edgebanding, explains:

"More and more we are seeing demand for improving the glue line quality with customers wanting a thinner glue line. That is easily achieved with PUR. But there are customers who want to use EVA for carcasses and PUR for doors and drawer fronts. To do that, two separate glue pots would be needed and significant downtime is involved in the change-over. With Biesse's hybrid head,

depending how much adhesive is left in the pot, it's possible to change over in as little as 15 mins.

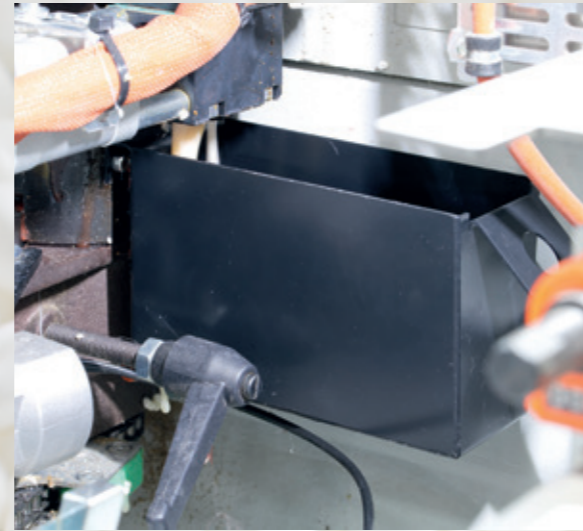
"The hybrid glue head has been developed to fill the demand in the market for a flexible gluing application so operators can run EVA or PUR and change whenever they want. Previously, manufacturers would have had to decide on whether they wanted a machine that ran EVA or PUR in cartridge form. Now even smaller manufacturers have the choice to meet customer demands.

"The hybrid head can be supplied with or without a pre-melter but for those who need one, we offer two different options: the TM20 and the smaller TM15. The TM15 is for the Akron 1300, Akron 1400, Stream A and Stream A Smart and it takes granulated EVA or PUR and PUR in cartridges of 260gm, allowing operators to run two types of adhesive in two formats on the same pre-

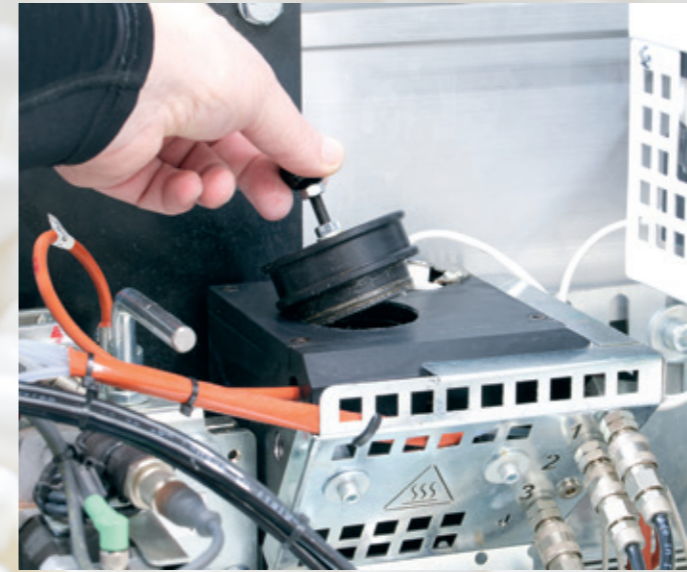




The machine is put into the purge cycle using a selector switch that is rotated inside the gluing area. That stops the roller from turning, then a pneumatic valve controls a piston that opens the gate.



The excess adhesive drains out of the bottom of the glue pot into a receptor (top). Very little adhesive or cleaner is wasted.



Pour in a small quantity of EVA granules.

2.5MM 1			
WORK			
EDIT			
Tools			
27/9/22 12:58			
EDGE BANDING STRIP	2	AUTOMATIC	
NO. OF PASSES IN MACHINE			0
TRACK SPEED	18.00		18.27
ADAPTIVE RIL	1		
%APERTURE IN CLACK	35		
SELEZIONE VASCA	2		
PANEL THICKNESS	18.09		18.09

ESVACUE BOLLER	WORK	200.0	200.2
EVA GLUE BOWL	WORK	190.0	190.5
PUR GLUE BOLLER	OFF	140.0	200.2
PUR GLUE BOWL	OFF	130.0	140.1
PREMELTAGE PU	OFF	135.0	32.5
DRYER 1 OUTPUT	OFF	700.0	24.2
DRYER 2 OUTPUT	OFF	520.0	59.1

With the NC glue gate option the glue dose is adjusted from the console where it's shown as a percentage.

melter. The package of pre-melter, TM15 and hybrid glue gate together cover everybody's requirements for applying various adhesives in different formats. We can also offer the hybrid glue head without a pre-melter but with a larger 1.5kg capacity for the small-to-medium workshop that's using the PUR application rarely."

The Akron 1300 and 1400 run at 12-18m/min so the melt rate doesn't need to be as high as a machine that's running at 20m and beyond. However, for the faster machines, Biesse fits the TM20 pre-melter which allows operators to take advantage of 2kg slugs.

Regardless of which machine it's fitted to, one of the really neat aspects of the hybrid glue head is that it enables easy access from inside the machine. Open the canopy and it's right there. You can access the glue roller while its running without having to go around the other side of the track and the controls are an arm's length away inside the gluing area.

With the canopy open and the glue roller exposed, the first thing you'll notice is the

design of the head is very different to earlier model edgebanders. There's still a copying shoe to guide the glue head but there's no return plate for excess glue to build up on. The glue roller is at the end of the block, so residue is fed around the roller, scraped off and fed back to the glue pot via a drain hole. Net result: no downstream contamination and cleaner panels – but I'll come back to that topic later because if you opt for the NC version of the hybrid head it has an even more impressive ace up its sleeve to ensure you only ever apply the correct glue dose for the material you are processing.

First, let's take a look at just how easy it is to switch glues or colours:

"Changing from one glue type to another, or one colour to another is simple with the hybrid head and very little glue is wasted during the cleaning process," confirmed Malcolm. "If we look at a machine equipped with just the hybrid head, it could have anything up to 750g of adhesive left in it at the point when the operator needs to change

glue type. To switch over, all he needs to do is put it into a purge cycle using a selector switch that is rotated inside the gluing area. That stops the roller from turning, then a pneumatic valve controls a piston that opens the gate. The excess adhesive drains out of the bottom of the glue pot into a receptor. Once drained, the selector is rotated again to close it off. There is potentially still a coating inside the head so cleaning granules need to be added, then the machine is switched to work mode so it heats the granules up. Repeating the process, flicking the purge switch and cleaning down the head with cleaning wax is all that's needed before the machine is ready to start work again.

"If you have a hybrid head combined with a pre-melter, the pre-melter has to be cleaned at the same time as the hybrid head. First, you remove any excess glue from the pre-melter – granules or a slug – then you put the machine into the purge cycle, add the cleaning wax to the pre-melter and send it through the hybrid head. It's a bit more time-consuming because

you could be melting a two-kilo slug but it's still a quick process."

Both hybrid head options come as standard with a manually-adjusted glue gate. However, there is an option for an NC controlled glue gate that gives you two significant advantages: firstly, having NC control means you can regulate the coat weight of either EVA or PUR on the roller in relation to the core material that's being processed – and you can adjust the dose from the console where it's shown as a percentage. MFC requires more adhesive than MDF because it penetrates into the core of the material, so you might want to run the glue gate at an aperture of 35-40% compared with 25% when you're running MDF. A typical mechanical glue gate might be running at around 50-60%, so the NC version can provide a significant saving in adhesive as well as providing a much tighter glue line.

Given that not all substrates are the same, having an NC glue gate also means you can write the program at the machine relative

to the substrate you are processing and retain that for future use. By metering the aperture from the console rather than mechanically, it takes the guesswork out of the process and that in turn leads to less contamination further down the machine and ultimately a better finish.

Is there a risk operators might economise, run at too low a coating weight and create a problem with edge peeling? Well, there is but any reasonable operator will test the edge strength from time to time and apply the percentage required to provide good adhesion.

"The second advantage of the NC option is that periodically the glue gate automatically closes and reopens and that cleans any material residue that builds up on the roller – typically from MFC. When core material is pulled onto the glue roller it builds up over time behind the glue gate and you get the tell-tale rings around the roller. The NC controller prevents that because it's closing on the glue roller periodically. Any residue is

recirculated into the adhesive. That combined effect of being able to regulate the coat weight and cleaning of the roller ensures consistent quality of the glue line – all without the operator doing anything."

For manufacturers who might want absolute versatility from their edgebander, any Biesse machine equipped with a hybrid glue head can also be equipped with an Airforce hot air system for applying laser edging. Airforce is available on the Akron 1300, Akron 1400, Stream A, Stream A Smart and above and with Airforce as well as a hybrid glue head you can apply laser tapes, or glue with EVA, PUR, granulated PUR and cartridge PUR and switch between at will for the best quality whatever the product. With all bases covered, you have a machine that's pretty much future-proofed, makes colour and adhesive changes easy for your operator, gets rid of messy maintenance and cleaning issues, provides consistent glue lines and gives you repeatability at the touch of a button. So why wouldn't you make the switch?