

All smiles with new Holz-Her 5 axis CNC at JK Windows and Doors - Colac



Joel Borch is a man on a mission. Only ten years in business and already, people are starting to take notice. Still a young man in a trade dominated by cut price builders and quirky architects, Joel has found his niche. Quite simply, Joel can do things others cannot; and he can do it quicker and cheaper. His secret? As with all good trades persons, Joel has the right tools of the trade.

Like all workshops producing a diverse range of designer joinery, Joel has a variety of static machines to do the work. The trouble is; it takes time to get the job to the customer. It gets worse when the architect specifies anything out of the norm. Machine set-ups for complex joinery take hours, and with over a dozen processes for each piece, the total set-up time can be calculated in days. Two years ago Joel decided there must be a better way and as he puts it, "Started out on a journey of discovery."

That journey took Joel to the 2008 "Fensterbau" window exhibition in Nuremberg where his eyes were opened to what was "out there" in terms of high-tech manufacturing. This trip was followed in late 2012 to Germany to investigate CNC machining options. Factory visits provided networking opportunities with some of the biggest joiners in Europe and Joel realised his company needed to grow. More importantly, they required an injection of technology to get the job done. Those journeys led JK Windows and Doors to a partnership with Weinig and Holz-Her.

Of course, it's never as simple as that. Several visits to Australian manufacturers revealed a number of manufacturing scenarios; a few based on the highly

productive Weinig Unicontrol machine. However, Joel's recent European experience pointed to a manufacturing solution that was highly flexible and could handle not just a standard set of joinery components, but anything that even the most creative architect could send their way. The business had to grow and creativity, flexibility and technology were the key ingredients.

Taking the next step, JK Windows and Doors invested in a 5-axis Holz-Her CNC machining centre. This was not an investment that was going to become obsolete overnight. Dual processing zones, extra tool-change slots and a bed large enough for even the longest joinery elements guarantee that this investment will continue to return dividends for many years. Joel was now confident they could reduce manufacturing costs and tackle the lucrative designer builder market along the legendary Great Ocean Road. "A different breed" as Joel puts it; "When the surf's up, the tools are down." Joel needs to respond to their changing building cycles and the Holz-Her fits in perfectly.

A five-axis machine is not something that first springs to mind when you think about joinery. Australian joinery is relatively simple to construct by world standards. It can be made with basic machinery. But things are changing. People want more for their money. They want sustainability and energy efficiency. They talk about aesthetics and design trends. These buzz-words will change the market and you need a machine that can deliver whatever the customer demands at a price they are happy to pay. A five axis machine offers the processing capabilities manufacturers need so they can say "Sure, we can do that" every time.



And can Joel do it? Put it this way, Joel was happy when the Holz-Her trainer left, he wanted to see what his new investment could do. It took just one month to transfer the profiles to the CNC machine and now it's possible to set up for any profile in seconds, not hours. On the computer, simply drag a window stile from the awning window folder and drop it against a stop; adjust the position of the table rails with the mouse and you're ready to start. Every jamb, sill or sash is exactly the same as the last one and it doesn't matter what the length is, the parametric (variable) program takes care of all those little details. Any component can be machined to accept any hardware in any position and all with a few clicks of a mouse. All the tools Joel needs are on the machine so there's no tool change time to hold up production.

Joel's machine is a Pro-Master 7225 and comes with some sweet features. First, it's really easy to use; so easy in fact that follow-up training hasn't been necessary. The software supplied with the machine is all that's needed to do all of the work JK Windows and Doors currently does. The powerful 17 kW (23 hp) motor makes light work of every moulding and shaping task using the heaviest high-performing Leitz tools and the large table means that several jobs can be combined in the one cycle, further adding to the machine's versatility and value as a production tool.

The Holz-Her has features that are not readily apparent but essential in making a more robust machining platform for heavy joinery work. Pneumatic clamps can be accurately positioned against machined guides to ensure precision. The five-axis motor is liquid cooled for even the heaviest cutting loads and guarantees a long service life. The motor locks mechanically into position to provide the most rigid cutting under high loads for perfect results. The slide-ways on the machine have no visible holding screws to gather dust so HOLZ-HER can offer a ten year warranty. Even the slides on the automatic rails are of the same quality as the machine slides. They don't have to be, but they are.

But why five axes for joinery? A big CNC machining cost is cutting tools. Three or four-axis machines require more complex and expensive tools to cut the angles a five-axis machine can easily achieve with its pivoting head. Most three and four-axis machines need "aggregates" to do profiles such as mortises; lock-housings and angled saw-cuts. These expensive "add-ons" need to cool between cycles; require expensive maintenance and perform well below that of a five-axis machine. It's a fact that the extra cost of a five-axis machine is easily offset by the savings in tooling, and you get a higher level of performance to boot.

The Holz-Her machining centre allows Joel to deliver a top quality product that complies with every demand made by even his most astute customers. The possibility of down-cutting eliminates any chipping found on windows made with static machinery. Any machining for any hardware can be added and the finish is superb. Even a simple hinge housing can be done quicker, more accurately and professionally.

The Holz-Her machining centre has given JK Windows and Doors an edge that it's hard to put a figure on. Two employees now do the work of four. Any job is possible and no contract is lost because they don't have the technology. They add value to everything they make and attract customers because of their technical, competitive, can-do edge. Joel just celebrated his tenth anniversary in business. He asks himself "Have I done enough and have I done it well." His new Holz-Her guarantees that whatever he decides to do, he has the right machine to get it done.

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