

▼ **ENGINEERING**

5 axis controlled, point to point processing of components parts for the manufacture of building elements such as windows, doors, frame parts, door casings, architraves as well as furniture...page 2



▼ **Colleague**

Today we introduce our colleague "The lovely Wilma Schwedes". Business friends and partners affectionately refer to her as "Los Paraguayos"...why?...page 3



▼ **TIPS & TRICKS**

To create a totally invisible wood joint the Hoffmann key can play a starring roll. It's simply straightforward and "Totally Horizontal"...page 3



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Editorial

Recession and Recovery

Dear business Partners and customers, The present global economic crisis has many facets, both negative and positive. Here at Hoffmann we like to take advantage of the positive aspects. The top priority is the development of the new markets such as Argentina and Eastern Europe. At the same time we are making better use of existing resources and supplies, and searching for better purchase prices of raw materials. Even so, we remain committed to our financial policy, which over the last ten years has created a substantial foundation to secure our business operations. We still continue to strengthen our relationships with our loyal business partners, even friends, both at home and abroad. This is an organization which gains its strength from support on both sides. Most important, is our team here in Bruchsal and their devotion and commitment to the company. Their „Know-How“ and their efforts, together with their creativity, ideas and flexibility is one of our corner stone foundations. It has established secure relationships with our customers, who always know we hold their interests foremost. Following suggestions from our customers, in 2009, we have been able to present even further new machine technology. This has lead them to greater efficiency and profitability in their production processes. You can rely on us to act with renewed enthusiasm and increased vitality and not by the motto "Profit by privatization, Loose by nationalization" As is often the case with large concerns.



Thomas Hoffmann Martin Hoffmann
 Managing directors of Hoffmann GmbH Maschinenbau

Title story

Look!...Dovetails everywhere!

We are not referring to the snow-white birds we look forward to seeing nesting in our lofts. More specifically we are referring to the Hoffmann Dovetails, and where you could likely find them. They are located in many places, often visible, more frequently concealed, both internally as well as externally. They are not there by chance, but specifically as a multifunctional jointing element which saves both time and money. When two parts are drawn together with such permanent precision, it creates a quality concept "par excellence".

It is remarkable, as to where in a building, Hoffmann Dovetails have found a place of application

In the Building Structure

- > Post and Beam construction
- > Glass Facades / Conservatories
- > Terrace Decking
- > Balcony and Terrace Doors
- > Sliding and Folding Portal Frames
- > Windows* also Curved and Triangular windows (* especially the Hoffmann Window, the only wood/alu system with real wood-veneered frames)

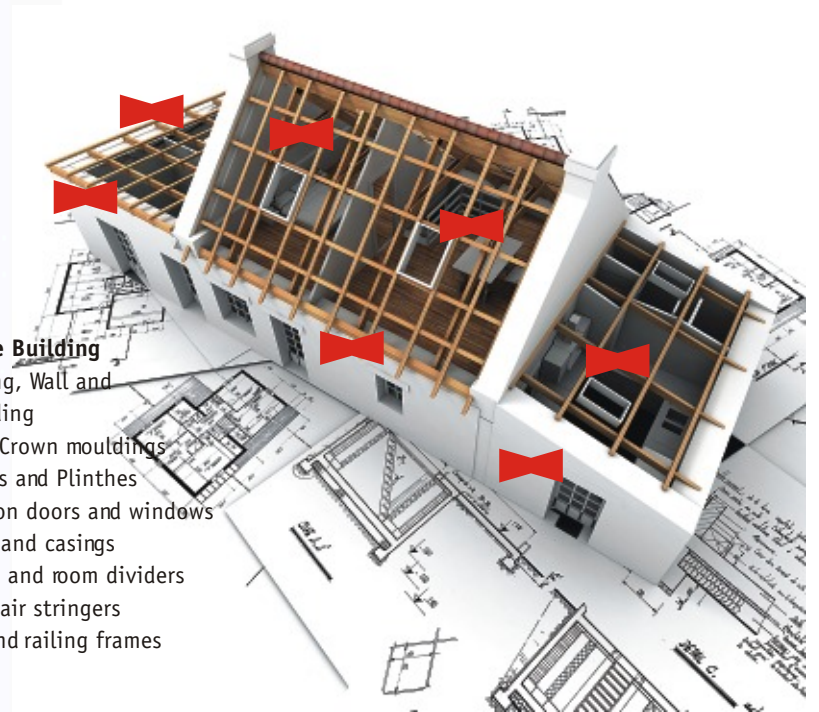
Internal to the Building

- > Wood flooring, Wall and ceiling cladding
- > Cornice and Crown mouldings
- > Lighting rails and Plinthes
- > Architraves on doors and windows
- > Door frames and casings
- > Sliding walls and room dividers
- > Stairs and stair stringers
- > Hand rails and railing frames

In Furniture

- > Frame and Carcase construction
- > In-fill framing
- > Plinthes
- > Tables and Worktops
- > Corner seats
- > Cabinet Face Frames
- > Cornice and crown mouldings
- > Drawers
- > Georgian and glazing bars
- > Mirror and picture frames
- > And even musical instruments like Pianos and Guitars

A house filled with Dovetails!



Impulse

U.S. woodworking industry shows signs of economic improvement

This is the 20th year that Wood & Wood Products has compiled a list of the 100 fastest-growing secondary woodworking companies in the US. We saw a large number of perennial WOOD 100 companies failing to qualify this year due to lagging sales in 2008, leaving room for almost 50 percent of first-time participants.

And while, for the second straight year, we had companies falling below the 1% mark, the good news is that, by and large, we're seeing optimism for growth in 2010. Ninety percent of the WOOD 100 participants said they expect 2010 sales to be OK or better, with more than half — 61% — predicting good to excellent sales growth.



Wood and Wood Products Magazine USA

Karen M. Koenig
 Editor-in-Chief

Achieving That Next Step

In a survey of the 2009 WOOD 100 participants, the problems in the US economy overwhelmingly ranked as the No. 1 concern by 69 companies, with 91 overall ranking it among their top 3 choices. Second on the list was profit margins, chosen overall by 49 companies, followed by price cutting by competitors, with 45 responses. Woodworkers employ different approaches to deal with the current economy, for example: "Getting mean and lean." — A succinct West Coast cabinet manufacturer "We will continue to find ways to streamline our process through higher efficiency, better scheduling and new equipment." — Southern cabinetmaker "Many strategies will be implemented, including: continued manufacturing

improvement, satisfying green demand and creating strong relationships with clients." — Northwest architectural woodworking firm

"We'll continue to look for markets and services that supplement our core business. We will also continue to focus on our established relationships with our existing customer base." — Midwest commercial millwork manufacturer

"We will continue to develop new products to make our furniture program better and more complete and to continue to monitor our advertising and marketing campaigns to take advantage of any market changes." — Southwest furniture manufacturer.

Sign of Hope from AWFS

Although the final figures have not yet been released, no one can argue that attendance was down at this year's Vegas fair. However, a number of exhibitors interviewed during the show said they were satisfied with the quality of those that visited their booths and the leads generated by woodworking companies serious about investing in new technology to help their businesses grow.

Customer - Neuform Türen

Happy End

This was indeed a success story with a happy ending. It was one of the most challenging contracts, whilst potentially lucrative. The best satisfaction of all parties concerned was achieved, thanks to the competent "know how" of the manufacturer, the capability of the X-line 70 and the practical application of the Hoffmann Key.



The Location:

An historical property in Berlin "Unter den Linden" in the Gendarmenmarkt, was due to be redeveloped to a very high standard. The urban development had to be sympathetic to the whole historical Wilhelminian style of architecture. It was essential that the reconstruction reflected the fabric of the building and that the facades of the historical buildings remained intact.

Our customer „Neuform-Türenwerk Hans Glock GmbH & Co KG was awarded the contract and with it, the challenging task to install the doors in the restructured, super modern, luxury accommodation "Hotel de Rome". 146 exclusively furnished rooms in an historical, listed building environment. The specification required that the panel doors emulate the profiles of the existing skirting boards. That meant completely new designed doors which

must be sympathetic to the historical context. The door manufacturer should have a reliable stock of, in total 744 door elements, consisting of 146 entrance doors as well as a further 200 bathroom doors to meet the required specification. Additionally they must comply with all delivery and installation requirements. It was only possible for the door manufacturer to fulfill the contractual specifications, time scale and production criteria with one of our work centre machines. In particular the Combination-Twin-Unit, X-line 70 for sawing routing and dowel drilling. It wasn't the door panels and accuracy of architrave angles which presented difficulties, but more especially the high quality processing of the bar length in original profile

form, and attaching it to the frame. The X-line 70 works as a multi-function work centre. It cuts the profile bar to exact length. That means, that when required, one end is mitred and the other end is cut square. (Both cuts are produced simultaneously). Subsequently the dovetail slots in the mitres are routed for jointing with Hoffmann Keys. The door casing is pre-drilled with holes for dowels, using the X-line 70 machine. Each machine cycle is made with the utmost precision and accuracy, that means when the door casing and architrave set (with mitred corners), are assembled, there is minimal finishing to be done by the installation team. The manager responsible for production at the door manufacturer was



convinced of the rational and efficient working operation of the Combination-Twin-Unit. As well as appreciating the quick and secure joint created by the Hoffmann Key. It would have been difficult to achieve the volume of this contract within the stipulated time frame using traditional methods of manufacture. By using the X-line 70 to manufacture the Berlin Hotel doors in the quantity requested, and install them in the time frame allowed, huge time savings were made. It would have needed twice as many personnel and three times the working hours by traditional methods.

In reality a happy ending
(www.neuform-tuer.de)



Marketing

Music in the „Key of Hoffmann“

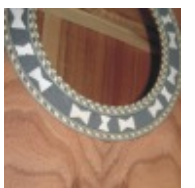
The Hoffmann Key has now broken into the music scene. Senór António Pinto de Carvalho from Brage (Portugal) tuned into the absolutely brilliant idea of using the Hoffmann key in both a visual and innovative practical manner. He was aware of the merits of the Hoffmann Key technology and uses them in the assembly of his instruments as a decorative element and at the same time they must fulfill practical application.



The firm APC Musical Instruments LDA can be found in the hills behind the city of Porto. It was founded in 1976 by Senór António Pinto de Carvalho as a family concern and has succeeded in a speciality field. Traditional built, wooden instruments, finished by hand. Principally each one is a unique work of art. In 1991 he began to export his unrivalled product first to Spain, and then further afield to Germany, France, England, Italy, Sweden, Holland, Japan and then USA. Today the company carries on its business throughout the world. Thanks to the Hoffmann Key, the optimising and using modern assembly methods there is still room for creative ideas and special applications according to customers wishes.

Music knows no boundaries!

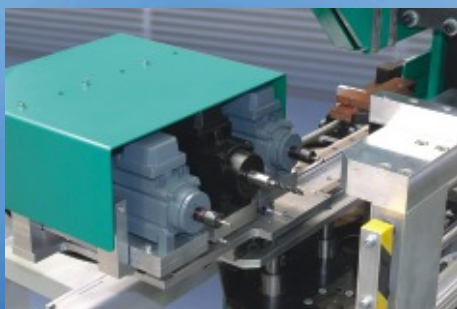
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Engineering

Point to Point

This relates to corner jointing of component parts as found in furniture. The function of this, recently developed, 5 axis workstation "X-line-ServoFlex 5" is to carry out a pre-determined "point to point" work program. The work-piece (rough-sawn, planed, sanded or polished profile) is cut to length from bar or pre-cut pieces. With the highest efficiency,



each end of the work-piece is simultaneously processed. It is cut precisely to its exact length at the required angle, dovetail routed for jointing with Hoffmann Keys as well as drilling for dowels.

The sequential processing of both ends presents enormous time savings because the work-piece is handled once. The machine operator selects and creates the programs by



an intuitive touch screen panel with visual display guides. The pre-determined programs are called up by touching the screen. The units traverse both horizontally and vertically by means of servo-controlled lead screw axis. Precision roller bearings and linear bearing guides ensure exact sequential cycles of angle saw cuts, routed dovetail slots, (one two or three) for Hoffmann Keys and dowel holes (up to six) for dowels in preset, selected positions. The sequence is extremely quick and is completed in around 12 seconds. The work-piece is now ready for assembly in its specified use. The analogue control panel guides the operator through the software data bank and asks for confirmation of all the individual process positions. When all cycles are "OK" the working sequence begins.

Technical data of the X-Line-ServoFlex 5

- > Work-Piece measurements. Max width 140mm X max height 95mm x 3000mm length. (Option: 160mm width and length by choice)

- > Programs and parameters with the current software are -manual entered - transferred by USB stick-and or online connection.
- > **Range of application:** For jointing all current corner joints for windows (but joint, mitre joint, dowel/dovetail, dovetail/screw, dowel/screw) Door frames/casements, in furniture for frame/mullions and doors (But or mitre joints) As well as cornices and general corner joints in wooden component parts.
- > **Options:** Drilling and router machining for hinges, locks and striker plates, handles, espags and receivers and general window hardware.



Colleague

Los Paraguayos

Today we take great pleasure in introducing our colleague "The lovely Wilma Schwedes". She has been with us since 1994. A real language maestro – always in regular contact with our customers throughout the world.

German, English, Spanish and French are her forte. Because of her roots in South America, and her mother tongue Spanish, Wilma Schwedes is known affectionally to her business friends and associates as "Los Paraguayos". She was born in Paraguay and due to her German parents, she was raised bi-lingual. Her father, who ran a saw mill, raised her from the cradle with a special



feeling for wood. It was almost a logical conclusion that daughter Wilma would on 1.7.1994 move to a branch of the woodworking machinery, namely Hoffmann Maschinenbau GmbH. at that time they were based in the old workshop in Badstrasse She

stayed with us, strengthened the team and quickly engrossed herself in the world of woodworking. Even with cramped working conditions her creativity and innovative ideas supported the growth of customers and visitors alike. Then came the LIGNA 1995 exhibition in Hannover, Her first major show and a totally new experience and challenge for Frau Schwedes Without a second thought she „jumped in at the deep end“ and landed her first big fish. Since then selling has been her great passion.

Hoffmanns' first steps into the French market were lead with her support and her knowledge of the French language. In 1997 when we first were in the land of her native tongue, Spain, at the exhibition FIMMA, she was there to present our products to the professionals. Wilmas' department is administration of the sales and distribution,

but especially exports. She is very experienced and knowledgeable in this field – also in machine technology - with her greatest warmth when proudly working with customers and business partners. Her distinctive competencies contribute to the comprehensive customer care of our international partners, including the foreign language correspondence course. She organizes our exhibition programmes, at home and abroad, and often takes part herself. She is always there at her desk for the daily office routine.

But when Wilma talks in her native language it comes from her soul. This is why she is also known as "Los Paraguayos" the well known musical group from Paraguay.

Product

Smooth Operator

The production of door elements, architraves, frames skirtings on bespoke joinery and cabinetry is a really smooth operation. The operators panel clearly displays the control and operating elements. This makes the saw, router and dowel drilling sequences of the new Combination – dual – machine X-line 70 even easier to use. This allows the operator to select the working sequence. Either as each individual piece or one after another. The work-piece remains clamped whilst one or both ends are processed.



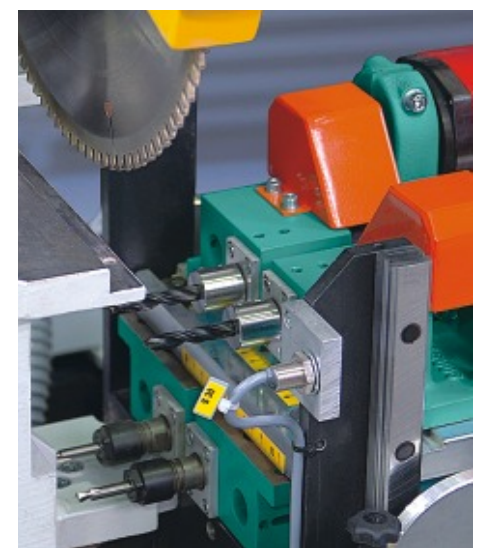
The control panel even takes on the administrative tasks of counting volumes and frame quantities. It can also be connected via blue-tooth to a remote measuring gauge which records the inside measurements of frames when manufacturing glazing slips and beads. All the working data can be read from a conventional Excel data sheet.

Additional Features: Measurements in either metric or imperial, multilingual choice for the operating language, optimising programme (Optional) as well as operating from internal or external measurements.



Example 1: The work-piece is securely clamped and cut to the specified length. The routing of the dovetail slots and drilling of the dowel holes then follows. The work-piece is now ready for assembly, for example either with Hoffmann Keys or dowels. If the parts were required to be jointed only with Hoffmann Keys, then the drilling sequence for the dowels would be isolated. Conversely, the routing sequence would be isolated if dowels only, were required.

Example 2 - Door casing or Architraves: In this instance the parts would be cut to the exact length one end mitred and one end square. Both saw cuts are made simultaneously. This is followed by the routed slots for Hoffmann Keys and then the correct positioning of the dowel hole in one end. Everything is of course made accurately and with precision. This ensures the exact alignment of mitre joints in both the door casing and the architraves.



Tips + Tricks

Totally Horizontal

Producing a Hoffmann Key joint without it being seen from each side.

In the wood-working industry the application for efficient jointing when using the Hoffmann Key is enormous and very versatile, in most cases hidden from view. The application, if it is fine delicate beading or post and beam construction. The Hoffmann Key is not usually seen from the face side.

Where other systems often fail, the Hoffmann Key is simply inserted from the reverse side



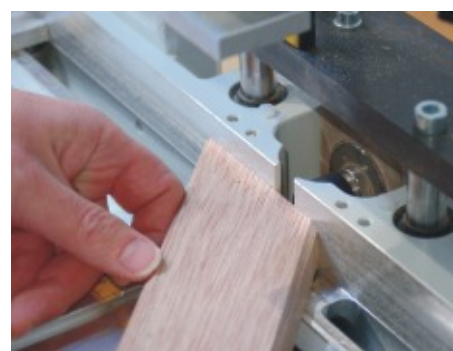
and is in effect covered, and therefore not seen. In the situation when it is required not to be seen from both sides, the routing is made horizontally. This can be done on most Hoffmann machines with a little dexterity from the operator. This saves time and sometimes unnecessary aggravation as well as making best use of resources.

With the help of the threaded spindle, in most cases this is adequate, the router is positioned in the middle of the work-piece thickness. The Hoffmann Key will then be

located centrally and can assert its maximum strength. The work-piece is then positioned against the back fence and drawn horizontally across the router, either from the outside to the inside of the mitre, or vice versa.

Even more simple is the same process being done with the use of the sliding table, which is guided in the aluminium rail on the machine table (option).

Please pay attention to the safety regulations!



Horizontal routing in the work-piece.



Setting the router above the table.

Current affairs

Building culture and Technology

The core expertise of the wooden-buildings contractor Wolf Artec GmbH from I-39040 Natz-Schabs (South Tirol Italy), includes bespoke timber framed houses of post and beam construction, with visible wooden profiles in the façade elements like windows and doors, and especially with fine work in the glazing details. Additionally his portfolio includes construction using a combination of materials such as wood, steel and aluminium. Architecturally, special solutions made on a daily basis.

The wooden framed glass facades were basically of post and beam construction. The visible widths of the wood profiles, from 50mm, together with a special configuration of glazing technique gives the building façade an almost delicate appearance. This type of post and beam construction jointing technology has a load bearing capability of 700kg of glass of any heat retaining glass. This will offer an efficiency up to passive house quality of $U_f=0,7 \text{ W/m}^2\text{K}$.

Aside from these typical design details, the contractor must still be pragmatic about the costs. For the construction of the joints in the post and beam elements as well as the wall connections, the Hoffmann Key was selected as the preferred jointing method. The insertion of the Hoffmann Keys, along with dowels ensured precise alignment.



Along side the monetary aspects, Wolf Artec also works on the safe side of the building regulations by using this system. The Authorisation from the German Institute for Building Technology for profile widths from 50mm is stated in (approval No: Z-9.1-436 dated 21.05.2003) Ultimately the routing of the dovetail slot for the Hoffmann key as well as the drilling of the dowel holes had to be both economically and efficiently achieved. The existing manual routing machine was exchanged by Hoffmann Maschinenbau for a CNC controlled routing and drilling unit with point to point processing. The router and dowel hole positions can be determined on a touch screen and selected from an operating sheet, with pictorial display, thereby simplifying the automated operating sequence. The fence-stop to determine the length position moves automatically into place prior to the start of the working process.

With this optimized working sequence of actual construction details such as cruciform joints in post and beam construction, the building contractor Wolf Artec can offer a very competitive, value for money product, for his modern and high quality construction system. (www.wolfartec.it)



Dovetail Keys

Super tight Dovetail Keys

Students at the Technical college in Rosenheim (Technical college for technology and industry) analyzed the application of the Hoffmann Key in the situation as a jointing system in furniture. The assessment was made in an official degree dissertation.

The general mechanical strength of the joint was tested, in particular the strength of the corner joints in both tension and compression loading. The materials used were solid beech, MDF, FPY (Stirling board). The outstanding test results are documented and are quite evident in the dramatic photographs and diagrams "strength comparisons with dowels"

Here is a short extract from the results as found in the degree dissertation and examination by Professor Dr. Rüdiger Albin and Hans Funke Dipl. Woodworking. Even in an unglued status, there is evidence that the

Hoffmann Key has good joint strength, when compared with a glued wooden-dowel joint. Although in FPY (stirling board) this was somewhat less than in MDF and Beech. Gluing the flat corner joint in FPY and MDF when jointing with the Hoffmann Key is otherwise the preferred method of jointing...An advantage of the Hoffmann Key system is its simplicity...Because of the many types and lengths of Hoffmann Keys there is a wide variety of possible applications...In situations when in use, the joint is not under excessive load, the glue need not be applied to the joint. This is especially the case with solid wood and MDF...If in normal production the joint require gluing then this process would need a clamping press, operator and associated equipment...the time saving factor alone is enormous. In the time it would take to insert the dowels in a doweled joint, the Hoffmann Key joint would already be finished"

Current affairs

Positive Impulse

In these difficult times of world economic crisis the Ligna 2009 exhibition in Hannover, a major international show, acted as an economic indicator and was able to give a new direction. Both exhibitors and visitors alike showed that flexibility, innovation and adaptability must be our first thoughts. By the fifth exhibition day, 1,758 exhibitors, from 50 countries, with a floor space of 130,152 square metres, had presented their products to almost 83,000 visitors. Approximately one third of these came from almost 90 different countries. It was the highest international representation ever seen at this exhibition.

The Hoffmann exhibition stand in hall 17 was as always frequented by guests from all



continents. In spite of the worldwide economic crisis, the quality of the visitors generated good business, initiated new projects, completed contracts, as well as established new connections. At the forefront of our latest machine innovation is the further development of the 5 axis work-station X_Line-Servo-Flex-5. This is the "PU-2-Servo_FB" with touch screen operators panel. Building components are processed, ready for assembly, in the most efficient way possible. This process is carried out with CNC control on the combination routing and drilling machine. It has such remarkable operating characteristics it is constantly being demonstrated and exhibited. It has been a good sign that the successful development work by the Hoffmann technical team has given a positive outlook with foresight to the business following the exhibition.



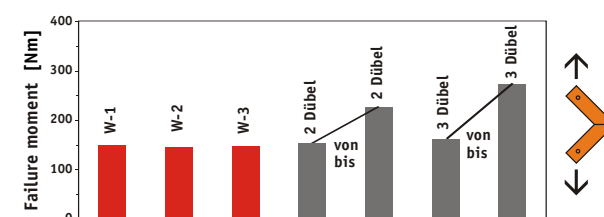
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If you have any further question or require any details regarding the strength values of these test results, please contact the technical department of Hoffmann Maschinenbau GmbH.



Applied load in tension. Test component - Beech - Glued - dowel joint



Applied load in compression. Test component - Beech - Glued - dowel joint.

