

iMagazin

CONTENTS

Editorial	2
IMA Service: Retrofit	2
Cooperation	3
Haworth: a project	4
Plasma/Laser Edging	6
Laser technology at FM Küchen	8
RFID.System	9
LIGNA 2011	10 – 19



LIGNA 2011

Ligna highlight: light-weight construction

'lightweight.network' special presentation

The igel e.V. – a light-weight construction interest group – is going to present the East-Westphalian light-weight construction offensive at the LIGNA, in the framework of which a 'lightweight.network' special will be presented at the LIGNA. The presentation focuses on the 'furniture' end product assembled from the components supplied to the machine. In a special exhibition area, companies will present their production technologies, which are dedicated to the topic of the future: 'light-weight construction'.

Hall 24, C 19

Light-weight construction conference 'Think Light' - International light-weight construction conference from 31 May to 1 June 2011

For the first time, a light-weight construction conference true to the motto 'Think Light' will take place on the 2nd and 3rd day of the fair.

Beside technical lectures held by the various branches of industry and research, also IMA service manager Andreas Rudolf will report on the current state of light-weight construction technology at IMA.

Convention Center, room 1B

Further information: www.thinklight.at

LIGNA talents

Young talents for woodworking

'LIGNA Talents' is the name of the new students' competition for the LIGNA 2011, where students take part in a competition in several disciplines. Tasks to be mastered are, for example, the creation of short film/video works, writing an online fair newspaper, creating CNC part programs and testing the programs on exhibited machines.

On a BIMA machining centre shown in hall 11, it will turn out whether the CNC programs written by each team do actually work. For the students' competition, IMA has made available a BIMA 300 V from its own machines. Programming will be done with the IMAWOP 6.0 software.

Participants should only have basic knowledge on CNC part programming acquired in technology lessons at school; they will be made fit for IMAWOP in a half-day training offered by IMA.

Hall 11, F 18, 30 May 2011



Responsibility
Verantwortung

Energy efficiency along the entire value-adding chain

Efficiency of resources on new processing plants is a very important topic that plays a central role for IMA engineers from the first step of development: The target of development is to clearly reduce the input of primary energy carriers in the IMA development and production facilities. However, beyond this, the chain of measures used to increase efficiency of resources also extends to the future application fields of the machines at the company operating the machine. Here too, IMA is continuously developing new technologies for increasing the productivity of raw materials, the reduction of raw material input as well as the reduction of organisational requirements on the company operating the machine.

The express target of IMA is to accelerate the reduction of harmful environmental effects with the same intensity also in the future. As a production company, IMA has long been aware of its responsibility to the environment and tailors all processes along the entire value-adding chain of IMA products to these requirements.

International Trade Fair participations

Current Trade Fairs at: www.ima.de/en/company/fairs/

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IMPRINT

iMagazin – the IMA magazine for customers

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Bohr- und Einpresstechnik

schelling

network

**WE CREATE PROGRESS –
ONE STEP AHEAD**

Cost reduction + efficiency of resources

**Engineering competence for
the furniture industry**

LIGNA 2011



EDITORIAL

Dear Readers,

this edition of our magazine is standing under the banner of the most important trade fair for wood-working and furniture production, the LIGNA 2011 in Hanover.

As a manufacturer and system provider of high-tech manufacturing plants, we will also be presenting ourselves in 2011 with a large, innovative exhibition and show our synergised engineering competence in manufacturing and plant engineering technology for the furniture industry. Visitors can expect impressive solutions and new ways of reducing costs and increasing resource efficiency. In this magazine, we are reporting in detail about the most important



highlights and innovations. For IMA, this year's trade fair participation is also a reason to celebrate a proud anniversary: the medium-sized company from Eastern Westphalia in Germany has been an important partner to the woodworking industry and the trade for exactly 60 years – on all continents. Today IMA is a world market leader in its industry. You will find the important milestones in the history of our company on page 12 + 13.

We hope you will enjoy reading this magazine and look forward to your visit to our stand at the LIGNA.

The Editorial Team

Three partners – one concept

IMA is sharing its stand at the LIGNA with its partners Schelling and Priess & Horstmann on an area covering 2300 m²



Networking: Wolfgang Rohner (Schelling managing director), Rüdiger Schliekmann (IMA managing director), Jürgen Waterbär (Priess & Horstmann sales manager) sitting from left to right. And standing, from left to right: Martina Moosbrugger (Schelling) and André Strunk, Caroline Fritzen, Gabriele Möbius (all IMA) together with Jürgen Hagemeyer (Priess & Horstmann)

LIGNA visitors may expect cumulative competence in production and plant technology. The perfectly compatible product folio of the three specialists guarantees promising complete solutions, from panel sizing to the fabrication of ready-to-assemble furniture components.

IMA – going strong at innovations for 60 years

IMA Klessmann GmbH Holzbearbeitungssysteme is the leading manufacturer of machines and production lines for the furniture and component industry and a provider of product-accompanying services acting on an international scale. Since 1951, IMA has developed customized machine and plant concepts for the segments of stationary systems, throughfeed systems, process technology as well as storage, handling and conveyor systems. About 750 people across the globe work for IMA. In cooperation with IMA Meinert GmbH & Co. KG

Anlagenbau, IMA is a solution provider that stands for a customer-oriented concept: from the initial business idea, through implementation to the continuous optimisation of the entire production process.

Priess & Horstmann – specialist for drilling and injection technology

Priess, Horstmann & Co. Maschinenbau GmbH & Co. KG is a company with great competence in drilling and injection technology. In the East-Westphalian town of Unterlübbe, about 90 people work to develop and manufacture products for performing machining operations on front and side panels, for carcass assembly as well as feeders and on integrated production lines. Machines and equipment made by Priess & Horstmann are being used successfully all over the globe. Every customer will find a personal contact here – an expert who is ready to help with any question you may have in a fast and uncomplicated manner. Everything from planning,

checking, installation through after-sales support to service will remain in the hands of one responsible engineer.

Schelling – sharp cuts for every individual requirement

For more than 90 years, the Austrian company Schelling has been active all over the world. Schelling is market leader when it comes to cutting materials in the furniture industry as well as in the PCB, metal & non-ferrous metal and plastic processing businesses. The 360 people who work in the company are dedicated to project development, design, production and installation work through commissioning to after-sales support. Everything comes from one source, and hence one company takes responsibility for the work as the prime contractor. Sales and service centres guarantee professional support in all of the important markets worldwide. Our presence at the LIGNA in Hanover once again impressively underlines this comprehensive dedication.



IMA Service: Retrofitting increases quality and efficiency

Upgrade your old equipment to the current state of the art



Technological evolution does not stand still. This applies all the more to the designers of the IMA high-performance machines. However, anyone investing in new technology needs **planning security** ensuring that the utilised equipment will continue operating at peak performance for many years and with state-of-the-art technology. IMA provides this planning security with the 'Retrofit' programme for existing CNC machining centres. Every company modernising or retrofitting its IMA equipment can be sure that maximum return on capital investment has absolute priority over other objectives.

IMA Service has developed a product portfolio for the complete lifecycle of each machining centre which will fully come up to the serviceable life expectancy and quality of the equipment. It will often suffice to replace only few components in order to make full use of the necessary capabilities and bring your machine to the state-of-the-art. The advantages are obvious: the modernisation of your equipment will be accompanied by a measurable increase in productivity and product quality – at a calculable cost.

All advantages at a glance

- Increases capacity in your production line
- Increases the quality of your products
- Enhances the efficiency of your plant
- Improves the user-friendliness
- Fulfils legal requirements, e.g. safety at work
- Ensures the supply of spare parts
- Allows you to keep solid proven mechanical systems made by IMA
- Requires less operator training as the plant is known to them

The current brochure on 'CNC machining centres' can be requested at

service@ima.de

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Saw for cutting packages and single panels (Schelling)



Edge processing line consisting of four single-side Combimas (IMA)



Drilling and mounting machine BAT-DTW-CNC (Priess & Horstmann)

Maximum flexibility in batch production and individual manufacture

The office furniture producer Haworth has completely modernised its production facilities with equipment from IMA, Schelling and Priess & Horstmann

Producers of office furniture always have to perform a balancing act between the requirements of batch production and increasing individualisation. This is also true for Haworth from the lower Saxonian town of Bad Münde. Until the 1990s, the company founded in 1901 has operated under the name of Dyes Büromöbel. Today the company is the European carcass factory of the Haworth group.

maximum degree of flexibility because these components are to be manufactured in a 'production mix' together with an increasing number of customized parts. So far, we have solved the problem by outsourcing the production of batch components". Facing the choice to invest either in new powerful storage technology or in the flexibilization of production, Haworth voted for a future-proof production.

Ralf Berlin: "With their ideas of a future-oriented production technology, the machine manufacturers IMA, Schelling and Priess & Horstmann exactly met our needs: a processing plant that ensures high process reliability and that can carry out our customized batch-size-1 production with maximum capacity but simultaneously fabricate the batch components in a cost-effective and economic manner".

Storage shelf unit with new panel cutting and edge processing installation

Due to the on-site construction conditions, i.e. a production hall with low-level ceilings, load-bearing walls and concrete posts, the IMA engineers designed offset conveyor paths, transverse carriages to shuttle parts between workcell elements and unconventional diagonally positioned Combima machines. Nevertheless a compact and clear-cut work cell configuration was created. The path the material takes starts with the storage shelf unit (IMA). The required standard panels are taken away from 60 storage locations. For 'recurrent components', two stack locations onto which panels are loaded by a fork lift are available in front of the saw. The shelf storage operation unit supplies panels to the saw (Schelling) and stores the incoming panels on the storage shelves located across from each

other. An infeed conveyor carries residual panels to the shelf storage operation unit which loads them on the applicable stack.

The Schelling saw is an L-shaped combination machine for cutting packages and single panels – an important precondition for individual manufacture and cost-effective small batch production.

The entire strip is carried away from the second saw by a discharge conveyor from which it is taken by an NC axis controlled collecting carriage that moves in transverse direction. This carriage collects a complete cutting pattern, even if it is made up from several raw panels. That means, the carriage may collect a number of sized panels on a stack, or it may only take a single sized panel from the conveyor. With this carriage, the project engineers from IMA and Schelling have made a virtue out of necessity. In fact, on the shop floor a load-bearing wall is in the way and prevents panels from directly being fed out from the sawing machine. Hence, the transverse carriage carries its contents beside the wall and transfers it to a conveyor system that leads to the feeder for the Combima line. This conveyor system serves as a FIFO buffer and decouples both workcell elements from each other.

The position of the stacker is also unconventional. The gantry stacker (IMA) unstacks the 'patterns' by positioning the suction cups as required. The parts, lying behind each other, are picked up completely and laid down on a conveyor. The downstream cross-transfer device has the task to feed the residual panels back to the raw panel storage area. The sized panels then travel via an in-line conveyor and a 150°

curve to the first Combima for the longitudinal cut.

The IMA technique of 'rectangular and capacity-oriented feeding of parts by means of several infeed pins' into a single-sided Combima brought the first breakthrough for a company in cost-effective custom production. Before the parts enter the downstream Combima, which cuts the parts to their exact widths, they run through an infeed table with an NC controlled cross-alignment fence. "Beside the task-oriented planning that convinced our decision makers, it was the IMA 'KFA' contour milling unit which left a particular impression on us" says Detlef Döbelmann and explains: "In our view, the combination of speed, tremendously fast setup to other radii and high precision make it rank at the top for innovativeness. It was specifically the reproducible accuracy and fine adjustment via axis drives that convinced us".

An important partner in the project was 3TEC from Vlotho, responsible for the supervisory control system. This system is the link from the Haworth PPS to the IMA and Schelling machine control systems. For Klaus-Dieter Kober, chief operator of the machine systems at Haworth, 3TEC is the actual organisation user interface: "The user interface permits me to change the automatism" – the basic tasks of the 3TEC level are to apply the required number of components from the PPS, determine the raw panels with optimised sizing cuts and

to provide the job lots. "Based on operating situations, which cannot automatically be predetermined and which are unforeseeable, manual corrections are undertaken in the system. You can change priorities, adapt quantities, dates and machine data and hence execute, for example, urgent and special jobs in a very short time", says Klaus-Dieter Kober.

"With the new processing plant, we are ready to manufacture all of our A, B and C components in the required quantity of 3500 parts per shift. With the jump in capacity thus achieved, Haworth wants to increase its share in high-quality internal office design", this is the objective set out by Ralf Berlin.

New cabinet production lines

The carcass assembly line (Priess & Horstmann) is designed for double-door cabinets, sliding door cabinets and cross-shutter cabinets.

The parts are first processed on three in-line machines of the BATDTW type in a predefined chronological order. Before they are processed by the first machine, their lengths and widths are measured with great accuracy. Then 6-side machining is performed on all parts in the production line, i.e. drilling, milling, grooving and dowel injection. The parts then enter an assembly machine of the BMA-DLS-CNC type for pre-installation of ironmongery and glue application with a downstream manual assembly station for

additional manual installation of ironmongery. For desk containers, a separate independent line, parallel with the first, was implemented.

IMA as well as all of the other companies involved in the modernisation of the production equipment can sum up that a remarkable result has been achieved at Haworth in Bad Münde. An effective partnership has paved new ways for cost reduction and resource efficiency in the fabrication of furniture components. Increase in productivity, complete machining, optimisation of setup times and innovative processes with a sustainable service concept for a long serviceable life were the key parameters governing the layout of the processing plant.

Network

Haworth was founded by G.W. Haworth in 1948 in Holland, Michigan, USA, and today is operated as a family owned company in the third generation. Haworth employs almost 6000 people who reach international customers through a worldwide network of branches in 120 countries. Haworth has production and development sites in North America, Europe and Asia.

Since 2010, the production site in Bad Münde is being modernised and investments in new technology are being made. They were planned and put into practice under the direction of Ralf Berlin, Head of Industrial Engineering, and Detlef Döbelmann, Production Manager. This is how he describes the central problem of the office furniture manufacturer: "Despite all the customer orientation and increasing variety of types, we still have a large portion of 'identical components'. This requires a



Ralf Berlin, head of industrial engineering at Haworth (right), and Klaus-Dieter Kober in the control room of the Haworth processing plant

Three Partners: One Project

The result is a seamless joint!

The IMA Plasma Edging process creates a secure microcrystalline bond between the decorative edging and the surface of the polymer edging making the decorative edge an integral part of the polymer substrate; accurate processing of both materials allows for identical colours and an invisible joint that no longer attracts dirt. Apart from the sophisticated design which can be achieved by the use of plasma technology, plasma systems also have many other advantages such as: more efficient and cost-reduced production with reliable process control.

Without heating times and with reduced setup times, the plasma technology used by IMA significantly increases capacity in the machines of the furniture manufacturer and hence strengthens its position in competition with other manufacturers.

Whether used on new equipment or retrofitted on existing IMA edge banders: with the help of the IMA Plasma Edging technology and the precision of the downstream machining units, furniture production achieves new quality standards. The technology can be integrated without problems into existing manufacturing systems, production environments and processes.

IMA Plasma Edging – the innovation in edge processing

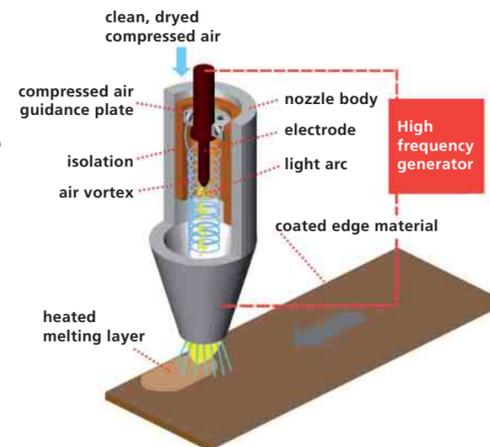
Plasma is a highly ionized gas at a temperature of approx. 2.000 °C, which is formed in an electric arc.

- Plasma jet technology enables precise control of the heat source.
- The plasma melts the edging tape directly before it is pressed onto the part side face.
- The result is a seamless edge (no glue joint!).

- This prevents dirt and other environmental pollutants from penetrating into the interior of the part.
- The optical effect of the edging is absolutely convincing.
- The Plasma Edging process saves energy
- low consumption
- High process security



IMA unit for plasma edge banding, and plasma jets (detail)



IMA Plasma Edging process: A high-frequency electric arc inside a jet heats the current of compressed air flowing through it; its ions and electrons bombard the functional layer and heat it up.

Seamless edge banding with IMA Plasma Edging



Awarded with the innovation prize at the HOLZ 2010: IMA was the only company in the field of machine technology awarded for innovativeness by improving the zero joint gap technique through the integration of the plasma process.



Producing a seamless joint – now on a 'BIMA 400 V | L' CNC machining centre

Free-form parts manufactured with laser technology

The high quality of the laser edging which has been achieved with throughfeed machining has now also reached market maturity on stationary systems: Especially in the field of counter tops, the advantages of the 'zero joint gap' come into their own here. Dirt and traces of use cannot do harm to the board, the customer gets a furniture component that remains visually attractive and in top condition for a long period of time.

In the past, the glue was made to swell up and wiped off the joint. Dirt filled the gap, a hygienically critical condition – and unattractive.

With the new quality of the laser edging, made possible by the IMA Laser Edging process also on free-form parts now, a new era is beginning. The 'zero joint gap' is

based on edging tapes that have been fitted with a functional layer in a coextrusion process and which are designed for great adhesive strength. These tapes enable colour identity of the decorative edging, functional layer and surface and allow the joint to be basically invisible. Moreover, the functional layer is very thin, which also makes it less striking. And even better, it is not glue, which remains more or less soft, but a plastic that hardens and hence resists the above described attacks due to its much better condition and that anchors itself to the board material.

The IMA Laser Edging process with the diode laser stands out due to its very high process security and reproducible quality. Any manual adjustment, which substantially affects the quality of the joint, was completely eliminated. From a stationary laser

source, optical fibre cables guide the laser light waves through the cable drag chain system to the laser head. The laser light, emitted downwards without being guided, is redirected by mirrors. At the point of action, an integrated optical zoom system adjusts the beam to the tape height. The process parameters for each type of edging tape are saved using the 'IMA Quicktool' software: these parameters determine the required laser power and specific settings. The processing times are as short as with the use of conventional glues. Manual touch-up is much less required because no glue comes out of the joint! Moreover, the tool life is increased since the functional layer hardens more quickly and does not stick to the tools.

IMA offers the Laser Edging Process for all BIMA machining centres (V design).

The BIMA 400 series stands for maximum flexibility in complete processing on minimum floor space. Designed as a milling, edge banding or robot head machine, as required.



High-end edgings get you ahead of your competitors

**The kitchen manufacturer
ewe Küchen Gesellschaft m.b.H. from
Wels in Austria is banking on the
perfect laser edging**

Thanks to the laser technology used by IMA, the 100 percent 'zero joint gap' has long since pushed innovative furniture manufacturers far ahead of their competitors. Also the Austrian ewe/FM group from the Upper Austrian town of Wels uses this advantage for its production. From May 2011 on, the latest kitchen models of the 'ewe', 'Intuo' and 'FM' brands will be presented in the new show room in Linz, on a total area of more than 1200 m². With these three brands in the portfolio, various markets, customers and sales routes in Austria and abroad can optimally be served.

Edge banding with the Laser Edging process – without additional edge banding unit

Also the production of fronts at ewe in Wels is carried out using the IMA Laser Edging method. The edgings are applied in the machine, there is no need for an additional edge banding unit. With the new process, the ewe production offers so-far unachieved aesthetics in furniture design.

Special sizing and fine finishing zones ensure optimal quality of the lasered parts

An optimal interaction of all machine components together with process reliability is of crucial importance for a perfect end result. It is the only way to combine technical precision with the high aesthetic demands placed on the finished furniture component. This is made possible by IMA's well-engineered technology: An accurate

cut on the panel is the essential precondition for a perfect 'zero joint gap'. This task is accomplished by the hoppers and milling units developed by IMA, which allow for a smooth and faultless sizing cut.

Only then, the laser technology can play its trump cards and get the best result out of prepared panel: high shear strength of the edging, good finishing properties and good performance in downstream machining processes. In the fine-finishing zone, the 'KFA' contour milling unit still further improves the already impressive aesthetic appearance offered by the 'ewe', 'Intuo' and 'FM' brands. It mills along the contour of the transverse edge to produce a seamless chamfered or radiused corner. Flat scrapers and profile scrapers fitted with material-specific tools perform further fine finishing on the edging. The IMA technology used by ewe has a 24-reel tape magazine, which makes it even more effective.

The machines capability to process also extremely small parts – down to 104 mm x 196 mm –, gives 'ewe' maximum flexibility in production. The result is the highest possible quality of the end products. And quality plays an important part in the philosophy of 'ewe'. Hence the company expressly commits itself to meeting the high quality standards it sets.



RFID.System – the safe and reliable way to identify your components



RFID system – enables automatic identification and localisation of parts / furniture components throughout their life cycles.

You want to be informed about every detail of your production and automate your processes, simultaneously improving both efficiency and customer service? The powerful RFID technology from IMA will help you to achieve these goals. RFID will make it easy to trace your material flows. Increase the efficiency of your processing plant and optimize your entire process chain. The use of tagged parts can be put into practice in the production of all common types of furniture and construction elements: living, kitchen, bathroom and office furniture, internal construction components, caravans and such components as windows, doors, storefronts, etc.

Advantages of automatic identification and localisation of furniture components using the RFID system

- Improves the reading reliability
- Safe against removal and damage
- No need to remove any label due to process requirements
- Read and write operations possible any time
- Can be used along the entire process chain:
 - Pile reading can be realized (inspection of outgoing goods)
 - Part tracking
 - Production progress check
 - Warranty and claims management
 - Furniture trade
 - Service and maintenance

IMA offers processes for inserting RFID tags into each part or only the 'leading' part in a production run, which can be used on the following machines:

- BIMA machining centres
- Novimat and Combima (throughfeed insertion)
- Cutting Center (outfeed conveyor)
- BIMA Cut (outfeed conveyor)
- Conveyors (any point within an integrated line)

Your contact
IMA Engineering
Thomas Hampel
Tel +49 (0) 5741 331-297

STATION 1 BATCH SIZE 1

Intelligent performance: individual solution concepts for 'batch size 1' with optimization of sizing and laser technology within an uninterrupted process chain. The system solution consists of:

- **Panel storage area (Schelling)**

The new development: panel handling is effected fully automatically; after the sizing operation, residual parts are automatically fed back to the storage area.

- **Panel saw fh 6 (Schelling)**

Panels are carried from the panel storage area to the saw. After the panel is loaded in the saw, all labels are applied to the panels before they are sized.

- **BIMA Cutting Center (IMA)**

High-performance sizing for flexible manufacturing

- **Vacuum discharge device UBS-R (IMA)**

Vacuum pick-up device for part handling, gentle on materials

- **Sorting area (IMA)**

Digital servo axes for highly dynamic operation, variable shelf levels for buffering and re-sorting the parts

- **Single-side edge bander 'Performance.one' with Laser Edging and PU edge banding (IMA)**

Edge banding can be performed with the new VTG edge banding unit or with the laser technology (diode lasers), as required. The machine with panel return conveyor offers maximum flexibility for batch-size-1 production with the X15 servo infeed system (variable infeed system) and the KFA x30 with linear drive technology.

STATION 2 PRIESS & HORSTMANN

- **Drilling and assembly machine for carcass elements 'BAT-DTW-CNC'**

enabling machining up to six sides for carcass elements such as side panels, tops, bottoms and shelves. Horizontal drilling, gluing and dowel insertion in the transverse and longitudinal edges are also possible.

- **Drilling and mounting machine BMA-DLS-CNC**

with automatic feeder and stacker, for vertical drilling as well as automatic installation of the ironmongery.

- **Carcass press KP-n-CNC**

Carcass press for tall cabinets, base units and wall hung units. On this machine, the carcass is manually preassembled and then pressed together.

- **Drilling and mounting machine for fronts BAT-TAX-CNC**

with linear drive, for machining the underside face and upper face of doors, drawer fronts, large drawer components and face plates.

STATION 3 BATCH PRODUCTION

Leading technologies: IMA batch production with laser technology or conventional edge banding for fully automatic production processes. The high-volume line consisting of a double-side Combima, a drilling machine and a stacker stands for 60 years of high-tech, perfect part quality and high performance. See the production line in action and convince yourself of its high degree of availability and setup friendliness. The work well consists of:

STATION 3 ■ Double-side Combima II with Laser Edging and PU edge banding

with linear infeed system, new 'VTG' edge banding unit (6-reel magazine) and diode laser for edge banding or welding (as required) as well as the KFA x30 with linear drive

- **Drilling system 'IMAGIC'**

a machine that ensures high process security; the standard version is fully capable already, but numerous optional features can be added to extend the machine's capabilities, to increase capacity and to reduce setup times.

- **Double-side vacuum stacker P622**

with pit, 2 stack locations, longitudinal stacking (no waiting time for a stack change), 2 lift platforms serving as stack locations, 2 pneumatic suction bars with motorized width adjustment

STATION 4 SINGLE MACHINES

SCHELLING

- **Panel saw fh 4**

(pressure beam saw) with many new features, specifically at saw control level. Third-phase cuts for an optimal utilization of the panel material are executed fully automatically, with Schelling DUPLUS2 concept

- **KUKA robot**

Areas of application: storage, production, dispatch, loading and unloading, handling, or for machining the part.

IMA

- **Novimat Contour**

equipped with a contour trimming unit (CTU) for machining edgings of up to 3 mm and lippings of up to 20 mm thickness.

- **BIMA CUT [Release I] with RFID system**

A combination of a machining centre and a panel saw, which is used for custom production of fronts or components. Through the integration of panel sizing and panel processing, this system cuts setup times by making some of the setup operations obsolete.

- **Advantage 550 L Plasma Edging + conventional edge banding**

IMA Plasma Edging – the innovation in edge processing: equipped with an edge banding unit for conventional edge banding and plasma activation module and a panel return conveyor 'Liftback 1'

- **BIMA 400 V | L Laser Edging + conventional edge banding (light-weight construction solutions)**

Light-weight panel processing – semiautomatic dowel insertion, processing of free-form parts using a diode laser

- **Special edition:**

- **Advantage Diamond and Airtable**

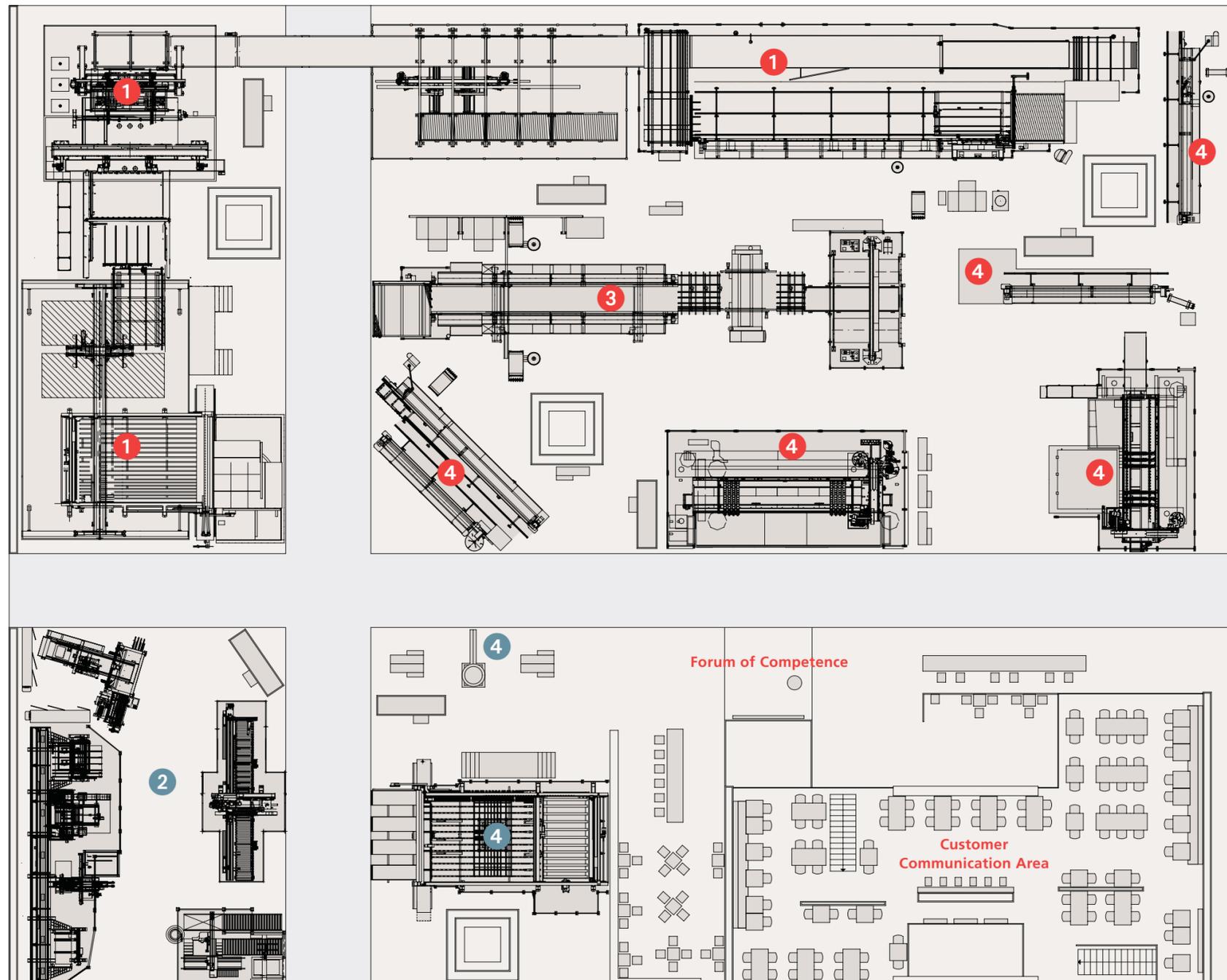
On its 60th anniversary, IMA presents a special anniversary machine: silver coating, steplessly variable feed speed range of 14–20 m/min, edge banding unit, glue applicator with spacer shoe, automation package and contour trimming unit (CTU)

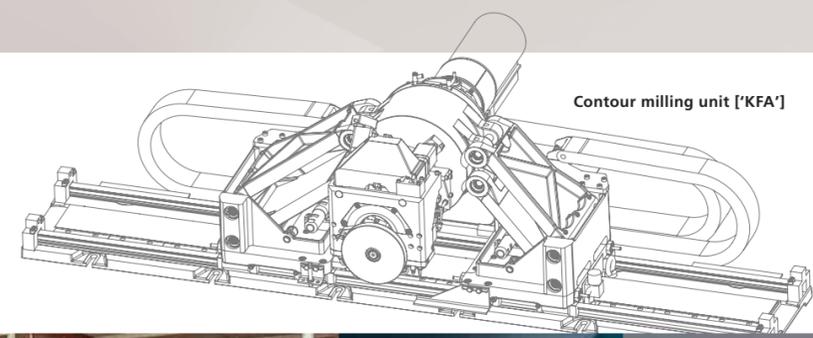
- **Novimat**

for high-quality edge processing, with a comprehensive modular system of units, with the new VTG edge banding unit (6-reel magazine) and the patented 'KFA x20' contour milling unit

Please visit IMA also in hall 11, where we will not only present the 'Advantage Diamond' but also the 'BIMA 300 V' CNC machining centre

Hall 11
Stand F 18





60 years of 'Leading technologies':



Edge banding unit for throughfeed systems, approx. 1960



Machining centre, approx. 1970



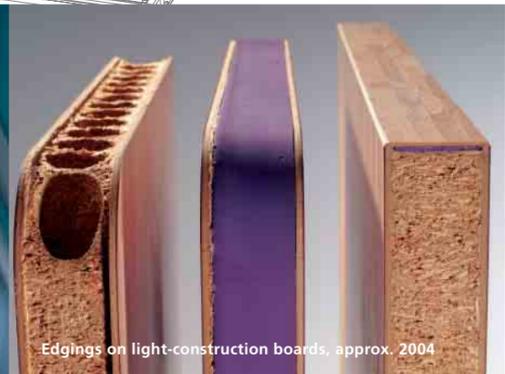
Erich Klessmann, approx. 1975



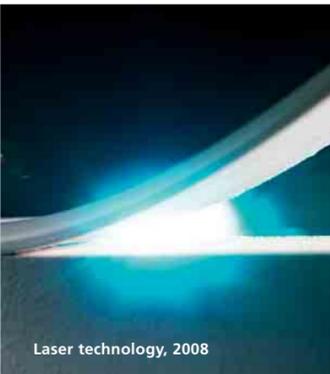
LIGNA in Hanover, in the 1970s



IMA Folding System



Edgings on light-construction boards, approx. 2004



Laser technology, 2008

1950
Foundation of TEXTIMA as the head office in Gütersloh by Erich Klessmann. The company first concentrated on the fabrication and sale of weaving machines for furnishing fabrics. They soon realized the chances in the market of the woodworking industry and did not stop to develop revolutionizing technological inventions for this emerging market over the course of the decades.

1951
Implementation of the 'IMA' brand for the production and sale of machines for the woodworking industry.

1952/1953
Development and presentation of the 'KVM' edging press [pneumatic press] and of the 'AVM' automatic veneer edge banding machine which at that time used urea as adhesive – the first process for industrial throughfeed edge banding.

1960
Expansion: laying the foundation stone for the IMA factory in Lübbecke. In parallel IMA develops the 'hot-melt gluing' process for straight edgings, including all fine finishing operations. This method lays the foundation for industrial mass production of case furniture.

1967/68
First production line consisting of a combination of COMBIMA machines: throughfeed panel sizing, edge banding and fine finishing.

1970
Construction of the first machining centres; at the beginning, intended for the metalworking industry.

1976
IMA patent: postforming system; first 'strip production' of fronts and work tops on a machine that forms the decorative surface around the edge to produce a seamless soft-edged component

1981
First IMA CNC machining centre with automatic tool changer for the woodworking industry.

1982
IMA patent: drilling and fittings insertion on furniture components by one machine. The development that paved the way for custom production of furniture.

1987
IMA patent: development of stationary machining with edge banding on BIMA machining centres.

Since 1992
Setting up international sales, service and production sites

1999
IMA patent: IMA Folding System (IFS) – the first economic individual/tailor-made manufacture of personalized, mass or ready-to-assemble furniture

Since 2000
Planning and installation of processing plants for batch-size-1-fabrication in Germany and abroad

2001
Expansion and new buildings at today's head office in Lübbecke

2003
BIMA-CUT entering the market: machining centre with integrated panel sizing ['mini-factory']

2005
IMA applies edge banding technologies for light-weight panel processing on throughfeed machines as well as CNC machining centres and introduces them into the market.

2006
First BIMA Cutting Center that sizes raw panels for custom production

2007
Compact single machines are introduced into the market: 'Advantage' series and 'BIMA 200I300' The 'IMAGIC' drilling system with highly efficient throughfeed drilling technology is made ready for the market. The contour milling unit (KFA) with 50 m/min feed speed is exhibited for the first time at the LIGNA in Hanover.

2008
Development and first field tests of the CO₂ laser process for joint-free edge banding of furniture components without the use of hot-melt glue.

2009
Market maturity of the IMA Laser Edging Process. Development of the diode laser method

2010
IMA presents the plasma process for the 'zero joint gap' edge at the Xylexpo in Italy.

2011
For the first time at the LIGNA in Hanover, IMA shares its stand at the LIGNA with its partners Schelling and Priess & Horstmann.

IMA celebrates its anniversary

Company jubilee: 60 years of innovative, efficient and trend-setting technologies made by IMA.

IMA has been an important partner to the woodworking industry and small shops for over 60 years. With more than 750 people who work for IMA and its subsidiaries in Europe, America and Asia and its presence in more than 60 countries, the worldwide perception is that IMA ranks at the top for technology leadership in its industry. The current company slogan ('Leading Technologies') once again impressively underlines the claim of the East-Westphalian high-tech forgery to technology leadership as a manufacturer and system provider of future-oriented panel processing installations. Since 1951, IMA has developed tailor-made solutions for the segments of stationary systems, throughfeed systems, process technology as well as storage,

handling and conveyor systems supplied to customers all over the globe. The IMA specialists, all of them highly qualified, motivated people with know-how gained over many years, assist their customers from the initial business idea, through implementation to the continuous optimisation of the entire production process.

60 years of company history are also 60 years full of dynamic developments. With an eye for the needs of the market, IMA has succeeded during all these years in developing machines desired by customers and satisfying their needs. And the products presented by IMA at the LIGNA 2011 show that IMA technology does not stand still. The exhibited solution concepts for batch-

size-1 machining, optimization of sizing, Laser Edging and Plasma Edging processes, batch production with the latest edge banding technology and also for equipping complete production facilities with sophisticated panel storage technology for fully automated production processes all belong to the best in their respective fields – on a worldwide scale: With an export rate of approx. 65 %, the medium-size East-Westphalian company is clearly orienting its activities not only on the European core business but also on the fast-growing markets in Asia as well as North America and Latin America.

60

1951 – 2011

Just in time for its 60th anniversary, IMA presents a special anniversary machine: the 'Advantage Diamond'. This machine not only convinces through its noble design in bright silver. The Diamond is also equipped with many extras:

- a touch screen of particularly great size with state-of-the-art control technology
- a space-saving panel return conveyor ('Liftback') option
- and much more.

A new tape sensing system avoids incorrect edge banding operations; the numerical adjustment of glue application and a new tracer shoe improve the edge banding quality. The steplessly variable feed speed in conjunction with the double banded belt allows the user to respond in a particularly flexible manner to the individual processing

requirements of different materials. Integrated inside lighting gives the operator quick orientation for any routine maintenance to be carried out. These are only few of the high-lights of this *Diamond*.

You will be surprised about what you see at the LIGNA!



BIMA CUT: from the standard board to the furniture

Still more powerful for more efficiency, still more flexible for universal use, still more cost-effective for long-term increase in company competitiveness.

With the BIMA CUT, IMA has completely redefined the concept of a 'machining centre': this is more than just one machine, it is a complete fabrication concept. 'Just in time' belongs to the past, 'just in sequence' faces increasing demand: producing the furniture components in exactly the right sequence! The time between the delivery of the product and manufacturing of the required components falls close to the pure process time.

The compact workcell: the BIMA CUT system is not only used for manufacturing carcass components. The entire sizing, together with the required drilling and milling operations, can be performed on one machine.

This distinguishes the BIMA CUT from Nesting machines and panel saws. By clamping the part to be machined on vacuum blocks, five sides of a part are freely accessible. Even the outer area of the underside face can be machined by undercutter units with crank angle; also available with integrated edge banding unit. When the parts leave the machine, they are ready to assemble. If the BIMA CUT is run in an integrated line, the operator can feed parts to the edge bander and also supply panels to the BIMA CUT. That means, a one-man work cell is created.

Ideal areas of application are craft trade, interior design and room design. Setup times can be neglected; even a single component is effectively cut out of a standard board and supplied with all holes drilled and, if required, with grooves and edging tape applied.

The BIMA CUT also finds applications in industrial production: cabinets with special dimensions, roof slopes, furniture with curves, oriel or inclined surfaces. Further applications are decorative panels and filler parts, etc.

This future-proof manufacturing system has proven its strengths in many companies for years. On the LIGNA, IMA will show the BIMA CUT in a new design with particular high-lights.



BIMA Cutting Center: no more fabrication of C parts

Efficient production with a powerful batch-size-1 concept allows IMA to make the principle of A, B and C component production completely redundant.

With the BIMA Cutting Center for component sizing and a flexible Combima line, IMA puts an end to A-B-C analysis.

The fundamental difference between the Cutting Center and a classic sawing solution is the use of milling cutters instead of conventional circular saws. This makes the machine independent from any linear cutting path, so that it can also mill along an angular contour in one go. The splitting process is carried out by six milling units, some of which operate in parallel and produce several raw parts simultaneously. The nested arrangement of the currently required components in an optimized cutting plan minimizes waste. Since the tool can mill along any cutting path, it is easy to recalculate a cutting plan, for example if the sizing pattern for the components has to be changed at the last minute. Residual panels are automatically fed out to the storage area and re-used upon request.

Furniture components of any size are cut from half-size or full-size standard panels. Applications range from 2400 mm x 1200 mm tabletops to extremely small parts of 120 mm x 230 mm. Between the BIMA Cutting Center and the single-side Combima line, the raw parts are re-sorted in the IMA buffer storage area. The sequence in which parts are fed to the edge processing line primarily depends on the requirements of the downstream workplaces and on the truck capacity planning.

Users of the BIMA Cutting Centre are convinced that this cutting system in conjunction with the automatic sorting and flexible production will put their company on the right track. Reduced delivery times and an increase in the production flexibility allow companies to respond even better to the specific needs of their customers. A fast and prompt supply of components reduces the assembly time. The availability of the components has the highest priority. The significant reduction of stocks minimizes capital lockup and the work spent on manual supply of components.



BIMA Px80 flexible and fast

Fendt-Caravan GmbH manufactures caravans that leave nothing to be desired. Since the beginning of the year, a BIMA Px80 is in operation in the Fendt factory in Mertingen, near Augsburg. Fendt offers its customers maximum functionality, installation of high-end interior design components and convincing quality for individual interior design of the motor caravans.

New: 3 fast alternating worktables for a quick cycle sequence

The BIMA Px80 series of gantry machines has proven its capabilities as an ideal all-round machine. Both in the configuration of the working units and the design of the panel support devices, it can be adapted in a very flexible way to the individual customer requirements.

Multiple arrangements of the work-holding positions increase the number of parts per tool change cycle; and the multiple arrangements of the working units enable several operations to be carried out simultaneously.

The new machine generation focuses on parts completed with few machining operations – short machining operations, more efficiency.

IMA chose the successful way to provide an ideal division of the working steps with three separate worktables. The working steps are: part loading on the work-holding device, machining and unloading.

The loading and unloading steps also include the work cycles of the automatic loading and unloading devices.

The moving heads of the worktables move on guides from the loading position to the working area. In the working area, they perform the function of the Y axis. The tasks to be carried out are limited to cutting out a shape and performing one further operation, for example profile milling. The work-holding device is accurately adapted to the individual parts to be processed. Work-holding device can be standard vacuum blocks on vacuum support bars, but also exchangeable vacuum clamping devices or pneumatic clamping devices. For loading parts on the alternating worktables, a gantry feeder system is particularly suitable. Pre-sized raw panels are taken from several stacks; if required they are rotated into the correct direction, then they are accurately placed on the worktable. Before the panels are clamped, they are aligned

against end stops. A photographic inspection of the surface can be carried out prior to machining as well as after machining is complete. IMA offers systems that are both fast and flexible.

Finished components can be laid down on pallets or directly on conveyors which take away the components from the machine worktables. If necessary, the parts can be rotated into the required transport direction and their surfaces be cleaned.

The BIMA Px80 series is available as a milling, edge banding or robot head machine.

Priess & Horstmann: innovative solutions for batch-size one production

Highly flexible drilling and mounting machines for an intelligent furniture production

More than 40 ago, the company Priess and Horstmann was founded with the goal of developing machines and processing installations for the furniture industry which improve the production flow of mass production lines. Today this is no longer sufficient at all.

For Priess & Horstmann, the specific challenge in the development of a new generation of fitting machines today is to develop a clear-cut and controllable technology that can be used to ensure efficient production with high availability. Another objective is to develop the increasing degree of automation not only for large companies but to enable also small and medium-size companies to control and use this technology so that it works safely.

In this process, the focus is on the high flexibility needed to meet the requirements of modern batch-size-1 production. At the same time, high dynamics and setup-free operation increase capacity in the machines and production lines so much that they operate at optimal costs.

In order to face this technological challenge, Priess & Horstmann has developed the BAT-TAX and BAT-RTW machine types for the production of fronts. In the field of carcass assembly, specifically the BAO/BMA and DTW machine types as well as the KP carcass press have been designed, which allow the company to configure work cells that meet all demands of modern carcass production by combining machines in a very individual way.

All machines can be used in any combination and configuration, simultaneously maximizing both flexibility and dynamics.

Priess & Horstmann has achieved each of the objectives it has set out, and they have proved to be practical and optimally suitable for many customer applications: zero error rates, flexible productions, process optimisations as well as improvements in product quality and at the same time **minimization of personnel cost.**



Priess & Horstmann at the LIGNA 2011

- _ production of fronts
BAT-TAX and BAT-RTW
- _ carcass assembly
BAO/BMA and DTW
- _ carcass press 'KP'



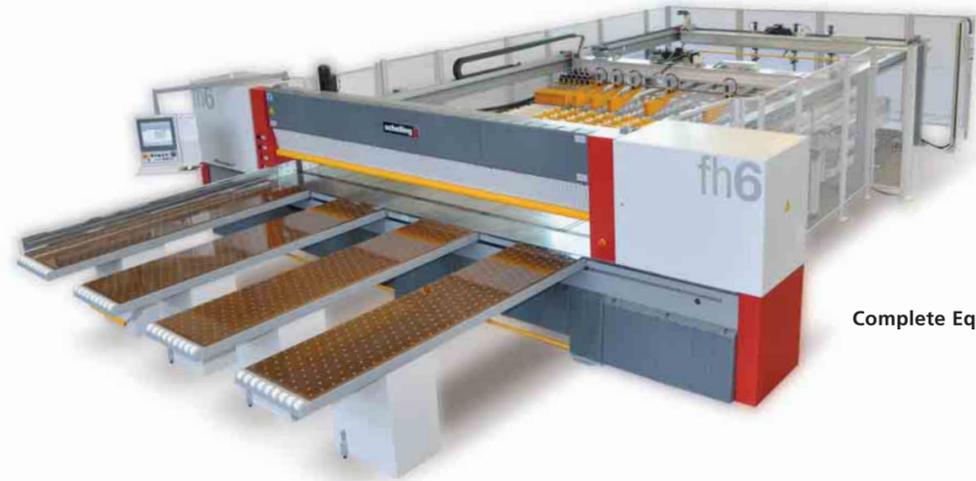
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LIGNA 2011

Hall 26
Stand D 82
30 May – 3 June 2011
Hannover

LIGNA 2011



Complete Equipment

Schelling: Rapid Evolution in Panel Dividing Saws.

The technological leader in panel dividing is providing even more evidence of developmental expertise at Ligna. Numerous optimisation and innovations have been introduced which will enable even greater productivity and precision leading to powerful technological advancements in woodworking.

Schelling's presence in Hall 26, Stand D82 will once again be a good starting point for the woodworking industry at Ligna, Hanover. Schelling will be present from the 30th May to 3rd June together with important partners on the collective stand of IMA Klessman and Priess & Horstmann. Schelling goes by the motto "We create progress – one step ahead".

Upon visiting the Schelling stand you will taken on a journey through time which will highlight the research and development discoveries which have given rise to today's advanced applications. The list of these innovations is impressive.

New deep cutting unit increases user comfort

Brand new to the ch 6 and ch 8 are the cross-cut saws with their deep cutting unit. With this additional upstream saw panels can also be divided lengthwise in order to carry out subsequent cross-cuts. This means the operator's workload is reduced resulting in better productivity. The deep cutting unit has been designed for maximum comfort, efficiency, safety and ease of use for the operator.

"ah 10" system: new, more powerful, more productive

The new ah 10 panel cutting system provides a production line which can be adapted precisely to specific customer requirements – this offers never before seen performance for industrial applications. It is user-friendly, gentle on panels and flexible. The precision of the ah 10 system means that it masters the stack cuts equally as well as the small series cuts. A saw blade projection of 185 mm and a stack height of 160 mm combine to optimise both small and large processes.

Third-phase cutting software: more efficient, easier

Third-phase cuts enable cutting diagram optimisation for the planning of formats with various widths in a common strip. Until now, this was always been associated with additional handling effort by the operator. Now Schelling has developed a process which shortens the production time. The solution is achieved through a highly developed machine control unit.

Third-phase cut milling cutter: a rational solution for even the smallest batch sizes

A further development in third-phase cutting systems is the additional milling head which increase efficiency even further. It enables sawing and milling to take place at the same time. The combination of a growing number of parts and decreasing batch sizes places a great challenge on cutting in fully automated production processes. With the third-phase cutting system from Schelling, this dilemma can be solved.

Optimised Schelling storage area systems

The Schelling storage handling system can provide a tremendous increase in flexibility. It enables unmanned pre-commissioning and an optimal disposition. Together with the automated remnant management system, the possibility of managing a wide assortment of material movement accurately can be achieved. Schelling offers a complete single-source solution.

More power through double racks: DUPLUS2

Here, two individually operating racks position the material in the saw. In doing so, this means that the head and main parts can be cut simultaneously or cross-cuts of multiple strips of material can be cut simultaneously with a different cut pattern. In combination with the rotary unit, this leads to a further increase in capacity.

Automatic labelling saves valuable time

Before the panel is even cut, the labels can be adhered. In combination with the Schelling storage area system, it is even possible to label panels in a stack. This automatic labelling system will prevent errors and unburden the operator with additional duties.

The value of simulation over theory

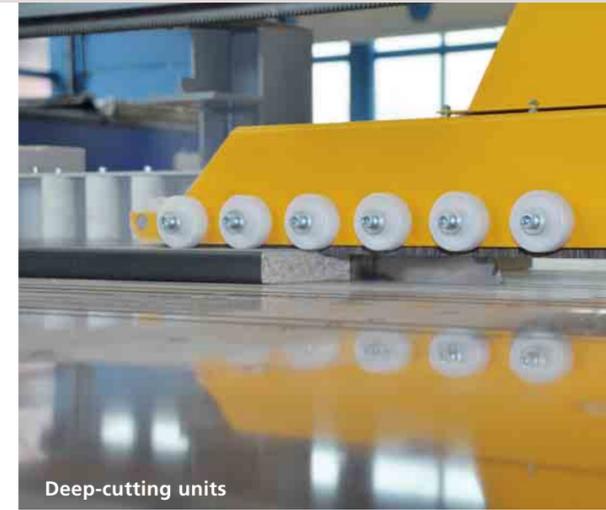
Panel cutting systems with sorting and stacking equipment form a very complex production process. Typical attributes for this include, parallel material flows, buffer areas and simultaneously executed movements. This simulation software developed by Schelling makes it possible to check the desired production capacity during the project design phase.

More performance through training

A key competitive advantage in panel cutting is the know-how of machine operators. If they are purposefully trained on Schelling machines, then productivity will increase significantly. Through training, Schelling's staff are able to pass on this knowledge to the customer's employees.

Upgrading: getting the best out of existing systems

Anyone who already has a machine or system from Schelling knows how difficult it is to part with it. The only reason to do so is because Schelling currently offers more modern innovative models. However, there is a solution for this: conversion and modifications. The focus on this area allows the quick adaptation of existing machine or systems to the changing requirements of the market.



Deep-cutting units



Third-phase cutting



storage areas



Labelling

Schelling at the LIGNA 2011

- _ Schelling storage areas
- _ Double racks
- _ Automatic labelling
- _ Third-phase cutting
- _ Simulation
- _ Deep-cutting units
- _ Upgrading

schelling



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