Cost-efficient production in the woodworking and wood processing industry

The production processes in your industry are as varied as the natural raw material, wood. Machines with innovative automation technology bring about crucial cost advantages here.

Source: Homag Group AG
Festo’s core business includes applied automation technology for a wide variety of machines, from entry-level to fully automated high-end ones. A key technological feature of our solutions is pneumatics as a sturdy and low-cost medium. It has long established itself as the standard for primary woodworking and secondary wood processing in wood-based products technology, sawing or planing technology as well as in production machines and plants for furniture production, the components industry and carpentry and joinery.

Discover new dimensions for your company. We will help you to achieve your goals, because cost optimisation, maximum productivity, global presence and close partnerships with our customers are the hallmarks of Festo.

+ Large number of standard products suitable for the working space and resistant to dust and chips

+ Complemented by an industry-specific product offer and application-optimised solutions

+ Global network of specialists for on-site support

+ Consistent quality of products and services – worldwide

+ Long-term, reliable partnership
You have high standards, we ensure you meet them

The company nobilia with around 3,000 employees has been exclusively producing its products in Germany for 70 years. The two plants in Verl in East Westphalia are among the most modern and efficient production factories for kitchen furniture in Europe, with 3,000 kitchens made and shipped every day. Offering individual design and precision production, it supplies almost one in three kitchens sold throughout Germany, employing a high level of automation to guarantee a constant level of quality. As expected by customers of Europe’s largest kitchen manufacturer and market leader in Germany.

“We manufacture over 3,000 individually designed kitchens every day. Technical availability and the highest plant precision and flexibility are the top priority. That’s why we stipulate that our machine suppliers use Festo for many areas”

Hüttenhölscher Maschinenbau GmbH & Co. KG plans, designs and assembles special purpose machines and robot applications for the furniture industry as well as other industry sectors. Its products range from simple manual assembly jigs all the way up to complex production and assembly lines with a batch size of 1.

Hüttenhölscher’s strength lies in its ability to translate customers’ ideas and requirements into custom plant concepts. This is reflected in the fact that it counts the largest kitchen furniture manufacturer in Germany and Europe among its customers.

“Our customers demand flexible automation with total availability and performance. As a long-standing partner, Festo helps us to meet these exacting demands. For example, it recommended IO-Link® to us. A welcome side effect is that the workload involved in the electrical installation of our systems has been greatly reduced.”

Martin Henkenjohann, Head of Engineering, nobilia plants

Daniel Hüttenhölscher, Managing Director, Hüttenhölscher Maschinenbau GmbH & Co. KG
**Pneumatic drives for every application**

From single-acting cylinders, compact and round cylinders to semi-rotary drives and clamping cylinders, Festo drives offer sturdy, attractively priced and reliable solutions. Most feature self-adjusting cushioning PPS, which saves you around five minutes of setup time. In addition, there are matching proximity sensors, connecting components and tubing as well as fittings – including fully assembled into a complete unit.

Our standard product range is complemented by industry-specific developments:

- Pressure cylinders with reinforced piston rod for absorbing high lateral forces during woodworking using pressure rollers with defined preclamping forces
- Trimmer cylinders to ISO VDMA 15552 featuring modular equipment options with special wiper seals and cushioning systems developed specifically for harsh and difficult environmental conditions and high speeds
- Cylinders for the drying process to ISO VDMA 15552

**A few highlights from our product range**

- **Compact cylinder ADN-PPS to ISO 21287**
- **Guided drive DFM-B**
- **Cylinder/valve combination**
- **Standards-based cylinder DSBC to ISO 15552**
- **Linear drive DGC**
- **Round cylinder DSNU with cushioning PPS**
Compressed air preparation that saves time and money

Extend the service life of your components and systems, and at the same time reduce machine failures and downtime. Our MS series service unit combinations with their unique mix of sizes enable optimum flow rates with smaller sizes and lower costs. Available in pneumatic or electric versions, they prevent leakage and offer reliable stop and start functions. Concentrated Festo expertise is evident in every detail and is a direct result of our integrated thinking.

**Safety@Festo**
With our safety-related automation technology you can achieve optimum safety. And be in full compliance with the EC Machinery Directive.

**Energy efficiency@Festo**
Festo’s perfectly coordinated energy efficiency concept incorporates all the phases of your value creation process for an economical and sustainable plant design. Our Energy Saving Services ensure especially energy-efficient operation.

From components to systems

Benefit from the best price-performance ratio, both with pre-defined standard products and custom solutions. Our range includes components as well as assemblies and complete subsystems. And the more solutions you have us pre-assemble, the faster you can be up and running – and with total reliability thanks to full testing and documentation.
Festo: the no. 1 expert in valve technology

A valve terminal offers an efficient means of integrating pneumatic valves and electrical peripherals. The shared power supply and control system require less tubing and fewer cables and are therefore much easier and quicker to install. We invented the valve terminal in 1989, and have continuously made it more economical and flexible ever since. This has included electrical inputs and outputs, safety technology, control protocols, diagnostics and condition monitoring as well as application-optimised and customer-specific valve terminals.

From components to systems

Individual valve
Solenoid valve block
Valve terminal with multi-pin plug
Valve terminal with IO-Link®
Motion Terminal
Automation platform (electric/pneumatic/mechanical)
Ready-to-install subsystem

Configurable in line with the user’s requirements, valve terminals offer flexibility in terms of functions, sizes and features. They enable communication with all I/O and controller platforms. Even the most complex automation tasks can be cost-effectively implemented thanks to our intelligent solutions with maximum function integration.
Electric drive technology at its best

The Festo range of servo motors and servo controllers is specially designed for our toothed belt axes and spindle axes as well as for our electric cylinders – perfectly combined with engineering software and enhanced with complete safety solutions for mechanical and drive systems. Innovative software tools for engineering and configuration together with our automation platform and other integrated motion control solutions provide a virtually unlimited spectrum of solutions for industrial automation tasks, whether for complete positioning systems or entire handling units. Incidentally, they are also available in electric versions or a combination of the two.

A few highlights from our product range

Motor controllers CMMS-ST/CMMO-ST/CMMP-AS
Servo motors/stepper motors EMMS-AS/EMME-AS/EMMS-ST
Toothed belt axes ELGA-TB-RF/EGC-TB/ELGR
Handling system
Electric cylinder EPCO
Electric cylinder ESBF
Rack and pinion Z-axis module EHMH
Engineering software
Numerous Festo customers in your industry are already using IO-Link®. Experience shows that this type of installation concept reduces costs by up to 20% overall.

**Easy to parameterise**
Software-supported parameterisation of intelligent sensors and actuators via the IO-Link® master makes it extremely easy to set and reassign parameters. An especially convenient feature is automatic re-parameterisation following device replacement.

**Safe investment thanks to standardisation**
An international, open and fieldbus-independent IO-Link® standard provides support for existing and future connection concepts.

**Less downtime, higher productivity**
The comprehensive exchange of diagnostic and operational data between device and master systems accelerates troubleshooting and forms the basis for condition monitoring systems.

**Communication across all levels**
IO-Link® provides greater flexibility in communication, from the control level to the field level.

**More economical and efficient installation**
Low-cost standard cables and IO-Link® for valve terminals allow simple, decentralised diagnostic messages and offer distinct technical advantages compared with multi-pin plugs, such as more flexible installation, improved energy chain throughfeed, and optimum adaptation to particularly demanding ambient conditions like humid or harsh environments.
Forward-looking technology for you

**Industry 4.0**
Solutions are becoming ever faster, more flexible and more intelligent in all industries. Higher availability, energy efficiency, communication between objects – these are the trends in Industry 4.0 and Festo is playing an important role in shaping them.

**Engineering tools**
Tools like the Handling Guide Online (HGO), FluidDraw or PositioningDrives simplify your work and greatly shorten your time to market. Use them for project planning, design and engineering.

**For you and your customers:**
targeted on-site services worldwide
- Spare parts service
- Repair service
- Modular service contracts
- Energy Saving Services
- Compressed air quality analysis
- Condition Monitoring Service
- Commissioning support for axis systems
- 24-hour delivery service
- 24-hour emergency service

**Training, learning systems, consulting**
45 years of experience in training and more than 2,900 courses with around 42,000 participants each year: through our learning systems we promote technical basic and further training as well as targeted organisational and process optimisation. We also offer individual training programmes, courses at masters level and special courses for managers.
A world first: digital pneumatics

The world’s first Festo Motion Terminal VTEM is opening up radical new dimensions in the world of automation. As the first valve terminal controlled by apps, it combines the benefits of electrics and pneumatics with a multitude of functions.

And your plant remains open to modernisation and performance improvements – without having to change the hardware. This will also enable you to master all the key challenges of the future.
Flexible and economical, right down to a batch size of 1
Enjoy maximum flexibility and stand out from the competition with the ability to respond to changed requirements during operation using a motion app instead of having to subsequently install expensive hardware.

Maximum overall equipment effectiveness and longer component service life
Integrated sensors and matching motion apps make condition monitoring and diagnostics for maintenance easier than ever before.

Greater profitability across the entire value chain
Motion apps such as ECO drive reduce your compressed air consumption by up to 70%. There is no need for shock absorbers or flow control valves, thus significantly reducing your spare parts usage.

Standardisation and reduced complexity
The Festo Motion Terminal performs many tasks with the highest possible level of standardisation. It now allows 50 different components and a wide range of functions to be packed into one valve.

Motion apps today
Thanks to appropriate apps, the Motion Terminal offers maximum versatility and is suitable for numerous tasks. Further apps for even more functions are already being planned.

<table>
<thead>
<tr>
<th>Technical data</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Flow</td>
<td>550 l/min</td>
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<tr>
<td>Switching time</td>
<td>4 ms</td>
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<tr>
<td>Operating pressure</td>
<td>−0.9 ... 8 bar</td>
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<td>Degree of protection</td>
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<td>Temperature range</td>
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Important: By 2018, the Festo Motion Terminal will be available worldwide. To check availability for 2017, please go to:

→ www.festo.com/motionterminal
Secure your own pole position

During the production process workpieces with different dimensions, contours and thicknesses need to be clamped. You can significantly reduce your cycle times here by prepositioning, while variable clamping pressure ensures optimum clamping results. This is ideal for guaranteeing consistently high processing quality. New: pre-selecting the position and individual pressure is easy to achieve with the corresponding motion apps.

More information:
www.festo.com/wood

You work with wood or wood-based materials.
You want sturdy and low-cost solutions.
We supply simple to high-end solutions, worldwide.

→ WE ARE THE ENGINEERS OF PRODUCTIVITY.