Hydraulic Drive Technology for Woodworking Machinery

The Drive & Control Company
Drive & Control – everything for keeping things moving. Whether your drive and control solutions are hydraulic, pneumatic, electric or mechanical – being your partner for your motion control needs is the objective of Bosch Rexroth. The Drive & Control Company.

As the technology leader we strive to master all drive and control technologies through continuous development. We perceive ourselves as the complete solution provider. From initial contact through commissioning and service, you will find qualified advice, support and exceptional service all over the world: whether through personal contact or via the world wide web: www.boschrexroth-us.com.

The Business Unit Industrial Hydraulics is a part of the successful whole – with an outstanding position. As a worldwide leading supplier of hydraulic components and systems with specifically matched electronic components, Bosch Rexroth can offer products that often set standards with regard to performance and quality.

Performing linear or rotary movements, lifting or lowering loads evenly, accelerating and decelerating quickly, maintaining given speeds, precise positioning, guiding loads accurately, transmitting power, linking sequences – these are the tasks performed by hydraulics today and in the future.

High reliability, power density, robustness and low maintenance are characteristics that we strive for in our drive systems. Combined with our modern electronics precise drive control is possible. To meet this requirement, Bosch Rexroth has assembled teams that specialize in industry specific applications. These drive and control specialists reside in application centers where they are ready to provide the optimum solution for your task in close cooperation with you.

Precise, robust, reliable: Hydraulic drive technology for the wood processing industry

Higher material throughput, better utilization of material and narrower machining tolerances – these are the demands made by the market on modern, efficient wood processing concepts.
Wood processing companies have an increased demand for production systems with dynamic, compact and maintenance-friendly drive systems that achieve high positioning accuracy and feature a long service life.

Like no other company, Bosch Rexroth meets these requirements by offering innovative products, industry-specific application knowledge and cost effective solutions to our customers.

As the Drive & Control Company, Bosch Rexroth develops optimum drive solutions worldwide on the basis of a broad range of standard and customized components that are tailored to the individual industrial sector and to the requirement of the individual customer.
Robust technology in the log handling yard

The requirement: efficient and robust machines that work reliably under any weather condition

Log loaders and debarkers in the log handling yard prepare logs for subsequent processing. Rexroth hydrostatic drives offer the perfect solution with high power density and reliability second to none.

Rexroth’s comprehensive product range meets any power requirement. This system technology has proven excellent in numerous mobile and stationary applications all over the world. In conjunction with advanced control technology, stable and efficient drive solutions are realized.
Hydraulic cylinders are used in buckling saws for cutting the logs to length. The cutting movement is controlled via analog or digital motion control cards in conjunction with servo solenoid or proportional valves. These Rexroth products offer a robust, highly repeatable solution with a favorable price/performance ratio.
Round logs get edges – with hydraulic drive technology in the sawmill

Log processing in the sawmill demands highly accurate linear positioning. Band mills, chipping heads, head blocks, gang saws and line bars all require rapid and accurate positioning.

Digital controller assemblies with field bus interfaces in conjunction with highly dynamic control valves allow the precise positioning of actuators and thus optimum throughput of the log to downstream machining units.

These control valves are characterized by their high-dynamic performance with low hysteresis and high response sensitivity. Due to the use of integral valve electronics, electric cabling is kept to a minimum. Time consuming re-nulling of the valve is a thing of the past.
The positioning process of chipping heads, saw blades and curve saws place great demands on the hydraulic components used. Based on the proven high-response servo solenoid valve, Rexroth now offers a new valve generation with integral axis controller and field bus interface.

The decisive advantages: Via the field bus the hydraulic axis drive is directly integrated into the digital control structure of the machine.

The axis controller can be easily parameterized and the command value flexibly generated by the higher-level control. The diagnosis of actual values and status values (valve temperature, power supply) is handled via the bus system. Faster error analysis by means of remote diagnostic systems results in a significant reduction in downtime.
The art of cutting curves

Precisely controlled electro-hydraulic linear axis in curve saws ensures accurate cuts.

Curve or shape saws are used for the efficient processing of bent logs. Here, high response servo solenoid valves from Rexroth control the precise positioning of saw blades as a function of material feed.
Veneer is peeled from suitable log with special peeling knife

Quality through precision:
Veneer lathes...

High quality veneer can only be produced with accurate synchronization of two hydraulic feed cylinders. The synchronization is performed with the 2-axis version of our HACD with synchronization control. The “ruggedized” servo solenoid valve is mounted directly onto the linear positioning cylinder.

This design increases load stiffness while simultaneously increasing shock at the control valve. It is here that Bosch Rexroth offers distinct advantages: The control valve is a “ruggedized” version of the standard servo solenoid valve and has been designed specifically for this application.
... and flaker for oriented strand boards

A constant feed speed is critical for consistent quality in the production of chips.

A Rexroth hydraulic linear positioning cylinder with integrated measuring system, pilot operated high-response servo solenoid valve and single-axis controller with field bus interface meets the requirements in an optimum way.
It is important to reduce downtimes that result from machine defects. For this reason, Bosch Rexroth established the Business Unit Service Automation, which translates the Drive & Control philosophy into comprehensive services.

A closely meshed service network worldwide guarantees short reaction times and the supply of spare parts just in time to any place of the world. Our specialists master each individual technology. In the field of automation you have only one contact for all drive and control elements over the entire service life of your system. We offer tailored service packages with preventive maintenance and remote diagnostics for uninterrupted production.

The fast elimination of malfunction is an essential part of our service offer – but not the only one. We also hold training courses for your employees and customers and support you in the modernization and modification of existing systems, and – finally keep your plant going at any time.