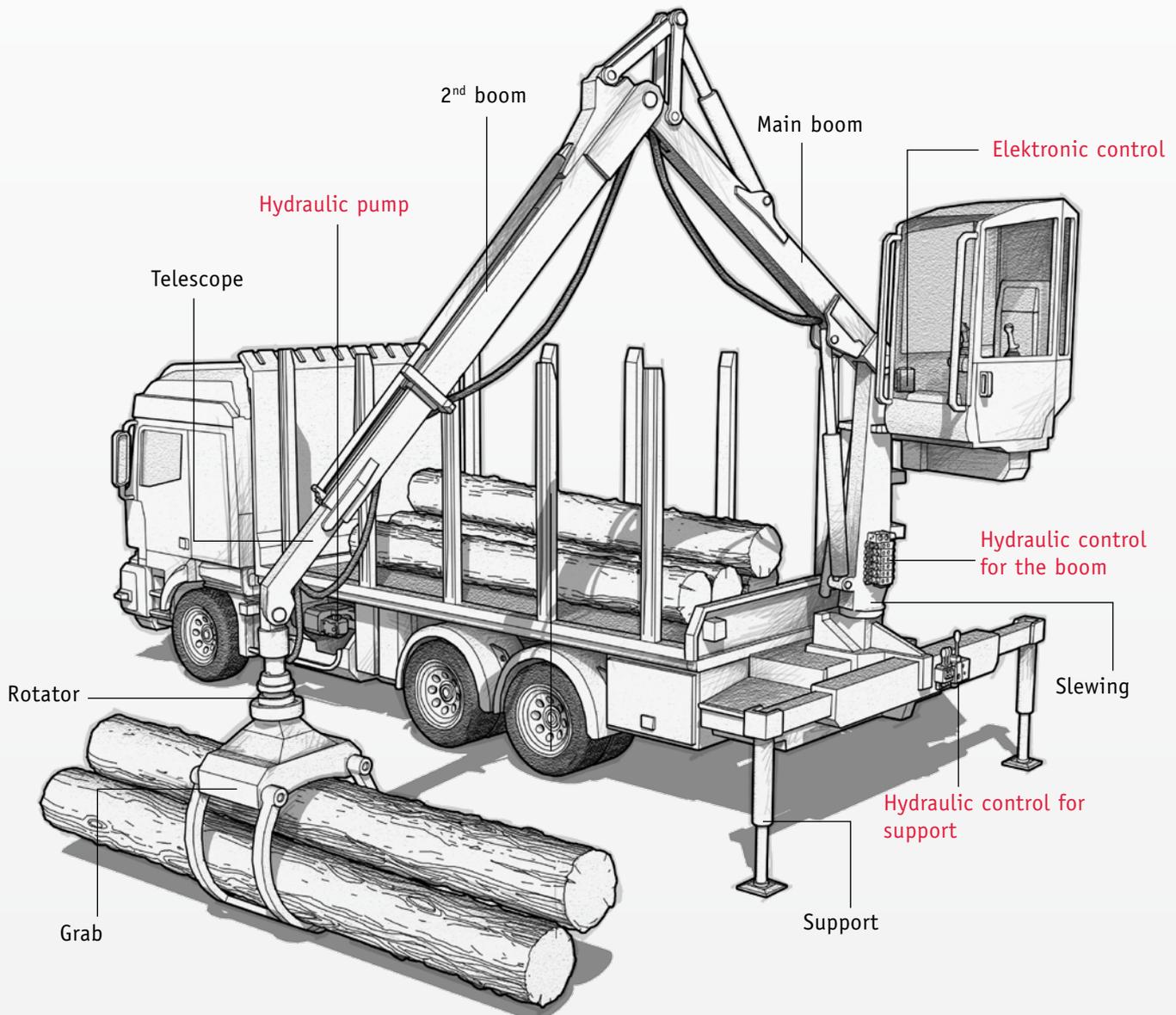


# Dynamics and power during loading and unloading.



Many movements take place simultaneously and at a very rapid pace while a lumber transporter is being loaded and unloaded using a crane. The controls are operated manually, and the operator relies on crane design, the hydraulic control system and his concentration – come rain or shine. It is a combination of all these factors which affects the profitability of lumber transport.

**SOLUTIONS FOR A WORLD UNDER PRESSURE**

**HAWE**  
HYDRAULIK

## HAWE Hydraulik: keeping you moving.

### When performance counts.

Manufacturers of loading cranes, forwarder cranes and skidder cranes establish the basis for hoist power, precision and operating speed with an ingenious design of crane arms. But it is only the hydraulic control system that breathes life into these devices. It transfers the crane operator's control movements directly to the crane, generates power and performs movements. In all kinds of weather, in every possible situation and throughout the entire life cycle, this process must be performed as sensitively, precisely and quickly – and therefore as economically – as possible. These are requirements that are best achieved with a tailored system solution. HAWE Hydraulik addresses the individual needs of crane manufacturers and works closely with them to develop optimal solutions. In addition to taking the execution of individual crane movements and the bracing apparatus into account, we optimize the entire system, improving fuel economy and ensuring compliance with current emissions regulations.



Picture: Vielfalt - Fotolia.com

### HAWE Hydraulik: lots of fuel-saving concepts.

Efficient design of the hydraulic system, including the pump and valve timing, improves fuel economy while maintaining or even improving performance. HAWE Hydraulik offers a range of mobile hydraulics concepts based on many years of experience. For instance, proportional controls not only smoothly translate crane movements, but also provide an improved energy footprint through regenerative piston pilot units and by recycling oil from the rod section to the piston section of the cylinders. Special shock anti-cavitation valves ensure that when deadweight is used to lower the crane arm – the easiest way to save fuel – air does not enter the hydraulic system.

The choice of pump also affects fuel consumption. Adjustable, high-efficiency axial piston pumps provide savings potential, because they only pump oil when needed. The swivel angle is used to adjust pump volume to conform to the current requirements of hydraulic consumers. It makes the system efficient and limits heat production. HAWE offers a wide range of pumps in various sizes and with corresponding control unit models.

### The power of teamwork.

HAWE Hydraulik is the perfect partner for agricultural and forestry machinery. We offer fully integrated solutions at every stage from designs and manufacturing to the start of operations, utilizing over 65 years of experience over 65 years' experience. Furthermore, you can enjoy high efficiency combined with excellent flexibility.



Picture: vschlichting - Fotolia.com

## Individually tailored to your crane.

HAWE enables you to improve efficiency, reduce weight and operate economically with its modern, reliable and robust products, all of which form part of modular systems. Some of the items in our product range include:

### A directional valve for all functions:

With minimal installation effort and reduced space requirements, the PSL proportional directional valve, which is based on the load sensing principle, provides a technologically sophisticated and economic way of combining up to 10 functions, including additional and directly integrated options such as shock anti-cavitation valves.

- Operating pressure ( $p_{max}$ ): 420 bar
- Flow rate ( $Q_{max}$ ): 240 l/min



### Actuation is based on ergonomic requirements:

The PSL proportional directional valve can be actuated with a cross lever, electro-hydraulically or just hydraulically. Four sizes are available. They are selected on the basis of individual consumers' requirements and can be easily combined in the valve bank.

- Operating pressure ( $p_{max}$ ): 420 bar
- Flow rate ( $Q_{max}$ ): 240 l/min



### Intelligent communication between components:

The PSL's on-board CAN technology minimizes the amount of wiring required and makes it easier to design smart systems. As you would expect, it supports all common communication protocols.

- Operating pressure ( $p_{max}$ ): 420 bar
- Flow rate ( $Q_{max}$ ): 120 l/min



### Efficient hydraulic fluid supply:

The energy-efficient axial piston pump type V60N generates the necessary pressure and flow rate, continually adapting these to the current requirements. Various nominal sizes, controls and drive options offer maximum flexibility while minimizing space requirements.

- Operating pressure ( $p_{max}$ ): 400 bar
- Geometric displacement ( $V_g$ ): 130 cm<sup>3</sup>/U



### Mobile and flexible – our electronic control:

Ideally suited to the hydraulic components, the PLVC operates and carries out signal evaluation for all functions. It is linked to the vehicle controls by a CAN bus, and can also send telemetry data to maintenance technicians remotely.



## End-to-end service.

With five sales offices in Germany, 14 subsidiaries worldwide and around 30 expert partner companies, HAWE Hydraulik is bound to have a presence in your area.

HAWE Hydraulik offers the following benefits:

- Comprehensive individual advice and assistance
- Customized solutions
- Products designed and manufactured using state-of-the-art technology
- Many years of experience and expertise in hydraulic products and their uses
- Tailored service and maintenance contracts
- Layout, set-up, and maintenance/service on-site

If you have any questions, please get in touch. Our experts are always happy to help.

