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Solutions for Oscillations.



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Working with concrete can often be as hard and gray as concrete itself. Heavy concrete loads are still employed at building sites. They need to be guided carefully and present all kinds of dangers to work-men. Concrete pumps and booms controlled with HAWE components move concrete at high pressures along pipes. They guarantee targeted distribution of concrete even in difficult-to-reach places. As a result this work becomes safer, cleaner and more efficient.

Solutions for a World under Pressure

**HAWE**  
HYDRAULIK



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## Remain mobile.

### **Flexibility required: the market for mobile machines.**

Machines such as cranes, working platforms, construction machines as well as forestry and municipal vehicles by design have different areas of application. However, they have one thing in common – it is hydraulic power.

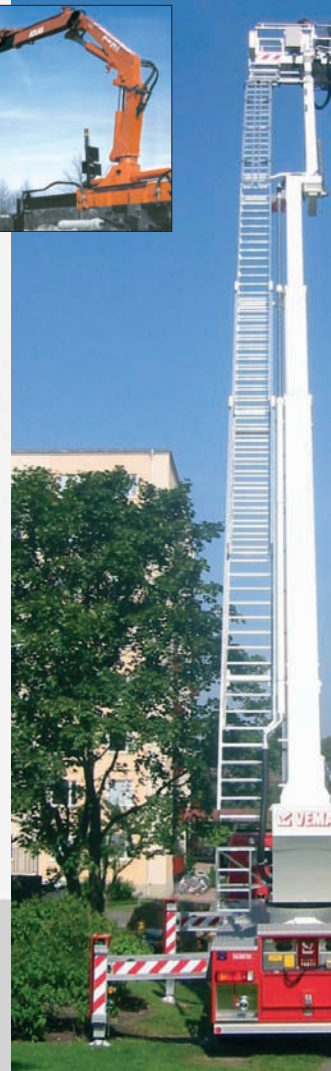
Despite a host of new developments in electrical or pneumatic drive & control technology, hydraulic systems continue to offer unique advantages in many applications:

- High power density
- Operational safety, also in the event of a power failure
- Independence of the arrangement of the hydraulic elements
- High reliability, even under the most adverse operating conditions such as heat, cold, moisture and vibrations
- Good price/performance ratio

### **Everything under control thanks to expert vibration damping.**

As a long-standing market leader in the segment comprising sophisticated hydraulic motion control for concrete distribution booms, HAWE has been able to very successfully apply its know-how to other mobile hydraulic projects.

All such projects call for safe and reliable operation. Distribution booms which vibrate strongly during pumping do not permit a precise application of concrete at the required points. Working platforms which vibrate strongly during ascent or descent are unacceptable for users, not only in terms of safety. Know-how as well as tried and tested components are needed to prevent undesirable vibrations. We offer both. Our new and advanced products are designed for passive and active minimization of vibrations during operations, so that your machines' performance is maximized. Test us!







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# HAWE hydraulic systems effectively absorb load vibrations.

## The components.

**External load vibrations**  
 Our challenge

### LHK, LHT and LHDV load holding valves

Different product families with adjustable damping and opening characteristics

### PSL and PSV proportional directional spool valves

- Integrated damping elements in the connection block
- Damping adjustment via the feed regulator
- Flow adjustment via the valve spool

### V60N adjustable axial-piston pump

- Controller damping
- Pulsation

### Base vehicle (tires, supports)

Your know-how is needed here!

External load vibrations



Load holding valves



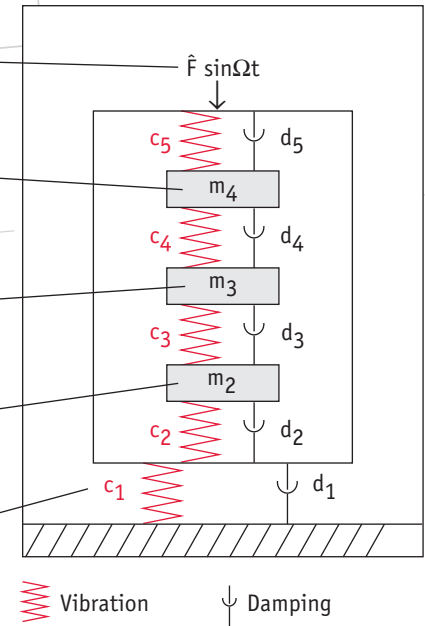
Directional valves



Pump system

Base vehicle

## The system.



## Mobile yet stable.

### **Intrinsic values: Integrated damping elements.**

The stability of a system as a whole depends on its components' tendencies to oscillate. Similarly, the degree of damping achievable by the system depends on the interaction between its individual damping elements. A simple yet flexible technique here comprises damping of the load-pressure signals in the directional valves, load holding valves and pump controllers by means of orifices, throttles and pre-load valves. Solenoid valves additionally provide dead times and ramps. A moderate and selective matching of damping across all components proves much more effective than focusing unduly on a single element. Accordingly, HAWE integrates at least one damping adjustment mechanism into each of its modules.

### **Diverse modular component kit.**

Components with a modular design can be combined individually to form customized solutions and systems. This includes a wide variety of pumps, valves and sensors.



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### **HAWE electronics: A fine brand.**

The PLVC programmable control developed by us is matched precisely with hydraulic components and geared toward practically any of your applications, whether it involves automatic crane folding, overload management for crane jibs or synchronization between two consumers. Analog and digital components networked by means of a CAN-bus can be driven, controlled and monitored via cable or wireless.

### **Reliant and comprehensive support.**

HAWE Hydraulik provides you and your customers with active support on-site through a network of 10 subsidiaries and 30 competent distribution partners worldwide. In addition to tailor-made solutions incorporating consultation, design and documentation, we also offer assembly, testing and maintenance on-site.

### **Find out yourself!**





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