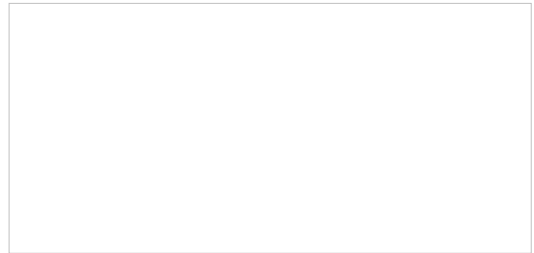


Electro-hydraulic load-sensing system

Linde Hydraulics has revealed - almost 30 years after it introduced load sensing - the latest development of the LSC system for mobile machines. The LSC+ combines the characteristics of the tried-and-tested control system with the advantages of electronic control and CAN connectivity.

THE ELECTRONICS IDENTIFY the operator's intentions and set pump and valves to the highly dynamic or fine control range, depending on the requirement. The driver can also define the characteristics of the working hydraulics by selecting different modes. In this way, the driver can determine whether the system is sensitive to the load when entering the ground, for example, if there are wires or pipes laid underground, or whether the system can operate independently of the load and achieve the highest digging performance possible. The same applies to road transport, for which a separate mode is available. When this mode is selected, the directional control valves are open and the oil flow to the travel motors is controlled via electric pump displacement.



The operator can also use the touchscreen to adapt space curves and to prioritize the boom or stick movements, for example. Using the same action on the joystick, other movement sequences can be carried out at different speeds. This flexibility means that the driver can adapt the machine to each specific working situation.

Although it may sound like complex electronic control engineering, the system is based on the superimposing conventional load-sensing control system. The hydraulic pump adjusts itself automatically, which means there is no need for a complex sensor system. Another advantage is the automatic identification of defined work processes by storing corresponding algorithms in the electronic control. Optimizing the entire system facilitates the execution of a range of different tasks, from shaking out the excavator bucket to enabling the complete emptying or distribution of gravel, highly dynamic soil compaction and precise crane work.

▫ The supplier offers the LSC+ as a complete system including the electronic control. A monoblock valve system, which has been developed especially for the LSC system, takes on the hydraulic control functions. For both the 25 and 30 nominal size values, there are basic blocks available in which the key hydraulic control functions are brought together in a single cast housing. The system is suited to maximum volume flows of 400 l/min to 600 l/min per section and can be controlled electrically or hydraulically. Other functions can be added by means of a sandwich design. The special way in which the supply channels are laid out in the monoblocks enables the working hydraulics to be operated in a very low-loss, efficient manner.