EHR12
Control valve for electro-hydraulic hitch control

For tractors of low power ranges up to 100 PS, Bosch Rexroth developed the EHC-8 system in order to meet the requirements of newly industrializing countries like functionality and robustness. It should replace the mechanical control that had been used in these tractors until now. The system solution improves soil cultivation as the basis for higher crop yields and it also increases the driver safety. One key component of the system is the newly developed Rexroth control valve EHR12, which is mounted as an end valve of the tractor control block.

CUSTOMER BENEFITS
- Flexible control valve in flanged design
- Increased operating comfort by different operating modes
- Active vibration damping for increased safety
- Less slippage and tire wear
- Lower fuel consumption and increased productivity
- Three different installation designs possible

APPLICATIONS

FUNCTION AND BENEFITS

Flexible control valve in flanged design
The EHR12 valve from Rexroth is a proportional valve in flanged design. It can be combined with Rexroth SM12 and ROS12 control blocks through the SM12/ROS12 flange. As part of the EHC-8 electro-hydraulic hitch control, it offers numerous useful functions to the farmers for the efficient and convenient soil cultivation.

Increased operating comfort by different operating modes
The use of the EHR12 valve allows the farmer a flexible choice between the available operating modes – depending on the used attachment and work step:
- The position control keeps the attachment at the selected height of the hitch.
- The draft control maintains the draft requirements of the tractor. In this mode the control variable is the draft force on the hitch (lower and upper links). If this is kept constant, tractor power utilization (e.g. when plowing) is optimal. The draft force is controlled by changing the working depth of the attachment (e.g. plow or chisel plow).
**TECHNICAL DATA**

**EHR12 control valve**

- Max. pressure: 220 bar
- Lifting oil flow: 20, 40, 60 l/min
- Lowering oil flow: 20, 60 l/min with delta p = 15 bar
- Flange fitting suitable for: SM12 / ROS12
- Supply voltage: 12 V
- Max. control current: 3.35 A
- Connector: 2-pin Jet connector, IP64
- Weight: Approx. 5.5 kg
- Max. load drop: 4 cm³/min

- The mix control drives the attachment precisely to its working depth. Here, the offsets between position and draft force are combined into an adjustable ratio on the control panel and processed as a control variable. As such, working depth caused by different types of ground resistance, such as those encountered when just using draft force control, can be reduced.
- The active vibration damping reduces the swaying movement of the tractor and ensures a safer driving behavior. It reduces the lifting of the front axle when transporting heavy attachments on bumpy and thereby improve steer-ability.

**Less slippage and tire wear**

By using the new Rexroth EHR12 control valve in small tractors, slippage during working on difficult ground conditions is significantly reduced and the tire spinning is prevented. This reduces tire wear and fuel consumption and also helps to increase productivity. At the same time this achieves a uniform and homogeneous plow pattern.

**Three different installation designs possible**

There are three different design options for the installation of the EHR12 control valve. As a hitch control end valve for a compact combination with SM12 and ROS12 valve blocks, as a pipeline valve and therefore as a stand-alone solution or as a flange valve for direct mounting on the gearbox.

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