

LUDV Control block RS12

Sandwich plate-design main control valve for compact construction machines



Compact mobile machines are facing demands for higher performance and cost-efficiency, precise maneuverability, and easy customization to meet the requirements of diverse applications and customers. With the flow-sharing (LUDV) control block RS12, Bosch Rexroth provides a main control valve for compact construction machines that helps fully exploit their potential, enhances fine control and precision performance, and makes them significantly more efficient. Its smart and modular sandwich-plate design and many integrated features means that it can meet the requirements of mini-crawler and midi-crawler excavators and compact wheeled excavators weighing up to eight tons.

CUSTOMER BENEFITS

- Highly streamlined system with integrated features
- Highly customizable machine behavior
- System can be electrified thanks to control options
- Shock-protected with LF and HF auxiliary relief valves
- Freedom of choice for medium and high pressure up to 350 bar
- Customized control block configuration for specific requirements

FUNCTION AND BENEFITS

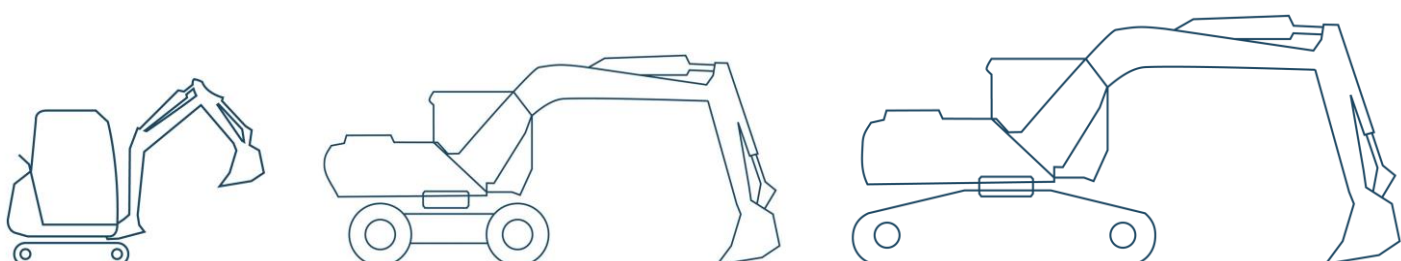
Highly streamlined system with integrated features

Fewer components, easier assembly, greater spare-part efficiency, reduced costs: Many features are integrated in the inlet or outlet in the compact Rexroth LUDV control block RS12. This simplifies its adaptation to the pump type and system assembly in the machine by removing the auxiliary block, hydraulic hoses, and fittings and also reduces the cost of the machine. The integrated features comprise, for example, an open center valve and a closed center or flushing valve as well as two shut-off valves and a pressure reduction valve in the outlet. Other options include snubbers in hydraulic covers and an adjustable stroke limitation for the slew.

Highly customizable machine behavior

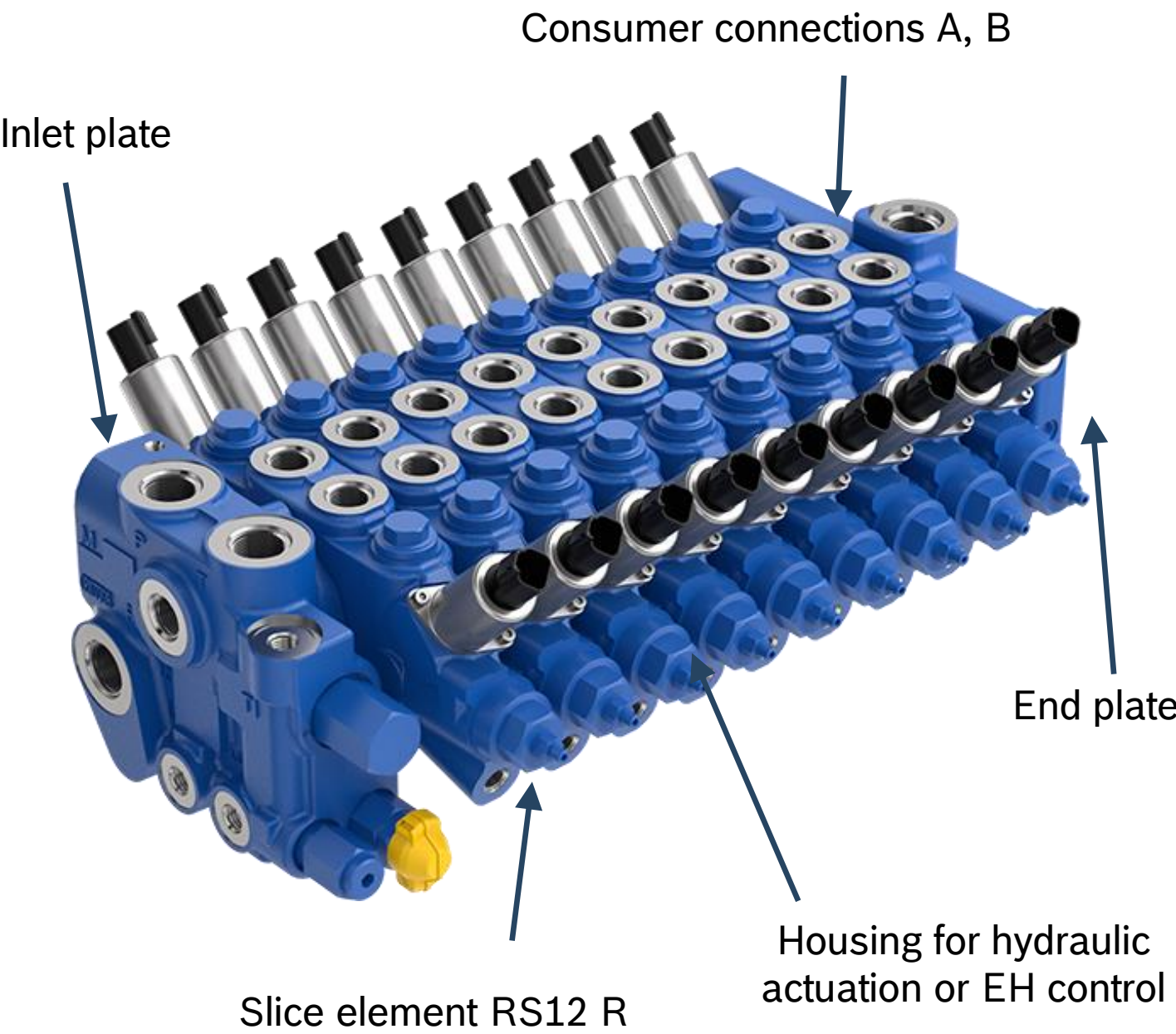
The optimization of the machine is enhanced by a choice of half-opened compensators and of spools with by-pass or torque notches to deliver the machine behavior requested by the customer.

APPLICATIONS



TECHNICAL DATA

LUDV Control block RS12		
Design:	Up to 10 spools	
Elements:	RS12 R	RS12 Q
Max. pressure P [bar]:	320	350
Max. pressure A et B [bar]:	350	380
Max. flow [l/min]:	60	120
Slice thickness:	32 mm	38 mm
Slice weight:	3 Kg	4 Kg
Spool stroke:	8 mm (3 pos.) and 8+3mm (4 pos.)	
Ports P:	BSP or UNF	
Data sheet:	64133	



Fully electrohydraulic configuration of RS12

System can be electrified thanks to control options

In addition to hydraulic control, the compact LUDV control block RS12 from Bosch Rexroth also allows for electrohydraulic (EH) control and therefore enables the electrification of the entire construction machine. The EHpQ software enables load feeling, improves the fine control at the beginning of the movement, and mixes the flow and pressure to meet the driver’s expectation.

Shock-protected with LF and HF auxiliary relief valves

To protect the cylinders from shock and ensure the safety of both drivers and the environment, two types of auxiliary relief valves (ARV) are proposed for the Rexroth LUDV control block RS12: low-flow (LF) and high-flow (HF) ARVs. HF ARVs are recommended when the setting is inferior to the LS pressure setting in order to keep the pressure stable even at pump flow and prevent damage to the hose, cylinder, or attachment.

Customized control-block configuration for all requirements

Extremely flexible customization thanks to two different element versions and its modular design: The elements of the Rexroth LUDV control block RS12 are available as the RS12Q standard version or the RS12R version with thinner valve elements and reduced flow. High-pressure requirements can be fulfilled with a RS12R/RS12Q mixed control block.

Thanks to its modular sandwich-plate design, elements from the RS12 series can also flexibly combined with elements of the Rexroth LUDV control block RS15 series to increase the flow as needed. The result: RS12/RS15 mixed control blocks with a flow up to 180 l/min.