

PRESS INFORMATION

High Flexibility and Integrated Control

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At Agritechnica 2025 Bosch Rexroth and HydraForce Present Modular Hydraulic Solutions for the Agricultural Machine of Tomorrow



Precision, efficiency, and reliability for mobile machines: At Agritechnica Bosch Rexroth and HydraForce showcase their full portfolio of Compact Hydraulics solutions. (Image source: Bosch Rexroth AG)

One flexible portfolio, endless combinations: Bosch Rexroth and its subsidiary HydraForce empower manufacturer of agricultural machinery with customizable building blocks for smarter, faster machine development.

At Agritechnica 2025, Bosch Rexroth and its subsidiary HydraForce will showcase a forward-thinking range of modular, compact hydraulic solutions designed to help agricultural machinery manufacturers respond to the growing complexity and diversity of the market. By combining the strengths of their complementary product portfolios, both companies now offer a unique opportunity to design hybrid architectures that seamlessly integrate hydraulic, electro-hydraulic and electronic components, aligned with specific application needs and product strategies. This integrated approach enables OEMs to progressively define their system complexity, ranging from robust, simple layouts to intelligent, fully connected architectures. Flexibility becomes not just a technical advantage, but a strategic asset for developing scalable machine platforms, capable of adapting to different regional requirements, automation levels and digitalization strategies.

OEMs today are under pressure to deliver advanced functionality, whilst maintaining reliability and design simplicity. By combining their technologies, Bosch Rexroth and HydraForce enable their customers to develop hybrid, customized solutions that balance performance, intelligent control and ease of integration. With electronic modules readily available, we help OEMs accelerate development and thus deliver added value across their product range.

Bosch Rexroth and HydraForce present their latest innovations in compact hydraulics, including:

EDG-OBE compact directional valve: Compact precision with integrated electronics

The EDG-OBE compact directional valve from Bosch Rexroth is an advanced solution designed for tight spaces and high-precision applications, including harvesters and agricultural implements. With integrated onboard electronics, the EDG-OBE offers precise spool control, simplified wiring and plug-and-play functionality, making it an ideal choice for OEMs looking to combine performance and safety in a compact package.

EDH-OBE compact directional valve: Advanced configurability and high-performance flow

The EDH-OBE compact directional valve offers high flow capacity and a wide range of configuration options, making it ideal for complex machinery like self-propelled agricultural working machines and advanced implements. OEMs can tailor the system with anti-shock and anti-cavitation valves, manual actuation, local pressure control, LSA/LSB options and more.

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Built-in electronics enable closed-loop control, with PID tuning and CAN bus compatibility for applications requiring responsiveness, stability and precise control.

TS90-G34L valve for Modern Drivetrains

HydraForce's patented TS90-G34L pilot-operated proportional pressure reducing/relieving valve brings a new level of efficiency to powershift transmissions with multiple clutches. By reducing pilot flow by up to 75% compared to conventional designs, the valve enables smaller pumps, lowers energy consumption and cuts operational costs. Thanks to its two-stage operation, the TS90-G34L delivers smoother gear shifting and more precise control over pressure and flow, with improved damping and reduced sensitivity to temperature or viscosity variations. Its low-leakage design minimizes energy consumption, offering a tangible optimization of the system. Over time, the impact is significant: annual energy savings per valve can reach 90%, dramatically reducing both fuel consumption and CO₂ emissions. Scaled across multiple valves and transmissions, this innovation helps OEMs develop more efficient, cost-effective drivetrain architectures for the machines of tomorrow.

HF-Impulse 2.0 software development and configuration tool: Simplified development, fast configuration

HF Impulse 2.0 – HydraForce's software development and configuration tool for ExDR controllers, complements the hardware offer with a powerful and intuitive software platform. The tool supports both graphical and text-based programming, enabling complex control logic with simplified coding. It simplifies work for developers and application engineers alike, reducing time to validation and accelerating series production.

Together, Bosch Rexroth and HydraForce are redefining compact hydraulics with a portfolio that is modular, compatible and future-ready. All components are designed to work together seamlessly, offering OEMs a scalable solution for every machine category — from basic functionality to next-generation automation — while reducing development time and system complexity.

Basic Information Bosch Rexroth

As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile and Industrial Applications as well as Factory Automation. With its intelligent components, customized system solutions, engineering and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, around 32,600 associates generated sales revenue of 6.5 billion euros in 2024.

About HydraForce

HydraForce, is a global designer and manufacturer of motion control systems, encompassing hydraulic cartridge valves, manifolds and electronic controls for a variety of off-highway industries, including farming, construction, marine, material handling, mining, and forestry. HydraForce was acquired by Bosch Rexroth, becoming a significant part of the Compact Hydraulics Business Unit. Bosch Rexroth and HydraForce combine their presence in complementary regions to provide comprehensive coverage in Europe and North America, while enabling growth in Asia.

To learn more, please visit: www.hydraforce.com

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