

P R E S S

WALVOIL AT AGRITECHNICA 2025

Systems & Components – Hall 17, booth E06

Walvoil, which has been committed to developing components and integrated systems for the control and management of agricultural machinery for many years, will be presenting a range of proposals and solutions aimed at improving efficiency, precision, safety and sustainability at Agritechnica 2025. Particular attention will be paid to the development of high-efficiency, low-environmental-impact technologies for the machines of the future.

KALEIDOS: THE WEALTH OF SYSTEM INTEGRATION

The **Hydraulics Division of Interpump Group**, which accounts for 70% of the Group's turnover, includes companies that are leaders in their respective sectors.

After years of joint participation in major international events, at Agritechnica 2025, **WALVOIL**, together with several partner companies, is presenting **KALEIDOS**, a visionary prototype that aims to physically showcase some of the possible solutions that the Interpump Group's partner companies can offer to large manufacturers.

Kaleidos combines features dedicated to the agricultural, construction and lifting sectors and is a tangible sign of the richness of working as a system. It does not aim to exhaust the potential of the market offering, but to make physically visible some of the possible proposals that Interpump companies can offer to large manufacturers.

Walvoil contributed to the design and with proposals of directional control valves, compact hydraulics and electronics. These included:

- the **DPX series**, Full Flow Sharing valves, highly configurable and suitable for a wide range of applications, available with a wide range of proportional controls, including the new EPD-certified NG5 CANbus module;
- the **DPK120** pre-compensated sectional valve, particularly suitable for applications on tractors and front loaders and available for open and closed centre circuits;
- the **PWLS series** of cast iron Load Sensing pumps, also designed for control with ALS (Adaptive Load Sensing);
- the **Walvoil Fan Drive**, particularly suitable for applications on mobile machinery thanks to its performance, low maintenance costs and long life cycle;
- the **SDE/SDX series** of solenoid-operated bankable valves, which offer the market a compact, high-performance control solution;
- the **CJW CANbus joystick with XMH handle**, robust and particularly suitable for off-highway machinery;

- the **DJW joystick**, ISOBUS version of Walvoil joysticks, combined with the **MTH handle** with capacitive operator presence detection;
- the **CED1200S** electronic control unit, useful for safety-related applications and programmable via Mathworks
- **VOSL/VODL** counterbalance valves and **E-VBL** electric lock valves.

The other partner companies contributed as follows:

White with its Steer by Wire SbX system, **Reggiana Riduttori** with its hydraulic and electric motor wheels, **Oleodinamica Panni** with its customised cylinders, and **IMM Hydraulics (Interpump Fluid Solutions)** with a mention of its wide range of hoses and fittings.

Kaleidos can be described, but it is only when seen in person that its full potential becomes apparent.

WALVOIL'S DIGITAL APPLICATIONS

With the guiding theme '*Touch Smart Efficiency*', Agritechnica 2025 will show how smart technologies, present across the entire range of agricultural equipment, improve productivity while conserving resources.

Walvoil, in line with the guiding theme of the fair, brings the **evolution of its Hydraulic Digital Solutions**.

Digitalisation, which integrates modelling, simulation and automated code generation to improve efficiency, reduces development time and costs, and ensures system accuracy from design to implementation, plays a key role.

Hydraulic Digital Solutions make it possible to integrate hydraulic and electronic components, optimising functionality and increasing overall system performance.

Some of the **Digital Applications** that Walvoil offers to the market are on display in Hanover. These include the following functions:

- Electronic management of the variable displacement pump with integrated Displacement Control, Pressure Margin Control and Torque/Power Control functions;
- Energy Recovery Management, a system that allows energy to be recovered and stored during certain machine movements and reused in specific conditions, thus reducing the energy absorbed by the vehicle's engine;
- Operating Assistance System, a set of advanced features that improve the efficiency of operations. Some examples are Self-Leveling, Trajectory Definition and XY Control, Return to Dig, Electronic Cylinder Cushioning, Payload Estimation, Hitch Control, and Bucket Shaking;
- Digital to Safety, advanced features to increase safety during work operations such as Obstacle Detection, Virtual Walls and Swing Limitation;
- Telemetry Functions to improve data collection and machine management.

ALS – ADAPTIVE LOAD SENSING'S AND EPX - ENERGY RECOVERY VALVE'S EVOLUTION

EPX – ENERGY RECOVERY VALVE CONCEPT

EPX concept, part of Walvoil's Hydraulic Digital Solutions, innovates beyond the industry standard with a three-way compensation device that not only limits actuation speed but can also recover stored gravitational and kinetic energy of the system.

EPX's approach combines two key innovations.

Meter-Out compensation

This design improves the control of unbalanced loads, proving compensation to the return flow. This innovation also simplifies the load control valves: in a meter-out system the compensator protects against load speed drifting.

The secondary valves are in this case used only as safety equipment. These safety valves, typically flanged on the cylinder, are designed to have minimal pressure drop and minimal impact on main valve operation.

Three-way compensation

This patented design introduces an extra flow path to the meter-out compensator. During operation, the compensator measures the fluid pressure: if the pressure exceeds a determined threshold, an extra path is opened, pressurizing the recovery line with the stored energy in the actuator.

Testing activities on wheel loaders have demonstrated a **20% of energy saving combining recoverable energy and reduction of compensation losses**.

What are the advantages of the system?

- Flow Sharing repartition
- Energy recovery line
- Compensation of the unbalanced loads (drift protection)

ALS – ADAPTIVE ELECTRO-HYDRAULIC SYSTEM FOR IMPROVING THE EFFICIENCY OF MOBILE MACHINERY.

Walvoil ALS - Adaptive Load Sensing System, presented at Agritechnica 2025 in its advanced version, responds to the need for more advanced controllers that minimise energy consumption without compromising the operator's experience.

Thanks to ALS, it is possible to modify the system's 'pressure margin': the control signal for the pump or inlet compensator is modulated to meet different operating requirements.

ALS is a synergistic set of components for improving the efficiency of mobile machines.

The joint control of the hydraulic distributor and pump reduces pressure losses due to the pressure margins of the regulation system.

In addition, a series of logic functions are available to improve control, productivity and driving comfort of the machine.

The ALS system, part of Hydraulic Digital Solutions, allows for a **reduction in consumption of more than 5-6%** and can be used as an integral part of the hydraulic distributor or inserted on the variable displacement pump.

Walvoil offers three ALS solutions to provide extreme versatility and adapt to the performance and system requirements of the machine.

Together with telehandler manufacturer Dieci Srl, Walvoil's **ALS received the EIMA 2020-21 technical innovation award** and the award for its environmental value, and has continued to gain acclaim on the market ever since.

Interested in discovering more about the system?

Learn more: <https://www.walvoil.com/als-adaptive-load-sensing-system---evolution>

For further info about what's new, visit Walvoil at Agritechnica 2025:

Systems & Components – Hall 17. Stand E06

Reggio Emilia - I, 5 November 2025

Walvoil: from a mechanical company to one of the world's leading players in hydraulics and mechatronics

Walvoil Spa, part of the Interpump Group since 2015, and with over fifty years of life behind it, is one of the world's leading manufacturers of hydraulic products, electronics and complete mechatronic systems; it designs the future of motion in close relationship with its customers and partners, operating in different sectors and markets.

It is present in Italy with six production sites divided between the provinces of Reggio Emilia and Bologna, and a new Innovation Center, which is the heart of all Research & Development activities.

It can also count on eight branches in four continents and a capillary sales network, which allows the company to be close to its main customers and markets around the world.

The company employs 1,500 people in Italy; over 2,500 in total worldwide.

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