HD HYDRAULIC DIGITAL SOLUTIONS

walvoil
MOTION BY PEOPLE

Digital Applications
Walvoil software solutions for mobile machines

Operators of construction and agricultural machinery often work in demanding conditions that require constant attentions to ensure accurate results for their own safety and that of any other people present.

Walvoil's **Digital Applications** are software solutions specifically designed and developed to improve comfort, efficiency, precision and safety in the mobile machines sector.
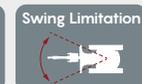
Digital Applications

ALS
ADAPTIVE LOAD SENSING

Displacement Control	Margin Control ΔP	Torque/Power Control Nm kW
Electronic Flow Sharing	Energy Recovery Management	

Operating Assistance System

Trajectory Definiton	XY Control	Self Leveling
Return to Dig	Lowering Control	Bucket Shaking
Cushioning	Payload Estimation	Hitch Control

Digital to Safety

Obstacles Detection	Dynamic Virtual Wall	Swing Limitation

Telemetry Functions

Machine Remote Diagnostic

MARGIN CONTROL

Pressure Margin Control is a hydraulic control system used in Load Sensing directional valves. This function allows you to keep the pressure difference between the load and the pump constant, reducing energy losses and ensuring better efficiency in movements.

TORQUE/POWER CONTROL

The software reads the torque value in real time and automatically reduces the pump displacement if it exceeds the engine limit.
This promotes greater efficiency, stability and machine safety.

ENERGY RECOVERY MANAGEMENT

This function reduces energy consumption by recovering and storing the energy released during lowering operations in the accumulator.
During other operations, the system automatically evaluates the optimal conditions for reuse.

TRAJECTORY DEFINITION

The operator sets the desired trajectory by defining the starter point, inclination angle and vertical offset. The software automatically calculates the correct trajectory up to the final point, all controlled by a single joystick.

BUCKET SHAKING

This operation is activated by the operator via a dedicated button or a quick joystick movement, enabling automatic bucket shaking.
Frequency and speed can be customized through the machine display.

DYNAMIC VIRTUAL WALL

The system includes four cameras to provide a 360° view.
This AI-based visual system detects people, highlights them on the screen and automatically defines dangerous areas, creating virtual wall to prevent accidents.

MACHINE REMOTE DIAGNOSTIC

It's the function that allows you to monitor, analize and intervene on a machine remotely in real time.