

## Level best



Preserving fast and precise movements while ensuring high standards of safety has always been crucial for front loaders. **Tecnord** has therefore developed the Omni-Level electrohydraulic system for bidirectional control of the bucket and loader equipment.

Self-leveling control refers to a mechanism whereby the bucket maintains its relative angle to the ground during lifting and lowering. Omni-Level employs a load-sensing closed-center valve, driven by a joystick through a microprocessor-based machine management system and sensorized by a MEMS accelerometer/gyroscope to handle the complexity of multi-axis angle measurement on moving vehicles in harsh environments, regardless of high shock, acceleration and vibration.

Requiring no mechanical adaptations or master and slave circuitry configuration, the Omni-Level gyro-accelerometer is simply case-aligned and orthogonal to the

bucket's frame in a fully adaptive way, with no need for inertial and dynamic calibrations. The system performs three main functions – self-leveling, anti-rollback and return to dig – with no need for the operator to manually adjust the bucket angle on boom-up or boom-down.

Pressure-compensated for load-independent multifunction operation, Tecnord's TDV100-MLT proportional directional valve is equipped with

proportional actuators for closed-loop position control of the valve spool movement.

The Omni-Level gyro-accelerometer employs high stability, temperature-compensated MEMS components to ensure long-term performance and reliability.

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