



**walvoil**  
MOTION BY PEOPLE

NEW

**ALS**  
ADAPTIVE LOAD SENSING

## Adaptive Load Sensing

Adaptive Electro-hydraulic System  
for Energy Saving on Dieci Agri Farmer 34.7 GD

The **ALS Adaptive Load Sensing** system developed by **Walvoil** is a winner project of the Technical Innovation Contest **Eima** 2020-21, recognition of absolute innovation, also with the 'Blue Award' dedicated to the solutions that stand out in terms of environmental sustainability.

From 19 to 23 October this innovative system will be present at a specific area of Eima and fitted on an **Agri Farmer 34.7 GD by Dieci**, partner company with which all the experimental tests have been conducted.



The Agri Farmer 34.7 GD, a more compact and lightweight machine than the Agri Plus used in 2020, is equipped with a single fixed displacement pump and, compared to the previously tested model, benefits even more from the advantages offered by the ALS system.

In particular, **the ALS system allows to significantly lower the stand-by pressure differential, ensuring high efficiency and significant energy savings**, even in contexts of a simple and essential hydraulic circuit.

The energy benefits are especially noticeable when the machine is stationary and when moving at high speed.

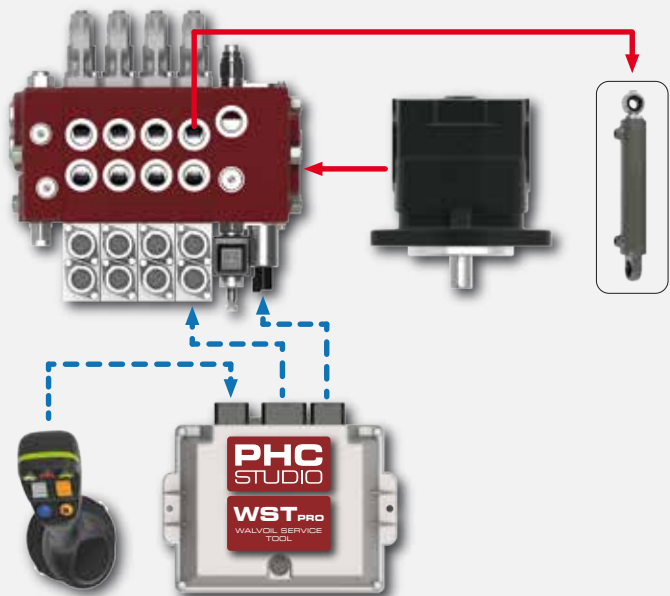
In the auxiliary drive, the careful stand-by management of the Load Sensing DPX circuit combines **energy saving** with **increased controllability** and movement **precision**.

These are all important results of an excellent collaboration between companies with a vision of the future: an experience that opens the way to new ideas and opportunities for improving the efficiency of mobile machinery, increasingly necessary in this historical moment, in which each of us is required to do our part to preserve the planet that hosts us.

## ADAPTIVE LOAD SENSING

ADAPTIVE ELECTRO-HYDRAULIC SYSTEM  
FOR ENERGY SAVING ON DIECI AGRIFARMER 34.7 GD

## FEATURES AND ADVANTAGES



The **ALS** system is able to modulate the “Stand-by pressure” value according to the real working needs of the machine, automatically varying it only when and as required.

An accurate tuning activity on the **Agri Farmer 34.7 GD ALS** carried out at Walvoil Test Department, allowed to optimize the control software and implement it with numerous new features. In particular, in addition to the actions aimed at limiting consumption, it was possible to emphasize the effect of the Boost and Precision operating modes and, with an appropriate customization of the stand-by, some effects of instability and jolt were eliminated, ensuring a better comfort for the operator. Finally, the results of the joint testing activity were collected by carrying out four characterizing tests on the Dieci Research Center track, aimed at evaluating the consumption of a predefined cycle, the efficiency of precision positioning and consumption in two transfer modes.

TEST MODE	COMSUMPTION REDUCTION (%)
Positioning test	6.3
Fine positioning test	5.9
On road test	5.0
Fixed speed with load	5.4

Through all the tests the **Agri Farmer 34.7 GD equipped with the ALS** system showed a **consumption reduction between 5% and 6%** compared to the same model without ALS, confirming and improving the preliminary results obtained in 2020 on an Agri Plus 42.7 GD VS EV02: a drop in energy dispersion value equal to 28% during boom operations, a drop up to 45% during traveling phases.

In addition, in the positioning accuracy test, a **higher productivity** of the machine was clearly noticeable; the improved controllability of the Precision function in fact allowed 14% more operating cycles in the same amount of time.

This last testing phase has highlighted further important advantages, first of all in terms of **Safety, Stability, Flexibility** and **Modernization**: the few elements of the ALS kit can, in fact, be easily installed even on older telehandlers, extending their operating life and improving their performance.

