

SUMO

High impact super compactors Increased productivity by 35% to 60% LEBRERO'S SUPER COMPACTORS

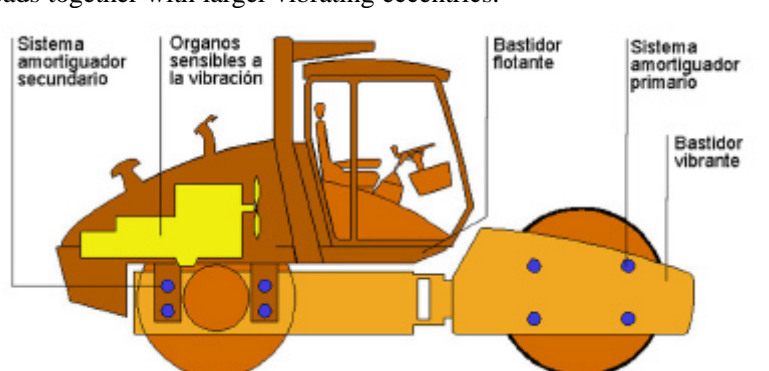
LEBRERO, the Spanish-based manufacturer of the new SUMO series of single drum self-propelled vibratory road rollers, claims productivity improvements of between 35% to 60% above conventional roller designs.

SUMO high impact rollers, between 7 and 18 tons operating weight, offer greater production capacity than existing designs for the same operating weight, as well as savings in transportation and fuel where the lower operating weight SUMO can be used to achieve equivalent compaction of machines up to 25t bigger.

Radically different design

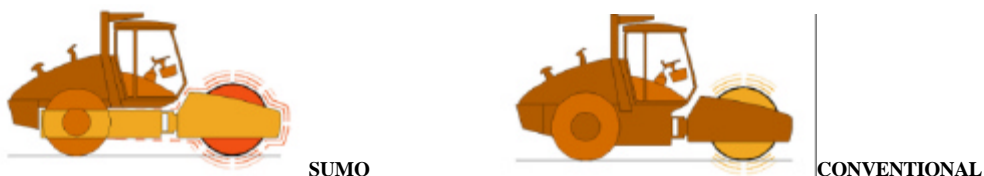
This enormous leap in productivity is a result of a radically different design and operating principle.

SUMO rollers feature a unique double-floating frame suspension system that provides high front drum module loads together with larger vibrating eccentrics.



This means they can apply high impact loads to greater lift thickness than conventional designs, which, unlike SUMO rollers, do not allow the transfer of a portion of the rear tractor module mass onto the front module, to increase static linear load.

Normal amplitude - calculated in accordance with internationally accepted standards - is an indicator of the likely depth effect and therefore the production potential of a vibratory roller.



This is achieved by the incorporation of eccentric vibratory mass systems, which are larger than similar size machines. These larger mass systems are made possible by the double floating frame suspension system that protects the operator and engine module from vibration damage.



Prior to its release on to the world market, the SUMO prototype was field-tested throughout Europe among Lebrero's own 500-unit hire fleet. After thorough testing, Lebrero was satisfied that machine integrity and reliability was not compromised in any way by the higher impact vibrations.

New rating method

Recently the Spanish UNE 115-435 standard was published, due to the diversity of existing machines in the market. This is an adaptation of the French NF P 98-736 standard of September 1992, in relation to the classification of compactors.

This method of rating rollers, takes into account not only the static linear load but also through the nominal amplitude. This provides contractors, specifiers and hirers with a rating system for likely density and production.

These VM0, VM1, VM2, VM3, VM4 and VM5 rating results, to standards UNE 115-435 and NF P 98-736, shows the Lebrero SUMO's series to be a class above the "normal" when comparing on a strict weight basis.

VM6. NEARING THE FUTURE

The largest machine of the Lebrero SUMO range, has been commercially named the VM6, being paradoxically that the classification normalized only reaches the VM5.

It could seem as if a typing error has occurred in the standard, however this machine, in the present standard reaches the classification of the VM5 which is the highest grade possible.

When the NF P 98-736 directive was edited in 1992 nobody forecast, in view of the models which were being manufactured at that time, that a compaction firm could have swept the tables for their particular design. In fact this is what happened. The LEBRERO technology in the SUMO models reached nominal amplitudes higher than 2,7 mm. What happened in practice was outside the classification table. No other worldwide manufacturer had reached this stability, not even 2-mm nominal amplitude.

Fortunately the writers of the directive foresaw this possibility, at least, theoretically.

Since 1977, more than 20 roller manufacturers have been providing machines for independent laboratory testing in France. Rollers are subjected to week-long tests to determine their density and production capabilities.

The results give specifiers for earthwork compaction the actual field results likely to be obtained using each machine.

These results can be important in applications where compaction is critical, such as projects involving freeway, high speed railway, airfield construction, and so on. Field-testing is carried out by recognized geotechnical engineers with on-site supervision ensuring optimum roll patterns are followed.



Field results confirm the laboratory tests - which are best summarized in the accompanying table showing production capacities 33% to 62% above the mean achieved for machines with comparable static linear loads.

NEW EQUIPMENT

The biggest models of the range (VM4, VM5, and VM6) benefit from a **new exterior design** which has 3 fundamental advantages:

- It guarantees absolute visibility from the operator's seat, in such a way that from his control seat, the operator can observe any obstacle around the machine (even at the rear) which is 1m away from the machine and which is 1m high. (This means talking in terms of real work, which the operator can see, for example someone working around the machine although he is bent down) which provides total safety.
- It provides excellent accessibility for the set of pumps, on which one can work by just lifting up the rear hood. This is due to the position of the engine in these machines being inverted in such a way that the pumps are now to be found at the back whereas before they were under the drivers seat, and these are the first to be seen when the bonnet is lifted.
- The new design of the cabin, with large glass surfaces and tinted windows, the independent safety arch FOPS/ROPS, the new control desk and its full equipment, all provide unsurpassable ergonomoy comfort and safety.

For the development of these new models the ISO 9001 standard and the strictest standards of quality and safety have been applied in an effort at this time and also in the future, those which will take effect later.