

# AWESOME\*

\*The unbeatable driving experience.



# WOW\*

LinDrive = Benefit<sup>n</sup>

LinDrive™ is not just about precision, it's not just about dynamics and it's not just about a reliable propel drive. LinDrive™ is the ideal combination of all three elements. It is this ideal combination of performance factors that produces the unbeatable LinDrive™ driving experience – an experience that is amplified once combined with the capabilities of the other work functions; an experience that enhances economic efficiency and boosts the benefit to you.

LinDrive = Precision x Dynamics x Reliability = Benefit<sup>n</sup>



\*The unbeatable driving experience.

# FANTASTIC\*

For maximum economic efficiency and the best possible performance.

Operators of mobile machines boast a range of skills. In many situations, operators need to multitask by successfully operating the various work functions and the propel drive.

Driving is always an integral part of mobile machines' work functions, whether it be for millimetre precision with road surfacing machinery or rapid material handling using a telehandler or wheel loader. As these work functions themselves become ever more complex we need to actively lighten the load on the operator by making operation simple and intuitive. By enhancing the driving comfort for the operator, we can ensure that he does not become fatigued by his work – which in turn boosts his performance.

The unique LinDrive™ driving philosophy from Linde Hydraulics focuses on the complete working system – including both man and machine. It does not focus purely on achieving optimum utilisation of the available engine power and absolute reliability of the propel drive; it also ensures simple and intuitive operation. If an operator feels in complete control of the machinery, his work will be more effective and the machine will be able to operate with maximum economic efficiency.

What are the special features of machinery fitted with LinDrive™?

- >> Precise manoeuvring thanks to direct machine control
- >> Dynamic drive behaviour through optimum utilisation of the installed power
- >> Total reliability thanks to high operational availability of drive components and high safety standards

\*The unbeatable driving experience.



# LinDrive = Precision

LinDrive™. Precision for enhanced economic efficiency.

- >> Simple, intuitive operation
- >> Non-fatiguing working
- >> Precision control
- >> Excellent continuity of movement
- >> Optimum efficiency

## LinDrive = Precision

Only the accurate execution of driving commands ensures that both operator and machinery work with precision, providing a rapid response and a reproducible effect. Adjustments and repositioning become a thing of the past with LinDrive™, with each and every driving command being executed directly – in line with the operator's instructions and factoring in the needs of the specific situation. Driving becomes child's play thanks to foreseeable, accurate vehicle responses in all speed ranges. This lightens the load on the driver, allowing him to focus his full attention on the work functions.

Using road surfacing machinery fitted with LinDrive™, for instance, it is possible to achieve impressive surfacing accuracy with tolerances of just a few millimetres, even in multiple shift operation. Ensuring total precision is also key when using harvesters and tractors. Productivity is increased by consistently and accurately maintaining a preselected speed over long stretches, regardless of the ground conditions. Furthermore, material handling equipment can be positioned with great precision, which eliminates the need for any subsequent corrective actions and thus boosts handling performance.

Intuitive machine operation and precision control lead to extremely effective work and enhance the economic efficiency of your machine.

The technology that enables this precise machine control is the control concept of the Series 02 variable pumps. The concept uses position feed-back control, which compensates for undesirable load impacts. This ensures that each driving signal always elicits the same machine response, and that this response is low in hysteresis and independent of the traction forces or the loads to be transported.

The benefits of the variable pump concept are even greater when combined with the HMV-02 hydraulic motors. Regular torque enables smooth start-up, precise control and exact manoeuvrability even at low speeds, as well as the ability to hold constant speeds with accuracy.



# LinDrive = Dynamics

## LinDrive = Dynamics

With mobile machines, dynamic drive behaviour depends on the rapid execution of driving commands. Regardless of whether operators are accelerating, braking or reversing, with LinDrive™ each and every machine can impress with drive characteristics tailored to the specific situation. This allows you to complete loading and unloading work, positioning and transportation more quickly and with greater ease, which results in enhanced driving comfort and improved handling performance.

LinDrive™ gives wheel loaders the dynamic capability they need to constantly improve handling performance on construction sites: good manoeuvrability, rapid reversing and the powerful intake of bulk material ensure rapid, ultra-efficient operation. Bulldozers use LinDrive™ to achieve optimum dozing and ripping power from start-up right through to the highest speeds. Impressive dynamics are also required for field work, where tractors accelerate to their maximum operating speed with no interruption of the tractive effort and in a smooth and stepless manner. Dynamic drive behaviour ensures that mobile machines integrate seamlessly into the flow of traffic when travelling to their next site of operation, moving with high speed and absolute safety.

The optimised interaction between the Series 02 pumps and motors enables the best possible utilisation of the installed power, which in turn results in dynamic drive behaviour and operation. The substantial actuating forces that act in the Series 02 control mechanism irrespective of load ensure that the pumps are swashed promptly and that driving commands are executed immediately, resulting in maximum traction at the wheel.

The machinery load statuses are processed electronically or hydro-mechanically within the signal circuit, producing a machinery response that is adapted to requirements. Thus the pump control and the rapid motor response define the dynamics of the machinery. The propel drive dynamics can be specified on an individual basis to suit the specific application. They may be agile and sporty or smooth and gentle, but they are always precise with a high starting torque.

LinDrive™. Dynamics for enhanced economic efficiency.

- >> Rapid reversing
- >> Dynamic acceleration and braking
- >> High transfer speed
- >> Defined load characteristics
- >> Enhanced handling performance



# LinDrive = Reliability

LinDrive™. Reliability for enhanced economic efficiency.

- >> High operational availability
- >> Application-optimised
- >> Defined machine response to system failure
- >> Meets high requirements of road traffic admission
- >> Optimum safety for operator and his environment

## LinDrive = Reliability

The reliability of the Linde propel drive stems from the high operational availability of all its system components and its comprehensive safety concept.

### >> Availability

LinDrive™ boasts long-term, reliable control of the propel drive in any given situation and at any given point of operation, ensuring that the operator has complete, reliable control of his machinery at all times. The components are robust, making them ideal for continuous use and operation under extremely tough conditions.

These features allow tracked loaders and bulldozers to withstand the tough conditions of the raw materials industry, tunnel construction, civil engineering and road construction over the long term. Total reliability and availability are particularly important in the mining industry. LinDrive™ helps keep costly downtimes of roof bolters and scalers to a minimum. Combine harvester and forage harvester contractors and operators can rely on a high level of safety even in 24-hour operation. The unique Series 02 design features form the basis for high operational availability and a long service life. The hydrostatic bearing and the unusual material combination of the piston slipper assembly result in low-wear operation, which in turn encourages reliable performance. Furthermore, the high reset forces that act in the pump control enable accurate control (mechanical, hydraulic or electric) at any point of operation.

### >> Safety

It is imperative that mobile machines offer high safety standards for the operator and his environment, both when working and when on the road. The LinDrive™ concept is tailored to each specific application, factoring in the various aspects of vehicle safety right down to road traffic admission.

This includes minimising the susceptibility of system components to faults and ensuring reliable machinery control in extreme situations or in the event of a fault. This means that a 40-tonne harvester or a sweeper moving in traffic at 50 km/h can always be brought to a standstill safely and in a controlled manner with no risk to the operator.





For more information, please visit:  
[www.linde-hydraulics.com/LinDrive](http://www.linde-hydraulics.com/LinDrive)

LHY.LinDrive.02/07.e

Excellence at work.

