



10 years of MAN HydroDrive A success story with extra traction

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MAN was the first to bridge a gap in the market with HydroDrive

In 2005 MAN was able to meet the needs of the first customers demanding traction from the front axle at the "touch of a button": With MAN HydroDrive, MAN was the first to bridge a gap in the market for those customers who drive largely on roads, but in some situations require additional traction from the front axle without having to purchase an all-wheel drive truck. MAN has been the only player in this market for virtually ten years and can therefore call on extensive technical experience.

Largest vehicle range in the market

Since its market launch, over 11,000 customers have been convinced by the advantages of MAN HydroDrive in terms of efficiency and safety. MAN offers the largest range of HydroDrive vehicles in the market with six wheel configurations and two bodywork heights from the two-axle vehicle to the four-axle vehicle in the TGS and TGX series. A particularly large number of MAN customers are based in Austria, Switzerland, Germany and Scandinavia.

Wheel configurations
4 x 4H
6 x 4H-2
6 x 6H
6 x 4H-4
8 x 4H-6
8 x 6H

The MAN Group is one of Europe's leading industrial players in transport-related engineering, with revenue of approximately €14.3 billion in 2014. As a supplier of trucks, buses, diesel engines, turbomachinery, and special gear units, MAN employs approximately 55,900 people worldwide. Its business areas hold leading positions in their respective markets.



Vehicles often operate as fire service vehicles, refuse collectors, construction vehicles and tankers - all of which need to respond in a timely manner even in adverse weather conditions and on mountainous terrain. They may also be working on unsurfaced forest tracks as timber transporters.

If rain has softened the surface, then rear-wheel drive alone is sometimes not enough, especially if the truck is loaded and the rear axle is unable to generate full traction. An example of this is entering and leaving unsurfaced construction sites with a building delivery vehicle, tipper or truck mixer. A HydroDrive truck which can avoid getting stuck in such everyday conditions in a quarry means increased uptime. In addition to this, the driver is also spared the inconvenience of having to be towed out in bad weather.

Steering on a slippery surface also becomes more difficult when a fully-laden truck pushes over the non-driven front wheels. A traditional selectable all-wheel drive is what is required here. But is it really necessary to equip all vehicles with all-wheel drive when they are operated mainly on tarmac? MAN has an easy solution to this question in the form of the HydroDrive: It provides additional traction and safety but doesn't need a transfer case, a front-axle differential or a front drive shaft. This helps to save fuel and decrease CO₂ emissions day in day, out.

In comparison with a traditional all-wheel drive truck, a HydroDrive truck weighs around 400 kilograms less. This also means that HydroDrive vehicles are able to transport a much greater payload. A truck with HydroDrive thus expands the operational range of on-road vehicles: for many businesses this means the acquisition of an additional all-wheel drive truck is unnecessary.

Low height and outstanding turning circle

MAN HydroDrive is the only all-wheel system that can get traction on to the front axle of a normal and medium-height truck. The advantage lies in the fact that this is the only possible way to implement all-wheel drive on certain vehicles: This is the case, for example, for container bodies in which standing height is necessary, e.g. for swap-body vehicles for fire-fighting and rescue services. The reason for this is that only normal-height vehicles can carry high swap bodies and still remain within the statutory height limits. Normal height also means easy access to the vehicle and a low centre of gravity, resulting in better driving stability.



Another advantage is the small turning circle: A HydroDrive truck has a smaller turning circle than vehicles with a mechanical front axle drive. This is an important benefit, for example for fire-service vehicles, which are then able to turn in one attempt.

The engineering explained:

MAN HydroDrive drives the front axles using a hydrostatic motor on each wheel. This is fed by a hydraulic pump with pressure of up to 420 bar. The drive can be engaged by simply turning a rotary switch, both while driving and under load – the driver can thus master gradients safely without having to stop. The additional traction is also available in reverse and when coasting. On the one hand, this increases the brake output of the continuous braking systems - in particular of the MAN PriTarder. On the other hand, it significantly improves the vehicle's manoeuvrability on slippery surfaces and therefore driving safety.

The system also scores well on two main benefits for body manufacturers involved, for example, with setting up tipper bodies on the HydroDrive chassis. No components protrude beyond the upper edge of the frame and a large selection of power take-offs are available.

MAN is launching a new web-special on MAN HydroDrive today:

www.man.eu/HydroDrive