

Hansen Industrial Transmissions commits to be a pioneering innovator. The production of high performance gear units stems from an interactive partnership with our clients, the end users and the actively engaged manpower of our global enterprise. Embracing design, manufacturing and customer services, Hansen has grown into a world leader in its field. Today, we set standards for both product and working environment, inciting a knowing environment to seize all new and inspiring technologies.

## powerful solutions for the mixer industry



See our worldwide sales & service network at [www.hansentransmissions.com](http://www.hansentransmissions.com)



[www.hansentransmissions.com](http://www.hansentransmissions.com)  
[info@hansentransmissions.com](mailto:info@hansentransmissions.com)

tel. +32(0)3 450 12 11  
fax +32(0)3 450 12 20

Hansen Industrial Transmissions nv  
Leonardo da Vincilaan 1  
2650 Edegem - Antwerp  
Belgium

0910 / 608 E a





## COMPLETE AND POWERFUL SOLUTIONS FOR THE MIXER INDUSTRY

Investing in high quality drive components is important. Mixers work at the heart of the process. Frequently they have to be able to operate continuously and under extreme arduous conditions. Thus unit downtime can have consequences on plant profitability far in excess of the original equipment cost.

Hansen Industrial Transmissions has a long history of solid partnerships with suppliers and end-users in the mixer industry. Thousands of Hansen drives are installed worldwide, and the versatility and durability of these units is well documented. They can be found working reliably under the most severe conditions, in chemical industries, biotechnology, hydrometallurgy, energy, food processing, pulp and paper, etc.

# m i x e r i n d u s t r y

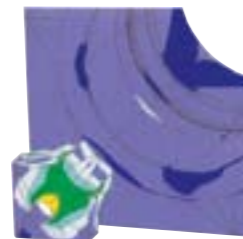
### ■ MATCHING THE DRIVE TO THE APPLICATION

The basic design of a mixer consists of an impeller, a shaft and a drive unit mounted on the mixer tank. The interdependence between these items causes the design process to be interactive to arrive at the optimum. Mixing all kind of products and available in an almost infinite variety of sizes, shapes and designs, mixers do share a few characteristics. This implies that certain factors must be carefully considered in the selection of the drive unit:

- Magnitude of normal operation torque and peak torque requirements.
- Magnitude of overhung loads on the low speed shaft.

- Length of the mixer shaft.
- Nature of the mixed medium.
- Composition of the vapour or dust produced during the mixing action. Many such applications give off flammable, toxic, or corrosive vapour and dust.

Our application engineering capabilities allow customisation of the drive unit, using a maximum of standard components. The extended bearing span, a wide selection of bearing configurations and different centring options have now been integrated to provide optimal and powerful solutions.



Stress simulation on the integrated extended bearing span of a vertical Hansen P4 gear unit.



A powerful combination of a spherical roller bearing with tapered roller bearings provides extremely high thrust load and bending moment capacity.

### ■ A PORTFOLIO OF OPTIONS WITHIN THE STANDARD RANGE

As a component of the mixer design, the gear unit performs several functions. In addition to reducing speed and increase torque, it must also provide support for mixer shaft and impeller and the associated mixer forces. This means that the gear unit cannot be selected on the basis of the output torque alone. Bearing loads and shaft deflections resulting from the mixer action are in addition to those already present from the torsional loads. Gear housing design, low speed shaft and bearings are therefore rated to carry large bending moments and thrust loads imposed by the mixing forces. Different executions for mounting and centring of the drive group on the mixer tank are possible.



Smooth and direct transition of forces to the mounting feet.

### WHY HANSEN?

- Hansen matches the drive to the application and offers proven reliability under the most severe conditions.
- Carburised and ground gearing of both bevel and helical gears excels in strength, torque capacity, surface durability and low noise performance.
- Large overhung load capacity of the gear unit.
- A wide range of bearing and flange configurations meet any application requirement, while still providing a cost effective solution.
- Bearings and shafts are dimensioned to go the distance, ensuring long bearing life under heavy loads.
- Extended bearing housing combining the effects of an increased shaft diameter and extra space to mount larger bearings, and adds rigidity and stability to the mixer drive under load.
- A wide range of mounting and centring possibilities.
- Increased diameter of the low speed shaft: the allowable bending moment on the low speed shaft increases.
- Continuous oil circulation through the bearings ensures a long, trouble-free working life for the gear unit.
- Hansen's unique Oil-Lock™ system offers a maintenance-free sealing on high-speed shaft extensions as a standard.
- The drywell prevents oil leakage on vertical down shafts.
- The internal construction of the gear unit housing allows for simple and complete oil drainage.
- The larger units can be easily inspected and serviced on the spot, thanks to covers above the oil level.
- One-stop-shopping for complete drive package solutions.
- In-depth engineering support and complete documentation before and after the order.
- Hansen's global service capability significantly reduces downtime.