



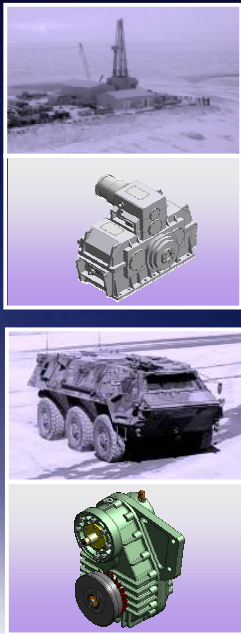
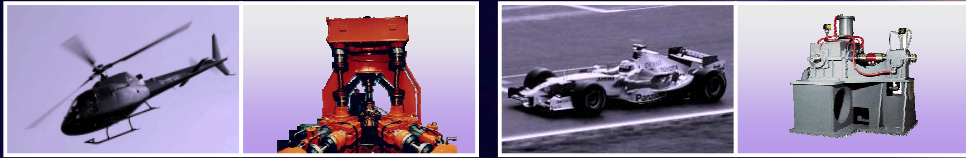
Latest production technology and in house heat treatment ensure the reliability of our products.

# DURUHIT®

## Special and Custom Made Gearboxes

Drilling & Oilfield Application

Generator Drives

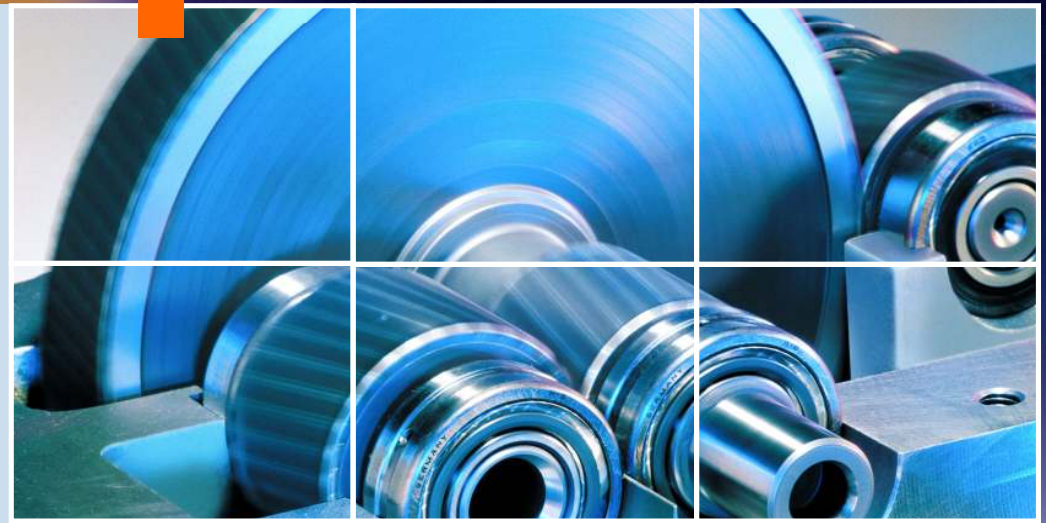


**We create motion!**

**EXCELLENCE since 1918 in Gearboxes**

ZERTIFIKAT

FVA








High-Speed Gearboxes

Testing Bench Application

Special Vehicles

and much more ....

-  DURUMAX® -Extruder Gearboxes
-  MUTAX® Worm Gear Sets  
MUTAX® Worm Gearboxes
-  DURUTRAIL® Railway Technology
-  DURUHIT® Special Gearboxes
-  Job Order Production & Heat-Treatment

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DURUHIT/EN 03/2006

## HENSCHEL Power Transmission®







## Tailor-Made Gearboxes from Tradition

HENSCHEL, a company with a long-standing tradition, was founded in Kassel in 1810, their activities in building gearboxes started 1918.



In the beginning the production range of gearboxes has covered the requirements of the HENSCHEL's own product portfolio. During the time the gearbox division of HENSCHEL has grown up to a leading gearbox manufacturer with a focus on tailor-made solutions.

Henschel gearboxes are used worldwide for a variety of applications and are a synonym for quality, reliability and performance. In many areas we are viewed as the trendsetter of the industry.



Precedence has been set for efficiency and reliability, yet keeping economy of scale as the highest priority. Our quality standards and the close relationships with our customers made us a dependable partner, acknowledged worldwide. Henschel stands for power of innovation and top-notch quality project engineering. Our products are constantly improved or newly developed to set the assessment objectives for the future.

## DURUHIT® Gearboxes for individual Drive-Solutions

DURUHIT® special gearboxes, which are in use for widely different applications under the roughest conditions, are a guarantee for quality and reliability. They are applied to all areas of mechanical and power engineering and are used as power transmitters, speed reducers and/or rotation changers.

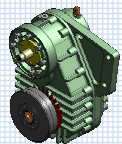
DURUHIT® gearboxes in special design are developed together with the customer. They are tailor-made for every concrete case. The technical details for the gearbox's dimensions is determined together with the gear-box's design and the possible need for additional equipment. Complete driving systems originate from DURUHIT® gearboxes through the fitting of gearbox stages, prime movers, brakes, oil lubrication systems, electric control systems, etc. This means that the customer needs to make less telephone calls and is relieved from coordination and adaptation work that costs time and money. Optimum drive solutions can be developed for new systems and existing drive concepts can be optimised.

### Quality Assurance

The HENSCHEL Antriebstechnik Quality Assurance System is audited according to DIN EN ISO9001 -design, development, production, assembly and serving. Register No.: 3549-01 (By the German Association for the Certification of Quality Assurance System mbH).



## Gearboxes for Special-Purpose Vehicles



- Custom made gearboxes for different types of special vehicles are our daily business.
- We create gear units in close co-operation with the customer's R+D department.
- Design topics: Small space, low noise, long lifetime, suitable coupling system, safe sealing system a.s.o
- Example: Generator drive with cooling fan and high elastic couplings system max. output speed of 11.000 rpm

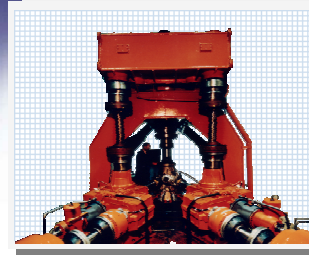
## High Speed Gearboxes for Formular 1 Motor Test Benches

- Henschel is a specialist for fast rotating, efficient custom gearboxes.
- In racing and motorsport in particular our high-speed test stand gearboxes ensure that the teams are in pole position. Test stand trials at maximum speed, probing the power limits are imperative for the further development of racing car engines.
- Very fine, high quality gearing and special bearings adapted to the high speed and load provide smooth, malfunction-free operation.
- Today we achieve powers of P= 1,000 kW and speeds of up to  $n_{1max}=22,000 \text{ min}^{-1}$ .



## Gearboxes for Helicopter Test Benches

- The main point in the aircraft industry are safety and reliability. For the test equipment of helicopter test benches Henschel has a traditional long experience.
- Requirements on a very high level has to be verify on test benches.

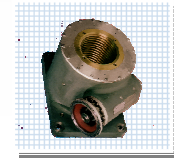


## Gearboxes for Oil Drilling- and Offshore Rigs

- Special gearboxes for special application - With Henschel experience to the drive solution:

### Worm gearset for Offshore rigs

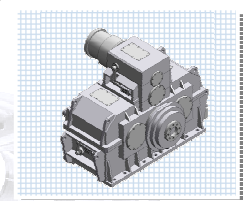
- 36 gearboxes keep the oil platform in position after elevating. Backlash, cold tough housing material, reliability and low maintenance are gearbox requirements.



### Winch drive for oil drilling platform - Operation under extreme conditions

For oil drilling rigs Henschel designed a special gearbox with oil lubrication system unit with special requirements. The heavy duty winch drive for this application covered two different operation conditions:

- 1) Keep back the mass of the drill pipes during the drilling process (feeding drive)
  - 2-stage Planetary input gearbox and 2-stage, disengageable spur gear set
  - Input power : 39 kW
  - output speed: 2,5 rpm
- 2) Quick pulling to put off the pipes out of the bore hole
  - Two double stage spur gear sets with two switchable ratios
  - 2 x Input and 1 output shaft
  - Input power: 2 x 850 kW
  - Output speed: 52 rpm



The gearbox is designed for a maximum output torque of 214.000 Nm.

This two main operation condition together with the explosion proof oil lubrication system, the output shaft bearing for the force of the rope drum, the welded steel housing for extreme low operation temperatures of -40° Celsius are meet with one gear unit. These special designed gear unit with a weight of 9 tons grant a long lifetime and reliable function under extreme conditions.

