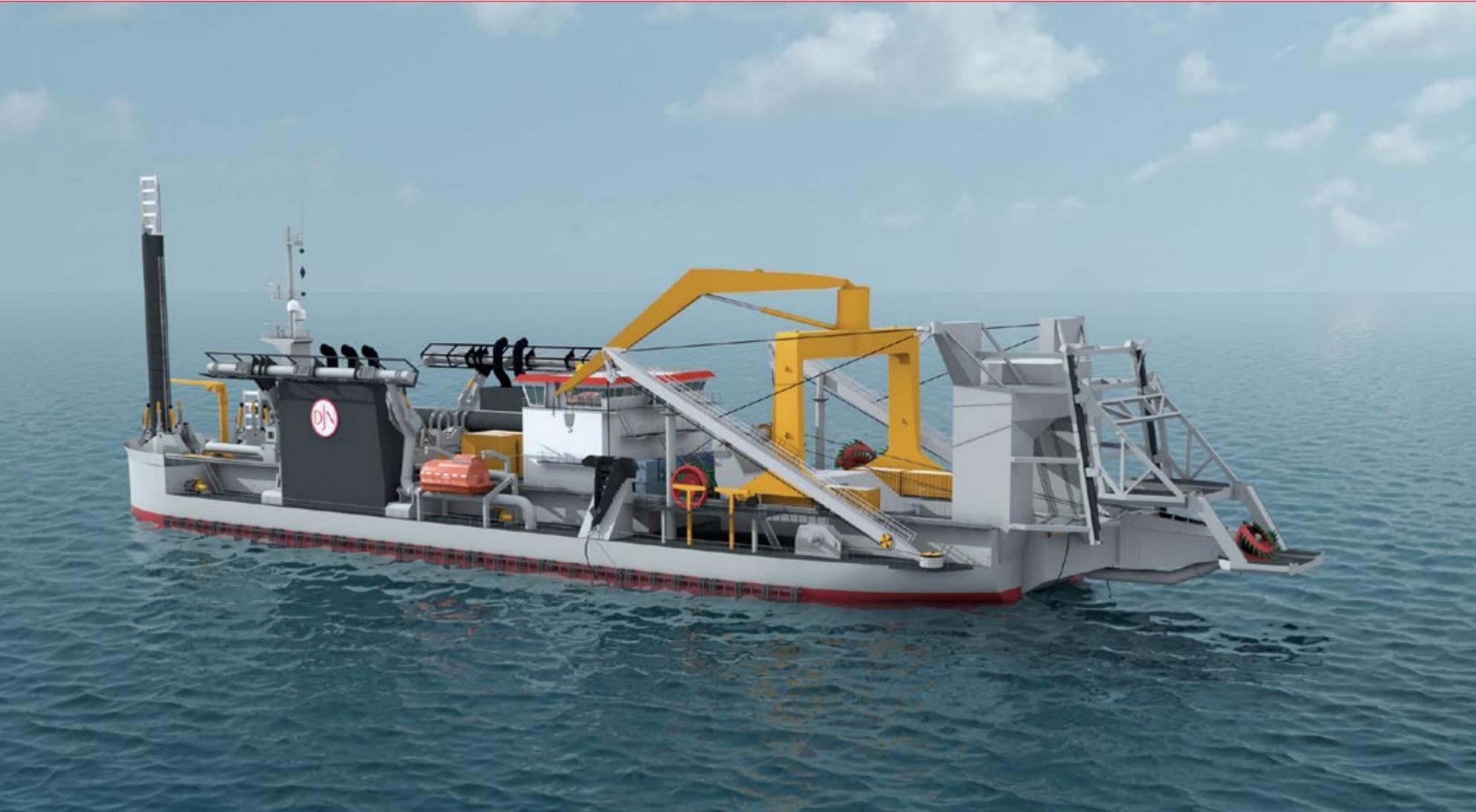




Innovative Power Transmission



**Customized Marine Gear Units
for Dredgers**



Customized Marine Gear Units for Dredger Vessels

RENK AG is a leading manufacturer of marine gear systems. Our factory in Rheine, Germany, specializes in gear units for commercial vessels. Based on our years of experience, we also supply highly reliable and innovative solutions for dredger vessels such as trailing suction hopper dredgers and cutter suction dredgers.

Our product portfolio includes gear units for jet pumps, dredge pumps, generators, cutters and winches. The gear units are designed to the customer's specifications and RENK's in-house safety standards.

The double gear units for the cutter head have center distances of up to 5,000 mm and are rated for up to 300 tons. Two engines are combined with two- or three stage double gear units located on the cutter ladder. Our housings and thrust bearings are engineered to safely absorb the enormous forces of the cutter head.

For the various pump systems, single or double marine gear units can be adapted to the ship's design. RENK has in-depth experience with special gear units operating under water or inboard at an angle of 60°.

RENK is an active member of FVA, Germany's R&D association for the propulsion sector, and also works with universities and research institutes. This allows access to the latest research results.

Dependable on all the oceans of the world

On the high seas, the quality and reliability of the operating gear units must be guaranteed at all times. Regardless of propulsion, generator, pump or winch gear units, we offer a solution for all applications.

The foundation of our customers' trust is our longstanding experience and constant drive for new and innovative solutions. RENK's seasoned experts apply simulation computations to ensure that all the various gear unit components are engineered for utmost dependability.



Picture courtesy of Royal IHC and DEME Group

Marine Propulsion Gear Units

RENK supplies any kind of propulsion gear units solution needed on a dredger vessel, from single in/single out up to double in/single out gear units. Normally they are custom-built for all types of propulsion system (diesel, diesel-electric, dual fuel diesel-electric).

A characteristic feature of these propulsion gear units is high input torque and ample PTO rating. RENK also supplies a variety of PTO solutions for drive mode variations.

In addition to complying with the chosen classification society requirements, the gear units are engineered to RENK's in-house safety standards which are often even stricter.



*Gear unit type: RSVL-950
Power: 7,200 kW
Speed: 500/145.6 rpm
Classification: BV*



Cutter Gear Units

RENK's CDSH(II) cutter gear units offer reliability under high torque loads for the utmost efficiency. A strong and rigid housing designed to customer specifications, will cope with any kind of working environment.

A characteristic feature of RENK's cutter gears is an efficient three-stage or further developed and tested two-stage design optimized for specific application environments.

*Cutter Gear unit type: CDSHII-4800
Power: 2 x 4,250 kW
Speed: 1,000/30 rpm*

Dredge/Jet Pump Gear Units

Supplementing the complex cutter and dredge gear units, RENK's generator gear units allow the transmission of low and high power ratings to match customer needs.

A characteristic feature of RENK's dredge pump gearboxes is the flexible housing and gear-set designs for horizontal, vertical and diagonal shafts. Single and double input configurations offer optimal flexibility.



*Gear unit type: SVG-2S-1000
Power Stage 1: P = 8,000 kW
Speed n = 750 rpm/253.1 rpm
Power Stage 2: P = 3,200 kW
Speed: n = 750 rpm/193.4 rpm*

*Gear unit type: SH-710
Power: P = 3,800 kW el. motor
Speed: n = 1,200 – 1,500 rpm; 280 – 350 rpm*



Generator Gear Units

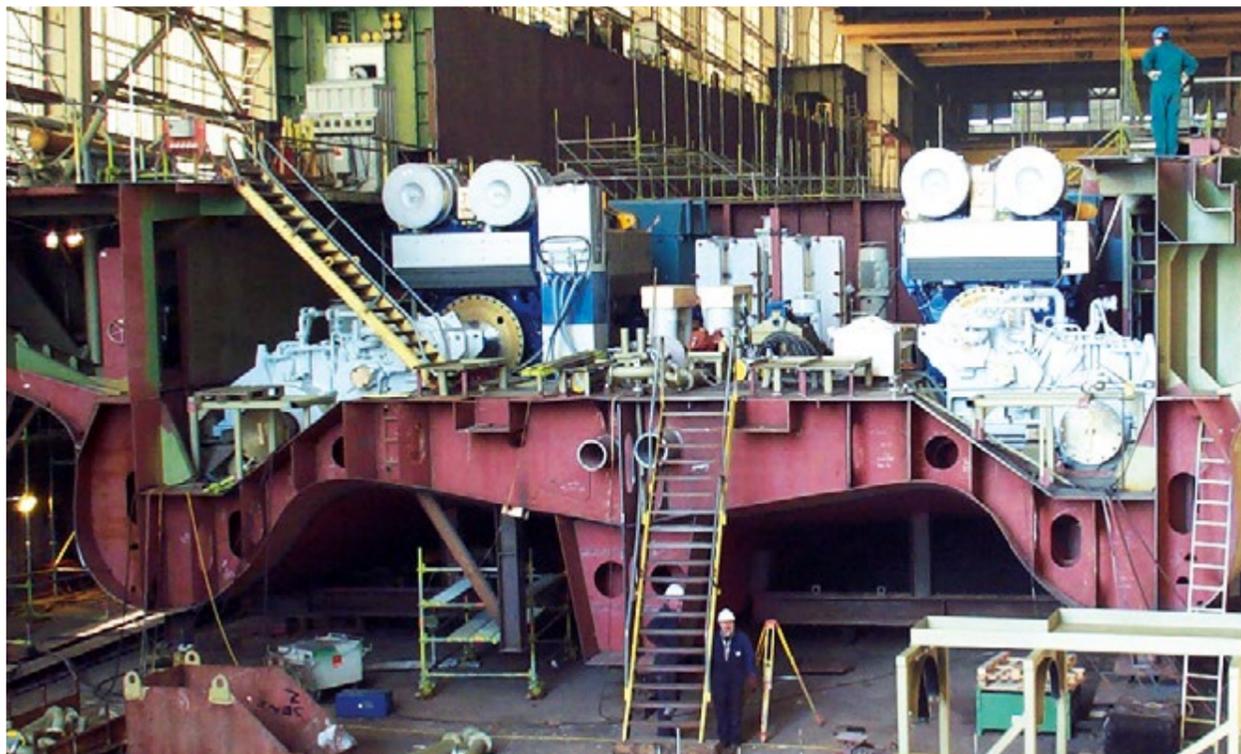
Alternative to our complex cutter and dredge gear units, RENK's generator gear units allow transmission of low and high power ratings, designed in accordance to the customers needs.

A characteristic feature of RENK's dredge pump gearboxes are flexible housing and gearset designs for horizontal, vertical and diagonal shafts. Single and double input design, offer optimal flexibility.

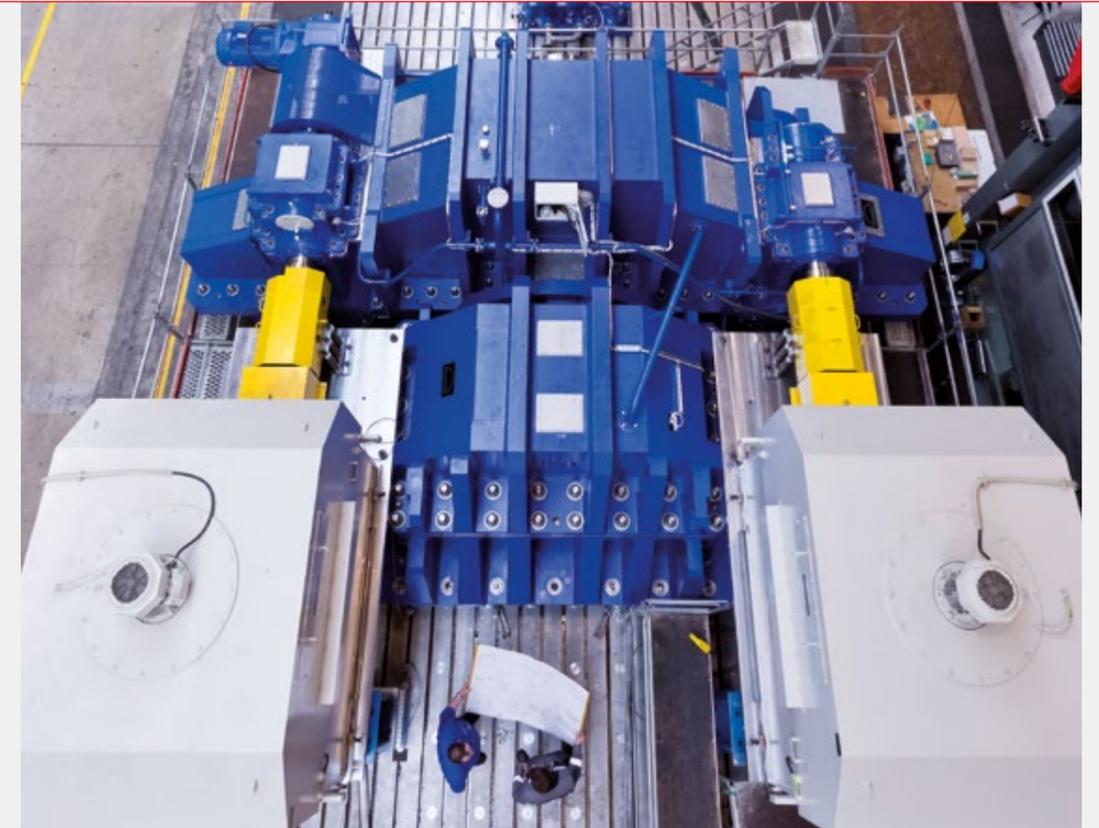
Tackling the biggest challenges

Our experienced team of engineers and production employees is a match for the biggest challenges. From the gigantic cutters to huge planetary gears, RENK has the production capability to cope with any customer request.

From shopfloor to the shipyard, we support our customers whatever their needs to allow perfect installation and successful sea trial for a smooth passage of the vessel to the owner.



The gear units installed in the hull of the dredger.

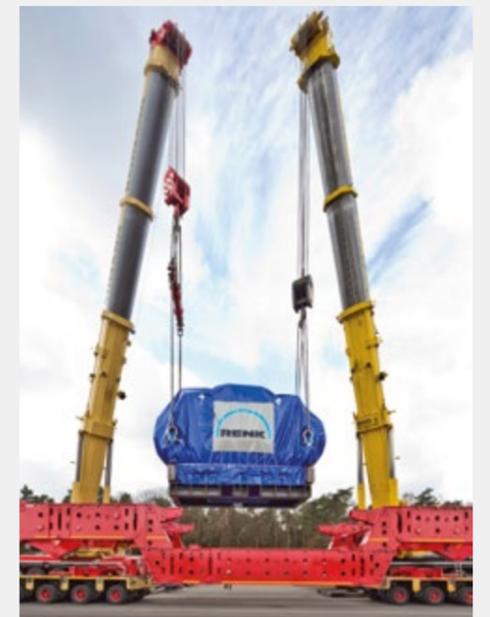


FAT:
Full 4 MW load test
at factory in Rheine.

From full load factory acceptance tests to logistical challenges.



RENK's access to inland waterways and fast connections to major roads provide ideal logistic facilities.



Logistics: 280 ton CDSHII-4800 by waterway and road from Rheine (G) via Rotterdam (NL) to Pula (HR).



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