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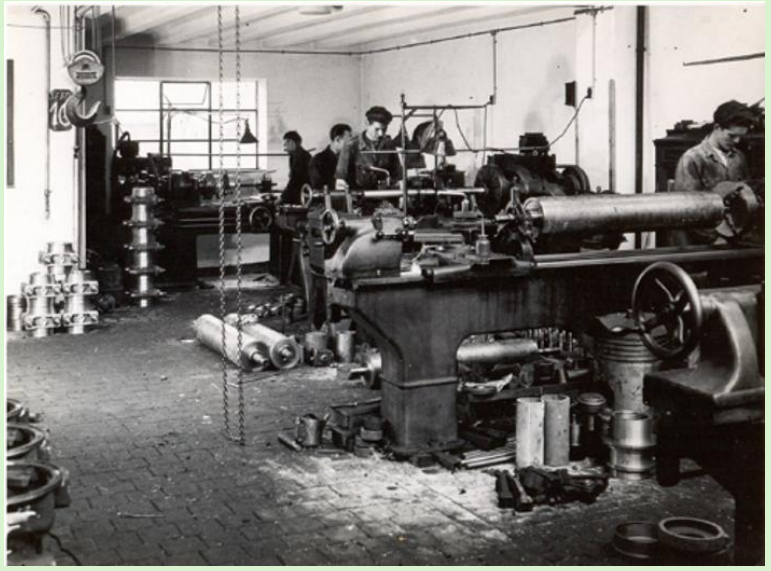


(1906)

Your gearbox service factory

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1940's



2025's



Marine sector



- Fishing & shrimp vessels, seiners
- Tugs, workboats, mega-yachts
- Passenger vessels & ferryboats

Wind sector



- Gearboxes
- Main shafts
- Drive trains

Heavy industry



- Heat Power Station
- Sawmill factory
- District Heating sector

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WIND SECTOR

- Capacity range of wind turbine: 500 – 2,500 kW
- Refurbished Exchange Gearboxes: > 130 gearboxes
- Refurbishment of Client's gearboxes
- Supplied number of refurbished gearboxes: > 1800 gearboxes
- Warranty period: 24 months (complete gearboxes) / 12 months (in-situ)
- Test bed: Unloaded or loaded test up to 2500 kW (on request)





We provide gearbox retrofit solutions which are as minimum as good as the originally supplied gearboxes. In many cases we supply optimized retrofit gearboxes which are even better than the original unit.

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LIST OF AVAILABLE REFURBISHED EXCHANGE GEARBOXES AND MAIN SHAFTS:

➢ Gearboxes:

- Vestas: V39/42/44/47/52/80/90
- Gamesa: G39/42/44/48/52/58/80/87
- General Electric: GE 1.5s/1.5sl
- Fuhrlander: MD70/77
- Tacke: TW600/600e
- Wind World: W-5200
- DeWind: D4/600, D6/1000
- Nordex: N43/50/52/54/60/62/S70/77/N80/90
- Micon, Neg-Micon, Nordtank: M750/1500/1800, NTK150/500/600, NM600/750/900/950/ 1000/1500/2000
- Repower, Senvion, HSW: MD70/77, MM70, HSW1000
- Bonus, Siemens Wind Power: 450/600/1000/1300/2000/2300



GE 1.5 sl



Senvion MM82

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➢ Main shafts:

- **Siemens-Gamesa Wind Power (Bonus):** 450 – 2 300 kW
- **Vestas** V39 / 42 / 44 / 47 / 52 / 80: 500 – 2 000 kW
- **General Electric**: GE 1.500kW, up-graded (with new/stronger 240-bearing)
- **MD platform** – **Fuhrländer** MD70/77, **Nordex** S 70/77 and **Repower / SENVION** MD70/77
- **Micon:** M 1500 / 1800: 600 kW / 750kW
- **Neg-Micon:** NM43 / 48 / 52 / 64c / 72c: 600 – 1 500 kW
- **Nordtank:** NTK-37 / 41: 500 – 600 kW
- **Nordex**: N54 / 60, MD 70 / 77: 1 000 – 1 500 kW

We also perform maintenance, servicing, repair and refurbishment of other types of gearboxes at our factory in Grenaa and provide different technical solutions on-site.



Siemens-Gamesa 2300 kW

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SHORT LIST OF SOME OF OUR CLIENTS:

- Vattenfall Vindkraft
- Dong Energy (Örsted)
- WPD
- Energiekontor
- E.ON Deutschland
- EDF Power Solution
- Statkraft
- HOFOR
- PPC Renewables
- Iberdrola
- Boralex
- KGAL GmbH & Co. KG
- Momentum Group
- RWE
- Engie
- Enertrag Service and others.

Today we cooperate with wind farm owners & operators located in:

- Germany
- France
- Spain
- Portugal
- Greece
- Austria
- Ireland
- Italy
- Scandinavian countries and
- UK

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Technical solutions in-situ: SMART Repairs

- SMART Repairs – Solving not only mechanical problems but also performance of certain machining operations on-site.
- In this case we can often make a repair where others need to exchange the complete gearbox.
- For example, we perform IMS- and HS-bearing exchange as well as repair of bushings, gearboxes and line boring in-situ.
- Such works are often made without mobile crane and are an alternative to the gearbox replacement.
- SMART Repairs method allows us to save lots of money for our clients (up to 60%).



In-Situ refurbishment of Nordex N90, GPV510D



In-Situ refurbishment of Siemens 2.3 MW

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Siemens 2.3 MW in-situ (off-shore) / IMS-Pinion / Wheel replacement



Lifting housing top-section



Dismantling old IMS-Pinion-Assy



Installation of the new IMS-Pinion



Re-mounting housing top-section

Ask us when others say “That is impossible!”

A/S Grenaa Motorfabrik

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BUREAU VERITAS
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BUREAU VERITAS 1828

KLIMAKLAR