

FCB Nova-Gear®

Patented industrial on-site machining solution for toothed girth-gear

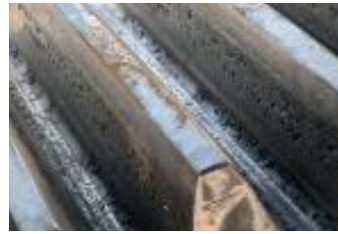


Safely and quickly reshape your gear at lower cost to increase its lifetime

- On-site automated working, without disassembling the girth-gear, in optimum safety working conditions
- Refurbished profile \leq Class 9 (ISO 1328 or better) for an optimum and long-lasting mechanical operation of the equipment: decreased vibration level, optimized teeth contact pattern
- Extending the gear life time
- Reducing the production shutdown



An industrial refurbishment for toothed girth-gear, without disassembly



Tooth profile before intervention



Tooth profile after intervention

FCB Nova-Gear® on-site machining is an alternative to girth-gear reversal. When associated with the FCB Scan-Gear™ diagnosis tool, it allows for refurbishing teeth active flank, while ensuring optimum safety conditions, reduced downtime and lower intervention costs.

APPLICATIONS

Service provided for any large, straight cut toothed girth-gear installed on rotating tubes (kiln, mill, dryer, calciner...):

- Tooth width: 400 to 850mm
- Module: 20 to 40
- External diameter: 3,600 to 12,000mm

Subject to undamaged profile of tooth counter-flank

MEANS

- Dedicated teams with over 85 years of OEM expertise
- Unique and proprietary solution **FCB Scan-Gear™** for girth-gear wear diagnosis in operation (profilometry with laser probe and analysis software)
- Innovative and patented machine tool **FCB Nova-Gear®** to refurbish toothed girth-gear
- Specific safety standards for secured on-site works (EC marking, intervention mode, safety plan...)
- Detailed procedures to master environmental issues (no cutting oil, no metal dust emission)

OPERATING MODE

- **FCB Scan-Gear™** complete preliminary diagnosis: detailed audit of the drive (girth-gear, pinions...) and its environment
- Audit report
- Preparation of on-site works (scaffolding, girth-gear cleaning, machine installation...)
- **FCB Nova-Gear®** automatic machining without girth-gear disassembly (one-week shutdown in average)
- Machining report with controls
- Start-up

FCB Scan-Gear™ preliminary diagnosis

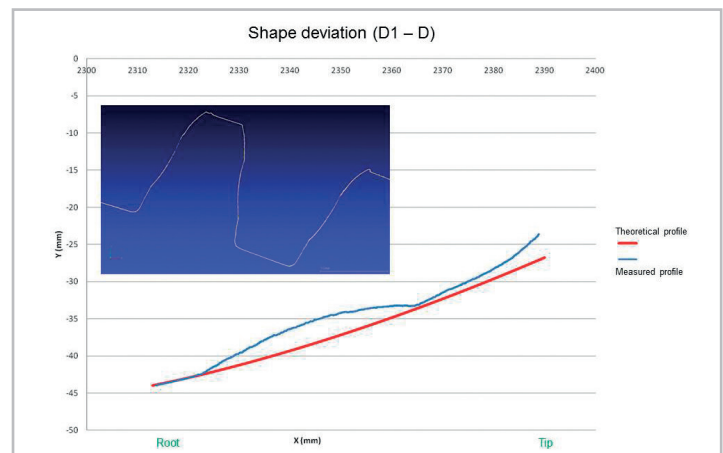
- Measurement and analysis of the vibration level
- Complete audit of the girth-gear (conditions, material health, deteriorations...) and its environment
- Wear and geometry measurement on the girth-gear (profile, run-out, axial run-out...)
- Confirmation of the machining feasibility
- Report and recommendations

FCB Nova-Gear® automatic on-site machining

- Machining of the toothed girth-gear active flanks with a cutting tool in an automated way

Inspection report

- Machining quality inspection (straightness, surface roughness, ...) and geometry (profile, pitch...)
- Mechanical audit (vibration level...)
- Recommendations for wear control and preventive maintenance of the driving unit (lubrication survey, reference...)



- High quality level \leq Class 9 (ISO 1328 standard): surface roughness and geometry
- Significant improvement of the gear drive vibration behavior
- Optimized production shutdown
- Long-term reliability for the whole production line
- Management of safety conditions, schedule and intervention costs

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