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Project : Stadler AG

Test Result Bearing protection with AEGIS SGR-13.2-0A6 Press Fit Mounting

Short description of driving system :

The traction motor is a three phase asynchronous motor, powered by a current converter.
Voltage pattern: PWM.
E Motor manufacturer by Tractionssysteme Austria
Gearbox manufacturer by Voith Turbo GmbH

Data of traction motor:

Nominal Power: 500kW
Max. Power: 750kW
Nominal Voltage: 400Vrms
Nominal rotation speed: 1700 rpm
Max. rotation speed: 5150 rpm

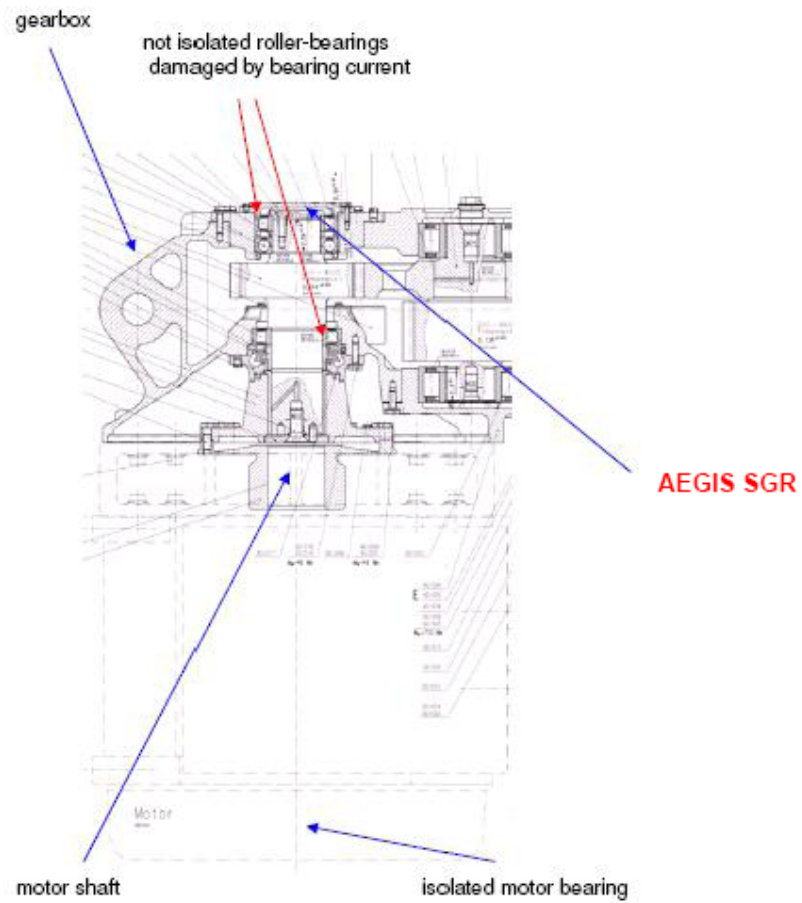
Life time and maintenance

The driving system is designed for a life time of 30 years.
Maintenance will be done every 8 years.
Operation time will be 4000h per year (at nominal rotation speed).

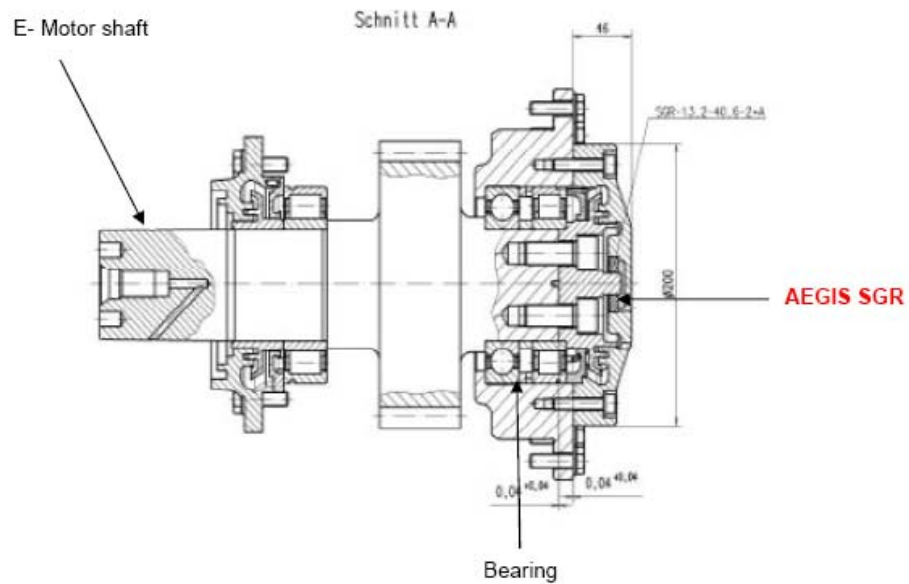
Car type : FLIRT (Fast Light Innovative Regional Train)



AEGIS SGR for Bearing protection application :



Drawing detail :





Opening for measuring sensor in the bearing cover



Shaft end for SGR Brush



AEGIS SGR

Test Measurement Objective :

1. Measure shaft voltage in a dry area

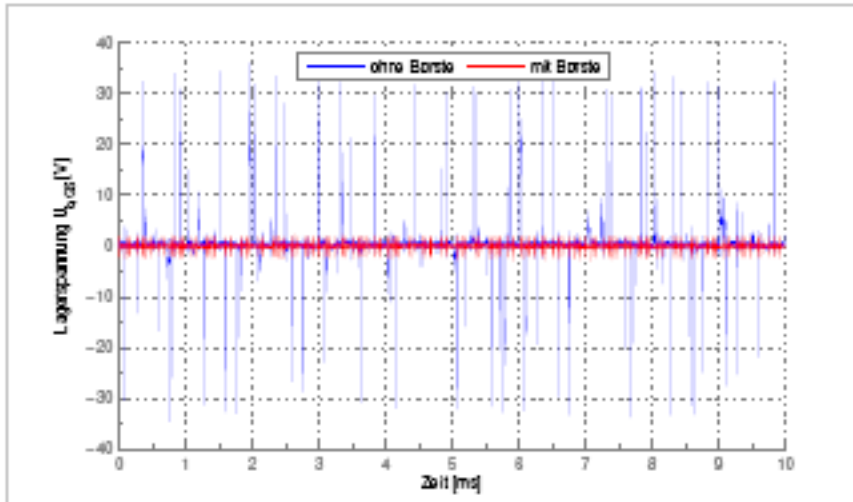
- 1.1. Measure shaft voltage without AEGIS SGR protection
- Measure shaft voltage with AEGIS SGR Bearing Protection Ring

2. Measure shaft voltage in area with gearbox oil

- 2.1. Measure shaft voltage without AEGIS SGR protection
- 2.2. Measure shaft voltage with AEGIS SGR Bearing Protection Ring

Voltage measurement with oscilloscope

1. Measure result in a dry area :

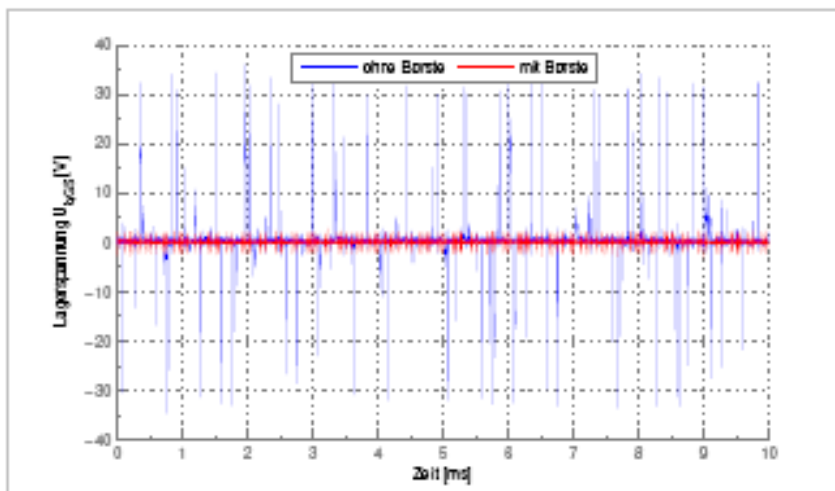


— without SGR Volts 35 V pk – pk

— with SGR Volts 2 V pk –pk

2. Measure result in oil area :

This is a result after a running time of 4 weeks



— without SGR Volts 35 V pk – pk

— with SGR Volts 2 V pk –pk

Result:

The tests with AEGIS SGR showing ,that no EDM current impulses can damage bearing.

The AEGIS SGR is been suitable for the bearing protection for this Stadler project..

Very interesting is that in the dry area and in the oil area you can not find a measure difference. The same results.
Only the fibers sticks something together after dismantling.
Stadler AG has itself adjudicated to use variation "SGR in dry area".

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