

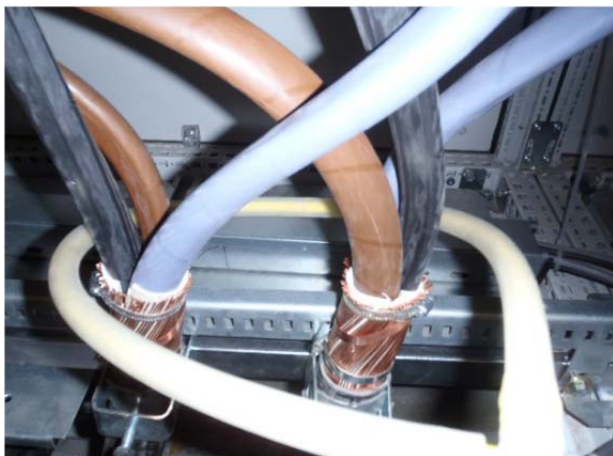
Application example for the use of **Cool/BLUE®** tape wound cores from **MAGNETEC GmbH, Germany**

Damaged bearing of a pump unit due to circular currents

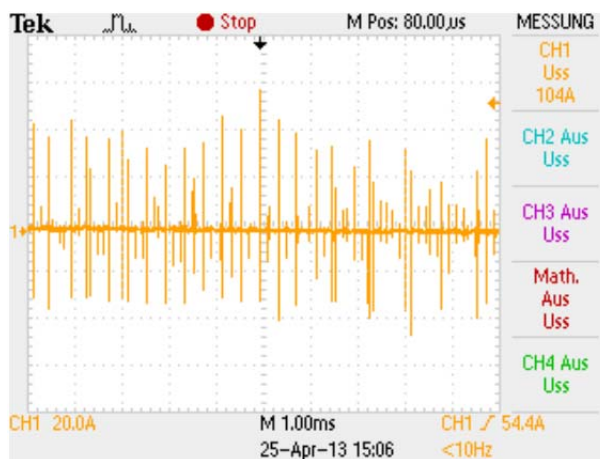


Picture 1: Pump unit

The measurements were done before and after applying of some **Cool/BLUE®** tape wound cores from **MAGNETEC GmbH** with constant speed and without load.



Picture 2,1: Original condition



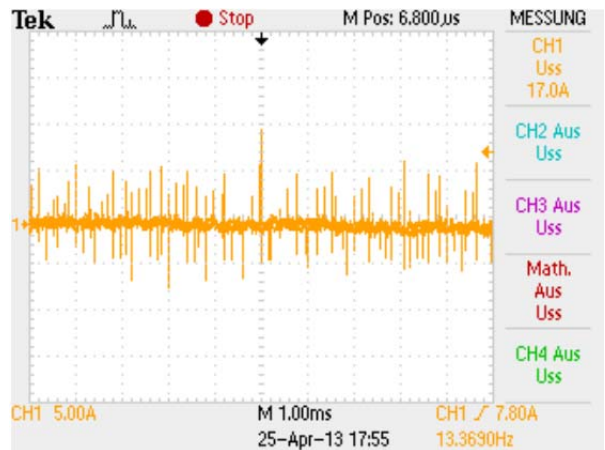
Picture 2,2: CM current at drive output
20A/Div, 1ms/Div > I_{ss} ca. **104 Amps**

Action: Applying of 2 nanocrystalline Cool/BLUE® tape wound cores M-248

Measurement 1: CM current at drive output

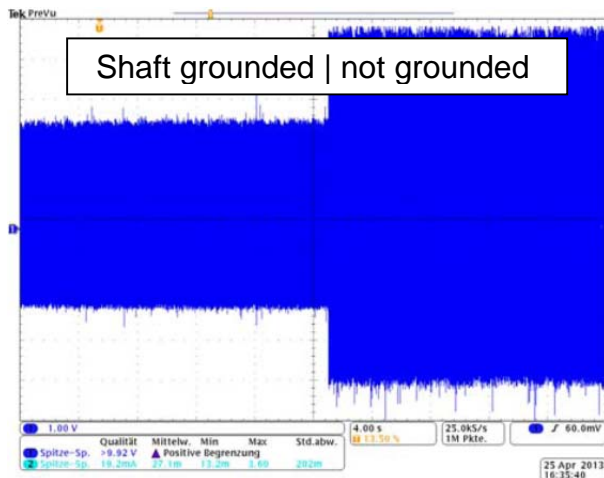


Picture 3,1: Use of 2 cores M-248

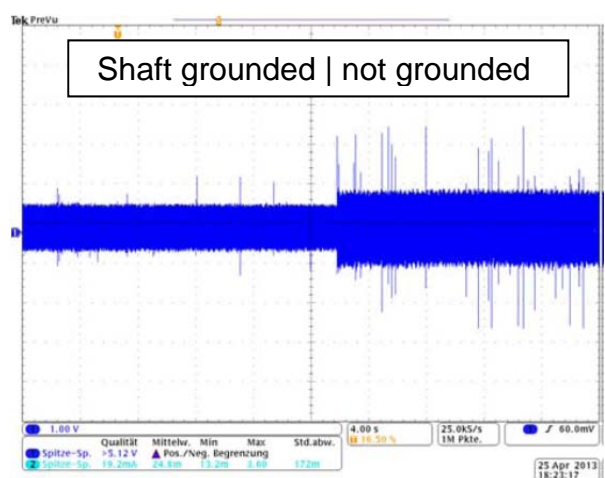


Picture 3,2: 5A/Div, 1ms/Div > Uss ca. **17 Amps**

Measurement 2: Shaft voltage



Picture 4: Original condition
1V/Div > Uss max ca. **10 V**



Picture 5: Use of 2 cores M-248
1V/Div > Uss ca. **5,5 V**

Conclusion:

By using of 2 Cool/BLUE® tape wound cores M-248 from MAGNETEC GmbH per drive the peak-peak value of the CM current on the motor cable could be reduced from 104 Amps to 17 Amps – it means by factor of 6 (!)
Additionally the shaft voltage – measured as peak-peak value – could be reduced from 10 V to 5,5 V and the number of peaks were significantly lower. If an additional grounding of the shaft is accomplished the shaft voltage is further reduced to ca. 2 V, means by factor of 5 (!).



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