

## CB-S and CB-L - Winding Adapter for the Connection of Stators



CB-S – Table top Tester for the AC hysteresis measurements

### • Operating Principle

The winding adapters CB-L and CB-S, also called Stator Tester allows the fast connection of stator lamination and large ring samples. The measuring principle is related to the measurement of a toroidal core conforming to IEC 60404-6. For test the magnetic hysteresis curve (BH-loop) a magnetic field strength  $H$  needs to be applied to the sample and the induced flux density  $B$  in the sample needs to be measured. This done with one tester cable that includes the primary turns  $N_1$  (for generation of  $H$ ) and secondary turns  $N_2$  for picking up  $B$ . The air flux between  $N_1$  and  $N_2$  can be compensated in the Comp Software of the Remacomp system. The tester cable is fed through the samples inner diameter. The Stator Tester works with high current densities for duration of fast measurements. To handle that high current densities safely the tester is designed with a temperature resistant cable, which is double temperature monitored and secured by safety loops. A protective cover makes the tester cable resistant against sharp edges of laminations.

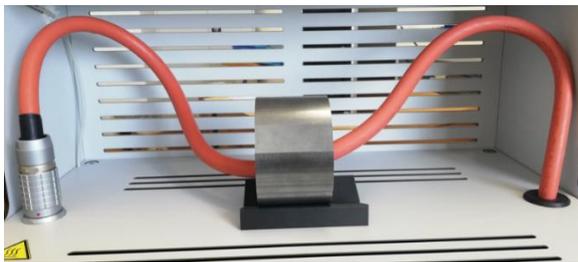
The tester is used with the powerful Remacomp model C-2200 that supports the full device safety and drives the current with two amplifier in parallel operation. With Remacomp C-2200 also the features overtemperature warning and the cooling fan are supported.

Typical measuring task is the determination of the core losses, peak polarization, amplitude permeability, remanence, coercive field strength etc. The measuring system allows a precise, powerful and highly repeatable test of laminations. The test of stators is not standard conforming, but it comes close to the test of absolute ring sample measurement within a few percent (depending on sample geometry), thus it is possible to check if the raw material for the laminations was as specified and if the material was processed properly to a stator.

A smart opening mechanism allows fast sample mounting and easy sample loading.

The cable of the tester is extralong, it can be fed trough the sample one time for samples with small inner diameter and two times for samples with larger diameter. Larger stators need more turns to get high excitation, which can be increased by two turns with the tester cable. So the CB-S and CB-L can handle a wide range of sample sizes.

This allows to have excitation as high as possible also for larger samples. This flexibility also allows to test large samples at higher frequencies by just using one turn of the tester cable.



## • Features

Compatible with Remacomp C - 1200, C - 1207, C - 2200 and C – 2207, best with C-2200

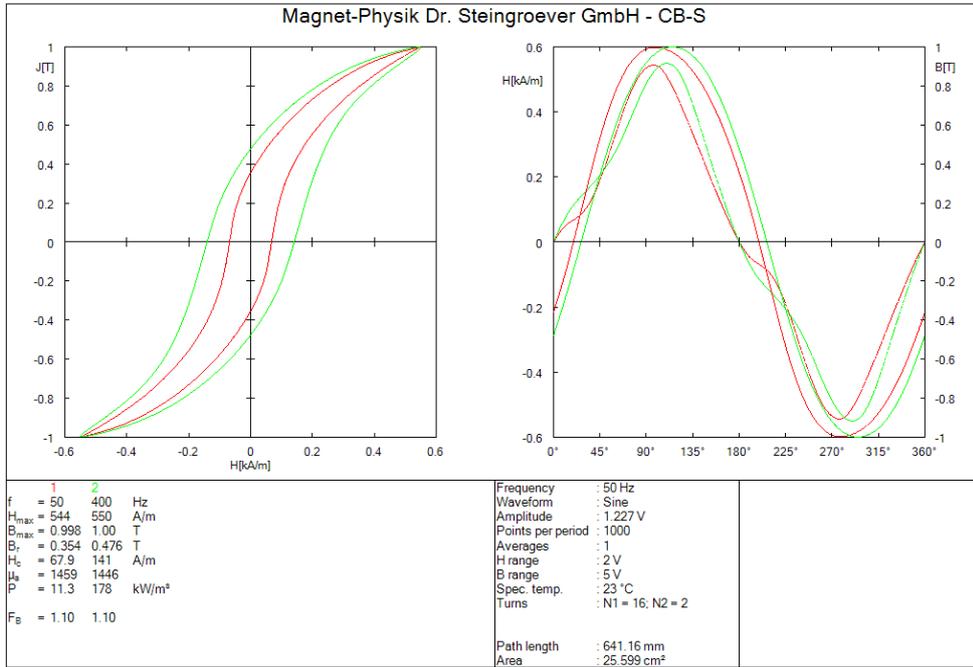
Frequency Range: DC to 1000 Hz (depending on sample and excitation), 50Hz optimized  
H\_max: Depending on samples size, mass, permeability and frequency  
N1: 16 Turns  
N2: 2 Turns  
I\_max: 65A continuously, 100A fast single shot measurements (with C-2200)  
Min. A: Area cross section of sample 5cm<sup>2</sup>

### CB-S

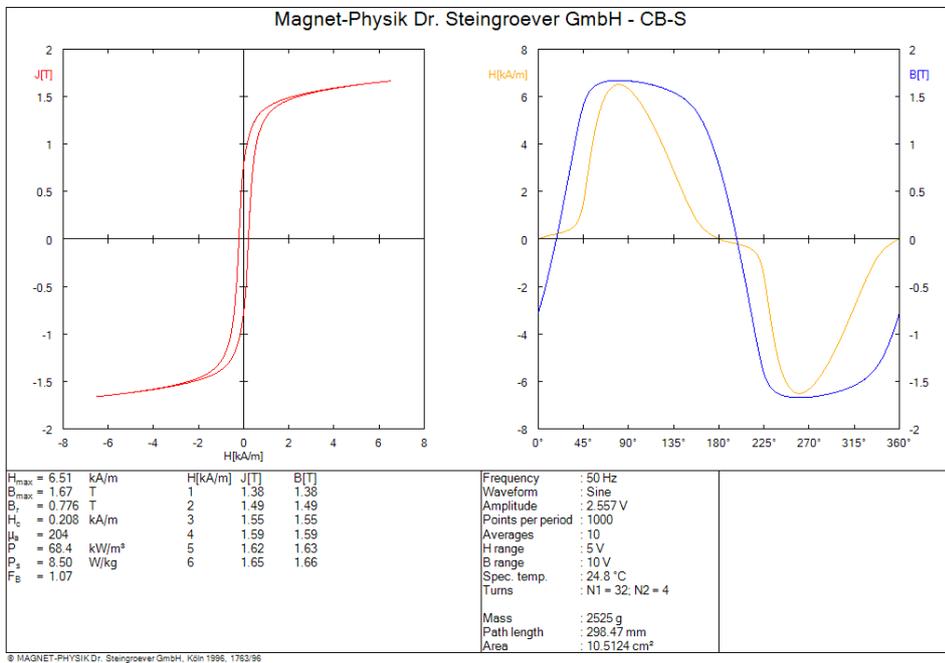
required free inside diameter: 35.5 mm  
maximum outer diameter of the stator: 200 mm  
maximum length of the stator: 250 mm  
maximum mass of the stators: 20 kg

### CB-L

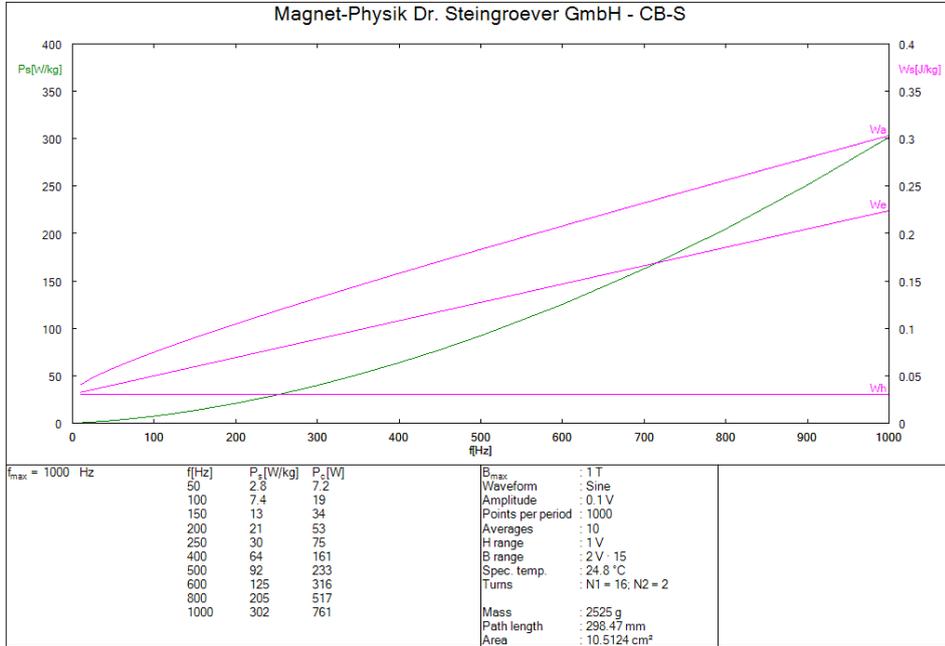
required free inside diameter: 35.5 mm  
maximum outer diameter of the stator: 400 mm  
maximum length of the stator: 300 mm  
maximum mass of the stators: 100 kg



Large stator tested at 1.0 T flux density at 50Hz and 400Hz.



Medium sized stator tested single shot measurement at high field strength of 6.5 kA/m and 50Hz.



Losses of medium sized stator tested at 1.0 T flux density in one sweep from 10Hz to 1000Hz. Loss separation was applied to split the losses in hysteresis, eddy current and anomalous losses.

*Due to continuous product improvement, specifications are subject to change without notice.*

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