

# Closed TEM Cells



## Description

The closed TEM cells TEMF200 and TEMF500 are specially designed for the immunity tests on automotive devices according to ISO 11452-3 and to SAE J1113-24. The TEMF1000 and TEMF3000 allow immunity tests on small devices and require a low power amplifier. Therefore the test installation is much cheaper compared with an absorber room with antennas. The TEM (Transverse Electro-Magnetic) mode is the only mode produced in the cell below the cut-off frequency. The

electric field is vertical and the magnetic field horizontal. The wave impedance is  $377 \Omega$ . The field conditions inside the cell are similar to far field conditions. An optional filter box can be placed behind the cell for power and signal lines connections. For the automotive tests, the recommended minimum power of the amplifier is 100 W (TEMF200) and 50 W (TEMF500). It is also possible to use the cell for the radiation measurement, under certain conditions.

Technical specifications	TEMF200	TEMF500	TEMF1000 *	TEMF3000 *
Frequency range	DC - 200 MHz	DC - 500 MHz	DC - 1 GHz	DC - 3 GHz
Height under the plate	30 cm	10 cm	7.3 cm	2.35 cm
Size (l x w x h)	130 x 70 x 62 cm	60 x 30 x 22 cm	54 x 45 x 18 cm	15 x 8 x 6 cm
Max. input power	1.6 kW long term	1 kW long term	750 W long term	400 W long term
Field for a 25 W amplifier	118 V/m	350 V/m	475 V/m	1.4 kV/m
Impedance	$50 \Omega \pm 5 \Omega$	$50 \Omega \pm 5 \Omega$	$50 \Omega \pm 7 \Omega$	$50 \Omega \pm 7 \Omega$
VSWR	< 1.1	< 1.1	< 1.2	< 1.2
Return loss	> 25 dB	> 25 dB	> 20 dB	> 20 dB
Connector type	N 50 $\Omega$	N 50 $\Omega$	N 50 $\Omega$	N or SMA 50 $\Omega$
Weight	approx. 29 kg	approx. 20 kg	approx. 4.8 kg	approx. 8 kg
Options	Signal and power supply filters			
	* Can be equipped with a test setup for IC or PCB acc. to SAE J1752-3			

Other models are available on request