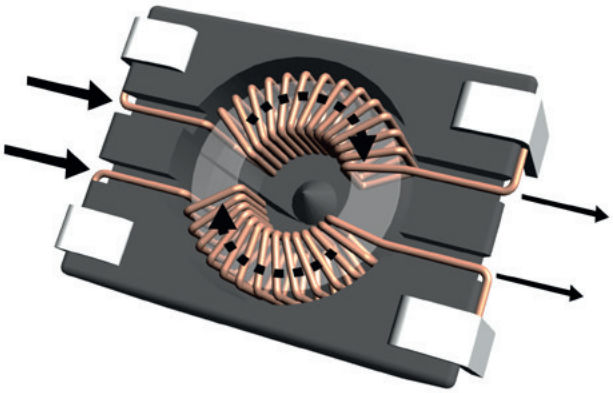
Common Mode Chokes

Common Mode Behaviour

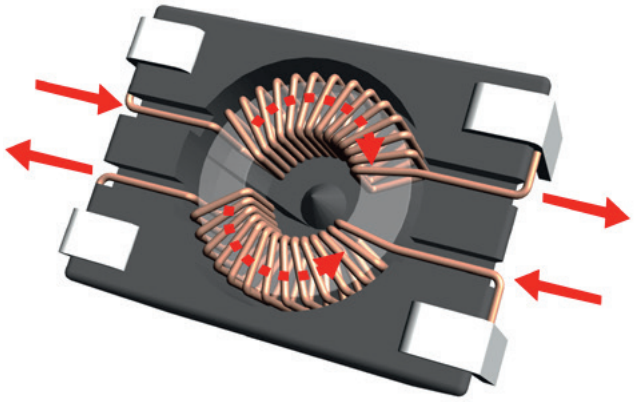


Huge Common Mode Attenuation!

Current Magnetic field

When the common mode component of a signal tries to go through the choke, it will meet a high impedance, due to the inductance created by the magnetization of the core and the coils.

Differential Mode Behaviour



Current Magnetic field

In opposition to the common mode behaviour, the differential mode component of the signal will see almost no impedance in the choke, this phenomenon could be explained with the magnetic field compensation inside the core. If the core is not magnetized, then no inductance will appear in the line.

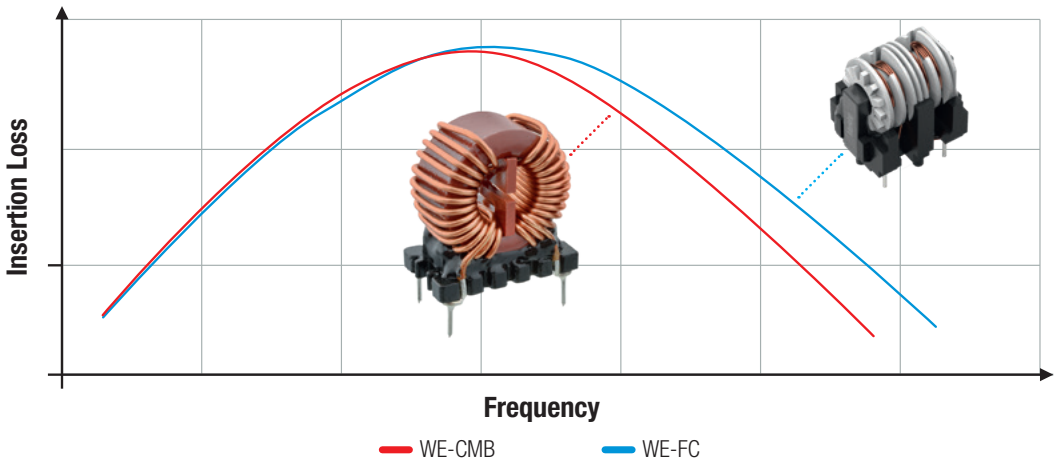
Winding styles for different applications

Bifilar winding: Shows the lowest attenuation in differential mode. These chokes are recommended for data lines, where a high isolation is not needed and some high speed signals are involved.

Sectional winding: Shows the highest attenuation in differential mode. This chokes are recommended for power lines, where a high isolation is mandatory and the power delivery is happening at low frequency.

Compare the two techonologies in REDEXPERT:
www.we-online.com/redexpert-winding-styles

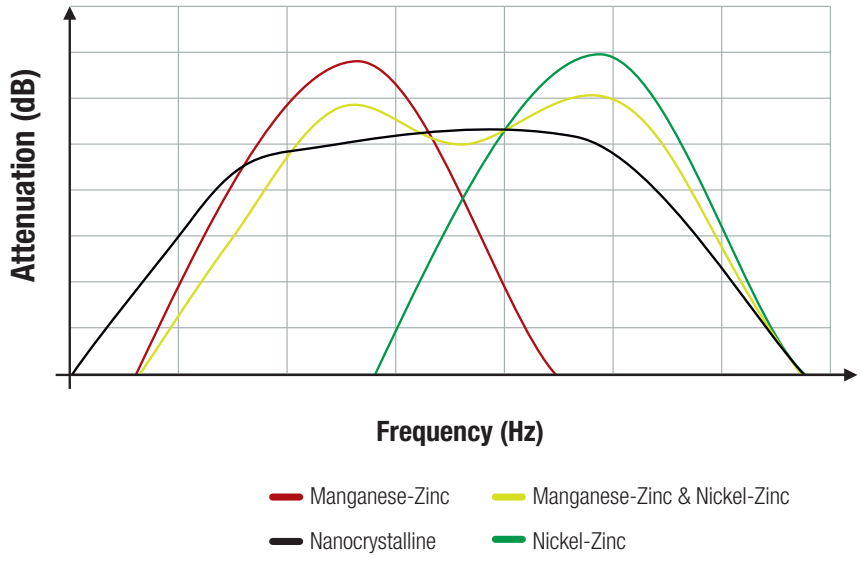
Comparison Winding Style



A division of the winding space in separate chambers (see WE-FC, 2 chambers on each winding) reduces the intrawinding capacitance increasing the bandwith of the choke. The current capabilities will be reduced due to the smaller winding space.

Compare the two series in REDEXPERT:
www.we-online.com/redexpert-compare-cmb-fc

Comparison Core Material



Compare the different materials for our chokes in REDEXPERT:
www.we-online.com/redexpert-compare-core-material