

Strength in Depth



Deeply Vital

The BrainsWay H-coil produces an innovative and unique electric field that dissipates less rapidly as it passes through the brain than conventional figure-8 coils, without compromising on safety. This is achieved by the patented coil design featuring **strategic positioning** of electromagnetic current return paths and a **flexible coil base** tangential to the scalp, both of which reduce unwanted static electromagnetic field components. **This results in a deeper, broader penetration of the field into the brain.**

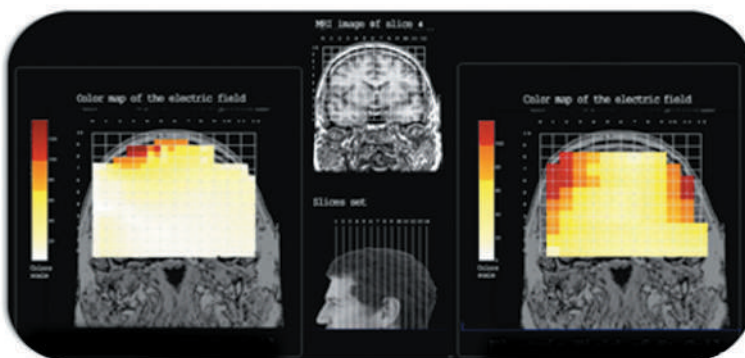
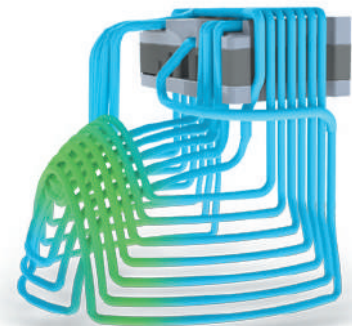


figure-8 coil

H1-coil

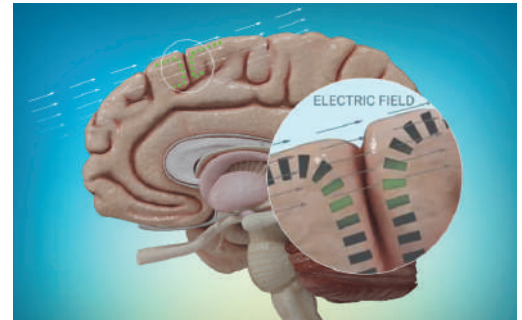


The H1-coil induced fields at depths of 1.8cm, compared to 0.7cm for the figure 8-coil based on measurement in a physiological head model (red indicates the limit of the effective electric field).

Strength in Breadth

Better engages the prefrontal circuitry

BrainsWay's deeper penetration maximizes stimulation of cortical neurons. Neural stimulation is optimal when the neurons are parallel to the electric field. This occurs at the level of the deeper sulcal banks rather than in the superficial gyri (according to C3 model¹).



Reliable targeting

Due to the inter-subject variability of brain anatomy, conventional figure-8 TMS coils are highly prone to targeting errors². The broader electric field induced by the H-coil stimulates millions of more neurons, reducing the likelihood that the relevant targets will be missed.

Consistency

The H-coil is integrated into the helmet, allowing it to move to maintain contact with the scalp. This feature ensures greater consistency in outcomes and robustness of treatment, and also improves patient comfort and compliance.



References:

1. Fox PT, et al. Human Brain Mapping 22:1-14 (2004).
2. Herwig U, et al. Biol Psychiatry 2001; 50:58-61.