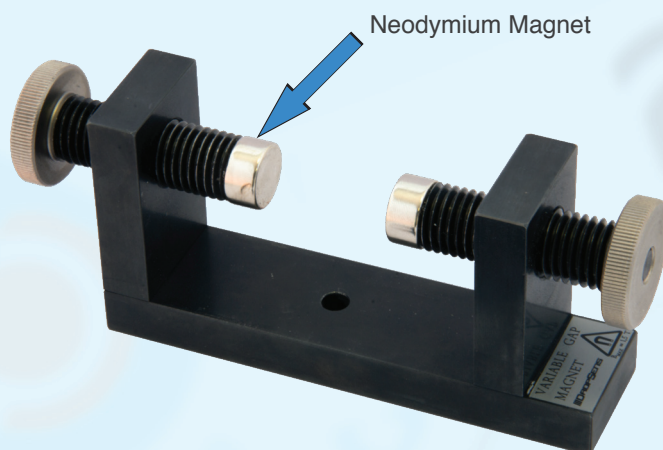


MAGNETOEC is a magnet with variable pole gaps that allows performing **magneto-electrochemical** experiments over **Screen-Printed Electrodes** and other electrochemical cells. If a magnetic field is applied to an electrochemical cell perpendicular to the electric current, one will observe in most cases an increase of the limiting current density. This effect is due to a forced convection by the Lorentz force and is called the magnetohydrodynamic (MHD) effect.

Lorentz force: $f = j \times B$

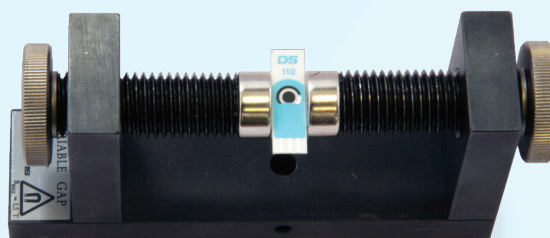
f = Lorentz force density (Nm^{-3}),
 j = Current density (Am^{-2})
 B = Magnetic flux density (T).



MAGNETOEC can be positioned with the magnetic field perpendicular or in parallel to the gravity force.



(A)



(B)

When the screen-printed electrode is placed over one of the magnets (A) the magnetic field is applied perpendicular to the electric current. If the electrode is placed between both magnets (B) the magnetic field is applied in parallel to the electric current.

MagnetoElectroChemistry support

Ref. MAGNETOEC

x (mm)	B (T) Horizontal
6,0	0,503
6,5	0,469
7,0	0,437
7,5	0,408
8,0	0,380
8,5	0,355
9,0	0,332
10	0,290
15	0,155
20	0,091
25	0,057
30	0,038
35	0,027
40	0,020

x (mm)	B (T) Vertical
2,0	0,965
2,5	0,939
3,0	0,914
3,5	0,891
4,0	0,868
4,5	0,846
5,0	0,825
10	0,682
15	0,614
20	0,582
25	0,565
30	0,556
35	0,550
40	0,546

Table. Values of magnetic flux density.

General Specifications		
Materials	Magnets: Threaded bolt: Base apparatus: Pole pieces: Hand wheel:	Neodymium, threaded bolt Black finished iron Black finished iron Black finished iron Stainless steel
Dimensions	Main structure: Hand wheels: Magnets: Pole pieces:	150 x 75 x 40 mm. 36,2 x 8 mm. 20 x 10 mm. 20 x 50 mm.
Magnetic field	Magnetic remanence By:	[1000 – 1300] mT, with a typical value of 1230 mT.
Weight	1,57 kg.	

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