

2022
Datasheet
Advance AC Hyster

Advance AC Hyster

Automate magnetometer
for AC magnetization
measurements of magnetic
nanoparticles at room
temperature

A C M A G N E T O M E T R Y

Nanotech Solutions

Headquarters:

C/Miguel Unamuno, 2 3ºB
40150 Villacastín, Spain

Commercial office:

C/Tomás Bretón, 50-52 4º
Nave 7, 28045 Madrid, Spain
+34 609 411 812
+34 921 124 860
+34 915 060 293



nanotech
SOLUTIONS

Advance Series

AC Hyster series perform calibrated magnetization and magnetic losses measurements of magnetic nanoparticles dispersed in liquid media, or inside biological matrices under alternating magnetic fields. AC Hyster is benchtop, and can be directly plugged into the mains to operate.



The **Advance AC Hyster system** is an automate magnetometer that allows to select single or several field conditions for programming individual or multiple magnetization measurements in short times (< 3 minutes). The system generates alternating magnetic fields at eight different frequencies up to 350 KHz and field intensities up to 24 kA/m.

The **Advance AC Hyster magnetometer** acquires AC hysteresis loops from which the specific absorption rate (SAR) value can be determined with outstanding accuracy and reliability (>95%). The latest is essential for characterising the industrial or academic production of magnetic nanoparticles, understanding magnetic phenomena or biological effects related to thermal stress mediated by magnetic nanoparticles under AC magnetic fields.

AC Hyster series are run by **Manyetic™**, an user-friendly interface adapted to GMP regulation, providing distinct measurement modes suitable for different user needs. Manyetic™ determines the average and standard deviation values of several magnetic parameters (coercivity, remanence, area, SAR,...) out of three repetitions of magnetization cycles. Also, odd magnetization harmonics (amplitude and phase) are analysed. Raw and/or analysed magnetic data are recorded into txt files.



INSTALLATION REQUIREMENTS

Surface of 120x60 cm onto a flat and solid non-metallic table to avoid vibrations.

Three electrical sockets 220/230V -50Hz connected to a continuous supply secured by differential protection.

Avoid direct exposure to sunlight.

Room should be at constant temperature, ideally around 25°C.

TECHNICAL SPECIFICATIONS

Magnetic field conditions

8 frequency values (kHz)
In the range from 25 up to 350

Intensity values

up to 24 kA/m for all available frequencies varying every 4 kA/m

Weight and dimensions

5 kg, 53x40x19 cm

Electrical power consumption

Up to 150 W

Magnetization units

Am²

External magnetic field units

kA/m

Calibrated SI magnetic units

Supplied with cooling unit,
PC and user-friendly interfaces
(Manyetic™ and Calibration)