



Magnetization Types

Various magnetisation configurations are possible which depend upon the material type and whether isotropic or anisotropic.

For simple 2-pole arrangements it is possible to magnetise using a DC air-covered solenoid or an iron cored electro-magnet provided that the minimum field requirement is met.

Where high saturation fields are required, it is common to use the stored energy of a capacitor discharge unit which can supply the necessary impulse of high current at high potential into the appropriate coil fixture.

Multi-pole configurations normally require purpose built magnetising fixtures in order to achieve the desired pole layout and withstand the high forces which are generated.

De-magnetisation & Stabilization

It is sometimes necessary to bring a fully magnetised magnet or circuit back to a non-magnetised condition.

In general this is accomplished by the application of an alternating field with reducing amplitude.

A simple means of achieving this for low coercivity materials is by physically moving the magnet through an AC solenoid.

For higher coercivity materials, capacitor discharge units can be configured to generate the appropriate waveform to achieve de-magnetisation.

Rare earth magnets, once fully saturated are extremely difficult to fully de-magnetise due to their very high intrinsic coercivity. This is a major factor which may need consideration when discussing assembly techniques.

In some cases it is necessary to partially de-magnetise complete magnetic systems in order to achieve a common operating level. This also gives a degree of stabilization of the internal magnetic state and will offer protection against external influencing fields.

This can be achieved using equipment as discussed above but with some clear means of measuring the circuit performance during the controlled de-magnetisation process.

FORM	DEFINITION
	Magnetised through depth
	Axially magnetised
	Magnetised through diameter*
	Axially magnetised in segments
	Radially magnetised field*
	Multipole magnetised in segments on one face
	Multipole magnetised in segments on outside diameter*
	Multipole magnetised in segments on inside diameter*
	Magnetised laterally on one face

All available as isotropic or anisotropic except* (certain materials only).