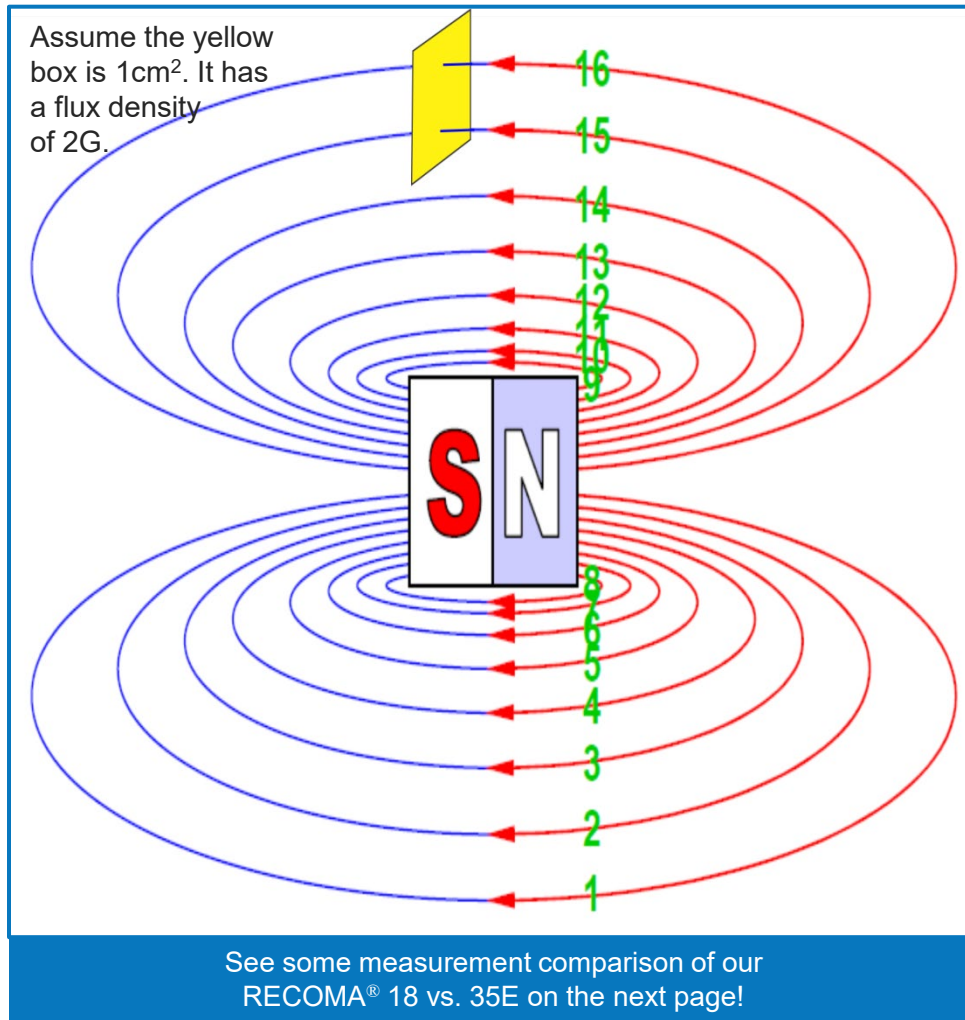


TECH TIP #3

How do we quantify a magnet's strength?



The Facts:

To help visualize the magnetic field, it's represented here with lines.

This magnet generates a field of 16 "flux lines". A flux line describes vector path & distribution of the magnetic field.

Magnets cannot have a single N or S pole; they come in pairs. Flux lines exit the N pole and must return to the S pole.

Units:

1 Flux Line
=
1 Maxwell

Notes:

Flux Lines do not cross

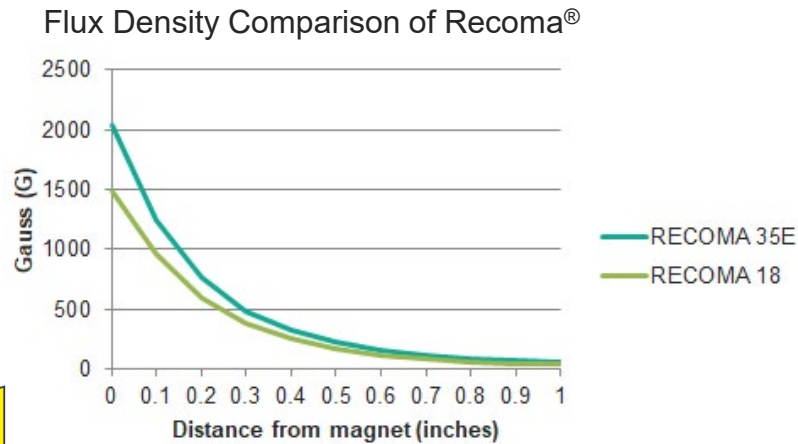
Calculate Flux Density:

1 Gauss (G) is defined as 1 Maxwell per cm^2

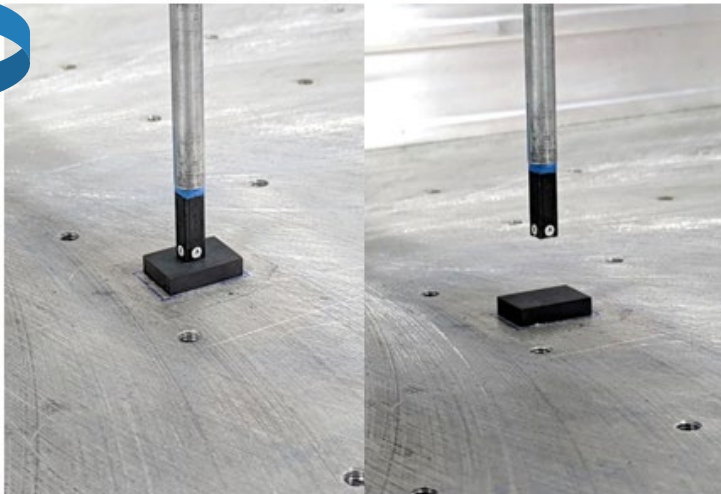
Flux Lines extend infinitely (even through other materials)

TECH TIP #3

How do we quantify a magnet's strength?



Imagine that yellow box has over 2,000 flux lines passing through!



The Facts:

Using a Hall Probe and Gauss meter we can measure the Flux Density (G/cm^2) of a magnet at a given distance.

This method is often used to scan magnets/assemblies for customers with a specific magnetic field requirement.

Units:

10,000 G
=
1 Tesla

Notes:

When using this measurement method, position is critical.

Terms:

Scanning
Mapping

This is a non-destructive test used often to compare magnets/assemblies.

TECH TIP #3

How do we quantify a magnet's strength?

Thank you to Doug DelleFave, Senior Engineering Technician for help on this week's TechTip!

