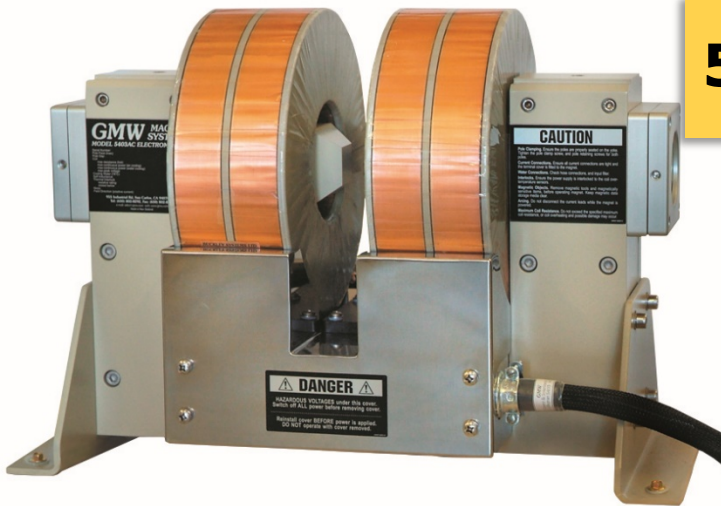


# 5403AC Electromagnet



## OVERVIEW

The **5403AC Electromagnet** is similar in design to the standard 5403 except that the poles and yoke are laminated for AC field applications. This magnet can be used for teaching, research and industrial applications where fast field ramping and settling is required. The light weight allows it to be used on optical tables and the poles include provision for axial optical holes.

## Features

- AC Operation, Frequency up to 100Hz
- Wide Variety of Pole Caps
- Any Mounting Orientation
- Fast Ramp Rate (40T/s to  $\pm 2T$  @ 8Hz)

## Applications

- Biological Studies
- Mains Power (50/60Hz) Magnetic Effects
- Laboratory Experiments
- Magnetic Separation Experiments
- Magnetic Alignment of Small Components
- Chemical Reaction Rate Studies

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## Model 5403AC General Specifications

### Mechanical

Dimensions	556mm W x 281mm D x 390mm H
Weight	135kg
Pole Diameter	76mm
Standard Pole Face Diameter	10, 30, 60mm
Pole Gap	0 to 60mm
Coil Spacing	60mm

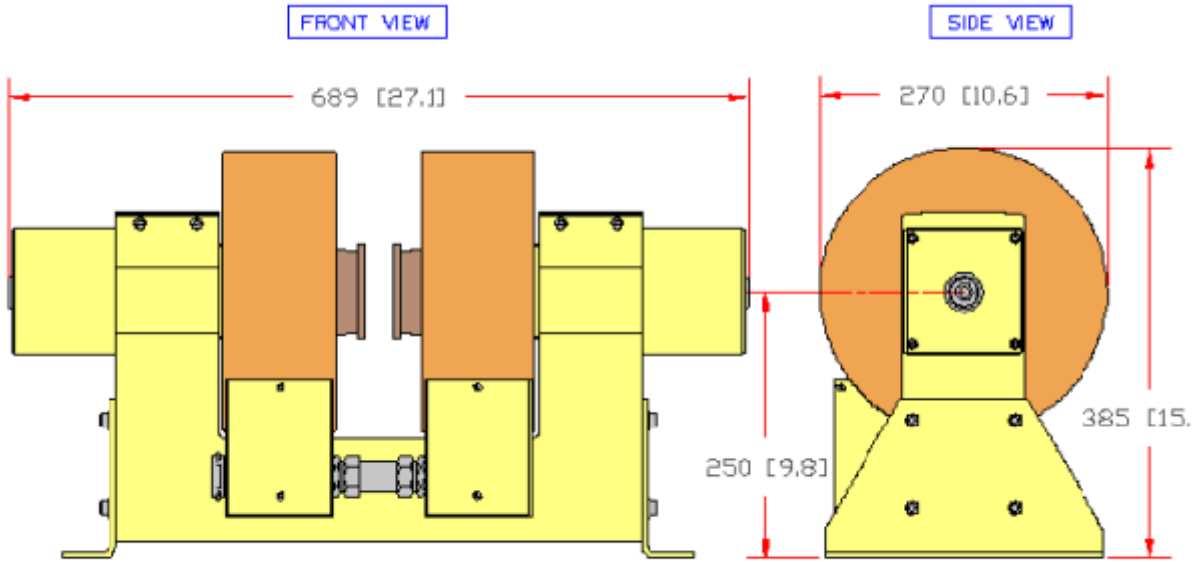
### Coils (series connected)

Resistance (20°C)	0.45Ω
Max Resistance	0.55Ω
Max Continuous Power (air cooled)	20A, 10V, 0.20kW
Max Peak Power (air cooled)	40A, 20V, 0.8kW 4min max on, 12min off
Water Cooling (At nominal 18°C. Allowed range 15°C to 25°C non-condensing.)	2liters/min, 1bar (0.5US GPM, 16psid)
Max Continuous Power (water cooled)	50A, 25V, 1.25kW
Max Peak Power (water cooled)	70A, 33V, 2.5kW 10min max on, 20 min off
Self Inductance measured from $L \sim \Delta V / (\Delta I / \Delta t)$	Approx 220mH

### Safety

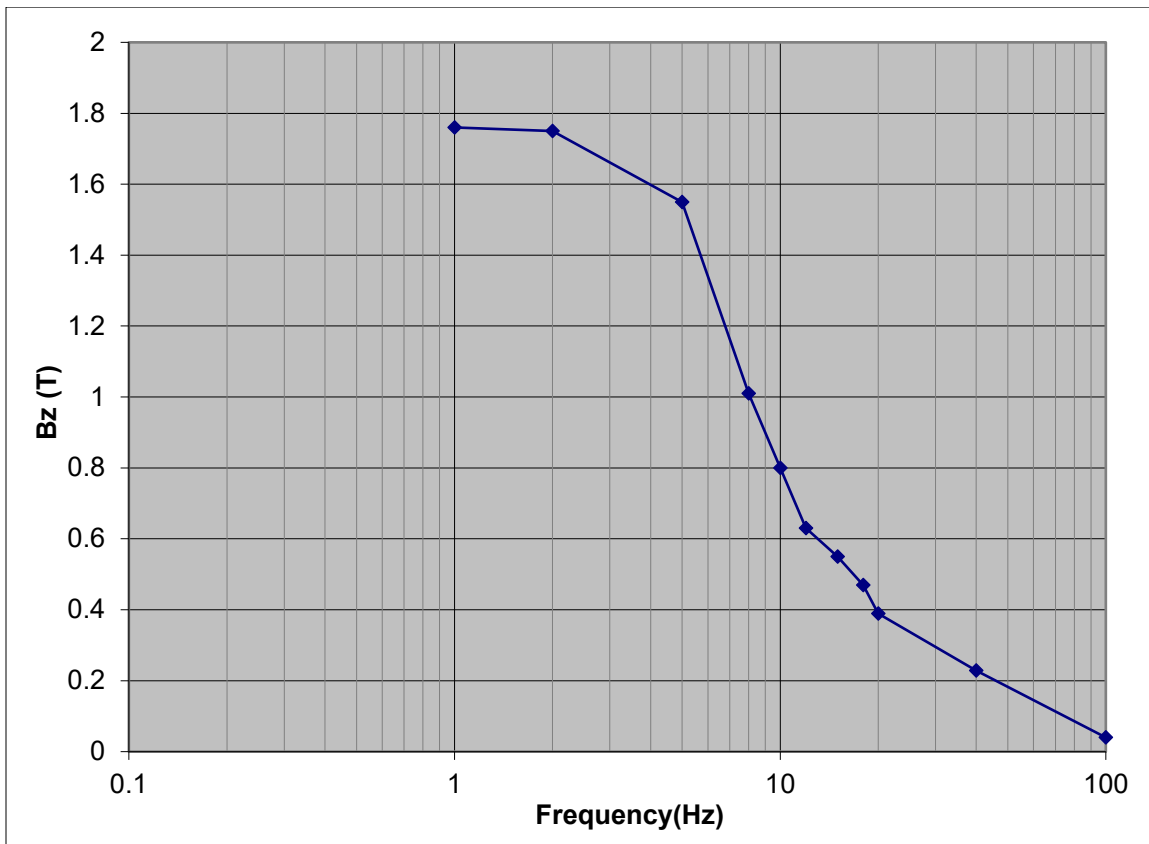
Overtemperature Interlock	Closed below 65°C.
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## General Assembly



## Performance

10mm pole face diameter



32mmx32mm square pole face diameter, 30mm air gap

