Helmholtz Coils



Field standards

- Field accuracy of 0.75%
- Field uniformity of 0.5%*
- Standard field coil (field generation)
- Maximum field strengths from ≈26 G to ≈60 G
- Single axis configuration with 2.5 in, 6 in, and 12 in diameter coils

Magnet moment measurement

- Calibration accuracy of 0.5%
- Use with Model 480 fluxmeter only
- Inspection and research of magnets (measure moment)
- Single and 2-axis configurations with 2.5 in, 6 in and 12 in diameter coils

*Model dependent, see technical specifications

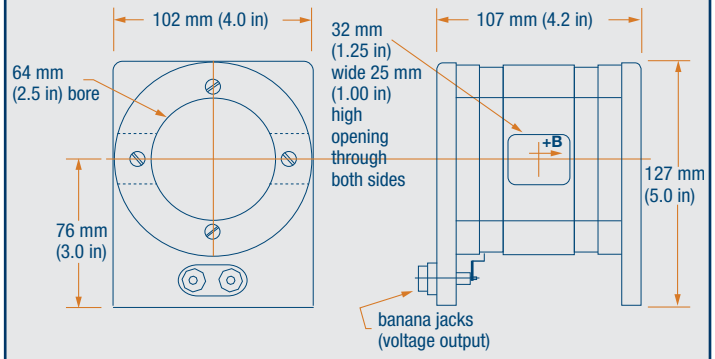
Magnet moment measurement

for use with the Model 480 fluxmeter only

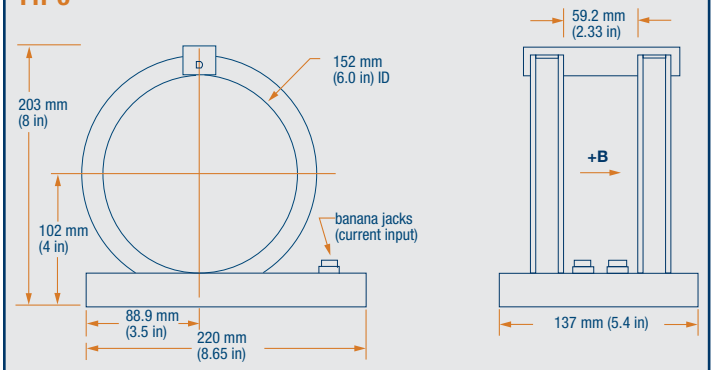
We offer 3 Helmholtz coils for fluxmeter moment measurements: 64 mm (2.5 in), 152 mm (6 in), and 305 mm (12 in) diameter.

	FH-2.5		FH-6		FH-12	
Calibration accuracy	0.75%					
Inside diameter	64 mm (2.5 in)		152 mm (6 in)		305 mm (12 in)	
Coil resistance (approx)	35 Ω		110 Ω		140 Ω	
Operating temperature range	0 °C to 60 °C					
Coil constant (approx)	0.013 Wb·cm/V·s		0.016 Wb·cm/V·s		0.047 Wb·cm/V·s	
Input resistance (fluxmeter)	10 kΩ	100 kΩ	10 kΩ	100 kΩ	10 kΩ	100 kΩ
Range (approx)	390 µWb·cm	3.9 mWb·cm	480 µWb·cm	4.8 mWb·cm	1.4 mWb·cm	14 mWb·cm
	39 µWb·cm	390 µWb·cm	48 µWb·cm	480 µWb·cm	140 µWb·cm	1.4 mWb·cm

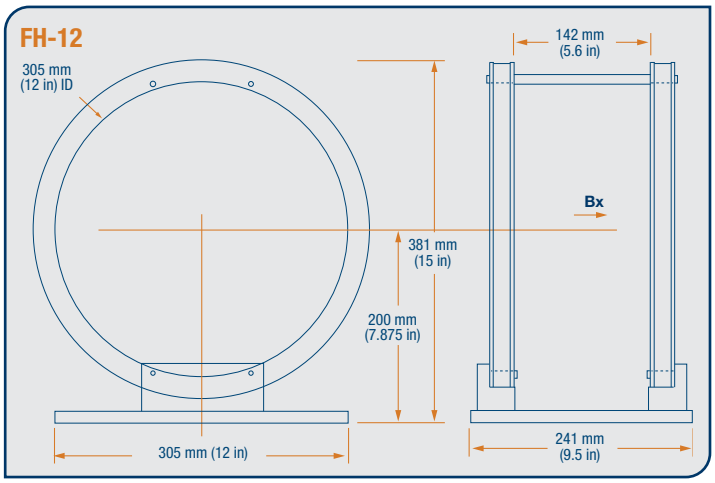
FH-2.5



FH-6



FH-12



Ordering information

Part number	Description
FH-2.5	64 mm (2.5 in) Helmholtz coil
FH-6	152 mm (6 in) Helmholtz coil
FH-12	305 mm (12 in) Helmholtz coil

All specifications are subject to change without notice

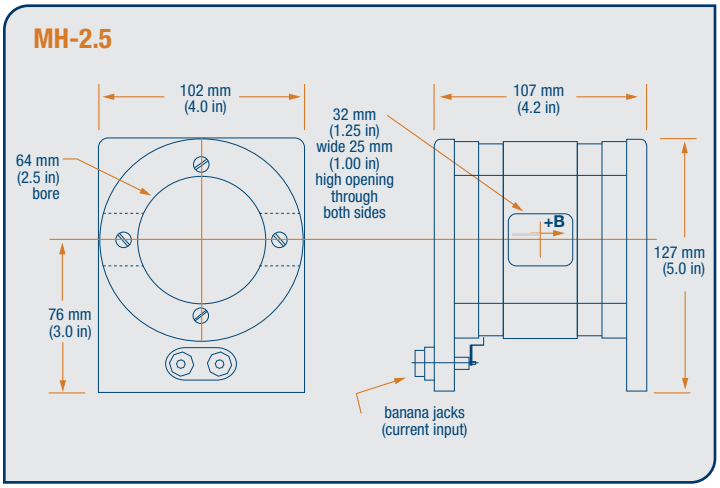
NOTE: The FH Series coils are for use with the Lake Shore Model 480 fluxmeter only. They cannot be used with the Model 475, 455, 460, 450, or 421 gaussmeters.

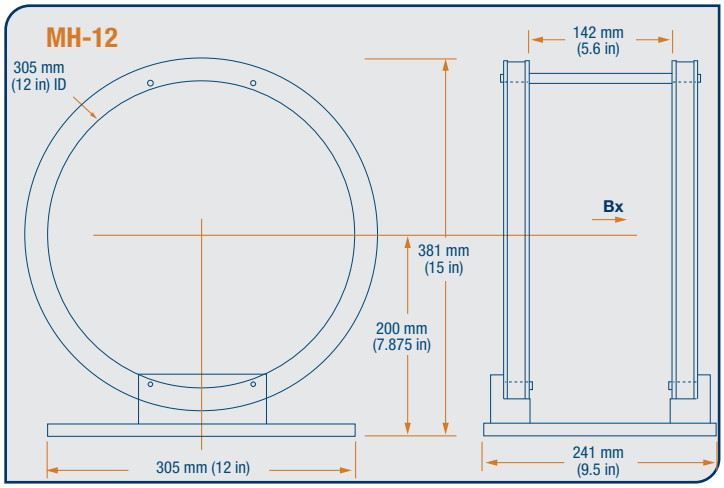
Field standards

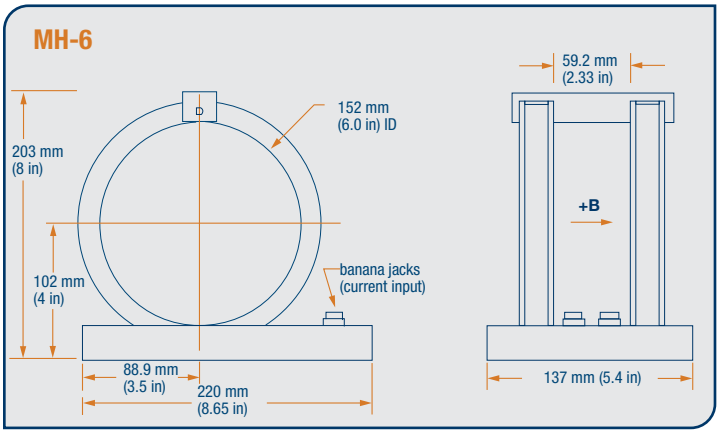
for use with current source or power supply only

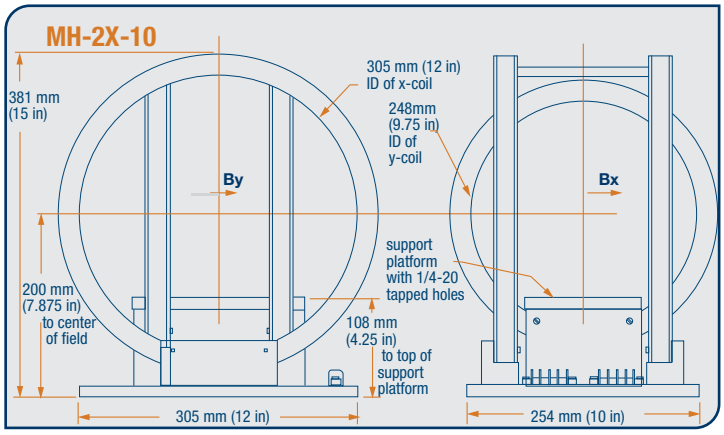
We offer 4 Helmholtz coils for field standards: 64 mm (2.5 in), 152 mm (6 in), and 305 mm (12 in) diameter single-axis, and the MX-2X-10 double-axis.

	MH-2.5	MH-6	MH-12	MH-2X-10
Field accuracy (center)	0.75%			
Inside diameter	64 mm (2.5 in)	152 mm (6 in)	305 mm (12 in)	305 mm (12 in) x-axis and 248 mm (9.75 in) y-axis
Field strength	≈30 G/A	≈25 G/A	≈13 G/A	≈30 G/A (note: coils are not exactly matched)
Max continuous current	2 A (DC or RMS)			
Field uniformity	0.5% within a cylindrical volume 19 mm (0.75 in) long, 19 mm (0.75 in) diameter, at center of coil	0.5% within a cylindrical volume 41 mm (1.6 in) long, 41 mm (1.6 in) diameter, at center of coil	0.5% within a cylindrical volume 76 mm (3.0 in) long, 76 mm (3.0 in) diameter, at center of coil	≈0.5% within a 64 mm (2.5 in) cube, at center of coil
DC coil resistance/ inductance (approx)	3 Ω/6.3 mH	10 Ω/36 mH	20 Ω/93 mH	20 Ω (x-axis), 15 Ω (y-axis)/128 mH (x-axis), 74 mH (y-axis)
Operating temp range	-20 °C to 40 °C (-4 °F to 104 °F)			









Ordering Information

Part number	Description
MH-2.5	64 mm (2.5 in) inside diameter, maximum field approximately 60 G
MH-6	152 mm (6 in) inside diameter, maximum field approximately 50 G
MH-12	305 mm (12 in) inside diameter, maximum field approximately 26 G
MH-2X-10	305 mm (12 in) inside diameter (x-axis), 248 mm (9.75 in) inside diameter (y-axis), maximum field approximately 30 G

NOTE: The MH Series coils are for use as low field standards. They cannot be used with the Model 480 fluxmeter.

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