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New Product Bulletin

HFC Cores

Magnetic Metals introduces a new line of toroidal cores utilizing the superior performance of amorphous alloy. This new product line is called HFC; High Frequency Choke.

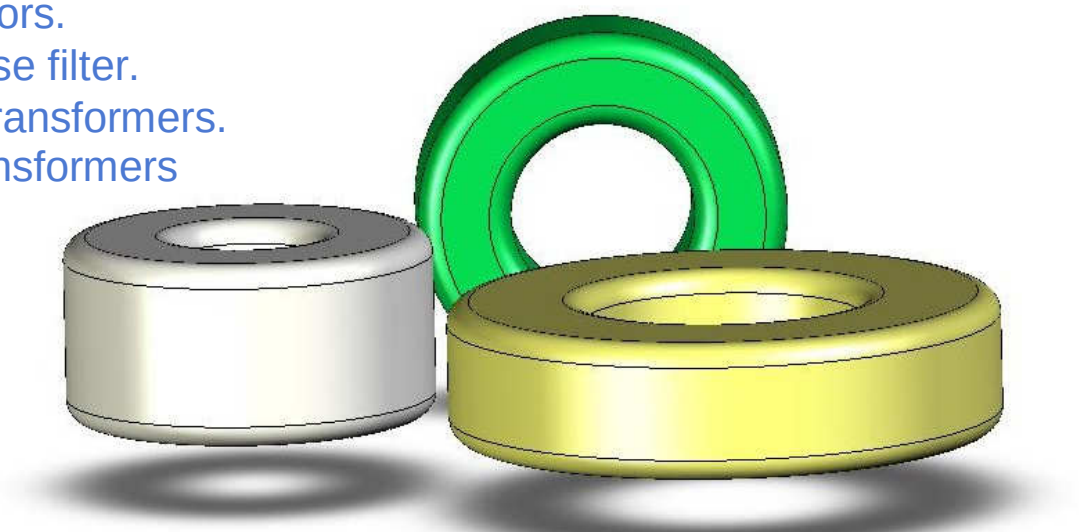
The advantages of an HFC core are its high saturation flux density, low core losses, high DC Bias characteristic, and excellent inductance stability at elevated temperatures.

Magnetic Metals offers ten standard sizes of cores in the HFC series, with three different permeability values. This provides engineers with a wide selection for their designs.

HFC cores are in stock and ready to ship.

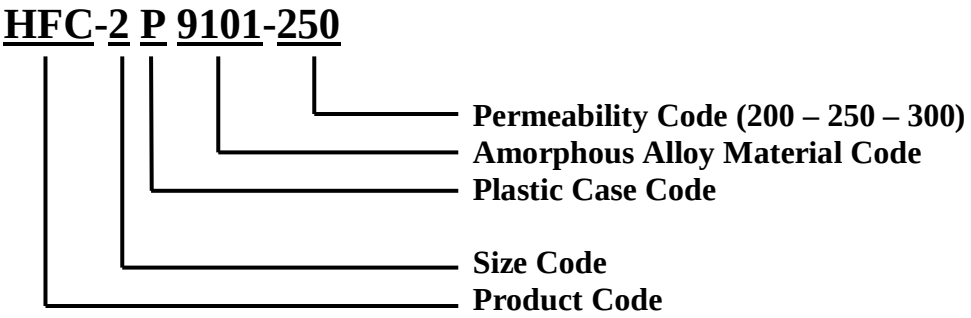
Applications:

- Output Inductors.
- Storage Inductors.
- DC Inductors.
- In-line noise filter.
- Fly back transformers.
- Pulse Transformers



Core Identification

HFC cores have unique part number designations that provide important information about the cores. A description of the core's part number is provided below.



Features and benefits of HFC cores:

- HFC have low core loss especially at high frequencies, this special feature is ideal for many applications looking to reduce heat dissipation.
- HFC cores have Saturation Flux Density of 15.6 KGauss as compared to 8 KGauss for MPP cores or 4KGauss for Ferrite cores. This feature will reduce the core size significantly in many applications and provides a higher energy storage capability than any other materials.
- HFC cores have very low residual flux density or very large Delta B, this feature is excellent for Power Factor correlation circuits or unidirectional drive applications such as flyback transformers and pulse transformers.
- HFC cores offer outstanding DC bias and temperature stability characteristics in comparison to any powder cores.

Magnetic Characteristics:

- Composition: amorphous alloy 2605SA1, 1 mil thick
- Saturation flux density Bs = 15.6 KGauss
- Operating Frequency limit: 500 KHz
- Operating temperature 170C
- AL tolerance +/- 10%

Comparison of HFC cores with other products:

Magnetic characteristic	HFC series Cores	MPP Cores	High Flux Cores
Saturation Flux Density (Bsat)	15.6 KGauss	8 KGauss	15 KGauss
Perm vs. DC bias	Best	Good	Better
Temperature stability	Best	Best	Good
Withstands high shock and vibration	Best	Good	Good
Permeability range	200-300	14-550	14-160

Core Data

	Finished Dimensions			Core Data			Wa	WaAc
Core P/N	OD	ID	HT	Lm	Ac	Weight	IN^2 / CM^2	IN^4 / CM^4
2P9101	0.825 (in)	0.435 (in)	0.2 (in)	1.96 (in)	.0116 (IN^2)	.0081 (LB)	0.149	.0017
	20.96 (mm)	11 (mm)	5.08 (mm)	4.99 (cm)	0.075 (cm^2)	3.66 (gram)	0.961	.0724
64P9101	0.84 (in)	0.42 (in)	0.33 (in)	1.96 (in)	.0234 (IN^2)	.016 (LB)	0.139	.0032
	21.36 (mm)	10.67 (mm)	8.38 (mm)	4.99 (cm)	0.151(cm^2)	7.31 (gram)	0.897	.135
67P9101	0.945 (in)	0.57 (in)	0.33 (in)	2.35 (in)	.0235 (IN^2)	.019 (LB)	0.255	.006
	24 (mm)	14.47 (mm)	8.38 (mm)	5.98 (cm)	0.152 (cm^2)	8.77(gram)	1.645	.25
3P9101	1.085 (in)	0.55 (in)	0.33 (in)	2.55 (in)	.035 (IN^2)	.024 (LB)	0.238	.0083
	27.56 (mm)	13.97 (mm)	8.38 (mm)	6.48 (cm)	0.227 (cm^2)	10.70(gram)	1.536	.349
32P9101	1.085 (in)	0.57 (in)	0.465 (in)	2.55 (in)	.053 (IN^2)	.047 (LB)	0.255	.0135
	27.56 (mm)	14.48 (mm)	11.81 (mm)	6.48 (cm)	0.34 (cm^2)	21.4(gram)	1.645	.559
27P9101	1.093 (in)	.670 (in)	.465 (in)	2.749 (in)	.035 (IN^2)	.026 (LB)	.353	.01628
	27.76 (mm)	17.02 (mm)	11.81 (mm)	6.98 (mm)	.227 (cm^2)	11.8 (gram)	2.278	.677
41P9101	1.220 (in)	.670 (in)	.465 (in)	2.945 (in)	0.053 (IN^2)	.041 (LB)	0.358	.019
	30.99 (mm)	17.02 (mm)	11.81 (mm)	7.48 (cm)	0.34 (cm^2)	18.6 (gram)	2.31	.785
28P9101	1.343 (in)	0.795 (in)	0.465 (in)	3.33 (in)	.053 (IN^2)	.062 (LB)	0.496	.0265
	34.11 (mm)	20.19 (mm)	11.81 (mm)	8.48 (cm)	0.34 (cm^2)	27.98(gram)	3.2	1.088
362P9101	1.345 (in)	0.665 (in)	0.63 (in)	3.14 (in)	.094 (IN^2)	.103 (LB)	0.347	.0326
	34.16 (mm)	16.89 (mm)	16 (mm)	7.98 (cm)	0.605 (cm^2)	46.81(gram)	2.239	1.355
62P9101	1.593 (in)	0.92 (in)	0.63 (in)	3.92 (in)	.094 (IN^2)	.129 (LB)	0.665	.063
	40.46 (mm)	23.37 (mm)	16 (mm)	9.97 (cm)	0.605 (cm^2)	58.52(gram)	4.291	2.6

Lm = Mean magnetic path length
Ac = Net cross-sectional area
Wa = Core window area
WaAc = Product handling capability

Magnetic Data

Core P/N **	Perm **	AL*(nH/N^2)	Perm **	AL*(nH/N^2)	Perm **	AL*(nH/N^2)
2P9101	200	38	250	48	300	57
64P9101	200	76	250	95	300	114
67P9101	200	64	250	80	300	96
3P9101	200	88	250	110	300	132
32P9101	200	132	250	165	300	198
27P9101	200	82	250	102	300	123
41P9101	200	114	250	143	300	171
28P9101	200	101	250	126	300	152
362P9101	200	191	250	239	300	286
62P9101	200	153	250	191	300	229
Color code	White		Yellow		Green	

* AL = Inductance measured with one turn, at 10 kHz, and tolerance of +/-10%
** Please contact factory for other sizes and permeability not listed.

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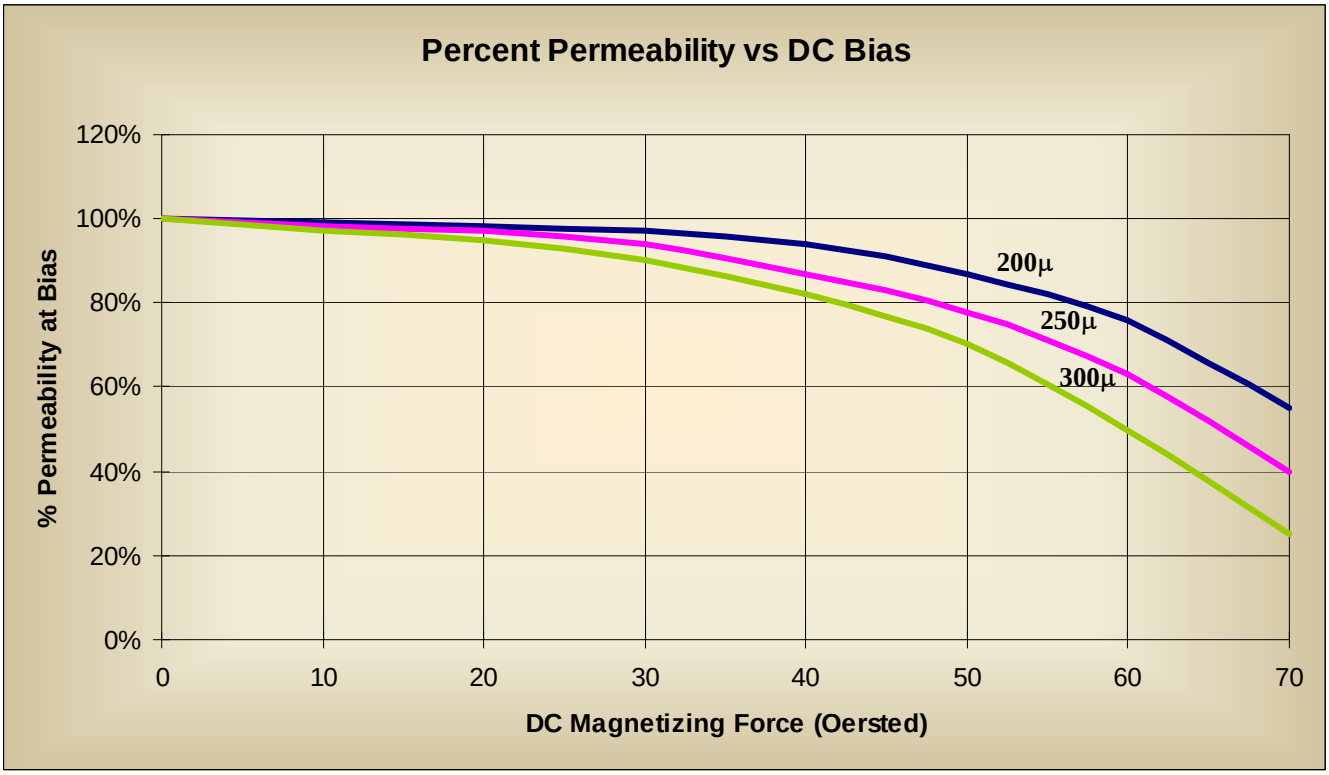

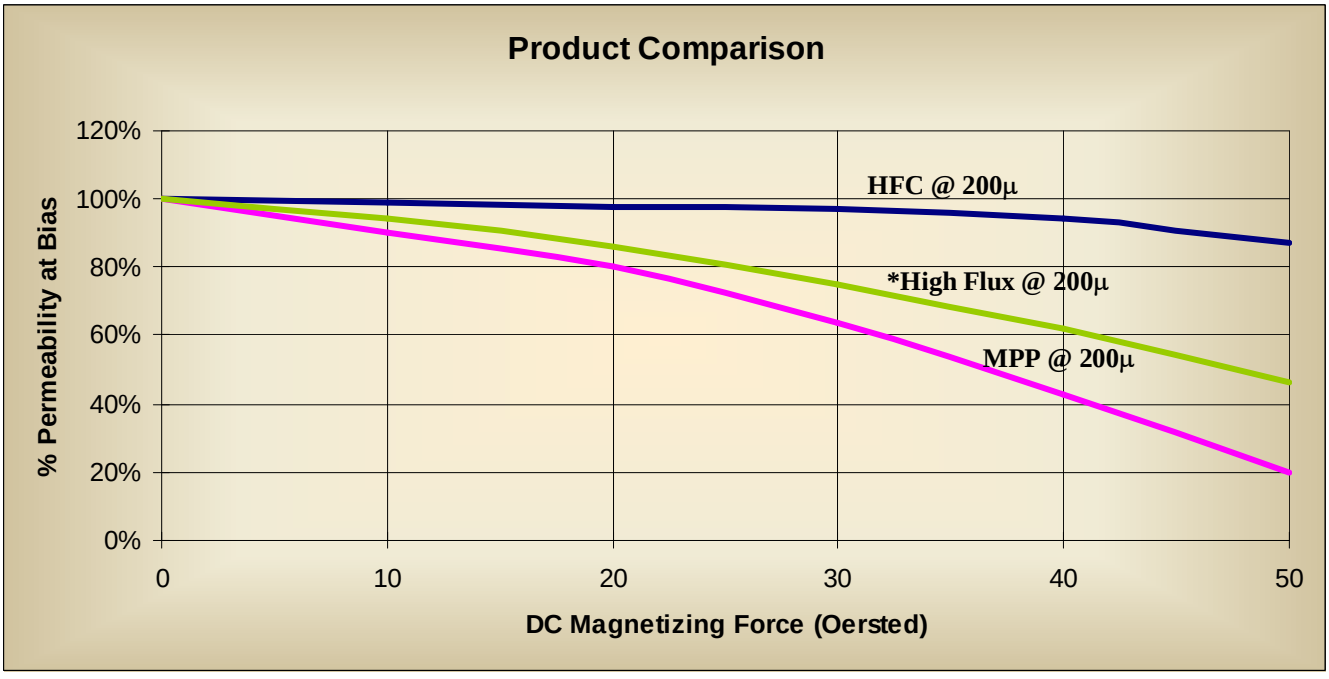

***Approximately 200μ.**