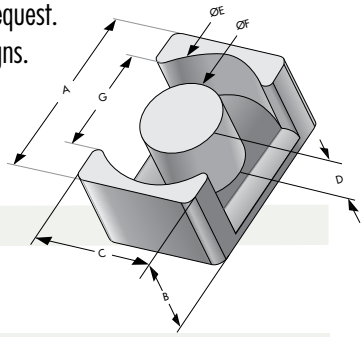
EQ & LP Shape Cores

Magnetics introduces EQ and LP shape powder cores for telecom rectifiers and Hybrid, Plug-In Hybrid, and Electric Vehicle on-board chargers.

EQ and LP cores are a cross between E cores and pot cores. Similar to pot cores, round center posts offer minimal winding resistance, ideal for heavy gauge wire. Their planar shape and compact size make EQ and LP cores advantageous for use in automated processes by reducing the high cost of traditional toroid winding. In comparison to E cores and other non-planar geometries, EQ and LP powder cores offer better space utilization, shielding, and improved thermal performance. LP cores differ from EQ cores in their leg geometry, with LP cores having larger wireways for easier winding and assembly.

Custom heights are available upon request.
Contact Magnetics with custom designs.

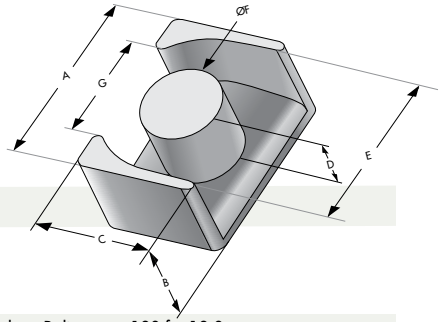


EQ

EQ CORE IDENTIFICATION

EQ X 26 19 E060 L101

- EQ Shape
- Material Code, e.g. K=Kool Mμ, X=XFlux, H=High Flux
- Length – A dim.
- Width – C dim.
- Permeability Code, e.g. 060 for 60μ
- Height – B dim., e.g. 101 for 10.1



LP

LP CORE IDENTIFICATION

LP X 42 25 E060 L123

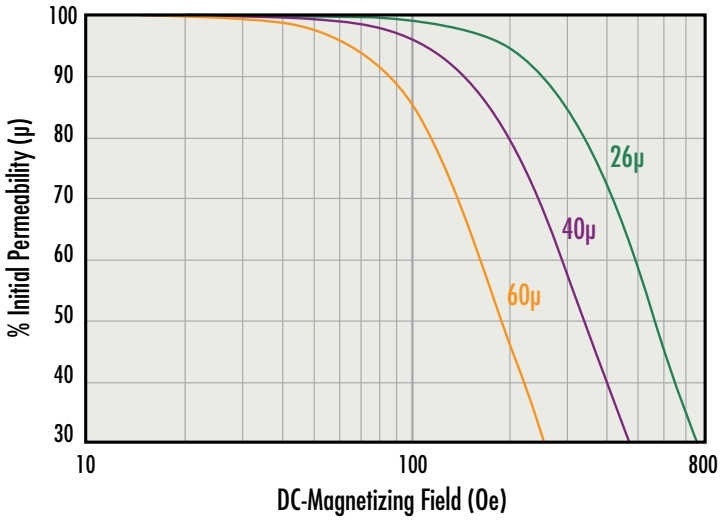
- LP Shape
- Material Code, e.g. K=Kool Mμ, X=XFlux, H=High Flux
- Length – A dim.
- Width – C dim.
- Permeability Code, e.g. 060 for 60μ
- Height – B dim., e.g. 123 for 12.3

EQ Part No.	Dimensions (mm)							Path Length (mm)	Cross Section (mm^2)	A_L Value nH/T^2		
	A	B	C	D	E	F	G	L_e	A_e	26μ	40μ	60μ
EQH2619EXXXL070*	26.5	7.0	19.0	3.7	22.6	12.0	15.0	42.3	119.8	93	142	213
EQH2619EXXXL088*		8.8		5.5				49.5		79	122	183
EQH2619EXXXL101*		10.1		6.8				54.7		72	110	165
EQH2619EXXXL124*		12.4		9.1				63.9		61	94	141
EQH3222EXXXL152*	32.0	15.2	22.0	11.5	27.6	13.5	20.4	79.9	152.3	62	96	144
EQH3222EXXXL101*		10.1		6.4				59.5		84	129	194
EQH3626EXXXL174*	36.0	17.4	26.0	13.4	32.0	14.4	22.3	94.7	180.8	62	96	144
EQH4128EXXXL199*	41.5	19.9	28.0	15.4	36.5	14.9	26.6	94.7	180.8	57	87	131
EQH5032EXXXL250*	50.0	25.0	32.0	19.5	44.0	20.0	33.4	133.4	314.1	77	118	178

LP Part No.	Dimensions (mm)							Path Length (mm)	Cross Section (mm^2)	A_L Value nH/T^2
	A	B	C	D	E	F	G	L_e	A_e	60μ
LPX2314EXXXL087	23.4	8.7	14.0	6.2	19.4	9.2	19.4	49.1	67.0	103
LPX2518EXXXL099	25.0	9.9	18.0	6.9	21.0	11.0	14.2	55.7	96.0	130
LPH4225EXXXL123*	42.0	12.3	25.0	7.9	35.2	16.2	27.3	76.1	206.0	204
LPH4225EXXXL158*		15.8		11.4				90.1		172

*Also available in Kool Mμ® (EQK) and XFlux® (EQX)

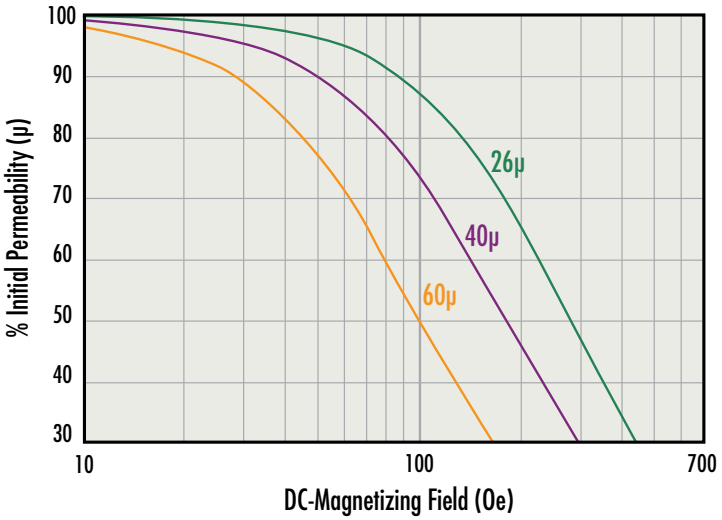
XFlux Permeability vs. DC Bias



$$\% \text{ Initial Permeability} = \frac{1}{(a+bH^c)}$$

Perm.	a	b	c
26	0.01	2.317E-10	2.778
40	0.01	2.434E-09	2.613
60	0.01	5.108E-09	2.761

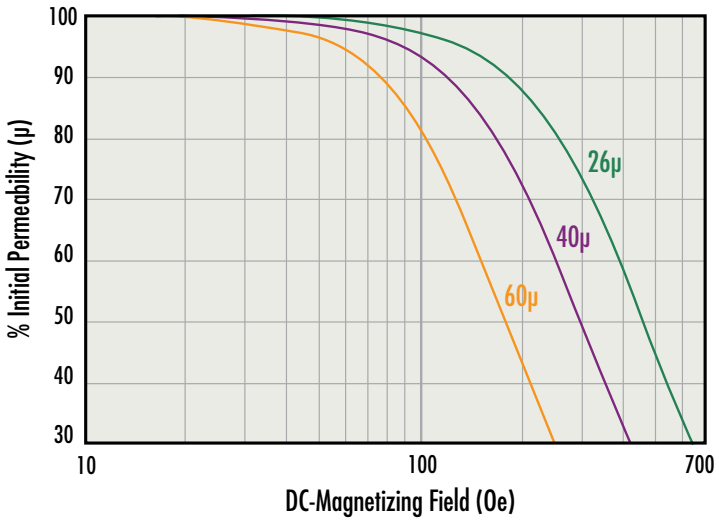
Kool Mμ Permeability vs. DC Bias



$$\% \text{ Initial Permeability} = \frac{1}{(a+bH^c)}$$

Perm.	a	b	c
26	0.01	2.237E-07	1.900
40	0.01	1.395E-06	1.710
60	0.01	3.371E-06	1.736

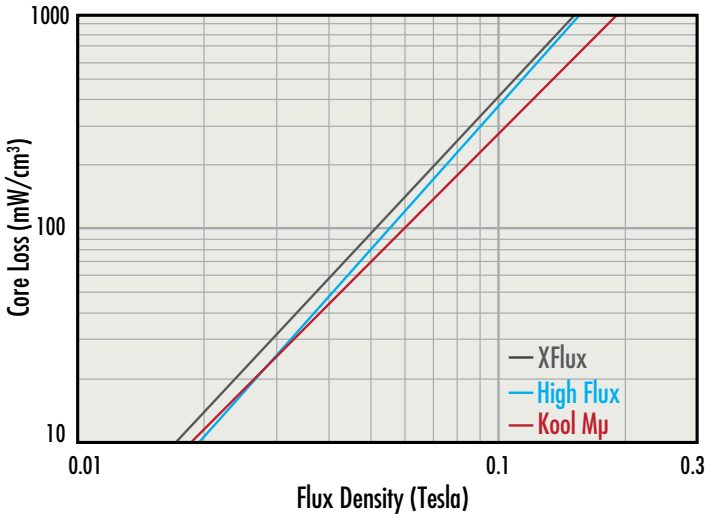
High Flux Permeability vs. DC Bias



$$\% \text{ Initial Permeability} = \frac{1}{(a+bH^c)}$$

Perm.	a	b	c
26	0.01	3.389E-09	2.430
40	0.01	8.995E-09	2.441
60	0.01	1.583E-08	2.572

Core Loss Density - 60μ, 50 kHz



$P = a(B^b)(f^c)$
(B in Tesla, f in kHz)

	a	b	c
High Flux	121.00	2.09	1.49
Kool Mμ	300.14	1.95	1.12
XFlux	356.67	2.12	1.28

MAGNETICS®

www.mag-inc.com

HEADQUARTERS
110 Delta Drive
Pittsburgh, PA 15238
(p) **1.412.696.1333**
1.800.245.3984
magnetics@spang.com

MAGNETICS INTERNATIONAL
13/F 1-3 Chatham Road South
Tsim Sha Tsui, Kowloon, Hong Kong
(p) **+852.2731.9700**
+86.139.1147.1417
asiasales@spang.com