



# Ferrite Cores

Short Form Catalog





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# Applications & Materials



Ferrites are dense, homogenous ceramic structures made by mixing iron oxide with oxides or carbonates of one or more metals such as zinc, manganese, nickel or magnesium. They are pressed, then fired in a kiln at 1093° C, and machined as needed to meet various operational requirements. Ferrite parts can be easily and economically molded into many different geometries. Many diverse materials are available, providing many choices of desirable electrical and mechanical properties.

Magnetics' ferrite cores are manufactured for a wide variety of applications. Magnetics has the leading MnZn ferrite materials for power transformers, power inductors, wideband transformers, common mode chokes and many other applications.

## ADVANTAGES OF MAGNETICS' FERRITES

- The widest range of toroid sizes in power and high permeability materials
- Superior toroid coatings available in several options
- Standard gapping to precise inductance or mechanical dimension: wide range of coil former and assembly hardware available
- The full range of standard planar E and I cores
- Rapid prototyping capability for new development

## FERRITE APPLICATION AREAS

APPLICATIONS	DESIRED PROPERTIES	PREFERRED MATERIALS	AVAILABLE SHAPES
Broadband Transformers	Low loss, high $\mu$ . Good frequency response.	J, W	Pot cores, toroids, E, U & I cores, RM, EP cores
Common Mode Chokes	Very high $\mu$ (permeability).	J, W	Toroids
Converter and Inverter Transformers	Low losses, high saturation.	F, L, P, R	Toroids, E, U, & I cores, pot cores, RS cores, Planar cores
Differential Inductors	Low losses, high temperature stability, good stability across load conditions.	F, P, R	Pot cores, EP cores, E-cores, RM cores, Planar cores, PQ cores
Narrow Band Transformers	Moderate Q, high $\mu$ , high stability.	F, J	Pot cores, toroids, RM, EP
Noise Filters	High $\mu$ , good frequency response.	J, W	Toroids
Power Inductors	Low losses at high flux densities and temperatures. High saturation. Good stability across load conditions.	F, L, P, R	Pot cores, E cores, PQ cores, RM cores, Planar cores
Power Transformers	High $\mu$ and low losses at high flux densities and temperatures. High saturation. Low existing currents.	F, L, P, R	Ungapped pot cores, E, U & I cores toroids, EP cores, RS cores, DS cores, PQ cores, Planar cores
Pulse Transformers	High $\mu$ , low loss, high V set product.	J, W	Toroids
Telecom Inductors	Low losses, high temperature stability, good stability across load conditions.	F, P, R	Pot cores, EP cores, E cores, RM cores, Planar cores



			INDUCTORS & POWER TRANSFORMERS				EMI/RFI FILTERS & BROADBAND TRANSFORMERS	
MATERIAL			L	R	P	F	J	W
Initial Permeability	$\mu_i$	—	900 ± 20%	2,300 ± 25%	2,500 ± 25%	3,000 ± 20%	5,000 ± 20%	10,000 ± 30%
Maximum Usable Frequency (50% roll-off)	f	MHz	<6	<1.5	<1.2	<1.3	<1	<0.25
Relative Loss Factor	$\frac{\tan \delta}{\mu_{iac}}$	10 <sup>-6</sup>				<8 (100kHz)	<20 (100kHz)	<7 (10kHz)
Curie Temperature	T <sub>c</sub>	°C	>300	>230	>230	>210	>140	>125
Flux Density @ 1,194 A/m (15 Oe)	B <sub>m</sub>	G mT		5,000 500	5,000 500	4,900 490	4,300 430	4,300 430
Remanence	B <sub>r</sub>	G mT		1,100 110	1,100 110	1,200 120	1,000 100	800 80
Power Loss (PL) Sine Wave, in mW/cm <sup>3</sup> (typical)	25kHz 200mT (2,000G)	@25°C @60°C @100°C @120°C		130 85 70 85	120 90 95 130	90 160 240		
	100kHz 100mT (1,000G)	@25°C @60°C @100°C @120°C		140 100 70 90	125 90 125 165	100 180 225		
	500kHz 50mT (500G)	@25°C @60°C @100°C @120°C	100	375 300 250 300	300 250 275 350			
<b>Available In:</b>								
<b>Toroids</b>			X	X	X	X	X	X
<b>E, I Cores</b>			X	X	X	X	X	X
<b>EFD Cores</b>			X	X	X	X	X	
<b>ETD Cores</b>			X	X	X	X		
<b>EER Cores</b>			X	X	X	X		
<b>EC Cores</b>				X	X	X		
<b>U, I, UR Cores</b>			X	X	X	X	X	X
<b>Planar E, I Cores</b>			X	X	X	X		
<b>ER Cores</b>			X	X	X	X		
<b>PQ Cores</b>			X	X	X	X		
<b>Pot Cores</b>			X	X	X	X	X	X
<b>RS/DS Cores</b>			X	X	X	X	X	X
<b>RM Cores</b>			X	X	X	X	X	X
<b>EP Cores</b>			X	X	X	X	X	X



# Toroids

2.54mm – 9.53mm



## TOROIDS

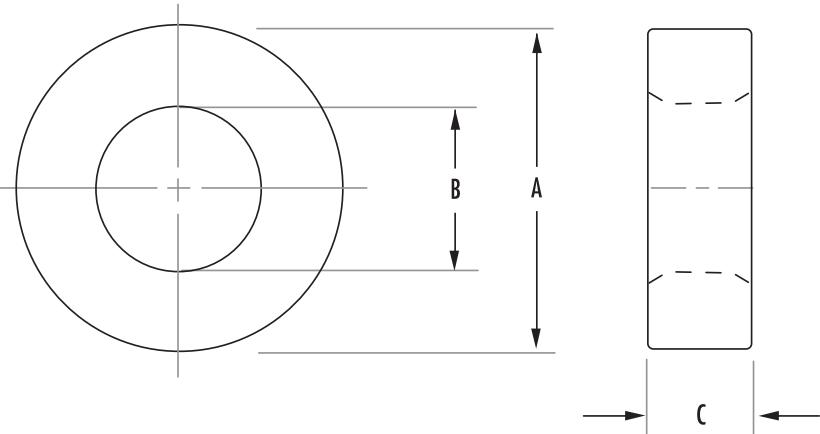
Ferrite toroids offer high magnetic efficiency as there is no air gap, and the cross sectional area is uniform. Available in many sizes (O.D.s from 2.54 mm to 140 mm) and materials (permeabilities ranging from 900 to 10,000), this section lists common sizes. For additional sizes contact Magnetics Sales.

Toroid mounts and headers are available in a range of sizes.

Typical applications for high permeability toroids (J and W materials) include common mode chokes, broadband transformers, pulse transformers and current transformers. L, R, P and F material toroids are excellent choices for high frequency transformers. Special sizes in J material are available for Ground Fault Interrupter applications.

SIZE	ORDERING CODE	AVAILABLE COATINGS			NOMINAL A <sub>L</sub> (MH/1000T)					
		V	Y	Z	L	R	P	F	J	W
2.54 x 1.27 x 1.27	<b>0_40200TC</b>		X			400	454	525	875	1,750
3.51 x 1.83 x 1.27	<b>0_40301TC</b>		X			380	410	495	825	1,650
3.94 x 2.24 x 1.27	<b>0_40502TC</b>		X			340	368	440	735	1,470
3.94 x 2.24 x 2.54	<b>0_40503TC</b>		X			670	716	885	1,475	2,950
4.83 x 2.29 x 1.27	<b>0_40401TC</b>		X			440	474	570	950	1,900
4.83 x 2.29 x 2.54	<b>0_40402TC</b>		X			870	948	1,140	1,900	3,800
5.84 x 3.05 x 1.52	<b>0_40601TC</b>		X		178	450	488	585	980	1,960
5.84 x 3.05 x 3.18	<b>0_40603TC</b>		X		372	940	1,020	1,225	2,040	4,080
7.62 x 3.18 x 4.78	<b>0_40705TC</b>		X		751	1,920	2,088	2,505	4,175	8,350
9.53 x 5.59 x 7.11	<b>0_40907TC</b>		X	X	683	1,730	1,884	2,260	3,765	7,530
9.53 x 4.75 x 3.18	<b>0_41003TC</b>		X	X	399	1,000	1,095	1,314	2,196	4,392
9.53 x 4.75 x 4.78	<b>0_41005TC</b>		X	X	599	1,510	1,650	1,980	3,308	6,616

SIZE	ORDERING CODE	MAGNETIC DATA					
		I <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	Window Area (cm <sup>2</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams each)
2.54 x 1.27 x 1.27	<b>0_40200TC</b>	5.5	0.77	4.3	0.01	0.000077	0.03
3.51 x 1.83 x 1.27	<b>0_40301TC</b>	7.65	1.03	7.87	0.02	0.0002	0.04
3.94 x 2.24 x 1.27	<b>0_40502TC</b>	9.2	1.05	9.7	0.03	0.0003	0.05
3.94 x 2.24 x 2.54	<b>0_40503TC</b>	9.2	2	19	0.03	0.0006	0.1
4.83 x 2.29 x 1.27	<b>0_40401TC</b>	10.2	1.5	15.7	0.04	0.0006	0.09
4.83 x 2.29 x 2.54	<b>0_40402TC</b>	10.2	3.1	31.5	0.04	0.001	0.17
5.84 x 3.05 x 1.52	<b>0_40601TC</b>	13	2	26.7	0.07	0.001	0.14
5.84 x 3.05 x 3.18	<b>0_40603TC</b>	13	4.3	56	0.07	0.003	0.3
7.62 x 3.18 x 4.78	<b>0_40705TC</b>	15	9.9	149	0.07	0.007	0.9
9.53 x 5.59 x 7.11	<b>0_40907TC</b>	22.7	13.7	310	0.24	0.03	1.6
9.53 x 4.75 x 3.18	<b>0_41003TC</b>	20.7	7.3	151	0.17	0.12	0.82
9.53 x 4.75 x 4.78	<b>0_41005TC</b>	20.7	10.9	227	0.17	0.01	1.2



### HOW TO ORDER

**O J 4 14 06 TC XX**

- Coating code ← O
- Ferrite core material ← J
- Used for all ferrite types ← 4
- Approximate diameter in mm ← 14
- Approximate height in mm ← 06
- Toroid core ← TC
- Special specification code ← XX

### COATING CODES

- O – Bare core
- V – Nylon coating
- Y – Parylene C®
- Z – Epoxy coating

### SPECIAL SPECIFICATION CODES

- CC – Color coded

ORDERING CODE	DIMENSIONS IN MM		
	A	B	C
<b>O_40200TC</b>	2.54	1.27	1.27
<b>O_40301TC</b>	3.46	1.78	1.27
<b>O_40502TC</b>	3.94	2.24	1.27
<b>O_40503TC</b>	3.94	2.24	2.54
<b>O_40401TC</b>	4.83	2.29	1.27
<b>O_40402TC</b>	4.83	2.29	2.54
<b>O_40601TC</b>	5.84	3.05	1.52
<b>O_40603TC</b>	5.84	3.05	3.18
<b>O_40705TC</b>	7.62	3.18	4.78
<b>O_40907TC</b>	9.53	5.59	7.11
<b>O_41003TC</b>	9.53	4.75	3.18
<b>O_41005TC</b>	9.53	4.75	4.78

# Toroids

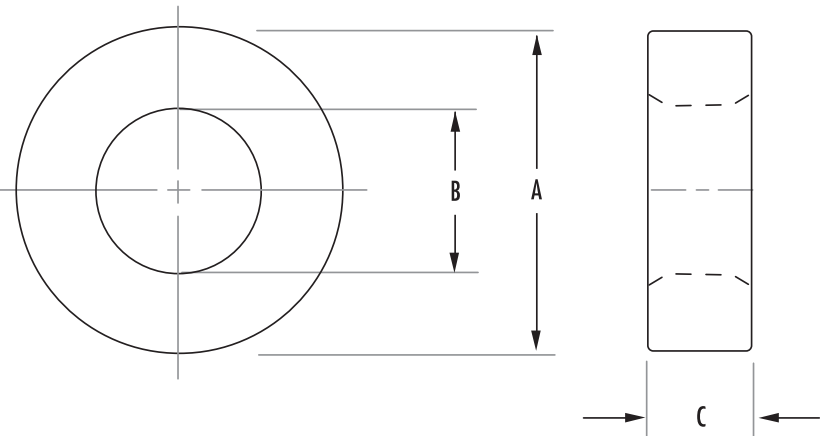
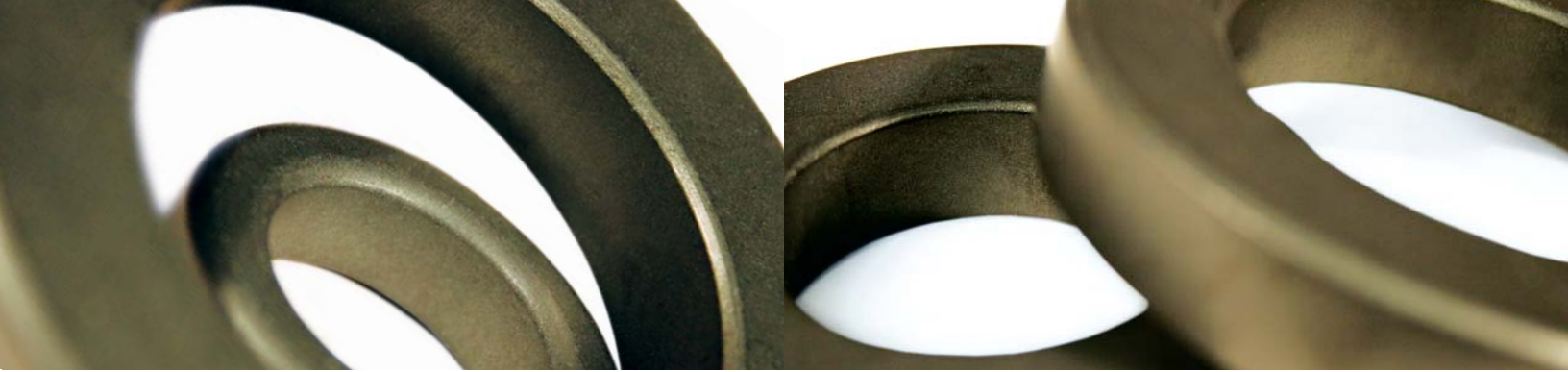
12.7mm – 15.9mm



SIZE	ORDERING CODE	AVAILABLE COATINGS			NOMINAL A <sub>L</sub> (MH/1000T)					
		V	Y	Z	L	R	P	F	J	W
12.7 x 5.16 x 6.35	<b>0_41206TC</b>	X	X	X	1,029	2,600	2,820	3,384	5,640	11,280
12.7 x 8.14 x 3.15	<b>0_41303TC</b>	X	X	X	255	680	745	894	1,488	2,976
12.7 x 8.14 x 3.89	<b>0_41304TC</b>	X	X	X	311	850	865	1,116	1,860	
12.7 x 8.14 x 5.08	<b>0_41305TC</b>	X	X	X	407	1,090	1,190	1,430	2,380	4,760
12.7 x 8.14 x 6.35	<b>0_41306TC</b>	X	X	X	508	1,360	1,485	1,782	2,968	5,936
12.7 x 7.14 x 5.08	<b>0_41405TC</b>	X	X	X	526	1,320	1,440	1,730	2,890	5,780
12.7 x 7.14 x 6.35	<b>0_41406TC</b>	X	X	X	658	1,660	1,805	2,166	3,612	7,224
12.7 x 7.14 x 4.78	<b>0_41407TC</b>	X		X	495	1,240	1,356	1,630	2,715	5,430
12.7 x 7.14 x 7.62	<b>0_41410TC</b>	X		X	790	1,990	2,162	2,595	4,335	8,675
13.6 x 7.01 x 3.51	<b>0_41435TC</b>	X		X						4,520
13.2 x 7.37 x 3.96	<b>0_41506TC</b>			X	415	1,020	1,111	1,334	2,295	4,590
14 x 8.99 x 5	<b>0_41450TC</b>	X		X	399	990	1,080	1,290	2,160	4,320
15.9 x 9.07 x 4.7	<b>0_41605TC</b>	X		X	475	1,260	1,375	1,650	2,760	5,520
15.9 x 9.07 x 9.4	<b>0_41610TC</b>	X		X	950	2,450	2,660	3,200		10,600

SIZE	ORDERING CODE	MAGNETIC DATA					
		l <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	Window Area (cm <sup>2</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams each)
12.7 x 5.16 x 6.35	<b>0_41206TC</b>	25	22	550	0.2	0.04	3.3
12.7 x 8.14 x 3.15	<b>0_41303TC</b>	31.7	7.1	226	0.49	0.03	1.2
12.7 x 8.14 x 3.89	<b>0_41304TC</b>	31.7	8.7	276		0.045	
12.7 x 8.14 x 5.08	<b>0_41305TC</b>	31.7	11.4	361	0.49	0.05	1.9
12.7 x 8.14 x 6.35	<b>0_41306TC</b>	31.7	14	451.0	0.49	0.07	2.4
12.7 x 7.14 x 5.08	<b>0_41405TC</b>	29.5	13.7	405		0.054	
12.7 x 7.14 x 6.35	<b>0_41406TC</b>	29.5	17.1	507	0.4	0.06	2.7
12.7 x 7.14 x 4.78	<b>0_41407TC</b>	29.5	12.9	381	0.4	0.05	1.9
12.7 x 7.14 x 7.62	<b>0_41410TC</b>	30.8	42.2	1302	0.4	0.07	
13.6 x 7.01 x 3.51	<b>0_41435TC</b>	30.1	11.2	336	0.38	0.04	
13.2 x 7.37 x 3.96	<b>0_41506TC</b>	30.6	11.2	343	0.42	0.04	1.9
14 x 8.99 x 5	<b>0_41450TC</b>	35	12.3	430	0.63	0.07	2.2
15.9 x 9.07 x 4.7	<b>0_41605TC</b>	37.2	15.6	580	0.62	0.09	2.8
15.9 x 9.07 x 9.4	<b>0_41610TC</b>	37.2	31.2	1,164	0.62	0.18	





### HOW TO ORDER

**O J 4 14 06 TC XX**

- Coating code ← O
- Ferrite core material ← J
- Used for all ferrite types ← 4
- Approximate diameter in mm ← 14
- Approximate height in mm ← 06
- Toroid core ← TC
- Special specification code ← XX

### COATING CODES

- O – Bare core
- V – Nylon coating
- Y – Parylene C®
- Z – Epoxy coating

### SPECIAL SPECIFICATION CODES

- CC – Color coded

ORDERING CODE	DIMENSIONS IN MM		
	A	B	C
<b>O_41206TC</b>	12.7	5.16	6.35
<b>O_41303TC</b>	12.7	8.14	3.15
<b>O_41304TC</b>	12.7	8.14	3.89
<b>O_41305TC</b>	12.7	8.14	5.08
<b>O_41306TC</b>	12.7	8.14	6.35
<b>O_41405TC</b>	12.7	7.14	5.08
<b>O_41406TC</b>	12.7	7.14	6.35
<b>O_41407TC</b>	12.7	7.14	4.78
<b>O_41410TC</b>	12.7	7.14	7.62
<b>O_41435TC</b>	13.6	7.01	3.51
<b>O_41506TC</b>	13.2	7.37	3.96
<b>O_41450TC</b>	14	8.99	5
<b>O_41605TC</b>	15.9	9.07	4.7
<b>O_41610TC</b>	15.9	9.07	9.4

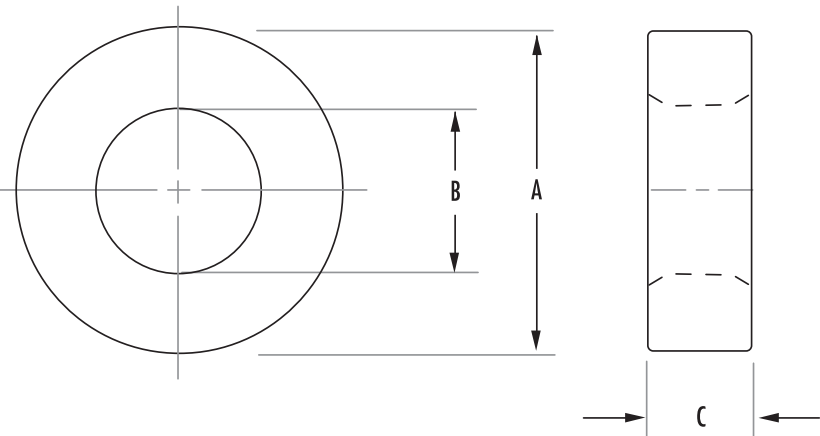
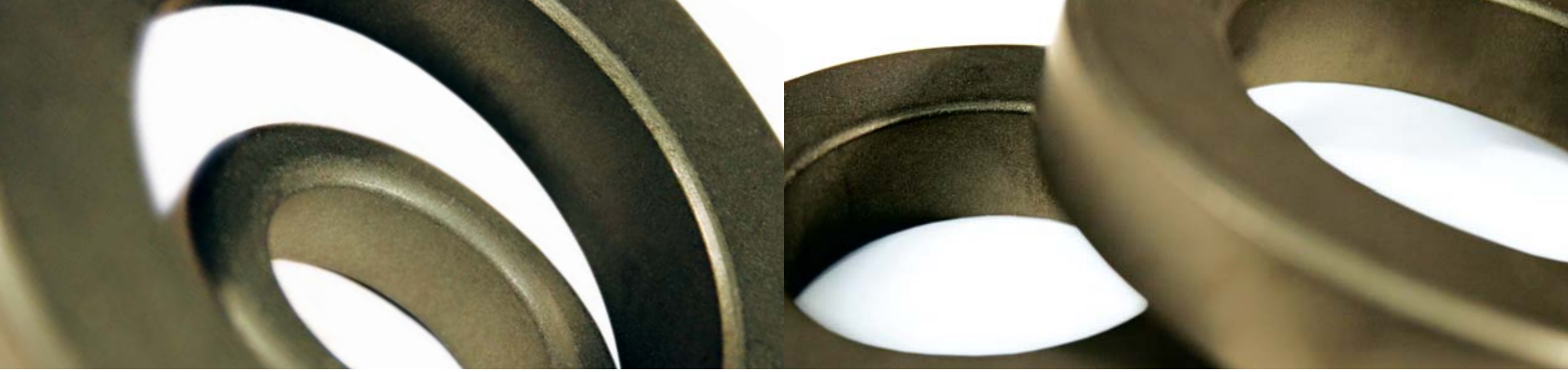
# Toroids

18.4mm – 32mm



SIZE	ORDERING CODE	AVAILABLE COATINGS			NOMINAL A <sub>L</sub> (MH/1000T)					
		V	Y	Z	L	R	P	F	J	W
18.4 x 9.75 x 10.3	<b>0_41809TC</b>	X		X	1,177	2,810	3,050	3,660	6,115	12,200
20.6 x 12.7 x 6.35	<b>0_42106TC</b>	X		X	553	1,380	1,500	1,680	2,800	5,600
20.6 x 12.7 x 8.89	<b>0_42109TC</b>	X		X	774	1,930	2,100	2,520	4,200	8,400
22.1 x 13.7 x 6.35	<b>0_42206TC</b>	X		X	547	1,380	1,510	1,812	3,020	6,040
22.1 x 13.7 x 7.9	<b>0_42207TC</b>	X		X	680	1,720	1,875	2,250	3,700	7,400
22.1 x 13.7 x 12.7	<b>0_42212TC</b>	X		X	1,093	2,770	3,020	3,624	6,040	12,080
25.3 x 15.4 x 7.66	<b>0_42507TC</b>	X		X	705	1,800	1,958	2,348	3,913	7,825
25.3 x 15.4 x 7.66	<b>0_42508TC</b>	X		X	891	2,220	2,420	2,900	4,830	9,660
26.9 x 14.2 x 12.2	<b>0_42712TC</b>	X		X		3,610	3,920	4,710	7,650	15,300
29 x 19 x 7.43	<b>0_42908TC</b>	X		X		1,450	1,585	1,902	3,170	6,340
29 x 19 x 15.2	<b>0_42915TC</b>			X		2,960	3,222	3,868	6,447	12,894
31 x 19.1 x 12.74	<b>0_43113TC</b>			X		2,850	3,100	3,720	6,200	12,400
32 x 15 x 4.5	<b>0_43205TC</b>			X		1,480	1,610	1,930	3,220	6,440

SIZE	ORDERING CODE	MAGNETIC DATA					
		I <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	Window Area (cm <sup>2</sup> )	WaAc (cm <sup>2</sup> )	Weight (grams each)
18.4 x 9.75 x 10.3	<b>0_41809TC</b>	41.4	43.1	1,783	0.74	0.3	9.9
20.6 x 12.7 x 6.35	<b>0_42106TC</b>	50.3	24.6	1,238	1.27	0.29	5.4
20.6 x 12.7 x 8.89	<b>0_42109TC</b>	50	34	1,733	1.27	0.41	8.1
22.1 x 13.7 x 6.35	<b>0_42206TC</b>	54.1	26.2	1,417	1.48	0.37	6.4
22.1 x 13.7 x 7.9	<b>0_42207TC</b>	54.2	32.5	1,763	1.48	0.46	8.5
22.1 x 13.7 x 12.7	<b>0_42212TC</b>	54.1	52.3	2,834	1.48	0.75	13.5
25.3 x 15.4 x 7.66	<b>0_42507TC</b>	61.5	37.1	2,284	1.89	0.7	11.6
25.3 x 15.4 x 7.66	<b>0_42508TC</b>	61.5	48	2,981	1.89	0.89	14.9
26.9 x 14.2 x 12.2	<b>0_42712TC</b>	60.2	73.2	4,410	1.57	1.08	
29 x 19 x 7.43	<b>0_42908TC</b>	73.2	37	2,679	2.84	1.02	12.9
29 x 19 x 15.2	<b>0_42915TC</b>	73.2	74.9	5,481	2.84	2.1	27.6
31 x 19.1 x 12.74	<b>0_43113TC</b>	75.4	73.6	5,547	2.83	2.11	29.3
32 x 15 x 4.5	<b>0_43205TC</b>	67.2	36.4	2,451	0.345	.61	12.9



### HOW TO ORDER

**OJ 4 22 06 TC XX**

- Coating code ← O
- Ferrite core material ← J
- Used for all ferrite types ← 4
- Approximate diameter in mm ← 22
- Approximate height in mm ← 06
- Toroid core ← TC
- Special specification code ← XX

### COATING CODES

- O – Bare core
- V – Nylon coating
- Y – Parylene C®
- Z – Epoxy coating

### SPECIAL SPECIFICATION CODES

- CC – Color coded

ORDERING CODE	DIMENSIONS IN MM		
	A	B	C
<b>O_41809TC</b>	18.4	9.75	10.3
<b>O_42106TC</b>	20.6	12.7	6.35
<b>O_42109TC</b>	20.6	12.7	8.89
<b>O_42206TC</b>	22.1	13.7	6.35
<b>O_42207TC</b>	22.1	13.7	7.9
<b>O_42212TC</b>	22.1	13.7	12.7
<b>O_42507TC</b>	25.34	15.45	7.66
<b>O_42508TC</b>	25.34	15.45	10
<b>O_42712TC</b>	26.9	14.2	12.2
<b>O_42908TC</b>	29	19	7.43
<b>O_42915TC</b>	29	19	15.2
<b>O_43113TC</b>	30.83	19.06	12.74
<b>O_43205TC</b>	32	15	4.5

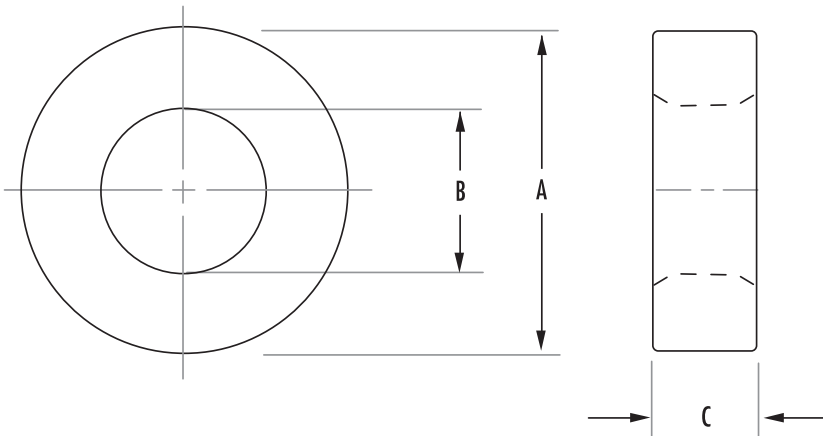
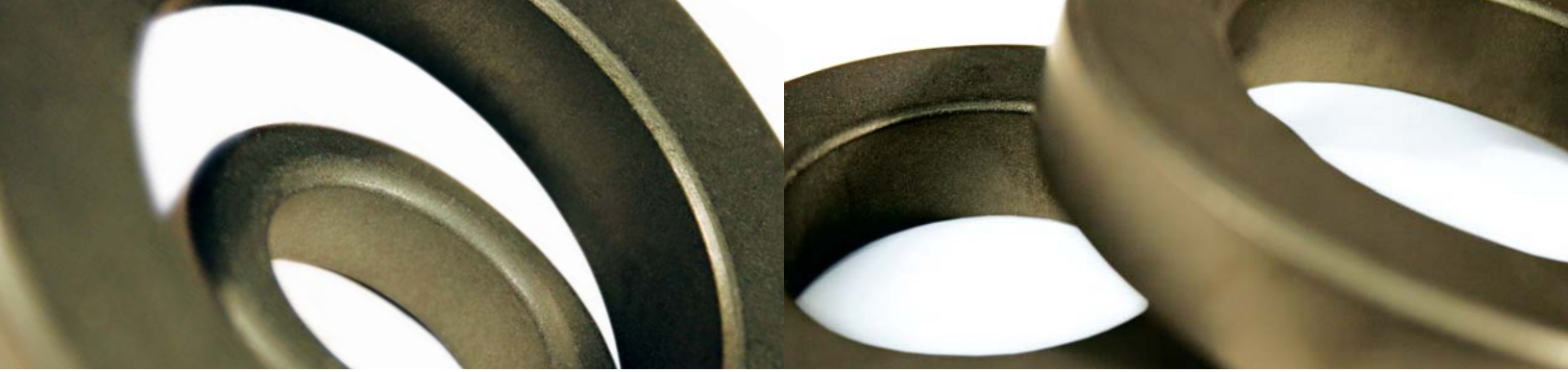
# Toroids

36mm – 61mm



SIZE	ORDERING CODE	AVAILABLE COATINGS			NOMINAL A <sub>L</sub> (MH/1000T)					
		V	Y	Z	L	R	P	F	J	W
36 x 23 x 10	<b>0_43610TC</b>			X		2,030	2,210	2,726	4,543	9,085
36 x 23 x 15	<b>0_43615TC</b>			X		3,100	3,366	4,040	6,736	13,400
38 x 19 x 6.35	<b>0_43806TC</b>			X		2,020	2,200	2,640	4,400	8,800
38.1 x 19 x 12.7	<b>0_43813TC</b>			X		3,850	4,185	5,020	8,365	16,700
38.1 x 19 x 25.4	<b>0_43825TC</b>			X		8,060	8,762	10,040	16,730	33,400
41.8 x 26.2 x 18	<b>0_44015TC</b>			X		3,867	4,204	5,040	8,408	16,816
44.3 x 19 x 15.9	<b>0_44416TC</b>			X		5,360	5,830	7,000	11,600	23,200
46.9 x 27 x 15	<b>0_44715TC</b>			X		3,700	4,030	4,840	8,075	16,100
49.1 x 33.8 x 15.9	<b>0_44916TC</b>			X		2,710	2,950	3,540	5,900	11,800
49.1 x 31.8 x 15.9	<b>0_44920TC</b>			X		2,790	3,032	3,640	6,065	12,130
49.1 x 31.8 x 19.05	<b>0_44925TC</b>			X		3,420	3,718	4,460	7,435	14,870
49.1 x 33.8 x 31.3	<b>0_44932TC</b>			X		5,430	5,900	7,080	11,800	23,600
61 x 41.8 x 19.05	<b>0_46019TC</b>								7,100	

SIZE	ORDERING CODE	MAGNETIC DATA					
		I <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	Window Area (cm <sup>2</sup> )	WaAc (cm <sup>2</sup> )	Weight (grams each)
36 x 23 x 10	<b>0_43610TC</b>	89.6	63.9	5,731	4.15	2.61	29.4
36 x 23 x 15	<b>0_43615TC</b>	89.6	95.9	8,596	2.85	3.93	44
38 x 19 x 6.35	<b>0_43806TC</b>	82.9	58.3	4,644	2.85	1.62	26.4
38.1 x 19 x 12.7	<b>0_43813TC</b>	82.9	115.6	9,452	2.85	3.27	51.7
38.1 x 19 x 25.4	<b>0_43825TC</b>	82.8	231	19,304	2.85	6.58	103.4
41.8 x 26.2 x 18	<b>0_44015TC</b>	103	138	14,205	5.4	7.45	68.9
44.3 x 19 x 15.9	<b>0_44416TC</b>	84	189	16,770	2.85	5.33	80.8
46.9 x 27 x 15	<b>0_44715TC</b>	110	145.5	16,063	5.72	8.12	84
49.1 x 33.8 x 15.9	<b>0_44916TC</b>	127	118	15,010	8.99	10.4	75.3
49.1 x 31.8 x 15.9	<b>0_44920TC</b>	123	119	14,700	7.94	9.45	74.6
49.1 x 31.8 x 19.05	<b>0_44925TC</b>	123.2	161.8	19,927	7.94	11.6	91
49.1 x 33.8 x 31.3	<b>0_44932TC</b>	127	236	30,000	8.99	21.2	150.6
61 x 41.8 x 19.05	<b>0_46019TC</b>	157.6	180.5	28,453		24.0	



### HOW TO ORDER

**OJ 4 22 06 TC XX**

- Coating code ← O
- Ferrite core material ← J
- Used for all ferrite types ← 4
- Approximate diameter in mm ← 22
- Approximate height in mm ← 06
- Toroid core ← TC
- Special specification code ← XX

### COATING CODES

- O – Bare core
- V – Nylon coating
- Y – Parylene C®
- Z – Epoxy coating

### SPECIAL SPECIFICATION CODES

- CC – Color coded

ORDERING CODE	DIMENSIONS IN MM		
	A	B	C
<b>O_43610TC</b>	36	23	10
<b>O_43615TC</b>	36	23	15
<b>O_43806TC</b>	38	19	6.35
<b>O_43813TC</b>	38.1	19	12.7
<b>O_43825TC</b>	38.1	19	25.4
<b>O_44015TC</b>	41.8	26.2	18
<b>O_44416TC</b>	44.3	19	15.9
<b>O_44715TC</b>	46.9	27	15
<b>O_44916TC</b>	49.1	33.8	15.9
<b>O_44920TC</b>	49.1	31.8	15.9
<b>O_44925TC</b>	49.1	31.8	19.05
<b>O_44932TC</b>	49.1	33.8	31.3
<b>O_46019TC</b>	60.9	41.8	19.1



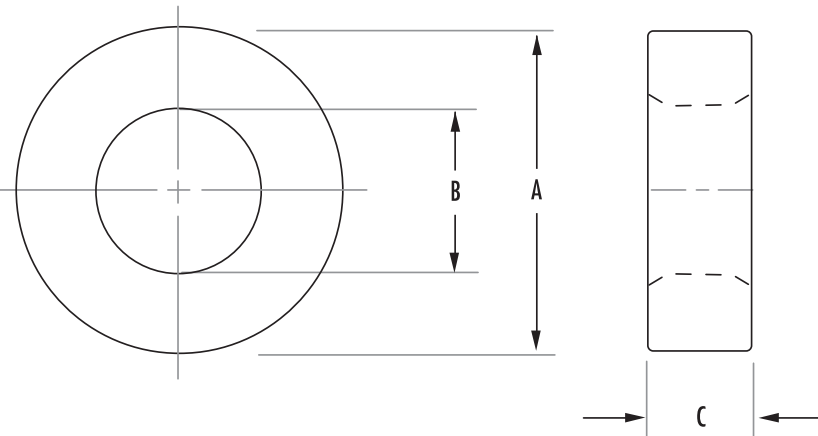
# Toroids

61mm – 140mm



SIZE	ORDERING CODE	AVAILABLE COATINGS			NOMINAL A <sub>L</sub> (MH/1000T)					
		V	Y	Z	L	R	P	F	J	W
61 x 35.6 x 12.7	<b>0_46113TC</b>			X		3,140	3,491	4,107	6,845	13,690
63 x 38 x 24.5	<b>0_46325TC</b>			X						21,056
63 x 38 x 24.5	<b>0_46326TC</b>			X		5,770	6,270	7,530	12,500	
73.7 x 38.9 x 12.5	<b>0_47313TC</b>			X		3,700	4,024	4,880	8,140	16,280
73.7 x 38.9 x 25.2	<b>0_47325TC</b>			X		7,470	8,050	9,760	16,280	
85.7 x 55.5 x 12.7	<b>0_48613TC</b>			X		2,510	2,726	3,310	5,520	11,040
85.7 x 55.5 x 25.26	<b>0_48625TC</b>			X		5,040	5,480	6,570	10,960	
85.7 x 55.5 x 25.24	<b>0_48626TC</b>			X						18,760
102 x 65.8 x 15	<b>0_49715TC</b>			X		3,025	3,464	3,945	6,575	11,178
107 x 65 x 18	<b>0_49718TC</b>			X		4,127	4,486	5,383	8,972	15,252
107 x 65 x 25	<b>0_49725TC</b>			X		5,732	6,230	7,477	9,346	21,184
140 x 106 x 25	<b>0_49740TC</b>			X		3,200	3,477	4,173	6,955	11,823

SIZE	ORDERING CODE	MAGNETIC DATA					
		l <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	Window Area (cm <sup>2</sup> )	WaAc (cm <sup>2</sup> )	Weight (grams each)
61 x 35.6 x 12.7	<b>0_46113TC</b>	145	156	22,500	9.93	15.5	117.3
63 x 38 x 24.5	<b>0_46325TC</b>	152	300	45,598	11.3	34.4	231
63 x 38 x 24.5	<b>0_46326TC</b>	152	300	45,598	11.3	34.4	231
73.7 x 38.9 x 12.5	<b>0_47313TC</b>	165	210	34,771	11.9	25.2	177
73.7 x 38.9 x 25.2	<b>0_47325TC</b>	165	423	70,009		50.1	
85.7 x 55.5 x 12.7	<b>0_48613TC</b>	214.9	188.8	40,582	24.2	45.2	203
85.7 x 55.5 x 25.6	<b>0_48625TC</b>	215	375	80,717		90.0	
85.7 x 55.5 x 25.4	<b>0_48626TC</b>	215	377	81,165		90.0	
102 x 65.8 x 15	<b>0_49715TC</b>	255.3	267.2	68,821	34	90.8	334
107 x 65 x 18	<b>0_49718TC</b>	259.31	320.27	96,013	33.2	106	466
107 x 65 x 25	<b>0_49725TC</b>	259.31	514.3	133,351	33.2	170.7	647
140 x 106 x 25	<b>0_49740TC</b>	381.50	422.30	161,086	88.2	372.5	781



### HOW TO ORDER

**OJ 49740 TC XX**

- Coating code ← O
- Ferrite core material ← J
- Used for all ferrite types ← 4
- Approximate diameter in mm ← 97
- Approximate height in mm ← 40
- Toroid core ← TC
- Special specification code ← XX

### COATING CODES

- O – Bare core
- V – Nylon coating
- Y – Parylene C®
- Z – Epoxy coating

### SPECIAL SPECIFICATION CODES

- CC – Color coded

ORDERING CODE	DIMENSIONS IN MM		
	A	B	C
<b>O_46113TC</b>	61	35.6	12.7
<b>O_46325TC</b>	63	38	24.5
<b>O_46326TC</b>	63	38	24.5
<b>O_47313TC</b>	73.7	38.9	12.5
<b>O_47325TC</b>	73.7	38.9	25.2
<b>O_48613TC</b>	85.7	55.5	12.7
<b>O_48625TC</b>	85.7	55.5	25.26
<b>O_48626TC</b>	85.7	55.5	25.24
<b>O_49715TC</b>	102	65.8	15
<b>O_49718TC</b>	107	65	18
<b>O_49725TC</b>	107	65	25
<b>O_49740TC</b>	140	106	25

# E, I Cores

12mm – 35mm



## E CORES

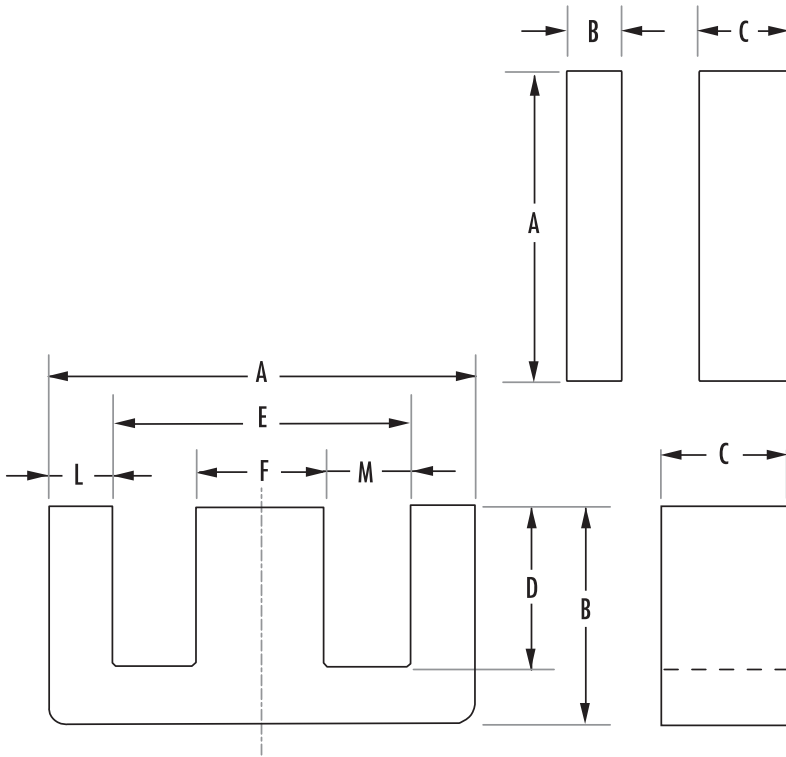
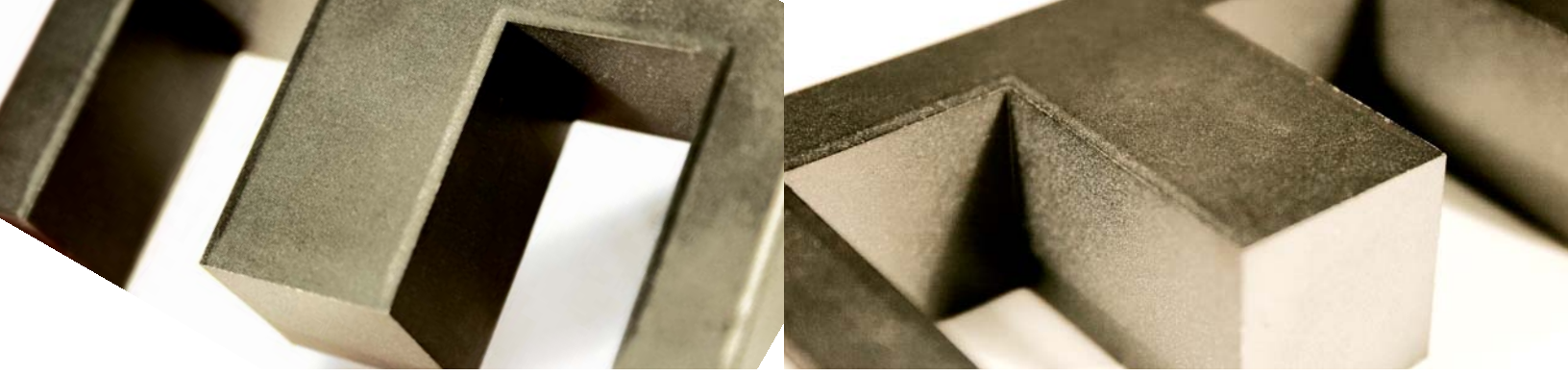
E cores are less expensive than pot cores, and have the advantage of simple bobbin winding plus easy assembly. E cores do not, however, offer self-shielding. Lamination size E cores are available to fit commercially offered bobbins previously designed to fit the strip stampings of standard lamination sizes. Metric and DIN sizes are also available. E cores can be pressed to different thicknesses, providing a selection of cross-sectional areas. Bobbins for these different cross sections are available.

E cores can be mounted in different directions and, if desired, provide a low profile. Printed circuit bobbins are available for low profile mounting.

Typical applications for E cores include differential, power and telecom inductors, as well as, broadband, power, converter and inverter transformers.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)					
		L	R	P	F	J	W
E 9/4/2	<b>0_40904EC</b>	280	493		650	1,040	
Lam E2829	<b>0_41203EC</b>	350	587		770	1,367	
Lam E2829	<b>0_41205EC</b>	700		1,600	1,950		
Lam E3233	<b>0_41707EC</b>	520	1,013	1,100	1,300	1,900	
Lam EI187	<b>0_41808EC</b>	550	1,153	1,253	1,500	2,500	4,293
Lam EI187	<b>0_41810EC</b>	1,000	2,300	2,500	3,000	5,000	8,600
Lam E2425	<b>0_42510EC</b>	800	1,767	1,920	2,300	3,700	
EF25	<b>0_42513EC</b>	900	1,900	2,491	2,460	4,000	
Lam EL2425	<b>0_42515EC</b>	540	1,153	1,253	1,500	2,400	
Lam 2425I	<b>0_42515IC</b>		1,760	1,913	2,290	3,667	
Lam E2425	<b>0_42520EC</b>	1,600	3,533	3,840	4,600	7,400	13,813
E 25/12/11	<b>0_42526EC</b>		2,800	3,784	4,068	5,951	
Lam EL2425	<b>0_42530EC</b>	1,070	2,307	2,507	3,000	4,800	
DIN 30/7	<b>0_43007EC</b>	920	2,060	2,240	2,700	3,800	8,200
Lam E2627	<b>0_43009EC</b>	1,400	2,893	3,147	3,780	5,893	
Lam EI375	<b>0_43515EC</b>		2,667	2,907	3,500	5,813	10,653
E 35/20/9	<b>0_43520EC</b>		1,947	2,120	2,555	4,240	

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	$W_{Ac}$ (cm <sup>4</sup> )	Weight (grams per set)
E 9/4/2	<b>0_40904EC</b>	15.6	5.0	3.6	78		0.5
Lam E2829	<b>0_41203EC</b>	27.8	10.1	10.1	279	0.001	1.3
Lam E2829	<b>0_41205EC</b>	27.7	20.2	20	558	0.03	2.6
Lam E3233	<b>0_41707EC</b>	30.4	16.6	12.6	505	0.03	3
Lam EI187	<b>0_41808EC</b>	39.9	22.6	22.1	900	0.07	4.4
Lam EI187	<b>0_41810EC</b>	40.1	45.5	45.4	1,820	0.15	8.5
Lam E2425	<b>0_42510EC</b>	49	39.5	37	1,930	0.16	9.5
EF25	<b>0_42513EC</b>	57.8	51.8	51.8	2,990	0.24	16
Lam EL2425	<b>0_42515EC</b>	73.5	78.4	39.7	2,950	0.42	15
Lam 2425	<b>0_42515IC</b>	48.1	40.1	39.7	1,930	0.32	10
Lam E2425	<b>0_42520EC</b>	48	76.8	76.8	3,760	0.21	19
E 25/12/11	<b>0_42526EC</b>	57.5	78.4	78.4	4,500	0.51	36
Lam EL2425	<b>0_42530EC</b>	73.5	80.2	79.4	5,900	0.84	30
DIN 30/7	<b>0_43007EC</b>	67	60	49	4,000	0.5	20
Lam E2627	<b>0_43009EC</b>	61.9	83.2	83.2	5,150	0.74	26
Lam EI375	<b>0_43515EC</b>	69.3	87	87	5,590	0.85	33
E 35/20/9	<b>0_43520EC</b>	94.3	90.6	90.5	8,540	1.68	42



### HOW TO ORDER

OR 43007 EC XX

- Standard core ←
- Ferrite core material ←
- Used for all ferrite types ←
- Approximate length in mm ←
- Approximate height in mm ←
- Geometry code/gap code ←
- Special specification code ←

### SHAPE CODE

0 – Standard

### GEOMETRY CODE

EC – ETD, EC, ER, EER, EFD, planar and lamination sizes

### GAP CODE

Note – Any practical gap is available

Cores are sold per piece (for sets multiply by 2). Gapped pieces are normally packed separately from ungapped pieces. If desired in sets, this must be specified.

DIMENSIONS IN MM								
TYPE/SIZE	A	B	C	D	E	F	L	M
E 9/4/1	9 ± 0.4	4.06 ± 0.25	1.91 ± 0.13	2.03 min	4.85 min	1.91 ± .013	1.91 ± 0.25	1.57 ± 0.25
Lam E2829	12.7 ± 0.25	5.69 ± 0.18	3.18 ± 0.13	3.96 min	9.19 min	3.18 ± 0.08	1.57 nom	3.05 min
Lam E2829	12.7 ± 0.25	5.69 ± 0.18	6.4 ± 0.15	3.96 min	9.19 min	3.2 ± 0.13	1.57 ref	3.05 min
Lam E3233	16.8 ± .38	7.11 ± 0.18	3.56 ± 0.12	3.94 min	10.4 min	3.56 ± 0.13	2.79 nom	3.63 min
Lam E1187	19.1 ± .4	8.1 ± 0.13	4.75 ± 0.2	5.7 ± 0.13	14.33 ± 0.33	4.75 ± 0.2	2.38 nom	4.79 nom
Lam E1187	19.13 ± .4	8.1 ± 0.18	9.53 ± 0.13	5.7 min	14 min	4.75 ± 0.2	2.38 ref	4.89 ref
Lam E2425	25.4 ± .6	9.65 ± 0.2	6.35 ± 0.25	6.4 min	18.8 min	6.25 ± 0.25	3.3 nom	6.1 min
EF25	25 + 0.8/-0.7	12.8 + 0/-0.4	7.5 + 0/-0.6	8.7 + 0.6/-0	17.5 + 0.9	7.5 + 0/-0.5	3.55 ref	5.35 ref
Lam EL2425	25.4 ± 0.38	15.9 ± 0.25	6.35 ± 0.25	12.6 min	18.8 min	6.35 ± 0.13	3.12 ± 0.13	6.4 ± 0.25
Lam 2425I	26.4 ± 0.38	3.18 ± 0.12	7.37 ± 0.25					
Lam E2425	25.4 ± 0.6	9.65 ± 0.2	12.7 ± 0.25	6.4 min	18.8 min	6.35 ± 0.25	3.6 max	6.1 min
E 25/12/11	25 + 0.8/-0.7	12.8 + 0/-0.5	11 + 0/-0.5	8.7 + 0.5/-0	17.5 + 1/-0	7.5 + 0/-0.5	3.53 ref	5.37 ref
Lam EL2425	25.4 ± 0.38	15.9 ± 0.25	12.7 ± 0.25	12.6 min	18.8 min	6.35 ± 0.13	3.12 ± 0.13	6.4 ± 0.25
DIN 30/7	30.8 + 0/-1.4	15.01 ± 0.2	7.3 ± 0/-0.5	9.71 + 0.5/-0	19.5	7.2 + 0/-0.5	5.65 nom	6.15 nom
Lam E2627	30.95 ± 0.5	13.1 ± 0.25	9.4 ± 0.3	8.5 min	21.41 min	9.4 ± 0.13	4.29 nom	6.0 min
Lam E1375	34.2 ± 0.6	14.1 ± 0.15	9.3 ± 0.25	9.8 ± 0.13	25.5 min	9.3 ± 0.2	4.7 max	8.0 min
E 35/20/9	34.9 ± 0.38	20.62 ± 0.25	9.53 ± 0.18	15.6 min	25.1 min	9.53 ± 0.25	4.75 ± 0.25	7.95 nom



# E, I Cores

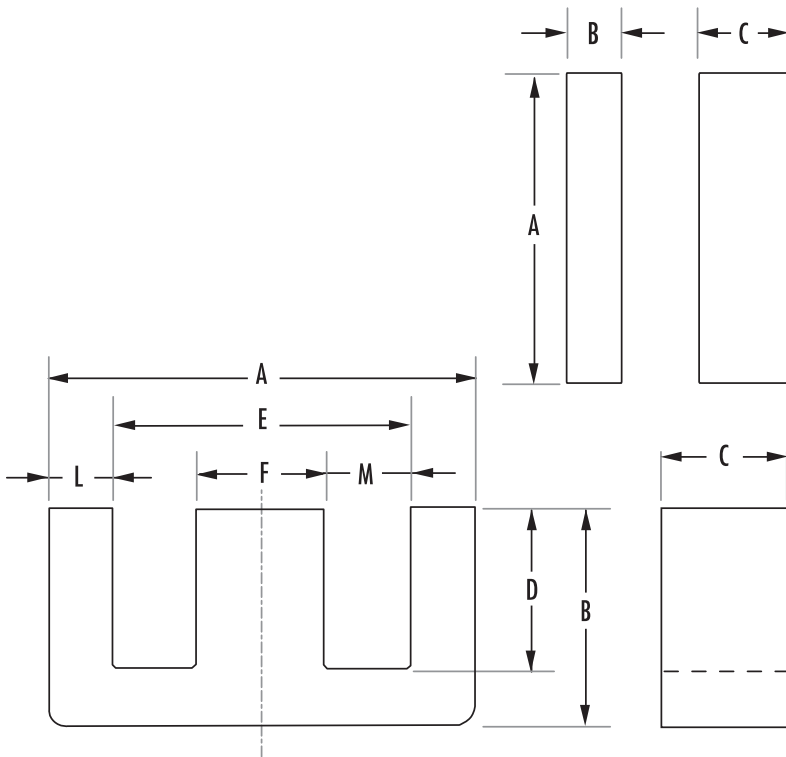
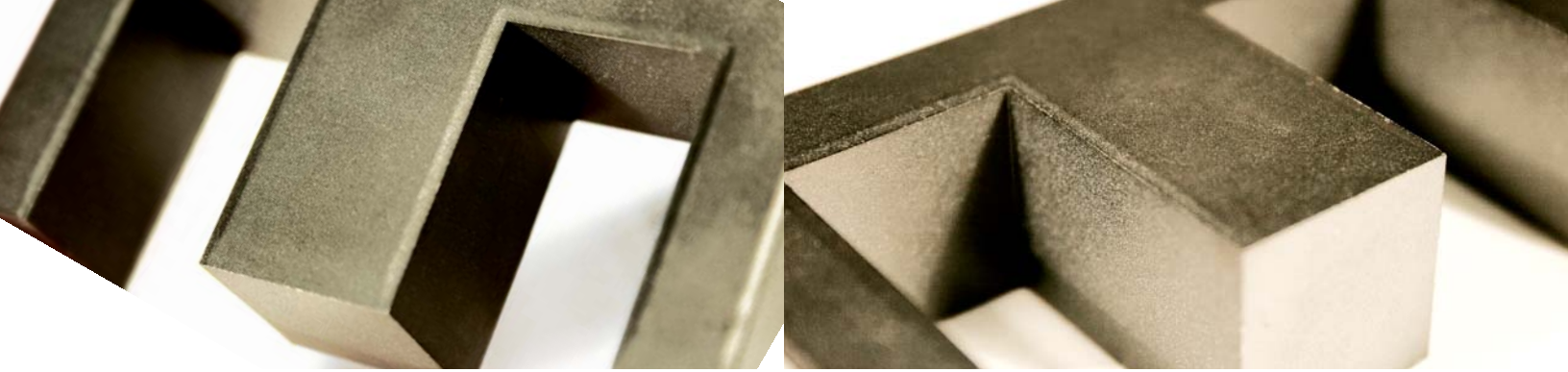
40mm – 100mm



TYPE/SIZE	ORDERING CODE	NOMINAL A <sub>L</sub> (MH/1000T)					
		L	R	P	F	J	W
Metric E40	<b>0_44011EC</b>		4,000	4,347	5,200	7,293	
E 42/21/9	<b>0_44016EC</b>		2,667	2,907	3,495	5,647	
DIN 42/15	<b>0_44020EC</b>		4,600	5,000	6,000	9,700	
DIN 42/15 I	<b>0_44020IC</b>		6,253	6,806			
DIN 42/20	<b>0_44022EC</b>		5,533	6,013	7,600	10,613	
E 42/32/20	<b>0_44033EC</b>		4,000	4,709	5,562	8,727	
Lam EI121	<b>0_44317EC</b>		3,900	4,240	5,900	9,800	18,293
Lam EI625	<b>0_44721EC</b>		5,360	5,827	8,300		
DIN 55/21	<b>0_45528EC</b>		6,293	6,840	8,220		
DIN 55/25	<b>0_45530EC</b>		7,520	8,173	9,800		
Lam EI75	<b>0_45724EC</b>		8,093	8,800	10,400	14,580	24,000
Metric E60	<b>0_46016EC</b>		5,733	6,240	6,590		
E 65/32/27	<b>0_46527EC</b>		8,600	10,984			
E 71/33/32	<b>0_47133EC</b>		10,800	11,600	13,400		
F11	<b>0_47228EC</b>		5,960	6,480			
Metric E80	<b>0_48020EC</b>		4,673	5,080			
E100	<b>0_49928EC</b>		6,227	6,773			

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		l <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	A min (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams per set)
Metric E 40	<b>0_44011EC</b>	76.7	127	114	9,780	1.39	49
E 42/21/9	<b>0_44016EC</b>	98.4	107	106	10,500	2.08	52
DIN 42/15	<b>0_44020EC</b>	97	178	175	17,300	3.55	87
DIN 42/15 I	<b>0_44020IC</b>	67.1	177	176	11,900	2.26	60
DIN 42/20	<b>0_44022EC</b>	97	233	233	22,700	4.59	114
E 42/32/20	<b>0_44033EC</b>	145	236	234	34,200	4.48	164
Lam EI121	<b>0_44317EC</b>	77	149	142	11,500	1.48	57
Lam EI625	<b>0_44721EC</b>	88.9	234	226	20,800	2.77	103
DIN 55/21	<b>0_45528EC</b>	124	353	345	44,000	9.91	212
DIN 55/25	<b>0_45530EC</b>	123	420	411	52,000	11.8	255
Lam EI75	<b>0_45724EC</b>	107	337	337	36,000	69.34	179
Metric E60	<b>0_46016EC</b>	110	248	240	27,200	7.16	135
E 65/32/27	<b>0_46527EC</b>	147	540	530	79,000	25.9	410
E 71/33/32	<b>0_47133EC</b>	149	683	676	102,000	38.1	260
F11	<b>0_47228EC</b>	137	368	363	50,300	14.8	264
Metric E80	<b>0_48020EC</b>	184	392	392	72,300	30.8	357
E100	<b>0_49928EC</b>	274	738	692	202,000	156	970





## HOW TO ORDER

**OR 47228 EC XX**

- Standard core ←
- Ferrite core material ←
- Used for all ferrite types ←
- Approximate length in mm ←
- Approximate height in mm ←
- Geometry code/gap code ←
- Special specification code ←

## SHAPE CODE

0 – Standard

## GEOMETRY CODE

EC – ETD, EC, ER, EER, EFD, planar and lamination sizes

## GAP CODE

Note – Any practical gap is available

Cores are sold per piece (for sets multiply by 2). Gapped pieces are normally packed separately from ungapped pieces. If desired in sets, this must be specified.

DIMENSIONS IN MM								
TYPE/SIZE	A	B	C	D	E	F	L	M
Metric E40	40.01 ± 0.51	17 ± 0.31	10.69 ± 0.31	10 min	27.6 min	10.7 ± 0.31	5.99 ± 0.25	8.86 nom
E 42/21/9	42.15 ± 0.85	21.1 ± 0.2	9 ± 0.25	14.9 min	29.5 min	11.95 ± 0.25	5.94 ± 0.13	8.9 ± 0.25
DIN 42/15	43 + 0/-1.7	21 ± 0.2	15.2 + 0/-0.6	14.8 + 0.6/-0	29.5 + 1.4/-0	12.2 + 0/-0.5	6.75 nom	8.65 nom
DIN 42/15 I	43 + 0/-1.7	5.9 ± 0.2	15.2 + 0/-0.6					
DIN 42/20	43 + 0/-1.7	21 ± 0.2	20 + 0/-0.8	14.8 + 0.6/0	29.5 + 1.4/-0	12.2 + 0/-0.5	6.75 nom	8.65 nom
E 42/32/20	42 + 1/-0.7	32.8 + 0/-0.4	20 + 1/-0.8	26 + 1/-0	29.5 + 1.4/-0	12.2 + 0/-0.5	5.98 ref	9.13 ref
Lam EI121	40.6 ± 0.65	16.6 ± 0.2	12.4 ± 0.3	10.4 min	28.6 min	12.45 ± 0.25	6.33 max	7.95 min
Lam EI625	46.9 ± 0.8	19.6 ± 0.2	15.6 ± 0.25	12.1 min	32.4 ± 0.65	15.6 ± 0.25	7.54 nom	7.87 min
DIN 55/21	56.2 + 0/-2.1	27.5 ± 0.3	21 + 0/-0.8	18.5 + 0.8/-0	37.5 + 1.5/-0	17.2 + 0/-0.5	9.35 ref	10.15 ref
DIN 55/25	56.2 + 0/-2.1	27.6 ± 0.38	24.61 ± 0.38	18.5 min	37.5 min	17.2 + 0/-0.5	9.35 ref	10.15 ref
Lam EI75	56.1 ± 1	23.6 ± 0.25	18.8 ± 0.25	14.6 ± 0.13	38.1 min	18.8 ± 0.25	9.5 nom	9.03 nom
Metric E60	59.99 ± 0.78	22.3 ± 0.3	15.62 ± 0.38	13.8 min	44 min	15.62 ± 0.38	7.7 ± 0.25	14.49 ± 0.25
E 65/32/27	65 + 1.5/-1.2	32.8 + 0/-0.6	27.4 + 0/-0.8	22 + 0.8/-0	44.2 + 1.8/-0	20 + 0/-0.7	10.4 nom	12.1 min
E 71/33/32	70.5 ± 1	33.2 + 0/-0.5	32 + 0/-0.8	21.9 + 0.7/-0	48 + 1.5/-0	22 + 0/-0.7	11.25 nom	13.0 nom
F11	72.4 ± 0.76	27.9 ± 0.33	19 ± 0.33	17.8 min	52.6 min	19 ± 0.38	9.53 ± 0.38	16.9 min
Metric E80	80 ± 1.6	38.1 ± 0.3	19.8 ± 0.4	28.2 ± 0.3	59.1 min	19.8 ± 0.4	11.25 nom	19.45 min
E100	100.3 ± 2.0	59.4 ± 0.47	27.5 ± 0.5	46.85 ± 0.38	72 min	27.5 ± 0.5	13.75 ± 0.38	22.65 ± 0.5

# EFD Cores



## EFD CORES

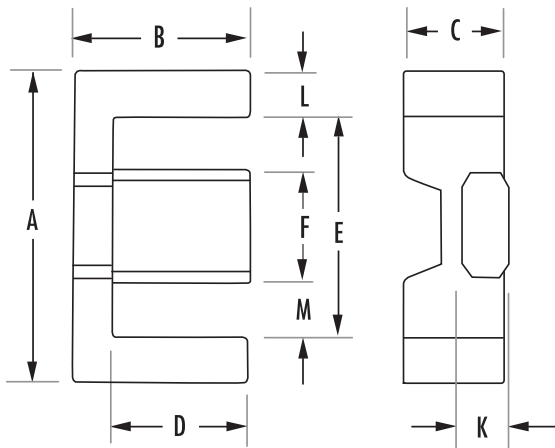
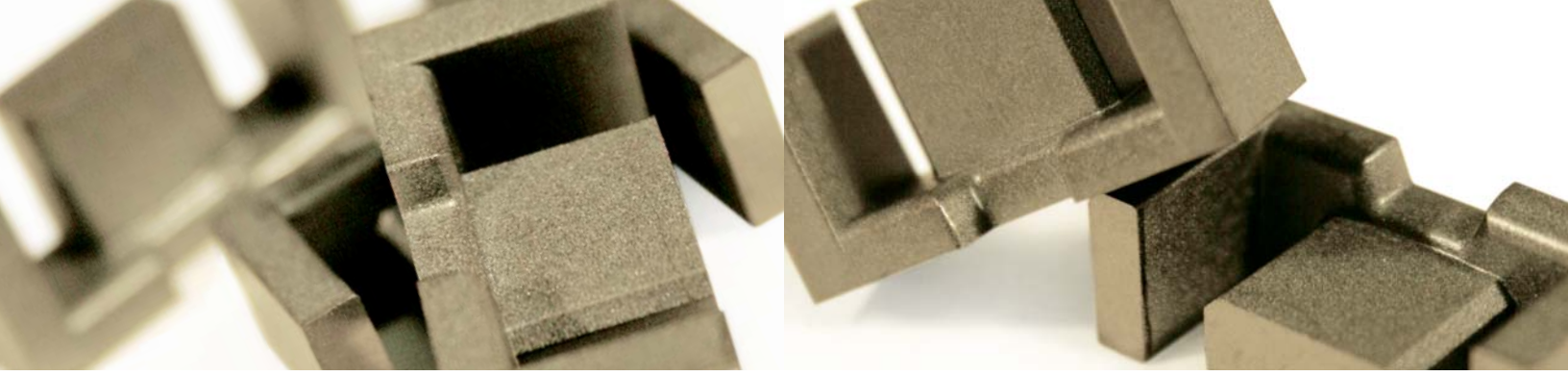
The industry standard economical flat design of EFD cores offers excellent space utilization for transformers or inductors. The optimized cross-sectional area is ideal for very flat compact transformer applications.

Hardware accessories are available.

EFD cores are ideal for compact transformers and inductor applications.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)				
		L	R	P	F	J
EFD 10	<b>0_41009EC</b>	280	585	622	698	923
EFD 12	<b>0_41212EC</b>	380	760	800	844	2,600
EFD 15	<b>0_41515EC</b>	400	893	973	1,170	1,933
EFD 20	<b>0_42019EC</b>	650	1,300	1,633	1,881	2,696
EFD 25	<b>0_42523EC</b>	1,000	2,093	2,280	2,730	4,507
EFD 30	<b>0_43030EC</b>	1,000	2,200	2,695		4,668

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	$WaAc$ (cm <sup>4</sup> )	Weight (grams per set)
EFD 10	<b>0_41009EC</b>	23.7	7.2	6.5	171	0.004	0.9
EFD 12	<b>0_41212EC</b>	28.5	11.4	10.7	325	0.01	1.8
EFD 15	<b>0_41515EC</b>	34	15	12.2	510	0.02	2.8
EFD 20	<b>0_42019EC</b>	47	31	29	1,460	0.093	7
EFD 25	<b>0_42523EC</b>	57	58	55	3,300	0.23	16.2
EFD 30	<b>0_43030EC</b>	68	69	66	4,700	0.36	24



### HOW TO ORDER

**OR 41515 EC XX**

- Standard core ← OR
- Ferrite core material ← 4
- Used for all ferrite types ← 15
- Approximate length in mm ← 15
- Approximate width (per set) in mm ← EC
- Geometry code/gap code ← XX
- Special specification code ←

### GEOMETRY CODE

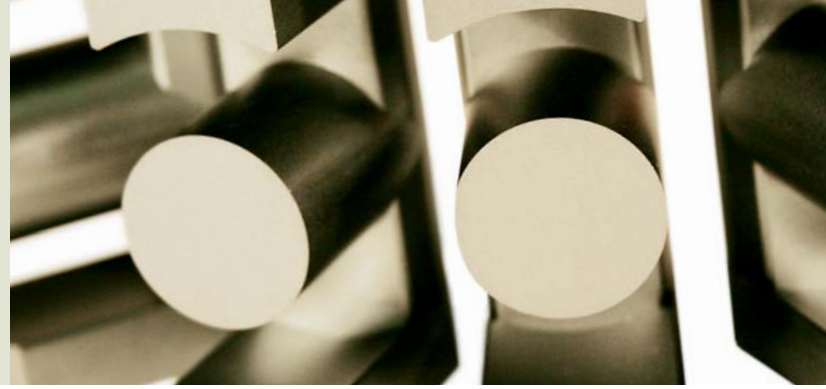
EC – All E cores including ETD, EC, ER, EER, EFD, planar and lamination sizes.

### GAP CODE

Note – Any practical gap available

TYPE/SIZE	DIMENSIONS IN MM								
	A	B	C	D	E	F	K	L	M
EFD 10	10.5 ± 0.3	5.2 ± 0.1	2.7 ± 0.1	3.75 ± 0.15	7.65 ± 0.25	4.55 ± 0.15	4.45 ± 0.05	1.43 ref	1.55 ref
EFD 12	12.5 ± 0.3	6.2 ± 0.1	3.5 ± 0.1	4.55 ± 0.15	9 ± 0.25	5.4 ± 0.15	2 ± 0.1	1.75 ref	1.8 ref
EFD 15	15 ± 0.4	7.5 ± 0.15	4.65 ± 0.15	5.5 ± 0.25	11 ± 0.35	5.3 ± 0.15	2.4 ± 0.1	2 nom	2.85 no
EFD 20	20 ± 0.55	10 ± 0.15	6.65 ± 0.15	7.7 ± 0.25	15.4 ± 0.5	8.9 ± 0.2	3.6 ± 0.15	2.3 ref	3.25 ref
EFD 25	25 ± 0.66	12.5 ± 0.15	9.1 ± 0.2	9.1 min	18.1 min	11.4 ± 0.2	5.2 ± 0.15	3.15 ± 0.2	3.65 ± 0.2
EFD 30	30 ± 0.8	15 ± 0.15	9.1 ± 0.2	11.2 ± 0.3	22.4 ± 0.75	14.6 ± 0.25	4.9 ± 0.15	3.8 ref	3.9 ref

# ETD Cores



## ETD CORES

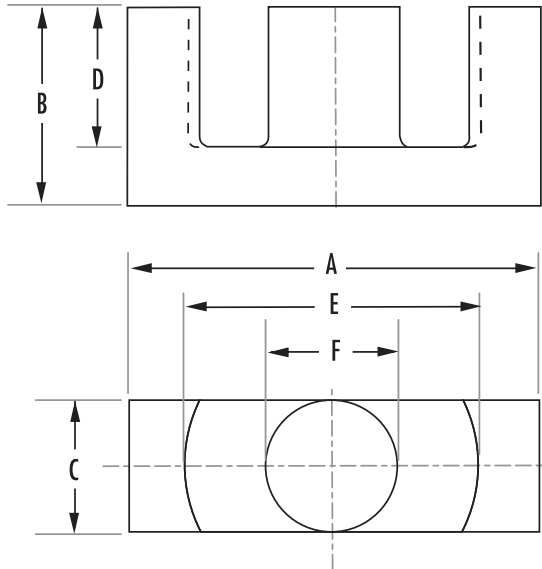
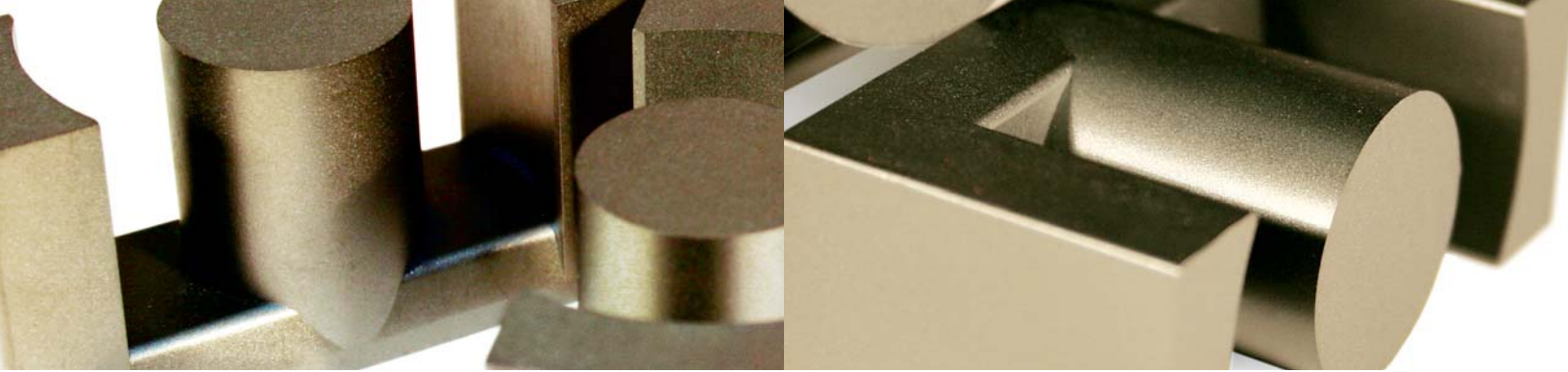
ETD cores are an economical choice for transformers or inductors. ETDs offer a round centerpost for minimum winding resistance. Also, dimensions are optimized for power transformer efficiency.

Hardware accessories are available.

Typical applications of Magnetics ETD cores include differential inductors and power transformers.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)			
		L	R	P	F
ETD 29	<b>0_42929EC</b>	1,100	2,250	2,843	
ETD 34	<b>0_43434EC</b>		2,707	2,933	3,600
ETD 39	<b>0_43939EC</b>		2,973	3,227	4,050
ETD 44	<b>0_44444EC</b>		3,667	4,000	4,950
ETD 49	<b>0_44949EC</b>		4,093	4,440	5,400
ETD 54	<b>0_45454EC</b>		5,200	6,281	7,400
ETD 59	<b>0_45959EC</b>		5,747	6,240	7,500

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	$W_{aAc}$ (cm <sup>4</sup> )	Weight (grams per set)
ETD 29	<b>0_42929EC</b>	72	76	71	5,470	0.73	28
ETD 34	<b>0_43434EC</b>	78.6	97.1	91.6	7,640	1.21	40
ETD 39	<b>0_43939EC</b>	92.2	125	123	11,500	2.21	60
ETD 44	<b>0_44444EC</b>	103	173	172	17,800	3.75	94
ETD 49	<b>0_44949EC</b>	114	211	209	24,000	5.83	124
ETD 54	<b>0_45454EC</b>	127	280	280	35,500	9.45	180
ETD 59	<b>0_45959EC</b>	139	368	360	51,500	13.7	248



## HOW TO ORDER

**OR 43939 EC XX**

Standard core ←

Ferrite core material ←

Used for all ferrite types ←

Approximate length in mm ←

Approximate width (per set) in mm ←

Geometry code/gap code ←

Special specification code ←

## GEOMETRY CODE

EC – All E cores including ETD, EC, ER, EER, EFD, planar and lamination sizes.

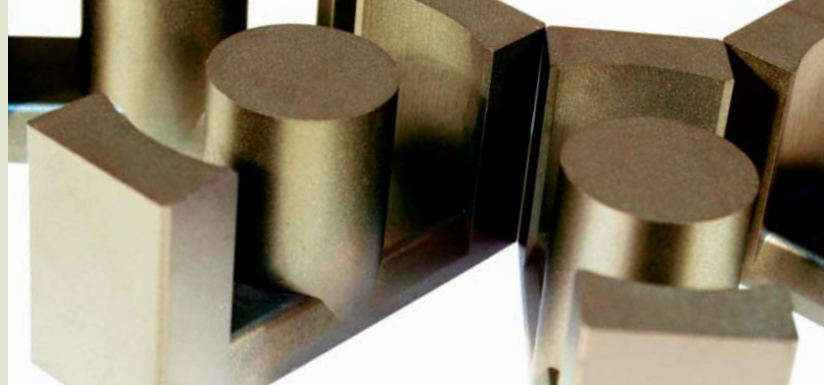
## GAP CODE

Note – Any practical gap available

TYPE/SIZE	DIMENSIONS IN MM					
	A	B	C	D	E	F
ETD 29	30.6 + 0/-1.6	15.8 ± 0.2	9.8 + 0/-6	11 ± 0.3	22 + 1.4/-0	9.8 + 0/-0.6
ETD 34	35 + 0/-1.6	17.3 ± 0.2	11.1 + 0/-0.6	11.8 + 0/-0.6	25.6 + 1.4/-0	11.1 + 0/-6
ETD 39	40 + 0/-1.8	19.8 ± 0.2	12.8 + 0/-0.6	14.2 + 0.8/-0	29.3 + 1.6/-0	12.8 + 0/-0.6
ETD 44	45 + 0/-0.2	22.3 ± 0.2	15.2 + 0/-0.6	16.1 + 0.8/-0	32.5 + 1.6/-0	15.2 + 0/-0.6
ETD 49	49.8 + 0/-2.2	24.7 ± 0.2	16.7 + 0/-0.6	17.7 + 0.8/-0	36.1 + 1.8/-0	16.7 + 0/-0.6
ETD 54	54.5 ± 1.3	27.6 ± 0.2	18.9 ± 0.4	20.2 ± 0.4	41.2 ± 1.1	18.9 ± 0.4
ETD 59	59.8 ± 1.3	31 ± 0.2	21.65 ± 0.45	22.1 min	44.7 ± 1.09	21.65 ± 0.45



# EER Cores



## EER CORES

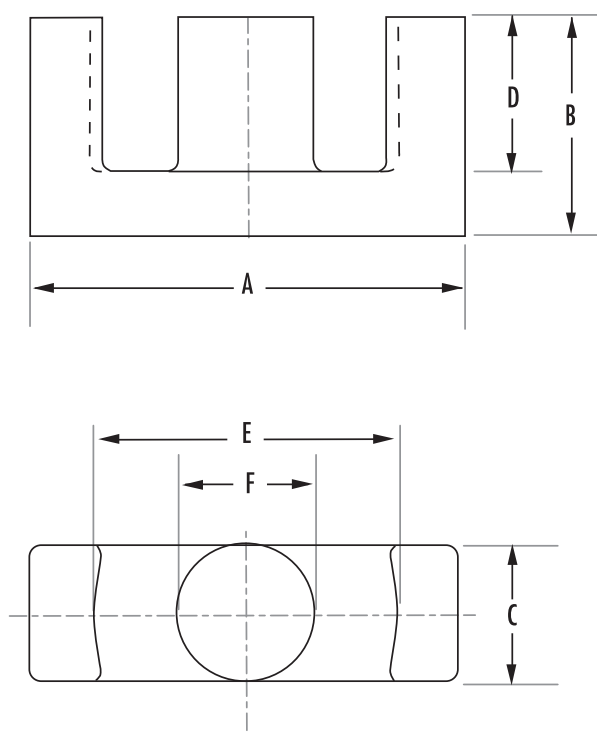
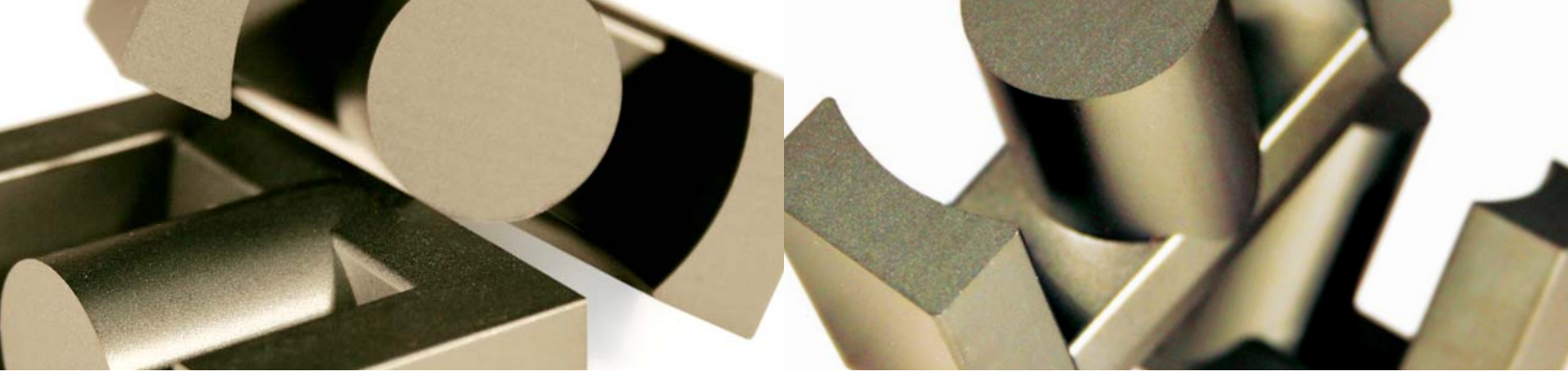
EER cores are an economical choice for transformers and inductors. The round centerpost offers the advantage of a shorter winding path length than the winding around a square centerpost of equal area.

Hardware accessories are available.

Differential inductors and power transformers are typical applications of Magnetics EER cores.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)			
		L	R	P	F
EER 28/14/11	<b>0_42814EC</b>	1,340	2,700	3,352	3,896
EER 28/16/11	<b>0_42817EC</b>	1,150	2,500	2,913	3,400
EER 35L	<b>0_43521EC</b>		2,693	2,960	3,550
EER 40/22/13	<b>0_44013EC</b>		3,300	3,520	
EER 42	<b>0_44216EC</b>		3,840	4,173	
EER 48/18/17	<b>0_44818EC</b>		6,400	6,850	7,950
EER 48/21/21	<b>0_44821EC</b>		5,700	7,059	8,274
EER 53/18/18	<b>0_45418EC</b>		6,100	6,500	7,440

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams per set)
EER 28/14/11	<b>0_42814EC</b>	64	81.4	77	5,260	0.89	28
EER 28/16/11	<b>0_42817EC</b>	75.5	81.4	77	6,142	0.912	32
EER 35L	<b>0_43521EC</b>	90.8	107	100	9,710	1.91	49
EER 40/22/13	<b>0_44013EC</b>	98	149	139	14,600	3.18	74
EER 42	<b>0_44216EC</b>	98.7	175	166	17,300	3.55	106
EER 48/18/17	<b>0_44818EC</b>	86	232	223	19,900	4.08	102
EER 48/21/21	<b>0_44821EC</b>	100	255	248	25,500	5.84	128
EER 53/18/18	<b>0_45418EC</b>	91.8	250	240	23,000	4.75	122



### HOW TO ORDER

**OR 44216 EC XX**

- Standard core ← OR
- Ferrite core material ← 4
- Used for all ferrite types ← 42
- Approximate length in mm ← 16
- Approximate height or width in mm ← EC
- Geometry code/gap code ← XX
- Special specification code ←

### GEOMETRY CODE

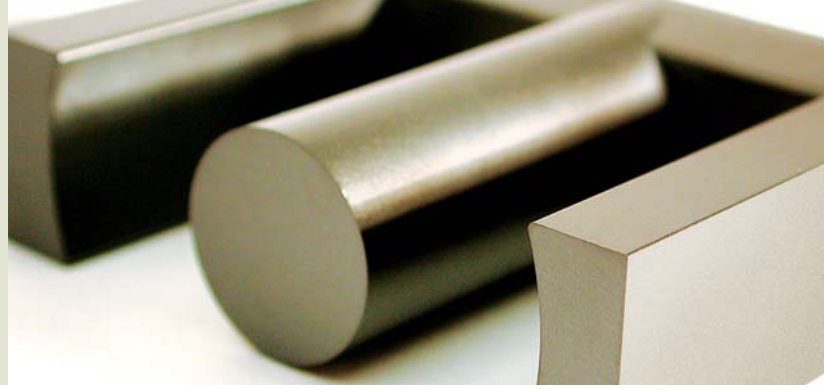
EC – All E cores including ETD, EC, ER, EER, EFD, planar and lamination sizes.

### GAP CODE

Note – Any practical gap available

TYPE/SIZE	DIMENSIONS IN MM					
	A	B	C	D	E	F
EER 28/14/11	28.55 ± 0.55	14 ± 0.2	11.4 ± 0.35	9.75 ± 0.4	21.75 ± 0.5	9.9 ± 0.2
EER 28/16/11	28.55 ± 0.55	16.7 ± 0.25	11.4 ± 0.35	12.65 ± 0.4	21.75 ± 0.5	9.9 ± 0.25
EER 35L	35 ± 0.65	20.7 ± 0.2	11.4 ± 0.35	14.75 ± 0.35	26.15 ± 0.55	11.3 ± 0.25
EER 40/22/13	40 ± 0.7	22.4 ± 0.2	13.4 ± 0.35	15.45 ± 0.35	29.6 ± 0.6	13.3 ± 0.25
EER 42	42.1 ± 0.81	21.6 ± 0.2	14.7 ± 0.3	15.6 min	31 ± 0.58	14.7 ± 0.3
EER 48/18/17	48 ± 1	18 ± 0.2	17.6 ± 0.4	11.45 ± 0.25	36.8 ± 0.8	17.6 ± 0.4
EER 48/21/21	48 ± 1	21.2 + 0/-0.4	21 + 0.3/-0.5	14.7 + 0.7/-0	38 + 0.5/-0.8	18 ± 0.3
EER 53/18/18	53.5 ± 1	18.3 ± 0.2	17.95 ± 0.35	11.1 ± 0.3	40.65 ± 0.85	17.9 ± 0.4

# EC Cores



## EC CORES

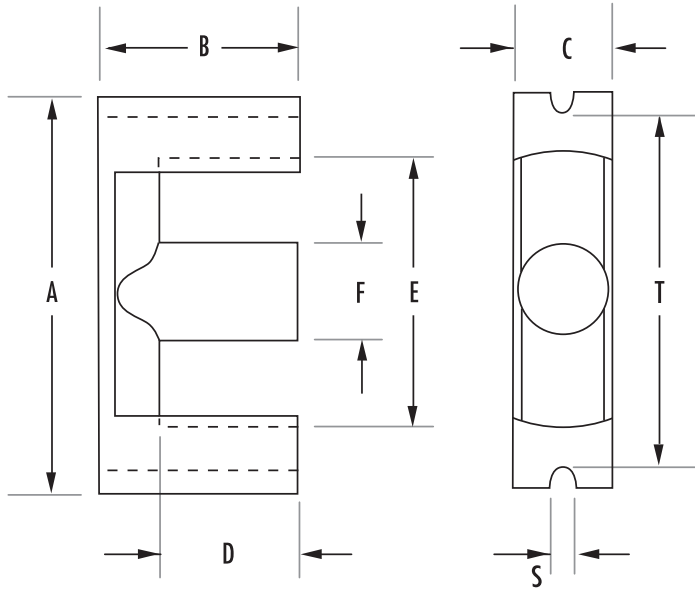
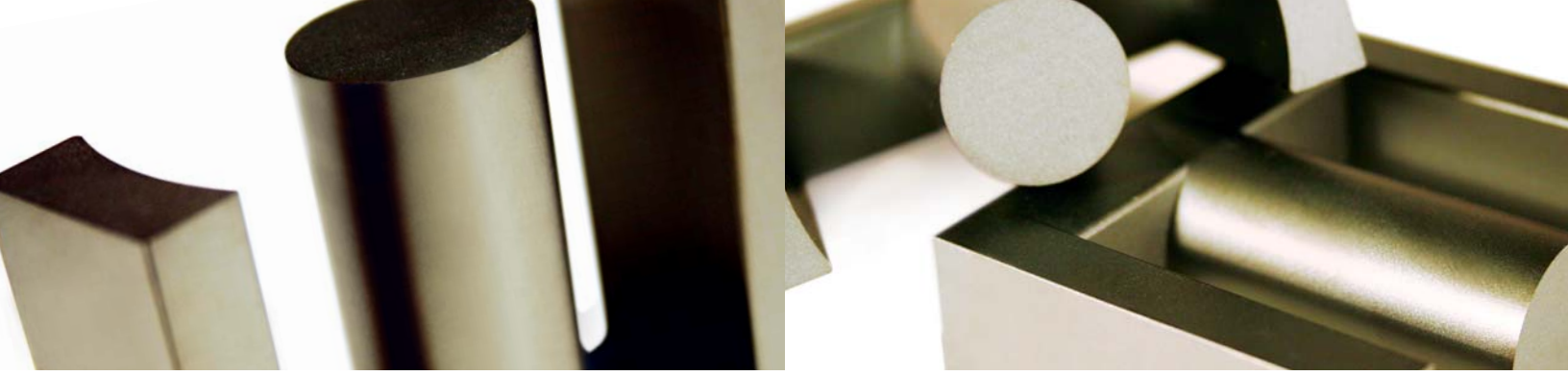
A cross between a pot core and an E core, EC cores have a round center post that provides a wide opening on each side, and therefore, minimum winding resistance. The long legs support low leakage inductance designs.

EC cores have standard channels for clamping assemblies. Plain bobbins, printed circuit bobbins and clamps are available for most sizes.

Magnetics EC cores are typically used in differential inductor and power transformer applications.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)		
		R	P	F
EC 35	<b>0_43517EC</b>	2,213	2,400	3,000
EC 41	<b>0_44119EC</b>	3,473	3,200	3,700
EC 52	<b>0_45224EC</b>	3,867	4,200	5,040
EC 70	<b>0_47035EC</b>	4,413	4,800	5,760

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams per set)
EC 35	<b>0_43517EC</b>	77.4	84.3	71	6,530	0.83	36
EC 41	<b>0_44119EC</b>	89.3	121	106	10,800	1.67	52
EC 52	<b>0_45224EC</b>	105	180	141	18,800	3.87	111
EC 70	<b>0_47035EC</b>	144	279	211	40,100	13.4	253



### HOW TO ORDER

OR 47035 EC XX

- Standard core ←
- Ferrite core material ←
- Used for all ferrite types ←
- Approximate length in mm ←
- Approximate width in mm ←
- Geometry code/gap code ←
- Special specification code ←

### GEOMETRY CODE

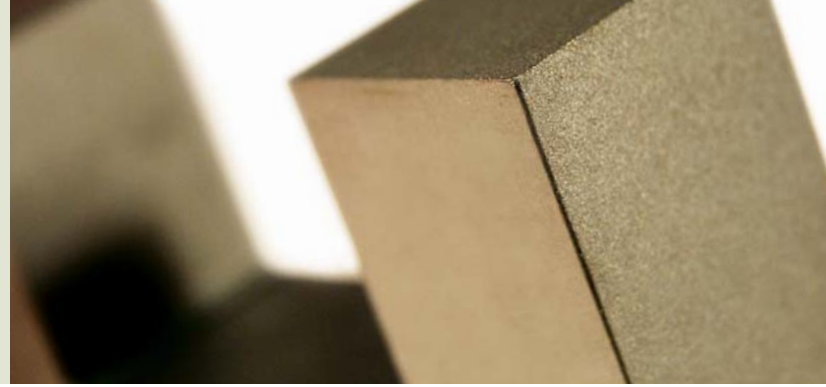
EC – All E cores including ETD, EC, ER, EER, EEM, EFD, planar and lamination sizes.

### GAP CODE

Note – Any practical gap available

TYPE/SIZE	DIMENSIONS IN MM							
	A	B	C	D	E	F	S	T
EC 35	34.5 ± 0.8	17.3 ± 0.15	9.5 ± 0.3	12.3 ± 0.4	22.75 ± 0.55	9.5 ± 0.3	2.75 ± 0.25	28.5 ± 0.8
EC 41	40.6 ± 1.0	19.5 ± 0.15	11.6 ± 0.3	13.9 ± 0.4	27.7 ± 0.7	11.6 ± 0.3	3.25 ± 0.25	33.6 ± 1
EC 52	52.2 ± 1.3	24.2 ± 0.15	13.4 ± 0.35	15.9 ± 0.4	33 ± 0.9	13.4 ± 0.35	3.75 ± 0.25	44 ± 1.3
EC 70	70 ± 1.7	34.5 ± 0.15	16.4 ± 0.4	22.75 ± 0.45	44.5 ± 1.2	16.4 ± 0.4	4.75 ± 0.25	59.6 ± 1.7

# U, I, UR Cores



## U CORES

U shape cores are ideal for higher power operation in tight spaces or unusual form factors. The long legs of a U core support low leakage inductance designs and facilitate superior voltage isolation.

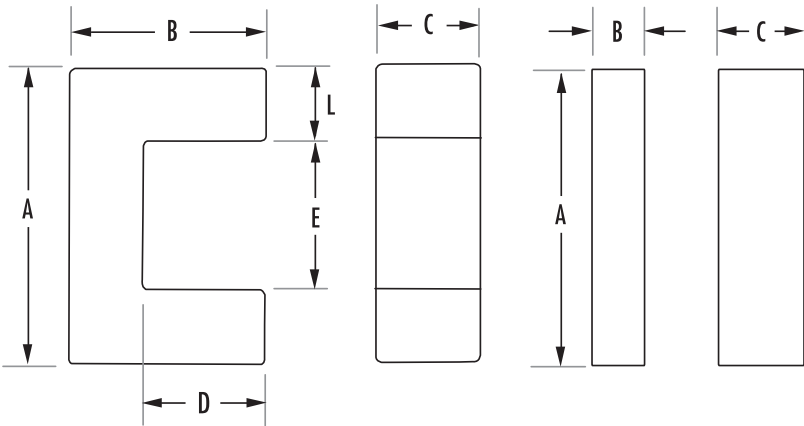
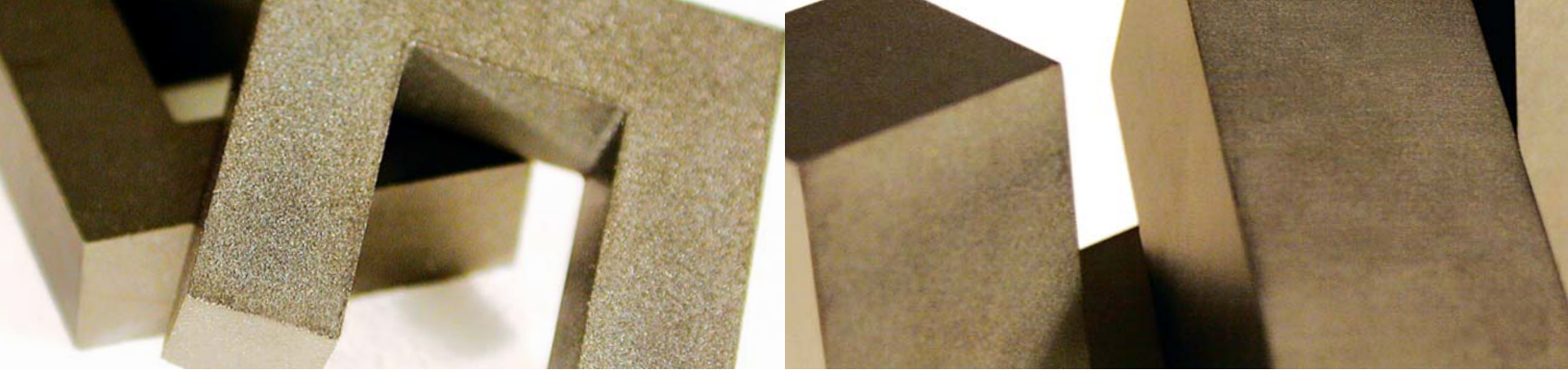
U/I combinations facilitate economical assembly.

U cores are ideal for power transformer applications.

TYPE/SIZE	ORDERING CODE	NOMINAL A <sub>L</sub> (MH/1000T)				
		L	R	P	F	J
U 11/6	<b>0_41106UC</b>		1,027	1,120	1,010	
I 11/6	<b>0_41106IC</b>		1,027	1,022	1,150	
U 22/20	<b>0_42220UC</b>			1,360		
U 25/12	<b>0_42512UC</b>		1,907		2,480	4,400
U 26/3/7	<b>0_42515UC</b>		1,107	1,333	1,600	2,507
I 25/6/6	<b>0_42516IC</b>		1,480	2,907	1,770	
U 25/16/12	<b>0_42530UC</b>		2,093	2,280	2,740	4,860
UR 41/21/11	<b>0_44119UC</b>		1,627	1,773	2,130	
UR 41/21	<b>0_44121UC</b>		1,880	2,047		
UR 41/25	<b>0_44125UC</b>		1,600	1,747	2,105	
UR 41/30	<b>0_44130UC</b>		1,400	1,520	1,830	
UR 57	<b>0_45716UC</b>		2,600	3,061	3,622	
UR 59	<b>0_45917UC</b>		3,027	3,274	3,881	
UR 64	<b>0_46420UC</b>		3,787	4,098	4,864	
U 93/16	<b>0_49316UC</b>		3,400	5,191	6,173	9,924
I 93/16	<b>0_49316IC</b>		4,600			10,600
U 126/20	<b>0_49920UC</b>		3,000	3,572	4,265	6,967
U 101/25	<b>0_49925UC</b>		4,533	4,920	6,500	
I 101/25	<b>0_49925IC</b>		5,707	6,200	7,440	

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		l <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	A <sub>min</sub> (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams per set)
U 11/6	<b>0_41106UC</b>	29.2	12	11.5	350	0.02	1.8
I 11/6	<b>0_41106IC</b>	24.6	11.5	11.5	283	0.01	1.5
U 22/20	<b>0_42220UC</b>	95.8	39.7	39.7	4,130	0.91	19
U 25/12	<b>0_42512UC</b>	68.9	80	80	4,170	0.67	29
U 26/3/7	<b>0_42515UC</b>	83.4	40.4	40.4	3,370	0.63	17
I 25/6/6	<b>0_42516IC</b>	64.3	40.3	40.3	2,590	0.32	13
U 25/16/12	<b>0_42530UC</b>	83.4	80.8	80.8	6,740	1.27	34
UR 41/21/11	<b>0_44119UC</b>	121.2	91.1	80.5	11,000	2.86	54
UR 41/21	<b>0_44121UC</b>	115.2	114.3	105.4	13,172	3.09	55
UR 41/25	<b>0_44125UC</b>	134.4	113.1	105.4	15,196	4.44	64
UR 41/30	<b>0_44130UC</b>	154.8	112.1	105.4	17,346	5.88	75
UR 57	<b>0_45716UC</b>	163	171	171	27,900	9.6	140
UR 59	<b>0_45917UC</b>	189	210	210	39,700	15.5	198
UR 64	<b>0_46420UC</b>	210	290	290	61,000	22	320
U 93/16	<b>0_49316UC</b>	258	447	447	115,000	86	800
I 93/16	<b>0_49316IC</b>	258	447	447	115,000	76	200
U 126/20	<b>0_49920UC</b>	480	560	560	268,800	221	1,360
U 101/25	<b>0_49925UC</b>	308	645	645	199,000	975	168
I 101/25	<b>0_49925IC</b>	245	645	645	158,000	324	102





**U CORE**

**I CORE**

**HOW TO ORDER**

**OF 42220 UC XX**

- Standard core ←
- Ferrite core material ←
- Used for all ferrite types ←
- Approximate length in mm ←
- Approximate width in mm ←
- Geometry code ←
- Special specification code ←

**SHAPE CODE**

0 – Standard

**GEOMETRY CODE**

U, UR – U core  
I – I cores

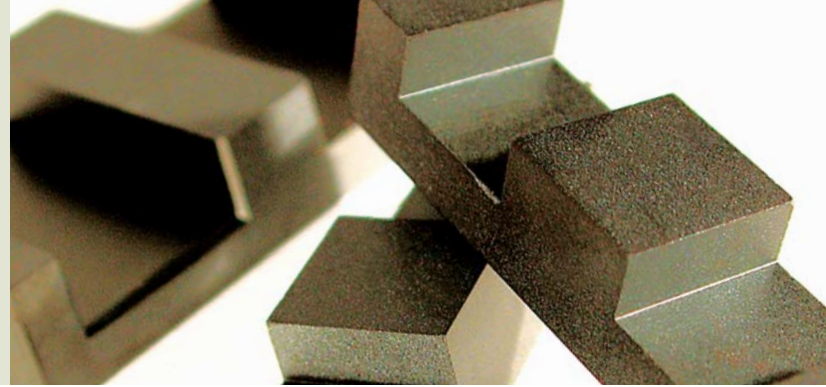
Cores are sold per piece (for sets multiply by 2). If desired in sets, this must be specified.

\* UR cores have round legs. Visit [www.mag-inc.com](http://www.mag-inc.com) for drawings.

TYPE/SIZE	DIMENSIONS IN MM					
	A	B	C	D	E	L
U 11/6	10.85 ± 0.2	4.19 ± 0.13	6.3 ± 0.13	2.24 ± 0.13	7.19 ± 0.2	1.83 ± 0.13
I 11/6	10.8 ± 0.2	1.83 ± 0.12	6.3 ± 0.13			
U 22/20	22.1 ± 0.38	20.6 ± 0.38	6.27 ± 0.18	13.98 min	9.5 ± 0.38	6.27 ± 0.18
U 25/12	25.4 ± 0.5	12.9 ± 0.4	12.7 ± 0.4	6.35 min	12.8 ref	6.3 ± 0.13
U 26/3/7	25.4 ± 0.51	15.9 ref	6.35 ± 0.12	9.27 min	12.7 ref	6.35 + 0/-0.1
I 25/6/6	25.4 + 0.64/-0.51	6.35 ± 0.13	6.35 ± 0.13			
U 25/16/12	25.4 ± 0.51	15.9 ref	12.7 ± 0.25	9.27 min	12.7 ref	6.35 ± 0.12
UR 41/21/11	41.78 ± 0.81	20.6 ± 0.13	11.94 ± 0.25	11.1 ± 0.2	18.8 ± 0.56	
UR 41/21	41.78 ± 0.81	25.4 ± 0.13	11.94 ± 0.25	15.9 ± 0.2	18.8 ± 0.56	
UR 41/25	41.78 ± 0.81	25.4 ± 0.13	11.94 ± 0.25	15.9 ± 0.2	18.8 ± 0.56	
UR 41/30	41.78 ± 0.11	30.5 ± 0.3	11.94 ± 0.25	20.8 min	18.8 ± 0.56	
*UR 57	57.65 ± 1.7	28.6 + 0/-0.4	15.9 ± 0.4	15.5 + 1/-0	27.8 ± 0.9	15.9 + 0.4 dia.
*UR 59	59.34 ± 1.75	35.8 ± 0.4	17 ± 0.4	21.5 ± 0.8	26.5 ± 0.1	17 + 0.4 dia.
*UR 64	64 ± 1.95	40.5 ± 0.2	24 ± 0.3	26.5 ± 0.4	24.1 ± 0.9	20 ± 0.4 dia.
U 93/16	93 ± 1.8	76 ± 0.5	16 ± 0.6	48 ± 0.9	36.2 ± 1.2	28.4 ref
I 93/16	93 ± 1.8	27.5 ± 0.5	16 ± 0.6			
U 126/20	126 ± 4	91 ± 1	20 ± 0.6	63 ± 2	70 ± 2	28 ref
U 101/25	101.6 ± 1.5	57.1 ± 4	25.4 ± 0.6	31.7 ± 0.75	50.8 ± 1	25.4 ± 0.8
I 101/25	101.6 ± 1.5	25.4 ± 0.4	25.4 ± 0.6			

# Planar E, I Cores

14mm – 36mm



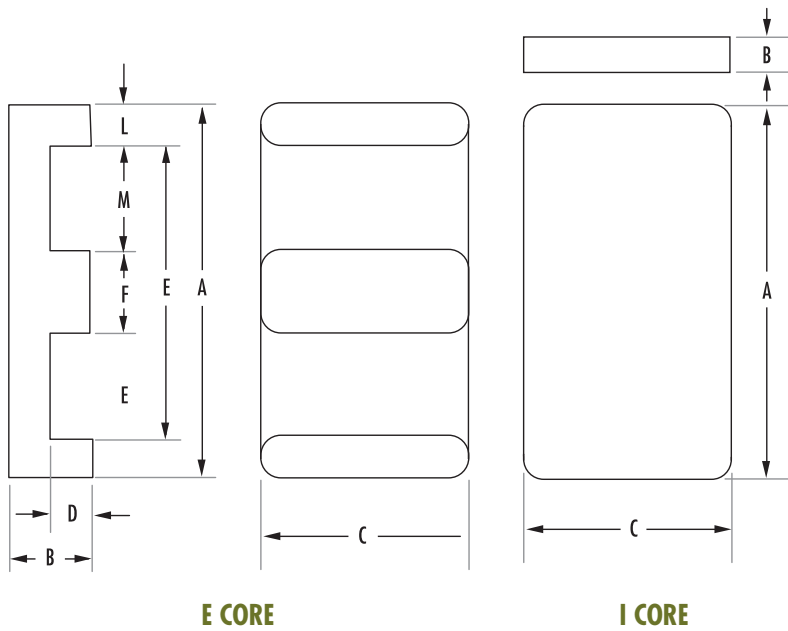
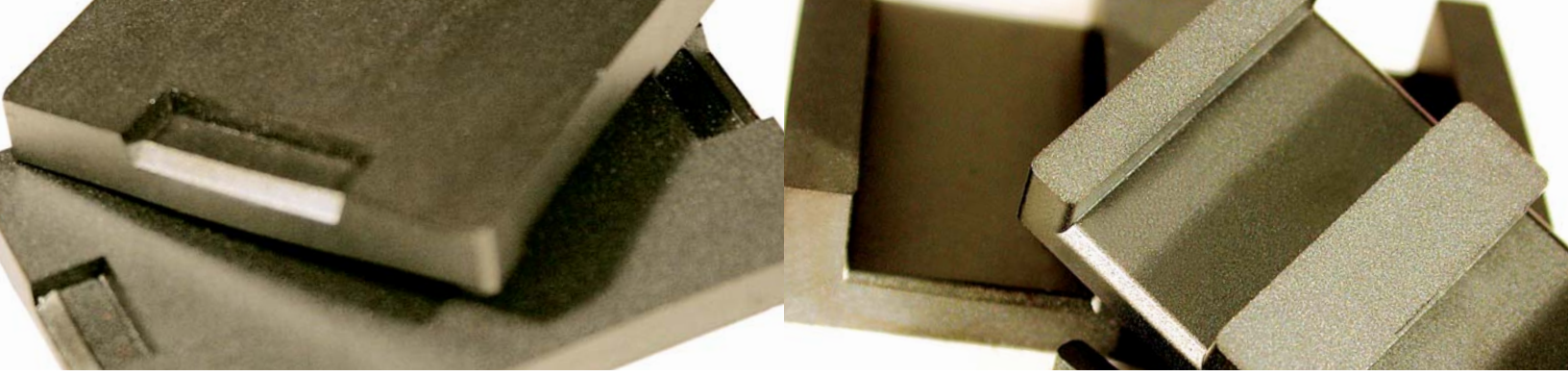
## PLANAR E, I CORES

Planar E cores are offered in all of the IEC standard sizes, as well as a number of other sizes. The leg length and window height (B and D dimensions) are adjustable for specific applications without new tooling. This permits the designer to adjust the final core specification to exactly accommodate the planar conductor stack height, with no wasted space. Clips and clip slots are available in many cases, which is especially useful for prototyping. I-cores are also offered standard, permitting further flexibility in design. E-I planar combinations are useful to allow practical face bonding in high volume assembly, and for making gapped inductor cores where fringing losses must be carefully considered due to the planar construction.

Differential inductors and DCDC, ACDC converter are typical applications for planar cores.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)			
		L	R	P	F
E 14/2.5/15	<b>O_41425EC</b>	780	1,653	1,595	1,765
E 14 C	<b>C_41434EC</b>	600	1,327	1,399	1,563
I 14 C	<b>C_41434IC</b>	780	1,504	1,580	1,749
E 18 C	<b>C_41805EC</b>	1,500	3,244	3,430	3,853
I 18 C	<b>C_41805IC</b>	1,800	3,606	3,801	4,241
E 18	<b>F_41805EC</b>	1,550	3,244	3,430	3,853
I 18	<b>F_41805IC</b>	1,800	3,641	3,837	4,278
E 22/4/7	<b>O_42107EC</b>		3,448	3,173	3,810
I 22/4/7	<b>O_42107IC</b>	1,480			
E 22 C	<b>C_42216EC</b>	2,300	5,066	5,387	6,131
I 22 C	<b>C_42216IC</b>	2,900	5,956	6,506	7,327
E 22	<b>F_42216EC</b>	2,400	5,066	5,387	6,131
I 22	<b>F_42216IC</b>	2,900	6,207	6,568	
E 32 C	<b>C_43208EC</b>		6,521	6,918	7,834
I 32 C	<b>C_43208IC</b>		7,321	7,745	8,711
E 32	<b>F_43208EC</b>	3,200	6,700	6,918	8,744
I 32	<b>F_43208IC</b>	3,700	7,321	7,745	8,711
E 36/6/18	<b>O_43618EC</b>		6,678	7,090	8,039
I 36/3/18	<b>O_43618IC</b>		7,303	7,736	8,729

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	WaAc (cm <sup>3</sup> )	Weight (grams per set)
E 14/2.5/15	<b>O_41425EC</b>	16.7	14.7	14.7	244	0.009	1.2
E 14 C	<b>C_41434EC</b>	20.7	14.66	14.66	304	0.01	1.5
I 14 C	<b>C_41434IC</b>	16.4	14.2	11.4	230	0.009	1.2
E 18 C	<b>C_41805EC</b>	24.2	40.1	39.9	972	0.06	4.9
I 18 C	<b>C_41805IC</b>	20.3	39.5	35.9	830	0.03	4.1
E 18	<b>F_41805EC</b>	24.2	40.1	39.9	972	0.06	4.7
I 18	<b>F_41805IC</b>	20.3	40.1	39.9	813	0.03	3.9
E 22/4/7	<b>O_42107EC</b>	25.7	37.1	36	960	0.05	4.2
I 22/4/7	<b>O_42107IC</b>	22.7	35.7	33.5	809	0.37	
E 22 C	<b>C_42216EC</b>	32.3	76	73.1	2,451	0.24	11.9
I 22 C	<b>C_42216IC</b>	26.1	80.4	72.5	2,100	0.12	10.4
E 22	<b>F_42216EC</b>	32.5	78.5	76	2,550	0.24	12.4
I 22	<b>F_42216IC</b>	25.8	80.6	80.6	2,080	0.12	10.1
E 32 C	<b>C_43208EC</b>	41.4	130	130	5,380	0.24	
I 32 C	<b>C_43208IC</b>	35.1	130	130	4,560	0.12	
E 32	<b>F_43208EC</b>	41.4	130	130	5,380	0.66	26
I 32	<b>F_43208IC</b>	35.1	130	130	4,560	0.33	22
E 36/6/18	<b>O_43618EC</b>	42.4	135	135	5,750	0.55	28
I 36/3/18	<b>O_43618IC</b>	37.4	135	135	5,060	0.27	25



### HOW TO ORDER

**CR 4 14 34 EC XX**

- Shape code ← CR
- Ferrite core material ← 4
- Used for all ferrite types ← 14
- Approximate length in mm ← 34
- Approximate width in mm ← EC
- Geometry code/gap code ← XX
- Special specification code ←

### SHAPE CODE

- 0 – Standard
- C – Planar E core with clip recesses
- F – Planar E core option: no clip recesses

### GEOMETRY CODE

- EC – All E cores including ETD, EC, ER, EER, EFD, planar and laminations sizes
- IC – I cores

### GAP CODE

Note – Any practical gap available

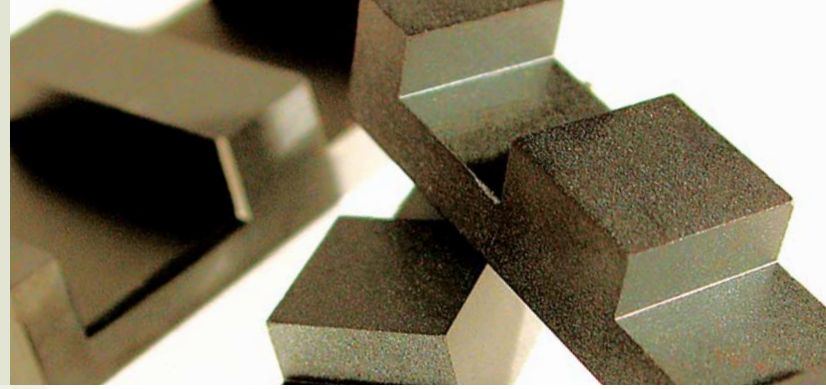
Cores are sold per piece (for sets multiply by 2). Gapped pieces are normally packed separately from ungapped pieces. If desired in sets, this must be specified.

DIMENSIONS IN MM								
TYPE/SIZE	A	B	C	D	E	F	L	M
E 14/2.5/15	14 ± 0.3	2.5 ± 0.1	5 ± 0.1	1 ± 0.1	11 ± 0.25	3 ± 0.1	1.5 ref	4 ref
E 14 C	14 ± 0.3	3.5 ± 0.1	5 ± 0.15	1.91 min	10.5 min	3 ± 0.1	1.5 ref	4 ref
I 14 C	14 ± 0.3	1.8 ± 0.05	5 ± 0.15	1.5 ± 0.1	2.5 + 2/-0			
E 18 C	18 ± 0.35	4 ± 0.1	10 ± 0.2	2 ± 0.1	14 ± 0.3	4 ± 0.1	2 ref	5 ref
I 18 C	18 ± 0.35	2.4 ± 0.5	10 ± 0.2	2 ± 0.1	2.5 + 2/-0			
E 18	18 ± 0.35	4 ± 0.1	10 ± 0.2	2 ± 0.1	13.7 min	4 ± 0.1	2 ref	5 ref
I 18	18 ± 0.41	2.39 ± 0.1	10 ± 0.2					
E 22/4/7	21.8 ± 0.4	3.91 ± 0.8	7.8 ± 0.5	1.73 ± 0.2	16.8 ± 0.3	5 ± 0.2	2.5 ± 0.12	5.89 ± 0.25
I 22/4/7	21.8 ± 0.4	2.3 ± 0.2	7.8 ± 0.3					
E 22 C	21.8 ± 0.4	5.7 ± 0.1	15.8 ± 0.3	3.2 ± 0.1	16.8 ± 0.4	5 ± 0.1	2.5 ref	5.9 ref
I 22 C	21.8 ± 0.4	2.9 ± .05	15.8 ± 0.3	2.5 ± 0.1	2.9 + 0.2/-0			
E 22	21.8 ± 0.4	5.72 ± 0.12	15.8 ± 0.3	3.05 min	16.1 min	5.08 ± 0.12	2.5 ref	5.9 ref
I 22	21.8 ± 0.4	2.95 ± 0.1	15.8 ± 0.3					
E 32 C	31.75 ± 0.64	6.35 ± 0.13	20.32 ± 0.41	3.18 ± 0.2	24.9 min	6.35 ± 0.13	3.18	9.27
I 32 C	31.75 ± 0.64	3.18 ± 0.13	20.32 ± 0.41					
E 32	31.75 ± 0.64	6.35 ± 0.13	20.32 ± 0.41	3.18 ± 0.2	24.9 min	6.35 ± 0.13	3.18	9.27
I 32	31.75 ± 0.64	3.18 ± 0.13	20.32 ± 0.41					
E 36/6/18	35.56 ± 0.5	6.35 ± 0.13	17.8 ± 0.4	2.41 min	27.2 min	7.62 ± 0.18	3.81 ± 0.13	10.16 ± 0.25
I 36/3/18	36.58 ± 0.51	3.81 ± 0.25	18.29 ± 0.38					



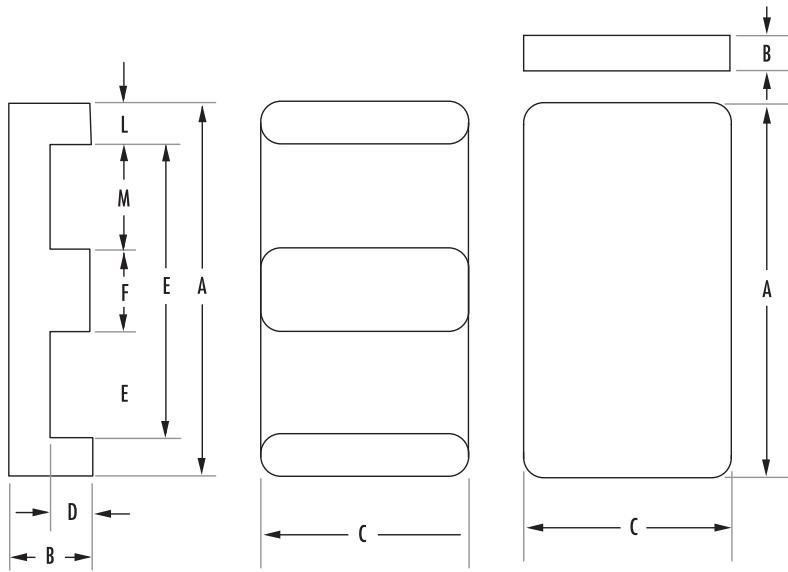
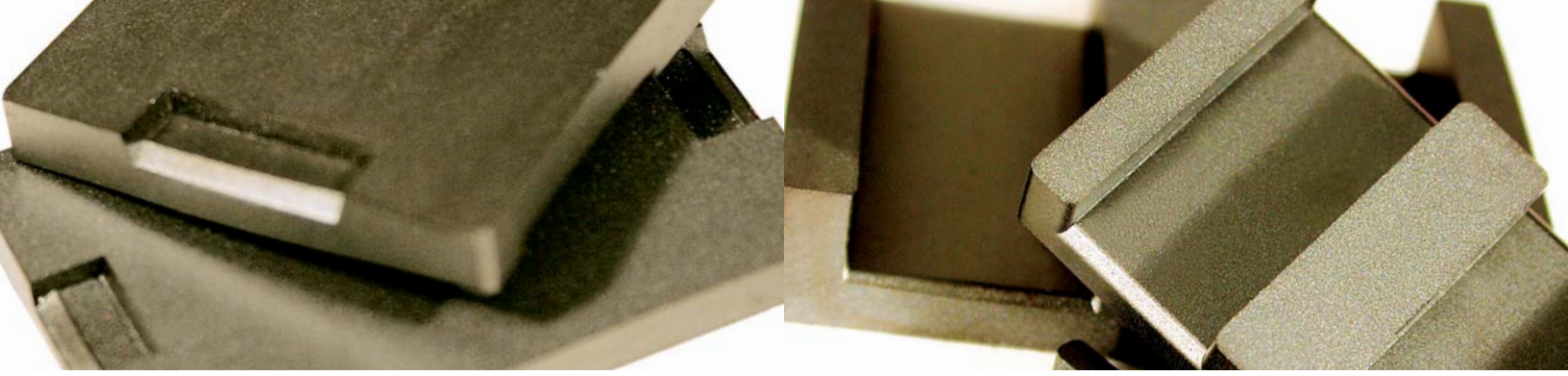
# Planar E, I Cores

38mm – 102mm



TYPE/SIZE	ORDERING CODE	NOMINAL A <sub>L</sub> (MH/1000T)				
		L	R	P	F	J
E 38	<b>F_43808EC</b>	3,880	7,867	8,354	9,490	
I 38	<b>F_43808IC</b>	4,600	9,028	9,566	9,028	
E 40/8/10	<b>O_44008EC</b>		4,233	4,504	5,134	7,130
I 40/4/10	<b>O_44008IC</b>		4,744	5,035	5,706	8,026
E 43/8/28	<b>O_44308EC</b>		8,560	9,150	11,172	
I 43/4/28	<b>O_44308IC</b>		10,133		11,849	
E 43	<b>F_44310EC</b>		8,266	8,803	10,450	
I 43	<b>F_44310IC</b>		10,631	10,130	11,489	
E 58 C	<b>C_45810EC</b>		8,498	9,073	10,427	
I 58 C	<b>C_45810IC</b>		9,821	10,457	11,941	
E 58	<b>F_45810EC</b>		8,498	9,073	10,427	
I 58	<b>F_45810IC</b>		9,970	10,457	11,941	
E 64 C	<b>C_46410EC</b>		14,618	15,599	17,901	
I 64 C	<b>C_46410IC</b>		16,139	17,189	19,639	
E 64	<b>F_46410EC</b>		16,154	15,599	17,901	
I 64	<b>F_46410IC</b>		18,098	17,245	19,699	
E 102	<b>O_49938EC</b>		9,810	9,997	11,697	

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		l <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	A <sub>min</sub> (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams per set)
E 38	<b>F_43808EC</b>	52.4	194	194	10,200	1.56	50.9
I 38	<b>F_43808IC</b>	43.7	194	194	8,460	0.78	42.5
E 40/8/10	<b>O_44008EC</b>	51.9	101	95.1	5,220	0.66	26
I 40/4/10	<b>O_44008IC</b>	43.8	99.5	95.1	4,360	0.32	21
E 43/8/28	<b>O_44308EC</b>	57.5	227	227	13,100	2.18	64
I 43/4/28	<b>O_44308IC</b>	50.4	229	229	11,500	1.09	54
E 43	<b>F_44310EC</b>	61.1	229	229	18,900	2.68	70.6
I 43	<b>F_44310IC</b>	50.4	229	229	11,500	1.34	58
E 58 C	<b>C_45810EC</b>	80.6	308	308	24,600	8.36	119
I 58 C	<b>C_45810IC</b>	67.7	310	310	20,800	4.18	101
E 58	<b>F_45810EC</b>	80.6	308	308	24,600	8.36	119
I 58	<b>F_45810IC</b>	67.7	310	310	20,800	4.18	101
E 64 C	<b>C_46410EC</b>	80.2	516	516	41,400	10.4	195
I 64 C	<b>C_46410IC</b>	64.9	511	511	35,539	5.2	172
E 64	<b>F_46410EC</b>	80.2	516	516	41,400	10.4	200
I 64	<b>F_46410IC</b>	69.6	511	511	35,539	5.2	172
E 102	<b>O_49938EC</b>	148	540	525	79,800	46	400



**E CORE**

**I CORE**

**HOW TO ORDER**

**CR 46410 EC XX**

- Shape code ← CR
- Ferrite core material ← 4
- Used for all ferrite types ← 64
- Approximate length in mm ← 10
- Approximate width in mm ← EC
- Geometry code/gap code ← XX
- Special specification code ←

**SHAPE CODE**

- 0 – Standard
- C – Planar E core with clip recesses
- F – Planar E core option: no clip recesses

**GEOMETRY CODE**

- EC – All E cores including ETD, EC, ER, EER, EFD, planar and lamination sizes
- IC – I cores

**GAP CODE**

Note – Any practical gap available

Cores are sold per piece (for sets multiply by 2). Gapped pieces are normally packed separately from ungapped pieces. If desired in sets, this must be specified.

TYPE/SIZE	DIMENSIONS IN MM							
	A	B	C	D	E	F	L	M
E 38	38.1 ± 0.76	8.26 ± 0.13	25.4 ± 0.51	4.45 ± 0.13	30.23 min	7.62 ± 0.15	3.81	11.43
I 38	38.1 ± 0.76	3.81 ± 0.13	25.4 ± 0.51					
E 40/8/10	40.65 ± 0.5	8.51 ± 0.25	10.7 ± 0.25	4.06 ± 0.25	30.45 ± 0.3	10.15 ± 0.15	5.1 ref	10.15 ref
I 40/4/10	40.64 ± 0.51	4.45 ± 0.25	10.7 ± 0.25					
E 43/8/28	43.2 ± 0.9	8.51 ± 0.25	27.9 ± 0.6	4.19 min	34.7 min	8.1 ± 0.2	4.7 max	13.2 min
I 43/4/28	43.2 ± 0.9	4.1 ± 0.13	27.9 ± 0.6					
E 43	43.2 ± 0.9	9.53 ± 0.13	27.9 ± 0.6	5.4 ± 0.13	34.7 min	8.1 ± 0.2	4.7 max	13.2 min
I 43	43.2 ± 0.9	4.1 ± 0.13	27.9 ± 0.6					
E 58 C	58.42 ± 1.2	10.54 ± 0.2	38.1 ± 0.8	6.35 min	50 min	8.1 ± 0.2	3.7 ref	21.4 ref
I 58 C	58.42 ± 1.2	4.1 ± 0.12	38.1 ± 0.8					
E 58	58.42 ± 1.2	10.54 ± 0.2	38.1 ± 0.78	6.35 min	50 min	8.1 ± 0.2	3.7 ref	21.4 ref
I 58	58.42 ± 1.2	4.1 ± 0.12	38.1 ± 0.8					
E 64 C	64 ± 0.76	10.2 ± 0.1	50.8 ± 0.81	5.03 min	53.16 min	10.16 ± 0.18	5.08 ± 0.12	21.8 ± 0.25
I 64 C	64.01 ± 1.21	5.08 ± 0.13	50.8 ± 1.02					
E 64	64 ± 0.76	10.2 ± 0.1	50.8 ± 0.81	5.03 min	53.16 min	10.16 ± 0.18	5.08 ± 0.12	21.8 ± 0.25
I 64	64.01 ± 1.27	5.08 ± 0.13	50.8 ± 1.02					
E 102	102 ± 1	20.3 ± 0.25	37.5 ± 0.4	13.3 ± 0.25	86 ± 1	14 ± 0.25	8 ref	36 ref



# ER Cores



## ER CORES

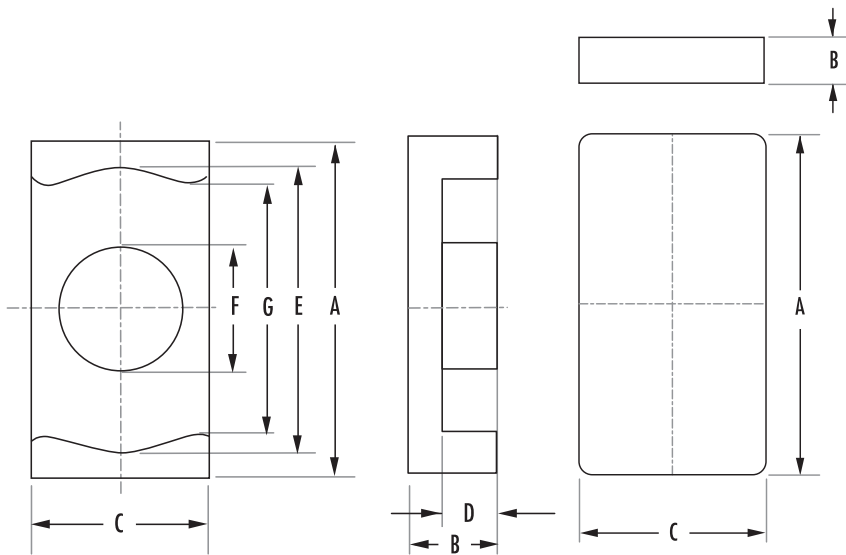
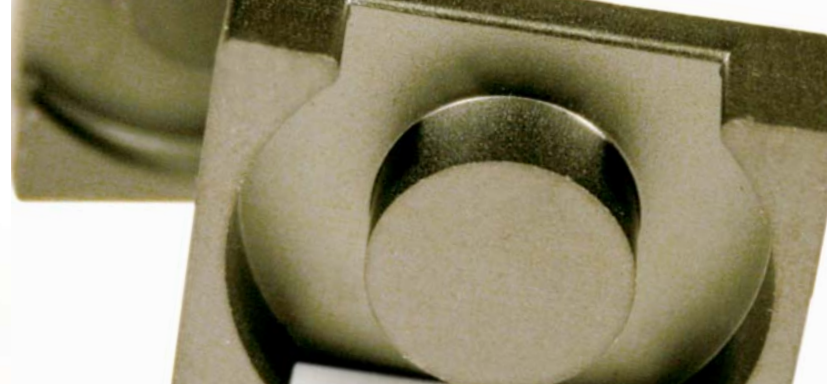
ER cores are a cross between E cores and pot cores. The round centerpost of the ER core offers minimal winding resistance. In addition, they offer better space utilization and shielding than with rectangular center leg planar cores. When compared with non-planar cores, ERs offer minimal height and better thermal performance.

E/I combinations facilitate economical assembly. Surface mount accessories are available.

Typical applications of ER cores include differential inductors and power transformers.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)			
		L	R	P	F
ER 9/5	<b>O_40906EC</b>	525	973	1,053	1,270
ER 11/6	<b>O_41126EC</b>	725	1,400	1,690	1,780
ER 12.5/8.5	<b>O_41308EC</b>	950	1,700	1,800	1,950
I 12.5/8.5	<b>O_41308IC</b>	1,000	1,800	1,900	2,000
ER 14.5/6	<b>O_41426EC</b>	850	1,600	1,700	1,850
ER 18/3/10	<b>O_41826EC</b>	1,300		2,770	3,104
ER 32/6/25	<b>O_43225EC</b>		6,950	7,350	8,200
ER 20/7/14 C	<b>C_42014EC</b>	1,100	3,788		
I 20/7/14 C	<b>C_42014IC</b>	2,150	4,500	4,900	5,500
ER 20/7/14	<b>F_42014EC</b>	1,600	3,788	4,026	4,575
I 20/7/14	<b>F_42014IC</b>	2,150	4,479	4,740	5,338
ER 23/3/12	<b>O_42313EC</b>	1,850	3,800	4,030	4,540
ER 25/5.5/18	<b>O_42517EC</b>	3,300	7,021	7,447	8,427
I 25/2/18	<b>O_42517IC</b>	3,300	7,021	7,447	8,427
ER 25/8/18	<b>O_42521EC</b>	2,300	5,440	5,801	6,649
ER 30/8/20	<b>O_43021EC</b>	2,400	5,465	5,841	6,729
I 30/2.5/20	<b>O_43021IC</b>	3,200	6,550	7,784	8,850

SIZE	ORDERING CODE	MAGNETIC DATA				Weight (grams per set)
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	A min (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	
ER 9/5	<b>O_40906EC</b>	14.2	8.47	7.6	120	1
ER 11/6	<b>O_41126EC</b>	14.7	11.9	10.3	174	1
ER 12.5/8.5	<b>O_41308EC</b>	17.5	19.9	19.2	348	2
I 12.5/8.5	<b>O_41308IC</b>	15.9	19.8	19.2	315	1
ER 14.5/6	<b>O_41426EC</b>	19	17.6	17.3	333	2
ER 18/3/10	<b>O_41826EC</b>	22.1	30.2	30.1	667	3
ER 32/6/25	<b>O_43225EC</b>	38.2	141	38.2	5,400	
ER 20/7/14 C	<b>C_42014EC</b>	33.2	59	55	1,960	
I 20/7/14 C	<b>C_42014IC</b>	25.1	59.8	55	1,500	
ER 20/7/14	<b>F_42014EC</b>	33.2	59	55	1,960	
I 20/7/14	<b>F_42014IC</b>	25.5	57.3	52.5	1,460	
ER 23/3/12	<b>O_42313EC</b>	26.6	50.2	50	1,340	6.4
ER 25/5.5/18	<b>O_42517EC</b>	26.4	89.7	82.8	2,370	16.4
I 25/2/18	<b>O_42517IC</b>	26.4	89.7	82.8	2,370	13.1
ER 25/8/18	<b>O_42521EC</b>	41.4	100	95	4,145	22.0
ER 30/8/20	<b>O_43021EC</b>	46	108	95	4,970	26.4
I 30/2.5/20	<b>O_43021IC</b>	36.2	108	95	3,910	20.8



**ER CORE**

**I CORE**

**HOW TO ORDER**

**OR 40906 EC XX**

- Shape code ←
- Ferrite core material ←
- Used for all ferrite types ←
- Approximate length in mm ←
- Approximate depth in mm ←
- Geometry code/gap code ←
- Special specification code ←

**SHAPE CODE**

- O – Standard
- C – Planar E core with clip recesses
- F – Planar E core option: no clip recesses

**GEOMETRY CODE**

- EC – All E cores including ETD, EC, ER, EER, EFD, planar and lamination sizes.
- IC – I cores

	DIMENSIONS IN MM						
TYPE/SIZE	A	B	C	D	E	F	G
ER 9/5	9.5 + 0/-0.3	2.45 ± .05	5 + 0/-0.2	1.6 + 0.15/-0	7.5 + 0.25/-0	3.5 + 0/-0.2	7.1 + 0.2/-0
ER 11/6	11 + 0/-0.35	2.45 ± 0.05	6 + 0/-0.2	1.5 + 0.15/-0	8.7 + 0.3/-0	4.25 + 0/-0.25	8 + 0/-0.25
ER 12.5/8.5	12.8 ± 0.3	2.85 ± 0.8	8.7 ± 0.25	1.75 ± 0.13	11.2 ± 0.3	5 ± 0.15	9.05 ± 0.3
I 12.5/8.5	12.8 ± 0.3	1.1 ± 0.1	8.7 ± 0.25				
ER 14.5/6	14.7 + 0/-0.4	2.95 ± 0.5	6.8 + 0/-0.2	1.55 + 0.2/-0	11.6 + 0.4/-0	4.8 + 0/-0.2	
ER 18/3/10	18 ± 0.35	3.15 ± 0.1	9.7 ± 0.2	1.6 ± 0.1	15.6 ± 0.3	6.2 ± 0.15	13.5 min
ER 32/6/25	32.1 + 0.55/-0.45	6 ± 0.13	25.4 ± .4	2.9 + 0/-0.25	27.2 ± 0.4	12.4 ± 0.15	27.2 ± 0.4
ER 20/7/14 C	20 ± 0.35	6.8 ± 0.1	14 ± 0.3	4.6 ± 0.15	18 ± 0.35	8.8 ± 0.15	12.86 ± 0.35
I 20/7/14 C	20 ± 0.35	2.3 ± 0.05	14 ± 0.3	1.9 ± 0.1	3 ± 0.1		
ER 20/7/14	20 ± 0.35	6.8 ± 0.1	14 ± 0.3	4.6 ± 0.15	18 ± 0.35	8.8 ± 0.15	12.86 ± 0.35
I 20/7/14	20 ± 0.35	1.9 ± 0.05	14 ± 0.3				
ER 23/3/12	23.2 ± 0.45	3.6 ± 0.1	12.5 ± 0.25	1.6 ± 0.1	20.2 ± 0.4	8	17.5 min
ER 25/5.5/18	25 ± 0.4	5.6 ± 0.1	18 ± 0.3	2.75 ± 0.15	22 ± 0.4	11 ± 0.2	15.2 ± 0.7
I 25/2/18	25 ± 0.4	2.3 ± 0.05	18 ± 0.3				
ER 25/8/18	25 ± 0.4	8 ± 0.1	18 ± 0.3	5.15 ± 0.15	22 ± 0.4	11 ± 0.2	15.2 ± 0.7
ER 30/8/20	30 ± 0.4	8 ± 0.15	20 ± 0.3	5.3 ± 0.2	26 ± 0.4	11 ± 0.2	19.45 ± 0.4
I 30/2.5/20	30 ± 0.4	2.7 ± 0.1	20 ± 0.3				

# PQ Cores



## PQ CORES

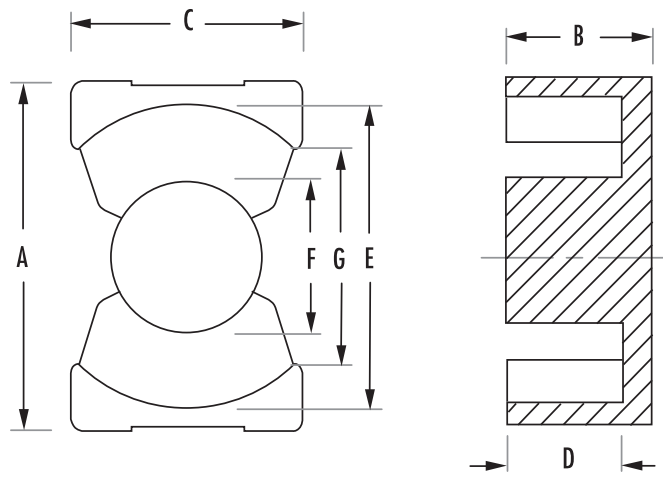
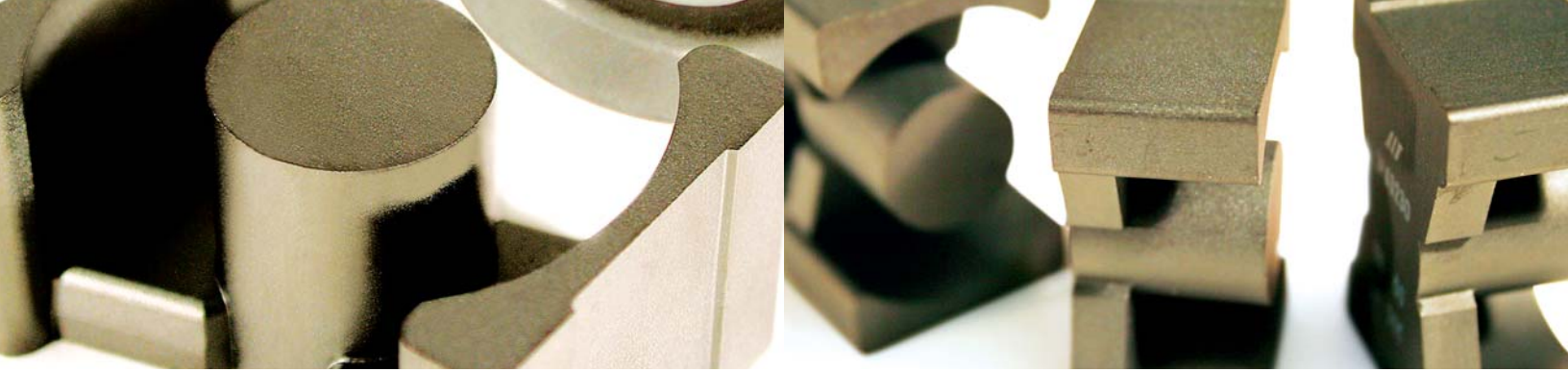
PQ cores are designed specifically for switched mode power supplies. This design provides an optimized ratio of volume to winding area and surface area. As a result, both maximum inductance and winding area are possible with a minimum core size. The cores provide maximum power output with minimum assembled transformer weight and volume, in addition to taking up a minimum amount of area on the printed circuit board.

Assembly with printed circuit bobbins and one piece clamps is simplified. This efficient design provides a more uniform cross-sectional area; thus cores tend to operate with fewer hot spots than with other designs.

Typical applications include power transformers and power inductors.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)			
		L	R	P	F
PQ 20/16	<b>0_42016UG</b>	1,650	3,587	3,907	4,690
PQ 20/20	<b>0_42020UG</b>	1,300	2,947	3,213	3,860
PQ 26/10	<b>0_42610UG</b>	3,900	7,733	8,413	8,080
PQ 26/14	<b>0_42614UG</b>	2,700	5,613		7,335
PQ 26/20	<b>0_42620UG</b>	2,640	5,560	6,053	7,270
PQ 26/25	<b>0_42625UG</b>	2,200	4,600	5,000	6,010
PQ 32/12	<b>0_43214UG</b>		6,867	7,467	8,960
PQ 32/20	<b>0_43220UG</b>		6,640	7,213	8,875
PQ 32/30	<b>0_43230UG</b>		4,667	5,080	6,100
PQ 35/35	<b>0_43535UG</b>		4,813	5,240	7,347
PQ 40/40	<b>0_44040UG</b>		4,267	4,640	5,580
PQ 50/50	<b>0_45050UG</b>		7,400	8,195	9,639

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams per set)
PQ 20/16	<b>0_42016UG</b>	37.6	61.9	59.1	2,330	0.15	13
PQ 20/20	<b>0_42020UG</b>	45.7	62.6	59.1	2,850	0.23	15
PQ 26/10	<b>0_42610UG</b>	29.4	105	93.8	3,090	0.09	15
PQ 26/14	<b>0_42614UG</b>	33.3	86.4	70.9	2,880	0.17	14
PQ 26/20	<b>0_42620UG</b>	45	121	109	5,470	0.39	31
PQ 26/25	<b>0_42625UG</b>	54.3	120	108	6,530	0.59	36
PQ 32/12	<b>0_43214UG</b>	34.4	109	92	3,750	0.3	21
PQ 32/20	<b>0_43220UG</b>	55.9	169	142	9,440	0.8	42
PQ 32/30	<b>0_43230UG</b>	74.7	167	142	12,500	1.6	55
PQ 35/35	<b>0_43535UG</b>	86.1	190	162	16,300	3.1	73
PQ 40/40	<b>0_44040UG</b>	102	201	175	20,500	5	95
PQ 50/50	<b>0_45050UG</b>	113	328	314	37,100	8.52	195



### HOW TO ORDER

**OP 4 20 16 UG XX**

- Standard core ← OP
- Ferrite core material ← 4
- Used for all ferrite types ← 20
- Approximate length in mm ← 16
- Approximate width (per set) in mm ← UG
- Geometry code/gap code ← XX
- Special specification code ←

### GAP CODE

UG – Ungapped  
 Note – Any practical gap available

DIMENSIONS IN MM									
TYPE/SIZE	A	B	2B	C	D	2D	E	F	G
PQ 20/16	21.3 ± 0.4	8.1 ± 0.1	16.2 ± 0.2	14 ± 0.4	5.15 ± 0.15	10.3 ± 0.3	18 ± 0.4	8.8 ± 0.2	12 min
PQ 20/20	21.3 ± 0.4	10.1 ± 0.1	20.2 ± 0.2	14 ± 0.4	7.15 ± 0.15	14.3 ± 0.3	18 ± 0.4	8.8 ± 0.2	12 min
PQ 26/10	27.2 ± 0.45	5.1 ± 0.1	10.2 ± 0.2	19 ± 0.45	1.2 min	2.39 min	22.05 min	12.2 max	15.5 min
PQ 26/14	27.2 ± 0.45	5.94 ± 0.1	11.9 ± 0.2	19 ± 0.45	3.4 min	6.7 min	22.05 min	12.2 max	15.5 min
PQ 26/20	27.3 ± 0.46	10.1 ± 0.13	20.2 ± 0.25	19 ± 0.45	5.75 ± 0.15	11.5 ± 0.3	22.5 ± 0.45	12 ± 0.2	15.5 min
PQ 26/25	27.3 ± 0.46	12.35 ± 0.13	24.7 ± 0.25	19 ± 0.45	8.05 ± 0.15	16.1 ± 0.3	22.5 ± 0.46	12 ± 0.2	15.5 min
PQ 32/12	33 ± 0.5	5.94 ± 0.1	11.9 ± 0.2	22 ± 0.5	3.4 min	6.7 min	27 min	13.75 max	19 min
PQ 32/20	33 ± 0.5	10.3 ± 0.13	20.6 ± 0.25	22 ± 0.5	5.75 ± 0.15	11.5 ± 0.3	27.5 ± 0.5	13.5 ± 0.25	19 min
PQ 32/30	33 ± 0.5	15.15 ± 0.13	30.3 ± 0.25	22 ± 0.5	10.65 ± 0.15	21.3 ± 0.3	27.5 ± 0.5	13.5 ± 0.25	19 min
PQ 35/35	36.1 ± 0.6	17.35 ± 0.13	34.7 ± 0.25	26 ± 0.5	12.5 ± 0.15	25 ± 0.3	32 ± 0.5	14.4 ± 0.25	23.5 min
PQ 40/40	41.5 ± 0.9	19.9 ± 0.15	39.8 ± 0.3	28 ± 0.6	14.75 ± 0.2	29.5 ± 0.4	37 ± 0.6	14.9 ± 0.3	29 ± 1
PQ 50/50	51 ± 0.7	25 ± 0.25	50 ± 0.5	32 ± 0.6	18.05 ± 0.3	36.1 ± 0.6	44 ± 0.7	20 ± 0.35	32 min



# Pot Cores



## POT CORES

The pot core shape is a convenient means of adjusting the ferrite structure to meet the specific requirements of an application. Both high circuit Q and good temperature stability of inductance can be obtained with these cores. Pot cores, when assembled, nearly surround the wound bobbin. This self-shielded geometry isolates the winding from stray magnetic fields or effects from other surrounding circuit elements.

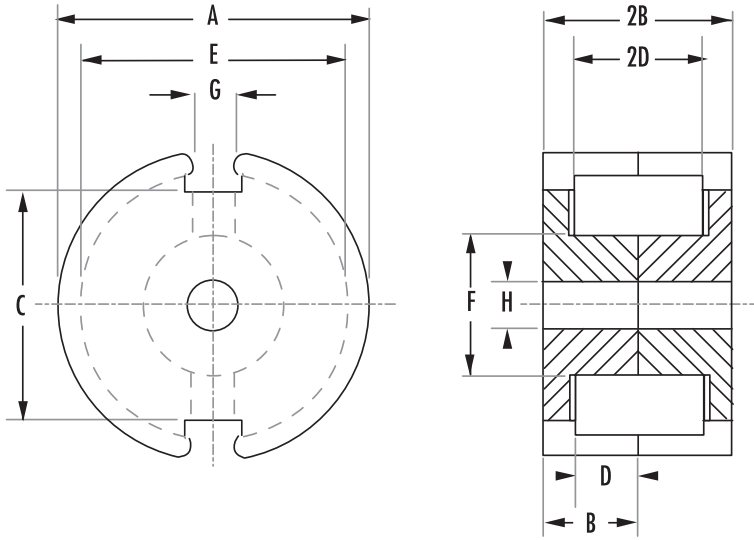
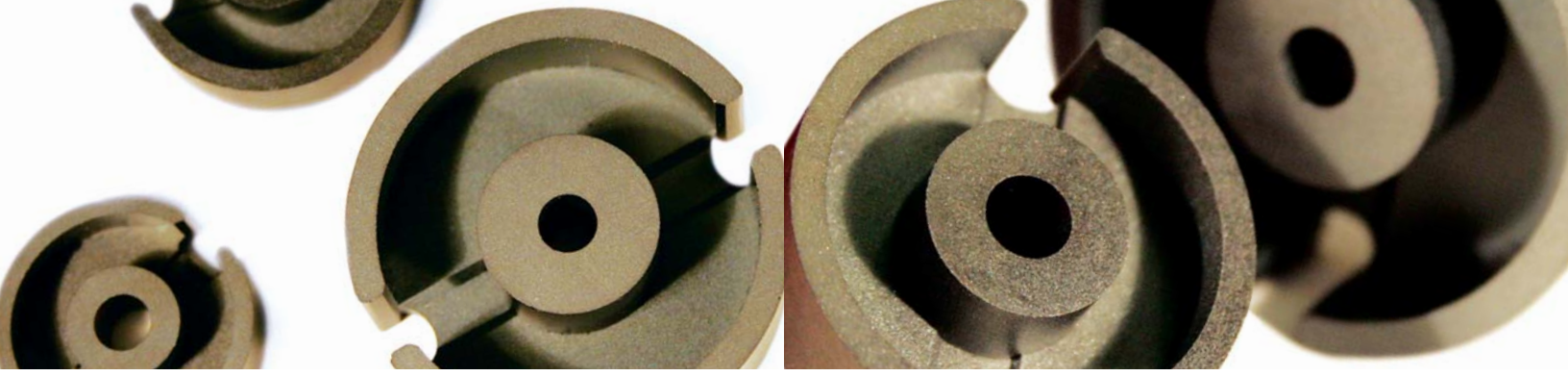
Both plain and printed circuit bobbins are available, as are mounting and assembly hardware.

Typical applications for pot cores include; differential inductors, power transformers, power inductors, converter and inverter transformers, filters, both broadband and narrow transformers and telecom inductors.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)					
		L	R	P	F	J	W
PC 7/4	<b>0_40704UG</b>		886	964	1,200	2,257	4,286
PC 9/5	<b>0_40905UG</b>		1,013	1,100	1,365	2,727	6,029
PC 11/7	<b>0_41107UG</b>		1,533	1,667	2,000	3,900	9,000
PC 11/9	<b>0_41109UG</b>		1,467	1,573	1,900		
PC 14/8	<b>0_41408UG</b>		2,053	2,240	2,800	5,073	8,400
PC 18/11	<b>0_41811UG</b>		3,067	3,333	4,000	7,500	12,000
PC 18/14	<b>0_41814UG</b>		3,076	3,268	3,350	5,088	
PC 22/13	<b>0_42213UG</b>		4,040	4,400	4,900	9,100	16,000
PC 26/16	<b>0_42616UG</b>		5,213	5,667	6,350	11,700	20,000
PC 28/23	<b>0_42823UG</b>				7,000		
PC 30/19	<b>0_43019UG</b>		6,680	7,267	8,100	15,100	28,140
PC 36/22	<b>0_43622UG</b>		8,700	9,467	10,200	17,500	32,667
PC 42/29	<b>0_44229UG</b>		9,200	10,000	12,000		40,000

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	WaAc (cm <sup>3</sup> )	Weight (grams per set)
PC 7/4	<b>0_40704UG</b>	9.9	7	5.9	69	0.001	0.5
PC 9/5	<b>0_40905UG</b>	12.5	10.1	8	126	0.002	1
PC 11/7	<b>0_41107UG</b>	15.5	16.2	13.2	251	0.006	1.8
PC 11/9	<b>0_41109UG</b>	16.2	16.3	13.2	264	0.008	1.9
PC 14/8	<b>0_41408UG</b>	19.8	25.1	19.8	495	0.02	3.2
PC 18/11	<b>0_41811UG</b>	25.8	43.3	36	1,120	0.07	7.3
PC 18/14	<b>0_41814UG</b>	29.3	42.6	36	1,248	0.103	6.0
PC 22/13	<b>0_42213UG</b>	31.5	63.4	50.9	2,000	0.18	13
PC 26/16	<b>0_42616UG</b>	37.6	93.9	77.4	3,530	0.39	20
PC 28/23	<b>0_42823UG</b>	48.1	128	101	6,160	0.71	
PC 30/19	<b>0_43019UG</b>	45.2	137	116	6,190	0.73	34
PC 36/22	<b>0_43622UG</b>	53.2	202	172	10,700	1.53	57
PC 42/29	<b>0_44229UG</b>	68.6	265	214	18,200	3.69	104





### HOW TO ORDER

**OP 41408 UG XX**

- Standard pot core ←
- Ferrite core material ←
- Used for all ferrite types ←
- Approximate diameter in mm ←
- Approximate height (per set) in mm ←
- Geometry code/gap code ←
- Special specification code ←

### GAP CODE

UG – Ungapped  
 Note – Any practical gap available

DIMENSIONS IN MM										
TYPE/SIZE	A	B	2B	C	D	2D	E	F	G	H
PC 7/4	7.24 ± 0.15	2.08 ± 0.05	4.16 ± 0.1	4.72 nom	1.4 min	2.79 min	5.74 min	3 max	1.52 min	1.09 ± 0.05
PC 9/5	9.3 + 0/-0.3	2.7 + 0/-0.15	5.4 + 0/-0.3	6.5 ± 0.25	1.8 + 0.15/-0	3.6 + 0.3/-0	7.5 + 0.25/-0	3.9 + 0/-0.2	2 ± 0.2	2.04 + 0.06/-0
PC 11/7	11.1 ± 0.2	3.25 ± 0.05	6.5 ± 0.1	6.8 ± 0.25	2.2 + 0.15/-0	4.4 + 0.3/-0	9 + 0.4/-0	4.7 + 0/-0.2	2.2 ± 0.3	2.1 ± 0.1
PC 11/9	11.28 + 0/-0.4	3.43 ± 0.08	6.86 ± 0.16	7.54 ± 0.2	2.48 ± 0.08	4.96 ± 0.16	9 + 0.4/-0	4.7 + 0/-0.2	1.8 + 0.3/-0	2 + 0.08/-0
PC 14/8	14.3 + 0/-0.5	4.2 ± 0.05	8.4 ± 0.1	9.5 ± 0.3	2.8 + 0.2/-0	5.6 + 0.4/-0	11.6 + 0.4/-0	6 + 0/-0.2	2.7 + 1.2/-0	3 + .1/-0
PC 18/11	18 ± 0.4	5.3 ± 0.05	10.6 ± 0.1	13.4 ± 0.3	3.7 ± 0.1	7.4 ± 0.2	15.15 ± 0.25	7.45 ± 0.15	3.8 ± 0.6	3.1 ± 0.1
PC 18/14	18 ± 0.4	7.1 ± 0.2	14.2 ± 0.4	11.84 ± 0.25	5.05 + 0.2/-0	10.1 + 0.4/-0	14 + 0.4/-0	7.4 + 0/-0.3	3.6 + 0.3/-0	3.1 ± 0.8
PC 22/13	22 + 0/-0.8	6.7 ± 0.1	13.4 ± 0.2	15 ± 0.4	4.6 + 0.2/-0	9.2 + .4/-0	17.9 + 0.6/-0	9.4 + 0/-0.3	3.8 ± 0.6	4.4 + 0.3/-0
PC 26/16	25.5 ± 0.5	8.05 ± 0.1	16.1 ± 0.2	18 ± 0.4	5.5 min	11 min	21.6 ± 0.4	11.3 ± 0.2	3.8 ± 0.6	5.5 ± 0.1
PC 28/23	27.71 ± 0.4	11.43 ± 0.15	22.86 ± 0.3	19.69 nom	8.15 min	16.3 min	22 min	12.88 max	3.81 min	5.56 ± 0.1
PC 30/19	30 ± 0.5	9.45 ± 0.05	18.9 ± 0.1	20.5 ± 0.5	6.5 min	13 min	25.4 ± 0.4	13.3 ± 0.2	4.3 ± 0.6	5.5 ± 0.1
PC 36/22	35.5 ± 0.6	10.95 ± 0.05	21.9 ± 0.1	26.2 ± 0.6	7.3 min	14.6 min	30.4 ± 0.5	15.9 ± 0.3	4.9 ± 0.6	5.55 ± 0.15
PC 42/29	42.4 ± 0.7	14.7 ± 0.05	29.4 ± 0.1	32 ± 0.7	10.15 min	20.3 min	36.3 ± 0.7	17.4 ± 0.3	5.1 ± 0.6	5.55 ± 0.15

# RS-DS Cores



## RS-DS CORES

Slab cores are modified pot cores with the sides removed. The slabs can be paired with one round half of a standard pot core (RS combination) or two slabs can be paired together for a double slab (DS combination).

The RS geometry offers all the advantages of pot cores for filter applications, plus many additional features for power applications.

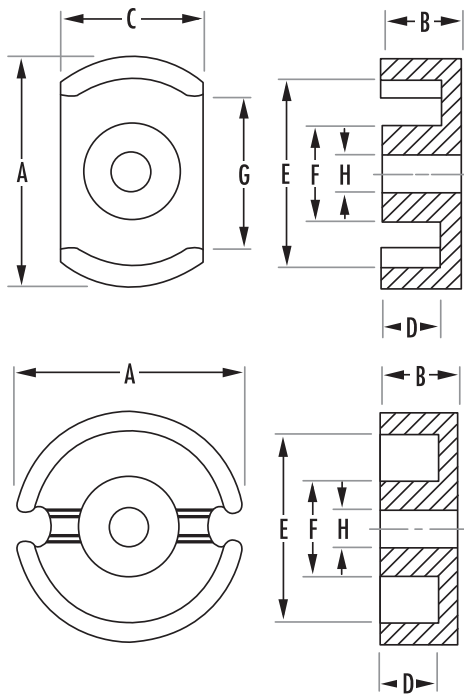
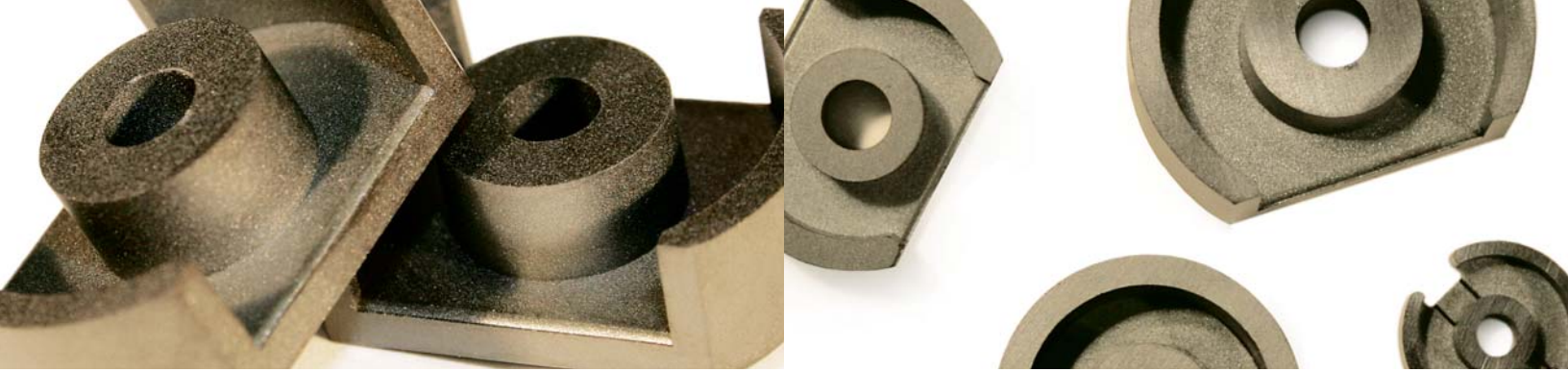
DS cores accommodate large size wire and assist in removing heat from the assembly.

Both plain and printed circuit bobbins are available for both types of cores.

Typical applications for RS-DS combinations include; low and medium power transformers, switched-mode power supplies, and converter and inverter transformers.

TYPE/SIZE	ORDERING CODE	NOMINAL A <sub>L</sub> (MH/1000T)					
		L	R	P	F	J	W
DS 14/08	<b>D_41408UG</b>		1,653	1,800	2,474	3,260	3,260
HS 14/08	<b>H_41408UG</b>		1,533	1,667	1,990	4,107	7,043
RS 14/08	<b>S_41408UG</b>		1,760	1,913	2,274	4,500	7,643
DS 18/11	<b>D_41811UG</b>		3,038	3,236	3,697	5,174	7,386
HS 18/11	<b>H_41811UG</b>		2,666	2,827	3,197	5,140	5,899
RS 18/11	<b>S_41811UG</b>		2,942	3,112	3,498	5,760	
DS 23/11	<b>D_42311UG</b>		3,440	3,747	4,460	8,400	16,064
HS 23/11	<b>H_42311UG</b>		3,200	3,460	4,170	7,853	14,021
RS 23/11	<b>S_42311UG</b>		3,687	4,013	5,200	7,875	16,071
DS 23/18	<b>D_42318UG</b>		2,907	3,160	3,800	6,347	10,000
HS 23/18	<b>H_42318UG</b>		2,600	2,820	3,350	5,333	10,000
RS 23/18	<b>S_42318UG</b>		3,066	3,333	4,000	6,400	12,000
DS 26/16	<b>D_42616UG</b>		3,827		5,000	8,093	13,000
HS 26/16	<b>H_42616UG</b>		3,630		4,600	8,107	13,000
RS 26/16	<b>S_42616UG</b>		4,360	4,733	5,300	8,933	15,714
DS 30/19	<b>D_43019UG</b>		4,440	4,827	5,800	9,493	15,000
HS 30/19	<b>H_43019UG</b>		4,227		5,525	9,507	15,000
RS 30/19	<b>S_43019UG</b>		5,533	6,027	6,700	11,147	18,571
DS 36/22	<b>D_43622UG</b>		5,400	5,827	6,360	9,000	
HS 36/22	<b>H_43622UG</b>			5,400	6,050	8,550	
RS 36/22	<b>S_43622UG</b>		9,944	7,580		13,400	26,500
DS 42/29	<b>D_44229UG</b>		6,500	7,000			
RS 42/29	<b>S_44229UG</b>		8,300	8,900			

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		l <sub>e</sub> (mm)	A <sub>e</sub> (mm <sup>2</sup> )	A <sub>min</sub> (mm <sup>2</sup> )	V <sub>e</sub> (mm <sup>3</sup> )	WaAc (cm <sup>3</sup> )	Weight (grams per set)
DS 14/08	<b>D_41408UG</b>	22.6	24.6	23.5	556	0.020	3.4
HS 14/08	<b>H_41408UG</b>	20.6	21	19.2	433	0.017	2.6
RS 14/08	<b>S_41408UG</b>	20.2	23	19.2	460	0.019	2.8
DS 18/11	<b>D_41811UG</b>	29.1	40	36.3	1,167	0.068	7.1
HS 18/11	<b>H_41811UG</b>	37.2	31	28.7	1,070	0.053	6.6
RS 18/11	<b>S_41811UG</b>	27.2	40.6	32.9	1,110	0.054	6.8
DS 23/11	<b>D_42311UG</b>	26.8	51.2	37.8	1,370	0.08	10
HS 23/11	<b>H_42311UG</b>	27	48.2	37.8	1,300	0.075	9.1
RS 23/11	<b>S_42311UG</b>	28.6	61	53.6	1,740	0.09	11.65
DS 23/18	<b>D_42318UG</b>	39.9	58	40.7	2,310	0.21	13
HS 23/18	<b>H_42318UG</b>	40.1	53.4	40.7	2,130	0.19	12.1
RS 23/18	<b>S_42318UG</b>	41.6	62.2	53.6	2,590	0.22	17.4
DS 26/16	<b>D_42616UG</b>	38.9	77	62.7	3,000	0.28	15
HS 26/16	<b>H_42616UG</b>	39	72.1	62.7	2,810	0.26	14.4
RS 26/16	<b>S_42616UG</b>	38.3	82.6	62.7	3,180	0.39	20
DS 30/19	<b>D_43019UG</b>	46.2	117	96	5,410	0.6	22
HS 30/19	<b>H_43019UG</b>	46.1	111	96	5,110	0.56	21
RS 30/19	<b>S_43019UG</b>	45.6	123	96	5,610	0.63	30.95
DS 36/22	<b>D_43622UG</b>	56.9	162	140	9,250	1.22	37
HS 36/22	<b>H_43622UG</b>	57.6	157	140	9,030	1.18	
RS 36/22	<b>S_43622UG</b>	55.4	179.5	140	9,944	1.35	
DS 42/29	<b>D_44229UG</b>	76	232	211	17,600	3.18	78
RS 42/29	<b>S_44229UG</b>	72.3	244	211	17,641	3.35	



### HOW TO ORDER

**S P 4 23 11 UG XX**

- Shape code ← S P
- Ferrite core material ← 4
- Used for all ferrite types ← 23 11
- Approximate diameter in mm ← 23 11
- Approximate height (per set) in mm ← UG
- Geometry code/gap code ← UG
- Special specification code ← XX

### SHAPE CODE

- D – DS Core with solid centerpost
- H – DS Core with center hole
- S – RS Core

### GAP CODE

- UG – Ungapped
- Note – Any practical gap available

DIMENSIONS IN MM										
TYPE/SIZE	A	B	2B	C	D	2D	E	F	G	H
DS 14/08	14.05±0.25	4.15±0.08	8.3±0.15	9.4±0.15	2.9±0.1	5.8±0.2	11.8±0.2	5.9±0.1	7.6 min	
HS 14/08	14±0.25	4.24+0/-0.13	8.48+0/-0.28	9.4±0.15	2.8 min	5.58 min	11.6 min	5.99 max	7.6 min	3.1±0.08
RS 14/08	14±0.25	4.24+0/-0.13	8.48+0/-0.28	9.4±0.15	2.8 min	5.58 min	11.6 min	5.99 max	7.6 min	3.1±0.08
DS 18/11	18±0.4	5.3	10.6±0.15	11.9±0.2	3.7	7.4±0.2	15.15±0.25	7.45±0.15	11.2 min	
HS 18/11	18±0.4	5.3	10.6±0.15	11.9±0.2	3.7	7.4±0.2	15.15±0.25	7.45±0.15	11.2 min	3.1±0.1
RS 18/11	18±0.4	5.3±0.13	10.6±0.15	11.9±0.2	3.7±0.1	7.4±0.2	15.15±0.25	7.45±0.15	11.2 min	3.1±0.1
DS 23/11	22.86±0.46	5.54±0.13	11.08±0.26	15.24±0.25	3.63 min	7.26 min	17.93 min	9.9 max	13.21 min	
HS 23/11	22.86±0.46	5.54±0.13	11.08±0.26	15.24±0.25	3.63 min	7.26 min	17.93 min	9.9 max	13.21 min	5.1±0.1
RS 23/11	22.9±0.45	5.5±0.13	11.±0.25	15.2±0.25	3.75±0.13	7.5±0.25	18.3±0.35	9.7±0.2	13.2 min	5.1±0.1
DS 23/18	22.86±0.46	9±0.18	18±0.36	15.24±0.25	6.93 min	13.86 min	17.93 min	9.9 max	13.21 min	
HS 23/18	22.86±0.46	9±0.18	18±0.36	15.24±0.25	6.93 min	13.86 min	17.93 min	9.9 max	13.2 min	5.08±0.1
RS 23/18	22.9±0.45	9±0.18	18±0.35	15.25±0.25	7.2±0.18	14.4±0.35	18.3±0.35	9.7±0.2	13.2 min	5.1±0.1
DS 26/16	25.5±0.51	8.05±0.1	16.1±0.2	17.09 nom	5.51 min	11.02 min	21.21 min	11.48 max	15.5 min	
HS 26/16	25.5±0.51	8.05±0.1	16.1±0.2	17.09 nom	5.51 min	11.02 min	21.21 min	11.48 max	15.5 min	5.56±0.1
RS 26/16	25.5±0.51	8.05±0.1	16.1±0.2	17.09 nom	5.51 min	11.02 min	21.21 min	11.48 max	15.5 min	5.56±0.1
DS 30/19	30±0.51	9.4±0.1	18.8±0.2	20.32±0.25	6.5 min	13 min	25 min	13.51 max	15.49 min	
HS 30/19	30±0.51	9.4±0.1	18.8±0.2	20.32±0.25	6.5 min	13 min	25 min	13.51 max	15.49 min	5.56±0.1
RS 30/19	30±0.51	9.4±0.1	18.8±0.2	20.32±0.25	6.5 min	13 min	25 min	13.51 max	15.49 min	
DS 36/22	35.61±0.51	10.85±0.125	21.7±0.25	23.85 nom	7.29 min	14.58 min	29.9 min	16.1 max	20.3 min	
HS 36/22	35.61±0.51	10.85±0.125	21.7±0.25	23.85 nom	7.29 min	14.58 min	29.9 min	16.1 max	20.3 min	5.56±0.1
RS 36/22	35.61±0.51	10.9±0.075	21.8±0.15	23.85 min	7.4±0.1	14.8±0.2	29.9 min	16.1 max	20.3 min	
DS 42/29	42.4±0.71	14.8±0.2	29.6±0.4	28.4 nom	10.21 min	20.42 min	35.61 min	17.7 max	25.0 min	
RS 42/29	42.4±0.71	14.8±0.2	29.6±0.4	28.4 nom	10.21 min	20.42 min	35.61 min	17.7 max	25.0 min	



# RM Cores



## RM CORES

RM cores are square-designed cores that offer all the magnetic and mechanical advantages of pot cores, plus the added feature of maximizing magnetic performance while minimizing PC board space.

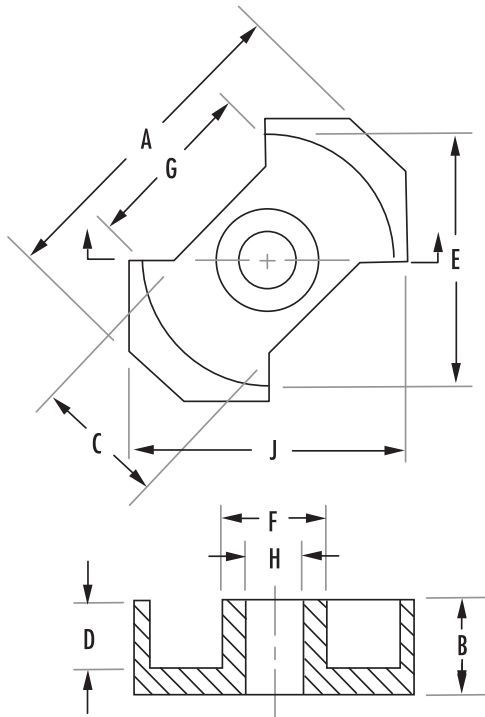
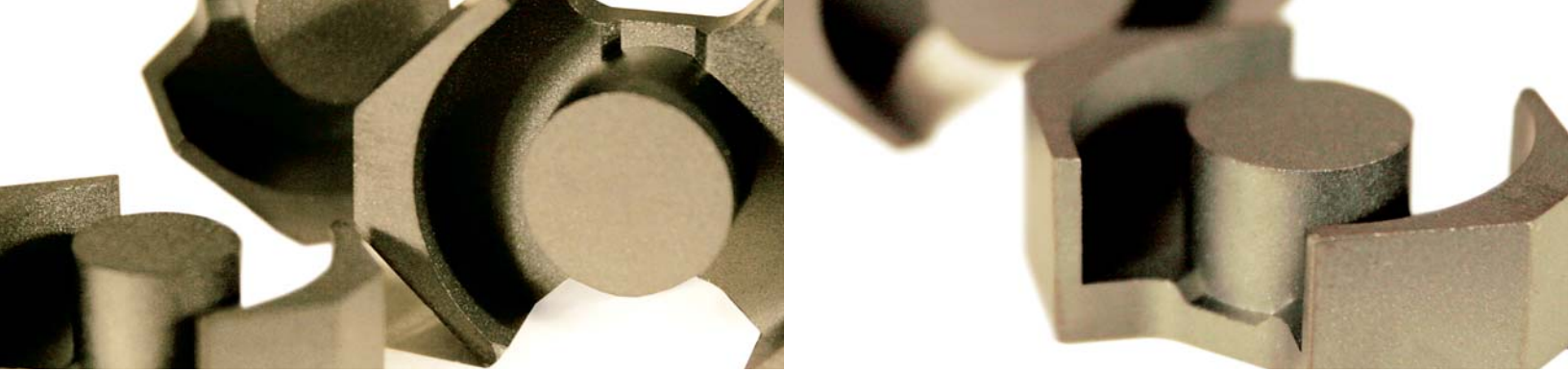
Easy to assemble and adaptable to automation, completed units provide at least 40% savings in mounting area compared to a similar size pot core assembly.

Printed circuit bobbins or plain bobbins are available.

Typical applications include differential inductors, power inductors, filter inductors, telecom inductors and broadband transformers.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)					
		L	R	P	F	J	W
RM 4 N	<b>N_41110UG</b>	560	1,125	1,191	1,333	1,752	3,518
RM 4	<b>R_41110UG</b>		920	1,000	1,200	1,973	3,000
RM 5 N	<b>N_41510UG</b>	900	1,720	1,867	2,100	4,133	6,000
RM 5	<b>R_41510UG</b>		1,720	1,867	2,100	4,133	6,000
RM 6 N	<b>N_41812UG</b>	1,230	2,387	2,600	3,080	6,707	8,600
RM 6	<b>R_41812UG</b>		2,187	2,333	2,800	5,973	7,714
RM N LP	<b>N_41912UG</b>	1,250	2,213	2,400	2,880	6,707	8,600
RM LP	<b>R_41912UG</b>		1,987	2,169	2,600	5,387	7,714
RM 7 N	<b>N_42013UG</b>	1,450	3,058	3,244	3,675	5,001	9,571
RM 8 N	<b>N_42316UG</b>	1,700	2,700	2,933	5,210	8,000	12,200
RM 8	<b>R_42316UG</b>		2,347	2,560	3,500	6,960	10,600
RM 10 N	<b>N_42819UG</b>	2,200	4,047	4,400	5,500		16,000
RM 12 N	<b>N_43723UG</b>		4,600	5,000	6,000	11,800	22,600
RM 14 N	<b>N_44230UG</b>		7,000	7,540	8,782	13,096	20,735

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams per set)
RM 4 N	<b>N_41110UG</b>	23.3	13.8	11.5	322	0.010	1.5
RM 4	<b>R_41110UG</b>	20.6	10.8	7.9	222	0.008	1.6
RM 5 N	<b>N_41510UG</b>	23.2	24.8	18.1	574	0.02	3.3
RM 5	<b>R_41510UG</b>	21.4	21	13.9	449	0.02	3
RM 6 N	<b>N_41812UG</b>	27.5	38	31.2	1,040	0.05	5.4
RM 6	<b>R_41812UG</b>	25.6	32	22.6	819	0.05	5.1
RM N LP	<b>N_41912UG</b>	29.2	37	31.2	1,090	0.05	5.1
RM LP	<b>R_41912UG</b>	27	31	22.6	837	0.05	4.8
RM 7 N	<b>N_42013UG</b>	30	44.1	39.6	1,325	0.14	6
RM 8 N	<b>N_42316UG</b>	38.4	63	55.4	2,440	0.15	13
RM 8	<b>R_42316UG</b>	35.5	52	36.9	1,850	0.15	10.4
RM 10 N	<b>N_42819UG</b>	44.6	96.6	89.1	4,310	0.44	23
RM 12 N	<b>N_43723UG</b>	56.6	146	125	8,340	1.02	42
RM 14 N	<b>N_44230UG</b>	70	198	168	13,900	1.72	70



### HOW TO ORDER

**R P 4 15 10 UG XX**

- Shape code ← R P
- Ferrite core material ← 4
- Used for all ferrite types ← 15
- Approximate length in mm ← 10
- Approximate height (per set) in mm ← UG
- Geometry code/gap code ← XX
- Special specification code ←

### SHAPE CODE

N – RM Core with solid centerpost  
R – RM Core with center hole

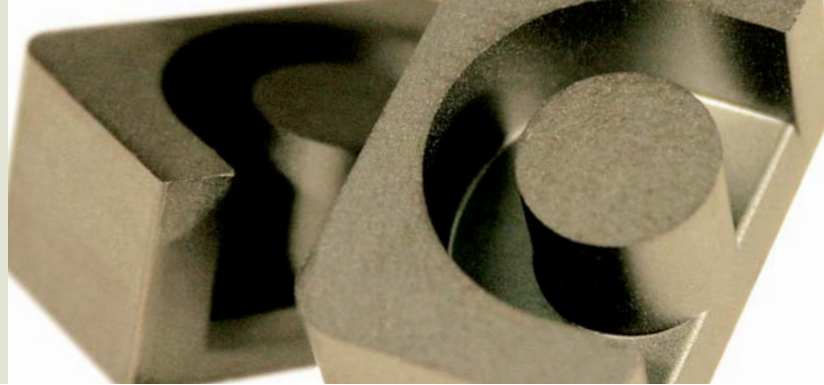
### GAP CODE

UG – Ungapped  
Note – Any practical gap available

TYPE/SIZE	DIMENSIONS IN MM										
	A	B	2B	C	D	2D	E	F	G	H	J
RM 4 N	11+0/-0.5	5.2 ± 0.05	10.4 ± 0.1	4.6+0/-0.2	3.5+0.2/-0	7+0.4/-0	7.95+0.4/-0	3.9+0/-0.2	5.8 min		9.8+0/-0.4
RM 4	11.8 max	5.2 ± 0.05	10.4 ± 0.1	4.45 nom	3.61 ± 0.1	7.21 ± 0.2	8.15 ± 0.2	3.8 ± 0.1	5.79 ref	2.05 ± 0.05	9.6 ± 0.2
RM 5 N	14.6+0/-0.6	5.2 ± 0.05	10.4 ± 0.1	6.8+0/-0.4	3.25 ± 0.1	6.5 ± 0.2	10.2+0.4/-0	4.9+0/-0.2	6 min		12.3+0/-0.5
RM 5	14.9 max	5.2 ± 0.05	10.4 ± 0.1	6.6 nom	3.25 ± 0.1	6.5 ± 0.2	10.4 ± 0.2	4.8 ± 0.1	6.71 nom	2.05 ± 0.05	12.05 ± 0.25
RM 6 N	17.9+0/-0.7	6.2 ± 0.05	12.4 ± 0.1	7+0/-0.4	4 + 0.2/-0	8 + 0.4/-0	12.4+0.5/-0	6.4+0/-0.2	5.85 nom		14.7+0/-0.6
RM 6	18.3 max	6.2 ± 0.05	12.4 ± 0.1	7.4 nom	4.1 ± 0.1	8.2 ± 0.2	12.65 ± 0.25	6.25 ± 0.15	5.85 nom	3.05 ± 0.05	14.4 ± 0.3
RM N LP	18.3 max	6.2 ± 0.05	12.4 ± 0.1	8.2 nom	4.1 ± 0.1	8.2 ± 0.2	12.65 ± 0.25	6.25 ± 0.15	9 nom		14.4 ± 0.3
RM LP	18.3 max	6.2 ± 0.05	12.4 ± 0.1	8.2 nom	4.1 ± 0.1	8.2 ± 0.2	12.65 ± 0.25	6.25 ± 0.15	9 nom	3.05 ± 0.05	14.4 ± 0.3
RM 7 N	20.3+0/-0.8	6.7 ± 0.05	13.4 ± 0.1		4.2+0.25/-0	8.4+0.5/-0	14.75+0.6-0	7.25+0/-0.3	9.3 min		17.2+0/-0.7
RM 8 N	23.2+0/-0.9	8.2 ± 0.05	16.4 ± 0.1	11+0/-0.5	5.5 ± 0.1	11 ± 0.2	17+0.6/-0	8.55+0/-0.3	9.5 min		19.7+0/-0.8
RM 8	23.2 max	8.2 ± 0.05	16.4 ± 0.1	10.8 nom	5.53 ± 0.13	11.05 ± 0.25	17.35 ± 0.35	8.4 ± 0.15	11.7 nom	4.5 ± 0.1	19.3 ± 0.4
RM 10 N	28.5+0/-1.3	9.3 ± 0.05	18.6 ± 0.1	13.5+0/-0.5	6.2+0.3/-0	12.4+0.6/-0	21.2+0.9/-0	10.9+0/-0.4	10.9 min		24.7+0/-1.1
RM 12 N	37.4+0/-1.3	12.25 ± 0.05	24.5 ± 0.1	16.1+0/-0.5	8.4+0.3/-0	16.8+0.6/-0	24.9+1.1/-0	12.8+0/-0.4	12.9 min		29.8+0/-1.1
RM 14 N	42.2+0/-1.4	15.05 ± 0.05	30.1 ± 0.1	19+0/-0.6	10.4+0.3/-0	20.8+0.6/-0	29+1.2/-0	15+0/-0.6	17 nom		34.8+0/-1.3



# EP Cores



## EP CORES

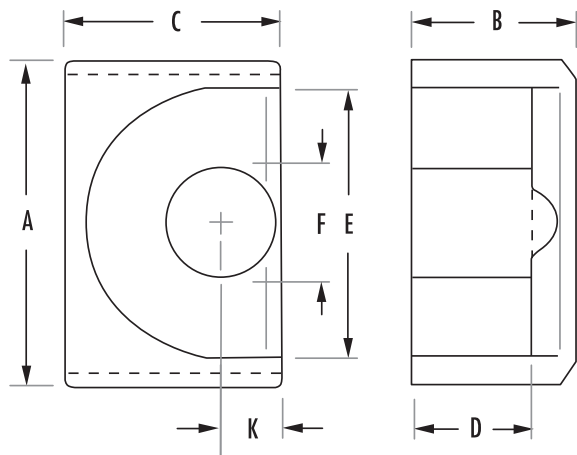
EP cores are round center-post cubical shapes which enclose the coil completely except for the printed circuit board terminals. This particular shape minimizes the effect of air gaps formed at mating surfaces in the magnetic path and provides a larger volume ratio to total space used. EP cores provide excellent shielding.

Printed circuit bobbins, surface mount bobbins and mounting clamp assemblies are available.

Typical applications for EP cores include differential and telecom inductors and power transformers.

TYPE/SIZE	ORDERING CODE	NOMINAL $A_L$ (MH/1000T)					
		L	R	P	F	J	W
EP 7	<b>P_40707UG</b>	590	1,080	1,173	1,240	2,573	5,143
EP 10	<b>P_41010UG</b>	530			1,200	2,467	4,800
EP 13	<b>P_41313UG</b>	760	1,533	1,667	2,000	3,733	7,143
EP 17	<b>P_41717UG</b>	1,120		2,600	3,100	5,867	11,429
EP 20	<b>P_42120UG</b>	1,930	4,227	4,600	5,000	9,600	19,286

TYPE/SIZE	ORDERING CODE	MAGNETIC DATA					
		$l_e$ (mm)	$A_e$ (mm <sup>2</sup> )	$A_{min}$ (mm <sup>2</sup> )	$V_e$ (mm <sup>3</sup> )	WaAc (cm <sup>4</sup> )	Weight (grams per set)
EP 7	<b>P_40707UG</b>	15.5	10.7	8.55	165	0.003	1.4
EP 10	<b>P_41010UG</b>	19.3	11.3	8.55	215	0.01	2.8
EP 13	<b>P_41313UG</b>	24.2	19.5	14.9	472	0.03	5.1
EP 17	<b>P_41717UG</b>	29.5	33.7	25.5	999	0.08	11.6
EP 20	<b>P_42120UG</b>	41.1	78.7	60.8	3,230	0.24	27.6



## HOW TO ORDER

**P J 4 10 10 UG XX**

- Shape code ← P
- Ferrite core material ← J
- Used for all ferrite types ← 4
- Approximate length in mm ← 10
- Approximate height (per set) in mm ← 10
- Geometry code/gap code ← UG
- Special specification code ← XX

## SHAPE CODE

P – EP Core

## GAP CODE

UG – Ungapped

Note – Any practical gap available

TYPE/SIZE	DIMENSIONS IN MM								
	A	B	2B	C	D	2D	E	F	K
EP 7	9.2 ± 0.2	3.7 ± 0.5	7.4 ± 0.1	6.35 ± 0.15	2.5 min	5.0 min	7.2 min	3.4 max	1.7 ± 0.1
EP 10	11.5 ± 0.3	5.15 ± 0.1	10.3 ± 0.2	7.6 ± 0.2	3.6 min	7.2 min	9.2 min	3.45 max	1.85 ± 0.1
EP 13	12.8 + 0/-0.6	6.45 ± 0.08	12.9 ± 0.16	9 + 0/-0.4	4.5 + 0.2/-0	9 + 0.4/-0	9.7 + 0.6/-0	4.5 + 0/-0.3	2.4 ± 0.1
EP 17	18 ± 0.4	8.4 ± 0.1	16.8 ± 0.2	11 ± 0.25	5.7 ± 0.15	11.4 ± 0.3	12 ± 0.4	5.7 ± 0.18	3.3 ± 0.2
EP 20	24 ± 0.5	10.7 ± 0.1	21.4 ± 0.2	15 ± 0.35	7.2 ± 0.15	14.4 ± 0.3	16.5 ± 0.4	8.8 ± 0.25	4.5 ± 0.2

# Hardware



## HARDWARE

SIZE	TYPE	P/N	SIZE	TYPE	P/N	SIZE	TYPE	P/N	SIZE	TYPE	P/N	SIZE	TYPE	P/N
0200	TC	SMC03016A	1408	PC	00B140801	1912	RM	00C181211	2508	TC	TVB2908TA	3205	TC	TVB3610FA
		SMC06018A			00B140802			PCB181241			TVH22064A			TVH38134A
		SMH05025A			00C140811			PCB181261			TVH25074A	3220	PQ	00C322017
		SMH07058A			00W140815			TBA181201			PCB251001			PCB3220B1
0301	TC	SMC03016A			PCB140811			TCA1812C2	2510	EC	PCB2510V1	3230	PQ	00C323017
		SMC06018A			PCB140812	2016	EP	00C201612			PCB2510V2			PCB3230B1
		SMH05025A			PCB140821			PCB2016FB	2515	EC-IC	00B251501	3434	ETD	00C343416
		SMH07058A			PCB140822			00C2019B1			PCB2520TA			PCB3434FB
0401	TC	SMC06018A			PCB140861	2019	EFD	PCB20119B1	2520	EC	PCB2520TA			PCB34341A
		SMH05025A			PCB1408S1			PCB2020FB	2523	EFD	00C25231A			4317
		SMH07058A			TBA140800	2020	PQ	TVB22066A			PCB2523TA	3515	EC	00B351501
					TCA1408B1	2106	PQ	TVB22066A			00C2523B1			PCB3515M1
0402	TC	SMC06018A			TCA1408C3			TVH22064A			PCB2523B1			PCB3515M2
		SMH05025A			00C143420			TVH22064A	2616	PC	00B261601			PCB3515L2
		SMH07058A	1434	P-EC	TVB22066A			TVH25074A			00B261602	3517	EC	00B351701
0502	TC	SMC06018A	1450	TC	TVB22066A	2109	TC	TVB22066A			00B261603			0AC35171
		SMH05025A			TVH22064A			TVB2908TA			00C261614			OCC351700
		SMH07058A			TVB22066A			TVH22064A			OPC261614			PCB351701
0503	TC	SMC06018A			TVH22064A			TVH25074A			PCB261611	3521	EER	PCB3521LA
		SMH05025A			00C111012	2120	EP	OAC212016			PCB261612			00C353517
		SMH07058A			PCB15104A			PCB212016			PCB262613			PCB3535LA
0601	TC	SMC06018A			PCB15104B			PCB2120TB			PCB261621	3610	TC	TVH38134A
		SMH07058A			PCB151061	2206	TC	TVB22066A			PCB261622			TVB3610FA
0603	TC	SMC06018A			PCB151081			TVB2908TA			PCB2616TA			TVH38134A
		SMH07058A			TBP151000			TVH22064A			TBP669000	3622	PC	00B362201
0704	PC	00B070401			TCF1510R1			TVH25074A			TCF2800B1			00B362202
0705	TC	SMH07058A	1515	EFD	00C15151A	2207	TC	TVB22066A	2620	PQ	00C262012			00C362200
0707	EP	OAC070716			PCB15158A			TVB2908TA			PCB2620LA			00C362217
		OBC070712			SMB1515TA			TVH22064A	2625	PQ	00C262512			PCB362211
		PCB07076B			00C1515B1			TVH25074A			PCB2625LA			PCB36221L
		SMB07076A			PCB1515B1	2212	TC	TVB22066A	2819	RM	00C281916			TBP669000
0905	PC	00B090501	1605	TC	TVB22066A			TVB2908TA			PCB2819L1			TCF2800B1
		00C090511			TVH22064A			TVH22064A	2823	PC	00B282301			TCF4000B1
0906	ER	00C09061A	1717	EP	00C17172A			TVH25074A	2908	TC	TVB2908TA	3723	RM	PCB3723L1
		SMB09068A			PCB17178A	2213	PC	00B221301			TVB3610FA	3806	TC	TVB3610FA
1009	EFD	00C1009B1	1805	P-EC	00C180520			TVH25074A			TVH25074A			TVH38134A
		PCB1009B1	1808	EC	00B180801			00B221302	2915	TC	TVB2908TA	3813	TC	TVB3610FA
1010	EP	00C10102A			PCB1808B1			00C221314			TVB3610FA			TVH38134A
		PCB10108A	1809	TC	TVB2206A			00W221324			TVH25074A			TVH49164A
		SMB10108A			TVH22064A			OPC221314	2929	ETD	00C2929B1	3825	TC	TVB3610FA
		PCB101081	1810	EC	00B18100A			PCB221311			PCB2929B1			TVH38134A
1107	PC	00B110701	1811	PC	00B181101			PCB221312	3007	EC	PCB3007T1			TVH49164A
		00B1107A2			00B181102			PCB221321	3009	EC	PCB3009LA	3939	ETD	00C393916
		00C110711			00B181103			PCB221322	3019	RS/DS	00B301901			PCB3939SB
1110	RM	00C111012			00C181111			TBP221300			00B301902	4015	TC	TVH49164A
		PCB11104A			00W181118			TBP2213A0			00B301903	4020	EC-IC	00B402011
1208	EFD	00B120801			PCB181111			TCF2213B1			00C301917			PCB4020M1
1212	EFD	00C1212B1			PCB181112	2216	P-EC	00C221620			PCB301911	4022	EC	PCB4022M1
		PCB1212B1			PCB181121			PCB2311T1			PCB301921	4040	PQ	00C404017
1313	EP	OAC131316			PCB181122	2311	RS/DS	00C231615			PCB3019T1			PCB4040FA
		OBC131314			TCA1811B1	2316	RM	PCB231651			TBP669000	4119	EC	00B411901
		PCB1313TB	1812	RM	00C181211			PCB231652			TCF2800B1			OAC411919
		SMB1313TA			PCB181241			PCB231681	3030	EFD	00C3030B1			OBC411940
1406	TC	TVB22066A			PCB181261	2318	RM	PCB2318T1			PCB3030B1			OCC411900
		TVH22064A			TBA181201	2507	TC	TVB2908TA	3113	TC	TVB2908TA			PCB411901
1407	TC	TVB22066A			TCA1812C2			TVH22064A			TVB3610FA			PCH411901
		TVH22064A						TVH25074A						00B802002

# Other Products from Magnetics



## POWDER CORES

Powder cores are excellent as low loss inductors for switched-mode power supplies, switching regulators and noise filters. Most core types can be shipped immediately from stock.

Kool Mu® powder cores have a higher energy storage capacity than MPP cores and are available in five permeabilities from 26 $\mu$  through 125 $\mu$ . Kool Mu toroids are available in sizes identical to MPP cores, and extremely large (>4.0" or 101.6 mm) toroids/shapes are possible with interlocking Kool Mu segments. This material is also available in a number of E-core sizes. Permeability for Kool Mu E-cores is from 26 to 90 and sizes are tooled ranging from the EF 12.6 to the 160LE size. Kool Mu blocks and U cores are also available.

Molypermalloy powder cores (MPP) are available in ten permeabilities ranging from 14 through 550, and have guaranteed inductance limits of  $\pm 8\%$ . Insulation on the cores is a high dielectric strength finish not affected by normal potting compounds and waxes. Thirty sizes include I.D.s from 0.070" (1.78 mm) to 1.938" (49.2 mm) and O.D.s from 0.140" (3.56 mm) to 3.063" (77.8 mm). Standard cores include either temperature stabilized (as wide as  $-65^{\circ}\text{C}$  at  $125^{\circ}\text{C}$  for stable operation) or standard stabilization.

High Flux powder cores have a much higher energy storage capacity than MPP cores and are available in six permeabilities from 26 $\mu$  through 160 $\mu$ . High Flux cores are available in sizes identical to MPP cores.

Magnetics XFLUX™ distributed air gap cores are made from 6.5% silicon iron powder. A true high temperature material, with no thermal aging, XFLUX™ offers lower losses than powder iron cores and superior DC Bias performance. The soft saturation of XFLUX™ material offers an advantage over ferrite cores. XFLUX™ cores are ideal for low and medium frequency chokes where inductance at peak is critical.

MPP THINZ® are extremely low height (<1 mm) self-shielded power inductor cores, allowing finished inductor heights in the 1.5 mm to 2 mm range. THINZ come in 5 sizes with O.D.s ranging from 3.05 mm through 78 mm and four permeabilities: 125 $\mu$ , 160 $\mu$ , 200 $\mu$  and 250 $\mu$ .

For further information view the Powder Cores Design Manual at [www.mag-inc.com](http://www.mag-inc.com).

## STRIP WOUND CORES

Tape wound cores are made from high permeability alloys of nickel-iron, grain oriented silicon-iron. The alloys are known as Orthonol®, Alloy 48, Square Permalloy 80, Supermalloy and Magnesil®. Cores are available in more than 50 standard sizes. For a wide range of frequency applications, materials are produced in thicknesses from 1/2 mil (0.013 mm) through 14 mils (0.356 mm). Cases are robust nylon boxes, rated for 200° C continuous operation and 2000 voltage minimum breakdown.

Applications include: magnetic amplifiers, reactors, regulators, static magnetic devices and current transformers.

Miniature Tape Wound Bobbin Cores are manufactured from Permalloy 80 and Orthonol ultra-thin tape (0.000125" to 0.001" thick). They are available in widths from 0.031" to 0.250" (wider on special request). Wound on non-magnetic stainless steel bobbins, core diameters are available down to 0.050", with flux capacities as low as several maxwells.

Magnetics' sophisticated pulse test equipment reproduces most test programs and can measure accurately in the millivolt-microsecond region.

Applications include: magnetometers, flux gates, oscillators, inverters and magnetic amplifiers.

For further information view the Strip Wound Cores Catalog at [www.mag-inc.com](http://www.mag-inc.com).



[www.mag-inc.com](http://www.mag-inc.com)

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