

## Fe-Based Amorphous C-Cores

C-Cores are manufactured with Fe based amorphous Alloy. Their unique combination of low loss and high saturation flux density take advanced power conditioning applications to higher performance levels than previously possible with conventional ferromagnetic materials.

### APPLICATIONS

- ▶ UPS and SMPS power factor correction chokes
- ▶ UPS harmonic filter inductors
- ▶ High power outdoor industrial ballasts
- ▶ Welding power supplies
- ▶ High speed rail power systems



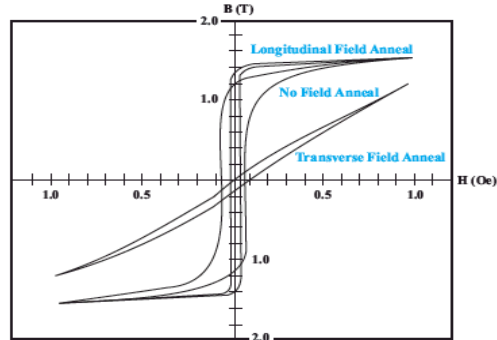
### BENEFITS

- ▶ High saturation flux density (1.56T)
- ▶ Low profile enables weight and volume reductions upto 50%
- ▶ Low temperature rise-enabling smaller compact design
- ▶ Low loss resulting from micro thin ribbon (25m)

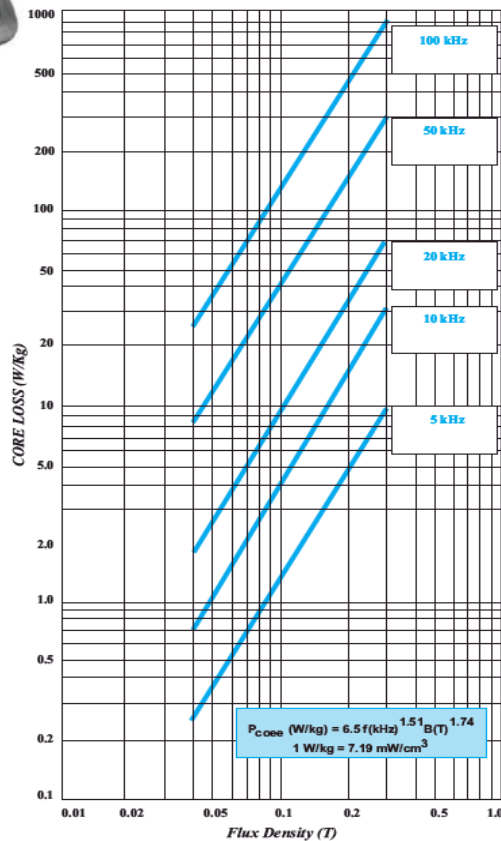
### PHYSICAL & MAGNETIC PROPERTIES

Ribbon Thickness (μm)	25
Density (g/cm <sup>3</sup> )	7.19
Thermal Expansion (ppm/°C)	7.6
Crystallization Temperature (°C)	550
Curie Temperature (°C)	415
Continuous Service Temperature (°C)	155
Tensile Strength (MN/m <sup>2</sup> )	1k-1.7k
Elastic Modulus (GN/m <sup>2</sup> )	100-110
Vicker's Hardness (50g load)	860
Saturation Flux Density (Tesla)	1.56T
Permeability (depending on gap size)	variable
Saturation Magnetostriction (ppm)	27
Electrical Resistivity (μ-ohm-cm)	130

### TYPICAL HYSTERESIS LOOP CURVE



### Core Loss vs. Flux Density<sup>†</sup>@25°C



†These curves were determined from ac data: use 1/2 the actual ΔB to determine core loss for unidirectional applications.

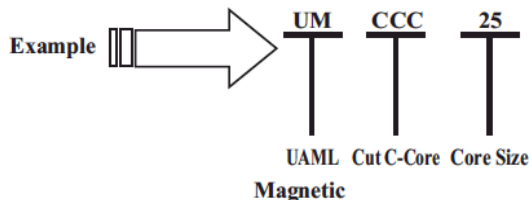
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## STANDARD CORE SIZE TABLE & ORDERING INFORMATION

CORE	a	b	c	d	e	f	Lm		Core	Window
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(cm)	(cm <sup>2</sup> )	Wt.±3% (gm)	Area (cm <sup>2</sup> )
UMCCC-1	6.5±0.5	7.1±0.5	14.50±0.5	25+0.5	20.1±	27.5±1.0	6.36	1.37	63.9	1.03
UMCCC-4	9.0±0.5	10.5±0.5	33.00±1.0	15.0+0.5	28.5±1.5	51±2.0	11.53	1.13	95.5	3.47
UMCCC-5	9.9±0.5	9.7±0.5	33.00±1.0	20.0+0.5	29.5±1.5	52.8±2.0	11.65	1.66	142.0	3.20
UMCCC-6.3	10.0±0.5	11.5±0.5	34.00±1.0	20.0+0.5	31.5±1.5	54.0±2.0	12.24	1.68	151.0	3.91
UMCCC-8	1.0±0.8	13.5±0.5	31.00±1.0	20.0+0.5	35.5±2.1	53±2.0	12.35	1.85	168.0	4.19
UMCCC 10	1.0±0.8	13.5±0.5	41.00±1.0	20.0+0.5	35.5±2.1	63±2.0	14.35	1.85	195.0	5.54
UMCCC-16A	11.0±0.8	13.5±0.5	41.00±1.0	25.0+0.5	35.5±2.1	63±2.0	14.35	2.31	243.0	5.54
UMCCC-16B	11.0±0.8	13.5±0.5	51.00±1.0	25.0+0.5	35.5±2.1	73±2.0	16.35	2.31	277.0	6.89
UMCCC 20	1.0±0.8	13.5±0.5	51.00±1.0	30.0+0.5	35.5±2.1	73±2.0	16.35	2.77	332.0	6.89
UMCCC-25	13.0±0.8	15.5±0.5	57.00±1.0	25.0+0.5	41.5±2.1	83±2.0	18.58	2.73	372.0	8.84
UMCCC-32	3.0±0.8	15.5±0.5	57.00±1.0	30.0+0.5	41.5±2.1	83±2.0	18.58	3.28	447.0	8.84
UMCCC-40	13.0±0.8	15.5±0.5	57.00±1.0	35.0+0.5	41.5±2.1	83±2.0	18.58	3.82	521.0	8.84
UMCCC-48	15.0±0.8	20.5±0.5	71.30±1.25	25.0+0.5	50.5±2.1	101.3±3.0	23.07	3.15	533.0	14.62
UMCCC-50	6.0±1.0	20.5±0.5	71.25±1.25	25.0+0.5	52.5±2.1	103.25±3.0	23.38	3.36	576.0	14.62
UMCCC-52	10.0±0.5	35.5±0.5	85.75±1.25	20.0+0.5	55.5±1.5	105.75±3.0	27.40	1.68	338.0	30.46
UMCCC 63	6.0±1.0	20.5±0.5	71.25±1.25	30.0+0.5	52.5±2.1	103.25±3.0	23.38	4.03	691.0	14.62
UMCCC-72	18.9±1.0	20.0±0.5	64.00±1.25	35.0+0.5	57.8±2.5	101.8±3.0	22.73	5.56	927.0	12.80
UMCCC 80	6.0±1.0	20.5±0.5	71.25±1.25	40.0+1.0	52.5±2.1	103.25±3.0	23.38	5.38	923.0	14.62
UMCCC-100	16.0±1.0	20.5±0.5	71.25±1.25	45.0+1.0	52.5±2.1	103.25±3.0	23.38	6.05	1038.0	14.62
UMCCC-125	19.0±1.0	25.5±0.5	84.25±1.25	35.0+1.0	63.5±2.5	122.25±3.0	27.93	5.59	1145.0	21.50
UMCCC-160	19.0±1.0	25.5±0.5	84.25±1.25	40.0+1.0	63.5±2.5	122.25±3.0	27.93	6.38	1307.0	21.50
UMCCC-200	19.0±1.0	25.5±0.5	84.25±1.25	50.0+1.0	63.5±2.5	122.25±3.0	27.93	7.98	1634.0	21.50
UMCCC-250	19.0±1.0	25.5±0.5	91.25±1.25	60.0+1.0	63.5±2.5	129.25±4.0	29.33	9.58	2060.0	23.28
UMCCC-320	22.0±1.0	35.5±0.5	86.25±1.25	50.0+1.0	79.5±2.5	130.25±4.0	31.27	9.24	2119.0	30.64
UMCCC-367	25.4±1.0	66.0±0.5	97.80±1.25	25.0+0.5	116.8±2.5	148.6±4.0	40.74	5.33	1592.0	64.55
UMCCC 370	24.8±1.0	85.0±0.5	85.00±1.25	25.0+0.5	134.6±2.5	134.6±4.0	41.79	5.21	1597.0	72.25
UMCCC-384	23.0±1.0	40.0±0.5	85.00±1.25	55.0+1.0	86.0±2.5	131.0±4.0	32.22	10.63	2512.0	34.00
UMCCC 400	22.0±1.0	35.5±0.5	86.25±1.25	65.0+1.0	79.5±2.5	130.25±4.0	31.27	12.01	2754.0	30.64
UMCCC 457	43.4±1.5	44.0±0.5	136.00±1.25	20.0+0.5	130.8±3.5	222.8±5.0	49.63	7.29	2653.0	59.84
UMCCC-498	28.5±1.0	50.5±0.5	108.50±1.25	40.0+1.0	107.5±2.5	165.5±4.0	40.75	9.58	2863.0	54.79
UMCCC 500	25.0±1.0	40.5±0.5	86.25±1.25	55.0+1.0	90.5±2.5	136.25±4.0	33.21	11.55	2813.0	34.95
UMCCC-630	25.0±1.0	40.5±0.5	86.25±1.25	70.0+1.0	90.5±2.5	136.25±4.0	33.21	14.70	3580.0	34.95
UMCCC-686	43.4±1.5	44.0±0.5	136.00±1.25	30.0+0.5	130.8±3.5	222.8±5.0	49.63	10.94	3982.0	59.84
UMCCC-800A	25.0±1.0	40.5±0.5	86.25±1.25	85.0±1.5	90.5±2.5	136.25±4.0	33.21	17.85	4347.0	34.95
UMCCC-800B	30.0±1.0	40.5±0.5	96.25±1.25	85.0±1.5	100.5±2.5	156.25±4.0	36.78	21.42	5778.0	39.00
UMCCC-1000	33.0±1.0	40.5±0.5	106.25±1.25	85.0±1.5	106.5±2.5	172.25±4.0	39.72	23.56	6863.0	43.05
UMCCC 1103	25.4±1.0	50.8±0.5	114.30±1.25	85.0±1.5	101.6±2.5	165.0±4.0	41.00	18.14	5454.0	58.06
UMCCC 1382	44.0±1.5	40.0±0.5	106.25±1.25	85.0±1.5	128.0±3.5	193.0±5.0	42.82	31.42	9866.0	42.00
UMCCC-1775	33.0±1.0	40.5±0.5	106.30±1.25	142.00±1.5	106.5±2.5	172.3±4.0	39.72	39.36	11466.0	43.05
UMCCC-2553	54.0±1.5	57.0±0.5	174.00±1.25	55.00+1.0	165.0±3.5	282.0±5.0	63.16	24.95	11556.0	99.18

\*REFERENCE VALUE ONLY  
CUSTOM SIZES ALSO AVAILABLE

### Product Identification



### C-Core Dimensions

