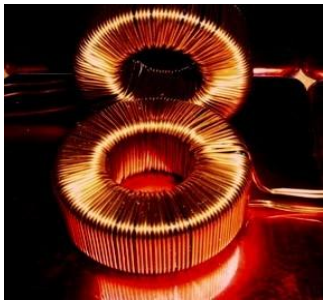
BENEFITS



Experience gained from working with customers for over thirty years, looking for the optimum balance between performance and cost, allows us to offer standard ranges of chokes with well defined inductance and current handling capabilities.

This high storage choke range is based on Hi-Flux powder cores. These have a saturation flux density three times higher than ferrite cores, and a distributed air-gap which gives a controlled hold-up of inductance with bias current.

Hi-Flux cores are made from a nickel-iron alloy, which gives a superior hold-up of inductance with dc bias current - for instance 125u Hi-Flux has a similar hold-up to 60u iron powder.
This allows the use of a higher permeability core, to give almost twice the inductance of a similarly sized iron powder core. The higher ripple flux density that results is offset by a lower core loss, to allow the chokes to be used to 50kHz or 100kHz, depending on the application.

Although of inherently higher cost, a smaller sized core can be used, to minimise the price penalty and to reduce the choke size and resistance.

Their "soft-saturation" characteristic allows a significant inductance to be maintained in overload conditions where gapped ferrites would have saturated.
The toroidal format also gives a lower flux-leakage than gapped ferrite, rod core or drum core chokes, for improved emc performance.

CHOKE RANGES

WH range	**High inductance chokes, with almost twice the energy storage of an equivalent size of iron powder choke.** **Used for compact PFC chokes, PSU output inductors & differential emc chokes.**

APPLICATIONS

Powder core chokes are mainly used where an inductance needs to be maintained where the choke is biased with a dc or a low frequency (50-60Hz) ac current.
High frequency currents should be limited to lower levels, such as the ac ripple current on a SMPSU pfc choke or output choke, or high frequency interference currents.
In general they should not be considered for applications where the choke is subject to higher levels of high frequency current, such as in resonant chokes or discontinuous-mode pfc and output chokes, unless these are at relatively low kHz frequencies.

KEY TO TERMS USED

Iac/Idc	**Rated current, dc or 50Hz ac**	For efficient convection cooling.
L0	**Inductance without bias**	Nominal, in milliHenries at 10kHz
L1	**Inductance when biased with rated current Idc**	Nominal, in milliHenries at 10kHz
L1.4	**Inductance biased with 1.4 times rated current Idc**	Nominal, in milliHenries at 10kHz
DCR	**DC resistance of the coil**	Nominal, ohms at 25deg.C
Part no.	**The basic part number of the choke**	Optional leadout variants are available.
dia.	**Diameter of the toroidal choke**	Nominal, in millimetres.
ht.	**Height of the toroidal choke**	Nominal, in millimetres.
f 20%	**Frequency for 20% peak-peak ripple current**	In kHz, based on a calculated
f 30%	**Frequency for 30% peak-peak ripple current**	20deg.C temperature rise due to core
f 40%	**Frequency for 40% peak-peak ripple current**	losses.

Specifications and information contained within this data are for guidance only.

Whilst every effort has been made to ensure the accuracy of this information, no liability can be accepted for any errors contained herein.
In all cases the customer should ensure that the chokes are thermally and electrically suitable for use within their equipment.

Almag Division, Carnhill Transformers Ltd, 4 Edison Road, St Ives, Cambs, PE27 3LT
Tel +44 (0)1480-462978 Fax +44 (0)1480-496196 E-mail sales@carnhill.co.uk

Current	Inductance vs current			Part number	Resistance	Dimensions		Ripple frequencies			Weight
Iac/Idc	L0	L1	L1.4		DCR	dia.	ht.	f 20%	f 30%	f 40%	kg.
Amps	mH	mH	mH		ohms	mm.	mm.	kHz	kHz	kHz	
0.5	**10.5**	5.5	4.2	**WH1853-205**	2.4	21	10	115	70	45	**0.013**
0.63	**6.5**	3.5	2.7	**WH1853-208**	1.5	21	10	115	70	45	**0.013**
0.63	**9.3**	6.5	4.9	**WH2052-208**	1.6	26	12	90	50	35	**0.02**
0.75	**4.3**	2.3	1.8	**WH1853-210**	1.1	21	10	115	70	45	**0.013**
0.75	**7.5**	5.8	4.1	**WH2052-212**	1.4	26	12	90	50	35	**0.02**
0.75	**15**	10	6.6	**WH2352-211**	1.7	30	14	80	45	30	**0.031**
0.75	**19**	14	12	**WH2752-210**	1.8	35	17	70	40	26	**0.053**
1	**2.5**	1.4	1	**WH1853-215**	0.58	21	10	115	70	45	**0.013**
1	**4.1**	2.8	2.1	**WH2052-217**	0.72	26	12	90	50	35	**0.02**
1	**7.2**	4.8	3.5	**WH2352-217**	0.86	30	14	80	45	30	**0.031**
1	**16**	11	7.8	**WH2752-217**	1.5	35	17	70	40	26	**0.053**
1.3	**1.6**	0.85	0.65	**WH1853-220**	0.36	21	10	115	70	45	**0.013**
1.3	**2.6**	1.8	1.3	**WH2052-222**	0.47	26	12	90	50	35	**0.02**
1.3	**5.9**	3.6	2.4	**WH2352-222**	0.63	30	14	80	45	30	**0.031**
1.3	**9.8**	6.7	4.9	**WH2752-222**	0.95	35	17	70	40	26	**0.053**
1.5	**1.1**	0.59	0.45	**WH1853-225**	0.27	21	10	115	70	45	**0.013**
1.5	**1.8**	1.2	0.92	**WH2052-227**	0.35	26	12	90	50	35	**0.02**
1.5	**3.6**	2.3	1.6	**WH2352-227**	0.38	30	14	80	45	30	**0.031**
1.5	**6**	4.2	3.2	**WH2752-227**	0.66	35	17	70	40	26	**0.05**
1.75	**0.81**	0.44	0.34	**WH1853-230**	0.21	21	10	115	70	45	**0.013**
1.75	**1.2**	0.83	0.63	**WH2052-231**	0.22	26	12	90	50	35	**0.02**
1.75	**2.6**	1.7	1.2	**WH2352-225**	0.29	30	14	80	45	30	**0.031**
1.75	**4**	2.8	2.3	**WH2752-232**	0.42	35	17	70	40	26	**0.051**
1.75	**7.5**	4.9	3.4	**WH3352-230**	0.53	42	20	58	35	23	**0.079**
2	**0.65**	0.35	0.26	**WH1853-235**	0.15	21	10	115	70	45	**0.013**
2	**0.92**	0.64	0.49	**WH2052-236**	0.18	26	12	90	50	35	**0.02**
2	**2.3**	1.4	0.93	**WH2352-238**	0.25	29	14	80	45	30	**0.031**
2	**3.5**	2.4	1.8	**WH2752-237**	0.36	35	17	70	40	26	**0.051**
2	**5.8**	3.7	2.6	**WH3352-237**	0.4	42	20	58	35	23	**0.079**
2.5	**0.44**	0.23	0.18	**WH1853-246**	0.11	21	10	115	70	45	**0.013**
2.5	**0.58**	0.4	0.31	**WH2052-247**	0.12	26	12	90	50	35	**0.018**
2.5	**1.2**	0.8	0.56	**WH2352-247**	0.16	30	14	80	45	30	**0.028**
2.5	**2.2**	1.5	1.2	**WH2752-248**	0.23	35	17	70	40	26	**0.051**
2.5	**3.8**	2.4	1.7	**WH3352-247**	0.26	42	20	58	35	23	**0.079**
3	**0.15**	0.1	0.08	**WH1853-250**	0.07	21	10	115	70	45	**0.012**
3	**0.35**	0.25	0.2	**WH2052-250**	0.079	26	12	90	50	35	**0.018**
3	**0.71**	0.49	0.37	**WH2352-252**	0.11	30	14	80	45	30	**0.027**
3	**1.6**	1.1	0.87	**WH2752-252**	0.17	35	17	70	40	26	**0.051**
3	**2.6**	1.7	1.2	**WH3352-252**	0.19	42	20	58	35	23	**0.079**
3	**3.9**	2.7	2	**WH3262-252**	0.29	42	30	60	35	23	**0.13**
3.5	**0.13**	0.081	0.064	**WH1853-255**	0.051	21	10	115	70	45	**0.012**
3.5	**0.26**	0.19	0.15	**WH2052-255**	0.06	26	12	90	50	35	**0.018**
3.5	**0.47**	0.33	0.26	**WH2352-255**	0.063	30	14	80	45	30	**0.028**
3.5	**1.08**	0.76	0.58	**WH2752-256**	0.12	35	17	70	40	26	**0.049**
3.5	**2.2**	1.3	0.9	**WH3352-256**	0.15	42	20	60	35	23	**0.079**
3.5	**2.5**	1.8	1.5	**WH3262-255**	0.19	42	30	60	35	23	**0.13**
4	**0.11**	0.066	0.052	**WH1853-260**	0.042	21	10	115	70	45	**0.012**
4	**0.2**	0.14	0.11	**WH2052-260**	0.047	26	12	90	50	35	**0.018**
4	**0.47**	0.31	0.21	**WH2352-262**	0.063	30	14	80	45	30	**0.028**
4	**0.88**	0.61	0.46	**WH2752-262**	0.1	35	17	70	40	26	**0.05**
4	**1.7**	1	0.7	**WH3352-263**	0.12	42	20	60	35	23	**0.079**
4	**2.5**	1.7	1.2	**WH3262-262**	0.19	42	30	60	35	23	**0.13**

Almag Division, Carnhill Transformers Ltd, 4 Edison Road, St Ives, Cambs, PE27 3LT
Tel +44 (0)1480-462978 **Fax +44 (0)1480-496196** **E-mail sales@carnhill.co.uk**

Storage, pfc & series-mode chokes *hi-storage range*

Almag

Current	Inductance vs current			Part number	Resistance	Dimensions		Ripple frequencies			Weight
Iac/Idc	L0	L1	L1.4		DCR	dia.	ht.	f 20%	f 30%	f 40%	kg.
Amps	mH	mH	mH		ohms	mm.	mm.	kHz	kHz	kHz	
5	**0.055**	0.036	0.029	**WH1853-271**	0.031	21	10	115	70	45	**0.012**
5	**0.1**	0.073	0.063	**WH2052-270**	0.03	26	12	90	50	35	**0.017**
5	**0.25**	0.18	0.13	**WH2352-272**	0.038	30	14	80	45	30	**0.028**
5	**0.44**	0.32	0.27	**WH2752-272**	0.064	35	17	70	40	26	**0.046**
5	**1.05**	0.65	0.44	**WH3352-273**	0.077	42	20	60	35	23	**0.078**
5	**1.5**	1.1	0.79	**WH3262-272**	0.097	42	30	60	35	23	**0.13**
6	**0.034**	0.023	0.019	**WH1853-281**	0.022	21	10	115	70	45	**0.012**
6	**0.074**	0.055	0.046	**WH2052-280**	0.022	26	12	90	50	35	**0.017**
6	**0.18**	0.13	0.093	**WH2352-282**	0.029	30	14	80	45	30	**0.027**
6	**0.25**	0.19	0.16	**WH2752-284**	0.053	35	17	60	35	23	**0.044**
6	**0.66**	0.42	0.3	**WH3352-283**	0.056	42	20	60	35	23	**0.073**
6	**1.1**	0.74	0.55	**WH3262-284**	0.09	42	30	60	35	23	**0.13**
6	**1.6**	0.93	0.64	**WH4052-280**	0.088	50	24	55	32	20	**0.14**
7	**0.05**	0.037	0.032	**WH2052-292**	0.018	26	12	90	50	35	**0.017**
7	**0.13**	0.09	0.068	**WH2352-292**	0.022	30	14	80	45	30	**0.027**
7	**0.19**	0.14	0.12	**WH2752-294**	0.038	35	17	70	40	26	**0.046**
7	**0.44**	0.29	0.2	**WH3352-292**	0.041	42	20	60	35	23	**0.073**
7	**0.83**	0.56	0.4	**WH3262-292**	0.062	42	30	60	35	23	**0.13**
7	**1.3**	0.7	0.49	**WH4052-290**	0.062	50	24	55	32	20	**0.15**
7	**1.9**	1.1	0.75	**WH5152-291**	0.082	59	23	45	26	15	**0.26**
7	**2.3**	1.4	0.92	**WH4752-291**	0.083	57	27	45	26	15	**0.25**
7	**3.8**	2.2	1.5	**WH5162-293**	0.126	59	37	45	26	15	**0.38**
8	**0.03**	0.023	0.021	**WH2052-302**	0.014	26	12	90	50	35	**0.017**
8	**0.076**	0.055	0.045	**WH2352-302**	0.017	30	14	80	45	30	**0.024**
8	**0.17**	0.12	0.1	**WH2752-304**	0.028	35	17	70	40	26	**0.046**
8	**0.34**	0.23	0.16	**WH3352-302**	0.028	42	20	60	35	23	**0.076**
8	**0.66**	0.44	0.32	**WH3262-302**	0.044	42	30	60	35	23	**0.14**
8	**1**	0.54	0.38	**WH4052-300**	0.049	50	24	55	32	20	**0.15**
8	**1.5**	0.82	0.57	**WH5152-301**	0.056	59	23	45	26	15	**0.27**
8	**1.7**	1	0.71	**WH4752-301**	0.065	57	27	45	26	15	**0.25**
8	**2.9**	1.6	1.1	**WH5162-303**	0.085	59	37	45	26	15	**0.39**
9	**0.048**	0.036	0.031	**WH2352-306**	0.014	30	14	80	45	30	**0.024**
9	**0.15**	0.11	0.085	**WH2752-308**	0.027	35	17	70	40	26	**0.044**
9	**0.27**	0.18	0.12	**WH3352-307**	0.022	42	20	60	35	23	**0.076**
9	**0.54**	0.35	0.25	**WH3262-308**	0.036	42	30	60	35	23	**0.14**
9	**0.71**	0.42	0.28	**WH4052-305**	0.037	50	24	55	32	20	**0.15**
9	**1.1**	0.65	0.45	**WH5152-306**	0.044	59	23	45	26	15	**0.26**
9	**1.1**	0.69	0.48	**WH4752-305**	0.055	57	27	45	26	15	**0.24**
9	**2.3**	1.3	0.88	**WH5162-307**	0.065	59	37	45	26	15	**0.38**
10	**0.12**	0.089	0.069	**WH2752-313**	0.021	35	17	70	40	26	**0.044**
10	**0.21**	0.14	0.1	**WH3352-312**	0.022	42	20	60	35	23	**0.072**
10	**0.47**	0.3	0.21	**WH3262-314**	0.03	42	30	60	35	23	**0.14**
10	**0.57**	0.33	0.23	**WH4052-312**	0.036	50	24	55	32	20	**0.14**
10	**0.93**	0.52	0.36	**WH5152-311**	0.04	59	23	45	26	15	**0.25**
10	**1**	0.61	0.42	**WH4752-310**	0.047	57	27	45	26	15	**0.24**
10	**1.9**	1	0.72	**WH5162-312**	0.059	59	37	45	26	15	**0.37**
11	**0.083**	0.062	0.051	**WH2752-318**	0.018	35	17	70	40	26	**0.044**
11	**0.21**	0.13	0.09	**WH3352-318**	0.017	42	20	60	35	23	**0.079**
11	**0.43**	0.26	0.18	**WH3262-318**	0.025	42	30	60	35	23	**0.14**
11	**0.51**	0.29	0.2	**WH4052-318**	0.031	50	24	55	32	20	**0.14**
11	**0.77**	0.43	0.3	**WH5152-316**	0.036	59	23	45	26	15	**0.25**
11	**0.85**	0.52	0.36	**WH4752-317**	0.039	57	27	45	26	15	**0.24**
11	**1.5**	0.86	0.6	**WH5162-318**	0.055	59	37	45	26	15	**0.36**

Almag Division, Carnhill Transformers Ltd, 4 Edison Road, St Ives, Cambs, PE27 3LT
Tel +44 (0)1480-462978 **Fax +44 (0)1480-496196** **E-mail sales@carnhill.co.uk**

Storage, pfc & series-mode chokes *high storage range*

Almag

Current	Inductance vs current			Part number	Resistance	Dimensions		Ripple frequencies			Weight
Iac/Idc	L0	L1	L1.4		DCR	dia.	ht.	f 20%	f 30%	f 40%	kg
Amps	mH	mH	mH		ohms	mm.	mm.	kHz	kHz	kHz	
13	**0.14**	0.09	0.062	**WH3352-324**	0.013	42	20	60	35	23	**0.073**
13	**0.33**	0.2	0.13	**WH3262-328**	0.018	42	30	60	35	23	**0.14**
13	**0.39**	0.21	0.15	**WH4052-325**	0.021	50	24	55	32	20	**0.15**
13	**0.6**	0.32	0.23	**WH5152-326**	0.026	59	23	45	26	15	**0.25**
13	**0.65**	0.39	0.26	**WH4752-325**	0.024	57	27	45	26	15	**0.25**
13	**1.2**	0.64	0.45	**WH5162-327**	0.04	59	37	45	26	15	**0.37**
15	**0.093**	0.062	0.045	**WH3352-336**	0.01	42	20	60	35	23	**0.072**
15	**0.23**	0.14	0.1	**WH3262-338**	0.015	42	31	60	35	23	**0.14**
15	**0.3**	0.16	0.11	**WH4052-342**	0.015	50	24	55	32	20	**0.15**
15	**0.48**	0.25	0.18	**WH5152-343**	0.019	59	23	45	26	15	**0.26**
15	**0.54**	0.31	0.21	**WH4752-340**	0.022	57	27	45	26	15	**0.25**
15	**1**	0.49	0.35	**WH5162-342**	0.028	59	37	45	26	15	**0.38**
15	**1.9**	1.1	0.8	**WH7651-340**	0.057	90	40	65	35	25	**0.85**
18	**0.046**	0.033	0.027	**WH3352-364**	0.008	42	20	60	35	23	**0.07**
18	**0.13**	0.088	0.062	**WH3262-363**	0.01	42	30	60	35	23	**0.13**
18	**0.22**	0.11	0.081	**WH4052-363**	0.01	50	24	55	32	20	**0.15**
18	**0.36**	0.21	0.15	**WH4752-363**	0.013	57	27	45	26	15	**0.25**
18	**0.37**	0.18	0.13	**WH5152-361**	0.013	59	23	45	26	15	**0.28**
18	**0.73**	0.35	0.26	**WH5162-360**	0.019	59	37	45	26	15	**0.4**
18	**1.5**	0.8	0.57	**WH7651-360**	0.041	90	40	65	35	25	**0.88**
20	**0.033**	0.024	0.02	**WH3352-373**	0.006	42	20	60	35	23	**0.07**
20	**0.082**	0.058	0.046	**WH3262-373**	0.009	43	31	60	35	23	**0.12**
20	**0.15**	0.086	0.059	**WH4052-372**	0.009	50	24	55	32	20	**0.14**
20	**0.25**	0.16	0.11	**WH4752-371**	0.011	57	27	45	26	15	**0.24**
20	**0.27**	0.14	0.1	**WH5152-376**	0.011	59	23	45	26	15	**0.26**
20	**0.54**	0.28	0.2	**WH5162-377**	0.016	59	37	45	26	15	**0.38**
20	**1.2**	0.62	0.46	**WH7651-370**	0.029	90	40	65	35	25	**0.94**
20	**2**	1	0.74	**WH7751-370**	0.045	91	54	60	30	23	**1.29**
22	**0.11**	0.064	0.043	**WH4052-381**	0.008	50	24	55	32	20	**0.13**
22	**0.18**	0.12	0.083	**WH4752-382**	0.01	57	27	45	26	16	**0.23**
22	**0.2**	0.11	0.077	**WH5152-381**	0.01	59	23	45	26	16	**0.26**
22	**0.4**	0.22	0.16	**WH5162-383**	0.014	59	37	45	26	15	**0.37**
22	**1.1**	0.54	0.4	**WH7651-380**	0.025	90	40	65	35	25	**0.97**
22	**1.8**	0.92	0.63	**WH7751-380**	0.038	91	54	60	30	23	**1.33**
24	**0.81**	0.45	0.32	**WH7651-390**	0.021	90	40	65	35	25	**0.9**
24	**1.4**	0.73	0.5	**WH7751-390**	0.03	91	54	60	30	23	**1.32**
30	**0.5**	0.28	0.21	**WH7651-420**	0.015	87	38	65	35	25	**0.86**
30	**0.74**	0.4	0.3	**WH7751-420**	0.019	87	52	60	30	23	**1.22**
35	**0.4**	0.22	0.16	**WH7651-445**	0.011	90	40	65	35	25	**0.9**
35	**0.6**	0.32	0.23	**WH7751-445**	0.014	91	54	60	30	23	**1.28**
40	**0.34**	0.17	0.12	**WH7651-470**	0.0088	90	40	65	35	25	**0.92**
40	**0.5**	0.26	0.19	**WH7751-470**	0.011	91	54	60	30	23	**1.29**
45	**0.27**	0.14	0.1	**WH7651-495**	0.0063	90	40	65	35	25	**0.96**
45	**0.4**	0.21	0.15	**WH7751-495**	0.0082	91	54	60	30	23	**1.36**
50	**0.2**	0.11	0.076	**WH7651-520**	0.0054	90	40	65	35	25	**0.88**
50	**0.3**	0.16	0.12	**WH7751-520**	0.0071	91	54	60	30	23	**1.28**
55	**0.21**	0.12	0.092	**WH7751-545**	0.006	91	54	60	30	23	**1.2**
60	**0.15**	0.09	0.07	**WH7751-570**	0.005	91	54	60	30	23	**1.13**

Almag Division, Carnhill Transformers Ltd, 4 Edison Road, St Ives, Cambs, PE27 3LT
Tel +44 (0)1480-462978 **Fax +44 (0)1480-496196** **E-mail sales@carnhill.co.uk**