

SCHWARZBECK MESS - ELEKTRONIK

An der Klinge 29 D-69250 Schönau Tel.: 06228/1001 Fax.: (49)6228/1003

Helmholtz-Spulen HHS 5213-100 Helmholtz Coils HHS 5213-100

Technische Daten:

Windungszahl (pro Spule):	100
Maximaler Spulenstrom:	15 A, 5 min.
Spulenstrom, nominell:	9 A continuous
Magn. Nennfeldstärke:	900.9 A/m continuous
Spulenabmessung, Innenmaß	1.255 m
Elektrische Kantenlänge:	1.295 m
Außenabmessungen:	1.46 m x 1.36 m x 0.91 m
Max. Spulenabstand:	0.83 m
Nutzbarer Frequenzbereich:	0 – 5 kHz
Induktivität (pro Spule):	41.1 mH
Wirkwiderstand (pro Spule):	3.55 Ω
Resonanzfrequenz (Spulenpaar):	> 13 kHz
Gewicht:	44.5 kg

Folgende Angaben gelten für 0,705 m Spulenabstand:

Spulenabstand für beste Feldhomogenität entlang einer Achse durch die Spulenmitten:	0.705 m
Magn. Feldstärke bei 1 A Spulenstrom:	100.096 A/m (Coil Dist. 0.705 m)
Erforderlicher Strom für 1 A/m:	10 mA (Coil Dist. 0.705 m)
Induktivität (Spulenpaar):	88.3 mH (Coil Dist. 0.705 m)

Specifications:

Number of turns (per coil):
Maximum coil current:
Nominal coil current:
Nominal Magnetic Field Strength:
Inner side length of the coils:
Electrical side length of the coil:
Mechanical Dimensions:
Maximum Coil Separation:
Usable Frequency Range:
Inductance (per Coil):
Resistance (per Coil):
Resonant Frequency (Pair of Coils):
Weight:

The following data is valid for 0.705 m coil distance:

Coil Separation for best uniformity along an axes through the coil centers:
Magnetic Fieldstrength, 1 A Coil Current:
Current required for 1 A/m:
Inductance (Coil pair):



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HHS 5213-100 100+100 turns. , Kantenlänge <i>Sidelength</i> = 1.295 m, Spulenabstand <i>Coil Distance</i> = 0.705 m, I = 1 Amp Längskomponente der magnetischen Feldstärke entlang der Spulenlängsachse <i>Magnet. Fieldstrength, longitudinal component along rotational axis</i>						
Dist.	H1[A/m]	H2[A/m]	Hges[A/m]	H1[dBµA/m]	H2[dBµA/m]	Hges[dBµA/m]
0.00 (Center Plane)	50.0483	50.0483	100.0965	153.99	153.99	160.0
0.01	50.6725	49.4240	100.0965	154.10	153.88	160.01
0.02	51.5040	48.5924	100.0965	154.24	153.73	160.01
0.03	52.3336	47.7626	100.0962	154.38	153.58	160.01
0.04	53.1601	46.9354	100.0955	154.51	153.43	160.01
0.05	53.9822	46.1118	100.0940	154.65	153.28	160.01
0.06	54.7988	45.2926	100.0913	154.78	153.12	160.01
0.07	55.6083	44.4784	100.0868	154.90	152.96	160.01
0.08	56.4096	43.6702	100.0797	155.03	152.80	160.01
0.09	57.2011	42.8684	100.0695	155.15	152.64	160.01
0.10	57.9814	42.0738	100.0552	155.27	152.48	160.00
0.11	58.7491	41.2868	100.0359	155.38	152.32	160.00
0.12	59.5025	40.5080	100.0106	155.49	152.15	160.00
0.13	60.2403	39.7379	99.9782	155.60	151.98	160.00
0.14	60.9607	38.9769	99.9376	155.70	151.82	159.99
0.15	61.6623	38.2253	99.8876	155.80	151.65	159.99
0.16	62.3435	37.4835	99.8269	155.90	151.48	159.98
0.17	63.0026	36.7518	99.7544	155.99	151.31	159.98
0.18	63.6381	36.0304	99.6686	156.07	151.13	159.97
0.19	64.2485	35.3197	99.5682	156.16	150.96	159.96
0.20	64.8323	34.6197	99.4520	156.24	150.79	159.95
0.21	65.3878	33.9307	99.3186	156.31	150.61	159.94
0.22	65.9138	33.2528	99.1666	156.38	150.44	159.93
0.23	66.4087	32.5861	98.9948	156.44	150.26	159.91
0.24	66.8712	31.9307	98.8019	156.50	150.08	159.90
0.25	67.3001	31.2866	98.5867	156.56	149.91	159.88
0.26	67.6941	30.6538	98.3480	156.61	149.73	159.86
0.27	68.0521	30.0325	98.0847	156.66	149.55	159.83
0.28	68.3731	29.4225	97.7957	156.70	149.37	159.81
0.29	68.6561	28.8239	97.4801	156.73	149.20	159.78
0.30	68.9003	28.2367	97.1370	156.76	149.02	159.75
0.31	69.1049	27.6607	96.7656	156.79	148.84	159.71
0.32	69.2694	27.0959	96.3652	156.81	148.66	159.68
0.33	69.3931	26.5422	95.9353	156.83	148.48	159.64
0.34	69.4759	25.9995	95.4754	156.84	148.30	159.60
0.35	69.5173	25.4677	94.9850	156.84	148.12	159.55

**Spulenabstand 0.705 m
Coil Distance 0.705 m**

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