Inductor Data

It is easy to find the inductance of an inductor using equation shown on **Figure 1**. However, very often ham use for implementation of the inductor some normalized forms. So, it is possible to do tables that are contained data for such forms.

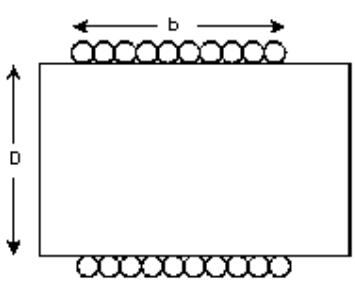
Table 1 (Reference 1) contains data for inductor coiled on a form in 18 and 20 mm diameter. L – length in mm, N- numbers of turns.

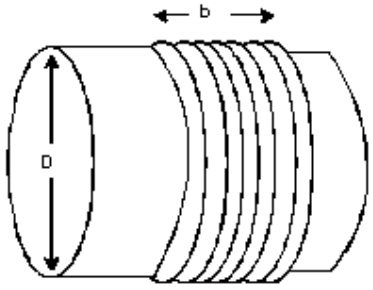
Example: Inductor coiled on the form in 18 mm diameter by 10 turns on length 20 mm has inductance 1.153-μHn.

Table 2 (Reference 1) contains data for inductor coiled on a form in 25 AND 30mm diameter. L – length in mm, N- numbers of turns.

Example: Inductor coiled on the form in 30 mm diameter by 10 turns on length 20 mm has inductance 2.687-μHn.

Table 3 (Reference 1) contains data for inductor coiled on a form in 40 and 50mm diameter. L – length in mm, N- numbers of turns.





$b > \frac{D}{2}$ $L = \frac{0.2\,D^2\,n^2}{9D + 20b}$

$b < \frac{D}{2}$ $L = \frac{0.1\,D^2\,n^2}{4D + 11b}$

L- μHn

b- length, centimetres

D- diameter, centimetres

n- number of turns

Figure 1

Table 1

N \ L	Diameter 18 mm					Diameter 20 mm				
	5	10	15	20	25	5	10	15	20	25
5	**0.618**	**0.448**	**0.351**	**0.288**	**0.245**	**0.714**	**0.526**	**0.417**	**0.345**	**0.294**
10	**2.473**	**1.790**	**1.403**	**1.153**	**0.979**	**2.857**	**2.105**	**1.667**	**1.379**	**1.176**
15	**5.565**	**4.028**	**3.156**	**2.594**	**2.202**	**6.429**	**4.737**	**3.750**	**3.103**	**2.647**
20	**9.893**	**7.160**	**5.610**	**4.612**	**3.915**	**11.43**	**8.421**	**6.667**	**5.517**	**4.706**
30	**22.26**	**16.11**	**12.62**	**10.38**	**8.81**	**25.71**	**18.95**	**15.00**	**12.41**	**10.59**
50	**61.83**	**44.75**	**35.06**	**28.83**	**24.47**	**71.43**	**52.63**	**41.67**	**34.48**	**29.41**

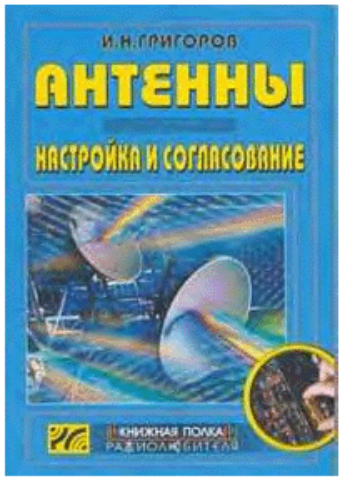
Inductor Data

Table 2

N \ L	Diameter 25 mm					Diameter 30 mm				
	10	20	30	40	50	10	20	30	40	50
5	0.735	0.500	0.379	0.305	0.255	0.957	0.672	0.517	0.421	0.354
10	2.941	2.00	1.515	1.220	1.020	3.83	2.687	2.069	1.682	1.417
15	6.618	4.50	3.409	2.744	2.296	8.617	6.045	4.655	3.785	3.189
20	11.76	8.00	6.061	4.878	4.082	15.32	10.75	8.276	6.729	5.669
30	26.47	18.00	13.64	10.98	9.184	34.47	24.18	18.62	15.14	12.76
50	73.53	50.00	37.88	30.49	25.51	95.74	67.16	51.72	42.06	35.43

Table 3

Q \ L	Diameter 40 mm					Diameter 50 mm				
	10	20	30	40	50	10	20	30	40	50
5	1.429	1.063	0.833	0.690	0.588	1.923	1.471	1.190	1.00	0.862
10	5.714	4.211	3.333	2.759	2.353	7.692	5.882	4.762	4.000	3.448
15	12.86	9.474	7.500	6.207	5.294	17.31	13.24	10.71	9.000	7.759
20	22.86	16.84	13.33	11.03	9.412	30.77	23.53	19.05	16.00	13.79
30	51.43	37.89	30.00	24.83	21.18	69.23	52.94	42.86	36.00	31.03
50	142.9	105.3	83.33	68.97	58.82	192.3	147.1	119.0	100.0	86.21



Reference 1

Igor Grigorov.
Antenny. Nastroyka I Soglasovanie.
(In Russian)

Publishing House RadioSoft,

Moscow, 2002

Inductor Data

Table 4 (Reference 2) contains data for inductor coiled on a form in 30 and 30 mm diameter. L – length in mm, N- numbers of turns.

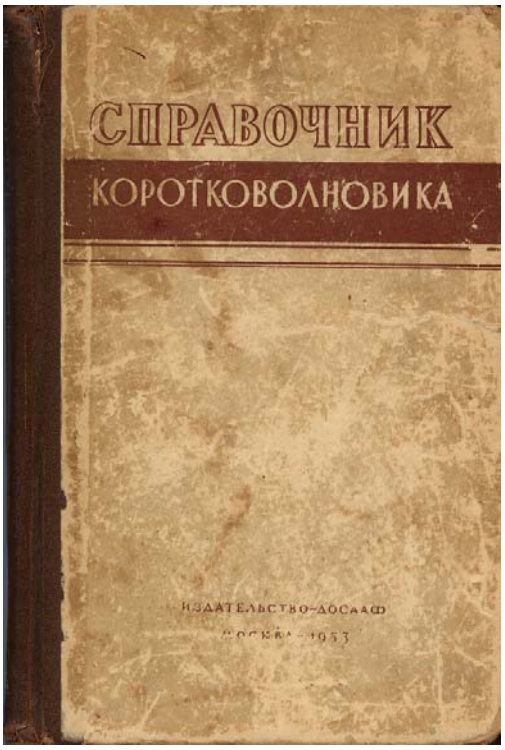
Table 5 (Reference 2) contains data for inductor coiled on a form in 50 mm diameter. L – length in mm, N- numbers of turns.

Table 4

N \ L	Diameter 20 mm					Diameter 30 mm				
	4	7	10	15	24	6	10.5	15	22.5	36
2	0.128	0.100	0.080	0.064	0.048	0.192	0.150	0.120	0.096	0.072
3	0.288	0.225	0.180	0.144	0.108	0.432	0.338	0.270	0.216	0.162
4	0.512	0.400	0.320	0.256	0.192	0.770	0.600	0.480	0.385	0.288
5	0.800	0.625	0.500	0.400	0.300	1.200	0.940	0.750	0.600	0.450
6	1.150	0.900	0.720	0.575	0.430	1.720	1.350	1.080	0.860	0.645
7	1.570	1.225	0.980	0.785	0.590	2.350	1.840	1.470	1.175	0.885
8	2.050	1.600	1.280	1.025	0.770	3.080	2.400	2.070	1.540	1.155
9	2.590	2.025	1.620	1.295	0.970	3.900	3.050	2.430	1.920	1.455
10	3.200	2.500	2.000	1.600	1.200	4.800	3.750	3.000	2.400	1.800
12	4.600	3.600	2.880	2.300	1.720	6.900	5.400	4.320	3.450	2.580
14	6.300	4.900	3.920	3.150	2.360	9.450	7.350	5.900	4.700	3.550
16	8.200	6.400	5.120	4.100	3.070	12.30	9.600	7.700	6.150	4.600
18	10.400	8.100	6.500	5.200	3.900	15.60	12.15	9.750	7.800	5.850
20	12.800	10.00	8.000	6.400	4.800	19.20	15.00	12.00	9.600	7.200
25	20.00	15.60	12.50	10.00	7.500	30.00	23.40	18.80	15.00	11.25
30	28.00	22.50	18.00	14.40	10.80	43.20	33.80	27.00	21.60	16.20
35	39.20	31.20	24.60	19.60	14.70	59.00	45.50	36.50	29.50	22.00
40	51.200	40.00	32.00	25.60	19.20	77.00	60.00	48.00	38.50	28.80
45	65.100	50.50	40.50	32.50	24.30	97.50	76.00	61.00	48.80	36.50
50	80.00	62.50	50.00	40.00	30.00	120.0	94.00	75.00	60.00	45.00
60	115.00	90.00	72.00	57.50	43.00	172.0	135.0	108.0	86.00	64.50

Table 5

N \ L	Diameter 50mm				
	10	17.5	25	37.5	60
2	0.320	0.250	0.200	0.160	0.120
3	0.720	0.560	0.450	0.360	0.270
4	1.280	1.000	0.800	0.640	0.480
5	2.00	1.570	1.250	1.000	0.750
6	2.880	2.250	1.800	1.440	1.075
7	3.920	3.070	2.450	1.960	1.480
8	5.140	4.000	3.200	2.570	1.930
9	6.480	5.050	4.050	3.240	2.430
10	8.000	6.250	5.000	4.000	3.000
12	11.50	9.000	7.200	5.750	4.300
14	16.50	12.30	9.800	7.800	5.900
16	20.50	16.00	12.80	10.25	7.650
18	26.00	20.30	16.30	13.00	9.800
20	32.00	25.00	20.00	16.00	12.00
25	50.00	39.00	31.50	25.00	18.80
30	72.00	56.00	45.00	36.00	27.00
35	98.00	77.00	59.00	49.00	37.00
40	128.0	100.0	80.00	64.00	48.00
45	163.0	127.0	100.0	81.50	61.00
50	200.0	157.0	125.0	100.0	75.00
60	288.0	225.0	180.0	144.0	107.0 0



Reference 2

F. Burdeynyj, N. Kazanskiy, A. Kamalyagin, K. Shulgin

Spravochnik Korotkovolnovika
(Ham Handbook)
(In Russian)

DOSAAF,
Moscow, 1953