



**Heavy Duty
External Circlip
DIN 1460**

Standard Material:
Carbon Spring Steel

Stainless Steel
available on request

Circlip Dimensions

Part no	Shaft	(T)	Tolerance	(D)	Tolerance	(C)	(B)	(L)	(H)	Fr KN
1460012	12	1.50	+0.00 -0.06	11.0	+0.10 -0.36	19.0	1.8	3.3	1.7	11.3
1460013	13	1.50	+0.00 -0.06	11.9	+0.10 -0.36	20.2	2.0	3.4	1.7	5.8
1460014	14	1.50	+0.00 -0.06	12.9	+0.10 -0.36	21.4	2.1	3.5	1.7	6.4
1460015	15	1.50	+0.00 -0.06	13.8	+0.10 -0.36	22.6	2.4	3.6	2.0	15.5
1460016	16	1.50	+0.00 -0.06	14.7	+0.10 -0.36	23.8	2.5	3.7	2.0	16.6
1460017	17	1.50	+0.00 -0.06	15.7	+0.10 -0.36	25.0	2.6	3.8	1.7	18.0
1460018	18	1.50	+0.00 -0.06	16.5	+0.10 -0.36	26.2	2.7	3.9	2.0	26.6
1460019	19	1.50	+0.00 -0.06	17.5	+0.13 -0.42	27.2	2.7	3.9	2.0	26.6
1460020	20	1.75	+0.00 -0.06	18.5	+0.13 -0.42	28.4	3.0	4.0	2.0	36.3
1460022	22	1.75	+0.00 -0.06	20.5	+0.13 -0.42	30.8	3.1	4.2	2.0	36.0
1460023	23	1.75	+0.00 -0.06	21.5	+0.13 -0.42	32.0	3.2	4.3	2.0	35.7
1460024	24	1.75	+0.00 -0.06	22.2	+0.21 -0.42	33.2	3.2	4.4	2.0	34.2
1460025	25	2.00	+0.00 -0.07	23.2	+0.21 -0.42	34.2	3.4	4.4	2.0	45.0
1460026	26	2.00	+0.00 -0.07	24.2	+0.21 -0.42	35.5	3.3	4.5	2.0	44.0
1460027	27	2.00	+0.00 -0.07	24.9	+0.21 -0.42	36.7	3.4	4.6	2.0	45.5
1460028	28	2.00	+0.00 -0.07	25.9	+0.21 -0.42	37.9	3.5	4.7	2.0	57.0
1460029	29	2.00	+0.00 -0.07	26.9	+0.21 -0.42	39.1	3.8	4.8	2.0	56.5
1460030	30	2.00	+0.00 -0.07	27.9	+0.21 -0.42	40.5	4.1	5.0	2.0	57.0
1460032	32	2.00	+0.00 -0.07	29.6	+0.25 -0.50	43.0	4.1	5.2	2.5	57.0
1460033	33	2.00	+0.00 -0.07	30.5	+0.25 -0.50	44.0	4.0	5.2	2.5	56.0
1460034	34	2.50	+0.00 -0.07	31.5	+0.25 -0.50	45.4	4.2	5.4	2.5	87.0
1460035	35	2.50	+0.00 -0.07	32.2	+0.25 -0.50	46.8	4.2	5.6	2.5	86.0
1460036	36	2.50	+0.00 -0.07	33.2	+0.25 -0.50	47.8	4.2	5.6	2.5	101.5
1460038	38	2.50	+0.00 -0.07	35.2	+0.25 -0.50	50.2	4.3	5.8	2.5	101.0
1460040	40	2.50	+0.00 -0.07	36.5	+0.39 -0.90	52.6	4.4	6.0	2.5	104.0
1460042	42	2.50	+0.00 -0.07	38.5	+0.39 -0.90	55.7	4.5	6.5	2.5	102.0
1460045	45	2.50	+0.00 -0.07	41.5	+0.39 -0.90	59.1	4.7	6.7	2.5	100.0
1460048	48	2.50	+0.00 -0.07	44.5	+0.39 -0.90	62.5	5.0	6.9	2.5	101.0
1460050	50	3.00	+0.00 -0.08	45.8	+0.39 -0.90	64.5	5.1	6.9	2.5	165.0
1460052	52	3.00	+0.00 -0.08	47.8	+0.39 -0.90	66.7	5.2	7.0	2.5	165.0
1460055	55	3.00	+0.00 -0.08	50.8	+0.46 -1.10	70.2	5.4	7.2	2.5	161.0
1460056	56	3.00	+0.00 -0.08	51.8	+0.46 -1.10	71.6	5.5	7.3	2.5	53.0
1460058	58	3.00	+0.00 -0.08	53.8	+0.46 -1.10	73.6	5.6	7.3	2.5	160.0
1460060	60	3.00	+0.00 -0.08	55.8	+0.46 -1.10	75.6	5.8	7.4	2.5	156.0
1460062	62	3.00	+0.00 -0.08	57.8	+0.46 -1.10	77.8	6.0	7.5	2.5	69.3
1460063	63	3.00	+0.00 -0.08	58.8	+0.46 -1.10	79.0	6.2	7.6	2.5	70.2
1460035	65	4.00	+0.00 -0.08	60.8	+0.46 -1.10	81.4	6.3	7.8	3.0	346.0
1460068	68	2.50	+0.00 -0.08	63.5	+0.46 -1.10	84.4	6.5	8.0	3.0	135.9
1460070	70	4.00	+0.00 -0.08	65.5	+0.46 -1.10	87.0	6.6	8.1	3.0	343.0
1460072	72	4.00	+0.00 -0.08	67.5	+0.46 -1.10	89.2	6.8	8.2	3.0	131.8
1460075	75	4.00	+0.00 -0.08	70.5	+0.46 -1.10	92.7	7.0	8.4	3.0	333.0
1460078	78	4.00	+0.00 -0.08	73.5	+0.46 -1.10	96.1	7.3	8.6	3.0	131.3
1460080	80	4.00	+0.00 -0.10	74.5	+0.46 -1.10	98.1	7.4	8.6	3.0	328.0
1460082	82	4.00	+0.00 -0.10	76.5	+0.46 -1.10	100.3	7.6	8.7	3.0	
1460085	85	4.00	+0.00 -0.10	79.5	+0.46 -1.10	103.3	7.8	8.7	3.5	383.0
1460087	87	3.25	+0.00 -0.10	81.5	+0.54 -1.30	105.5	7.9	8.8	3.5	
1460090	90	4.00	+0.00 -0.10	84.5	+0.54 -1.30	108.5	8.2	8.8	3.5	386.0
1460092	92	4.00	+0.00 -0.10	86.5	+0.54 -1.30	111.0	8.4	9.0	3.5	
1460095	95	4.00	+0.00 -0.10	89.5	+0.54 -1.30	114.8	8.6	9.4	3.5	378.0
1460098	98	4.00	+0.00 -0.10	92.5	+0.54 -1.30	118.0	9.0	9.5	3.5	
1460100	100	4.00	+0.00 -0.10	94.5	+0.54 -1.30	120.2	9.0	9.6	3.5	368.0

Groove Dimensions

(G)	Tolerance	(W)	(N)	Fn KN
11.5	+0.00 -0.11	1.6	0.7	1.5
12.4	+0.00 -0.11	1.6	0.9	
13.4	+0.00 -0.11	1.6	0.9	
14.3	+0.00 -0.11	1.6	0.7	3.2
15.2	+0.00 -0.11	1.6	1.2	3.3
16.2	+0.00 -0.11	1.6	1.5	4.3
17.0	+0.00 -0.11	1.6	1.8	5.5
18.0	+0.00 -0.11	1.6	1.8	5.8
19.0	+0.00 -0.15	1.85	1.6	5.6
21.0	+0.00 -0.15	1.85	1.5	5.6
22.0	+0.00 0.15	1.85	1.8	7.0
22.9	+0.00 -0.21	1.85	1.9	8.0
23.9	+0.00 -0.21	2.15	1.9	8.3
24.9	+0.00 -0.21	2.15	2.4	10.7
25.6	+0.00 -0.21	2.15	2.3	10.3
26.6	+0.00 -0.21	2.15	2.1	10.0
27.6	+0.00 -0.21	2.15	2.1	10.4
28.6	+0.00 -0.21	2.15	2.1	10.7
30.3	+0.00 -0.21	2.15	2.5	12.9
31.3	+0.00 -0.25	2.15	2.5	14.3
32.3	+0.00 -0.25	2.65	2.8	16.4
33.0	+0.00 -0.25	2.65	3.0	17.8
34.0	+0.00 -0.25	2.65	3.3	20.1
36.0	+0.00 -0.25	2.65	3.3	21.2
37.5	+0.00 -0.25	2.65	3.8	25.3
39.5	+0.00 -0.25	2.65	3.8	26.7
42.5	+0.00 -0.25	2.65	3.8	28.6
45.5	+0.00 -0.25	2.65	3.8	30.7
47.0	+0.00 -0.25	3.15	4.5	38.2
49.0	+0.00 -0.25	3.15	4.5	39.7
52.0	+0.00 -0.30	3.15	4.5	42.0
53.0	+0.00 -0.30	3.15	4.5	42.8
55.0	+0.00 -0.30	3.15	4.5	44.3
57.0	+0.00 -0.30	3.15	4.5	46.0
59.0	+0.00 -0.30	3.15	4.5	47.5
60.0	+0.00 -0.30	3.15	4.5	48.3
62.0	+0.00 -0.30	4.15	4.5	49.8
65.0	+0.00 -0.30	4.15	4.5	52.2
67.0	+0.00 -0.30	4.15	4.5	53.8
69.0	+0.00 -0.30	4.15	4.5	55.3
72.0	+0.00 -0.30	4.15	4.5	57.6
75.0	+0.00 -0.30	4.15	5.3	60.0
76.5	+0.00 -0.30	4.15	5.3	71.6
78.5	+0.00 -0.30	4.15	5.3	73.5
81.5	+0.00 -0.35	4.15	5.3	76.3
83.5	+0.00 -0.35	4.15	5.3	78.2
86.5	+0.00 -0.35	4.15	5.3	80.8
88.5	+0.00 -0.35	4.15	5.3	82.7
91.5	+0.00 -0.35	4.15	5.3	85.5
94.5	+0.00 -0.35	4.15	5.3	88.2
96.5	+0.00 -0.35	4.15	5.3	90.0