

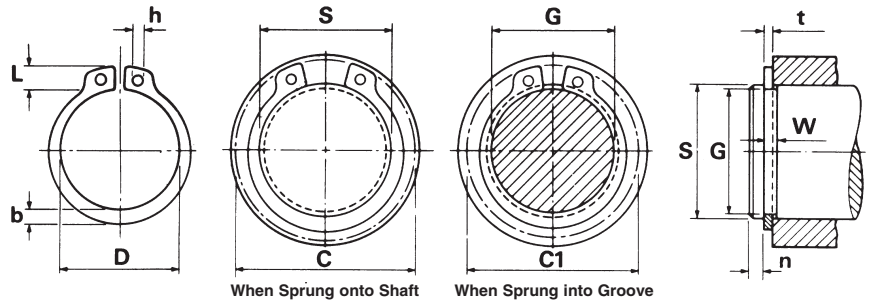
0.125" to 10.00"

Standard Material  
 12 to 23 Beryllium Copper  
 25 up Carbon Spring Steel

Standard Finish  
 12 to 23 Self Finish  
 25 up Phosphate

MS 16624

**STANDARD  
 EXTERNAL**



PART NUMBER	SHAFT			RING									GROOVE					APPROX Wt. LB / 1000 PCS.	THRUST LOAD (LBS)	PLIER No.
	DIAMETER S			THICKNESS		FREE DIAMETER		RING			DIAMETER		WIDTH							
	Frac. inch	Dec. inch	mm	t inches	Tol. inches	D inches	Tol. inches	C	C1	L (max)	b ~	h (min)	G inches	Tol. inches	W inches	Tol. inches	n (min)			
1400-12	1/8	.125	-	.010	±.001	.112		.222	.214	.048	.018	.024	.117		.012		.014	.018	110	
1400-15	5/32	.156	-	.010		.142	+002	.270	.260	.056	.026	.024	.146		.012		.017	.037	130	
1400-18	3/16	.188	-	.015		.168	-004	.298	.286	.052	.025	.023	.175	±.0015	.018	+002	.022	.059	240	Mini A
1400-19	-	.197	5	.015		.179		.319	.307	.058	.026	.024	.185		.018	-000	.020	.063	250	
1400-21	7/32	.219	-	.015		.196		.338	.324	.058	.028	.024	.205		.018		.023	.074	280	
1400-23	15/64	.236	-	.015		.215		.355	.341	.058	.030	.024	.222		.018		.023	.086	310	
1400-25	1/4	.250	-	.025		.225		.45	.43	.083	.035	.039	.230		.029		.032	.21	700	
1400-27	-	.276	7	.025		.250		.48	.46	.084	.035	.039	.255		.029		.035	.23	770	
1400-28	9/32	.281	-	.025		.256		.49	.47	.083	.038	.039	.261		.029		.033	.24	785	Mini B
1400-31	5/16	.312	-	.025		.281		.54	.52	.090	.040	.039	.290		.029		.036	.27	940	
1400-34	11/32	.344	-	.025		.309		.57	.55	.090	.042	.039	.321		.029		.038	.31	960	
1400-35	-	.354	9	.025		.320	+002	.59	.57	.090	.046	.039	.330		.029		.038	.35	990	
1400-37	3/8	.375	-	.025		.338	-005	.61	.59	.091	.050	.039	.352	±.002	.029		.038	.39	1050	
1400-39	-	.394	10	.025		.354		.62	.60	.090	.052	.039	.369		.029		.041	.42	1100	
1400-40	13/32	.406	-	.025		.366		.63	.61	.090	.054	.039	.382		.029		.039	.43	1180	
1400-43	7/16	.438	-	.025		.395		.66	.64	.091	.055	.039	.412		.029		.042	.50	1220	
1400-46	15/32	.469	-	.025		.428		.68	.66	.091	.060	.039	.443		.029		.042	.54	1300	
1400-50	1/2	.500	-	.035		.461		.77	.74	.111	.065	.045	.468		.039		.051	.91	1980	
1400-55	-	.551	14	.035		.509		.81	.78	.111	.053	.045	.519		.039	+003	.051	.90	2180	
1400-56	9/16	.562	-	.035		.521		.82	.79	.111	.072	.045	.530		.039	-000	.051	1.1	2220	Std. 2
1400-59	19/32	.594	-	.035	±.002	.550		.86	.83	.112	.076	.045	.559		.039		.057	1.2	2350	
1400-62	5/8	.625	-	.035		.579		.90	.87	.113	.080	.045	.588		.039		.060	1.3	2460	
1400-66	-	.669	17	.035		.621		.93	.89	.113	.082	.045	.629		.039		.066	1.4	2650	
1400-66	43/64	.672	-	.035		.621		.93	.89	.113	.082	.045	.631		.039		.066	1.4	2650	
1400-68	11/16	.688	-	.042		.635	+005	1.01	.97	.140	.084	.050	.646		.046		.068	1.8	4050	
1400-75	3/4	.750	-	.042		.693	-010	1.09	1.05	.140	.092	.050	.704	±.003	.046		.074	2.1	4420	
1400-78	25/32	.781	-	.042		.722		1.12	1.08	.140	.094	.050	.733		.046		.076	2.2	4600	
1400-81	13/16	.812	-	.042		.751		1.15	1.10	.140	.096	.050	.762		.046		.080	2.5	4800	
1400-87	7/8	.875	-	.042		.810		1.21	1.16	.141	.104	.050	.821		.046		.085	2.8	5150	
1400-93	15/16	.938	-	.042		.867		1.34	1.29	.170	.110	.076	.882		.046		.088	3.1	5600	
1400-98	63/64	.984	25	.042		.910		1.39	1.34	.171	.114	.076	.926		.046		.091	3.5	5800	
1400-100	1	1.000	-	.042		.925		1.41	1.35	.171	.116	.076	.940		.046		.094	3.6	6000	
1400-102	-	1.023	26	.042		.946		1.43	1.37	.172	.118	.076	.961		.046		.097	3.9	6050	
1400-106	1 1/16	1.062	-	.050		.982		1.50	1.44	.185	.122	.076	.998		.056		.102	4.8	7500	
1400-112	1 1/8	1.125	-	.050		1.041		1.55	1.49	.186	.128	.076	1.059		.056		.105	5.1	7900	Std. 4
1400-118	1 3/16	1.187	-	.050		1.098		1.61	1.54	.186	.132	.076	1.118		.056		.111	5.6	8400	
1400-125	1 1/4	1.250	-	.050		1.156	+010	1.69	1.62	.187	.140	.076	1.176		.056		.117	5.9	8800	
1400-131	1 5/16	1.312	-	.050		1.214	-015	1.75	1.67	.187	.146	.076	1.232	±.004	.056		.126	6.8	9300	
1400-137	1 3/8	1.375	-	.050		1.272		1.80	1.72	.188	.152	.076	1.291		.056		.132	7.2	9700	
1400-143	1 7/16	1.438	-	.050		1.333		1.87	1.79	.188	.160	.076	1.350		.056		.138	8.1	10200	
1400-150	1 1/2	1.500	-	.050		1.387		1.99	1.90	.210	.168	.118	1.406		.056	+004	.147	9.0	10550	
1400-156	1 9/16	1.562	-	.062		1.446		2.10	2.01	.189	.180	.123	1.468		.068	-000	.148	12.4	13700	
1400-162	1 5/8	1.625	-	.062		1.503		2.17	2.08	.239	.180	.123	1.529		.068		.151	13.2	14200	
1400-168	1 11/16	1.688	-	.062		1.560		2.24	2.15	.205	.197	.123	1.589		.068		.156	14.8	14800	Std. 6
1400-175	1 3/4	1.750	-	.062	±.003	1.618	+013	2.31	2.21	.205	.197	.123	1.650		.068		.157	15.3	15300	
1400-177	-	1.772	45	.062		1.637	-020	2.33	2.23	.205	.197	.123	1.669	±.005	.068		.162	15.4	15500	
1400-181	1 13/16	1.812	-	.062		1.675		2.38	2.28	.205	.197	.123	1.708		.068		.163	16.2	15850	
1400-187	1 7/8	1.875	-	.062		1.735		2.44	2.34	.205	.197	.123	1.769		.068		.166	17.3	16400	
1400-196	-	1.968	50	.062		1.819		2.54	2.43	.205	.197	.123	1.857	±.006	.068		.174	18.0	16900	



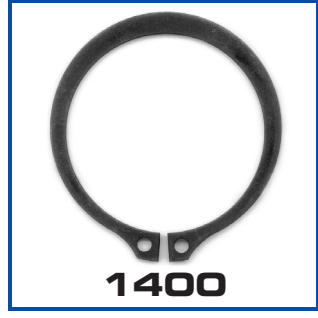


0.125" to 10.00"

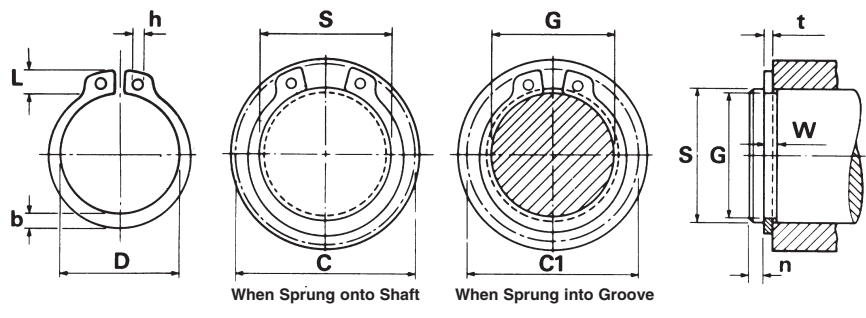
Standard Material  
12 to 23 Beryllium Copper  
25 up Carbon Spring Steel

Standard Finish  
12 to 23 Self Finish  
25 up Phosphate

MS 16624



**STANDARD EXTERNAL**



PART NUMBER	SHAFT			RING									GROOVE					APPROX Wt. LB / 1000 PCS.	THRUST LOAD (LBS)	PLIER No.
	DIAMETER S			THICKNESS		FREE DIAMETER			DIAMETER			DIAMETER		WIDTH						
	Frac. inch	Dec. inch	mm	t inches	Tol. inches	D inches	Tol. inches	C	C1	L (max)	b ~	h (min)	G inches	Tol. inches	W inches	Tol. inches	n (min)			
1400-200	2	2.000	-	.062		1.850	<sup>+0.03</sup> <sub>-.020</sub>	2.55	2.44	.232	.224	.123	1.886		.068	<sup>+0.004</sup> <sub>-.000</sub>	.178	19.0	17500	
1400-206	2 1/16	2.062	-	.078		1.906		2.68	2.57	.225	.217	.123	1.946		.086		.183	25.0	22750	
1400-212	2 1/8	2.125	-	.078		1.964		2.75	2.63	.236	.228	.123	2.003		.086		.192	26.1	23400	
1400-215	2 5/32	2.156	-	.078		1.993		2.78	2.66	.225	.217	.123	2.032		.086		.195	26.3	23800	
1400-225	2 1/4	2.250	-	.078		2.081	<sup>+0.015</sup>	2.87	2.74	.272	.220	.123	2.120		.086		.204	27.7	24800	
1400-231	2 5/16	2.312	-	.078		2.139	<sup>-.025</sup>	2.94	2.81	.272	.222	.123	2.178		.086		.210	28.0	25400	
1400-237	2 3/8	2.375	-	.078		2.197		3.01	2.88	.236	.228	.123	2.239		.086		.213	29.2	26150	
1400-243	2 7/16	2.438	-	.078		2.255		3.07	2.94	.236	.228	.123	2.299		.086		.217	29.5	26900	
1400-250	2 1/2	2.500	-	.078		2.313		3.12	2.98	.236	.228	.123	2.360		.086		.219	29.7	27600	
1400-255	-	2.559	65	.078		2.377		3.18	3.04	.258	.250	.123	2.419		.086		.219	33.9	28200	
1400-262	2 5/8	2.625	-	.078		2.428		3.25	3.11	.236	.228	.123	2.481		.086		.225	35.0	29000	
1400-268	2 11/16	2.688	-	.078		2.485		3.32	3.18	.273	.246	.123	2.541		.086		.230	36.0	29600	
1400-275	2 3/4	2.750	-	.093		2.543		3.45	3.31	.284	.275	.123	2.602		.103		.231	42.5	36100	Std. 6
1400-287	2 7/8	2.875	-	.093		2.659		3.57	3.42	.268	.260	.123	2.721		.103		.240	48.5	37800	
1400-293	2 15/16	2.938	-	.093	$\pm 0.003$	2.717		3.64	3.49	.268	.260	.123	2.779		.103		.247	50.0	38700	
1400-300	3	3.000	-	.093		2.775		3.69	3.53	.268	.260	.123	2.838		.103		.252	52.0	39500	
1400-306	3 1/16	3.062	-	.093		2.832		3.74	3.58	.268	.260	.123	2.898	$\pm 0.006$	.103	<sup>+0.005</sup>	.255	47.5	40300	
1400-312	3 1/8	3.125	-	.093		2.892		3.82	3.66	.305	.272	.123	2.957		.103	<sup>-0.000</sup>	.261	58.0	41100	
1400-315	3 5/32	3.156	-	.093		2.920		3.85	3.68	.284	.276	.123	2.986		.103		.264	59.0	41500	
1400-325	3 1/4	3.250	-	.093		3.006		3.95	3.78	.284	.276	.123	3.076		.103		.270	62.0	42800	
1400-334	3 11/32	3.346	85	.093		3.092	<sup>+0.020</sup>	4.04	3.87	.284	.276	.123	3.166		.103		.279	64.0	44000	
1400-343	3 7/16	3.438	-	.093		3.179	<sup>-0.030</sup>	4.14	3.96	.284	.276	.123	3.257		.103		.280	66.0	45300	
1400-350	3 1/2	3.500	-	.109		3.237		4.25	4.07	.320	.285	.123	3.316		.120		.285	72.0	53900	
1400-354	-	3.543	90	.109		3.277		4.29	4.11	.320	.288	.123	3.357		.120		.288	73.0	54650	
1400-362	3 5/8	3.625	-	.109		3.352		4.37	4.18	.323	.315	.123	3.435		.120		.294	76.0	55900	
1400-368	3 11/16	3.688	-	.109		3.410		4.43	4.24	.335	.302	.123	3.493		.120		.301	80.0	56800	
1400-375	3 3/4	3.750	-	.109		3.468		4.50	4.31	.337	.310	.123	3.552		.120		.306	83.0	57700	
1400-387	3 7/8	3.875	-	.109		3.584		4.60	4.40	.335	.318	.123	3.673		.120		.312	88.0	59600	
1400-393	3 15/16	3.938	100	.109		3.642		4.70	4.50	.323	.318	.123	3.734		.120		.315	95.0	60700	
1400-400	4	4.000	-	.109		3.700		4.78	4.58	.352	.344	.123	3.792		.120		.321	101.0	61700	
1400-425	4 1/4	4.250	-	.109		3.989		5.09	4.91	.323	.318	.123	4.065		.120		.287	112.0	65500	
1400-437	4 3/8	4.375	-	.109		4.106		5.22	5.04	.323	.318	.123	4.190		.120		.287	115.0	67400	
1400-450	4 1/2	4.500	-	.109		4.223		5.37	5.18	.323	.285	.123	4.310		.120		.294	121.0	69300	
1400-475	4 3/4	4.750	-	.109		4.458		5.67	5.47	.352	.303	.123	4.550		.120		.309	133.0	73200	
1400-500	5	5.000	127	.109		4.692		5.96	5.75	.352	.344	.151	4.790		.120		.324	149.0	77000	Major
1400-525	5 1/4	5.250	-	.125		4.927		6.27	6.05	.457	.372	.151	5.030		.139		.339	190.0	92700	
1400-550	5 1/2	5.500	-	.125	$\pm 0.004$	5.162	<sup>+0.020</sup>	6.57	6.34	.457	.390	.151	5.265	$\pm 0.007$	.139	<sup>+0.006</sup>	.363	202.0	97200	
1400-575	5 3/4	5.750	-	.125		5.396	<sup>-0.040</sup>	6.86	6.62	.457	.408	.151	5.505		.139	<sup>-0.000</sup>	.378	220.0	101600	
1400-600	6	6.000	-	.125		5.631		7.16	6.91	.457	.381	.151	5.745		.139		.393	240.0	105900	
1400-625	6 1/4	6.250	-	.156		5.866		7.46	7.20	.508	.396	.151	5.985		.174		.409	282.0	137700	
1400-650	6 1/2	6.500	-	.156		6.100	<sup>+0.020</sup>	7.87	7.60	.508	.438	.151	6.225		.174		.425	330.0	143300	
1400-675	6 3/4	6.750	-	.156		6.335	<sup>-0.030</sup>	8.06	7.78	.508	.458	.182	6.465		.174		.440	356.0	148800	
1400-700	7	7.000	-	.156	$\pm 0.005$	6.570		8.15	8.07	.508	.460	.182	6.705	$\pm 0.008$	.174	<sup>+0.008</sup>	.455	388.0	154000	
1400-750	7 1/2	7.500	-	.187		7.009		8.96	8.64	.632	.507	.182	7.180		.209	<sup>-0.000</sup>	.492	584.0	198200	
1400-800	8	8.000	-	.187		7.478		9.60	9.26	.632	.540	.182	7.660		.209		.522	640.0	211400	
1400-850	8 1/2	8.500	-	.187		7.947	<sup>+0.020</sup>	10.10	9.74	.632	.573	.182	8.140		.209		.562	692.0	224600	
1400-900	9	9.000	-	.187		8.415	<sup>-0.030</sup>	10.60	10.22	.632	.609	.182	8.620		.209		.582	737.0	237800	
1400-950	9 1/2	9.500	-	.187		8.885		11.10	10.70	.632	.625	.182	9.100		.209		.612	785.0	251000	
1400-1000	10	10.000	254	.187		9.355		11.60	11.20	.632	.625	.182	9.575		.209		.650	910.0	264200	

