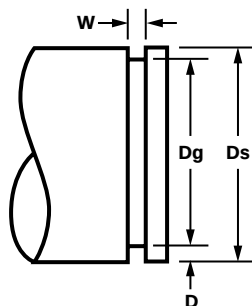
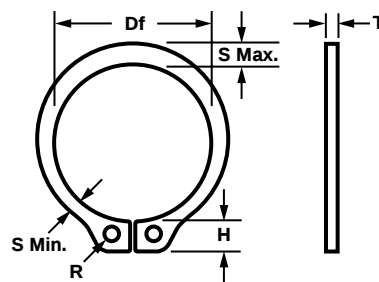


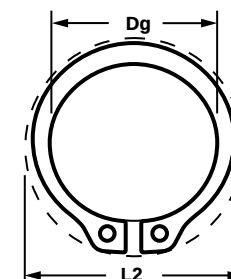
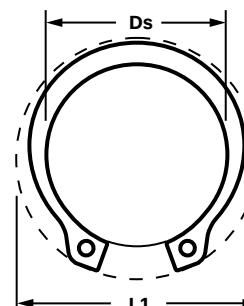
Dimensions for Stainless Steel External Retaining Rings



**Shaft Diameter
and Groove Size**



**Free Diameter and
Ring Measurements**

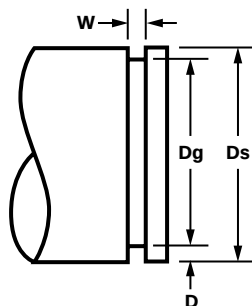


Clearance Diameter

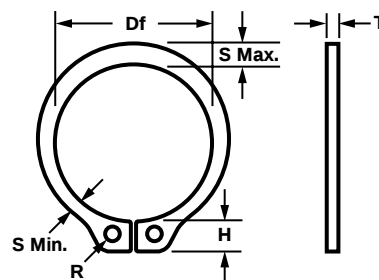
	Shaft Dia.		Groove Size					Ring Size				Lug Ht.	Hole Dia.	Section Width		Clearance Dia.	
	Dec.	Frac.	Diameter		Width		Depth	Free Diameter		Thickness				Max.	Min.	Expanded Over Shaft	Released in Groove
	Ds	Ds	Dg	Tolerance	W	Tolerance	D	Df	Tolerance	T	Tol.	H	R	S	S	L1	L2
91590A113	0.250"	¼"	0.230"	±0.0015"	0.029"	+0.003"-0.000"	0.010"	0.225"	+0.002"-0.005"	0.025"	±0.002"	0.080"	0.041"	0.035"	0.025"	0.450"	0.430"
91590A112	0.281"	⅑ ₃₂ "	0.261"	±0.002"	0.029"	+0.003"-0.000"	0.010"	0.256"	+0.002"-0.005"	0.025"	±0.002"	0.080"	0.041"	0.038"	0.025"	0.490"	0.470"
91590A115	0.312"	⅕ ₁₆ "	0.290"	±0.002"	0.029"	+0.003"-0.000"	0.011"	0.281"	+0.002"-0.005"	0.025"	±0.002"	0.087"	0.041"	0.040"	0.026"	0.540"	0.520"
91590A116	0.344"	⅙ ₃₂ "	0.321"	±0.002"	0.029"	+0.003"-0.000"	0.011"	0.309"	+0.002"-0.005"	0.025"	±0.002"	0.087"	0.041"	0.042"	0.0265"	0.570"	0.550"
91590A117	0.375"	⅜"	0.352"	±0.002"	0.029"	+0.003"-0.000"	0.012"	0.338"	+0.002"-0.005"	0.025"	±0.002"	0.088"	0.041"	0.050"	0.0305"	0.610"	0.590"
91590A118	0.406"	⅚ ₃₂ "	0.382"	±0.002"	0.029"	+0.003"-0.000"	0.012"	0.366"	+0.002"-0.005"	0.025"	±0.002"	0.087"	0.041"	0.054"	0.033"	0.630"	0.610"
91590A119	0.438"	⅗ ₁₆ "	0.412"	±0.002"	0.029"	+0.003"-0.000"	0.013"	0.395"	+0.002"-0.005"	0.025"	±0.002"	0.088"	0.041"	0.055"	0.033"	0.660"	0.640"
91590A122	0.500"	½"	0.468"	±0.002"	0.039"	+0.003"-0.000"	0.016"	0.461"	+0.002"-0.005"	0.035"	±0.002"	0.108"	0.047"	0.065"	0.040"	0.770"	0.740"
91590A124	0.562"	⅙ ₁₆ "	0.530"	±0.002"	0.039"	+0.003"-0.000"	0.016"	0.521"	+0.005"-0.010"	0.035"	±0.002"	0.108"	0.047"	0.072"	0.041"	0.820"	0.790"
91590A125	0.594"	⅙ ₃₂ "	0.559"	±0.003"	0.039"	+0.003"-0.000"	0.017"	0.550"	+0.005"-0.010"	0.035"	±0.002"	0.109"	0.047"	0.076"	0.043"	0.860"	0.830"
91590A126	0.625"	⅝"	0.588"	±0.003"	0.039"	+0.003"-0.000"	0.018"	0.579"	+0.005"-0.010"	0.035"	±0.002"	0.110"	0.047"	0.080"	0.045"	0.900"	0.870"
91590A127	0.688"	⅙ ₁₆ "	0.646"	±0.003"	0.046"	+0.003"-0.000"	0.021"	0.635"	+0.005"-0.010"	0.042"	±0.002"	0.136"	0.052"	0.084"	0.048"	1.010"	0.970"

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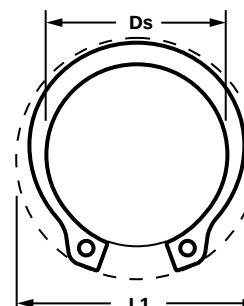
Dimensions for Stainless Steel External Retaining Rings



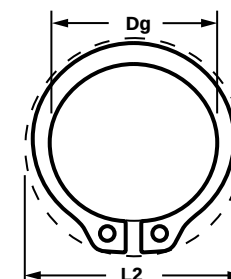
**Shaft Diameter
and Groove Size**



**Free Diameter and
Ring Measurements**



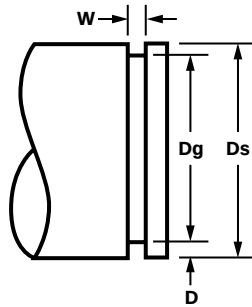
Clearance Diameter



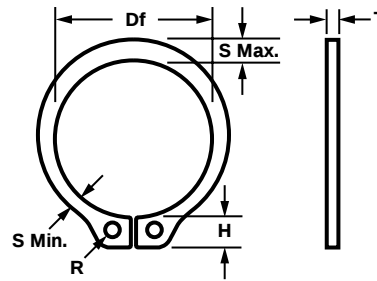
	Shaft Dia.		Groove Size					Ring Size					Hole Dia.	Section Width		Clearance Dia.	
	Dec.	Frac.	Diameter		Width		Depth	Free Diameter		Thickness				Lug Ht.	Max.	Min.	Expanded Over Shaft
	Ds	Ds	Dg	Tolerance	W	Tolerance	D	Df	Tolerance	T	Tol.	H	R	S	S	L1	L2
91590A128	0.750"	¾"	0.704"	±0.003"	0.046"	+0.003"-0.000"	0.023"	0.693"	+0.005"-0.010"	0.042"	±0.002"	0.136"	0.052"	0.092"	0.051"	1.090"	1.050"
91590A129	0.812"	13⁄16"	0.762"	±0.003"	0.046"	+0.003"-0.000"	0.025"	0.751"	+0.005"-0.010"	0.042"	±0.002"	0.136"	0.052"	0.096"	0.054"	1.150"	1.100"
91590A131	0.875"	7⁄8"	0.821"	±0.003"	0.046"	+0.003"-0.000"	0.027"	0.810"	+0.005"-0.010"	0.042"	±0.002"	0.137"	0.052"	0.104"	0.057"	1.210"	1.160"
91590A132	0.938"	15⁄16"	0.882"	±0.003"	0.046"	+0.003"-0.000"	0.028"	0.867"	+0.005"-0.010"	0.042"	±0.002"	0.166"	0.078"	0.110"	0.063"	1.340"	1.290"
91590A134	0.984"	63⁄64"	0.926"	±0.003"	0.046"	+0.003"-0.000"	0.029"	0.910"	+0.005"-0.010"	0.042"	±0.002"	0.167"	0.078"	0.114"	0.064"	1.390"	1.340"
91590A133	1.000"	1"	0.940"	±0.003"	0.046"	+0.003"-0.000"	0.030"	0.925"	+0.005"-0.010"	0.042"	±0.002"	0.167"	0.078"	0.116"	0.065"	1.410"	1.350"
91590A136	1.062"	1 1⁄16"	0.998"	±0.004"	0.056"	+0.004"-0.000"	0.032"	0.982"	+0.010"-0.015"	0.050"	±0.002"	0.181"	0.078"	0.122"	0.069"	1.500"	1.440"
91590A135	1.125"	1 1⁄8"	1.059"	±0.004"	0.056"	+0.004"-0.000"	0.033"	1.041"	+0.010"-0.015"	0.050"	±0.002"	0.182"	0.078"	0.128"	0.071"	1.550"	1.490"
91590A138	1.188"	1 3⁄16"	1.118"	±0.004"	0.056"	+0.004"-0.000"	0.035"	1.098"	+0.010"-0.015"	0.050"	±0.002"	0.182"	0.078"	0.132"	0.072"	1.610"	1.540"
91590A137	1.250"	1 1⁄4"	1.176"	±0.004"	0.056"	+0.004"-0.000"	0.037"	1.156"	+0.010"-0.015"	0.050"	±0.002"	0.183"	0.078"	0.140"	0.076"	1.690"	1.620"
91590A250	1.312"	1 5⁄16"	1.232"	±0.004"	0.056"	+0.004"-0.000"	0.040"	1.214"	+0.010"-0.015"	0.050"	±0.002"	0.183"	0.078"	0.146"	0.076"	1.750"	1.670"
91590A249	1.375"	1 3⁄8"	1.291"	±0.004"	0.056"	+0.004"-0.000"	0.042"	1.272"	+0.010"-0.015"	0.050"	±0.002"	0.184"	0.078"	0.152"	0.082"	1.800"	1.720"

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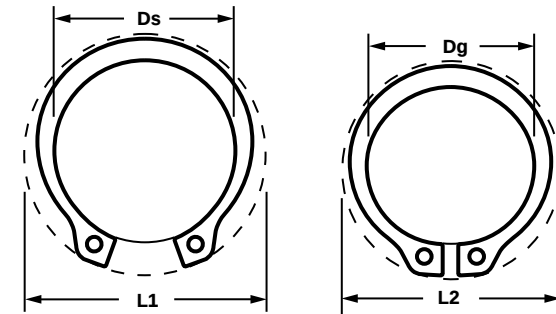
Dimensions for Stainless Steel External Retaining Rings



**Shaft Diameter
and Groove Size**



**Free Diameter and
Ring Measurements**



Clearance Diameter

	Shaft Dia.		Groove Size					Ring Size				Lug Ht.	Hole Dia.	Section Width		Clearance Dia.	
	Dec.	Frac.	Diameter		Width		Depth	Free Diameter		Thickness				Max.	Min.	Expanded Over Shaft	Released In Groove
Ds	Ds	Dg	Tolerance	W	Tolerance	D	Df	Tolerance	T	Tol.	H	R	S	S	L1	L2	
91590A255	1.438"	1 ⁷ / ₁₆ "	1.350"	±0.004"	0.056"	+0.004"-0.000"	0.044"	1.333"	+0.010"-0.015"	0.050"	±0.002"	0.184"	0.078"	0.160"	0.086"	1.870"	1.790"
91590A139	1.500"	1 ¹ / ₂ "	1.406"	±0.004"	0.056"	+0.004"-0.000"	0.047"	1.387"	+0.010"-0.015"	0.050"	±0.002"	0.214"	0.120"	0.168"	0.091"	1.990"	1.900"
91590A260	1.562"	1 ⁹ / ₁₆ "	1.468"	±0.005"	0.068"	±0.004"-0.000"	0.047"	1.446"	+0.013"-0.020"	0.062"	±0.003"	0.235"	0.125"	0.172"	0.093"	2.100"	2.010"
91590A140	1.625"	1 ⁵ / ₈ "	1.529"	±0.005"	0.068"	±0.004"-0.000"	0.048"	1.503"	+0.013"-0.020"	0.062"	±0.003"	0.235"	0.125"	0.180"	0.097"	2.170"	2.080"
91590A141	1.750"	1 ³ / ₄ "	1.650"	±0.005"	0.068"	±0.004"-0.000"	0.050"	1.618"	+0.013"-0.020"	0.062"	±0.003"	0.237"	0.125"	0.188"	0.101"	2.310"	2.210"
91590A152	2.000"	2"	1.886"	±0.005"	0.068"	±0.004"-0.000"	0.057"	1.850"	+0.013"-0.020"	0.062"	±0.003"	0.262"	0.125"	0.204"	0.108"	2.550"	2.440"
91590A159	2.250"	2 ¹ / ₄ "	2.120"	±0.006"	0.086"	+0.005"-0.000"	0.065"	2.081"	+0.015"-0.025"	0.078"	±0.003"	0.280"	0.125"	0.220"	0.116"	2.87"	2.74"
91590A164	2.375"	2 ³ / ₈ "	2.239"	±0.006"	0.086"	+0.005"-0.000"	0.068"	2.197"	+0.015"-0.025"	0.078"	±0.003"	0.292"	0.125"	0.224"	0.119"	3.01"	2.88"
91590A168	2.500	2 ¹ / ₂ "	2.360"	±0.006"	0.086"	+0.005"-0.000"	0.070"	2.313"	+0.015"-0.025"	0.078"	±0.003"	0.292"	0.125"	0.232"	0.122"	3.120"	2.980"
91590A174	2.625"	2 ⁵ / ₈ "	2.481"	±0.006"	0.086"	+0.005"-0.000"	0.072"	2.428"	+0.020"-0.030"	0.078"	±0.003"	0.292"	0.125"	0.242"	0.127"	3.250"	3.110"
91590A178	2.750"	2 ³ / ₄ "	2.602"	±0.006"	0.103"	+0.005"-0.000"	0.074"	2.543"	+0.020"-0.030"	0.093"	±0.003"	0.324"	0.125"	0.248"	0.131"	3.450"	3.310"
91590A185	3.000"	3"	2.838"	±0.006"	0.103"	+0.005"-0.000"	0.081"	2.775"	+0.020"-0.030"	0.093"	±0.003"	0.264"	0.125"	0.264"	0.138"	3.690"	3.530"