

Inch

Pouce



Retaining Rings - External & Internal

Bagues de retenue internes / externes

<p>R1000 SERIES — EXTERNAL (Radial Assembly)</p>		<p>(R1001 — 50 BOWED)</p>
<p>R1200 SERIES — EXTERNAL (Radial Assembly)</p>	<p>R4000 SERIES — INTERNAL (Axial Assembly)</p>	
<p>R2000 SERIES — EXTERNAL (Radial Assembly)</p>	<p>R4100 SERIES — EXTERNAL (Axial Assembly)</p>	
<p>R3000 SERIES — INTERNAL (Axial Assembly)</p>		<p>APPROX. SIZE SILHOUETTES</p>
<p>R3100 SERIES — EXTERNAL (Axial Assembly)</p> <p>(R3101-78 Bowed)</p>		

E

CATALOG 14 SPAENAUR

All items on page PKG QTY. 100

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E121

Retaining Ring Assortments

Assortiments de bagues de retenue



Inch

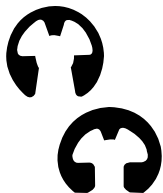
Pouce

PLASTIKIT
«PLASTIKIT» **A-58**

R1000 and R1200 Series External - Radial Assembly RETAINING RINGS

Carbon Spring Steel, Phosphate Coated or Plain

19 SIZES - 169 PIECES



Name	Ring Thickness	Spenaaur No.	Compatible Shaft Diameter	Qty.	Page
Retaining Ring R1200 Series External Bowed Carbon Spring Steel	0.015"	R1200-12	0.125"	10	E121 E125
	0.025"	R1200-18	0.188"		
		R1200-25	0.250"		
		R1200-31	0.312"		
	0.035"	R1200-37	0.375"	5	
0.042"	R1200-43	0.438"			
Retaining Ring R1000 Series External	0.015"	R1000-X11	7/64"	10	E121 E124
		R1000-12	1/8"		
	0.025"	R1000-15	5/32"		
		R1000-X18	3/16"		
		R1000-18			
		R1000-X21	7/32"		
	0.035"	R1000-25	0.250"	8	
		R1000-37	3/8"	7	
	0.042"	R1000-43	7/16"	5	
		R1000-50	0.500"	4	
	R1000-62	5/8"			

E



Internal & External RETAINING RINGS

PLASTIKIT
«PLASTIKIT» **804-075**

R1000 & R1200 Series
External - Radial Assembly
90 Rings in 18 popular sizes.
STAINLESS STEEL (PH 15-7 Mo)



PLASTIKIT
«PLASTIKIT» **A-59**

R3000 Series
Internal - Axial Assembly
88 Rings in 16 popular sizes. Carbon
Spring Steel, Phosphate Coated or Plain.



Spenaaur No.	Ring Thickness	Compatible Housing/Bore Diameter	Groove Diameter	Qty.	Page
R3000-X25	0.015"	0.250"	0.268"	10	E121 E127
R3000-X31		0.312"	0.330"		
R3000-X37		0.375"	0.397"		
R3000-X43	0.025"	0.438"	0.461"		
R3000-X50		0.500"	0.530"		
R3000-X62	0.035"	0.625"	0.665"		
R3000-X75		0.750"	0.796"		
254-A03-1X		0.875"	0.931"		
R3000-X100	0.042"	1.000"	1.066"	4	
R3000-X102		1.023"	1.091"		
R3000-X106	0.050"	1.062"	1.130"	3	E121 E127
R3000-X125		1.250"	1.330"		
R3000-X137		1.375"	1.461"		
R3000-X150	0.062"	1.500"	1.594"	2	E127
R3000-X162		1.625"	1.725"		
R3000-X175		1.750"	1.858"		

PLASTIKIT
«PLASTIKIT» **804-076**

R3000 Series
Internal - Axial Assembly
43 Rings in 14 popular sizes.
STAINLESS STEEL (PH 15-7 Mo)



Name	Ring Thickness	Spenaaur No.	Compatible Shaft Diameter	Groove Diameter	Qty.	Page	
Retaining Ring R1000 Series External Stainless Steel	0.015"	250-806	0.125"	0.095"	5	E124	
		250-807	0.156"	0.116"			
	0.025"	250-808	0.188"	0.147"			
		250-809	0.218"	0.188"			
		250-801	0.250"	0.210"			
0.035"	250-802	0.312"	0.250"	E124			
	250-800	0.375"	0.303"				
0.042"	250-803	0.437"	0.343"				
	250-810	0.500"	0.396"				
Retaining Ring R1200 Series External Bowed Stainless	0.015"	250-811	0.625"	0.485"	5	E125	
		252-800	0.094"				
	0.025"	252-801	0.125"				
		252-802	0.188"				
		252-803	0.250"				
		252-804	0.312"				
		252-805	0.375"				
		0.035"	252-806	0.438"			
			0.042"	252-808			0.562"

Spenaaur No.	Ring Thickness	Compatible Housing/Bore Diameter	Groove Diameter	Qty.	Page
254-801	0.015"	0.250"	0.268"	5	
254-802		0.312"	0.330"		
254-803		0.375"	0.397"		
254-804	0.025"	0.438"	0.461"		
254-805		0.500"	0.530"		
254-806	0.035"	0.625"	0.665"		
254-807		0.750"	0.796"		
254-808		0.875"	0.931"		
254-809	0.042"	1.000"	1.066"	2	
254-800		1.250"	1.330"		
254-811	0.050"	1.375"	1.461"	1	
254-812		1.500"	1.594"		
254-813		0.062"	1.625"		
254-814	1.750"		1.858"		

Inch
Pouce



Retaining Ring Assortments
Assortiments de bagues de retenue

PLASTIKIT
«PLASTIKIT» **A-60**

R3100 Series
External - Axial Assembly
100 Rings in 26 popular sizes. Carbon Spring Steel, Phosphate Coated or Plain.



Spenaaur No.	Compatible Shaft Diameter	Groove Diameter	Qty.	Page
R3100-15ST	0.156"	0.146"	5	E129
R3100-18	0.188"	0.175"		
R3100-25	0.250"	0.230"	10	E121
R3100-31	0.312"	0.290"		E129
255-D17-1T	0.375"	0.352"		
R3100-39	0.394"	0.369"	6	
R3100-43	0.438"	0.412"		E129
R3100-46	0.469"	0.443"		
R3100-50	0.500"	0.468"		
R3100-55	0.551"	0.519"	5	E121
R3100-59	0.594"	0.559"		E129
255-D03-1C	0.625"	0.588"		
R3100-68	0.688"	0.646"	4	
R3100-75	0.750"	0.704"		
R3100-78	0.781"	0.733"	3	
R3100-81	0.812"	0.762"		E129
R3100-84	0.844"	0.791"		
R3100-87	0.875"	0.821"		
R3100-100	1.000"	0.940"	2	E121
R3100-112	1.125"	1.059"		E129
R3100-118	1.188"	1.118"		
R3100-125	1.250"	1.176"		
R3100-137	1.375"	1.291"		
R3100-150	1.500"	1.406"	1	
R3100-156	1.562"	1.468"		
R3100-175	1.750"	1.650"		E129

PLASTIKIT
«PLASTIKIT» **804-074**

R3100 Series
External - Axial Assembly
46 Rings in 23 popular sizes.
STAINLESS STEEL (PH 15-7 Mo)



Spenaaur No.	Compatible Shaft Diameter	Groove Diameter	Qty.	Page
255-D11-1X	0.250"	0.230"	5	
255-801	0.312"	0.290"		
255-802	0.375"	0.352"	3	
255-803	0.394"	0.369"		
255-804	0.438"	0.412"		
255-805	0.469"	0.443"		
255-D21-1W	0.500"	0.468"		
255-806	0.551"	0.519"	2	E129
255-807	0.594"	0.559"		
255-808	0.625"	0.588"		
255-809	0.688"	0.646"		
255-810	0.750"	0.704"		
255-811	0.781"	0.733"		
255-812	0.812"	0.762"		
255-813	0.844"	0.791"	1	
255-814	0.875"	0.821"		
255-816	1.000"	0.940"		
255-818	1.125"	1.059"		
255-819	1.188"	1.118"		
255-821	1.375"	1.291"		
255-822	1.500"	1.406"		
255-823	1.562"	1.468"		
255-824	1.750"	1.650"		

PLASTIKIT
«PLASTIKIT» **804-077**

R6100 Series
Self-Seating
245 Rings in 16 popular sizes.
Carbon Spring Steel, Phosphate Coated or Plain.



Ring Thickness	Spenaaur No.	Compatible Shaft Diameter	Qty.	Page
0.010"	R6100-9	3/32"	25	E136
	R6100-12	1/8"		
	R6100-15	5/32"		
	R6100-18	3/16"	20	
	R6100-21	7/32"		
	R6100-25	1/4"		
R6100-31	5/16"	15		
R6100-37	3/8"			
0.015"	R6100-24	0.239"	20	
	R6100-43	7/16"	15	
	R6100-50	1/2"	10	
	R6100-56	9/16"		
	R6100-62	5/8"		
	R6100-75	3/4"		
	R6100-87	7/8"		
	R6100-100	1"		5

CATALOG 14

SPAENAUR

External Retaining Rings / Applicator Tools

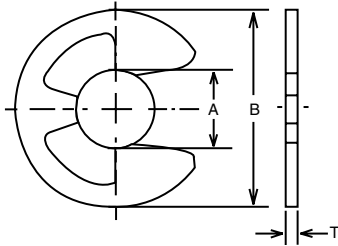


Inch

Bagues de retenue externes / Outils d'installation

Pouce

R1000 SERIES - External



Open-type Rings provide large shoulders on grooved shafts. Easily snapped on. Replace cotter pins, screw-fastened collars, machined shoulders, etc.

Some examples of Approx. Size. Silhouettes on page E121.

PKG QTY. 100
*PKG QTY. 50

ORDER BY SPAENAUR NUMBERS LISTED BELOW

SHAFT DIA. Inch (frac.)	Free Dia. "A" (dec.)	Ring Thick "T"	Ring O.D. "B"	CARBON SPRING STEEL	CARBON SPRING STEEL	STAINLESS	BERYLLIUM	Applicator
				Phos. Coated or Plain our option.	Zinc Plated (Clear or Yellow Dichromate - our option.)	STEEL PH 15-7 Mo	COPPER	Tool No. PKG QTY. 1
1/16	.040	.025	.079	R1000-X6	R1000-X6ZP		R1000-4	876-411
1/16	.062	.051	.140	R1000-6	R1000-6ZP	250-804		876-412
1/16	.062	.051	.156					876-413
3/32	.094	.073	.187	R1000-9	250-F11-1N	250-805		876-414
3/32	.094	.069	.230	R1000-X9	R1000-X9ZP			876-415
7/64	.110	.076	.375	R1000-X11	R1000-X11ZP			876-416
1/8	.125	.094	.230	R1000-12	R1000-12ZP	250-806		876-417
9/64	.140	.100	.203	R1000-X14	R1000-X14ZP			876-418
9/64	.140	.109	.250	R1000-A14	R1000-A14ZP			876-419
9/64	.140	.102	.270	250-F08-1C	R1000-14ZP			876-420
5/32	.156	.114	.282	R1000-15	R1000-15ZP	250-F13-1K		876-421
11/64	.172	.125	.312	R1000-X17	R1000-X17ZP			876-422
3/16	.188	.145	.335	R1000-18	R1000-18ZP	250-808		876-423
3/16	.188	.122	.375	R1000-X18	R1000-X18ZP			876-424
7/32	.218	.185	.437	R1000-X21	250-F04-1X	250-809		876-425
1/4	.250	.207	.527	R1000-25	250-F03-1M	250-801		876-426
5/16	.312	.243	.500	R1000-X31	250-F02-1W	250-802		876-427
3/8	.375	.300	.660	R1000-37	R1000-37ZP	250-800		876-428
7/16	.437	.337	.687	R1000-43	250-F10-1C	250-803		876-429
7/16	.437	.375	.600	R1000-X43	R1000-X43ZP	250-813		876-437
1/2	.500	.392	.800	R1000-50	250-F01-1K	250-810		876-438
5/8	.625	.480	.940	R1000-62	R1000-62ZP	*250-811		876-439
	.744	.616	1.000	R1000-X74	R1000-X74ZP			876-440
3/4	.750	.574	1.120	R1000-75	R1000-75ZP	*250-812		876-441
7/8	.875	.668	1.300	R1000-87	R1000-87ZP	116433		876-442
63/64	.985	.822	1.500	R1000-X98	R1000-X98ZP	116434		876-443
1-3/16	1.188	1.066	1.626	R1000-X118	R1000-X118ZP			

E

SPAENAUR

"CROSS-REFERENCE" CHART

NOTE: All rings are furnished "loose."

SPAENAUR No.	Anderton Brand	Industrial Brand	Waldes/Truarc Brand	Military Standard
R1000	N1500	1000	5133	MS16633
R1001	N1501	1001	5131	MS16634
R1200	N1540	1200	5144	MS3215
R2000	N1800	2000	5103	MS16632
R3000	N1300	3000	5000	MS16625
R3100	N1400	3100	5100	MS16624
R3101	N1401	3101	5101	MS16628
R4000	N1308	4000	5008	MS16627
R4100	N1408	4100	5108	MS16626
R6100	N1405	6100	5105	N/A
5115	N1465	N/A	5115	N/A
5555	N1440	7100	5555	MS90707

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SPAENAUR

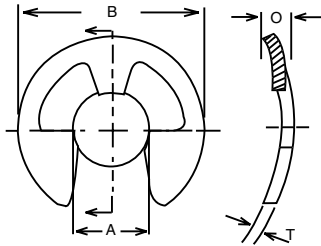
Inch
Pouce



External Retaining Rings / Applicator Tools

Bagues de retenue externes / Outils d'installation

R1001 SERIES - External (Bowed)

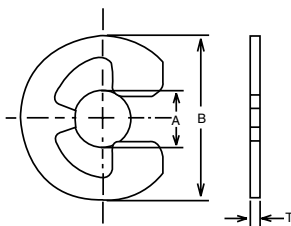


Bowed for resilient take-up of end play.
Provide large shoulders on grooved shaft

PKG QTY. 100

							ORDER BY SPAENAUR NUMBERS LISTED BELOW		
SHAFT DIA. Inch (frac.)	(dec.)	Free Dia. "A"	Ring Thick. "T"	Ring O.D. "B"	Overall Bow Ht. "O"	Max. Take- Up	CARBON SPRING STEEL	CARBON SPRING STEEL	STAINLESS
							Phos. Coated or Plain, our option	Zinc Plated (Clear or Yellow Dichromate - our option.)	STEEL PH 15-7 Mo
7/64	.110	.076	.015	.375	.038-.048	.023	R1001-X11	R1001-X11ZP	
1/8	.125	.094	.010	.230	.025-.033	.015	R1001-12	R1001-12ZP	
9/64	.140	.100	.010	.203	.022-.032	.012	R1001-X14	R1001-X14ZP	
9/64	.140	.102	.015	.270	.028-.040	.013	R1001-14	R1001-14ZP	
5/32	.156	.114	.015	.282	.028-.040	.013	R1001-15	R1001-15ZP	
11/64	.172	.125	.015	.312	.032-.043	.017	R1001-X17	R1001-X17ZP	
3/16	.188	.145	.015	.335	.032-.043	.017	R1001-18	R1001-18ZP	251-802
3/16	.188	.122	.015	.375	.038-.048	.023	R1001-X18	R1001-X18ZP	
7/32	.218	.185	.015	.437	.043-.058	.028	R1001-X21	R1001-X21ZP	
1/4	.250	.207	.025	.527	.050-.067	.025	R1001-25	R1001-25ZP	251-800
5/16	.312	.243	.025	.500	.050-.067	.025	R1001-X31	R1001-X31ZP	
3/8	.375	.300	.035	.660	.060-.073	.025	R1001-37	R1001-37ZP	
7/16	.437	.337	.035	.687	.060-.073	.025	R1001-43	R1001-43ZP	
7/16	.437	.375	.035	.600	.060-.073	.025	R1001-X43	R1001-X43ZP	
1/2	.500	.392	.042	.800	.075-.093	.033	R1001-50	R1001-50ZP	251-801
5/8	.625	.480	.042	.940	.080-.098	.038	R1001-62	R1001-62ZP	
	.744	.616	.050	1.000	.088-.112	.038	R1001-X74	R1001-X74ZP	
3/4	.750	.616	.050	1.000	.088-.112	.035			
3/4	.750	.574	.050	1.120	.088-.112	.038	R1001-75	R1001-75ZP	
7/8	.875	.668	.050	1.300	.088-.112	.038	R1001-87	R1001-87ZP	
63/64	.985	.822	.050	1.500	.088-.112	.038	R1001-X98	R1001-X98ZP	
1	1.000	.822	.050	1.500	.088-.112	.038			
1-3/16	1.188	1.066	.062	1.626	.109-.139	.044			
1-3/8	1.375	1.213	.062	1.875	.109-.139	.044			

R1200 SERIES - External



For greater-than-normal resistance to vibration or heavy shock loads.

Some examples of Approx. Size Silhouettes on page E121

PKG QTY. 100

*PKG QTY. 50

					ORDER BY SPAENAUR NUMBERS LISTED BELOW			
Shaft Dia. Inch (frac.)	(dec.)	Free Dia. "A"	Ring Thick "T"	Ring O.D. "B"	CARBON SPRING STEEL	CARBON SPRING STEEL	STAINLESS	Applicator
					Phos. Coated or Plain, our option	Zinc Plated (Clear or Yellow Dichromate - our option.)	STEEL PH 15-7 Mo	Tool No. PKG QTY. 1
3/32	.094	.072	.015	.206	R1200-9	R1200-9ZP	252-800	876-445
1/8	.125	.093	.015	.270	R1200-12	R1200-12ZP	252-801	876-446
5/32	.156	.113	.025	.335	R1200-15	252-G03-1P		876-447
3/16	.188	.143	.025	.375	R1200-18	252-G02-1A	252-802	876-448
7/32	.219	.182	.025	.446	R1200-21	R1200-21ZP		876-449
1/4	.250	.204	.025	.516	R1200-25	252-G01-1X	252-803	876-450
5/16	.312	.242	.025	.588	R1200-31	R1200-31ZP	252-804	876-451
3/8	.375	.292	.035	.660	R1200-37	R1200-37ZP	252-805	876-452
7/16	.438	.332	.035	.746	R1200-43	R1200-43ZP	252-806	876-453
1/2	.500	.385	.042	.810	R1200-50	R1200-50ZP	252-807	876-444
9/16	.562	.430	.042	.870	R1200-56	252-G04-1Y	*252-808	876-454

CATALOG 14

SPAENAUR

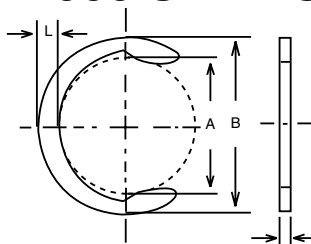
External Retaining Rings / Tools / Dispenser Base

Bagues de retenue externes / Outils / Base de distributeur



Inch
Pouce

R2000 SERIES - External



For applications not requiring large shoulder, where space is limited or where axial access is difficult or impossible.

PKG QTY. 100 Unless otherwise marked
*PKG QTY. 50

ORDER BY SPAENAUR NUMBERS LISTED BELOW

SHAFT DIA. Inch (frac.)	(dec.)	Free Dia. "A"	Ring Thick "T"	Ring O.D. "B"	CARBON SPRING STEEL Phos. Coated or Plain, our option	CARBON SPRING STEEL Zinc Plated (Clear or Yellow Dichromate - our option.)	STAINLESS STEEL PH 15-7 Mo	Applicator Tool No. PKG QTY. 1
1/8	.125	.102	.015	.166	R2000-12	R2000-12ZP		876-455
5/32	.156	.131	.015	.205	R2000-15	R2000-15ZP		876-456
3/16	.188	.161	.015	.245	R2000-18	R2000-18ZP	253-303	876-457
7/32	.219	.187	.025	.275	R2000-21	R2000-21ZP	253-804	876-458
15/64	.236	.203	.025	.295	R2000-23	R2000-23ZP		876-F50-1X
1/4	.250	.211	.025	.311	R2000-25	253-K01-1M	253-304	876-460
9/32	.281	.242	.025	.344	R2000-28	R2000-28ZP		876-461
5/16	.312	.270	.025	.376	R2000-31	253-K02-1X		876-462
3/8	.375	.328	.025	.448	R2000-37	R2000-37ZP	253-800	876-463
13/32	.406	.359	.025	.485	R2000-40	R2000-40ZP		876-464
7/16	.437	.386	.025	.516	R2000-43	R2000-43ZP		876-465
1/2	.500	.441	.035	.581	R2000-50	R2000-50ZP	253-801	876-466
9/16	.562	.497	.035	.653	R2000-56	R2000-56ZP		876-467
5/8	.625	.553	.035	.715	R2000-62	R2000-62ZP	253-802	876-468
11/16	.687	.608	.042	.780	R2000-68	R2000-68ZP		876-469
3/4	.750	.665	.042	.845	R2000-75	R2000-75ZP	253-803	876-470
13/16	.812	.721	.042	.915	R2000-81	R2000-81ZP		876-471
7/8	.875	.777	.042	.987	R2000-87	R2000-87ZP		876-472
15/16	.937	.830	.042	1.054	R2000-93	R2000-93ZP		876-473
1	1.000	.887	.042	1.127	R2000-100	253-K03-1A		876-474
1-1/8	1.125	.997	.050	1.267	R2000-112	R2000-112ZP		
1-1/4	1.250	1.110	.050	1.410	R2000-125	R2000-125ZP		
1-3/8	1.375	1.220	.050	1.550	R2000-137	R2000-137ZP		
1-1/2	1.500	1.331	.050	1.691	R2000-150	R2000-150ZP		
1-3/4	1.750	1.555	.062	1.975	R2000-175	R2000-175ZP		
2	2.000	1.777	.062	2.257	*R2000-200	*R2000-200ZP		

Dispenser Bases



DISPENSER BASE AND APPLICATOR TOOL IN USE.

For use with R1000, R1200 and R2000 Series.
Specify **size** and **series** required, according to Ring Number.

876-2078 For use with R1200-12

PKG QTY. 1

NOTE: All rings are furnished "loose."

Applicator tools can be found on pages E139-E143

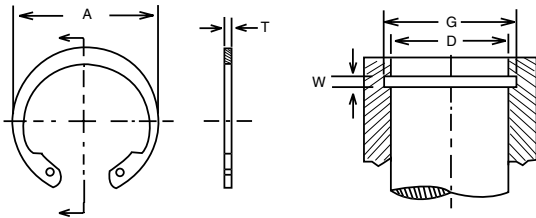
Inch
Pouce



Internal Retaining Rings

Bagues de retenue internes

R3000 SERIES - Internal



Provide sturdy shoulders to support considerable thrust loads without displacement.

PKG QTY. 100 *Unless otherwise marked*
▲PKG QTY. 10
*PKG QTY. 50

ORDER BY SPAENAUR NUMBERS LISTED BELOW

HOUSING DIA. "D" (frac.)	Free Dia. "A"	Ring Thick. "T"	Groove		CARBON SPRING STEEL	CARBON SPRING STEEL	STAINLESS STEEL	
			Dia. "G"	Width "W"	Phos. Coated or Plain, our option	Zinc Plated (Clear or Yellow Dichromate - our option.)	PH 15-7 Mo	
1/4	.250	.280	.015	.268	.018	R3000-X25	R3000-X25ZP	254-801
5/16	.312	.346	.015	.330	.018	R3000-X31	R3000-X31ZP	254-802
3/8	.375	.415	.025	.397	.029	R3000-X37	R3000-X37ZP	254-803
7/16	.438	.482	.025	.461	.029	R3000-X43	R3000-X43ZP	254-804
29/64	.453	.498	.025	.477	.029	R3000-X45	R3000-X45ZP	
1/2	.500	.548	.035	.530	.039	R3000-X50	R3000-X50ZP	254-805
-	.512	.560	.035	.542	.039	R3000-X51	R3000-X51ZP	
9/16	.562	.620	.035	.596	.039	R3000-X56	R3000-X56ZP	254-821
5/8	.625	.694	.035	.665	.039	R3000-X62	254-A10-1N	254-806
11/16	.688	.763	.035	.732	.039	R3000-X68	R3000-X68ZP	
3/4	.750	.831	.035	.796	.039	R3000-X75	R3000-X75ZP	*254-807
-	.777	.859	.042	.825	.046	R3000-X77	R3000-X77ZP	
13/16	.812	.901	.042	.862	.046	R3000-X81	R3000-X81ZP	
-	.866	.961	.042	.920	.046	R3000-X86	R3000-X86ZP	
7/8	.875	.971	.042	.931	.046		254-A03-1X	*254-808
-	.901	1.000	.042	.959	.046	R3000-X90	R3000-X90ZP	
15/16	.938	1.041	.042	1.000	.046	R3000-X93	R3000-X93ZP	
1	1.000	1.111	.042	1.066	.046	R3000-X100	R3000-X100ZP	*254-809
-	1.023	1.136	.042	1.091	.046	R3000-X102	254-A04-1A	
1-1/16	1.062	1.180	.050	1.130	.056	R3000-X106	R3000-X106ZP	
1-1/8	1.125	1.249	.050	1.197	.056	R3000-X112	254-A01-1W	
1-3/16	1.188	1.319	.050	1.262	.056	R3000-X118	R3000-X118ZP	
1-1/4	1.250	1.388	.050	1.330	.056	R3000-X125	R3000-X125ZP	*254-800
1-5/16	1.312	1.456	.050	1.396	.056	R3000-X131	R3000-X131ZP	▲254-810
1-3/8	1.375	1.526	.050	1.461	.056	R3000-X137	R3000-X137ZP	
1-7/16	1.438	1.596	.050	1.528	.056	R3000-X143	R3000-X143ZP	
-	1.456	1.616	.050	1.548	.056	R3000-X145	R3000-X145ZP	
1-1/2	1.500	1.660	.050	1.594	.056	R3000-X150	R3000-X150ZP	▲254-812
1-9/16	1.562	1.734	.062	1.658	.068	R3000-X156	254-A08-1N	
1-5/8	1.625	1.804	.062	1.725	.068	R3000-X162	R3000-X162ZP	▲254-813
-	1.653	1.835	.062	1.755	.068	R3000-X165	R3000-X165ZP	
1-11/16	1.688	1.874	.062	1.792	.068	R3000-X168	254-A09-1T	
1-3/4	1.750	1.942	.062	1.858	.068	R3000-X175	R3000-X175ZP	▲254-814
1-13/16	1.812	2.012	.062	1.922	.068	R3000-X181	R3000-X181ZP	
-	1.850	2.054	.062	1.962	.068	R3000-X185	R3000-X185ZP	
1-7/8	1.875	2.072	.062	1.989	.068	R3000-X187	R3000-X187ZP	
1-15/16	1.938	2.141	.062	2.056	.068	R3000-X193	R3000-X193ZP	
2	2.000	2.210	.062	2.122	.068	*R3000-X200	*254-A02-1M	
2-1/16	2.062	2.280	.078	2.186	.086	*R3000-X206	*R3000-X206ZP	
2-1/8	2.125	2.350	.078	2.251	.086	*R3000-X212	*R3000-X212ZP	
2-3/16	2.188	2.415	.078	2.318	.086	*R3000-X218	*R3000-X218ZP	

Cont'd. on next page.

Retaining Rings "CROSS-REFERENCE" Chart shown on page E124.

Internal Retaining Rings

Bagues de retenue internes



Inch

Pouce

R3000 SERIES - Internal

PKG QTY. 1 *Unless otherwise marked*
*PKG QTY. 50

Continued from previous page...

ORDER BY SPAENAUR NUMBERS LISTED BELOW

HOUSING DIA. "D" (frac.)	Free Dia. "A" (Inch) (dec.)	Ring Thick. "T"	Groove		CARBON SPRING STEEL Phos. Coated or Plain, our option	CARBON SPRING STEEL Zinc Plated (Clear or Yellow Dichromate - our option.)	STAINLESS STEEL PH 15-7 Mo	
			Dia. "G"	Width "W"				
2-1/4	2.250	2.490	.078	2.382	.086	*R3000-X225	*R3000-x225ZP	
2-5/16	2.312	2.560	.078	2.450	.086	*R3000-X231	*R3000-X231ZP	
2-3/8	2.375	2.630	.078	2.517	.086	*R3000-X237	*R3000-X237ZP	254-822
2-7/16	2.440	2.702	.078	2.584	.086	*R3000-X244	*R3000-X244ZP	
2-1/2	2.500	2.775	.078	2.648	.086	*R3000-X250	*R3000-X250ZP	
2-5/8	2.625	2.910	.093	2.781	.103	*R3000-X262	*R3000-X262ZP	
2-11/16	2.688	2.980	.093	2.848	.103	*R3000-X268	*R3000-X268ZP	
2-3/4	2.750	3.050	.093	2.914	.103	*R3000-X275	*R3000-X275ZP	
2-13/16	2.812	3.121	.093	2.980	.103	*R3000-X281	*R3000-X281ZP	
2-7/8	2.875	3.191	.093	3.051	.103	*R3000-X287	*R3000-X287ZP	
3	3.000	3.325	.093	3.182	.103	R3000-X300	R3000-X300ZP	
3-1/16	3.062	3.418	.109	3.248	.120	R3000-X306	R3000-X306ZP	
3-1/8	3.125	3.488	.109	3.315	.120	R3000-X312	R3000-X312ZP	
3-5/32	3.156	3.523	.109	3.348	.120	R3000-X315	R3000-X315ZP	
3-1/4	3.250	3.623	.109	3.446	.120	R3000-X325	R3000-X325ZP	
3-11/32	3.346	3.734	.109	3.546	.120	R3000-X334	R3000-X334ZP	
3-1/2	3.500	3.890	.109	3.710	.120	R3000-X350	R3000-X350ZP	254-820
-	3.543	3.936	.109	3.755	.120	R3000-X354	R3000-X354ZP	
3-3/4	3.750	4.157	.109	3.974	.120	R3000-X375	R3000-X375ZP	
3-7/8	3.875	4.291	.109	4.107	.120	R3000-X387	R3000-X387ZP	
3-15/16	3.938	4.358	.109	4.174	.120	R3000-X393	R3000-X393ZP	
4	4.000	4.424	.109	4.240	.120	R3000-400	R3000-400ZP	
4-1/8	4.125	4.558	.109	4.365	.120	R3000-X412	R3000-X412ZP	
4-1/4	4.250	4.691	.109	4.490	.120	R3000-X425		
4-1/2	4.500	4.940	.109	4.750	.120	R3000-X450	R3000-X450ZP	
4-3/4	4.750	5.213	.109	4.995	.120	R3000-475	R3000-475ZP	
5	5.000	5.485	.109	5.260	.120	R3000-500	R3000-500ZP	
5-1/4	5.250	5.770	.125	5.520	.139	R3000-525	R3000-525ZP	
5-1/2	5.500	6.066	.125	5.770	.139	R3000-550	254-A07-1C	
5-3/4	5.750	6.336	.125	6.020	.139	R3000-575	254-A06-1Y	
6	6.000	6.620	.125	6.270	.139	R3000-600	R3000-600ZP	
6-1/2	6.500	7.170	.156	6.790	.174	R3000-650	R3000-650ZP	
6-3/4	6.750	7.445	.156	7.055	.174	R3000-675	R3000-675ZP	
8	8.000	8.820	.187	8.360	.209	R3000-800	R3000-800ZP	
8-3/4	8.750	9.558	.187	9.145	.209	R3000-875	254-A05-1P	
9	9.000	9.830	.187	9.405	.209	R3000-900	R3000-900ZP	

E



See our line of Retaining Ring Tools
on Pages P127-P128

CATALOG 14

SPAENAUR

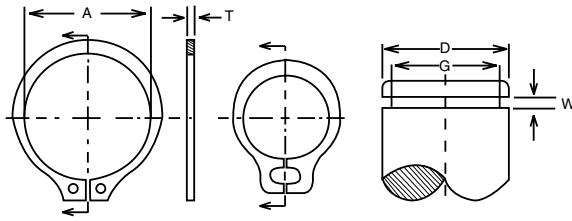
Inch
Pouce



External Retaining Rings

Bagues de retenue externes

R3100 SERIES - External



May be used as artificial shoulder to position product components.

PKG QTY. 100 Unless otherwise marked
▲PKG QTY. 10
*PKG QTY. 50

ORDER BY SPAENAUR NUMBERS LISTED BELOW

SHAFT DIA. "D" (frac.)	Free Dia. "A"	Ring Thick. "T"	Groove		CARBON SPRING STEEL	CARBON SPRING STEEL	STAINLESS STEEL	BERYLLIUM COPPER
			Dia. "G"	Width "W"	Phos. Coated or Plain, our option	Zinc Plated (Clear or Yellow Dichromate - our option.)	PH 15-7 Mo	
1/8	.125	.112	.117	.012				R3100-12
5/32	.156	.142	.146	.012	R3100-15ST			R3100-15
3/16	.188	.168	.175	.018	R3100-18ST			R3100-18
-	.197	.179	.185	.018				R3100-19
7/32	.219	.196	.205	.018				R3100-21
15/64	.236	.215	.222	.018				R3100-23
1/4	.250	.225	.230	.029	R3100-25	R3100-25ZP	255-D11-1X	
-	.276	.250	.255	.029	R3100-27	R3100-27ZP		
9/32	.281	.256	.261	.029	R3100-28	R3100-28ZP		
5/16	.312	.281	.290	.029	R3100-31	255-D08-1M	255-801	
11/32	.344	.309	.321	.029	R3100-34	R3100-34ZP		
-	.354	.320	.330	.029	R3100-35	R3100-35ZP		
3/8	.375	.338	.352	.029	255-D17-1T	255-D10-1M	255-802	
-	.394	.354	.369	.029	R3100-39	R3100-39ZP	255-803	
13/32	.406	.366	.382	.029	R3100-40	R3100-40ZP		
7/16	.438	.395	.412	.029	R3100-43	R3100-43ZP	255-804	
15/32	.469	.428	.443	.029	R3100-46	R3100-46ZP	255-805	
1/2	.500	.461	.468	.039	R3100-50	R3100-50ZP	255-D21-1W	
-	.551	.509	.519	.039	R3100-55	R3100-55ZP	255-806	
9/16	.562	.521	.530	.039	R3100-56	R3100-56ZP	255-825	
19/32	.594	.550	.559	.039	R3100-59	R3100-59ZP	255-807	
5/8	.625	.579	.588	.039	255-D03-1C	255-D05-1T	255-808	
-	.669	.621	.629	.039	R3100-66	R3100-66ZP		
43/64	.672	.621	.631	.039	R3100-67	R3100-67ZP		
11/16	.688	.635	.646	.046	R3100-68	R3100-68ZP	* 255-809	
3/4	.750	.693	.704	.046	R3100-75	R3100-75ZP	* 255-810	
25/32	.781	.722	.733	.046	R3100-78	R3100-78ZP	* 255-811	
13/16	.812	.751	.762	.046	R3100-81	R3100-81ZP	* 255-812	
27/32	.844	.780	.791	.046	R3100-84	R3100-84ZP	* 255-813	
7/8	.875	.810	.821	.046	R3100-87	R3100-87ZP	* 255-814	
15/16	.938	.867	.882	.046	R3100-93	R3100-93ZP	* 255-815	
63/64	.984	.910	.926	.046	R3100-98	R3100-98ZP		
1	1.000	.925	.940	.046	R3100-100	R3100-100ZP	* 255-816	
-	1.023	.946	.961	.046	R3100-102	R3100-102ZP		
1-1/16	1.062	.982	.998	.056	R3100-106	R3100-106ZP	▲ 255-817	
1-1/8	1.125	1.041	1.059	.056	R3100-112	255-D12-1A	▲ 255-818	
1-3/16	1.188	1.098	1.118	.056	R3100-118	R3100-118ZP	▲ 255-819	
1-1/4	1.250	1.156	1.176	.056	R3100-125	255-D07-1W	▲ 255-820	
1-5/16	1.312	1.214	1.232	.056	R3100-131	255-D15-1C		
1-3/8	1.375	1.272	1.291	.056	R3100-137	R3100-137ZP	▲ 255-821	
1-7/16	1.438	1.333	1.350	.056	R3100-143	R3100-143ZP		
1-1/2	1.500	1.387	1.406	.056	R3100-150	255-D06-1K	▲ 255-822	
1-9/16	1.562	1.446	1.468	.068	R3100-156	R3100-156ZP	▲ 255-823	
1-5/8	1.625	1.503	1.529	.068	R3100-162	R3100-162ZP		
1-11/16	1.687	1.560	1.589	.068	R3100-168	R3100-168ZP		
1-3/4	1.750	1.618	1.650	.068	R3100-175	R3100-175ZP	▲ 255-824	
-	1.772	1.637	1.669	.068	R3100-177	R3100-177ZP		

Cont'd. on next page.

CATALOG 14

SPAENAUR

External Retaining Rings

Bagues de retenue externes



Inch
Pouce

R3100 SERIES - External

Continued from previous page...

ORDER BY SPAENAUR
NUMBERS LISTED BELOW

SHAFT DIA.		Free Dia. "A"	Ring Thick. "T"	Groove		CARBON SPRING STEEL Phos. Coated or Plain, our option	CARBON SPRING STEEL Zinc Plated (Clear or Yellow Dichromate - our option.)	PKG QTY.
"D" (frac.)	(Inch) (dec.)			Dia. "G"	Width "W"			
1-13/16	1.812	1.675	.062	1.708	.068	R3100-181	R3100-181ZP	100
1-7/8	1.875	1.735	.062	1.769	.068	255-D02-1Y	R3100-187ZP	
1-31/32	1.969	1.819	.062	1.857	.068	R3100-196	R3100-196ZP	
2	2.000	1.850	.062	1.886	.068	R3100-200	R3100-200ZP	50
2-1/16	2.062	1.906	.078	1.946	.086	R3100-206	R3100-206ZP	
2-1/8	2.125	1.964	.078	2.003	.086	R3100-212	R3100-212ZP	
2-5/32	2.156	1.993	.078	2.032	.086	R3100-215	R3100-215ZP	
2-1/4	2.250	2.081	.078	2.120	.086	R3100-225	R3100-225ZP	
2-5/16	2.312	2.139	.078	2.178	.086	R3100-231	R3100-231ZP	
2-3/8	2.375	2.197	.078	2.239	.086	R3100-237	R3100-237ZP	
2-7/16	2.438	2.255	.078	2.299	.086	R3100-243	R3100-243ZP	
2-1/2	2.500	2.313	.078	2.360	.086	R3100-250	R3100-250ZP	
-	2.559	2.377	.078	2.419	.086	R3100-255	R3100-255ZP	
2-5/8	2.625	2.428	.078	2.481	.086	R3100-262	R3100-262ZP	1
2-11/16	2.688	2.485	.078	2.541	.086	R3100-268	R3100-268ZP	
2-3/4	2.750	2.543	.093	2.602	.103	R3100-275	R3100-275ZP	
2-7/8	2.875	2.659	.093	2.721	.103	R3100-287	R3100-287ZP	
2-15/16	2.938	2.717	.093	2.779	.103	R3100-293	R3100-293ZP	
3	3.000	2.775	.093	2.838	.103	R3100-300	R3100-300ZP	
3-1/16	3.062	2.832	.093	2.898	.103	R3100-306	R3100-306ZP	
3-1/8	3.125	2.892	.093	2.957	.103	R3100-312	R3100-312ZP	
3-5/32	3.156	2.920	.093	2.986	.103	R3100-315	R3100-315ZP	
3-1/4	3.250	3.006	.093	3.076	.103	R3100-325	R3100-325ZP	
3-11/32	3.346	3.092	.093	3.166	.103	R3100-334	R3100-334ZP	1
3-7/16	3.438	3.179	.093	3.257	.103	R3100-343	R3100-343ZP	
-	3.543	3.277	.109	3.357	.120	R3100-354	255-D13-1P	
3-3/4	3.750	3.468	.109	3.552	.120	R3100-375	R3100-375ZP	
3-15/16	3.938	3.642	.109	3.734	.120	R3100-393	R3100-393ZP	
4	4.000	3.700	.109	3.792	.120	R3100-400	R3100-400ZP	
4-1/4	4.250	3.989	.109	4.065	.120	R3100-425	R3100-425ZP	
4-1/2	4.500	4.223	.109	4.310	.120	R3100-450	R3100-450ZP	
4-3/4	4.750	4.458	.109	4.550	.120	R3100-475	R3100-475ZP	
5	5.000	4.692	.109	4.790	.120	R3100-500	R3100-500ZP	
5-1/4	5.250	4.927	.125	5.030	.139	R3100-525	R3100-525ZP	1
5-3/4	5.750	5.396	.125	5.505	.139	R3100-575	R3100-575ZP	
6	6.000	5.631	.125	5.745	.139	R3100-600	255-D16-1N	
7	7.000	6.570	.156	6.705	.174	R3100-700	255-D14-1Y	

"RINGS CROSS-REFERENCE CHART" shown on page E124.



See our line of Retaining Ring Tools
on Pages P127-P128



DIN 471

D1400 Retaining Rings

External Type

Carbon Spring Steel – Plain Finish

Parts according to
DIN 471, lug hole
style may vary.



See page E140 for Metric Retaining Ring Pliers

*ZP - Zinc Plated ■255-523ZP Zinc Plated ▲YZ - Yellow Zinc Plated

SPAENAUR No.	A.D.I. Part No.	Shaft (S) Diameter (mm)	Groove (G) Diameter (mm)	Groove Tolerance (mm)	Groove Width (W) (min.)	Ring Thickness (T) (max.) (mm)	PKG QTY.
255-559	—	3	2.8	-0.04	0.50	.40	100
255-500	D1400-4	4	3.8	-0.04	0.50	.40	100
255-501	D1400-5	5	4.8	-0.04	0.70	.60	100
255-D04-1N	D1400-6	6	5.7	-0.04	0.80	.70	100
255-503	D1400-7	7	6.7	-0.06	0.90	.80	100
255-504	D1400-8	8	7.6	-0.06	0.90	.80	100
255-505	D1400-9	9	8.6	-0.06	1.10	1.00	100
255-506	D1400-10	10	9.6	-0.06	1.10	1.00	100
*255-506ZP	D1400-10	10	9.6	-0.06	1.10	1.00	100
255-507	D1400-11	11	10.5	-0.11	1.10	1.00	100
255-D01-1P	D1400-12	12	11.5	-0.11	1.10	1.00	100
255-560	—	13	12.4	-0.11	1.10	1.00	100
255-D20-1K	D1400-14	14	13.4	-0.11	1.10	1.00	100
255-510	D1400-15	15	14.3	-0.11	1.10	1.00	100
255-511	D1400-16	16	15.2	-0.11	1.10	1.00	100
255-512	D1400-17	17	16.2	-0.11	1.10	1.00	100
255-513	D1400-18	18	17.0	-0.11	1.30	1.20	100
255-514	D1400-19	19	18.0	-0.11	1.30	1.20	100
255-D19-1W	D1400-20	20	19.0	-0.13	1.30	1.20	100
255-561	—	21	20.0	-0.13	1.30	1.20	100
255-516	D1400-22	22	21.0	-0.13	1.30	1.20	100
255-562	—	23	22.0	-0.15	1.30	1.20	100
255-553	D1400-24	24	22.9	-0.21	1.30	1.20	100
255-D09-1X	D1400-25	25	23.9	-0.21	1.30	1.20	100
255-554	D1400-26	26	24.9	-0.21	1.30	1.20	100
▲255-554YZ	D1400-26	26	24.9	-0.21	1.30	1.20	100
255-552	D1400-27	27	25.6	-0.21	1.30	1.20	100
255-518	D1400-28	28	26.6	-0.21	1.60	1.50	100
255-563	—	29	27.6	-0.21	1.60	1.50	100
255-519	D1400-30	30	28.6	-0.21	1.60	1.50	100
255-564	—	31	29.3	-0.21	1.60	1.50	100
255-520	D1400-32	32	30.3	-0.25	1.60	1.50	100
255-565	—	34	32.3	-0.25	1.60	1.50	100
255-521	D1400-35	35	33.0	-0.25	1.60	1.50	100
255-D18-1K	—	36	34.0	-0.25	1.85	1.75	100
255-555	D1400-37	37	35.0	-0.25	1.85	1.75	100
255-522	D1400-38	38	36.0	-0.25	1.85	1.75	100
■255-523	D1400-40	40	37.5	-0.25	1.85	1.75	100
255-524	D1400-42	42	39.5	-0.25	1.85	1.75	100
255-525	D1400-45	45	42.5	-0.25	1.85	1.75	100
255-568	—	47	44.5	-0.25	1.85	1.75	100
255-526	D1400-48	48	45.5	-0.25	1.85	1.75	100
255-527	D1400-50	50	47.0	-0.25	2.15	2.00	100
255-528	D1400-52	52	49.0	-0.25	2.15	2.00	50

Chart Continues on Next Page

External Retaining Rings

Bagues de retenue externes



Metric

Métrique

D1400 Retaining Rings

DIN 471

External Type

Carbon Spring Steel – Plain Finish

CHART CONTINUED FROM PREVIOUS PAGE
See page E140 for Metric Retaining Ring Pliers



E

SPAENAUR No.	A.D.I. Part No.	Shaft (S) Diameter (mm)	Groove (G) Diameter (mm)	Groove Tolerance (mm)	Groove Width (W) (min.)	Ring Thickness (T) (max.) (mm)	PKG QTY.
255-529	D1400-55	55	52.0	-0.30	2.15	2.00	50
255-569	—	56	53.0	-0.30	2.15	2.00	50
255-530	D1400-58	58	55.0	-0.30	2.15	2.00	50
255-531	D1400-60	60	57.0	-0.30	2.15	2.00	50
255-532	D1400-62	62	59.0	-0.30	2.15	2.00	50
^255-532YZ	D1400-62	62	59.0	-0.30	2.15	2.00	50
255-570	—	63	60.0	-0.30	2.15	2.00	50
255-533	D1400-65	65	62.0	-0.30	2.65	2.50	50
255-534	D1400-68	68	65.0	-0.30	2.65	2.50	50
255-535	D1400-70	70	67.0	-0.30	2.65	2.50	50
255-536	D1400-72	72	69.0	-0.30	2.65	2.50	50
255-D22-1M	D1400-75	75	72.0	-0.30	2.65	2.50	50
255-538	D1400-78	78	75.0	-0.30	2.65	2.50	50
255-539	D1400-80	80	76.5	-0.30	2.65	2.50	50
255-540	D1400-82	82	78.5	-0.30	2.65	2.50	50
255-541	D1400-85	85	81.5	-0.35	3.15	3.00	50
255-542	D1400-88	88	84.5	-0.35	3.15	3.00	50
255-543	D1400-90	90	86.5	-0.35	3.15	3.00	50
255-571	—	92	—	-0.35	3.15	3.00	25
255-544	D1400-95	95	91.5	-0.35	3.15	3.00	25
255-572	—	97	—	-0.35	3.15	3.00	25
255-573	—	98	—	-0.35	3.15	3.00	25
255-545	D1400-100	100	96.5	-0.35	3.15	3.00	25
255-546	D1400-105	105	101.0	-0.54	4.15	4.00	25
255-547	D1400-110	110	106.0	-0.54	4.15	4.00	25
255-548	D1400-115	115	111.0	-0.54	4.15	4.00	10
255-549	D1400-120	120	116.0	-0.54	4.15	4.00	10
255-550	D1400-125	125	121.0	-0.63	4.15	4.00	10
255-551	D1400-130	130	126.0	-0.63	4.15	4.00	10
255-574	—	135	131.0	-0.63	4.15	4.00	10
255-556	D1400-140	140	136.0	-0.63	4.15	4.00	10
255-575	—	145	141.0	-0.63	4.15	4.00	1
255-557	D1400-150	150	145.0	-0.63	4.15	4.00	1
255-576	—	155	150.0	-0.63	4.15	4.00	1
255-577	—	160	155.0	-0.63	4.15	4.00	1
255-578	—	165	160.0	-0.63	4.15	4.00	1
255-558	—	190	185.0	-0.72	4.15	4.00	1
255-579	—	200	195.0	-0.72	4.15	4.00	1

^YZ - Yellow Zinc Plated



Page A99

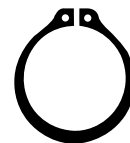
ASSORTMENT **805-442**

Metric INTERNAL RETAINING RINGS
Carbon Spring Steel Plain Finish

DIN 472


28 SIZES - 300 PIECES

Regular size grey enamelled STEEL drawer, 13-5/16" x 9-1/4" x 2".
Shipping Weight: **2.35 kg** (5-1/5 lbs.)



CATALOG 14

SPAENAUR



D1300 Retaining Rings

Internal Type

Carbon Spring Steel – Plain Finish

See page E140 for **Metric** Retaining Ring Pliers.

SPAENAUR No.	A.D.I. Part No.	Bore (B) Diameter (mm)	Groove (G) Diameter (mm)	Groove Tolerance (mm)	Width (W) (min.) (mm)	Ring Thick. (T) (max.) (mm)	PKG QTY.
254-558	—	8	8.4	+0.09	0.90	0.80	100
254-559	—	9	9.4	+0.09	0.90	0.80	100
254-500	D1300—10	10	10.4	+0.11	1.10	1.00	100
254-501	D1300—11	11	11.4	+0.11	1.10	1.00	100
254-502	D1300—12	12	12.5	+0.11	1.10	1.00	100
254-503	D1300—13	13	13.6	+0.11	1.10	1.00	100
254-504	D1300—14	14	14.6	+0.11	1.10	1.00	100
254-505	D1300—15	15	15.7	+0.11	1.10	1.00	100
254-A13-1W	D1300—16	16	16.8	+0.11	1.10	1.00	100
254-507	D1300—17	17	17.8	+0.11	1.10	1.00	100
254-508	D1300—18	18	19.0	+0.13	1.10	1.00	100
254-509	D1300—19	19	20.0	+0.13	1.10	1.00	100
254-510	D1300—20	20	21.0	+0.13	1.10	1.00	100
254-511	D1300—21	21	22.0	+0.13	1.10	1.00	100
254-512	D1300—22	22	23.0	+0.13	1.10	1.00	100
254-513	D1300—24	24	25.2	+0.21	1.30	1.20	100
254-514	D1300—25	25	26.2	+0.21	1.30	1.20	100
254-515	D1300—26	26	27.2	+0.21	1.30	1.20	100
254-515 (Yellow Zinc Plated)	D1300—26	26	27.2	+0.21	1.30	1.20	100
254-560	—	27	—	+0.21	1.30	1.20	100
254-A14-1M	D1300—28	28	29.4	+0.21	1.30	1.20	100
254-555	—	29	31.1	+0.50	1.30	1.20	100
254-517	D1300—30	30	31.4	+0.25	1.30	1.20	100
254-A16-1A	—	31	32.7	+0.25	1.30	1.20	100
254-518	D1300—32	32	33.7	+0.25	1.30	1.20	100
254-563	—	34	35.7	+0.25	1.60	1.50	100
254-519	D1300—35	35	37.0	+0.25	1.60	1.50	100
254-556	—	36	38.0	+0.25	1.60	1.50	100
254-520	D1300—37	37	39.0	+0.25	1.60	1.50	100
254-521	D1300—38	38	40.0	+0.25	1.60	1.50	100
254-522	D1300—40	40	42.5	+0.25	1.85	1.75	100
254-564	—	41	—	+0.25	1.85	1.75	100
254-A11-1T	D1300—42	42	44.5	+0.25	1.85	1.75	100
254-524	D1300—45	45	47.5	+0.25	1.85	1.75	100
254-561	—	46	—	+0.25	1.85	1.75	100
254-525	D1300—47	47	49.5	+0.25	1.85	1.75	100
254-527	D1300—50	50	53.0	+0.30	2.15	2.00	100
254-578 (Heavy Duty)	—	50	53.0	+0.30	2.65	2.50	100
254-528	D1300—52	52	55.0	+0.30	2.15	2.00	50
*254-529 (Yellow Zinc Plated)	D1300—55	55	58.0	+0.30	2.15	2.00	50
254-565 (Heavy Duty)	D1300—55	55	58.0	+0.30	2.65	2.50	50
254-566	—	56	59.0	+0.30	2.15	2.00	50

*254-A12-1K Yellow Zinc

Chart Continues on Next Page

Internal Retaining Rings

Bagues de retenue internes



Metric

Métrique

D1300 Retaining Rings

Internal Type

Carbon Spring Steel Plain Finish

DIN 472



CHART CONTINUED FROM PREVIOUS PAGE
See page E140 for Metric Retaining Ring Pliers

E

SPAENAUR No.	A.D.I. Part No.	Bore (B) Diameter (mm)	Groove (G) Diameter (mm)	Groove Tolerance (mm)	Width (W) (min.) (mm)	Ring Thick. (T) (max.) (mm)	PKG QTY.
254-530	D1300—58	58	61.0	+0.30	2.15	2.00	50
254-531	D1300—60	60	63.0	+0.30	2.15	2.00	50
254-532	D1300—62	62	65.0	+0.30	2.15	2.00	50
254-567	—	63	66.0	+0.30	2.15	2.00	50
254-533	D1300—65	65	68.0	+0.30	2.65	2.50	50
254-534	D1300—68	68	71.0	+0.30	2.65	2.50	50
254-535	D1300—70	70	73.0	+0.30	2.65	2.50	50
254-536	D1300—72	72	75.0	+0.30	2.65	2.50	50
254-537	D1300—75	75	78.0	+0.35	2.65	2.50	50
254-538	D1300—78	78	81.0	+0.35	2.65	2.50	50
254-539	D1300—80	80	83.5	+0.35	2.65	2.50	50
254-540	D1300—82	82	85.5	+0.35	2.65	2.50	50
254-541	D1300—85	85	88.5	+0.35	3.15	3.00	50
254-542	D1300—88	88	91.5	+0.35	3.15	3.00	50
254-543	D1300—90	90	93.5	+0.35	3.15	3.00	50
254-544	D1300—92	92	95.5	+0.35	3.15	3.00	25
254-545	D1300—95	95	98.5	+0.35	3.15	3.00	25
254-546	D1300—98	98	101.5	+0.35	3.15	3.00	25
254-547	D1300—100	100	103.5	+0.35	3.15	3.00	25
254-568	—	102	106.0	+0.54	4.15	4.00	25
254-548	D1300—105	105	109.0	+0.54	4.15	4.00	25
254-549	D1300—110	110	114.0	+0.54	4.15	4.00	10
254-571	—	112	116.0	+0.54	4.15	4.00	10
254-550	D1300—115	115	119.0	+0.54	4.15	4.00	10
254-551	D1300—120	120	124.0	+0.63	4.15	4.00	10
254-552	D1300—125	125	129.0	+0.63	4.15	4.00	10
254-553	D1300—130	130	134.0	+0.63	4.15	4.00	10
254-572	—	135	139.0	+0.63	4.15	4.00	1
254-557	—	140	144.0	+0.63	4.15	4.00	1
254-573	—	145	149.0	+0.63	4.15	4.00	1
254-574	—	150	155.0	+0.63	4.15	4.00	1
254-575	—	155	160.0	+0.63	4.15	4.00	1
254-576	—	160	165.0	+0.63	4.15	4.00	1
254-577	—	165	170.0	+0.63	4.15	4.00	1
254-580	—	170	175.0	+0.63	4.15	4.00	1
254-554	—	180	185.0	+0.72	4.15	4.00	1
254-581	—	225	231.0	+0.72	5.15	5.00	1

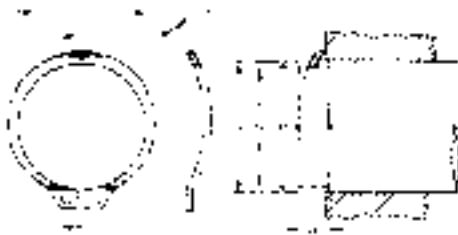
Inch

Pouce



Retaining Rings - External & Internal

Bagues de retenue internes / externes



R3101 SERIES - External (Bowed)

For resilient take-up of end play.
Applied axially to grooved shafts.

PKG QTY. 100

ORDER BY SPAENAUR
NUMBERS LISTED BELOW

Shaft Dia. "D" (frac.)	(Inch) (dec.)	Free Dia. "A"	Ring Thick. "T"	Groove		Max. Take-up	CARBON SPRING STEEL	CARBON SPRING STEEL
				Dia. "G"	Width "W"		Phos. Coated or Plain, our option	Zinc Plated (Clear or Yellow Dichromate - our option.)
5/16	.312	.281	.025	.290	.040	.015	R3101-31	R3101-31ZP
25/32	.781	.722	.042	.733	.062	.020	R3101-78	R3101-78ZP
13/16	.812	.751	.042	.762	.062	.020	R3101-81	R3101-81ZP
1-1/4	1.250	1.156	.050	1.176	.070	.020	R3101-125	R3101-125ZP



R4000 SERIES - Internal

Axial housing ring with inverted lugs to provide more clearance for assemblies to pass through unimpeded.

PKG QTY. 100

ORDER BY SPAENAUR
NUMBERS LISTED BELOW

Housing Dia. "D" (frac.)	(Inch) (dec.)	Free Dia. "A"	Ring Thick. "T"	Groove		CARBON SPRING STEEL Phos. Coated or Plain, our option	CARBON SPRING STEEL
				Dia. "G"	Width "W"		Zinc Plated (Clear or Yellow Dichromate - our option.)
3/4	.750	.808	.035	.796	.039	R4000-75	R4000-75ZP
7/8	.875	.944	.042	.931	.046	R4000-87	R4000-87ZP
1	1.000	1.081	.042	1.066	.046	R4000-100	R4000-100ZP
1-1/16	1.062	1.150	.050	1.130	.056	R4000-106	
1-1/8	1.125	1.217	.050	1.197	.056	R4000-112	R4000-112ZP
1-1/4	1.250	1.351	.050	1.330	.056	R4000-125	R4000-125ZP



R4100 SERIES - External

Axial shaft ring with inverted lugs for applications where clearance is minimal.

PKG QTY. 100 Unless otherwise marked

ORDER BY SPAENAUR
NUMBERS LISTED BELOW

Shaft Dia. "D" (frac.)	(Inch) (dec.)	Free Dia. "A"	Ring Thick. "T"	Groove		CARBON SPRING STEEL Phos. Coated or Plain, our option	CARBON SPRING STEEL	STAINLESS STEEL
				Dia. "G"	Width "W"		Zinc Plated (Clear or Yellow Dichromate - our option.)	PH 15-7 Mo
1/2	.500	.461	.035	.468	.039	R4100-50	R4100-50ZP	*258-800
5/8	.625	.579	.035	.588	.039	R4100-62	R4100-62ZP	
3/4	.750	.693	.042	.704	.046	R4100-75	R4100-75ZP	*258-801
7/8"	.875	.810	.042	.821	.046	R4100-87	R4100-87ZP	
1	1.000	.925	.042	.940	.046	R4100-100	R4100-100ZP	•258-802
1-1/16	1.062	.982	.050	.998	.056	R4100-106		
1-1/8	1.125	1.041	.050	1.059	.056	R4100-112	R4100-112ZP	
1-1/4	1.250	1.156	.050	1.176	.056	R4100-125	R4100-125ZP	
1-5/16	1.313	1.214	.050	1.232	.056	R4100-131	R4100-131ZP	
1-3/8	1.375	1.272	.050	1.291	.056	*R4100-137	*258-C01-1C	
1-1/2	1.500	1.387	.050	1.406	.056	*R4100-150		
2-5/32	2.156	1.993	.078	2.032	.086	*R4100-215	*R4100-215ZP	

See pages E140 to E143 for Retaining Ring Pliers

•PKG QTY. 25 *PKG QTY. 50

CATALOG 14

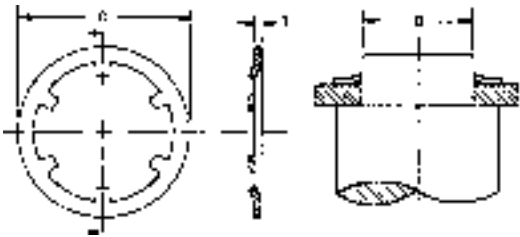
SPAENAUR

External Retaining Rings / Applicator Tools

Bagues de retenue externes / Outils d'installation



Inch
Pouce



R6100 SERIES - External SELF-SEATING RETAINING RINGS

PKG QTY. 100

For application on soft shaft material - low carbon steel, cast materials or plastics. Economical, needing no machined grooves. The necessary artificial shoulder is provided by slipping the ring over the shaft to the desired position. When a reverse force is applied, the prongs firmly embed themselves into the shaft.

ORDER BY SPAENAUR NUMBERS LISTED BELOW

Shaft Diameter			Ring Dimensions			CARBON SPRING STEEL	CARBON SPRING STEEL	STAINLESS STEEL
NOM.	D MIN.	MAX.	Material Thick. T	O.D. C	No. of Prongs	Phos. Coated or Plain, our option	Zinc Plated (Clear or Yellow Dichromate - our option.)	PH 15-7 Mo
3/32	.093	.095	.010	.250	3	R6100-9	R6100-9ZP	260-100
1/8	.124	.126	.010	.325	4	R6100-12	R6100-12ZP	260-G02-1M
5/32	.155	.157	.010	.356	4	R6100-15	R6100-15ZP	260-102
3/16	.187	.189	.010	.387	6	R6100-18	R6100-18ZP	260-103
7/32	.218	.220	.010	.418	6	R6100-21	R6100-21ZP	260-104
	.239	.241	.015	.460	6	R6100-24	R6100-24ZP	
1/4	.249	.251	.010	.450	6	R6100-25	R6100-25ZP	260-105
5/16	.311	.313	.010	.512	6	R6100-31	R6100-31ZP	260-106
3/8	.374	.376	.010	.575	6	R6100-37	R6100-37ZP	260-107
7/16	.437	.440	.015	.638	6	R6100-43	R6100-43ZP	260-108
1/2	.498	.502	.015	.750	6	R6100-50	260-G01-1W	260-109
9/16	.560	.564	.015	.812	6	R6100-56	R6100-56ZP	
5/8	.623	.627	.015	.875	7	R6100-62	R6100-62ZP	260-110
3/4	.748	.752	.015	1.000	8	R6100-75	R6100-75ZP	260-111
7/8	.873	.877	.015	1.125	10	R6100-87	R6100-87ZP	
1	.998	1.002	.015	1.250	10	R6100-100	R6100-100ZP	

EXTERNAL SERIES R5115

Carbon Spring Steel, Phosphate Coated, or Plain, our option.



GRIP RING

EXTERNAL SERIES R5555



Carbon Spring Steel Zinc Plated
Yellow or Clear Zinc, our option.

SPAENAUR No.	Shaft Dia.	t Thickness	O.D.	No. of Prongs	h Height	z Min.	SPAENAUR No.	To Fit Shaft Dia. (Inches)	Free Diameter	Ring Thickness	Lug B
259-003	3/16	.015	.444	6	.031	.062	277-076	1/8 (.123-.127)	.120	.025	.078
R5115-31	5/16	.010	.584	-	-	-	R5555-18	3/16 (.185-.189)	.181	.035	.097
R5115-50	1/2	.020	.828	10	.054	.108	277-078	5/16 (.313)	.297	.042	.141
259-001	9/16	.015	.889	12	.054	.108	277-079	7/16 (.437)	.411	.050	.151
259-002	5/8	.015	.951	12	.054	.108	277-077	5/8 (.622-.628)	.593	.062	.180
R5115-75	3/4	.015	1.076	14	.054	.108	277-B02-1Y	3/4 (0.75)	.706	.062	.233

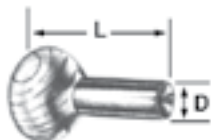
See also W-420 Series, Springrip™ Fasteners with internal teeth - Page E138.

Tools - Outils

APPLICATORS FOR PUSHNUT BOLT RETAINERS

Not Tinnerman® brand.

Design 1
Magnetized Shank



INCH SIZES

SPAENAUR No.	Use with Pushnut No.	Design No.	Overall Length	Bolt Clearance Depth	Diameter D	PKG QTY.
876-270	177-H04-1P	1	3"	1-1/4"	7/16"	1
876-272	177-061	1	3"	1-1/4"	1/2"	1
876-F41-1Y	177-H05-1Y	1	3-1/2"	1-7/8"	9/16"	1
876-274	177-062	1	3-1/2"	1-7/8"	11/16"	1
876-275	177-063	1	5-3/4"	1-7/8"	7/8"	1
876-277	177-065	1	6"	2-1/4"	1"	1

Inch

Pouce



External Retaining Rings

Bagues de retenue externes

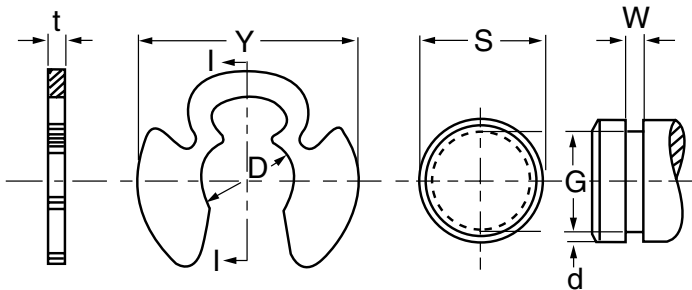


STEEL

Finish: Plain or Phosphate, at our option.

The Klipring is designed to be installed in a deep groove, having a larger diameter than the ring's free diameter. The ring also can be used as a spacer washer - it is merely slipped over a shaft of the same diameter as the ring's free diameter.

Thickness "t" applies only to unplated rings. For plated rings, add .002" to the listed maximum thickness. Maximum ring thickness will be at least .0002" less than the listed minimum groove width (W).



HEAVY DUTY SERIES

KLIPRING

The Klipring is a unique heavy-duty radially-assembled ring which provides substantially greater gripping strength and load capacity than conventional E-rings and similar fasteners. It is thicker than conventional rings, and has tapered-section bending arms which exert very strong spring pressure when the ring is assembled.

Kliprings can be assembled easily with an ordinary pair of slip-joint pliers, or can be tapped into a groove with a mallet or hammer. A screw driver inserted under the tapered section can be used to pry the ring off the shaft quickly. The ring is reusable following disassembly.



*Configuration of 277-062, -075, -100 and -010.

PKG QTY. 100

HEAVY-DUTY KLIPRING SPAENAUR No.	SHAFT DIAMETER			RING DIMENSIONS (In Inches)					GROOVE DIMENSIONS (In Inches)				Nominal groove depth d	ALLOW. THRUST LOAD (lbs.) Sharp Corner Abutment	
	Fract. equiv. inch	Dec. equiv. inch	(Approx. mm)	FREE DIA.	THICKNESS		Free outside	DIAMETER		WIDTH		P _r		P _g	
	S	S	S	D	tol.	t	tol.	Y	G	tol.	W				tol.
277-015	5/32	.156	(4.0)	.110	±.003	.035	±.002	.320	.120	±.004 .002 TIR	.039	+.006 -.000	.018	457	110
277-018	3/16	.188	(4.8)	.140		.035		.400	.148	±.005 .002 TIR	.039		.020	609	130
277-025	1/4	.250	(6.4)	.188		.035		.482	.210	±.006 .003 TIR	.039		.020	914	200
277-031	5/16	.312	(7.9)	.250	.042	.588	.272	.046	.022		1320	250			
277-037	3/8	.375	(9.5)	.312	±.004	.042	±.002	.680	.331	±.008 .003 TIR	.046	+.006 -.000	.022	1573	300
277-043	7/16	.438	(11.1)	.375		.050		.752	.390		.056		.024	2233	400
277-050	1/2	.500	(12.7)	.406		.050		.826	.440	±.008 .004 TIR	.056		.030	2538	600
*277-062	5/8	.625	(15.9)	.500	±.005	.050	±.003	.966	.531	±.010 .004 TIR	.056	+.008 -.000	.047	3045	1100
*277-075	3/4	.750	(19.0)	.594		.062		1.095	.632		.068		.059	4669	1600
*277-100	1	1.000	(25.4)	.812		±.006		.078	1.415	.860	±.010 .004 TIR		.086	.070	7613
THIN SERIES KLIPRING															
277-001	5/32	.156	(4.0)	.110	±.003	.025	±.002	.320	.120	±.004 .002 TIR	.029	+.006 -.000	.018	325	110
277-002	3/16	.188	(4.8)	.140		.025		.400	.148	±.005 .002 TIR	.029		.020	436	130
277-003	1/4	.250	(6.4)	.188		.025		.482	.210	±.006 .003 TIR	.029		.020	650	200
277-004	5/16	.312	(7.9)	.250	.025	.588	.272	.029	.020		792	250			
277-005	3/8	.375	(9.5)	.312	±.004	.035	±.002	.680	.331	±.008 .003 TIR	.039	+.006 -.000	.022	1320	300
277-006	7/16	.438	(11.1)	.375		.035		.752	.390		.039		.024	1878	400
277-007	1/2	.500	(12.7)	.406		.042		.826	.440	±.008 .004 TIR	.046		.030	2132	600
277-008	5/8	.625	(15.9)	.500	±.005	.042	±.003	.966	.531	±.010 .004 TIR	.046	+.008 -.000	.047	2538	1100
277-009	3/4	.750	(19.0)	.594		.050		1.095	.632		.056		.059	3756	1600
*277-010	1	1.000	(25.4)	.812		±.006		.050	1.415	.860	±.010 .004 TIR		.056	.070	4872

CATALOG 14 SPAENAUR