

# Silhouettes Exactes de Taille Externes et Internes

## Bagues de retenue

### Interne R3000

X25=



X31=



X37=



X43=



X50=



X62=




X75=



X87=




X100=



X102=



X106=



## Bagues de retenue

### Interne R3000

X125=



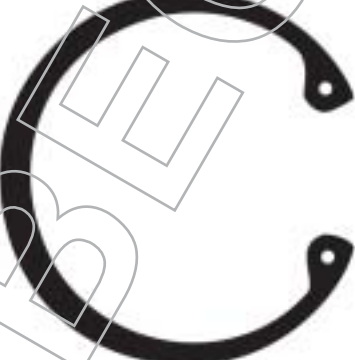
X137=



X150=



X175=



### Bagues de retenue Interieur R4000

100=



112=



## Bagues de retenue

### Externe R2000

12=



18=



25=



31=



37=



43=



75=



## Bagues de retenue

### Externe R4100

50=



75=

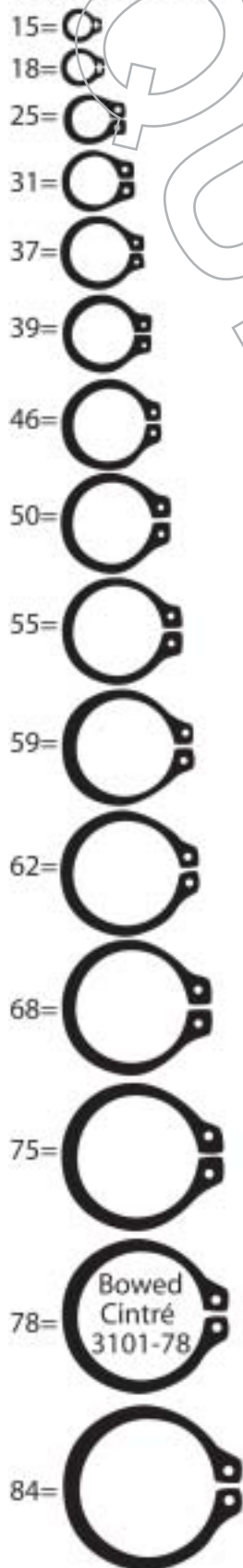


112=

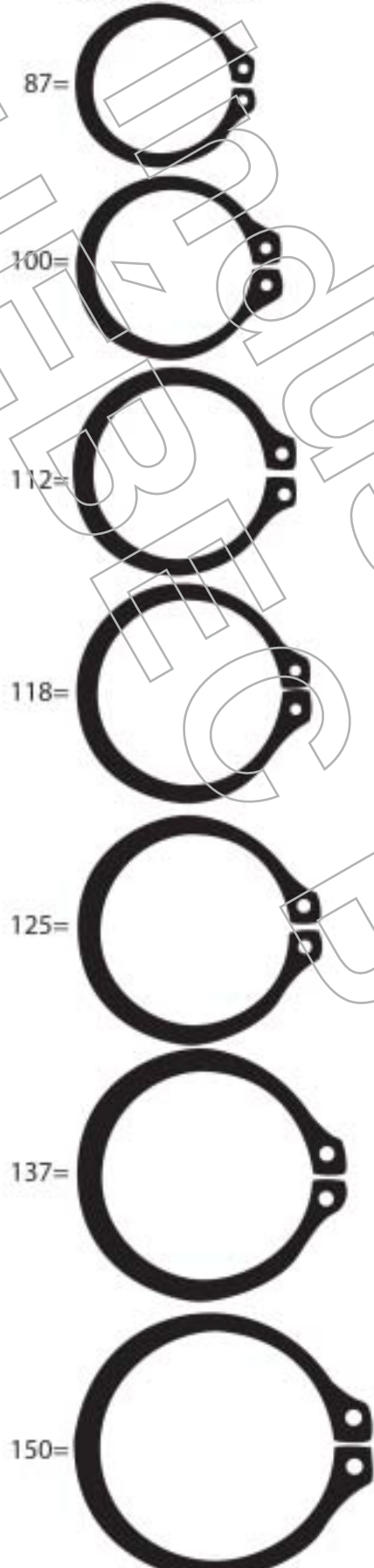


# Silhouettes Exactes de Taille Externes

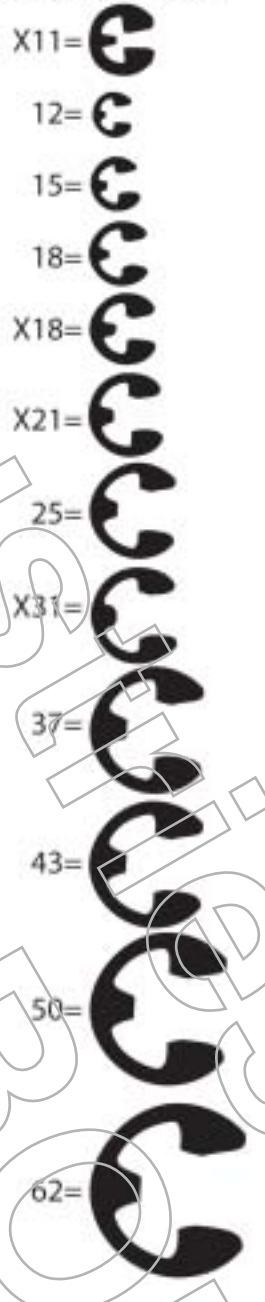
## Bagues de retenue Externe R3100



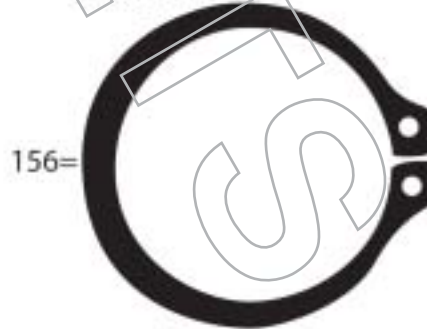
## Bagues de retenue Externe R3100



## Bagues de retenue Externe R1000



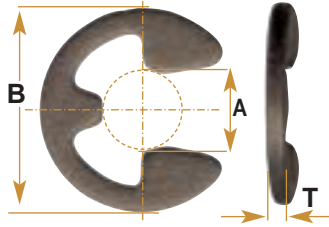
## Bagues de retenue Externe R3100



## Bagues de retenue Externe R1200



56=



# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier

Steel external retaining ring

Acier / Steel

Bague de type ouverte avec épaulements larges. Facilement installée. Remplace les goupilles fendues, les colliers visibles, les épaulements machinés, etc.

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

## Série R1000 - Externe

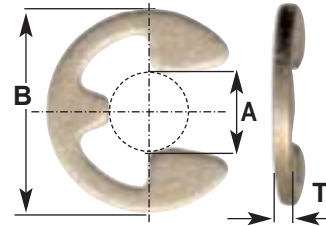
N° Gr.	Dimension	Dimension	A	B	T	Boîte
R1000-X6	1/16"	.062	.051	.140	.010	100
R1000-6	1/16"	.062	.051	.156	.010	100
R1000-9	3/32"	.094	.073	.187	.015	100
R1000-X9	3/32"	.094	.069	.230	.015	100
R1000-X11	7/64"	.110	.076	.375	.015	100
R1000-12	1/8"	.125	.094	.230	.015	100
R1000-X14	9/64"	.140	.100	.203	.015	100
R1000-A14	9/64"	.140	.109	.250	.015	100
R1000-14	9/64"	.140	.102	.270	.025	100
R1000-15	5/32"	.156	.114	.282	.025	100
R1000-X17	11/64"	.172	.125	.312	.025	100
R1000-18	3/16"	.188	.145	.335	.025	100
R1000-X18	3/16"	.188	.122	.375	.025	100
R1000-X21	7/32"	.218	.185	.437	.025	100
R1000-25	1/4"	.250	.207	.527	.025	100
R1000-X31	5/16"	.312	.243	.500	.025	100
R1000-37	3/8"	.375	.300	.660	.035	100
R1000-43	7/16"	.437	.337	.687	.035	100
R1000-X43	7/16"	.437	.370	.600	.035	100
R1000-50	1/2"	.500	.392	.800	.042	100
R1000-62	5/8"	.625	.480	.940	.042	100
R1000-X74	-	.744	.616	1.000	.042	100
R1000-75	3/4"	.750	.574	1.120	.050	100
R1000-87	7/8"	.875	.668	1.300	.050	100
R1000-X98	63/64"	.985	.822	1.500	.050	100
R1000-X118	1-3/16"	1.188	1.066	1.626	.062	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier plaqué zinc

Zinc plated steel external retaining ring

Plaqué Zinc / Zinc Plated

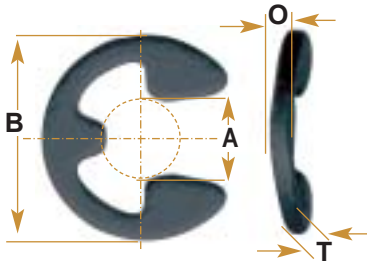


Bague de type ouverte avec épaulements larges. Facilement installée. Remplace les goupilles fendues, les colliers visibles, les épaulements machinés, etc.

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

## Série R1000 - Externe

N° Gr.	Dimension	Dimension	A	B	T	Boîte
R1000-X6ZP	1/16"	.062	.051	.140	.010	100
R1000-6ZP	1/16"	.062	.051	.156	.010	100
R1000-9ZP	3/32"	.094	.073	.187	.015	100
R1000-X9ZP	3/32"	.094	.069	.230	.015	100
R1000-X11ZP	7/64"	.110	.076	.375	.015	100
R1000-12ZP	1/8"	.125	.094	.230	.015	100
R1000-X14ZP	9/64"	.140	.100	.203	.015	100
R1000-A14ZP	9/64"	.140	.109	.250	.015	100
R1000-14ZP	9/64"	.140	.102	.270	.025	100
R1000-15ZP	5/32"	.156	.114	.282	.025	100
R1000-X17ZP	11/64"	.172	.125	.312	.025	100
R1000-18ZP	3/16"	.188	.145	.335	.025	100
R1000-X18ZP	3/16"	.188	.122	.375	.025	100
R1000-X21ZP	7/32"	.218	.185	.437	.025	100
R1000-25ZP	1/4"	.250	.207	.527	.025	100
R1000-X31ZP	5/16"	.312	.243	.500	.025	100
R1000-37ZP	3/8"	.375	.300	.660	.035	100
R1000-43ZP	7/16"	.437	.337	.687	.035	100
R1000-X43ZP	7/16"	.437	.370	.600	.035	100
R1000-50ZP	1/2"	.500	.392	.800	.042	100
R1000-62ZP	5/8"	.625	.480	.940	.042	100
R1000-X74ZP	-	.744	.616	1.000	.042	100
R1000-75ZP	3/4"	.750	.574	1.120	.050	100
R1000-87ZP	7/8"	.875	.668	1.300	.050	100
R1000-X98ZP	63/64"	.985	.822	1.500	.050	100
R1000-X118ZP	1-3/16"	1.188	1.066	1.626	.062	100



# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier

Steel external retaining ring

Acier / Steel

Arcées pour une prise solide sans jeu. Épaulements larges.

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

## Série R1001 - Externe

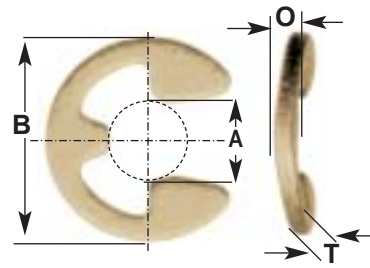
N° Gr.	Dimension	Dimension	A	T	B	O (arc) (bow)	Max take up	Boîte
R1001-X11	7/64"	.110	.076	.015	.375	.038-.048	.023	100
R1001-12	1/8"	.125	.094	.010	.230	.025-.033	.015	100
R1001-X14	9/64"	.140	.100	.010	.203	.022-.032	.012	100
R1001-14	9/64"	.140	.102	.015	.270	.028-.040	.013	100
R1001-15	5/32"	.156	.114	.015	.282	.028-.040	.013	100
R1001-X17	11/64"	.172	.125	.015	.312	.032-.043	.017	100
R1001-18	3/16"	.188	.145	.015	.335	.032-.043	.017	100
R1001-X18	3/16"	.188	.122	.015	.375	.038-.048	.023	100
R1001-X21	7/32"	.218	.185	.015	.437	.043-.058	.028	100
R1001-25	1/4"	.250	.207	.025	.527	.050-.067	.025	100
R1001-X31	5/16"	.312	.243	.025	.500	.050-.067	.025	100
R1001-37	3/8"	.375	.300	.035	.660	.060-.073	.025	100
R1001-43	7/16"	.437	.337	.035	.687	.060-.073	.025	100
R1001-X43	7/16"	.437	.375	.035	.600	.060-.073	.033	100
R1001-50	1/2"	.500	.392	.042	.800	.075-.093	.038	100
R1001-62	5/8"	.625	.480	.042	.940	.080-.098	.035	100
R1001-X74	-	.744	.616	.050	1.000	.088-.112	.038	100
R1001-75	3/4"	.750	.574	.050	1.120	.088-.112	.038	100
R1001-87	7/8"	.875	.668	.050	1.300	.088-.112	.038	100
R1001-X98	63/64"	.985	.822	.050	1.500	.088-.112	.038	100
R1001-X100	1"	1.000	.822	.050	1.500	.088-.112	.038	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier plaqué zinc

Zinc plated steel external retaining ring

Plaqué Zinc / Zinc Plated

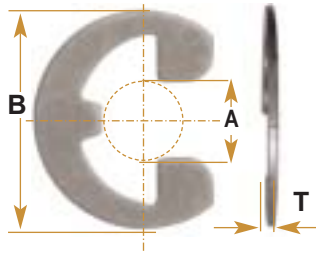


Arcées pour une prise solide sans jeu. Épaulements larges.

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

## Série R1001 - Externe

N° Gr.	Dimension	Dimension	A	T	B	O (arc) (bow)	Max take up	Boîte
R1001-X11ZP	7/64"	.110	.076	.015	.375	.038-.048	.023	100
R1001-12ZP	1/8"	.125	.094	.010	.230	.025-.033	.015	100
R1001-X14ZP	9/64"	.140	.100	.010	.203	.022-.032	.012	100
R1001-14ZP	9/64"	.140	.102	.015	.270	.028-.040	.013	100
R1001-15ZP	5/32"	.156	.114	.015	.282	.028-.040	.013	100
R1001-X17ZP	11/64"	.172	.125	.015	.312	.032-.043	.017	100
R1001-18ZP	3/16"	.188	.145	.015	.335	.032-.043	.017	100
R1001-X18ZP	3/16"	.188	.122	.015	.375	.038-.048	.023	100
R1001-X21ZP	7/32"	.218	.185	.015	.437	.043-.058	.028	100
R1001-25ZP	1/4"	.250	.207	.025	.527	.050-.067	.025	100
R1001-X31ZP	5/16"	.312	.243	.025	.500	.050-.067	.025	100
R1001-37ZP	3/8"	.375	.300	.035	.660	.060-.073	.025	100
R1001-43ZP	7/16"	.437	.337	.035	.687	.060-.073	.025	100
R1001-X43ZP	7/16"	.437	.375	.035	.600	.060-.073	.033	100
R1001-50ZP	1/2"	.500	.392	.042	.800	.075-.093	.038	100
R1001-62ZP	5/8"	.625	.480	.042	.940	.080-.098	.035	100
R1001-X74ZP	-	.744	.616	.050	1.000	.088-.112	.038	100
R1001-75ZP	3/4"	.750	.574	.050	1.120	.088-.112	.038	100
R1001-87ZP	7/8"	.875	.668	.050	1.300	.088-.112	.038	100
R1001-X98ZP	63/64"	.985	.822	.050	1.500	.088-.112	.038	100
R1001-X100ZP	1"	1.000	.822	.050	1.500	.088-.112	.038	100



## Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier (plaqué zinc ou non)  
Steel external retaining ring (zinc plated or bare)

Modèle donnant une plus grande résistance à la vibrations et aux chocs.

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

### Série R1200 - Externe - Non plaqué / Bare

N° Gr.	Dimension	Dimension	A	T	B	Boîte
R1200-9	3/32"	.094	.072	.015	.206	100
R1200-12	1/8"	.125	.093	.015	.270	100
R1200-15	5/32"	.156	.113	.025	.335	100
R1200-18	3/16"	.188	.143	.025	.375	100
R1200-21	7/32"	.219	.182	.025	.446	100
R1200-25	1/4"	.250	.204	.025	.516	100
R1200-31	5/16"	.312	.242	.035	.588	100
R1200-37	3/8"	.375	.292	.035	.660	100
R1200-43	7/16"	.438	.332	.035	.746	100
R1200-50	1/2"	.500	.385	.042	.810	100
R1200-56	9/16"	.562	.430	.042	.870	100

### Série R1200 - Externe - Plaqué Zinc / Zinc Plated

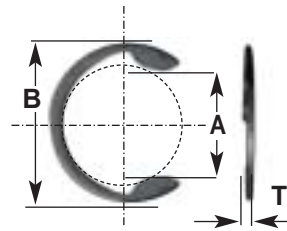
N° Gr.	Dimension	Dimension	A	T	B	Boîte
R1200-9ZP	3/32"	.094	.072	.015	.206	100
R1200-12ZP	1/8"	.125	.093	.015	.270	100
R1200-15ZP	5/32"	.156	.113	.025	.335	100
R1200-18ZP	3/16"	.188	.143	.025	.375	100
R1200-21ZP	7/32"	.219	.182	.025	.446	100
R1200-25ZP	1/4"	.250	.204	.025	.516	100
R1200-31ZP	5/16"	.312	.242	.035	.588	100
R1200-37ZP	3/8"	.375	.292	.035	.660	100
R1200-43ZP	7/16"	.438	.332	.035	.746	100
R1200-50ZP	1/2"	.500	.385	.042	.810	100
R1200-56ZP	9/16"	.562	.430	.042	.870	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier

Steel external retaining ring

Steel / Acier



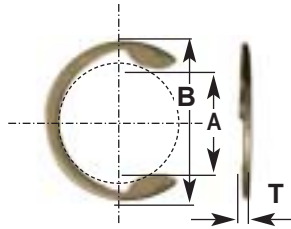
Pour usage lorsqu'un épaulement large n'est pas requis, ou que l'espace est limité. Aussi efficace lorsque l'accès à l'axe est difficile ou impossible.

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

## Série R2000 - Externe

N° Gr.	Dimension	Dimension	A	T	B	Boîte
R2000-12	1/8"	.125	.102	.015	.166	100
R2000-15	5/32"	.156	.131	.015	.205	100
R2000-18	3/16"	.188	.161	.015	.245	100
R2000-21	7/32"	.218	.187	.025	.275	100
R2000-23	15/64"	.236	.203	.025	.295	100
R2000-25	1/4"	.250	.211	.025	.311	100
R2000-28	9/32"	.281	.242	.025	.344	100
R2000-31	5/16"	.312	.270	.025	.376	100
R2000-37	3/8"	.375	.328	.025	.448	100
R2000-40	13/32"	.406	.359	.025	.485	100
R2000-43	7/16"	.437	.386	.025	.516	100
R2000-50	1/2"	.500	.441	.035	.581	100
R2000-56	9/16"	.562	.497	.035	.653	100
R2000-62	5/8"	.625	.553	.035	.715	100
R2000-68	11/16"	.687	.608	.042	.780	100
R2000-75	3/4"	.750	.665	.042	.845	100
R2000-81	13/16"	.812	.721	.042	.915	100
R2000-87	7/8"	.875	.777	.042	.987	100
R2000-93	15/16"	.937	.830	.042	1.054	100
R2000-100	1"	1.000	.887	.042	1.127	100
R2000-112	1-1/8"	1.125	.997	.050	1.267	100
R2000-X118	1-3/16"	1.188	1.031	.050	1.321	100
R2000-125	1-1/4"	1.250	1.110	.050	1.410	100
R2000-137	1-3/8"	1.375	1.220	.050	1.550	100
R2000-150	1-1/2"	1.500	1.331	.050	1.691	100
R2000-175	1-3/4"	1.750	1.555	.062	1.975	100
R2000-200	2"	2.000	1.777	.062	2.257	100





# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier plaqué zinc

Zinc plated steel external retaining ring

Plaque Zinc / Zinc Plated

Pour usage lorsqu'un épaulement large n'est pas requis, ou que l'espace est limité. Aussi efficace lorsque l'accès à l'axe est difficile ou impossible.

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

## Série R2000 - Externe

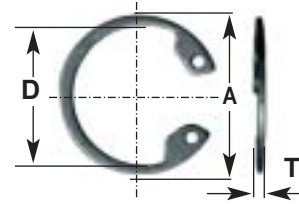
N° Gr.	Dimension	Dimension	A	T	B	Boîte
R2000-12PZ	1/8"	.125	.102	.015	.166	100
R2000-15ZP	5/32"	.156	.131	.015	.205	100
R2000-18ZP	3/16"	.188	.161	.015	.245	100
R2000-21ZP	7/32"	.218	.187	.025	.275	100
R2000-23ZP	15/64"	.236	.203	.025	.295	100
R2000-25ZP	1/4"	.250	.211	.025	.311	100
R2000-28ZP	9/32"	.281	.242	.025	.344	100
R2000-31ZP	5/16"	.312	.270	.025	.376	100
R2000-37ZP	3/8"	.375	.328	.025	.448	100
R2000-40ZP	13/32"	.406	.359	.025	.485	100
R2000-43ZP	7/16"	.437	.386	.025	.516	100
R2000-50ZP	1/2"	.500	.441	.035	.581	100
R2000-56ZP	9/16"	.562	.497	.035	.653	100
R2000-62ZP	5/8"	.625	.553	.035	.715	100
R2000-68ZP	11/16"	.687	.608	.042	.780	100
R2000-75ZP	3/4"	.750	.665	.042	.845	100
R2000-81ZP	13/16"	.812	.721	.042	.915	100
R2000-87ZP	7/8"	.875	.777	.042	.987	100
R2000-93ZP	15/16"	.937	.830	.042	1.054	100
R2000-100ZP	1"	1.000	.887	.042	1.127	100
R2000-112ZP	1-1/8"	1.125	.997	.050	1.267	100
R2000-X118ZP	1-3/16"	1.188	1.031	.050	1.321	100
R2000-125ZP	1-1/4"	1.250	1.110	.050	1.410	100
R2000-137ZP	1-3/8"	1.375	1.220	.050	1.550	100
R2000-150ZP	1-1/2"	1.500	1.331	.050	1.691	100
R2000-175ZP	1-3/4"	1.750	1.555	.062	1.975	100
R2000-200ZP	2"	2.000	1.777	.062	2.257	100

# Ret. Rings (INTERNAL)

Bagues de retenue interne en acier

Steel internal retaining ring

Steel / Acier

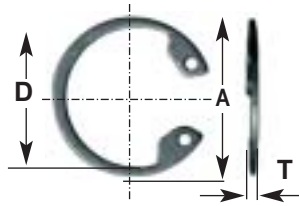


Épaulements solides pour supporter une plus grande charge sans se déformer.

Provide sturdy shoulders to support considerable thrust loads without displacement.

## Série R3000 - Interne

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3000-X25	1/4"	.250	.280	.015	.268	.018	100
R3000-X31	5/16"	.312	.346	.015	.330	.018	100
R3000-X37	3/8"	.375	.415	.025	.397	.029	100
R3000-X43	7/16"	.437	.482	.025	.461	.029	100
R3000-X45	29/64"	.453	.498	.025	.477	.029	100
R3000-X50	1/2"	.500	.548	.035	.530	.039	100
R3000-X51	-	.512	.560	.035	.542	.039	100
R3000-X56	9/16"	.562	.620	.035	.596	.039	100
R3000-X62	5/8"	.625	.694	.035	.665	.039	100
R3000-X68	11/16"	.687	.763	.035	.732	.039	100
R3000-X75	3/4"	.750	.812	.035	.796	.039	100
R3000-X77	-	.777	.859	.042	.825	.046	100
R3000-X81	13/16"	.812	.901	.042	.862	.046	100
R3000-X86	-	.866	.961	.042	.920	.046	100
R3000-X87	7/8"	.875	.971	.042	.931	.046	100
R3000-X90	-	.901	1.000	.042	.959	.046	100
R3000-X93	15/16"	.938	1.041	.042	1.000	.046	100
R3000-X100	1"	1.000	1.111	.042	1.066	.046	100
R3000-X102	-	1.023	1.136	.042	1.091	.046	100
R3000-X106	1-1/16"	1.180	1.180	.050	1.130	.056	100
R3000-X112	1-1/8"	1.125	1.249	.050	1.197	.056	100
R3000-X118	1-3/16"	1.188	1.319	.050	1.262	.056	100
R3000-X125	1-1/4"	1.250	1.319	.050	1.330	.056	100
R3000-X131	1-5/16"	1.312	1.388	.050	1.396	.056	100
R3000-X137	1-3/8"	1.375	1.526	.050	1.461	.056	100
R3000-X143	1-7/16"	1.438	1.596	.050	1.528	.056	100
R3000-X145	-	1.456	1.616	.050	1.548	.056	100
R3000-X150	1-1/2"	1.500	1.660	.050	1.594	.056	100
R3000-X156	1-9/16"	1.562	1.734	.062	1.658	.068	100
R3000-X162	1-5/8"	1.625	1.804	.062	1.725	.068	100
R3000-X165	-	1.653	1.835	.062	1.755	.068	100
R3000-X168	1-11/16"	1.688	1.874	.062	1.792	.068	100
R3000-X175	1-3/4"	1.750	1.942	.062	1.858	.068	100
R3000-X181	1-13/16"	1.812	2.012	.062	1.922	.068	100
R3000-X185	-	1.850	2.054	.062	1.962	.068	100
R3000-X187	1-7/8"	1.875	2.072	.062	1.989	.068	100
R3000-X193	1-15/16"	1.938	2.141	.062	2.056	.068	100
R3000-X200	2"	2.000	2.210	.078	2.122	.068	100
R3000-X206	2-1/16"	2.062	2.280	.078	2.186	.086	100
R3000-X212	2-1/8"	2.125	2.350	.078	2.251	.086	100



# Ret. Rings (INTERNAL)

Bagues de retenue interne en acier

Steel internal retaining ring

Steel / Acier

Épaulements solides pour supporter une plus grande charge sans se déformer.

Provide sturdy shoulders to support considerable thrust loads without displacement.

## Série R3000 - Interne (suite)

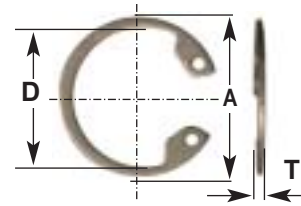
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3000-X218	2-3/16"	2.188	2.415	.078	2.318	.086	100
R3000-X225	2-1/4"	2.250	2.490	.078	2.332	.086	100
R3000-X231	2-5/16"	2.312	2.560	.078	2.450	.086	100
R3000-X237	2-3/8"	2.375	2.630	.078	2.517	.086	100
R3000-X244	2-7/16"	2.440	2.702	.078	2.584	.086	100
R3000-X250	2-1/2"	2.500	2.775	.078	2.648	.086	100
R3000-X262	2-5/8"	2.625	2.910	.093	2.781	.103	100
R3000-X268	2-11/16"	2.688	2.980	.093	2.848	.103	100
R3000-X275	2-3/4"	2.750	3.050	.093	2.914	.103	100
R3000-X281	2-13/16"	2.812	3.121	.093	2.980	.103	100
R3000-X287	2-7/8"	2.875	3.191	.093	3.051	.103	100
R3000-X300	3"	3.000	3.325	.093	3.182	.103	100
R3000-X306	3-1/16"	3.062	3.418	.109	3.248	.120	100
R3000-X312	3-1/8"	3.125	3.488	.109	3.315	.120	100
R3000-X315	3-5/32"	3.156	3.523	.109	3.348	.120	100
R3000-X325	3-1/4"	3.250	3.623	.109	3.446	.120	100
R3000-X334	3-11/32"	3.346	3.734	.109	3.546	.120	100
R3000-X350	3-1/2"	3.500	3.890	.109	3.710	.120	100
R3000-X354	-	3.543	3.936	.109	3.775	.120	100
R3000-X375	3-3/4"	3.750	4.157	.109	3.974	.120	100
R3000-X387	3-7/8"	3.875	4.291	.109	4.107	.120	100
R3000-X393	3-15/16"	3.938	4.358	.109	4.174	.120	100
R3000-400	4"	4.000	4.424	.109	4.240	.120	100
R3000-X412	4-1/8"	4.125	4.558	.109	4.365	.120	100
R3000-X425	4-1/4"	4.250	4.691	.109	4.490	.120	100
R3000-X450	4-1/2"	4.500	4.940	.109	4.750	.120	100
R3000-475	4-3/4"	4.750	5.213	.109	4.995	.120	100
R3000-500	5"	5.000	5.485	.109	5.260	.120	100
R3000-525	5-1/4"	5.250	5.770	.125	5.520	.139	100
R3000-550	5-1/2"	5.500	6.066	.125	5.770	.139	100
R3000-600	6"	6.000	6.620	.125	6.270	.139	100
R3000-650	6-1/2"	6.500	7.170	.156	6.790	.174	100
R3000-675	6-3/4"	6.750	7.445	.156	7.055	.174	100
R3000-800	8"	8.000	8.820	.187	8.360	.209	100
R3000-875	8-3/4"	8.750	9.558	.187	9.145	.209	100
R3000-900	9"	9.000	9.830	.187	9.405	.209	100

# Ret. Rings (INTERNAL)

Bagues de retenue interne en acier plaqué zinc

Zinc plated steel internal retaining ring

Plaqué Zinc / Zinc Plated

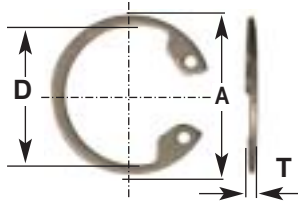


Épaulements solides pour supporter une plus grande charge sans se déformer.

Provide sturdy shoulders to support considerable thrust loads without displacement.

## Série R3000 - Interne

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3000-X25ZP	1/4"	.250	.280	.015	.268	.018	100
R3000-X31ZP	5/16"	.312	.346	.015	.330	.018	100
R3000-X37ZP	3/8"	.375	.415	.025	.397	.029	100
R3000-X43ZP	7/16"	.437	.482	.025	.461	.029	100
R3000-X45ZP	29/64"	.453	.498	.025	.477	.029	100
R3000-X50ZP	1/2"	.500	.548	.035	.530	.039	100
R3000-X51ZP	-	.512	.560	.035	.542	.039	100
R3000-X56ZP	9/16"	.562	.620	.035	.596	.039	100
R3000-X62ZP	5/8"	.625	.694	.035	.665	.039	100
R3000-X68ZP	11/16"	.687	.763	.035	.732	.039	100
R3000-X75ZP	3/4"	.750	.812	.035	.796	.039	100
R3000-X77ZP	-	.777	.859	.042	.825	.046	100
R3000-X81ZP	13/16"	.812	.901	.042	.862	.046	100
R3000-X86ZP	-	.866	.961	.042	.920	.046	100
R3000-X87ZP	7/8"	.875	.971	.042	.931	.046	100
R3000-X90ZP	-	.901	1.000	.042	.959	.046	100
R3000-X93ZP	15/16"	.938	1.041	.042	1.000	.046	100
R3000-X100ZP	1"	1.000	1.111	.042	1.066	.046	100
R3000-X102ZP	-	1.023	1.136	.042	1.091	.046	100
R3000-X106ZP	1-1/16"	1.180	1.180	.050	1.130	.056	100
R3000-X112ZP	1-1/8"	1.125	1.249	.050	1.197	.056	100
R3000-X118ZP	1-3/16"	1.188	1.319	.050	1.262	.056	100
R3000-X125ZP	1-1/4"	1.250	1.319	.050	1.330	.056	100
R3000-X131ZP	1-5/16"	1.312	1.388	.050	1.396	.056	100
R3000-X137ZP	1-3/8"	1.375	1.526	.050	1.461	.056	100
R3000-X143ZP	1-7/16"	1.438	1.596	.050	1.528	.056	100
R3000-X145ZP	-	1.456	1.616	.050	1.548	.056	100
R3000-X150ZP	1-1/2"	1.500	1.660	.050	1.594	.056	100
R3000-X156ZP	1-9/16"	1.562	1.734	.062	1.658	.068	100
R3000-X162ZP	1-5/8"	1.625	1.804	.062	1.725	.068	100
R3000-X165ZP	-	1.653	1.835	.062	1.755	.068	100
R3000-X168ZP	1-11/16"	1.688	1.874	.062	1.792	.068	100
R3000-X175ZP	1-3/4"	1.750	1.942	.062	1.858	.068	100
R3000-X181ZP	1-13/16"	1.812	2.012	.062	1.922	.068	100
R3000-X185ZP	-	1.850	2.054	.062	1.962	.068	100
R3000-X187ZP	1-7/8"	1.875	2.072	.062	1.989	.068	100
R3000-X193ZP	1-15/16"	1.938	2.141	.062	2.056	.068	100
R3000-X200ZP	2"	2.000	2.210	.078	2.122	.068	100
R3000-X206ZP	2-1/16"	2.062	2.280	.078	2.186	.086	100
R3000-X212ZP	2-1/8"	2.125	2.350	.078	2.251	.086	100



# Ret. Rings (INTERNAL)

Bagues de retenue interne en acier plaqué zinc

Zinc plated steel internal retaining ring

Plaque Zinc / Zinc Plated

Épaulements solides pour supporter une plus grande charge sans se déformer.

Provide sturdy shoulders to support considerable thrust loads without displacement.

## Série R3000 - Interne (suite)

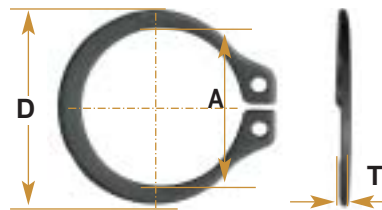
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3000-X218ZP	2-3/16"	2.188	2.415	.078	2.318	.086	100
R3000-X225ZP	2-1/4"	2.250	2.490	.078	2.332	.086	100
R3000-X231ZP	2-5/16"	2.312	2.560	.078	2.450	.086	100
R3000-X237ZP	2-3/8"	2.375	2.630	.078	2.517	.086	100
R3000-X244ZP	2-7/16"	2.440	2.702	.078	2.584	.086	100
R3000-X250ZP	2-1/2"	2.500	2.775	.078	2.648	.086	100
R3000-X262ZP	2-5/8"	2.625	2.910	.093	2.781	.103	100
R3000-X268ZP	2-11/16"	2.688	2.980	.093	2.848	.103	100
R3000-X275ZP	2-3/4"	2.750	3.050	.093	2.914	.103	100
R3000-X281ZP	2-13/16"	2.812	3.121	.093	2.980	.103	100
R3000-X287ZP	2-7/8"	2.875	3.191	.093	3.051	.103	100
R3000-X300ZP	3"	3.000	3.325	.093	3.182	.103	100
R3000-X306ZP	3-1/16"	3.062	3.418	.109	3.248	.120	100
R3000-X312ZP	3-1/8"	3.125	3.488	.109	3.315	.120	100
R3000-X315ZP	3-5/32"	3.156	3.523	.109	3.348	.120	100
R3000-X325ZP	3-1/4"	3.250	3.523	.109	3.446	.120	100
R3000-X334ZP	3-11/32"	3.346	3.734	.109	3.546	.120	100
R3000-X350ZP	3-1/2"	3.500	3.890	.109	3.710	.120	100
R3000-X354ZP	-	3.543	3.936	.109	3.775	.120	100
R3000-X375ZP	3-3/4"	3.750	4.157	.109	3.974	.120	100
R3000-X387ZP	3-7/8"	3.875	4.291	.109	4.107	.120	100
R3000-X393ZP	3-15/16"	3.938	4.358	.109	4.174	.120	100
R3000-400ZP	4"	4.000	4.424	.109	4.240	.120	100
R3000-X412ZP	4-1/8"	4.125	4.558	.109	4.365	.120	100
R3000-X425ZP	4-1/4"	4.250	4.691	.109	4.490	.120	100
R3000-X450ZP	4-1/2"	4.500	4.940	.109	4.750	.120	100
R3000-475ZP	4-3/4"	4.750	5.213	.109	4.995	.120	100
R3000-500ZP	5"	5.000	5.485	.109	5.260	.120	100
R3000-525ZP	5-1/4"	5.250	5.770	.125	5.520	.139	100
R3000-550ZP	5-1/2"	5.500	6.066	.125	5.770	.139	100
R3000-600ZP	6"	6.000	6.620	.125	6.270	.139	100
R3000-650ZP	6-1/2"	6.500	7.170	.156	6.790	.174	100
R3000-675ZP	6-3/4"	6.750	7.445	.156	7.055	.174	100
R3000-800ZP	8"	8.000	8.820	.187	8.360	.209	100
R3000-875ZP	8-3/4"	8.750	9.558	.187	9.145	.209	100
R3000-900ZP	9"	9.000	9.830	.187	9.405	.209	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier

Steel external retaining ring

Steel / Acier

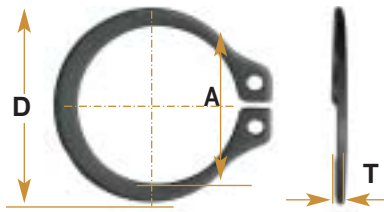


Utilisable comme epaulement artificiel pour positionner les composantes d'un produit.

May be used as artificial shoulder to position product components.

## Série R3100 - Externe

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3100-25	1/4"	.250	.225	.025	.230	.029	100
R3100-27	-	.276	.250	.025	.255	.029	100
R3100-28	9/32"	.281	.256	.025	.261	.029	100
R3100-31	5/16"	.312	.281	.025	.290	.029	100
R3100-34	11/32"	.344	.309	.025	.321	.029	100
R3100-35	-	.354	.320	.025	.330	.029	100
R3100-37	3/8"	.375	.338	.025	.352	.029	100
R3100-39	-	.394	.354	.025	.369	.029	100
R3100-40	13/32"	.406	.366	.025	.382	.029	100
R3100-43	7/16"	.438	.395	.025	.412	.029	100
R3100-46	15/32"	.469	.428	.025	.443	.029	100
R3100-50	1/2"	.500	.461	.035	.468	.039	100
R3100-55	-	.551	.509	.035	.519	.039	100
R3100-56	9/16"	.562	.521	.035	.530	.039	100
R3100-59	19/32"	.594	.550	.035	.559	.039	100
R3100-62	5/8"	.625	.579	.035	.588	.039	100
R3100-66	-	.669	.621	.035	.629	.039	100
R3100-67	43/64"	.672	.621	.035	.631	.039	100
R3100-68	11/16"	.688	.635	.042	.646	.046	100
R3100-75	3/4"	.750	.693	.042	.704	.046	100
R3100-78	25/32"	.781	.722	.042	.733	.046	100
R3100-81	13/16"	.812	.751	.042	.762	.046	100
R3100-84	27/32"	.844	.780	.042	.791	.046	100
R3100-87	7/8"	.875	.810	.042	.821	.046	100
R3100-93	15/16"	.938	.867	.042	.882	.046	100
R3100-98	63/64"	.984	.910	.042	.926	.046	100
R3100-100	1"	1.000	.925	.042	.940	.046	100
R3100-102	-	1.023	.946	.042	.961	.046	100
R3100-106	1-1/16"	1.062	.982	.050	.998	.056	100
R3100-112	1-1/8"	1.125	1.041	.050	1.059	.056	100
R3100-118	1-3/16"	1.188	1.098	.050	1.118	.056	100
R3100-125	1-1/4"	1.250	1.156	.050	1.176	.056	100
R3100-131	1-5/16"	1.312	1.214	.050	1.232	.056	100
R3100-137	1-3/8"	1.375	1.272	.050	1.291	.056	100
R3100-143	1-7/16"	1.438	1.333	.050	1.350	.056	100
R3100-150	1-1/2"	1.500	1.387	.050	1.406	.056	100
R3100-156	1-9/16"	1.562	1.446	.062	1.468	.068	100
R3100-162	1-5/8"	1.625	1.503	.062	1.529	.068	100
R3100-168	1-11/16"	1.687	1.560	.062	1.589	.068	100
R3100-175	1-3/4"	1.750	1.618	.062	1.650	.068	100



# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier

Steel external retaining ring

Steel / Acier

Utilisable comme épaulement artificiel pour positionner les composantes d'un produit.

May be used as artificial shoulder to position product components.

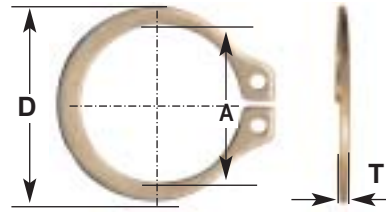
Série R3100 - Externe (Suite)							
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3100-177	-	1.772	1.637	.062	1.669	.068	100
R3100-181	1-13/16"	1.812	1.675	.062	1.708	.068	100
R3100-187	1-7/8"	1.875	1.735	.062	1.769	.068	100
R3100-196	1-31/32"	1.969	1.819	.062	1.857	.068	100
R3100-200	2"	2.000	1.850	.062	1.886	.068	100
R3100-206	2-1/16"	2.062	1.906	.062	1.946	.086	100
R3100-212	2-1/8"	2.125	1.964	.078	2.003	.086	100
R3100-215	2-5/32"	2.156	1.993	.078	2.032	.086	100
R3100-225	2-1/4"	2.250	2.081	.078	2.120	.086	100
R3100-231	2-5/16"	2.312	2.139	.078	2.178	.086	100
R3100-237	2-3/8"	2.375	2.197	.078	2.239	.086	100
R3100-243	2-7/16"	2.438	2.255	.078	2.299	.086	100
R3100-250	2-1/2"	2.500	2.313	.078	2.360	.086	100
R3100-255	-	2.559	2.377	.078	2.419	.086	100
R3100-262	2-5/8"	2.625	2.428	.078	2.481	.086	100
R3100-268	2-11/16"	2.688	2.485	.078	2.541	.086	100
R3100-275	2-3/4"	2.750	2.543	.093	2.602	.103	100
R3100-287	2-7/8"	2.875	2.659	.093	2.721	.103	100
R3100-293	2-15/16"	2.938	2.717	.093	2.779	.103	100
R3100-300	3"	3.000	2.775	.093	2.838	.103	100
R3100-306	3-1/16"	3.062	2.832	.093	2.898	.103	100
R3100-312	3-1/8"	3.125	2.892	.093	2.957	.103	100
R3100-315	3-5/32"	3.156	2.920	.093	2.986	.103	100
R3100-325	3-1/4"	3.250	3.006	.093	3.076	.103	100
R3100-334	3-11/32"	3.346	3.092	.093	3.166	.103	100
R3100-343	3-7/16"	3.438	3.179	.093	3.257	.103	100
R3100-354	-	3.543	3.277	.109	3.357	.120	100
R3100-375	3-3/4"	3.750	3.468	.109	3.552	.120	100
R3100-393	3-15/16"	3.938	3.642	.109	3.734	.120	100
R3100-400	4"	4.000	3.700	.109	3.792	.120	100
R3100-425	4-1/4"	4.250	3.989	.109	4.065	.120	100
R3100-450	4-1/2"	4.500	4.223	.109	4.310	.120	100
R3100-475	4-3/4"	4.750	4.458	.109	4.550	.120	100
R3100-500	5"	5.000	4.692	.109	4.790	.120	100
R3100-525	5-1/4"	5.250	4.927	.125	5.030	.139	100
R3100-600	6"	6.000	5.631	.125	5.745	.139	100
R3100-700	7"	7.000	6.570	.156	6.705	.174	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier plaqué zinc

Zinc plated steel external retaining ring

Zinc Plated Steel / Acier plaqué zinc



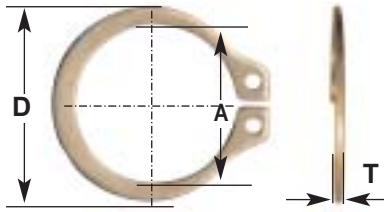
Utilisable comme epaulement artificiel pour positionner les composantes d'un produit.

May be used as artificial shoulder to position product components.

## Série R3100 - Externe

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3100-25ZP	1/4"	.250	.225	.025	.230	.029	100
R3100-27ZP	-	.276	.250	.025	.255	.029	100
R3100-28ZP	9/32"	.281	.256	.025	.261	.029	100
R3100-31ZP	5/16"	.312	.281	.025	.290	.029	100
R3100-34ZP	11/32"	.344	.309	.025	.321	.029	100
R3100-35ZP	-	.354	.320	.025	.330	.029	100
R3100-37ZP	3/8"	.375	.338	.025	.352	.029	100
R3100-39ZP	-	.394	.354	.025	.369	.029	100
R3100-40ZP	13/32"	.406	.366	.025	.382	.029	100
R3100-43ZP	7/16"	.438	.395	.025	.412	.029	100
R3100-46ZP	15/32"	.469	.428	.025	.443	.029	100
R3100-50ZP	1/2"	.500	.461	.035	.468	.039	100
R3100-55ZP	-	.551	.509	.035	.519	.039	100
R3100-56ZP	9/16"	.562	.521	.035	.530	.039	100
R3100-59ZP	19/32"	.594	.550	.035	.559	.039	100
R3100-62ZP	5/8"	.625	.579	.035	.588	.039	100
R3100-66ZP	-	.669	.621	.035	.629	.039	100
R3100-67ZP	43/64"	.672	.621	.035	.631	.039	100
R3100-68ZP	11/16"	.688	.635	.042	.646	.046	100
R3100-75ZP	3/4"	.750	.693	.042	.704	.046	100
R3100-78ZP	25/32"	.781	.722	.042	.733	.046	100
R3100-81ZP	13/16"	.812	.751	.042	.762	.046	100
R3100-84ZP	27/32"	.844	.780	.042	.791	.046	100
R3100-87ZP	7/8"	.875	.810	.042	.821	.046	100
R3100-93ZP	15/16"	.938	.867	.042	.882	.046	100
R3100-98ZP	63/64"	.984	.910	.042	.926	.046	100
R3100-100ZP	1"	1.000	.925	.042	.940	.046	100
R3100-102ZP	-	1.023	.946	.042	.961	.046	100
R3100-106ZP	1-1/16"	1.062	.982	.050	.998	.056	100
R3100-112ZP	1-1/8"	1.125	1.041	.050	1.059	.056	100
R3100-118ZP	1-3/16"	1.188	1.098	.050	1.118	.056	100
R3100-125ZP	1-1/4"	1.250	1.156	.050	1.176	.056	100
R3100-131ZP	1-5/16"	1.312	1.214	.050	1.232	.056	100
R3100-137ZP	1-3/8"	1.375	1.272	.050	1.291	.056	100
R3100-143ZP	1-7/16"	1.438	1.333	.050	1.350	.056	100
R3100-150ZP	1-1/2"	1.500	1.387	.050	1.406	.056	100
R3100-156ZP	1-9/16"	1.562	1.446	.062	1.468	.068	100
R3100-162ZP	1-5/8"	1.625	1.503	.062	1.529	.068	100
R3100-168ZP	1-11/16"	1.687	1.560	.062	1.589	.068	100
R3100-175ZP	1-3/4"	1.750	1.618	.062	1.650	.068	100





# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier plaqué zinc

Zinc plated steel external retaining ring

Zinc Plated Steel / Acier plaqué zinc

Utilisable comme épaulement artificiel pour positionner les composantes d'un produit.

May be used as artificial shoulder to position product components.

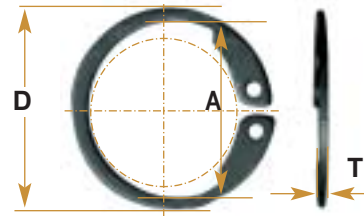
Série R3100 - Externe (Suite)							
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3100-177ZP	-	1.772	1.637	.062	1.669	.068	100
R3100-181ZP	1-13/16"	1.812	1.675	.062	1.708	.068	100
R3100-187ZP	1-7/8"	1.875	1.735	.062	1.769	.068	100
R3100-196ZP	1-31/32"	1.969	1.819	.062	1.857	.068	100
R3100-200ZP	2"	2.000	1.850	.062	1.886	.068	100
R3100-206ZP	2-1/16"	2.062	1.906	.062	1.946	.086	100
R3100-212ZP	2-1/8"	2.125	1.964	.078	2.003	.086	100
R3100-215ZP	2-5/32"	2.156	1.993	.078	2.032	.086	100
R3100-225ZP	2-1/4"	2.250	2.081	.078	2.120	.086	100
R3100-231ZP	2-5/16"	2.312	2.139	.078	2.178	.086	100
R3100-237ZP	2-3/8"	2.375	2.197	.078	2.239	.086	100
R3100-243ZP	2-7/16"	2.438	2.255	.078	2.299	.086	100
R3100-250ZP	2-1/2"	2.500	2.313	.078	2.360	.086	100
R3100-255ZP	-	2.559	2.377	.078	2.419	.086	100
R3100-262ZP	2-5/8"	2.625	2.428	.078	2.481	.086	100
R3100-268ZP	2-11/16"	2.688	2.485	.078	2.541	.086	100
R3100-275ZP	2-3/4"	2.750	2.543	.093	2.602	.103	100
R3100-287ZP	2-7/8"	2.875	2.659	.093	2.721	.103	100
R3100-293ZP	2-15/16"	2.938	2.717	.093	2.779	.103	100
R3100-300ZP	3"	3.000	2.775	.093	2.838	.103	100
R3100-306ZP	3-1/16"	3.062	2.832	.093	2.898	.103	100
R3100-312ZP	3-1/8"	3.125	2.892	.093	2.957	.103	100
R3100-315ZP	3-5/32"	3.156	2.920	.093	2.986	.103	100
R3100-325ZP	3-1/4"	3.250	3.006	.093	3.076	.103	100
R3100-334ZP	3-11/32"	3.346	3.092	.093	3.166	.103	100
R3100-343ZP	3-7/16"	3.438	3.179	.093	3.257	.103	100
R3100-354ZP	-	3.543	3.277	.109	3.357	.120	100
R3100-375ZP	3-3/4"	3.750	3.468	.109	3.552	.120	100
R3100-393ZP	3-15/16"	3.938	3.642	.109	3.734	.120	100
R3100-400ZP	4"	4.000	3.700	.109	3.792	.120	100
R3100-425ZP	4-1/4"	4.250	3.989	.109	4.065	.120	100
R3100-450ZP	4-1/2"	4.500	4.223	.109	4.310	.120	100
R3100-475ZP	4-3/4"	4.750	4.458	.109	4.550	.120	100
R3100-500ZP	5"	5.000	4.692	.109	4.790	.120	100
R3100-525ZP	5-1/4"	5.250	4.927	.125	5.030	.139	100
R3100-600ZP	6"	6.000	5.631	.125	5.745	.139	100
R3100-700ZP	7"	7.000	6.570	.156	6.705	.174	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier

Steel external retaining ring

Steel / Acier



Utilisable comme épaulement artificiel pour positionner les composantes d'un produit avec un chanfreinage relativement élevé.

Used as artificial shoulders or to position product components having relatively large chamfers.

## Série R4100 - Externe

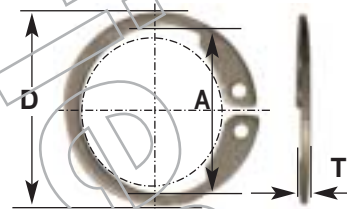
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R4100-50	1/2"	.500	.461	.035	.468	.039	100
R4100-62	5/8"	.625	.579	.035	.588	.039	100
R4100-75	3/4"	.750	.693	.042	.704	.046	100
R4100-87	7/8"	.875	.810	.042	.821	.046	100
R4100-100	1"	1.000	.925	.042	.940	.046	100
R4100-112	1-1/8"	1.125	1.041	.050	1.059	.056	100
R4100-125	1-1/4"	1.250	1.156	.050	1.176	.056	100
R4100-131	1-5/16"	1.313	1.214	.050	1.232	.056	100
R4100-137	1-3/8"	1.375	1.272	.050	1.291	.056	100
R4100-215	2-5/32"	2.156	1.993	.078	2.032	.078	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier plaqué zinc

Zinc plated steel external retaining ring

Zinc Plated / Plaqué Zinc

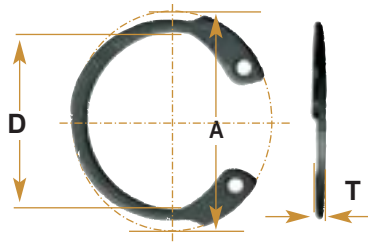


Utilisable comme épaulement artificiel pour positionner les composantes d'un produit avec un chanfreinage relativement élevé.

Used as artificial shoulders or to position product components having relatively large chamfers.

## Série R4100 - Externe

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R4100-50ZP	1/2"	.500	.461	.035	.468	.039	100
R4100-62ZP	5/8"	.625	.579	.035	.588	.039	100
R4100-75ZP	3/4"	.750	.693	.042	.704	.046	100
R4100-87ZP	7/8"	.875	.810	.042	.821	.046	100
R4100-100ZP	1"	1.000	.925	.042	.940	.046	100
R4100-112ZP	1-1/8"	1.125	1.041	.050	1.059	.056	100
R4100-125ZP	1-1/4"	1.250	1.156	.050	1.176	.056	100
R4100-131ZP	1-5/16"	1.313	1.214	.050	1.232	.056	100
R4100-137ZP	1-3/8"	1.375	1.272	.050	1.291	.056	100
R4100-215ZP	2-5/32"	2.156	1.993	.078	2.032	.078	100



## Ret. Rings (INTERNAL)

Bagues de retenue interne en acier

Steel internal retaining ring

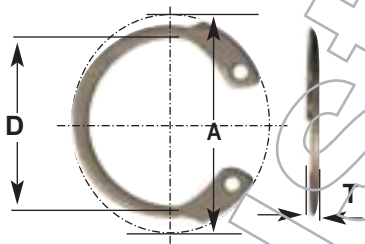
Steel / Acier

Appliqué axialement dans les chambrages pour usage comme épaulement artificiel ou pour positionner les composantes d'un produit avec un chanfreinage relativement élevé.

*Applied axially into housings for use as artificial shoulders or to position product components having relatively large chamfers*

### Série R4000 - Interne

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R4000-75	3/4"	.750	.808	.042	.796	.039	100
R4000-87	7/8"	.875	.944	.042	.921	.046	100
R4000-100	1"	1.000	1.081	.042	1.066	.046	100
R4000-106	1-1/16"	1.062	1.150	.050	1.130	.056	100
R4000-112	1-1/8"	1.125	1.217	.050	1.197	.056	100
R4000-125	1-1/4"	1.250	1.351	.050	1.330	.056	100



## Ret. Rings (INTERNAL)

Bagues de retenue interne en acier plaqué zinc

Zinc plated steel internal retaining ring

Plaqué Zinc / Zinc Plated

Appliqué axialement dans les chambrages pour usage comme épaulement artificiel ou pour positionner les composantes d'un produit avec un chanfreinage relativement élevé.

*Applied axially into housings for use as artificial shoulders or to position product components having relatively large chamfers*

### Série R4000 - Interne

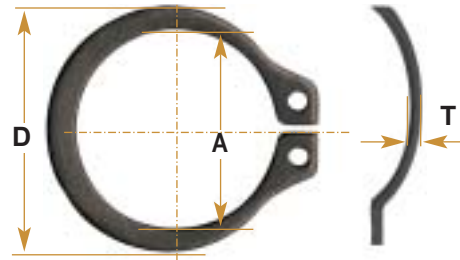
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R4000-75ZP	3/4"	.750	.808	.042	.796	.039	100
R4000-87ZP	7/8"	.875	.944	.042	.921	.046	100
R4000-100ZP	1"	1.000	1.081	.042	1.066	.046	100
R4000-106ZP	1-1/16"	1.062	1.150	.050	1.130	.056	100
R4000-112ZP	1-1/8"	1.125	1.217	.050	1.197	.056	100
R4000-125ZP	1-1/4"	1.250	1.351	.050	1.330	.056	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier

Steel external retaining ring

Steel / Acier



Arcées pour prise dans une rainure plus large. Appliqués axialement sur une tige rainurée.

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

## Série R3101 - Externe

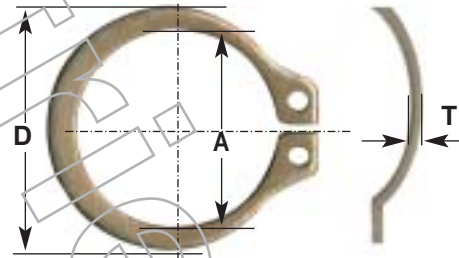
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Max Take-up	Boîte
R3101-31	5/16"	.312	.281	.025	.290	.040	.015	100
R3101-78	25/32"	.781	.722	.042	.733	.062	.020	100
R3101-81	13/16"	.812	.751	.042	.762	.062	.020	100
R3101-125	1-1/4"	1.250	1.156	.050	1.176	.070	.020	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier plaqué zinc

Zinc plated steel external retaining ring

Zinc Plated / Plaqué Zinc

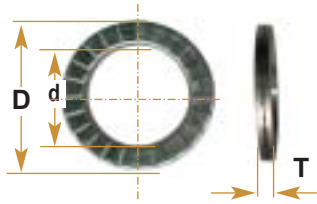


Arcées pour prise dans une rainure plus large. Appliqués axialement sur une tige rainurée.

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

## Série R3101 - Externe

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Max Take-up	Boîte
R3101-31ZP	5/16"	.312	.281	.025	.290	.040	.015	100
R3101-78ZP	25/32"	.781	.722	.042	.733	.062	.020	100
R3101-81ZP	13/16"	.812	.751	.042	.762	.062	.020	100
R3101-125ZP	1-1/4"	1.250	1.156	.050	1.176	.070	.020	100



# Nord-Lock

Rondelle blocante contre les vibrations extremes  
Lockwasher for extreme vibration environments

Plaque Zinc / Zinc Plated

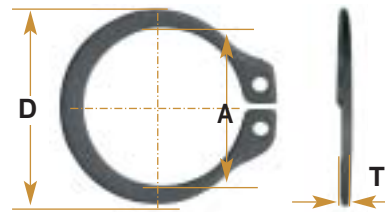
Nord-Lock						
N° Gr.	Dimension	Dimension	d	D	T	Boîte
677-100	3/16"	.187	.205	.354	.071	50 pairs
677-101	1/4"	.250	.256	.425	.071	50 pairs
677-102	5/16"	.312	.323	.532	.102	50 pairs
677-103	3/8"	.375	.406	.654	.102	50 pairs
677-104	7/16"	.438	.449	.728	.102	25 pairs
677-105	1/2"	.500	.512	.768	.146	25 pairs
677-106	9/16"	.562	.571	.903	.146	25 pairs
677-107	5/8"	.625	.669	1.000	.158	25 pairs
677-108	3/4"	.750	.827	1.210	.158	20 pairs
677-109	7/8"	.875	.902	1.358	.158	20 pairs
677-110	1"	1.000	1.063	1.575	.181	20 pairs
677-111	1-1/8"	1.125	1.200	1.850	.181	10 pairs
677-112	1-1/4"	1.250	1.319	1.909	.181	10 pairs
677-113	1-3/8"	1.375	1.441	2.303	.181	10 pairs
677-114	1-1/2"	1.500	1.555	2.303	.181	10 pairs

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier à ressorts

Carbon spring steel external retaining ring

Carbon spring steel / Acier à ressorts

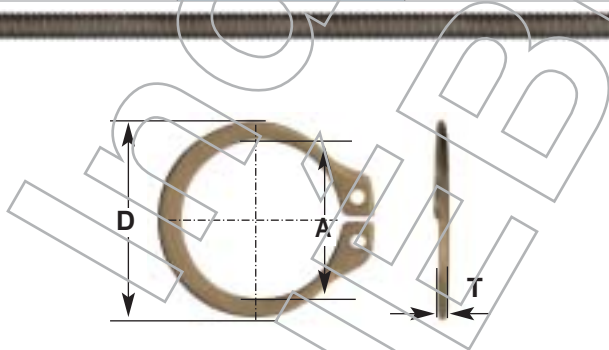


## Série R1400 - Externe

N° Gr.	Dim Arbre Shaft size	Groove dia.	Tolerance	Groove Width	Épaisseur Thickness	Boîte
255-559	3	2.8	-0.04	.50	.40	100
255-500	4	3.8	-0.04	.50	.40	100
255-501	5	4.8	-0.04	.70	.60	100
255-502	6	5.7	-0.04	.80	.70	100
255-503	7	6.7	-0.06	.90	.80	100
255-504	8	7.6	-0.06	.90	.80	100
255-505	9	8.6	-0.06	1.10	1.00	100
255-506	10	9.6	-0.11	1.10	1.00	100
255-507	11	10.5	-0.11	1.10	1.00	100
255-508	12	11.5	-0.11	1.10	1.00	100
255-560	13	12.4	-0.11	1.10	1.00	100
255-509	14	13.4	-0.11	1.10	1.00	100
255-510	15	14.3	-0.11	1.10	1.00	100
255-511	16	15.2	-0.11	1.10	1.00	100
255-512	17	16.2	-0.11	1.10	1.00	100
255-513	18	17.0	-0.11	1.30	1.20	100
255-514	19	18.0	-0.15	1.30	1.20	100
255-515	20	19.0	-0.15	1.30	1.20	100
255-561	21	20.0	-0.13	1.30	1.20	100
255-516	22	21.0	-0.15	1.30	1.20	100
255-562	23	22.0	-0.15	1.30	1.20	100
255-553	24	22.9	-0.21	1.30	1.20	100
255-517	25	23.9	-0.21	1.30	1.20	100
255-554	26	24.9	-0.21	1.30	1.20	100
255-552	27	25.6	-0.21	1.30	1.20	100
255-518	28	26.6	-0.21	1.60	1.50	100
255-563	29	27.6	-0.21	1.60	1.50	100
255-519	30	28.6	-0.21	1.60	1.50	100
255-564	31	29.3	-0.21	1.60	1.50	100
255-520	32	30.0	-0.21	1.60	1.50	100
255-565	34	32.3	-0.21	1.60	1.50	100
255-521	35	33.0	-0.21	1.60	1.50	100
255-567	36	34.0	-0.21	1.60	1.50	100
255-555	37	35.0	-0.21	1.85	1.75	100
255-522	38	36.0	-0.11	1.85	1.75	100
255-523	40	37.5	-0.11	1.85	1.75	100
255-524	42	39.5	-0.11	1.85	1.75	100
255-525	45	42.5	-0.11	1.85	1.75	100
255-568	47	44.5	-0.11	1.85	1.75	100
255-526	48	45.5	-0.11	1.85	1.75	100

## Série R1400 - Externe (Suite)

N° Gr.	Dim Arbre Shaft size	Groove dia.	Tolerance	Groove Width	Épaisseur Thickness	Boîte
255-527	50	47.0	-0.25	2.15	2.00	100
255-528	52	49.0	-0.25	2.15	2.00	50
255-529	55	52.0	-0.30	2.15	2.00	50
255-569	56	53.0	-0.30	2.15	2.00	50
255-530	58	55.0	-0.30	2.15	2.00	50
255-531	60	57.0	-0.30	2.15	2.00	50
255-532	62	59.0	-0.30	2.15	2.00	50
255-570	63	60.0	-0.30	2.15	2.00	50
255-533	65	62.0	-0.30	2.65	2.50	50
255-534	68	65.0	-0.30	2.65	2.50	50
255-535	70	67.0	-0.30	2.65	2.50	50
255-536	72	69.0	-0.30	2.65	2.50	50
255-537	75	72.0	-0.30	2.65	2.50	50
255-538	78	75.0	-0.30	2.65	2.50	50
255-539	80	76.5	-0.30	2.65	2.50	50
255-540	82	78.5	-0.30	2.65	2.50	50
255-541	85	81.5	-0.35	3.15	3.00	50
255-542	88	84.5	-0.35	3.15	3.00	50
255-543	90	86.5	-0.35	3.15	3.00	50
255-571	92	-	-0.35	3.15	3.00	50
255-544	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	100	96.5	-0.35	3.15	3.00	25
255-546	105	101.0	-0.54	4.15	4.00	25
255-547	110	106.0	-0.54	4.15	4.00	25
255-548	115	111.0	-0.54	4.15	4.00	10
255-549	120	116.0	-0.54	4.15	4.00	10
255-550	125	121.0	-0.63	4.15	4.00	10
255-551	130	126.0	-0.63	4.15	4.00	10
255-574	135	131.0	-0.63	4.15	4.00	10
255-556	140	136.0	-0.63	4.15	4.00	10
255-575	145	141.0	-0.63	4.15	4.00	1
255-557	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



## Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier à ressorts  
Carbon spring steel external retaining ring

ZP = Zinc Plated / Plaqué Zinc

YZ = Yellow Zinc Plated / Plaqué Zinc Jaune

## Série R1400 - Externe

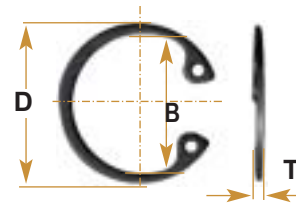
N° Gr.	Dim Arbre Shaft size	Groove dia.	Tolerance	Groove Width	Épaisseur Thickness	Boîte
255-506ZP	10	9.6	-0.11	1.10	1.00	100
255-554YZ	26	24.9	-0.21	1.30	1.20	100
255-524YZ	62	59.0	-0.30	2.15	2.00	50
255-525YZ	85	81.5	-0.35	3.15	3.00	50

# Ret. Rings (INTERNAL)

Bagues de retenue interne en acier à ressorts

Carbon spring steel internal retaining ring

Carbon spring steel / Acier à ressorts



## Série D1300 - Interne

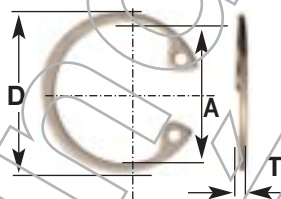
N° Gr.	Dim Arbre Shaft size	Groove dia.	Tolerance	Groove Width	Épaisseur Thickness	Boîte
254-558	8	8.4	+0.9	0.90	.80	100
254-559	9	9.6	+0.9	0.90	.80	100
254-500	10	10.4	+0.11	1.10	1.00	100
254-501	11	11.4	+0.11	1.10	1.00	100
254-502	12	12.5	+0.11	1.10	1.00	100
254-503	13	13.6	+0.11	1.10	1.00	100
254-504	14	14.6	+0.11	1.10	1.00	100
254-505	15	15.7	+0.11	1.10	1.00	100
254-506	16	16.8	+0.11	1.10	1.00	100
254-507	17	17.8	+0.15	1.10	1.00	100
254-508	18	19.0	+0.15	1.10	1.00	100
254-509	19	20.0	+0.15	1.10	1.00	100
254-510	20	21.0	+0.15	1.10	1.00	100
254-511	21	22.0	+0.15	1.10	1.00	100
254-512	22	23.0	+0.15	1.10	1.00	100
254-513	24	25.2	+0.21	1.30	1.20	100
254-514	25	26.2	+0.21	1.30	1.20	100
254-515	26	27.2	+0.21	1.30	1.20	100
254-560	27	-	+0.21	1.30	1.20	100
254-516	28	29.4	+0.21	1.30	1.20	100
254-555	29	31.1	+0.21	1.30	1.20	100
254-517	30	31.4	+0.50	1.30	1.20	100
254-562	31	32.7	+0.25	1.30	1.20	100
254-518	32	33.7	+0.25	1.30	1.20	100
254-563	34	35.7	+0.25	1.30	1.20	100
254-519	35	37.0	+0.25	1.60	1.50	100
254-556	36	38.8	+0.25	1.60	1.50	100
254-520	37	39.0	+0.50	1.60	1.50	100
254-521	38	40.0	+0.25	1.60	1.50	100
254-522	40	42.5	+0.25	1.60	1.50	100
254-564	41	-	+0.25	1.60	1.50	100
254-523	42	44.5	+0.25	1.60	1.50	100
254-524	45	47.5	+0.25	1.60	1.50	100
254-561	46	-	+0.25	1.85	1.75	100
254-525	47	49.5	+0.25	1.85	1.75	100
254-526	48	50.5	+0.25	1.85	1.75	100
254-527	50	53.0	+0.25	1.85	1.75	100
254-578*	50	53.0	+0.30	1.85	1.75	100
254-528	52	55.0	+0.30	1.85	1.75	100
254-529	55	58.0	+0.30	1.85	1.75	100
254-565*	55	58.4	+0.30	2.65	2.50	50
254-566	56	59.0	+0.30	2.15	2.00	50
254-530	58	61.0	+0.30	2.15	2.00	50
254-531	60	63.0	+0.30	2.15	2.00	50
254-532	62	65.0	+0.30	2.15	2.00	50

\* Heavy duty



## Série D1300 - Interne (Suite)

N° Gr.	Dim Arbre Shaft size	Groove dia.	Tolerance	Groove Width	Épaisseur Thickness	Boîte
254-567	63	66.0	+0.30	2.15	2.00	50
254-533	65	68.0	+0.30	2.65	2.50	50
254-534	68	71.0	+0.30	2.65	2.50	50
254-535	70	73.0	+0.30	2.65	2.50	50
254-536	72	75.0	+0.35	2.65	2.50	50
254-537	75	78.0	+0.35	2.65	2.50	50
254-538	78	81.0	+0.35	2.65	2.50	50
254-539	80	83.5	+0.35	2.65	2.50	50
254-540	82	85.5	+0.35	2.65	2.50	50
254-541	85	88.5	+0.35	3.15	3.00	50
254-542	88	91.5	+0.35	3.15	3.00	50
254-543	90	93.5	+0.35	3.15	3.00	50
254-544	92	95.5	+0.35	3.15	3.00	25
254-545	95	98.5	+0.35	3.15	3.00	25
254-546	98	101.5	+0.35	3.15	3.00	25
254-547	100	103.5	+0.35	3.15	4.00	25
254-568	102	106	+0.35	3.15	4.00	25
254-548	105	109	+0.54	4.15	4.00	25
254-569	107	-	+0.54	4.15	4.00	25
254-549	110	114.0	+0.54	4.15	4.00	10
254-571	112	116	+0.54	4.15	4.00	10
254-550	115	119	+0.63	4.15	4.00	10
254-551	120	124	+0.63	4.15	4.00	10
254-552	125	129	+0.63	4.15	4.00	10
254-553	130	134	+0.63	4.15	4.00	10
254-572	135	139	+0.63	4.15	4.00	1
254-557	140	147	+0.63	4.15	4.00	1
254-573	145	149	+0.63	4.15	4.00	1
254-574	150	155	+0.63	4.15	4.00	1
254-575	155	160	+0.63	4.15	4.00	1
254-576	160	165	+0.63	4.15	4.00	1
254-577	165	170	+0.63	4.15	4.00	1
254-580	170	175	+0.63	4.15	4.00	1
254-554	180	185	+0.72	4.15	4.00	1
254-581	225	231	+0.72	5.15	5.00	1



## Ret. Rings (INTERNAL)

Bagues de retenue interne en acier à ressorts  
Carbon spring steel internal retaining ring

ZP = Zinc Plated / Plaqué Zinc

YZ = Yellow Zinc Plated / Plaqué Zinc Jaune

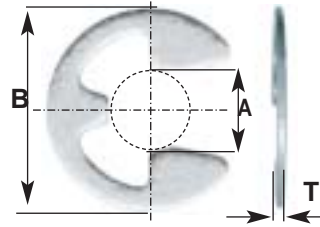
## Série D1300 - Interne

N° Gr.	Dim Arbre Shaft size	Groove dia.	Tolerance	Groove Width	Épaisseur Thickness	Boîte
254-515YZ	26	27.2	+0.21	1.30	1.20	100
254-565YZ	55	58.0	+0.30	2.65	2.50	50
254-566YZ	56	59.0	+0.30	2.15	2.00	50

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier inoxydable  
Stainless Steel external retaining ring

Acier inoxydable / Stainless Steel



Bague de type ouverte avec épaulements larges. Facilement installée. Remplace les goupilles fendues, les colliers visibles, les épaulements machinés, etc.

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

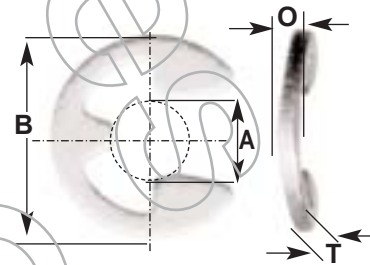
## Série R1000 - Externe

N° Gr.	Dimension	Dimension	A	T	B	Boîte
250-804	1/16"	.062	.051	.010	.156	100
250-805	3/32"	.094	.073	.015	.187	100
250-806	1/8"	.125	.094	.015	.230	100
250-807	5/32"	.156	.114	.025	.282	100
250-808	3/16"	.188	.145	.025	.335	100
250-809	7/32"	.218	.185	.025	.437	100
250-801	1/4"	.250	.207	.025	.527	100
250-802	5/16"	.312	.243	.025	.500	100
250-800	3/8"	.375	.300	.035	.660	100
250-803	7/16"	.437	.337	.025	.687	100
250-813	7/16"	.437	.375	.035	.600	100
250-810	1/2"	.500	.392	.042	.800	100
250-811	5/8"	.625	.480	.042	.940	100
250-812	3/4"	.750	.574	.050	1.120	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier inoxydable  
Stainless Steel external retaining ring

Acier Inoxydable / Stainless Steel

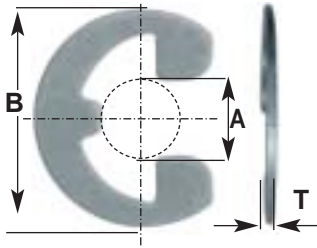


Arcées pour une prise solide sans jeu. Épaulements larges.

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

## Série R1001 - Externe

N° Gr.	Dimension	Dimension	A	T	B	O (axe) (bow)	Max take up	Boîte
251-802	3/16"	.188	.145	.015	.335	.032-.043	.017	100
251-800	1/4"	.250	.207	.025	.527	.050-.067	.025	100
251-801	1/2"	.500	.392	.042	.800	.075-.093	.033	100



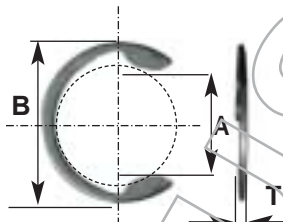
## Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier inoxydable  
Stainless Steel external retaining ring

Modèle donnant une plus grande résistance à la vibrations et aux chocs.  
*For greater-than-normal resistance to vibration or heavy shock loads.*

### Série R1200 - Externe

N° Gr.	Dimension	Dimension	A	T	B	Boîte
252-800	3/32"	.094	.072	.015	.206	100
252-801	1/8"	.125	.093	.015	.270	100
252-802	3/16"	.188	.143	.025	.375	100
252-803	1/4"	.250	.204	.025	.516	100
252-804	5/16"	.312	.242	.035	.588	100
252-805	3/8"	.375	.292	.035	.660	100
252-806	7/16"	.438	.332	.035	.746	100
252-807	1/2"	.500	.385	.042	.810	100
252-808	9/16"	.562	.430	.042	.870	100



## Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier inoxydable  
Stainless Steel external retaining ring

*Stainless Steel / Acier Inoxydable*

Pour usage lorsqu'un épaulement large n'est pas requis, ou que l'espace est limité. Aussi efficace lorsque l'accès à l'axe est difficile ou impossible.

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

### Série R2000 - Externe

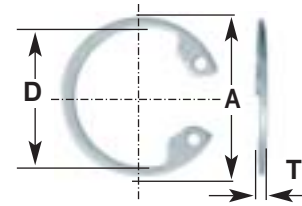
N° Gr.	Dimension	Dimension	A	T	B	Boîte
253-303	3/16"	.188	.161	.015	.245	100
253-804	7/32"	.218	.187	.025	.275	100
253-304	1/4"	.250	.211	.025	.311	100
253-800	3/8"	.375	.328	.025	.448	100
253-801	1/2"	.500	.441	.035	.581	100
253-802	5/8"	.625	.553	.035	.715	100
253-803	3/4"	.750	.665	.042	.845	100

# Ret. Rings (INTERNAL)

Bagues de retenue interne en acier inoxydable

Stainless steel internal retaining ring

Stainless Steel / Acier Inoxydable



Épaulements solides pour supporter une plus grande charge sans se déformer.

Provide sturdy shoulders to support considerable thrust loads without displacement.

## Série R3000 - Interne

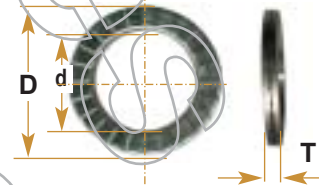
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
254-801	1/4"	.250	.280	.015	.268	.018	100
254-802	5/16"	.312	.346	.015	.330	.018	100
254-803	3/8"	.375	.415	.025	.397	.029	100
254-804	7/16"	.437	.482	.025	.461	.029	100
254-805	1/2"	.500	.548	.035	.530	.039	100
254-806	5/8"	.625	.694	.035	.665	.039	100
254-807	3/4"	.750	.681	.035	.796	.039	100
254-808	7/8"	.875	.971	.042	.931	.046	100
254-809	1"	1.000	1.111	.042	1.066	.046	100
254-800	1-1/4"	1.250	1.319	.050	1.330	.056	100
254-810	1-5/16"	1.312	1.388	.050	1.396	.056	100
254-811	1-3/8"	1.375	1.526	.050	1.461	.056	100
254-812	1-1/2"	1.500	1.660	.050	1.594	.056	100
254-813	1-5/8"	1.625	1.804	.062	1.725	.068	100
254-814	1-3/4"	1.750	1.942	.062	1.858	.068	100
254-820	3-1/2"	3.500	3.890	.109	3.710	.120	100

# Nord-Lock

Rondelle blocante contre les vibrations extremes

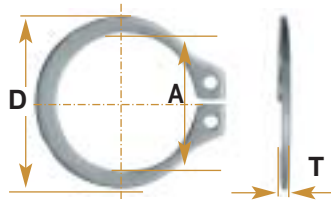
Lockwasher for extreme vibration environments

Stainless Steel / Acier Inoxydable



## Nord Lock

N° Gr.	Dimension	Dimension	d	D	T	Boîte
677-800	3/16"	.187	.205	.354	.071	50 pairs
677-801	1/4"	.250	.256	.425	.071	50 pairs
677-802	5/16"	.312	.323	.532	.102	50 pairs
677-803	3/8"	.375	.406	.654	.102	50 pairs
677-804	7/16"	.438	.449	.728	.102	25 pairs
677-805	1/2"	.500	.512	.768	.146	25 pairs
677-806	9/16"	.562	.571	.906	.146	25 pairs
677-807	5/8"	.625	.669	1.000	.158	25 pairs



## Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier inoxydable

Stainless steel external retaining ring

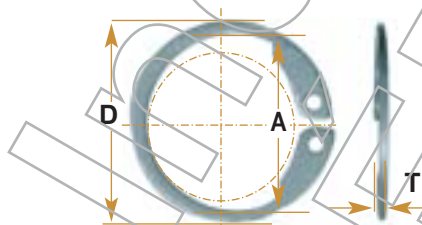
Stainless Steel / Acier Inoxydable

Utilisable comme épaulement artificiel pour positionner les composantes d'un produit.

May be used as artificial shoulder to position product components.

### Série R3100 - Externe

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
255-300	1/4"	.250	.225	.025	.230	.029	100
255-801	5/16"	.312	.281	.025	.290	.029	100
255-802	3/8"	.375	.338	.025	.352	.029	100
255-803	-	.394	.354	.025	.369	.029	100
255-804	7/16"	.438	.395	.025	.412	.029	100
255-805	15/32"	.469	.428	.025	.443	.029	100
255-800	1/2"	.500	.461	.035	.468	.039	100
255-806	-	.551	.509	.035	.519	.039	100
255-825	9/16"	.562	.521	.035	.530	.039	100
255-807	19/32"	.594	.550	.035	.559	.039	100
255-808	5/8"	.625	.579	.035	.588	.039	100
255-809	11/16"	.688	.635	.042	.646	.046	100
255-810	3/4"	.750	.693	.042	.704	.046	100
255-811	25/32"	.781	.722	.042	.733	.046	100
255-812	13/16"	.812	.751	.042	.762	.046	100
255-813	27/32"	.844	.780	.042	.791	.046	100
255-814	7/8"	.875	.810	.042	.821	.046	100
255-815	15/16"	.938	.867	.042	.882	.046	100
255-816	1"	1.000	.925	.042	.940	.046	100
255-817	1-1/16"	1.062	.982	.050	.998	.056	100
255-818	1-1/8"	1.125	1.041	.050	1.059	.056	100
255-819	1-3/16"	1.188	1.098	.050	1.118	.056	100
255-820	1-1/4"	1.250	1.156	.050	1.176	.056	100
255-821	1-3/8"	1.375	1.272	.050	1.291	.056	100
255-822	1-1/2"	1.500	1.387	.050	1.406	.056	100
255-823	1-9/16"	1.562	1.446	.062	1.468	.068	100
255-824	1-3/4"	1.750	1.618	.062	1.650	.068	100



## Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier inoxydable

Stainless steel external retaining ring

Stainless Steel / Acier Inoxydable

Utilisable comme épaulement artificiel pour positionner les composantes d'un produit avec un chanfreinage relativement élevé.

Used as artificial shoulders or to position product components having relatively large chamfers.

### Série R4100 - Externe

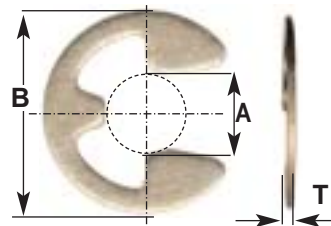
N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
258-800	1/2"	.500	.461	.035	.468	.039	100
258-801	3/4"	.750	.693	.042	.704	.046	100
258-802	1"	1.000	.925	.042	.940	.046	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier

Steel external retaining ring

Cuivre / Copper



Bague de type ouverte avec épaulements larges. Facilement installée. Remplace les goupilles fendues, les colliers visibles, les épaulements machinés, etc.

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

## Série R1000 - Externe

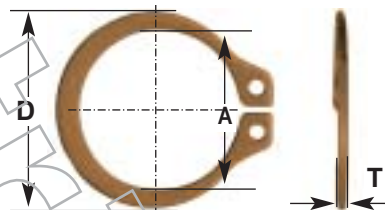
N° Gr.	Dimension	Dimension	A	B	T	Boîte
R1000-4	-	.040	.025	.010	.079	100

# Ret. Rings (EXTERNAL)

Bagues de retenue externe en acier inoxydable

Stainless steel external retaining ring

Cuivre / Copper



Utilisable comme épaulement artificiel pour positionner les composantes d'un produit.

May be used as artificial shoulder to position product components.

## Série R3100 - Externe

N° Gr.	Dimension (D)	Dimension (D)	A	T	Groove dia.	Groove Width	Boîte
R3100-12	1/8"	.125	.112	.010	.117	.012	100
R3100-15	5/32"	.156	.281	.010	.146	.012	100
R3100-18	3/16"	.188	.338	.015	.175	.018	100
R3100-19	-	.197	.354	.015	.185	.018	100
R3100-21	7/32"	.219	.395	.015	.205	.018	100
R3100-23	15/64"	.236	.428	.015	.222	.018	100